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The Nautical Almanac 2022

Compiled with *NauticalAlmanac* revision V2.6 - Sep 2020, using NOVAS version C3.1 - Mar 2011
The Almanac data have been produced with the JPL Ephemerides DE405

Warning and Terms of Usage:

The following pages have been generated by a computer program. Complex computer programs often have bugs and may produce wrong data. The data in this Nautical Almanac is believed to be accurate but no warranty is given for its correctness.
Use this Nautical Almanac only for training and exercising!

Compiled by Erik De Man (mail2erik@siranah.de) on Fri Oct 29 11:53:22 2021

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Introduction

This Nautical Almanac contains the Ephemerides of the Sun, the Moon, Venus, Mars, Jupiter and Saturn. It is designed for determination of Position (geographical Latitude and Longitude) from astronomical observations (Altitude of Celestial Objects).

The data compiled in this Nautical Almanac is based on calculations done with the software package "NOVAS" from the U.S. Naval Observatory (http://aa.usno.navy.mil/AA/software). The basic ephemerides are taken from the "DE405" files published by the Jet Propulsion Laboratory (http://ssd.jpl.nasa.gov).

Values for "deltaT"

For the astrodynamical calculations, the following values for "delta T" (the difference between terrestrial time realized by atomic clocks and UT defined by the irregular rotation of the Earth) have been used:

Jan : 69.3 s	Apr : 69.3 s	Jul : 69.3 s	Oct : 69.2 s
Feb : 69.3 s	May : 69.3 s	Aug : 69.2 s	Nov : 69.2 s
Mar : 69.3 s	Jun : 69.3 s	Sep : 69.2 s	Dec : 69.2 s

Interpolation of the integral-hour GHA and Dec values

This Nautical Almanac uses a slightly different approach for the interpolation of the integral-hour values of Greenwhich Hour Angle and Declination, compared to the techniques used in most commercially available Almanacs.

The almanc pages in this Nautical Almanac are compiled according to the following scheme:

UT	GHA	ddGHA	Dec	dDec
	° ′	′/h	° ′	′/h
...				
13:00	176 41.8	−31.3	S 23 09.6	+01.8
14:00	191 10.5	−31.3	S 23 11.4	+01.8
15:00	205 39.2	−31.3	S 23 13.2	+01.6
16:00	220 07.9	−31.3	S 23 14.8	+01.5
...				

The values for the Greenwich Hour Angle (GHA) and Declination (Dec) are given for the integral hours of Universal Time (UT). In the columns "ddGHA" and "dDec" , the increase or decrease of these values for the next full hour of time are recorded. However, for the Greenwich Hour Angle (GHA), this differential value is not the total change. An hour angle basically increases with 15° per hour and the value "ddGHA" is only the variation additional to this fixed increment of 15° per hour.
It is important to note that when interpolating the GHA values, this fixed increase of 15° per hour must also be taken into account.

For more information please refer to the following internet site: *"http://www.siranah.de/"*

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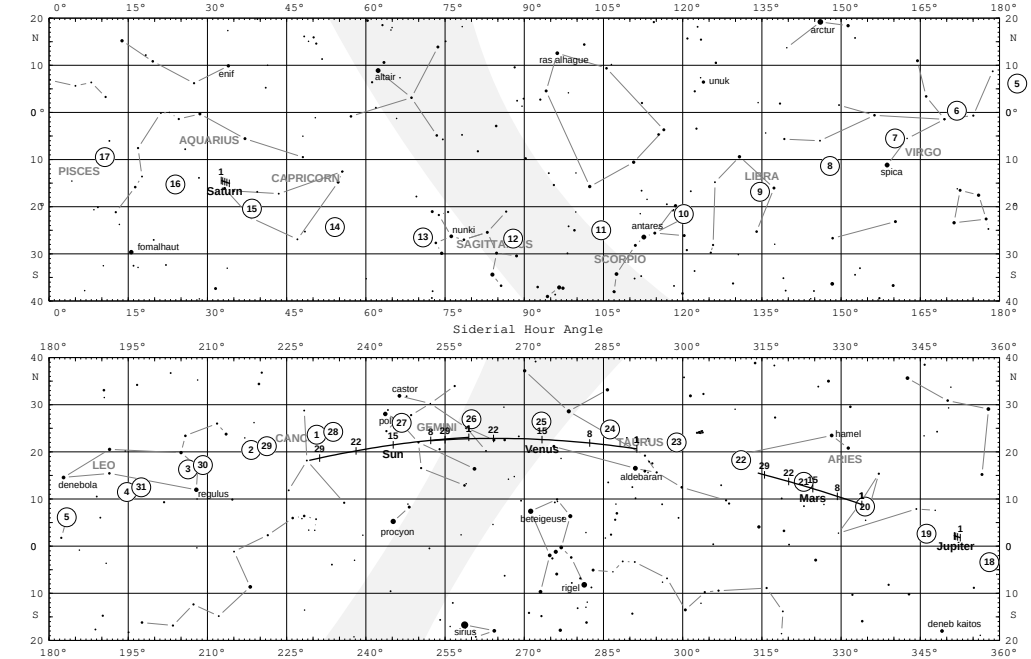
Positions of the Celestial Objects

The charts on the following pages show the position of the Celestial Objects used in this Nautical Almanac relative to the stars (celestial background). The charts can be used to find the location of the planets and also for the planning of astronomical observations.

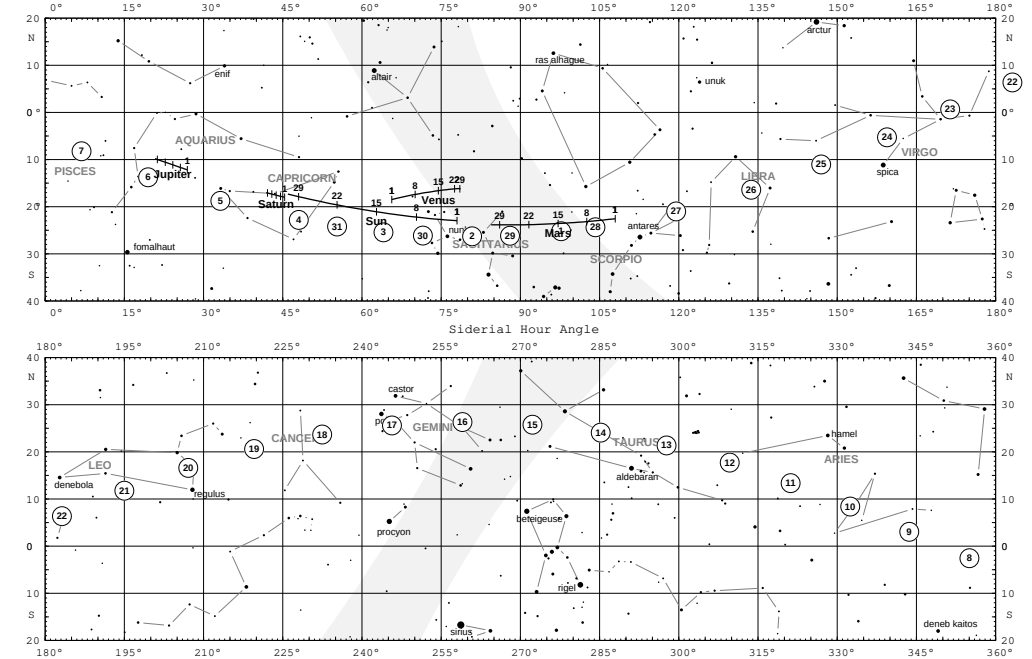
The charts are provided for each month of the year. Each chart has two parts showing a part of the celestial sphere around the ecliptic. Note that the position of the Celestial Equator (Declination = 0°) is not on the same position in the two different parts of each of the charts.

The changing position of a Celestial Object through the month is drawn as a solid line (not for the Moon). Marker tics along this line are shown to indicate the position of the Object on the 1st, 8th, 15th, 22nd and 29th day of the month (at 12:00 UT). For Jupiter and Saturn only the first day is marked since their apparent position does not change significantly over the period of one month. The position of the Moon is shown by a small circle for each individual day of the month. Notice that the circles are much larger than the apparent size of the Moon.

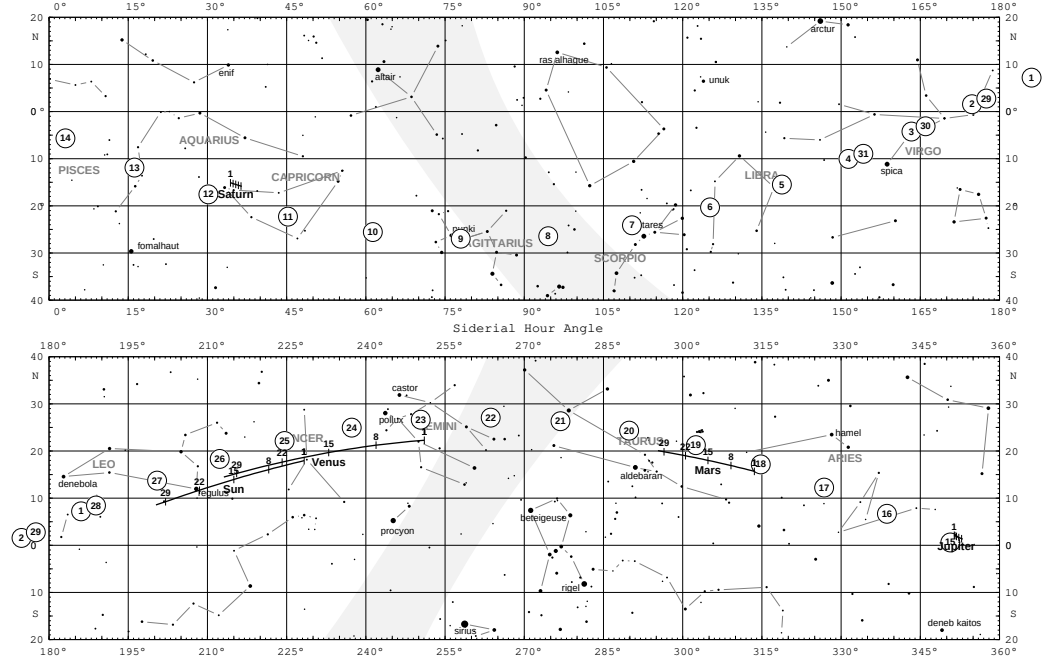
July 2022



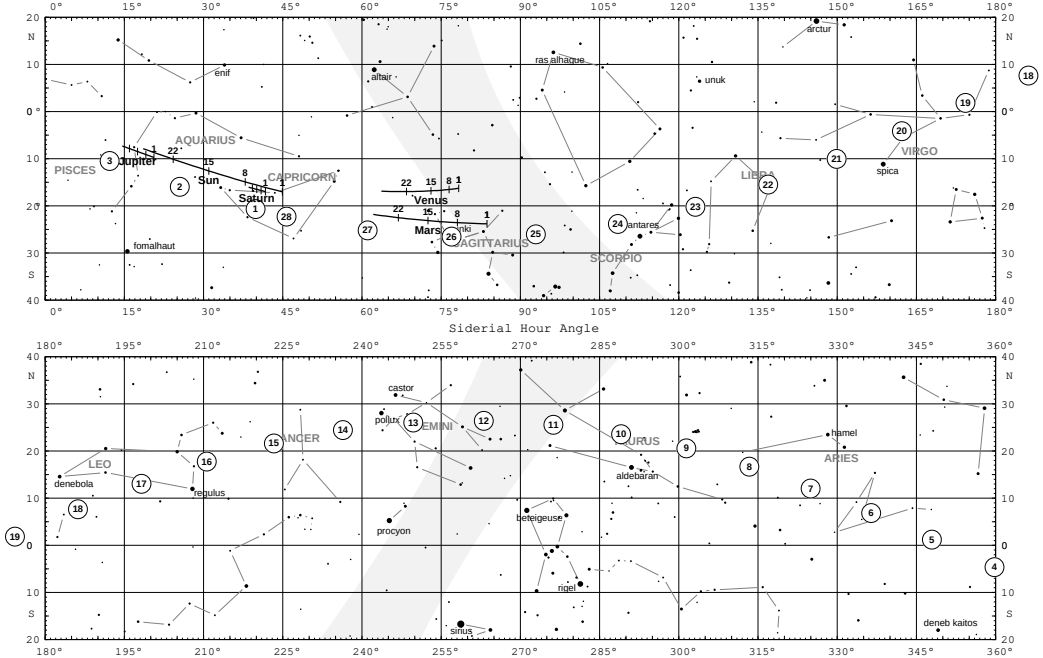
January 2022



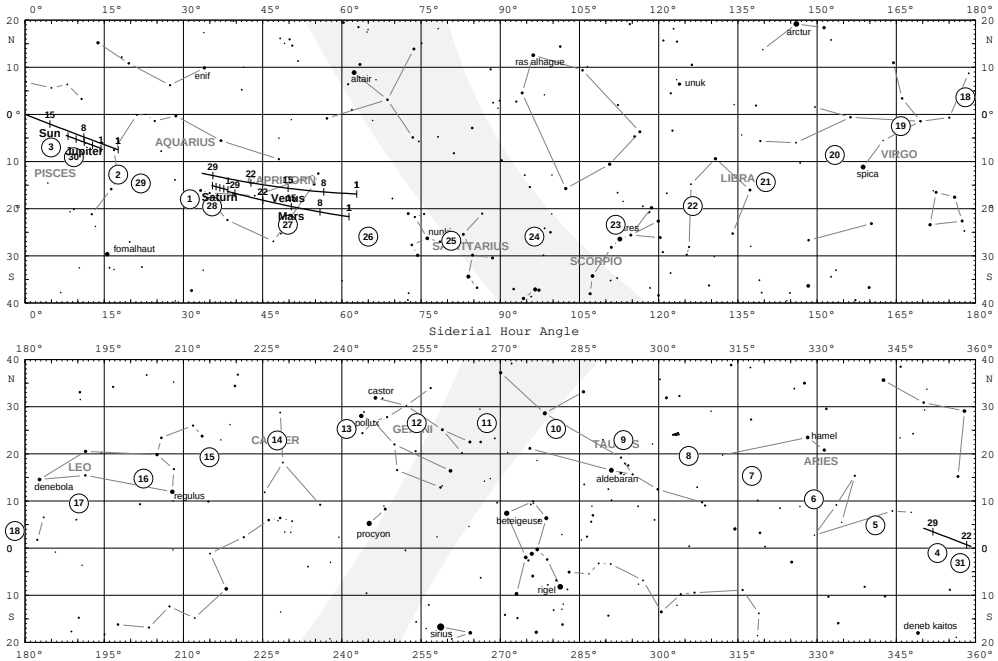
August 2022



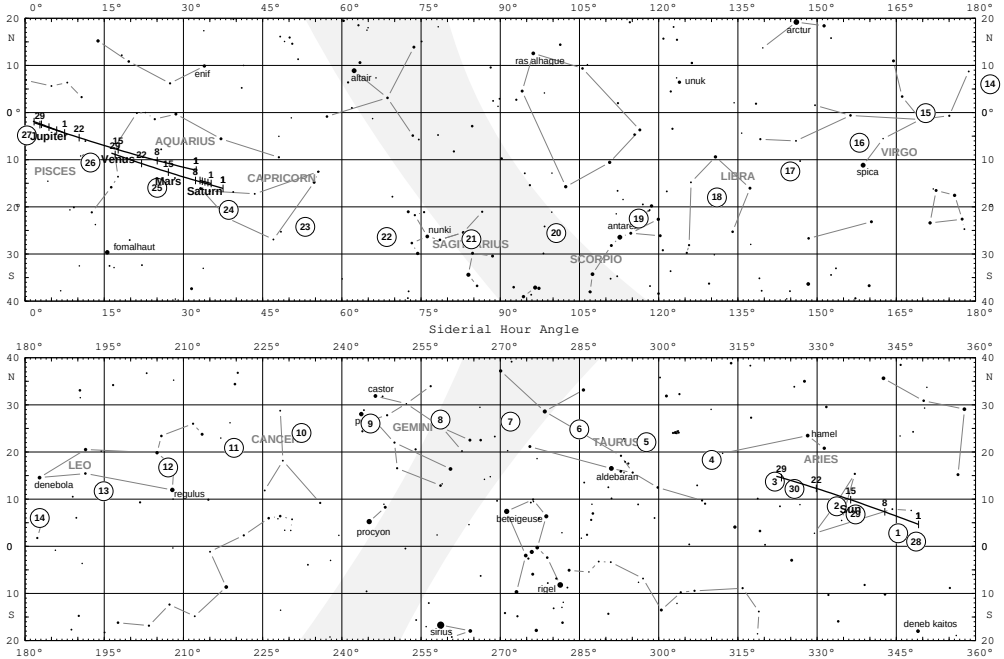
February 2022



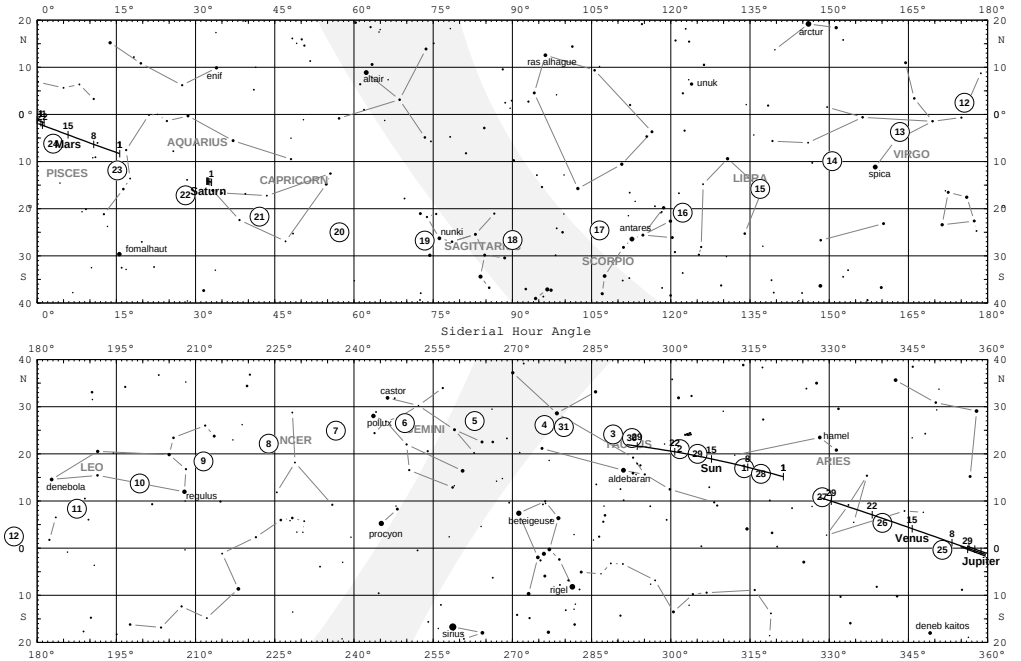
March 2022



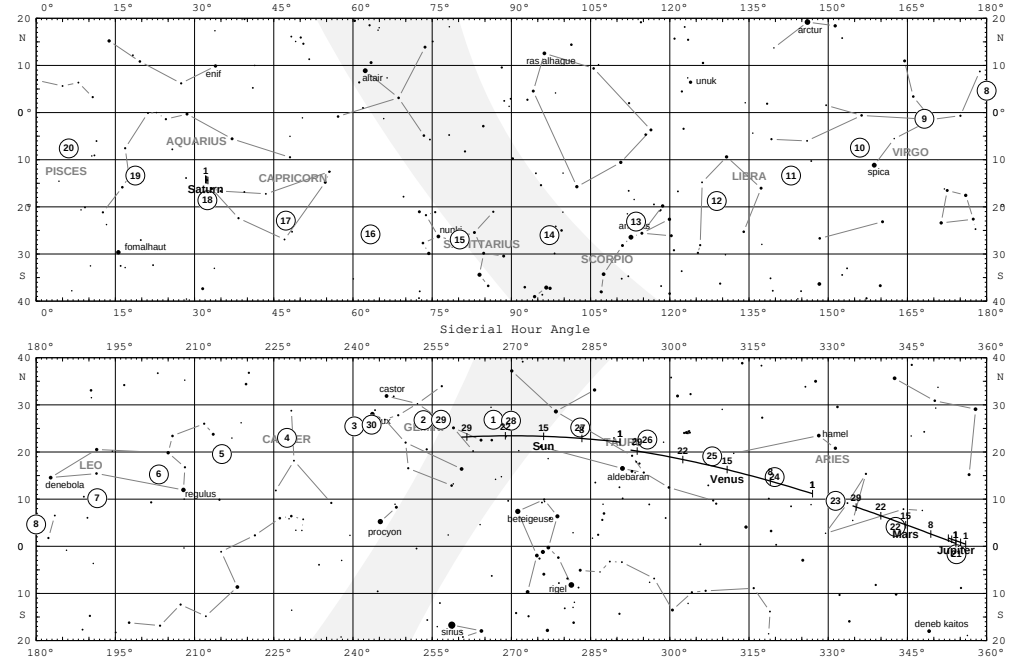
April 2022



May 2022



June 2022



Phases of the Moon

The following table lists the phases of the Moon through the year 2022. The table shows the day and the approximate time (in UTC) when the particular lunar phases occur. The calculations are based on the difference between the GHA of the Sun and the GHA of the Moon (Delta_GHA = GHA_sun - GHA_moon). The constellations "new moon", "first quarter", "full Moon" and "last quarter" are obtained when Delta_GHA is equal to 0°, 90°, 180° and 270° respectively.

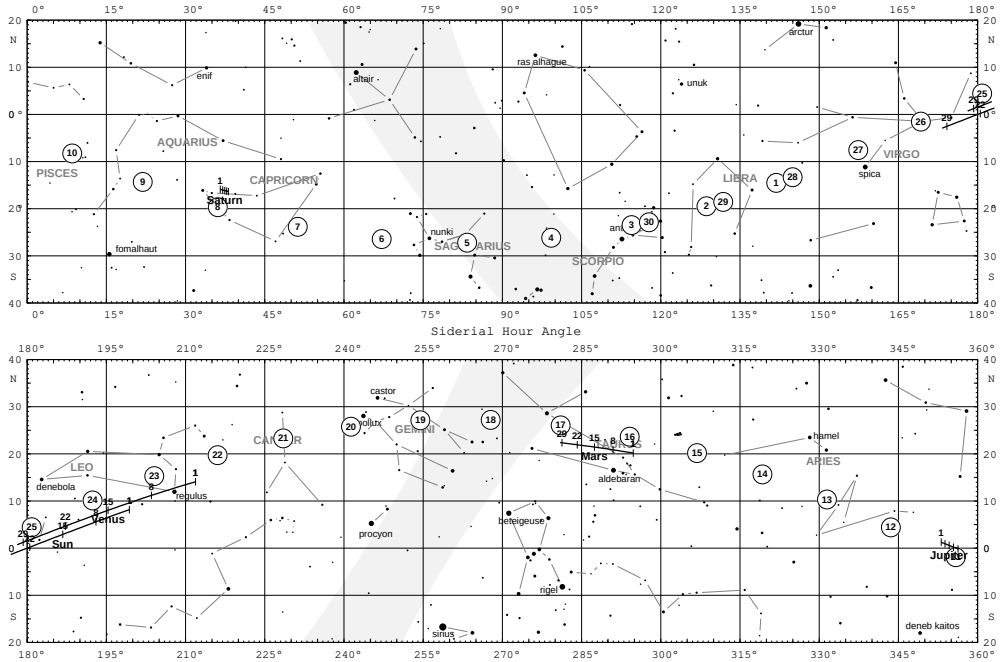
	New Moon	First Quarter	Full Moon	Last Quarter
January	Sun 2 18:02	Sun 9 22:30	Mon 17 21:58	Tue 25 21:39
February	Tue 1 03:19	Wed 9 00:08	Wed 16 13:11	Thu 24 05:19
March	Wed 2 13:51	Thu 10 14:32	Fri 18 03:41	Fri 25 04:09
April	Fri 1 03:26 Sat 30 19:41	Fri 8 23:25	Sat 16 17:15	Sat 23 02:12
May	Mon 30 12:01	Sun 8 10:31	Mon 16 04:21	Sun 22 07:00
June	Wed 29 02:25	Tue 7 05:34	Tue 14 12:05	Mon 20 23:28
July	Thu 28 15:16	Thu 7 05:09	Wed 13 17:28	Wed 20 21:58
August	Sat 27 04:20	Fri 5 20:26	Thu 11 22:47	Fri 19 14:32
September	Sun 25 18:52	Sat 3 23:47	Sat 10 06:40	Sat 17 23:49
October	Tue 25 10:04	Sun 2 21:01 Mon 31 19:49	Sun 9 18:58	Mon 17 08:02
November	Wed 23 23:34	Wed 30 04:15	Tue 8 11:11	Tue 15 23:10
December	Fri 23 10:12	Fri 30 02:01	Thu 8 04:47	Fri 16 02:55
Tidal Phase	spring	neap	spring	neap

Lunar Phases and Tides

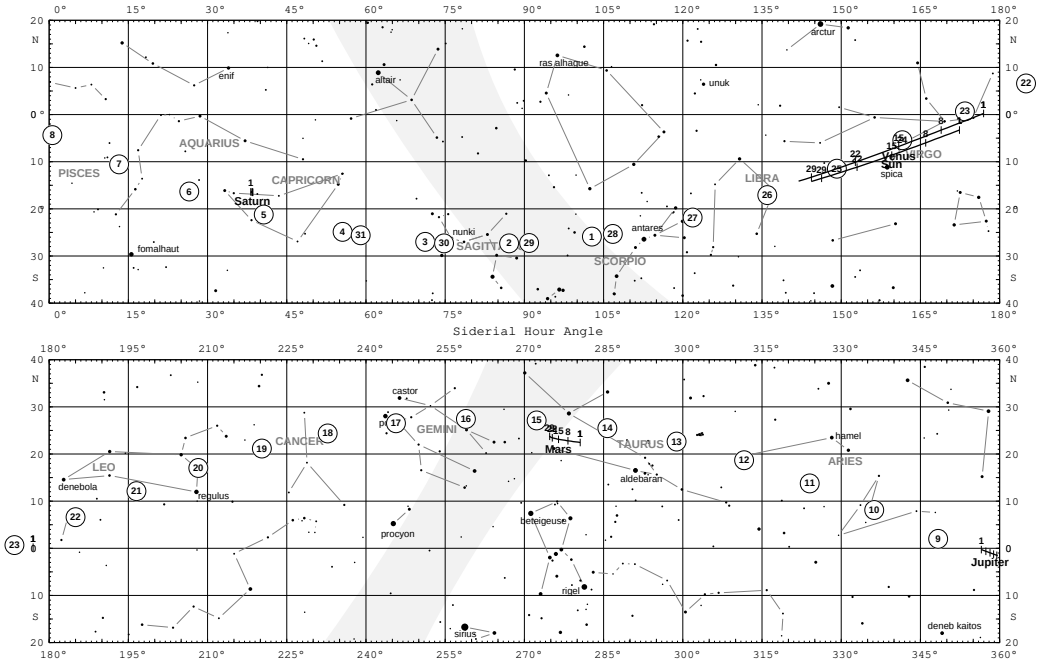
The lunar phases may be used to roughly estimate the occurrence of spring and neap tides. Spring tide occurs around new and full moon. Neap tide occurs around the first and last quarter.
Each tidal region on Earth, has a characteristic "tidal delay" which, specifies the time difference between the occurrence of a particular lunar phase and the occurrence of the resulting tidal phase. The tidal delay can be a couple of hours for the open seas, or up to several days for branched tidal waters such as parts of the North Sea.

Reliable tidal predictions are obtained from a Tidal Almanac.

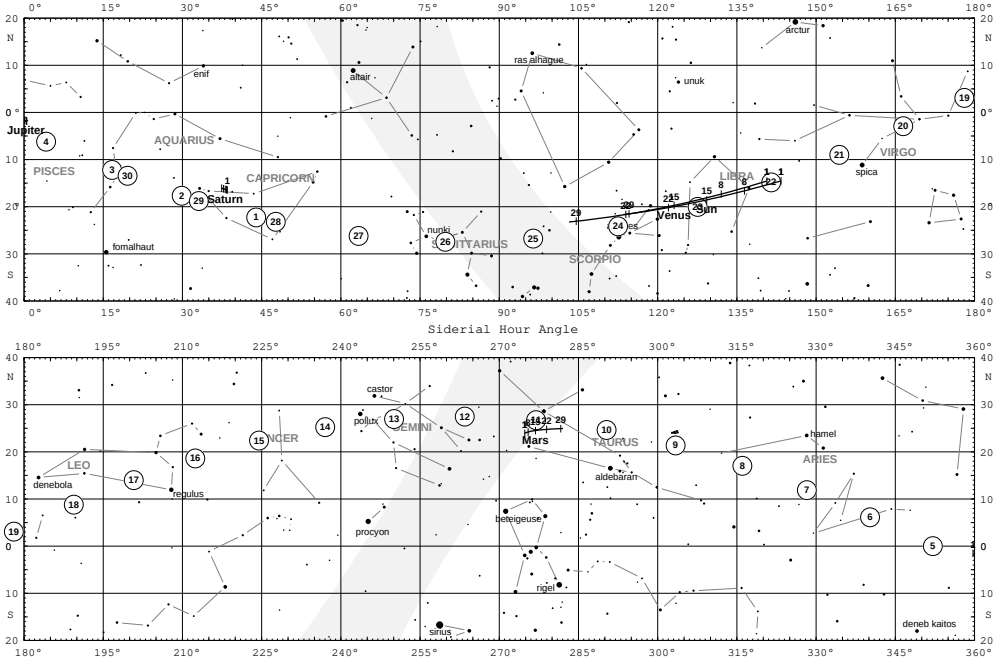
September 2022



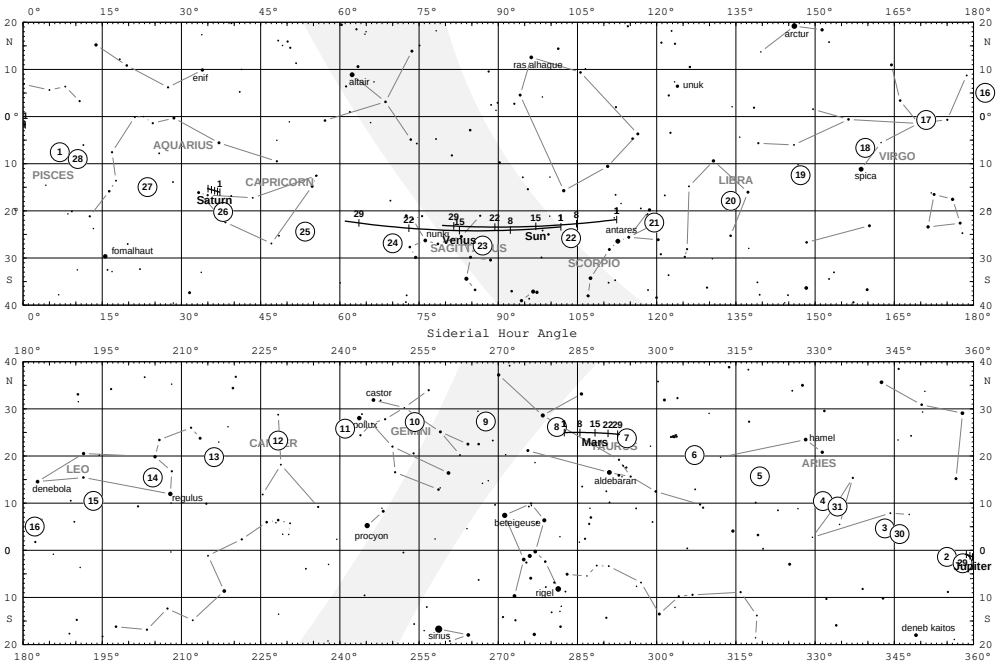
October 2022



November 2022

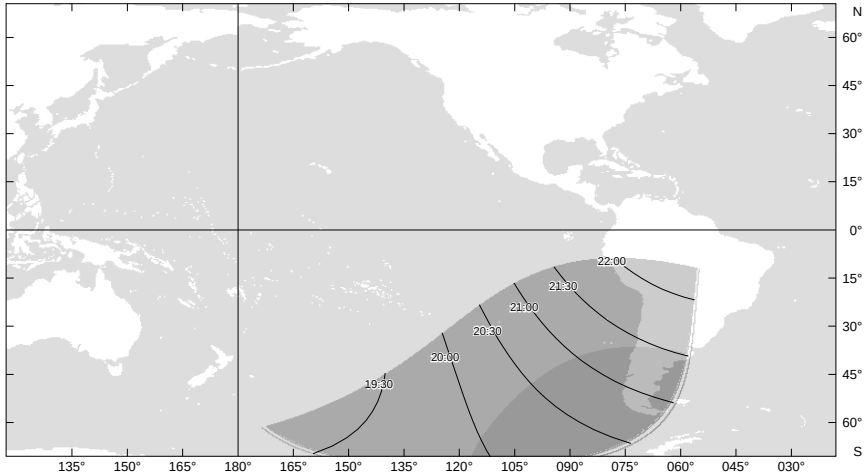


December 2022



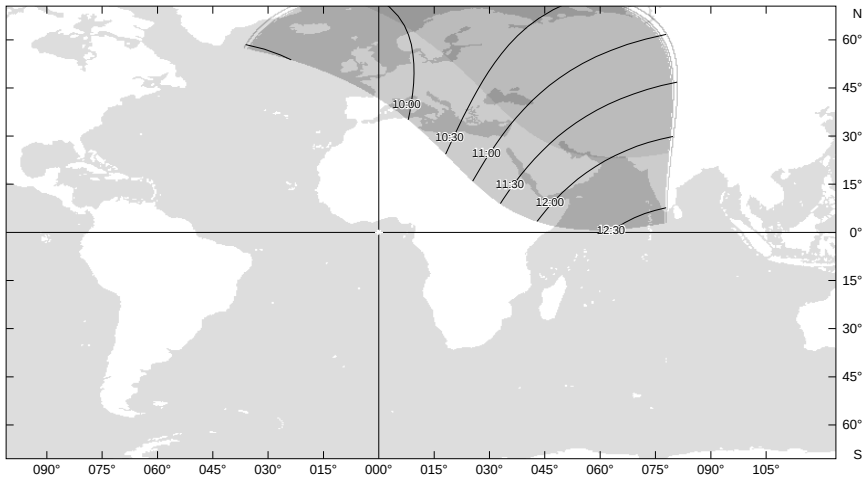
The following solar eclipses may be observed during the year 2022:

April 30 : **partial solar eclipse** begin [Apr 30, 18:45 UT] / end [Apr 30, 22:38 UT]



Circumstances at Moment of Greatest Eclipse		Fist Contacts (P1/U1)	Last Contacts (U4/P4)
Time:	20:39 UT	Penumbra	Penumbra
		18:45 UT	22:38 UT

October 25 : **partial solar eclipse** begin [Oct 25, 08:58 UT] / end [Oct 25, 13:02 UT]



Circumstances at Moment of Greatest Eclipse		Fist Contacts (P1/U1)	Last Contacts (U4/P4)
Time:	10:58 UT	Penumbra	Penumbra
		08:58 UT	13:02 UT

Lunar Eclipses

An eclipse of the Moon - or lunar eclipse - can only occur at Full Moon, and only if the Moon passes through some portion of the Earth's shadow. The Earth's shadow is composed of two concentric cone-shaped components. The outer or penumbral shadow is a region where the Earth blocks part (but not all) of the Sun's light from reaching the Moon. The inner or umbral shadow is a region where the Earth blocks all direct sunlight from reaching the Moon. Based on this, three types of lunar eclipses are distinguised:

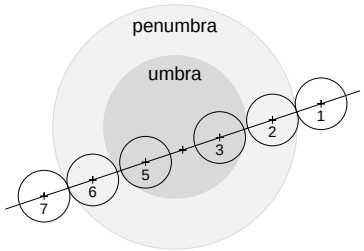
1. Penumbral Lunar Eclipse: the Moon passes through the Earth's penumbral shadow. These kind of eclipses are subtle and very difficult to observe.
2. Partial Lunar Eclipse: a part of the Moon passes through the Earth's umbral shadow.
3. Total Lunar Eclipse: the Moon passes entirely through the Earth's umbral shadow. During this phase of the eclipse the Moon will take a vibrant range of dark red and brown colors.

NOTICE: Eclipse contact times depend on the angular diameters of the Sun and Moon. The calculations in this Almanac are based on a perfect circular form for the limb of the Moon, and do not take into account effects of refraction of the sunlight in the Earth atmosphere. Since this is only an approximation of reality, contact times are accurate only within a couple of minutes.

The following lunar eclipses may be observed during the year 2022:

May 16 : a total lunar eclipse begin [May 16, 01:40 UTC] / end [May 16, 06:45 UTC]

Rp = 1.295°
Ru = 0.762°
SD = 0.275°



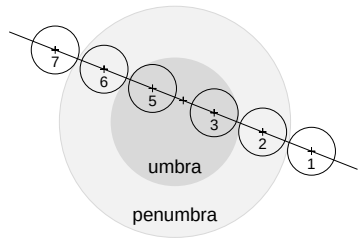
May 16

1 -	01:40 UTC	begin of penumbral eclipse (P1)
2 -	02:34 UTC	begin of partial eclipse (U1)
3 -	03:32 UTC	begin of total eclipse (U2)
	04:12 UTC	moment of greatest eclipse
5 -	04:53 UTC	end of total eclips (U3)
6 -	05:51 UTC	end of partial eclipse (U4)
7 -	06:45 UTC	end of penumbral eclipse (P4)

May 16

November 8 : a total lunar eclipse begin [Nov 8, 08:09 UTC] / end [Nov 8, 13:52 UTC]

Rp = 1.226°
Ru = 0.682°
SD = 0.255°



November 8

1 -	08:09 UTC	begin of penumbral eclipse (P1)
2 -	09:14 UTC	begin of partial eclipse (U1)
3 -	10:19 UTC	begin of total eclipse (U2)
	11:00 UTC	moment of greatest eclipse
5 -	11:41 UTC	end of total eclips (U3)
6 -	12:46 UTC	end of partial eclipse (U4)
7 -	13:52 UTC	end of penumbral eclipse (P4)

November 8

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Solar Eclipses

An eclipse of the Sun - or solar eclipse - can only occur at New Moon, and only if the Earth passes through some portion of the Moon's shadow. Seen from the Earth, the Moon passes in front of the Sun and thus a part - or all - of the light of the Sun is eclipsed. The shadow cast by the Moon is composed of two concentric cone-shaped components. The outer or *penumbral* shadow zone is the region where the Moon blocks a part of the sunlight. The inner or *umbral* shadow zone is a region where the Moon blocks all sunlight. Based on this, three types of solar eclipes may be distinguised:

1. Total solar eclipse: occurs when the umbra of the Moon's shadow touches a region on the surface of the Earth.
2. Partial solar eclipse: occurs when the penumbra of the Moon's shadow passes over a region on the Earth's surface.
3. Annular solar eclipse: occurs when a region on the Earth's surface is in line with the umbra, but the distances are such that the tip of the umbra does not reach the Earth's surface

Because of the relative sizes of the Moon and Sun and their specific distances from the Earth, only a small part of the Earth surface is covered by the Moon shadow during a solar eclipse. Especially the path of totality is usually very narrow (a few hundreds of kilometers across). A much broader region is covered by the penumbral shadow of the Moon. However, an observer in this region will see only a partial solar eclipse.

The appearance of a specific solar eclipse can be summarized conveniently by mapping the path of totality and the region covered by the penumbral shadow of the Moon for the complete duration the eclipse. The lines of constant time, included in the charts, indicate the instances of greatest eclipse.

Warning: never look directly at the Sun without proper eye protection, even during an eclipse. Even when the Sun is partially covered, your eyes can be seriously damaged by looking directly at it. Sunglasses are not an adequate eye protection for viewing the Sun.

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Equation of Time

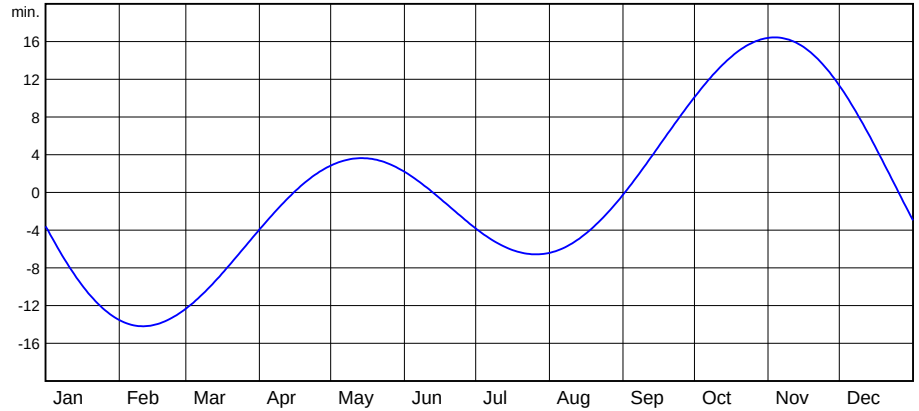
The "Equation of Time" is the difference between the Apparent Solar Time and the Mean Solar Time at the Prime Meridian of Greenwich. The value for the Equation of Time (EoT) for a specific day can be obtained from the Nautical Almanac. The section of the Sun records the "Greenwich Culmination Time" (GCT), which is the UT time at which the Geographical Position of the Sun transits the Prime Meridian of Greenwich. This is also the UT time of Local Apparent Noon for the Prime Meridian. Thus, the value for the Equation of Time is obtained from: EoT = 12:00:00 - GCT.

Examples:

```
GCT = 11:57:23                          GCT = 12:01:57
EoT = 12:00:00 - 11:57:23 = +00:02:37   EoT = 12:00:00 - 12:01:57 = -00:01:57
```

Notice that EoT has a sign: positive if the Sun "culminates" before 12 UT (then Apparent Time is "leading" Mean Time) and negative if the Sun "culminates" after 12 UT (then Apparent Time is "lagging" Mean Time).

The graph below shows the values for the "Equation of Time" (in Minutes) for the year 2022.



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Nautical Almanac

The following pages contain the coordinates of the Geographical Position (in Greenwich Hour Angle and Declination) for each integral hour of the year for the recorded celestial objects. Each page compiles the complete Almanac data for one day of the year. The time used in this Almanac is Universal Time (UT).

NOTICE:
This Nautical Almanac uses a slightly different approach for the interpolation of the integral-hour values of Greenwhich Hour Angle and Declination, compared to the techniques used in most commercially available Almanacs.
For more information please refer to the following web site: *"http://www.siranah.de/"*

Abbreviations used in the Almanac tables:		**Units:**
UT	Universal Time	
GHA	Greenwich Hour Angle	° [degrees]
Dec	Declination	° [degrees]
ddGHA	the increment of the GHA value for the next hour of time, additional to the "linear" increment of 15°/h	' [minutes of arc]
dDec	the increment of the Dec value for the next hour of time	' [minutes of arc]
SD	Semi-Diameter of the celestial object	' [minutes of arc]
HP	Horizontal Parallax	' [minutes of arc]
SHA	the Siderial Hour Angle of the celestial object	° [degrees]
A	the "Age" of the moon cycle, according to the following scheme:	A = 00%: new moon A = 25%: first quarter A = 50%: full moon A = 75%: last quarter

2022 January 4 Tuesday (day 4 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 49.5	−00.3	S 22 44.7	−00.3
01	193 49.2	−00.3	S 22 44.4	−00.3
02	208 48.9	−00.3	S 22 44.1	−00.2
03	223 48.6	−00.3	S 22 43.9	−00.3
04	238 48.3	−00.2	S 22 43.6	−00.2
05	253 48.1	−00.3	S 22 43.4	−00.3
06	268 47.8	−00.3	S 22 43.1	−00.3
07	283 47.5	−00.3	S 22 42.8	−00.2
08	298 47.2	−00.3	S 22 42.6	−00.3
09	313 46.9	−00.3	S 22 42.3	−00.3
10	328 46.6	−00.2	S 22 42.0	−00.2
11	343 46.4	−00.3	S 22 41.8	−00.3
12	358 46.1	−00.3	S 22 41.5	−00.3
13	13 45.8	−00.3	S 22 41.2	−00.2
14	28 45.5	−00.3	S 22 41.0	−00.3
15	43 45.2	−00.3	S 22 40.7	−00.3
16	58 44.9	−00.2	S 22 40.4	−00.2
17	73 44.7	−00.3	S 22 40.2	−00.3
18	88 44.4	−00.3	S 22 39.9	−00.3
19	103 44.1	−00.3	S 22 39.6	−00.3
20	118 43.8	−00.3	S 22 39.3	−00.2
21	133 43.5	−00.3	S 22 39.1	−00.3
22	148 43.2	−00.2	S 22 38.8	−00.3
23	163 43.0	−00.3	S 22 38.5	−00.3

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	075°	075°	075°	075°	074°	074°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	170 43.6	+04.0	S 18 04.4	−00.4
01	185 47.6	+04.0	S 18 04.0	−00.4
02	200 51.6	+04.0	S 18 03.6	−00.4
03	215 55.6	+04.1	S 18 03.2	−00.4
04	230 59.7	+04.0	S 18 02.8	−00.4
05	246 03.7	+04.0	S 18 02.4	−00.4
06	261 07.7	+04.1	S 18 02.0	−00.4
07	276 11.8	+04.0	S 18 01.6	−00.4
08	291 15.8	+04.0	S 18 01.2	−00.4
09	306 19.8	+04.1	S 18 00.8	−00.4
10	321 23.9	+04.0	S 18 00.4	−00.4
11	336 27.9	+04.1	S 17 60.0	−00.4
12	351 32.0	+04.0	S 17 59.6	−00.4
13	6 36.0	+04.1	S 17 59.2	−00.4
14	21 40.1	+04.0	S 17 58.8	−00.4
15	36 44.1	+04.1	S 17 58.4	−00.4
16	51 48.2	+04.0	S 17 58.0	−00.4
17	66 52.2	+04.1	S 17 57.6	−00.4
18	81 56.3	+04.0	S 17 57.2	−00.4
19	97 00.3	+04.1	S 17 56.8	−00.4
20	112 04.4	+04.0	S 17 56.4	−00.4
21	127 08.4	+04.1	S 17 56.0	−00.4
22	142 12.5	+04.1	S 17 55.6	−00.4
23	157 16.6	+04.0	S 17 55.2	−00.4

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	067°	067°	067°	068°	068°	068°

Greenwich Culmination Time: 12:33

Moon

A: 07%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	159 31.3	−37.6	S 24 19.8	−06.7
01	173 53.7	−37.5	S 24 13.1	−06.9
02	188 16.2	−37.4	S 24 06.2	−07.1
03	202 38.8	−37.3	S 23 59.1	−07.2
04	217 01.5	−37.1	S 23 51.9	−07.4
05	231 24.4	−37.1	S 23 44.5	−07.6
06	245 47.3	−36.9	S 23 36.9	−07.7
07	260 10.4	−36.9	S 23 29.2	−07.9
08	274 33.5	−36.7	S 23 21.3	−08.1
09	288 56.8	−36.6	S 23 13.2	−08.2
10	303 20.2	−36.4	S 23 05.0	−08.3
11	317 43.8	−36.4	S 22 56.7	−08.5
12	332 07.4	−36.2	S 22 48.2	−08.6
13	346 31.2	−36.1	S 22 39.6	−08.8
14	0 55.1	−35.9	S 22 30.8	−08.9
15	15 19.2	−35.9	S 22 21.9	−09.1
16	29 43.3	−35.7	S 22 12.8	−09.2
17	44 07.6	−35.6	S 22 03.6	−09.4
18	58 32.0	−35.5	S 21 54.2	−09.4
19	72 56.5	−35.3	S 21 44.8	−09.7
20	87 21.2	−35.2	S 21 35.1	−09.7
21	101 46.0	−35.1	S 21 25.4	−09.9
22	116 10.9	−34.9	S 21 15.5	−10.0
23	130 36.0	−34.9	S 21 05.5	−10.1

UT	02	06	10	14	18	22
SD	16′5	16′5	16′4	16′4	16′4	16′3
HP	60′5	60′4	60′3	60′1	60′0	59′9
SHA	055°	052°	049°	047°	044°	042°

Greenwich Culmination Time: 13:56

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	209 37.8	+00.6	S 22 47.0	+00.3
01	224 38.4	+00.5	S 22 47.3	+00.2
02	239 38.9	+00.6	S 22 47.5	+00.2
03	254 39.5	+00.5	S 22 47.7	+00.2
04	269 40.0	+00.6	S 22 47.9	+00.3
05	284 40.6	+00.5	S 22 48.2	+00.2
06	299 41.1	+00.6	S 22 48.4	+00.2
07	314 41.7	+00.5	S 22 48.6	+00.2
08	329 42.2	+00.5	S 22 48.8	+00.2
09	344 42.7	+00.6	S 22 49.0	+00.3
10	359 43.3	+00.5	S 22 49.3	+00.2
11	14 43.8	+00.6	S 22 49.5	+00.2
12	29 44.4	+00.5	S 22 49.7	+00.2
13	44 44.9	+00.6	S 22 49.9	+00.2
14	59 45.5	+00.5	S 22 50.1	+00.3
15	74 46.0	+00.6	S 22 50.4	+00.2
16	89 46.6	+00.5	S 22 50.6	+00.2
17	104 47.1	+00.5	S 22 50.8	+00.2
18	119 47.6	+00.6	S 22 51.0	+00.2
19	134 48.2	+00.5	S 22 51.2	+00.2
20	149 48.7	+00.6	S 22 51.4	+00.3
21	164 49.3	+00.5	S 22 51.7	+00.2
22	179 49.8	+00.6	S 22 51.9	+00.2
23	194 50.4	+00.5	S 22 52.1	+00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	106°	106°	106°	106°	105°	105°

Greenwich Culmination Time: 10:01

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	130 02.8	+02.0	S 11 59.8	−00.2
01	145 04.8	+02.0	S 11 59.6	−00.1
02	160 06.8	+02.0	S 11 59.5	−00.2
03	175 08.8	+02.0	S 11 59.3	−00.2
04	190 10.8	+02.0	S 11 59.1	−00.2
05	205 12.8	+02.0	S 11 58.9	−00.2
06	220 14.8	+01.9	S 11 58.7	−00.1
07	235 16.7	+02.0	S 11 58.6	−00.2
08	250 18.7	+02.0	S 11 58.4	−00.2
09	265 20.7	+02.0	S 11 58.2	−00.2
10	280 22.7	+02.0	S 11 58.0	−00.2
11	295 24.7	+02.0	S 11 57.8	−00.2
12	310 26.7	+02.0	S 11 57.6	−00.1
13	325 28.7	+02.0	S 11 57.5	−00.2
14	340 30.7	+01.9	S 11 57.3	−00.2
15	355 32.6	+02.0	S 11 57.1	−00.2
16	10 34.6	+02.0	S 11 56.9	−00.2
17	25 36.6	+02.0	S 11 56.7	−00.1
18	40 38.6	+02.0	S 11 56.6	−00.2
19	55 40.6	+02.0	S 11 56.4	−00.2
20	70 42.6	+01.9	S 11 56.2	−00.2
21	85 44.5	+02.0	S 11 56.0	−00.2
22	100 46.5	+02.0	S 11 55.8	−00.2
23	115 48.5	+02.0	S 11 55.6	−00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	026°	026°	026°	026°	026°	026°

Greenwich Culmination Time: 15:17

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	148 38.9	+02.2	S 17 55.2	−00.1
01	163 41.1	+02.2	S 17 55.1	+00.0
02	178 43.3	+02.1	S 17 55.1	−00.1
03	193 45.4	+02.2	S 17 55.0	−00.1
04	208 47.6	+02.2	S 17 54.9	−00.1
05	223 49.8	+02.2	S 17 54.8	+00.0
06	238 52.0	+02.2	S 17 54.8	−00.1
07	253 54.2	+02.2	S 17 54.7	−00.1
08	268 56.4	+02.2	S 17 54.6	−00.1
09	283 58.6	+02.1	S 17 54.5	+00.0
10	299 00.7	+02.2	S 17 54.5	−00.1
11	314 02.9	+02.2	S 17 54.4	−00.1
12	329 05.1	+02.2	S 17 54.3	−00.1
13	344 07.3	+02.2	S 17 54.2	−00.1
14	359 09.5	+02.2	S 17 54.1	+00.0
15	14 11.7	+02.1	S 17 54.1	−00.1
16	29 13.8	+02.2	S 17 54.0	−00.1
17	44 16.0	+02.2	S 17 53.9	−00.1
18	59 18.2	+02.2	S 17 53.8	+00.0
19	74 20.4	+02.2	S 17 53.8	−00.1
20	89 22.6	+02.2	S 17 53.7	−00.1
21	104 24.8	+02.2	S 17 53.6	−00.1
22	119 27.0	+02.1	S 17 53.5	+00.0
23	134 29.1	+02.2	S 17 53.5	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	045°	045°	045°	045°	045°	045°

Greenwich Culmination Time: 14:03

2022 January 1 Saturday (day 1 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	179 10.5	−00.3	S 23 01.2	−00.2
01	194 10.2	−00.3	S 23 01.0	−00.2
02	209 09.9	−00.3	S 23 00.8	−00.2
03	224 09.6	−00.3	S 23 00.6	−00.2
04	239 09.3	−00.3	S 23 00.4	−00.2
05	254 09.0	−00.3	S 23 00.2	−00.2
06	269 08.7	−00.3	S 22 60.0	−00.2
07	284 08.4	−00.3	S 22 59.8	−00.2
08	299 08.1	−00.3	S 22 59.6	−00.2
09	314 07.8	−00.3	S 22 59.4	−00.2
10	329 07.5	−00.3	S 22 59.2	−00.3
11	344 07.2	−00.3	S 22 58.9	−00.2
12	359 06.9	−00.3	S 22 58.7	−00.2
13	14 06.6	−00.3	S 22 58.5	−00.2
14	29 06.3	−00.3	S 22 58.3	−00.2
15	44 06.0	−00.3	S 22 58.1	−00.2
16	59 05.7	−00.2	S 22 57.9	−00.2
17	74 05.5	−00.3	S 22 57.7	−00.2
18	89 05.2	−00.3	S 22 57.5	−00.3
19	104 04.9	−00.3	S 22 57.2	−00.2
20	119 04.6	−00.3	S 22 57.0	−00.2
21	134 04.3	−00.3	S 22 56.8	−00.2
22	149 04.0	−00.3	S 22 56.6	−00.2
23	164 03.7	−00.3	S 22 56.4	−00.3

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	078°	078°	078°	078°	078°	078°

Greenwich Culmination Time: 12:03

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	166 00.0	+03.9	S 18 35.0	−00.4
01	181 03.9	+03.8	S 18 34.6	−00.5
02	196 07.7	+03.9	S 18 34.1	−00.4
03	211 11.6	+03.8	S 18 33.7	−00.4
04	226 15.4	+03.9	S 18 33.3	−00.5
05	241 19.3	+03.8	S 18 32.8	−00.4
06	256 23.1	+03.9	S 18 32.4	−00.5
07	271 27.0	+03.9	S 18 31.9	−00.4
08	286 30.9	+03.8	S 18 31.5	−00.4
09	301 34.7	+03.9	S 18 31.1	−00.5
10	316 38.6	+03.9	S 18 30.6	−00.4
11	331 42.5	+03.8	S 18 30.2	−00.4
12	346 46.3	+03.9	S 18 29.8	−00.5
13	1 50.2	+03.9	S 18 29.3	−00.4
14	16 54.1	+03.9	S 18 28.9	−00.4
15	31 58.0	+03.9	S 18 28.5	−00.5
16	47 01.9	+03.9	S 18 28.0	−00.4
17	62 05.8	+03.9	S 18 27.6	−00.4
18	77 09.7	+03.9	S 18 27.2	−00.5
19	92 13.6	+03.8	S 18 26.7	−00.4
20	107 17.4	+03.9	S 18 26.3	−00.4
21	122 21.3	+04.0	S 18 25.9	−00.5
22	137 25.3	+03.9	S 18 25.4	−00.4
23	152 29.2	+03.9	S 18 25.0	−00.4

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	065°	066°	066°	066°	066°	066°

Greenwich Culmination Time: 12:52

Moon

A: 94%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	206 32.5	−38.2	S 23 55.2	+07.3
01	220 54.3	−38.2	S 24 02.5	+07.1
02	235 16.1	−38.3	S 24 09.6	+07.0
03	249 37.8	−38.4	S 24 16.6	+06.8
04	263 59.4	−38.5	S 24 23.4	+06.6
05	278 20.9	−38.5	S 24 30.0	+06.4
06	292 42.4	−38.7	S 24 36.4	+06.2
07	307 03.7	−38.7	S 24 42.6	+06.0
08	321 25.0	−38.9	S 24 48.6	+05.9
09	335 46.1	−38.9	S 24 54.5	+05.7
10	350 07.2	−38.9	S 25 00.2	+05.4
11	4 28.3	−39.1	S 25 05.6	+05.3
12	18 49.2	−39.1	S 25 10.9	+05.1
13	33 10.1	−39.2	S 25 16.0	+04.9
14	47 30.9	−39.2	S 25 20.9	+04.7
15	61 51.7	−39.3	S 25 25.6	+04.6
16	76 12.4	−39.4	S 25 30.2	+04.3
17	90 33.0	−39.4	S 25 34.5	+04.1
18	104 53.6	−39.5	S 25 38.6	+03.9
19	119 14.1	−39.5	S 25 42.5	+03.7
20	133 34.6	−39.6	S 25 46.2	+03.5
21	147 55.0	−39.6	S 25 49.7	+03.3
22	162 15.4	−39.6	S 25 53.0	+03.2
23	176 35.8	−39.7	S 25 56.2	+02.9

UT	02	06	10	14	18	22
SD	16′6	16′7	16′7	16′7	16′7	16′7
HP	61′1	61′1	61′2	61′2	61′2	61′2
SHA	105°	102°	099°	096°	094°	091°

Greenwich Culmination Time: 10:41

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	208 58.0	+00.6	S 22 30.0	+00.2
01	223 58.6	+00.5	S 22 30.2	+00.3
02	238 59.1	+00.6	S 22 30.5	+00.2
03	253 59.7	+00.6	S 22 30.7	+00.3
04	269 00.3	+00.5	S 22 31.0	+00.2
05	284 00.8	+00.6	S 22 31.2	+00.3
06	299 01.4	+00.5	S 22 31.5	+00.2
07	314 01.9	+00.6	S 22 31.7	+00.3
08	329 02.5	+00.6	S 22 32.0	+00.2
09	344 03.1	+00.5	S 22 32.2	+00.3
10	359 03.6	+00.6	S 22 32.5	+00.2
11	14 04.2	+00.5	S 22 32.7	+00.3
12	29 04.7	+00.6	S 22 33.0	+00.2
13	44 05.3	+00.5	S 22 33.2	+00.3
14	59 05.8	+00.6	S 22 33.5	+00.2
15	74 06.4	+00.6	S 22 33.7	+00.2
16	89 07.0	+00.5	S 22 33.9	+00.3
17	104 07.5	+00.6	S 22 34.2	+00.2
18	119 08.1	+00.5	S 22 34.4	+00.3
19	134 08.6	+00.6	S 22 34.7	+00.2
20	149 09.2	+00.5	S 22 34.9	+00.3
21	164 09.7	+00.6	S 22 35.2	+00.2
22	179 10.3	+00.5	S 22 35.4	+00.2
23	194 10.8	+00.6	S 22 35.6	+00.3

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	108°	108°	108°	108°	108°	108°

Greenwich Culmination Time: 10:03

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	127 39.4	+02.0	S 12 12.7	−00.2
01	142 41.4	+02.0	S 12 12.5	−00.2
02	157 43.4	+02.0	S 12 12.3	−00.2
03	172 45.4	+01.9	S 12 12.1	−00.1
04	187 47.3	+02.0	S 12 12.0	−00.2
05	202 49.3	+02.0	S 12 11.8	−00.2
06	217 51.3	+02.0	S 12 11.6	−00.2
07	232 53.3	+02.0	S 12 11.4	−00.1
08	247 55.3	+02.0	S 12 11.3	−00.2
09	262 57.3	+02.0	S 12 11.1	−00.2
10	277 59.3	+02.0	S 12 10.9	−00.2
11	293 01.3	+02.0	S 12 10.7	−00.2
12	308 03.3	+02.0	S 12 10.5	−00.1
13	323 05.3	+02.0	S 12 10.4	−00.2
14	338 07.3	+02.0	S 12 10.2	−00.2
15	353 09.3	+02.0	S 12 10.0	−00.2
16	8 11.3	+02.0	S 12 09.8	−00.1
17	23 13.3	+02.0	S 12 09.7	−00.2
18	38 15.3	+02.0	S 12 09.5	−00.2
19	53 17.3	+02.0	S 12 09.3	−00.2
20	68 19.3	+02.0	S 12 09.1	−00.1
21	83 21.3	+02.0	S 12 09.0	−00.2
22	98 23.3	+02.0	S 12 08.8	−00.2
23	113 25.3	+02.0	S 12 08.6	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	027°	027°	027°	027°	027°	027°

Greenwich Culmination Time: 15:27

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	146 01.3	+02.2	S 18 00.6	+00.0
01	161 03.5	+02.2	S 18 00.6	−00.1
02	176 05.7	+02.2	S 18 00.5	−00.1
03	191 07.9	+02.2	S 18 00.4	−00.1
04	206 10.1	+02.2	S 18 00.3	+00.0
05	221 12.3	+02.2	S 18 00.3	−00.1
06	236 14.5	+02.1	S 18 00.2	−00.1
07	251 16.6	+02.2	S 18 00.1	−00.1
08	266 18.8	+02.2	S 18 00.0	+00.0
09	281 21.0	+02.2	S 17 60.0	−00.1
10	296 23.2	+02.2	S 17 59.9	−00.1
11	311 25.4	+02.2	S 17 59.8	−00.1
12	326 27.6	+02.2	S 17 59.7	+00.0
13	341 29.8	+02.2	S 17 59.7	−00.1
14	356 32.0	+02.2	S 17 59.6	−00.1
15	11 34.2	+02.2	S 17 59.5	−00.1
16	26 36.4	+02.1	S 17 59.4	+00.0
17	41 38.5	+02.2	S 17 59.4	−00.1
18	56 40.7	+02.2	S 17 59.3	−00.1
19	71 42.9	+02.2	S 17 59.2	−00.1
20	86 45.1	+02.2	S 17 59.1	+00.0
21	101 47.3	+02.2	S 17 59.1	−00.1
22	116 49.5	+02.2	S 17 59.0	−00.1
23	131 51.7	+02.2	S 17 58.9	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	045°	045°	045°	045°	045°	045°

Greenwich Culmination Time: 14:13

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2022 January 2 Sunday (day 2 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	179 03.4	−00.3	S 22 56.1	−00.2
01	194 03.1	−00.3	S 22 55.9	−00.2
02	209 02.8	−00.3	S 22 55.7	−00.2
03	224 02.5	−00.3	S 22 55.5	−00.2
04	239 02.2	−00.3	S 22 55.3	−00.3
05	254 01.9	−00.3	S 22 55.0	−00.2
06	269 01.6	−00.3	S 22 54.8	−00.2
07	284 01.3	−00.2	S 22 54.6	−00.2
08	299 01.1	−00.3	S 22 54.4	−00.3
09	314 00.8	−00.3	S 22 54.1	−00.2
10	329 00.5	−00.3	S 22 53.9	−00.2
11	344 00.2	−00.3	S 22 53.7	−00.3
12	358 59.9	−00.3	S 22 53.4	−00.2
13	13 59.6	−00.3	S 22 53.2	−00.2
14	28 59.3	−00.3	S 22 53.0	−00.2
15	43 59.0	−00.3	S 22 52.8	−00.3
16	58 58.7	−00.3	S 22 52.5	−00.2
17	73 58.4	−00.3	S 22 52.3	−00.2
18	88 58.1	−00.3	S 22 52.1	−00.3
19	103 57.8	−00.2	S 22 51.8	−00.2
20	118 57.6	−00.3	S 22 51.6	−00.3
21	133 57.3	−00.3	S 22 51.3	−00.2
22	148 57.0	−00.3	S 22 51.1	−00.2
23	163 56.7	−00.3	S 22 50.9	−00.3

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	077°	077°	077°	077°	077°	076°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	167 33.1	+03.9	S 18 24.6	−00.5
01	182 37.0	+03.9	S 18 24.1	−00.4
02	197 40.9	+03.9	S 18 23.7	−00.4
03	212 44.8	+03.9	S 18 23.3	−00.5
04	227 48.7	+03.9	S 18 22.8	−00.4
05	242 52.6	+04.0	S 18 22.4	−00.4
06	257 56.6	+03.9	S 18 22.0	−00.4
07	273 00.5	+03.9	S 18 21.6	−00.5
08	288 04.4	+04.0	S 18 21.1	−00.4
09	303 08.4	+03.9	S 18 20.7	−00.4
10	318 12.3	+03.9	S 18 20.3	−00.5
11	333 16.2	+04.0	S 18 19.8	−00.4
12	348 20.2	+03.9	S 18 19.4	−00.4
13	3 24.1	+04.0	S 18 19.0	−00.4
14	18 28.1	+03.9	S 18 18.6	−00.5
15	33 32.0	+04.0	S 18 18.1	−00.4
16	48 36.0	+03.9	S 18 17.7	−00.4
17	63 39.9	+04.0	S 18 17.3	−00.4
18	78 43.9	+03.9	S 18 16.9	−00.4
19	93 47.8	+04.0	S 18 16.5	−00.5
20	108 51.8	+03.9	S 18 16.0	−00.4
21	123 55.7	+04.0	S 18 15.6	−00.4
22	138 59.7	+04.0	S 18 15.2	−00.4
23	154 03.7	+03.9	S 18 14.8	−00.4

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	066°	066°	066°	066°	066°	066°

Greenwich Culmination Time: 12:46

Moon

A: 98%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	190 56.1	−39.7	S 25 59.1	+02.7
01	205 16.4	−39.8	S 26 01.8	+02.5
02	219 36.6	−39.7	S 26 04.3	+02.3
03	233 56.9	−39.8	S 26 06.6	+02.1
04	248 17.1	−39.9	S 26 08.7	+01.8
05	262 37.2	−39.8	S 26 10.5	+01.7
06	276 57.4	−39.9	S 26 12.2	+01.5
07	291 17.5	−39.8	S 26 13.7	+01.2
08	305 37.7	−39.9	S 26 14.9	+01.1
09	319 57.8	−39.9	S 26 16.0	+00.8
10	334 17.9	−39.9	S 26 16.8	+00.7
11	348 38.0	−39.8	S 26 17.5	+00.4
12	2 58.2	−39.9	S 26 17.9	+00.2
13	17 18.3	−39.9	S 26 18.1	+00.1
14	31 38.4	−39.8	S 26 18.2	−00.2
15	45 58.6	−39.8	S 26 18.0	−00.4
16	60 18.8	−39.9	S 26 17.6	−00.6
17	74 38.9	−39.7	S 26 17.0	−00.8
18	88 59.2	−39.8	S 26 16.2	−01.1
19	103 19.4	−39.7	S 26 15.1	−01.2
20	117 39.7	−39.7	S 26 13.9	−01.4
21	131 60.0	−39.7	S 26 12.5	−01.6
22	146 20.3	−39.6	S 26 10.9	−01.9
23	160 40.7	−39.6	S 26 09.0	−02.0

UT	02	06	10	14	18	22
SD	16′7	16′7	16′7	16′7	16′7	16′6
HP	61′2	61′2	61′2	61′1	61′1	61′1
SHA	088°	085°	082°	079°	077°	074°

Greenwich Culmination Time: 11:47

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	209 11.4	+00.6	S 22 35.9	+00.2
01	224 12.0	+00.5	S 22 36.1	+00.3
02	239 12.5	+00.6	S 22 36.4	+00.2
03	254 13.1	+00.5	S 22 36.6	+00.2
04	269 13.6	+00.6	S 22 36.8	+00.3
05	284 14.2	+00.5	S 22 37.1	+00.2
06	299 14.7	+00.6	S 22 37.3	+00.3
07	314 15.3	+00.5	S 22 37.6	+00.2
08	329 15.8	+00.6	S 22 37.8	+00.2
09	344 16.4	+00.5	S 22 38.0	+00.3
10	359 16.9	+00.6	S 22 38.3	+00.2
11	14 17.5	+00.5	S 22 38.5	+00.3
12	29 18.0	+00.6	S 22 38.8	+00.2
13	44 18.6	+00.6	S 22 39.0	+00.2
14	59 19.2	+00.5	S 22 39.2	+00.3
15	74 19.7	+00.6	S 22 39.5	+00.2
16	89 20.3	+00.5	S 22 39.7	+00.2
17	104 20.8	+00.6	S 22 39.9	+00.3
18	119 21.4	+00.5	S 22 40.2	+00.2
19	134 21.9	+00.6	S 22 40.4	+00.2
20	149 22.5	+00.5	S 22 40.6	+00.3
21	164 23.0	+00.6	S 22 40.9	+00.2
22	179 23.6	+00.5	S 22 41.1	+00.2
23	194 24.1	+00.6	S 22 41.3	+00.3

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	108°	107°	107°	107°	107°	107°

Greenwich Culmination Time: 10:02

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	128 27.3	+02.0	S 12 08.4	−00.2
01	143 29.3	+02.0	S 12 08.2	−00.1
02	158 31.3	+01.9	S 12 08.1	−00.2
03	173 33.2	+02.0	S 12 07.9	−00.2
04	188 35.2	+02.0	S 12 07.7	−00.2
05	203 37.2	+02.0	S 12 07.5	−00.1
06	218 39.2	+02.0	S 12 07.4	−00.2
07	233 41.2	+02.0	S 12 07.2	−00.2
08	248 43.2	+02.0	S 12 07.0	−00.2
09	263 45.2	+02.0	S 12 06.8	−00.2
10	278 47.2	+02.0	S 12 06.6	−00.1
11	293 49.2	+02.0	S 12 06.5	−00.2
12	308 51.2	+02.0	S 12 06.3	−00.2
13	323 53.2	+02.0	S 12 06.1	−00.2
14	338 55.2	+02.0	S 12 05.9	−00.2
15	353 57.2	+02.0	S 12 05.7	−00.1
16	8 59.2	+02.0	S 12 05.6	−00.2
17	24 01.2	+01.9	S 12 05.4	−00.2
18	39 03.1	+02.0	S 12 05.2	−00.2
19	54 05.1	+02.0	S 12 05.0	−00.1
20	69 07.1	+02.0	S 12 04.9	−00.2
21	84 09.1	+02.0	S 12 04.7	−00.2
22	99 11.1	+02.0	S 12 04.5	−00.2
23	114 13.1	+02.0	S 12 04.3	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	027°	027°	027°	027°	027°	027°

Greenwich Culmination Time: 15:24

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	146 53.9	+02.2	S 17 58.8	+00.0
01	161 56.1	+02.2	S 17 58.8	−00.1
02	176 58.3	+02.1	S 17 58.7	−00.1
03	192 00.4	+02.2	S 17 58.6	−00.1
04	207 02.6	+02.2	S 17 58.5	+00.0
05	222 04.8	+02.2	S 17 58.5	−00.1
06	237 07.0	+02.2	S 17 58.4	−00.1
07	252 09.2	+02.2	S 17 58.3	−00.1
08	267 11.4	+02.2	S 17 58.2	+00.0
09	282 13.6	+02.2	S 17 58.2	−00.1
10	297 15.8	+02.2	S 17 58.1	−00.1
11	312 18.0	+02.1	S 17 58.0	−00.1
12	327 20.1	+02.2	S 17 57.9	+00.0
13	342 22.3	+02.2	S 17 57.9	−00.1
14	357 24.5	+02.2	S 17 57.8	−00.1
15	12 26.7	+02.2	S 17 57.7	−00.1
16	27 28.9	+02.2	S 17 57.6	+00.0
17	42 31.1	+02.2	S 17 57.6	−00.1
18	57 33.3	+02.2	S 17 57.5	−00.1
19	72 35.5	+02.1	S 17 57.4	−00.1
20	87 37.6	+02.2	S 17 57.3	+00.0
21	102 39.8	+02.2	S 17 57.3	−00.1
22	117 42.0	+02.2	S 17 57.2	−00.1
23	132 44.2	+02.2	S 17 57.1	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	045°	045°	045°	045°	045°	045°

Greenwich Culmination Time: 14:10

2022 January 3 Monday (day 3 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 56.4	−00.3	S 22 50.6	−00.2
01	193 56.1	−00.3	S 22 50.4	−00.2
02	208 55.8	−00.3	S 22 50.2	−00.3
03	223 55.5	−00.3	S 22 49.9	−00.2
04	238 55.2	−00.3	S 22 49.7	−00.3
05	253 54.9	−00.2	S 22 49.4	−00.2
06	268 54.7	−00.3	S 22 49.2	−00.3
07	283 54.4	−00.3	S 22 48.9	−00.2
08	298 54.1	−00.3	S 22 48.7	−00.3
09	313 53.8	−00.3	S 22 48.4	−00.2
10	328 53.5	−00.3	S 22 48.2	−00.2
11	343 53.2	−00.3	S 22 48.0	−00.3
12	358 52.9	−00.3	S 22 47.7	−00.2
13	13 52.6	−00.2	S 22 47.5	−00.3
14	28 52.4	−00.3	S 22 47.2	−00.2
15	43 52.1	−00.3	S 22 47.0	−00.3
16	58 51.8	−00.3	S 22 46.7	−00.3
17	73 51.5	−00.3	S 22 46.4	−00.2
18	88 51.2	−00.3	S 22 46.2	−00.3
19	103 50.9	−00.3	S 22 45.9	−00.2
20	118 50.6	−00.3	S 22 45.7	−00.3
21	133 50.3	−00.2	S 22 45.4	−00.2
22	148 50.1	−00.3	S 22 45.2	−00.3
23	163 49.8	−00.3	S 22 44.9	−00.2

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	076°	076°	076°	076°	076°	075°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	169 07.6	+04.0	S 18 14.4	−00.5
01	184 11.6	+04.0	S 18 13.9	−00.4
02	199 15.6	+04.0	S 18 13.5	−00.4
03	214 19.6	+03.9	S 18 13.1	−00.4
04	229 23.5	+04.0	S 18 12.7	−00.4
05	244 27.5	+04.0	S 18 12.3	−00.5
06	259 31.5	+04.0	S 18 11.8	−00.4
07	274 35.5	+04.0	S 18 11.4	−00.4
08	289 39.5	+04.0	S 18 11.0	−00.4
09	304 43.5	+04.0	S 18 10.6	−00.4
10	319 47.5	+04.0	S 18 10.2	−00.4
11	334 51.5	+04.0	S 18 09.8	−00.4
12	349 55.5	+04.0	S 18 09.4	−00.5
13	4 59.5	+04.0	S 18 08.9	−00.4
14	20 03.5	+04.0	S 18 08.5	−00.4
15	35 07.5	+04.0	S 18 08.1	−00.4
16	50 11.5	+04.0	S 18 07.7	−00.4
17	65 15.5	+04.0	S 18 07.3	−00.4
18	80 19.5	+04.0	S 18 06.9	−00.4
19	95 23.5	+04.0	S 18 06.5	−00.4
20	110 27.5	+04.0	S 18 06.1	−00.5
21	125 31.5	+04.0	S 18 05.6	−00.4
22	140 35.5	+04.0	S 18 05.2	−00.4
23	155 39.5	+04.1	S 18 04.8	−00.4

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	067°	067°	067°	067°	067°	067°

Greenwich Culmination Time: 12:40

Moon

A: 03%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	175 01.1	−39.6	S 26 07.0	−02.3
01	189 21.5	−39.5	S 26 04.7	−02.4
02	203 42.0	−39.4	S 26 02.3	−02.6
03	218 02.6	−39.4	S 25 59.7	−02.9
04	232 23.2	−39.3	S 25 56.8	−03.0
05	246 43.9	−39.3	S 25 53.8	−03.3
06	261 04.6	−39.2	S 25 50.5	−03.4
07	275 25.4	−39.1	S 25 47.1	−03.6
08	289 46.3	−39.1	S 25 43.5	−03.9
09	304 07.2	−39.0	S 25 39.6	−04.0
10	318 28.2	−38.9	S 25 35.6	−04.2
11	332 49.3	−38.8	S 25 31.4	−04.4
12	347 10.5	−38.8	S 25 27.0	−04.6
13	1 31.7	−38.7	S 25 22.4	−04.8
14	15 53.0	−38.5	S 25 17.6	−04.9
15	30 14.5	−38.5	S 25 12.7	−05.2
16	44 36.0	−38.5	S 25 07.5	−05.3
17	58 57.5	−38.3	S 25 02.2	−05.5
18	73 19.2	−38.2	S 24 56.7	−05.7
19	87 41.0	−38.1	S 24 51.0	−05.9
20	102 02.9	−38.1	S 24 45.1	−06.1
21	116 24.8	−37.9	S 24 39.0	−06.2
22	130 46.9	−37.8	S 24 32.8	−06.4
23	145 09.1	−37.8	S 24 26.4	−06.6

UT	02	06	10	14	18	22
SD	16′6	16′6	16′6	16′6	16′5	16′5
HP	61′0	60′9	60′9	60′8	60′7	60′6
SHA	071°	068°	065°	063°	060°	057°

Greenwich Culmination Time: 12:53

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	209 24.7	+00.5	S 22 41.6	+00.2
01	224 25.2	+00.6	S 22 41.8	+00.2
02	239 25.8	+00.5	S 22 42.0	+00.3
03	254 26.3	+00.6	S 22 42.3	+00.2
04	269 26.9	+00.5	S 22 42.5	+00.2
05	284 27.4	+00.6	S 22 42.7	+00.3
06	299 28.0	+00.5	S 22 43.0	+00.2
07	314 28.5	+00.6	S 22 43.2	+00.2
08	329 29.1	+00.5	S 22 43.4	+00.2
09	344 29.6	+00.6	S 22 43.6	+00.3
10	359 30.2	+00.5	S 22 43.9	+00.2
11	14 30.7	+00.6	S 22 44.1	+00.2
12	29 31.3	+00.5	S 22 44.3	+00.3
13	44 31.8	+00.6	S 22 44.6	+00.2
14	59 32.4	+00.5	S 22 44.8	+00.2
15	74 32.9	+00.6	S 22 45.0	+00.2
16	89 33.5	+00.5	S 22 45.2	+00.3
17	104 34.0	+00.6	S 22 45.5	+00.2
18	119 34.6	+00.5	S 22 45.7	+00.2
19	134 35.1	+00.5	S 22 45.9	+00.2
20	149 35.6	+00.6	S 22 46.1	+00.3
21	164 36.2	+00.5	S 22 46.4	+00.2
22	179 36.7	+00.6	S 22 46.6	+00.2
23	194 37.3	+00.5	S 22 46.8	+00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	107°	107°	106°	106°	106°	106°

Greenwich Culmination Time: 10:01

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	129 15.1	+02.0	S 12 04.1	−00.1
01	144 17.1	+02.0	S 12 04.0	−00.2
02	159 19.1	+02.0	S 12 03.8	−00.2
03	174 21.1	+02.0	S 12 03.6	−00.2
04	189 23.1	+01.9	S 12 03.4	−00.2
05	204 25.0	+02.0	S 12 03.2	−00.1
06	219 27.0	+02.0	S 12 03.1	−00.2
07	234 29.0	+02.0	S 12 02.9	−00.2
08	249 31.0	+02.0	S 12 02.7	−00.2
09	264 33.0	+02.0	S 12 02.5	−00.2
10	279 35.0	+02.0	S 12 02.3	−00.1
11	294 37.0	+02.0	S 12 02.2	−00.2
12	309 39.0	+02.0	S 12 02.0	−00.2
13	324 41.0	+02.0	S 12 01.8	−00.2
14	339 43.0	+01.9	S 12 01.6	−00.2
15	354 44.9	+02.0	S 12 01.4	−00.1
16	9 46.9	+02.0	S 12 01.3	−00.2
17	24 48.9	+02.0	S 12 01.1	−00.2
18	39 50.9	+02.0	S 12 00.9	−00.2
19	54 52.9	+02.0	S 12 00.7	−00.2
20	69 54.9	+02.0	S 12 00.5	−00.1
21	84 56.9	+02.0	S 12 00.4	−00.2
22	99 58.9	+01.9	S 12 00.2	−00.2
23	115 00.8	+02.0	S 12 00.0	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	027°	027°	027°	027°	027°	026°

Greenwich Culmination Time: 15:20

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	147 46.4	+02.2	S 17 57.0	+00.0
01	162 48.6	+02.2	S 17 57.0	−00.1
02	177 50.8	+02.2	S 17 56.9	−00.1
03	192 53.0	+02.1	S 17 56.8	−00.1
04	207 55.1	+02.2	S 17 56.7	+00.0
05	222 57.3	+02.2	S 17 56.7	−00.1
06	237 59.5	+02.2	S 17 56.6	−00.1
07	253 01.7	+02.2	S 17 56.5	−00.1
08	268 03.9	+02.2	S 17 56.4	+00.0
09	283 06.1	+02.2	S 17 56.4	−00.1
10	298 08.3	+02.2	S 17 56.3	−00.1
11	313 10.5	+02.1	S 17 56.2	−00.1
12	328 12.6	+02.2	S 17 56.1	+00.0
13	343 14.8	+02.2	S 17 56.1	−00.1
14	358 17.0	+02.2	S 17 56.0	−00.1
15	13 19.2	+02.2	S 17 55.9	−00.1
16	28 21.4	+02.2	S 17 55.8	−00.1
17	43 23.6	+02.2	S 17 55.7	+00.0
18	58 25.8	+02.1	S 17 55.7	−00.1
19	73 27.9	+02.2	S 17 55.6	−00.1
20	88 30.1	+02.2	S 17 55.5	−00.1
21	103 32.3	+02.2	S 17 55.4	+00.0
22	118 34.5	+02.2	S 17 55.4	−00.1
23	133 36.7	+02.2	S 17 55.3	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	045°	045°	045°	045°	045°	045°

Greenwich Culmination Time: 14:06

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2022 January 8 Saturday (day 8 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 23.0	−00.3	S 22 16.3	−00.3
01	193 22.7	−00.3	S 22 16.0	−00.4
02	208 22.4	−00.2	S 22 15.6	−00.3
03	223 22.2	−00.3	S 22 15.3	−00.3
04	238 21.9	−00.3	S 22 15.0	−00.4
05	253 21.6	−00.2	S 22 14.6	−00.3
06	268 21.4	−00.3	S 22 14.3	−00.4
07	283 21.1	−00.3	S 22 13.9	−00.3
08	298 20.8	−00.2	S 22 13.6	−00.3
09	313 20.6	−00.3	S 22 13.3	−00.4
10	328 20.3	−00.3	S 22 12.9	−00.3
11	343 20.0	−00.2	S 22 12.6	−00.3
12	358 19.8	−00.3	S 22 12.3	−00.4
13	13 19.5	−00.2	S 22 11.9	−00.3
14	28 19.3	−00.3	S 22 11.6	−00.4
15	43 19.0	−00.3	S 22 11.2	−00.3
16	58 18.7	−00.2	S 22 10.9	−00.4
17	73 18.5	−00.3	S 22 10.5	−00.3
18	88 18.2	−00.3	S 22 10.2	−00.4
19	103 17.9	−00.2	S 22 09.8	−00.3
20	118 17.7	−00.3	S 22 09.5	−00.4
21	133 17.4	−00.2	S 22 09.1	−00.3
22	148 17.2	−00.3	S 22 08.8	−00.4
23	163 16.9	−00.3	S 22 08.4	−00.3

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	071°	071°	070°	070°	070°	070°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	177 16.1	+04.1	S 17 27.9	−00.4
01	192 20.2	+04.1	S 17 27.5	−00.3
02	207 24.3	+04.2	S 17 27.2	−00.4
03	222 28.5	+04.1	S 17 26.8	−00.3
04	237 32.6	+04.1	S 17 26.5	−00.4
05	252 36.7	+04.1	S 17 26.1	−00.3
06	267 40.8	+04.2	S 17 25.8	−00.4
07	282 45.0	+04.1	S 17 25.4	−00.3
08	297 49.1	+04.1	S 17 25.1	−00.3
09	312 53.2	+04.2	S 17 24.8	−00.4
10	327 57.4	+04.1	S 17 24.4	−00.3
11	343 01.5	+04.1	S 17 24.1	−00.4
12	358 05.6	+04.1	S 17 23.7	−00.3
13	13 09.7	+04.2	S 17 23.4	−00.4
14	28 13.9	+04.1	S 17 23.0	−00.3
15	43 18.0	+04.1	S 17 22.7	−00.4
16	58 22.1	+04.2	S 17 22.3	−00.3
17	73 26.3	+04.1	S 17 22.0	−00.3
18	88 30.4	+04.1	S 17 21.7	−00.4
19	103 34.5	+04.1	S 17 21.3	−00.3
20	118 38.6	+04.2	S 17 21.0	−00.3
21	133 42.8	+04.1	S 17 20.7	−00.4
22	148 46.9	+04.1	S 17 20.3	−00.3
23	163 51.0	+04.1	S 17 20.0	−00.4

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′6	00′6	00′6	00′6	00′6	00′6
SHA	070°	070°	070°	070°	070°	070°

Greenwich Culmination Time: 12:07

Moon

A: 20%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	108 24.0	−27.1	S 05 24.6	−14.2
01	122 56.9	−27.0	S 05 10.4	−14.3
02	137 29.9	−27.0	S 04 56.1	−14.2
03	152 02.9	−26.9	S 04 41.9	−14.3
04	166 36.0	−26.9	S 04 27.6	−14.2
05	181 09.1	−26.8	S 04 13.4	−14.3
06	195 42.3	−26.7	S 03 59.1	−14.2
07	210 15.6	−26.7	S 03 44.9	−14.3
08	224 48.9	−26.6	S 03 30.6	−14.2
09	239 22.3	−26.6	S 03 16.4	−14.3
10	253 55.7	−26.5	S 03 02.1	−14.2
11	268 29.2	−26.5	S 02 47.9	−14.3
12	283 02.7	−26.4	S 02 33.6	−14.2
13	297 36.3	−26.4	S 02 19.4	−14.2
14	312 09.9	−26.3	S 02 05.2	−14.2
15	326 43.6	−26.3	S 01 51.0	−14.2
16	341 17.3	−26.3	S 01 36.8	−14.2
17	355 51.0	−26.2	S 01 22.6	−14.1
18	10 24.8	−26.1	S 01 08.5	−14.2
19	24 58.7	−26.1	S 00 54.3	−14.1
20	39 32.6	−26.1	S 00 40.2	−14.2
21	54 06.5	−26.1	S 00 26.0	−14.1
22	68 40.4	−26.0	S 00 11.9	−14.1
23	83 14.4	−25.9	N 00 02.2	+14.0

UT	02	06	10	14	18	22
SD	15′5	15′5	15′4	15′4	15′4	15′3
HP	56′9	56′8	56′6	56′5	56′3	56′2
SHA	360°	358°	356°	354°	352°	350°

Greenwich Culmination Time: 17:17

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	210 29.5	+00.6	S 23 06.8	+00.2
01	225 30.1	+00.5	S 23 07.0	+00.2
02	240 30.6	+00.5	S 23 07.2	+00.1
03	255 31.1	+00.6	S 23 07.3	+00.2
04	270 31.7	+00.5	S 23 07.5	+00.2
05	285 32.2	+00.5	S 23 07.7	+00.2
06	300 32.7	+00.5	S 23 07.9	+00.2
07	315 33.2	+00.6	S 23 08.1	+00.2
08	330 33.8	+00.5	S 23 08.3	+00.2
09	345 34.3	+00.5	S 23 08.5	+00.1
10	0 34.8	+00.6	S 23 08.6	+00.2
11	15 35.4	+00.5	S 23 08.8	+00.2
12	30 35.9	+00.5	S 23 09.0	+00.2
13	45 36.4	+00.5	S 23 09.2	+00.2
14	60 36.9	+00.6	S 23 09.4	+00.2
15	75 37.5	+00.5	S 23 09.6	+00.1
16	90 38.0	+00.5	S 23 09.7	+00.2
17	105 38.5	+00.6	S 23 09.9	+00.2
18	120 39.1	+00.5	S 23 10.1	+00.2
19	135 39.6	+00.5	S 23 10.3	+00.2
20	150 40.1	+00.5	S 23 10.5	+00.1
21	165 40.6	+00.6	S 23 10.6	+00.2
22	180 41.2	+00.5	S 23 10.8	+00.2
23	195 41.7	+00.5	S 23 11.0	+00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	103°	103°	103°	103°	102°	102°

Greenwich Culmination Time: 09:57

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	133 13.0	+02.0	S 11 42.2	−00.2
01	148 15.0	+02.0	S 11 42.0	−00.2
02	163 17.0	+02.0	S 11 41.8	−00.2
03	178 19.0	+01.9	S 11 41.6	−00.2
04	193 20.9	+02.0	S 11 41.4	−00.1
05	208 22.9	+02.0	S 11 41.3	−00.2
06	223 24.9	+02.0	S 11 41.1	−00.2
07	238 26.9	+01.9	S 11 40.9	−00.2
08	253 28.8	+02.0	S 11 40.7	−00.2
09	268 30.8	+02.0	S 11 40.5	−00.2
10	283 32.8	+02.0	S 11 40.3	−00.2
11	298 34.8	+01.9	S 11 40.1	−00.2
12	313 36.7	+02.0	S 11 39.9	−00.1
13	328 38.7	+02.0	S 11 39.8	−00.2
14	343 40.7	+02.0	S 11 39.6	−00.2
15	358 42.7	+01.9	S 11 39.4	−00.2
16	13 44.6	+02.0	S 11 39.2	−00.2
17	28 46.6	+02.0	S 11 39.0	−00.2
18	43 48.6	+01.9	S 11 38.8	−00.2
19	58 50.5	+02.0	S 11 38.6	−00.2
20	73 52.5	+02.0	S 11 38.4	−00.1
21	88 54.5	+02.0	S 11 38.3	−00.2
22	103 56.5	+01.9	S 11 38.1	−00.2
23	118 58.4	+02.0	S 11 37.9	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	026°	026°	026°	026°	026°	026°

Greenwich Culmination Time: 15:05

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	152 08.5	+02.2	S 17 47.8	−00.1
01	167 10.7	+02.1	S 17 47.7	+00.0
02	182 12.8	+02.2	S 17 47.7	−00.1
03	197 15.0	+02.2	S 17 47.6	−00.1
04	212 17.2	+02.2	S 17 47.5	−00.1
05	227 19.4	+02.2	S 17 47.4	−00.1
06	242 21.6	+02.1	S 17 47.3	+00.0
07	257 23.7	+02.2	S 17 47.3	−00.1
08	272 25.9	+02.2	S 17 47.2	−00.1
09	287 28.1	+02.2	S 17 47.1	−00.1
10	302 30.3	+02.2	S 17 47.0	+00.0
11	317 32.5	+02.1	S 17 47.0	−00.1
12	332 34.6	+02.2	S 17 46.9	−00.1
13	347 36.8	+02.2	S 17 46.8	−00.1
14	2 39.0	+02.2	S 17 46.7	−00.1
15	17 41.2	+02.2	S 17 46.6	+00.0
16	32 43.4	+02.1	S 17 46.6	−00.1
17	47 45.5	+02.2	S 17 46.5	−00.1
18	62 47.7	+02.2	S 17 46.4	−00.1
19	77 49.9	+02.2	S 17 46.3	−00.1
20	92 52.1	+02.2	S 17 46.2	+00.0
21	107 54.3	+02.1	S 17 46.2	−00.1
22	122 56.4	+02.2	S 17 46.1	−00.1
23	137 58.6	+02.2	S 17 46.0	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	045°	045°	045°	045°	045°	045°

Greenwich Culmination Time: 13:49

2022 January 5 Wednesday (day 5 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 42.7	−00.3	S 22 38.2	−00.2
01	193 42.4	−00.3	S 22 38.0	−00.3
02	208 42.1	−00.3	S 22 37.7	−00.3
03	223 41.8	−00.2	S 22 37.4	−00.3
04	238 41.6	−00.3	S 22 37.1	−00.3
05	253 41.3	−00.3	S 22 36.8	−00.2
06	268 41.0	−00.3	S 22 36.6	−00.3
07	283 40.7	−00.3	S 22 36.3	−00.3
08	298 40.4	−00.2	S 22 36.0	−00.3
09	313 40.2	−00.3	S 22 35.7	−00.3
10	328 39.9	−00.3	S 22 35.4	−00.3
11	343 39.6	−00.3	S 22 35.1	−00.2
12	358 39.3	−00.3	S 22 34.9	−00.3
13	13 39.0	−00.2	S 22 34.6	−00.3
14	28 38.8	−00.3	S 22 34.3	−00.3
15	43 38.5	−00.3	S 22 34.0	−00.3
16	58 38.2	−00.3	S 22 33.7	−00.3
17	73 37.9	−00.2	S 22 33.4	−00.3
18	88 37.7	−00.3	S 22 33.1	−00.3
19	103 37.4	−00.3	S 22 32.8	−00.3
20	118 37.1	−00.3	S 22 32.5	−00.2
21	133 36.8	−00.3	S 22 32.3	−00.3
22	148 36.5	−00.2	S 22 32.0	−00.3
23	163 36.3	−00.3	S 22 31.7	−00.3

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	074°	074°	074°	074°	073°	073°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	172 20.6	+04.1	S 17 54.8	−00.4
01	187 24.7	+04.1	S 17 54.4	−00.4
02	202 28.8	+04.0	S 17 54.0	−00.4
03	217 32.8	+04.1	S 17 53.6	−00.4
04	232 36.9	+04.1	S 17 53.2	−00.4
05	247 41.0	+04.0	S 17 52.8	−00.4
06	262 45.0	+04.1	S 17 52.4	−00.4
07	277 49.1	+04.1	S 17 52.0	−00.3
08	292 53.2	+04.1	S 17 51.7	−00.4
09	307 57.3	+04.0	S 17 51.3	−00.4
10	323 01.3	+04.1	S 17 50.9	−00.4
11	338 05.4	+04.1	S 17 50.5	−00.4
12	353 09.5	+04.1	S 17 50.1	−00.4
13	8 13.6	+04.1	S 17 49.7	−00.4
14	23 17.7	+04.0	S 17 49.3	−00.4
15	38 21.7	+04.1	S 17 48.9	−00.4
16	53 25.8	+04.1	S 17 48.5	−00.3
17	68 29.9	+04.1	S 17 48.2	−00.4
18	83 34.0	+04.1	S 17 47.8	−00.4
19	98 38.1	+04.1	S 17 47.4	−00.4
20	113 42.2	+04.1	S 17 47.0	−00.4
21	128 46.3	+04.1	S 17 46.6	−00.4
22	143 50.4	+04.1	S 17 46.2	−00.3
23	158 54.5	+04.1	S 17 45.9	−00.4

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	068°	068°	068°	068°	068°	068°

Greenwich Culmination Time: 12:27

Moon

A: 11%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	145 01.1	−34.6	S 20 55.4	−10.2
01	159 26.5	−34.6	S 20 45.2	−10.4
02	173 51.9	−34.4	S 20 34.8	−10.5
03	188 17.5	−34.3	S 20 24.3	−10.6
04	202 43.2	−34.2	S 20 13.7	−10.7
05	217 09.0	−34.0	S 20 03.0	−10.8
06	231 35.0	−33.9	S 19 52.2	−10.9
07	246 01.1	−33.8	S 19 41.3	−11.1
08	260 27.3	−33.6	S 19 30.2	−11.1
09	274 53.7	−33.6	S 19 19.1	−11.3
10	289 20.1	−33.3	S 19 07.8	−11.3
11	303 46.8	−33.3	S 18 56.5	−11.5
12	318 13.5	−33.1	S 18 45.0	−11.5
13	332 40.4	−33.0	S 18 33.5	−11.7
14	347 07.4	−32.9	S 18 21.8	−11.7
15	1 34.5	−32.7	S 18 10.1	−11.8
16	16 01.8	−32.7	S 17 58.3	−11.9
17	30 29.1	−32.4	S 17 46.4	−12.0
18	44 56.7	−32.4	S 17 34.4	−12.1
19	59 24.3	−32.2	S 17 22.3	−12.2
20	73 52.1	−32.2	S 17 10.1	−12.3
21	88 19.9	−32.0	S 16 57.8	−12.3
22	102 47.9	−31.8	S 16 45.5	−12.4
23	117 16.1	−31.8	S 16 33.1	−12.5

UT	02	06	10	14	18	22
SD	16′3	16′2	16′2	16′2	16′1	16′1
HP	59′7	59′6	59′5	59′3	59′1	59′0
SHA	039°	037°	034°	032°	030°	027°

Greenwich Culmination Time: 14:53

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	209 50.9	+00.5	S 22 52.3	+00.2
01	224 51.4	+00.6	S 22 52.5	+00.2
02	239 52.0	+00.5	S 22 52.7	+00.2
03	254 52.5	+00.6	S 22 52.9	+00.3
04	269 53.1	+00.5	S 22 53.2	+00.2
05	284 53.6	+00.6	S 22 53.4	+00.2
06	299 54.2	+00.5	S 22 53.6	+00.2
07	314 54.7	+00.5	S 22 53.8	+00.2
08	329 55.2	+00.6	S 22 54.0	+00.2
09	344 55.8	+00.5	S 22 54.2	+00.2
10	359 56.3	+00.6	S 22 54.4	+00.2
11	14 56.9	+00.5	S 22 54.6	+00.3
12	29 57.4	+00.5	S 22 54.9	+00.2
13	44 57.9	+00.6	S 22 55.1	+00.2
14	59 58.5	+00.5	S 22 55.3	+00.2
15	74 59.0	+00.6	S 22 55.5	+00.2
16	89 59.6	+00.5	S 22 55.7	+00.2
17	105 00.1	+00.5	S 22 55.9	+00.2
18	120 00.6	+00.6	S 22 56.1	+00.2
19	135 01.2	+00.5	S 22 56.3	+00.2
20	150 01.7	+00.6	S 22 56.5	+00.2
21	165 02.3	+00.5	S 22 56.7	+00.2
22	180 02.8	+00.5	S 22 56.9	+00.2
23	195 03.3	+00.6	S 22 57.1	+00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	105°	105°	105°	105°	105°	105°

Greenwich Culmination Time: 10:00

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	130 50.5	+02.0	S 11 55.5	−00.2
01	145 52.5	+02.0	S 11 55.3	−00.2
02	160 54.5	+02.0	S 11 55.1	−00.2
03	175 56.5	+01.9	S 11 54.9	−00.2
04	190 58.4	+02.0	S 11 54.7	−00.1
05	206 00.4	+02.0	S 11 54.6	−00.2
06	221 02.4	+02.0	S 11 54.4	−00.2
07	236 04.4	+02.0	S 11 54.2	−00.2
08	251 06.4	+02.0	S 11 54.0	−00.2
09	266 08.4	+01.9	S 11 53.8	−00.2
10	281 10.3	+02.0	S 11 53.6	−00.1
11	296 12.3	+02.0	S 11 53.5	−00.2
12	311 14.3	+02.0	S 11 53.3	−00.2
13	326 16.3	+02.0	S 11 53.1	−00.2
14	341 18.3	+02.0	S 11 52.9	−00.2
15	356 20.3	+01.9	S 11 52.7	−00.2
16	11 22.2	+02.0	S 11 52.5	−00.1
17	26 24.2	+02.0	S 11 52.4	−00.2
18	41 26.2	+02.0	S 11 52.2	−00.2
19	56 28.2	+02.0	S 11 52.0	−00.2
20	71 30.2	+01.9	S 11 51.8	−00.2
21	86 32.1	+02.0	S 11 51.6	−00.2
22	101 34.1	+02.0	S 11 51.4	−00.1
23	116 36.1	+02.0	S 11 51.3	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	026°	026°	026°	026°	026°	026°

Greenwich Culmination Time: 15:14

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	149 31.3	+02.2	S 17 53.4	−00.1
01	164 33.5	+02.2	S 17 53.3	−00.1
02	179 35.7	+02.2	S 17 53.2	+00.0
03	194 37.9	+02.2	S 17 53.2	−00.1
04	209 40.1	+02.2	S 17 53.1	−00.1
05	224 42.3	+02.1	S 17 53.0	−00.1
06	239 44.4	+02.2	S 17 52.9	−00.1
07	254 46.6	+02.2	S 17 52.8	+00.0
08	269 48.8	+02.2	S 17 52.8	−00.1
09	284 51.0	+02.2	S 17 52.7	−00.1
10	299 53.2	+02.2	S 17 52.6	−00.1
11	314 55.4	+02.1	S 17 52.5	+00.0
12	329 57.5	+02.2	S 17 52.5	−00.1
13	344 59.7	+02.2	S 17 52.4	−00.1
14	0 01.9	+02.2	S 17 52.3	−00.1
15	15 04.1	+02.2	S 17 52.2	+00.0
16	30 06.3	+02.2	S 17 52.2	−00.1
17	45 08.5	+02.1	S 17 52.1	−00.1
18	60 10.6	+02.2	S 17 52.0	−00.1
19	75 12.8	+02.2	S 17 51.9	−00.1
20	90 15.0	+02.2	S 17 51.8	+00.0
21	105 17.2	+02.2	S 17 51.8	−00.1
22	120 19.4	+02.2	S 17 51.7	−00.1
23	135 21.6	+02.1	S 17 51.6	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	045°	045°	045°	045°	045°	045°

Greenwich Culmination Time: 13:59

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2022 January 6 Thursday (day 6 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 36.0	-00.3	S 22 31.4	-00.3
01	193 35.7	-00.3	S 22 31.1	-00.3
02	208 35.4	-00.2	S 22 30.8	-00.3
03	223 35.2	-00.3	S 22 30.5	-00.3
04	238 34.9	-00.3	S 22 30.2	-00.3
05	253 34.6	-00.3	S 22 29.9	-00.3
06	268 34.3	-00.2	S 22 29.6	-00.3
07	283 34.1	-00.3	S 22 29.3	-00.3
08	298 33.8	-00.3	S 22 29.0	-00.3
09	313 33.5	-00.3	S 22 28.7	-00.3
10	328 33.2	-00.2	S 22 28.4	-00.3
11	343 33.0	-00.3	S 22 28.1	-00.3
12	358 32.7	-00.3	S 22 27.8	-00.3
13	13 32.4	-00.3	S 22 27.5	-00.3
14	28 32.1	-00.2	S 22 27.2	-00.4
15	43 31.9	-00.3	S 22 26.8	-00.3
16	58 31.6	-00.3	S 22 26.5	-00.3
17	73 31.3	-00.3	S 22 26.2	-00.3
18	88 31.0	-00.2	S 22 25.9	-00.3
19	103 30.8	-00.3	S 22 25.6	-00.3
20	118 30.5	-00.3	S 22 25.3	-00.3
21	133 30.2	-00.2	S 22 25.0	-00.3
22	148 30.0	-00.3	S 22 24.7	-00.3
23	163 29.7	-00.3	S 22 24.4	-00.3

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	073°	073°	073°	072°	072°	072°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	173 58.6	+04.1	S 17 45.5	-00.4
01	189 02.7	+04.1	S 17 45.1	-00.4
02	204 06.8	+04.1	S 17 44.7	-00.4
03	219 10.9	+04.1	S 17 44.3	-00.3
04	234 15.0	+04.1	S 17 44.0	-00.4
05	249 19.1	+04.1	S 17 43.6	-00.4
06	264 23.2	+04.1	S 17 43.2	-00.4
07	279 27.3	+04.1	S 17 42.8	-00.3
08	294 31.4	+04.1	S 17 42.5	-00.4
09	309 35.5	+04.1	S 17 42.1	-00.4
10	324 39.6	+04.1	S 17 41.7	-00.4
11	339 43.7	+04.1	S 17 41.3	-00.4
12	354 47.8	+04.1	S 17 40.9	-00.3
13	9 51.9	+04.1	S 17 40.6	-00.4
14	24 56.0	+04.1	S 17 40.2	-00.4
15	40 00.1	+04.1	S 17 39.8	-00.3
16	55 04.2	+04.1	S 17 39.5	-00.4
17	70 08.3	+04.1	S 17 39.1	-00.4
18	85 12.4	+04.2	S 17 38.7	-00.4
19	100 16.6	+04.1	S 17 38.3	-00.3
20	115 20.7	+04.1	S 17 38.0	-00.4
21	130 24.8	+04.1	S 17 37.6	-00.4
22	145 28.9	+04.1	S 17 37.2	-00.3
23	160 33.0	+04.1	S 17 36.9	-00.4

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′6	00′6	00′6
SHA	068°	069°	069°	069°	069°	069°

Greenwich Culmination Time: 12:20

Moon

A: 14%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	131 44.3	-31.6	S 16 20.6	-12.6
01	146 12.7	-31.5	S 16 08.0	-12.6
02	160 41.2	-31.4	S 15 55.4	-12.7
03	175 09.8	-31.2	S 15 42.7	-12.8
04	189 38.6	-31.2	S 15 29.9	-12.8
05	204 07.4	-31.0	S 15 17.1	-12.9
06	218 36.4	-30.9	S 15 04.2	-13.0
07	233 05.5	-30.8	S 14 51.2	-13.0
08	247 34.7	-30.7	S 14 38.2	-13.1
09	262 04.0	-30.6	S 14 25.1	-13.1
10	276 33.4	-30.4	S 14 12.0	-13.3
11	291 03.0	-30.4	S 13 58.7	-13.2
12	305 32.6	-30.2	S 13 45.5	-13.3
13	320 02.4	-30.1	S 13 32.2	-13.4
14	334 32.3	-30.1	S 13 18.8	-13.4
15	349 02.2	-29.9	S 13 05.4	-13.5
16	3 32.3	-29.8	S 12 51.9	-13.5
17	18 02.5	-29.7	S 12 38.4	-13.5
18	32 32.8	-29.6	S 12 24.9	-13.6
19	47 03.2	-29.5	S 12 11.3	-13.6
20	61 33.7	-29.4	S 11 57.7	-13.7
21	76 04.3	-29.3	S 11 44.0	-13.7
22	90 35.0	-29.2	S 11 30.3	-13.8
23	105 05.8	-29.1	S 11 16.5	-13.8

UT	02	06	10	14	18	22
SD	16′0	16′0	15′9	15′9	15′9	15′8
HP	58′8	58′7	58′5	58′4	58′2	58′0
SHA	025°	023°	021°	018°	016°	014°

Greenwich Culmination Time: 15:45

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	210 03.9	+00.5	S 22 57.3	+00.3
01	225 04.4	+00.6	S 22 57.6	+00.2
02	240 05.0	+00.5	S 22 57.8	+00.2
03	255 05.5	+00.5	S 22 58.0	+00.2
04	270 06.0	+00.6	S 22 58.2	+00.2
05	285 06.6	+00.5	S 22 58.4	+00.2
06	300 07.1	+00.5	S 22 58.6	+00.2
07	315 07.6	+00.6	S 22 58.8	+00.2
08	330 08.2	+00.5	S 22 59.0	+00.2
09	345 08.7	+00.6	S 22 59.2	+00.2
10	0 09.3	+00.5	S 22 59.4	+00.2
11	15 09.8	+00.5	S 22 59.6	+00.2
12	30 10.3	+00.6	S 22 59.8	+00.2
13	45 10.9	+00.5	S 23 00.0	+00.2
14	60 11.4	+00.5	S 23 00.2	+00.2
15	75 11.9	+00.6	S 23 00.4	+00.2
16	90 12.5	+00.5	S 23 00.6	+00.2
17	105 13.0	+00.5	S 23 00.8	+00.2
18	120 13.5	+00.6	S 23 01.0	+00.2
19	135 14.1	+00.5	S 23 01.2	+00.2
20	150 14.6	+00.5	S 23 01.4	+00.2
21	165 15.1	+00.6	S 23 01.6	+00.2
22	180 15.7	+00.5	S 23 01.8	+00.2
23	195 16.2	+00.5	S 23 02.0	+00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	104°	104°	104°	104°	104°	104°

Greenwich Culmination Time: 09:59

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	131 38.1	+02.0	S 11 51.1	-00.2
01	146 40.1	+02.0	S 11 50.9	-00.2
02	161 42.1	+01.9	S 11 50.7	-00.2
03	176 44.0	+02.0	S 11 50.5	-00.2
04	191 46.0	+02.0	S 11 50.3	-00.1
05	206 48.0	+02.0	S 11 50.2	-00.2
06	221 50.0	+02.0	S 11 50.0	-00.2
07	236 52.0	+01.9	S 11 49.8	-00.2
08	251 53.9	+02.0	S 11 49.6	-00.2
09	266 55.9	+02.0	S 11 49.4	-00.2
10	281 57.9	+02.0	S 11 49.2	-00.1
11	296 59.9	+02.0	S 11 49.1	-00.2
12	312 01.9	+01.9	S 11 48.9	-00.2
13	327 03.8	+02.0	S 11 48.7	-00.2
14	342 05.8	+02.0	S 11 48.5	-00.2
15	357 07.8	+02.0	S 11 48.3	-00.2
16	12 09.8	+02.0	S 11 48.1	-00.2
17	27 11.8	+01.9	S 11 47.9	-00.1
18	42 13.7	+02.0	S 11 47.8	-00.2
19	57 15.7	+02.0	S 11 47.6	-00.2
20	72 17.7	+02.0	S 11 47.4	-00.2
21	87 19.7	+01.9	S 11 47.2	-00.2
22	102 21.6	+02.0	S 11 47.0	-00.2
23	117 23.6	+02.0	S 11 46.8	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	026°	026°	026°	026°	026°	026°

Greenwich Culmination Time: 15:11

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	150 23.7	+02.2	S 17 51.5	+00.0
01	165 25.9	+02.2	S 17 51.5	-00.1
02	180 28.1	+02.2	S 17 51.4	-00.1
03	195 30.3	+02.2	S 17 51.3	-00.1
04	210 32.5	+02.2	S 17 51.2	+00.0
05	225 34.7	+02.1	S 17 51.2	-00.1
06	240 36.8	+02.2	S 17 51.1	-00.1
07	255 39.0	+02.2	S 17 51.0	-00.1
08	270 41.2	+02.2	S 17 50.9	-00.1
09	285 43.4	+02.2	S 17 50.8	+00.0
10	300 45.6	+02.2	S 17 50.8	-00.1
11	315 47.8	+02.1	S 17 50.7	-00.1
12	330 49.9	+02.2	S 17 50.6	-00.1
13	345 52.1	+02.2	S 17 50.5	+00.0
14	0 54.3	+02.2	S 17 50.5	-00.1
15	15 56.5	+02.2	S 17 50.4	-00.1
16	30 58.7	+02.1	S 17 50.3	-00.1
17	46 00.8	+02.2	S 17 50.2	-00.1
18	61 03.0	+02.2	S 17 50.1	+00.0
19	76 05.2	+02.2	S 17 50.1	-00.1
20	91 07.4	+02.2	S 17 50.0	-00.1
21	106 09.6	+02.2	S 17 49.9	-00.1
22	121 11.8	+02.1	S 17 49.8	+00.0
23	136 13.9	+02.2	S 17 49.8	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	045°	045°	045°	045°	045°	045°

Greenwich Culmination Time: 13:56

2022 January 7 Friday (day 7 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 29.4	-00.3	S 22 24.1	-00.4
01	193 29.1	-00.2	S 22 23.7	-00.3
02	208 28.9	-00.3	S 22 23.4	-00.3
03	223 28.6	-00.3	S 22 23.1	-00.3
04	238 28.3	-00.2	S 22 22.8	-00.3
05	253 28.1	-00.3	S 22 22.5	-00.3
06	268 27.8	-00.3	S 22 22.2	-00.4
07	283 27.5	-00.3	S 22 21.8	-00.3
08	298 27.2	-00.2	S 22 21.5	-00.3
09	313 27.0	-00.3	S 22 21.2	-00.3
10	328 26.7	-00.3	S 22 20.9	-00.3
11	343 26.4	-00.2	S 22 20.6	-00.4
12	358 26.2	-00.3	S 22 20.2	-00.3
13	13 25.9	-00.3	S 22 19.9	-00.3
14	28 25.6	-00.2	S 22 19.6	-00.3
15	43 25.4	-00.3	S 22 19.3	-00.4
16	58 25.1	-00.3	S 22 18.9	-00.3
17	73 24.8	-00.2	S 22 18.6	-00.3
18	88 24.6	-00.3	S 22 18.3	-00.4
19	103 24.3	-00.3	S 22 17.9	-00.3
20	118 24.0	-00.2	S 22 17.6	-00.3
21	133 23.8	-00.3	S 22 17.3	-00.3
22	148 23.5	-00.3	S 22 17.0	-00.4
23	163 23.2	-00.2	S 22 16.6	-00.3

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	072°	072°	071°	071°	071°	071°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	175 37.1	+04.2	S 17 36.5	-00.4
01	190 41.3	+04.1	S 17 36.1	-00.3
02	205 45.4	+04.1	S 17 35.8	-00.4
03	220 49.5	+04.1	S 17 35.4	-00.4
04	235 53.6	+04.1	S 17 35.0	-00.3
05	250 57.7	+04.1	S 17 34.7	-00.4
06	266 01.8	+04.2	S 17 34.3	-00.3
07	281 06.0	+04.1	S 17 34.0	-00.4
08	296 10.1	+04.1	S 17 33.6	-00.4
09	311 14.2	+04.1	S 17 33.2	-00.3
10	326 18.3	+04.2	S 17 32.9	-00.4
11	341 22.5	+04.1	S 17 32.5	-00.4
12	356 26.6	+04.1	S 17 32.1	-00.3
13	11 30.7	+04.1	S 17 31.8	-00.4
14	26 34.8	+04.1	S 17 31.4	-00.3
15	41 38.9	+04.2	S 17 31.1	-00.4
16	56 43.1	+04.1	S 17 30.7	-00.3
17	71 47.2	+04.1	S 17 30.4	-00.4
18	86 51.3	+04.2	S 17 30.0	-00.3
19	101 55.5	+04.1	S 17 29.7	-00.4
20	116 59.6	+04.1	S 17 29.3	-00.4
21	132 03.7	+04.1	S 17 28.9	-00.3
22	147 07.8	+04.2	S 17 28.6	-00.4
23	162 12.0	+04.1	S 17 28.2	-00.3

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′6	00′6	00′6	00′6	00′6	00′6
SHA	069°	069°	069°	069°	070°	070°

Greenwich Culmination Time: 12:14

Moon

A: 17%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	119 36.7	-29.0	S 11 02.7	-13.8
01	134 07.7	-28.9	S 10 48.9	-13.9
02	148 38.8	-28.8	S 10 35.0	-13.8
03	163 10.0	-28.8	S 10 21.2	-14.0
04	177 41.2	-28.6	S 10 07.2	-13.9
05	192 12.6	-28.5	S 09 53.3	-14.0
06	206 44.1	-28.5	S 09 39.3	-14.0
07	221 15.6	-28.4	S 09 25.3	-14.0
08	235 47.2	-28.3	S 09 11.3	-14.0
09	250 18.9	-28.2	S 08 57.3	-14.1
10	264 50.7	-28.1	S 08 43.2	-14.1
11	279 22.6	-28.0	S 08 29.1	-14.1
12	293 54.6	-28.0	S 08 15.0	-14.1
13	308 26.6	-27.9	S 08 00.9	-14.2
14	322 58.7	-27.8	S 07 46.7	-14.1
15	337 30.9	-27.7	S 07 32.6	-14.2
16	352 03.2	-27.6	S 07 18.4	-14.2
17	6 35.6	-27.6	S 07 04.2	-14.2
18	21 08.0	-27.5	S 06 50.0	-14.2
19	35 40.5	-27.5	S 06 35.8	-14.2
20	50 13.0	-27.3	S 06 21.6	-14.2
21	64 45.7	-27.3	S 06 07.4	-14.3
22	79 18.4	-27.2	S 05 53.1	-14.2
23	93 51.2	-27.2	S 05 38.9	-14.3

UT	02	06	10	14	18	22
SD	15′8	15′7	15′7	15′6	15′6	15′6
HP	57′9	57′7	57′5	57′4	57′2	57′1
SHA	012°	010°	008°	006°	004°	002°

Greenwich Culmination Time: 16:32

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	210 16.7	+00.6	S 23 02.2	+00.2
01	225 17.3	+00.5	S 23 02.4	+00.2
02	240 17.8	+00.6	S 23 02.6	+00.2
03	255 18.4	+00.5	S 23 02.8	+00.2
04	270 18.9	+00.5	S 23 03.0	+00.2
05	285 19.4	+00.6	S 23 03.2	+00.2
06	300 20.0	+00.5	S 23 03.4	+00.1
07	315 20.5	+00.5	S 23 03.5	+00.2
08	330 21.0	+00.6	S 23 03.7	+00.2
09	345 21.6	+00.5	S 23 03.9	+00.2
10	0 22.1	+00.5	S 23 04.1	+00.2
11	15 22.6	+00.6	S 23 04.3	+00.2
12	30 23.2	+00.5	S 23 04.5	+00.2
13	45 23.7	+00.5	S 23 04.7	+00.2
14	60 24.2	+00.6	S 23 04.9	+00.2
15	75 24.8	+00.5	S 23 05.1	+00.2
16	90 25.3	+00.5	S 23 05.3	+00.2
17	105 25.8	+00.5	S 23 05.5	+00.2
18	120 26.3	+00.6	S 23 05.7	+00.1
19	135 26.9	+00.5	S 23 05.8	+00.2
20	150 27.4	+00.5	S 23 06.0	+00.2
21	165 27.9	+00.6	S 23 06.2	+00.2
22	180 28.5	+00.5	S 23 06.4	+00.2
23	195 29.0	+00.5	S 23 06.6	+00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	104°	104°	103°	103°	103°	103°

Greenwich Culmination Time: 09:58

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	132 25.6	+02.0	S 11 46.6	-00.1
01	147 27.6	+02.0	S 11 46.5	-00.2
02	162 29.6	+01.9	S 11 46.3	-00.2
03	177 31.5	+02.0	S 11 46.1	-00.2
04	192 33.5	+02.0	S 11 45.9	-00.2
05	207 35.5	+02.0	S 11 45.7	-00.2
06	222 37.5	+01.9	S 11 45.5	-00.1
07	237 39.4	+02.0	S 11 45.4	-00.2
08	252 41.4	+02.0	S 11 45.2	-00.2
09	267 43.4	+02.0	S 11 45.0	-00.2
10	282 45.4	+02.0	S 11 44.8	-00.2
11	297 47.4	+01.9	S 11 44.6	-00.2
12	312 49.3	+02.0	S 11 44.4	-00.2
13	327 51.3	+02.0	S 11 44.2	-00.1
14	342 53.3	+02.0	S 11 44.1	-00.2
15	357 55.3	+01.9	S 11 43.9	-00.2
16	12 57.2	+02.0	S 11 43.7	-00.2
17	27 59.2	+02.0	S 11 43.5	-00.2
18	43 01.2	+02.0	S 11 43.3	-00.2
19	58 03.2	+01.9	S 11 43.1	-00.2
20	73 05.1	+02.0	S 11 42.9	-00.2
21	88 07.1	+02.0	S 11 42.7	-00.1
22	103 09.1	+02.0	S 11 42.6	-00.2
23	118 11.1	+01.9	S 11 42.4	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	026°	026°	026°	026°	026°	026°

Greenwich Culmination Time: 15:08

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	151 16.1	+02.2	S 17 49.7	-00.1
01	166 18.3	+02.2	S 17 49.6	-00.1
02	181 20.5	+02.2	S 17 49.5	+00.0
03	196 22.7	+02.1	S 17 49.5	-00.1
04	211 24.8	+02.2	S 17 49.4	-00.1
05	226 27.0	+02.2	S 17 49.3	-00.1
06	241 29.2	+02.2	S 17 49.2	-00.1
07	256 31.4	+02.2	S 17 49.1	+00.0
08	271 33.6	+02.2	S 17 49.1	-00.1
09	286 35.8	+02.1	S 17 49.0	-00.1
10	301 37.9	+02.2	S 17 48.9	-00.1
11	316 40.1	+02.2	S 17 48.8	+00.0
12	331 42.3	+02.2	S 17 48.8	-00.1
13	346 44.5	+02.2	S 17 48.7	-00.1
14	1 46.7	+02.1	S 17 48.6	-00.1
15	16 48.8	+02.2	S 17 48.5	-00.1
16	31 51.0	+02.2	S 17 48.4	+00.0
17	46 53.2	+02.2	S 17 48.4	-00.1
18	61 55.4	+02.2	S 17 48.3	-00.1
19	76 57.6	+02.1	S 17 48.2	-00.1
20	91 59.7	+02.2	S 17 48.1	-00.1
21	107 01.9	+02.2	S 17 48.0	+00.0
22	122 04.1	+02.2	S 17 48.0	-00.1
23	137 06.3	+02.2	S 17 47.9	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	045°	045°	045°	045°	045°	045°

Greenwich Culmination Time: 13:52

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2022 January 12 Wednesday (day 12 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 58.5	−00.2	S 21 40.9	−00.4
01	192 58.3	−00.2	S 21 40.5	−00.4
02	207 58.1	−00.3	S 21 40.1	−00.4
03	222 57.8	−00.2	S 21 39.7	−00.4
04	237 57.6	−00.3	S 21 39.3	−00.4
05	252 57.3	−00.2	S 21 38.9	−00.4
06	267 57.1	−00.2	S 21 38.5	−00.4
07	282 56.9	−00.3	S 21 38.1	−00.4
08	297 56.6	−00.2	S 21 37.7	−00.4
09	312 56.4	−00.3	S 21 37.3	−00.5
10	327 56.1	−00.2	S 21 36.8	−00.4
11	342 55.9	−00.2	S 21 36.4	−00.4
12	357 55.7	−00.3	S 21 36.0	−00.4
13	12 55.4	−00.2	S 21 35.6	−00.4
14	27 55.2	−00.3	S 21 35.2	−00.4
15	42 54.9	−00.2	S 21 34.8	−00.4
16	57 54.7	−00.2	S 21 34.4	−00.4
17	72 54.5	−00.3	S 21 34.0	−00.5
18	87 54.2	−00.2	S 21 33.5	−00.4
19	102 54.0	−00.2	S 21 33.1	−00.4
20	117 53.8	−00.3	S 21 32.7	−00.4
21	132 53.5	−00.2	S 21 32.3	−00.4
22	147 53.3	−00.3	S 21 31.9	−00.5
23	162 53.0	−00.2	S 21 31.4	−00.4

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	066°	066°	066°	066°	066°	066°

Greenwich Culmination Time: 12:08

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 50.3	+04.1	S 16 57.4	−00.3
01	198 54.4	+04.0	S 16 57.1	−00.3
02	213 58.4	+04.1	S 16 56.8	−00.3
03	229 02.5	+04.0	S 16 56.5	−00.2
04	244 06.5	+04.1	S 16 56.3	−00.3
05	259 10.6	+04.0	S 16 56.0	−00.3
06	274 14.6	+04.1	S 16 55.7	−00.3
07	289 18.7	+04.0	S 16 55.4	−00.2
08	304 22.7	+04.0	S 16 55.2	−00.3
09	319 26.7	+04.1	S 16 54.9	−00.3
10	334 30.8	+04.0	S 16 54.6	−00.3
11	349 34.8	+04.1	S 16 54.3	−00.2
12	4 38.9	+04.0	S 16 54.1	−00.3
13	19 42.9	+04.0	S 16 53.8	−00.3
14	34 46.9	+04.0	S 16 53.5	−00.3
15	49 50.9	+04.1	S 16 53.2	−00.2
16	64 55.0	+04.0	S 16 53.0	−00.3
17	79 59.0	+04.0	S 16 52.7	−00.3
18	95 03.0	+04.1	S 16 52.4	−00.2
19	110 07.1	+04.0	S 16 52.2	−00.3
20	125 11.1	+04.0	S 16 51.9	−00.3
21	140 15.1	+04.0	S 16 51.6	−00.2
22	155 19.1	+04.0	S 16 51.4	−00.3
23	170 23.1	+04.0	S 16 51.1	−00.3

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	072°	073°	073°	073°	073°	073°

Greenwich Culmination Time: 11:41

Moon

A: 32%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	66 56.4	−26.4	N 15 36.8	+10.9
01	81 30.0	−26.4	N 15 47.7	+10.8
02	96 03.6	−26.4	N 15 58.5	+10.7
03	110 37.2	−26.5	N 16 09.2	+10.7
04	125 10.7	−26.6	N 16 19.9	+10.6
05	139 44.1	−26.5	N 16 30.5	+10.6
06	154 17.6	−26.7	N 16 41.1	+10.4
07	168 50.9	−26.6	N 16 51.5	+10.4
08	183 24.3	−26.7	N 17 01.9	+10.3
09	197 57.6	−26.8	N 17 12.2	+10.3
10	212 30.8	−26.8	N 17 22.5	+10.2
11	227 04.0	−26.8	N 17 32.7	+10.1
12	241 37.2	−26.9	N 17 42.8	+10.0
13	256 10.3	−26.9	N 17 52.8	+09.9
14	270 43.4	−27.0	N 18 02.7	+09.9
15	285 16.4	−27.0	N 18 12.6	+09.8
16	299 49.4	−27.1	N 18 22.4	+09.7
17	314 22.3	−27.1	N 18 32.1	+09.6
18	328 55.2	−27.2	N 18 41.7	+09.6
19	343 28.0	−27.2	N 18 51.3	+09.4
20	358 00.8	−27.3	N 19 00.7	+09.4
21	12 33.5	−27.3	N 19 10.1	+09.3
22	27 06.2	−27.4	N 19 19.4	+09.2
23	41 38.8	−27.4	N 19 28.6	+09.2

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′4	54′3	54′3	54′2	54′2	54′2
SHA	315°	313°	311°	309°	307°	305°

Greenwich Culmination Time: 20:08

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	211 19.8	+00.5	S 23 23.0	+00.2
01	226 20.3	+00.5	S 23 23.2	+00.1
02	241 20.8	+00.5	S 23 23.3	+00.2
03	256 21.3	+00.6	S 23 23.5	+00.1
04	271 21.9	+00.5	S 23 23.6	+00.2
05	286 22.4	+00.5	S 23 23.8	+00.1
06	301 22.9	+00.5	S 23 23.9	+00.2
07	316 23.4	+00.5	S 23 24.1	+00.1
08	331 23.9	+00.5	S 23 24.2	+00.2
09	346 24.4	+00.5	S 23 24.4	+00.1
10	1 24.9	+00.6	S 23 24.5	+00.2
11	16 25.5	+00.5	S 23 24.7	+00.1
12	31 26.0	+00.5	S 23 24.8	+00.2
13	46 26.5	+00.5	S 23 25.0	+00.1
14	61 27.0	+00.5	S 23 25.1	+00.1
15	76 27.5	+00.5	S 23 25.2	+00.2
16	91 28.0	+00.6	S 23 25.4	+00.1
17	106 28.6	+00.5	S 23 25.5	+00.2
18	121 29.1	+00.5	S 23 25.7	+00.1
19	136 29.6	+00.5	S 23 25.8	+00.2
20	151 30.1	+00.5	S 23 26.0	+00.1
21	166 30.6	+00.5	S 23 26.1	+00.1
22	181 31.1	+00.5	S 23 26.2	+00.2
23	196 31.6	+00.5	S 23 26.4	+00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	100°	100°	100°	099°	099°	099°

Greenwich Culmination Time: 09:54

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	136 22.1	+02.0	S 11 24.0	−00.2
01	151 24.1	+01.9	S 11 23.8	−00.2
02	166 26.0	+02.0	S 11 23.6	−00.2
03	181 28.0	+02.0	S 11 23.4	−00.2
04	196 30.0	+01.9	S 11 23.2	−00.2
05	211 31.9	+02.0	S 11 23.0	−00.2
06	226 33.9	+01.9	S 11 22.8	−00.1
07	241 35.8	+02.0	S 11 22.7	−00.2
08	256 37.8	+02.0	S 11 22.5	−00.2
09	271 39.8	+01.9	S 11 22.3	−00.2
10	286 41.7	+02.0	S 11 22.1	−00.2
11	301 43.7	+02.0	S 11 21.9	−00.2
12	316 45.7	+01.9	S 11 21.7	−00.2
13	331 47.6	+02.0	S 11 21.5	−00.2
14	346 49.6	+01.9	S 11 21.3	−00.2
15	1 51.5	+02.0	S 11 21.1	−00.2
16	16 53.5	+02.0	S 11 20.9	−00.2
17	31 55.5	+01.9	S 11 20.7	−00.2
18	46 57.4	+02.0	S 11 20.5	−00.2
19	61 59.4	+02.0	S 11 20.3	−00.2
20	77 01.4	+01.9	S 11 20.1	−00.1
21	92 03.3	+02.0	S 11 20.0	−00.2
22	107 05.3	+01.9	S 11 19.8	−00.2
23	122 07.2	+02.0	S 11 19.6	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	025°	025°	025°	025°	025°	025°

Greenwich Culmination Time: 14:52

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	155 37.6	+02.2	S 17 40.2	−00.1
01	170 39.8	+02.1	S 17 40.1	+00.0
02	185 41.9	+02.2	S 17 40.1	−00.1
03	200 44.1	+02.2	S 17 40.0	−00.1
04	215 46.3	+02.2	S 17 39.9	−00.1
05	230 48.5	+02.1	S 17 39.8	−00.1
06	245 50.6	+02.2	S 17 39.7	+00.0
07	260 52.8	+02.2	S 17 39.7	−00.1
08	275 55.0	+02.2	S 17 39.6	−00.1
09	290 57.2	+02.1	S 17 39.5	−00.1
10	305 59.3	+02.2	S 17 39.4	−00.1
11	321 01.5	+02.2	S 17 39.3	+00.0
12	336 03.7	+02.2	S 17 39.3	−00.1
13	351 05.9	+02.1	S 17 39.2	−00.1
14	6 08.0	+02.2	S 17 39.1	−00.1
15	21 10.2	+02.2	S 17 39.0	−00.1
16	36 12.4	+02.2	S 17 38.9	+00.0
17	51 14.6	+02.1	S 17 38.9	−00.1
18	66 16.7	+02.2	S 17 38.8	−00.1
19	81 18.9	+02.2	S 17 38.7	−00.1
20	96 21.1	+02.2	S 17 38.6	−00.1
21	111 23.3	+02.1	S 17 38.5	+00.0
22	126 25.4	+02.2	S 17 38.5	−00.1
23	141 27.6	+02.2	S 17 38.4	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	044°	044°	044°	044°	044°	044°

Greenwich Culmination Time: 13:35

2022 January 9 Sunday (day 9 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 16.6	−00.2	S 22 08.1	−00.4
01	193 16.4	−00.3	S 22 07.7	−00.3
02	208 16.1	−00.2	S 22 07.4	−00.4
03	223 15.9	−00.3	S 22 07.0	−00.3
04	238 15.6	−00.3	S 22 06.7	−00.4
05	253 15.3	−00.2	S 22 06.3	−00.3
06	268 15.1	−00.3	S 22 06.0	−00.4
07	283 14.8	−00.2	S 22 05.6	−00.3
08	298 14.6	−00.3	S 22 05.3	−00.4
09	313 14.3	−00.3	S 22 04.9	−00.3
10	328 14.0	−00.2	S 22 04.6	−00.4
11	343 13.8	−00.3	S 22 04.2	−00.4
12	358 13.5	−00.2	S 22 03.8	−00.3
13	13 13.3	−00.3	S 22 03.5	−00.4
14	28 13.0	−00.2	S 22 03.1	−00.3
15	43 12.8	−00.3	S 22 02.8	−00.4
16	58 12.5	−00.3	S 22 02.4	−00.4
17	73 12.2	−00.2	S 22 02.0	−00.3
18	88 12.0	−00.3	S 22 01.7	−00.4
19	103 11.7	−00.2	S 22 01.3	−00.4
20	118 11.5	−00.3	S 22 00.9	−00.3
21	133 11.2	−00.2	S 22 00.6	−00.4
22	148 11.0	−00.3	S 22 00.2	−00.4
23	163 10.7	−00.2	S 21 59.8	−00.3

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	070°	069°	069°	069°	069°	069°

Greenwich Culmination Time: 12:07

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 55.1	+04.2	S 17 19.6	−00.3
01	193 59.3	+04.1	S 17 19.3	−00.3
02	209 03.4	+04.1	S 17 19.0	−00.4
03	224 07.5	+04.1	S 17 18.6	−00.3
04	239 11.6	+04.2	S 17 18.3	−00.3
05	254 15.8	+04.1	S 17 18.0	−00.4
06	269 19.9	+04.1	S 17 17.6	−00.3
07	284 24.0	+04.1	S 17 17.3	−00.3
08	299 28.1	+04.2	S 17 17.0	−00.3
09	314 32.3	+04.1	S 17 16.7	−00.4
10	329 36.4	+04.1	S 17 16.3	−00.3
11	344 40.5	+04.1	S 17 16.0	−00.3
12	359 44.6	+04.1	S 17 15.7	−00.4
13	14 48.7	+04.2	S 17 15.3	−00.3
14	29 52.9	+04.1	S 17 15.0	−00.3
15	44 57.0	+04.1	S 17 14.7	−00.3
16	60 01.1	+04.1	S 17 14.4	−00.4
17	75 05.2	+04.1	S 17 14.0	−00.3
18	90 09.3	+04.2	S 17 13.7	−00.3
19	105 13.5	+04.1	S 17 13.4	−00.3
20	120 17.6	+04.1	S 17 13.1	−00.3
21	135 21.7	+04.1	S 17 12.8	−00.4
22	150 25.8	+04.1	S 17 12.4	−00.3
23	165 29.9	+04.1	S 17 12.1	−00.3

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′6	00′6	00′6	00′6	00′6	00′6
SHA	070°	071°	071°	071°	071°	071°

Greenwich Culmination Time: 12:01

Moon

A: 23%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	97 48.5	−26.0	N 00 16.2	+14.1
01	112 22.5	−25.9	N 00 30.3	+14.0
02	126 56.6	−25.9	N 00 44.3	+14.1
03	141 30.7	−25.8	N 00 58.4	+13.9
04	156 04.9	−25.8	N 01 12.3	+14.0
05	170 39.1	−25.8	N 01 26.3	+14.0
06	185 13.3	−25.8	N 01 40.3	+13.9
07	199 47.5	−25.7	N 01 54.2	+13.9
08	214 21.8	−25.7	N 02 08.1	+13.9
09	228 56.1	−25.7	N 02 22.0	+13.9
10	243 30.4	−25.7	N 02 35.9	+13.8
11	258 04.7	−25.6	N 02 49.7	+13.8
12	272 39.1	−25.7	N 03 03.5	+13.8
13	287 13.4	−25.6	N 03 17.3	+13.7
14	301 47.8	−25.6	N 03 31.0	+13.8
15	316 22.2	−25.6	N 03 44.8	+13.6
16	330 56.6	−25.5	N 03 58.4	+13.7
17	345 31.1	−25.6	N 04 12.1	+13.6
18	0 05.5	−25.5	N 04 25.7	+13.6
19	14 40.0	−25.5	N 04 39.3	+13.6
20	29 14.5	−25.6	N 04 52.9	+13.5
21	43 48.9	−25.5	N 05 06.4	+13.5
22	58 23.4	−25.5	N 05 19.9	+13.5
23	72 57.9	−25.5	N 05 33.4	+13.4

UT	02	06	10	14	18	22
SD	15′3	15′2	15′2	15′2	15′1	15′1
HP	56′1	55′9	55′8	55′7	55′6	55′5
SHA	348°	346°	345°	343°	341°	339°

Greenwich Culmination Time: 17:59

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	210 42.2	+00.6	S 23 11.2	+00.2
01	225 42.8	+00.5	S 23 11.4	+00.1
02	240 43.3	+00.5	S 23 11.5	+00.2
03	255 43.8	+00.5	S 23 11.7	+00.2
04	270 44.3	+00.6	S 23 11.9	+00.2
05	285 44.9	+00.5	S 23 12.1	+00.1
06	300 45.4	+00.5	S 23 12.2	+00.2
07	315 45.9	+00.5	S 23 12.4	+00.2
08	330 46.4	+00.6	S 23 12.6	+00.2
09	345 47.0	+00.5	S 23 12.8	+00.1
10	0 47.5	+00.5	S 23 12.9	+00.2
11	15 48.0	+00.5	S 23 13.1	+00.2
12	30 48.5	+00.6	S 23 13.3	+00.2
13	45 49.1	+00.5	S 23 13.5	+00.1
14	60 49.6	+00.5	S 23 13.6	+00.2
15	75 50.1	+00.5	S 23 13.8	+00.2
16	90 50.6	+00.6	S 23 14.0	+00.2
17	105 51.2	+00.5	S 23 14.2	+00.1
18	120 51.7	+00.5	S 23 14.3	+00.2
19	135 52.2	+00.5	S 23 14.5	+00.2
20	150 52.7	+00.6	S 23 14.7	+00.1
21	165 53.3	+00.5	S 23 14.8	+00.2
22	180 53.8	+00.5	S 23 15.0	+00.2
23	195 54.3	+00.5	S 23 15.2	+00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	102°	102°	102°	102°	102°	101°

Greenwich Culmination Time: 09:56

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	134 00.4	+02.0	S 11 37.7	−00.2
01	149 02.4	+02.0	S 11 37.5	−00.2
02	164 04.4	+01.9	S 11 37.3	−00.2
03	179 06.3	+02.0	S 11 37.1	−00.2
04	194 08.3	+02.0	S 11 36.9	−00.1
05	209 10.3	+01.9	S 11 36.8	−00.2
06	224 12.2	+02.0	S 11 36.6	−00.2
07	239 14.2	+02.0	S 11 36.4	−00.2
08	254 16.2	+02.0	S 11 36.2	−00.2
09	269 18.2	+01.9	S 11 36.0	−00.2
10	284 20.1	+02.0	S 11 35.8	−00.2
11	299 22.1	+02.0	S 11 35.6	−00.2
12	314 24.1	+01.9	S 11 35.4	−00.2
13	329 26.0	+02.0	S 11 35.2	−00.1
14	344 28.0	+02.0	S 11 35.1	−00.2
15	359 30.0	+01.9	S 11 34.9	−00.2
16	14 31.9	+02.0	S 11 34.7	−00.2
17	29 33.9	+02.0	S 11 34.5	−00.2
18	44 35.9	+02.0	S 11 34.3	−00.2
19	59 37.9	+01.9	S 11 34.1	−00.2
20	74 39.8	+02.0	S 11 33.9	−00.2
21	89 41.8	+02.0	S 11 33.7	−00.2
22	104 43.8	+01.9	S 11 33.5	−00.1
23	119 45.7	+02.0	S 11 33.4	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	025°	025°	025°	025°	025°	025°

Greenwich Culmination Time: 15:01

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	153 00.8	+02.2	S 17 45.9	+00.0
01	168 03.0	+02.2	S 17 45.9	−00.1
02	183 05.2	+02.1	S 17 45.8	−00.1
03	198 07.3	+02.2	S 17 45.7	−00.1
04	213 09.5	+02.2	S 17 45.6	−00.1
05	228 11.7	+02.2	S 17 45.5	+00.0
06	243 13.9	+02.1	S 17 45.5	−00.1
07	258 16.0	+02.2	S 17 45.4	−00.1
08	273 18.2	+02.2	S 17 45.3	−00.1
09	288 20.4	+02.2	S 17 45.2	−00.1
10	303 22.6	+02.2	S 17 45.1	+00.0
11	318 24.8	+02.1	S 17 45.1	−00.1
12	333 26.9	+02.2	S 17 45.0	−00.1
13	348 29.1	+02.2	S 17 44.9	−00.1
14	3 31.3	+02.2	S 17 44.8	+00.0
15	18 33.5	+02.2	S 17 44.8	−00.1
16	33 35.7	+02.1	S 17 44.7	−00.1
17	48 37.8	+02.2	S 17 44.6	−00.1
18	63 40.0	+02.2	S 17 44.5	−00.1
19	78 42.2	+02.2	S 17 44.4	+00.0
20	93 44.4	+02.1	S 17 44.4	−00.1
21	108 46.5	+02.2	S 17 44.3	−00.1
22	123 48.7	+02.2	S 17 44.2	−00.1
23	138 50.9	+02.2	S 17 44.1	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	044°	044°	044°	044°	044°	044°

Greenwich Culmination Time: 13:45

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 January 10 Monday

(day 10 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 10.5	−00.3	S 21 59.5	−00.4
01	193 10.2	−00.2	S 21 59.1	−00.4
02	208 10.0	−00.3	S 21 58.7	−00.3
03	223 09.7	−00.3	S 21 58.4	−00.4
04	238 09.4	−00.2	S 21 58.0	−00.4
05	253 09.2	−00.3	S 21 57.6	−00.4
06	268 08.9	−00.2	S 21 57.2	−00.3
07	283 08.7	−00.3	S 21 56.9	−00.4
08	298 08.4	−00.2	S 21 56.5	−00.4
09	313 08.2	−00.3	S 21 56.1	−00.4
10	328 07.9	−00.2	S 21 55.7	−00.3
11	343 07.7	−00.3	S 21 55.4	−00.4
12	358 07.4	−00.2	S 21 55.0	−00.4
13	13 07.2	−00.3	S 21 54.6	−00.4
14	28 06.9	−00.2	S 21 54.2	−00.3
15	43 06.7	−00.3	S 21 53.9	−00.4
16	58 06.4	−00.2	S 21 53.5	−00.4
17	73 06.2	−00.3	S 21 53.1	−00.4
18	88 05.9	−00.2	S 21 52.7	−00.4
19	103 05.7	−00.3	S 21 52.3	−00.4
20	118 05.4	−00.2	S 21 51.9	−00.3
21	133 05.2	−00.3	S 21 51.6	−00.4
22	148 04.9	−00.2	S 21 51.2	−00.4
23	163 04.7	−00.3	S 21 50.8	−00.4

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	069°	068°	068°	068°	068°	068°

Greenwich Culmination Time: 12:07

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 34.0	+04.2	S 17 11.8	−00.3
01	195 38.2	+04.1	S 17 11.5	−00.3
02	210 42.3	+04.1	S 17 11.2	−00.3
03	225 46.4	+04.1	S 17 10.9	−00.4
04	240 50.5	+04.1	S 17 10.5	−00.3
05	255 54.6	+04.1	S 17 10.2	−00.3
06	270 58.7	+04.1	S 17 09.9	−00.3
07	286 02.8	+04.1	S 17 09.6	−00.3
08	301 06.9	+04.1	S 17 09.3	−00.3
09	316 11.0	+04.1	S 17 09.0	−00.3
10	331 15.1	+04.1	S 17 08.7	−00.4
11	346 19.2	+04.1	S 17 08.3	−00.3
12	1 23.3	+04.1	S 17 08.0	−00.3
13	16 27.4	+04.2	S 17 07.7	−00.3
14	31 31.6	+04.1	S 17 07.4	−00.3
15	46 35.7	+04.1	S 17 07.1	−00.3
16	61 39.8	+04.1	S 17 06.8	−00.3
17	76 43.9	+04.0	S 17 06.5	−00.3
18	91 47.9	+04.1	S 17 06.2	−00.3
19	106 52.0	+04.1	S 17 05.9	−00.3
20	121 56.1	+04.1	S 17 05.6	−00.3
21	137 00.2	+04.1	S 17 05.3	−00.3
22	152 04.3	+04.1	S 17 05.0	−00.3
23	167 08.4	+04.1	S 17 04.7	−00.3

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′6	00′6	00′5	00′5	00′5	00′5
SHA	071°	071°	071°	071°	072°	072°

Greenwich Culmination Time: 11:54

Moon

A: 26%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	87 32.4	−25.5	N 05 46.8	+13.4
01	102 06.9	−25.4	N 06 00.2	+13.4
02	116 41.5	−25.5	N 06 13.6	+13.3
03	131 16.0	−25.5	N 06 26.9	+13.3
04	145 50.5	−25.5	N 06 40.2	+13.2
05	160 25.0	−25.5	N 06 53.4	+13.2
06	174 59.5	−25.4	N 07 06.6	+13.2
07	189 34.1	−25.5	N 07 19.8	+13.1
08	204 08.6	−25.5	N 07 32.9	+13.1
09	218 43.1	−25.5	N 07 46.0	+13.0
10	233 17.6	−25.5	N 07 59.0	+13.0
11	247 52.1	−25.5	N 08 12.0	+13.0
12	262 26.6	−25.5	N 08 25.0	+12.9
13	277 01.1	−25.5	N 08 37.9	+12.8
14	291 35.6	−25.5	N 08 50.7	+12.8
15	306 10.1	−25.6	N 09 03.5	+12.8
16	320 44.5	−25.5	N 09 16.3	+12.7
17	335 19.0	−25.6	N 09 29.0	+12.7
18	349 53.4	−25.6	N 09 41.7	+12.6
19	4 27.8	−25.6	N 09 54.3	+12.6
20	19 02.2	−25.6	N 10 06.9	+12.6
21	33 36.6	−25.6	N 10 19.5	+12.4
22	48 11.0	−25.6	N 10 31.9	+12.5
23	62 45.4	−25.7	N 10 44.4	+12.4

UT	02	06	10	14	18	22
SD	15′1	15′1	15′0	15′0	15′0	14′9
HP	55′3	55′2	55′1	55′0	55′0	54′9
SHA	337°	335°	333°	332°	330°	328°

Greenwich Culmination Time: 18:41

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	210 54.8	+00.6	S 23 15.4	+00.1
01	225 55.4	+00.5	S 23 15.5	+00.2
02	240 55.9	+00.5	S 23 15.7	+00.2
03	255 56.4	+00.5	S 23 15.9	+00.1
04	270 56.9	+00.5	S 23 16.0	+00.2
05	285 57.4	+00.6	S 23 16.2	+00.2
06	300 58.0	+00.5	S 23 16.4	+00.1
07	315 58.5	+00.5	S 23 16.5	+00.2
08	330 59.0	+00.5	S 23 16.7	+00.2
09	345 59.5	+00.6	S 23 16.9	+00.1
10	1 00.1	+00.5	S 23 17.0	+00.2
11	16 00.6	+00.5	S 23 17.2	+00.2
12	31 01.1	+00.5	S 23 17.4	+00.1
13	46 01.6	+00.5	S 23 17.5	+00.2
14	61 02.1	+00.6	S 23 17.7	+00.1
15	76 02.7	+00.5	S 23 17.8	+00.2
16	91 03.2	+00.5	S 23 18.0	+00.2
17	106 03.7	+00.5	S 23 18.2	+00.1
18	121 04.2	+00.6	S 23 18.3	+00.2
19	136 04.8	+00.5	S 23 18.5	+00.2
20	151 05.3	+00.5	S 23 18.7	+00.1
21	166 05.8	+00.5	S 23 18.8	+00.2
22	181 06.3	+00.5	S 23 19.0	+00.1
23	196 06.8	+00.6	S 23 19.1	+00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	101°	101°	101°	101°	101°	101°

Greenwich Culmination Time: 09:55

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	134 47.7	+02.0	S 11 33.2	−00.2
01	149 49.7	+01.9	S 11 33.0	−00.2
02	164 51.6	+02.0	S 11 32.8	−00.2
03	179 53.6	+02.0	S 11 32.6	−00.2
04	194 55.6	+02.0	S 11 32.4	−00.2
05	209 57.6	+01.9	S 11 32.2	−00.2
06	224 59.5	+02.0	S 11 32.0	−00.2
07	240 01.5	+02.0	S 11 31.8	−00.2
08	255 03.5	+01.9	S 11 31.6	−00.1
09	270 05.4	+02.0	S 11 31.5	−00.2
10	285 07.4	+02.0	S 11 31.3	−00.2
11	300 09.4	+01.9	S 11 31.1	−00.2
12	315 11.3	+02.0	S 11 30.9	−00.2
13	330 13.3	+02.0	S 11 30.7	−00.2
14	345 15.3	+01.9	S 11 30.5	−00.2
15	0 17.2	+02.0	S 11 30.3	−00.2
16	15 19.2	+02.0	S 11 30.1	−00.2
17	30 21.2	+01.9	S 11 29.9	−00.2
18	45 23.1	+02.0	S 11 29.7	−00.1
19	60 25.1	+02.0	S 11 29.6	−00.2
20	75 27.1	+01.9	S 11 29.4	−00.2
21	90 29.0	+02.0	S 11 29.2	−00.2
22	105 31.0	+02.0	S 11 29.0	−00.2
23	120 33.0	+01.9	S 11 28.8	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	025°	025°	025°	025°	025°	025°

Greenwich Culmination Time: 14:58

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	153 53.1	+02.2	S 17 44.0	+00.0
01	168 55.3	+02.1	S 17 44.0	−00.1
02	183 57.4	+02.2	S 17 43.9	−00.1
03	198 59.6	+02.2	S 17 43.8	−00.1
04	214 01.8	+02.2	S 17 43.7	−00.1
05	229 04.0	+02.2	S 17 43.6	+00.0
06	244 06.2	+02.1	S 17 43.6	−00.1
07	259 08.3	+02.2	S 17 43.5	−00.1
08	274 10.5	+02.2	S 17 43.4	−00.1
09	289 12.7	+02.2	S 17 43.3	−00.1
10	304 14.9	+02.1	S 17 43.2	+00.0
11	319 17.0	+02.2	S 17 43.2	−00.1
12	334 19.2	+02.2	S 17 43.1	−00.1
13	349 21.4	+02.2	S 17 43.0	−00.1
14	4 23.6	+02.1	S 17 42.9	+00.0
15	19 25.7	+02.2	S 17 42.9	−00.1
16	34 27.9	+02.2	S 17 42.8	−00.1
17	49 30.1	+02.2	S 17 42.7	−00.1
18	64 32.3	+02.2	S 17 42.6	−00.1
19	79 34.5	+02.1	S 17 42.5	+00.0
20	94 36.6	+02.2	S 17 42.5	−00.1
21	109 38.8	+02.2	S 17 42.4	−00.1
22	124 41.0	+02.2	S 17 42.3	−00.1
23	139 43.2	+02.1	S 17 42.2	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	044°	044°	044°	044°	044°	044°

Greenwich Culmination Time: 13:42

2022 January 11 Tuesday

(day 11 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 04.4	−00.2	S 21 50.4	−00.4
01	193 04.2	−00.3	S 21 50.0	−00.4
02	208 03.9	−00.2	S 21 49.6	−00.4
03	223 03.7	−00.3	S 21 49.2	−00.3
04	238 03.4	−00.2	S 21 48.9	−00.4
05	253 03.2	−00.3	S 21 48.5	−00.4
06	268 02.9	−00.2	S 21 48.1	−00.4
07	283 02.7	−00.3	S 21 47.7	−00.4
08	298 02.4	−00.2	S 21 47.3	−00.4
09	313 02.2	−00.2	S 21 46.9	−00.4
10	328 02.0	−00.3	S 21 46.5	−00.4
11	343 01.7	−00.2	S 21 46.1	−00.4
12	358 01.5	−00.3	S 21 45.7	−00.4
13	13 01.2	−00.2	S 21 45.3	−00.4
14	28 01.0	−00.3	S 21 44.9	−00.4
15	43 00.7	−00.2	S 21 44.5	−00.4
16	58 00.5	−00.3	S 21 44.1	−00.4
17	73 00.2	−00.2	S 21 43.7	−00.4
18	87 60.0	−00.2	S 21 43.3	−00.4
19	102 59.8	−00.3	S 21 42.9	−00.4
20	117 59.5	−00.2	S 21 42.5	−00.4
21	132 59.3	−00.3	S 21 42.1	−00.4
22	147 59.0	−00.2	S 21 41.7	−00.4
23	162 58.8	−00.3	S 21 41.3	−00.4

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	068°	067°	067°	067°	067°	067°

Greenwich Culmination Time: 12:07

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	182 12.5	+04.1	S 17 04.4	−00.3
01	197 16.6	+04.1	S 17 04.1	−00.3
02	212 20.7	+04.1	S 17 03.8	−00.3
03	227 24.8	+04.1	S 17 03.5	−00.3
04	242 28.9	+04.1	S 17 03.2	−00.3
05	257 33.0	+04.0	S 17 02.9	−00.3
06	272 37.0	+04.1	S 17 02.6	−00.3
07	287 41.1	+04.1	S 17 02.3	−00.3
08	302 45.2	+04.1	S 17 02.0	−00.3
09	317 49.3	+04.1	S 17 01.7	−00.3
10	332 53.4	+04.0	S 17 01.4	−00.3
11	347 57.4	+04.1	S 17 01.1	−00.3
12	3 01.5	+04.1	S 17 00.8	−00.3
13	18 05.6	+04.1	S 17 00.5	−00.3
14	33 09.7	+04.0	S 17 00.2	−00.2
15	48 13.7	+04.1	S 16 60.0	−00.3
16	63 17.8	+04.1	S 16 59.7	−00.3
17	78 21.9	+04.0	S 16 59.4	−00.3
18	93 25.9	+04.1	S 16 59.1	−00.3
19	108 30.0	+04.1	S 16 58.8	−00.3
20	123 34.1	+04.0	S 16 58.5	−00.3
21	138 38.1	+04.1	S 16 58.2	−00.2
22	153 42.2	+04.0	S 16 58.0	−00.3
23	168 46.2	+04.1	S 16 57.7	−00.3

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	072°	072°	072°	072°	072°	072°

Greenwich Culmination Time: 11:47

Moon

A: 29%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	77 19.7	−25.6	N 10 56.8	+12.3
01	91 54.1	−25.7	N 11 09.1	+12.3
02	106 28.4	−25.7	N 11 21.4	+12.2
03	121 02.7	−25.8	N 11 33.6	+12.1
04	135 36.9	−25.7	N 11 45.7	+12.2
05	150 11.2	−25.8	N 11 57.9	+12.0
06	164 45.4	−25.8	N 12 09.9	+12.0
07	179 19.6	−25.8	N 12 21.9	+12.0
08	193 53.8	−25.9	N 12 33.9	+11.9
09	208 27.9	−25.9	N 12 45.8	+11.8
10	223 02.0	−25.9	N 12 57.6	+11.8
11	237 36.1	−25.9	N 13 09.4	+11.7
12	252 10.2	−26.0	N 13 21.1	+11.6
13	266 44.2	−26.0	N 13 32.7	+11.6
14	281 18.2	−26.0	N 13 44.3	+11.6
15	295 52.2	−26.1	N 13 55.9	+11.4
16	310 26.1	−26.1	N 14 07.3	+11.4
17	325 00.0	−26.1	N 14 18.7	+11.4
18	339 33.9	−26.2	N 14 30.1	+11.3
19	354 07.7	−26.1	N 14 41.4	+11.2
20	8 41.6	−26.3	N 14 52.6	+11.1
21	23 15.3	−26.2	N 15 03.7	+11.1
22	37 49.1	−26.3	N 15 14.8	+11.0
23	52 22.8	−26.4	N 15 25.8	+11.0

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	14′8	14′8
HP	54′8	54′7	54′6	54′6	54′5	54′4
SHA	326°	324°	322°	320°	318°	316°

Greenwich Culmination Time: 19:24

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	211 07.4	+00.5	S 23 19.3	+00.2
01	226 07.9	+00.5	S 23 19.5	+00.1
02	241 08.4	+00.5	S 23 19.6	+00.2
03	256 08.9	+00.5	S 23 19.8	+00.1
04	271 09.4	+00.6	S 23 19.9	+00.2
05	286 10.0	+00.5	S 23 20.1	+00.2
06	301 10.5	+00.5	S 23 20.3	+00.1
07	316 11.0	+00.5	S 23 20.4	+00.2
08	331 11.5	+00.5	S 23 20.6	+00.1
09	346 12.0	+00.5	S 23 20.7	+00.2
10	1 12.5	+00.6	S 23 20.9	+00.1
11	16 13.1	+00.5	S 23 21.0	+00.2
12	31 13.6	+00.5	S 23 21.2	+00.1
13	46 14.1	+00.5	S 23 21.3	+00.2
14	61 14.6	+00.5	S 23 21.5	+00.2
15	76 15.1	+00.6	S 23 21.7	+00.1
16	91 15.7	+00.5	S 23 21.8	+00.2
17	106 16.2	+00.5	S 23 22.0	+00.1
18	121 16.7	+00.5	S 23 22.1	+00.2
19	136 17.2	+00.5	S 23 22.3	+00.1
20	151 17.7	+00.5	S 23 22.4	+00.2
21	166 18.2	+00.6	S 23 22.6	+00.1
22	181 18.8	+00.5	S 23 22.7	+00.2
23	196 19.3	+00.5	S 23 22.9	+00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	101°	100°	100°	100°	100°	100°

Greenwich Culmination Time: 09:55

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	135 34.9	+02.0	S 11 28.6	−00.2
01	150 36.9	+02.0	S 11 28.4	−00.2
02	165 38.9	+01.9	S 11 28.2	−00.2
03	180 40.8	+02.0	S 11 28.0	−00.2
04	195 42.8	+02.0	S 11 27.8	−00.2
05	210 44.8	+01.9	S 11 27.6	−00.1
06	225 46.7	+02.0	S 11 27.5	−00.2
07	240 48.7	+02.0	S 11 27.3	−00.2
08	255 50.7	+01.9	S 11 27.1	−00.2
09	270 52.6	+02.0	S 11 26.9	−00.2
10	285 54.6	+02.0	S 11 26.7	−00.2
11	300 56.6	+01.9	S 11 26.5	−00.2
12	315 58.5	+02.0	S 11 26.3	−00.2
13	331 00.5	+02.0	S 11 26.1	−00.2
14	346 02.5	+01.9	S 11 25.9	−00.2
15	1 04.4	+02.0	S 11 25.7	−00.2
16	16 06.4	+01.9	S 11 25.5	−00.2
17	31 08.3	+02.0	S 11 25.3	−00.1
18	46 10.3	+02.0	S 11 25.2	−00.2
19	61 12.3	+01.9	S 11 25.0	−00.2
20	76 14.2	+02.0	S 11 24.8	−00.2
21	91 16.2	+02.0	S 11 24.6	−00.2
22	106 18.2	+01.9	S 11 24.4	−00.2
23	121 20.1	+02.0	S 11 24.2	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	025°	025°	025°	025°	025°	025°

Greenwich Culmination Time: 14:55

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	154 45.3	+02.2	S 17 42.1	+00.0
01	169 47.5	+02.2	S 17 42.1	−00.1
02	184 49.7	+02.2	S 17 42.0	−00.1
03	199 51.9	+02.2	S 17 41.9	−00.1
04	214 54.1	+02.1	S 17 41.8	−00.1
05	229 56.2	+02.2	S 17 41.7	+00.0
06	244 58.4	+02.2	S 17 41.7	−00.1
07	260 00.6	+02.2	S 17 41.6	−00.1
08	275 02.8	+02.1	S 17 41.5	−00.1
09	290 04.9	+02.2	S 17 41.4	−00.1
10	305 07.1	+02.2	S 17 41.3	+00.0
11	320 09.3	+02.2	S 17 41.3	−00.1
12	335 11.5	+02.1	S 17 41.2	−00.1
13	350 13.6	+02.2	S 17 41.1	−00.1
14	5 15.8	+02.2	S 17 41.0	−00.1
15	20 18.0	+02.2	S 17 40.9	+00.0
16	35 20.2	+02.1	S 17 40.9	−00.1
17	50 22.3	+02.2	S 17 40.8	−00.1
18	65 24.5	+02.2	S 17 40.7	−00.1
19	80 26.7	+02.2	S 17 40.6	−00.1
20	95 28.9	+02.2	S 17 40.5	+00.0
21	110 31.1	+02.1	S 17 40.5	−00.1
22	125 33.2	+02.2	S 17 40.4	−00.1
23	140 35.4	+02.2	S 17 40.3	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	044°	044°	044°	044°	044°	044°

Greenwich Culmination Time: 13:38

2022 January 16 Sunday (day 16 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	177 36.6	−00.2	S 20 58.8	−00.4
01	192 36.4	−00.2	S 20 58.4	−00.5
02	207 36.2	−00.2	S 20 57.9	−00.5
03	222 36.0	−00.3	S 20 57.4	−00.5
04	237 35.7	−00.2	S 20 56.9	−00.4
05	252 35.5	−00.2	S 20 56.5	−00.5
06	267 35.3	−00.2	S 20 56.0	−00.5
07	282 35.1	−00.2	S 20 55.5	−00.5
08	297 34.9	−00.2	S 20 55.0	−00.4
09	312 34.7	−00.2	S 20 54.6	−00.5
10	327 34.5	−00.2	S 20 54.1	−00.5
11	342 34.3	−00.3	S 20 53.6	−00.5
12	357 34.0	−00.2	S 20 53.1	−00.5
13	12 33.8	−00.2	S 20 52.6	−00.4
14	27 33.6	−00.2	S 20 52.2	−00.5
15	42 33.4	−00.2	S 20 51.7	−00.5
16	57 33.2	−00.2	S 20 51.2	−00.5
17	72 33.0	−00.2	S 20 50.7	−00.5
18	87 32.8	−00.2	S 20 50.2	−00.5
19	102 32.6	−00.2	S 20 49.7	−00.4
20	117 32.4	−00.2	S 20 49.3	−00.5
21	132 32.2	−00.2	S 20 48.8	−00.5
22	147 32.0	−00.3	S 20 48.3	−00.5
23	162 31.7	−00.2	S 20 47.8	−00.5

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	062°	062°	062°	062°	061°	061°

Greenwich Culmination Time: 12:09

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	190 09.7	+03.8	S 16 34.1	−00.2
01	205 13.5	+03.8	S 16 33.9	−00.2
02	220 17.3	+03.8	S 16 33.7	−00.2
03	235 21.1	+03.8	S 16 33.5	−00.2
04	250 24.9	+03.8	S 16 33.3	−00.2
05	265 28.7	+03.8	S 16 33.1	−00.2
06	280 32.5	+03.8	S 16 32.9	−00.2
07	295 36.3	+03.8	S 16 32.7	−00.2
08	310 40.1	+03.8	S 16 32.5	−00.2
09	325 43.9	+03.8	S 16 32.3	−00.2
10	340 47.7	+03.8	S 16 32.1	−00.2
11	355 51.5	+03.8	S 16 31.9	−00.2
12	10 55.3	+03.8	S 16 31.7	−00.2
13	25 59.1	+03.8	S 16 31.5	−00.2
14	41 02.9	+03.7	S 16 31.3	−00.2
15	56 06.6	+03.8	S 16 31.1	−00.1
16	71 10.4	+03.8	S 16 31.0	−00.2
17	86 14.2	+03.7	S 16 30.8	−00.2
18	101 17.9	+03.8	S 16 30.6	−00.2
19	116 21.7	+03.8	S 16 30.4	−00.2
20	131 25.5	+03.7	S 16 30.2	−00.2
21	146 29.2	+03.8	S 16 30.0	−00.2
22	161 33.0	+03.7	S 16 29.8	−00.1
23	176 36.7	+03.8	S 16 29.7	−00.2

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	075°	075°	075°	075°	075°	075°

Greenwich Culmination Time: 11:16

Moon

A: 45%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	21 05.9	−30.7	N 26 11.6	+01.3
01	35 35.2	−30.7	N 26 12.9	+01.1
02	50 04.5	−30.8	N 26 14.0	+01.0
03	64 33.7	−30.8	N 26 15.0	+00.9
04	79 02.9	−30.8	N 26 15.9	+00.8
05	93 32.1	−30.8	N 26 16.7	+00.6
06	108 01.3	−30.9	N 26 17.3	+00.5
07	122 30.4	−30.9	N 26 17.8	+00.3
08	136 59.5	−30.8	N 26 18.1	+00.3
09	151 28.7	−30.9	N 26 18.4	+00.1
10	165 57.8	−30.9	N 26 18.5	−00.1
11	180 26.9	−30.9	N 26 18.4	−00.1
12	194 56.0	−31.0	N 26 18.3	−00.3
13	209 25.0	−30.9	N 26 18.0	−00.4
14	223 54.1	−30.9	N 26 17.6	−00.6
15	238 23.2	−31.0	N 26 17.0	−00.6
16	252 52.2	−30.9	N 26 16.4	−00.8
17	267 21.3	−31.0	N 26 15.6	−01.0
18	281 50.3	−31.0	N 26 14.6	−01.0
19	296 19.3	−30.9	N 26 13.6	−01.2
20	310 48.4	−31.0	N 26 12.4	−01.3
21	325 17.4	−31.0	N 26 11.1	−01.5
22	339 46.4	−30.9	N 26 09.6	−01.6
23	354 15.5	−31.0	N 26 08.0	−01.7

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′2	54′2	54′2	54′3	54′3	54′3
SHA	265°	262°	260°	258°	256°	253°

Greenwich Culmination Time: 23:23

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	212 08.7	+00.5	S 23 35.7	+00.1
01	227 09.2	+00.6	S 23 35.8	+00.1
02	242 09.8	+00.5	S 23 35.9	+00.1
03	257 10.3	+00.5	S 23 36.0	+00.1
04	272 10.8	+00.5	S 23 36.1	+00.1
05	287 11.3	+00.5	S 23 36.2	+00.1
06	302 11.8	+00.5	S 23 36.3	+00.2
07	317 12.3	+00.5	S 23 36.5	+00.1
08	332 12.8	+00.5	S 23 36.6	+00.1
09	347 13.3	+00.5	S 23 36.7	+00.1
10	2 13.8	+00.5	S 23 36.8	+00.1
11	17 14.3	+00.5	S 23 36.9	+00.1
12	32 14.8	+00.5	S 23 37.0	+00.1
13	47 15.3	+00.5	S 23 37.1	+00.1
14	62 15.8	+00.5	S 23 37.2	+00.1
15	77 16.3	+00.5	S 23 37.3	+00.1
16	92 16.8	+00.5	S 23 37.4	+00.1
17	107 17.3	+00.5	S 23 37.5	+00.1
18	122 17.8	+00.5	S 23 37.6	+00.2
19	137 18.3	+00.5	S 23 37.8	+00.1
20	152 18.8	+00.5	S 23 37.9	+00.1
21	167 19.3	+00.5	S 23 38.0	+00.1
22	182 19.8	+00.5	S 23 38.1	+00.1
23	197 20.3	+00.5	S 23 38.2	+00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	097°	097°	096°	096°	096°	096°

Greenwich Culmination Time: 09:51

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	139 30.1	+02.0	S 11 05.3	−00.2
01	154 32.1	+01.9	S 11 05.1	−00.2
02	169 34.0	+02.0	S 11 04.9	−00.2
03	184 36.0	+01.9	S 11 04.7	−00.2
04	199 37.9	+02.0	S 11 04.5	−00.2
05	214 39.9	+01.9	S 11 04.3	−00.2
06	229 41.8	+02.0	S 11 04.1	−00.2
07	244 43.8	+01.9	S 11 03.9	−00.2
08	259 45.7	+02.0	S 11 03.7	−00.2
09	274 47.7	+01.9	S 11 03.5	−00.2
10	289 49.6	+02.0	S 11 03.3	−00.2
11	304 51.6	+02.0	S 11 03.1	−00.2
12	319 53.6	+01.9	S 11 02.9	−00.2
13	334 55.5	+02.0	S 11 02.7	−00.2
14	349 57.5	+01.9	S 11 02.5	−00.2
15	4 59.4	+02.0	S 11 02.3	−00.2
16	20 01.4	+01.9	S 11 02.1	−00.2
17	35 03.3	+02.0	S 11 01.9	−00.2
18	50 05.3	+01.9	S 11 01.7	−00.2
19	65 07.2	+02.0	S 11 01.5	−00.2
20	80 09.2	+01.9	S 11 01.3	−00.2
21	95 11.1	+02.0	S 11 01.1	−00.2
22	110 13.1	+01.9	S 11 00.9	−00.2
23	125 15.0	+02.0	S 11 00.7	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	024°	024°	024°	024°	024°	024°

Greenwich Culmination Time: 14:40

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	159 06.3	+02.2	S 17 32.5	−00.1
01	174 08.5	+02.1	S 17 32.4	−00.1
02	189 10.6	+02.2	S 17 32.3	−00.1
03	204 12.8	+02.2	S 17 32.2	−00.1
04	219 15.0	+02.1	S 17 32.1	−00.1
05	234 17.1	+02.2	S 17 32.0	+00.0
06	249 19.3	+02.2	S 17 32.0	−00.1
07	264 21.5	+02.2	S 17 31.9	−00.1
08	279 23.7	+02.1	S 17 31.8	−00.1
09	294 25.8	+02.2	S 17 31.7	−00.1
10	309 28.0	+02.2	S 17 31.6	+00.0
11	324 30.2	+02.1	S 17 31.6	−00.1
12	339 32.3	+02.2	S 17 31.5	−00.1
13	354 34.5	+02.2	S 17 31.4	−00.1
14	9 36.7	+02.2	S 17 31.3	−00.1
15	24 38.9	+02.1	S 17 31.2	−00.1
16	39 41.0	+02.2	S 17 31.1	+00.0
17	54 43.2	+02.2	S 17 31.1	−00.1
18	69 45.4	+02.1	S 17 31.0	−00.1
19	84 47.5	+02.2	S 17 30.9	−00.1
20	99 49.7	+02.2	S 17 30.8	−00.1
21	114 51.9	+02.2	S 17 30.7	+00.0
22	129 54.1	+02.1	S 17 30.7	−00.1
23	144 56.2	+02.2	S 17 30.6	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	044°	044°	044°	044°	044°	044°

Greenwich Culmination Time: 13:21

2022 January 13 Thursday (day 13 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	177 52.8	−00.2	S 21 31.0	−00.4
01	192 52.6	−00.3	S 21 30.6	−00.4
02	207 52.3	−00.2	S 21 30.2	−00.4
03	222 52.1	−00.2	S 21 29.8	−00.5
04	237 51.9	−00.3	S 21 29.3	−00.4
05	252 51.6	−00.2	S 21 28.9	−00.4
06	267 51.4	−00.2	S 21 28.5	−00.4
07	282 51.2	−00.3	S 21 28.1	−00.5
08	297 50.9	−00.2	S 21 27.6	−00.4
09	312 50.7	−00.2	S 21 27.2	−00.4
10	327 50.5	−00.3	S 21 26.8	−00.5
11	342 50.2	−00.2	S 21 26.3	−00.4
12	357 50.0	−00.2	S 21 25.9	−00.4
13	12 49.8	−00.3	S 21 25.5	−00.4
14	27 49.5	−00.2	S 21 25.1	−00.5
15	42 49.3	−00.2	S 21 24.6	−00.4
16	57 49.1	−00.3	S 21 24.2	−00.4
17	72 48.8	−00.2	S 21 23.8	−00.5
18	87 48.6	−00.2	S 21 23.3	−00.4
19	102 48.4	−00.2	S 21 22.9	−00.4
20	117 48.2	−00.3	S 21 22.5	−00.5
21	132 47.9	−00.2	S 21 22.0	−00.4
22	147 47.7	−00.2	S 21 21.6	−00.5
23	162 47.5	−00.3	S 21 21.1	−00.4

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	065°	065°	065°	065°	065°	064°

Greenwich Culmination Time: 12:08

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	185 27.1	+04.0	S 16 50.8	−00.2
01	200 31.1	+04.1	S 16 50.6	−00.3
02	215 35.2	+04.0	S 16 50.3	−00.2
03	230 39.2	+04.0	S 16 50.1	−00.3
04	245 43.2	+04.0	S 16 49.8	−00.3
05	260 47.2	+04.0	S 16 49.5	−00.2
06	275 51.2	+04.0	S 16 49.3	−00.3
07	290 55.2	+04.0	S 16 49.0	−00.2
08	305 59.2	+04.0	S 16 48.8	−00.3
09	321 03.2	+04.0	S 16 48.5	−00.2
10	336 07.2	+03.9	S 16 48.3	−00.3
11	351 11.1	+04.0	S 16 48.0	−00.2
12	6 15.1	+04.0	S 16 47.8	−00.3
13	21 19.1	+04.0	S 16 47.5	−00.3
14	36 23.1	+04.0	S 16 47.2	−00.2
15	51 27.1	+04.0	S 16 47.0	−00.3
16	66 31.1	+03.9	S 16 46.7	−00.2
17	81 35.0	+04.0	S 16 46.5	−00.3
18	96 39.0	+04.0	S 16 46.2	−00.2
19	111 43.0	+03.9	S 16 46.0	−00.2
20	126 46.9	+04.0	S 16 45.8	−00.3
21	141 50.9	+04.0	S 16 45.5	−00.2
22	156 54.9	+03.9	S 16 45.3	−00.3
23	171 58.8	+04.0	S 16 45.0	−00.2

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	073°	073°	073°	073°	073°	074°

Greenwich Culmination Time: 11:35

Moon

A: 35%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	56 11.4	−27.4	N 19 37.8	+09.0
01	70 44.0	−27.6	N 19 46.8	+09.0
02	85 16.4	−27.5	N 19 55.8	+08.9
03	99 48.9	−27.6	N 20 04.7	+08.8
04	114 21.3	−27.7	N 20 13.5	+08.7
05	128 53.6	−27.7	N 20 22.2	+08.6
06	143 25.9	−27.8	N 20 30.8	+08.5
07	157 58.1	−27.8	N 20 39.3	+08.5
08	172 30.3	−27.9	N 20 47.8	+08.3
09	187 02.4	−28.0	N 20 56.1	+08.3
10	201 34.4	−27.9	N 21 04.4	+08.2
11	216 06.5	−28.1	N 21 12.6	+08.1
12	230 38.4	−28.1	N 21 20.7	+07.9
13	245 10.3	−28.1	N 21 28.6	+07.9
14	259 42.2	−28.2	N 21 36.5	+07.8
15	274 14.0	−28.3	N 21 44.3	+07.7
16	288 45.7	−28.3	N 21 52.0	+07.7
17	303 17.4	−28.3	N 21 59.7	+07.5
18	317 49.1	−28.4	N 22 07.2	+07.4
19	332 20.7	−28.5	N 22 14.6	+07.3
20	346 52.2	−28.5	N 22 21.9	+07.2
21	1 23.7	−28.6	N 22 29.1	+07.1
22	15 55.1	−28.6	N 22 36.2	+07.0
23	30 26.5	−28.7	N 22 43.2	+07.0

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	54′1	54′1	54′1	54′0	54′0	54′0
SHA	303°	301°	299°	297°	295°	293°

Greenwich Culmination Time: 20:54

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	211 32.1	+00.6	S 23 26.5	+00.2
01	226 32.7	+00.5	S 23 26.7	+00.1
02	241 33.2	+00.5	S 23 26.8	+00.2
03	256 33.7	+00.5	S 23 27.0	+00.1
04	271 34.2	+00.5	S 23 27.1	+00.1
05	286 34.7	+00.5	S 23 27.2	+00.2
06	301 35.2	+00.5	S 23 27.4	+00.1
07	316 35.7	+00.5	S 23 27.5	+00.1
08	331 36.2	+00.6	S 23 27.6	+00.2
09	346 36.8	+00.5	S 23 27.8	+00.1
10	1 37.3	+00.5	S 23 27.9	+00.2
11	16 37.8	+00.5	S 23 28.1	+00.1
12	31 38.3	+00.5	S 23 28.2	+00.1
13	46 38.8	+00.5	S 23 28.3	+00.2
14	61 39.3	+00.5	S 23 28.5	+00.1
15	76 39.8	+00.5	S 23 28.6	+00.1
16	91 40.3	+00.5	S 23 28.7	+00.2
17	106 40.8	+00.6	S 23 28.9	+00.1
18	121 41.4	+00.5	S 23 29.0	+00.1
19	136 41.9	+00.5	S 23 29.1	+00.2
20	151 42.4	+00.5	S 23 29.3	+00.1
21	166 42.9	+00.5	S 23 29.4	+00.1
22	181 43.4	+00.5	S 23 29.5	+00.2
23	196 43.9	+00.5	S 23 29.7	+00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	099°	099°	099°	099°	098°	098°

Greenwich Culmination Time: 09:53

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	137 09.2	+02.0	S 11 19.4	−00.2
01	152 11.2	+01.9	S 11 19.2	−00.2
02	167 13.1	+02.0	S 11 19.0	−00.2
03	182 15.1	+01.9	S 11 18.8	−00.2
04	197 17.0	+02.0	S 11 18.6	−00.2
05	212 19.0	+02.0	S 11 18.4	−00.2
06	227 21.0	+01.9	S 11 18.2	−00.2
07	242 22.9	+02.0	S 11 18.0	−00.2
08	257 24.9	+01.9	S 11 17.8	−00.2
09	272 26.8	+02.0	S 11 17.6	−00.2
10	287 28.8	+02.0	S 11 17.4	−00.2
11	302 30.8	+01.9	S 11 17.2	−00.2
12	317 32.7	+02.0	S 11 17.0	−00.2
13	332 34.7	+01.9	S 11 16.8	−00.1
14	347 36.6	+02.0	S 11 16.7	−00.2
15	2 38.6	+02.0	S 11 16.5	−00.2
16	17 40.6	+01.9	S 11 16.3	−00.2
17	32 42.5	+02.0	S 11 16.1	−00.2
18	47 44.5	+01.9	S 11 15.9	−00.2
19	62 46.4	+02.0	S 11 15.7	−00.2
20	77 48.4	+02.0	S 11 15.5	−00.2
21	92 50.4	+01.9	S 11 15.3	−00.2
22	107 52.3	+02.0	S 11 15.1	−00.2
23	122 54.3	+01.9	S 11 14.9	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	025°	025°	025°	025°	025°	025°

Greenwich Culmination Time: 14:49

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	156 29.8	+02.2	S 17 38.3	−00.1
01	171 32.0	+02.1	S 17 38.2	−00.1
02	186 34.1	+02.2	S 17 38.1	+00.0
03	201 36.3	+02.2	S 17 38.1	−00.1
04	216 38.5	+02.2	S 17 38.0	−00.1
05	231 40.7	+02.1	S 17 37.9	−00.1
06	246 42.8	+02.2	S 17 37.8	−00.1
07	261 45.0	+02.2	S 17 37.7	−00.1
08	276 47.2	+02.2	S 17 37.6	+00.0
09	291 49.4	+02.1	S 17 37.6	−00.1
10	306 51.5	+02.2	S 17 37.5	−00.1
11	321 53.7	+02.2	S 17 37.4	−00.1
12	336 55.9	+02.2	S 17 37.3	−00.1
13	351 58.1	+02.1	S 17 37.2	+00.0
14	7 00.2	+02.2	S 17 37.2	−00.1
15	22 02.4	+02.2	S 17 37.1	−00.1
16	37 04.6	+02.2	S 17 37.0	−00.1
17	52 06.8	+02.1	S 17 36.9	−00.1
18	67 08.9	+02.2	S 17 36.8	+00.0
19	82 11.1	+02.2	S 17 36.8	−00.1
20	97 13.3	+02.2	S 17 36.7	−00.1
21	112 15.5	+02.1	S 17 36.6	−00.1
22	127 17.6	+02.2	S 17 36.5	−00.1
23	142 19.8	+02.2	S 17 36.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	044°	044°	044°	044°	044°	044°

Greenwich Culmination Time: 13:32

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 January 14 Friday (day 14 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 47.2	−00.2	S 21 20.7	−00.4
01	192 47.0	−00.2	S 21 20.3	−00.5
02	207 46.8	−00.2	S 21 19.8	−00.4
03	222 46.6	−00.3	S 21 19.4	−00.5
04	237 46.3	−00.2	S 21 18.9	−00.4
05	252 46.1	−00.2	S 21 18.5	−00.4
06	267 45.9	−00.3	S 21 18.1	−00.5
07	282 45.6	−00.2	S 21 17.6	−00.4
08	297 45.4	−00.2	S 21 17.2	−00.5
09	312 45.2	−00.2	S 21 16.7	−00.4
10	327 45.0	−00.3	S 21 16.3	−00.5
11	342 44.7	−00.2	S 21 15.8	−00.4
12	357 44.5	−00.2	S 21 15.4	−00.5
13	12 44.3	−00.2	S 21 14.9	−00.4
14	27 44.1	−00.3	S 21 14.5	−00.5
15	42 43.8	−00.2	S 21 14.0	−00.4
16	57 43.6	−00.2	S 21 13.6	−00.5
17	72 43.4	−00.2	S 21 13.1	−00.4
18	87 43.2	−00.3	S 21 12.7	−00.5
19	102 42.9	−00.2	S 21 12.2	−00.4
20	117 42.7	−00.2	S 21 11.8	−00.5
21	132 42.5	−00.2	S 21 11.3	−00.4
22	147 42.3	−00.2	S 21 10.9	−00.5
23	162 42.1	−00.3	S 21 10.4	−00.4

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	064°	064°	064°	064°	064°	063°

Greenwich Culmination Time: 12:09

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	187 02.8	+03.9	S 16 44.8	−00.3
01	202 06.7	+04.0	S 16 44.5	−00.2
02	217 10.7	+04.0	S 16 44.3	−00.2
03	232 14.7	+03.9	S 16 44.1	−00.3
04	247 18.6	+04.0	S 16 43.8	−00.2
05	262 22.6	+03.9	S 16 43.6	−00.3
06	277 26.5	+03.9	S 16 43.3	−00.2
07	292 30.4	+04.0	S 16 43.1	−00.2
08	307 34.4	+03.9	S 16 42.9	−00.3
09	322 38.3	+03.9	S 16 42.6	−00.2
10	337 42.2	+04.0	S 16 42.4	−00.2
11	352 46.2	+03.9	S 16 42.2	−00.3
12	7 50.1	+03.9	S 16 41.9	−00.2
13	22 54.0	+04.0	S 16 41.7	−00.2
14	37 58.0	+03.9	S 16 41.5	−00.3
15	53 01.9	+03.9	S 16 41.2	−00.2
16	68 05.8	+03.9	S 16 41.0	−00.2
17	83 09.7	+03.9	S 16 40.8	−00.3
18	98 13.6	+03.9	S 16 40.5	−00.2
19	113 17.5	+03.9	S 16 40.3	−00.2
20	128 21.4	+03.9	S 16 40.1	−00.2
21	143 25.3	+03.9	S 16 39.9	−00.3
22	158 29.2	+03.9	S 16 39.6	−00.2
23	173 33.1	+03.9	S 16 39.4	−00.2

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	074°	074°	074°	074°	074°	074°

Greenwich Culmination Time: 11:28

Moon

A: 38%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	44 57.8	−28.7	N 22 50.2	+06.8
01	59 29.1	−28.8	N 22 57.0	+06.7
02	74 00.3	−28.9	N 23 03.7	+06.6
03	88 31.4	−28.8	N 23 10.3	+06.5
04	103 02.6	−29.0	N 23 16.8	+06.4
05	117 33.6	−29.0	N 23 23.2	+06.3
06	132 04.6	−29.0	N 23 29.5	+06.2
07	146 35.6	−29.1	N 23 35.7	+06.1
08	161 06.5	−29.2	N 23 41.8	+06.0
09	175 37.3	−29.2	N 23 47.8	+05.9
10	190 08.1	−29.2	N 23 53.7	+05.7
11	204 38.9	−29.3	N 23 59.4	+05.7
12	219 09.6	−29.4	N 24 05.1	+05.6
13	233 40.2	−29.4	N 24 10.7	+05.4
14	248 10.8	−29.4	N 24 16.1	+05.3
15	262 41.4	−29.5	N 24 21.4	+05.2
16	277 11.9	−29.6	N 24 26.6	+05.1
17	291 42.3	−29.6	N 24 31.7	+05.0
18	306 12.7	−29.6	N 24 36.7	+04.9
19	320 43.1	−29.7	N 24 41.6	+04.8
20	335 13.4	−29.7	N 24 46.4	+04.6
21	349 43.7	−29.8	N 24 51.0	+04.6
22	4 13.9	−29.8	N 24 55.6	+04.4
23	18 44.1	−29.9	N 25 00.0	+04.3

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	54′0	54′0	54′0	54′0	54′0	54′0
SHA	290°	288°	286°	284°	282°	280°

Greenwich Culmination Time: 21:42

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	211 44.4	+00.5	S 23 29.8	+00.1
01	226 44.9	+00.5	S 23 29.9	+00.2
02	241 45.4	+00.6	S 23 30.1	+00.1
03	256 46.0	+00.5	S 23 30.2	+00.1
04	271 46.5	+00.5	S 23 30.3	+00.2
05	286 47.0	+00.5	S 23 30.5	+00.1
06	301 47.5	+00.5	S 23 30.6	+00.1
07	316 48.0	+00.5	S 23 30.7	+00.2
08	331 48.5	+00.5	S 23 30.9	+00.1
09	346 49.0	+00.5	S 23 31.0	+00.1
10	1 49.5	+00.5	S 23 31.1	+00.1
11	16 50.0	+00.5	S 23 31.2	+00.2
12	31 50.5	+00.5	S 23 31.4	+00.1
13	46 51.0	+00.5	S 23 31.5	+00.1
14	61 51.5	+00.6	S 23 31.6	+00.1
15	76 52.1	+00.5	S 23 31.7	+00.2
16	91 52.6	+00.5	S 23 31.9	+00.1
17	106 53.1	+00.5	S 23 32.0	+00.1
18	121 53.6	+00.5	S 23 32.1	+00.1
19	136 54.1	+00.5	S 23 32.2	+00.2
20	151 54.6	+00.5	S 23 32.4	+00.1
21	166 55.1	+00.5	S 23 32.5	+00.1
22	181 55.6	+00.5	S 23 32.6	+00.1
23	196 56.1	+00.5	S 23 32.7	+00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	098°	098°	098°	098°	098°	098°

Greenwich Culmination Time: 09:52

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	137 56.2	+02.0	S 11 14.7	−00.2
01	152 58.2	+01.9	S 11 14.5	−00.2
02	168 00.1	+02.0	S 11 14.3	−00.2
03	183 02.1	+02.0	S 11 14.1	−00.2
04	198 04.1	+01.9	S 11 13.9	−00.2
05	213 06.0	+02.0	S 11 13.7	−00.2
06	228 08.0	+01.9	S 11 13.5	−00.2
07	243 09.9	+02.0	S 11 13.3	−00.2
08	258 11.9	+02.0	S 11 13.1	−00.1
09	273 13.9	+01.9	S 11 13.0	−00.2
10	288 15.8	+02.0	S 11 12.8	−00.2
11	303 17.8	+01.9	S 11 12.6	−00.2
12	318 19.7	+02.0	S 11 12.4	−00.2
13	333 21.7	+01.9	S 11 12.2	−00.2
14	348 23.6	+02.0	S 11 12.0	−00.2
15	3 25.6	+02.0	S 11 11.8	−00.2
16	18 27.6	+01.9	S 11 11.6	−00.2
17	33 29.5	+02.0	S 11 11.4	−00.2
18	48 31.5	+01.9	S 11 11.2	−00.2
19	63 33.4	+02.0	S 11 11.0	−00.2
20	78 35.4	+01.9	S 11 10.8	−00.2
21	93 37.3	+02.0	S 11 10.6	−00.2
22	108 39.3	+01.9	S 11 10.4	−00.2
23	123 41.2	+02.0	S 11 10.2	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	024°	024°	024°	024°	024°	024°

Greenwich Culmination Time: 14:46

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	157 22.0	+02.2	S 17 36.4	−00.1
01	172 24.2	+02.1	S 17 36.3	−00.1
02	187 26.3	+02.2	S 17 36.2	−00.1
03	202 28.5	+02.2	S 17 36.1	−00.1
04	217 30.7	+02.1	S 17 36.0	+00.0
05	232 32.8	+02.2	S 17 36.0	−00.1
06	247 35.0	+02.2	S 17 35.9	−00.1
07	262 37.2	+02.2	S 17 35.8	−00.1
08	277 39.4	+02.1	S 17 35.7	−00.1
09	292 41.5	+02.2	S 17 35.6	−00.1
10	307 43.7	+02.2	S 17 35.5	+00.0
11	322 45.9	+02.2	S 17 35.5	−00.1
12	337 48.1	+02.1	S 17 35.4	−00.1
13	352 50.2	+02.2	S 17 35.3	−00.1
14	7 52.4	+02.2	S 17 35.2	−00.1
15	22 54.6	+02.2	S 17 35.1	+00.0
16	37 56.8	+02.1	S 17 35.1	−00.1
17	52 58.9	+02.2	S 17 35.0	−00.1
18	68 01.1	+02.2	S 17 34.9	−00.1
19	83 03.3	+02.1	S 17 34.8	−00.1
20	98 05.4	+02.2	S 17 34.7	+00.0
21	113 07.6	+02.2	S 17 34.7	−00.1
22	128 09.8	+02.2	S 17 34.6	−00.1
23	143 12.0	+02.1	S 17 34.5	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	044°	044°	044°	044°	044°	044°

Greenwich Culmination Time: 13:28

2022 January 15 Saturday (day 15 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 41.8	−00.2	S 21 10.0	−00.5
01	192 41.6	−00.2	S 21 09.5	−00.4
02	207 41.4	−00.2	S 21 09.1	−00.5
03	222 41.2	−00.2	S 21 08.6	−00.5
04	237 41.0	−00.3	S 21 08.1	−00.4
05	252 40.7	−00.2	S 21 07.7	−00.5
06	267 40.5	−00.2	S 21 07.2	−00.4
07	282 40.3	−00.2	S 21 06.8	−00.5
08	297 40.1	−00.2	S 21 06.3	−00.5
09	312 39.9	−00.3	S 21 05.8	−00.4
10	327 39.6	−00.2	S 21 05.4	−00.5
11	342 39.4	−00.2	S 21 04.9	−00.4
12	357 39.2	−00.2	S 21 04.5	−00.5
13	12 39.0	−00.2	S 21 04.0	−00.5
14	27 38.8	−00.3	S 21 03.5	−00.4
15	42 38.5	−00.2	S 21 03.1	−00.5
16	57 38.3	−00.2	S 21 02.6	−00.5
17	72 38.1	−00.2	S 21 02.1	−00.4
18	87 37.9	−00.2	S 21 01.7	−00.5
19	102 37.7	−00.2	S 21 01.2	−00.5
20	117 37.5	−00.3	S 21 00.7	−00.4
21	132 37.2	−00.2	S 21 00.3	−00.5
22	147 37.0	−00.2	S 20 59.8	−00.5
23	162 36.8	−00.2	S 20 59.3	−00.5

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	063°	063°	063°	063°	062°	062°

Greenwich Culmination Time: 12:09

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	188 37.0	+03.9	S 16 39.2	−00.2
01	203 40.9	+03.9	S 16 39.0	−00.3
02	218 44.8	+03.9	S 16 38.7	−00.2
03	233 48.7	+03.9	S 16 38.5	−00.2
04	248 52.6	+03.9	S 16 38.3	−00.2
05	263 56.5	+03.8	S 16 38.1	−00.2
06	279 00.3	+03.9	S 16 37.9	−00.3
07	294 04.2	+03.9	S 16 37.6	−00.2
08	309 08.1	+03.9	S 16 37.4	−00.2
09	324 12.0	+03.8	S 16 37.2	−00.2
10	339 15.8	+03.9	S 16 37.0	−00.2
11	354 19.7	+03.9	S 16 36.8	−00.2
12	9 23.6	+03.8	S 16 36.6	−00.2
13	24 27.4	+03.9	S 16 36.4	−00.3
14	39 31.3	+03.8	S 16 36.1	−00.2
15	54 35.1	+03.9	S 16 35.9	−00.2
16	69 39.0	+03.8	S 16 35.7	−00.2
17	84 42.8	+03.9	S 16 35.5	−00.2
18	99 46.7	+03.8	S 16 35.3	−00.2
19	114 50.5	+03.8	S 16 35.1	−00.2
20	129 54.3	+03.9	S 16 34.9	−00.2
21	144 58.2	+03.8	S 16 34.7	−00.2
22	160 02.0	+03.8	S 16 34.5	−00.2
23	175 05.8	+03.9	S 16 34.3	−00.2

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	074°	074°	074°	075°	075°	075°

Greenwich Culmination Time: 11:22

Moon

A: 41%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	33 14.2	−29.9	N 25 04.3	+04.2
01	47 44.3	−30.0	N 25 08.5	+04.1
02	62 14.3	−30.0	N 25 12.6	+03.9
03	76 44.3	−30.0	N 25 16.5	+03.9
04	91 14.3	−30.1	N 25 20.4	+03.7
05	105 44.2	−30.1	N 25 24.1	+03.6
06	120 14.1	−30.2	N 25 27.7	+03.5
07	134 43.9	−30.2	N 25 31.2	+03.3
08	149 13.7	−30.2	N 25 34.5	+03.3
09	163 43.5	−30.3	N 25 37.8	+03.1
10	178 13.2	−30.3	N 25 40.9	+03.0
11	192 42.9	−30.4	N 25 43.9	+02.9
12	207 12.5	−30.3	N 25 46.8	+02.7
13	221 42.2	−30.4	N 25 49.5	+02.7
14	236 11.8	−30.5	N 25 52.2	+02.5
15	250 41.3	−30.5	N 25 54.7	+02.4
16	265 10.8	−30.5	N 25 57.1	+02.2
17	279 40.3	−30.5	N 25 59.3	+02.2
18	294 09.8	−30.6	N 26 01.5	+02.0
19	308 39.2	−30.6	N 26 03.5	+01.9
20	323 08.6	−30.6	N 26 05.4	+01.7
21	337 38.0	−30.7	N 26 07.1	+01.7
22	352 07.3	−30.7	N 26 08.8	+01.5
23	6 36.6	−30.7	N 26 10.3	+01.3

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′8
HP	54′0	54′1	54′1	54′1	54′1	54′1
SHA	278°	276°	273°	271°	269°	267°

Greenwich Culmination Time: 22:32

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	211 56.6	+00.5	S 23 32.9	+00.1
01	226 57.1	+00.5	S 23 33.0	+00.1
02	241 57.6	+00.5	S 23 33.1	+00.1
03	256 58.1	+00.5	S 23 33.2	+00.1
04	271 58.6	+00.6	S 23 33.3	+00.2
05	286 59.2	+00.5	S 23 33.5	+00.1
06	301 59.7	+00.5	S 23 33.6	+00.1
07	317 00.2	+00.5	S 23 33.7	+00.1
08	332 00.7	+00.5	S 23 33.8	+00.1
09	347 01.2	+00.5	S 23 33.9	+00.2
10	2 01.7	+00.5	S 23 34.1	+00.1
11	17 02.2	+00.5	S 23 34.2	+00.1
12	32 02.7	+00.5	S 23 34.3	+00.1
13	47 03.2	+00.5	S 23 34.4	+00.1
14	62 03.7	+00.5	S 23 34.5	+00.1
15	77 04.2	+00.5	S 23 34.6	+00.2
16	92 04.7	+00.5	S 23 34.8	+00.1
17	107 05.2	+00.5	S 23 34.9	+00.1
18	122 05.7	+00.5	S 23 35.0	+00.1
19	137 06.2	+00.5	S 23 35.1	+00.1
20	152 06.7	+00.5	S 23 35.2	+00.1
21	167 07.2	+00.5	S 23 35.3	+00.2
22	182 07.7	+00.5	S 23 35.5	+00.1
23	197 08.2	+00.5	S 23 35.6	+00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	097°	097°	097°	097°	097°	097°

Greenwich Culmination Time: 09:51

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	138 43.2	+02.0	S 11 10.0	−00.2
01	153 45.2	+01.9	S 11 09.8	−00.2
02	168 47.1	+02.0	S 11 09.6	−00.2
03	183 49.1	+01.9	S 11 09.4	−00.2
04	198 51.0	+02.0	S 11 09.2	−00.2
05	213 53.0	+01.9	S 11 09.0	−00.2
06	228 54.9	+02.0	S 11 08.8	−00.2
07	243 56.9	+01.9	S 11 08.6	−00.2
08	258 58.8	+02.0	S 11 08.4	−00.2
09	274 00.8	+02.0	S 11 08.2	−00.1
10	289 02.8	+01.9	S 11 08.1	−00.2
11	304 04.7	+02.0	S 11 07.9	−00.2
12	319 06.7	+01.9	S 11 07.7	−00.2
13	334 08.6	+02.0	S 11 07.5	−00.2
14	349 10.6	+01.9	S 11 07.3	−00.2
15	4 12.5	+02.0	S 11 07.1	−00.2
16	19 14.5	+01.9	S 11 06.9	−00.2
17	34 16.4	+02.0	S 11 06.7	−00.2
18	49 18.4	+01.9	S 11 06.5	−00.2
19	64 20.3	+02.0	S 11 06.3	−00.2
20	79 22.3	+02.0	S 11 06.1	−00.2
21	94 24.3	+01.9	S 11 05.9	−00.2
22	109 26.2	+02.0	S 11 05.7	−00.2
23	124 28.2	+01.9	S 11 05.5	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	024°	024°	024°	024°	024°	024°

Greenwich Culmination Time: 14:43

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	158 14.1	+02.2	S 17 34.4	−00.1
01	173 16.3	+02.2	S 17 34.3	−00.1
02	188 18.5	+02.2	S 17 34.2	+00.0
03	203 20.7	+02.1	S 17 34.2	−00.1
04	218 22.8	+02.2	S 17 34.1	−00.1
05	233 25.0	+02.2	S 17 34.0	−00.1
06	248 27.2	+02.1	S 17 33.9	−00.1
07	263 29.3	+02.2	S 17 33.8	+00.0
08	278 31.5	+02.2	S 17 33.8	−00.1
09	293 33.7	+02.2	S 17 33.7	−00.1
10	308 35.9	+02.1	S 17 33.6	−00.1
11	323 38.0	+02.2	S 17 33.5	−00.1
12	338 40.2	+02.2	S 17 33.4	+00.0
13	353 42.4	+02.2	S 17 33.4	−00.1
14	8 44.6	+02.1	S 17 33.3	−00.1
15	23 46.7	+02.2	S 17 33.2	−00.1
16	38 48.9	+02.2	S 17 33.1	−00.1
17	53 51.1	+02.1	S 17 33.0	−00.1
18	68 53.2	+02.2	S 17 32.9	+00.0
19	83 55.4	+02.2	S 17 32.9	−00.1
20	98 57.6	+02.2	S 17 32.8	−00.1
21	113 59.8	+02.1	S 17 32.7	−00.1
22	129 01.9	+02.2	S 17 32.6	−00.1
23	144 04.1	+02.2	S 17 32.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	044°	044°	044°	044°	044°	044°

Greenwich Culmination Time: 13:25

2022 January 20 Thursday (day 20 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	177 17.4	-00.2	S 20 10.4	-00.6
01	192 17.2	-00.2	S 20 09.8	-00.5
02	207 17.0	-00.1	S 20 09.3	-00.6
03	222 16.9	-00.2	S 20 08.7	-00.5
04	237 16.7	-00.2	S 20 08.2	-00.5
05	252 16.5	-00.2	S 20 07.7	-00.6
06	267 16.3	-00.2	S 20 07.1	-00.5
07	282 16.1	-00.2	S 20 06.6	-00.6
08	297 15.9	-00.1	S 20 06.0	-00.5
09	312 15.8	-00.2	S 20 05.5	-00.5
10	327 15.6	-00.2	S 20 05.0	-00.6
11	342 15.4	-00.2	S 20 04.4	-00.5
12	357 15.2	-00.2	S 20 03.9	-00.6
13	12 15.0	-00.1	S 20 03.3	-00.5
14	27 14.9	-00.2	S 20 02.8	-00.6
15	42 14.7	-00.2	S 20 02.2	-00.5
16	57 14.5	-00.2	S 20 01.7	-00.6
17	72 14.3	-00.2	S 20 01.1	-00.5
18	87 14.1	-00.1	S 20 00.6	-00.6
19	102 14.0	-00.2	S 20 00.0	-00.5
20	117 13.8	-00.2	S 19 59.5	-00.6
21	132 13.6	-00.2	S 19 58.9	-00.5
22	147 13.4	-00.2	S 19 58.4	-00.6
23	162 13.2	-00.1	S 19 57.8	-00.5

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	058°	058°	057°	057°	057°	057°

Greenwich Culmination Time: 12:10

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	196 00.3	+03.5	S 16 18.7	-00.2
01	211 03.8	+03.4	S 16 18.5	-00.1
02	226 07.2	+03.5	S 16 18.4	-00.1
03	241 10.7	+03.5	S 16 18.3	-00.1
04	256 14.2	+03.4	S 16 18.2	-00.1
05	271 17.6	+03.4	S 16 18.1	-00.1
06	286 21.0	+03.5	S 16 18.0	-00.2
07	301 24.5	+03.4	S 16 17.8	-00.1
08	316 27.9	+03.5	S 16 17.7	-00.1
09	331 31.4	+03.4	S 16 17.6	-00.1
10	346 34.8	+03.4	S 16 17.5	-00.1
11	1 38.2	+03.4	S 16 17.4	-00.1
12	16 41.6	+03.4	S 16 17.3	-00.1
13	31 45.0	+03.5	S 16 17.2	-00.1
14	46 48.5	+03.4	S 16 17.1	-00.1
15	61 51.9	+03.4	S 16 17.0	-00.1
16	76 55.3	+03.4	S 16 16.9	-00.1
17	91 58.7	+03.4	S 16 16.8	-00.1
18	107 02.1	+03.3	S 16 16.7	-00.1
19	122 05.4	+03.4	S 16 16.6	-00.2
20	137 08.8	+03.4	S 16 16.4	-00.1
21	152 12.2	+03.4	S 16 16.3	-00.1
22	167 15.6	+03.4	S 16 16.2	-00.1
23	182 19.0	+03.3	S 16 16.1	-00.1

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	077°	077°	077°	077°	077°	077°

Greenwich Culmination Time: 10:53

Moon

A: 58%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	332 38.1	-28.7	N 18 42.5	-10.2
01	347 09.4	-28.7	N 18 32.3	-10.2
02	1 40.7	-28.5	N 18 22.1	-10.3
03	16 12.2	-28.6	N 18 11.8	-10.4
04	30 43.6	-28.5	N 18 01.4	-10.5
05	45 15.1	-28.5	N 17 50.9	-10.6
06	59 46.6	-28.4	N 17 40.3	-10.7
07	74 18.2	-28.4	N 17 29.6	-10.7
08	88 49.8	-28.3	N 17 18.9	-10.9
09	103 21.5	-28.3	N 17 08.0	-10.9
10	117 53.2	-28.2	N 16 57.1	-11.0
11	132 25.0	-28.2	N 16 46.1	-11.1
12	146 56.8	-28.2	N 16 35.0	-11.2
13	161 28.6	-28.1	N 16 23.8	-11.2
14	176 00.5	-28.1	N 16 12.6	-11.4
15	190 32.4	-28.1	N 16 01.2	-11.4
16	205 04.3	-28.0	N 15 49.8	-11.5
17	219 36.3	-28.0	N 15 38.3	-11.6
18	234 08.3	-27.9	N 15 26.7	-11.6
19	248 40.4	-27.9	N 15 15.1	-11.7
20	263 12.5	-27.8	N 15 03.4	-11.8
21	277 44.7	-27.9	N 14 51.6	-11.9
22	292 16.8	-27.7	N 14 39.7	-12.0
23	306 49.1	-27.8	N 14 27.7	-12.0

UT	02	06	10	14	18	22
SD	15′1	15′1	15′1	15′2	15′2	15′2
HP	55′4	55′5	55′6	55′7	55′7	55′8
SHA	212°	210°	208°	206°	204°	202°

Greenwich Culmination Time: 01:53

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	212 56.5	+00.5	S 23 44.7	+00.0
01	227 57.0	+00.5	S 23 44.7	+00.1
02	242 57.5	+00.5	S 23 44.8	+00.1
03	257 58.0	+00.5	S 23 44.9	+00.1
04	272 58.5	+00.5	S 23 45.0	+00.0
05	287 59.0	+00.5	S 23 45.0	+00.1
06	302 59.5	+00.5	S 23 45.1	+00.1
07	317 60.0	+00.5	S 23 45.2	+00.0
08	333 00.5	+00.5	S 23 45.2	+00.1
09	348 01.0	+00.5	S 23 45.3	+00.1
10	3 01.5	+00.4	S 23 45.4	+00.1
11	18 01.9	+00.5	S 23 45.5	+00.0
12	33 02.4	+00.5	S 23 45.5	+00.1
13	48 02.9	+00.5	S 23 45.6	+00.1
14	63 03.4	+00.5	S 23 45.7	+00.0
15	78 03.9	+00.5	S 23 45.7	+00.1
16	93 04.4	+00.5	S 23 45.8	+00.1
17	108 04.9	+00.5	S 23 45.9	+00.0
18	123 05.4	+00.5	S 23 45.9	+00.1
19	138 05.9	+00.5	S 23 46.0	+00.1
20	153 06.4	+00.4	S 23 46.1	+00.0
21	168 06.8	+00.5	S 23 46.1	+00.1
22	183 07.3	+00.5	S 23 46.2	+00.1
23	198 07.8	+00.5	S 23 46.3	+00.0

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	094°	093°	093°	093°	093°	093°

Greenwich Culmination Time: 09:47

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	142 37.2	+01.9	S 10 46.1	-00.2
01	157 39.1	+02.0	S 10 45.9	-00.2
02	172 41.1	+01.9	S 10 45.7	-00.2
03	187 43.0	+02.0	S 10 45.5	-00.2
04	202 45.0	+01.9	S 10 45.3	-00.2
05	217 46.9	+02.0	S 10 45.1	-00.2
06	232 48.9	+01.9	S 10 44.9	-00.2
07	247 50.8	+01.9	S 10 44.7	-00.2
08	262 52.7	+02.0	S 10 44.5	-00.2
09	277 54.7	+01.9	S 10 44.3	-00.2
10	292 56.6	+02.0	S 10 44.1	-00.2
11	307 58.6	+01.9	S 10 43.9	-00.2
12	323 00.5	+02.0	S 10 43.7	-00.2
13	338 02.5	+01.9	S 10 43.5	-00.2
14	353 04.4	+02.0	S 10 43.3	-00.2
15	8 06.4	+01.9	S 10 43.1	-00.2
16	23 08.3	+01.9	S 10 42.9	-00.2
17	38 10.2	+02.0	S 10 42.7	-00.3
18	53 12.2	+01.9	S 10 42.4	-00.2
19	68 14.1	+02.0	S 10 42.2	-00.2
20	83 16.1	+01.9	S 10 42.0	-00.2
21	98 18.0	+01.9	S 10 41.8	-00.2
22	113 19.9	+02.0	S 10 41.6	-00.2
23	128 21.9	+01.9	S 10 41.4	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	023°	023°	023°	023°	023°	023°

Greenwich Culmination Time: 14:27

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	162 34.6	+02.2	S 17 24.5	+00.0
01	177 36.8	+02.2	S 17 24.5	-00.1
02	192 39.0	+02.2	S 17 24.4	-00.1
03	207 41.2	+02.1	S 17 24.3	-00.1
04	222 43.3	+02.2	S 17 24.2	-00.1
05	237 45.5	+02.2	S 17 24.1	-00.1
06	252 47.7	+02.1	S 17 24.0	+00.0
07	267 49.8	+02.2	S 17 24.0	-00.1
08	282 52.0	+02.2	S 17 23.9	-00.1
09	297 54.2	+02.1	S 17 23.8	-00.1
10	312 56.3	+02.2	S 17 23.7	-00.1
11	327 58.5	+02.2	S 17 23.6	-00.1
12	343 00.7	+02.1	S 17 23.5	+00.0
13	358 02.8	+02.2	S 17 23.5	-00.1
14	13 05.0	+02.2	S 17 23.4	-00.1
15	28 07.2	+02.1	S 17 23.3	-00.1
16	43 09.3	+02.2	S 17 23.2	-00.1
17	58 11.5	+02.2	S 17 23.1	-00.1
18	73 13.7	+02.2	S 17 23.0	+00.0
19	88 15.9	+02.1	S 17 23.0	-00.1
20	103 18.0	+02.2	S 17 22.9	-00.1
21	118 20.2	+02.2	S 17 22.8	-00.1
22	133 22.4	+02.1	S 17 22.7	-00.1
23	148 24.5	+02.2	S 17 22.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	043°	043°	043°	043°	043°	043°

Greenwich Culmination Time: 13:07

2022 January 17 Monday (day 17 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	177 31.5	-00.2	S 20 47.3	-00.5
01	192 31.3	-00.2	S 20 46.8	-00.5
02	207 31.1	-00.2	S 20 46.3	-00.5
03	222 30.9	-00.2	S 20 45.8	-00.5
04	237 30.7	-00.2	S 20 45.3	-00.4
05	252 30.5	-00.2	S 20 44.9	-00.5
06	267 30.3	-00.2	S 20 44.4	-00.5
07	282 30.1	-00.2	S 20 43.9	-00.5
08	297 29.9	-00.2	S 20 43.4	-00.5
09	312 29.7	-00.2	S 20 42.9	-00.5
10	327 29.5	-00.2	S 20 42.4	-00.5
11	342 29.3	-00.2	S 20 41.9	-00.5
12	357 29.1	-00.2	S 20 41.4	-00.5
13	12 28.9	-00.2	S 20 40.9	-00.5
14	27 28.7	-00.2	S 20 40.4	-00.5
15	42 28.5	-00.2	S 20 39.9	-00.5
16	57 28.3	-00.2	S 20 39.4	-00.5
17	72 28.1	-00.2	S 20 38.9	-00.5
18	87 27.9	-00.2	S 20 38.4	-00.5
19	102 27.7	-00.3	S 20 37.9	-00.5
20	117 27.4	-00.2	S 20 37.4	-00.5
21	132 27.2	-00.2	S 20 36.9	-00.5
22	147 27.0	-00.2	S 20 36.4	-00.5
23	162 26.8	-00.2	S 20 35.9	-00.5

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	061°	061°	061°	061°	060°	060°

Greenwich Culmination Time: 12:10

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	191 40.5	+03.7	S 16 29.5	-00.2
01	206 44.2	+03.7	S 16 29.3	-00.2
02	221 47.9	+03.8	S 16 29.1	-00.2
03	236 51.7	+03.7	S 16 28.9	-00.1
04	251 55.4	+03.7	S 16 28.8	-00.2
05	266 59.1	+03.7	S 16 28.6	-00.2
06	282 02.8	+03.8	S 16 28.4	-00.2
07	297 06.6	+03.7	S 16 28.2	-00.1
08	312 10.3	+03.7	S 16 28.1	-00.2
09	327 14.0	+03.7	S 16 27.9	-00.2
10	342 17.7	+03.7	S 16 27.7	-00.2
11	357 21.4	+03.7	S 16 27.5	-00.1
12	12 25.1	+03.7	S 16 27.4	-00.2
13	27 28.8	+03.7	S 16 27.2	-00.2
14	42 32.5	+03.7	S 16 27.0	-00.1
15	57 36.2	+03.7	S 16 26.9	-00.2
16	72 39.9	+03.7	S 16 26.7	-00.2
17	87 43.6	+03.7	S 16 26.5	-00.1
18	102 47.3	+03.6	S 16 26.4	-00.2
19	117 50.9	+03.7	S 16 26.2	-00.2
20	132 54.6	+03.7	S 16 26.0	-00.1
21	147 58.3	+03.6	S 16 25.9	-00.2
22	163 01.9	+03.7	S 16 25.7	-00.2
23	178 05.6	+03.7	S 16 25.5	-00.1

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	075°	075°	075°	076°	076°	076°

Greenwich Culmination Time: 11:10

Moon

A: 48%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	8 44.5	-31.0	N 26 06.3	-01.8
01	23 13.5	-30.9	N 26 04.5	-02.0
02	37 42.6	-31.0	N 26 02.5	-02.1
03	52 11.6	-30.9	N 26 00.4	-02.2
04	66 40.7	-31.0	N 25 58.2	-02.4
05	81 09.7	-30.9	N 25 55.8	-02.5
06	95 38.8	-31.0	N 25 53.3	-02.6
07	110 07.8	-30.9	N 25 50.7	-02.7
08	124 36.9	-30.9	N 25 48.0	-02.9
09	139 06.0	-30.9	N 25 45.1	-03.0
10	153 35.1	-30.8	N 25 42.1	-03.1
11	168 04.3	-30.9	N 25 39.0	-03.3
12	182 33.4	-30.8	N 25 35.7	-03.4
13	197 02.6	-30.9	N 25 32.3	-03.5
14	211 31.7	-30.8	N 25 28.8	-03.6
15	226 00.9	-30.8	N 25 25.2	-03.8
16	240 30.1	-30.8	N 25 21.4	-03.9
17	254 59.3	-30.7	N 25 17.5	-04.0
18	269 28.6	-30.7	N 25 13.5	-04.1
19	283 57.9	-30.8	N 25 09.4	-04.3
20	298 27.1	-30.6	N 25 05.1	-04.4
21	312 56.5	-30.7	N 25 00.7	-04.5
22	327 25.8	-30.6	N 24 56.2	-04.7
23	341 55.2	-30.7	N 24 51.5	-04.7

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′9	14′9	14′9
HP	54′4	54′4	54′5	54′5	54′6	54′6
SHA	251°	249°	247°	245°	242°	240°

Greenwich Culmination Time: -1:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	212 20.8	+00.5	S 23 38.3	+00.1
01	227 21.3	+00.5	S 23 38.4	+00.1
02	242 21.8	+00.5	S 23 38.5	+00.1
03	257 22.3	+00.5	S 23 38.6	+00.1
04	272 22.8	+00.5	S 23 38.7	+00.1
05	287 23.3	+00.5	S 23 38.8	+00.1
06	302 23.8	+00.5	S 23 38.9	+00.1
07	317 24.3	+00.5	S 23 39.0	+00.1
08	332 24.8	+00.5	S 23 39.1	+00.1
09	347 25.3	+00.5	S 23 39.2	+00.1
10	2 25.8	+00.5	S 23 39.3	+00.1
11	17 26.3	+00.5	S 23 39.4	+00.1
12	32 26.8	+00.5	S 23 39.5	+00.1
13	47 27.3	+00.5	S 23 39.6	+00.1
14	62 27.8	+00.5	S 23 39.7	+00.1
15	77 28.3	+00.5	S 23 39.8	+00.1
16	92 28.8	+00.5	S 23 39.9	+00.1
17	107 29.3	+00.5	S 23 40.0	+00.1
18	122 29.8	+00.5	S 23 40.1	+00.1
19	137 30.3	+00.5	S 23 40.2	+00.1
20	152 30.8	+00.5	S 23 40.3	+00.1
21	167 31.3	+00.5	S 23 40.4	+00.0
22	182 31.8	+00.5	S 23 40.4	+00.1
23	197 32.3	+00.5	S 23 40.5	+00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	096°	096°	096°	095°	095°	095°

Greenwich Culmination Time: 09:50

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	140 17.0	+01.9	S 11 00.5	-00.2
01	155 18.9	+02.0	S 11 00.3	-00.2
02	170 20.9	+01.9	S 11 00.1	-00.2
03	185 22.8	+02.0	S 10 59.9	-00.2
04	200 24.8	+01.9	S 10 59.7	-00.2
05	215 26.7	+02.0	S 10 59.5	-00.2
06	230 28.7	+01.9	S 10 59.3	-00.2
07	245 30.6	+02.0	S 10 59.1	-00.2
08	260 32.6	+01.9	S 10 58.9	-00.2
09	275 34.5	+02.0	S 10 58.7	-00.2
10	290 36.5	+01.9	S 10 58.5	-00.2
11	305 38.4	+02.0	S 10 58.3	-00.2
12	320 40.4	+01.9	S 10 58.1	-00.2
13	335 42.3	+02.0	S 10 57.9	-00.2
14	350 44.3	+01.9	S 10 57.7	-00.2
15	5 46.2	+02.0	S 10 57.5	-00.1
16	20 48.2	+01.9	S 10 57.4	-00.2
17	35 50.1	+02.0	S 10 57.2	-00.2
18	50 52.1	+01.9	S 10 57.0	-00.2
19	65 54.0	+02.0	S 10 56.8	-00.2
20	80 56.0	+01.9	S 10 56.6	-00.2
21	95 57.9	+02.0	S 10 56.4	-00.2
22	110 59.9	+01.9	S 10 56.2	-00.2
23	126 01.8	+02.0	S 10 56.0	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	024°	024°	024°	024°	024°	024°

Greenwich Culmination Time: 14:36

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	159 58.4	+02.2	S 17 30.5	-00.1
01	175 00.6	+02.1	S 17 30.4	-00.1
02	190 02.7	+02.2	S 17 30.3	-00.1
03	205 04.9	+02.2	S 17 30.2	+00.0
04	220 07.1	+02.2	S 17 30.2	-00.1
05	235 09.3	+02.1	S 17 30.1	-00.1
06	250 11.4	+02.2	S 17 30.0	-00.1
07	265 13.6	+02.2	S 17 29.9	-00.1
08	280 15.8	+02.1	S 17 29.8	-00.1
09	295 17.9	+02.2	S 17 29.7	+00.0
10	310 20.1	+02.2	S 17 29.7	-00.1
11	325 22.3	+02.2	S 17 29.6	-00.1
12	340 24.5	+02.1	S 17 29.5	-00.1
13	355 26.6	+02.2	S 17 29.4	-00.1
14	10 28.8	+02.2	S 17 29.3	+00.0
15	25 31.0	+02.1	S 17 29.3	-00.1
16	40 33.1	+02.2	S 17 29.2	-00.1
17	55 35.3	+02.2	S 17 29.1	-00.1
18	70 37.5	+02.1	S 17 29.0	-00.1
19	85 39.6	+02.2	S 17 28.9	-00.1
20	100 41.8	+02.2	S 17 28.8	+00.0
21	115 44.0	+02.2	S 17 28.8	-00.1
22	130 46.2	+02.1	S 17 28.7	-00.1
23	145 48.3	+02.2	S 17 28.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	044°	044°	044°	044°	043°	043°

Greenwich Culmination Time: 13:18

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	177 26.6	-00.2	S 20 35.4	-00.5
01	192 26.4	-00.2	S 20 34.9	-00.5
02	207 26.2	-00.2	S 20 34.4	-00.5
03	222 26.0	-00.2	S 20 33.9	-00.5
04	237 25.8	-00.1	S 20 33.4	-00.6
05	252 25.7	-00.2	S 20 32.8	-00.5
06	267 25.5	-00.2	S 20 32.3	-00.5
07	282 25.3	-00.2	S 20 31.8	-00.5
08	297 25.1	-00.2	S 20 31.3	-00.5
09	312 24.9	-00.2	S 20 30.8	-00.5
10	327 24.7	-00.2	S 20 30.3	-00.5
11	342 24.5	-00.2	S 20 29.8	-00.5
12	357 24.3	-00.2	S 20 29.3	-00.5
13	12 24.1	-00.2	S 20 28.8	-00.6
14	27 23.9	-00.2	S 20 28.2	-00.5
15	42 23.7	-00.2	S 20 27.7	-00.5
16	57 23.5	-00.2	S 20 27.2	-00.5
17	72 23.3	-00.2	S 20 26.7	-00.5
18	87 23.1	-00.2	S 20 26.2	-00.5
19	102 22.9	-00.2	S 20 25.7	-00.6
20	117 22.7	-00.2	S 20 25.1	-00.5
21	132 22.5	-00.2	S 20 24.6	-00.5
22	147 22.3	-00.2	S 20 24.1	-00.5
23	162 22.1	-00.2	S 20 23.6	-00.5

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	060°	060°	060°	059°	059°	059°

Greenwich Culmination Time: 12:10

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	193 09.3	+03.6	S 16 25.4	-00.2
01	208 12.9	+03.7	S 16 25.2	-00.1
02	223 16.6	+03.6	S 16 25.1	-00.2
03	238 20.2	+03.7	S 16 24.9	-00.2
04	253 23.9	+03.6	S 16 24.7	-00.1
05	268 27.5	+03.6	S 16 24.6	-00.2
06	283 31.1	+03.7	S 16 24.4	-00.1
07	298 34.8	+03.6	S 16 24.3	-00.2
08	313 38.4	+03.6	S 16 24.1	-00.1
09	328 42.0	+03.6	S 16 24.0	-00.2
10	343 45.6	+03.7	S 16 23.8	-00.1
11	358 49.3	+03.6	S 16 23.7	-00.2
12	13 52.9	+03.6	S 16 23.5	-00.1
13	28 56.5	+03.6	S 16 23.4	-00.2
14	44 00.1	+03.6	S 16 23.2	-00.1
15	59 03.7	+03.6	S 16 23.1	-00.2
16	74 07.3	+03.6	S 16 22.9	-00.1
17	89 10.9	+03.6	S 16 22.8	-00.2
18	104 14.5	+03.6	S 16 22.6	-00.1
19	119 18.1	+03.5	S 16 22.5	-00.2
20	134 21.6	+03.6	S 16 22.3	-00.1
21	149 25.2	+03.6	S 16 22.2	-00.2
22	164 28.8	+03.6	S 16 22.0	-00.1
23	179 32.4	+03.5	S 16 21.9	-00.1

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	076°	076°	076°	076°	076°	076°

Greenwich Culmination Time: 11:04

Moon

A: 51%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	356 24.5	-30.5	N 24 46.8	-04.9
01	10 54.0	-30.6	N 24 41.9	-05.0
02	25 23.4	-30.5	N 24 36.9	-05.2
03	39 52.9	-30.5	N 24 31.7	-05.2
04	54 22.4	-30.5	N 24 26.5	-05.4
05	68 51.9	-30.4	N 24 21.1	-05.5
06	83 21.5	-30.4	N 24 15.6	-05.7
07	97 51.1	-30.4	N 24 09.9	-05.7
08	112 20.7	-30.3	N 24 04.2	-05.9
09	126 50.4	-30.4	N 23 58.3	-06.0
10	141 20.0	-30.2	N 23 52.3	-06.1
11	155 49.8	-30.3	N 23 46.2	-06.2
12	170 19.5	-30.2	N 23 40.0	-06.3
13	184 49.3	-30.1	N 23 33.7	-06.5
14	199 19.2	-30.2	N 23 27.2	-06.6
15	213 49.0	-30.1	N 23 20.6	-06.7
16	228 18.9	-30.0	N 23 13.9	-06.8
17	242 48.9	-30.0	N 23 07.1	-06.9
18	257 18.9	-30.0	N 23 00.2	-07.0
19	271 48.9	-29.9	N 22 53.2	-07.2
20	286 19.0	-29.9	N 22 46.0	-07.3
21	300 49.1	-29.9	N 22 38.7	-07.3
22	315 19.2	-29.8	N 22 31.4	-07.5
23	329 49.4	-29.8	N 22 23.9	-07.6

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	15′0	15′0
HP	54′7	54′7	54′8	54′9	54′9	55′0
SHA	238°	236°	234°	231°	229°	227°

Greenwich Culmination Time: 00:14

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	212 32.8	+00.5	S 23 40.6	+00.1
01	227 33.3	+00.5	S 23 40.7	+00.1
02	242 33.8	+00.5	S 23 40.8	+00.1
03	257 34.3	+00.5	S 23 40.9	+00.1
04	272 34.8	+00.5	S 23 41.0	+00.1
05	287 35.3	+00.5	S 23 41.1	+00.1
06	302 35.8	+00.5	S 23 41.2	+00.1
07	317 36.3	+00.5	S 23 41.3	+00.1
08	332 36.8	+00.4	S 23 41.4	+00.1
09	347 37.2	+00.5	S 23 41.5	+00.1
10	2 37.7	+00.5	S 23 41.6	+00.0
11	17 38.2	+00.5	S 23 41.6	+00.1
12	32 38.7	+00.5	S 23 41.7	+00.1
13	47 39.2	+00.5	S 23 41.8	+00.1
14	62 39.7	+00.5	S 23 41.9	+00.1
15	77 40.2	+00.5	S 23 42.0	+00.1
16	92 40.7	+00.5	S 23 42.1	+00.1
17	107 41.2	+00.5	S 23 42.2	+00.1
18	122 41.7	+00.5	S 23 42.3	+00.0
19	137 42.2	+00.5	S 23 42.3	+00.1
20	152 42.7	+00.5	S 23 42.4	+00.1
21	167 43.2	+00.5	S 23 42.5	+00.1
22	182 43.7	+00.5	S 23 42.6	+00.1
23	197 44.2	+00.5	S 23 42.7	+00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	095°	095°	095°	095°	095°	094°

Greenwich Culmination Time: 09:49

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	141 03.8	+01.9	S 10 55.8	-00.2
01	156 05.7	+02.0	S 10 55.6	-00.2
02	171 07.7	+01.9	S 10 55.4	-00.2
03	186 09.6	+02.0	S 10 55.2	-00.2
04	201 11.6	+01.9	S 10 55.0	-00.2
05	216 13.5	+02.0	S 10 54.8	-00.2
06	231 15.5	+01.9	S 10 54.6	-00.2
07	246 17.4	+02.0	S 10 54.4	-00.2
08	261 19.4	+01.9	S 10 54.2	-00.2
09	276 21.3	+02.0	S 10 54.0	-00.2
10	291 23.3	+01.9	S 10 53.8	-00.2
11	306 25.2	+01.9	S 10 53.6	-00.3
12	321 27.1	+02.0	S 10 53.3	-00.2
13	336 29.1	+01.9	S 10 53.1	-00.2
14	351 31.0	+02.0	S 10 52.9	-00.2
15	6 33.0	+01.9	S 10 52.7	-00.2
16	21 34.9	+02.0	S 10 52.5	-00.2
17	36 36.9	+01.9	S 10 52.3	-00.2
18	51 38.8	+02.0	S 10 52.1	-00.2
19	66 40.8	+01.9	S 10 51.9	-00.2
20	81 42.7	+02.0	S 10 51.7	-00.2
21	96 44.7	+01.9	S 10 51.5	-00.2
22	111 46.6	+02.0	S 10 51.3	-00.2
23	126 48.6	+01.9	S 10 51.1	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	024°	024°	024°	024°	024°	023°

Greenwich Culmination Time: 14:33

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	160 50.5	+02.2	S 17 28.5	-00.1
01	175 52.7	+02.1	S 17 28.4	-00.1
02	190 54.8	+02.2	S 17 28.3	+00.0
03	205 57.0	+02.2	S 17 28.3	-00.1
04	220 59.2	+02.2	S 17 28.2	-00.1
05	236 01.4	+02.1	S 17 28.1	-00.1
06	251 03.5	+02.2	S 17 28.0	-00.1
07	266 05.7	+02.2	S 17 27.9	+00.0
08	281 07.9	+02.1	S 17 27.9	-00.1
09	296 10.0	+02.2	S 17 27.8	-00.1
10	311 12.2	+02.2	S 17 27.7	-00.1
11	326 14.4	+02.1	S 17 27.6	-00.1
12	341 16.5	+02.2	S 17 27.5	-00.1
13	356 18.7	+02.2	S 17 27.4	+00.0
14	11 20.9	+02.2	S 17 27.4	-00.1
15	26 23.1	+02.1	S 17 27.3	-00.1
16	41 25.2	+02.2	S 17 27.2	-00.1
17	56 27.4	+02.2	S 17 27.1	-00.1
18	71 29.6	+02.1	S 17 27.0	-00.1
19	86 31.7	+02.2	S 17 26.9	+00.0
20	101 33.9	+02.2	S 17 26.9	-00.1
21	116 36.1	+02.1	S 17 26.8	-00.1
22	131 38.2	+02.2	S 17 26.7	-00.1
23	146 40.4	+02.2	S 17 26.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	043°	043°	043°	043°	043°	043°

Greenwich Culmination Time: 13:14

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	177 21.9	-00.2	S 20 23.1	-00.6
01	192 21.7	-00.1	S 20 22.5	-00.5
02	207 21.6	-00.2	S 20 22.0	-00.5
03	222 21.4	-00.2	S 20 21.5	-00.5
04	237 21.2	-00.2	S 20 21.0	-00.6
05	252 21.0	-00.2	S 20 20.4	-00.5
06	267 20.8	-00.2	S 20 19.9	-00.5
07	282 20.6	-00.2	S 20 19.4	-00.5
08	297 20.4	-00.2	S 20 18.9	-00.6
09	312 20.2	-00.2	S 20 18.3	-00.5
10	327 20.0	-00.2	S 20 17.8	-00.5
11	342 19.8	-00.2	S 20 17.3	-00.5
12	357 19.6	-00.1	S 20 16.8	-00.6
13	12 19.5	-00.2	S 20 16.2	-00.5
14	27 19.3	-00.2	S 20 15.7	-00.5
15	42 19.1	-00.2	S 20 15.2	-00.6
16	57 18.9	-00.2	S 20 14.6	-00.5
17	72 18.7	-00.2	S 20 14.1	-00.5
18	87 18.5	-00.2	S 20 13.6	-00.6
19	102 18.3	-00.1	S 20 13.0	-00.5
20	117 18.2	-00.2	S 20 12.5	-00.5
21	132 18.0	-00.2	S 20 12.0	-00.6
22	147 17.8	-00.2	S 20 11.4	-00.5
23	162 17.6	-00.2	S 20 10.9	-00.5

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	059°	059°	059°	058°	058°	058°

Greenwich Culmination Time: 12:10

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	194 35.9	+03.6	S 16 21.8	-00.2
01	209 39.5	+03.5	S 16 21.6	-00.1
02	224 43.0	+03.6	S 16 21.5	-00.1
03	239 46.6	+03.6	S 16 21.4	-00.2
04	254 50.2	+03.5	S 16 21.2	-00.1
05	269 53.7	+03.5	S 16 21.1	-00.2
06	284 57.2	+03.6	S 16 20.9	-00.1
07	300 00.8	+03.5	S 16 20.8	-00.1
08	315 04.3	+03.5	S 16 20.7	-00.2
09	330 07.8	+03.6	S 16 20.5	-00.1
10	345 11.4	+03.5	S 16 20.4	-00.1
11	0 14.9	+03.5	S 16 20.3	-00.1
12	15 18.4	+03.5	S 16 20.2	-00.2
13	30 21.9	+03.5	S 16 20.0	-00.1
14	45 25.4	+03.5	S 16 19.9	-00.1
15	60 28.9	+03.5	S 16 19.8	-00.2
16	75 32.4	+03.5	S 16 19.6	-00.1
17	90 35.9	+03.5	S 16 19.5	-00.1
18	105 39.4	+03.5	S 16 19.4	-00.1
19	120 42.9	+03.5	S 16 19.3	-00.2
20	135 46.4	+03.5	S 16 19.1	-00.1
21	150 49.9	+03.5	S 16 19.0	-00.1
22	165 53.4	+03.5	S 16 18.9	-00.1
23	180 56.9	+03.4	S 16 18.8	-00.1

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	076°	076°	076°	076°	077°	077°

Greenwich Culmination Time: 10:59

Moon

A: 55%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	344 19.6	-29.7	N 22 16.3	-07.7
01	358 49.9	-29.7	N 22 08.6	-07.8
02	13 20.2	-29.6	N 22 00.8	-08.0
03	27 50.6	-29.7	N 21 52.8	-08.0
04	42 20.9	-29.5	N 21 44.8	-08.2
05	56 51.4	-29.5	N 21 36.6	-08.2
06	71 21.9	-29.5	N 21 28.4	-08.4
07	85 52.4	-29.4	N 21 20.0	-08.4
08	100 23.0	-29.4	N 21 11.6	-08.6
09	114 53.6	-29.4	N 21 03.0	-08.7
10	129 24.2	-29.3	N 20 54.3	-08.7
11	143 54.9	-29.2	N 20 45.6	-08.9
12	158 25.7	-29.2	N 20 36.7	-09.0
13	172 56.5	-29.2	N 20 27.7	-09.1
14	187 27.3	-29.1	N 20 18.6	-09.2
15	201 58.2	-29.1	N 20 09.4	-09.2
16	216 29.1	-29.1	N 20 00.2	-09.4
17	231 00.0	-28.9	N 19 50.8	-09.5
18	245 31.1	-29.0	N 19 41.3	-09.6
19	260 02.1	-28.9	N 19 31.7	-09.6
20	274 33.2	-28.8	N 19 22.1	-09.8
21	289 04.4	-28.9	N 19 12.3	-09.8
22	303 35.5	-28.7	N 19 02.5	-10.0
23	318 06.8	-28.7	N 18 52.5	-10.0

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	15′0	15′1	15′1
HP	55′0	55′1	55′2	55′2	55′3	55′4
SHA	225°	223°	221°	219°	216°	214°

Greenwich Culmination Time: 01:04

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	212 44.7	+00.5	S 23 42.8	+00.0
01	227 45.2	+00.5	S 23 42.8	+00.1
02	242 45.7	+00.5	S 23 42.9	+00.1
03	257 46.2	+00.5	S 23 43.0	+00.1
04	272 46.7	+00.5	S 23 43.1	+00.1
05	287 47.2	+00.5	S 23 43.2	+00.1
06	302 47.7	+00.4	S 23 43.3	+00.0
07	317 48.1	+00.5	S 23 43.3	+00.1
08	332 48.6	+00.5	S 23 43.4	+00.1
09	347 49.1	+00.5	S 23 43.5	+00.1
10	2 49.6	+00.5	S 23 43.6	+00.1
11	17 50.1	+00.5	S 23 43.7	+00.0
12	32 50.6	+00.5	S 23 43.7	+00.1
13	47 51.1	+00.5	S 23 43.8	+00.1
14	62 51.6	+00.5	S 23 43.9	+00.1
15	77 52.1	+00.5	S 23 44.0	+00.1
16	92 52.6	+00.5	S 23 44.1	+00.0
17	107 53.1	+00.5	S 23 44.1	+00.1
18	122 53.6	+00.5	S 23 44.2	+00.1
19	137 54.1	+00.5	S 23 44.3	+00.1
20	152 54.6	+00.5	S 23 44.4	+00.0
21	167 55.1	+00.4	S 23 44.4	+00.1
22	182 55.5	+00.5	S 23 44.5	+00.1
23	197 56.0	+00.5	S 23 44.6	+00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	094°	094°	094°	094°	094°	094°

Greenwich Culmination Time: 09:48

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	141 50.5	+02.0	S 10 50.9	-00.2
01	156 52.5	+01.9	S 10 50.7	-00.2
02	171 54.4	+01.9	S 10 50.5	-00.2
03	186 56.3	+02.0	S 10 50.3	-00.2
04	201 58.3	+01.9	S 10 50.1	-00.2
05	217 00.2	+02.0	S 10 49.9	-00.2
06	232 02.2	+01.9	S 10 49.7	-00.2
07	247 04.1	+02.0	S 10 49.5	-00.2
08	262 06.1	+01.9	S 10 49.3	-00.2
09	277 08.0	+02.0	S 10 49.1	-00.2
10	292 10.0	+01.9	S 10 48.9	-00.2
11	307 11.9	+02.0	S 10 48.7	-00.2
12	322 13.9	+01.9	S 10 48.5	-00.2
13	337 15.8	+02.0	S 10 48.3	-00.2
14	352 17.8	+01.9	S 10 48.1	-00.2
15	7 19.7	+01.9	S 10 47.9	-00.2
16	22 21.6	+02.0	S 10 47.7	-00.2
17	37 23.6	+01.9	S 10 47.5	-00.2
18	52 25.5	+02.0	S 10 47.3	-00.2
19	67 27.5	+01.9	S 10 47.1	-00.2
20	82 29.4	+02.0	S 10 46.9	-00.2
21	97 31.4	+01.9	S 10 46.7	-00.2
22	112 33.3	+02.0	S 10 46.5	-00.2
23	127 35.3	+01.9	S 10 46.3	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	023°	023°	023°	023°	023°	023°

Greenwich Culmination Time: 14:30

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	161 42.6	+02.2	S 17 26.5	-00.1
01	176 44.8	+02.1	S 17 26.4	+00.0
02	191 46.9	+02.2	S 17 26.4	-00.1
03	206 49.1	+02.2	S 17 26.3	-00.1
04	221 51.3	+02.1	S 17 26.2	-00.1
05	236 53.4	+02.2	S 17 26.1	-00.1
06	251 55.6	+02.2	S 17 26.0	+00.0
07	266 57.8	+02.1	S 17 26.0	-00.1
08	281 59.9	+02.2	S 17 25.9	-00.1
09	297 02.1	+02.2	S 17 25.8	-00.1
10	312 04.3	+02.1	S 17 25.7	-00.1
11	327 06.4	+02.2	S 17 25.6	-00.1
12	342 08.6	+02.2	S 17 25.5	+00.0
13	357 10.8	+02.2	S 17 25.5	-00.1
14	12 13.0	+02.1	S 17 25.4	-00.1
15	27 15.1	+02.2	S 17 25.3	-00.1
16	42 17.3	+02.2	S 17 25.2	-00.1
17	57 19.5	+02.1	S 17 25.1	-00.1
18	72 21.6	+02.2	S 17 25.0	+00.0
19	87 23.8	+02.2	S 17 25.0	-00.1
20	102 26.0	+02.1	S 17 24.9	-00.1
21	117 28.1	+02.2	S 17 24.8	-00.1
22	132 30.3	+02.2	S 17 24.7	-00.1
23	147 32.5	+02.1	S 17 24.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	043°	043°	043°	043°	043°	043°

Greenwich Culmination Time: 13:11

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2022 January 24 Monday (day 24 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	177 01.2	−00.2	S 19 15.8	−00.6
01	192 01.0	−00.2	S 19 15.2	−00.6
02	207 00.8	−00.1	S 19 14.6	−00.6
03	222 00.7	−00.2	S 19 14.0	−00.6
04	237 00.5	−00.1	S 19 13.4	−00.6
05	252 00.4	−00.2	S 19 12.8	−00.6
06	267 00.2	−00.1	S 19 12.2	−00.6
07	282 00.1	−00.2	S 19 11.6	−00.6
08	296 59.9	−00.1	S 19 11.0	−00.6
09	311 59.8	−00.2	S 19 10.4	−00.6
10	326 59.6	−00.1	S 19 09.8	−00.6
11	341 59.5	−00.2	S 19 09.2	−00.6
12	356 59.3	−00.1	S 19 08.6	−00.6
13	11 59.2	−00.2	S 19 08.0	−00.6
14	26 59.0	−00.1	S 19 07.4	−00.6
15	41 58.9	−00.2	S 19 06.8	−00.6
16	56 58.7	−00.1	S 19 06.2	−00.6
17	71 58.6	−00.2	S 19 05.6	−00.6
18	86 58.4	−00.1	S 19 05.0	−00.6
19	101 58.3	−00.2	S 19 04.4	−00.7
20	116 58.1	−00.1	S 19 03.7	−00.6
21	131 58.0	−00.1	S 19 03.1	−00.6
22	146 57.9	−00.2	S 19 02.5	−00.6
23	161 57.7	−00.1	S 19 01.9	−00.6

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	054°	053°	053°	053°	053°	053°

Greenwich Culmination Time: 12:12

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	201 13.3	+03.0	S 16 11.0	+00.0
01	216 16.3	+03.1	S 16 11.0	−00.1
02	231 19.4	+03.0	S 16 10.9	+00.0
03	246 22.4	+03.0	S 16 10.9	+00.0
04	261 25.4	+03.0	S 16 10.9	−00.1
05	276 28.4	+03.1	S 16 10.8	+00.0
06	291 31.5	+03.0	S 16 10.8	+00.0
07	306 34.5	+03.0	S 16 10.8	−00.1
08	321 37.5	+03.0	S 16 10.7	+00.0
09	336 40.5	+03.0	S 16 10.7	+00.0
10	351 43.5	+03.0	S 16 10.7	−00.1
11	6 46.5	+03.0	S 16 10.6	+00.0
12	21 49.5	+03.0	S 16 10.6	+00.0
13	36 52.5	+03.0	S 16 10.6	−00.1
14	51 55.5	+02.9	S 16 10.5	+00.0
15	66 58.4	+03.0	S 16 10.5	+00.0
16	82 01.4	+03.0	S 16 10.5	−00.1
17	97 04.4	+03.0	S 16 10.4	+00.0
18	112 07.4	+02.9	S 16 10.4	+00.0
19	127 10.3	+03.0	S 16 10.4	+00.0
20	142 13.3	+02.9	S 16 10.4	−00.1
21	157 16.2	+03.0	S 16 10.3	+00.0
22	172 19.2	+02.9	S 16 10.3	+00.0
23	187 22.1	+03.0	S 16 10.3	+00.0

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	078°	078°	078°	078°	078°	078°

Greenwich Culmination Time: 10:32

Moon

A: 70%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	288 45.1	−27.5	S 02 19.5	+14.8
01	303 17.6	−27.5	S 02 34.3	+14.7
02	317 50.1	−27.6	S 02 49.0	+14.8
03	332 22.5	−27.6	S 03 03.8	+14.8
04	346 54.9	−27.6	S 03 18.6	+14.7
05	1 27.3	−27.7	S 03 33.3	+14.8
06	15 59.6	−27.7	S 03 48.1	+14.7
07	30 31.9	−27.8	S 04 02.8	+14.8
08	45 04.1	−27.8	S 04 17.6	+14.7
09	59 36.3	−27.8	S 04 32.3	+14.8
10	74 08.5	−27.9	S 04 47.1	+14.7
11	88 40.6	−28.0	S 05 01.8	+14.7
12	103 12.6	−28.0	S 05 16.5	+14.7
13	117 44.6	−28.1	S 05 31.2	+14.7
14	132 16.5	−28.1	S 05 45.9	+14.7
15	146 48.4	−28.1	S 06 00.6	+14.6
16	161 20.3	−28.3	S 06 15.2	+14.7
17	175 52.0	−28.2	S 06 29.9	+14.6
18	190 23.8	−28.4	S 06 44.5	+14.6
19	204 55.4	−28.4	S 06 59.1	+14.6
20	219 27.0	−28.4	S 07 13.7	+14.5
21	233 58.6	−28.5	S 07 28.2	+14.6
22	248 30.1	−28.6	S 07 42.8	+14.5
23	263 01.5	−28.6	S 07 57.3	+14.5

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′8	15′8	15′8
HP	57′5	57′7	57′8	57′9	58′0	58′1
SHA	164°	162°	160°	158°	156°	154°

Greenwich Culmination Time: 04:53

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	213 43.3	+00.5	S 23 49.9	+00.0
01	228 43.8	+00.5	S 23 49.9	+00.1
02	243 44.3	+00.5	S 23 50.0	+00.0
03	258 44.8	+00.4	S 23 50.0	+00.0
04	273 45.2	+00.5	S 23 50.0	+00.1
05	288 45.7	+00.5	S 23 50.1	+00.0
06	303 46.2	+00.5	S 23 50.1	+00.0
07	318 46.7	+00.5	S 23 50.1	+00.1
08	333 47.2	+00.5	S 23 50.2	+00.0
09	348 47.7	+00.4	S 23 50.2	+00.0
10	3 48.1	+00.5	S 23 50.2	+00.1
11	18 48.6	+00.5	S 23 50.3	+00.0
12	33 49.1	+00.5	S 23 50.3	+00.0
13	48 49.6	+00.5	S 23 50.3	+00.1
14	63 50.1	+00.5	S 23 50.4	+00.0
15	78 50.6	+00.4	S 23 50.4	+00.0
16	93 51.0	+00.5	S 23 50.4	+00.0
17	108 51.5	+00.5	S 23 50.4	+00.1
18	123 52.0	+00.5	S 23 50.5	+00.0
19	138 52.5	+00.5	S 23 50.5	+00.0
20	153 53.0	+00.4	S 23 50.5	+00.1
21	168 53.4	+00.5	S 23 50.6	+00.0
22	183 53.9	+00.5	S 23 50.6	+00.0
23	198 54.4	+00.5	S 23 50.6	+00.0

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	090°	090°	090°	090°	090°	090°

Greenwich Culmination Time: 09:44

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	145 43.4	+02.0	S 10 26.5	−00.3
01	160 45.4	+01.9	S 10 26.2	−00.2
02	175 47.3	+01.9	S 10 26.0	−00.2
03	190 49.2	+02.0	S 10 25.8	−00.2
04	205 51.2	+01.9	S 10 25.6	−00.2
05	220 53.1	+01.9	S 10 25.4	−00.2
06	235 55.0	+02.0	S 10 25.2	−00.2
07	250 57.0	+01.9	S 10 25.0	−00.2
08	265 58.9	+02.0	S 10 24.8	−00.2
09	281 00.9	+01.9	S 10 24.6	−00.2
10	296 02.8	+01.9	S 10 24.4	−00.2
11	311 04.7	+02.0	S 10 24.2	−00.2
12	326 06.7	+01.9	S 10 24.0	−00.2
13	341 08.6	+01.9	S 10 23.8	−00.2
14	356 10.5	+02.0	S 10 23.6	−00.3
15	11 12.5	+01.9	S 10 23.3	−00.2
16	26 14.4	+01.9	S 10 23.1	−00.2
17	41 16.3	+02.0	S 10 22.9	−00.2
18	56 18.3	+01.9	S 10 22.7	−00.2
19	71 20.2	+01.9	S 10 22.5	−00.2
20	86 22.1	+02.0	S 10 22.3	−00.2
21	101 24.1	+01.9	S 10 22.1	−00.2
22	116 26.0	+01.9	S 10 21.9	−00.2
23	131 27.9	+02.0	S 10 21.7	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	022°	022°	022°	022°	022°	022°

Greenwich Culmination Time: 14:15

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	166 02.7	+02.2	S 17 16.5	−00.1
01	181 04.9	+02.2	S 17 16.4	−00.1
02	196 07.1	+02.1	S 17 16.3	−00.1
03	211 09.2	+02.2	S 17 16.2	+00.0
04	226 11.4	+02.2	S 17 16.2	−00.1
05	241 13.6	+02.1	S 17 16.1	−00.1
06	256 15.7	+02.2	S 17 16.0	−00.1
07	271 17.9	+02.2	S 17 15.9	−00.1
08	286 20.1	+02.1	S 17 15.8	−00.1
09	301 22.2	+02.2	S 17 15.7	+00.0
10	316 24.4	+02.2	S 17 15.7	−00.1
11	331 26.6	+02.1	S 17 15.6	−00.1
12	346 28.7	+02.2	S 17 15.5	−00.1
13	1 30.9	+02.2	S 17 15.4	−00.1
14	16 33.1	+02.1	S 17 15.3	−00.1
15	31 35.2	+02.2	S 17 15.2	−00.1
16	46 37.4	+02.2	S 17 15.1	+00.0
17	61 39.6	+02.1	S 17 15.1	−00.1
18	76 41.7	+02.2	S 17 15.0	−00.1
19	91 43.9	+02.2	S 17 14.9	−00.1
20	106 46.1	+02.1	S 17 14.8	−00.1
21	121 48.2	+02.2	S 17 14.7	−00.1
22	136 50.4	+02.2	S 17 14.6	+00.0
23	151 52.6	+02.1	S 17 14.6	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	043°	043°	043°	043°	043°	043°

Greenwich Culmination Time: 12:53

2022 January 21 Friday (day 21 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	177 13.1	−00.2	S 19 57.3	−00.6
01	192 12.9	−00.2	S 19 56.7	−00.5
02	207 12.7	−00.2	S 19 56.2	−00.6
03	222 12.5	−00.1	S 19 55.6	−00.5
04	237 12.4	−00.2	S 19 55.1	−00.6
05	252 12.2	−00.2	S 19 54.5	−00.5
06	267 12.0	−00.2	S 19 54.0	−00.6
07	282 11.8	−00.1	S 19 53.4	−00.6
08	297 11.7	−00.2	S 19 52.8	−00.5
09	312 11.5	−00.2	S 19 52.3	−00.6
10	327 11.3	−00.2	S 19 51.7	−00.5
11	342 11.1	−00.1	S 19 51.2	−00.6
12	357 11.0	−00.2	S 19 50.6	−00.6
13	12 10.8	−00.2	S 19 50.0	−00.5
14	27 10.6	−00.2	S 19 49.5	−00.6
15	42 10.4	−00.1	S 19 48.9	−00.5
16	57 10.3	−00.2	S 19 48.4	−00.6
17	72 10.1	−00.2	S 19 47.8	−00.6
18	87 09.9	−00.1	S 19 47.2	−00.5
19	102 09.8	−00.2	S 19 46.7	−00.6
20	117 09.6	−00.2	S 19 46.1	−00.6
21	132 09.4	−00.2	S 19 45.5	−00.5
22	147 09.2	−00.1	S 19 45.0	−00.6
23	162 09.1	−00.2	S 19 44.4	−00.6

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	057°	057°	056°	056°	056°	056°

Greenwich Culmination Time: 12:11

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	197 22.3	+03.4	S 16 16.0	−00.1
01	212 25.7	+03.4	S 16 15.9	−00.1
02	227 29.1	+03.3	S 16 15.8	+00.0
03	242 32.4	+03.4	S 16 15.8	−00.1
04	257 35.8	+03.3	S 16 15.7	−00.1
05	272 39.1	+03.3	S 16 15.6	−00.1
06	287 42.4	+03.4	S 16 15.5	−00.1
07	302 45.8	+03.3	S 16 15.4	−00.1
08	317 49.1	+03.4	S 16 15.3	−00.1
09	332 52.5	+03.3	S 16 15.2	−00.1
10	347 55.8	+03.3	S 16 15.1	−00.1
11	2 59.1	+03.3	S 16 15.0	−00.1
12	18 02.4	+03.3	S 16 14.9	−00.1
13	33 05.7	+03.3	S 16 14.8	−00.1
14	48 09.0	+03.3	S 16 14.7	+00.0
15	63 12.3	+03.3	S 16 14.7	−00.1
16	78 15.6	+03.3	S 16 14.6	−00.1
17	93 18.9	+03.3	S 16 14.5	−00.1
18	108 22.2	+03.3	S 16 14.4	−00.1
19	123 25.5	+03.3	S 16 14.3	−00.1
20	138 28.8	+03.3	S 16 14.2	+00.0
21	153 32.1	+03.2	S 16 14.2	−00.1
22	168 35.3	+03.3	S 16 14.1	−00.1
23	183 38.6	+03.3	S 16 14.0	−00.1

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	077°	077°	077°	077°	077°	077°

Greenwich Culmination Time: 10:48

Moon

A: 61%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	321 21.3	−27.7	N 14 15.7	−12.1
01	335 53.6	−27.7	N 14 03.6	−12.1
02	350 25.9	−27.6	N 13 51.5	−12.2
03	4 58.3	−27.6	N 13 39.3	−12.3
04	19 30.7	−27.6	N 13 27.0	−12.4
05	34 03.1	−27.6	N 13 14.6	−12.4
06	48 35.5	−27.5	N 13 02.2	−12.5
07	63 08.0	−27.5	N 12 49.7	−12.6
08	77 40.5	−27.4	N 12 37.1	−12.6
09	92 13.1	−27.5	N 12 24.5	−12.7
10	106 45.6	−27.4	N 12 11.8	−12.8
11	121 18.2	−27.3	N 11 59.0	−12.8
12	135 50.9	−27.4	N 11 46.2	−12.8
13	150 23.5	−27.3	N 11 33.4	−13.0
14	164 56.2	−27.3	N 11 20.4	−13.0
15	179 28.9	−27.2	N 11 07.4	−13.0
16	194 01.7	−27.3	N 10 54.4	−13.1
17	208 34.4	−27.2	N 10 41.3	−13.2
18	223 07.2	−27.2	N 10 28.1	−13.2
19	237 40.0	−27.2	N 10 14.9	−13.3
20	252 12.8	−27.1	N 10 01.6	−13.3
21	266 45.7	−27.2	N 09 48.3	−13.4
22	281 18.5	−27.1	N 09 34.9	−13.4
23	295 51.4	−27.1	N 09 21.5	−13.5

UT	02	06	10	14	18	22
SD	15′2	15′3	15′3	15′3	15′3	15′3
HP	55′9	56′0	56′1	56′1	56′2	56′3
SHA	200°	198°	196°	194°	192°	190°

Greenwich Culmination Time: 02:39

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	213 08.3	+00.5	S 23 46.3	+00.1
01	228 08.8	+00.5	S 23 46.4	+00.1
02	243 09.3	+00.5	S 23 46.5	+00.0
03	258 09.8	+00.5	S 23 46.5	+00.1
04	273 10.3	+00.5	S 23 46.6	+00.0
05	288 10.8	+00.5	S 23 46.6	+00.1
06	303 11.3	+00.4	S 23 46.7	+00.1
07	318 11.7	+00.5	S 23 46.8	+00.0
08	333 12.2	+00.5	S 23 46.8	+00.1
09	348 12.7	+00.5	S 23 46.9	+00.1
10	3 13.2	+00.5	S 23 47.0	+00.0
11	18 13.7	+00.5	S 23 47.0	+00.1
12	33 14.2	+00.5	S 23 47.1	+00.0
13	48 14.7	+00.5	S 23 47.1	+00.1
14	63 15.2	+00.5	S 23 47.2	+00.1
15	78 15.7	+00.4	S 23 47.3	+00.0
16	93 16.1	+00.5	S 23 47.3	+00.1
17	108 16.6	+00.5	S 23 47.4	+00.0
18	123 17.1	+00.5	S 23 47.4	+00.1
19	138 17.6	+00.5	S 23 47.5	+00.0
20	153 18.1	+00.5	S 23 47.5	+00.1
21	168 18.6	+00.5	S 23 47.6	+00.0
22	183 19.1	+00.5	S 23 47.6	+00.1
23	198 19.6	+00.4	S 23 47.7	+00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	093°	093°	092°	092°	092°	092°

Greenwich Culmination Time: 09:47

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	143 23.8	+02.0	S 10 41.2	−00.2
01	158 25.8	+01.9	S 10 41.0	−00.2
02	173 27.7	+02.0	S 10 40.8	−00.2
03	188 29.7	+01.9	S 10 40.6	−00.2
04	203 31.6	+01.9	S 10 40.4	−00.2
05	218 33.5	+02.0	S 10 40.2	−00.2
06	233 35.5	+01.9	S 10 40.0	−00.2
07	248 37.4	+02.0	S 10 39.8	−00.2
08	263 39.4	+01.9	S 10 39.6	−00.2
09	278 41.3	+01.9	S 10 39.4	−00.2
10	293 43.2	+02.0	S 10 39.2	−00.2
11	308 45.2	+01.9	S 10 39.0	−00.2
12	323 47.1	+02.0	S 10 38.8	−00.2
13	338 49.1	+01.9	S 10 38.6	−00.2
14	353 51.0	+02.0	S 10 38.4	−00.2
15	8 53.0	+01.9	S 10 38.2	−00.2
16	23 54.9	+01.9	S 10 38.0	−00.2
17	38 56.8	+02.0	S 10 37.8	−00.2
18	53 58.8	+01.9	S 10 37.6	−00.2
19	69 00.7	+02.0	S 10 37.4	−00.3
20	84 02.7	+01.9	S 10 37.1	−00.2
21	99 04.6	+01.9	S 10 36.9	−00.2
22	114 06.5	+02.0	S 10 36.7	−00.2
23	129 08.5	+01.9	S 10 36.5	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	023°	023°	023°	023°	023°	023°

Greenwich Culmination Time: 14:24

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	163 26.7	+02.2	S 17 22.5	+00.0
01	178 28.9	+02.1	S 17 22.5	−00.1
02	193 31.0	+02.2	S 17 22.4	−00.1
03	208 33.2	+02.2	S 17 22.3	−00.1
04	223 35.4	+02.1	S 17 22.2	−00.1
05	238 37.5	+02.2	S 17 22.1	−00.1
06	253 39.7	+02.2	S 17 22.0	+00.0
07	268 41.9	+02.1	S 17 22.0	−00.1
08	283 44.0	+02.2	S 17 21.9	−00.1
09	298 46.2	+02.2	S 17 21.8	−00.1
10	313 48.4	+02.1	S 17 21.7	−00.1
11	328 50.5	+02.2	S 17 21.6	−00.1
12	343 52.7	+02.2	S 17 21.5	+00.0
13	358 54.9	+02.1	S 17 21.5	−00.1
14	13 57.0	+02.2	S 17 21.4	−00.1
15	28 59.2	+02.2	S 17 21.3	−00.1
16	44 01.4	+02.1	S 17 21.2	−00.1
17	59 03.5	+02.2	S 17 21.1	−00.1
18	74 05.7	+02.2	S 17 21.0	+00.0
19	89 07.9	+02.2	S 17 21.0	−00.1
20	104 10.1	+02.1	S 17 20.9	−00.1
21	119 12.2	+02.2	S 17 20.8	−00.1
22	134 14.4	+02.2	S 17 20.7	−00.1
23	149 16.6	+02.1	S 17 20.6	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	043°	043°	043°	043°	043°	043°

Greenwich Culmination Time: 13:04

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 January 22 Saturday (day 22 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	177 08.9	-00.2	S 19 43.8	-00.5
01	192 08.7	-00.1	S 19 43.3	-00.6
02	207 08.6	-00.2	S 19 42.7	-00.6
03	222 08.4	-00.2	S 19 42.1	-00.5
04	237 08.2	-00.1	S 19 41.6	-00.6
05	252 08.1	-00.2	S 19 41.0	-00.6
06	267 07.9	-00.2	S 19 40.4	-00.6
07	282 07.7	-00.1	S 19 39.8	-00.5
08	297 07.6	-00.2	S 19 39.3	-00.6
09	312 07.4	-00.2	S 19 38.7	-00.6
10	327 07.2	-00.1	S 19 38.1	-00.6
11	342 07.1	-00.2	S 19 37.5	-00.5
12	357 06.9	-00.2	S 19 37.0	-00.6
13	12 06.7	-00.1	S 19 36.4	-00.6
14	27 06.6	-00.2	S 19 35.8	-00.6
15	42 06.4	-00.2	S 19 35.2	-00.5
16	57 06.2	-00.1	S 19 34.7	-00.6
17	72 06.1	-00.2	S 19 34.1	-00.6
18	87 05.9	-00.2	S 19 33.5	-00.6
19	102 05.7	-00.1	S 19 32.9	-00.6
20	117 05.6	-00.2	S 19 32.3	-00.5
21	132 05.4	-00.1	S 19 31.8	-00.6
22	147 05.3	-00.2	S 19 31.2	-00.6
23	162 05.1	-00.2	S 19 30.6	-00.6

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	056°	056°	055°	055°	055°	055°

Greenwich Culmination Time: 12:11

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	198 41.9	+03.2	S 16 13.9	-00.1
01	213 45.1	+03.3	S 16 13.8	+00.0
02	228 48.4	+03.2	S 16 13.8	-00.1
03	243 51.6	+03.3	S 16 13.7	-00.1
04	258 54.9	+03.2	S 16 13.6	-00.1
05	273 58.1	+03.3	S 16 13.5	+00.0
06	289 01.4	+03.2	S 16 13.5	-00.1
07	304 04.6	+03.2	S 16 13.4	-00.1
08	319 07.8	+03.2	S 16 13.3	-00.1
09	334 11.0	+03.3	S 16 13.2	+00.0
10	349 14.3	+03.2	S 16 13.2	-00.1
11	4 17.5	+03.2	S 16 13.1	-00.1
12	19 20.7	+03.2	S 16 13.0	+00.0
13	34 23.9	+03.2	S 16 13.0	-00.1
14	49 27.1	+03.2	S 16 12.9	-00.1
15	64 30.3	+03.2	S 16 12.8	-00.1
16	79 33.5	+03.2	S 16 12.7	+00.0
17	94 36.7	+03.2	S 16 12.7	-00.1
18	109 39.9	+03.1	S 16 12.6	+00.0
19	124 43.0	+03.2	S 16 12.6	-00.1
20	139 46.2	+03.2	S 16 12.5	-00.1
21	154 49.4	+03.1	S 16 12.4	+00.0
22	169 52.5	+03.2	S 16 12.4	-00.1
23	184 55.7	+03.2	S 16 12.3	-00.1

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	077°	077°	078°	078°	078°	078°

Greenwich Culmination Time: 10:42

Moon

A: 64%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	310 24.3	-27.1	N 09 08.0	-13.5
01	324 57.2	-27.1	N 08 54.5	-13.6
02	339 30.1	-27.0	N 08 40.9	-13.6
03	354 03.1	-27.0	N 08 27.3	-13.7
04	8 36.1	-27.1	N 08 13.6	-13.7
05	23 09.0	-27.0	N 07 59.9	-13.7
06	37 42.0	-27.0	N 07 46.2	-13.8
07	52 15.0	-27.0	N 07 32.4	-13.9
08	66 48.0	-26.9	N 07 18.5	-13.9
09	81 21.1	-27.0	N 07 04.6	-13.9
10	95 54.1	-27.0	N 06 50.7	-14.0
11	110 27.1	-26.9	N 06 36.7	-14.0
12	125 00.2	-27.0	N 06 22.7	-14.0
13	139 33.2	-26.9	N 06 08.7	-14.1
14	154 06.3	-27.0	N 05 54.6	-14.1
15	168 39.3	-26.9	N 05 40.5	-14.2
16	183 12.4	-27.0	N 05 26.3	-14.2
17	197 45.4	-26.9	N 05 12.1	-14.2
18	212 18.5	-26.9	N 04 57.9	-14.3
19	226 51.6	-27.0	N 04 43.6	-14.2
20	241 24.6	-26.9	N 04 29.4	-14.4
21	255 57.7	-27.0	N 04 15.0	-14.3
22	270 30.7	-26.9	N 04 00.7	-14.4
23	285 03.8	-27.0	N 03 46.3	-14.4

UT	02	06	10	14	18	22
SD	15′4	15′4	15′4	15′4	15′5	15′5
HP	56′4	56′5	56′6	56′7	56′8	56′9
SHA	188°	186°	184°	182°	180°	178°

Greenwich Culmination Time: 03:24

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	213 20.0	+00.5	S 23 47.8	+00.0
01	228 20.5	+00.5	S 23 47.8	+00.1
02	243 21.0	+00.5	S 23 47.9	+00.0
03	258 21.5	+00.5	S 23 47.9	+00.1
04	273 22.0	+00.5	S 23 48.0	+00.0
05	288 22.5	+00.5	S 23 48.0	+00.1
06	303 23.0	+00.5	S 23 48.1	+00.0
07	318 23.5	+00.4	S 23 48.1	+00.1
08	333 23.9	+00.5	S 23 48.2	+00.0
09	348 24.4	+00.5	S 23 48.2	+00.1
10	3 24.9	+00.5	S 23 48.3	+00.0
11	18 25.4	+00.5	S 23 48.3	+00.1
12	33 25.9	+00.5	S 23 48.4	+00.0
13	48 26.4	+00.5	S 23 48.4	+00.1
14	63 26.9	+00.4	S 23 48.5	+00.0
15	78 27.3	+00.5	S 23 48.5	+00.1
16	93 27.8	+00.5	S 23 48.6	+00.0
17	108 28.3	+00.5	S 23 48.6	+00.1
18	123 28.8	+00.5	S 23 48.7	+00.0
19	138 29.3	+00.5	S 23 48.7	+00.1
20	153 29.8	+00.5	S 23 48.8	+00.0
21	168 30.3	+00.4	S 23 48.8	+00.1
22	183 30.7	+00.5	S 23 48.9	+00.0
23	198 31.2	+00.5	S 23 48.9	+00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	092°	092°	092°	092°	091°	091°

Greenwich Culmination Time: 09:46

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	144 10.4	+02.0	S 10 36.3	-00.2
01	159 12.4	+01.9	S 10 36.1	-00.2
02	174 14.3	+01.9	S 10 35.9	-00.2
03	189 16.2	+02.0	S 10 35.7	-00.2
04	204 18.2	+01.9	S 10 35.5	-00.2
05	219 20.1	+02.0	S 10 35.3	-00.2
06	234 22.1	+01.9	S 10 35.1	-00.2
07	249 24.0	+01.9	S 10 34.9	-00.2
08	264 25.9	+02.0	S 10 34.7	-00.2
09	279 27.9	+01.9	S 10 34.5	-00.2
10	294 29.8	+02.0	S 10 34.3	-00.2
11	309 31.8	+01.9	S 10 34.1	-00.2
12	324 33.7	+01.9	S 10 33.9	-00.2
13	339 35.6	+02.0	S 10 33.7	-00.2
14	354 37.6	+01.9	S 10 33.5	-00.2
15	9 39.5	+01.9	S 10 33.3	-00.2
16	24 41.4	+02.0	S 10 33.1	-00.3
17	39 43.4	+01.9	S 10 32.8	-00.2
18	54 45.3	+02.0	S 10 32.6	-00.2
19	69 47.3	+01.9	S 10 32.4	-00.2
20	84 49.2	+01.9	S 10 32.2	-00.2
21	99 51.1	+02.0	S 10 32.0	-00.2
22	114 53.1	+01.9	S 10 31.8	-00.2
23	129 55.0	+01.9	S 10 31.6	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	023°	023°	023°	023°	023°	023°

Greenwich Culmination Time: 14:21

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	164 18.7	+02.2	S 17 20.5	-00.1
01	179 20.9	+02.2	S 17 20.4	+00.0
02	194 23.1	+02.1	S 17 20.4	-00.1
03	209 25.2	+02.2	S 17 20.3	-00.1
04	224 27.4	+02.2	S 17 20.2	-00.1
05	239 29.6	+02.1	S 17 20.1	-00.1
06	254 31.7	+02.2	S 17 20.0	-00.1
07	269 33.9	+02.2	S 17 19.9	+00.0
08	284 36.1	+02.1	S 17 19.9	-00.1
09	299 38.2	+02.2	S 17 19.8	-00.1
10	314 40.4	+02.2	S 17 19.7	-00.1
11	329 42.6	+02.1	S 17 19.6	-00.1
12	344 44.7	+02.2	S 17 19.5	-00.1
13	359 46.9	+02.2	S 17 19.4	+00.0
14	14 49.1	+02.1	S 17 19.4	-00.1
15	29 51.2	+02.2	S 17 19.3	-00.1
16	44 53.4	+02.2	S 17 19.2	-00.1
17	59 55.6	+02.1	S 17 19.1	-00.1
18	74 57.7	+02.2	S 17 19.0	-00.1
19	89 59.9	+02.2	S 17 18.9	+00.0
20	105 02.1	+02.1	S 17 18.9	-00.1
21	120 04.2	+02.2	S 17 18.8	-00.1
22	135 06.4	+02.2	S 17 18.7	-00.1
23	150 08.6	+02.1	S 17 18.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	043°	043°	043°	043°	043°	043°

Greenwich Culmination Time: 13:00

2022 January 23 Sunday (day 23 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	177 04.9	-00.1	S 19 30.0	-00.6
01	192 04.8	-00.2	S 19 29.4	-00.6
02	207 04.6	-00.2	S 19 28.8	-00.5
03	222 04.4	-00.1	S 19 28.3	-00.6
04	237 04.3	-00.2	S 19 27.7	-00.6
05	252 04.1	-00.1	S 19 27.1	-00.6
06	267 04.0	-00.2	S 19 26.5	-00.6
07	282 03.8	-00.1	S 19 25.9	-00.6
08	297 03.7	-00.2	S 19 25.3	-00.6
09	312 03.5	-00.2	S 19 24.7	-00.6
10	327 03.3	-00.1	S 19 24.1	-00.5
11	342 03.2	-00.2	S 19 23.6	-00.6
12	357 03.0	-00.1	S 19 23.0	-00.6
13	12 02.9	-00.2	S 19 22.4	-00.6
14	27 02.7	-00.2	S 19 21.8	-00.6
15	42 02.5	-00.1	S 19 21.2	-00.6
16	57 02.4	-00.2	S 19 20.6	-00.6
17	72 02.2	-00.1	S 19 20.0	-00.6
18	87 02.1	-00.2	S 19 19.4	-00.6
19	102 01.9	-00.1	S 19 18.8	-00.6
20	117 01.8	-00.2	S 19 18.2	-00.6
21	132 01.6	-00.1	S 19 17.6	-00.6
22	147 01.5	-00.2	S 19 17.0	-00.6
23	162 01.3	-00.1	S 19 16.4	-00.6

UT	02	06	10	14	18	22
SD	16′3	16′3	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	055°	055°	054°	054°	054°	054°

Greenwich Culmination Time: 12:11

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	199 58.9	+03.1	S 16 12.2	+00.0
01	215 02.0	+03.2	S 16 12.2	-00.1
02	230 05.2	+03.1	S 16 12.1	+00.0
03	245 08.3	+03.1	S 16 12.1	-00.1
04	260 11.4	+03.2	S 16 12.0	+00.0
05	275 14.6	+03.1	S 16 12.0	-00.1
06	290 17.7	+03.1	S 16 11.9	-00.1
07	305 20.8	+03.2	S 16 11.8	+00.0
08	320 24.0	+03.1	S 16 11.8	-00.1
09	335 27.1	+03.1	S 16 11.7	+00.0
10	350 30.2	+03.1	S 16 11.7	-00.1
11	5 33.3	+03.1	S 16 11.6	+00.0
12	20 36.4	+03.1	S 16 11.6	-00.1
13	35 39.5	+03.1	S 16 11.5	+00.0
14	50 42.6	+03.1	S 16 11.5	-00.1
15	65 45.7	+03.1	S 16 11.4	+00.0
16	80 48.8	+03.0	S 16 11.4	-00.1
17	95 51.8	+03.1	S 16 11.3	+00.0
18	110 54.9	+03.1	S 16 11.3	-00.1
19	125 58.0	+03.0	S 16 11.2	+00.0
20	141 01.0	+03.1	S 16 11.2	+00.0
21	156 04.1	+03.1	S 16 11.2	-00.1
22	171 07.2	+03.0	S 16 11.1	+00.0
23	186 10.2	+03.1	S 16 11.1	-00.1

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	078°	078°	078°	078°	078°	078°

Greenwich Culmination Time: 10:37

Moon

A: 67%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	299 36.8	-26.9	N 03 31.9	-14.4
01	314 09.9	-27.0	N 03 17.5	-14.5
02	328 42.9	-27.0	N 03 03.0	-14.5
03	343 15.9	-27.0	N 02 48.5	-14.5
04	357 48.9	-27.0	N 02 34.0	-14.5
05	12 21.9	-27.0	N 02 19.5	-14.5
06	26 54.9	-27.0	N 02 05.0	-14.6
07	41 27.9	-27.1	N 01 50.4	-14.6
08	56 00.8	-27.0	N 01 35.8	-14.6
09	70 33.8	-27.1	N 01 21.2	-14.6
10	85 06.7	-27.1	N 01 06.6	-14.7
11	99 39.6	-27.1	N 00 51.9	-14.6
12	114 12.5	-27.2	N 00 37.3	-14.7
13	128 45.3	-27.1	N 00 22.6	-14.7
14	143 18.2	-27.2	N 00 07.9	-14.7
15	157 51.0	-27.2	S 00 06.8	+14.7
16	172 23.8	-27.3	S 00 21.5	+14.7
17	186 56.5	-27.2	S 00 36.2	+14.8
18	201 29.3	-27.3	S 00 51.0	+14.7
19	216 02.0	-27.3	S 01 05.7	+14.7
20	230 34.7	-27.4	S 01 20.4	+14.8
21	245 07.3	-27.4	S 01 35.2	+14.8
22	259 39.9	-27.4	S 01 50.0	+14.7
23	274 12.5	-27.4	S 02 04.7	+14.8

UT	02	06	10	14	18	22
SD	15′5	15′5	15′6	15′6	15′6	15′7
HP	57′0	57′0	57′1	57′2	57′3	57′4
SHA	176°	174°	172°	170°	168°	166°

Greenwich Culmination Time: 04:09

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	213 31.7	+00.5	S 23 49.0	+00.0
01	228 32.2	+00.5	S 23 49.0	+00.0
02	243 32.7	+00.5	S 23 49.0	+00.1
03	258 33.2	+00.4	S 23 49.1	+00.0
04	273 33.6	+00.5	S 23 49.1	+00.1
05	288 34.1	+00.5	S 23 49.2	+00.0
06	303 34.6	+00.5	S 23 49.2	+00.1
07	318 35.1	+00.5	S 23 49.3	+00.0
08	333 35.6	+00.5	S 23 49.3	+00.0
09	348 36.1	+00.5	S 23 49.3	+00.1
10	3 36.6	+00.4	S 23 49.4	+00.0
11	18 37.0	+00.5	S 23 49.4	+00.1
12	33 37.5	+00.5	S 23 49.5	+00.0
13	48 38.0	+00.5	S 23 49.5	+00.0
14	63 38.5	+00.5	S 23 49.5	+00.1
15	78 39.0	+00.5	S 23 49.6	+00.0
16	93 39.5	+00.4	S 23 49.6	+00.1
17	108 39.9	+00.5	S 23 49.7	+00.0
18	123 40.4	+00.5	S 23 49.7	+00.0
19	138 40.9	+00.5	S 23 49.7	+00.1
20	153 41.4	+00.5	S 23 49.8	+00.0
21	168 41.9	+00.5	S 23 49.8	+00.0
22	183 42.4	+00.4	S 23 49.8	+00.1
23	198 42.8	+00.5	S 23 49.9	+00.0

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′0
SHA	091°	091°	091°	091°	091°	090°

Greenwich Culmination Time: 09:45

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	144 56.9	+02.0	S 10 31.4	-00.2
01	159 58.9	+01.9	S 10 31.2	-00.2
02	175 00.8	+02.0	S 10 31.0	-00.2
03	190 02.8	+01.9	S 10 30.8	-00.2
04	205 04.7	+01.9	S 10 30.6	-00.2
05	220 06.6	+02.0	S 10 30.4	-00.2
06	235 08.6	+01.9	S 10 30.2	-00.2
07	250 10.5	+01.9	S 10 30.0	-00.2
08	265 12.4	+02.0	S 10 29.8	-00.2
09	280 14.4	+01.9	S 10 29.6	-00.3
10	295 16.3	+02.0	S 10 29.3	-00.2
11	310 18.3	+01.9	S 10 29.1	-00.2
12	325 20.2	+01.9	S 10 28.9	-00.2
13	340 22.1	+02.0	S 10 28.7	-00.2
14	355 24.1	+01.9	S 10 28.5	-00.2
15	10 26.0	+01.9	S 10 28.3	-00.2
16	25 27.9	+02.0	S 10 28.1	-00.2
17	40 29.9	+01.9	S 10 27.9	-00.2
18	55 31.8	+02.0	S 10 27.7	-00.2
19	70 33.8	+01.9	S 10 27.5	-00.2
20	85 35.7	+01.9	S 10 27.3	-00.2
21	100 37.6	+02.0	S 10 27.1	-00.2
22	115 39.6	+01.9	S 10 26.9	-00.2
23	130 41.5	+01.9	S 10 26.7	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	023°	023°	023°	023°	022°	022°

Greenwich Culmination Time: 14:18

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	165 10.7	+02.2	S 17 18.5	-00.1
01	180 12.9	+02.2	S 17 18.4	-00.1
02	195 15.1	+02.1	S 17 18.3	+00.0
03	210 17.2	+02.2	S 17 18.3	-00.1
04	225 19.4	+02.2	S 17 18.2	-00.1
05	240 21.6	+02.1	S 17 18.1	-00.1
06	255 23.7	+02.2	S 17 18.0	-00.1
07	270 25.9	+02.2	S 17 17.9	-00.1
08	285 28.1	+02.1	S 17 17.8	+00.0
09	300 30.2	+02.2	S 17 17.8	-00.1
10	315 32.4	+02.2	S 17 17.7	-00.1
11	330 34.6	+02.1	S 17 17.6	-00.1
12	345 36.7	+02.2	S 17 17.5	-00.1
13	0 38.9	+02.2	S 17 17.4	-00.1
14	15 41.1	+02.1	S 17 17.3	+00.0
15	30 43.2	+02.2	S 17 17.3	-00.1
16	45 45.4	+02.2	S 17 17.2	-00.1
17	60 47.6	+02.1	S 17 17.1	-00.1
18	75 49.7	+02.2	S 17 17.0	-00.1
19	90 51.9	+02.2	S 17 16.9	-00.1
20	105 54.1	+02.1	S 17 16.8	-00.1
21	120 56.2	+02.2	S 17 16.7	+00.0
22	135 58.4	+02.2	S 17 16.7	-00.1
23	151 00.6	+02.1	S 17 16.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	043°	043°	043°	043°	043°	043°

Greenwich Culmination Time: 12:57

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2022 January 28 Friday (day 28 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	176 48.0	−00.2	S 18 15.6	−00.6
01	191 47.8	−00.1	S 18 15.0	−00.7
02	206 47.7	−00.1	S 18 14.3	−00.7
03	221 47.6	−00.1	S 18 13.6	−00.6
04	236 47.5	−00.1	S 18 13.0	−00.7
05	251 47.4	−00.2	S 18 12.3	−00.6
06	266 47.2	−00.1	S 18 11.7	−00.7
07	281 47.1	−00.1	S 18 11.0	−00.6
08	296 47.0	−00.1	S 18 10.4	−00.7
09	311 46.9	−00.1	S 18 09.7	−00.7
10	326 46.8	−00.2	S 18 09.0	−00.6
11	341 46.6	−00.1	S 18 08.4	−00.7
12	356 46.5	−00.1	S 18 07.7	−00.7
13	11 46.4	−00.1	S 18 07.0	−00.6
14	26 46.3	−00.1	S 18 06.4	−00.7
15	41 46.2	−00.1	S 18 05.7	−00.6
16	56 46.1	−00.2	S 18 05.1	−00.7
17	71 45.9	−00.1	S 18 04.4	−00.7
18	86 45.8	−00.1	S 18 03.7	−00.6
19	101 45.7	−00.1	S 18 03.1	−00.7
20	116 45.6	−00.1	S 18 02.4	−00.7
21	131 45.5	−00.1	S 18 01.7	−00.6
22	146 45.4	−00.1	S 18 01.1	−00.7
23	161 45.3	−00.2	S 18 00.4	−00.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	049°	049°	049°	049°	049°	049°

Greenwich Culmination Time: 12:12

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	205 44.6	+02.6	S 16 10.3	+00.0
01	220 47.2	+02.6	S 16 10.3	+00.0
02	235 49.8	+02.6	S 16 10.3	+00.1
03	250 52.4	+02.6	S 16 10.4	+00.0
04	265 55.0	+02.6	S 16 10.4	+00.0
05	280 57.6	+02.5	S 16 10.4	+00.0
06	296 00.1	+02.6	S 16 10.4	+00.1
07	311 02.7	+02.6	S 16 10.5	+00.0
08	326 05.3	+02.6	S 16 10.5	+00.0
09	341 07.9	+02.5	S 16 10.5	+00.1
10	356 10.4	+02.6	S 16 10.6	+00.0
11	11 13.0	+02.6	S 16 10.6	+00.0
12	26 15.6	+02.5	S 16 10.6	+00.0
13	41 18.1	+02.5	S 16 10.6	+00.1
14	56 20.6	+02.6	S 16 10.7	+00.0
15	71 23.2	+02.5	S 16 10.7	+00.0
16	86 25.7	+02.6	S 16 10.7	+00.1
17	101 28.3	+02.5	S 16 10.8	+00.0
18	116 30.8	+02.5	S 16 10.8	+00.0
19	131 33.3	+02.5	S 16 10.8	+00.1
20	146 35.8	+02.5	S 16 10.9	+00.0
21	161 38.3	+02.6	S 16 10.9	+00.0
22	176 40.9	+02.5	S 16 10.9	+00.1
23	191 43.4	+02.5	S 16 11.0	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	079°	079°	079°	079°	079°	079°

Greenwich Culmination Time: 10:15

Moon

A: 84%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	239 13.0	−35.9	S 22 50.9	+08.4
01	253 37.1	−35.9	S 22 59.3	+08.2
02	268 01.2	−36.0	S 23 07.5	+08.1
03	282 25.2	−36.2	S 23 15.6	+08.0
04	296 49.0	−36.2	S 23 23.6	+07.8
05	311 12.8	−36.4	S 23 31.4	+07.7
06	325 36.4	−36.4	S 23 39.1	+07.5
07	339 60.0	−36.6	S 23 46.6	+07.3
08	354 23.4	−36.6	S 23 53.9	+07.2
09	8 46.8	−36.8	S 24 01.1	+07.0
10	23 10.0	−36.8	S 24 08.1	+06.9
11	37 33.2	−37.0	S 24 15.0	+06.7
12	51 56.2	−37.0	S 24 21.7	+06.5
13	66 19.2	−37.1	S 24 28.2	+06.4
14	80 42.1	−37.3	S 24 34.6	+06.1
15	95 04.8	−37.3	S 24 40.7	+06.1
16	109 27.5	−37.3	S 24 46.8	+05.8
17	123 50.2	−37.5	S 24 52.6	+05.7
18	138 12.7	−37.6	S 24 58.3	+05.5
19	152 35.1	−37.6	S 25 03.8	+05.3
20	166 57.5	−37.7	S 25 09.1	+05.1
21	181 19.8	−37.8	S 25 14.2	+05.0
22	195 42.0	−37.9	S 25 19.2	+04.8
23	210 04.1	−37.9	S 25 24.0	+04.6

UT	02	06	10	14	18	22
SD	16′3	16′4	16′4	16′4	16′4	16′4
HP	59′9	60′0	60′1	60′2	60′2	60′3
SHA	111°	108°	106°	103°	100°	098°

Greenwich Culmination Time: 08:23

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	214 29.3	+00.5	S 23 51.4	+00.0
01	229 29.8	+00.4	S 23 51.4	−00.1
02	244 30.2	+00.5	S 23 51.3	+00.0
03	259 30.7	+00.5	S 23 51.3	+00.0
04	274 31.2	+00.5	S 23 51.3	+00.0
05	289 31.7	+00.4	S 23 51.3	+00.0
06	304 32.1	+00.5	S 23 51.3	+00.0
07	319 32.6	+00.5	S 23 51.3	+00.0
08	334 33.1	+00.5	S 23 51.3	+00.0
09	349 33.6	+00.4	S 23 51.3	+00.0
10	4 34.0	+00.5	S 23 51.3	+00.0
11	19 34.5	+00.5	S 23 51.3	+00.0
12	34 35.0	+00.4	S 23 51.3	+00.0
13	49 35.4	+00.5	S 23 51.3	+00.0
14	64 35.9	+00.5	S 23 51.3	−00.1
15	79 36.4	+00.5	S 23 51.2	+00.0
16	94 36.9	+00.4	S 23 51.2	+00.0
17	109 37.3	+00.5	S 23 51.2	+00.0
18	124 37.8	+00.5	S 23 51.2	+00.0
19	139 38.3	+00.5	S 23 51.2	+00.0
20	154 38.8	+00.4	S 23 51.2	+00.0
21	169 39.2	+00.5	S 23 51.2	+00.0
22	184 39.7	+00.5	S 23 51.2	−00.1
23	199 40.2	+00.5	S 23 51.1	+00.0

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	087°	087°	087°	087°	087°	087°

Greenwich Culmination Time: 09:41

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	148 48.9	+01.9	S 10 06.4	−00.2
01	163 50.8	+02.0	S 10 06.2	−00.2
02	178 52.8	+01.9	S 10 06.0	−00.3
03	193 54.7	+01.9	S 10 05.7	−00.2
04	208 56.6	+01.9	S 10 05.5	−00.2
05	223 58.5	+02.0	S 10 05.3	−00.2
06	239 00.5	+01.9	S 10 05.1	−00.2
07	254 02.4	+01.9	S 10 04.9	−00.2
08	269 04.3	+02.0	S 10 04.7	−00.2
09	284 06.3	+01.9	S 10 04.5	−00.2
10	299 08.2	+01.9	S 10 04.3	−00.2
11	314 10.1	+01.9	S 10 04.1	−00.3
12	329 12.0	+02.0	S 10 03.8	−00.2
13	344 14.0	+01.9	S 10 03.6	−00.2
14	359 15.9	+01.9	S 10 03.4	−00.2
15	14 17.8	+02.0	S 10 03.2	−00.2
16	29 19.8	+01.9	S 10 03.0	−00.2
17	44 21.7	+01.9	S 10 02.8	−00.2
18	59 23.6	+01.9	S 10 02.6	−00.2
19	74 25.5	+02.0	S 10 02.4	−00.2
20	89 27.5	+01.9	S 10 02.2	−00.3
21	104 29.4	+01.9	S 10 01.9	−00.2
22	119 31.3	+01.9	S 10 01.7	−00.2
23	134 33.2	+02.0	S 10 01.5	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	022°	022°	021°	021°	021°	021°

Greenwich Culmination Time: 14:02

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	169 30.7	+02.1	S 17 08.3	−00.1
01	184 32.8	+02.2	S 17 08.2	+00.0
02	199 35.0	+02.2	S 17 08.2	−00.1
03	214 37.2	+02.1	S 17 08.1	−00.1
04	229 39.3	+02.2	S 17 08.0	−00.1
05	244 41.5	+02.1	S 17 07.9	−00.1
06	259 43.6	+02.2	S 17 07.8	−00.1
07	274 45.8	+02.2	S 17 07.7	−00.1
08	289 48.0	+02.1	S 17 07.6	+00.0
09	304 50.1	+02.2	S 17 07.6	−00.1
10	319 52.3	+02.2	S 17 07.5	−00.1
11	334 54.5	+02.1	S 17 07.4	−00.1
12	349 56.6	+02.2	S 17 07.3	−00.1
13	4 58.8	+02.2	S 17 07.2	−00.1
14	20 01.0	+02.1	S 17 07.1	−00.1
15	35 03.1	+02.2	S 17 07.0	+00.0
16	50 05.3	+02.2	S 17 07.0	−00.1
17	65 07.5	+02.1	S 17 06.9	−00.1
18	80 09.6	+02.2	S 17 06.8	−00.1
19	95 11.8	+02.2	S 17 06.7	−00.1
20	110 14.0	+02.1	S 17 06.6	−00.1
21	125 16.1	+02.2	S 17 06.5	−00.1
22	140 18.3	+02.1	S 17 06.4	+00.0
23	155 20.4	+02.2	S 17 06.4	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	042°	042°	042°	042°	042°	042°

Greenwich Culmination Time: 12:40

2022 January 25 Tuesday (day 25 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	176 57.6	−00.2	S 19 01.3	−00.6
01	191 57.4	−00.1	S 19 00.7	−00.6
02	206 57.3	−00.2	S 19 00.1	−00.6
03	221 57.1	−00.1	S 18 59.5	−00.7
04	236 57.0	−00.2	S 18 58.8	−00.6
05	251 56.8	−00.1	S 18 58.2	−00.6
06	266 56.7	−00.1	S 18 57.6	−00.6
07	281 56.6	−00.2	S 18 57.0	−00.6
08	296 56.4	−00.1	S 18 56.4	−00.6
09	311 56.3	−00.2	S 18 55.8	−00.7
10	326 56.1	−00.1	S 18 55.1	−00.6
11	341 56.0	−00.2	S 18 54.5	−00.6
12	356 55.8	−00.1	S 18 53.9	−00.6
13	11 55.7	−00.1	S 18 53.3	−00.6
14	26 55.6	−00.2	S 18 52.7	−00.7
15	41 55.4	−00.1	S 18 52.0	−00.6
16	56 55.3	−00.2	S 18 51.4	−00.6
17	71 55.1	−00.1	S 18 50.8	−00.6
18	86 55.0	−00.1	S 18 50.2	−00.7
19	101 54.9	−00.2	S 18 49.5	−00.6
20	116 54.7	−00.1	S 18 48.9	−00.6
21	131 54.6	−00.2	S 18 48.3	−00.6
22	146 54.4	−00.1	S 18 47.7	−00.7
23	161 54.3	−00.1	S 18 47.0	−00.6

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	053°	052°	052°	052°	052°	052°

Greenwich Culmination Time: 12:12

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	202 25.1	+02.9	S 16 10.3	−00.1
01	217 28.0	+02.9	S 16 10.2	+00.0
02	232 30.9	+02.9	S 16 10.2	+00.0
03	247 33.8	+03.0	S 16 10.2	+00.0
04	262 36.8	+02.9	S 16 10.2	−00.1
05	277 39.7	+02.9	S 16 10.1	+00.0
06	292 42.6	+02.9	S 16 10.1	+00.0
07	307 45.5	+02.9	S 16 10.1	+00.0
08	322 48.4	+02.9	S 16 10.1	+00.0
09	337 51.3	+02.9	S 16 10.1	−00.1
10	352 54.2	+02.9	S 16 10.0	+00.0
11	7 57.1	+02.9	S 16 10.0	+00.0
12	22 60.0	+02.8	S 16 10.0	+00.0
13	38 02.8	+02.9	S 16 10.0	+00.0
14	53 05.7	+02.9	S 16 10.0	+00.0
15	68 08.6	+02.8	S 16 10.0	+00.0
16	83 11.4	+02.9	S 16 10.0	−00.1
17	98 14.3	+02.9	S 16 09.9	+00.0
18	113 17.2	+02.8	S 16 09.9	+00.0
19	128 20.0	+02.9	S 16 09.9	+00.0
20	143 22.9	+02.8	S 16 09.9	+00.0
21	158 25.7	+02.8	S 16 09.9	+00.0
22	173 28.5	+02.9	S 16 09.9	+00.0
23	188 31.4	+02.8	S 16 09.9	+00.0

UT	02	06	10	14	18	22
SD	00′5	00′5	00′5	00′5	00′5	00′5
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	078°	078°	078°	078°	078°	078°

Greenwich Culmination Time: 10:28

Moon

A: 73%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	277 32.9	−28.8	S 08 11.8	+14.5
01	292 04.1	−28.7	S 08 26.3	+14.4
02	306 35.4	−28.9	S 08 40.7	+14.4
03	321 06.5	−28.9	S 08 55.1	+14.4
04	335 37.6	−29.0	S 09 09.5	+14.3
05	350 08.6	−29.0	S 09 23.8	+14.3
06	4 39.6	−29.2	S 09 38.1	+14.3
07	19 10.4	−29.2	S 09 52.4	+14.2
08	33 41.2	−29.2	S 10 06.6	+14.2
09	48 12.0	−29.4	S 10 20.8	+14.2
10	62 42.6	−29.4	S 10 35.0	+14.1
11	77 13.2	−29.5	S 10 49.1	+14.1
12	91 43.7	−29.6	S 11 03.2	+14.0
13	106 14.1	−29.7	S 11 17.2	+14.0
14	120 44.4	−29.8	S 11 31.2	+14.0
15	135 14.6	−29.8	S 11 45.2	+13.9
16	149 44.8	−29.9	S 11 59.1	+13.8
17	164 14.9	−30.0	S 12 12.9	+13.8
18	178 44.9	−30.1	S 12 26.7	+13.8
19	193 14.8	−30.2	S 12 40.5	+13.7
20	207 44.6	−30.3	S 12 54.2	+13.6
21	222 14.3	−30.3	S 13 07.8	+13.6
22	236 44.0	−30.5	S 13 21.4	+13.5
23	251 13.5	−30.6	S 13 34.9	+13.5

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	16′0	16′0
HP	58′2	58′3	58′4	58′5	58′6	58′7
SHA	152°	150°	148°	146°	144°	142°

Greenwich Culmination Time: 05:40

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	213 54.9	+00.5	S 23 50.6	+00.1
01	228 55.4	+00.4	S 23 50.7	+00.0
02	243 55.8	+00.5	S 23 50.7	+00.0
03	258 56.3	+00.5	S 23 50.7	+00.0
04	273 56.8	+00.5	S 23 50.7	+00.1
05	288 57.3	+00.5	S 23 50.8	+00.0
06	303 57.8	+00.4	S 23 50.8	+00.0
07	318 58.2	+00.5	S 23 50.8	+00.0
08	333 58.7	+00.5	S 23 50.8	+00.0
09	348 59.2	+00.5	S 23 50.8	+00.1
10	3 59.7	+00.5	S 23 50.9	+00.0
11	19 00.2	+00.4	S 23 50.9	+00.0
12	34 00.6	+00.5	S 23 50.9	+00.0
13	49 01.1	+00.5	S 23 50.9	+00.0
14	64 01.6	+00.5	S 23 50.9	+00.1
15	79 02.1	+00.5	S 23 51.0	+00.0
16	94 02.6	+00.4	S 23 51.0	+00.0
17	109 03.0	+00.5	S 23 51.0	+00.0
18	124 03.5	+00.5	S 23 51.0	+00.0
19	139 04.0	+00.5	S 23 51.0	+00.0
20	154 04.5	+00.5	S 23 51.0	+00.1
21	169 05.0	+00.4	S 23 51.1	+00.0
22	184 05.4	+00.5	S 23 51.1	+00.0
23	199 05.9	+00.5	S 23 51.1	+00.0

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	090°	089°	089°	089°	089°	089°

Greenwich Culmination Time: 09:44

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	146 29.9	+01.9	S 10 21.5	−00.2
01	161 31.8	+01.9	S 10 21.3	−00.2
02	176 33.7	+02.0	S 10 21.1	−00.2
03	191 35.7	+01.9	S 10 20.9	−00.3
04	206 37.6	+01.9	S 10 20.6	−00.2
05	221 39.5	+02.0	S 10 20.4	−00.2
06	236 41.5	+01.9	S 10 20.2	−00.2
07	251 43.4	+01.9	S 10 20.0	−00.2
08	266 45.3	+02.0	S 10 19.8	−00.2
09	281 47.3	+01.9	S 10 19.6	−00.2
10	296 49.2	+01.9	S 10 19.4	−00.2
11	311 51.1	+02.0	S 10 19.2	−00.2
12	326 53.1	+01.9	S 10 19.0	−00.2
13	341 55.0	+01.9	S 10 18.8	−00.2
14	356 56.9	+02.0	S 10 18.6	−00.2
15	11 58.9	+01.9	S 10 18.4	−00.3
16	27 00.8	+01.9	S 10 18.1	−00.2
17	42 02.7	+02.0	S 10 17.9	−00.2
18	57 04.7	+01.9	S 10 17.7	−00.2
19	72 06.6	+01.9	S 10 17.5	−00.2
20	87 08.5	+02.0	S 10 17.3	−00.2
21	102 10.5	+01.9	S 10 17.1	−00.2
22	117 12.4	+01.9	S 10 16.9	−00.2
23	132 14.3	+02.0	S 10 16.7	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	022°	022°	022°	022°	022°	022°

Greenwich Culmination Time: 14:12

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	166 54.7	+02.2	S 17 14.5	−00.1
01	181 56.9	+02.2	S 17 14.4	−00.1
02	196 59.1	+02.1	S 17 14.3	−00.1
03	212 01.2	+02.2	S 17 14.2	−00.1
04	227 03.4	+02.2	S 17 14.1	−00.1
05	242 05.6	+02.1	S 17 14.0	+00.0
06	257 07.7	+02.2	S 17 14.0	−00.1
07	272 09.9	+02.2	S 17 13.9	−00.1
08	287 12.1	+02.1	S 17 13.8	−00.1
09	302 14.2	+02.2	S 17 13.7	−00.1
10	317 16.4	+02.2	S 17 13.6	−00.1
11	332 18.6	+02.1	S 17 13.5	−00.1
12	347 20.7	+02.2	S 17 13.4	+00.0
13	2 22.9	+02.2	S 17 13.4	−00.1
14	17 25.1	+02.1	S 17 13.3	−00.1
15	32 27.2	+02.2	S 17 13.2	−00.1
16	47 29.4	+02.2	S 17 13.1	−00.1
17	62 31.6	+02.1	S 17 13.0	−00.1
18	77 33.7	+02.2	S 17 12.9	+00.0
19	92 35.9	+02.2	S 17 12.9	−00.1
20	107 38.1	+02.1	S 17 12.8	−00.1
21	122 40.2	+02.2	S 17 12.7	−00.1
22	137 42.4	+02.2	S 17 12.6	−00.1
23	152 44.6	+02.1	S 17 12.5	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	043°	043°	043°	043°	043°	043°

Greenwich Culmination Time: 12:50

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	176 54.2	−00.2	S 18 46.4	−00.6
01	191 54.0	−00.1	S 18 45.8	−00.6
02	206 53.9	−00.1	S 18 45.2	−00.7
03	221 53.8	−00.2	S 18 44.5	−00.6
04	236 53.6	−00.1	S 18 43.9	−00.6
05	251 53.5	−00.2	S 18 43.3	−00.7
06	266 53.3	−00.1	S 18 42.6	−00.6
07	281 53.2	−00.1	S 18 42.0	−00.6
08	296 53.1	−00.2	S 18 41.4	−00.7
09	311 52.9	−00.1	S 18 40.7	−00.6
10	326 52.8	−00.1	S 18 40.1	−00.6
11	341 52.7	−00.2	S 18 39.5	−00.7
12	356 52.5	−00.1	S 18 38.8	−00.6
13	11 52.4	−00.1	S 18 38.2	−00.6
14	26 52.3	−00.2	S 18 37.6	−00.7
15	41 52.1	−00.1	S 18 36.9	−00.6
16	56 52.0	−00.1	S 18 36.3	−00.6
17	71 51.9	−00.2	S 18 35.7	−00.7
18	86 51.7	−00.1	S 18 35.0	−00.6
19	101 51.6	−00.1	S 18 34.4	−00.7
20	116 51.5	−00.1	S 18 33.7	−00.6
21	131 51.4	−00.2	S 18 33.1	−00.6
22	146 51.2	−00.1	S 18 32.5	−00.7
23	161 51.1	−00.1	S 18 31.8	−00.6

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	052°	051°	051°	051°	051°	051°

Greenwich Culmination Time: 12:12

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	203 34.2	+02.8	S 16 09.9	+00.0
01	218 37.0	+02.8	S 16 09.9	+00.0
02	233 39.8	+02.9	S 16 09.9	+00.0
03	248 42.7	+02.8	S 16 09.9	+00.0
04	263 45.5	+02.8	S 16 09.9	+00.0
05	278 48.3	+02.8	S 16 09.9	+00.0
06	293 51.1	+02.8	S 16 09.9	+00.0
07	308 53.9	+02.8	S 16 09.9	−00.1
08	323 56.7	+02.7	S 16 09.8	+00.0
09	338 59.4	+02.8	S 16 09.8	+00.0
10	354 02.2	+02.8	S 16 09.8	+00.0
11	9 05.0	+02.8	S 16 09.8	+00.0
12	24 07.8	+02.7	S 16 09.8	+00.0
13	39 10.5	+02.8	S 16 09.8	+00.1
14	54 13.3	+02.8	S 16 09.9	+00.0
15	69 16.1	+02.7	S 16 09.9	+00.0
16	84 18.8	+02.8	S 16 09.9	+00.0
17	99 21.6	+02.7	S 16 09.9	+00.0
18	114 24.3	+02.8	S 16 09.9	+00.0
19	129 27.1	+02.7	S 16 09.9	+00.0
20	144 29.8	+02.7	S 16 09.9	+00.0
21	159 32.5	+02.8	S 16 09.9	+00.0
22	174 35.3	+02.7	S 16 09.9	+00.0
23	189 38.0	+02.7	S 16 09.9	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	078°	078°	078°	078°	078°	078°

Greenwich Culmination Time: 10:23

Moon

A: 77%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	265 42.9	−30.6	S 13 48.4	+13.4
01	280 12.3	−30.7	S 14 01.8	+13.3
02	294 41.6	−30.9	S 14 15.1	+13.3
03	309 10.7	−30.9	S 14 28.4	+13.2
04	323 39.8	−31.0	S 14 41.6	+13.1
05	338 08.8	−31.2	S 14 54.7	+13.1
06	352 37.6	−31.2	S 15 07.8	+13.0
07	7 06.4	−31.3	S 15 20.8	+12.9
08	21 35.1	−31.4	S 15 33.7	+12.9
09	36 03.7	−31.6	S 15 46.6	+12.7
10	50 32.1	−31.6	S 15 59.3	+12.7
11	65 00.5	−31.7	S 16 12.0	+12.6
12	79 28.8	−31.9	S 16 24.6	+12.6
13	93 56.9	−31.9	S 16 37.2	+12.4
14	108 25.0	−32.1	S 16 49.6	+12.4
15	122 52.9	−32.1	S 17 02.0	+12.3
16	137 20.8	−32.3	S 17 14.3	+12.2
17	151 48.5	−32.4	S 17 26.5	+12.1
18	166 16.1	−32.5	S 17 38.6	+12.0
19	180 43.6	−32.6	S 17 50.6	+11.9
20	195 11.0	−32.7	S 18 02.5	+11.8
21	209 38.3	−32.8	S 18 14.3	+11.8
22	224 05.5	−32.9	S 18 26.1	+11.6
23	238 32.6	−33.0	S 18 37.7	+11.5

UT	02	06	10	14	18	22
SD	16′0	16′1	16′1	16′1	16′1	16′2
HP	58′8	58′9	59′0	59′1	59′2	59′3
SHA	139°	137°	135°	133°	130°	128°

Greenwich Culmination Time: 06:30

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	214 06.4	+00.5	S 23 51.1	+00.0
01	229 06.9	+00.4	S 23 51.1	+00.0
02	244 07.3	+00.5	S 23 51.1	+00.1
03	259 07.8	+00.5	S 23 51.2	+00.0
04	274 08.3	+00.5	S 23 51.2	+00.0
05	289 08.8	+00.5	S 23 51.2	+00.0
06	304 09.3	+00.4	S 23 51.2	+00.0
07	319 09.7	+00.5	S 23 51.2	+00.0
08	334 10.2	+00.5	S 23 51.2	+00.0
09	349 10.7	+00.5	S 23 51.2	+00.0
10	4 11.2	+00.4	S 23 51.2	+00.1
11	19 11.6	+00.5	S 23 51.3	+00.0
12	34 12.1	+00.5	S 23 51.3	+00.0
13	49 12.6	+00.5	S 23 51.3	+00.0
14	64 13.1	+00.5	S 23 51.3	+00.0
15	79 13.6	+00.4	S 23 51.3	+00.0
16	94 14.0	+00.5	S 23 51.3	+00.0
17	109 14.5	+00.5	S 23 51.3	+00.0
18	124 15.0	+00.5	S 23 51.3	+00.0
19	139 15.5	+00.4	S 23 51.3	+00.0
20	154 15.9	+00.5	S 23 51.3	+00.0
21	169 16.4	+00.5	S 23 51.3	+00.0
22	184 16.9	+00.5	S 23 51.3	+00.1
23	199 17.4	+00.5	S 23 51.4	+00.0

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	089°	089°	089°	088°	088°	088°

Greenwich Culmination Time: 09:43

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	147 16.3	+01.9	S 10 16.5	−00.2
01	162 18.2	+01.9	S 10 16.3	−00.2
02	177 20.1	+02.0	S 10 16.1	−00.3
03	192 22.1	+01.9	S 10 15.8	−00.2
04	207 24.0	+01.9	S 10 15.6	−00.2
05	222 25.9	+02.0	S 10 15.4	−00.2
06	237 27.9	+01.9	S 10 15.2	−00.2
07	252 29.8	+01.9	S 10 15.0	−00.2
08	267 31.7	+01.9	S 10 14.8	−00.2
09	282 33.6	+02.0	S 10 14.6	−00.2
10	297 35.6	+01.9	S 10 14.4	−00.2
11	312 37.5	+01.9	S 10 14.2	−00.2
12	327 39.4	+02.0	S 10 14.0	−00.3
13	342 41.4	+01.9	S 10 13.7	−00.2
14	357 43.3	+01.9	S 10 13.5	−00.2
15	12 45.2	+02.0	S 10 13.3	−00.2
16	27 47.2	+01.9	S 10 13.1	−00.2
17	42 49.1	+01.9	S 10 12.9	−00.2
18	57 51.0	+02.0	S 10 12.7	−00.2
19	72 53.0	+01.9	S 10 12.5	−00.2
20	87 54.9	+01.9	S 10 12.3	−00.2
21	102 56.8	+01.9	S 10 12.1	−00.2
22	117 58.7	+02.0	S 10 11.9	−00.3
23	133 00.7	+01.9	S 10 11.6	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	022°	022°	022°	022°	022°	022°

Greenwich Culmination Time: 14:09

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	167 46.7	+02.2	S 17 12.4	−00.1
01	182 48.9	+02.2	S 17 12.3	+00.0
02	197 51.1	+02.1	S 17 12.3	−00.1
03	212 53.2	+02.2	S 17 12.2	−00.1
04	227 55.4	+02.1	S 17 12.1	−00.1
05	242 57.5	+02.2	S 17 12.0	−00.1
06	257 59.7	+02.2	S 17 11.9	−00.1
07	273 01.9	+02.1	S 17 11.8	−00.1
08	288 04.0	+02.2	S 17 11.7	+00.0
09	303 06.2	+02.2	S 17 11.7	−00.1
10	318 08.4	+02.1	S 17 11.6	−00.1
11	333 10.5	+02.2	S 17 11.5	−00.1
12	348 12.7	+02.2	S 17 11.4	−00.1
13	3 14.9	+02.1	S 17 11.3	−00.1
14	18 17.0	+02.2	S 17 11.2	+00.0
15	33 19.2	+02.2	S 17 11.2	−00.1
16	48 21.4	+02.1	S 17 11.1	−00.1
17	63 23.5	+02.2	S 17 11.0	−00.1
18	78 25.7	+02.2	S 17 10.9	−00.1
19	93 27.9	+02.1	S 17 10.8	−00.1
20	108 30.0	+02.2	S 17 10.7	−00.1
21	123 32.2	+02.2	S 17 10.6	+00.0
22	138 34.4	+02.1	S 17 10.6	−00.1
23	153 36.5	+02.2	S 17 10.5	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	043°	042°	042°	042°	042°	042°

Greenwich Culmination Time: 12:47

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	176 51.0	−00.2	S 18 31.2	−00.7
01	191 50.8	−00.1	S 18 30.5	−00.6
02	206 50.7	−00.1	S 18 29.9	−00.6
03	221 50.6	−00.2	S 18 29.3	−00.7
04	236 50.4	−00.1	S 18 28.6	−00.6
05	251 50.3	−00.1	S 18 28.0	−00.7
06	266 50.2	−00.1	S 18 27.3	−00.6
07	281 50.1	−00.2	S 18 26.7	−00.7
08	296 49.9	−00.1	S 18 26.0	−00.6
09	311 49.8	−00.1	S 18 25.4	−00.7
10	326 49.7	−00.1	S 18 24.7	−00.6
11	341 49.6	−00.2	S 18 24.1	−00.7
12	356 49.4	−00.1	S 18 23.4	−00.6
13	11 49.3	−00.1	S 18 22.8	−00.7
14	26 49.2	−00.1	S 18 22.1	−00.6
15	41 49.1	−00.2	S 18 21.5	−00.7
16	56 48.9	−00.1	S 18 20.8	−00.6
17	71 48.8	−00.1	S 18 20.2	−00.7
18	86 48.7	−00.1	S 18 19.5	−00.6
19	101 48.6	−00.2	S 18 18.9	−00.7
20	116 48.4	−00.1	S 18 18.2	−00.6
21	131 48.3	−00.1	S 18 17.6	−00.7
22	146 48.2	−00.1	S 18 16.9	−00.6
23	161 48.1	−00.1	S 18 16.3	−00.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	051°	050°	050°	050°	050°	050°

Greenwich Culmination Time: 12:12

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	204 40.7	+02.7	S 16 09.9	+00.0
01	219 43.4	+02.7	S 16 09.9	+00.0
02	234 46.1	+02.7	S 16 09.9	+00.0
03	249 48.8	+02.7	S 16 09.9	+00.0
04	264 51.5	+02.7	S 16 09.9	+00.1
05	279 54.2	+02.7	S 16 10.0	+00.0
06	294 56.9	+02.7	S 16 10.0	+00.0
07	309 59.6	+02.7	S 16 10.0	+00.0
08	325 02.3	+02.7	S 16 10.0	+00.0
09	340 05.0	+02.6	S 16 10.0	+00.0
10	355 07.6	+02.7	S 16 10.0	+00.0
11	10 10.3	+02.7	S 16 10.0	+00.1
12	25 13.0	+02.6	S 16 10.1	+00.0
13	40 15.6	+02.7	S 16 10.1	+00.0
14	55 18.3	+02.6	S 16 10.1	+00.0
15	70 20.9	+02.7	S 16 10.1	+00.0
16	85 23.6	+02.6	S 16 10.1	+00.0
17	100 26.2	+02.7	S 16 10.1	+00.1
18	115 28.9	+02.6	S 16 10.2	+00.0
19	130 31.5	+02.6	S 16 10.2	+00.0
20	145 34.1	+02.6	S 16 10.2	+00.0
21	160 36.7	+02.7	S 16 10.2	+00.0
22	175 39.4	+02.6	S 16 10.2	+00.1
23	190 42.0	+02.6	S 16 10.3	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′5	00′5	00′5	00′5	00′5	00′5
SHA	078°	078°	078°	078°	078°	078°

Greenwich Culmination Time: 10:19

Moon

A: 80%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	252 59.6	−33.2	S 18 49.2	+11.4
01	267 26.4	−33.2	S 19 00.6	+11.3
02	281 53.2	−33.4	S 19 11.9	+11.3
03	296 19.8	−33.5	S 19 23.2	+11.1
04	310 46.3	−33.6	S 19 34.3	+11.0
05	325 12.7	−33.7	S 19 45.3	+10.8
06	339 39.0	−33.8	S 19 56.1	+10.8
07	354 05.2	−34.0	S 20 06.9	+10.7
08	8 31.2	−34.0	S 20 17.6	+10.5
09	22 57.2	−34.2	S 20 28.1	+10.4
10	37 23.0	−34.2	S 20 38.5	+10.3
11	51 48.8	−34.4	S 20 48.8	+10.2
12	66 14.4	−34.5	S 20 59.0	+10.0
13	80 39.9	−34.6	S 21 09.0	+10.0
14	95 05.3	−34.8	S 21 19.0	+09.8
15	109 30.5	−34.8	S 21 28.8	+09.6
16	123 55.7	−35.0	S 21 38.4	+09.6
17	138 20.7	−35.0	S 21 48.0	+09.4
18	152 45.7	−35.2	S 21 57.4	+09.2
19	167 10.5	−35.3	S 22 06.6	+09.2
20	181 35.2	−35.4	S 22 15.8	+08.9
21	195 59.8	−35.5	S 22 24.7	+08.9
22	210 24.3	−35.6	S 22 33.6	+08.7
23	224 48.7	−35.7	S 22 42.3	+08.6

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′3	16′3	16′3
HP	59′4	59′5	59′6	59′7	59′8	59′9
SHA	126°	123°	121°	118°	116°	113°

Greenwich Culmination Time: 07:24

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	214 17.9	+00.4	S 23 51.4	+00.0
01	229 18.3	+00.5	S 23 51.4	+00.0
02	244 18.8	+00.5	S 23 51.4	+00.0
03	259 19.3	+00.5	S 23 51.4	+00.0
04	274 19.8	+00.4	S 23 51.4	+00.0
05	289 20.2	+00.5	S 23 51.4	+00.0
06	304 20.7	+00.5	S 23 51.4	+00.0
07	319 21.2	+00.5	S 23 51.4	+00.0
08	334 21.7	+00.4	S 23 51.4	+00.0
09	349 22.1	+00.5	S 23 51.4	+00.0
10	4 22.6	+00.5	S 23 51.4	+00.0
11	19 23.1	+00.5	S 23 51.4	+00.0
12	34 23.6	+00.4	S 23 51.4	+00.0
13	49 24.0	+00.5	S 23 51.4	+00.0
14	64 24.5	+00.5	S 23 51.4	+00.0
15	79 25.0	+00.5	S 23 51.4	+00.0
16	94 25.5	+00.4	S 23 51.4	+00.0
17	109 25.9	+00.5	S 23 51.4	+00.0
18	124 26.4	+00.5	S 23 51.4	+00.0
19	139 26.9	+00.5	S 23 51.4	+00.0
20	154 27.4	+00.5	S 23 51.4	+00.0
21	169 27.9	+00.4	S 23 51.4	+00.0
22	184 28.3	+00.5	S 23 51.4	+00.0
23	199 28.8	+00.5	S 23 51.4	+00.0

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	088°	088°	088°	088°	087°	087°

Greenwich Culmination Time: 09:42

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	148 02.6	+01.9	S 10 11.4	−00.2
01	163 04.5	+02.0	S 10 11.2	−00.2
02	178 06.5	+01.9	S 10 11.0	−00.2
03	193 08.4	+01.9	S 10 10.8	−00.2
04	208 10.3	+02.0	S 10 10.6	−00.2
05	223 12.3	+01.9	S 10 10.4	−00.2
06	238 14.2	+01.9	S 10 10.2	−00.2
07	253 16.1	+01.9	S 10 10.0	−00.2
08	268 18.0	+02.0	S 10 09.8	−00.3
09	283 20.0	+01.9	S 10 09.5	−00.2
10	298 21.9	+01.9	S 10 09.3	−00.2
11	313 23.8	+02.0	S 10 09.1	−00.2
12	328 25.8	+01.9	S 10 08.9	−00.2
13	343 27.7	+01.9	S 10 08.7	−00.2
14	358 29.6	+01.9	S 10 08.5	−00.2
15	13 31.5	+02.0	S 10 08.3	−00.2
16	28 33.5	+01.9	S 10 08.1	−00.2
17	43 35.4	+01.9	S 10 07.9	−00.3
18	58 37.3	+02.0	S 10 07.6	−00.2
19	73 39.3	+01.9	S 10 07.4	−00.2
20	88 41.2	+01.9	S 10 07.2	−00.2
21	103 43.1	+02.0	S 10 07.0	−00.2
22	118 45.1	+01.9	S 10 06.8	−00.2
23	133 47.0	+01.9	S 10 06.6	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	022°	022°	022°	022°	022°	022°

Greenwich Culmination Time: 14:06

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	168 38.7	+02.2	S 17 10.4	−00.1
01	183 40.9	+02.1	S 17 10.3	−00.1
02	198 43.0	+02.2	S 17 10.2	−00.1
03	213 45.2	+02.2	S 17 10.1	−00.1
04	228 47.4	+02.1	S 17 10.0	+00.0
05	243 49.5	+02.2	S 17 10.0	−00.1
06	258 51.7	+02.1	S 17 09.9	−00.1
07	273 53.8	+02.2	S 17 09.8	−00.1
08	288 56.0	+02.2	S 17 09.7	−00.1
09	303 58.2	+02.1	S 17 09.6	−00.1
10	319 00.3	+02.2	S 17 09.5	−00.1
11	334 02.5	+02.2	S 17 09.4	+00.0
12	349 04.7	+02.1	S 17 09.4	−00.1
13	4 06.8	+02.2	S 17 09.3	−00.1
14	19 09.0	+02.2	S 17 09.2	−00.1
15	34 11.2	+02.1	S 17 09.1	−00.1
16	49 13.3	+02.2	S 17 09.0	−00.1
17	64 15.5	+02.2	S 17 08.9	−00.1
18	79 17.7	+02.1	S 17 08.8	+00.0
19	94 19.8	+02.2	S 17 08.8	−00.1
20	109 22.0	+02.2	S 17 08.7	−00.1
21	124 24.2	+02.1	S 17 08.6	−00.1
22	139 26.3	+02.2	S 17 08.5	−00.1
23	154 28.5	+02.2	S 17 08.4	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	042°	042°	042°	042°	042°	042°

Greenwich Culmination Time: 12:43

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2022 February 1 Tuesday (day 32 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 37.9	-00.1	S 17 10.1	-00.7
01	191 37.8	-00.1	S 17 09.4	-00.7
02	206 37.7	+00.0	S 17 08.7	-00.7
03	221 37.7	-00.1	S 17 08.0	-00.7
04	236 37.6	-00.1	S 17 07.3	-00.7
05	251 37.5	-00.1	S 17 06.6	-00.8
06	266 37.4	-00.1	S 17 05.8	-00.7
07	281 37.3	-00.1	S 17 05.1	-00.7
08	296 37.2	-00.1	S 17 04.4	-00.7
09	311 37.1	+00.0	S 17 03.7	-00.7
10	326 37.1	-00.1	S 17 03.0	-00.7
11	341 37.0	-00.1	S 17 02.3	-00.7
12	356 36.9	-00.1	S 17 01.6	-00.7
13	11 36.8	-00.1	S 17 00.9	-00.8
14	26 36.7	-00.1	S 17 00.1	-00.7
15	41 36.6	+00.0	S 16 59.4	-00.7
16	56 36.6	-00.1	S 16 58.7	-00.7
17	71 36.5	-00.1	S 16 58.0	-00.7
18	86 36.4	-00.1	S 16 57.3	-00.7
19	101 36.3	-00.1	S 16 56.6	-00.8
20	116 36.2	+00.0	S 16 55.8	-00.7
21	131 36.2	-00.1	S 16 55.1	-00.7
22	146 36.1	-00.1	S 16 54.4	-00.7
23	161 36.0	-00.1	S 16 53.7	-00.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	045°	045°	045°	045°	045°	045°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	209 34.5	+02.2	S 16 15.0	+00.0
01	224 36.7	+02.2	S 16 15.0	+00.1
02	239 38.9	+02.1	S 16 15.1	+00.1
03	254 41.0	+02.2	S 16 15.2	+00.1
04	269 43.2	+02.2	S 16 15.3	+00.0
05	284 45.4	+02.2	S 16 15.3	+00.1
06	299 47.6	+02.1	S 16 15.4	+00.1
07	314 49.7	+02.2	S 16 15.5	+00.0
08	329 51.9	+02.1	S 16 15.5	+00.1
09	344 54.0	+02.2	S 16 15.6	+00.1
10	359 56.2	+02.1	S 16 15.7	+00.1
11	14 58.3	+02.2	S 16 15.8	+00.0
12	30 00.5	+02.1	S 16 15.8	+00.1
13	45 02.6	+02.1	S 16 15.9	+00.1
14	60 04.7	+02.2	S 16 16.0	+00.1
15	75 06.9	+02.1	S 16 16.1	+00.0
16	90 09.0	+02.1	S 16 16.1	+00.1
17	105 11.1	+02.1	S 16 16.2	+00.1
18	120 13.2	+02.1	S 16 16.3	+00.1
19	135 15.3	+02.1	S 16 16.4	+00.1
20	150 17.4	+02.1	S 16 16.5	+00.0
21	165 19.5	+02.1	S 16 16.5	+00.1
22	180 21.6	+02.1	S 16 16.6	+00.1
23	195 23.7	+02.1	S 16 16.7	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′4	00′4	00′4	00′4	00′4	00′4
SHA	078°	078°	078°	078°	078°	078°

Greenwich Culmination Time: 10:00

Moon

A: 01%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 36.8	-36.1	S 22 36.8	-08.9
01	193 00.7	-35.9	S 22 27.9	-09.1
02	207 24.8	-35.9	S 22 18.8	-09.2
03	221 48.9	-35.7	S 22 09.6	-09.3
04	236 13.2	-35.7	S 22 00.3	-09.5
05	250 37.5	-35.5	S 21 50.8	-09.7
06	265 02.0	-35.5	S 21 41.1	-09.8
07	279 26.5	-35.3	S 21 31.3	-09.9
08	293 51.2	-35.2	S 21 21.4	-10.0
09	308 16.0	-35.0	S 21 11.4	-10.2
10	322 41.0	-35.0	S 21 01.2	-10.3
11	337 06.0	-34.9	S 20 50.9	-10.4
12	351 31.1	-34.7	S 20 40.5	-10.6
13	5 56.4	-34.6	S 20 29.9	-10.7
14	20 21.8	-34.6	S 20 19.2	-10.8
15	34 47.2	-34.4	S 20 08.4	-10.9
16	49 12.8	-34.2	S 19 57.5	-11.1
17	63 38.6	-34.2	S 19 46.4	-11.1
18	78 04.4	-34.0	S 19 35.3	-11.3
19	92 30.4	-34.0	S 19 24.0	-11.4
20	106 56.4	-33.8	S 19 12.6	-11.5
21	121 22.6	-33.7	S 19 01.1	-11.6
22	135 48.9	-33.6	S 18 49.5	-11.7
23	150 15.3	-33.4	S 18 37.8	-11.8

UT	02	06	10	14	18	22
SD	16′4	16′4	16′3	16′3	16′3	16′2
HP	60′1	60′0	59′9	59′8	59′7	59′6
SHA	046°	044°	041°	039°	036°	034°

Greenwich Culmination Time: 12:35

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	215 14.6	+00.5	S 23 49.0	-00.1
01	230 15.1	+00.5	S 23 48.9	+00.0
02	245 15.6	+00.4	S 23 48.9	-00.1
03	260 16.0	+00.5	S 23 48.8	+00.0
04	275 16.5	+00.5	S 23 48.8	-00.1
05	290 17.0	+00.4	S 23 48.7	+00.0
06	305 17.4	+00.5	S 23 48.7	+00.0
07	320 17.9	+00.5	S 23 48.7	-00.1
08	335 18.4	+00.5	S 23 48.6	+00.0
09	350 18.9	+00.4	S 23 48.6	-00.1
10	5 19.3	+00.5	S 23 48.5	+00.0
11	20 19.8	+00.5	S 23 48.5	-00.1
12	35 20.3	+00.4	S 23 48.4	+00.0
13	50 20.7	+00.5	S 23 48.4	-00.1
14	65 21.2	+00.5	S 23 48.3	+00.0
15	80 21.7	+00.4	S 23 48.3	-00.1
16	95 22.1	+00.5	S 23 48.2	+00.0
17	110 22.6	+00.5	S 23 48.2	-00.1
18	125 23.1	+00.4	S 23 48.1	-00.1
19	140 23.5	+00.5	S 23 48.0	+00.0
20	155 24.0	+00.5	S 23 48.0	-00.1
21	170 24.5	+00.5	S 23 47.9	+00.0
22	185 25.0	+00.4	S 23 47.9	-00.1
23	200 25.4	+00.5	S 23 47.8	+00.0

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	084°	084°	084°	084°	083°	083°

Greenwich Culmination Time: 09:38

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	151 53.7	+01.9	S 09 45.9	-00.2
01	166 55.6	+01.9	S 09 45.7	-00.2
02	181 57.5	+02.0	S 09 45.5	-00.2
03	196 59.5	+01.9	S 09 45.3	-00.2
04	212 01.4	+01.9	S 09 45.1	-00.3
05	227 03.3	+01.9	S 09 44.8	-00.2
06	242 05.2	+02.0	S 09 44.6	-00.2
07	257 07.2	+01.9	S 09 44.4	-00.2
08	272 09.1	+01.9	S 09 44.2	-00.2
09	287 11.0	+01.9	S 09 44.0	-00.2
10	302 12.9	+01.9	S 09 43.8	-00.3
11	317 14.8	+02.0	S 09 43.5	-00.2
12	332 16.8	+01.9	S 09 43.3	-00.2
13	347 18.7	+01.9	S 09 43.1	-00.2
14	2 20.6	+01.9	S 09 42.9	-00.2
15	17 22.5	+01.9	S 09 42.7	-00.2
16	32 24.4	+02.0	S 09 42.5	-00.2
17	47 26.4	+01.9	S 09 42.3	-00.3
18	62 28.3	+01.9	S 09 42.0	-00.2
19	77 30.2	+01.9	S 09 41.8	-00.2
20	92 32.1	+01.9	S 09 41.6	-00.2
21	107 34.0	+02.0	S 09 41.4	-00.2
22	122 36.0	+01.9	S 09 41.2	-00.2
23	137 37.9	+01.9	S 09 41.0	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	021°	021°	021°	021°	021°	021°

Greenwich Culmination Time: 13:50

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	172 58.4	+02.2	S 17 00.1	-00.1
01	188 00.6	+02.2	S 16 60.0	-00.1
02	203 02.8	+02.1	S 16 59.9	-00.1
03	218 04.9	+02.2	S 16 59.8	-00.1
04	233 07.1	+02.2	S 16 59.7	-00.1
05	248 09.3	+02.1	S 16 59.6	+00.0
06	263 11.4	+02.2	S 16 59.6	-00.1
07	278 13.6	+02.2	S 16 59.5	-00.1
08	293 15.8	+02.1	S 16 59.4	-00.1
09	308 17.9	+02.2	S 16 59.3	-00.1
10	323 20.1	+02.1	S 16 59.2	-00.1
11	338 22.2	+02.2	S 16 59.1	-00.1
12	353 24.4	+02.2	S 16 59.0	+00.0
13	8 26.6	+02.1	S 16 59.0	-00.1
14	23 28.7	+02.2	S 16 58.9	-00.1
15	38 30.9	+02.2	S 16 58.8	-00.1
16	53 33.1	+02.1	S 16 58.7	-00.1
17	68 35.2	+02.2	S 16 58.6	-00.1
18	83 37.4	+02.2	S 16 58.5	-00.1
19	98 39.6	+02.1	S 16 58.4	+00.0
20	113 41.7	+02.2	S 16 58.4	-00.1
21	128 43.9	+02.2	S 16 58.3	-00.1
22	143 46.1	+02.1	S 16 58.2	-00.1
23	158 48.2	+02.2	S 16 58.1	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	042°	042°	042°	042°	042°	042°

Greenwich Culmination Time: 12:26

2022 January 29 Saturday (day 29 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 45.1	-00.1	S 17 59.7	-00.7
01	191 45.0	-00.1	S 17 59.0	-00.6
02	206 44.9	-00.1	S 17 58.4	-00.7
03	221 44.8	-00.1	S 17 57.7	-00.7
04	236 44.7	-00.1	S 17 57.0	-00.6
05	251 44.6	-00.1	S 17 56.4	-00.7
06	266 44.5	-00.1	S 17 55.7	-00.7
07	281 44.4	-00.1	S 17 55.0	-00.7
08	296 44.3	-00.2	S 17 54.3	-00.6
09	311 44.1	-00.1	S 17 53.7	-00.7
10	326 44.0	-00.1	S 17 53.0	-00.7
11	341 43.9	-00.1	S 17 52.3	-00.7
12	356 43.8	-00.1	S 17 51.6	-00.6
13	11 43.7	-00.1	S 17 51.0	-00.7
14	26 43.6	-00.1	S 17 50.3	-00.7
15	41 43.5	-00.1	S 17 49.6	-00.7
16	56 43.4	-00.1	S 17 48.9	-00.6
17	71 43.3	-00.1	S 17 48.3	-00.7
18	86 43.2	-00.1	S 17 47.6	-00.7
19	101 43.1	-00.1	S 17 46.9	-00.7
20	116 43.0	-00.2	S 17 46.2	-00.7
21	131 42.8	-00.1	S 17 45.5	-00.6
22	146 42.7	-00.1	S 17 44.9	-00.7
23	161 42.6	-00.1	S 17 44.2	-00.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	048°	048°	048°	048°	048°	048°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	206 45.9	+02.5	S 16 11.0	+00.1
01	221 48.4	+02.5	S 16 11.1	+00.0
02	236 50.9	+02.4	S 16 11.1	+00.0
03	251 53.3	+02.5	S 16 11.1	+00.1
04	266 55.8	+02.5	S 16 11.2	+00.0
05	281 58.3	+02.5	S 16 11.2	+00.1
06	297 00.8	+02.5	S 16 11.3	+00.0
07	312 03.3	+02.4	S 16 11.3	+00.0
08	327 05.7	+02.5	S 16 11.3	+00.1
09	342 08.2	+02.4	S 16 11.4	+00.0
10	357 10.6	+02.5	S 16 11.4	+00.1
11	12 13.1	+02.4	S 16 11.5	+00.0
12	27 15.5	+02.5	S 16 11.5	+00.0
13	42 18.0	+02.4	S 16 11.5	+00.1
14	57 20.4	+02.5	S 16 11.6	+00.0
15	72 22.9	+02.4	S 16 11.6	+00.1
16	87 25.3	+02.4	S 16 11.7	+00.0
17	102 27.7	+02.4	S 16 11.7	+00.1
18	117 30.1	+02.5	S 16 11.8	+00.0
19	132 32.6	+02.4	S 16 11.8	+00.1
20	147 35.0	+02.4	S 16 11.9	+00.0
21	162 37.4	+02.4	S 16 11.9	+00.1
22	177 39.8	+02.4	S 16 12.0	+00.0
23	192 42.2	+02.4	S 16 12.0	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′5	00′5	00′5	00′4	00′4	00′4
SHA	079°	079°	079°	079°	079°	079°

Greenwich Culmination Time: 10:11

Moon

A: 88%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	224 26.2	-38.1	S 25 28.6	+04.4
01	238 48.1	-38.0	S 25 33.0	+04.2
02	253 10.1	-38.2	S 25 37.2	+04.1
03	267 31.9	-38.2	S 25 41.3	+03.8
04	281 53.7	-38.3	S 25 45.1	+03.7
05	296 15.4	-38.3	S 25 48.8	+03.5
06	310 37.1	-38.4	S 25 52.3	+03.3
07	324 58.7	-38.4	S 25 55.6	+03.1
08	339 20.3	-38.5	S 25 58.7	+02.9
09	353 41.8	-38.6	S 26 01.6	+02.7
10	8 03.2	-38.5	S 26 04.3	+02.6
11	22 24.7	-38.7	S 26 06.9	+02.3
12	36 46.0	-38.6	S 26 09.2	+02.2
13	51 07.4	-38.7	S 26 11.4	+01.9
14	65 28.7	-38.8	S 26 13.3	+01.8
15	79 49.9	-38.8	S 26 15.1	+01.5
16	94 11.1	-38.8	S 26 16.6	+01.4
17	108 32.3	-38.8	S 26 18.0	+01.1
18	122 53.5	-38.8	S 26 19.1	+01.0
19	137 14.7	-38.9	S 26 20.1	+00.8
20	151 35.8	-38.9	S 26 20.9	+00.6
21	165 56.9	-38.9	S 26 21.5	+00.3
22	180 18.0	-38.9	S 26 21.8	+00.2
23	194 39.1	-38.9	S 26 22.0	+00.0

UT	02	06	10	14	18	22
SD	16′4	16′4	16′5	16′5	16′5	16′5
HP	60′3	60′4	60′4	60′4	60′5	60′5
SHA	095°	092°	089°	087°	084°	081°

Greenwich Culmination Time: 09:26

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	214 40.7	+00.4	S 23 51.1	+00.0
01	229 41.1	+00.5	S 23 51.1	+00.0
02	244 41.6	+00.5	S 23 51.1	+00.0
03	259 42.1	+00.5	S 23 51.1	+00.0
04	274 42.6	+00.4	S 23 51.1	-00.1
05	289 43.0	+00.5	S 23 51.0	+00.0
06	304 43.5	+00.5	S 23 51.0	+00.0
07	319 44.0	+00.4	S 23 51.0	+00.0
08	334 44.4	+00.5	S 23 51.0	+00.0
09	349 44.9	+00.5	S 23 51.0	+00.0
10	4 45.4	+00.5	S 23 51.0	-00.1
11	19 45.9	+00.4	S 23 50.9	+00.0
12	34 46.3	+00.5	S 23 50.9	+00.0
13	49 46.8	+00.5	S 23 50.9	+00.0
14	64 47.3	+00.5	S 23 50.9	+00.0
15	79 47.8	+00.4	S 23 50.9	-00.1
16	94 48.2	+00.5	S 23 50.8	+00.0
17	109 48.7	+00.5	S 23 50.8	+00.0
18	124 49.2	+00.4	S 23 50.8	+00.0
19	139 49.6	+00.5	S 23 50.8	-00.1
20	154 50.1	+00.5	S 23 50.7	+00.0
21	169 50.6	+00.5	S 23 50.7	+00.0
22	184 51.1	+00.4	S 23 50.7	+00.0
23	199 51.5	+00.5	S 23 50.7	-00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	086°	086°	086°	086°	086°	086°

Greenwich Culmination Time: 09:40

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	149 35.2	+01.9	S 10 01.3	-00.2
01	164 37.1	+01.9	S 10 01.1	-00.2
02	179 39.0	+01.9	S 10 00.9	-00.2
03	194 40.9	+02.0	S 10 00.7	-00.2
04	209 42.9	+01.9	S 10 00.5	-00.3
05	224 44.8	+01.9	S 10 00.2	-00.2
06	239 46.7	+02.0	S 10 00.0	-00.2
07	254 48.7	+01.9	S 09 59.8	-00.2
08	269 50.6	+01.9	S 09 59.6	-00.2
09	284 52.5	+01.9	S 09 59.4	-00.2
10	299 54.4	+02.0	S 09 59.2	-00.2
11	314 56.4	+01.9	S 09 59.0	-00.2
12	329 58.3	+01.9	S 09 58.8	-00.3
13	345 00.2	+01.9	S 09 58.5	-00.2
14	0 02.1	+02.0	S 09 58.3	-00.2
15	15 04.1	+01.9	S 09 58.1	-00.2
16	30 06.0	+01.9	S 09 57.9	-00.2
17	45 07.9	+01.9	S 09 57.7	-00.2
18	60 09.8	+02.0	S 09 57.5	-00.2
19	75 11.8	+01.9	S 09 57.3	-00.3
20	90 13.7	+01.9	S 09 57.0	-00.2
21	105 15.6	+01.9	S 09 56.8	-00.2
22	120 17.5	+02.0	S 09 56.6	-00.2
23	135 19.5	+01.9	S 09 56.4	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	021°	021°	021°	021°	021°	021°

Greenwich Culmination Time: 13:59

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	170 22.6	+02.2	S 17 06.3	-00.1
01	185 24.8	+02.1	S 17 06.2	-00.1
02	200 26.9	+02.2	S 17 06.1	-00.1
03	215 29.1	+02.2	S 17 06.0	-00.1
04	230 31.3	+02.1	S 17 05.9	-00.1
05	245 33.4	+02.2	S 17 05.8	+00.0
06	260 35.6	+02.2	S 17 05.8	-00.1
07	275 37.8	+02.1	S 17 05.7	-00.1
08	290 39.9	+02.2	S 17 05.6	-00.1
09	305 42.1	+02.2	S 17 05.5	-00.1
10	320 44.3	+02.1	S 17 05.4	-00.1
11	335 46.4	+02.2	S 17 05.3	-00.1
12	350 48.6	+02.1	S 17 05.2	+00.0
13	5 50.7	+02.2	S 17 05.2	-00.1
14	20 52.9	+02.2	S 17 05.1	-00.1
15	35 55.1	+02.1	S 17 05.0	-00.1
16	50 57.2	+02.2	S 17 04.9	-00.1
17	65 59.4	+02.2	S 17 04.8	-00.1
18	81 01.6	+02.1	S 17 04.7	-00.1
19	96 03.7	+02.2	S 17 04.6	+00.0
20	111 05.9	+02.2	S 17 04.6	-00.1
21	126 08.1	+02.1	S 17 04.5	-00.1
22	141 10.2	+02.2	S 17 04.4	-00.1
23	156 12.4	+02.2	S 17 04.3	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	042°	042°	042°	042°	042°	042°

Greenwich Culmination Time: 12:36

2022 January 30 Sunday (day 30 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	176 42.5	-00.1	S 17 43.5	-00.7
01	191 42.4	-00.1	S 17 42.8	-00.7
02	206 42.3	-00.1	S 17 42.1	-00.7
03	221 42.2	-00.1	S 17 41.4	-00.6
04	236 42.1	-00.1	S 17 40.8	-00.7
05	251 42.0	-00.1	S 17 40.1	-00.7
06	266 41.9	-00.1	S 17 39.4	-00.7
07	281 41.8	-00.1	S 17 38.7	-00.7
08	296 41.7	-00.1	S 17 38.0	-00.7
09	311 41.6	-00.1	S 17 37.3	-00.7
10	326 41.5	-00.1	S 17 36.6	-00.6
11	341 41.4	-00.1	S 17 36.0	-00.7
12	356 41.3	-00.1	S 17 35.3	-00.7
13	11 41.2	-00.1	S 17 34.6	-00.7
14	26 41.1	-00.1	S 17 33.9	-00.7
15	41 41.0	-00.1	S 17 33.2	-00.7
16	56 40.9	-00.1	S 17 32.5	-00.7
17	71 40.8	-00.1	S 17 31.8	-00.7
18	86 40.7	-00.1	S 17 31.1	-00.7
19	101 40.6	-00.1	S 17 30.4	-00.7
20	116 40.5	-00.1	S 17 29.7	-00.7
21	131 40.4	-00.1	S 17 29.0	-00.7
22	146 40.3	-00.1	S 17 28.3	-00.6
23	161 40.2	-00.1	S 17 27.7	-00.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	047°	047°	047°	047°	047°	047°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	207 44.6	+02.4	S 16 12.1	+00.0
01	222 47.0	+02.4	S 16 12.1	+00.1
02	237 49.4	+02.3	S 16 12.2	+00.0
03	252 51.7	+02.4	S 16 12.2	+00.1
04	267 54.1	+02.4	S 16 12.3	+00.0
05	282 56.5	+02.4	S 16 12.3	+00.1
06	297 58.9	+02.3	S 16 12.4	+00.0
07	313 01.2	+02.4	S 16 12.4	+00.1
08	328 03.6	+02.4	S 16 12.5	+00.0
09	343 06.0	+02.3	S 16 12.5	+00.1
10	358 08.3	+02.4	S 16 12.6	+00.0
11	13 10.7	+02.3	S 16 12.6	+00.1
12	28 13.0	+02.3	S 16 12.7	+00.0
13	43 15.3	+02.4	S 16 12.7	+00.1
14	58 17.7	+02.3	S 16 12.8	+00.1
15	73 20.0	+02.3	S 16 12.9	+00.0
16	88 22.3	+02.3	S 16 12.9	+00.1
17	103 24.6	+02.4	S 16 13.0	+00.0
18	118 27.0	+02.3	S 16 13.0	+00.1
19	133 29.3	+02.3	S 16 13.1	+00.0
20	148 31.6	+02.3	S 16 13.1	+00.1
21	163 33.9	+02.3	S 16 13.2	+00.1
22	178 36.2	+02.3	S 16 13.3	+00.0
23	193 38.5	+02.3	S 16 13.3	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′4	00′4	00′4	00′4	00′4	00′4
SHA	079°	079°	079°	079°	078°	078°

Greenwich Culmination Time: 10:07

Moon

A: 93%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	209 00.2	-39.0	S 26 22.0	-00.2
01	223 21.2	-38.9	S 26 21.8	-00.5
02	237 42.3	-38.9	S 26 21.3	-00.6
03	252 03.4	-39.0	S 26 20.7	-00.8
04	266 24.4	-38.9	S 26 19.9	-01.0
05	280 45.5	-38.9	S 26 18.9	-01.2
06	295 06.6	-38.9	S 26 17.7	-01.5
07	309 27.7	-38.9	S 26 16.2	-01.6
08	323 48.8	-38.8	S 26 14.6	-01.8
09	338 10.0	-38.9	S 26 12.8	-02.0
10	352 31.1	-38.8	S 26 10.8	-02.2
11	6 52.3	-38.8	S 26 08.6	-02.4
12	21 13.5	-38.8	S 26 06.2	-02.6
13	35 34.7	-38.7	S 26 03.6	-02.8
14	49 56.0	-38.7	S 26 00.8	-03.0
15	64 17.3	-38.6	S 25 57.8	-03.1
16	78 38.7	-38.7	S 25 54.7	-03.4
17	93 00.0	-38.5	S 25 51.3	-03.6
18	107 21.5	-38.5	S 25 47.7	-03.7
19	121 43.0	-38.5	S 25 44.0	-04.0
20	136 04.5	-38.4	S 25 40.0	-04.1
21	150 26.1	-38.4	S 25 35.9	-04.3
22	164 47.7	-38.3	S 25 31.6	-04.6
23	179 09.4	-38.3	S 25 27.0	-04.7

UT	02	06	10	14	18	22
SD	16′5	16′5	16′5	16′5	16′5	16′5
HP	60′5	60′5	60′5	60′5	60′5	60′5
SHA	078°	076°	073°	070°	067°	065°

Greenwich Culmination Time: 10:31

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	214 52.0	+00.5	S 23 50.6	+00.0
01	229 52.5	+00.5	S 23 50.6	+00.0
02	244 53.0	+00.4	S 23 50.6	+00.0
03	259 53.4	+00.5	S 23 50.6	-00.1
04	274 53.9	+00.5	S 23 50.5	+00.0
05	289 54.4	+00.4	S 23 50.5	+00.0
06	304 54.8	+00.5	S 23 50.5	+00.0
07	319 55.3	+00.5	S 23 50.5	-00.1
08	334 55.8	+00.5	S 23 50.4	+00.0
09	349 56.3	+00.4	S 23 50.4	+00.0
10	4 56.7	+00.5	S 23 50.4	+00.0
11	19 57.2	+00.5	S 23 50.4	-00.1
12	34 57.7	+00.4	S 23 50.3	+00.0
13	49 58.1	+00.5	S 23 50.3	+00.0
14	64 58.6	+00.5	S 23 50.3	-00.1
15	79 59.1	+00.5	S 23 50.2	+00.0
16	94 59.6	+00.4	S 23 50.2	+00.0
17	110 00.0	+00.5	S 23 50.2	-00.1
18	125 00.5	+00.5	S 23 50.1	+00.0
19	140 01.0	+00.4	S 23 50.1	+00.0
20	155 01.4	+00.5	S 23 50.1	-00.1
21	170 01.9	+00.5	S 23 50.0	+00.0
22	185 02.4	+00.5	S 23 50.0	+00.0
23	200 02.9	+00.4	S 23 50.0	-00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	086°	085°	085°	085°	085°	085°

Greenwich Culmination Time: 09:40

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	150 21.4	+01.9	S 09 56.2	-00.2
01	165 23.3	+01.9	S 09 56.0	-00.2
02	180 25.2	+02.0	S 09 55.8	-00.2
03	195 27.2	+01.9	S 09 55.6	-00.3
04	210 29.1	+01.9	S 09 55.3	-00.2
05	225 31.0	+01.9	S 09 55.1	-00.2
06	240 32.9	+02.0	S 09 54.9	-00.2
07	255 34.9	+01.9	S 09 54.7	-00.2
08	270 36.8	+01.9	S 09 54.5	-00.2
09	285 38.7	+01.9	S 09 54.3	-00.2
10	300 40.6	+02.0	S 09 54.1	-00.3
11	315 42.6	+01.9	S 09 53.8	-00.2
12	330 44.5	+01.9	S 09 53.6	-00.2
13	345 46.4	+01.9	S 09 53.4	-00.2
14	0 48.3	+02.0	S 09 53.2	-00.2
15	15 50.3	+01.9	S 09 53.0	-00.2
16	30 52.2	+01.9	S 09 52.8	-00.2
17	45 54.1	+01.9	S 09 52.6	-00.2
18	60 56.0	+01.9	S 09 52.4	-00.3
19	75 57.9	+02.0	S 09 52.1	-00.2
20	90 59.9	+01.9	S 09 51.9	-00.2
21	106 01.8	+01.9	S 09 51.7	-00.2
22	121 03.7	+01.9	S 09 51.5	-00.2
23	136 05.6	+02.0	S 09 51.3	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	021°	021°	021°	021°	021°	021°

Greenwich Culmination Time: 13:56

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	171 14.6	+02.1	S 17 04.2	-00.1
01	186 16.7	+02.2	S 17 04.1	-00.1
02	201 18.9	+02.2	S 17 04.0	+00.0
03	216 21.1	+02.1	S 17 04.0	-00.1
04	231 23.2	+02.2	S 17 03.9	-00.1
05	246 25.4	+02.1	S 17 03.8	-00.1
06	261 27.5	+02.2	S 17 03.7	-00.1
07	276 29.7	+02.2	S 17 03.6	-00.1
08	291 31.9	+02.1	S 17 03.5	-00.1
09	306 34.0	+02.2	S 17 03.4	+00.0
10	321 36.2	+02.2	S 17 03.4	-00.1
11	336 38.4	+02.1	S 17 03.3	-00.1
12	351 40.5	+02.2	S 17 03.2	-00.1
13	6 42.7	+02.2	S 17 03.1	-00.1
14	21 44.9	+02.1	S 17 03.0	-00.1
15	36 47.0	+02.2	S 17 02.9	-00.1
16	51 49.2	+02.2	S 17 02.8	+00.0
17	66 51.4	+02.1	S 17 02.8	-00.1
18	81 53.5	+02.2	S 17 02.7	-00.1
19	96 55.7	+02.1	S 17 02.6	-00.1
20	111 57.8	+02.2	S 17 02.5	-00.1
21	127 00.0	+02.2	S 17 02.4	-00.1
22	142 02.2	+02.1	S 17 02.3	-00.1
23	157 04.3	+02.2	S 17 02.2	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	042°	042°	042°	042°	042°	042°

Greenwich Culmination Time: 12:33

2022 January 31 Monday (day 31 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	176 40.1	-00.1	S 17 27.0	-00.7
01	191 40.0	-00.1	S 17 26.3	-00.7
02	206 39.9	-00.1	S 17 25.6	-00.7
03	221 39.8	-00.1	S 17 24.9	-00.7
04	236 39.7	-00.1	S 17 24.2	-00.7
05	251 39.6	+00.0	S 17 23.5	-00.7
06	266 39.6	-00.1	S 17 22.8	-00.7
07	281 39.5	-00.1	S 17 22.1	-00.7
08	296 39.4	-00.1	S 17 21.4	-00.7
09	311 39.3	-00.1	S 17 20.7	-00.7
10	326 39.2	-00.1	S 17 20.0	-00.7
11	341 39.1	-00.1	S 17 19.3	-00.7
12	356 39.0	-00.1	S 17 18.6	-00.7
13	11 38.9	-00.1	S 17 17.9	-00.7
14	26 38.8	-00.1	S 17 17.2	-00.7
15	41 38.7	-00.1	S 17 16.5	-00.7
16	56 38.6	-00.1	S 17 15.8	-00.7
17	71 38.5	-00.1	S 17 15.1	-00.8
18	86 38.4	+00.0	S 17 14.3	-00.7
19	101 38.4	-00.1	S 17 13.6	-00.7
20	116 38.3	-00.1	S 17 12.9	-00.7
21	131 38.2	-00.1	S 17 12.2	-00.7
22	146 38.1	-00.1	S 17 11.5	-00.7
23	161 38.0	-00.1	S 17 10.8	-00.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	046°	046°	046°	046°	046°	046°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	208 40.8	+02.3	S 16 13.4	+00.0
01	223 43.1	+02.3	S 16 13.4	+00.1
02	238 45.4	+02.2	S 16 13.5	+00.1
03	253 47.6	+02.3	S 16 13.6	+00.0
04	268 49.9	+02.3	S 16 13.6	+00.1
05	283 52.2	+02.2	S 16 13.7	+00.1
06	298 54.4	+02.3	S 16 13.8	+00.0
07	313 56.7	+02.3	S 16 13.8	+00.1
08	328 59.0	+02.2	S 16 13.9	+00.1
09	344 01.2	+02.3	S 16 14.0	+00.0
10	359 03.5	+02.2	S 16 14.0	+00.1
11	14 05.7	+02.2	S 16 14.1	+00.0
12	29 07.9	+02.3	S 16 14.1	+00.1
13	44 10.2	+02.2	S 16 14.2	+00.1
14	59 12.4	+02.2	S 16 14.3	+00.0
15	74 14.6	+02.3	S 16 14.3	+00.1
16	89 16.9	+02.2	S 16 14.4	+00.1
17	104 19.1	+02.2	S 16 14.5	+00.1
18	119 21.3	+02.2	S 16 14.6	+00.0
19	134 23.5	+02.2	S 16 14.6	+00.1
20	149 25.7	+02.2	S 16 14.7	+00.1
21	164 27.9	+02.2	S 16 14.8	+00.0
22	179 30.1	+02.2	S 16 14.8	+00.1
23	194 32.3	+02.2	S 16 14.9	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′4	00′4	00′4	00′4	00′4	00′4
SHA	078°	078°	078°	078°	078°	078°

Greenwich Culmination Time: 10:03

Moon

A: 97%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	193 31.1	-38.2	S 25 22.3	-04.9
01	207 52.9	-38.1	S 25 17.4	-05.0
02	222 14.8	-38.0	S 25 12.4	-05.3
03	236 36.8	-38.0	S 25 07.1	-05.4
04	250 58.8	-37.9	S 25 01.7	-05.6
05	265 20.9	-37.9	S 24 56.1	-05.8
06	279 43.0	-37.7	S 24 50.3	-06.0
07	294 05.3	-37.7	S 24 44.3	-06.2
08	308 27.6	-37.6	S 24 38.1	-06.3
09	322 50.0	-37.5	S 24 31.8	-06.5
10	337 12.5	-37.5	S 24 25.3	-06.7
11	351 35.0	-37.3	S 24 18.6	-06.8
12	5 57.7	-37.3	S 24 11.8	-07.0
13	20 20.4	-37.2	S 24 04.8	-07.2
14	34 43.2	-37.0	S 23 57.6	-07.4
15	49 06.2	-37.0	S 23 50.2	-07.5
16	63 29.2	-36.9	S 23 42.7	-07.7
17	77 52.3	-36.8	S 23 35.0	-07.8
18	92 15.5	-36.7	S 23 27.2	-08.0
19	106 38.8	-36.6	S 23 19.2	-08.2
20	121 02.2	-36.5	S 23 11.0	-08.3
21	135 25.7	-36.4	S 23 02.7	-08.5
22	149 49.3	-36.3	S 22 54.2	-08.6
23	164 13.0	-36.2	S 22 45.6	-08.8

UT	02	06	10	14	18	22
SD	16′5	16′5	16′4	16′4	16′4	16′4
HP	60′4	60′4	60′3	60′3	60′2	60′2
SHA	062°	059°	057°	054°	051°	049°

Greenwich Culmination Time: 11:35

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	215 03.3	+00.5	S 23 49.9	+00.0
01	230 03.8	+00.5	S 23 49.9	+00.0
02	245 04.3	+00.4	S 23 49.9	-00.1
03	260 04.7	+00.5	S 23 49.8	+00.0
04	275 05.2	+00.5	S 23 49.8	+00.0
05	290 05.7	+00.5	S 23 49.8	-00.1
06	305 06.2	+00.4	S 23 49.7	+00.0
07	320 06.6	+00.5	S 23 49.7	-00.1
08	335 07.1	+00.5	S 23 49.6	+00.0
09	350 07.6	+00.4	S 23 49.6	+00.0
10	5 08.0	+00.5	S 23 49.6	-00.1
11	20 08.5	+00.5	S 23 49.5	+00.0
12	35 09.0	+00.4	S 23 49.5	-00.1
13	50 09.4	+00.5	S 23 49.4	+00.0
14	65 09.9	+00.5	S 23 49.4	+00.0
15	80 10.4	+00.5	S 23 49.4	-00.1
16	95 10.9	+00.4	S 23 49.3	+00.0
17	110 11.3	+00.5	S 23 49.3	-00.1
18	125 11.8	+00.5	S 23 49.2	+00.0
19	140 12.3	+00.4	S 23 49.2	+00.0
20	155 12.7	+00.5	S 23 49.2	-00.1
21	170 13.2	+00.5	S 23 49.1	+00.0
22	185 13.7	+00.5	S 23 49.1	-00.1
23	200 14.2	+00.4	S 23 49.0	+00.0

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	085°	085°	085°	084°	084°	084°

Greenwich Culmination Time: 09:39

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	151 07.6	+01.9	S 09 51.1	-00.2
01	166 09.5	+01.9	S 09 50.9	-00.3
02	181 11.4	+01.9	S 09 50.6	-00.2
03	196 13.3	+02.0	S 09 50.4	-00.2
04	211 15.3	+01.9	S 09 50.2	-00.2
05	226 17.2	+01.9	S 09 50.0	-00.2
06	241 19.1	+01.9	S 09 49.8	-00.2
07	256 21.0	+01.9	S 09 49.6	-00.2
08	271 22.9	+02.0	S 09 49.4	-00.3
09	286 24.9	+01.9	S 09 49.1	-00.2
10	301 26.8	+01.9	S 09 48.9	-00.2
11	316 28.7	+01.9	S 09 48.7	-00.2
12	331 30.6	+02.0	S 09 48.5	-00.2
13	346 32.6	+01.9	S 09 48.3	-00.2
14	1 34.5	+01.9	S 09 48.1	-00.2
15	16 36.4	+01.9	S 09 47.9	-00.3
16	31 38.3	+02.0	S 09 47.6	-00.2
17	46 40.3	+01.9	S 09 47.4	-00.2
18	61 42.2	+01.9	S 09 47.2	-00.2
19	76 44.1	+01.9	S 09 47.0	-00.2
20	91 46.0	+01.9	S 09 46.8	-00.2
21	106 47.9	+02.0	S 09 46.6	-00.3
22	121 49.9	+01.9	S 09 46.3	-00.2
23	136 51.8	+01.9	S 09 46.1	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	021°	021°	021°	021°	021°	021°

Greenwich Culmination Time: 13:53

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	172 06.5	+02.2	S 17 02.2	-00.1
01	187 08.7	+02.1	S 17 02.1	-00.1
02	202 10.8	+02.2	S 17 02.0	-00.1
03	217 13.0	+02.2	S 17 01.9	-00.1
04	232 15.2	+02.1	S 17 01.8	-00.1
05	247 17.3	+02.2	S 17 01.7	-00.1
06	262 19.5	+02.2	S 17 01.6	-00.1
07	277 21.7	+02.1	S 17 01.5	+00.0
08	292 23.8	+02.2	S 17 01.5	-00.1
09	307 26.0	+02.1	S 17 01.4	-00.1
10	322 28.1	+02.2	S 17 01.3	-00.1
11	337 30.3	+02.2	S 17 01.2	-00.1
12	352 32.5	+02.1	S 17 01.1	-00.1
13	7 34.6	+02.2	S 17 01.0	-00.1
14	22 36.8	+02.2	S 17 00.9	+00.0
15	37 39.0	+02.1	S 17 00.9	-00.1
16	52 41.1	+02.2	S 17 00.8	-00.1
17	67 43.3	+02.2	S 17 00.7	-00.1
18	82 45.5	+02.1	S 17 00.6	-00.1
19	97 47.6	+02.2	S 17 00.5	-00.1
20	112 49.8	+02.1	S 17 00.4	-00.1
21	127 51.9	+02.2	S 17 00.3	+00.0
22	142 54.1	+02.2	S 17 00.3	-00.1
23	157 56.3	+02.1	S 17 00.2	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	042°	042°	042°	042°	042°	042°

Greenwich Culmination Time: 12:29

2022 February 5 Saturday (day 36 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	176 31.1	+00.0	S 15 59.8	−00.8
01	191 31.1	−00.1	S 15 59.0	−00.8
02	206 31.0	+00.0	S 15 58.2	−00.7
03	221 31.0	−00.1	S 15 57.5	−00.8
04	236 30.9	+00.0	S 15 56.7	−00.7
05	251 30.9	−00.1	S 15 56.0	−00.8
06	266 30.8	+00.0	S 15 55.2	−00.8
07	281 30.8	−00.1	S 15 54.4	−00.7
08	296 30.7	+00.0	S 15 53.7	−00.8
09	311 30.7	−00.1	S 15 52.9	−00.7
10	326 30.6	+00.0	S 15 52.2	−00.8
11	341 30.6	−00.1	S 15 51.4	−00.8
12	356 30.5	+00.0	S 15 50.6	−00.7
13	11 30.5	−00.1	S 15 49.9	−00.8
14	26 30.4	+00.0	S 15 49.1	−00.8
15	41 30.4	−00.1	S 15 48.3	−00.7
16	56 30.3	+00.0	S 15 47.6	−00.8
17	71 30.3	−00.1	S 15 46.8	−00.7
18	86 30.2	+00.0	S 15 46.1	−00.8
19	101 30.2	−00.1	S 15 45.3	−00.8
20	116 30.1	+00.0	S 15 44.5	−00.7
21	131 30.1	+00.0	S 15 43.8	−00.8
22	146 30.1	−00.1	S 15 43.0	−00.8
23	161 30.0	+00.0	S 15 42.2	−00.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	041°	041°	041°	041°	041°	040°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	212 45.8	+01.8	S 16 23.3	+00.1
01	227 47.6	+01.8	S 16 23.4	+00.1
02	242 49.4	+01.8	S 16 23.5	+00.1
03	257 51.2	+01.8	S 16 23.6	+00.1
04	272 53.0	+01.8	S 16 23.7	+00.1
05	287 54.8	+01.8	S 16 23.8	+00.1
06	302 56.6	+01.8	S 16 23.9	+00.1
07	317 58.4	+01.7	S 16 24.0	+00.1
08	333 00.1	+01.8	S 16 24.1	+00.1
09	348 01.9	+01.8	S 16 24.2	+00.1
10	3 03.7	+01.8	S 16 24.3	+00.1
11	18 05.5	+01.7	S 16 24.4	+00.1
12	33 07.2	+01.8	S 16 24.5	+00.1
13	48 09.0	+01.7	S 16 24.6	+00.1
14	63 10.7	+01.8	S 16 24.7	+00.1
15	78 12.5	+01.7	S 16 24.8	+00.1
16	93 14.2	+01.8	S 16 24.9	+00.1
17	108 16.0	+01.7	S 16 25.0	+00.1
18	123 17.7	+01.7	S 16 25.1	+00.1
19	138 19.4	+01.8	S 16 25.2	+00.1
20	153 21.2	+01.7	S 16 25.3	+00.1
21	168 22.9	+01.7	S 16 25.4	+00.1
22	183 24.6	+01.8	S 16 25.5	+00.1
23	198 26.4	+01.7	S 16 25.6	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′4	00′4	00′4	00′4	00′4	00′4
SHA	078°	078°	078°	077°	077°	077°

Greenwich Culmination Time: 09:47

Moon

A: 14%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	128 55.4	−27.1	S 01 42.3	−14.7
01	143 28.3	−27.0	S 01 27.6	−14.6
02	158 01.3	−27.0	S 01 13.0	−14.6
03	172 34.3	−26.9	S 00 58.4	−14.6
04	187 07.4	−26.9	S 00 43.8	−14.6
05	201 40.5	−26.8	S 00 29.2	−14.6
06	216 13.7	−26.8	S 00 14.6	−14.5
07	230 46.9	−26.8	S 00 00.1	−14.6
08	245 20.1	−26.7	N 00 14.5	+14.5
09	259 53.4	−26.7	N 00 29.0	+14.5
10	274 26.7	−26.7	N 00 43.5	+14.4
11	289 00.0	−26.6	N 00 57.9	+14.5
12	303 33.4	−26.6	N 01 12.4	+14.4
13	318 06.8	−26.6	N 01 26.8	+14.4
14	332 40.2	−26.5	N 01 41.2	+14.4
15	347 13.7	−26.5	N 01 55.6	+14.3
16	1 47.2	−26.5	N 02 09.9	+14.3
17	16 20.7	−26.4	N 02 24.2	+14.3
18	30 54.3	−26.4	N 02 38.5	+14.3
19	45 27.9	−26.4	N 02 52.8	+14.2
20	60 01.5	−26.4	N 03 07.0	+14.2
21	74 35.1	−26.3	N 03 21.2	+14.2
22	89 08.8	−26.4	N 03 35.4	+14.1
23	103 42.4	−26.3	N 03 49.5	+14.1

UT	02	06	10	14	18	22
SD	15′5	15′5	15′5	15′4	15′4	15′4
HP	57′1	56′9	56′8	56′6	56′5	56′4
SHA	353°	351°	349°	347°	345°	343°

Greenwich Culmination Time: 15:52

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	215 59.6	+00.5	S 23 42.7	−00.1
01	231 00.1	+00.4	S 23 42.6	+00.0
02	246 00.5	+00.5	S 23 42.6	−00.1
03	261 01.0	+00.5	S 23 42.5	−00.1
04	276 01.5	+00.4	S 23 42.4	−00.1
05	291 01.9	+00.5	S 23 42.3	−00.1
06	306 02.4	+00.5	S 23 42.2	−00.1
07	321 02.9	+00.4	S 23 42.1	−00.1
08	336 03.3	+00.5	S 23 42.0	+00.0
09	351 03.8	+00.5	S 23 42.0	−00.1
10	6 04.3	+00.4	S 23 41.9	−00.1
11	21 04.7	+00.5	S 23 41.8	−00.1
12	36 05.2	+00.5	S 23 41.7	−00.1
13	51 05.7	+00.4	S 23 41.6	−00.1
14	66 06.1	+00.5	S 23 41.5	−00.1
15	81 06.6	+00.5	S 23 41.4	−00.1
16	96 07.1	+00.4	S 23 41.3	−00.1
17	111 07.5	+00.5	S 23 41.2	−00.1
18	126 08.0	+00.5	S 23 41.1	−00.1
19	141 08.5	+00.4	S 23 41.0	−00.1
20	156 08.9	+00.5	S 23 40.9	+00.0
21	171 09.4	+00.5	S 23 40.9	−00.1
22	186 09.9	+00.4	S 23 40.8	−00.1
23	201 10.3	+00.5	S 23 40.7	−00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	081°	081°	081°	080°	080°	080°

Greenwich Culmination Time: 09:35

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	154 57.9	+01.9	S 09 25.1	−00.2
01	169 59.8	+02.0	S 09 24.9	−00.2
02	185 01.8	+01.9	S 09 24.7	−00.3
03	200 03.7	+01.9	S 09 24.4	−00.2
04	215 05.6	+01.9	S 09 24.2	−00.2
05	230 07.5	+01.9	S 09 24.0	−00.2
06	245 09.4	+01.9	S 09 23.8	−00.2
07	260 11.3	+02.0	S 09 23.6	−00.2
08	275 13.3	+01.9	S 09 23.4	−00.3
09	290 15.2	+01.9	S 09 23.1	−00.2
10	305 17.1	+01.9	S 09 22.9	−00.2
11	320 19.0	+01.9	S 09 22.7	−00.2
12	335 20.9	+01.9	S 09 22.5	−00.2
13	350 22.8	+02.0	S 09 22.3	−00.3
14	5 24.8	+01.9	S 09 22.0	−00.2
15	20 26.7	+01.9	S 09 21.8	−00.2
16	35 28.6	+01.9	S 09 21.6	−00.2
17	50 30.5	+01.9	S 09 21.4	−00.2
18	65 32.4	+01.9	S 09 21.2	−00.3
19	80 34.3	+01.9	S 09 20.9	−00.2
20	95 36.2	+02.0	S 09 20.7	−00.2
21	110 38.2	+01.9	S 09 20.5	−00.2
22	125 40.1	+01.9	S 09 20.3	−00.2
23	140 42.0	+01.9	S 09 20.1	−00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	020°	020°	020°	020°	020°	020°

Greenwich Culmination Time: 13:38

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	176 26.2	+02.2	S 16 51.8	−00.1
01	191 28.4	+02.1	S 16 51.7	−00.1
02	206 30.5	+02.2	S 16 51.6	−00.1
03	221 32.7	+02.2	S 16 51.5	−00.1
04	236 34.9	+02.1	S 16 51.4	−00.1
05	251 37.0	+02.2	S 16 51.3	−00.1
06	266 39.2	+02.1	S 16 51.2	+00.0
07	281 41.3	+02.2	S 16 51.2	−00.1
08	296 43.5	+02.2	S 16 51.1	−00.1
09	311 45.7	+02.1	S 16 51.0	−00.1
10	326 47.8	+02.2	S 16 50.9	−00.1
11	341 50.0	+02.2	S 16 50.8	−00.1
12	356 52.2	+02.1	S 16 50.7	−00.1
13	11 54.3	+02.2	S 16 50.6	+00.0
14	26 56.5	+02.2	S 16 50.6	−00.1
15	41 58.7	+02.1	S 16 50.5	−00.1
16	57 00.8	+02.2	S 16 50.4	−00.1
17	72 03.0	+02.2	S 16 50.3	−00.1
18	87 05.2	+02.1	S 16 50.2	−00.1
19	102 07.3	+02.2	S 16 50.1	−00.1
20	117 09.5	+02.1	S 16 50.0	−00.1
21	132 11.6	+02.2	S 16 49.9	+00.0
22	147 13.8	+02.2	S 16 49.9	−00.1
23	162 16.0	+02.1	S 16 49.8	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	041°	041°	041°	041°	041°	041°

Greenwich Culmination Time: 12:12

2022 February 2 Wednesday (day 33 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	176 35.9	−00.1	S 16 53.0	−00.8
01	191 35.8	+00.0	S 16 52.2	−00.7
02	206 35.8	−00.1	S 16 51.5	−00.7
03	221 35.7	−00.1	S 16 50.8	−00.7
04	236 35.6	−00.1	S 16 50.1	−00.8
05	251 35.5	−00.1	S 16 49.3	−00.7
06	266 35.4	+00.0	S 16 48.6	−00.7
07	281 35.4	−00.1	S 16 47.9	−00.7
08	296 35.3	−00.1	S 16 47.2	−00.8
09	311 35.2	−00.1	S 16 46.4	−00.7
10	326 35.1	+00.0	S 16 45.7	−00.7
11	341 35.1	−00.1	S 16 45.0	−00.7
12	356 35.0	−00.1	S 16 44.3	−00.8
13	11 34.9	−00.1	S 16 43.5	−00.7
14	26 34.8	+00.0	S 16 42.8	−00.7
15	41 34.8	−00.1	S 16 42.1	−00.7
16	56 34.7	−00.1	S 16 41.4	−00.8
17	71 34.6	−00.1	S 16 40.6	−00.7
18	86 34.5	+00.0	S 16 39.9	−00.7
19	101 34.5	−00.1	S 16 39.2	−00.8
20	116 34.4	−00.1	S 16 38.4	−00.7
21	131 34.3	+00.0	S 16 37.7	−00.7
22	146 34.3	−00.1	S 16 37.0	−00.8
23	161 34.2	−00.1	S 16 36.2	−00.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	044°	044°	044°	044°	044°	043°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	210 25.8	+02.1	S 16 16.8	+00.1
01	225 27.9	+02.1	S 16 16.9	+00.0
02	240 30.0	+02.1	S 16 16.9	+00.1
03	255 32.1	+02.0	S 16 17.0	+00.1
04	270 34.1	+02.1	S 16 17.1	+00.1
05	285 36.2	+02.1	S 16 17.2	+00.1
06	300 38.3	+02.0	S 16 17.3	+00.0
07	315 40.3	+02.1	S 16 17.3	+00.1
08	330 42.4	+02.0	S 16 17.4	+00.1
09	345 44.4	+02.1	S 16 17.5	+00.1
10	0 46.5	+02.0	S 16 17.6	+00.1
11	15 48.5	+02.1	S 16 17.7	+00.1
12	30 50.6	+02.0	S 16 17.8	+00.0
13	45 52.6	+02.0	S 16 17.8	+00.1
14	60 54.6	+02.1	S 16 17.9	+00.1
15	75 56.7	+02.0	S 16 18.0	+00.1
16	90 58.7	+02.0	S 16 18.1	+00.1
17	106 00.7	+02.0	S 16 18.2	+00.1
18	121 02.7	+02.1	S 16 18.3	+00.0
19	136 04.8	+02.0	S 16 18.3	+00.1
20	151 06.8	+02.0	S 16 18.4	+00.1
21	166 08.8	+02.0	S 16 18.5	+00.1
22	181 10.8	+02.0	S 16 18.6	+00.1
23	196 12.8	+02.0	S 16 18.7	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′4	00′4	00′4	00′4	00′4	00′4
SHA	078°	078°	078°	078°	078°	078°

Greenwich Culmination Time: 09:56

Moon

A: 05%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	164 41.9	−33.4	S 18 26.0	−11.9
01	179 08.5	−33.2	S 18 14.1	−12.0
02	193 35.3	−33.1	S 18 02.1	−12.1
03	208 02.2	−33.0	S 17 50.0	−12.2
04	222 29.2	−32.9	S 17 37.8	−12.3
05	236 56.3	−32.8	S 17 25.5	−12.4
06	251 23.5	−32.6	S 17 13.1	−12.5
07	265 50.9	−32.6	S 17 00.6	−12.6
08	280 18.3	−32.4	S 16 48.0	−12.6
09	294 45.9	−32.3	S 16 35.4	−12.8
10	309 13.6	−32.2	S 16 22.6	−12.8
11	323 41.4	−32.1	S 16 09.8	−12.9
12	338 09.3	−32.0	S 15 56.9	−13.0
13	352 37.3	−31.8	S 15 43.9	−13.0
14	7 05.5	−31.8	S 15 30.9	−13.2
15	21 33.7	−31.6	S 15 17.7	−13.2
16	36 02.1	−31.6	S 15 04.5	−13.2
17	50 30.5	−31.4	S 14 51.3	−13.4
18	64 59.1	−31.3	S 14 37.9	−13.4
19	79 27.8	−31.2	S 14 24.5	−13.4
20	93 56.6	−31.1	S 14 11.1	−13.6
21	108 25.5	−31.0	S 13 57.5	−13.6
22	122 54.5	−30.9	S 13 43.9	−13.6
23	137 23.6	−30.8	S 13 30.3	−13.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′1	16′1	16′1
HP	59′5	59′4	59′3	59′2	59′0	58′9
SHA	031°	029°	027°	024°	022°	020°

Greenwich Culmination Time: 13:30

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	215 25.9	+00.5	S 23 47.8	−00.1
01	230 26.4	+00.4	S 23 47.7	+00.0
02	245 26.8	+00.5	S 23 47.7	−00.1
03	260 27.3	+00.5	S 23 47.6	+00.0
04	275 27.8	+00.4	S 23 47.6	−00.1
05	290 28.2	+00.5	S 23 47.5	−00.1
06	305 28.7	+00.5	S 23 47.4	+00.0
07	320 29.2	+00.4	S 23 47.4	−00.1
08	335 29.6	+00.5	S 23 47.3	+00.0
09	350 30.1	+00.5	S 23 47.3	−00.1
10	5 30.6	+00.4	S 23 47.2	−00.1
11	20 31.0	+00.5	S 23 47.1	+00.0
12	35 31.5	+00.5	S 23 47.1	−00.1
13	50 32.0	+00.5	S 23 47.0	+00.0
14	65 32.5	+00.4	S 23 47.0	−00.1
15	80 32.9	+00.5	S 23 46.9	−00.1
16	95 33.4	+00.5	S 23 46.8	+00.0
17	110 33.9	+00.4	S 23 46.8	−00.1
18	125 34.3	+00.5	S 23 46.7	+00.0
19	140 34.8	+00.5	S 23 46.7	−00.1
20	155 35.3	+00.4	S 23 46.6	−00.1
21	170 35.7	+00.5	S 23 46.5	+00.0
22	185 36.2	+00.5	S 23 46.5	−00.1
23	200 36.7	+00.4	S 23 46.4	−00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	083°	083°	083°	083°	083°	083°

Greenwich Culmination Time: 09:37

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	152 39.8	+01.9	S 09 40.7	−00.2
01	167 41.7	+02.0	S 09 40.5	−00.2
02	182 43.7	+01.9	S 09 40.3	−00.2
03	197 45.6	+01.9	S 09 40.1	−00.2
04	212 47.5	+01.9	S 09 39.9	−00.2
05	227 49.4	+01.9	S 09 39.7	−00.3
06	242 51.3	+02.0	S 09 39.4	−00.2
07	257 53.3	+01.9	S 09 39.2	−00.2
08	272 55.2	+01.9	S 09 39.0	−00.2
09	287 57.1	+01.9	S 09 38.8	−00.2
10	302 59.0	+01.9	S 09 38.6	−00.2
11	318 00.9	+02.0	S 09 38.4	−00.3
12	333 02.9	+01.9	S 09 38.1	−00.2
13	348 04.8	+01.9	S 09 37.9	−00.2
14	3 06.7	+01.9	S 09 37.7	−00.2
15	18 08.6	+01.9	S 09 37.5	−00.2
16	33 10.5	+01.9	S 09 37.3	−00.2
17	48 12.4	+02.0	S 09 37.1	−00.2
18	63 14.4	+01.9	S 09 36.9	−00.3
19	78 16.3	+01.9	S 09 36.6	−00.2
20	93 18.2	+01.9	S 09 36.4	−00.2
21	108 20.1	+01.9	S 09 36.2	−00.2
22	123 22.0	+02.0	S 09 36.0	−00.2
23	138 24.0	+01.9	S 09 35.8	−00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	020°	020°	020°	020°	020°	020°

Greenwich Culmination Time: 13:47

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	173 50.4	+02.1	S 16 58.0	−00.1
01	188 52.5	+02.2	S 16 57.9	−00.1
02	203 54.7	+02.2	S 16 57.8	−00.1
03	218 56.9	+02.1	S 16 57.7	+00.0
04	233 59.0	+02.2	S 16 57.7	−00.1
05	249 01.2	+02.2	S 16 57.6	−00.1
06	264 03.4	+02.1	S 16 57.5	−00.1
07	279 05.5	+02.2	S 16 57.4	−00.1
08	294 07.7	+02.2	S 16 57.3	−00.1
09	309 09.9	+02.1	S 16 57.2	−00.1
10	324 12.0	+02.2	S 16 57.1	+00.0
11	339 14.2	+02.1	S 16 57.1	−00.1
12	354 16.3	+02.2	S 16 57.0	−00.1
13	9 18.5	+02.2	S 16 56.9	−00.1
14	24 20.7	+02.1	S 16 56.8	−00.1
15	39 22.8	+02.2	S 16 56.7	−00.1
16	54 25.0	+02.2	S 16 56.6	−00.1
17	69 27.2	+02.1	S 16 56.5	−00.1
18	84 29.3	+02.2	S 16 56.4	+00.0
19	99 31.5	+02.2	S 16 56.4	−00.1
20	114 33.7	+02.1	S 16 56.3	−00.1
21	129 35.8	+02.2	S 16 56.2	−00.1
22	144 38.0	+02.2	S 16 56.1	−00.1
23	159 40.2	+02.1	S 16 56.0	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	042°	042°	042°	042°	042°	042°

Greenwich Culmination Time: 12:22

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2022 February 3 Thursday (day 34 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 34.1	−00.1	S 16 35.5	−00.7
01	191 34.0	+00.0	S 16 34.8	−00.8
02	206 34.0	−00.1	S 16 34.0	−00.7
03	221 33.9	−00.1	S 16 33.3	−00.7
04	236 33.8	+00.0	S 16 32.6	−00.8
05	251 33.8	−00.1	S 16 31.8	−00.7
06	266 33.7	−00.1	S 16 31.1	−00.7
07	281 33.6	+00.0	S 16 30.4	−00.8
08	296 33.6	−00.1	S 16 29.6	−00.7
09	311 33.5	−00.1	S 16 28.9	−00.7
10	326 33.4	+00.0	S 16 28.2	−00.8
11	341 33.4	−00.1	S 16 27.4	−00.7
12	356 33.3	−00.1	S 16 26.7	−00.8
13	11 33.2	+00.0	S 16 25.9	−00.7
14	26 33.2	−00.1	S 16 25.2	−00.7
15	41 33.1	−00.1	S 16 24.5	−00.8
16	56 33.0	+00.0	S 16 23.7	−00.7
17	71 33.0	−00.1	S 16 23.0	−00.8
18	86 32.9	−00.1	S 16 22.2	−00.7
19	101 32.8	+00.0	S 16 21.5	−00.8
20	116 32.8	−00.1	S 16 20.7	−00.7
21	131 32.7	−00.1	S 16 20.0	−00.7
22	146 32.6	+00.0	S 16 19.3	−00.8
23	161 32.6	−00.1	S 16 18.5	−00.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	043°	043°	043°	043°	043°	042°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	211 14.8	+01.9	S 16 18.8	+00.1
01	226 16.7	+02.0	S 16 18.9	+00.1
02	241 18.7	+02.0	S 16 19.0	+00.0
03	256 20.7	+02.0	S 16 19.0	+00.1
04	271 22.7	+02.0	S 16 19.1	+00.1
05	286 24.7	+01.9	S 16 19.2	+00.1
06	301 26.6	+02.0	S 16 19.3	+00.1
07	316 28.6	+02.0	S 16 19.4	+00.1
08	331 30.6	+01.9	S 16 19.5	+00.1
09	346 32.5	+02.0	S 16 19.6	+00.1
10	1 34.5	+01.9	S 16 19.7	+00.1
11	16 36.4	+02.0	S 16 19.8	+00.0
12	31 38.4	+01.9	S 16 19.8	+00.1
13	46 40.3	+01.9	S 16 19.9	+00.1
14	61 42.2	+02.0	S 16 20.0	+00.1
15	76 44.2	+01.9	S 16 20.1	+00.1
16	91 46.1	+01.9	S 16 20.2	+00.1
17	106 48.0	+02.0	S 16 20.3	+00.1
18	121 50.0	+01.9	S 16 20.4	+00.1
19	136 51.9	+01.9	S 16 20.5	+00.1
20	151 53.8	+01.9	S 16 20.6	+00.1
21	166 55.7	+01.9	S 16 20.7	+00.1
22	181 57.6	+01.9	S 16 20.8	+00.1
23	196 59.5	+01.9	S 16 20.9	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′4	00′4	00′4	00′4	00′4	00′4
SHA	078°	078°	078°	078°	078°	078°

Greenwich Culmination Time: 09:53

Moon

A: 08%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	151 52.8	−30.7	S 13 16.6	−13.8
01	166 22.1	−30.6	S 13 02.8	−13.8
02	180 51.5	−30.5	S 12 49.0	−13.9
03	195 21.0	−30.4	S 12 35.1	−13.9
04	209 50.6	−30.3	S 12 21.2	−14.0
05	224 20.3	−30.2	S 12 07.2	−14.0
06	238 50.1	−30.1	S 11 53.2	−14.1
07	253 20.0	−30.0	S 11 39.1	−14.1
08	267 50.0	−29.9	S 11 25.0	−14.1
09	282 20.1	−29.8	S 11 10.9	−14.2
10	296 50.3	−29.7	S 10 56.7	−14.2
11	311 20.6	−29.7	S 10 42.5	−14.3
12	325 50.9	−29.5	S 10 28.2	−14.3
13	340 21.4	−29.5	S 10 13.9	−14.3
14	354 51.9	−29.3	S 09 59.6	−14.4
15	9 22.6	−29.3	S 09 45.2	−14.4
16	23 53.3	−29.2	S 09 30.8	−14.4
17	38 24.1	−29.1	S 09 16.4	−14.5
18	52 55.0	−29.0	S 09 01.9	−14.5
19	67 26.0	−29.0	S 08 47.4	−14.5
20	81 57.0	−28.8	S 08 32.9	−14.5
21	96 28.2	−28.8	S 08 18.4	−14.6
22	110 59.4	−28.7	S 08 03.8	−14.5
23	125 30.7	−28.6	S 07 49.3	−14.6

UT	02	06	10	14	18	22
SD	16′0	16′0	15′9	15′9	15′9	15′8
HP	58′8	58′6	58′5	58′4	58′2	58′1
SHA	018°	015°	013°	011°	009°	007°

Greenwich Culmination Time: 14:21

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	215 37.1	+00.5	S 23 46.3	+00.0
01	230 37.6	+00.5	S 23 46.3	−00.1
02	245 38.1	+00.4	S 23 46.2	−00.1
03	260 38.5	+00.5	S 23 46.1	+00.0
04	275 39.0	+00.5	S 23 46.1	−00.1
05	290 39.5	+00.5	S 23 46.0	−00.1
06	305 40.0	+00.4	S 23 45.9	+00.0
07	320 40.4	+00.5	S 23 45.9	−00.1
08	335 40.9	+00.5	S 23 45.8	−00.1
09	350 41.4	+00.4	S 23 45.7	+00.0
10	5 41.8	+00.5	S 23 45.7	−00.1
11	20 42.3	+00.5	S 23 45.6	−00.1
12	35 42.8	+00.4	S 23 45.5	+00.0
13	50 43.2	+00.5	S 23 45.5	−00.1
14	65 43.7	+00.5	S 23 45.4	−00.1
15	80 44.2	+00.4	S 23 45.3	−00.1
16	95 44.6	+00.5	S 23 45.2	+00.0
17	110 45.1	+00.5	S 23 45.2	−00.1
18	125 45.6	+00.4	S 23 45.1	−00.1
19	140 46.0	+00.5	S 23 45.0	+00.0
20	155 46.5	+00.5	S 23 45.0	−00.1
21	170 47.0	+00.4	S 23 44.9	−00.1
22	185 47.4	+00.5	S 23 44.8	−00.1
23	200 47.9	+00.5	S 23 44.7	+00.0

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	082°	082°	082°	082°	082°	082°

Greenwich Culmination Time: 09:37

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	153 25.9	+01.9	S 09 35.5	−00.2
01	168 27.8	+01.9	S 09 35.3	−00.2
02	183 29.7	+01.9	S 09 35.1	−00.2
03	198 31.6	+02.0	S 09 34.9	−00.2
04	213 33.6	+01.9	S 09 34.7	−00.2
05	228 35.5	+01.9	S 09 34.5	−00.3
06	243 37.4	+01.9	S 09 34.2	−00.2
07	258 39.3	+01.9	S 09 34.0	−00.2
08	273 41.2	+01.9	S 09 33.8	−00.2
09	288 43.1	+02.0	S 09 33.6	−00.2
10	303 45.1	+01.9	S 09 33.4	−00.2
11	318 47.0	+01.9	S 09 33.2	−00.3
12	333 48.9	+01.9	S 09 32.9	−00.2
13	348 50.8	+01.9	S 09 32.7	−00.2
14	3 52.7	+02.0	S 09 32.5	−00.2
15	18 54.7	+01.9	S 09 32.3	−00.2
16	33 56.6	+01.9	S 09 32.1	−00.2
17	48 58.5	+01.9	S 09 31.9	−00.3
18	64 00.4	+01.9	S 09 31.6	−00.2
19	79 02.3	+01.9	S 09 31.4	−00.2
20	94 04.2	+02.0	S 09 31.2	−00.2
21	109 06.2	+01.9	S 09 31.0	−00.2
22	124 08.1	+01.9	S 09 30.8	−00.2
23	139 10.0	+01.9	S 09 30.6	−00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	020°	020°	020°	020°	020°	020°

Greenwich Culmination Time: 13:44

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	174 42.3	+02.2	S 16 55.9	−00.1
01	189 44.5	+02.1	S 16 55.8	+00.0
02	204 46.6	+02.2	S 16 55.8	−00.1
03	219 48.8	+02.2	S 16 55.7	−00.1
04	234 51.0	+02.1	S 16 55.6	−00.1
05	249 53.1	+02.2	S 16 55.5	−00.1
06	264 55.3	+02.2	S 16 55.4	−00.1
07	279 57.5	+02.1	S 16 55.3	−00.1
08	294 59.6	+02.2	S 16 55.2	+00.0
09	310 01.8	+02.2	S 16 55.2	−00.1
10	325 04.0	+02.1	S 16 55.1	−00.1
11	340 06.1	+02.2	S 16 55.0	−00.1
12	355 08.3	+02.1	S 16 54.9	−00.1
13	10 10.4	+02.2	S 16 54.8	−00.1
14	25 12.6	+02.2	S 16 54.7	−00.1
15	40 14.8	+02.1	S 16 54.6	−00.1
16	55 16.9	+02.2	S 16 54.5	+00.0
17	70 19.1	+02.2	S 16 54.5	−00.1
18	85 21.3	+02.1	S 16 54.4	−00.1
19	100 23.4	+02.2	S 16 54.3	−00.1
20	115 25.6	+02.2	S 16 54.2	−00.1
21	130 27.8	+02.1	S 16 54.1	−00.1
22	145 29.9	+02.2	S 16 54.0	−00.1
23	160 32.1	+02.1	S 16 53.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	042°	042°	042°	041°	041°	041°

Greenwich Culmination Time: 12:19

2022 February 4 Friday (day 35 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 32.5	+00.0	S 16 17.8	−00.8
01	191 32.5	−00.1	S 16 17.0	−00.7
02	206 32.4	−00.1	S 16 16.3	−00.8
03	221 32.3	+00.0	S 16 15.5	−00.7
04	236 32.3	−00.1	S 16 14.8	−00.8
05	251 32.2	+00.0	S 16 14.0	−00.7
06	266 32.2	−00.1	S 16 13.3	−00.8
07	281 32.1	−00.1	S 16 12.5	−00.7
08	296 32.0	+00.0	S 16 11.8	−00.8
09	311 32.0	−00.1	S 16 11.0	−00.7
10	326 31.9	+00.0	S 16 10.3	−00.8
11	341 31.9	−00.1	S 16 09.5	−00.7
12	356 31.8	−00.1	S 16 08.8	−00.8
13	11 31.7	+00.0	S 16 08.0	−00.7
14	26 31.7	−00.1	S 16 07.3	−00.8
15	41 31.6	+00.0	S 16 06.5	−00.7
16	56 31.6	−00.1	S 16 05.8	−00.8
17	71 31.5	+00.0	S 16 05.0	−00.7
18	86 31.5	−00.1	S 16 04.3	−00.8
19	101 31.4	+00.0	S 16 03.5	−00.7
20	116 31.4	−00.1	S 16 02.8	−00.8
21	131 31.3	−00.1	S 16 02.0	−00.7
22	146 31.2	+00.0	S 16 01.3	−00.8
23	161 31.2	−00.1	S 16 00.5	−00.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	042°	042°	042°	042°	042°	041°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	212 01.4	+01.9	S 16 21.0	+00.0
01	227 03.3	+01.9	S 16 21.0	+00.1
02	242 05.2	+01.9	S 16 21.1	+00.1
03	257 07.1	+01.9	S 16 21.2	+00.1
04	272 09.0	+01.8	S 16 21.3	+00.1
05	287 10.8	+01.9	S 16 21.4	+00.1
06	302 12.7	+01.9	S 16 21.5	+00.1
07	317 14.6	+01.9	S 16 21.6	+00.1
08	332 16.5	+01.8	S 16 21.7	+00.1
09	347 18.3	+01.9	S 16 21.8	+00.1
10	2 20.2	+01.8	S 16 21.9	+00.1
11	17 22.0	+01.9	S 16 22.0	+00.1
12	32 23.9	+01.8	S 16 22.1	+00.1
13	47 25.7	+01.9	S 16 22.2	+00.1
14	62 27.6	+01.8	S 16 22.3	+00.1
15	77 29.4	+01.9	S 16 22.4	+00.1
16	92 31.3	+01.8	S 16 22.5	+00.1
17	107 33.1	+01.8	S 16 22.6	+00.1
18	122 34.9	+01.9	S 16 22.7	+00.1
19	137 36.8	+01.8	S 16 22.8	+00.1
20	152 38.6	+01.8	S 16 22.9	+00.1
21	167 40.4	+01.8	S 16 23.0	+00.1
22	182 42.2	+01.8	S 16 23.1	+00.1
23	197 44.0	+01.8	S 16 23.2	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′4	00′4	00′4	00′4	00′4	00′4
SHA	078°	078°	078°	078°	078°	078°

Greenwich Culmination Time: 09:50

Moon

A: 11%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	140 02.1	−28.6	S 07 34.7	−14.6
01	154 33.5	−28.4	S 07 20.1	−14.6
02	169 05.1	−28.4	S 07 05.5	−14.7
03	183 36.7	−28.3	S 06 50.8	−14.6
04	198 08.4	−28.3	S 06 36.2	−14.7
05	212 40.1	−28.2	S 06 21.5	−14.7
06	227 11.9	−28.1	S 06 06.8	−14.7
07	241 43.8	−28.0	S 05 52.1	−14.7
08	256 15.8	−28.0	S 05 37.4	−14.7
09	270 47.8	−27.9	S 05 22.7	−14.7
10	285 19.9	−27.8	S 05 08.0	−14.7
11	299 52.1	−27.8	S 04 53.3	−14.7
12	314 24.3	−27.7	S 04 38.6	−14.7
13	328 56.6	−27.7	S 04 23.9	−14.7
14	343 28.9	−27.6	S 04 09.2	−14.7
15	358 01.3	−27.5	S 03 54.5	−14.7
16	12 33.8	−27.5	S 03 39.8	−14.7
17	27 06.3	−27.5	S 03 25.1	−14.8
18	41 38.8	−27.3	S 03 10.3	−14.7
19	56 11.5	−27.3	S 02 55.6	−14.6
20	70 44.2	−27.3	S 02 41.0	−14.7
21	85 16.9	−27.2	S 02 26.3	−14.7
22	99 49.7	−27.2	S 02 11.6	−14.7
23	114 22.5	−27.1	S 01 56.9	−14.6

UT	02	06	10	14	18	22
SD	15′8	15′7	15′7	15′7	15′6	15′6
HP	57′9	57′8	57′6	57′5	57′3	57′2
SHA	005°	003°	001°	359°	357°	355°

Greenwich Culmination Time: 15:08

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	215 48.4	+00.4	S 23 44.7	−00.1
01	230 48.8	+00.5	S 23 44.6	−00.1
02	245 49.3	+00.5	S 23 44.5	−00.1
03	260 49.8	+00.4	S 23 44.4	+00.0
04	275 50.2	+00.5	S 23 44.4	−00.1
05	290 50.7	+00.5	S 23 44.3	−00.1
06	305 51.2	+00.4	S 23 44.2	−00.1
07	320 51.6	+00.5	S 23 44.1	−00.1
08	335 52.1	+00.5	S 23 44.0	+00.0
09	350 52.6	+00.5	S 23 44.0	−00.1
10	5 53.1	+00.4	S 23 43.9	−00.1
11	20 53.5	+00.5	S 23 43.8	−00.1
12	35 54.0	+00.5	S 23 43.7	−00.1
13	50 54.5	+00.4	S 23 43.6	+00.0
14	65 54.9	+00.5	S 23 43.6	−00.1
15	80 55.4	+00.5	S 23 43.5	−00.1
16	95 55.9	+00.4	S 23 43.4	−00.1
17	110 56.3	+00.5	S 23 43.3	−00.1
18	125 56.8	+00.5	S 23 43.2	+00.0
19	140 57.3	+00.4	S 23 43.2	−00.1
20	155 57.7	+00.5	S 23 43.1	−00.1
21	170 58.2	+00.5	S 23 43.0	−00.1
22	185 58.7	+00.4	S 23 42.9	−00.1
23	200 59.1	+00.5	S 23 42.8	−00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	082°	081°	081°	081°	081°	081°

Greenwich Culmination Time: 09:36

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	154 11.9	+01.9	S 09 30.3	−00.2
01	169 13.8	+02.0	S 09 30.1	−00.2
02	184 15.8	+01.9	S 09 29.9	−00.2
03	199 17.7	+01.9	S 09 29.7	−00.2
04	214 19.6	+01.9	S 09 29.5	−00.3
05	229 21.5	+01.9	S 09 29.2	−00.2
06	244 23.4	+01.9	S 09 29.0	−00.2
07	259 25.3	+02.0	S 09 28.8	−00.2
08	274 27.3	+01.9	S 09 28.6	−00.2
09	289 29.2	+01.9	S 09 28.4	−00.2
10	304 31.1	+01.9	S 09 28.2	−00.3
11	319 33.0	+01.9	S 09 27.9	−00.2
12	334 34.9	+01.9	S 09 27.7	−00.2
13	349 36.8	+02.0	S 09 27.5	−00.2
14	4 38.8	+01.9	S 09 27.3	−00.2
15	19 40.7	+01.9	S 09 27.1	−00.3
16	34 42.6	+01.9	S 09 26.8	−00.2
17	49 44.5	+01.9	S 09 26.6	−00.2
18	64 46.4	+01.9	S 09 26.4	−00.2
19	79 48.3	+02.0	S 09 26.2	−00.2
20	94 50.3	+01.9	S 09 26.0	−00.2
21	109 52.2	+01.9	S 09 25.8	−00.3
22	124 54.1	+01.9	S 09 25.5	−00.2
23	139 56.0	+01.9	S 09 25.3	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	020°	020°	020°	020°	020°	020°

Greenwich Culmination Time: 13:41

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	175 34.2	+02.2	S 16 53.9	−00.1
01	190 36.4	+02.2	S 16 53.8	−00.1
02	205 38.6	+02.1	S 16 53.7	−00.1
03	220 40.7	+02.2	S 16 53.6	−00.1
04	235 42.9	+02.2	S 16 53.5	−00.1
05	250 45.1	+02.1	S 16 53.4	−00.1
06	265 47.2	+02.2	S 16 53.3	−00.1
07	280 49.4	+02.2	S 16 53.2	+00.0
08	295 51.6	+02.1	S 16 53.2	−00.1
09	310 53.7	+02.2	S 16 53.1	−00.1
10	325 55.9	+02.2	S 16 53.0	−00.1
11	340 58.1	+02.1	S 16 52.9	−00.1
12	356 00.2	+02.2	S 16 52.8	−00.1
13	11 02.4	+02.1	S 16 52.7	−00.1
14	26 04.5	+02.2	S 16 52.6	+00.0
15	41 06.7	+02.2	S 16 52.6	−00.1
16	56 08.9	+02.1	S 16 52.5	−00.1
17	71 11.0	+02.2	S 16 52.4	−00.1
18	86 13.2	+02.2	S 16 52.3	−00.1
19	101 15.4	+02.1	S 16 52.2	−00.1
20	116 17.5	+02.2	S 16 52.1	−00.1
21	131 19.7	+02.2	S 16 52.0	−00.1
22	146 21.9	+02.1	S 16 51.9	+00.0
23	161 24.0	+02.2	S 16 51.9	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	041°	041°	041°	041°	041°	041°

Greenwich Culmination Time: 12:15

2022 February 9 Wednesday (day 40 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 27.6	+00.0	S 14 45.0	−00.8
01	191 27.6	+00.0	S 14 44.2	−00.8
02	206 27.6	+00.0	S 14 43.4	−00.8
03	221 27.6	+00.0	S 14 42.6	−00.8
04	236 27.6	+00.0	S 14 41.8	−00.8
05	251 27.6	−00.1	S 14 41.0	−00.8
06	266 27.5	+00.0	S 14 40.2	−00.8
07	281 27.5	+00.0	S 14 39.4	−00.8
08	296 27.5	+00.0	S 14 38.6	−00.8
09	311 27.5	+00.0	S 14 37.8	−00.8
10	326 27.5	+00.0	S 14 37.0	−00.8
11	341 27.5	−00.1	S 14 36.2	−00.8
12	356 27.4	+00.0	S 14 35.4	−00.8
13	11 27.4	+00.0	S 14 34.6	−00.9
14	26 27.4	+00.0	S 14 33.7	−00.8
15	41 27.4	+00.0	S 14 32.9	−00.8
16	56 27.4	+00.0	S 14 32.1	−00.8
17	71 27.4	+00.0	S 14 31.3	−00.8
18	86 27.4	−00.1	S 14 30.5	−00.8
19	101 27.3	+00.0	S 14 29.7	−00.8
20	116 27.3	+00.0	S 14 28.9	−00.8
21	131 27.3	+00.0	S 14 28.1	−00.8
22	146 27.3	+00.0	S 14 27.3	−00.8
23	161 27.3	+00.0	S 14 26.5	−00.8

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	037°	037°	037°	037°	037°	036°

Greenwich Culmination Time: 12:14

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	215 22.4	+01.5	S 16 33.3	+00.1
01	230 23.9	+01.4	S 16 33.4	+00.1
02	245 25.3	+01.5	S 16 33.5	+00.1
03	260 26.8	+01.4	S 16 33.6	+00.2
04	275 28.2	+01.5	S 16 33.8	+00.1
05	290 29.7	+01.4	S 16 33.9	+00.1
06	305 31.1	+01.5	S 16 34.0	+00.1
07	320 32.6	+01.4	S 16 34.1	+00.1
08	335 34.0	+01.5	S 16 34.2	+00.1
09	350 35.5	+01.4	S 16 34.3	+00.1
10	5 36.9	+01.4	S 16 34.4	+00.1
11	20 38.3	+01.4	S 16 34.5	+00.1
12	35 39.7	+01.5	S 16 34.6	+00.1
13	50 41.2	+01.4	S 16 34.7	+00.1
14	65 42.6	+01.4	S 16 34.8	+00.1
15	80 44.0	+01.4	S 16 34.9	+00.1
16	95 45.4	+01.4	S 16 35.0	+00.1
17	110 46.8	+01.4	S 16 35.1	+00.2
18	125 48.2	+01.4	S 16 35.3	+00.1
19	140 49.6	+01.4	S 16 35.4	+00.1
20	155 51.0	+01.4	S 16 35.5	+00.1
21	170 52.4	+01.4	S 16 35.6	+00.1
22	185 53.8	+01.4	S 16 35.7	+00.1
23	200 55.2	+01.4	S 16 35.8	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′4	00′4	00′4	00′4	00′4	00′4
SHA	076°	076°	076°	076°	076°	076°

Greenwich Culmination Time: 09:37

Moon

A: 26%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	86 31.3	−27.4	N 18 42.7	+09.7
01	101 03.9	−27.4	N 18 52.4	+09.6
02	115 36.5	−27.5	N 19 02.0	+09.5
03	130 09.0	−27.5	N 19 11.5	+09.5
04	144 41.5	−27.6	N 19 21.0	+09.4
05	159 13.9	−27.6	N 19 30.4	+09.2
06	173 46.3	−27.6	N 19 39.6	+09.2
07	188 18.7	−27.7	N 19 48.8	+09.1
08	202 51.0	−27.7	N 19 57.9	+09.1
09	217 23.3	−27.8	N 20 07.0	+08.9
10	231 55.5	−27.8	N 20 15.9	+08.8
11	246 27.7	−27.9	N 20 24.7	+08.8
12	260 59.8	−27.9	N 20 33.5	+08.6
13	275 31.9	−28.0	N 20 42.1	+08.6
14	290 03.9	−28.0	N 20 50.7	+08.4
15	304 35.9	−28.0	N 20 59.1	+08.4
16	319 07.9	−28.1	N 21 07.5	+08.3
17	333 39.8	−28.2	N 21 15.8	+08.2
18	348 11.6	−28.2	N 21 24.0	+08.1
19	2 43.4	−28.2	N 21 32.1	+08.0
20	17 15.2	−28.3	N 21 40.1	+07.9
21	31 46.9	−28.3	N 21 48.0	+07.8
22	46 18.6	−28.4	N 21 55.8	+07.7
23	60 50.2	−28.4	N 22 03.5	+07.6

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′5	54′4	54′4	54′3	54′3	54′2
SHA	306°	304°	302°	300°	298°	296°

Greenwich Culmination Time: 18:48

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	216 44.4	+00.5	S 23 32.6	−00.1
01	231 44.9	+00.5	S 23 32.5	−00.1
02	246 45.4	+00.4	S 23 32.4	−00.2
03	261 45.8	+00.5	S 23 32.2	−00.1
04	276 46.3	+00.5	S 23 32.1	−00.1
05	291 46.8	+00.4	S 23 32.0	−00.1
06	306 47.2	+00.5	S 23 31.9	−00.2
07	321 47.7	+00.5	S 23 31.7	−00.1
08	336 48.2	+00.4	S 23 31.6	−00.1
09	351 48.6	+00.5	S 23 31.5	−00.1
10	6 49.1	+00.5	S 23 31.4	−00.2
11	21 49.6	+00.4	S 23 31.2	−00.1
12	36 50.0	+00.5	S 23 31.1	−00.1
13	51 50.5	+00.5	S 23 31.0	−00.2
14	66 51.0	+00.4	S 23 30.8	−00.1
15	81 51.4	+00.5	S 23 30.7	−00.1
16	96 51.9	+00.5	S 23 30.6	−00.2
17	111 52.4	+00.4	S 23 30.4	−00.1
18	126 52.8	+00.5	S 23 30.3	−00.1
19	141 53.3	+00.5	S 23 30.2	−00.2
20	156 53.8	+00.4	S 23 30.0	−00.1
21	171 54.2	+00.5	S 23 29.9	−00.1
22	186 54.7	+00.5	S 23 29.8	−00.2
23	201 55.2	+00.4	S 23 29.6	−00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	078°	077°	077°	077°	077°	077°

Greenwich Culmination Time: 09:32

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	158 01.7	+01.9	S 09 04.0	−00.3
01	173 03.6	+01.9	S 09 03.7	−00.2
02	188 05.5	+01.9	S 09 03.5	−00.2
03	203 07.4	+01.9	S 09 03.3	−00.2
04	218 09.3	+01.9	S 09 03.1	−00.2
05	233 11.2	+01.9	S 09 02.9	−00.3
06	248 13.1	+02.0	S 09 02.6	−00.2
07	263 15.1	+01.9	S 09 02.4	−00.2
08	278 17.0	+01.9	S 09 02.2	−00.2
09	293 18.9	+01.9	S 09 02.0	−00.3
10	308 20.8	+01.9	S 09 01.7	−00.2
11	323 22.7	+01.9	S 09 01.5	−00.2
12	338 24.6	+01.9	S 09 01.3	−00.2
13	353 26.5	+01.9	S 09 01.1	−00.2
14	8 28.4	+01.9	S 09 00.9	−00.3
15	23 30.3	+02.0	S 09 00.6	−00.2
16	38 32.3	+01.9	S 09 00.4	−00.2
17	53 34.2	+01.9	S 09 00.2	−00.2
18	68 36.1	+01.9	S 08 60.0	−00.2
19	83 38.0	+01.9	S 08 59.8	−00.3
20	98 39.9	+01.9	S 08 59.5	−00.2
21	113 41.8	+01.9	S 08 59.3	−00.2
22	128 43.7	+01.9	S 08 59.1	−00.2
23	143 45.6	+01.9	S 08 58.9	−00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	019°	019°	019°	019°	019°	019°

Greenwich Culmination Time: 13:26

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	179 54.0	+02.2	S 16 43.4	−00.1
01	194 56.2	+02.1	S 16 43.3	−00.1
02	209 58.3	+02.2	S 16 43.2	−00.1
03	225 00.5	+02.1	S 16 43.1	+00.0
04	240 02.6	+02.2	S 16 43.1	−00.1
05	255 04.8	+02.2	S 16 43.0	−00.1
06	270 07.0	+02.1	S 16 42.9	−00.1
07	285 09.1	+02.2	S 16 42.8	−00.1
08	300 11.3	+02.2	S 16 42.7	−00.1
09	315 13.5	+02.1	S 16 42.6	−00.1
10	330 15.6	+02.2	S 16 42.5	−00.1
11	345 17.8	+02.2	S 16 42.4	+00.0
12	0 20.0	+02.1	S 16 42.4	−00.1
13	15 22.1	+02.2	S 16 42.3	−00.1
14	30 24.3	+02.2	S 16 42.2	−00.1
15	45 26.5	+02.1	S 16 42.1	−00.1
16	60 28.6	+02.2	S 16 42.0	−00.1
17	75 30.8	+02.2	S 16 41.9	−00.1
18	90 33.0	+02.1	S 16 41.8	−00.1
19	105 35.1	+02.2	S 16 41.7	+00.0
20	120 37.3	+02.2	S 16 41.7	−00.1
21	135 39.5	+02.1	S 16 41.6	−00.1
22	150 41.6	+02.2	S 16 41.5	−00.1
23	165 43.8	+02.2	S 16 41.4	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	041°	041°	041°	041°	041°	041°

Greenwich Culmination Time: 11:58

2022 February 6 Sunday (day 37 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 30.0	−00.1	S 15 41.5	−00.8
01	191 29.9	+00.0	S 15 40.7	−00.8
02	206 29.9	−00.1	S 15 39.9	−00.8
03	221 29.8	+00.0	S 15 39.1	−00.7
04	236 29.8	−00.1	S 15 38.4	−00.8
05	251 29.7	+00.0	S 15 37.6	−00.8
06	266 29.7	+00.0	S 15 36.8	−00.7
07	281 29.7	−00.1	S 15 36.1	−00.8
08	296 29.6	+00.0	S 15 35.3	−00.8
09	311 29.6	−00.1	S 15 34.5	−00.7
10	326 29.5	+00.0	S 15 33.8	−00.8
11	341 29.5	−00.1	S 15 33.0	−00.8
12	356 29.4	+00.0	S 15 32.2	−00.8
13	11 29.4	+00.0	S 15 31.4	−00.7
14	26 29.4	−00.1	S 15 30.7	−00.8
15	41 29.3	+00.0	S 15 29.9	−00.8
16	56 29.3	−00.1	S 15 29.1	−00.8
17	71 29.2	+00.0	S 15 28.3	−00.7
18	86 29.2	+00.0	S 15 27.6	−00.8
19	101 29.2	−00.1	S 15 26.8	−00.8
20	116 29.1	+00.0	S 15 26.0	−00.8
21	131 29.1	+00.0	S 15 25.2	−00.8
22	146 29.1	−00.1	S 15 24.4	−00.7
23	161 29.0	+00.0	S 15 23.7	−00.8

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	040°	040°	040°	040°	040°	039°

Greenwich Culmination Time: 12:14

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	213 28.1	+01.7	S 16 25.7	+00.1
01	228 29.8	+01.7	S 16 25.8	+00.1
02	243 31.5	+01.7	S 16 25.9	+00.1
03	258 33.2	+01.7	S 16 26.0	+00.1
04	273 34.9	+01.7	S 16 26.1	+00.1
05	288 36.6	+01.7	S 16 26.2	+00.1
06	303 38.3	+01.7	S 16 26.3	+00.1
07	318 40.0	+01.7	S 16 26.4	+00.1
08	333 41.7	+01.7	S 16 26.5	+00.1
09	348 43.4	+01.6	S 16 26.6	+00.1
10	3 45.0	+01.7	S 16 26.7	+00.1
11	18 46.7	+01.7	S 16 26.8	+00.1
12	33 48.4	+01.7	S 16 26.9	+00.1
13	48 50.1	+01.6	S 16 27.0	+00.1
14	63 51.7	+01.7	S 16 27.1	+00.1
15	78 53.4	+01.7	S 16 27.2	+00.1
16	93 55.1	+01.6	S 16 27.3	+00.2
17	108 56.7	+01.7	S 16 27.5	+00.1
18	123 58.4	+01.6	S 16 27.6	+00.1
19	139 00.0	+01.7	S 16 27.7	+00.1
20	154 01.7	+01.6	S 16 27.8	+00.1
21	169 03.3	+01.6	S 16 27.9	+00.1
22	184 04.9	+01.7	S 16 28.0	+00.1
23	199 06.6	+01.6	S 16 28.1	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′4	00′4	00′4	00′4	00′4	00′4
SHA	077°	077°	077°	077°	077°	077°

Greenwich Culmination Time: 09:45

Moon

A: 17%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	118 16.1	−26.2	N 04 03.6	+14.1
01	132 49.9	−26.3	N 04 17.7	+14.0
02	147 23.6	−26.2	N 04 31.7	+14.0
03	161 57.4	−26.3	N 04 45.7	+13.9
04	176 31.1	−26.2	N 04 59.6	+14.0
05	191 04.9	−26.2	N 05 13.6	+13.8
06	205 38.7	−26.2	N 05 27.4	+13.9
07	220 12.5	−26.2	N 05 41.3	+13.8
08	234 46.3	−26.1	N 05 55.1	+13.8
09	249 20.2	−26.2	N 06 08.9	+13.7
10	263 54.0	−26.1	N 06 22.6	+13.6
11	278 27.9	−26.2	N 06 36.2	+13.7
12	293 01.7	−26.1	N 06 49.9	+13.6
13	307 35.6	−26.1	N 07 03.5	+13.5
14	322 09.5	−26.2	N 07 17.0	+13.5
15	336 43.3	−26.1	N 07 30.5	+13.5
16	351 17.2	−26.1	N 07 44.0	+13.4
17	5 51.1	−26.1	N 07 57.4	+13.3
18	20 25.0	−26.1	N 08 10.7	+13.3
19	34 58.9	−26.2	N 08 24.0	+13.3
20	49 32.7	−26.1	N 08 37.3	+13.2
21	64 06.6	−26.1	N 08 50.5	+13.2
22	78 40.5	−26.1	N 09 03.7	+13.1
23	93 14.4	−26.2	N 09 16.8	+13.0

UT	02	06	10	14	18	22
SD	15′3	15′3	15′2	15′2	15′2	15′1
HP	56′2	56′1	56′0	55′8	55′7	55′6
SHA	341°	339°	337°	335°	334°	332°

Greenwich Culmination Time: 16:35

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	216 10.8	+00.5	S 23 40.6	−00.1
01	231 11.3	+00.4	S 23 40.5	−00.1
02	246 11.7	+00.5	S 23 40.4	−00.1
03	261 12.2	+00.5	S 23 40.3	−00.1
04	276 12.7	+00.4	S 23 40.2	−00.1
05	291 13.1	+00.5	S 23 40.1	−00.1
06	306 13.6	+00.5	S 23 40.0	−00.1
07	321 14.1	+00.4	S 23 39.9	−00.1
08	336 14.5	+00.5	S 23 39.8	−00.1
09	351 15.0	+00.5	S 23 39.7	−00.1
10	6 15.5	+00.4	S 23 39.6	−00.1
11	21 15.9	+00.5	S 23 39.5	−00.1
12	36 16.4	+00.5	S 23 39.4	−00.1
13	51 16.9	+00.4	S 23 39.3	−00.1
14	66 17.3	+00.5	S 23 39.2	−00.1
15	81 17.8	+00.5	S 23 39.1	−00.1
16	96 18.3	+00.4	S 23 39.0	−00.1
17	111 18.7	+00.5	S 23 38.9	−00.1
18	126 19.2	+00.5	S 23 38.8	−00.1
19	141 19.7	+00.4	S 23 38.7	−00.1
20	156 20.1	+00.5	S 23 38.6	−00.1
21	171 20.6	+00.5	S 23 38.5	−00.1
22	186 21.1	+00.4	S 23 38.4	−00.1
23	201 21.5	+00.5	S 23 38.3	−00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	080°	080°	080°	080°	079°	079°

Greenwich Culmination Time: 09:34

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	155 43.9	+01.9	S 09 19.8	−00.2
01	170 45.8	+01.9	S 09 19.6	−00.2
02	185 47.7	+01.9	S 09 19.4	−00.2
03	200 49.6	+02.0	S 09 19.2	−00.2
04	215 51.6	+01.9	S 09 19.0	−00.3
05	230 53.5	+01.9	S 09 18.7	−00.2
06	245 55.4	+01.9	S 09 18.5	−00.2
07	260 57.3	+01.9	S 09 18.3	−00.2
08	275 59.2	+01.9	S 09 18.1	−00.2
09	291 01.1	+02.0	S 09 17.9	−00.2
10	306 03.1	+01.9	S 09 17.7	−00.3
11	321 05.0	+01.9	S 09 17.4	−00.2
12	336 06.9	+01.9	S 09 17.2	−00.2
13	351 08.8	+01.9	S 09 17.0	−00.2
14	6 10.7	+01.9	S 09 16.8	−00.2
15	21 12.6	+01.9	S 09 16.6	−00.3
16	36 14.5	+02.0	S 09 16.3	−00.2
17	51 16.5	+01.9	S 09 16.1	−00.2
18	66 18.4	+01.9	S 09 15.9	−00.2
19	81 20.3	+01.9	S 09 15.7	−00.2
20	96 22.2	+01.9	S 09 15.5	−00.3
21	111 24.1	+01.9	S 09 15.2	−00.2
22	126 26.0	+01.9	S 09 15.0	−00.2
23	141 27.9	+02.0	S 09 14.8	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	020°	020°	020°	019°	019°	019°

Greenwich Culmination Time: 13:35

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 18.1	+02.2	S 16 49.7	−00.1
01	192 20.3	+02.2	S 16 49.6	−00.1
02	207 22.5	+02.1	S 16 49.5	−00.1
03	222 24.6	+02.2	S 16 49.4	−00.1
04	237 26.8	+02.2	S 16 49.3	−00.1
05	252 29.0	+02.1	S 16 49.2	+00.0
06	267 31.1	+02.2	S 16 49.2	−00.1
07	282 33.3	+02.2	S 16 49.1	−00.1
08	297 35.5	+02.1	S 16 49.0	−00.1
09	312 37.6	+02.2	S 16 48.9	−00.1
10	327 39.8	+02.1	S 16 48.8	−00.1
11	342 41.9	+02.2	S 16 48.7	−00.1
12	357 44.1	+02.2	S 16 48.6	−00.1
13	12 46.3	+02.1	S 16 48.5	+00.0
14	27 48.4	+02.2	S 16 48.5	−00.1
15	42 50.6	+02.2	S 16 48.4	−00.1
16	57 52.8	+02.1	S 16 48.3	−00.1
17	72 54.9	+02.2	S 16 48.2	−00.1
18	87 57.1	+02.2	S 16 48.1	−00.1
19	102 59.3	+02.1	S 16 48.0	−00.1
20	118 01.4	+02.2	S 16 47.9	+00.0
21	133 03.6	+02.2	S 16 47.9	−00.1
22	148 05.8	+02.1	S 16 47.8	−00.1
23	163 07.9	+02.2	S 16 47.7	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	041°	041°	041°	041°	041°	041°

Greenwich Culmination Time: 12:09

2022 February 7 Monday (day 38 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	176 29.0	−00.1	S 15 22.9	−00.8
01	191 28.9	+00.0	S 15 22.1	−00.8
02	206 28.9	+00.0	S 15 21.3	−00.7
03	221 28.9	−00.1	S 15 20.6	−00.8
04	236 28.8	+00.0	S 15 19.8	−00.8
05	251 28.8	+00.0	S 15 19.0	−00.8
06	266 28.8	−00.1	S 15 18.2	−00.8
07	281 28.7	+00.0	S 15 17.4	−00.8
08	296 28.7	+00.0	S 15 16.6	−00.7
09	311 28.7	−00.1	S 15 15.9	−00.8
10	326 28.6	+00.0	S 15 15.1	−00.8
11	341 28.6	+00.0	S 15 14.3	−00.8
12	356 28.6	−00.1	S 15 13.5	−00.8
13	11 28.5	+00.0	S 15 12.7	−00.8
14	26 28.5	+00.0	S 15 11.9	−00.7
15	41 28.5	−00.1	S 15 11.2	−00.8
16	56 28.4	+00.0	S 15 10.4	−00.8
17	71 28.4	+00.0	S 15 09.6	−00.8
18	86 28.4	+00.0	S 15 08.8	−00.8
19	101 28.4	−00.1	S 15 08.0	−00.8
20	116 28.3	+00.0	S 15 07.2	−00.8
21	131 28.3	+00.0	S 15 06.4	−00.8
22	146 28.3	−00.1	S 15 05.6	−00.7
23	161 28.2	+00.0	S 15 04.9	−00.8

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	039°	039°	039°	039°	039°	038°

Greenwich Culmination Time: 12:14

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	214 08.2	+01.6	S 16 28.2	+00.1
01	229 09.8	+01.7	S 16 28.3	+00.1
02	244 11.5	+01.6	S 16 28.4	+00.1
03	259 13.1	+01.6	S 16 28.5	+00.1
04	274 14.7	+01.6	S 16 28.6	+00.1
05	289 16.3	+01.6	S 16 28.7	+00.1
06	304 17.9	+01.6	S 16 28.8	+00.1
07	319 19.5	+01.6	S 16 28.9	+00.1
08	334 21.1	+01.6	S 16 29.0	+00.1
09	349 22.7	+01.6	S 16 29.1	+00.1
10	4 24.3	+01.6	S 16 29.2	+00.2
11	19 25.9	+01.6	S 16 29.4	+00.1
12	34 27.5	+01.6	S 16 29.5	+00.1
13	49 29.1	+01.6	S 16 29.6	+00.1
14	64 30.7	+01.5	S 16 29.7	+00.1
15	79 32.2	+01.6	S 16 29.8	+00.1
16	94 33.8	+01.6	S 16 29.9	+00.1
17	109 35.4	+01.6	S 16 30.0	+00.1
18	124 37.0	+01.5	S 16 30.1	+00.1
19	139 38.5	+01.6	S 16 30.2	+00.1
20	154 40.1	+01.5	S 16 30.3	+00.1
21	169 41.6	+01.6	S 16 30.4	+00.1
22	184 43.2	+01.6	S 16 30.5	+00.1
23	199 44.8	+01.5	S 16 30.6	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′4	00′4	00′4	00′4	00′4	00′4
SHA	077°	077°	077°	077°	077°	077°

Greenwich Culmination Time: 09:42

Moon

A: 20%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	107 48.2	−26.1	N 09 29.8	+13.1
01	122 22.1	−26.1	N 09 42.9	+12.9
02	136 56.0	−26.2	N 09 55.8	+12.9
03	151 29.8	−26.2	N 10 08.7	+12.9
04	166 03.6	−26.1	N 10 21.6	+12.7
05	180 37.5	−26.2	N 10 34.3	+12.8
06	195 11.3	−26.2	N 10 47.1	+12.7
07	209 45.1	−26.2	N 10 59.8	+12.6
08	224 18.9	−26.2	N 11 12.4	+12.5
09	238 52.7	−26.2	N 11 24.9	+12.5
10	253 26.5	−26.3	N 11 37.4	+12.5
11	268 00.2	−26.2	N 11 49.9	+12.4
12	282 34.0	−26.3	N 12 02.3	+12.3
13	297 07.7	−26.3	N 12 14.6	+12.3
14	311 41.4	−26.3	N 12 26.9	+12.2
15	326 15.1	−26.4	N 12 39.1	+12.1
16	340 48.7	−26.3	N 12 51.2	+12.1
17	355 22.4	−26.4	N 13 03.3	+12.0
18	9 56.0	−26.4	N 13 15.3	+11.9
19	24 29.6	−26.4	N 13 27.2	+11.9
20	39 03.2	−26.5	N 13 39.1	+11.8
21	53 36.7	−26.4	N 13 50.9	+11.8
22	68 10.3	−26.5	N 14 02.7	+11.6
23	82 43.8	−26.5	N 14 14.3	+11.7

UT	02	06	10	14	18	22
SD	15′1	15′1	15′1	15′0	15′0	15′0
HP	55′5	55′4	55′3	55′2	55′1	55′0
SHA	330°	328°	326°	324°	322°	320°

Greenwich Culmination Time: 17:19

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	216 22.0	+00.5	S 23 38.2	−00.1
01	231 22.5	+00.4	S 23 38.1	−00.1
02	246 22.9	+00.5	S 23 38.0	−00.2
03	261 23.4	+00.5	S 23 37.8	−00.1
04	276 23.9	+00.4	S 23 37.7	−00.1
05	291 24.3	+00.5	S 23 37.6	−00.1
06	306 24.8	+00.5	S 23 37.5	−00.1
07	321 25.3	+00.4	S 23 37.4	−00.1
08	336 25.7	+00.5	S 23 37.3	−00.1
09	351 26.2	+00.5	S 23 37.2	−00.1
10	6 26.7	+00.4	S 23 37.1	−00.1
11	21 27.1	+00.5	S 23 37.0	−00.1
12	36 27.6	+00.5	S 23 36.9	−00.1
13	51 28.1	+00.4	S 23 36.8	−00.2
14	66 28.5	+00.5	S 23 36.6	−00.1
15	81 29.0	+00.5	S 23 36.5	−00.1
16	96 29.5	+00.4	S 23 36.4	−00.1
17	111 29.9	+00.5	S 23 36.3	−00.1
18	126 30.4	+00.5	S 23 36.2	−00.1
19	141 30.9	+00.5	S 23 36.1	−00.1
20	156 31.4	+00.4	S 23 36.0	−00.1
21	171 31.8	+00.5	S 23 35.9	−00.2
22	186 32.3	+00.5	S 23 35.7	−00.1
23	201 32.8	+00.4	S 23 35.6	−00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	079°	079°	079°	079°	079°	079°

Greenwich Culmination Time: 09:34

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	156 29.9	+01.9	S 09 14.6	−00.2
01	171 31.8	+01.9	S 09 14.4	−00.3
02	186 33.7	+01.9	S 09 14.1	−00.2
03	201 35.6	+01.9	S 09 13.9	−00.2
04	216 37.5	+01.9	S 09 13.7	−00.2
05	231 39.4	+01.9	S 09 13.5	−00.3
06	246 41.3	+01.9	S 09 13.2	−00.2
07	261 43.2	+02.0	S 09 13.0	−00.2
08	276 45.2	+01.9	S 09 12.8	−00.2
09	291 47.1	+01.9	S 09 12.6	−00.2
10	306 49.0	+01.9	S 09 12.4	−00.3
11	321 50.9	+01.9	S 09 12.1	−00.2
12	336 52.8	+01.9	S 09 11.9	−00.2
13	351 54.7	+01.9	S 09 11.7	−00.2
14	6 56.6	+02.0	S 09 11.5	−00.2
15	21 58.6	+01.9	S 09 11.3	−00.3
16	37 00.5	+01.9	S 09 11.0	−00.2
17	52 02.4	+01.9	S 09 10.8	−00.2
18	67 04.3	+01.9	S 09 10.6	−00.2
19	82 06.2	+01.9	S 09 10.4	−00.2
20	97 08.1	+01.9	S 09 10.2	−00.3
21	112 10.0	+01.9	S 09 09.9	−00.2
22	127 11.9	+02.0	S 09 09.7	−00.2
23	142 13.9	+01.9	S 09 09.5	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	019°	019°	019°	019°	019°	019°

Greenwich Culmination Time: 13:32

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 10.1	+02.1	S 16 47.6	−00.1
01	193 12.2	+02.2	S 16 47.5	−00.1
02	208 14.4	+02.2	S 16 47.4	−00.1
03	223 16.6	+02.1	S 16 47.3	−00.1
04	238 18.7	+02.2	S 16 47.2	+00.0
05	253 20.9	+02.2	S 16 47.2	−00.1
06	268 23.1	+02.1	S 16 47.1	−00.1
07	283 25.2	+02.2	S 16 47.0	−00.1
08	298 27.4	+02.2	S 16 46.9	−00.1
09	313 29.6	+02.1	S 16 46.8	−00.1
10	328 31.7	+02.2	S 16 46.7	−00.1
11	343 33.9	+02.2	S 16 46.6	−00.1
12	358 36.1	+02.1	S 16 46.5	+00.0
13	13 38.2	+02.2	S 16 46.5	−00.1
14	28 40.4	+02.2	S 16 46.4	−00.1
15	43 42.6	+02.1	S 16 46.3	−00.1
16	58 44.7	+02.2	S 16 46.2	−00.1
17	73 46.9	+02.1	S 16 46.1	−00.1
18	88 49.0	+02.2	S 16 46.0	−00.1
19	103 51.2	+02.2	S 16 45.9	−00.1
20	118 53.4	+02.1	S 16 45.8	+00.0
21	133 55.5	+02.2	S 16 45.8	−00.1
22	148 57.7	+02.2	S 16 45.7	−00.1
23	163 59.9	+02.1	S 16 45.6	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	041°	041°	041°	041°	041°	041°

Greenwich Culmination Time: 12:05

2022 February 8 Tuesday (day 39 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	176 28.2	+00.0	S 15 04.1	−00.8
01	191 28.2	+00.0	S 15 03.3	−00.8
02	206 28.2	−00.1	S 15 02.5	−00.8
03	221 28.1	+00.0	S 15 01.7	−00.8
04	236 28.1	+00.0	S 15 00.9	−00.8
05	251 28.1	+00.0	S 15 00.1	−00.8
06	266 28.1	−00.1	S 14 59.3	−00.8
07	281 28.0	+00.0	S 14 58.5	−00.8
08	296 28.0	+00.0	S 14 57.7	−00.8
09	311 28.0	+00.0	S 14 56.9	−00.7
10	326 28.0	−00.1	S 14 56.2	−00.8
11	341 27.9	+00.0	S 14 55.4	−00.8
12	356 27.9	+00.0	S 14 54.6	−00.8
13	11 27.9	+00.0	S 14 53.8	−00.8
14	26 27.9	−00.1	S 14 53.0	−00.8
15	41 27.8	+00.0	S 14 52.2	−00.8
16	56 27.8	+00.0	S 14 51.4	−00.8
17	71 27.8	+00.0	S 14 50.6	−00.8
18	86 27.8	−00.1	S 14 49.8	−00.8
19	101 27.7	+00.0	S 14 49.0	−00.8
20	116 27.7	+00.0	S 14 48.2	−00.8
21	131 27.7	+00.0	S 14 47.4	−00.8
22	146 27.7	+00.0	S 14 46.6	−00.8
23	161 27.7	−00.1	S 14 45.8	−00.8

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	038°	038°	038°	038°	038°	037°

Greenwich Culmination Time: 12:14

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	214 46.3	+01.5	S 16 30.7	+00.1
01	229 47.8	+01.6	S 16 30.8	+00.2
02	244 49.4	+01.5	S 16 31.0	+00.1
03	259 50.9	+01.6	S 16 31.1	+00.1
04	274 52.5	+01.5	S 16 31.2	+00.1
05	289 54.0	+01.5	S 16 31.3	+00.1
06	304 55.5	+01.5	S 16 31.4	+00.1
07	319 57.0	+01.6	S 16 31.5	+00.1
08	334 58.6	+01.5	S 16 31.6	+00.1
09	350 00.1	+01.5	S 16 31.7	+00.1
10	5 01.6	+01.5	S 16 31.8	+00.1
11	20 03.1	+01.5	S 16 31.9	+00.1
12	35 04.6	+01.5	S 16 32.0	+00.1
13	50 06.1	+01.5	S 16 32.1	+00.1
14	65 07.6	+01.5	S 16 32.2	+00.2
15	80 09.1	+01.5	S 16 32.4	+00.1
16	95 10.6	+01.5	S 16 32.5	+00.1
17	110 12.1	+01.5	S 16 32.6	+00.1
18	125 13.6	+01.4	S 16 32.7	+00.1
19	140 15.0	+01.5	S 16 32.8	+00.1
20	155 16.5	+01.5	S 16 32.9	+00.1
21	170 18.0	+01.5	S 16 33.0	+00.1
22	185 19.5	+01.4	S 16 33.1	+00.1
23	200 20.9	+01.5	S 16 33.2	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′4	00′4	00′4	00′4	00′4	00′4
SHA	077°	077°	077°	076°	076°	076°

Greenwich Culmination Time: 09:39

Moon

A: 23%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	97 17.3	−26.6	N 14 26.0	+11.5
01	111 50.7	−26.6	N 14 37.5	+11.5
02	126 24.1	−26.6	N 14 49.0	+11.4
03	140 57.5	−26.6	N 15 00.4	+11.3
04	155 30.9	−26.6	N 15 11.7	+11.3
05	170 04.3	−26.7	N 15 23.0	+11.2
06	184 37.6	−26.7	N 15 34.2	+11.1
07	199 10.9	−26.8	N 15 45.3	+11.0
08	213 44.1	−26.8	N 15 56.3	+11.0
09	228 17.3	−26.8	N 16 07.3	+10.9
10	242 50.5	−26.8	N 16 18.2	+10.8
11	257 23.7	−26.9	N 16 29.0	+10.8
12	271 56.8	−27.0	N 16 39.8	+10.7
13	286 29.8	−26.9	N 16 50.5	+10.6
14	301 02.9	−27.0	N 17 01.1	+10.5
15	315 35.9	−27.0	N 17 11.6	+10.4
16	330 08.9	−27.1	N 17 22.0	+10.4
17	344 41.8	−27.1	N 17 32.4	+10.3
18	359 14.7	−27.1	N 17 42.7	+10.2
19	13 47.6	−27.2	N 17 52.9	+10.1
20	28 20.4	−27.2	N 18 03.0	+10.0
21	42 53.2	−27.3	N 18 13.0	+10.0
22	57 25.9	−27.3	N 18 23.0	+09.9
23	71 58.6	−27.3	N 18 32.9	+09.8

UT	02	06	10	14	18	22
SD	15′0	14′9	14′9	14′9	14′9	14′9
HP	54′9	54′8	54′7	54′7	54′6	54′5
SHA	318°	316°	314°	312°	310°	308°

Greenwich Culmination Time: 18:03

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	216 33.2	+00.5	S 23 35.5	−00.1
01	231 33.7	+00.5	S 23 35.4	−00.1
02	246 34.2	+00.4	S 23 35.3	−00.1
03	261 34.6	+00.5	S 23 35.2	−00.2
04	276 35.1	+00.5	S 23 35.0	−00.1
05	291 35.6	+00.4	S 23 34.9	−00.1
06	306 36.0	+00.5	S 23 34.8	−00.1
07	321 36.5	+00.5	S 23 34.7	−00.1
08	336 37.0	+00.4	S 23 34.6	−00.1
09	351 37.4	+00.5	S 23 34.5	−00.2
10	6 37.9	+00.5	S 23 34.3	−00.1
11	21 38.4	+00.4	S 23 34.2	−00.1
12	36 38.8	+00.5	S 23 34.1	−00.1
13	51 39.3	+00.5	S 23 34.0	−00.1
14	66 39.8	+00.4	S 23 33.9	−00.2
15	81 40.2	+00.5	S 23 33.7	−00.1
16	96 40.7	+00.5	S 23 33.6	−00.1
17	111 41.2	+00.4	S 23 33.5	−00.1
18	126 41.6	+00.5	S 23 33.4	−00.2
19	141 42.1	+00.5	S 23 33.2	−00.1
20	156 42.6	+00.4	S 23 33.1	−00.1
21	171 43.0	+00.5	S 23 33.0	−00.1
22	186 43.5	+00.5	S 23 32.9	−00.1
23	201 44.0	+00.4	S 23 32.8	−00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	078°	078°	078°	078°	078°	078°

Greenwich Culmination Time: 09:33

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	157 15.8	+01.9	S 09 09.3	−00.2
01	172 17.7	+01.9	S 09 09.1	−00.3
02	187 19.6	+01.9	S 09 08.8	−00.2
03	202 21.5	+01.9	S 09 08.6	−00.2
04	217 23.4	+01.9	S 09 08.4	−00.2
05	232 25.3	+02.0	S 09 08.2	−00.2
06	247 27.3	+01.9	S 09 08.0	−00.3
07	262 29.2	+01.9	S 09 07.7	−00.2
08	277 31.1	+01.9	S 09 07.5	−00.2
09	292 33.0	+01.9	S 09 07.3	−00.2
10	307 34.9	+01.9	S 09 07.1	−00.3
11	322 36.8	+01.9	S 09 06.8	−00.2
12	337 38.7	+01.9	S 09 06.6	−00.2
13	352 40.6	+02.0	S 09 06.4	−00.2
14	7 42.6	+01.9	S 09 06.2	−00.2
15	22 44.5	+01.9	S 09 06.0	−00.3
16	37 46.4	+01.9	S 09 05.7	−00.2
17	52 48.3	+01.9	S 09 05.5	−00.2
18	67 50.2	+01.9	S 09 05.3	−00.2
19	82 52.1	+01.9	S 09 05.1	−00.2
20	97 54.0	+01.9	S 09 04.9	−00.3
21	112 55.9	+01.9	S 09 04.6	−00.2
22	127 57.8	+02.0	S 09 04.4	−00.2
23	142 59.8	+01.9	S 09 04.2	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	019°	019°	019°	019°	019°	019°

Greenwich Culmination Time: 13:29

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 02.0	+02.2	S 16 45.5	−00.1
01	194 04.2	+02.2	S 16 45.4	−00.1
02	209 06.4	+02.1	S 16 45.3	−00.1
03	224 08.5	+02.2	S 16 45.2	−00.1
04	239 10.7	+02.2	S 16 45.1	+00.0
05	254 12.9	+02.1	S 16 45.1	−00.1
06	269 15.0	+02.2	S 16 45.0	−00.1
07	284 17.2	+02.2	S 16 44.9	−00.1
08	299 19.4	+02.1	S 16 44.8	−00.1
09	314 21.5	+02.2	S 16 44.7	−00.1
10	329 23.7	+02.1	S 16 44.6	−00.1
11	344 25.8	+02.2	S 16 44.5	−00.1
12	359 28.0	+02.2	S 16 44.4	+00.0
13	14 30.2	+02.1	S 16 44.4	−00.1
14	29 32.3	+02.2	S 16 44.3	−00.1
15	44 34.5	+02.2	S 16 44.2	−00.1
16	59 36.7	+02.1	S 16 44.1	−00.1
17	74 38.8	+02.2	S 16 44.0	−00.1
18	89 41.0	+02.2	S 16 43.9	−00.1
19	104 43.2	+02.1	S 16 43.8	+00.0
20	119 45.3	+02.2	S 16 43.8	−00.1
21	134 47.5	+02.2	S 16 43.7	−00.1
22	149 49.7	+02.1	S 16 43.6	−00.1
23	164 51.8	+02.2	S 16 43.5	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	041°	041°	041°	041°	041°	041°

Greenwich Culmination Time: 12:02

2022 February 13 Sunday

(day 44 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 27.4	+00.0	S 13 26.3	-00.9
01	191 27.4	+00.0	S 13 25.4	-00.8
02	206 27.4	+00.0	S 13 24.6	-00.8
03	221 27.4	+00.0	S 13 23.8	-00.9
04	236 27.4	+00.0	S 13 22.9	-00.8
05	251 27.4	+00.0	S 13 22.1	-00.9
06	266 27.4	+00.1	S 13 21.2	-00.8
07	281 27.5	+00.0	S 13 20.4	-00.8
08	296 27.5	+00.0	S 13 19.6	-00.9
09	311 27.5	+00.0	S 13 18.7	-00.8
10	326 27.5	+00.0	S 13 17.9	-00.9
11	341 27.5	+00.0	S 13 17.0	-00.8
12	356 27.5	+00.1	S 13 16.2	-00.8
13	11 27.6	+00.0	S 13 15.4	-00.9
14	26 27.6	+00.0	S 13 14.5	-00.8
15	41 27.6	+00.0	S 13 13.7	-00.9
16	56 27.6	+00.0	S 13 12.8	-00.8
17	71 27.6	+00.0	S 13 12.0	-00.9
18	86 27.6	+00.1	S 13 11.1	-00.8
19	101 27.7	+00.0	S 13 10.3	-00.9
20	116 27.7	+00.0	S 13 09.4	-00.8
21	131 27.7	+00.0	S 13 08.6	-00.9
22	146 27.7	+00.0	S 13 07.7	-00.8
23	161 27.7	+00.1	S 13 06.9	-00.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 12:14

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	217 28.4	+01.1	S 16 43.3	+00.1
01	232 29.5	+01.2	S 16 43.4	+00.1
02	247 30.7	+01.1	S 16 43.5	+00.1
03	262 31.8	+01.2	S 16 43.6	+00.1
04	277 33.0	+01.2	S 16 43.7	+00.1
05	292 34.2	+01.1	S 16 43.8	+00.1
06	307 35.3	+01.2	S 16 43.9	+00.1
07	322 36.5	+01.1	S 16 44.0	+00.1
08	337 37.6	+01.1	S 16 44.1	+00.1
09	352 38.7	+01.2	S 16 44.2	+00.1
10	7 39.9	+01.1	S 16 44.3	+00.1
11	22 41.0	+01.2	S 16 44.4	+00.1
12	37 42.2	+01.1	S 16 44.5	+00.1
13	52 43.3	+01.1	S 16 44.6	+00.1
14	67 44.4	+01.1	S 16 44.7	+00.1
15	82 45.5	+01.2	S 16 44.8	+00.1
16	97 46.7	+01.1	S 16 44.9	+00.1
17	112 47.8	+01.1	S 16 45.0	+00.1
18	127 48.9	+01.1	S 16 45.1	+00.1
19	142 50.0	+01.1	S 16 45.2	+00.1
20	157 51.1	+01.1	S 16 45.3	+00.1
21	172 52.2	+01.1	S 16 45.4	+00.1
22	187 53.3	+01.1	S 16 45.5	+00.1
23	202 54.4	+01.1	S 16 45.6	+00.0

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′4	00′4	00′4	00′4	00′4	00′3
SHA	074°	074°	074°	074°	074°	074°

Greenwich Culmination Time: 09:29

Moon

A: 39%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	39 24.5	-31.0	N 26 23.2	-01.0
01	53 53.5	-31.0	N 26 22.2	-01.2
02	68 22.5	-30.9	N 26 21.0	-01.2
03	82 51.6	-31.0	N 26 19.8	-01.4
04	97 20.6	-31.0	N 26 18.4	-01.6
05	111 49.6	-31.0	N 26 16.8	-01.6
06	126 18.6	-31.0	N 26 15.2	-01.8
07	140 47.6	-30.9	N 26 13.4	-01.9
08	155 16.7	-31.0	N 26 11.5	-02.1
09	169 45.7	-31.0	N 26 09.4	-02.1
10	184 14.7	-31.0	N 26 07.3	-02.3
11	198 43.7	-31.0	N 26 05.0	-02.5
12	213 12.7	-31.0	N 26 02.5	-02.6
13	227 41.7	-30.9	N 25 59.9	-02.7
14	242 10.8	-31.0	N 25 57.2	-02.8
15	256 39.8	-30.9	N 25 54.4	-02.9
16	271 08.9	-31.0	N 25 51.5	-03.1
17	285 37.9	-30.9	N 25 48.4	-03.2
18	300 07.0	-30.9	N 25 45.2	-03.4
19	314 36.1	-31.0	N 25 41.8	-03.5
20	329 05.1	-30.9	N 25 38.3	-03.6
21	343 34.2	-30.8	N 25 34.7	-03.7
22	358 03.4	-30.9	N 25 31.0	-03.9
23	12 32.5	-30.9	N 25 27.1	-04.0

UT	02	06	10	14	18	22
SD	14′8	14′8	14′9	14′9	14′9	14′9
HP	54′4	54′5	54′5	54′6	54′6	54′7
SHA	255°	253°	251°	249°	246°	244°

Greenwich Culmination Time: 22:08

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	217 29.3	+00.4	S 23 18.7	-00.2
01	232 29.7	+00.5	S 23 18.5	-00.2
02	247 30.2	+00.5	S 23 18.3	-00.1
03	262 30.7	+00.4	S 23 18.2	-00.2
04	277 31.1	+00.5	S 23 18.0	-00.2
05	292 31.6	+00.5	S 23 17.8	-00.1
06	307 32.1	+00.4	S 23 17.7	-00.2
07	322 32.5	+00.5	S 23 17.5	-00.2
08	337 33.0	+00.5	S 23 17.3	-00.1
09	352 33.5	+00.5	S 23 17.2	-00.2
10	7 34.0	+00.4	S 23 17.0	-00.2
11	22 34.4	+00.5	S 23 16.8	-00.1
12	37 34.9	+00.5	S 23 16.7	-00.2
13	52 35.4	+00.4	S 23 16.5	-00.2
14	67 35.8	+00.5	S 23 16.3	-00.2
15	82 36.3	+00.5	S 23 16.1	-00.1
16	97 36.8	+00.4	S 23 16.0	-00.2
17	112 37.2	+00.5	S 23 15.8	-00.2
18	127 37.7	+00.5	S 23 15.6	-00.1
19	142 38.2	+00.4	S 23 15.5	-00.2
20	157 38.6	+00.5	S 23 15.3	-00.2
21	172 39.1	+00.5	S 23 15.1	-00.2
22	187 39.6	+00.4	S 23 14.9	-00.1
23	202 40.0	+00.5	S 23 14.8	-00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	074°	074°	074°	074°	074°	074°

Greenwich Culmination Time: 09:29

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	161 05.0	+01.9	S 08 42.6	-00.3
01	176 06.9	+01.9	S 08 42.3	-00.2
02	191 08.8	+02.0	S 08 42.1	-00.2
03	206 10.8	+01.9	S 08 41.9	-00.2
04	221 12.7	+01.9	S 08 41.7	-00.3
05	236 14.6	+01.9	S 08 41.4	-00.2
06	251 16.5	+01.9	S 08 41.2	-00.2
07	266 18.4	+01.9	S 08 41.0	-00.2
08	281 20.3	+01.9	S 08 40.8	-00.3
09	296 22.2	+01.9	S 08 40.5	-00.2
10	311 24.1	+01.9	S 08 40.3	-00.2
11	326 26.0	+01.9	S 08 40.1	-00.2
12	341 27.9	+01.9	S 08 39.9	-00.3
13	356 29.8	+01.9	S 08 39.6	-00.2
14	11 31.7	+01.9	S 08 39.4	-00.2
15	26 33.6	+02.0	S 08 39.2	-00.2
16	41 35.6	+01.9	S 08 39.0	-00.3
17	56 37.5	+01.9	S 08 38.7	-00.2
18	71 39.4	+01.9	S 08 38.5	-00.2
19	86 41.3	+01.9	S 08 38.3	-00.2
20	101 43.2	+01.9	S 08 38.1	-00.3
21	116 45.1	+01.9	S 08 37.8	-00.2
22	131 47.0	+01.9	S 08 37.6	-00.2
23	146 48.9	+01.9	S 08 37.4	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	018°	018°	018°	018°	018°	018°

Greenwich Culmination Time: 13:13

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 21.9	+02.2	S 16 35.0	-00.1
01	198 24.1	+02.1	S 16 34.9	-00.1
02	213 26.2	+02.2	S 16 34.8	+00.0
03	228 28.4	+02.2	S 16 34.8	-00.1
04	243 30.6	+02.1	S 16 34.7	-00.1
05	258 32.7	+02.2	S 16 34.6	-00.1
06	273 34.9	+02.2	S 16 34.5	-00.1
07	288 37.1	+02.1	S 16 34.4	-00.1
08	303 39.2	+02.2	S 16 34.3	-00.1
09	318 41.4	+02.2	S 16 34.2	-00.1
10	333 43.6	+02.1	S 16 34.1	+00.0
11	348 45.7	+02.2	S 16 34.1	-00.1
12	3 47.9	+02.2	S 16 34.0	-00.1
13	18 50.1	+02.1	S 16 33.9	-00.1
14	33 52.2	+02.2	S 16 33.8	-00.1
15	48 54.4	+02.2	S 16 33.7	-00.1
16	63 56.6	+02.1	S 16 33.6	-00.1
17	78 58.7	+02.2	S 16 33.5	-00.1
18	94 00.9	+02.2	S 16 33.4	+00.0
19	109 03.1	+02.1	S 16 33.4	-00.1
20	124 05.2	+02.2	S 16 33.3	-00.1
21	139 07.4	+02.2	S 16 33.2	-00.1
22	154 09.6	+02.1	S 16 33.1	-00.1
23	169 11.7	+02.2	S 16 33.0	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	040°	040°	040°	040°	040°	040°

Greenwich Culmination Time: 11:44

2022 February 10 Thursday

(day 41 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 27.3	+00.0	S 14 25.7	-00.8
01	191 27.3	+00.0	S 14 24.9	-00.9
02	206 27.3	-00.1	S 14 24.0	-00.8
03	221 27.2	+00.0	S 14 23.2	-00.8
04	236 27.2	+00.0	S 14 22.4	-00.8
05	251 27.2	+00.0	S 14 21.6	-00.8
06	266 27.2	+00.0	S 14 20.8	-00.8
07	281 27.2	+00.0	S 14 20.0	-00.8
08	296 27.2	+00.0	S 14 19.2	-00.8
09	311 27.2	+00.0	S 14 18.4	-00.9
10	326 27.2	+00.0	S 14 17.5	-00.8
11	341 27.2	+00.0	S 14 16.7	-00.8
12	356 27.2	+00.0	S 14 15.9	-00.8
13	11 27.2	+00.0	S 14 15.1	-00.8
14	26 27.2	-00.1	S 14 14.3	-00.8
15	41 27.1	+00.0	S 14 13.5	-00.8
16	56 27.1	+00.0	S 14 12.7	-00.9
17	71 27.1	+00.0	S 14 11.8	-00.8
18	86 27.1	+00.0	S 14 11.0	-00.8
19	101 27.1	+00.0	S 14 10.2	-00.8
20	116 27.1	+00.0	S 14 09.4	-00.8
21	131 27.1	+00.0	S 14 08.6	-00.9
22	146 27.1	+00.0	S 14 07.7	-00.8
23	161 27.1	+00.0	S 14 06.9	-00.8

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	036°	036°	036°	036°	036°	035°

Greenwich Culmination Time: 12:14

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	215 56.6	+01.4	S 16 35.9	+00.1
01	230 58.0	+01.4	S 16 36.0	+00.1
02	245 59.4	+01.4	S 16 36.1	+00.1
03	261 00.8	+01.3	S 16 36.2	+00.1
04	276 02.1	+01.4	S 16 36.3	+00.1
05	291 03.5	+01.4	S 16 36.4	+00.1
06	306 04.9	+01.3	S 16 36.5	+00.1
07	321 06.2	+01.4	S 16 36.6	+00.2
08	336 07.6	+01.4	S 16 36.8	+00.1
09	351 09.0	+01.3	S 16 36.9	+00.1
10	6 10.3	+01.4	S 16 37.0	+00.1
11	21 11.7	+01.3	S 16 37.1	+00.1
12	36 13.0	+01.4	S 16 37.2	+00.1
13	51 14.4	+01.3	S 16 37.3	+00.1
14	66 15.7	+01.3	S 16 37.4	+00.1
15	81 17.0	+01.4	S 16 37.5	+00.1
16	96 18.4	+01.3	S 16 37.6	+00.1
17	111 19.7	+01.3	S 16 37.7	+00.1
18	126 21.0	+01.4	S 16 37.8	+00.1
19	141 22.4	+01.3	S 16 37.9	+00.1
20	156 23.7	+01.3	S 16 38.0	+00.1
21	171 25.0	+01.3	S 16 38.1	+00.1
22	186 26.3	+01.4	S 16 38.2	+00.1
23	201 27.7	+01.3	S 16 38.3	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′3	00′3
HP	00′4	00′4	00′4	00′4	00′4	00′4
SHA	076°	076°	076°	076°	076°	075°

Greenwich Culmination Time: 09:35

Moon

A: 29%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	75 21.8	-28.5	N 22 11.1	+07.5
01	89 53.3	-28.6	N 22 18.6	+07.4
02	104 24.7	-28.5	N 22 26.0	+07.3
03	118 56.2	-28.7	N 22 33.3	+07.2
04	133 27.5	-28.6	N 22 40.5	+07.1
05	147 58.9	-28.8	N 22 47.6	+07.0
06	162 30.1	-28.7	N 22 54.6	+06.9
07	177 01.4	-28.9	N 23 01.5	+06.8
08	191 32.5	-28.8	N 23 08.3	+06.7
09	206 03.7	-28.9	N 23 15.0	+06.6
10	220 34.8	-29.0	N 23 21.6	+06.5
11	235 05.8	-29.0	N 23 28.1	+06.3
12	249 36.8	-29.1	N 23 34.4	+06.3
13	264 07.7	-29.1	N 23 40.7	+06.2
14	278 38.6	-29.1	N 23 46.9	+06.0
15	293 09.5	-29.2	N 23 52.9	+06.0
16	307 40.3	-29.3	N 23 58.9	+05.8
17	322 11.0	-29.3	N 24 04.7	+05.7
18	336 41.7	-29.3	N 24 10.4	+05.6
19	351 12.4	-29.4	N 24 16.0	+05.5
20	5 43.0	-29.5	N 24 21.5	+05.4
21	20 13.5	-29.4	N 24 26.9	+05.3
22	34 44.1	-29.6	N 24 32.2	+05.2
23	49 14.5	-29.5	N 24 37.4	+05.0

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′7
HP	54′2	54′2	54′2	54′2	54′1	54′1
SHA	294°	292°	290°	288°	286°	284°

Greenwich Culmination Time: 19:36

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	216 55.6	+00.5	S 23 29.5	-00.1
01	231 56.1	+00.5	S 23 29.4	-00.2
02	246 56.6	+00.4	S 23 29.2	-00.1
03	261 57.0	+00.5	S 23 29.1	-00.1
04	276 57.5	+00.5	S 23 29.0	-00.2
05	291 58.0	+00.4	S 23 28.8	-00.1
06	306 58.4	+00.5	S 23 28.7	-00.2
07	321 58.9	+00.5	S 23 28.5	-00.1
08	336 59.4	+00.4	S 23 28.4	-00.1
09	351 59.8	+00.5	S 23 28.3	-00.2
10	7 00.3	+00.5	S 23 28.1	-00.1
11	22 00.8	+00.4	S 23 28.0	-00.2
12	37 01.2	+00.5	S 23 27.8	-00.1
13	52 01.7	+00.5	S 23 27.7	-00.1
14	67 02.2	+00.4	S 23 27.6	-00.2
15	82 02.6	+00.5	S 23 27.4	-00.1
16	97 03.1	+00.5	S 23 27.3	-00.2
17	112 03.6	+00.4	S 23 27.1	-00.1
18	127 04.0	+00.5	S 23 27.0	-00.2
19	142 04.5	+00.5	S 23 26.8	-00.1
20	157 05.0	+00.4	S 23 26.7	-00.1
21	172 05.4	+00.5	S 23 26.6	-00.2
22	187 05.9	+00.5	S 23 26.4	-00.1
23	202 06.4	+00.4	S 23 26.3	-00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	077°	077°	077°	076°	076°	076°

Greenwich Culmination Time: 09:31

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	158 47.5	+02.0	S 08 58.6	-00.2
01	173 49.5	+01.9	S 08 58.4	-00.2
02	188 51.4	+01.9	S 08 58.2	-00.2
03	203 53.3	+01.9	S 08 58.0	-00.3
04	218 55.2	+01.9	S 08 57.7	-00.2
05	233 57.1	+01.9	S 08 57.5	-00.2
06	248 59.0	+01.9	S 08 57.3	-00.2
07	264 00.9	+01.9	S 08 57.1	-00.2
08	279 02.8	+01.9	S 08 56.9	-00.3
09	294 04.7	+01.9	S 08 56.6	-00.2
10	309 06.6	+02.0	S 08 56.4	-00.2
11	324 08.6	+01.9	S 08 56.2	-00.2
12	339 10.5	+01.9	S 08 56.0	-00.3
13	354 12.4	+01.9	S 08 55.7	-00.2
14	9 14.3	+01.9	S 08 55.5	-00.2
15	24 16.2	+01.9	S 08 55.3	-00.2
16	39 18.1	+01.9	S 08 55.1	-00.2
17	54 20.0	+01.9	S 08 54.9	-00.3
18	69 21.9	+01.9	S 08 54.6	-00.2
19	84 23.8	+02.0	S 08 54.4	-00.2
20	99 25.8	+01.9	S 08 54.2	-00.2
21	114 27.7	+01.9	S 08 54.0	-00.3
22	129 29.6	+01.9	S 08 53.7	-00.2
23	144 31.5	+01.9	S 08 53.5	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	019°	019°	019°	019°	019°	019°

Greenwich Culmination Time: 13:23

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 46.0	+02.1	S 16 41.3	-00.1
01	195 48.1	+02.2	S 16 41.2	-00.1
02	210 50.3	+02.1	S 16 41.1	-00.1
03	225 52.4	+02.2	S 16 41.0	+00.0
04	240 54.6	+02.2	S 16 41.0	-00.1
05	255 56.8	+02.1	S 16 40.9	-00.1
06	270 58.9	+02.2	S 16 40.8	-00.1
07	286 01.1	+02.2	S 16 40.7	-00.1
08	301 03.3	+02.1	S 16 40.6	-00.1
09	316 05.4	+02.2	S 16 40.5	-00.1
10	331 07.6	+02.2	S 16 40.4	-00.1
11	346 09.8	+02.1	S 16 40.3	+00.0
12	1 11.9	+02.2	S 16 40.3	-00.1
13	16 14.1	+02.2	S 16 40.2	-00.1
14	31 16.3	+02.1	S 16 40.1	-00.1
15	46 18.4	+02.2	S 16 40.0	-00.1
16	61 20.6	+02.2	S 16 39.9	-00.1
17	76 22.8	+02.1	S 16 39.8	-00.1
18	91 24.9	+02.2	S 16 39.7	-00.1
19	106 27.1	+02.2	S 16 39.6	+00.0
20	121 29.3	+02.1	S 16 39.6	-00.1
21	136 31.4	+02.2	S 16 39.5	-00.1
22	151 33.6	+02.2	S 16 39.4	-00.1
23	166 35.8	+02.1	S 16 39.3	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	041°	041°	041°	041°	041°	041°

Greenwich Culmination Time: 11:55

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	176 27.1	+00.0	S 14 06.1	−00.8
01	191 27.1	+00.0	S 14 05.3	−00.8
02	206 27.1	+00.0	S 14 04.5	−00.9
03	221 27.1	+00.0	S 14 03.6	−00.8
04	236 27.1	+00.0	S 14 02.8	−00.8
05	251 27.1	+00.0	S 14 02.0	−00.8
06	266 27.1	+00.0	S 14 01.2	−00.8
07	281 27.1	+00.0	S 14 00.4	−00.9
08	296 27.1	+00.0	S 13 59.5	−00.8
09	311 27.1	+00.0	S 13 58.7	−00.8
10	326 27.1	+00.0	S 13 57.9	−00.8
11	341 27.1	+00.0	S 13 57.1	−00.9
12	356 27.1	+00.0	S 13 56.2	−00.8
13	11 27.1	+00.0	S 13 55.4	−00.8
14	26 27.1	+00.0	S 13 54.6	−00.8
15	41 27.1	+00.0	S 13 53.8	−00.9
16	56 27.1	+00.0	S 13 52.9	−00.8
17	71 27.1	+00.0	S 13 52.1	−00.8
18	86 27.1	+00.0	S 13 51.3	−00.8
19	101 27.1	+00.0	S 13 50.5	−00.9
20	116 27.1	+00.0	S 13 49.6	−00.8
21	131 27.1	+00.0	S 13 48.8	−00.8
22	146 27.1	+00.0	S 13 48.0	−00.9
23	161 27.1	+00.0	S 13 47.1	−00.8

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 12:14

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	216 29.0	+01.3	S 16 38.4	+00.1
01	231 30.3	+01.3	S 16 38.5	+00.2
02	246 31.6	+01.3	S 16 38.7	+00.1
03	261 32.9	+01.3	S 16 38.8	+00.1
04	276 34.2	+01.3	S 16 38.9	+00.1
05	291 35.5	+01.3	S 16 39.0	+00.1
06	306 36.8	+01.3	S 16 39.1	+00.1
07	321 38.1	+01.2	S 16 39.2	+00.1
08	336 39.3	+01.3	S 16 39.3	+00.1
09	351 40.6	+01.3	S 16 39.4	+00.1
10	6 41.9	+01.3	S 16 39.5	+00.1
11	21 43.2	+01.3	S 16 39.6	+00.1
12	36 44.5	+01.2	S 16 39.7	+00.1
13	51 45.7	+01.3	S 16 39.8	+00.1
14	66 47.0	+01.3	S 16 39.9	+00.1
15	81 48.3	+01.2	S 16 40.0	+00.1
16	96 49.5	+01.3	S 16 40.1	+00.1
17	111 50.8	+01.2	S 16 40.2	+00.1
18	126 52.0	+01.3	S 16 40.3	+00.1
19	141 53.3	+01.3	S 16 40.4	+00.1
20	156 54.6	+01.2	S 16 40.5	+00.1
21	171 55.8	+01.2	S 16 40.6	+00.1
22	186 57.0	+01.3	S 16 40.7	+00.1
23	201 58.3	+01.2	S 16 40.8	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′4	00′4	00′4	00′4	00′4	00′4
SHA	075°	075°	075°	075°	075°	075°

Greenwich Culmination Time: 09:33

Moon

A: 32%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	63 45.0	−29.6	N 24 42.4	+05.0
01	78 15.4	−29.7	N 24 47.4	+04.8
02	92 45.7	−29.7	N 24 52.2	+04.7
03	107 16.0	−29.7	N 24 56.9	+04.6
04	121 46.3	−29.8	N 25 01.5	+04.5
05	136 16.5	−29.9	N 25 06.0	+04.4
06	150 46.6	−29.8	N 25 10.4	+04.2
07	165 16.8	−30.0	N 25 14.6	+04.2
08	179 46.8	−29.9	N 25 18.8	+04.0
09	194 16.9	−30.0	N 25 22.8	+03.9
10	208 46.9	−30.0	N 25 26.7	+03.8
11	223 16.9	−30.1	N 25 30.5	+03.6
12	237 46.8	−30.1	N 25 34.1	+03.6
13	252 16.7	−30.2	N 25 37.7	+03.4
14	266 46.5	−30.1	N 25 41.1	+03.3
15	281 16.4	−30.3	N 25 44.4	+03.2
16	295 46.1	−30.2	N 25 47.6	+03.0
17	310 15.9	−30.3	N 25 50.6	+03.0
18	324 45.6	−30.4	N 25 53.6	+02.8
19	339 15.2	−30.3	N 25 56.4	+02.7
20	353 44.9	−30.4	N 25 59.1	+02.5
21	8 14.5	−30.4	N 26 01.6	+02.5
22	22 44.1	−30.5	N 26 04.1	+02.3
23	37 13.6	−30.5	N 26 06.4	+02.2

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′8	14′8	14′8
HP	54′1	54′1	54′1	54′1	54′2	54′2
SHA	282°	279°	277°	275°	273°	271°

Greenwich Culmination Time: 20:25

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	217 06.8	+00.5	S 23 26.1	−00.1
01	232 07.3	+00.5	S 23 26.0	−00.2
02	247 07.8	+00.4	S 23 25.8	−00.1
03	262 08.2	+00.5	S 23 25.7	−00.2
04	277 08.7	+00.5	S 23 25.5	−00.1
05	292 09.2	+00.4	S 23 25.4	−00.2
06	307 09.6	+00.5	S 23 25.2	−00.1
07	322 10.1	+00.5	S 23 25.1	−00.1
08	337 10.6	+00.4	S 23 25.0	−00.2
09	352 11.0	+00.5	S 23 24.8	−00.1
10	7 11.5	+00.5	S 23 24.7	−00.2
11	22 12.0	+00.4	S 23 24.5	−00.1
12	37 12.4	+00.5	S 23 24.4	−00.2
13	52 12.9	+00.5	S 23 24.2	−00.1
14	67 13.4	+00.4	S 23 24.1	−00.2
15	82 13.8	+00.5	S 23 23.9	−00.2
16	97 14.3	+00.5	S 23 23.7	−00.1
17	112 14.8	+00.4	S 23 23.6	−00.2
18	127 15.2	+00.5	S 23 23.4	−00.1
19	142 15.7	+00.5	S 23 23.3	−00.2
20	157 16.2	+00.4	S 23 23.1	−00.1
21	172 16.6	+00.5	S 23 23.0	−00.2
22	187 17.1	+00.5	S 23 22.8	−00.1
23	202 17.6	+00.4	S 23 22.7	−00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	076°	076°	076°	076°	075°	075°

Greenwich Culmination Time: 09:31

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	159 33.4	+01.9	S 08 53.3	−00.2
01	174 35.3	+01.9	S 08 53.1	−00.3
02	189 37.2	+01.9	S 08 52.8	−00.2
03	204 39.1	+01.9	S 08 52.6	−00.2
04	219 41.0	+01.9	S 08 52.4	−00.2
05	234 42.9	+02.0	S 08 52.2	−00.2
06	249 44.9	+01.9	S 08 52.0	−00.3
07	264 46.8	+01.9	S 08 51.7	−00.2
08	279 48.7	+01.9	S 08 51.5	−00.2
09	294 50.6	+01.9	S 08 51.3	−00.2
10	309 52.5	+01.9	S 08 51.1	−00.3
11	324 54.4	+01.9	S 08 50.8	−00.2
12	339 56.3	+01.9	S 08 50.6	−00.2
13	354 58.2	+01.9	S 08 50.4	−00.2
14	10 00.1	+01.9	S 08 50.2	−00.3
15	25 02.0	+01.9	S 08 49.9	−00.2
16	40 03.9	+02.0	S 08 49.7	−00.2
17	55 05.9	+01.9	S 08 49.5	−00.2
18	70 07.8	+01.9	S 08 49.3	−00.2
19	85 09.7	+01.9	S 08 49.1	−00.3
20	100 11.6	+01.9	S 08 48.8	−00.2
21	115 13.5	+01.9	S 08 48.6	−00.2
22	130 15.4	+01.9	S 08 48.4	−00.2
23	145 17.3	+01.9	S 08 48.2	−00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	018°	018°	018°	018°	018°	018°

Greenwich Culmination Time: 13:20

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	181 37.9	+02.2	S 16 39.2	−00.1
01	196 40.1	+02.2	S 16 39.1	−00.1
02	211 42.3	+02.1	S 16 39.0	−00.1
03	226 44.4	+02.2	S 16 38.9	+00.0
04	241 46.6	+02.2	S 16 38.9	−00.1
05	256 48.8	+02.1	S 16 38.8	−00.1
06	271 50.9	+02.2	S 16 38.7	−00.1
07	286 53.1	+02.2	S 16 38.6	−00.1
08	301 55.3	+02.1	S 16 38.5	−00.1
09	316 57.4	+02.2	S 16 38.4	−00.1
10	331 59.6	+02.1	S 16 38.3	−00.1
11	347 01.7	+02.2	S 16 38.2	+00.0
12	2 03.9	+02.2	S 16 38.2	−00.1
13	17 06.1	+02.1	S 16 38.1	−00.1
14	32 08.2	+02.2	S 16 38.0	−00.1
15	47 10.4	+02.2	S 16 37.9	−00.1
16	62 12.6	+02.1	S 16 37.8	−00.1
17	77 14.7	+02.2	S 16 37.7	−00.1
18	92 16.9	+02.2	S 16 37.6	−00.1
19	107 19.1	+02.1	S 16 37.5	+00.0
20	122 21.2	+02.2	S 16 37.5	−00.1
21	137 23.4	+02.2	S 16 37.4	−00.1
22	152 25.6	+02.1	S 16 37.3	−00.1
23	167 27.7	+02.2	S 16 37.2	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	041°	041°	041°	041°	041°	040°

Greenwich Culmination Time: 11:51

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	176 27.1	+00.0	S 13 46.3	−00.8
01	191 27.1	+00.0	S 13 45.5	−00.9
02	206 27.1	+00.1	S 13 44.6	−00.8
03	221 27.2	+00.0	S 13 43.8	−00.8
04	236 27.2	+00.0	S 13 43.0	−00.8
05	251 27.2	+00.0	S 13 42.2	−00.9
06	266 27.2	+00.0	S 13 41.3	−00.8
07	281 27.2	+00.0	S 13 40.5	−00.8
08	296 27.2	+00.0	S 13 39.7	−00.9
09	311 27.2	+00.0	S 13 38.8	−00.8
10	326 27.2	+00.0	S 13 38.0	−00.8
11	341 27.2	+00.0	S 13 37.2	−00.9
12	356 27.2	+00.0	S 13 36.3	−00.8
13	11 27.2	+00.0	S 13 35.5	−00.8
14	26 27.2	+00.0	S 13 34.7	−00.9
15	41 27.2	+00.1	S 13 33.8	−00.8
16	56 27.3	+00.0	S 13 33.0	−00.8
17	71 27.3	+00.0	S 13 32.2	−00.9
18	86 27.3	+00.0	S 13 31.3	−00.8
19	101 27.3	+00.0	S 13 30.5	−00.9
20	116 27.3	+00.0	S 13 29.6	−00.8
21	131 27.3	+00.0	S 13 28.8	−00.8
22	146 27.3	+00.0	S 13 28.0	−00.9
23	161 27.3	+00.1	S 13 27.1	−00.8

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 12:14

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	216 59.5	+01.3	S 16 40.9	+00.1
01	232 00.8	+01.2	S 16 41.0	+00.1
02	247 02.0	+01.2	S 16 41.1	+00.1
03	262 03.2	+01.2	S 16 41.2	+00.1
04	277 04.4	+01.3	S 16 41.3	+00.1
05	292 05.7	+01.2	S 16 41.4	+00.1
06	307 06.9	+01.2	S 16 41.5	+00.1
07	322 08.1	+01.2	S 16 41.6	+00.1
08	337 09.3	+01.2	S 16 41.7	+00.1
09	352 10.5	+01.2	S 16 41.8	+00.1
10	7 11.7	+01.3	S 16 41.9	+00.2
11	22 13.0	+01.2	S 16 42.1	+00.1
12	37 14.2	+01.2	S 16 42.2	+00.1
13	52 15.4	+01.2	S 16 42.3	+00.1
14	67 16.6	+01.1	S 16 42.4	+00.1
15	82 17.7	+01.2	S 16 42.5	+00.1
16	97 18.9	+01.2	S 16 42.6	+00.1
17	112 20.1	+01.2	S 16 42.7	+00.1
18	127 21.3	+01.2	S 16 42.8	+00.0
19	142 22.5	+01.2	S 16 42.8	+00.1
20	157 23.7	+01.1	S 16 42.9	+00.1
21	172 24.8	+01.2	S 16 43.0	+00.1
22	187 26.0	+01.2	S 16 43.1	+00.1
23	202 27.2	+01.2	S 16 43.2	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′4	00′4	00′4	00′4	00′4	00′4
SHA	075°	075°	075°	075°	075°	075°

Greenwich Culmination Time: 09:31

Moon

A: 36%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	51 43.1	−30.5	N 26 08.6	+02.1
01	66 12.6	−30.5	N 26 10.7	+01.9
02	80 42.1	−30.6	N 26 12.6	+01.8
03	95 11.5	−30.6	N 26 14.4	+01.7
04	109 40.9	−30.7	N 26 16.1	+01.6
05	124 10.2	−30.6	N 26 17.7	+01.4
06	138 39.6	−30.7	N 26 19.1	+01.3
07	153 08.9	−30.7	N 26 20.4	+01.2
08	167 38.2	−30.7	N 26 21.6	+01.1
09	182 07.5	−30.8	N 26 22.7	+00.9
10	196 36.7	−30.7	N 26 23.6	+00.8
11	211 06.0	−30.8	N 26 24.4	+00.7
12	225 35.2	−30.8	N 26 25.1	+00.6
13	240 04.4	−30.9	N 26 25.7	+00.4
14	254 33.5	−30.8	N 26 26.1	+00.3
15	269 02.7	−30.9	N 26 26.4	+00.1
16	283 31.8	−30.8	N 26 26.5	+00.1
17	298 01.0	−30.9	N 26 26.6	−00.1
18	312 30.1	−30.9	N 26 26.5	−00.3
19	326 59.2	−30.9	N 26 26.2	−00.3
20	341 28.3	−31.0	N 26 25.9	−00.5
21	355 57.3	−30.9	N 26 25.4	−00.6
22	10 26.4	−31.0	N 26 24.8	−00.8
23	24 55.4	−30.9	N 26 24.0	−00.8

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′2	54′2	54′2	54′3	54′3	54′4
SHA	269°	266°	264°	262°	260°	258°

Greenwich Culmination Time: 21:16

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	217 18.0	+00.5	S 23 22.5	−00.1
01	232 18.5	+00.5	S 23 22.4	−00.2
02	247 19.0	+00.4	S 23 22.2	−00.1
03	262 19.4	+00.5	S 23 22.1	−00.2
04	277 19.9	+00.5	S 23 21.9	−00.2
05	292 20.4	+00.5	S 23 21.7	−00.1
06	307 20.9	+00.4	S 23 21.6	−00.2
07	322 21.3	+00.5	S 23 21.4	−00.1
08	337 21.8	+00.5	S 23 21.3	−00.2
09	352 22.3	+00.4	S 23 21.1	−00.2
10	7 22.7	+00.5	S 23 20.9	−00.1
11	22 23.2	+00.5	S 23 20.8	−00.2
12	37 23.7	+00.4	S 23 20.6	−00.1
13	52 24.1	+00.5	S 23 20.5	−00.2
14	67 24.6	+00.5	S 23 20.3	−00.2
15	82 25.1	+00.4	S 23 20.1	−00.1
16	97 25.5	+00.5	S 23 20.0	−00.2
17	112 26.0	+00.5	S 23 19.8	−00.1
18	127 26.5	+00.4	S 23 19.7	−00.2
19	142 26.9	+00.5	S 23 19.5	−00.2
20	157 27.4	+00.5	S 23 19.3	−00.1
21	172 27.9	+00.4	S 23 19.2	−00.2
22	187 28.3	+00.5	S 23 19.0	−00.2
23	202 28.8	+00.5	S 23 18.8	−00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	075°	075°	075°	075°	075°	075°

Greenwich Culmination Time: 09:30

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	160 19.2	+01.9	S 08 47.9	−00.2
01	175 21.1	+01.9	S 08 47.7	−00.2
02	190 23.0	+01.9	S 08 47.5	−00.2
03	205 24.9	+02.0	S 08 47.3	−00.3
04	220 26.9	+01.9	S 08 47.0	−00.2
05	235 28.8	+01.9	S 08 46.8	−00.2
06	250 30.7	+01.9	S 08 46.6	−00.2
07	265 32.6	+01.9	S 08 46.4	−00.3
08	280 34.5	+01.9	S 08 46.1	−00.2
09	295 36.4	+01.9	S 08 45.9	−00.2
10	310 38.3	+01.9	S 08 45.7	−00.2
11	325 40.2	+01.9	S 08 45.5	−00.3
12	340 42.1	+01.9	S 08 45.2	−00.2
13	355 44.0	+01.9	S 08 45.0	−00.2
14	10 45.9	+02.0	S 08 44.8	−00.2
15	25 47.9	+01.9	S 08 44.6	−00.2
16	40 49.8	+01.9	S 08 44.4	−00.3
17	55 51.7	+01.9	S 08 44.1	−00.2
18	70 53.6	+01.9	S 08 43.9	−00.2
19	85 55.5	+01.9	S 08 43.7	−00.2
20	100 57.4	+01.9	S 08 43.5	−00.3
21	115 59.3	+01.9	S 08 43.2	−00.2
22	131 01.2	+01.9	S 08 43.0	−00.2
23	146 03.1	+01.9	S 08 42.8	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	018°	018°	018°	018°	018°	018°

Greenwich Culmination Time: 13:17

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	182 29.9	+02.2	S 16 37.1	−00.1
01	197 32.1	+02.1	S 16 37.0	−00.1
02	212 34.2	+02.2	S 16 36.9	+00.0
03	227 36.4	+02.2	S 16 36.9	−00.1
04	242 38.6	+02.1	S 16 36.8	−00.1
05	257 40.7	+02.2	S 16 36.7	−00.1
06	272 42.9	+02.2	S 16 36.6	−00.1
07	287 45.1	+02.1	S 16 36.5	−00.1
08	302 47.2	+02.2	S 16 36.4	−00.1
09	317 49.4	+02.2	S 16 36.3	−00.1
10	332 51.6	+02.1	S 16 36.2	+00.0
11	347 53.7	+02.2	S 16 36.2	−00.1
12	2 55.9	+02.2	S 16 36.1	−00.1
13	17 58.1	+02.1	S 16 36.0	−00.1
14	33 00.2	+02.2	S 16 35.9	−00.1
15	48 02.4	+02.2	S 16 35.8	−00.1
16	63 04.6	+02.1	S 16 35.7	−00.1
17	78 06.7	+02.2	S 16 35.6	−00.1
18	93 08.9	+02.2	S 16 35.5	+00.0
19	108 11.1	+02.1	S 16 35.5	−00.1
20	123 13.2	+02.2	S 16 35.4	−00.1
21	138 15.4	+02.2	S 16 35.3	−00.1
22	153 17.6	+02.1	S 16 35.2	−00.1
23	168 19.7	+02.2	S 16 35.1	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	040°	040°	040°	040°	040°	040°

Greenwich Culmination Time: 11:48

2022 February 17 Thursday (day 48 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 30.1	+00.0	S 12 04.1	-00.9
01	191 30.1	+00.1	S 12 03.2	-00.9
02	206 30.2	+00.0	S 12 02.3	-00.8
03	221 30.2	+00.1	S 12 01.5	-00.9
04	236 30.3	+00.0	S 12 00.6	-00.9
05	251 30.3	+00.1	S 11 59.7	-00.9
06	266 30.4	+00.0	S 11 58.8	-00.8
07	281 30.4	+00.0	S 11 58.0	-00.9
08	296 30.4	+00.1	S 11 57.1	-00.9
09	311 30.5	+00.0	S 11 56.2	-00.9
10	326 30.5	+00.1	S 11 55.3	-00.8
11	341 30.6	+00.0	S 11 54.5	-00.9
12	356 30.6	+00.1	S 11 53.6	-00.9
13	11 30.7	+00.0	S 11 52.7	-00.9
14	26 30.7	+00.1	S 11 51.8	-00.8
15	41 30.8	+00.0	S 11 51.0	-00.9
16	56 30.8	+00.1	S 11 50.1	-00.9
17	71 30.9	+00.0	S 11 49.2	-00.9
18	86 30.9	+00.1	S 11 48.3	-00.9
19	101 31.0	+00.0	S 11 47.4	-00.8
20	116 31.0	+00.1	S 11 46.6	-00.9
21	131 31.1	+00.0	S 11 45.7	-00.9
22	146 31.1	+00.1	S 11 44.8	-00.9
23	161 31.2	+00.0	S 11 43.9	-00.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	029°	029°	029°	029°	029°	029°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	219 07.7	+00.9	S 16 51.7	+00.0
01	234 08.6	+00.9	S 16 51.7	+00.1
02	249 09.5	+00.9	S 16 51.8	+00.1
03	264 10.4	+00.9	S 16 51.9	+00.1
04	279 11.3	+00.9	S 16 52.0	+00.0
05	294 12.2	+00.9	S 16 52.0	+00.1
06	309 13.1	+00.9	S 16 52.1	+00.1
07	324 14.0	+00.9	S 16 52.2	+00.0
08	339 14.9	+00.9	S 16 52.2	+00.1
09	354 15.8	+00.8	S 16 52.3	+00.1
10	9 16.6	+00.9	S 16 52.4	+00.0
11	24 17.5	+00.9	S 16 52.4	+00.1
12	39 18.4	+00.9	S 16 52.5	+00.1
13	54 19.3	+00.9	S 16 52.6	+00.1
14	69 20.2	+00.8	S 16 52.7	+00.0
15	84 21.0	+00.9	S 16 52.7	+00.1
16	99 21.9	+00.9	S 16 52.8	+00.1
17	114 22.8	+00.8	S 16 52.9	+00.0
18	129 23.6	+00.9	S 16 52.9	+00.1
19	144 24.5	+00.9	S 16 53.0	+00.1
20	159 25.4	+00.8	S 16 53.1	+00.0
21	174 26.2	+00.9	S 16 53.1	+00.1
22	189 27.1	+00.8	S 16 53.2	+00.0
23	204 27.9	+00.9	S 16 53.2	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	072°	072°	072°	072°	072°	072°

Greenwich Culmination Time: 09:22

Moon

A: 52%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	351 20.7	-28.4	N 15 29.5	-11.9
01	5 52.3	-28.3	N 15 17.6	-12.0
02	20 24.0	-28.3	N 15 05.6	-12.0
03	34 55.7	-28.2	N 14 53.6	-12.2
04	49 27.5	-28.2	N 14 41.4	-12.2
05	63 59.3	-28.2	N 14 29.2	-12.2
06	78 31.1	-28.1	N 14 17.0	-12.4
07	93 03.0	-28.2	N 14 04.6	-12.4
08	107 34.8	-28.0	N 13 52.2	-12.5
09	122 06.8	-28.1	N 13 39.7	-12.6
10	136 38.7	-28.0	N 13 27.1	-12.7
11	151 10.7	-28.0	N 13 14.4	-12.7
12	165 42.7	-27.9	N 13 01.7	-12.7
13	180 14.8	-28.0	N 12 49.0	-12.9
14	194 46.8	-27.9	N 12 36.1	-12.9
15	209 18.9	-27.8	N 12 23.2	-13.0
16	223 51.1	-27.9	N 12 10.2	-13.0
17	238 23.2	-27.8	N 11 57.2	-13.2
18	252 55.4	-27.8	N 11 44.0	-13.1
19	267 27.6	-27.7	N 11 30.9	-13.3
20	281 59.9	-27.7	N 11 17.6	-13.3
21	296 32.2	-27.8	N 11 04.3	-13.3
22	311 04.4	-27.6	N 10 51.0	-13.4
23	325 36.8	-27.7	N 10 37.6	-13.5

UT	02	06	10	14	18	22
SD	15′3	15′3	15′3	15′4	15′4	15′4
HP	56′1	56′2	56′3	56′4	56′5	56′5
SHA	203°	201°	199°	197°	195°	193°

Greenwich Culmination Time: 00:35

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	218 14.3	+00.5	S 23 00.9	-00.2
01	233 14.8	+00.5	S 23 00.7	-00.2
02	248 15.3	+00.4	S 23 00.5	-00.2
03	263 15.7	+00.5	S 23 00.3	-00.2
04	278 16.2	+00.5	S 23 00.1	-00.2
05	293 16.7	+00.5	S 22 59.9	-00.2
06	308 17.2	+00.4	S 22 59.7	-00.2
07	323 17.6	+00.5	S 22 59.5	-00.2
08	338 18.1	+00.5	S 22 59.3	-00.3
09	353 18.6	+00.4	S 22 59.0	-00.2
10	8 19.0	+00.5	S 22 58.8	-00.2
11	23 19.5	+00.5	S 22 58.6	-00.2
12	38 20.0	+00.5	S 22 58.4	-00.2
13	53 20.5	+00.4	S 22 58.2	-00.2
14	68 20.9	+00.5	S 22 58.0	-00.2
15	83 21.4	+00.5	S 22 57.8	-00.2
16	98 21.9	+00.4	S 22 57.6	-00.2
17	113 22.3	+00.5	S 22 57.4	-00.3
18	128 22.8	+00.5	S 22 57.1	-00.2
19	143 23.3	+00.5	S 22 56.9	-00.2
20	158 23.8	+00.4	S 22 56.7	-00.2
21	173 24.2	+00.5	S 22 56.5	-00.2
22	188 24.7	+00.5	S 22 56.3	-00.2
23	203 25.2	+00.4	S 22 56.1	-00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	071°	071°	071°	071°	071°	071°

Greenwich Culmination Time: 09:26

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	164 08.1	+01.9	S 08 20.9	-00.2
01	179 10.0	+01.9	S 08 20.7	-00.2
02	194 11.9	+01.9	S 08 20.5	-00.3
03	209 13.8	+01.9	S 08 20.2	-00.2
04	224 15.7	+01.9	S 08 20.0	-00.2
05	239 17.6	+01.9	S 08 19.8	-00.3
06	254 19.5	+01.9	S 08 19.5	-00.2
07	269 21.4	+01.9	S 08 19.3	-00.2
08	284 23.3	+01.9	S 08 19.1	-00.2
09	299 25.2	+01.9	S 08 18.9	-00.3
10	314 27.1	+01.9	S 08 18.6	-00.2
11	329 29.0	+01.9	S 08 18.4	-00.2
12	344 30.9	+01.9	S 08 18.2	-00.2
13	359 32.8	+01.9	S 08 18.0	-00.3
14	14 34.7	+02.0	S 08 17.7	-00.2
15	29 36.7	+01.9	S 08 17.5	-00.2
16	44 38.6	+01.9	S 08 17.3	-00.2
17	59 40.5	+01.9	S 08 17.1	-00.3
18	74 42.4	+01.9	S 08 16.8	-00.2
19	89 44.3	+01.9	S 08 16.6	-00.2
20	104 46.2	+01.9	S 08 16.4	-00.3
21	119 48.1	+01.9	S 08 16.1	-00.2
22	134 50.0	+01.9	S 08 15.9	-00.2
23	149 51.9	+01.9	S 08 15.7	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	017°	017°	017°	017°	017°	017°

Greenwich Culmination Time: 13:01

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	186 50.0	+02.2	S 16 26.6	+00.0
01	201 52.2	+02.1	S 16 26.6	-00.1
02	216 54.3	+02.2	S 16 26.5	-00.1
03	231 56.5	+02.2	S 16 26.4	-00.1
04	246 58.7	+02.1	S 16 26.3	-00.1
05	262 00.8	+02.2	S 16 26.2	-00.1
06	277 03.0	+02.2	S 16 26.1	-00.1
07	292 05.2	+02.1	S 16 26.0	-00.1
08	307 07.3	+02.2	S 16 25.9	+00.0
09	322 09.5	+02.2	S 16 25.9	-00.1
10	337 11.7	+02.1	S 16 25.8	-00.1
11	352 13.8	+02.2	S 16 25.7	-00.1
12	7 16.0	+02.2	S 16 25.6	-00.1
13	22 18.2	+02.2	S 16 25.5	-00.1
14	37 20.4	+02.1	S 16 25.4	-00.1
15	52 22.5	+02.2	S 16 25.3	-00.1
16	67 24.7	+02.2	S 16 25.2	+00.0
17	82 26.9	+02.1	S 16 25.2	-00.1
18	97 29.0	+02.2	S 16 25.1	-00.1
19	112 31.2	+02.2	S 16 25.0	-00.1
20	127 33.4	+02.1	S 16 24.9	-00.1
21	142 35.5	+02.2	S 16 24.8	-00.1
22	157 37.7	+02.2	S 16 24.7	-00.1
23	172 39.9	+02.2	S 16 24.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	040°	040°	040°	040°	040°	040°

Greenwich Culmination Time: 11:31

2022 February 14 Monday (day 45 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 27.8	+00.0	S 13 06.0	-00.8
01	191 27.8	+00.0	S 13 05.2	-00.8
02	206 27.8	+00.0	S 13 04.4	-00.9
03	221 27.8	+00.0	S 13 03.5	-00.8
04	236 27.8	+00.1	S 13 02.7	-00.9
05	251 27.9	+00.0	S 13 01.8	-00.8
06	266 27.9	+00.0	S 13 01.0	-00.9
07	281 27.9	+00.0	S 13 00.1	-00.8
08	296 27.9	+00.1	S 12 59.3	-00.9
09	311 28.0	+00.0	S 12 58.4	-00.8
10	326 28.0	+00.0	S 12 57.6	-00.9
11	341 28.0	+00.0	S 12 56.7	-00.8
12	356 28.0	+00.1	S 12 55.9	-00.9
13	11 28.1	+00.0	S 12 55.0	-00.9
14	26 28.1	+00.0	S 12 54.1	-00.8
15	41 28.1	+00.0	S 12 53.3	-00.9
16	56 28.1	+00.1	S 12 52.4	-00.8
17	71 28.2	+00.0	S 12 51.6	-00.9
18	86 28.2	+00.0	S 12 50.7	-00.8
19	101 28.2	+00.0	S 12 49.9	-00.9
20	116 28.2	+00.1	S 12 49.0	-00.8
21	131 28.3	+00.0	S 12 48.2	-00.9
22	146 28.3	+00.0	S 12 47.3	-00.8
23	161 28.3	+00.1	S 12 46.5	-00.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 12:14

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	217 55.5	+01.1	S 16 45.6	+00.1
01	232 56.6	+01.1	S 16 45.7	+00.1
02	247 57.7	+01.1	S 16 45.8	+00.1
03	262 58.8	+01.1	S 16 45.9	+00.1
04	277 59.9	+01.1	S 16 46.0	+00.1
05	293 01.0	+01.1	S 16 46.1	+00.1
06	308 02.1	+01.1	S 16 46.2	+00.1
07	323 03.2	+01.0	S 16 46.3	+00.1
08	338 04.2	+01.1	S 16 46.4	+00.1
09	353 05.3	+01.1	S 16 46.5	+00.1
10	8 06.4	+01.0	S 16 46.6	+00.1
11	23 07.4	+01.1	S 16 46.7	+00.0
12	38 08.5	+01.1	S 16 46.7	+00.1
13	53 09.6	+01.0	S 16 46.8	+00.1
14	68 10.6	+01.1	S 16 46.9	+00.1
15	83 11.7	+01.1	S 16 47.0	+00.1
16	98 12.8	+01.0	S 16 47.1	+00.1
17	113 13.8	+01.1	S 16 47.2	+00.1
18	128 14.9	+01.0	S 16 47.3	+00.1
19	143 15.9	+01.1	S 16 47.4	+00.1
20	158 17.0	+01.0	S 16 47.5	+00.1
21	173 18.0	+01.0	S 16 47.6	+00.0
22	188 19.0	+01.1	S 16 47.6	+00.1
23	203 20.1	+01.0	S 16 47.7	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	074°	074°	074°	074°	074°	073°

Greenwich Culmination Time: 09:27

Moon

A: 43%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	27 01.6	-30.8	N 25 23.1	-04.1
01	41 30.8	-30.8	N 25 19.0	-04.2
02	55 60.0	-30.8	N 25 14.8	-04.4
03	70 29.2	-30.8	N 25 10.4	-04.5
04	84 58.4	-30.8	N 25 05.9	-04.6
05	99 27.6	-30.7	N 25 01.3	-04.8
06	113 56.9	-30.8	N 24 56.5	-04.9
07	128 26.1	-30.7	N 24 51.6	-05.0
08	142 55.4	-30.7	N 24 46.6	-05.1
09	157 24.7	-30.6	N 24 41.5	-05.3
10	171 54.1	-30.7	N 24 36.2	-05.3
11	186 23.4	-30.6	N 24 30.9	-05.5
12	200 52.8	-30.5	N 24 25.4	-05.7
13	215 22.3	-30.6	N 24 19.7	-05.7
14	229 51.7	-30.5	N 24 14.0	-05.9
15	244 21.2	-30.5	N 24 08.1	-06.0
16	258 50.7	-30.5	N 24 02.1	-06.1
17	273 20.2	-30.4	N 23 56.0	-06.3
18	287 49.8	-30.4	N 23 49.7	-06.3
19	302 19.4	-30.4	N 23 43.4	-06.5
20	316 49.0	-30.4	N 23 36.9	-06.6
21	331 18.6	-30.3	N 23 30.3	-06.7
22	345 48.3	-30.3	N 23 23.6	-06.9
23	0 18.0	-30.2	N 23 16.7	-07.0

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	15′0	15′0	15′0
HP	54′7	54′8	54′9	54′9	55′0	55′1
SHA	242°	240°	237°	235°	233°	231°

Greenwich Culmination Time: 22:58

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	217 40.5	+00.5	S 23 14.6	-00.2
01	232 41.0	+00.4	S 23 14.4	-00.2
02	247 41.4	+00.5	S 23 14.2	-00.1
03	262 41.9	+00.5	S 23 14.1	-00.2
04	277 42.4	+00.5	S 23 13.9	-00.2
05	292 42.9	+00.4	S 23 13.7	-00.2
06	307 43.3	+00.5	S 23 13.5	-00.2
07	322 43.8	+00.5	S 23 13.3	-00.1
08	337 44.3	+00.4	S 23 13.2	-00.2
09	352 44.7	+00.5	S 23 13.0	-00.2
10	7 45.2	+00.5	S 23 12.8	-00.2
11	22 45.7	+00.4	S 23 12.6	-00.1
12	37 46.1	+00.5	S 23 12.5	-00.2
13	52 46.6	+00.5	S 23 12.3	-00.2
14	67 47.1	+00.4	S 23 12.1	-00.2
15	82 47.5	+00.5	S 23 11.9	-00.2
16	97 48.0	+00.5	S 23 11.7	-00.2
17	112 48.5	+00.4	S 23 11.5	-00.1
18	127 48.9	+00.5	S 23 11.4	-00.2
19	142 49.4	+00.5	S 23 11.2	-00.2
20	157 49.9	+00.5	S 23 11.0	-00.2
21	172 50.4	+00.4	S 23 10.8	-00.2
22	187 50.8	+00.5	S 23 10.6	-00.2
23	202 51.3	+00.5	S 23 10.4	-00.1

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	074°	073°	073°	073°	073°	073°

Greenwich Culmination Time: 09:29

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	161 50.8	+01.9	S 08 37.2	-00.3
01	176 52.7	+01.9	S 08 36.9	-00.2
02	191 54.6	+01.9	S 08 36.7	-00.2
03	206 56.5	+01.9	S 08 36.5	-00.2
04	221 58.4	+02.0	S 08 36.3	-00.3
05	237 00.4	+01.9	S 08 36.0	-00.2
06	252 02.3	+01.9	S 08 35.8	-00.2
07	267 04.2	+01.9	S 08 35.6	-00.2
08	282 06.1	+01.9	S 08 35.4	-00.3
09	297 08.0	+01.9	S 08 35.1	-00.2
10	312 09.9	+01.9	S 08 34.9	-00.2
11	327 11.8	+01.9	S 08 34.7	-00.2
12	342 13.7	+01.9	S 08 34.5	-00.3
13	357 15.6	+01.9	S 08 34.2	-00.2
14	12 17.5	+01.9	S 08 34.0	-00.2
15	27 19.4	+01.9	S 08 33.8	-00.2
16	42 21.3	+01.9	S 08 33.6	-00.3
17	57 23.2	+01.9	S 08 33.3	-00.2
18	72 25.1	+02.0	S 08 33.1	-00.2
19	87 27.1	+01.9	S 08 32.9	-00.2
20	102 29.0	+01.9	S 08 32.7	-00.3
21	117 30.9	+01.9	S 08 32.4	-00.2
22	132 32.8	+01.9	S 08 32.2	-00.2
23	147 34.7	+01.9	S 08 32.0	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	018°	018°	018°	018°	018°	018°

Greenwich Culmination Time: 13:10

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	184 13.9	+02.2	S 16 32.9	-00.1
01	199 16.1	+02.1	S 16 32.8	-00.1
02	214 18.2	+02.2	S 16 32.7	+00.0
03	229 20.4	+02.2	S 16 32.7	-00.1
04	244 22.6	+02.1	S 16 32.6	-00.1
05	259 24.7	+02.2	S 16 32.5	-00.1
06	274 26.9	+02.2	S 16 32.4	-00.1
07	289 29.1	+02.1	S 16 32.3	-00.1
08	304 31.2	+02.2	S 16 32.2	-00.1
09	319 33.4	+02.2	S 16 32.1	-00.1
10	334 35.6	+02.1	S 16 32.0	+00.0
11	349 37.7	+02.2	S 16 32.0	-00.1
12	4 39.9	+02.2	S 16 31.9	-00.1
13	19 42.1	+02.1	S 16 31.8	-00.1
14	34 44.2	+02.2	S 16 31.7	-00.1
15	49 46.4	+02.2	S 16 31.6	-00.1
16	64 48.6	+02.1	S 16 31.5	-00.1
17	79 50.7	+02.2	S 16 31.4	-00.1
18	94 52.9	+02.2	S 16 31.3	+00.0
19	109 55.1	+02.1	S 16 31.3	-00.1
20	124 57.2	+02.2	S 16 31.2	-00.1
21	139 59.4	+02.2	S 16 31.1	-00.1
22	155 01.6	+02.1	S 16 31.0	-00.1
23	170 03.7	+02.2	S 16 30.9	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	040°	040°	040°	040°	040°	040°

Greenwich Culmination Time: 11:41

2022 February 15 Tuesday (day 46 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	176 28.4	+00.0	S 12 45.6	-00.9
01	191 28.4	+00.0	S 12 44.7	-00.8
02	206 28.4	+00.0	S 12 43.9	-00.9
03	221 28.4	+00.1	S 12 43.0	-00.8
04	236 28.5	+00.0	S 12 42.2	-00.9
05	251 28.5	+00.0	S 12 41.3	-00.8
06	266 28.5	+00.1	S 12 40.5	-00.9
07	281 28.6	+00.0	S 12 39.6	-00.9
08	296 28.6	+00.0	S 12 38.7	-00.8
09	311 28.6	+00.1	S 12 37.9	-00.9
10	326 28.7	+00.0	S 12 37.0	-00.8
11	341 28.7	+00.0	S 12 36.2	-00.9
12	356 28.7	+00.1	S 12 35.3	-00.9
13	11 28.8	+00.0	S 12 34.4	-00.8
14	26 28.8	+00.0	S 12 33.6	-00.9
15	41 28.8	+00.1	S 12 32.7	-00.8
16	56 28.9	+00.0	S 12 31.9	-00.9
17	71 28.9	+00.0	S 12 31.0	-00.9
18	86 28.9	+00.1	S 12 30.1	-00.8
19	101 29.0	+00.0	S 12 29.3	-00.9
20	116 29.0	+00.0	S 12 28.4	-00.9
21	131 29.0	+00.1	S 12 27.5	-00.8
22	146 29.1	+00.0	S 12 26.7	-00.9
23	161 29.1	+00.0	S 12 25.8	-00.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	031°	031°	031°	031°	031°	031°

Greenwich Culmination Time: 12:14

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	218 21.1	+01.0	S 16 47.8	+00.1
01	233 22.1	+01.1	S 16 47.9	+00.1
02	248 23.2	+01.0	S 16 48.0	+00.1
03	263 24.2	+01.0	S 16 48.1	+00.1
04	278 25.2	+01.0	S 16 48.2	+00.1
05	293 26.2	+01.1	S 16 48.3	+00.0
06	308 27.3	+01.0	S 16 48.3	+00.1
07	323 28.3	+01.0	S 16 48.4	+00.1
08	338 29.3	+01.0	S 16 48.5	+00.1
09	353 30.3	+01.0	S 16 48.6	+00.1
10	8 31.3	+01.0	S 16 48.7	+00.1
11	23 32.3	+01.0	S 16 48.8	+00.0
12	38 33.3	+01.0	S 16 48.8	+00.1
13	53 34.3	+01.0	S 16 48.9	+00.1
14	68 35.3	+01.0	S 16 49.0	+00.1
15	83 36.3	+01.0	S 16 49.1	+00.1
16	98 37.3	+01.0	S 16 49.2	+00.1
17	113 38.3	+01.0	S 16 49.3	+00.0
18	128 39.3	+00.9	S 16 49.3	+00.1
19	143 40.2	+01.0	S 16 49.4	+00.1
20	158 41.2	+01.0	S 16 49.5	+00.1
21	173 42.2	+01.0	S 16 49.6	+00.1
22	188 43.2	+01.0	S 16 49.7	+00.1
23	203 44.2	+00.9	S 16 49.8	+00.0

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	073°	073°	073°	073°	073°	073°

Greenwich Culmination Time: 09:25

Moon

A: 46%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	14 47.8	-30.2	N 23 09.7	-07.0
01	29 17.6	-30.2	N 23 02.7	-07.2
02	43 47.4	-30.2	N 22 55.5	-07.3
03	58 17.2	-30.1	N 22 48.2	-07.5
04	72 47.1	-30.1	N 22 40.7	-07.5
05	87 17.0	-30.0	N 22 33.2	-07.7
06	101 47.0	-30.0	N 22 25.5	-07.8
07	116 17.0	-30.0	N 22 17.7	-07.8
08	130 47.0	-29.9	N 22 09.9	-08.1
09	145 17.1	-29.9	N 22 01.8	-08.1
10	159 47.2	-29.9	N 21 53.7	-08.2
11	174 17.3	-29.8	N 21 45.5	-08.3
12	188 47.5	-29.8	N 21 37.2	-08.5
13	203 17.7	-29.7	N 21 28.7	-08.5
14	217 48.0	-29.7	N 21 20.2	-08.7
15	232 18.3	-29.7	N 21 11.5	-08.8
16	246 48.6	-29.6	N 21 02.7	-08.9
17	261 19.0	-29.6	N 20 53.8	-08.9
18	275 49.4	-29.5	N 20 44.9	-09.1
19	290 19.9	-29.5	N 20 35.8	-09.2
20	304 50.4	-29.5	N 20 26.6	-09.4
21	319 20.9	-29.4	N 20 17.2	-09.4
22	333 51.5	-29.4	N 20 07.8	-09.5
23	348 22.1	-29.3	N 19 58.3	-09.6

UT	02	06	10	14	18	22
SD	15′0	15′0	15′1	15′1	15′1	15′1
HP	55′1	55′2	55′3	55′4	55′5	55′5
SHA	229°	227°	224°	222°	220°	218°

Greenwich Culmination Time: 23:48

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	217 51.8	+00.4	S 23 10.3	-00.2
01	232 52.2	+00.5	S 23 10.1	-00.2
02	247 52.7	+00.5	S 23 09.9	-00.2
03	262 53.2	+00.4	S 23 09.7	-00.2
04	277 53.6	+00.5	S 23 09.5	-00.2
05	292 54.1	+00.5	S 23 09.3	-00.2
06	307 54.6	+00.4	S 23 09.1	-00.1
07	322 55.0	+00.5	S 23 09.0	-00.2
08	337 55.5	+00.5	S 23 08.8	-00.2
09	352 56.0	+00.5	S 23 08.6	-00.2
10	7 56.5	+00.4	S 23 08.4	-00.2
11	22 56.9	+00.5	S 23 08.2	-00.2
12	37 57.4	+00.5	S 23 08.0	-00.2
13	52 57.9	+00.4	S 23 07.8	-00.2
14	67 58.3	+00.5	S 23 07.6	-00.2
15	82 58.8	+00.5	S 23 07.4	-00.2
16	97 59.3	+00.4	S 23 07.2	-00.1
17	112 59.7	+00.5	S 23 07.1	-00.2
18	128 00.2	+00.5	S 23 06.9	-00.2
19	143 00.7	+00.5	S 23 06.7	-00.2
20	158 01.2	+00.4	S 23 06.5	-00.2
21	173 01.6	+00.5	S 23 06.3	-00.2
22	188 02.1	+00.5	S 23 06.1	-00.2
23	203 02.6	+00.4	S 23 05.9	-00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	073°	073°	073°	072°	072°	072°

Greenwich Culmination Time: 09:28

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	162 36.6	+01.9	S 08 31.8	-00.3
01	177 38.5	+01.9	S 08 31.5	-00.2
02	192 40.4	+01.9	S 08 31.3	-00.2
03	207 42.3	+01.9	S 08 31.1	-00.2
04	222 44.2	+01.9	S 08 30.9	-00.3
05	237 46.1	+01.9	S 08 30.6	-00.2
06	252 48.0	+01.9	S 08 30.4	-00.2
07	267 49.9	+01.9	S 08 30.2	-00.2
08	282 51.8	+01.9	S 08 30.0	-00.3
09	297 53.7	+02.0	S 08 29.7	-00.2
10	312 55.7	+01.9	S 08 29.5	-00.2
11	327 57.6	+01.9	S 08 29.3	-00.2
12	342 59.5	+01.9	S 08 29.1	-00.3
13	358 01.4	+01.9	S 08 28.8	-00.2
14	13 03.3	+01.9	S 08 28.6	-00.2
15	28 05.2	+01.9	S 08 28.4	-00.3
16	43 07.1	+01.9	S 08 28.1	-00.2
17	58 09.0	+01.9	S 08 27.9	-00.2
18	73 10.9	+01.9	S 08 27.7	-00.2
19	88 12.8	+01.9	S 08 27.5	-00.3
20	103 14.7	+01.9	S 08 27.2	-00.2
21	118 16.6	+01.9	S 08 27.0	-00.2
22	133 18.5	+01.9	S 08 26.8	-00.2
23	148 20.4	+01.9	S 08 26.6	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	018°	018°	018°	017°	017°	017°

Greenwich Culmination Time: 13:07

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	185 05.9	+02.2	S 16 30.8	-00.1
01	200 08.1	+02.2	S 16 30.7	+00.0
02	215 10.3	+02.1	S 16 30.7	-00.1
03	230 12.4	+02.2	S 16 30.6	-00.1
04	245 14.6	+02.2	S 16 30.5	-00.1
05	260 16.8	+02.1	S 16 30.4	-00.1
06	275 18.9	+02.2	S 16 30.3	-00.1
07	290 21.1	+02.2	S 16 30.2	-00.1
08	305 23.3	+02.1	S 16 30.1	-00.1
09	320 25.4	+02.2	S 16 30.0	+00.0
10	335 27.6	+02.2	S 16 30.0	-00.1
11	350 29.8	+02.1	S 16 29.9	-00.1
12	5 31.9	+02.2	S 16 29.8	-00.1
13	20 34.1	+02.2	S 16 29.7	-00.1
14	35 36.3	+02.1	S 16 29.6	-00.1
15	50 38.4	+02.2	S 16 29.5	-00.1
16	65 40.6	+02.2	S 16 29.4	-00.1
17	80 42.8	+02.1	S 16 29.3	+00.0
18	95 44.9	+02.2	S 16 29.3	-00.1
19	110 47.1	+02.2	S 16 29.2	-00.1
20	125 49.3	+02.1	S 16 29.1	-00.1
21	140 51.4	+02.2	S 16 29.0	-00.1
22	155 53.6	+02.2	S 16 28.9	-00.1
23	170 55.8	+02.1	S 16 28.8	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	040°	040°	040°	040°	040°	040°

Greenwich Culmination Time: 11:37

2022 February 16 Wednesday (day 47 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	176 29.1	+00.1	S 12 24.9	-00.8
01	191 29.2	+00.0	S 12 24.1	-00.9
02	206 29.2	+00.0	S 12 23.2	-00.9
03	221 29.2	+00.1	S 12 22.3	-00.8
04	236 29.3	+00.0	S 12 21.5	-00.9
05	251 29.3	+00.1	S 12 20.6	-00.9
06	266 29.4	+00.0	S 12 19.7	-00.8
07	281 29.4	+00.0	S 12 18.9	-00.9
08	296 29.4	+00.1	S 12 18.0	-00.9
09	311 29.5	+00.0	S 12 17.1	-00.8
10	326 29.5	+00.1	S 12 16.3	-00.9
11	341 29.6	+00.0	S 12 15.4	-00.9
12	356 29.6	+00.0	S 12 14.5	-00.8
13	11 29.6	+00.1	S 12 13.7	-00.9
14	26 29.7	+00.0	S 12 12.8	-00.9
15	41 29.7	+00.1	S 12 11.9	-00.8
16	56 29.8	+00.0	S 12 11.1	-00.9
17	71 29.8	+00.0	S 12 10.2	-00.9
18	86 29.8	+00.1	S 12 09.3	-00.8
19	101 29.9	+00.0	S 12 08.5	-00.9
20	116 29.9	+00.1	S 12 07.6	-00.9
21	131 30.0	+00.0	S 12 06.7	-00.9
22	146 30.0	+00.0	S 12 05.8	-00.8
23	161 30.0	+00.1	S 12 05.0	-00.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	030°	030°	030°	030°	030°	030°

Greenwich Culmination Time: 12:14

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	218 45.1	+01.0	S 16 49.8	+00.1
01	233 46.1	+01.0	S 16 49.9	+00.1
02	248 47.1	+00.9	S 16 50.0	+00.1
03	263 48.0	+01.0	S 16 50.1	+00.1
04	278 49.0	+00.9	S 16 50.2	+00.0
05	293 49.9	+01.0	S 16 50.2	+00.1
06	308 50.9	+01.0	S 16 50.3	+00.1
07	323 51.9	+00.9	S 16 50.4	+00.1
08	338 52.8	+01.0	S 16 50.5	+00.0
09	353 53.8	+00.9	S 16 50.5	+00.1
10	8 54.7	+00.9	S 16 50.6	+00.1
11	23 55.6	+01.0	S 16 50.7	+00.1
12	38 56.6	+00.9	S 16 50.8	+00.1
13	53 57.5	+01.0	S 16 50.9	+00.0
14	68 58.5	+00.9	S 16 50.9	+00.1
15	83 59.4	+00.9	S 16 51.0	+00.1
16	99 00.3	+00.9	S 16 51.1	+00.1
17	114 01.2	+01.0	S 16 51.2	+00.0
18	129 02.2	+00.9	S 16 51.2	+00.1
19	144 03.1	+00.9	S 16 51.3	+00.1
20	159 04.0	+00.9	S 16 51.4	+00.1
21	174 04.9	+00.9	S 16 51.5	+00.0
22	189 05.8	+01.0	S 16 51.5	+00.1
23	204 06.8	+00.9	S 16 51.6	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	073°	073°	073°	072°	072°	072°

Greenwich Culmination Time: 09:24

Moon

A: 49%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	2 52.8	-29.3	N 19 48.7	-09.7
01	17 23.5	-29.3	N 19 39.0	-09.8
02	31 54.2	-29.2	N 19 29.2	-09.9
03	46 25.0	-29.1	N 19 19.3	-10.0
04	60 55.9	-29.2	N 19 09.3	-10.2
05	75 26.7	-29.1	N 18 59.1	-10.2
06	89 57.6	-29.0	N 18 48.9	-10.3
07	104 28.6	-29.0	N 18 38.6	-10.4
08	118 59.6	-29.0	N 18 28.2	-10.5
09	133 30.6	-29.0	N 18 17.7	-10.6
10	148 01.6	-28.8	N 18 07.1	-10.7
11	162 32.8	-28.9	N 17 56.4	-10.7
12	177 03.9	-28.8	N 17 45.7	-10.9
13	191 35.1	-28.8	N 17 34.8	-11.0
14	206 06.3	-28.7	N 17 23.8	-11.0
15	220 37.6	-28.7	N 17 12.8	-11.1
16	235 08.9	-28.7	N 17 01.7	-11.3
17	249 40.2	-28.6	N 16 50.4	-11.3
18	264 11.6	-28.6	N 16 39.1	-11.4
19	278 43.0	-28.5	N 16 27.7	-11.5
20	293 14.5	-28.5	N 16 16.2	-11.5
21	307 46.0	-28.5	N 16 04.7	-11.7
22	322 17.5	-28.4	N 15 53.0	-11.7
23	336 49.1	-28.4	N 15 41.3	-11.8

UT	02	06	10	14	18	22
SD	15′2	15′2	15′2	15′2	15′2	15′3
HP	55′6	55′7	55′8	55′9	55′9	56′0
SHA	216°	214°	212°	210°	207°	205°

Greenwich Culmination Time: -1:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	218 03.0	+00.5	S 23 05.7	-00.2
01	233 03.5	+00.5	S 23 05.5	-00.2
02	248 04.0	+00.4	S 23 05.3	-00.2
03	263 04.4	+00.5	S 23 05.1	-00.2
04	278 04.9	+00.5	S 23 04.9	-00.2
05	293 05.4	+00.5	S 23 04.7	-00.2
06	308 05.9	+00.4	S 23 04.5	-00.2
07	323 06.3	+00.5	S 23 04.3	-00.2
08	338 06.8	+00.5	S 23 04.1	-00.2
09	353 07.3	+00.4	S 23 03.9	-00.2
10	8 07.7	+00.5	S 23 03.7	-00.2
11	23 08.2	+00.5	S 23 03.5	-00.2
12	38 08.7	+00.4	S 23 03.3	-00.2
13	53 09.1	+00.5	S 23 03.1	-00.2
14	68 09.6	+00.5	S 23 02.9	-00.2
15	83 10.1	+00.5	S 23 02.7	-00.2
16	98 10.6	+00.4	S 23 02.5	-00.2
17	113 11.0	+00.5	S 23 02.3	-00.2
18	128 11.5	+00.5	S 23 02.1	-00.2
19	143 12.0	+00.4	S 23 01.9	-00.2
20	158 12.4	+00.5	S 23 01.7	-00.2
21	173 12.9	+00.5	S 23 01.5	-00.2
22	188 13.4	+00.5	S 23 01.3	-00.2
23	203 13.9	+00.4	S 23 01.1	-00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	072°	072°	072°	072°	071°	071°

Greenwich Culmination Time: 09:27

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	163 22.3	+01.9	S 08 26.3	-00.2
01	178 24.2	+01.9	S 08 26.1	-00.2
02	193 26.1	+02.0	S 08 25.9	-00.2
03	208 28.1	+01.9	S 08 25.7	-00.3
04	223 30.0	+01.9	S 08 25.4	-00.2
05	238 31.9	+01.9	S 08 25.2	-00.2
06	253 33.8	+01.9	S 08 25.0	-00.2
07	268 35.7	+01.9	S 08 24.8	-00.3
08	283 37.6	+01.9	S 08 24.5	-00.2
09	298 39.5	+01.9	S 08 24.3	-00.2
10	313 41.4	+01.9	S 08 24.1	-00.2
11	328 43.3	+01.9	S 08 23.9	-00.3
12	343 45.2	+01.9	S 08 23.6	-00.2
13	358 47.1	+01.9	S 08 23.4	-00.2
14	13 49.0	+01.9	S 08 23.2	-00.3
15	28 50.9	+01.9	S 08 22.9	-00.2
16	43 52.8	+01.9	S 08 22.7	-00.2
17	58 54.7	+01.9	S 08 22.5	-00.2
18	73 56.6	+01.9	S 08 22.3	-00.3
19	88 58.5	+02.0	S 08 22.0	-00.2
20	104 00.5	+01.9	S 08 21.8	-00.2
21	119 02.4	+01.9	S 08 21.6	-00.2
22	134 04.3	+01.9	S 08 21.4	-00.3
23	149 06.2	+01.9	S 08 21.1	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	017°	017°	017°	017°	017°	017°

Greenwich Culmination Time: 13:04

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	185 57.9	+02.2	S 16 28.7	-00.1
01	201 00.1	+02.2	S 16 28.6	+00.0
02	216 02.3	+02.2	S 16 28.6	-00.1
03	231 04.5	+02.1	S 16 28.5	-00.1
04	246 06.6	+02.2	S 16 28.4	-00.1
05	261 08.8	+02.2	S 16 28.3	-00.1
06	276 11.0	+02.1	S 16 28.2	-00.1
07	291 13.1	+02.2	S 16 28.1	-00.1
08	306 15.3	+02.2	S 16 28.0	-00.1
09	321 17.5	+02.1	S 16 27.9	+00.0
10	336 19.6	+02.2	S 16 27.9	-00.1
11	351 21.8	+02.2	S 16 27.8	-00.1
12	6 24.0	+02.1	S 16 27.7	-00.1
13	21 26.1	+02.2	S 16 27.6	-00.1
14	36 28.3	+02.2	S 16 27.5	-00.1
15	51 30.5	+02.1	S 16 27.4	-00.1
16	66 32.6	+02.2	S 16 27.3	-00.1
17	81 34.8	+02.2	S 16 27.2	+00.0
18	96 37.0	+02.1	S 16 27.2	-00.1
19	111 39.1	+02.2	S 16 27.1	-00.1
20	126 41.3	+02.2	S 16 27.0	-00.1
21	141 43.5	+02.2	S 16 26.9	-00.1
22	156 45.7	+02.1	S 16 26.8	-00.1
23	171 47.8	+02.2	S 16 26.7	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	040°	040°	040°	040°	040°	040°

Greenwich Culmination Time: 11:34

2022 February 21 Monday

(day 52 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 35.6	+00.1	S 10 38.8	-00.9
01	191 35.7	+00.1	S 10 37.9	-00.9
02	206 35.8	+00.0	S 10 37.0	-00.9
03	221 35.8	+00.1	S 10 36.1	-00.9
04	236 35.9	+00.1	S 10 35.2	-00.9
05	251 36.0	+00.1	S 10 34.3	-00.9
06	266 36.1	+00.0	S 10 33.4	-00.9
07	281 36.1	+00.1	S 10 32.5	-00.9
08	296 36.2	+00.1	S 10 31.6	-00.9
09	311 36.3	+00.0	S 10 30.7	-00.9
10	326 36.3	+00.1	S 10 29.8	-00.9
11	341 36.4	+00.1	S 10 28.9	-00.9
12	356 36.5	+00.1	S 10 28.0	-00.9
13	11 36.6	+00.0	S 10 27.1	-00.9
14	26 36.6	+00.1	S 10 26.2	-01.0
15	41 36.7	+00.1	S 10 25.2	-00.9
16	56 36.8	+00.1	S 10 24.3	-00.9
17	71 36.9	+00.0	S 10 23.4	-00.9
18	86 36.9	+00.1	S 10 22.5	-00.9
19	101 37.0	+00.1	S 10 21.6	-00.9
20	116 37.1	+00.1	S 10 20.7	-00.9
21	131 37.2	+00.1	S 10 19.8	-00.9
22	146 37.3	+00.0	S 10 18.9	-00.9
23	161 37.3	+00.1	S 10 18.0	-00.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	026°	025°	025°	025°	025°	025°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	220 24.1	+00.7	S 16 56.8	+00.1
01	235 24.8	+00.7	S 16 56.9	+00.0
02	250 25.5	+00.6	S 16 56.9	+00.0
03	265 26.1	+00.7	S 16 56.9	+00.1
04	280 26.8	+00.7	S 16 57.0	+00.0
05	295 27.5	+00.7	S 16 57.0	+00.0
06	310 28.2	+00.7	S 16 57.0	+00.0
07	325 28.9	+00.6	S 16 57.0	+00.1
08	340 29.5	+00.7	S 16 57.1	+00.0
09	355 30.2	+00.7	S 16 57.1	+00.0
10	10 30.9	+00.6	S 16 57.1	+00.1
11	25 31.5	+00.7	S 16 57.2	+00.0
12	40 32.2	+00.7	S 16 57.2	+00.0
13	55 32.9	+00.6	S 16 57.2	+00.0
14	70 33.5	+00.7	S 16 57.2	+00.1
15	85 34.2	+00.6	S 16 57.3	+00.0
16	100 34.8	+00.7	S 16 57.3	+00.0
17	115 35.5	+00.6	S 16 57.3	+00.0
18	130 36.1	+00.7	S 16 57.3	+00.1
19	145 36.8	+00.6	S 16 57.4	+00.0
20	160 37.4	+00.7	S 16 57.4	+00.0
21	175 38.1	+00.6	S 16 57.4	+00.0
22	190 38.7	+00.7	S 16 57.4	+00.0
23	205 39.4	+00.6	S 16 57.4	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	069°	069°	069°	069°	069°	069°

Greenwich Culmination Time: 09:17

Moon

A: 65%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	307 01.7	-28.5	S 07 07.3	+14.7
01	321 33.2	-28.5	S 07 22.0	+14.7
02	336 04.7	-28.5	S 07 36.7	+14.6
03	350 36.2	-28.7	S 07 51.3	+14.7
04	5 07.5	-28.6	S 08 06.0	+14.5
05	19 38.9	-28.7	S 08 20.5	+14.6
06	34 10.2	-28.8	S 08 35.1	+14.5
07	48 41.4	-28.9	S 08 49.6	+14.5
08	63 12.5	-28.9	S 09 04.1	+14.4
09	77 43.6	-28.9	S 09 18.5	+14.4
10	92 14.7	-29.0	S 09 32.9	+14.4
11	106 45.7	-29.1	S 09 47.3	+14.3
12	121 16.6	-29.2	S 10 01.6	+14.3
13	135 47.4	-29.2	S 10 15.9	+14.3
14	150 18.2	-29.2	S 10 30.2	+14.2
15	164 49.0	-29.4	S 10 44.4	+14.1
16	179 19.6	-29.4	S 10 58.5	+14.1
17	193 50.2	-29.4	S 11 12.6	+14.1
18	208 20.8	-29.6	S 11 26.7	+14.0
19	222 51.2	-29.6	S 11 40.7	+13.9
20	237 21.6	-29.7	S 11 54.6	+13.9
21	251 51.9	-29.7	S 12 08.5	+13.9
22	266 22.2	-29.9	S 12 22.4	+13.8
23	280 52.3	-29.8	S 12 36.2	+13.7

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′9	15′9	15′9
HP	58′0	58′1	58′2	58′2	58′3	58′4
SHA	155°	153°	151°	149°	147°	145°

Greenwich Culmination Time: 03:38

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	218 59.7	+00.5	S 22 39.4	-00.3
01	234 00.2	+00.5	S 22 39.1	-00.2
02	249 00.7	+00.5	S 22 38.9	-00.3
03	264 01.2	+00.4	S 22 38.6	-00.2
04	279 01.6	+00.5	S 22 38.4	-00.3
05	294 02.1	+00.5	S 22 38.1	-00.2
06	309 02.6	+00.5	S 22 37.9	-00.3
07	324 03.1	+00.4	S 22 37.6	-00.2
08	339 03.5	+00.5	S 22 37.4	-00.3
09	354 04.0	+00.5	S 22 37.1	-00.2
10	9 04.5	+00.5	S 22 36.9	-00.2
11	24 05.0	+00.5	S 22 36.7	-00.3
12	39 05.5	+00.4	S 22 36.4	-00.2
13	54 05.9	+00.5	S 22 36.2	-00.3
14	69 06.4	+00.5	S 22 35.9	-00.2
15	84 06.9	+00.5	S 22 35.7	-00.3
16	99 07.4	+00.4	S 22 35.4	-00.2
17	114 07.8	+00.5	S 22 35.2	-00.3
18	129 08.3	+00.5	S 22 34.9	-00.2
19	144 08.8	+00.5	S 22 34.7	-00.3
20	159 09.3	+00.4	S 22 34.4	-00.3
21	174 09.7	+00.5	S 22 34.1	-00.2
22	189 10.2	+00.5	S 22 33.9	-00.3
23	204 10.7	+00.5	S 22 33.6	-00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	068°	068°	068°	068°	068°	067°

Greenwich Culmination Time: 09:23

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	167 10.9	+01.9	S 07 59.1	-00.3
01	182 12.8	+01.9	S 07 58.8	-00.2
02	197 14.7	+01.9	S 07 58.6	-00.2
03	212 16.6	+01.9	S 07 58.4	-00.3
04	227 18.5	+01.9	S 07 58.1	-00.2
05	242 20.4	+01.9	S 07 57.9	-00.2
06	257 22.3	+01.9	S 07 57.7	-00.2
07	272 24.2	+01.9	S 07 57.5	-00.3
08	287 26.1	+01.9	S 07 57.2	-00.2
09	302 28.0	+01.9	S 07 57.0	-00.2
10	317 29.9	+01.9	S 07 56.8	-00.3
11	332 31.8	+01.9	S 07 56.5	-00.2
12	347 33.7	+01.9	S 07 56.3	-00.2
13	2 35.6	+01.9	S 07 56.1	-00.2
14	17 37.5	+01.9	S 07 55.9	-00.3
15	32 39.4	+01.9	S 07 55.6	-00.2
16	47 41.3	+01.9	S 07 55.4	-00.2
17	62 43.2	+01.9	S 07 55.2	-00.3
18	77 45.1	+01.9	S 07 54.9	-00.2
19	92 47.0	+01.9	S 07 54.7	-00.2
20	107 48.9	+01.9	S 07 54.5	-00.3
21	122 50.8	+02.0	S 07 54.2	-00.2
22	137 52.8	+01.9	S 07 54.0	-00.2
23	152 54.7	+01.9	S 07 53.8	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	016°	016°	016°	016°	016°	016°

Greenwich Culmination Time: 12:49

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	190 18.3	+02.2	S 16 18.3	-00.1
01	205 20.5	+02.2	S 16 18.2	-00.1
02	220 22.7	+02.2	S 16 18.1	-00.1
03	235 24.9	+02.1	S 16 18.0	-00.1
04	250 27.0	+02.2	S 16 17.9	+00.0
05	265 29.2	+02.2	S 16 17.9	-00.1
06	280 31.4	+02.1	S 16 17.8	-00.1
07	295 33.5	+02.2	S 16 17.7	-00.1
08	310 35.7	+02.2	S 16 17.6	-00.1
09	325 37.9	+02.2	S 16 17.5	-00.1
10	340 40.1	+02.1	S 16 17.4	-00.1
11	355 42.2	+02.2	S 16 17.3	-00.1
12	10 44.4	+02.2	S 16 17.2	+00.0
13	25 46.6	+02.1	S 16 17.2	-00.1
14	40 48.7	+02.2	S 16 17.1	-00.1
15	55 50.9	+02.2	S 16 17.0	-00.1
16	70 53.1	+02.2	S 16 16.9	-00.1
17	85 55.3	+02.1	S 16 16.8	-00.1
18	100 57.4	+02.2	S 16 16.7	-00.1
19	115 59.6	+02.2	S 16 16.6	+00.0
20	131 01.8	+02.2	S 16 16.6	-00.1
21	146 04.0	+02.1	S 16 16.5	-00.1
22	161 06.1	+02.2	S 16 16.4	-00.1
23	176 08.3	+02.2	S 16 16.3	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 11:17

2022 February 18 Friday

(day 49 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 31.2	+00.1	S 11 43.0	-00.8
01	191 31.3	+00.0	S 11 42.2	-00.9
02	206 31.3	+00.1	S 11 41.3	-00.9
03	221 31.4	+00.0	S 11 40.4	-00.9
04	236 31.4	+00.1	S 11 39.5	-00.9
05	251 31.5	+00.0	S 11 38.6	-00.8
06	266 31.5	+00.1	S 11 37.8	-00.9
07	281 31.6	+00.0	S 11 36.9	-00.9
08	296 31.6	+00.1	S 11 36.0	-00.9
09	311 31.7	+00.0	S 11 35.1	-00.9
10	326 31.7	+00.1	S 11 34.2	-00.9
11	341 31.8	+00.1	S 11 33.3	-00.8
12	356 31.9	+00.0	S 11 32.5	-00.9
13	11 31.9	+00.1	S 11 31.6	-00.9
14	26 32.0	+00.0	S 11 30.7	-00.9
15	41 32.0	+00.1	S 11 29.8	-00.9
16	56 32.1	+00.0	S 11 28.9	-00.9
17	71 32.1	+00.1	S 11 28.0	-00.9
18	86 32.2	+00.0	S 11 27.1	-00.8
19	101 32.2	+00.1	S 11 26.3	-00.9
20	116 32.3	+00.1	S 11 25.4	-00.9
21	131 32.4	+00.0	S 11 24.5	-00.9
22	146 32.4	+00.1	S 11 23.6	-00.9
23	161 32.5	+00.0	S 11 22.7	-00.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	029°	028°	028°	028°	028°	028°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	219 28.8	+00.8	S 16 53.3	+00.1
01	234 29.6	+00.9	S 16 53.4	+00.0
02	249 30.5	+00.8	S 16 53.4	+00.1
03	264 31.3	+00.9	S 16 53.5	+00.1
04	279 32.2	+00.8	S 16 53.6	+00.0
05	294 33.0	+00.8	S 16 53.6	+00.1
06	309 33.8	+00.9	S 16 53.7	+00.0
07	324 34.7	+00.8	S 16 53.7	+00.1
08	339 35.5	+00.8	S 16 53.8	+00.1
09	354 36.3	+00.9	S 16 53.9	+00.0
10	9 37.2	+00.8	S 16 53.9	+00.1
11	24 38.0	+00.8	S 16 54.0	+00.0
12	39 38.8	+00.8	S 16 54.0	+00.1
13	54 39.6	+00.9	S 16 54.1	+00.1
14	69 40.5	+00.8	S 16 54.2	+00.0
15	84 41.3	+00.8	S 16 54.2	+00.1
16	99 42.1	+00.8	S 16 54.3	+00.0
17	114 42.9	+00.8	S 16 54.3	+00.1
18	129 43.7	+00.8	S 16 54.4	+00.1
19	144 44.5	+00.8	S 16 54.5	+00.0
20	159 45.3	+00.8	S 16 54.5	+00.1
21	174 46.1	+00.8	S 16 54.6	+00.0
22	189 46.9	+00.8	S 16 54.6	+00.1
23	204 47.7	+00.8	S 16 54.7	+00.0

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	071°	071°	071°	071°	071°	071°

Greenwich Culmination Time: 09:21

Moon

A: 56%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	340 09.1	-27.6	N 10 24.1	-13.5
01	354 41.5	-27.6	N 10 10.6	-13.6
02	9 13.9	-27.6	N 09 57.0	-13.7
03	23 46.3	-27.6	N 09 43.3	-13.7
04	38 18.7	-27.6	N 09 29.6	-13.7
05	52 51.1	-27.5	N 09 15.9	-13.8
06	67 23.6	-27.5	N 09 02.1	-13.8
07	81 56.1	-27.5	N 08 48.3	-13.9
08	96 28.6	-27.5	N 08 34.4	-14.0
09	111 01.1	-27.5	N 08 20.4	-14.0
10	125 33.6	-27.4	N 08 06.4	-14.0
11	140 06.2	-27.5	N 07 52.4	-14.1
12	154 38.7	-27.4	N 07 38.3	-14.1
13	169 11.3	-27.4	N 07 24.2	-14.2
14	183 43.9	-27.4	N 07 10.0	-14.2
15	198 16.5	-27.4	N 06 55.8	-14.3
16	212 49.1	-27.4	N 06 41.5	-14.3
17	227 21.7	-27.3	N 06 27.2	-14.3
18	241 54.4	-27.4	N 06 12.9	-14.4
19	256 27.0	-27.3	N 05 58.5	-14.4
20	270 59.7	-27.4	N 05 44.1	-14.4
21	285 32.3	-27.3	N 05 29.7	-14.5
22	300 05.0	-27.4	N 05 15.2	-14.5
23	314 37.6	-27.3	N 05 00.7	-14.5

UT	02	06	10	14	18	22
SD	15′4	15′4	15′5	15′5	15′5	15′5
HP	56′6	56′7	56′8	56′9	56′9	57′0
SHA	191°	189°	187°	185°	183°	181°

Greenwich Culmination Time: 01:21

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	218 25.6	+00.5	S 22 55.9	-00.2
01	233 26.1	+00.5	S 22 55.7	-00.3
02	248 26.6	+00.5	S 22 55.4	-00.2
03	263 27.1	+00.4	S 22 55.2	-00.2
04	278 27.5	+00.5	S 22 55.0	-00.2
05	293 28.0	+00.5	S 22 54.8	-00.2
06	308 28.5	+00.4	S 22 54.6	-00.2
07	323 28.9	+00.5	S 22 54.4	-00.3
08	338 29.4	+00.5	S 22 54.1	-00.2
09	353 29.9	+00.5	S 22 53.9	-00.2
10	8 30.4	+00.4	S 22 53.7	-00.2
11	23 30.8	+00.5	S 22 53.5	-00.2
12	38 31.3	+00.5	S 22 53.3	-00.3
13	53 31.8	+00.5	S 22 53.0	-00.2
14	68 32.3	+00.4	S 22 52.8	-00.2
15	83 32.7	+00.5	S 22 52.6	-00.2
16	98 33.2	+00.5	S 22 52.4	-00.2
17	113 33.7	+00.4	S 22 52.2	-00.3
18	128 34.1	+00.5	S 22 51.9	-00.2
19	143 34.6	+00.5	S 22 51.7	-00.2
20	158 35.1	+00.5	S 22 51.5	-00.2
21	173 35.6	+00.4	S 22 51.3	-00.3
22	188 36.0	+00.5	S 22 51.0	-00.2
23	203 36.5	+00.5	S 22 50.8	-00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	070°	070°	070°	070°	070°	070°

Greenwich Culmination Time: 09:25

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	164 53.8	+01.9	S 08 15.5	-00.3
01	179 55.7	+01.9	S 08 15.2	-00.2
02	194 57.6	+01.9	S 08 15.0	-00.2
03	209 59.5	+01.9	S 08 14.8	-00.2
04	225 01.4	+01.9	S 08 14.6	-00.3
05	240 03.3	+01.9	S 08 14.3	-00.2
06	255 05.2	+01.9	S 08 14.1	-00.2
07	270 07.1	+01.9	S 08 13.9	-00.3
08	285 09.0	+01.9	S 08 13.6	-00.2
09	300 10.9	+01.9	S 08 13.4	-00.2
10	315 12.8	+01.9	S 08 13.2	-00.2
11	330 14.7	+02.0	S 08 13.0	-00.3
12	345 16.7	+01.9	S 08 12.7	-00.2
13	0 18.6	+01.9	S 08 12.5	-00.2
14	15 20.5	+01.9	S 08 12.3	-00.2
15	30 22.4	+01.9	S 08 12.1	-00.3
16	45 24.3	+01.9	S 08 11.8	-00.2
17	60 26.2	+01.9	S 08 11.6	-00.2
18	75 28.1	+01.9	S 08 11.4	-00.3
19	90 30.0	+01.9	S 08 11.1	-00.2
20	105 31.9	+01.9	S 08 10.9	-00.2
21	120 33.8	+01.9	S 08 10.7	-00.2
22	135 35.7	+01.9	S 08 10.5	-00.3
23	150 37.6	+01.9	S 08 10.2	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	017°	017°	017°	017°	017°	017°

Greenwich Culmination Time: 12:58

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	187 42.1	+02.1	S 16 24.5	+00.0
01	202 44.2	+02.2	S 16 24.5	-00.1
02	217 46.4	+02.2	S 16 24.4	-00.1
03	232 48.6	+02.1	S 16 24.3	-00.1
04	247 50.7	+02.2	S 16 24.2	-00.1
05	262 52.9	+02.2	S 16 24.1	-00.1
06	277 55.1	+02.1	S 16 24.0	-00.1
07	292 57.2	+02.2	S 16 23.9	+00.0
08	307 59.4	+02.2	S 16 23.9	-00.1
09	323 01.6	+02.1	S 16 23.8	-00.1
10	338 03.7	+02.2	S 16 23.7	-00.1
11	353 05.9	+02.2	S 16 23.6	-00.1
12	8 08.1	+02.2	S 16 23.5	-00.1
13	23 10.3	+02.1	S 16 23.4	-00.1
14	38 12.4	+02.2	S 16 23.3	-00.1
15	53 14.6	+02.2	S 16 23.2	+00.0
16	68 16.8	+02.1	S 16 23.2	-00.1
17	83 18.9	+02.2	S 16 23.1	-00.1
18	98 21.1	+02.2	S 16 23.0	-00.1
19	113 23.3	+02.1	S 16 22.9	-00.1
20	128 25.4	+02.2	S 16 22.8	-00.1
21	143 27.6	+02.2	S 16 22.7	-00.1
22	158 29.8	+02.2	S 16 22.6	-00.1
23	173 32.0	+02.1	S 16 22.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	040°	040°	040°	040°	040°	040°

Greenwich Culmination Time: 11:27

2022 February 19 Saturday (day 50 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	176 32.5	+00.1	S 11 21.8	-00.9
01	191 32.6	+00.0	S 11 20.9	-00.9
02	206 32.6	+00.1	S 11 20.0	-00.9
03	221 32.7	+00.1	S 11 19.1	-00.8
04	236 32.8	+00.0	S 11 18.3	-00.9
05	251 32.8	+00.1	S 11 17.4	-00.9
06	266 32.9	+00.0	S 11 16.5	-00.9
07	281 32.9	+00.1	S 11 15.6	-00.9
08	296 33.0	+00.1	S 11 14.7	-00.9
09	311 33.1	+00.0	S 11 13.8	-00.9
10	326 33.1	+00.1	S 11 12.9	-00.9
11	341 33.2	+00.0	S 11 12.0	-00.9
12	356 33.2	+00.1	S 11 11.1	-00.9
13	11 33.3	+00.1	S 11 10.2	-00.9
14	26 33.4	+00.0	S 11 09.3	-00.8
15	41 33.4	+00.1	S 11 08.5	-00.9
16	56 33.5	+00.0	S 11 07.6	-00.9
17	71 33.5	+00.1	S 11 06.7	-00.9
18	86 33.6	+00.1	S 11 05.8	-00.9
19	101 33.7	+00.0	S 11 04.9	-00.9
20	116 33.7	+00.1	S 11 04.0	-00.9
21	131 33.8	+00.1	S 11 03.1	-00.9
22	146 33.9	+00.0	S 11 02.2	-00.9
23	161 33.9	+00.1	S 11 01.3	-00.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	028°	027°	027°	027°	027°	027°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	219 48.5	+00.8	S 16 54.7	+00.1
01	234 49.3	+00.8	S 16 54.8	+00.0
02	249 50.1	+00.8	S 16 54.8	+00.1
03	264 50.9	+00.8	S 16 54.9	+00.0
04	279 51.7	+00.8	S 16 54.9	+00.1
05	294 52.5	+00.7	S 16 55.0	+00.0
06	309 53.2	+00.8	S 16 55.0	+00.1
07	324 54.0	+00.8	S 16 55.1	+00.1
08	339 54.8	+00.8	S 16 55.2	+00.0
09	354 55.6	+00.7	S 16 55.2	+00.1
10	9 56.3	+00.8	S 16 55.3	+00.0
11	24 57.1	+00.8	S 16 55.3	+00.1
12	39 57.9	+00.8	S 16 55.4	+00.0
13	54 58.7	+00.7	S 16 55.4	+00.0
14	69 59.4	+00.8	S 16 55.4	+00.1
15	85 00.2	+00.7	S 16 55.5	+00.0
16	100 00.9	+00.8	S 16 55.5	+00.1
17	115 01.7	+00.7	S 16 55.6	+00.0
18	130 02.4	+00.8	S 16 55.6	+00.1
19	145 03.2	+00.8	S 16 55.7	+00.0
20	160 04.0	+00.7	S 16 55.7	+00.1
21	175 04.7	+00.7	S 16 55.8	+00.0
22	190 05.4	+00.8	S 16 55.8	+00.1
23	205 06.2	+00.7	S 16 55.9	+00.0

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	071°	071°	071°	070°	070°	070°

Greenwich Culmination Time: 09:20

Moon

A: 59%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	329 10.3	-27.4	N 04 46.2	-14.6
01	343 42.9	-27.3	N 04 31.6	-14.6
02	358 15.6	-27.3	N 04 17.0	-14.6
03	12 48.3	-27.4	N 04 02.4	-14.7
04	27 20.9	-27.3	N 03 47.7	-14.7
05	41 53.6	-27.3	N 03 33.0	-14.7
06	56 26.3	-27.4	N 03 18.3	-14.7
07	70 58.9	-27.3	N 03 03.6	-14.8
08	85 31.6	-27.4	N 02 48.8	-14.8
09	100 04.2	-27.3	N 02 34.0	-14.8
10	114 36.9	-27.4	N 02 19.2	-14.8
11	129 09.5	-27.4	N 02 04.4	-14.8
12	143 42.1	-27.4	N 01 49.6	-14.9
13	158 14.7	-27.4	N 01 34.7	-14.9
14	172 47.3	-27.4	N 01 19.8	-14.9
15	187 19.9	-27.4	N 01 04.9	-14.9
16	201 52.5	-27.4	N 00 50.0	-14.9
17	216 25.1	-27.5	N 00 35.1	-14.9
18	230 57.6	-27.5	N 00 20.2	-14.9
19	245 30.1	-27.4	N 00 05.3	-15.0
20	260 02.7	-27.5	S 00 09.7	+15.0
21	274 35.2	-27.6	S 00 24.7	+14.9
22	289 07.6	-27.5	S 00 39.6	+15.0
23	303 40.1	-27.6	S 00 54.6	+15.0

UT	02	06	10	14	18	22
SD	15′6	15′6	15′6	15′6	15′6	15′7
HP	57′1	57′2	57′3	57′3	57′4	57′5
SHA	179°	177°	175°	173°	171°	169°

Greenwich Culmination Time: 02:07

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	218 37.0	+00.5	S 22 50.6	-00.2
01	233 37.5	+00.4	S 22 50.4	-00.2
02	248 37.9	+00.5	S 22 50.2	-00.3
03	263 38.4	+00.5	S 22 49.9	-00.2
04	278 38.9	+00.4	S 22 49.7	-00.2
05	293 39.3	+00.5	S 22 49.5	-00.3
06	308 39.8	+00.5	S 22 49.2	-00.2
07	323 40.3	+00.5	S 22 49.0	-00.2
08	338 40.8	+00.4	S 22 48.8	-00.2
09	353 41.2	+00.5	S 22 48.6	-00.3
10	8 41.7	+00.5	S 22 48.3	-00.2
11	23 42.2	+00.5	S 22 48.1	-00.2
12	38 42.7	+00.4	S 22 47.9	-00.3
13	53 43.1	+00.5	S 22 47.6	-00.2
14	68 43.6	+00.5	S 22 47.4	-00.2
15	83 44.1	+00.5	S 22 47.2	-00.2
16	98 44.6	+00.4	S 22 47.0	-00.3
17	113 45.0	+00.5	S 22 46.7	-00.2
18	128 45.5	+00.5	S 22 46.5	-00.2
19	143 46.0	+00.5	S 22 46.3	-00.3
20	158 46.5	+00.4	S 22 46.0	-00.2
21	173 46.9	+00.5	S 22 45.8	-00.2
22	188 47.4	+00.5	S 22 45.6	-00.3
23	203 47.9	+00.4	S 22 45.3	-00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	070°	069°	069°	069°	069°	069°

Greenwich Culmination Time: 09:25

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	165 39.5	+01.9	S 08 10.0	-00.2
01	180 41.4	+01.9	S 08 09.8	-00.3
02	195 43.3	+01.9	S 08 09.5	-00.2
03	210 45.2	+01.9	S 08 09.3	-00.2
04	225 47.1	+01.9	S 08 09.1	-00.2
05	240 49.0	+01.9	S 08 08.9	-00.3
06	255 50.9	+01.9	S 08 08.6	-00.2
07	270 52.8	+01.9	S 08 08.4	-00.2
08	285 54.7	+01.9	S 08 08.2	-00.2
09	300 56.6	+01.9	S 08 08.0	-00.3
10	315 58.5	+02.0	S 08 07.7	-00.2
11	331 00.5	+01.9	S 08 07.5	-00.2
12	346 02.4	+01.9	S 08 07.3	-00.3
13	1 04.3	+01.9	S 08 07.0	-00.2
14	16 06.2	+01.9	S 08 06.8	-00.2
15	31 08.1	+01.9	S 08 06.6	-00.2
16	46 10.0	+01.9	S 08 06.4	-00.3
17	61 11.9	+01.9	S 08 06.1	-00.2
18	76 13.8	+01.9	S 08 05.9	-00.2
19	91 15.7	+01.9	S 08 05.7	-00.3
20	106 17.6	+01.9	S 08 05.4	-00.2
21	121 19.5	+01.9	S 08 05.2	-00.2
22	136 21.4	+01.9	S 08 05.0	-00.2
23	151 23.3	+01.9	S 08 04.8	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	017°	017°	017°	017°	017°	017°

Greenwich Culmination Time: 12:55

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	188 34.1	+02.2	S 16 22.5	-00.1
01	203 36.3	+02.2	S 16 22.4	-00.1
02	218 38.5	+02.1	S 16 22.3	-00.1
03	233 40.6	+02.2	S 16 22.2	-00.1
04	248 42.8	+02.2	S 16 22.1	-00.1
05	263 45.0	+02.1	S 16 22.0	-00.1
06	278 47.1	+02.2	S 16 21.9	+00.0
07	293 49.3	+02.2	S 16 21.9	-00.1
08	308 51.5	+02.2	S 16 21.8	-00.1
09	323 53.7	+02.1	S 16 21.7	-00.1
10	338 55.8	+02.2	S 16 21.6	-00.1
11	353 58.0	+02.2	S 16 21.5	-00.1
12	9 00.2	+02.1	S 16 21.4	-00.1
13	24 02.3	+02.2	S 16 21.3	-00.1
14	39 04.5	+02.2	S 16 21.2	+00.0
15	54 06.7	+02.2	S 16 21.2	-00.1
16	69 08.9	+02.1	S 16 21.1	-00.1
17	84 11.0	+02.2	S 16 21.0	-00.1
18	99 13.2	+02.2	S 16 20.9	-00.1
19	114 15.4	+02.1	S 16 20.8	-00.1
20	129 17.5	+02.2	S 16 20.7	-00.1
21	144 19.7	+02.2	S 16 20.6	-00.1
22	159 21.9	+02.2	S 16 20.5	+00.0
23	174 24.1	+02.1	S 16 20.5	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	040°	040°	040°	040°	040°	040°

Greenwich Culmination Time: 11:24

2022 February 20 Sunday (day 51 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	176 34.0	+00.1	S 11 00.4	-00.9
01	191 34.1	+00.0	S 10 59.5	-00.9
02	206 34.1	+00.1	S 10 58.6	-00.9
03	221 34.2	+00.1	S 10 57.7	-00.9
04	236 34.3	+00.0	S 10 56.8	-00.9
05	251 34.3	+00.1	S 10 55.9	-00.9
06	266 34.4	+00.0	S 10 55.0	-00.9
07	281 34.4	+00.1	S 10 54.1	-00.9
08	296 34.5	+00.1	S 10 53.2	-00.9
09	311 34.6	+00.1	S 10 52.3	-00.9
10	326 34.7	+00.0	S 10 51.4	-00.9
11	341 34.7	+00.1	S 10 50.5	-00.9
12	356 34.8	+00.1	S 10 49.6	-00.9
13	11 34.9	+00.0	S 10 48.7	-00.9
14	26 34.9	+00.1	S 10 47.8	-00.9
15	41 35.0	+00.1	S 10 46.9	-00.9
16	56 35.1	+00.0	S 10 46.0	-00.9
17	71 35.1	+00.1	S 10 45.1	-00.9
18	86 35.2	+00.1	S 10 44.2	-00.9
19	101 35.3	+00.0	S 10 43.3	-00.9
20	116 35.3	+00.1	S 10 42.4	-00.9
21	131 35.4	+00.1	S 10 41.5	-00.9
22	146 35.5	+00.0	S 10 40.6	-00.9
23	161 35.5	+00.1	S 10 39.7	-00.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	027°	026°	026°	026°	026°	026°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	220 06.9	+00.8	S 16 55.9	+00.1
01	235 07.7	+00.7	S 16 56.0	+00.0
02	250 08.4	+00.7	S 16 56.0	+00.0
03	265 09.1	+00.8	S 16 56.0	+00.1
04	280 09.9	+00.7	S 16 56.1	+00.0
05	295 10.6	+00.7	S 16 56.1	+00.1
06	310 11.3	+00.8	S 16 56.2	+00.0
07	325 12.1	+00.7	S 16 56.2	+00.0
08	340 12.8	+00.7	S 16 56.2	+00.1
09	355 13.5	+00.7	S 16 56.3	+00.0
10	10 14.2	+00.7	S 16 56.3	+00.1
11	25 14.9	+00.8	S 16 56.4	+00.0
12	40 15.7	+00.7	S 16 56.4	+00.0
13	55 16.4	+00.7	S 16 56.4	+00.1
14	70 17.1	+00.7	S 16 56.5	+00.0
15	85 17.8	+00.7	S 16 56.5	+00.0
16	100 18.5	+00.7	S 16 56.5	+00.1
17	115 19.2	+00.7	S 16 56.6	+00.0
18	130 19.9	+00.7	S 16 56.6	+00.1
19	145 20.6	+00.7	S 16 56.7	+00.0
20	160 21.3	+00.7	S 16 56.7	+00.0
21	175 22.0	+00.7	S 16 56.7	+00.1
22	190 22.7	+00.7	S 16 56.8	+00.0
23	205 23.4	+00.7	S 16 56.8	+00.0

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	070°	070°	070°	070°	070°	070°

Greenwich Culmination Time: 09:19

Moon

A: 62%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	318 12.5	-27.5	S 01 09.6	+14.9
01	332 45.0	-27.7	S 01 24.5	+15.0
02	347 17.3	-27.6	S 01 39.5	+15.0
03	1 49.7	-27.6	S 01 54.5	+15.0
04	16 22.1	-27.7	S 02 09.5	+15.0
05	30 54.4	-27.7	S 02 24.5	+15.0
06	45 26.7	-27.8	S 02 39.5	+14.9
07	59 58.9	-27.8	S 02 54.4	+15.0
08	74 31.1	-27.8	S 03 09.4	+15.0
09	89 03.3	-27.8	S 03 24.4	+14.9
10	103 35.5	-27.9	S 03 39.3	+15.0
11	118 07.6	-27.9	S 03 54.3	+14.9
12	132 39.7	-27.9	S 04 09.2	+15.0
13	147 11.8	-28.0	S 04 24.2	+14.9
14	161 43.8	-28.0	S 04 39.1	+14.9
15	176 15.8	-28.1	S 04 54.0	+14.9
16	190 47.7	-28.1	S 05 08.9	+14.8
17	205 19.6	-28.1	S 05 23.7	+14.9
18	219 51.5	-28.2	S 05 38.6	+14.8
19	234 23.3	-28.2	S 05 53.4	+14.9
20	248 55.1	-28.3	S 06 08.3	+14.8
21	263 26.8	-28.3	S 06 23.1	+14.7
22	277 58.5	-28.4	S 06 37.8	+14.8
23	292 30.1	-28.4	S 06 52.6	+14.7

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′8	15′8
HP	57′6	57′7	57′7	57′8	57′9	57′9
SHA	167°	165°	163°	161°	159°	157°

Greenwich Culmination Time: 02:52

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	218 48.3	+00.5	S 22 45.1	-00.2
01	233 48.8	+00.5	S 22 44.9	-00.3
02	248 49.3	+00.5	S 22 44.6	-00.2
03	263 49.8	+00.4	S 22 44.4	-00.2
04	278 50.2	+00.5	S 22 44.2	-00.3
05	293 50.7	+00.5	S 22 43.9	-00.2
06	308 51.2	+00.5	S 22 43.7	-00.3
07	323 51.7	+00.4	S 22 43.4	-00.2
08	338 52.1	+00.5	S 22 43.2	-00.2
09	353 52.6	+00.5	S 22 43.0	-00.3
10	8 53.1	+00.5	S 22 42.7	-00.2
11	23 53.6	+00.4	S 22 42.5	-00.2
12	38 54.0	+00.5	S 22 42.3	-00.3
13	53 54.5	+00.5	S 22 42.0	-00.2
14	68 55.0	+00.5	S 22 41.8	-00.3
15	83 55.5	+00.4	S 22 41.5	-00.2
16	98 55.9	+00.5	S 22 41.3	-00.2
17	113 56.4	+00.5	S 22 41.1	-00.3
18	128 56.9	+00.5	S 22 40.8	-00.2
19	143 57.4	+00.4	S 22 40.6	-00.3
20	158 57.8	+00.5	S 22 40.3	-00.2
21	173 58.3	+00.5	S 22 40.1	-00.3
22	188 58.8	+00.5	S 22 39.8	-00.2
23	203 59.3	+00.4	S 22 39.6	-00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	069°	069°	069°	068°	068°	068°

Greenwich Culmination Time: 09:24

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	166 25.2	+01.9	S 08 04.5	-00.2
01	181 27.1	+01.9	S 08 04.3	-00.2
02	196 29.0	+01.9	S 08 04.1	-00.2
03	211 30.9	+01.9	S 08 03.9	-00.3
04	226 32.8	+01.9	S 08 03.6	-00.2
05	241 34.7	+01.9	S 08 03.4	-00.2
06	256 36.6	+01.9	S 08 03.2	-00.3
07	271 38.5	+01.9	S 08 02.9	-00.2
08	286 40.4	+01.9	S 08 02.7	-00.2
09	301 42.3	+01.9	S 08 02.5	-00.2
10	316 44.2	+01.9	S 08 02.3	-00.3
11	331 46.1	+01.9	S 08 02.0	-00.2
12	346 48.0	+01.9	S 08 01.8	-00.2
13	1 49.9	+02.0	S 08 01.6	-00.3
14	16 51.9	+01.9	S 08 01.3	-00.2
15	31 53.8	+01.9	S 08 01.1	-00.2
16	46 55.7	+01.9	S 08 00.9	-00.2
17	61 57.6	+01.9	S 08 00.7	-00.3
18	76 59.5	+01.9	S 08 00.4	-00.2
19	92 01.4	+01.9	S 08 00.2	-00.2
20	107 03.3	+01.9	S 07 60.0	-00.3
21	122 05.2	+01.9	S 07 59.7	-00.2
22	137 07.1	+01.9	S 07 59.5	-00.2
23	152 09.0	+01.9	S 07 59.3	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	016°	016°	016°	016°	016°	016°

Greenwich Culmination Time: 12:52

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	189 26.2	+02.2	S 16 20.4	-00.1
01	204 28.4	+02.2	S 16 20.3	-00.1
02	219 30.6	+02.1	S 16 20.2	-00.1
03	234 32.7	+02.2	S 16 20.1	-00.1
04	249 34.9	+02.2	S 16 20.0	-00.1
05	264 37.1	+02.1	S 16 19.9	+00.0
06	279 39.2	+02.2	S 16 19.9	-00.1
07	294 41.4	+02.2	S 16 19.8	-00.1
08	309 43.6	+02.2	S 16 19.7	-00.1
09	324 45.8	+02.1	S 16 19.6	-00.1
10	339 47.9	+02.2	S 16 19.5	-00.1
11	354 50.1	+02.2	S 16 19.4	-00.1
12	9 52.3	+02.1	S 16 19.3	-00.1
13	24 54.4	+02.2	S 16 19.2	+00.0
14	39 56.6	+02.2	S 16 19.2	-00.1
15	54 58.8	+02.2	S 16 19.1	-00.1
16	70 01.0	+02.1	S 16 19.0	-00.1
17	85 03.1	+02.2	S 16 18.9	-00.1
18	100 05.3	+02.2	S 16 18.8	-00.1
19	115 07.5	+02.1	S 16 18.7	-00.1
20	130 09.6	+02.2	S 16 18.6	-00.1
21	145 11.8	+02.2	S 16 18.5	+00.0
22	160 14.0	+02.2	S 16 18.5	-00.1
23	175 16.2	+02.1	S 16 18.4	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	040°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 11:20

2022 February 25 Friday (day 56 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 43.7	+00.1	S 09 10.9	-00.9
01	191 43.8	+00.1	S 09 10.0	-01.0
02	206 43.9	+00.1	S 09 09.0	-00.9
03	221 44.0	+00.1	S 09 08.1	-00.9
04	236 44.1	+00.1	S 09 07.2	-00.9
05	251 44.2	+00.0	S 09 06.3	-01.0
06	266 44.2	+00.1	S 09 05.3	-00.9
07	281 44.3	+00.1	S 09 04.4	-00.9
08	296 44.4	+00.1	S 09 03.5	-01.0
09	311 44.5	+00.1	S 09 02.5	-00.9
10	326 44.6	+00.1	S 09 01.6	-00.9
11	341 44.7	+00.1	S 09 00.7	-01.0
12	356 44.8	+00.1	S 08 59.7	-00.9
13	11 44.9	+00.1	S 08 58.8	-00.9
14	26 45.0	+00.1	S 08 57.9	-01.0
15	41 45.1	+00.1	S 08 56.9	-00.9
16	56 45.2	+00.1	S 08 56.0	-00.9
17	71 45.3	+00.1	S 08 55.1	-01.0
18	86 45.4	+00.1	S 08 54.1	-00.9
19	101 45.5	+00.1	S 08 53.2	-00.9
20	116 45.6	+00.1	S 08 52.3	-01.0
21	131 45.7	+00.1	S 08 51.3	-00.9
22	146 45.8	+00.1	S 08 50.4	-00.9
23	161 45.9	+00.1	S 08 49.5	-01.0

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	022°	022°	021°	021°	021°	021°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	221 21.1	+00.5	S 16 57.5	+00.0
01	236 21.6	+00.5	S 16 57.5	+00.0
02	251 22.1	+00.5	S 16 57.5	+00.0
03	266 22.6	+00.5	S 16 57.5	+00.0
04	281 23.1	+00.5	S 16 57.5	-00.1
05	296 23.6	+00.5	S 16 57.4	+00.0
06	311 24.1	+00.4	S 16 57.4	+00.0
07	326 24.5	+00.5	S 16 57.4	+00.0
08	341 25.0	+00.5	S 16 57.4	-00.1
09	356 25.5	+00.5	S 16 57.3	+00.0
10	11 26.0	+00.5	S 16 57.3	+00.0
11	26 26.5	+00.5	S 16 57.3	+00.0
12	41 27.0	+00.5	S 16 57.3	-00.1
13	56 27.5	+00.4	S 16 57.2	+00.0
14	71 27.9	+00.5	S 16 57.2	+00.0
15	86 28.4	+00.5	S 16 57.2	+00.0
16	101 28.9	+00.5	S 16 57.2	-00.1
17	116 29.4	+00.4	S 16 57.1	+00.0
18	131 29.8	+00.5	S 16 57.1	+00.0
19	146 30.3	+00.5	S 16 57.1	-00.1
20	161 30.8	+00.5	S 16 57.0	+00.0
21	176 31.3	+00.4	S 16 57.0	+00.0
22	191 31.7	+00.5	S 16 57.0	-00.1
23	206 32.2	+00.4	S 16 56.9	+00.0

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	066°	066°	066°	066°	066°	066°

Greenwich Culmination Time: 09:14

Moon

A: 80%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	255 37.1	-36.4	S 25 08.1	+05.4
01	270 00.7	-36.4	S 25 13.5	+05.2
02	284 24.3	-36.5	S 25 18.7	+05.1
03	298 47.8	-36.6	S 25 23.8	+04.9
04	313 11.2	-36.6	S 25 28.7	+04.7
05	327 34.6	-36.7	S 25 33.4	+04.5
06	341 57.9	-36.8	S 25 37.9	+04.4
07	356 21.1	-36.8	S 25 42.3	+04.2
08	10 44.3	-36.9	S 25 46.5	+04.0
09	25 07.4	-36.9	S 25 50.5	+03.9
10	39 30.5	-37.0	S 25 54.4	+03.7
11	53 53.5	-37.1	S 25 58.1	+03.5
12	68 16.4	-37.1	S 26 01.6	+03.3
13	82 39.3	-37.1	S 26 04.9	+03.1
14	97 02.2	-37.2	S 26 08.0	+03.0
15	111 25.0	-37.2	S 26 11.0	+02.8
16	125 47.8	-37.3	S 26 13.8	+02.6
17	140 10.5	-37.3	S 26 16.4	+02.4
18	154 33.2	-37.3	S 26 18.8	+02.2
19	168 55.9	-37.4	S 26 21.0	+02.1
20	183 18.5	-37.4	S 26 23.1	+01.8
21	197 41.1	-37.5	S 26 24.9	+01.7
22	212 03.6	-37.5	S 26 26.6	+01.5
23	226 26.1	-37.5	S 26 28.1	+01.3

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	59′4	59′4	59′4	59′5	59′5	59′5
SHA	099°	097°	094°	092°	089°	086°

Greenwich Culmination Time: 07:15

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	219 45.7	+00.5	S 22 14.1	-00.3
01	234 46.2	+00.4	S 22 13.8	-00.3
02	249 46.6	+00.5	S 22 13.5	-00.3
03	264 47.1	+00.5	S 22 13.2	-00.2
04	279 47.6	+00.5	S 22 13.0	-00.3
05	294 48.1	+00.5	S 22 12.7	-00.3
06	309 48.6	+00.5	S 22 12.4	-00.3
07	324 49.1	+00.4	S 22 12.1	-00.3
08	339 49.5	+00.5	S 22 11.8	-00.3
09	354 50.0	+00.5	S 22 11.5	-00.2
10	9 50.5	+00.5	S 22 11.3	-00.3
11	24 51.0	+00.5	S 22 11.0	-00.3
12	39 51.5	+00.4	S 22 10.7	-00.3
13	54 51.9	+00.5	S 22 10.4	-00.3
14	69 52.4	+00.5	S 22 10.1	-00.3
15	84 52.9	+00.5	S 22 09.8	-00.3
16	99 53.4	+00.5	S 22 09.5	-00.3
17	114 53.9	+00.5	S 22 09.2	-00.2
18	129 54.4	+00.4	S 22 09.0	-00.3
19	144 54.8	+00.5	S 22 08.7	-00.3
20	159 55.3	+00.5	S 22 08.4	-00.3
21	174 55.8	+00.5	S 22 08.1	-00.3
22	189 56.3	+00.5	S 22 07.8	-00.3
23	204 56.8	+00.5	S 22 07.5	-00.3

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	065°	065°	065°	064°	064°	064°

Greenwich Culmination Time: 09:20

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	170 13.5	+01.9	S 07 37.0	-00.2
01	185 15.4	+01.9	S 07 36.8	-00.2
02	200 17.3	+01.9	S 07 36.6	-00.3
03	215 19.2	+01.9	S 07 36.3	-00.2
04	230 21.1	+01.9	S 07 36.1	-00.2
05	245 23.0	+01.9	S 07 35.9	-00.3
06	260 24.9	+01.9	S 07 35.6	-00.2
07	275 26.8	+01.9	S 07 35.4	-00.2
08	290 28.7	+01.9	S 07 35.2	-00.3
09	305 30.6	+01.9	S 07 34.9	-00.2
10	320 32.5	+01.9	S 07 34.7	-00.2
11	335 34.4	+01.9	S 07 34.5	-00.2
12	350 36.3	+01.9	S 07 34.3	-00.3
13	5 38.2	+01.9	S 07 34.0	-00.2
14	20 40.1	+02.0	S 07 33.8	-00.2
15	35 42.1	+01.9	S 07 33.6	-00.3
16	50 44.0	+01.9	S 07 33.3	-00.2
17	65 45.9	+01.9	S 07 33.1	-00.2
18	80 47.8	+01.9	S 07 32.9	-00.3
19	95 49.7	+01.9	S 07 32.6	-00.2
20	110 51.6	+01.9	S 07 32.4	-00.2
21	125 53.5	+01.9	S 07 32.2	-00.2
22	140 55.4	+01.9	S 07 32.0	-00.3
23	155 57.3	+01.9	S 07 31.7	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	015°	015°	015°	015°	015°	015°

Greenwich Culmination Time: 12:37

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	193 47.0	+02.2	S 16 10.0	-00.1
01	208 49.2	+02.1	S 16 09.9	-00.1
02	223 51.3	+02.2	S 16 09.8	-00.1
03	238 53.5	+02.2	S 16 09.7	-00.1
04	253 55.7	+02.2	S 16 09.6	+00.0
05	268 57.9	+02.1	S 16 09.6	-00.1
06	284 00.0	+02.2	S 16 09.5	-00.1
07	299 02.2	+02.2	S 16 09.4	-00.1
08	314 04.4	+02.2	S 16 09.3	-00.1
09	329 06.6	+02.2	S 16 09.2	-00.1
10	344 08.8	+02.1	S 16 09.1	-00.1
11	359 10.9	+02.2	S 16 09.0	-00.1
12	14 13.1	+02.2	S 16 08.9	+00.0
13	29 15.3	+02.2	S 16 08.9	-00.1
14	44 17.5	+02.1	S 16 08.8	-00.1
15	59 19.6	+02.2	S 16 08.7	-00.1
16	74 21.8	+02.2	S 16 08.6	-00.1
17	89 24.0	+02.2	S 16 08.5	-00.1
18	104 26.2	+02.1	S 16 08.4	-00.1
19	119 28.3	+02.2	S 16 08.3	+00.0
20	134 30.5	+02.2	S 16 08.3	-00.1
21	149 32.7	+02.2	S 16 08.2	-00.1
22	164 34.9	+02.1	S 16 08.1	-00.1
23	179 37.0	+02.2	S 16 08.0	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 11:03

2022 February 22 Tuesday (day 53 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 37.4	+00.1	S 10 17.1	-00.9
01	191 37.5	+00.1	S 10 16.2	-00.9
02	206 37.6	+00.0	S 10 15.3	-01.0
03	221 37.6	+00.1	S 10 14.3	-00.9
04	236 37.7	+00.1	S 10 13.4	-00.9
05	251 37.8	+00.1	S 10 12.5	-00.9
06	266 37.9	+00.1	S 10 11.6	-00.9
07	281 38.0	+00.0	S 10 10.7	-00.9
08	296 38.0	+00.1	S 10 09.8	-00.9
09	311 38.1	+00.1	S 10 08.9	-00.9
10	326 38.2	+00.1	S 10 08.0	-00.9
11	341 38.3	+00.1	S 10 07.1	-01.0
12	356 38.4	+00.0	S 10 06.1	-00.9
13	11 38.4	+00.1	S 10 05.2	-00.9
14	26 38.5	+00.1	S 10 04.3	-00.9
15	41 38.6	+00.1	S 10 03.4	-00.9
16	56 38.7	+00.1	S 10 02.5	-00.9
17	71 38.8	+00.0	S 10 01.6	-00.9
18	86 38.8	+00.1	S 10 00.7	-01.0
19	101 38.9	+00.1	S 09 59.7	-00.9
20	116 39.0	+00.1	S 09 58.8	-00.9
21	131 39.1	+00.1	S 09 57.9	-00.9
22	146 39.2	+00.1	S 09 57.0	-00.9
23	161 39.3	+00.0	S 09 56.1	-00.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	025°	025°	024°	024°	024°	024°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	220 40.0	+00.7	S 16 57.5	+00.0
01	235 40.7	+00.6	S 16 57.5	+00.0
02	250 41.3	+00.6	S 16 57.5	+00.0
03	265 41.9	+00.7	S 16 57.5	+00.0
04	280 42.6	+00.6	S 16 57.5	+00.1
05	295 43.2	+00.6	S 16 57.6	+00.0
06	310 43.8	+00.6	S 16 57.6	+00.0
07	325 44.4	+00.7	S 16 57.6	+00.0
08	340 45.1	+00.6	S 16 57.6	+00.0
09	355 45.7	+00.6	S 16 57.6	+00.0
10	10 46.3	+00.6	S 16 57.6	+00.1
11	25 46.9	+00.6	S 16 57.7	+00.0
12	40 47.5	+00.7	S 16 57.7	+00.0
13	55 48.2	+00.6	S 16 57.7	+00.0
14	70 48.8	+00.6	S 16 57.7	+00.0
15	85 49.4	+00.6	S 16 57.7	+00.0
16	100 50.0	+00.6	S 16 57.7	+00.0
17	115 50.6	+00.6	S 16 57.7	+00.1
18	130 51.2	+00.6	S 16 57.8	+00.0
19	145 51.8	+00.6	S 16 57.8	+00.0
20	160 52.4	+00.6	S 16 57.8	+00.0
21	175 53.0	+00.6	S 16 57.8	+00.0
22	190 53.6	+00.6	S 16 57.8	+00.0
23	205 54.2	+00.6	S 16 57.8	+00.0

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	069°	069°	068°	068°	068°	068°

Greenwich Culmination Time: 09:16

Moon

A: 68%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	295 22.5	-30.0	S 12 49.9	+13.7
01	309 52.5	-30.1	S 13 03.6	+13.6
02	324 22.4	-30.1	S 13 17.2	+13.5
03	338 52.3	-30.2	S 13 30.7	+13.5
04	353 22.1	-30.3	S 13 44.2	+13.4
05	7 51.8	-30.4	S 13 57.6	+13.4
06	22 21.4	-30.4	S 14 11.0	+13.3
07	36 51.0	-30.5	S 14 24.3	+13.2
08	51 20.5	-30.6	S 14 37.5	+13.1
09	65 49.9	-30.7	S 14 50.6	+13.1
10	80 19.2	-30.8	S 15 03.7	+13.0
11	94 48.4	-30.8	S 15 16.7	+12.9
12	109 17.6	-31.0	S 15 29.6	+12.9
13	123 46.6	-31.0	S 15 42.5	+12.8
14	138 15.6	-31.1	S 15 55.3	+12.6
15	152 44.5	-31.2	S 16 07.9	+12.6
16	167 13.3	-31.3	S 16 20.5	+12.6
17	181 42.0	-31.4	S 16 33.1	+12.4
18	196 10.6	-31.5	S 16 45.5	+12.4
19	210 39.1	-31.6	S 16 57.9	+12.2
20	225 07.5	-31.6	S 17 10.1	+12.2
21	239 35.9	-31.8	S 17 22.3	+12.1
22	254 04.1	-31.8	S 17 34.4	+12.0
23	268 32.3	-31.9	S 17 46.4	+11.9

UT	02	06	10	14	18	22
SD	15′9	15′9	16′0	16′0	16′0	16′0
HP	58′4	58′5	58′5	58′6	58′7	58′7
SHA	142°	140°	138°	136°	134°	131°

Greenwich Culmination Time: 04:27

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	219 11.2	+00.4	S 22 33.4	-00.3
01	234 11.6	+00.5	S 22 33.1	-00.2
02	249 12.1	+00.5	S 22 32.9	-00.3
03	264 12.6	+00.5	S 22 32.6	-00.2
04	279 13.1	+00.5	S 22 32.4	-00.3
05	294 13.6	+00.4	S 22 32.1	-00.2
06	309 14.0	+00.5	S 22 31.9	-00.3
07	324 14.5	+00.5	S 22 31.6	-00.3
08	339 15.0	+00.5	S 22 31.3	-00.2
09	354 15.5	+00.4	S 22 31.1	-00.3
10	9 15.9	+00.5	S 22 30.8	-00.2
11	24 16.4	+00.5	S 22 30.6	-00.3
12	39 16.9	+00.5	S 22 30.3	-00.2
13	54 17.4	+00.5	S 22 30.1	-00.3
14	69 17.9	+00.4	S 22 29.8	-00.3
15	84 18.3	+00.5	S 22 29.5	-00.2
16	99 18.8	+00.5	S 22 29.3	-00.3
17	114 19.3	+00.5	S 22 29.0	-00.2
18	129 19.8	+00.4	S 22 28.8	-00.3
19	144 20.2	+00.5	S 22 28.5	-00.3
20	159 20.7	+00.5	S 22 28.2	-00.2
21	174 21.2	+00.5	S 22 28.0	-00.3
22	189 21.7	+00.5	S 22 27.7	-00.2
23	204 22.2	+00.4	S 22 27.5	-00.3

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	067°	067°	067°	067°	067°	067°

Greenwich Culmination Time: 09:22

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	167 56.6	+01.9	S 07 53.6	-00.3
01	182 58.5	+01.9	S 07 53.3	-00.2
02	198 00.4	+01.9	S 07 53.1	-00.2
03	213 02.3	+01.9	S 07 52.9	-00.3
04	228 04.2	+01.9	S 07 52.6	-00.2
05	243 06.1	+01.9	S 07 52.4	-00.2
06	258 08.0	+01.9	S 07 52.2	-00.2
07	273 09.9	+01.9	S 07 52.0	-00.3
08	288 11.8	+01.9	S 07 51.7	-00.2
09	303 13.7	+01.9	S 07 51.5	-00.2
10	318 15.6	+01.9	S 07 51.3	-00.3
11	333 17.5	+01.9	S 07 51.0	-00.2
12	348 19.4	+01.9	S 07 50.8	-00.2
13	3 21.3	+01.9	S 07 50.6	-00.2
14	18 23.2	+01.9	S 07 50.4	-00.3
15	33 25.1	+01.9	S 07 50.1	-00.2
16	48 27.0	+01.9	S 07 49.9	-00.2
17	63 28.9	+01.9	S 07 49.7	-00.3
18	78 30.8	+01.9	S 07 49.4	-00.2
19	93 32.7	+01.9	S 07 49.2	-00.2
20	108 34.6	+01.9	S 07 49.0	-00.3
21	123 36.5	+01.9	S 07 48.7	-00.2
22	138 38.4	+01.9	S 07 48.5	-00.2
23	153 40.3	+01.9	S 07 48.3	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	016°	016°	016°	016°	016°	016°

Greenwich Culmination Time: 12:46

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	191 10.5	+02.1	S 16 16.2	-00.1
01	206 12.6	+02.2	S 16 16.1	-00.1
02	221 14.8	+02.2	S 16 16.0	-00.1
03	236 17.0	+02.2	S 16 15.9	+00.0
04	251 19.2	+02.1	S 16 15.9	-00.1
05	266 21.3	+02.2	S 16 15.8	-00.1
06	281 23.5	+02.2	S 16 15.7	-00.1
07	296 25.7	+02.2	S 16 15.6	-00.1
08	311 27.9	+02.1	S 16 15.5	-00.1
09	326 30.0	+02.2	S 16 15.4	-00.1
10	341 32.2	+02.2	S 16 15.3	+00.0
11	356 34.4	+02.1	S 16 15.3	-00.1
12	11 36.5	+02.2	S 16 15.2	-00.1
13	26 38.7	+02.2	S 16 15.1	-00.1
14	41 40.9	+02.2	S 16 15.0	-00.1
15	56 43.1	+02.1	S 16 14.9	-00.1
16	71 45.2	+02.2	S 16 14.8	-00.1
17	86 47.4	+02.2	S 16 14.7	-00.1
18	101 49.6	+02.2	S 16 14.6	+00.0
19	116 51.8	+02.1	S 16 14.6	-00.1
20	131 53.9	+02.2	S 16 14.5	-00.1
21	146 56.1	+02.2	S 16 14.4	-00.1
22	161 58.3	+02.1	S 16 14.3	-00.1
23	177 00.4	+02.2	S 16 14.2	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 11:13

2022 February 23 Wednesday (day 54 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 39.3	+00.1	S 09 55.2	-00.9
01	191 39.4	+00.1	S 09 54.3	-01.0
02	206 39.5	+00.1	S 09 53.3	-00.9
03	221 39.6	+00.1	S 09 52.4	-00.9
04	236 39.7	+00.1	S 09 51.5	-00.9
05	251 39.8	+00.1	S 09 50.6	-00.9
06	266 39.9	+00.0	S 09 49.7	-01.0
07	281 39.9	+00.1	S 09 48.7	-00.9
08	296 40.0	+00.1	S 09 47.8	-00.9
09	311 40.1	+00.1	S 09 46.9	-00.9
10	326 40.2	+00.1	S 09 46.0	-00.9
11	341 40.3	+00.1	S 09 45.1	-00.9
12	356 40.4	+00.1	S 09 44.2	-01.0
13	11 40.5	+00.0	S 09 43.2	-00.9
14	26 40.5	+00.1	S 09 42.3	-00.9
15	41 40.6	+00.1	S 09 41.4	-00.9
16	56 40.7	+00.1	S 09 40.5	-00.9
17	71 40.8	+00.1	S 09 39.6	-01.0
18	86 40.9	+00.1	S 09 38.6	-00.9
19	101 41.0	+00.1	S 09 37.7	-00.9
20	116 41.1	+00.1	S 09 36.8	-00.9
21	131 41.2	+00.1	S 09 35.9	-01.0
22	146 41.3	+00.0	S 09 34.9	-00.9
23	161 41.3	+00.1	S 09 34.0	-00.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	024°	024°	023°	023°	023°	023°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	220 54.8	+00.6	S 16 57.8	+00.0
01	235 55.4	+00.6	S 16 57.8	+00.0
02	250 56.0	+00.6	S 16 57.8	+00.0
03	265 56.6	+00.5	S 16 57.8	+00.0
04	280 57.1	+00.6	S 16 57.8	+00.0
05	295 57.7	+00.6	S 16 57.8	+00.0
06	310 58.3	+00.6	S 16 57.8	+00.0
07	325 58.9	+00.6	S 16 57.8	+00.1
08	340 59.5	+00.5	S 16 57.9	+00.0
09	356 00.0	+00.6	S 16 57.9	+00.0
10	11 00.6	+00.6	S 16 57.9	+00.0
11	26 01.2	+00.6	S 16 57.9	+00.0
12	41 01.8	+00.5	S 16 57.9	+00.0
13	56 02.3	+00.6	S 16 57.9	+00.0
14	71 02.9	+00.6	S 16 57.9	+00.0
15	86 03.5	+00.5	S 16 57.9	+00.0
16	101 04.0	+00.6	S 16 57.9	+00.0
17	116 04.6	+00.5	S 16 57.9	+00.0
18	131 05.1	+00.6	S 16 57.9	+00.0
19	146 05.7	+00.6	S 16 57.9	+00.0
20	161 06.3	+00.5	S 16 57.9	+00.0
21	176 06.8	+00.6	S 16 57.9	-00.1
22	191 07.4	+00.5	S 16 57.8	+00.0
23	206 07.9	+00.6	S 16 57.8	+00.0

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	068°	068°	068°	068°	067°	067°

Greenwich Culmination Time: 09:15

Moon

A: 72%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	283 00.4	-32.0	S 17 58.3	+11.8
01	297 28.4	-32.2	S 18 10.1	+11.7
02	311 56.2	-32.2	S 18 21.8	+11.6
03	326 24.0	-32.3	S 18 33.4	+11.5
04	340 51.7	-32.4	S 18 44.9	+11.4
05	355 19.3	-32.5	S 18 56.3	+11.3
06	9 46.8	-32.6	S 19 07.6	+11.2
07	24 14.2	-32.6	S 19 18.8	+11.1
08	38 41.6	-32.8	S 19 29.9	+11.0
09	53 08.8	-32.9	S 19 40.9	+10.8
10	67 35.9	-33.0	S 19 51.7	+10.8
11	82 02.9	-33.0	S 20 02.5	+10.6
12	96 29.9	-33.2	S 20 13.1	+10.6
13	110 56.7	-33.3	S 20 23.7	+10.4
14	125 23.4	-33.3	S 20 34.1	+10.3
15	139 50.1	-33.5	S 20 44.4	+10.2
16	154 16.6	-33.5	S 20 54.6	+10.0
17	168 43.1	-33.7	S 21 04.6	+10.0
18	183 09.4	-33.7	S 21 14.6	+09.8
19	197 35.7	-33.9	S 21 24.4	+09.6
20	212 01.8	-33.9	S 21 34.0	+09.6
21	226 27.9	-34.1	S 21 43.6	+09.4
22	240 53.8	-34.1	S 21 53.0	+09.3
23	255 19.7	-34.2	S 22 02.3	+09.2

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′1	16′1	16′1
HP	58′8	58′8	58′9	59′0	59′0	59′1
SHA	129°	127°	124°	122°	120°	117°

Greenwich Culmination Time: 05:19

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	219 22.6	+00.5	S 22 27.2	-00.3
01	234 23.1	+00.5	S 22 26.9	-00.2
02	249 23.6	+00.5	S 22 26.7	-00.3
03	264 24.1	+00.4	S 22 26.4	-00.3
04	279 24.5	+00.5	S 22 26.1	-00.2
05	294 25.0	+00.5	S 22 25.9	-00.3
06	309 25.5	+00.5	S 22 25.6	-00.3
07	324 26.0	+00.5	S 22 25.3	-00.2
08	339 26.5	+00.4	S 22 25.1	-00.3
09	354 26.9	+00.5	S 22 24.8	-00.3
10	9 27.4	+00.5	S 22 24.5	-00.2
11	24 27.9	+00.5	S 22 24.3	-00.3
12	39 28.4	+00.5	S 22 24.0	-00.3
13	54 28.9	+00.4	S 22 23.7	-00.2
14	69 29.3	+00.5	S 22 23.5	-00.3
15	84 29.8	+00.5	S 22 23.2	-00.3
16	99 30.3	+00.5	S 22 22.9	-00.2
17	114 30.8	+00.5	S 22 22.7	-00.3
18	129 31.3	+00.4	S 22 22.4	-00.3
19	144 31.7	+00.5	S 22 22.1	-00.3
20	159 32.2	+00.5	S 22 21.8	-00.2
21	174 32.7	+00.5	S 22 21.6	-00.3
22	189 33.2	+00.5	S 22 21.3	-00.3
23	204 33.7	+00.4	S 22 21.0	-00.2

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	066°	066°	066°	066°	066°	066°

Greenwich Culmination Time: 09:22

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	168 42.2	+01.9	S 07 48.1	-00.3
01	183 44.1	+01.9	S 07 47.8	-00.2
02	198 46.0	+01.9	S 07 47.6	-00.2
03	213 47.9	+01.9	S 07 47.4	-00.3
04	228 49.8	+01.9	S 07 47.1	-00.2
05	243 51.7	+01.9	S 07 46.9	-00.2
06	258 53.6	+01.9	S 07 46.7	-00.2
07	273 55.5	+01.9	S 07 46.5	-00.3
08	288 57.4	+01.9	S 07 46.2	-00.2
09	303 59.3	+01.9	S 07 46.0	-00.2
10	319 01.2	+01.9	S 07 45.8	-00.3
11	334 03.1	+02.0	S 07 45.5	-00.2
12	349 05.1	+01.9	S 07 45.3	-00.2
13	4 07.0	+01.9	S 07 45.1	-00.3
14	19 08.9	+01.9	S 07 44.8	-00.2
15	34 10.8	+01.9	S 07 44.6	-00.2
16	49 12.7	+01.9	S 07 44.4	-00.2
17	64 14.6	+01.9	S 07 44.2	-00.3
18	79 16.5	+01.9	S 07 43.9	-00.2
19	94 18.4	+01.9	S 07 43.7	-00.2
20	109 20.3	+01.9	S 07 43.5	-00.3
21	124 22.2	+01.9	S 07 43.2	-00.2
22	139 24.1	+01.9	S 07 43.0	-00.2
23	154 26.0	+01.9	S 07 42.8	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	016°	016°	016°	016°	016°	016°

Greenwich Culmination Time: 12:43

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	192 02.6	+02.2	S 16 14.1	-00.1
01	207 04.8	+02.2	S 16 14.0	+00.0
02	222 07.0	+02.1	S 16 14.0	-00.1
03	237 09.1	+02.2	S 16 13.9	-00.1
04	252 11.3	+02.2	S 16 13.8	-00.1
05	267 13.5	+02.2	S 16 13.7	-00.1
06	282 15.7	+02.1	S 16 13.6	-00.1
07	297 17.8	+02.2	S 16 13.5	-00.1
08	312 20.0	+02.2	S 16 13.4	-00.1
09	327 22.2	+02.2	S 16 13.3	+00.0
10	342 24.4	+02.1	S 16 13.3	-00.1
11	357 26.5	+02.2	S 16 13.2	-00.1
12	12 28.7	+02.2	S 16 13.1	-00.1
13	27 30.9	+02.2	S 16 13.0	-00.1
14	42 33.1	+02.1	S 16 12.9	-00.1
15	57 35.2	+02.2	S 16 12.8	-00.1
16	72 37.4	+02.2	S 16 12.7	+00.0
17	87 39.6	+02.2	S 16 12.7	-00.1
18	102 41.8	+02.1	S 16 12.6	-00.1
19	117 43.9	+02.2	S 16 12.5	-00.1
20	132 46.1	+02.2	S 16 12.4	-00.1
21	147 48.3	+02.1	S 16 12.3	-00.1
22	162 50.4	+02.2	S 16 12.2	-00.1
23	177 52.6	+02.2	S 16 12.1	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 11:10

2022 February 24 Thursday (day 55 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 41.4	+00.1	S 09 33.1	-00.9
01	191 41.5	+00.1	S 09 32.2	-00.9
02	206 41.6	+00.1	S 09 31.3	-01.0
03	221 41.7	+00.1	S 09 30.3	-00.9
04	236 41.8	+00.1	S 09 29.4	-00.9
05	251 41.9	+00.1	S 09 28.5	-00.9
06	266 42.0	+00.1	S 09 27.6	-01.0
07	281 42.1	+00.1	S 09 26.6	-00.9
08	296 42.2	+00.1	S 09 25.7	-00.9
09	311 42.3	+00.0	S 09 24.8	-00.9
10	326 42.3	+00.1	S 09 23.9	-01.0
11	341 42.4	+00.1	S 09 22.9	-00.9
12	356 42.5	+00.1	S 09 22.0	-00.9
13	11 42.6	+00.1	S 09 21.1	-00.9
14	26 42.7	+00.1	S 09 20.2	-01.0
15	41 42.8	+00.1	S 09 19.2	-00.9
16	56 42.9	+00.1	S 09 18.3	-00.9
17	71 43.0	+00.1	S 09 17.4	-00.9
18	86 43.1	+00.1	S 09 16.5	-01.0
19	101 43.2	+00.1	S 09 15.5	-00.9
20	116 43.3	+00.1	S 09 14.6	-00.9
21	131 43.4	+00.1	S 09 13.7	-00.9
22	146 43.5	+00.1	S 09 12.8	-01.0
23	161 43.6	+00.1	S 09 11.8	-00.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	023°	023°	022°	022°	022°	022°

Greenwich Culmination Time: 12:13

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	221 08.5	+00.5	S 16 57.8	+00.0
01	236 09.0	+00.5	S 16 57.8	+00.0
02	251 09.5	+00.6	S 16 57.8	+00.0
03	266 10.1	+00.5	S 16 57.8	+00.0
04	281 10.6	+00.6	S 16 57.8	+00.0
05	296 11.2	+00.5	S 16 57.8	+00.0
06	311 11.7	+00.5	S 16 57.8	+00.0
07	326 12.2	+00.6	S 16 57.8	+00.0
08	341 12.8	+00.5	S 16 57.8	+00.0
09	356 13.3	+00.5	S 16 57.8	+00.0
10	11 13.8	+00.6	S 16 57.8	-00.1
11	26 14.4	+00.5	S 16 57.7	+00.0
12	41 14.9	+00.5	S 16 57.7	+00.0
13	56 15.4	+00.5	S 16 57.7	+00.0
14	71 15.9	+00.6	S 16 57.7	+00.0
15	86 16.5	+00.5	S 16 57.7	+00.0
16	101 17.0	+00.5	S 16 57.7	+00.0
17	116 17.5	+00.5	S 16 57.7	-00.1
18	131 18.0	+00.5	S 16 57.6	+00.0
19	146 18.5	+00.5	S 16 57.6	+00.0
20	161 19.0	+00.5	S 16 57.6	+00.0
21	176 19.5	+00.5	S 16 57.6	+00.0
22	191 20.0	+00.6	S 16 57.6	+00.0
23	206 20.6	+00.5	S 16 57.6	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	067°	067°	067°	067°	067°	067°

Greenwich Culmination Time: 09:15

Moon

A: 76%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	269 45.5	-34.3	S 22 11.5	+09.0
01	284 11.2	-34.5	S 22 20.5	+08.9
02	298 36.7	-34.5	S 22 29.4	+08.8
03	313 02.2	-34.6	S 22 38.2	+08.6
04	327 27.6	-34.7	S 22 46.8	+08.5
05	341 52.9	-34.8	S 22 55.3	+08.3
06	356 18.1	-34.9	S 23 03.6	+08.2
07	10 43.2	-34.9	S 23 11.8	+08.1
08	25 08.3	-35.1	S 23 19.9	+07.9
09	39 33.2	-35.1	S 23 27.8	+07.8
10	53 58.1	-35.3	S 23 35.6	+07.6
11	68 22.8	-35.3	S 23 43.2	+07.5
12	82 47.5	-35.4	S 23 50.7	+07.3
13	97 12.1	-35.5	S 23 58.0	+07.1
14	111 36.6	-35.6	S 24 05.1	+07.0
15	126 01.0	-35.7	S 24 12.1	+06.9
16	140 25.3	-35.7	S 24 19.0	+06.7
17	154 49.6	-35.9	S 24 25.7	+06.5
18	169 13.7	-35.9	S 24 32.2	+06.4
19	183 37.8	-36.0	S 24 38.6	+06.2
20	198 01.8	-36.0	S 24 44.8	+06.1
21	212 25.8	-36.2	S 24 50.9	+05.9
22	226 49.6	-36.2	S 24 56.8	+05.7
23	241 13.4	-36.3	S 25 02.5	+05.6

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′2	16′2
HP	59′1	59′2	59′2	59′3	59′3	59′3
SHA	115°	112°	110°	107°	105°	102°

Greenwich Culmination Time: 06:15

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	219 34.1	+00.5	S 22 20.8	-00.3
01	234 34.6	+00.5	S 22 20.5	-00.3
02	249 35.1	+00.5	S 22 20.2	-00.3
03	264 35.6	+00.5	S 22 19.9	-00.2
04	279 36.1	+00.4	S 22 19.7	-00.3
05	294 36.5	+00.5	S 22 19.4	-00.3
06	309 37.0	+00.5	S 22 19.1	-00.3
07	324 37.5	+00.5	S 22 18.8	-00.2
08	339 38.0	+00.5	S 22 18.6	-00.3
09	354 38.5	+00.4	S 22 18.3	-00.3
10	9 38.9	+00.5	S 22 18.0	-00.3
11	24 39.4	+00.5	S 22 17.7	-00.2
12	39 39.9	+00.5	S 22 17.5	-00.3
13	54 40.4	+00.5	S 22 17.2	-00.3
14	69 40.9	+00.4	S 22 16.9	-00.3
15	84 41.3	+00.5	S 22 16.6	-00.3
16	99 41.8	+00.5	S 22 16.3	-00.2
17	114 42.3	+00.5	S 22 16.1	-00.3
18	129 42.8	+00.5	S 22 15.8	-00.3
19	144 43.3	+00.5	S 22 15.5	-00.3
20	159 43.8	+00.4	S 22 15.2	-00.3
21	174 44.2	+00.5	S 22 14.9	-00.2
22	189 44.7	+00.5	S 22 14.7	-00.3
23	204 45.2	+00.5	S 22 14.4	-00.3

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	066°	066°	065°	065°	065°	065°

Greenwich Culmination Time: 09:21

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	169 27.9	+01.9	S 07 42.5	-00.2
01	184 29.8	+01.9	S 07 42.3	-00.2
02	199 31.7	+01.9	S 07 42.1	-00.2
03	214 33.6	+01.9	S 07 41.9	-00.3
04	229 35.5	+01.9	S 07 41.6	-00.2
05	244 37.4	+01.9	S 07 41.4	-00.2
06	259 39.3	+01.9	S 07 41.2	-00.3
07	274 41.2	+01.9	S 07 40.9	-00.2
08	289 43.1	+01.9	S 07 40.7	-00.2
09	304 45.0	+01.9	S 07 40.5	-00.3
10	319 46.9	+01.9	S 07 40.2	-00.2
11	334 48.8	+01.9	S 07 40.0	-00.2
12	349 50.7	+01.9	S 07 39.8	-00.2
13	4 52.6	+01.9	S 07 39.6	-00.3
14	19 54.5	+01.9	S 07 39.3	-00.2
15	34 56.4	+01.9	S 07 39.1	-00.2
16	49 58.3	+01.9	S 07 38.9	-00.3
17	65 00.2	+01.9	S 07 38.6	-00.2
18	80 02.1	+01.9	S 07 38.4	-00.2
19	95 04.0	+01.9	S 07 38.2	-00.3
20	110 05.9	+01.9	S 07 37.9	-00.2
21	125 07.8	+01.9	S 07 37.7	-00.2
22	140 09.7	+01.9	S 07 37.5	-00.2
23	155 11.6	+01.9	S 07 37.3	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	016°	016°	016°	015°	015°	015°

Greenwich Culmination Time: 12:40

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	192 54.8	+02.2	S 16 12.1	-00.1
01	207 57.0	+02.1	S 16 12.0	-00.1
02	222 59.1	+02.2	S 16 11.9	-00.1
03	238 01.3	+02.2	S 16 11.8	-00.1
04	253 03.5	+02.2	S 16 11.7	-00.1
05	268 05.7	+02.1	S 16 11.6	-00.1
06	283 07.8	+02.2	S 16 11.5	-00.1
07	298 10.0	+02.2	S 16 11.4	+00.0
08	313 12.2	+02.2	S 16 11.4	-00.1
09	328 14.4	+02.1	S 16 11.3	-00.1
10	343 16.5	+02.2	S 16 11.2	-00.1
11	358 18.7	+02.2	S 16 11.1	-00.1
12	13 20.9	+02.2	S 16 11.0	-00.1
13	28 23.1	+02.1	S 16 10.9	-00.1
14	43 25.2	+02.2	S 16 10.8	+00.0
15	58 27.4	+02.2	S 16 10.8	-00.1
16	73 29.6	+02.2	S 16 10.7	-00.1
17	88 31.8	+02.1	S 16 10.6	-00.1
18	103 33.9	+02.2	S 16 10.5	-00.1
19	118 36.1	+02.2	S 16 10.4	-00.1
20	133 38.3	+02.2	S 16 10.3	-00.1
21	148 40.5	+02.1	S 16 10.2	+00.0
22	163 42.6	+02.2	S 16 10.2	-00.1
23	178 44.8	+02.2	S 16 10.1	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 11:06

2022 March 1 Tuesday (day 60 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 54.0	+00.1	S 07 40.7	-00.9
01	191 54.1	+00.1	S 07 39.8	-01.0
02	206 54.2	+00.1	S 07 38.8	-00.9
03	221 54.3	+00.1	S 07 37.9	-01.0
04	236 54.4	+00.2	S 07 36.9	-00.9
05	251 54.6	+00.1	S 07 36.0	-01.0
06	266 54.7	+00.1	S 07 35.0	-00.9
07	281 54.8	+00.1	S 07 34.1	-01.0
08	296 54.9	+00.1	S 07 33.1	-00.9
09	311 55.0	+00.2	S 07 32.2	-01.0
10	326 55.2	+00.1	S 07 31.2	-00.9
11	341 55.3	+00.1	S 07 30.3	-01.0
12	356 55.4	+00.1	S 07 29.3	-00.9
13	11 55.5	+00.1	S 07 28.4	-01.0
14	26 55.6	+00.2	S 07 27.4	-00.9
15	41 55.8	+00.1	S 07 26.5	-01.0
16	56 55.9	+00.1	S 07 25.5	-00.9
17	71 56.0	+00.1	S 07 24.6	-01.0
18	86 56.1	+00.2	S 07 23.6	-00.9
19	101 56.3	+00.1	S 07 22.7	-01.0
20	116 56.4	+00.1	S 07 21.7	-00.9
21	131 56.5	+00.1	S 07 20.8	-01.0
22	146 56.6	+00.1	S 07 19.8	-00.9
23	161 56.7	+00.2	S 07 18.9	-01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	018°	018°	018°	018°	017°	017°

Greenwich Culmination Time: 12:12

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 01.8	+00.4	S 16 52.8	-00.1
01	237 02.2	+00.3	S 16 52.7	+00.0
02	252 02.5	+00.3	S 16 52.7	-00.1
03	267 02.8	+00.4	S 16 52.6	-00.1
04	282 03.2	+00.3	S 16 52.5	-00.1
05	297 03.5	+00.4	S 16 52.4	-00.1
06	312 03.9	+00.3	S 16 52.3	-00.1
07	327 04.2	+00.4	S 16 52.2	-00.1
08	342 04.6	+00.3	S 16 52.1	+00.0
09	357 04.9	+00.3	S 16 52.1	-00.1
10	12 05.2	+00.4	S 16 52.0	-00.1
11	27 05.6	+00.3	S 16 51.9	-00.1
12	42 05.9	+00.3	S 16 51.8	-00.1
13	57 06.2	+00.4	S 16 51.7	-00.1
14	72 06.6	+00.3	S 16 51.6	-00.1
15	87 06.9	+00.3	S 16 51.5	-00.1
16	102 07.2	+00.4	S 16 51.4	-00.1
17	117 07.6	+00.3	S 16 51.3	+00.0
18	132 07.9	+00.3	S 16 51.3	-00.1
19	147 08.2	+00.3	S 16 51.2	-00.1
20	162 08.5	+00.3	S 16 51.1	-00.1
21	177 08.8	+00.4	S 16 51.0	-00.1
22	192 09.2	+00.3	S 16 50.9	-00.1
23	207 09.5	+00.3	S 16 50.8	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	063°	063°	063°	063°	063°	062°

Greenwich Culmination Time: 09:11

Moon

A: 96%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	197 07.0	-33.7	S 20 16.9	-10.8
01	211 33.3	-33.6	S 20 06.1	-10.9
02	225 59.7	-33.5	S 19 55.2	-11.1
03	240 26.2	-33.5	S 19 44.1	-11.1
04	254 52.7	-33.3	S 19 33.0	-11.3
05	269 19.4	-33.2	S 19 21.7	-11.4
06	283 46.2	-33.1	S 19 10.3	-11.5
07	298 13.1	-33.1	S 18 58.8	-11.6
08	312 40.0	-32.9	S 18 47.2	-11.7
09	327 07.1	-32.8	S 18 35.5	-11.8
10	341 34.3	-32.7	S 18 23.7	-11.9
11	356 01.6	-32.7	S 18 11.8	-12.0
12	10 28.9	-32.5	S 17 59.8	-12.1
13	24 56.4	-32.4	S 17 47.7	-12.2
14	39 24.0	-32.4	S 17 35.5	-12.3
15	53 51.6	-32.2	S 17 23.2	-12.4
16	68 19.4	-32.1	S 17 10.8	-12.5
17	82 47.3	-32.1	S 16 58.3	-12.5
18	97 15.2	-31.9	S 16 45.8	-12.7
19	111 43.3	-31.8	S 16 33.1	-12.7
20	126 11.5	-31.8	S 16 20.4	-12.9
21	140 39.7	-31.6	S 16 07.5	-12.9
22	155 08.1	-31.6	S 15 54.6	-13.0
23	169 36.5	-31.4	S 15 41.6	-13.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′0
HP	59′2	59′2	59′1	59′0	59′0	58′9
SHA	037°	035°	032°	030°	028°	025°

Greenwich Culmination Time: 11:16

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	220 32.3	+00.5	S 21 45.2	-00.3
01	235 32.8	+00.5	S 21 44.9	-00.3
02	250 33.3	+00.5	S 21 44.6	-00.4
03	265 33.8	+00.5	S 21 44.2	-00.3
04	280 34.3	+00.5	S 21 43.9	-00.3
05	295 34.8	+00.5	S 21 43.6	-00.3
06	310 35.3	+00.4	S 21 43.3	-00.4
07	325 35.7	+00.5	S 21 42.9	-00.3
08	340 36.2	+00.5	S 21 42.6	-00.3
09	355 36.7	+00.5	S 21 42.3	-00.3
10	10 37.2	+00.5	S 21 42.0	-00.3
11	25 37.7	+00.5	S 21 41.7	-00.4
12	40 38.2	+00.5	S 21 41.3	-00.3
13	55 38.7	+00.5	S 21 41.0	-00.3
14	70 39.2	+00.5	S 21 40.7	-00.3
15	85 39.7	+00.5	S 21 40.4	-00.4
16	100 40.2	+00.5	S 21 40.0	-00.3
17	115 40.7	+00.4	S 21 39.7	-00.3
18	130 41.1	+00.5	S 21 39.4	-00.3
19	145 41.6	+00.5	S 21 39.1	-00.4
20	160 42.1	+00.5	S 21 38.7	-00.3
21	175 42.6	+00.5	S 21 38.4	-00.3
22	190 43.1	+00.5	S 21 38.1	-00.4
23	205 43.6	+00.5	S 21 37.7	-00.3

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	062°	062°	061°	061°	061°	061°

Greenwich Culmination Time: 09:17

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	173 16.1	+01.9	S 07 14.8	-00.2
01	188 18.0	+01.9	S 07 14.6	-00.2
02	203 19.9	+01.9	S 07 14.4	-00.2
03	218 21.8	+01.9	S 07 14.2	-00.3
04	233 23.7	+01.9	S 07 13.9	-00.2
05	248 25.6	+01.9	S 07 13.7	-00.2
06	263 27.5	+01.9	S 07 13.5	-00.3
07	278 29.4	+01.9	S 07 13.2	-00.2
08	293 31.3	+01.9	S 07 13.0	-00.2
09	308 33.2	+01.9	S 07 12.8	-00.3
10	323 35.1	+01.9	S 07 12.5	-00.2
11	338 37.0	+01.9	S 07 12.3	-00.2
12	353 38.9	+01.9	S 07 12.1	-00.3
13	8 40.8	+01.9	S 07 11.8	-00.2
14	23 42.7	+01.9	S 07 11.6	-00.2
15	38 44.6	+01.9	S 07 11.4	-00.3
16	53 46.5	+01.9	S 07 11.1	-00.2
17	68 48.4	+01.9	S 07 10.9	-00.2
18	83 50.3	+01.9	S 07 10.7	-00.3
19	98 52.2	+01.9	S 07 10.4	-00.2
20	113 54.1	+01.9	S 07 10.2	-00.2
21	128 56.0	+01.9	S 07 10.0	-00.2
22	143 57.9	+01.9	S 07 09.8	-00.3
23	158 59.8	+01.9	S 07 09.5	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	014°	014°	014°	014°	014°	014°

Greenwich Culmination Time: 12:25

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	197 16.0	+02.2	S 16 01.8	-00.1
01	212 18.2	+02.2	S 16 01.7	-00.1
02	227 20.4	+02.2	S 16 01.6	-00.1
03	242 22.6	+02.2	S 16 01.5	-00.1
04	257 24.8	+02.1	S 16 01.4	-00.1
05	272 26.9	+02.2	S 16 01.3	-00.1
06	287 29.1	+02.2	S 16 01.2	+00.0
07	302 31.3	+02.2	S 16 01.2	-00.1
08	317 33.5	+02.2	S 16 01.1	-00.1
09	332 35.7	+02.1	S 16 01.0	-00.1
10	347 37.8	+02.2	S 16 00.9	-00.1
11	2 40.0	+02.2	S 16 00.8	-00.1
12	17 42.2	+02.2	S 16 00.7	-00.1
13	32 44.4	+02.2	S 16 00.6	+00.0
14	47 46.6	+02.1	S 16 00.6	-00.1
15	62 48.7	+02.2	S 16 00.5	-00.1
16	77 50.9	+02.2	S 16 00.4	-00.1
17	92 53.1	+02.2	S 16 00.3	-00.1
18	107 55.3	+02.2	S 16 00.2	-00.1
19	122 57.5	+02.1	S 16 00.1	-00.1
20	137 59.6	+02.2	S 16 00.0	+00.0
21	153 01.8	+02.2	S 15 60.0	-00.1
22	168 04.0	+02.2	S 15 59.9	-00.1
23	183 06.2	+02.2	S 15 59.8	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 10:49

2022 February 26 Saturday (day 57 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 46.0	+00.1	S 08 48.5	-00.9
01	191 46.1	+00.1	S 08 47.6	-00.9
02	206 46.2	+00.1	S 08 46.7	-01.0
03	221 46.3	+00.2	S 08 45.7	-00.9
04	236 46.5	+00.1	S 08 44.8	-00.9
05	251 46.6	+00.1	S 08 43.9	-01.0
06	266 46.7	+00.1	S 08 42.9	-00.9
07	281 46.8	+00.1	S 08 42.0	-00.9
08	296 46.9	+00.1	S 08 41.1	-01.0
09	311 47.0	+00.1	S 08 40.1	-00.9
10	326 47.1	+00.1	S 08 39.2	-00.9
11	341 47.2	+00.1	S 08 38.3	-01.0
12	356 47.3	+00.1	S 08 37.3	-00.9
13	11 47.4	+00.1	S 08 36.4	-00.9
14	26 47.5	+00.1	S 08 35.5	-01.0
15	41 47.6	+00.1	S 08 34.5	-00.9
16	56 47.7	+00.1	S 08 33.6	-01.0
17	71 47.8	+00.1	S 08 32.6	-00.9
18	86 47.9	+00.1	S 08 31.7	-00.9
19	101 48.0	+00.1	S 08 30.8	-01.0
20	116 48.1	+00.1	S 08 29.8	-00.9
21	131 48.2	+00.1	S 08 28.9	-01.0
22	146 48.3	+00.1	S 08 27.9	-00.9
23	161 48.4	+00.2	S 08 27.0	-00.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	021°	021°	021°	020°	020°	020°

Greenwich Culmination Time: 12:12

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	221 32.6	+00.5	S 16 56.9	+00.0
01	236 33.1	+00.5	S 16 56.9	-00.1
02	251 33.6	+00.4	S 16 56.8	+00.0
03	266 34.0	+00.5	S 16 56.8	+00.0
04	281 34.5	+00.4	S 16 56.8	-00.1
05	296 34.9	+00.5	S 16 56.7	+00.0
06	311 35.4	+00.4	S 16 56.7	+00.0
07	326 35.8	+00.5	S 16 56.7	-00.1
08	341 36.3	+00.4	S 16 56.6	+00.0
09	356 36.7	+00.5	S 16 56.6	-00.1
10	11 37.2	+00.4	S 16 56.5	+00.0
11	26 37.6	+00.5	S 16 56.5	+00.0
12	41 38.1	+00.4	S 16 56.5	-00.1
13	56 38.5	+00.5	S 16 56.4	+00.0
14	71 39.0	+00.4	S 16 56.4	-00.1
15	86 39.4	+00.4	S 16 56.3	+00.0
16	101 39.8	+00.5	S 16 56.3	-00.1
17	116 40.3	+00.4	S 16 56.2	+00.0
18	131 40.7	+00.4	S 16 56.2	-00.1
19	146 41.1	+00.5	S 16 56.1	+00.0
20	161 41.6	+00.4	S 16 56.1	+00.0
21	176 42.0	+00.4	S 16 56.1	-00.1
22	191 42.4	+00.4	S 16 56.0	+00.0
23	206 42.8	+00.5	S 16 56.0	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	066°	066°	065°	065°	065°	065°

Greenwich Culmination Time: 09:13

Moon

A: 84%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	240 48.6	-37.5	S 26 29.4	+01.1
01	255 11.1	-37.5	S 26 30.5	+01.0
02	269 33.6	-37.6	S 26 31.5	+00.7
03	283 56.0	-37.6	S 26 32.2	+00.6
04	298 18.4	-37.6	S 26 32.8	+00.4
05	312 40.8	-37.6	S 26 33.2	+00.2
06	327 03.2	-37.6	S 26 33.4	+00.0
07	341 25.6	-37.6	S 26 33.4	-00.2
08	355 48.0	-37.7	S 26 33.2	-00.4
09	10 10.3	-37.6	S 26 32.8	-00.5
10	24 32.7	-37.6	S 26 32.3	-00.8
11	38 55.1	-37.6	S 26 31.5	-00.9
12	53 17.5	-37.7	S 26 30.6	-01.1
13	67 39.8	-37.6	S 26 29.5	-01.3
14	82 02.2	-37.6	S 26 28.2	-01.5
15	96 24.6	-37.6	S 26 26.7	-01.7
16	110 47.0	-37.5	S 26 25.0	-01.8
17	125 09.5	-37.6	S 26 23.2	-02.1
18	139 31.9	-37.5	S 26 21.1	-02.2
19	153 54.4	-37.5	S 26 18.9	-02.4
20	168 16.9	-37.5	S 26 16.5	-02.6
21	182 39.4	-37.5	S 26 13.9	-02.8
22	197 01.9	-37.4	S 26 11.1	-03.0
23	211 24.5	-37.4	S 26 08.1	-03.2

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	59′5	59′6	59′6	59′6	59′6	59′6
SHA	084°	081°	078°	076°	073°	070°

Greenwich Culmination Time: 08:17

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	219 57.3	+00.4	S 22 07.2	-00.3
01	234 57.7	+00.5	S 22 06.9	-00.3
02	249 58.2	+00.5	S 22 06.6	-00.3
03	264 58.7	+00.5	S 22 06.3	-00.3
04	279 59.2	+00.5	S 22 06.0	-00.3
05	294 59.7	+00.5	S 22 05.7	-00.2
06	310 00.2	+00.4	S 22 05.5	-00.3
07	325 00.6	+00.5	S 22 05.2	-00.3
08	340 01.1	+00.5	S 22 04.9	-00.3
09	355 01.6	+00.5	S 22 04.6	-00.3
10	10 02.1	+00.5	S 22 04.3	-00.3
11	25 02.6	+00.5	S 22 04.0	-00.3
12	40 03.1	+00.5	S 22 03.7	-00.3
13	55 03.6	+00.4	S 22 03.4	-00.3
14	70 04.0	+00.5	S 22 03.1	-00.3
15	85 04.5	+00.5	S 22 02.8	-00.3
16	100 05.0	+00.5	S 22 02.5	-00.3
17	115 05.5	+00.5	S 22 02.2	-00.3
18	130 06.0	+00.5	S 22 01.9	-00.3
19	145 06.5	+00.5	S 22 01.6	-00.3
20	160 07.0	+00.4	S 22 01.3	-00.3
21	175 07.4	+00.5	S 22 01.0	-00.3
22	190 07.9	+00.5	S 22 00.7	-00.3
23	205 08.4	+00.5	S 22 00.4	-00.3

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	064°	064°	064°	064°	064°	063°

Greenwich Culmination Time: 09:19

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	170 59.2	+01.9	S 07 31.5	-00.2
01	186 01.1	+01.9	S 07 31.3	-00.3
02	201 03.0	+01.9	S 07 31.0	-00.2
03	216 04.9	+01.9	S 07 30.8	-00.2
04	231 06.8	+01.9	S 07 30.6	-00.3
05	246 08.7	+01.9	S 07 30.3	-00.2
06	261 10.6	+01.9	S 07 30.1	-00.2
07	276 12.5	+01.9	S 07 29.9	-00.3
08	291 14.4	+01.9	S 07 29.6	-00.2
09	306 16.3	+01.9	S 07 29.4	-00.2
10	321 18.2	+01.9	S 07 29.2	-00.2
11	336 20.1	+01.9	S 07 29.0	-00.3
12	351 22.0	+01.9	S 07 28.7	-00.2
13	6 23.9	+01.9	S 07 28.5	-00.2
14	21 25.8	+01.9	S 07 28.3	-00.3
15	36 27.7	+01.9	S 07 28.0	-00.2
16	51 29.6	+01.9	S 07 27.8	-00.2
17	66 31.5	+01.9	S 07 27.6	-00.3
18	81 33.4	+01.9	S 07 27.3	-00.2
19	96 35.3	+01.9	S 07 27.1	-00.2
20	111 37.2	+01.9	S 07 26.9	-00.3
21	126 39.1	+01.9	S 07 26.6	-00.2
22	141 41.0	+01.9	S 07 26.4	-00.2
23	156 42.9	+01.9	S 07 26.2	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	015°	015°	015°	015°	015°	015°

Greenwich Culmination Time: 12:34

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	194 39.2	+02.2	S 16 07.9	-00.1
01	209 41.4	+02.2	S 16 07.8	-00.1
02	224 43.6	+02.1	S 16 07.7	+00.0
03	239 45.7	+02.2	S 16 07.7	-00.1
04	254 47.9	+02.2	S 16 07.6	-00.1
05	269 50.1	+02.2	S 16 07.5	-00.1
06	284 52.3	+02.2	S 16 07.4	-00.1
07	299 54.5	+02.1	S 16 07.3	-00.1
08	314 56.6	+02.2	S 16 07.2	-00.1
09	329 58.8	+02.2	S 16 07.1	+00.0
10	345 01.0	+02.2	S 16 07.1	-00.1
11	0 03.2	+02.1	S 16 07.0	-00.1
12	15 05.3	+02.2	S 16 06.9	-00.1
13	30 07.5	+02.2	S 16 06.8	-00.1
14	45 09.7	+02.2	S 16 06.7	-00.1
15	60 11.9	+02.1	S 16 06.6	-00.1
16	75 14.0	+02.2	S 16 06.5	+00.0
17	90 16.2	+02.2	S 16 06.5	-00.1
18	105 18.4	+02.2	S 16 06.4	-00.1
19	120 20.6	+02.2	S 16 06.3	-00.1
20	135 22.8	+02.1	S 16 06.2	-00.1
21	150 24.9	+02.2	S 16 06.1	-00.1
22	165 27.1	+02.2	S 16 06.0	-00.1
23	180 29.3	+02.2	S 16 05.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 10:59

2022 February 27 Sunday (day 58 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	176 48.6	+00.1	S 08 26.1	-01.0
01	191 48.7	+00.1	S 08 25.1	-00.9
02	206 48.8	+00.1	S 08 24.2	-01.0
03	221 48.9	+00.1	S 08 23.2	-00.9
04	236 49.0	+00.1	S 08 22.3	-00.9
05	251 49.1	+00.1	S 08 21.4	-01.0
06	266 49.2	+00.1	S 08 20.4	-00.9
07	281 49.3	+00.1	S 08 19.5	-01.0
08	296 49.4	+00.1	S 08 18.5	-00.9
09	311 49.5	+00.1	S 08 17.6	-00.9
10	326 49.6	+00.1	S 08 16.7	-01.0
11	341 49.7	+00.2	S 08 15.7	-00.9
12	356 49.9	+00.1	S 08 14.8	-01.0
13	11 50.0	+00.1	S 08 13.8	-00.9
14	26 50.1	+00.1	S 08 12.9	-00.9
15	41 50.2	+00.1	S 08 12.0	-01.0
16	56 50.3	+00.1	S 08 11.0	-00.9
17	71 50.4	+00.1	S 08 10.1	-01.0
18	86 50.5	+00.1	S 08 09.1	-00.9
19	101 50.6	+00.1	S 08 08.2	-01.0
20	116 50.7	+00.2	S 08 07.2	-00.9
21	131 50.9	+00.1	S 08 06.3	-01.0
22	146 51.0	+00.1	S 08 05.3	-00.9
23	161 51.1	+00.1	S 08 04.4	-00.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	020°	020°	020°	019°	019°	019°

Greenwich Culmination Time: 12:12

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	221 43.3	+00.4	S 16 55.9	+00.0
01	236 43.7	+00.4	S 16 55.9	-00.1
02	251 44.1	+00.4	S 16 55.8	+00.0
03	266 44.5	+00.5	S 16 55.8	-00.1
04	281 45.0	+00.4	S 16 55.7	+00.0
05	296 45.4	+00.4	S 16 55.7	-00.1
06	311 45.8	+00.4	S 16 55.6	+00.0
07	326 46.2	+00.4	S 16 55.6	-00.1
08	341 46.6	+00.4	S 16 55.5	-00.1
09	356 47.0	+00.4	S 16 55.4	+00.0
10	11 47.4	+00.4	S 16 55.4	-00.1
11	26 47.8	+00.4	S 16 55.3	+00.0
12	41 48.2	+00.4	S 16 55.3	-00.1
13	56 48.6	+00.4	S 16 55.2	+00.0
14	71 49.0	+00.4	S 16 55.2	-00.1
15	86 49.4	+00.4	S 16 55.1	-00.1
16	101 49.8	+00.4	S 16 55.0	+00.0
17	116 50.2	+00.4	S 16 55.0	-00.1
18	131 50.6	+00.4	S 16 54.9	+00.0
19	146 51.0	+00.4	S 16 54.9	-00.1
20	161 51.4	+00.4	S 16 54.8	-00.1
21	176 51.8	+00.4	S 16 54.7	+00.0
22	191 52.2	+00.4	S 16 54.7	-00.1
23	206 52.6	+00.4	S 16 54.6	+00.0

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	065°	065°	065°	064°	064°	064°

Greenwich Culmination Time: 09:12

Moon

A: 88%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	225 47.1	-37.4	S 26 04.9	-03.3
01	240 09.7	-37.3	S 26 01.6	-03.5
02	254 32.4	-37.3	S 25 58.1	-03.7
03	268 55.1	-37.2	S 25 54.4	-03.9
04	283 17.9	-37.2	S 25 50.5	-04.1
05	297 40.7	-37.2	S 25 46.4	-04.2
06	312 03.5	-37.1	S 25 42.2	-04.4
07	326 26.4	-37.0	S 25 37.8	-04.6
08	340 49.4	-37.0	S 25 33.2	-04.8
09	355 12.4	-37.0	S 25 28.4	-05.0
10	9 35.4	-36.9	S 25 23.4	-05.1
11	23 58.5	-36.8	S 25 18.3	-05.3
12	38 21.7	-36.8	S 25 13.0	-05.5
13	52 44.9	-36.7	S 25 07.5	-05.6
14	67 08.2	-36.7	S 25 01.9	-05.8
15	81 31.5	-36.6	S 24 56.1	-06.0
16	95 54.9	-36.5	S 24 50.1	-06.2
17	110 18.4	-36.4	S 24 43.9	-06.3
18	124 42.0	-36.4	S 24 37.6	-06.5
19	139 05.6	-36.3	S 24 31.1	-06.6
20	153 29.3	-36.3	S 24 24.5	-06.9
21	167 53.0	-36.1	S 24 17.6	-06.9
22	182 16.9	-36.1	S 24 10.7	-07.2
23	196 40.8	-36.0	S 24 03.5	-07.3

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	59′6	59′6	59′6	59′6	59′5	59′5
SHA	068°	065°	062°	060°	057°	055°

Greenwich Culmination Time: 09:19

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	220 08.9	+00.5	S 22 00.1	-00.3
01	235 09.4	+00.5	S 21 59.8	-00.3
02	250 09.9	+00.5	S 21 59.5	-00.3
03	265 10.4	+00.4	S 21 59.2	-00.3
04	280 10.8	+00.5	S 21 58.9	-00.3
05	295 11.3	+00.5	S 21 58.6	-00.3
06	310 11.8	+00.5	S 21 58.3	-00.3
07	325 12.3	+00.5	S 21 58.0	-00.3
08	340 12.8	+00.5	S 21 57.7	-00.3
09	355 13.3	+00.5	S 21 57.4	-00.3
10	10 13.8	+00.4	S 21 57.1	-00.3
11	25 14.2	+00.5	S 21 56.8	-00.3
12	40 14.7	+00.5	S 21 56.5	-00.4
13	55 15.2	+00.5	S 21 56.1	-00.3
14	70 15.7	+00.5	S 21 55.8	-00.3
15	85 16.2	+00.5	S 21 55.5	-00.3
16	100 16.7	+00.5	S 21 55.2	-00.3
17	115 17.2	+00.5	S 21 54.9	-00.3
18	130 17.7	+00.4	S 21 54.6	-00.3
19	145 18.1	+00.5	S 21 54.3	-00.3
20	160 18.6	+00.5	S 21 54.0	-00.3
21	175 19.1	+00.5	S 21 53.7	-00.3
22	190 19.6	+00.5	S 21 53.4	-00.3
23	205 20.1	+00.5	S 21 53.1	-00.3

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	063°	063°	063°	063°	063°	063°

Greenwich Culmination Time: 09:19

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	171 44.8	+01.9	S 07 26.0	-00.3
01	186 46.7	+01.9	S 07 25.7	-00.2
02	201 48.6	+01.9	S 07 25.5	-00.2
03	216 50.5	+01.9	S 07 25.3	-00.3
04	231 52.4	+01.9	S 07 25.0	-00.2
05	246 54.3	+01.9	S 07 24.8	-00.2
06	261 56.2	+01.9	S 07 24.6	-00.3
07	276 58.1	+01.9	S 07 24.3	-00.2
08	292 00.0	+01.9	S 07 24.1	-00.2
09	307 01.9	+01.9	S 07 23.9	-00.3
10	322 03.8	+01.9	S 07 23.6	-00.2
11	337 05.7	+01.9	S 07 23.4	-00.2
12	352 07.6	+01.9	S 07 23.2	-00.3
13	7 09.5	+01.9	S 07 22.9	-00.2
14	22 11.4	+01.9	S 07 22.7	-00.2
15	37 13.3	+01.9	S 07 22.5	-00.2
16	52 15.2	+01.9	S 07 22.3	-00.3
17	67 17.1	+01.9	S 07 22.0	-00.2
18	82 19.0	+01.9	S 07 21.8	-00.2
19	97 20.9	+01.9	S 07 21.6	-00.3
20	112 22.8	+01.9	S 07 21.3	-00.2
21	127 24.7	+01.9	S 07 21.1	-00.2
22	142 26.6	+01.9	S 07 20.9	-00.3
23	157 28.5	+01.9	S 07 20.6	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	015°	015°	015°	015°	015°	015°

Greenwich Culmination Time: 12:31

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	195 31.5	+02.1	S 16 05.9	-00.1
01	210 33.6	+02.2	S 16 05.8	-00.1
02	225 35.8	+02.2	S 16 05.7	-00.1
03	240 38.0	+02.2	S 16 05.6	-00.1
04	255 40.2	+02.2	S 16 05.5	-00.1
05	270 42.4	+02.1	S 16 05.4	-00.1
06	285 44.5	+02.2	S 16 05.3	+00.0
07	300 46.7	+02.2	S 16 05.3	-00.1
08	315 48.9	+02.2	S 16 05.2	-00.1
09	330 51.1	+02.1	S 16 05.1	-00.1
10	345 53.2	+02.2	S 16 05.0	-00.1
11	0 55.4	+02.2	S 16 04.9	-00.1
12	15 57.6	+02.2	S 16 04.8	-00.1
13	30 59.8	+02.2	S 16 04.7	+00.0
14	46 02.0	+02.1	S 16 04.7	-00.1
15	61 04.1	+02.2	S 16 04.6	-00.1
16	76 06.3	+02.2	S 16 04.5	-00.1
17	91 08.5	+02.2	S 16 04.4	-00.1
18	106 10.7	+02.1	S 16 04.3	-00.1
19	121 12.8	+02.2	S 16 04.2	-00.1
20	136 15.0	+02.2	S 16 04.1	+00.0
21	151 17.2	+02.2	S 16 04.1	-00.1
22	166 19.4	+02.2	S 16 04.0	-00.1
23	181 21.6	+02.1	S 16 03.9	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 10:56

2022 February 28 Monday (day 59 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	176 51.2	+00.1	S 08 03.5	-01.0
01	191 51.3	+00.1	S 08 02.5	-00.9
02	206 51.4	+00.1	S 08 01.6	-01.0
03	221 51.5	+00.1	S 08 00.6	-00.9
04	236 51.6	+00.2	S 07 59.7	-01.0
05	251 51.8	+00.1	S 07 58.7	-00.9
06	266 51.9	+00.1	S 07 57.8	-01.0
07	281 52.0	+00.1	S 07 56.8	-00.9
08	296 52.1	+00.1	S 07 55.9	-00.9
09	311 52.2	+00.1	S 07 55.0	-01.0
10	326 52.3	+00.1	S 07 54.0	-00.9
11	341 52.4	+00.2	S 07 53.1	-01.0
12	356 52.6	+00.1	S 07 52.1	-00.9
13	11 52.7	+00.1	S 07 51.2	-01.0
14	26 52.8	+00.1	S 07 50.2	-00.9
15	41 52.9	+00.1	S 07 49.3	-01.0
16	56 53.0	+00.1	S 07 48.3	-00.9
17	71 53.1	+00.2	S 07 47.4	-01.0
18	86 53.3	+00.1	S 07 46.4	-00.9
19	101 53.4	+00.1	S 07 45.5	-01.0
20	116 53.5	+00.1	S 07 44.5	-00.9
21	131 53.6	+00.1	S 07 43.6	-01.0
22	146 53.7	+00.1	S 07 42.6	-00.9
23	161 53.8	+00.2	S 07 41.7	-01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	019°	019°	019°	019°	018°	018°

Greenwich Culmination Time: 12:12

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	221 53.0	+00.4	S 16 54.6	-00.1
01	236 53.4	+00.3	S 16 54.5	-00.1
02	251 53.7	+00.4	S 16 54.4	+00.0
03	266 54.1	+00.4	S 16 54.4	-00.1
04	281 54.5	+00.4	S 16 54.3	-00.1
05	296 54.9	+00.4	S 16 54.2	+00.0
06	311 55.3	+00.3	S 16 54.2	-00.1
07	326 55.6	+00.4	S 16 54.1	-00.1
08	341 56.0	+00.4	S 16 54.0	-00.1
09	356 56.4	+00.4	S 16 53.9	+00.0
10	11 56.8	+00.3	S 16 53.9	-00.1
11	26 57.1	+00.4	S 16 53.8	-00.1
12	41 57.5	+00.4	S 16 53.7	+00.0
13	56 57.9	+00.3	S 16 53.7	-00.1
14	71 58.2	+00.4	S 16 53.6	-00.1
15	86 58.6	+00.4	S 16 53.5	-00.1
16	101 59.0	+00.3	S 16 53.4	+00.0
17	116 59.3	+00.4	S 16 53.4	-00.1
18	131 59.7	+00.3	S 16 53.3	-00.1
19	147 00.0	+00.4	S 16 53.2	-00.1
20	162 00.4	+00.3	S 16 53.1	+00.0
21	177 00.7	+00.4	S 16 53.1	-00.1
22	192 01.1	+00.4	S 16 53.0	-00.1
23	207 01.5	+00.3	S 16 52.9	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	064°	064°	064°	064°	063°	063°

Greenwich Culmination Time: 09:12

Moon

A: 92%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	211 04.8	-35.9	S 23 56.2	-07.4
01	225 28.9	-35.9	S 23 48.8	-07.7
02	239 53.0	-35.7	S 23 41.1	-07.7
03	254 17.3	-35.7	S 23 33.4	-08.0
04	268 41.6	-35.6	S 23 25.4	-08.0
05	283 06.0	-35.5	S 23 17.4	-08.3
06	297 30.5	-35.4	S 23 09.1	-08.4
07	311 55.1	-35.4	S 23 00.7	-08.5
08	326 19.7	-35.2	S 22 52.2	-08.7
09	340 44.5	-35.2	S 22 43.5	-08.8
10	355 09.3	-35.0	S 22 34.7	-08.9
11	9 34.3	-35.0	S 22 25.8	-09.2
12	23 59.3	-34.9	S 22 16.6	-09.2
13	38 24.4	-34.8	S 22 07.4	-09.4
14	52 49.6	-34.7	S 21 58.0	-09.5
15	67 14.9	-34.6	S 21 48.5	-09.7
16	81 40.3	-34.5	S 21 38.8	-09.8
17	96 05.8	-34.4	S 21 29.0	-09.9
18	110 31.4	-34.3	S 21 19.1	-10.0
19	124 57.1	-34.2	S 21 09.1	-10.2
20	139 22.9	-34.1	S 20 58.9	-10.3
21	153 48.8	-34.0	S 20 48.6	-10.5
22	168 14.8	-34.0	S 20 38.1	-10.5
23	182 40.8	-33.8	S 20 27.6	-10.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	59′5	59′5	59′4	59′4	59′3	59′3
SHA	052°	049°	047°	044°	042°	040°

Greenwich Culmination Time: 10:20

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	220 20.6	+00.5	S 21 52.8	-00.4
01	235 21.1	+00.5	S 21 52.4	-00.3
02	250 21.6	+00.4	S 21 52.1	-00.3
03	265 22.0	+00.5	S 21 51.8	-00.3
04	280 22.5	+00.5	S 21 51.5	-00.3
05	295 23.0	+00.5	S 21 51.2	-00.3
06	310 23.5	+00.5	S 21 50.9	-00.3
07	325 24.0	+00.5	S 21 50.6	-00.3
08	340 24.5	+00.5	S 21 50.3	-00.4
09	355 25.0	+00.5	S 21 49.9	-00.3
10	10 25.5	+00.4	S 21 49.6	-00.3
11	25 25.9	+00.5	S 21 49.3	-00.3
12	40 26.4	+00.5	S 21 49.0	-00.3
13	55 26.9	+00.5	S 21 48.7	-00.3
14	70 27.4	+00.5	S 21 48.4	-00.3
15	85 27.9	+00.5	S 21 48.1	-00.4
16	100 28.4	+00.5	S 21 47.7	-00.3
17	115 28.9	+00.5	S 21 47.4	-00.3
18	130 29.4	+00.5	S 21 47.1	-00.3
19	145 29.9	+00.4	S 21 46.8	-00.3
20	160 30.3	+00.5	S 21 46.5	-00.3
21	175 30.8	+00.5	S 21 46.2	-00.4
22	190 31.3	+00.5	S 21 45.8	-00.3
23	205 31.8	+00.5	S 21 45.5	-00.3

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	062°	062°	062°	062°	062°	062°

Greenwich Culmination Time: 09:18

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	172 30.4	+01.9	S 07 20.4	-00.2
01	187 32.3	+01.9	S 07 20.2	-00.3
02	202 34.2	+01.9	S 07 19.9	-00.2
03	217 36.1	+01.9	S 07 19.7	-00.2
04	232 38.0	+01.9	S 07 19.5	-00.3
05	247 39.9	+01.9	S 07 19.2	-00.2
06	262 41.8	+01.9	S 07 19.0	-00.2
07	277 43.7	+01.9	S 07 18.8	-00.2
08	292 45.6	+01.9	S 07 18.6	-00.3
09	307 47.5	+01.9	S 07 18.3	-00.2
10	322 49.4	+01.9	S 07 18.1	-00.2
11	337 51.3	+01.9	S 07 17.9	-00.3
12	352 53.2	+02.0	S 07 17.6	-00.2
13	7 55.2	+01.9	S 07 17.4	-00.2
14	22 57.1	+01.9	S 07 17.2	-00.3
15	37 59.0	+01.9	S 07 16.9	-00.2
16	53 00.9	+01.9	S 07 16.7	-00.2
17	68 02.8	+01.9	S 07 16.5	-00.3
18	83 04.7	+01.9	S 07 16.2	-00.2
19	98 06.6	+01.9	S 07 16.0	-00.2
20	113 08.5	+01.9	S 07 15.8	-00.3
21	128 10.4	+01.9	S 07 15.5	-00.2
22	143 12.3	+01.9	S 07 15.3	-00.2
23	158 14.2	+01.9	S 07 15.1	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	015°	015°	015°	015°	015°	015°

Greenwich Culmination Time: 12:28

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	196 23.7	+02.2	S 16 03.8	-00.1
01	211 25.9	+02.2	S 16 03.7	-00.1
02	226 28.1	+02.2	S 16 03.6	-00.1
03	241 30.3	+02.2	S 16 03.5	+00.0
04	256 32.5	+02.1	S 16 03.5	-00.1
05	271 34.6	+02.2	S 16 03.4	-00.1
06	286 36.8	+02.2	S 16 03.3	-00.1
07	301 39.0	+02.2	S 16 03.2	-00.1
08	316 41.2	+02.1	S 16 03.1	-00.1
09	331 43.3	+02.2	S 16 03.0	-00.1
10	346 45.5	+02.2	S 16 02.9	+00.0
11	1 47.7	+02.2	S 16 02.9	-00.1
12	16 49.9	+02.2	S 16 02.8	-00.1
13	31 52.1	+02.1	S 16 02.7	-00.1
14	46 54.2	+02.2	S 16 02.6	-00.1
15	61 56.4	+02.2	S 16 02.5	-00.1
16	76 58.6	+02.2	S 16 02.4	-00.1
17	92 00.8	+02.2	S 16 02.3	+00.0
18	107 03.0	+02.1	S 16 02.3	-00.1
19	122 05.1	+02.2	S 16 02.2	-00.1
20	137 07.3	+02.2	S 16 02.1	-00.1
21	152 09.5	+02.2	S 16 02.0	-00.1
22	167 11.7	+02.2	S 16 01.9	-00.1
23	182 13.9	+02.1	S 16 01.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	038°

Greenwich Culmination Time: 10:52

2022 March 5 Saturday (day 64 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 06.3	+00.1	S 06 08.8	-01.0
01	192 06.4	+00.2	S 06 07.8	-01.0
02	207 06.6	+00.1	S 06 06.8	-00.9
03	222 06.7	+00.1	S 06 05.9	-01.0
04	237 06.8	+00.2	S 06 04.9	-00.9
05	252 07.0	+00.1	S 06 04.0	-01.0
06	267 07.1	+00.2	S 06 03.0	-01.0
07	282 07.3	+00.1	S 06 02.0	-00.9
08	297 07.4	+00.1	S 06 01.1	-01.0
09	312 07.5	+00.2	S 06 00.1	-01.0
10	327 07.7	+00.1	S 05 59.1	-00.9
11	342 07.8	+00.2	S 05 58.2	-01.0
12	357 08.0	+00.1	S 05 57.2	-01.0
13	12 08.1	+00.1	S 05 56.2	-01.0
14	27 08.2	+00.2	S 05 55.2	-00.9
15	42 08.4	+00.1	S 05 54.3	-01.0
16	57 08.5	+00.2	S 05 53.3	-01.0
17	72 08.7	+00.1	S 05 52.3	-00.9
18	87 08.8	+00.1	S 05 51.4	-01.0
19	102 08.9	+00.2	S 05 50.4	-01.0
20	117 09.1	+00.1	S 05 49.4	-00.9
21	132 09.2	+00.2	S 05 48.5	-01.0
22	147 09.4	+00.1	S 05 47.5	-01.0
23	162 09.5	+00.2	S 05 46.5	-00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	014°	014°	014°	014°	014°	014°

Greenwich Culmination Time: 12:11

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 29.2	+00.2	S 16 41.9	-00.2
01	237 29.4	+00.2	S 16 41.7	-00.1
02	252 29.6	+00.3	S 16 41.6	-00.2
03	267 29.9	+00.2	S 16 41.4	-00.1
04	282 30.1	+00.2	S 16 41.3	-00.2
05	297 30.3	+00.2	S 16 41.1	-00.1
06	312 30.5	+00.2	S 16 41.0	-00.2
07	327 30.7	+00.3	S 16 40.8	-00.1
08	342 31.0	+00.2	S 16 40.7	-00.2
09	357 31.2	+00.2	S 16 40.5	-00.1
10	12 31.4	+00.2	S 16 40.4	-00.2
11	27 31.6	+00.2	S 16 40.2	-00.2
12	42 31.8	+00.2	S 16 40.0	-00.1
13	57 32.0	+00.2	S 16 39.9	-00.2
14	72 32.2	+00.2	S 16 39.7	-00.1
15	87 32.4	+00.2	S 16 39.6	-00.2
16	102 32.6	+00.3	S 16 39.4	-00.2
17	117 32.9	+00.2	S 16 39.2	-00.1
18	132 33.1	+00.2	S 16 39.1	-00.2
19	147 33.3	+00.2	S 16 38.9	-00.1
20	162 33.5	+00.2	S 16 38.8	-00.2
21	177 33.7	+00.2	S 16 38.6	-00.2
22	192 33.9	+00.2	S 16 38.4	-00.1
23	207 34.1	+00.2	S 16 38.3	-00.2

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	060°	060°	059°	059°	059°	059°

Greenwich Culmination Time: 09:09

Moon

A: 09%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	149 36.1	-26.9	N 01 56.5	+14.7
01	164 09.2	-26.9	N 02 11.2	+14.6
02	178 42.3	-26.8	N 02 25.8	+14.6
03	193 15.5	-26.9	N 02 40.4	+14.6
04	207 48.6	-26.8	N 02 55.0	+14.6
05	222 21.8	-26.8	N 03 09.6	+14.5
06	236 55.0	-26.8	N 03 24.1	+14.5
07	251 28.2	-26.7	N 03 38.6	+14.5
08	266 01.5	-26.8	N 03 53.1	+14.4
09	280 34.7	-26.7	N 04 07.5	+14.4
10	295 08.0	-26.7	N 04 21.9	+14.4
11	309 41.3	-26.7	N 04 36.3	+14.3
12	324 14.6	-26.7	N 04 50.6	+14.3
13	338 47.9	-26.7	N 05 04.9	+14.3
14	353 21.2	-26.7	N 05 19.2	+14.2
15	7 54.5	-26.6	N 05 33.4	+14.2
16	22 27.9	-26.7	N 05 47.6	+14.1
17	37 01.2	-26.6	N 06 01.7	+14.1
18	51 34.6	-26.7	N 06 15.8	+14.1
19	66 07.9	-26.6	N 06 29.9	+14.0
20	80 41.3	-26.6	N 06 43.9	+14.0
21	95 14.7	-26.6	N 06 57.9	+13.9
22	109 48.1	-26.7	N 07 11.8	+13.9
23	124 21.4	-26.6	N 07 25.7	+13.8

UT	02	06	10	14	18	22
SD	15′5	15′5	15′4	15′4	15′4	15′3
HP	56′8	56′7	56′6	56′5	56′4	56′2
SHA	346°	344°	342°	340°	338°	336°

Greenwich Culmination Time: 14:27

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	221 19.8	+00.5	S 21 12.8	-00.4
01	236 20.3	+00.5	S 21 12.4	-00.4
02	251 20.8	+00.5	S 21 12.0	-00.3
03	266 21.3	+00.5	S 21 11.7	-00.4
04	281 21.8	+00.5	S 21 11.3	-00.3
05	296 22.3	+00.5	S 21 11.0	-00.4
06	311 22.8	+00.5	S 21 10.6	-00.3
07	326 23.3	+00.5	S 21 10.3	-00.4
08	341 23.8	+00.5	S 21 09.9	-00.4
09	356 24.3	+00.5	S 21 09.5	-00.3
10	11 24.8	+00.5	S 21 09.2	-00.4
11	26 25.3	+00.5	S 21 08.8	-00.3
12	41 25.8	+00.5	S 21 08.5	-00.4
13	56 26.3	+00.5	S 21 08.1	-00.4
14	71 26.8	+00.5	S 21 07.7	-00.3
15	86 27.3	+00.5	S 21 07.4	-00.4
16	101 27.8	+00.5	S 21 07.0	-00.4
17	116 28.3	+00.6	S 21 06.6	-00.3
18	131 28.9	+00.5	S 21 06.3	-00.4
19	146 29.4	+00.5	S 21 05.9	-00.3
20	161 29.9	+00.5	S 21 05.6	-00.4
21	176 30.4	+00.5	S 21 05.2	-00.4
22	191 30.9	+00.5	S 21 04.8	-00.3
23	206 31.4	+00.5	S 21 04.5	-00.4

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	059°	058°	058°	058°	058°	058°

Greenwich Culmination Time: 09:14

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 18.6	+01.9	S 06 52.6	-00.2
01	191 20.5	+01.9	S 06 52.4	-00.3
02	206 22.4	+01.9	S 06 52.1	-00.2
03	221 24.3	+01.9	S 06 51.9	-00.2
04	236 26.2	+01.9	S 06 51.7	-00.3
05	251 28.1	+01.9	S 06 51.4	-00.2
06	266 30.0	+01.9	S 06 51.2	-00.2
07	281 31.9	+01.9	S 06 51.0	-00.3
08	296 33.8	+01.9	S 06 50.7	-00.2
09	311 35.7	+01.9	S 06 50.5	-00.2
10	326 37.6	+01.9	S 06 50.3	-00.3
11	341 39.5	+01.9	S 06 50.0	-00.2
12	356 41.4	+01.9	S 06 49.8	-00.2
13	11 43.3	+01.9	S 06 49.6	-00.3
14	26 45.2	+01.9	S 06 49.3	-00.2
15	41 47.1	+01.9	S 06 49.1	-00.2
16	56 49.0	+01.9	S 06 48.9	-00.3
17	71 50.9	+01.9	S 06 48.6	-00.2
18	86 52.8	+01.9	S 06 48.4	-00.2
19	101 54.7	+01.9	S 06 48.2	-00.3
20	116 56.6	+01.9	S 06 47.9	-00.2
21	131 58.5	+01.9	S 06 47.7	-00.2
22	147 00.4	+01.9	S 06 47.5	-00.3
23	162 02.3	+01.9	S 06 47.2	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	014°	014°	013°	013°	013°	013°

Greenwich Culmination Time: 12:13

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	200 45.5	+02.2	S 15 53.6	-00.1
01	215 47.7	+02.2	S 15 53.5	+00.0
02	230 49.9	+02.2	S 15 53.5	-00.1
03	245 52.1	+02.2	S 15 53.4	-00.1
04	260 54.3	+02.2	S 15 53.3	-00.1
05	275 56.5	+02.2	S 15 53.2	-00.1
06	290 58.7	+02.1	S 15 53.1	-00.1
07	306 00.8	+02.2	S 15 53.0	+00.0
08	321 03.0	+02.2	S 15 53.0	-00.1
09	336 05.2	+02.2	S 15 52.9	-00.1
10	351 07.4	+02.2	S 15 52.8	-00.1
11	6 09.6	+02.2	S 15 52.7	-00.1
12	21 11.8	+02.2	S 15 52.6	-00.1
13	36 14.0	+02.1	S 15 52.5	-00.1
14	51 16.1	+02.2	S 15 52.4	+00.0
15	66 18.3	+02.2	S 15 52.4	-00.1
16	81 20.5	+02.2	S 15 52.3	-00.1
17	96 22.7	+02.2	S 15 52.2	-00.1
18	111 24.9	+02.2	S 15 52.1	-00.1
19	126 27.1	+02.2	S 15 52.0	-00.1
20	141 29.3	+02.1	S 15 51.9	+00.0
21	156 31.4	+02.2	S 15 51.9	-00.1
22	171 33.6	+02.2	S 15 51.8	-00.1
23	186 35.8	+02.2	S 15 51.7	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 10:35

2022 March 2 Wednesday (day 61 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 56.9	+00.1	S 07 17.9	-01.0
01	191 57.0	+00.1	S 07 16.9	-00.9
02	206 57.1	+00.1	S 07 16.0	-01.0
03	221 57.2	+00.2	S 07 15.0	-00.9
04	236 57.4	+00.1	S 07 14.1	-01.0
05	251 57.5	+00.1	S 07 13.1	-00.9
06	266 57.6	+00.1	S 07 12.2	-01.0
07	281 57.7	+00.2	S 07 11.2	-00.9
08	296 57.9	+00.1	S 07 10.3	-01.0
09	311 58.0	+00.1	S 07 09.3	-01.0
10	326 58.1	+00.1	S 07 08.3	-00.9
11	341 58.2	+00.2	S 07 07.4	-01.0
12	356 58.4	+00.1	S 07 06.4	-00.9
13	11 58.5	+00.1	S 07 05.5	-01.0
14	26 58.6	+00.1	S 07 04.5	-00.9
15	41 58.7	+00.2	S 07 03.6	-01.0
16	56 58.9	+00.1	S 07 02.6	-00.9
17	71 59.0	+00.1	S 07 01.7	-01.0
18	86 59.1	+00.1	S 07 00.7	-01.0
19	101 59.2	+00.2	S 06 59.7	-00.9
20	116 59.4	+00.1	S 06 58.8	-01.0
21	131 59.5	+00.1	S 06 57.8	-00.9
22	146 59.6	+00.2	S 06 56.9	-01.0
23	161 59.8	+00.1	S 06 55.9	-00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	017°	017°	017°	017°	016°	016°

Greenwich Culmination Time: 12:12

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 09.8	+00.3	S 16 50.7	-00.1
01	237 10.1	+00.3	S 16 50.6	-00.1
02	252 10.4	+00.3	S 16 50.5	-00.1
03	267 10.7	+00.4	S 16 50.4	-00.1
04	282 11.1	+00.3	S 16 50.3	-00.1
05	297 11.4	+00.3	S 16 50.2	-00.1
06	312 11.7	+00.3	S 16 50.1	-00.1
07	327 12.0	+00.3	S 16 50.0	-00.1
08	342 12.3	+00.3	S 16 49.9	-00.1
09	357 12.6	+00.3	S 16 49.8	-00.1
10	12 12.9	+00.3	S 16 49.7	-00.1
11	27 13.2	+00.3	S 16 49.6	-00.1
12	42 13.5	+00.3	S 16 49.5	-00.1
13	57 13.8	+00.3	S 16 49.4	-00.1
14	72 14.1	+00.3	S 16 49.3	-00.1
15	87 14.4	+00.3	S 16 49.2	-00.2
16	102 14.7	+00.3	S 16 49.0	-00.1
17	117 15.0	+00.3	S 16 48.9	-00.1
18	132 15.3	+00.3	S 16 48.8	-00.1
19	147 15.6	+00.3	S 16 48.7	-00.1
20	162 15.9	+00.2	S 16 48.6	-00.1
21	177 16.1	+00.3	S 16 48.5	-00.1
22	192 16.4	+00.3	S 16 48.4	-00.1
23	207 16.7	+00.3	S 16 48.3	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	062°	062°	062°	062°	062°	062°

Greenwich Culmination Time: 09:11

Moon

A: 99%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	184 05.1	-31.4	S 15 28.6	-13.2
01	198 33.7	-31.3	S 15 15.4	-13.2
02	213 02.4	-31.2	S 15 02.2	-13.3
03	227 31.2	-31.0	S 14 48.9	-13.4
04	242 00.2	-31.0	S 14 35.5	-13.4
05	256 29.2	-30.9	S 14 22.1	-13.6
06	270 58.3	-30.8	S 14 08.5	-13.5
07	285 27.5	-30.8	S 13 55.0	-13.7
08	299 56.7	-30.6	S 13 41.3	-13.7
09	314 26.1	-30.5	S 13 27.6	-13.8
10	328 55.6	-30.5	S 13 13.8	-13.8
11	343 25.1	-30.3	S 13 00.0	-13.9
12	357 54.8	-30.3	S 12 46.1	-13.9
13	12 24.5	-30.2	S 12 32.2	-14.0
14	26 54.3	-30.1	S 12 18.2	-14.1
15	41 24.2	-30.1	S 12 04.1	-14.1
16	55 54.1	-29.9	S 11 50.0	-14.2
17	70 24.2	-29.9	S 11 35.8	-14.2
18	84 54.3	-29.7	S 11 21.6	-14.2
19	99 24.6	-29.7	S 11 07.4	-14.3
20	113 54.9	-29.7	S 10 53.1	-14.3
21	128 25.2	-29.5	S 10 38.8	-14.4
22	142 55.7	-29.5	S 10 24.4	-14.5
23	157 26.2	-29.4	S 10 09.9	-14.4

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	15′9	15′9	15′9
HP	58′8	58′7	58′6	58′5	58′4	58′3
SHA	023°	021°	019°	017°	014°	012°

Greenwich Culmination Time: 12:08

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	220 44.1	+00.5	S 21 37.4	-00.3
01	235 44.6	+00.5	S 21 37.1	-00.3
02	250 45.1	+00.5	S 21 36.8	-00.4
03	265 45.6	+00.5	S 21 36.4	-00.3
04	280 46.1	+00.5	S 21 36.1	-00.3
05	295 46.6	+00.5	S 21 35.8	-00.4
06	310 47.1	+00.4	S 21 35.4	-00.3
07	325 47.5	+00.5	S 21 35.1	-00.3
08	340 48.0	+00.5	S 21 34.8	-00.4
09	355 48.5	+00.5	S 21 34.4	-00.3
10	10 49.0	+00.5	S 21 34.1	-00.3
11	25 49.5	+00.5	S 21 33.8	-00.4
12	40 50.0	+00.5	S 21 33.4	-00.3
13	55 50.5	+00.5	S 21 33.1	-00.3
14	70 51.0	+00.5	S 21 32.8	-00.4
15	85 51.5	+00.5	S 21 32.4	-00.3
16	100 52.0	+00.5	S 21 32.1	-00.3
17	115 52.5	+00.5	S 21 31.8	-00.4
18	130 53.0	+00.5	S 21 31.4	-00.3
19	145 53.5	+00.5	S 21 31.1	-00.3
20	160 54.0	+00.5	S 21 30.8	-00.4
21	175 54.5	+00.5	S 21 30.4	-00.3
22	190 55.0	+00.5	S 21 30.1	-00.4
23	205 55.5	+00.4	S 21 29.7	-00.3

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	061°	061°	061°	061°	060°	060°

Greenwich Culmination Time: 09:16

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	174 01.7	+01.9	S 07 09.3	-00.2
01	189 03.6	+01.9	S 07 09.1	-00.3
02	204 05.5	+01.9	S 07 08.8	-00.2
03	219 07.4	+01.9	S 07 08.6	-00.2
04	234 09.3	+01.9	S 07 08.4	-00.3
05	249 11.2	+01.9	S 07 08.1	-00.2
06	264 13.1	+01.9	S 07 07.9	-00.2
07	279 15.0	+01.9	S 07 07.7	-00.3
08	294 16.9	+01.9	S 07 07.4	-00.2
09	309 18.8	+01.9	S 07 07.2	-00.2
10	324 20.7	+01.9	S 07 07.0	-00.3
11	339 22.6	+01.9	S 07 06.7	-00.2
12	354 24.5	+01.9	S 07 06.5	-00.2
13	9 26.4	+01.9	S 07 06.3	-00.3
14	24 28.3	+01.9	S 07 06.0	-00.2
15	39 30.2	+01.9	S 07 05.8	-00.2
16	54 32.1	+01.9	S 07 05.6	-00.3
17	69 34.0	+01.9	S 07 05.3	-00.2
18	84 35.9	+01.9	S 07 05.1	-00.2
19	99 37.8	+01.9	S 07 04.9	-00.2
20	114 39.7	+01.9	S 07 04.7	-00.3
21	129 41.6	+01.9	S 07 04.4	-00.2
22	144 43.5	+01.9	S 07 04.2	-00.2
23	159 45.4	+01.9	S 07 04.0	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	014°	014°	014°	014°	014°	014°

Greenwich Culmination Time: 12:22

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	198 08.4	+02.2	S 15 59.7	-00.1
01	213 10.6	+02.1	S 15 59.6	-00.1
02	228 12.7	+02.2	S 15 59.5	+00.0
03	243 14.9	+02.2	S 15 59.5	-00.1
04	258 17.1	+02.2	S 15 59.4	-00.1
05	273 19.3	+02.2	S 15 59.3	-00.1
06	288 21.5	+02.1	S 15 59.2	-00.1
07	303 23.6	+02.2	S 15 59.1	-00.1
08	318 25.8	+02.2	S 15 59.0	-00.1
09	333 28.0	+02.2	S 15 58.9	+00.0
10	348 30.2	+02.2	S 15 58.9	-00.1
11	3 32.4	+02.1	S 15 58.8	-00.1
12	18 34.5	+02.2	S 15 58.7	-00.1
13	33 36.7	+02.2	S 15 58.6	-00.1
14	48 38.9	+02.2	S 15 58.5	-00.1
15	63 41.1	+02.2	S 15 58.4	+00.0
16	78 43.3	+02.2	S 15 58.4	-00.1
17	93 45.5	+02.1	S 15 58.3	-00.1
18	108 47.6	+02.2	S 15 58.2	-00.1
19	123 49.8	+02.2	S 15 58.1	-00.1
20	138 52.0	+02.2	S 15 58.0	-00.1
21	153 54.2	+02.2	S 15 57.9	-00.1
22	168 56.4	+02.1	S 15 57.8	+00.0
23	183 58.5	+02.2	S 15 57.8	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 10:45

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Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	176 59.9	+00.1	S 06 55.0	-01.0
01	192 00.0	+00.1	S 06 54.0	-01.0
02	207 00.1	+00.2	S 06 53.0	-00.9
03	222 00.3	+00.1	S 06 52.1	-01.0
04	237 00.4	+00.1	S 06 51.1	-00.9
05	252 00.5	+00.2	S 06 50.2	-01.0
06	267 00.7	+00.1	S 06 49.2	-01.0
07	282 00.8	+00.1	S 06 48.2	-00.9
08	297 00.9	+00.2	S 06 47.3	-01.0
09	312 01.1	+00.1	S 06 46.3	-00.9
10	327 01.2	+00.1	S 06 45.4	-01.0
11	342 01.3	+00.1	S 06 44.4	-01.0
12	357 01.4	+00.2	S 06 43.4	-00.9
13	12 01.6	+00.1	S 06 42.5	-01.0
14	27 01.7	+00.1	S 06 41.5	-00.9
15	42 01.8	+00.2	S 06 40.6	-01.0
16	57 02.0	+00.1	S 06 39.6	-01.0
17	72 02.1	+00.1	S 06 38.6	-00.9
18	87 02.2	+00.2	S 06 37.7	-01.0
19	102 02.4	+00.1	S 06 36.7	-00.9
20	117 02.5	+00.1	S 06 35.8	-01.0
21	132 02.6	+00.2	S 06 34.8	-01.0
22	147 02.8	+00.1	S 06 33.8	-00.9
23	162 02.9	+00.1	S 06 32.9	-01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	016°	016°	016°	016°	016°	015°

Greenwich Culmination Time: 12:11

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	222 17.0	+00.3	S 16 48.2	-00.2
01	237 17.3	+00.3	S 16 48.0	-00.1
02	252 17.6	+00.3	S 16 47.9	-00.1
03	267 17.9	+00.2	S 16 47.8	-00.1
04	282 18.1	+00.3	S 16 47.7	-00.1
05	297 18.4	+00.3	S 16 47.6	-00.1
06	312 18.7	+00.3	S 16 47.5	-00.2
07	327 19.0	+00.2	S 16 47.3	-00.1
08	342 19.2	+00.3	S 16 47.2	-00.1
09	357 19.5	+00.3	S 16 47.1	-00.1
10	12 19.8	+00.3	S 16 47.0	-00.1
11	27 20.1	+00.2	S 16 46.9	-00.2
12	42 20.3	+00.3	S 16 46.7	-00.1
13	57 20.6	+00.3	S 16 46.6	-00.1
14	72 20.9	+00.2	S 16 46.5	-00.1
15	87 21.1	+00.3	S 16 46.4	-00.2
16	102 21.4	+00.3	S 16 46.2	-00.1
17	117 21.7	+00.2	S 16 46.1	-00.1
18	132 21.9	+00.3	S 16 46.0	-00.1
19	147 22.2	+00.2	S 16 45.9	-00.2
20	162 22.4	+00.3	S 16 45.7	-00.1
21	177 22.7	+00.3	S 16 45.6	-00.1
22	192 23.0	+00.2	S 16 45.5	-00.1
23	207 23.2	+00.3	S 16 45.4	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	061°	061°	061°	061°	061°	061°

Greenwich Culmination Time: 09:10

Moon

A: 03%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	171 56.8	-29.3	S 09 55.5	-14.5
01	186 27.5	-29.2	S 09 41.0	-14.6
02	200 58.3	-29.2	S 09 26.4	-14.5
03	215 29.1	-29.1	S 09 11.9	-14.6
04	230 00.0	-29.0	S 08 57.3	-14.7
05	244 31.0	-28.9	S 08 42.6	-14.6
06	259 02.1	-28.9	S 08 28.0	-14.7
07	273 33.2	-28.8	S 08 13.3	-14.7
08	288 04.4	-28.8	S 07 58.6	-14.8
09	302 35.6	-28.6	S 07 43.8	-14.8
10	317 07.0	-28.7	S 07 29.0	-14.7
11	331 38.3	-28.5	S 07 14.3	-14.9
12	346 09.8	-28.5	S 06 59.4	-14.8
13	0 41.3	-28.4	S 06 44.6	-14.8
14	15 12.9	-28.4	S 06 29.8	-14.9
15	29 44.5	-28.3	S 06 14.9	-14.9
16	44 16.2	-28.2	S 06 00.0	-14.9
17	58 48.0	-28.2	S 05 45.1	-14.9
18	73 19.8	-28.1	S 05 30.2	-14.9
19	87 51.7	-28.1	S 05 15.3	-14.9
20	102 23.6	-28.0	S 05 00.4	-15.0
21	116 55.6	-27.9	S 04 45.4	-14.9
22	131 27.7	-28.0	S 04 30.5	-15.0
23	145 59.7	-27.8	S 04 15.5	-14.9

UT	02	06	10	14	18	22
SD	15′9	15′8	15′8	15′8	15′7	15′7
HP	58′2	58′1	58′0	57′9	57′8	57′7
SHA	010°	008°	006°	004°	002°	360°

Greenwich Culmination Time: 12:57

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	220 55.9	+00.5	S 21 29.4	-00.3
01	235 56.4	+00.5	S 21 29.1	-00.4
02	250 56.9	+00.5	S 21 28.7	-00.3
03	265 57.4	+00.5	S 21 28.4	-00.3
04	280 57.9	+00.5	S 21 28.1	-00.4
05	295 58.4	+00.5	S 21 27.7	-00.3
06	310 58.9	+00.5	S 21 27.4	-00.4
07	325 59.4	+00.5	S 21 27.0	-00.3
08	340 59.9	+00.5	S 21 26.7	-00.3
09	356 00.4	+00.5	S 21 26.4	-00.4
10	11 00.9	+00.5	S 21 26.0	-00.3
11	26 01.4	+00.5	S 21 25.7	-00.4
12	41 01.9	+00.5	S 21 25.3	-00.3
13	56 02.4	+00.5	S 21 25.0	-00.4
14	71 02.9	+00.5	S 21 24.6	-00.3
15	86 03.4	+00.5	S 21 24.3	-00.3
16	101 03.9	+00.5	S 21 24.0	-00.4
17	116 04.4	+00.5	S 21 23.6	-00.3
18	131 04.9	+00.5	S 21 23.3	-00.4
19	146 05.4	+00.5	S 21 22.9	-00.3
20	161 05.9	+00.5	S 21 22.6	-00.4
21	176 06.4	+00.5	S 21 22.2	-00.3
22	191 06.9	+00.5	S 21 21.9	-00.4
23	206 07.4	+00.5	S 21 21.5	-00.3

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	060°	060°	060°	060°	060°	059°

Greenwich Culmination Time: 09:15

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	174 47.3	+01.9	S 07 03.7	-00.2
01	189 49.2	+01.9	S 07 03.5	-00.2
02	204 51.1	+01.9	S 07 03.3	-00.3
03	219 53.0	+01.9	S 07 03.0	-00.2
04	234 54.9	+01.9	S 07 02.8	-00.2
05	249 56.8	+01.9	S 07 02.6	-00.3
06	264 58.7	+01.9	S 07 02.3	-00.2
07	280 00.6	+01.9	S 07 02.1	-00.2
08	295 02.5	+01.9	S 07 01.9	-00.3
09	310 04.4	+01.9	S 07 01.6	-00.2
10	325 06.3	+01.9	S 07 01.4	-00.2
11	340 08.2	+01.9	S 07 01.2	-00.3
12	355 10.1	+01.9	S 07 00.9	-00.2
13	10 12.0	+01.9	S 07 00.7	-00.2
14	25 13.9	+01.9	S 07 00.5	-00.3
15	40 15.8	+01.9	S 07 00.2	-00.2
16	55 17.7	+01.9	S 07 00.0	-00.2
17	70 19.6	+01.9	S 06 59.8	-00.3
18	85 21.5	+01.9	S 06 59.5	-00.2
19	100 23.4	+01.9	S 06 59.3	-00.2
20	115 25.3	+01.9	S 06 59.1	-00.2
21	130 27.2	+01.9	S 06 58.9	-00.3
22	145 29.1	+01.9	S 06 58.6	-00.2
23	160 31.0	+01.9	S 06 58.4	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	014°	014°	014°	014°	014°	014°

Greenwich Culmination Time: 12:19

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	199 00.7	+02.2	S 15 57.7	-00.1
01	214 02.9	+02.2	S 15 57.6	-00.1
02	229 05.1	+02.2	S 15 57.5	-00.1
03	244 07.3	+02.2	S 15 57.4	-00.1
04	259 09.5	+02.1	S 15 57.3	+00.0
05	274 11.6	+02.2	S 15 57.3	-00.1
06	289 13.8	+02.2	S 15 57.2	-00.1
07	304 16.0	+02.2	S 15 57.1	-00.1
08	319 18.2	+02.2	S 15 57.0	-00.1
09	334 20.4	+02.2	S 15 56.9	-00.1
10	349 22.6	+02.1	S 15 56.8	-00.1
11	4 24.7	+02.2	S 15 56.7	+00.0
12	19 26.9	+02.2	S 15 56.7	-00.1
13	34 29.1	+02.2	S 15 56.6	-00.1
14	49 31.3	+02.2	S 15 56.5	-00.1
15	64 33.5	+02.2	S 15 56.4	-00.1
16	79 35.7	+02.1	S 15 56.3	-00.1
17	94 37.8	+02.2	S 15 56.2	+00.0
18	109 40.0	+02.2	S 15 56.2	-00.1
19	124 42.2	+02.2	S 15 56.1	-00.1
20	139 44.4	+02.2	S 15 56.0	-00.1
21	154 46.6	+02.2	S 15 55.9	-00.1
22	169 48.8	+02.1	S 15 55.8	-00.1
23	184 50.9	+02.2	S 15 55.7	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 10:42

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	177 03.0	+00.2	S 06 31.9	-00.9
01	192 03.2	+00.1	S 06 31.0	-01.0
02	207 03.3	+00.1	S 06 30.0	-01.0
03	222 03.4	+00.2	S 06 29.0	-00.9
04	237 03.6	+00.1	S 06 28.1	-01.0
05	252 03.7	+00.1	S 06 27.1	-01.0
06	267 03.8	+00.2	S 06 26.1	-00.9
07	282 04.0	+00.1	S 06 25.2	-01.0
08	297 04.1	+00.1	S 06 24.2	-01.0
09	312 04.2	+00.2	S 06 23.2	-00.9
10	327 04.4	+00.1	S 06 22.3	-01.0
11	342 04.5	+00.1	S 06 21.3	-00.9
12	357 04.6	+00.2	S 06 20.4	-01.0
13	12 04.8	+00.1	S 06 19.4	-01.0
14	27 04.9	+00.2	S 06 18.4	-00.9
15	42 05.1	+00.1	S 06 17.5	-01.0
16	57 05.2	+00.1	S 06 16.5	-01.0
17	72 05.3	+00.2	S 06 15.5	-00.9
18	87 05.5	+00.1	S 06 14.6	-01.0
19	102 05.6	+00.1	S 06 13.6	-01.0
20	117 05.7	+00.2	S 06 12.6	-00.9
21	132 05.9	+00.1	S 06 11.7	-01.0
22	147 06.0	+00.1	S 06 10.7	-01.0
23	162 06.1	+00.2	S 06 09.7	-00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	015°	015°	015°	015°	015°	014°

Greenwich Culmination Time: 12:11

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	222 23.5	+00.2	S 16 45.2	-00.1
01	237 23.7	+00.3	S 16 45.1	-00.1
02	252 24.0	+00.2	S 16 45.0	-00.2
03	267 24.2	+00.3	S 16 44.8	-00.1
04	282 24.5	+00.2	S 16 44.7	-00.1
05	297 24.7	+00.3	S 16 44.6	-00.2
06	312 25.0	+00.2	S 16 44.4	-00.1
07	327 25.2	+00.3	S 16 44.3	-00.1
08	342 25.5	+00.2	S 16 44.2	-00.2
09	357 25.7	+00.2	S 16 44.0	-00.1
10	12 25.9	+00.3	S 16 43.9	-00.2
11	27 26.2	+00.2	S 16 43.7	-00.1
12	42 26.4	+00.3	S 16 43.6	-00.1
13	57 26.7	+00.2	S 16 43.5	-00.2
14	72 26.9	+00.2	S 16 43.3	-00.1
15	87 27.1	+00.3	S 16 43.2	-00.2
16	102 27.4	+00.2	S 16 43.0	-00.1
17	117 27.6	+00.2	S 16 42.9	-00.1
18	132 27.8	+00.3	S 16 42.8	-00.2
19	147 28.1	+00.2	S 16 42.6	-00.1
20	162 28.3	+00.2	S 16 42.5	-00.2
21	177 28.5	+00.2	S 16 42.3	-00.1
22	192 28.7	+00.3	S 16 42.2	-00.2
23	207 29.0	+00.2	S 16 42.0	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′2	00′2
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	061°	060°	060°	060°	060°	060°

Greenwich Culmination Time: 09:10

Moon

A: 06%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	160 31.9	-27.8	S 04 00.6	-15.0
01	175 04.1	-27.8	S 03 45.6	-14.9
02	189 36.3	-27.7	S 03 30.7	-15.0
03	204 08.6	-27.6	S 03 15.7	-15.0
04	218 41.0	-27.6	S 03 00.7	-14.9
05	233 13.4	-27.6	S 02 45.8	-15.0
06	247 45.8	-27.5	S 02 30.8	-14.9
07	262 18.3	-27.5	S 02 15.9	-15.0
08	276 50.8	-27.4	S 02 00.9	-14.9
09	291 23.4	-27.4	S 01 46.0	-14.9
10	305 56.0	-27.4	S 01 31.1	-15.0
11	320 28.6	-27.3	S 01 16.1	-14.9
12	335 01.3	-27.3	S 01 01.2	-14.9
13	349 34.0	-27.2	S 00 46.3	-14.9
14	4 06.8	-27.2	S 00 31.4	-14.8
15	18 39.6	-27.2	S 00 16.6	-14.9
16	33 12.4	-27.2	S 00 01.7	-14.8
17	47 45.2	-27.1	N 00 13.1	+14.9
18	62 18.1	-27.0	N 00 28.0	+14.8
19	76 51.1	-27.1	N 00 42.8	+14.7
20	91 24.0	-27.0	N 00 57.5	+14.8
21	105 57.0	-27.0	N 01 12.3	+14.8
22	120 30.0	-26.9	N 01 27.1	+14.7
23	135 03.1	-27.0	N 01 41.8	+14.7

UT	02	06	10	14	18	22
SD	15′7	15′6	15′6	15′6	15′6	15′5
HP	57′6	57′4	57′3	57′2	57′1	57′0
SHA	358°	356°	354°	352°	350°	348°

Greenwich Culmination Time: 13:43

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	221 07.9	+00.5	S 21 21.2	-00.4
01	236 08.4	+00.5	S 21 20.8	-00.3
02	251 08.9	+00.4	S 21 20.5	-00.4
03	266 09.3	+00.5	S 21 20.1	-00.3
04	281 09.8	+00.5	S 21 19.8	-00.3
05	296 10.3	+00.5	S 21 19.5	-00.4
06	311 10.8	+00.5	S 21 19.1	-00.3
07	326 11.3	+00.5	S 21 18.8	-00.4
08	341 11.8	+00.5	S 21 18.4	-00.3
09	356 12.3	+00.5	S 21 18.1	-00.4
10	11 12.8	+00.5	S 21 17.7	-00.4
11	26 13.3	+00.5	S 21 17.3	-00.3
12	41 13.8	+00.5	S 21 17.0	-00.4
13	56 14.3	+00.5	S 21 16.6	-00.3
14	71 14.8	+00.5	S 21 16.3	-00.4
15	86 15.3	+00.5	S 21 15.9	-00.3
16	101 15.8	+00.5	S 21 15.6	-00.4
17	116 16.3	+00.5	S 21 15.2	-00.3
18	131 16.8	+00.5	S 21 14.9	-00.4
19	146 17.3	+00.5	S 21 14.5	-00.3
20	161 17.8	+00.5	S 21 14.2	-00.4
21	176 18.3	+00.5	S 21 13.8	-00.3
22	191 18.8	+00.5	S 21 13.5	-00.4
23	206 19.3	+00.5	S 21 13.1	-00.3

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	059°	059°	059°	059°	059°	059°

Greenwich Culmination Time: 09:15

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	175 32.9	+02.0	S 06 58.2	-00.3
01	190 34.9	+01.9	S 06 57.9	-00.2
02	205 36.8	+01.9	S 06 57.7	-00.2
03	220 38.7	+01.9	S 06 57.5	-00.3
04	235 40.6	+01.9	S 06 57.2	-00.2
05	250 42.5	+01.9	S 06 57.0	-00.2
06	265 44.4	+01.9	S 06 56.8	-00.3
07	280 46.3	+01.9	S 06 56.5	-00.2
08	295 48.2	+01.9	S 06 56.3	-00.2
09	310 50.1	+01.9	S 06 56.1	-00.3
10	325 52.0	+01.9	S 06 55.8	-00.2
11	340 53.9	+01.9	S 06 55.6	-00.2
12	355 55.8	+01.9	S 06 55.4	-00.3
13	10 57.7	+01.9	S 06 55.1	-00.2
14	25 59.6	+01.9	S 06 54.9	-00.2
15	41 01.5	+01.9	S 06 54.7	-00.3
16	56 03.4	+01.9	S 06 54.4	-00.2
17	71 05.3	+01.9	S 06 54.2	-00.2
18	86 07.2	+01.9	S 06 54.0	-00.3
19	101 09.1	+01.9	S 06 53.7	-00.2
20	116 11.0	+01.9	S 06 53.5	-00.2
21	131 12.9	+01.9	S 06 53.3	-00.3
22	146 14.8	+01.9	S 06 53.0	-00.2
23	161 16.7	+01.9	S 06 52.8	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	014°	014°	014°	014°	014°	014°

Greenwich Culmination Time: 12:16

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	199 53.1	+02.2	S 15 55.6	+00.0
01	214 55.3	+02.2	S 15 55.6	-00.1
02	229 57.5	+02.2	S 15 55.5	-00.1
03	244 59.7	+02.2	S 15 55.4	-00.1
04	260 01.9	+02.1	S 15 55.3	-00.1
05	275 04.0	+02.2	S 15 55.2	-00.1
06	290 06.2	+02.2	S 15 55.1	+00.0
07	305 08.4	+02.2	S 15 55.1	-00.1
08	320 10.6	+02.2	S 15 55.0	-00.1
09	335 12.8	+02.2	S 15 54.9	-00.1
10	350 15.0	+02.1	S 15 54.8	-00.1
11	5 17.1	+02.2	S 15 54.7	-00.1
12	20 19.3	+02.2	S 15 54.6	+00.0
13	35 21.5	+02.2	S 15 54.6	-00.1
14	50 23.7	+02.2	S 15 54.5	-00.1
15	65 25.9	+02.2	S 15 54.4	-00.1
16	80 28.1	+02.2	S 15 54.3	-00.1
17	95 30.3	+02.1	S 15 54.2	-00.1
18	110 32.4	+02.2	S 15 54.1	-00.1
19	125 34.6	+02.2	S 15 54.0	+00.0
20	140 36.8	+02.2	S 15 54.0	-00.1
21	155 39.0	+02.2	S 15 53.9	-00.1
22	170 41.2	+02.2	S 15 53.8	-00.1
23	185 43.4	+02.1	S 15 53.7	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 10:38

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2022 March 9 Wednesday (day 68 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 20.4	+00.1	S 04 35.5	-01.0
01	192 20.5	+00.2	S 04 34.5	-01.0
02	207 20.7	+00.2	S 04 33.5	-01.0
03	222 20.9	+00.1	S 04 32.5	-00.9
04	237 21.0	+00.2	S 04 31.6	-01.0
05	252 21.2	+00.1	S 04 30.6	-01.0
06	267 21.3	+00.2	S 04 29.6	-01.0
07	282 21.5	+00.1	S 04 28.6	-00.9
08	297 21.6	+00.2	S 04 27.7	-01.0
09	312 21.8	+00.1	S 04 26.7	-01.0
10	327 21.9	+00.2	S 04 25.7	-01.0
11	342 22.1	+00.2	S 04 24.7	-01.0
12	357 22.3	+00.1	S 04 23.7	-00.9
13	12 22.4	+00.2	S 04 22.8	-01.0
14	27 22.6	+00.1	S 04 21.8	-01.0
15	42 22.7	+00.2	S 04 20.8	-01.0
16	57 22.9	+00.1	S 04 19.8	-01.0
17	72 23.0	+00.2	S 04 18.8	-00.9
18	87 23.2	+00.2	S 04 17.9	-01.0
19	102 23.4	+00.1	S 04 16.9	-01.0
20	117 23.5	+00.2	S 04 15.9	-01.0
21	132 23.7	+00.1	S 04 14.9	-01.0
22	147 23.8	+00.2	S 04 13.9	-00.9
23	162 24.0	+00.2	S 04 13.0	-01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	011°	010°	010°	010°	010°	010°

Greenwich Culmination Time: 12:10

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 45.7	+00.1	S 16 24.2	-00.2
01	237 45.8	+00.2	S 16 24.0	-00.3
02	252 46.0	+00.1	S 16 23.7	-00.2
03	267 46.1	+00.1	S 16 23.5	-00.2
04	282 46.2	+00.1	S 16 23.3	-00.2
05	297 46.3	+00.1	S 16 23.1	-00.3
06	312 46.4	+00.1	S 16 22.8	-00.2
07	327 46.5	+00.2	S 16 22.6	-00.2
08	342 46.7	+00.1	S 16 22.4	-00.2
09	357 46.8	+00.1	S 16 22.2	-00.3
10	12 46.9	+00.1	S 16 21.9	-00.2
11	27 47.0	+00.1	S 16 21.7	-00.2
12	42 47.1	+00.1	S 16 21.5	-00.3
13	57 47.2	+00.1	S 16 21.2	-00.2
14	72 47.3	+00.1	S 16 21.0	-00.2
15	87 47.4	+00.2	S 16 20.8	-00.3
16	102 47.6	+00.1	S 16 20.5	-00.2
17	117 47.7	+00.1	S 16 20.3	-00.2
18	132 47.8	+00.1	S 16 20.1	-00.3
19	147 47.9	+00.1	S 16 19.8	-00.2
20	162 48.0	+00.1	S 16 19.6	-00.2
21	177 48.1	+00.1	S 16 19.4	-00.3
22	192 48.2	+00.1	S 16 19.1	-00.2
23	207 48.3	+00.1	S 16 18.9	-00.3

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	056°	056°	056°	056°	055°	055°

Greenwich Culmination Time: 09:08

Moon

A: 21%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	106 12.7	-28.5	N 21 22.3	+08.4
01	120 44.2	-28.5	N 21 30.7	+08.3
02	135 15.7	-28.5	N 21 39.0	+08.2
03	149 47.2	-28.5	N 21 47.2	+08.0
04	164 18.7	-28.7	N 21 55.2	+08.0
05	178 50.0	-28.6	N 22 03.2	+07.9
06	193 21.4	-28.7	N 22 11.1	+07.8
07	207 52.7	-28.7	N 22 18.9	+07.7
08	222 24.0	-28.8	N 22 26.6	+07.5
09	236 55.2	-28.8	N 22 34.1	+07.5
10	251 26.4	-28.9	N 22 41.6	+07.4
11	265 57.5	-28.9	N 22 49.0	+07.2
12	280 28.6	-28.9	N 22 56.2	+07.2
13	294 59.7	-29.0	N 23 03.4	+07.0
14	309 30.7	-29.1	N 23 10.4	+07.0
15	324 01.6	-29.0	N 23 17.4	+06.8
16	338 32.6	-29.1	N 23 24.2	+06.8
17	353 03.5	-29.2	N 23 31.0	+06.6
18	7 34.3	-29.2	N 23 37.6	+06.5
19	22 05.1	-29.2	N 23 44.1	+06.4
20	36 35.9	-29.3	N 23 50.5	+06.3
21	51 06.6	-29.3	N 23 56.8	+06.1
22	65 37.3	-29.4	N 24 02.9	+06.1
23	80 07.9	-29.4	N 24 09.0	+06.0

UT	02	06	10	14	18	22
SD	14′9	14′8	14′8	14′8	14′8	14′8
HP	54′5	54′5	54′4	54′4	54′3	54′3
SHA	299°	296°	294°	292°	290°	288°

Greenwich Culmination Time: 17:28

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 08.4	+00.5	S 20 36.9	-00.4
01	237 08.9	+00.5	S 20 36.5	-00.4
02	252 09.4	+00.5	S 20 36.1	-00.4
03	267 09.9	+00.5	S 20 35.7	-00.4
04	282 10.4	+00.5	S 20 35.3	-00.4
05	297 10.9	+00.6	S 20 34.9	-00.4
06	312 11.5	+00.5	S 20 34.5	-00.4
07	327 12.0	+00.5	S 20 34.1	-00.4
08	342 12.5	+00.5	S 20 33.7	-00.4
09	357 13.0	+00.5	S 20 33.3	-00.4
10	12 13.5	+00.5	S 20 32.9	-00.3
11	27 14.0	+00.5	S 20 32.6	-00.4
12	42 14.5	+00.6	S 20 32.2	-00.4
13	57 15.1	+00.5	S 20 31.8	-00.4
14	72 15.6	+00.5	S 20 31.4	-00.4
15	87 16.1	+00.5	S 20 31.0	-00.4
16	102 16.6	+00.5	S 20 30.6	-00.4
17	117 17.1	+00.5	S 20 30.2	-00.4
18	132 17.6	+00.5	S 20 29.8	-00.4
19	147 18.1	+00.5	S 20 29.4	-00.4
20	162 18.6	+00.6	S 20 29.0	-00.4
21	177 19.2	+00.5	S 20 28.6	-00.4
22	192 19.7	+00.5	S 20 28.2	-00.4
23	207 20.2	+00.5	S 20 27.8	-00.4

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	055°	055°	055°	055°	055°	055°

Greenwich Culmination Time: 09:11

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	179 21.2	+01.9	S 06 30.3	-00.3
01	194 23.1	+01.9	S 06 30.0	-00.2
02	209 25.0	+01.9	S 06 29.8	-00.2
03	224 26.9	+01.9	S 06 29.6	-00.3
04	239 28.8	+01.9	S 06 29.3	-00.2
05	254 30.7	+01.9	S 06 29.1	-00.2
06	269 32.6	+01.9	S 06 28.9	-00.3
07	284 34.5	+01.9	S 06 28.6	-00.2
08	299 36.4	+01.9	S 06 28.4	-00.2
09	314 38.3	+01.9	S 06 28.2	-00.3
10	329 40.2	+01.9	S 06 27.9	-00.2
11	344 42.1	+01.9	S 06 27.7	-00.2
12	359 44.0	+01.9	S 06 27.5	-00.3
13	14 45.9	+01.9	S 06 27.2	-00.2
14	29 47.8	+01.9	S 06 27.0	-00.2
15	44 49.7	+01.9	S 06 26.8	-00.3
16	59 51.6	+01.9	S 06 26.5	-00.2
17	74 53.5	+01.9	S 06 26.3	-00.2
18	89 55.4	+01.9	S 06 26.1	-00.3
19	104 57.3	+01.9	S 06 25.8	-00.2
20	119 59.2	+01.9	S 06 25.6	-00.2
21	135 01.1	+01.9	S 06 25.4	-00.3
22	150 03.0	+01.9	S 06 25.1	-00.2
23	165 04.9	+01.9	S 06 24.9	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	013°	013°	013°	013°	013°	012°

Greenwich Culmination Time: 12:01

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	204 15.6	+02.2	S 15 45.6	-00.1
01	219 17.8	+02.2	S 15 45.5	+00.0
02	234 20.0	+02.2	S 15 45.5	-00.1
03	249 22.2	+02.2	S 15 45.4	-00.1
04	264 24.4	+02.1	S 15 45.3	-00.1
05	279 26.5	+02.2	S 15 45.2	-00.1
06	294 28.7	+02.2	S 15 45.1	-00.1
07	309 30.9	+02.2	S 15 45.0	+00.0
08	324 33.1	+02.2	S 15 45.0	-00.1
09	339 35.3	+02.2	S 15 44.9	-00.1
10	354 37.5	+02.2	S 15 44.8	-00.1
11	9 39.7	+02.2	S 15 44.7	-00.1
12	24 41.9	+02.2	S 15 44.6	-00.1
13	39 44.1	+02.2	S 15 44.5	+00.0
14	54 46.3	+02.2	S 15 44.5	-00.1
15	69 48.5	+02.2	S 15 44.4	-00.1
16	84 50.7	+02.1	S 15 44.3	-00.1
17	99 52.8	+02.2	S 15 44.2	-00.1
18	114 55.0	+02.2	S 15 44.1	+00.0
19	129 57.2	+02.2	S 15 44.1	-00.1
20	144 59.4	+02.2	S 15 44.0	-00.1
21	160 01.6	+02.2	S 15 43.9	-00.1
22	175 03.8	+02.2	S 15 43.8	-00.1
23	190 06.0	+02.2	S 15 43.7	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	037°

Greenwich Culmination Time: 10:21

2022 March 6 Sunday (day 65 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 09.7	+00.1	S 05 45.6	-01.0
01	192 09.8	+00.1	S 05 44.6	-01.0
02	207 09.9	+00.2	S 05 43.6	-00.9
03	222 10.1	+00.1	S 05 42.7	-01.0
04	237 10.2	+00.2	S 05 41.7	-01.0
05	252 10.4	+00.1	S 05 40.7	-01.0
06	267 10.5	+00.2	S 05 39.7	-00.9
07	282 10.7	+00.1	S 05 38.8	-01.0
08	297 10.8	+00.1	S 05 37.8	-01.0
09	312 10.9	+00.2	S 05 36.8	-00.9
10	327 11.1	+00.1	S 05 35.9	-01.0
11	342 11.2	+00.2	S 05 34.9	-01.0
12	357 11.4	+00.1	S 05 33.9	-00.9
13	12 11.5	+00.2	S 05 33.0	-01.0
14	27 11.7	+00.1	S 05 32.0	-01.0
15	42 11.8	+00.2	S 05 31.0	-01.0
16	57 12.0	+00.1	S 05 30.0	-00.9
17	72 12.1	+00.2	S 05 29.1	-01.0
18	87 12.3	+00.1	S 05 28.1	-01.0
19	102 12.4	+00.1	S 05 27.1	-00.9
20	117 12.5	+00.2	S 05 26.2	-01.0
21	132 12.7	+00.1	S 05 25.2	-01.0
22	147 12.8	+00.2	S 05 24.2	-01.0
23	162 13.0	+00.1	S 05 23.2	-00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	013°	013°	013°	013°	013°	013°

Greenwich Culmination Time: 12:11

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 34.3	+00.2	S 16 38.1	-00.2
01	237 34.5	+00.2	S 16 37.9	-00.1
02	252 34.7	+00.2	S 16 37.8	-00.2
03	267 34.9	+00.1	S 16 37.6	-00.2
04	282 35.0	+00.2	S 16 37.4	-00.1
05	297 35.2	+00.2	S 16 37.3	-00.2
06	312 35.4	+00.2	S 16 37.1	-00.2
07	327 35.6	+00.2	S 16 36.9	-00.2
08	342 35.8	+00.2	S 16 36.7	-00.1
09	357 36.0	+00.2	S 16 36.6	-00.2
10	12 36.2	+00.2	S 16 36.4	-00.2
11	27 36.4	+00.2	S 16 36.2	-00.1
12	42 36.6	+00.1	S 16 36.1	-00.2
13	57 36.7	+00.2	S 16 35.9	-00.2
14	72 36.9	+00.2	S 16 35.7	-00.2
15	87 37.1	+00.2	S 16 35.5	-00.2
16	102 37.3	+00.2	S 16 35.3	-00.1
17	117 37.5	+00.1	S 16 35.2	-00.2
18	132 37.6	+00.2	S 16 35.0	-00.2
19	147 37.8	+00.2	S 16 34.8	-00.2
20	162 38.0	+00.2	S 16 34.6	-00.2
21	177 38.2	+00.1	S 16 34.4	-00.1
22	192 38.3	+00.2	S 16 34.3	-00.2
23	207 38.5	+00.2	S 16 34.1	-00.2

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	059°	059°	058°	058°	058°	058°

Greenwich Culmination Time: 09:09

Moon

A: 12%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	138 54.8	-26.6	N 07 39.5	+13.8
01	153 28.2	-26.6	N 07 53.3	+13.7
02	168 01.6	-26.6	N 08 07.0	+13.7
03	182 35.0	-26.6	N 08 20.7	+13.6
04	197 08.4	-26.7	N 08 34.3	+13.6
05	211 41.7	-26.6	N 08 47.9	+13.6
06	226 15.1	-26.6	N 09 01.5	+13.4
07	240 48.5	-26.6	N 09 14.9	+13.5
08	255 21.9	-26.7	N 09 28.4	+13.3
09	269 55.2	-26.6	N 09 41.7	+13.4
10	284 28.6	-26.7	N 09 55.1	+13.2
11	299 01.9	-26.6	N 10 08.3	+13.2
12	313 35.3	-26.7	N 10 21.5	+13.2
13	328 08.6	-26.7	N 10 34.7	+13.1
14	342 41.9	-26.7	N 10 47.8	+13.0
15	357 15.2	-26.7	N 11 00.8	+13.0
16	11 48.5	-26.7	N 11 13.8	+12.9
17	26 21.8	-26.7	N 11 26.7	+12.8
18	40 55.1	-26.8	N 11 39.5	+12.8
19	55 28.3	-26.7	N 11 52.3	+12.7
20	70 01.6	-26.8	N 12 05.0	+12.7
21	84 34.8	-26.8	N 12 17.7	+12.6
22	99 08.0	-26.8	N 12 30.3	+12.5
23	113 41.2	-26.8	N 12 42.8	+12.5

UT	02	06	10	14	18	22
SD	15′3	15′3	15′2	15′2	15′2	15′1
HP	56′1	56′0	55′9	55′8	55′7	55′6
SHA	334°	332°	330°	328°	326°	325°

Greenwich Culmination Time: 15:11

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	221 31.9	+00.5	S 21 04.1	-00.4
01	236 32.4	+00.5	S 21 03.7	-00.3
02	251 32.9	+00.5	S 21 03.4	-00.4
03	266 33.4	+00.5	S 21 03.0	-00.4
04	281 33.9	+00.5	S 21 02.6	-00.3
05	296 34.4	+00.5	S 21 02.3	-00.4
06	311 34.9	+00.5	S 21 01.9	-00.4
07	326 35.4	+00.5	S 21 01.5	-00.3
08	341 35.9	+00.5	S 21 01.2	-00.4
09	356 36.4	+00.5	S 21 00.8	-00.4
10	11 36.9	+00.5	S 21 00.4	-00.3
11	26 37.4	+00.5	S 21 00.1	-00.4
12	41 37.9	+00.5	S 20 59.7	-00.4
13	56 38.4	+00.5	S 20 59.3	-00.3
14	71 38.9	+00.5	S 20 59.0	-00.4
15	86 39.4	+00.5	S 20 58.6	-00.4
16	101 39.9	+00.5	S 20 58.2	-00.4
17	116 40.4	+00.5	S 20 57.8	-00.3
18	131 40.9	+00.5	S 20 57.5	-00.4
19	146 41.4	+00.5	S 20 57.1	-00.4
20	161 41.9	+00.6	S 20 56.7	-00.3
21	176 42.5	+00.5	S 20 56.4	-00.4
22	191 43.0	+00.5	S 20 56.0	-00.4
23	206 43.5	+00.5	S 20 55.6	-00.4

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	058°	058°	057°	057°	057°	057°

Greenwich Culmination Time: 09:13

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 04.2	+01.9	S 06 47.0	-00.2
01	192 06.1	+01.9	S 06 46.8	-00.3
02	207 08.0	+01.9	S 06 46.5	-00.2
03	222 09.9	+01.9	S 06 46.3	-00.2
04	237 11.8	+01.9	S 06 46.1	-00.3
05	252 13.7	+01.9	S 06 45.8	-00.2
06	267 15.6	+01.9	S 06 45.6	-00.2
07	282 17.5	+01.9	S 06 45.4	-00.3
08	297 19.4	+01.9	S 06 45.1	-00.2
09	312 21.3	+01.9	S 06 44.9	-00.2
10	327 23.2	+01.9	S 06 44.7	-00.3
11	342 25.1	+01.9	S 06 44.4	-00.2
12	357 27.0	+01.9	S 06 44.2	-00.2
13	12 28.9	+01.9	S 06 44.0	-00.2
14	27 30.8	+02.0	S 06 43.8	-00.3
15	42 32.8	+01.9	S 06 43.5	-00.2
16	57 34.7	+01.9	S 06 43.3	-00.2
17	72 36.6	+01.9	S 06 43.1	-00.3
18	87 38.5	+01.9	S 06 42.8	-00.2
19	102 40.4	+01.9	S 06 42.6	-00.2
20	117 42.3	+01.9	S 06 42.4	-00.3
21	132 44.2	+01.9	S 06 42.1	-00.2
22	147 46.1	+01.9	S 06 41.9	-00.2
23	162 48.0	+01.9	S 06 41.7	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	013°	013°	013°	013°	013°	013°

Greenwich Culmination Time: 12:10

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	201 38.0	+02.2	S 15 51.6	-00.1
01	216 40.2	+02.2	S 15 51.5	-00.1
02	231 42.4	+02.2	S 15 51.4	+00.0
03	246 44.6	+02.2	S 15 51.4	-00.1
04	261 46.8	+02.1	S 15 51.3	-00.1
05	276 48.9	+02.2	S 15 51.2	-00.1
06	291 51.1	+02.2	S 15 51.1	-00.1
07	306 53.3	+02.2	S 15 51.0	-00.1
08	321 55.5	+02.2	S 15 50.9	+00.0
09	336 57.7	+02.2	S 15 50.9	-00.1
10	351 59.9	+02.2	S 15 50.8	-00.1
11	7 02.1	+02.1	S 15 50.7	-00.1
12	22 04.2	+02.2	S 15 50.6	-00.1
13	37 06.4	+02.2	S 15 50.5	-00.1
14	52 08.6	+02.2	S 15 50.4	+00.0
15	67 10.8	+02.2	S 15 50.4	-00.1
16	82 13.0	+02.2	S 15 50.3	-00.1
17	97 15.2	+02.2	S 15 50.2	-00.1
18	112 17.4	+02.2	S 15 50.1	-00.1
19	127 19.6	+02.1	S 15 50.0	-00.1
20	142 21.7	+02.2	S 15 49.9	+00.0
21	157 23.9	+02.2	S 15 49.9	-00.1
22	172 26.1	+02.2	S 15 49.8	-00.1
23	187 28.3	+02.2	S 15 49.7	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 10:31

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 March 7 Monday (day 66 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 13.1	+00.2	S 05 22.3	-01.0
01	192 13.3	+00.1	S 05 21.3	-01.0
02	207 13.4	+00.2	S 05 20.3	-00.9
03	222 13.6	+00.1	S 05 19.4	-01.0
04	237 13.7	+00.2	S 05 18.4	-01.0
05	252 13.9	+00.1	S 05 17.4	-01.0
06	267 14.0	+00.2	S 05 16.4	-00.9
07	282 14.2	+00.1	S 05 15.5	-01.0
08	297 14.3	+00.2	S 05 14.5	-01.0
09	312 14.5	+00.1	S 05 13.5	-01.0
10	327 14.6	+00.2	S 05 12.5	-00.9
11	342 14.8	+00.1	S 05 11.6	-01.0
12	357 14.9	+00.2	S 05 10.6	-01.0
13	12 15.1	+00.1	S 05 09.6	-01.0
14	27 15.2	+00.2	S 05 08.6	-00.9
15	42 15.4	+00.1	S 05 07.7	-01.0
16	57 15.5	+00.2	S 05 06.7	-01.0
17	72 15.7	+00.1	S 05 05.7	-00.9
18	87 15.8	+00.2	S 05 04.8	-01.0
19	102 16.0	+00.1	S 05 03.8	-01.0
20	117 16.1	+00.2	S 05 02.8	-01.0
21	132 16.3	+00.1	S 05 01.8	-00.9
22	147 16.4	+00.2	S 05 00.9	-01.0
23	162 16.6	+00.1	S 04 59.9	-01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	012°	012°	012°	012°	012°	012°

Greenwich Culmination Time: 12:11

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 38.7	+00.2	S 16 33.9	-00.2
01	237 38.9	+00.1	S 16 33.7	-00.2
02	252 39.0	+00.2	S 16 33.5	-00.2
03	267 39.2	+00.2	S 16 33.3	-00.1
04	282 39.4	+00.1	S 16 33.2	-00.2
05	297 39.5	+00.2	S 16 33.0	-00.2
06	312 39.7	+00.2	S 16 32.8	-00.2
07	327 39.9	+00.1	S 16 32.6	-00.2
08	342 40.0	+00.2	S 16 32.4	-00.2
09	357 40.2	+00.1	S 16 32.2	-00.2
10	12 40.3	+00.2	S 16 32.0	-00.2
11	27 40.5	+00.2	S 16 31.8	-00.2
12	42 40.7	+00.1	S 16 31.6	-00.2
13	57 40.8	+00.2	S 16 31.4	-00.2
14	72 41.0	+00.1	S 16 31.2	-00.2
15	87 41.1	+00.2	S 16 31.0	-00.1
16	102 41.3	+00.1	S 16 30.9	-00.2
17	117 41.4	+00.2	S 16 30.7	-00.2
18	132 41.6	+00.1	S 16 30.5	-00.2
19	147 41.7	+00.2	S 16 30.3	-00.2
20	162 41.9	+00.1	S 16 30.1	-00.2
21	177 42.0	+00.2	S 16 29.9	-00.2
22	192 42.2	+00.1	S 16 29.7	-00.2
23	207 42.3	+00.2	S 16 29.5	-00.2

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	058°	058°	058°	057°	057°	057°

Greenwich Culmination Time: 09:09

Moon

A: 15%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	128 14.4	-26.9	N 12 55.3	+12.4
01	142 47.5	-26.9	N 13 07.7	+12.3
02	157 20.6	-26.8	N 13 20.0	+12.3
03	171 53.8	-27.0	N 13 32.3	+12.2
04	186 26.8	-26.9	N 13 44.5	+12.1
05	200 59.9	-26.9	N 13 56.6	+12.1
06	215 33.0	-27.0	N 14 08.7	+11.9
07	230 06.0	-27.0	N 14 20.6	+12.0
08	244 39.0	-27.1	N 14 32.6	+11.8
09	259 11.9	-27.0	N 14 44.4	+11.8
10	273 44.9	-27.1	N 14 56.2	+11.7
11	288 17.8	-27.1	N 15 07.9	+11.6
12	302 50.7	-27.1	N 15 19.5	+11.5
13	317 23.6	-27.2	N 15 31.0	+11.5
14	331 56.4	-27.2	N 15 42.5	+11.4
15	346 29.2	-27.2	N 15 53.9	+11.3
16	1 02.0	-27.2	N 16 05.2	+11.2
17	15 34.8	-27.3	N 16 16.4	+11.2
18	30 07.5	-27.3	N 16 27.6	+11.0
19	44 40.2	-27.4	N 16 38.6	+11.0
20	59 12.8	-27.3	N 16 49.6	+11.0
21	73 45.5	-27.4	N 17 00.6	+10.8
22	88 18.1	-27.5	N 17 11.4	+10.7
23	102 50.6	-27.5	N 17 22.1	+10.7

UT	02	06	10	14	18	22
SD	15′1	15′1	15′1	15′0	15′0	15′0
HP	55′5	55′4	55′3	55′2	55′1	55′0
SHA	323°	321°	319°	317°	315°	313°

Greenwich Culmination Time: 15:55

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	221 44.0	+00.5	S 20 55.2	-00.3
01	236 44.5	+00.5	S 20 54.9	-00.4
02	251 45.0	+00.5	S 20 54.5	-00.4
03	266 45.5	+00.5	S 20 54.1	-00.4
04	281 46.0	+00.5	S 20 53.7	-00.3
05	296 46.5	+00.5	S 20 53.4	-00.4
06	311 47.0	+00.5	S 20 53.0	-00.4
07	326 47.5	+00.5	S 20 52.6	-00.4
08	341 48.0	+00.5	S 20 52.2	-00.3
09	356 48.5	+00.5	S 20 51.9	-00.4
10	11 49.0	+00.5	S 20 51.5	-00.4
11	26 49.5	+00.5	S 20 51.1	-00.4
12	41 50.0	+00.6	S 20 50.7	-00.4
13	56 50.6	+00.5	S 20 50.3	-00.3
14	71 51.1	+00.5	S 20 50.0	-00.4
15	86 51.6	+00.5	S 20 49.6	-00.4
16	101 52.1	+00.5	S 20 49.2	-00.4
17	116 52.6	+00.5	S 20 48.8	-00.4
18	131 53.1	+00.5	S 20 48.4	-00.3
19	146 53.6	+00.5	S 20 48.1	-00.4
20	161 54.1	+00.5	S 20 47.7	-00.4
21	176 54.6	+00.5	S 20 47.3	-00.4
22	191 55.1	+00.5	S 20 46.9	-00.4
23	206 55.6	+00.5	S 20 46.5	-00.3

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	057°	057°	057°	057°	056°	056°

Greenwich Culmination Time: 09:12

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 49.9	+01.9	S 06 41.4	-00.2
01	192 51.8	+01.9	S 06 41.2	-00.2
02	207 53.7	+01.9	S 06 41.0	-00.3
03	222 55.6	+01.9	S 06 40.7	-00.2
04	237 57.5	+01.9	S 06 40.5	-00.2
05	252 59.4	+01.9	S 06 40.3	-00.3
06	268 01.3	+01.9	S 06 40.0	-00.2
07	283 03.2	+01.9	S 06 39.8	-00.2
08	298 05.1	+01.9	S 06 39.6	-00.3
09	313 07.0	+01.9	S 06 39.3	-00.2
10	328 08.9	+01.9	S 06 39.1	-00.2
11	343 10.8	+01.9	S 06 38.9	-00.3
12	358 12.7	+01.9	S 06 38.6	-00.2
13	13 14.6	+01.9	S 06 38.4	-00.2
14	28 16.5	+01.9	S 06 38.2	-00.3
15	43 18.4	+01.9	S 06 37.9	-00.2
16	58 20.3	+01.9	S 06 37.7	-00.2
17	73 22.2	+01.9	S 06 37.5	-00.3
18	88 24.1	+01.9	S 06 37.2	-00.2
19	103 26.0	+01.9	S 06 37.0	-00.2
20	118 27.9	+01.9	S 06 36.8	-00.3
21	133 29.8	+01.9	S 06 36.5	-00.2
22	148 31.7	+01.9	S 06 36.3	-00.2
23	163 33.6	+01.9	S 06 36.1	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	013°	013°	013°	013°	013°	013°

Greenwich Culmination Time: 12:07

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	202 30.5	+02.2	S 15 49.6	-00.1
01	217 32.7	+02.2	S 15 49.5	-00.1
02	232 34.9	+02.2	S 15 49.4	+00.0
03	247 37.1	+02.1	S 15 49.4	-00.1
04	262 39.2	+02.2	S 15 49.3	-00.1
05	277 41.4	+02.2	S 15 49.2	-00.1
06	292 43.6	+02.2	S 15 49.1	-00.1
07	307 45.8	+02.2	S 15 49.0	-00.1
08	322 48.0	+02.2	S 15 48.9	+00.0
09	337 50.2	+02.2	S 15 48.9	-00.1
10	352 52.4	+02.2	S 15 48.8	-00.1
11	7 54.6	+02.2	S 15 48.7	-00.1
12	22 56.8	+02.1	S 15 48.6	-00.1
13	37 58.9	+02.2	S 15 48.5	-00.1
14	53 01.1	+02.2	S 15 48.4	+00.0
15	68 03.3	+02.2	S 15 48.4	-00.1
16	83 05.5	+02.2	S 15 48.3	-00.1
17	98 07.7	+02.2	S 15 48.2	-00.1
18	113 09.9	+02.2	S 15 48.1	-00.1
19	128 12.1	+02.2	S 15 48.0	-00.1
20	143 14.3	+02.2	S 15 47.9	+00.0
21	158 16.5	+02.1	S 15 47.9	-00.1
22	173 18.6	+02.2	S 15 47.8	-00.1
23	188 20.8	+02.2	S 15 47.7	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 10:28

2022 March 8 Tuesday (day 67 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 16.7	+00.2	S 04 58.9	-01.0
01	192 16.9	+00.1	S 04 57.9	-00.9
02	207 17.0	+00.2	S 04 57.0	-01.0
03	222 17.2	+00.1	S 04 56.0	-01.0
04	237 17.3	+00.2	S 04 55.0	-01.0
05	252 17.5	+00.1	S 04 54.0	-00.9
06	267 17.6	+00.2	S 04 53.1	-01.0
07	282 17.8	+00.1	S 04 52.1	-01.0
08	297 17.9	+00.2	S 04 51.1	-01.0
09	312 18.1	+00.1	S 04 50.1	-00.9
10	327 18.2	+00.2	S 04 49.2	-01.0
11	342 18.4	+00.1	S 04 48.2	-01.0
12	357 18.5	+00.2	S 04 47.2	-01.0
13	12 18.7	+00.1	S 04 46.2	-01.0
14	27 18.8	+00.2	S 04 45.2	-00.9
15	42 19.0	+00.2	S 04 44.3	-01.0
16	57 19.2	+00.1	S 04 43.3	-01.0
17	72 19.3	+00.2	S 04 42.3	-01.0
18	87 19.5	+00.1	S 04 41.3	-00.9
19	102 19.6	+00.2	S 04 40.4	-01.0
20	117 19.8	+00.1	S 04 39.4	-01.0
21	132 19.9	+00.2	S 04 38.4	-01.0
22	147 20.1	+00.1	S 04 37.4	-00.9
23	162 20.2	+00.2	S 04 36.5	-01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	012°	011°	011°	011°	011°	011°

Greenwich Culmination Time: 12:10

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 42.5	+00.1	S 16 29.3	-00.2
01	237 42.6	+00.2	S 16 29.1	-00.3
02	252 42.8	+00.1	S 16 28.8	-00.2
03	267 42.9	+00.2	S 16 28.6	-00.2
04	282 43.1	+00.1	S 16 28.4	-00.2
05	297 43.2	+00.1	S 16 28.2	-00.2
06	312 43.3	+00.2	S 16 28.0	-00.2
07	327 43.5	+00.1	S 16 27.8	-00.2
08	342 43.6	+00.2	S 16 27.6	-00.2
09	357 43.8	+00.1	S 16 27.4	-00.2
10	12 43.9	+00.1	S 16 27.2	-00.2
11	27 44.0	+00.2	S 16 27.0	-00.2
12	42 44.2	+00.1	S 16 26.8	-00.2
13	57 44.3	+00.1	S 16 26.6	-00.3
14	72 44.4	+00.2	S 16 26.3	-00.2
15	87 44.6	+00.1	S 16 26.1	-00.2
16	102 44.7	+00.1	S 16 25.9	-00.2
17	117 44.8	+00.2	S 16 25.7	-00.2
18	132 45.0	+00.1	S 16 25.5	-00.2
19	147 45.1	+00.1	S 16 25.3	-00.2
20	162 45.2	+00.1	S 16 25.1	-00.3
21	177 45.3	+00.2	S 16 24.8	-00.2
22	192 45.5	+00.1	S 16 24.6	-00.2
23	207 45.6	+00.1	S 16 24.4	-00.2

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′3	00′3	00′3	00′2	00′2	00′2
SHA	057°	057°	057°	056°	056°	056°

Greenwich Culmination Time: 09:09

Moon

A: 18%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	117 23.1	-27.5	N 17 32.8	+10.6
01	131 55.6	-27.5	N 17 43.4	+10.5
02	146 28.1	-27.6	N 17 53.9	+10.4
03	161 00.5	-27.6	N 18 04.3	+10.3
04	175 32.9	-27.6	N 18 14.6	+10.3
05	190 05.3	-27.7	N 18 24.9	+10.1
06	204 37.6	-27.7	N 18 35.0	+10.1
07	219 09.9	-27.8	N 18 45.1	+10.0
08	233 42.1	-27.8	N 18 55.1	+09.9
09	248 14.3	-27.8	N 19 05.0	+09.8
10	262 46.5	-27.9	N 19 14.8	+09.7
11	277 18.6	-27.9	N 19 24.5	+09.6
12	291 50.7	-27.9	N 19 34.1	+09.6
13	306 22.8	-28.0	N 19 43.7	+09.4
14	320 54.8	-28.1	N 19 53.1	+09.3
15	335 26.7	-28.0	N 20 02.4	+09.3
16	349 58.7	-28.1	N 20 11.7	+09.2
17	4 30.6	-28.2	N 20 20.9	+09.0
18	19 02.4	-28.2	N 20 29.9	+09.0
19	33 34.2	-28.2	N 20 38.9	+08.9
20	48 06.0	-28.3	N 20 47.8	+08.7
21	62 37.7	-28.3	N 20 56.5	+08.7
22	77 09.4	-28.3	N 21 05.2	+08.6
23	91 41.1	-28.4	N 21 13.8	+08.5

UT	02	06	10	14	18	22
SD	15′0	14′9	14′9	14′9	14′9	14′9
HP	54′9	54′8	54′8	54′7	54′6	54′6
SHA	311°	309°	307°	305°	303°	301°

Greenwich Culmination Time: 16:41

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	221 56.1	+00.6	S 20 46.2	-00.4
01	236 56.7	+00.5	S 20 45.8	-00.4
02	251 57.2	+00.5	S 20 45.4	-00.4
03	266 57.7	+00.5	S 20 45.0	-00.4
04	281 58.2	+00.5	S 20 44.6	-00.4
05	296 58.7	+00.5	S 20 44.2	-00.3
06	311 59.2	+00.5	S 20 43.9	-00.4
07	326 59.7	+00.5	S 20 43.5	-00.4
08	342 00.2	+00.5	S 20 43.1	-00.4
09	357 00.7	+00.5	S 20 42.7	-00.4
10	12 01.2	+00.5	S 20 42.3	-00.4
11	27 01.7	+00.6	S 20 41.9	-00.4
12	42 02.3	+00.5	S 20 41.5	-00.3
13	57 02.8	+00.5	S 20 41.2	-00.4
14	72 03.3	+00.5	S 20 40.8	-00.4
15	87 03.8	+00.5	S 20 40.4	-00.4
16	102 04.3	+00.5	S 20 40.0	-00.4
17	117 04.8	+00.5	S 20 39.6	-00.4
18	132 05.3	+00.5	S 20 39.2	-00.4
19	147 05.8	+00.5	S 20 38.8	-00.4
20	162 06.3	+00.6	S 20 38.4	-00.4
21	177 06.9	+00.5	S 20 38.0	-00.3
22	192 07.4	+00.5	S 20 37.7	-00.4
23	207 07.9	+00.5	S 20 37.3	-00.4

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	056°	056°	056°	056°	056°	056°

Greenwich Culmination Time: 09:11

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 35.5	+01.9	S 06 35.8	-00.2
01	193 37.4	+01.9	S 06 35.6	-00.2
02	208 39.3	+01.9	S 06 35.4	-00.3
03	223 41.2	+01.9	S 06 35.1	-00.2
04	238 43.1	+01.9	S 06 34.9	-00.2
05	253 45.0	+01.9	S 06 34.7	-00.3
06	268 46.9	+01.9	S 06 34.4	-00.2
07	283 48.8	+01.9	S 06 34.2	-00.2
08	298 50.7	+01.9	S 06 34.0	-00.3
09	313 52.6	+01.9	S 06 33.7	-00.2
10	328 54.5	+01.9	S 06 33.5	-00.2
11	343 56.4	+01.9	S 06 33.3	-00.3
12	358 58.3	+01.9	S 06 33.0	-00.2
13	14 00.2	+02.0	S 06 32.8	-00.2
14	29 02.2	+01.9	S 06 32.6	-00.3
15	44 04.1	+01.9	S 06 32.3	-00.2
16	59 06.0	+01.9	S 06 32.1	-00.2
17	74 07.9	+01.9	S 06 31.9	-00.3
18	89 09.8	+01.9	S 06 31.6	-00.2
19	104 11.7	+01.9	S 06 31.4	-00.2
20	119 13.6	+01.9	S 06 31.2	-00.3
21	134 15.5	+01.9	S 06 30.9	-00.2
22	149 17.4	+01.9	S 06 30.7	-00.2
23	164 19.3	+01.9	S 06 30.5	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	013°	013°	013°	013°	013°	013°

Greenwich Culmination Time: 12:04

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	203 23.0	+02.2	S 15 47.6	-00.1
01	218 25.2	+02.2	S 15 47.5	-00.1
02	233 27.4	+02.2	S 15 47.4	+00.0
03	248 29.6	+02.2	S 15 47.4	-00.1
04	263 31.8	+02.2	S 15 47.3	-00.1
05	278 34.0	+02.2	S 15 47.2	-00.1
06	293 36.2	+02.2	S 15 47.1	-00.1
07	308 38.4	+02.1	S 15 47.0	-00.1
08	323 40.5	+02.2	S 15 46.9	+00.0
09	338 42.7	+02.2	S 15 46.9	-00.1
10	353 44.9	+02.2	S 15 46.8	-00.1
11	8 47.1	+02.2	S 15 46.7	-00.1
12	23 49.3	+02.2	S 15 46.6	-00.1
13	38 51.5	+02.2	S 15 46.5	-00.1
14	53 53.7	+02.2	S 15 46.4	+00.0
15	68 55.9	+02.2	S 15 46.4	-00.1
16	83 58.1	+02.2	S 15 46.3	-00.1
17	99 00.3	+02.1	S 15 46.2	-00.1
18	114 02.4	+02.2	S 15 46.1	-00.1
19	129 04.6	+02.2	S 15 46.0	+00.0
20	144 06.8	+02.2	S 15 46.0	-00.1
21	159 09.0	+02.2	S 15 45.9	-00.1
22	174 11.2	+02.2	S 15 45.8	-00.1
23	189 13.4	+02.2	S 15 45.7	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 10:24

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 March 13 Sunday

(day 72 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 36.0	+00.2	S 03 01.3	-01.0
01	192 36.2	+00.1	S 03 00.3	-01.0
02	207 36.3	+00.2	S 02 59.3	-01.0
03	222 36.5	+00.2	S 02 58.3	-01.0
04	237 36.7	+00.1	S 02 57.3	-01.0
05	252 36.8	+00.2	S 02 56.3	-01.0
06	267 37.0	+00.2	S 02 55.3	-00.9
07	282 37.2	+00.1	S 02 54.4	-01.0
08	297 37.3	+00.2	S 02 53.4	-01.0
09	312 37.5	+00.2	S 02 52.4	-01.0
10	327 37.7	+00.2	S 02 51.4	-01.0
11	342 37.9	+00.1	S 02 50.4	-01.0
12	357 38.0	+00.2	S 02 49.4	-01.0
13	12 38.2	+00.2	S 02 48.4	-00.9
14	27 38.4	+00.1	S 02 47.5	-01.0
15	42 38.5	+00.2	S 02 46.5	-01.0
16	57 38.7	+00.2	S 02 45.5	-01.0
17	72 38.9	+00.1	S 02 44.5	-01.0
18	87 39.0	+00.2	S 02 43.5	-01.0
19	102 39.2	+00.2	S 02 42.5	-01.0
20	117 39.4	+00.2	S 02 41.5	-00.9
21	132 39.6	+00.1	S 02 40.6	-01.0
22	147 39.7	+00.2	S 02 39.6	-01.0
23	162 39.9	+00.2	S 02 38.6	-01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	007°	007°	007°	006°	006°	006°

Greenwich Culmination Time: 12:09

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 53.4	+00.0	S 15 59.3	-00.3
01	237 53.4	+00.1	S 15 59.0	-00.3
02	252 53.5	+00.0	S 15 58.7	-00.3
03	267 53.5	+00.1	S 15 58.4	-00.3
04	282 53.6	+00.0	S 15 58.1	-00.3
05	297 53.6	+00.0	S 15 57.8	-00.3
06	312 53.6	+00.1	S 15 57.5	-00.3
07	327 53.7	+00.0	S 15 57.2	-00.3
08	342 53.7	+00.0	S 15 56.9	-00.3
09	357 53.7	+00.1	S 15 56.6	-00.3
10	12 53.8	+00.0	S 15 56.3	-00.3
11	27 53.8	+00.0	S 15 56.0	-00.3
12	42 53.8	+00.1	S 15 55.7	-00.3
13	57 53.9	+00.0	S 15 55.4	-00.3
14	72 53.9	+00.0	S 15 55.1	-00.3
15	87 53.9	+00.0	S 15 54.8	-00.3
16	102 53.9	+00.1	S 15 54.5	-00.3
17	117 54.0	+00.0	S 15 54.2	-00.3
18	132 54.0	+00.0	S 15 53.9	-00.4
19	147 54.0	+00.1	S 15 53.5	-00.3
20	162 54.1	+00.0	S 15 53.2	-00.3
21	177 54.1	+00.0	S 15 52.9	-00.3
22	192 54.1	+00.0	S 15 52.6	-00.3
23	207 54.1	+00.0	S 15 52.3	-00.3

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	052°	052°	052°	052°	052°	051°

Greenwich Culmination Time: 09:08

Moon

A: 34%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	58 07.8	-30.8	N 26 03.9	-03.2
01	72 37.0	-30.8	N 26 00.7	-03.2
02	87 06.2	-30.7	N 25 57.5	-03.4
03	101 35.5	-30.8	N 25 54.1	-03.6
04	116 04.7	-30.8	N 25 50.5	-03.6
05	130 33.9	-30.7	N 25 46.9	-03.8
06	145 03.2	-30.7	N 25 43.1	-03.9
07	159 32.5	-30.7	N 25 39.2	-04.1
08	174 01.8	-30.7	N 25 35.1	-04.2
09	188 31.1	-30.7	N 25 30.9	-04.3
10	203 00.4	-30.6	N 25 26.6	-04.4
11	217 29.8	-30.6	N 25 22.2	-04.5
12	231 59.2	-30.7	N 25 17.7	-04.7
13	246 28.5	-30.6	N 25 13.0	-04.8
14	260 57.9	-30.5	N 25 08.2	-05.0
15	275 27.4	-30.6	N 25 03.2	-05.0
16	289 56.8	-30.5	N 24 58.2	-05.2
17	304 26.3	-30.5	N 24 53.0	-05.3
18	318 55.8	-30.5	N 24 47.7	-05.4
19	333 25.3	-30.5	N 24 42.3	-05.6
20	347 54.8	-30.4	N 24 36.7	-05.7
21	2 24.4	-30.4	N 24 31.0	-05.8
22	16 54.0	-30.4	N 24 25.2	-05.9
23	31 23.6	-30.4	N 24 19.3	-06.0

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	14′9	15′0
HP	54′6	54′7	54′7	54′8	54′9	54′9
SHA	246°	244°	242°	240°	238°	235°

Greenwich Culmination Time: 20:50

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 58.1	+00.5	S 19 57.7	-00.4
01	237 58.6	+00.5	S 19 57.3	-00.5
02	252 59.1	+00.6	S 19 56.8	-00.4
03	267 59.7	+00.5	S 19 56.4	-00.4
04	283 00.2	+00.5	S 19 56.0	-00.4
05	298 00.7	+00.5	S 19 55.6	-00.5
06	313 01.2	+00.6	S 19 55.1	-00.4
07	328 01.8	+00.5	S 19 54.7	-00.4
08	343 02.3	+00.5	S 19 54.3	-00.4
09	358 02.8	+00.5	S 19 53.9	-00.5
10	13 03.3	+00.6	S 19 53.4	-00.4
11	28 03.9	+00.5	S 19 53.0	-00.4
12	43 04.4	+00.5	S 19 52.6	-00.5
13	58 04.9	+00.5	S 19 52.1	-00.4
14	73 05.4	+00.6	S 19 51.7	-00.4
15	88 06.0	+00.5	S 19 51.3	-00.5
16	103 06.5	+00.5	S 19 50.8	-00.4
17	118 07.0	+00.6	S 19 50.4	-00.4
18	133 07.6	+00.5	S 19 50.0	-00.4
19	148 08.1	+00.5	S 19 49.6	-00.5
20	163 08.6	+00.5	S 19 49.1	-00.4
21	178 09.1	+00.6	S 19 48.7	-00.4
22	193 09.7	+00.5	S 19 48.3	-00.5
23	208 10.2	+00.5	S 19 47.8	-00.4

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	052°	052°	052°	052°	052°	052°

Greenwich Culmination Time: 09:07

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	182 23.9	+01.9	S 06 07.9	-00.2
01	197 25.8	+01.9	S 06 07.7	-00.3
02	212 27.7	+01.9	S 06 07.4	-00.2
03	227 29.6	+01.9	S 06 07.2	-00.2
04	242 31.5	+01.9	S 06 07.0	-00.3
05	257 33.4	+01.9	S 06 06.7	-00.2
06	272 35.3	+01.9	S 06 06.5	-00.2
07	287 37.2	+01.9	S 06 06.3	-00.3
08	302 39.1	+01.9	S 06 06.0	-00.2
09	317 41.0	+01.9	S 06 05.8	-00.2
10	332 42.9	+02.0	S 06 05.6	-00.3
11	347 44.9	+01.9	S 06 05.3	-00.2
12	2 46.8	+01.9	S 06 05.1	-00.2
13	17 48.7	+01.9	S 06 04.9	-00.3
14	32 50.6	+01.9	S 06 04.6	-00.2
15	47 52.5	+01.9	S 06 04.4	-00.2
16	62 54.4	+01.9	S 06 04.2	-00.3
17	77 56.3	+01.9	S 06 03.9	-00.2
18	92 58.2	+01.9	S 06 03.7	-00.2
19	108 00.1	+01.9	S 06 03.5	-00.3
20	123 02.0	+01.9	S 06 03.2	-00.2
21	138 03.9	+01.9	S 06 03.0	-00.2
22	153 05.8	+01.9	S 06 02.8	-00.3
23	168 07.7	+01.9	S 06 02.5	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	012°	012°	012°	012°	012°	012°

Greenwich Culmination Time: 11:48

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	207 46.2	+02.2	S 15 37.8	-00.1
01	222 48.4	+02.2	S 15 37.7	-00.1
02	237 50.6	+02.2	S 15 37.6	-00.1
03	252 52.8	+02.2	S 15 37.5	-00.1
04	267 55.0	+02.2	S 15 37.4	+00.0
05	282 57.2	+02.2	S 15 37.4	-00.1
06	297 59.4	+02.2	S 15 37.3	-00.1
07	313 01.6	+02.2	S 15 37.2	-00.1
08	328 03.8	+02.2	S 15 37.1	-00.1
09	343 06.0	+02.2	S 15 37.0	+00.0
10	358 08.2	+02.2	S 15 37.0	-00.1
11	13 10.4	+02.2	S 15 36.9	-00.1
12	28 12.6	+02.2	S 15 36.8	-00.1
13	43 14.8	+02.2	S 15 36.7	-00.1
14	58 17.0	+02.2	S 15 36.6	+00.0
15	73 19.2	+02.2	S 15 36.6	-00.1
16	88 21.4	+02.2	S 15 36.5	-00.1
17	103 23.6	+02.2	S 15 36.4	-00.1
18	118 25.8	+02.2	S 15 36.3	-00.1
19	133 28.0	+02.2	S 15 36.2	+00.0
20	148 30.2	+02.2	S 15 36.2	-00.1
21	163 32.4	+02.2	S 15 36.1	-00.1
22	178 34.6	+02.2	S 15 36.0	-00.1
23	193 36.8	+02.2	S 15 35.9	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 10:07

2022 March 10 Thursday

(day 69 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 24.2	+00.1	S 04 12.0	-01.0
01	192 24.3	+00.2	S 04 11.0	-01.0
02	207 24.5	+00.1	S 04 10.0	-00.9
03	222 24.6	+00.2	S 04 09.1	-01.0
04	237 24.8	+00.2	S 04 08.1	-01.0
05	252 25.0	+00.1	S 04 07.1	-01.0
06	267 25.1	+00.2	S 04 06.1	-01.0
07	282 25.3	+00.1	S 04 05.1	-00.9
08	297 25.4	+00.2	S 04 04.2	-01.0
09	312 25.6	+00.2	S 04 03.2	-01.0
10	327 25.8	+00.1	S 04 02.2	-01.0
11	342 25.9	+00.2	S 04 01.2	-01.0
12	357 26.1	+00.1	S 04 00.2	-01.0
13	12 26.2	+00.2	S 03 59.2	-00.9
14	27 26.4	+00.2	S 03 58.3	-01.0
15	42 26.6	+00.1	S 03 57.3	-01.0
16	57 26.7	+00.2	S 03 56.3	-01.0
17	72 26.9	+00.1	S 03 55.3	-01.0
18	87 27.0	+00.2	S 03 54.3	-00.9
19	102 27.2	+00.2	S 03 53.4	-01.0
20	117 27.4	+00.1	S 03 52.4	-01.0
21	132 27.5	+00.2	S 03 51.4	-01.0
22	147 27.7	+00.2	S 03 50.4	-01.0
23	162 27.9	+00.1	S 03 49.4	-00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	010°	010°	009°	009°	009°	009°

Greenwich Culmination Time: 12:10

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 48.4	+00.1	S 16 18.6	-00.2
01	237 48.5	+00.1	S 16 18.4	-00.2
02	252 48.6	+00.1	S 16 18.2	-00.3
03	267 48.7	+00.1	S 16 17.9	-00.2
04	282 48.8	+00.1	S 16 17.7	-00.3
05	297 48.9	+00.1	S 16 17.4	-00.2
06	312 49.0	+00.1	S 16 17.2	-00.3
07	327 49.1	+00.1	S 16 16.9	-00.2
08	342 49.2	+00.1	S 16 16.7	-00.2
09	357 49.3	+00.0	S 16 16.5	-00.3
10	12 49.3	+00.1	S 16 16.2	-00.2
11	27 49.4	+00.1	S 16 16.0	-00.3
12	42 49.5	+00.1	S 16 15.7	-00.2
13	57 49.6	+00.1	S 16 15.5	-00.3
14	72 49.7	+00.1	S 16 15.2	-00.2
15	87 49.8	+00.1	S 16 15.0	-00.3
16	102 49.9	+00.1	S 16 14.7	-00.2
17	117 50.0	+00.1	S 16 14.5	-00.3
18	132 50.1	+00.0	S 16 14.2	-00.3
19	147 50.1	+00.1	S 16 13.9	-00.2
20	162 50.2	+00.1	S 16 13.7	-00.3
21	177 50.3	+00.1	S 16 13.4	-00.2
22	192 50.4	+00.1	S 16 13.2	-00.3
23	207 50.5	+00.0	S 16 12.9	-00.2

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	055°	055°	055°	055°	054°	054°

Greenwich Culmination Time: 09:08

Moon

A: 24%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	94 38.5	-29.5	N 24 15.0	+05.8
01	109 09.0	-29.4	N 24 20.8	+05.7
02	123 39.6	-29.6	N 24 26.5	+05.6
03	138 10.0	-29.5	N 24 32.1	+05.6
04	152 40.5	-29.6	N 24 37.7	+05.3
05	167 10.9	-29.7	N 24 43.0	+05.3
06	181 41.2	-29.7	N 24 48.3	+05.2
07	196 11.5	-29.7	N 24 53.5	+05.0
08	210 41.8	-29.7	N 24 58.5	+04.9
09	225 12.1	-29.8	N 25 03.4	+04.8
10	239 42.3	-29.9	N 25 08.2	+04.7
11	254 12.4	-29.8	N 25 12.9	+04.6
12	268 42.6	-30.0	N 25 17.5	+04.5
13	283 12.6	-29.9	N 25 22.0	+04.3
14	297 42.7	-30.0	N 25 26.3	+04.2
15	312 12.7	-30.0	N 25 30.5	+04.1
16	326 42.7	-30.0	N 25 34.6	+04.0
17	341 12.7	-30.1	N 25 38.6	+03.9
18	355 42.6	-30.1	N 25 42.5	+03.7
19	10 12.5	-30.2	N 25 46.2	+03.6
20	24 42.3	-30.1	N 25 49.8	+03.5
21	39 12.2	-30.3	N 25 53.3	+03.4
22	53 41.9	-30.2	N 25 56.7	+03.2
23	68 11.7	-30.3	N 25 59.9	+03.2

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′3	54′3	54′2	54′2	54′2	54′2
SHA	286°	284°	282°	279°	277°	275°

Greenwich Culmination Time: 18:17

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 20.7	+00.5	S 20 27.4	-00.4
01	237 21.2	+00.5	S 20 27.0	-00.4
02	252 21.7	+00.6	S 20 26.6	-00.4
03	267 22.3	+00.5	S 20 26.2	-00.4
04	282 22.8	+00.5	S 20 25.8	-00.4
05	297 23.3	+00.5	S 20 25.4	-00.4
06	312 23.8	+00.5	S 20 25.0	-00.4
07	327 24.3	+00.5	S 20 24.6	-00.4
08	342 24.8	+00.5	S 20 24.2	-00.4
09	357 25.3	+00.6	S 20 23.8	-00.4
10	12 25.9	+00.5	S 20 23.4	-00.4
11	27 26.4	+00.5	S 20 23.0	-00.4
12	42 26.9	+00.5	S 20 22.6	-00.4
13	57 27.4	+00.5	S 20 22.2	-00.4
14	72 27.9	+00.5	S 20 21.8	-00.5
15	87 28.4	+00.6	S 20 21.3	-00.4
16	102 29.0	+00.5	S 20 20.9	-00.4
17	117 29.5	+00.5	S 20 20.5	-00.4
18	132 30.0	+00.5	S 20 20.1	-00.4
19	147 30.5	+00.5	S 20 19.7	-00.4
20	162 31.0	+00.5	S 20 19.3	-00.4
21	177 31.5	+00.6	S 20 18.9	-00.4
22	192 32.1	+00.5	S 20 18.5	-00.4
23	207 32.6	+00.5	S 20 18.1	-00.4

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	055°	054°	054°	054°	054°	054°

Greenwich Culmination Time: 09:10

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 06.8	+01.9	S 06 24.7	-00.3
01	195 08.7	+01.9	S 06 24.4	-00.2
02	210 10.6	+02.0	S 06 24.2	-00.2
03	225 12.6	+01.9	S 06 24.0	-00.3
04	240 14.5	+01.9	S 06 23.7	-00.2
05	255 16.4	+01.9	S 06 23.5	-00.2
06	270 18.3	+01.9	S 06 23.3	-00.3
07	285 20.2	+01.9	S 06 23.0	-00.2
08	300 22.1	+01.9	S 06 22.8	-00.2
09	315 24.0	+01.9	S 06 22.6	-00.3
10	330 25.9	+01.9	S 06 22.3	-00.2
11	345 27.8	+01.9	S 06 22.1	-00.2
12	0 29.7	+01.9	S 06 21.9	-00.3
13	15 31.6	+01.9	S 06 21.6	-00.2
14	30 33.5	+01.9	S 06 21.4	-00.2
15	45 35.4	+01.9	S 06 21.2	-00.3
16	60 37.3	+01.9	S 06 20.9	-00.2
17	75 39.2	+01.9	S 06 20.7	-00.2
18	90 41.1	+01.9	S 06 20.5	-00.3
19	105 43.0	+01.9	S 06 20.2	-00.2
20	120 44.9	+01.9	S 06 20.0	-00.2
21	135 46.8	+01.9	S 06 19.8	-00.3
22	150 48.7	+01.9	S 06 19.5	-00.2
23	165 50.6	+01.9	S 06 19.3	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	012°	012°	012°	012°	012°	012°

Greenwich Culmination Time: 11:58

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	205 08.2	+02.2	S 15 43.6	+00.0
01	220 10.4	+02.2	S 15 43.6	-00.1
02	235 12.6	+02.2	S 15 43.5	-00.1
03	250 14.8	+02.2	S 15 43.4	-00.1
04	265 17.0	+02.2	S 15 43.3	-00.1
05	280 19.2	+02.1	S 15 43.2	+00.0
06	295 21.3	+02.2	S 15 43.2	-00.1
07	310 23.5	+02.2	S 15 43.1	-00.1
08	325 25.7	+02.2	S 15 43.0	-00.1
09	340 27.9	+02.2	S 15 42.9	-00.1
10	355 30.1	+02.2	S 15 42.8	-00.1
11	10 32.3	+02.2	S 15 42.7	+00.0
12	25 34.5	+02.2	S 15 42.7	-00.1
13	40 36.7	+02.2	S 15 42.6	-00.1
14	55 38.9	+02.2	S 15 42.5	-00.1
15	70 41.1	+02.2	S 15 42.4	-00.1
16	85 43.3	+02.2	S 15 42.3	-00.1
17	100 45.5	+02.2	S 15 42.2	+00.0
18	115 47.7	+02.2	S 15 42.2	-00.1
19	130 49.9	+02.2	S 15 42.1	-00.1
20	145 52.1	+02.1	S 15 42.0	-00.1
21	160 54.2	+02.2	S 15 41.9	-00.1
22	175 56.4	+02.2	S 15 41.8	+00.0
23	190 58.6	+02.2	S 15 41.8	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 10:17

2022 March 11 Friday (day 70 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 28.0	+00.2	S 03 48.5	-01.0
01	192 28.2	+00.1	S 03 47.5	-01.0
02	207 28.3	+00.2	S 03 46.5	-01.0
03	222 28.5	+00.2	S 03 45.5	-01.0
04	237 28.7	+00.1	S 03 44.5	-01.0
05	252 28.8	+00.2	S 03 43.5	-00.9
06	267 29.0	+00.2	S 03 42.6	-01.0
07	282 29.2	+00.1	S 03 41.6	-01.0
08	297 29.3	+00.2	S 03 40.6	-01.0
09	312 29.5	+00.2	S 03 39.6	-01.0
10	327 29.7	+00.1	S 03 38.6	-00.9
11	342 29.8	+00.2	S 03 37.7	-01.0
12	357 30.0	+00.1	S 03 36.7	-01.0
13	12 30.1	+00.2	S 03 35.7	-01.0
14	27 30.3	+00.2	S 03 34.7	-01.0
15	42 30.5	+00.1	S 03 33.7	-01.0
16	57 30.6	+00.2	S 03 32.7	-00.9
17	72 30.8	+00.2	S 03 31.8	-01.0
18	87 31.0	+00.1	S 03 30.8	-01.0
19	102 31.1	+00.2	S 03 29.8	-01.0
20	117 31.3	+00.2	S 03 28.8	-01.0
21	132 31.5	+00.1	S 03 27.8	-01.0
22	147 31.6	+00.2	S 03 26.8	-00.9
23	162 31.8	+00.2	S 03 25.9	-01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	009°	009°	008°	008°	008°	008°

Greenwich Culmination Time: 12:09

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 50.5	+00.1	S 16 12.7	-00.3
01	237 50.6	+00.1	S 16 12.4	-00.3
02	252 50.7	+00.1	S 16 12.1	-00.2
03	267 50.8	+00.1	S 16 11.9	-00.3
04	282 50.9	+00.0	S 16 11.6	-00.2
05	297 50.9	+00.1	S 16 11.4	-00.3
06	312 51.0	+00.1	S 16 11.1	-00.3
07	327 51.1	+00.0	S 16 10.8	-00.2
08	342 51.1	+00.1	S 16 10.6	-00.3
09	357 51.2	+00.1	S 16 10.3	-00.3
10	12 51.3	+00.1	S 16 10.0	-00.2
11	27 51.4	+00.0	S 16 09.8	-00.3
12	42 51.4	+00.1	S 16 09.5	-00.3
13	57 51.5	+00.1	S 16 09.2	-00.2
14	72 51.6	+00.0	S 16 09.0	-00.3
15	87 51.6	+00.1	S 16 08.7	-00.3
16	102 51.7	+00.1	S 16 08.4	-00.2
17	117 51.8	+00.0	S 16 08.2	-00.3
18	132 51.8	+00.1	S 16 07.9	-00.3
19	147 51.9	+00.1	S 16 07.6	-00.3
20	162 52.0	+00.0	S 16 07.3	-00.2
21	177 52.0	+00.1	S 16 07.1	-00.3
22	192 52.1	+00.0	S 16 06.8	-00.3
23	207 52.1	+00.1	S 16 06.5	-00.3

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	054°	054°	054°	054°	053°	053°

Greenwich Culmination Time: 09:08

Moon

A: 28%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	82 41.4	-30.3	N 26 03.1	+03.0
01	97 11.1	-30.3	N 26 06.1	+02.8
02	111 40.8	-30.3	N 26 08.9	+02.8
03	126 10.5	-30.4	N 26 11.7	+02.6
04	140 40.1	-30.4	N 26 14.3	+02.5
05	155 09.7	-30.5	N 26 16.8	+02.4
06	169 39.2	-30.4	N 26 19.2	+02.3
07	184 08.8	-30.5	N 26 21.5	+02.1
08	198 38.3	-30.5	N 26 23.6	+02.0
09	213 07.8	-30.6	N 26 25.6	+01.9
10	227 37.2	-30.5	N 26 27.5	+01.8
11	242 06.7	-30.6	N 26 29.3	+01.6
12	256 36.1	-30.6	N 26 30.9	+01.5
13	271 05.5	-30.6	N 26 32.4	+01.4
14	285 34.9	-30.7	N 26 33.8	+01.2
15	300 04.2	-30.6	N 26 35.0	+01.1
16	314 33.6	-30.7	N 26 36.1	+01.0
17	329 02.9	-30.7	N 26 37.1	+00.9
18	343 32.2	-30.7	N 26 38.0	+00.7
19	358 01.5	-30.7	N 26 38.7	+00.6
20	12 30.8	-30.8	N 26 39.3	+00.5
21	27 00.0	-30.7	N 26 39.8	+00.4
22	41 29.3	-30.8	N 26 40.2	+00.2
23	55 58.5	-30.8	N 26 40.4	+00.1

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′2	54′2	54′2	54′2	54′3	54′3
SHA	273°	271°	269°	266°	264°	262°

Greenwich Culmination Time: 19:08

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 33.1	+00.5	S 20 17.7	-00.4
01	237 33.6	+00.5	S 20 17.3	-00.4
02	252 34.1	+00.5	S 20 16.9	-00.4
03	267 34.6	+00.6	S 20 16.5	-00.4
04	282 35.2	+00.5	S 20 16.1	-00.5
05	297 35.7	+00.5	S 20 15.6	-00.4
06	312 36.2	+00.5	S 20 15.2	-00.4
07	327 36.7	+00.5	S 20 14.8	-00.4
08	342 37.2	+00.6	S 20 14.4	-00.4
09	357 37.8	+00.5	S 20 14.0	-00.4
10	12 38.3	+00.5	S 20 13.6	-00.4
11	27 38.8	+00.5	S 20 13.2	-00.4
12	42 39.3	+00.5	S 20 12.8	-00.4
13	57 39.8	+00.6	S 20 12.4	-00.5
14	72 40.4	+00.5	S 20 11.9	-00.4
15	87 40.9	+00.5	S 20 11.5	-00.4
16	102 41.4	+00.5	S 20 11.1	-00.4
17	117 41.9	+00.5	S 20 10.7	-00.4
18	132 42.4	+00.6	S 20 10.3	-00.4
19	147 43.0	+00.5	S 20 09.9	-00.4
20	162 43.5	+00.5	S 20 09.5	-00.5
21	177 44.0	+00.5	S 20 09.0	-00.4
22	192 44.5	+00.5	S 20 08.6	-00.4
23	207 45.0	+00.6	S 20 08.2	-00.4

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	054°	054°	054°	053°	053°	053°

Greenwich Culmination Time: 09:09

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 52.5	+01.9	S 06 19.1	-00.3
01	195 54.4	+01.9	S 06 18.8	-00.2
02	210 56.3	+01.9	S 06 18.6	-00.2
03	225 58.2	+01.9	S 06 18.4	-00.3
04	241 00.1	+01.9	S 06 18.1	-00.2
05	256 02.0	+01.9	S 06 17.9	-00.2
06	271 03.9	+01.9	S 06 17.7	-00.3
07	286 05.8	+01.9	S 06 17.4	-00.2
08	301 07.7	+01.9	S 06 17.2	-00.2
09	316 09.6	+02.0	S 06 17.0	-00.3
10	331 11.6	+01.9	S 06 16.7	-00.2
11	346 13.5	+01.9	S 06 16.5	-00.2
12	1 15.4	+01.9	S 06 16.3	-00.3
13	16 17.3	+01.9	S 06 16.0	-00.2
14	31 19.2	+01.9	S 06 15.8	-00.2
15	46 21.1	+01.9	S 06 15.6	-00.3
16	61 23.0	+01.9	S 06 15.3	-00.2
17	76 24.9	+01.9	S 06 15.1	-00.2
18	91 26.8	+01.9	S 06 14.9	-00.2
19	106 28.7	+01.9	S 06 14.7	-00.3
20	121 30.6	+01.9	S 06 14.4	-00.2
21	136 32.5	+01.9	S 06 14.2	-00.2
22	151 34.4	+01.9	S 06 14.0	-00.3
23	166 36.3	+01.9	S 06 13.7	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	012°	012°	012°	012°	012°	012°

Greenwich Culmination Time: 11:54

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	206 00.8	+02.2	S 15 41.7	-00.1
01	221 03.0	+02.2	S 15 41.6	-00.1
02	236 05.2	+02.2	S 15 41.5	-00.1
03	251 07.4	+02.2	S 15 41.4	-00.1
04	266 09.6	+02.2	S 15 41.3	+00.0
05	281 11.8	+02.2	S 15 41.3	-00.1
06	296 14.0	+02.2	S 15 41.2	-00.1
07	311 16.2	+02.2	S 15 41.1	-00.1
08	326 18.4	+02.2	S 15 41.0	-00.1
09	341 20.6	+02.2	S 15 40.9	+00.0
10	356 22.8	+02.2	S 15 40.9	-00.1
11	11 25.0	+02.2	S 15 40.8	-00.1
12	26 27.2	+02.2	S 15 40.7	-00.1
13	41 29.4	+02.2	S 15 40.6	-00.1
14	56 31.6	+02.2	S 15 40.5	+00.0
15	71 33.8	+02.1	S 15 40.5	-00.1
16	86 35.9	+02.2	S 15 40.4	-00.1
17	101 38.1	+02.2	S 15 40.3	-00.1
18	116 40.3	+02.2	S 15 40.2	-00.1
19	131 42.5	+02.2	S 15 40.1	-00.1
20	146 44.7	+02.2	S 15 40.0	+00.0
21	161 46.9	+02.2	S 15 40.0	-00.1
22	176 49.1	+02.2	S 15 39.9	-00.1
23	191 51.3	+02.2	S 15 39.8	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 10:14

2022 March 12 Saturday (day 71 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 32.0	+00.1	S 03 24.9	-01.0
01	192 32.1	+00.2	S 03 23.9	-01.0
02	207 32.3	+00.2	S 03 22.9	-01.0
03	222 32.5	+00.1	S 03 21.9	-01.0
04	237 32.6	+00.2	S 03 20.9	-00.9
05	252 32.8	+00.2	S 03 20.0	-01.0
06	267 33.0	+00.1	S 03 19.0	-01.0
07	282 33.1	+00.2	S 03 18.0	-01.0
08	297 33.3	+00.2	S 03 17.0	-01.0
09	312 33.5	+00.1	S 03 16.0	-01.0
10	327 33.6	+00.2	S 03 15.0	-00.9
11	342 33.8	+00.2	S 03 14.1	-01.0
12	357 34.0	+00.1	S 03 13.1	-01.0
13	12 34.1	+00.2	S 03 12.1	-01.0
14	27 34.3	+00.2	S 03 11.1	-01.0
15	42 34.5	+00.1	S 03 10.1	-01.0
16	57 34.6	+00.2	S 03 09.1	-01.0
17	72 34.8	+00.2	S 03 08.1	-00.9
18	87 35.0	+00.1	S 03 07.2	-01.0
19	102 35.1	+00.2	S 03 06.2	-01.0
20	117 35.3	+00.2	S 03 05.2	-01.0
21	132 35.5	+00.1	S 03 04.2	-01.0
22	147 35.6	+00.2	S 03 03.2	-01.0
23	162 35.8	+00.2	S 03 02.2	-00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	008°	008°	008°	007°	007°	007°

Greenwich Culmination Time: 12:09

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 52.2	+00.1	S 16 06.2	-00.3
01	237 52.3	+00.0	S 16 05.9	-00.2
02	252 52.3	+00.1	S 16 05.7	-00.3
03	267 52.4	+00.0	S 16 05.4	-00.3
04	282 52.4	+00.1	S 16 05.1	-00.3
05	297 52.5	+00.0	S 16 04.8	-00.3
06	312 52.5	+00.1	S 16 04.5	-00.2
07	327 52.6	+00.1	S 16 04.3	-00.3
08	342 52.7	+00.0	S 16 04.0	-00.3
09	357 52.7	+00.1	S 16 03.7	-00.3
10	12 52.8	+00.0	S 16 03.4	-00.3
11	27 52.8	+00.1	S 16 03.1	-00.3
12	42 52.9	+00.0	S 16 02.8	-00.3
13	57 52.9	+00.1	S 16 02.5	-00.2
14	72 53.0	+00.0	S 16 02.3	-00.3
15	87 53.0	+00.0	S 16 02.0	-00.3
16	102 53.0	+00.1	S 16 01.7	-00.3
17	117 53.1	+00.0	S 16 01.4	-00.3
18	132 53.1	+00.1	S 16 01.1	-00.3
19	147 53.2	+00.0	S 16 00.8	-00.3
20	162 53.2	+00.1	S 16 00.5	-00.3
21	177 53.3	+00.0	S 16 00.2	-00.3
22	192 53.3	+00.1	S 15 59.9	-00.3
23	207 53.4	+00.0	S 15 59.6	-00.3

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	053°	053°	053°	053°	053°	052°

Greenwich Culmination Time: 09:08

Moon

A: 31%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	70 27.7	-30.7	N 26 40.5	+00.0
01	84 57.0	-30.8	N 26 40.5	-00.2
02	99 26.2	-30.8	N 26 40.3	-00.3
03	113 55.4	-30.9	N 26 40.0	-00.4
04	128 24.5	-30.8	N 26 39.6	-00.6
05	142 53.7	-30.8	N 26 39.0	-00.7
06	157 22.9	-30.9	N 26 38.3	-00.8
07	171 52.0	-30.8	N 26 37.5	-00.9
08	186 21.2	-30.8	N 26 36.6	-01.1
09	200 50.4	-30.9	N 26 35.5	-01.2
10	215 19.5	-30.8	N 26 34.3	-01.3
11	229 48.7	-30.9	N 26 33.0	-01.5
12	244 17.8	-30.8	N 26 31.5	-01.6
13	258 47.0	-30.9	N 26 29.9	-01.7
14	273 16.1	-30.8	N 26 28.2	-01.8
15	287 45.3	-30.9	N 26 26.4	-02.0
16	302 14.4	-30.8	N 26 24.4	-02.1
17	316 43.6	-30.9	N 26 22.3	-02.3
18	331 12.7	-30.8	N 26 20.0	-02.3
19	345 41.9	-30.8	N 26 17.7	-02.5
20	0 11.1	-30.9	N 26 15.2	-02.7
21	14 40.2	-30.8	N 26 12.5	-02.7
22	29 09.4	-30.8	N 26 09.8	-02.9
23	43 38.6	-30.8	N 26 06.9	-03.0

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′9
HP	54′3	54′4	54′4	54′4	54′5	54′5
SHA	260°	258°	255°	253°	251°	249°

Greenwich Culmination Time: 19:59

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 45.6	+00.5	S 20 07.8	-00.4
01	237 46.1	+00.5	S 20 07.4	-00.4
02	252 46.6	+00.5	S 20 07.0	-00.5
03	267 47.1	+00.5	S 20 06.5	-00.4
04	282 47.6	+00.6	S 20 06.1	-00.4
05	297 48.2	+00.5	S 20 05.7	-00.4
06	312 48.7	+00.5	S 20 05.3	-00.4
07	327 49.2	+00.5	S 20 04.9	-00.5
08	342 49.7	+00.6	S 20 04.4	-00.4
09	357 50.3	+00.5	S 20 04.0	-00.4
10	12 50.8	+00.5	S 20 03.6	-00.4
11	27 51.3	+00.5	S 20 03.2	-00.4
12	42 51.8	+00.5	S 20 02.8	-00.5
13	57 52.3	+00.6	S 20 02.3	-00.4
14	72 52.9	+00.5	S 20 01.9	-00.4
15	87 53.4	+00.5	S 20 01.5	-00.4
16	102 53.9	+00.5	S 20 01.1	-00.4
17	117 54.4	+00.6	S 20 00.7	-00.5
18	132 55.0	+00.5	S 20 00.2	-00.4
19	147 55.5	+00.5	S 19 59.8	-00.4
20	162 56.0	+00.5	S 19 59.4	-00.4
21	177 56.5	+00.5	S 19 59.0	-00.5
22	192 57.0	+00.6	S 19 58.5	-00.4
23	207 57.6	+00.5	S 19 58.1	-00.4

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	053°	053°	053°	053°	053°	052°

Greenwich Culmination Time: 09:08

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	181 38.2	+01.9	S 06 13.5	-00.2
01	196 40.1	+01.9	S 06 13.3	-00.3
02	211 42.0	+01.9	S 06 13.0	-00.2
03	226 43.9	+01.9	S 06 12.8	-00.2
04	241 45.8	+01.9	S 06 12.6	-00.3
05	256 47.7	+01.9	S 06 12.3	-00.2
06	271 49.6	+01.9	S 06 12.1	-00.2
07	286 51.5	+01.9	S 06 11.9	-00.3
08	301 53.4	+01.9	S 06 11.6	-00.2
09	316 55.3	+01.9	S 06 11.4	-00.2
10	331 57.2	+01.9	S 06 11.2	-00.3
11	346 59.1	+02.0	S 06 10.9	-00.2
12	2 01.1	+01.9	S 06 10.7	-00.2
13	17 03.0	+01.9	S 06 10.5	-00.3
14	32 04.9	+01.9	S 06 10.2	-00.2
15	47 06.8	+01.9	S 06 10.0	-00.2
16	62 08.7	+01.9	S 06 09.8	-00.3
17	77 10.6	+01.9	S 06 09.5	-00.2
18	92 12.5	+01.9	S 06 09.3	-00.2
19	107 14.4	+01.9	S 06 09.1	-00.3
20	122 16.3	+01.9	S 06 08.8	-00.2
21	137 18.2	+01.9	S 06 08.6	-00.2
22	152 20.1	+01.9	S 06 08.4	-00.3
23	167 22.0	+01.9	S 06 08.1	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	012°	012°	012°	012°	012°	012°

Greenwich Culmination Time: 11:51

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	206 53.5	+02.2	S 15 39.7	-00.1
01	221 55.7	+02.2	S 15 39.6	+00.0
02	236 57.9	+02.2	S 15 39.6	-00.1
03	252 00.1	+02.2	S 15 39.5	-00.1
04	267 02.3	+02.2	S 15 39.4	-00.1
05	282 04.5	+02.2	S 15 39.3	-00.1
06	297 06.7	+02.2	S 15 39.2	-00.1
07	312 08.9	+02.2	S 15 39.1	+00.0
08	327 11.1	+02.2	S 15 39.1	-00.1
09	342 13.3	+02.2	S 15 39.0	-00.1
10	357 15.5	+02.2	S 15 38.9	-00.1
11	12 17.7	+02.2	S 15 38.8	-00.1
12	27 19.9	+02.2	S 15 38.7	+00.0
13	42 22.1	+02.2	S 15 38.7	-00.1
14	57 24.3	+02.2	S 15 38.6	-00.1
15	72 26.5	+02.2	S 15 38.5	-00.1
16	87 28.7	+02.2	S 15 38.4	-00.1
17	102 30.9	+02.1	S 15 38.3	+00.0
18	117 33.0	+02.2	S 15 38.3	-00.1
19	132 35.2	+02.2	S 15 38.2	-00.1
20	147 37.4	+02.2	S 15 38.1	-00.1
21	162 39.6	+02.2	S 15 38.0	-00.1
22	177 41.8	+02.2	S 15 37.9	+00.0
23	192 44.0	+02.2	S 15 37.9	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 10:10

2022 March 17 Thursday (day 76 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 52.7	+00.2	S 01 26.5	-01.0
01	192 52.9	+00.2	S 01 25.5	-01.0
02	207 53.1	+00.2	S 01 24.5	-00.9
03	222 53.3	+00.2	S 01 23.6	-01.0
04	237 53.5	+00.1	S 01 22.6	-01.0
05	252 53.6	+00.2	S 01 21.6	-01.0
06	267 53.8	+00.2	S 01 20.6	-01.0
07	282 54.0	+00.2	S 01 19.6	-01.0
08	297 54.2	+00.2	S 01 18.6	-01.0
09	312 54.4	+00.1	S 01 17.6	-01.0
10	327 54.5	+00.2	S 01 16.6	-00.9
11	342 54.7	+00.2	S 01 15.7	-01.0
12	357 54.9	+00.2	S 01 14.7	-01.0
13	12 55.1	+00.2	S 01 13.7	-01.0
14	27 55.3	+00.2	S 01 12.7	-01.0
15	42 55.5	+00.1	S 01 11.7	-01.0
16	57 55.6	+00.2	S 01 10.7	-01.0
17	72 55.8	+00.2	S 01 09.7	-01.0
18	87 56.0	+00.2	S 01 08.7	-01.0
19	102 56.2	+00.2	S 01 07.7	-00.9
20	117 56.4	+00.1	S 01 06.8	-01.0
21	132 56.5	+00.2	S 01 05.8	-01.0
22	147 56.7	+00.2	S 01 04.8	-01.0
23	162 56.9	+00.2	S 01 03.8	-01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	003°	003°	003°	003°	003°	002°

Greenwich Culmination Time: 12:08

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 54.0	+00.0	S 15 27.1	-00.4
01	237 54.0	-00.1	S 15 26.7	-00.3
02	252 53.9	+00.0	S 15 26.4	-00.4
03	267 53.9	+00.0	S 15 26.0	-00.4
04	282 53.9	+00.0	S 15 25.6	-00.4
05	297 53.9	-00.1	S 15 25.2	-00.3
06	312 53.8	+00.0	S 15 24.9	-00.4
07	327 53.8	+00.0	S 15 24.5	-00.4
08	342 53.8	+00.0	S 15 24.1	-00.4
09	357 53.8	-00.1	S 15 23.7	-00.4
10	12 53.7	+00.0	S 15 23.3	-00.3
11	27 53.7	+00.0	S 15 23.0	-00.4
12	42 53.7	-00.1	S 15 22.6	-00.4
13	57 53.6	+00.0	S 15 22.2	-00.4
14	72 53.6	+00.0	S 15 21.8	-00.4
15	87 53.6	-00.1	S 15 21.4	-00.4
16	102 53.5	+00.0	S 15 21.0	-00.4
17	117 53.5	+00.0	S 15 20.6	-00.3
18	132 53.5	-00.1	S 15 20.3	-00.4
19	147 53.4	+00.0	S 15 19.9	-00.4
20	162 53.4	-00.1	S 15 19.5	-00.4
21	177 53.3	+00.0	S 15 19.1	-00.4
22	192 53.3	+00.0	S 15 18.7	-00.4
23	207 53.3	-00.1	S 15 18.3	-00.4

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	048°	048°	048°	048°	048°	047°

Greenwich Culmination Time: 09:08

Moon

A: 47%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	10 50.7	-28.2	N 12 12.6	-13.3
01	25 22.5	-28.0	N 11 59.3	-13.4
02	39 54.5	-28.1	N 11 45.9	-13.4
03	54 26.4	-28.1	N 11 32.5	-13.5
04	68 58.3	-28.0	N 11 19.0	-13.6
05	83 30.3	-28.0	N 11 05.4	-13.6
06	98 02.3	-28.0	N 10 51.8	-13.7
07	112 34.3	-28.0	N 10 38.1	-13.8
08	127 06.3	-28.0	N 10 24.3	-13.8
09	141 38.3	-27.9	N 10 10.5	-13.9
10	156 10.4	-28.0	N 09 56.6	-14.0
11	170 42.4	-27.9	N 09 42.6	-14.0
12	185 14.5	-27.9	N 09 28.6	-14.0
13	199 46.6	-27.9	N 09 14.6	-14.2
14	214 18.7	-27.9	N 09 00.4	-14.1
15	228 50.8	-27.9	N 08 46.3	-14.3
16	243 22.9	-27.9	N 08 32.0	-14.2
17	257 55.0	-27.8	N 08 17.8	-14.4
18	272 27.2	-27.9	N 08 03.4	-14.4
19	286 59.3	-27.8	N 07 49.0	-14.4
20	301 31.5	-27.9	N 07 34.6	-14.5
21	316 03.6	-27.8	N 07 20.1	-14.5
22	330 35.8	-27.8	N 07 05.6	-14.6
23	345 08.0	-27.9	N 06 51.0	-14.6

UT	02	06	10	14	18	22
SD	15′5	15′5	15′5	15′6	15′6	15′6
HP	56′8	56′9	57′0	57′1	57′2	57′3
SHA	195°	193°	191°	189°	187°	185°

Greenwich Culmination Time: -1:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	223 49.0	+00.6	S 19 15.3	-00.4
01	238 49.6	+00.5	S 19 14.9	-00.5
02	253 50.1	+00.5	S 19 14.4	-00.4
03	268 50.6	+00.6	S 19 14.0	-00.5
04	283 51.2	+00.5	S 19 13.5	-00.5
05	298 51.7	+00.5	S 19 13.0	-00.4
06	313 52.2	+00.6	S 19 12.6	-00.5
07	328 52.8	+00.5	S 19 12.1	-00.4
08	343 53.3	+00.6	S 19 11.7	-00.5
09	358 53.9	+00.5	S 19 11.2	-00.5
10	13 54.4	+00.5	S 19 10.7	-00.4
11	28 54.9	+00.6	S 19 10.3	-00.5
12	43 55.5	+00.5	S 19 09.8	-00.4
13	58 56.0	+00.6	S 19 09.4	-00.5
14	73 56.6	+00.5	S 19 08.9	-00.5
15	88 57.1	+00.5	S 19 08.4	-00.4
16	103 57.6	+00.6	S 19 08.0	-00.5
17	118 58.2	+00.5	S 19 07.5	-00.5
18	133 58.7	+00.6	S 19 07.0	-00.4
19	148 59.3	+00.5	S 19 06.6	-00.5
20	163 59.8	+00.5	S 19 06.1	-00.4
21	179 00.3	+00.6	S 19 05.7	-00.5
22	194 00.9	+00.5	S 19 05.2	-00.5
23	209 01.4	+00.6	S 19 04.7	-00.4

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	049°	049°	049°	049°	049°	049°

Greenwich Culmination Time: 09:04

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	185 26.8	+01.9	S 05 45.6	-00.3
01	200 28.7	+02.0	S 05 45.3	-00.2
02	215 30.7	+01.9	S 05 45.1	-00.2
03	230 32.6	+01.9	S 05 44.9	-00.3
04	245 34.5	+01.9	S 05 44.6	-00.2
05	260 36.4	+01.9	S 05 44.4	-00.2
06	275 38.3	+01.9	S 05 44.2	-00.3
07	290 40.2	+01.9	S 05 43.9	-00.2
08	305 42.1	+01.9	S 05 43.7	-00.2
09	320 44.0	+01.9	S 05 43.5	-00.3
10	335 45.9	+01.9	S 05 43.2	-00.2
11	350 47.8	+01.9	S 05 43.0	-00.2
12	5 49.7	+01.9	S 05 42.8	-00.2
13	20 51.6	+01.9	S 05 42.6	-00.3
14	35 53.5	+01.9	S 05 42.3	-00.2
15	50 55.4	+02.0	S 05 42.1	-00.2
16	65 57.4	+01.9	S 05 41.9	-00.3
17	80 59.3	+01.9	S 05 41.6	-00.2
18	96 01.2	+01.9	S 05 41.4	-00.2
19	111 03.1	+01.9	S 05 41.2	-00.3
20	126 05.0	+01.9	S 05 40.9	-00.2
21	141 06.9	+01.9	S 05 40.7	-00.2
22	156 08.8	+01.9	S 05 40.5	-00.3
23	171 10.7	+01.9	S 05 40.2	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	011°	011°	011°	011°	011°	011°

Greenwich Culmination Time: 11:36

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	211 17.5	+02.2	S 15 30.1	-00.1
01	226 19.7	+02.2	S 15 30.0	-00.1
02	241 21.9	+02.3	S 15 29.9	+00.0
03	256 24.2	+02.2	S 15 29.9	-00.1
04	271 26.4	+02.2	S 15 29.8	-00.1
05	286 28.6	+02.2	S 15 29.7	-00.1
06	301 30.8	+02.2	S 15 29.6	+00.0
07	316 33.0	+02.2	S 15 29.6	-00.1
08	331 35.2	+02.2	S 15 29.5	-00.1
09	346 37.4	+02.2	S 15 29.4	-00.1
10	1 39.6	+02.2	S 15 29.3	-00.1
11	16 41.8	+02.2	S 15 29.2	+00.0
12	31 44.0	+02.2	S 15 29.2	-00.1
13	46 46.2	+02.2	S 15 29.1	-00.1
14	61 48.4	+02.2	S 15 29.0	-00.1
15	76 50.6	+02.2	S 15 28.9	-00.1
16	91 52.8	+02.2	S 15 28.8	+00.0
17	106 55.0	+02.2	S 15 28.8	-00.1
18	121 57.2	+02.2	S 15 28.7	-00.1
19	136 59.4	+02.3	S 15 28.6	-00.1
20	152 01.7	+02.2	S 15 28.5	+00.0
21	167 03.9	+02.2	S 15 28.5	-00.1
22	182 06.1	+02.2	S 15 28.4	-00.1
23	197 08.3	+02.2	S 15 28.3	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 09:53

2022 March 14 Monday (day 73 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 40.1	+00.2	S 02 37.6	-01.0
01	192 40.3	+00.1	S 02 36.6	-01.0
02	207 40.4	+00.2	S 02 35.6	-01.0
03	222 40.6	+00.2	S 02 34.6	-00.9
04	237 40.8	+00.1	S 02 33.7	-01.0
05	252 40.9	+00.2	S 02 32.7	-01.0
06	267 41.1	+00.2	S 02 31.7	-01.0
07	282 41.3	+00.2	S 02 30.7	-01.0
08	297 41.5	+00.1	S 02 29.7	-01.0
09	312 41.6	+00.2	S 02 28.7	-01.0
10	327 41.8	+00.2	S 02 27.7	-00.9
11	342 42.0	+00.2	S 02 26.8	-01.0
12	357 42.2	+00.1	S 02 25.8	-01.0
13	12 42.3	+00.2	S 02 24.8	-01.0
14	27 42.5	+00.2	S 02 23.8	-01.0
15	42 42.7	+00.1	S 02 22.8	-01.0
16	57 42.8	+00.2	S 02 21.8	-01.0
17	72 43.0	+00.2	S 02 20.8	-01.0
18	87 43.2	+00.2	S 02 19.8	-00.9
19	102 43.4	+00.1	S 02 18.9	-01.0
20	117 43.5	+00.2	S 02 17.9	-01.0
21	132 43.7	+00.2	S 02 16.9	-01.0
22	147 43.9	+00.2	S 02 15.9	-01.0
23	162 44.1	+00.1	S 02 14.9	-01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	006°	006°	006°	006°	005°	005°

Greenwich Culmination Time: 12:09

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 54.1	+00.1	S 15 52.0	-00.3
01	237 54.2	+00.0	S 15 51.7	-00.4
02	252 54.2	+00.0	S 15 51.3	-00.3
03	267 54.2	+00.0	S 15 51.0	-00.3
04	282 54.2	+00.1	S 15 50.7	-00.3
05	297 54.3	+00.0	S 15 50.4	-00.3
06	312 54.3	+00.0	S 15 50.1	-00.4
07	327 54.3	+00.0	S 15 49.7	-00.3
08	342 54.3	+00.0	S 15 49.4	-00.3
09	357 54.3	+00.0	S 15 49.1	-00.3
10	12 54.3	+00.1	S 15 48.8	-00.3
11	27 54.4	+00.0	S 15 48.5	-00.4
12	42 54.4	+00.0	S 15 48.1	-00.3
13	57 54.4	+00.0	S 15 47.8	-00.3
14	72 54.4	+00.0	S 15 47.5	-00.4
15	87 54.4	+00.0	S 15 47.1	-00.3
16	102 54.4	+00.0	S 15 46.8	-00.3
17	117 54.4	+00.0	S 15 46.5	-00.3
18	132 54.4	+00.0	S 15 46.2	-00.4
19	147 54.4	+00.1	S 15 45.8	-00.3
20	162 54.5	+00.0	S 15 45.5	-00.3
21	177 54.5	+00.0	S 15 45.2	-00.4
22	192 54.5	+00.0	S 15 44.8	-00.3
23	207 54.5	+00.0	S 15 44.5	-00.3

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	051°	051°	051°	051°	051°	050°

Greenwich Culmination Time: 09:08

Moon

A: 38%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	45 53.2	-30.3	N 24 13.3	-06.2
01	60 22.9	-30.3	N 24 07.1	-06.3
02	74 52.6	-30.3	N 24 00.8	-06.4
03	89 22.3	-30.3	N 23 54.4	-06.6
04	103 52.0	-30.2	N 23 47.8	-06.6
05	118 21.8	-30.2	N 23 41.2	-06.8
06	132 51.6	-30.2	N 23 34.4	-06.9
07	147 21.4	-30.1	N 23 27.5	-07.0
08	161 51.3	-30.1	N 23 20.5	-07.1
09	176 21.2	-30.1	N 23 13.4	-07.3
10	190 51.1	-30.0	N 23 06.1	-07.4
11	205 21.1	-30.0	N 22 58.7	-07.4
12	219 51.1	-30.0	N 22 51.3	-07.6
13	234 21.1	-30.0	N 22 43.7	-07.8
14	248 51.1	-29.9	N 22 35.9	-07.8
15	263 21.2	-29.9	N 22 28.1	-07.9
16	277 51.3	-29.8	N 22 20.2	-08.1
17	292 21.5	-29.9	N 22 12.1	-08.2
18	306 51.6	-29.7	N 22 03.9	-08.3
19	321 21.9	-29.8	N 21 55.6	-08.4
20	335 52.1	-29.7	N 21 47.2	-08.5
21	350 22.4	-29.7	N 21 38.7	-08.6
22	4 52.7	-29.7	N 21 30.1	-08.8
23	19 23.0	-29.6	N 21 21.3	-08.8

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	15′1	15′1	15′1
HP	55′0	55′1	55′2	55′3	55′4	55′4
SHA	233°	231°	229°	227°	225°	222°

Greenwich Culmination Time: 21:39

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	223 10.7	+00.5	S 19 47.4	-00.4
01	238 11.2	+00.6	S 19 47.0	-00.5
02	253 11.8	+00.5	S 19 46.5	-00.4
03	268 12.3	+00.5	S 19 46.1	-00.4
04	283 12.8	+00.6	S 19 45.7	-00.5
05	298 13.4	+00.5	S 19 45.2	-00.4
06	313 13.9	+00.5	S 19 44.8	-00.4
07	328 14.4	+00.5	S 19 44.4	-00.5
08	343 14.9	+00.6	S 19 43.9	-00.4
09	358 15.5	+00.5	S 19 43.5	-00.5
10	13 16.0	+00.5	S 19 43.0	-00.4
11	28 16.5	+00.5	S 19 42.6	-00.4
12	43 17.0	+00.6	S 19 42.2	-00.5
13	58 17.6	+00.5	S 19 41.7	-00.4
14	73 18.1	+00.5	S 19 41.3	-00.4
15	88 18.6	+00.6	S 19 40.9	-00.5
16	103 19.2	+00.5	S 19 40.4	-00.4
17	118 19.7	+00.5	S 19 40.0	-00.5
18	133 20.2	+00.6	S 19 39.5	-00.4
19	148 20.8	+00.5	S 19 39.1	-00.4
20	163 21.3	+00.5	S 19 38.7	-00.5
21	178 21.8	+00.5	S 19 38.2	-00.4
22	193 22.3	+00.6	S 19 37.8	-00.5
23	208 22.9	+00.5	S 19 37.3	-00.4

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	052°	051°	051°	051°	051°	051°

Greenwich Culmination Time: 09:06

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 09.6	+01.9	S 06 02.3	-00.2
01	198 11.5	+01.9	S 06 02.1	-00.3
02	213 13.4	+01.9	S 06 01.8	-00.2
03	228 15.3	+01.9	S 06 01.6	-00.2
04	243 17.2	+01.9	S 06 01.4	-00.3
05	258 19.1	+01.9	S 06 01.1	-00.2
06	273 21.0	+02.0	S 06 00.9	-00.2
07	288 23.0	+01.9	S 06 00.7	-00.2
08	303 24.9	+01.9	S 06 00.5	-00.3
09	318 26.8	+01.9	S 06 00.2	-00.2
10	333 28.7	+01.9	S 05 60.0	-00.2
11	348 30.6	+01.9	S 05 59.8	-00.3
12	3 32.5	+01.9	S 05 59.5	-00.2
13	18 34.4	+01.9	S 05 59.3	-00.2
14	33 36.3	+01.9	S 05 59.1	-00.3
15	48 38.2	+01.9	S 05 58.8	-00.2
16	63 40.1	+01.9	S 05 58.6	-00.2
17	78 42.0	+01.9	S 05 58.4	-00.3
18	93 43.9	+01.9	S 05 58.1	-00.2
19	108 45.8	+01.9	S 05 57.9	-00.2
20	123 47.7	+01.9	S 05 57.7	-00.3
21	138 49.6	+01.9	S 05 57.4	-00.2
22	153 51.5	+01.9	S 05 57.2	-00.2
23	168 53.4	+01.9	S 05 57.0	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	012°	012°	011°	011°	011°	011°

Greenwich Culmination Time: 11:45

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	208 39.0	+02.2	S 15 35.8	+00.0
01	223 41.2	+02.2	S 15 35.8	-00.1
02	238 43.4	+02.2	S 15 35.7	-00.1
03	253 45.6	+02.2	S 15 35.6	-00.1
04	268 47.8	+02.2	S 15 35.5	-00.1
05	283 50.0	+02.2	S 15 35.4	+00.0
06	298 52.2	+02.2	S 15 35.4	-00.1
07	313 54.4	+02.2	S 15 35.3	-00.1
08	328 56.6	+02.2	S 15 35.2	-00.1
09	343 58.8	+02.2	S 15 35.1	-00.1
10	359 01.0	+02.2	S 15 35.0	+00.0
11	14 03.2	+02.2	S 15 35.0	-00.1
12	29 05.4	+02.2	S 15 34.9	-00.1
13	44 07.6	+02.2	S 15 34.8	-00.1
14	59 09.8	+02.2	S 15 34.7	-00.1
15	74 12.0	+02.2	S 15 34.6	+00.0
16	89 14.2	+02.2	S 15 34.6	-00.1
17	104 16.4	+02.2	S 15 34.5	-00.1
18	119 18.6	+02.2	S 15 34.4	-00.1
19	134 20.8	+02.2	S 15 34.3	-00.1
20	149 23.0	+02.2	S 15 34.2	+00.0
21	164 25.2	+02.2	S 15 34.2	-00.1
22	179 27.4	+02.2	S 15 34.1	-00.1
23	194 29.6	+02.2	S 15 34.0	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 10:03

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2022 March 15 Tuesday (day 74 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 44.2	+00.2	S 02 13.9	-01.0
01	192 44.4	+00.2	S 02 12.9	-00.9
02	207 44.6	+00.2	S 02 12.0	-01.0
03	222 44.8	+00.1	S 02 11.0	-01.0
04	237 44.9	+00.2	S 02 10.0	-01.0
05	252 45.1	+00.2	S 02 09.0	-01.0
06	267 45.3	+00.2	S 02 08.0	-01.0
07	282 45.5	+00.1	S 02 07.0	-01.0
08	297 45.6	+00.2	S 02 06.0	-01.0
09	312 45.8	+00.2	S 02 05.0	-00.9
10	327 46.0	+00.2	S 02 04.1	-01.0
11	342 46.2	+00.1	S 02 03.1	-01.0
12	357 46.3	+00.2	S 02 02.1	-01.0
13	12 46.5	+00.2	S 02 01.1	-01.0
14	27 46.7	+00.2	S 02 00.1	-01.0
15	42 46.9	+00.2	S 01 59.1	-01.0
16	57 47.1	+00.1	S 01 58.1	-01.0
17	72 47.2	+00.2	S 01 57.1	-00.9
18	87 47.4	+00.2	S 01 56.2	-01.0
19	102 47.6	+00.2	S 01 55.2	-01.0
20	117 47.8	+00.1	S 01 54.2	-01.0
21	132 47.9	+00.2	S 01 53.2	-01.0
22	147 48.1	+00.2	S 01 52.2	-01.0
23	162 48.3	+00.2	S 01 51.2	-01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	005°	005°	005°	005°	004°	004°

Greenwich Culmination Time: 12:08

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 54.5	+00.0	S 15 44.2	-00.4
01	237 54.5	+00.0	S 15 43.8	-00.3
02	252 54.5	+00.0	S 15 43.5	-00.4
03	267 54.5	+00.0	S 15 43.1	-00.3
04	282 54.5	+00.0	S 15 42.8	-00.3
05	297 54.5	+00.0	S 15 42.5	-00.4
06	312 54.5	+00.0	S 15 42.1	-00.3
07	327 54.5	+00.0	S 15 41.8	-00.4
08	342 54.5	+00.0	S 15 41.4	-00.3
09	357 54.5	+00.0	S 15 41.1	-00.3
10	12 54.5	+00.0	S 15 40.8	-00.4
11	27 54.5	+00.0	S 15 40.4	-00.3
12	42 54.5	+00.0	S 15 40.1	-00.4
13	57 54.5	+00.0	S 15 39.7	-00.3
14	72 54.5	+00.0	S 15 39.4	-00.4
15	87 54.5	+00.0	S 15 39.0	-00.3
16	102 54.5	+00.0	S 15 38.7	-00.4
17	117 54.5	+00.0	S 15 38.3	-00.3
18	132 54.5	+00.0	S 15 38.0	-00.4
19	147 54.5	+00.0	S 15 37.6	-00.3
20	162 54.5	+00.0	S 15 37.3	-00.4
21	177 54.5	-00.1	S 15 36.9	-00.3
22	192 54.4	+00.0	S 15 36.6	-00.4
23	207 54.4	+00.0	S 15 36.2	-00.3

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	050°	050°	050°	050°	050°	049°

Greenwich Culmination Time: 09:08

Moon

A: 41%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	33 53.4	-29.6	N 21 12.5	-09.0
01	48 23.8	-29.5	N 21 03.5	-09.0
02	62 54.3	-29.5	N 20 54.5	-09.2
03	77 24.8	-29.5	N 20 45.3	-09.3
04	91 55.3	-29.4	N 20 36.0	-09.4
05	106 25.9	-29.5	N 20 26.6	-09.5
06	120 56.4	-29.3	N 20 17.1	-09.6
07	135 27.1	-29.4	N 20 07.5	-09.7
08	149 57.7	-29.3	N 19 57.8	-09.8
09	164 28.4	-29.3	N 19 48.0	-09.9
10	178 59.1	-29.2	N 19 38.1	-10.0
11	193 29.9	-29.2	N 19 28.1	-10.1
12	208 00.7	-29.2	N 19 18.0	-10.3
13	222 31.5	-29.1	N 19 07.7	-10.3
14	237 02.4	-29.1	N 18 57.4	-10.4
15	251 33.3	-29.0	N 18 47.0	-10.5
16	266 04.3	-29.1	N 18 36.5	-10.6
17	280 35.2	-29.0	N 18 25.9	-10.8
18	295 06.2	-28.9	N 18 15.1	-10.8
19	309 37.3	-29.0	N 18 04.3	-10.9
20	324 08.3	-28.9	N 17 53.4	-11.0
21	338 39.4	-28.8	N 17 42.4	-11.1
22	353 10.6	-28.8	N 17 31.3	-11.2
23	7 41.8	-28.8	N 17 20.1	-11.2

UT	02	06	10	14	18	22
SD	15′1	15′2	15′2	15′2	15′2	15′3
HP	55′5	55′6	55′7	55′8	55′9	56′0
SHA	220°	218°	216°	214°	212°	210°

Greenwich Culmination Time: 22:28

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	223 23.4	+00.5	S 19 36.9	-00.4
01	238 23.9	+00.6	S 19 36.5	-00.5
02	253 24.5	+00.5	S 19 36.0	-00.4
03	268 25.0	+00.5	S 19 35.6	-00.5
04	283 25.5	+00.6	S 19 35.1	-00.4
05	298 26.1	+00.5	S 19 34.7	-00.5
06	313 26.6	+00.5	S 19 34.2	-00.4
07	328 27.1	+00.6	S 19 33.8	-00.4
08	343 27.7	+00.5	S 19 33.4	-00.5
09	358 28.2	+00.5	S 19 32.9	-00.4
10	13 28.7	+00.5	S 19 32.5	-00.5
11	28 29.2	+00.6	S 19 32.0	-00.4
12	43 29.8	+00.5	S 19 31.6	-00.5
13	58 30.3	+00.5	S 19 31.1	-00.4
14	73 30.8	+00.6	S 19 30.7	-00.5
15	88 31.4	+00.5	S 19 30.2	-00.4
16	103 31.9	+00.5	S 19 29.8	-00.5
17	118 32.4	+00.6	S 19 29.3	-00.4
18	133 33.0	+00.5	S 19 28.9	-00.4
19	148 33.5	+00.5	S 19 28.5	-00.5
20	163 34.0	+00.6	S 19 28.0	-00.4
21	178 34.6	+00.5	S 19 27.6	-00.5
22	193 35.1	+00.5	S 19 27.1	-00.4
23	208 35.6	+00.6	S 19 26.7	-00.5

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	051°	051°	050°	050°	050°	050°

Greenwich Culmination Time: 09:06

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 55.3	+01.9	S 05 56.7	-00.2
01	198 57.2	+02.0	S 05 56.5	-00.2
02	213 59.2	+01.9	S 05 56.3	-00.3
03	229 01.1	+01.9	S 05 56.0	-00.2
04	244 03.0	+01.9	S 05 55.8	-00.2
05	259 04.9	+01.9	S 05 55.6	-00.3
06	274 06.8	+01.9	S 05 55.3	-00.2
07	289 08.7	+01.9	S 05 55.1	-00.2
08	304 10.6	+01.9	S 05 54.9	-00.3
09	319 12.5	+01.9	S 05 54.6	-00.2
10	334 14.4	+01.9	S 05 54.4	-00.2
11	349 16.3	+01.9	S 05 54.2	-00.3
12	4 18.2	+01.9	S 05 53.9	-00.2
13	19 20.1	+01.9	S 05 53.7	-00.2
14	34 22.0	+01.9	S 05 53.5	-00.3
15	49 23.9	+01.9	S 05 53.2	-00.2
16	64 25.8	+01.9	S 05 53.0	-00.2
17	79 27.7	+01.9	S 05 52.8	-00.3
18	94 29.6	+02.0	S 05 52.5	-00.2
19	109 31.6	+01.9	S 05 52.3	-00.2
20	124 33.5	+01.9	S 05 52.1	-00.3
21	139 35.4	+01.9	S 05 51.8	-00.2
22	154 37.3	+01.9	S 05 51.6	-00.2
23	169 39.2	+01.9	S 05 51.4	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	011°	011°	011°	011°	011°	011°

Greenwich Culmination Time: 11:42

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	209 31.8	+02.2	S 15 33.9	-00.1
01	224 34.0	+02.2	S 15 33.8	+00.0
02	239 36.2	+02.2	S 15 33.8	-00.1
03	254 38.4	+02.2	S 15 33.7	-00.1
04	269 40.6	+02.2	S 15 33.6	-00.1
05	284 42.8	+02.2	S 15 33.5	-00.1
06	299 45.0	+02.2	S 15 33.4	+00.0
07	314 47.2	+02.2	S 15 33.4	-00.1
08	329 49.4	+02.2	S 15 33.3	-00.1
09	344 51.6	+02.2	S 15 33.2	-00.1
10	359 53.8	+02.2	S 15 33.1	-00.1
11	14 56.0	+02.2	S 15 33.0	+00.0
12	29 58.2	+02.2	S 15 33.0	-00.1
13	45 00.4	+02.2	S 15 32.9	-00.1
14	60 02.6	+02.2	S 15 32.8	-00.1
15	75 04.8	+02.2	S 15 32.7	-00.1
16	90 07.0	+02.2	S 15 32.6	+00.0
17	105 09.2	+02.2	S 15 32.6	-00.1
18	120 11.4	+02.2	S 15 32.5	-00.1
19	135 13.6	+02.2	S 15 32.4	-00.1
20	150 15.8	+02.2	S 15 32.3	-00.1
21	165 18.0	+02.2	S 15 32.2	+00.0
22	180 20.2	+02.2	S 15 32.2	-00.1
23	195 22.4	+02.2	S 15 32.1	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 10:00

2022 March 16 Wednesday (day 75 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 48.5	+00.1	S 01 50.2	-01.0
01	192 48.6	+00.2	S 01 49.2	-00.9
02	207 48.8	+00.2	S 01 48.3	-01.0
03	222 49.0	+00.2	S 01 47.3	-01.0
04	237 49.2	+00.2	S 01 46.3	-01.0
05	252 49.4	+00.1	S 01 45.3	-01.0
06	267 49.5	+00.2	S 01 44.3	-01.0
07	282 49.7	+00.2	S 01 43.3	-01.0
08	297 49.9	+00.2	S 01 42.3	-01.0
09	312 50.1	+00.1	S 01 41.3	-00.9
10	327 50.2	+00.2	S 01 40.4	-01.0
11	342 50.4	+00.2	S 01 39.4	-01.0
12	357 50.6	+00.2	S 01 38.4	-01.0
13	12 50.8	+00.2	S 01 37.4	-01.0
14	27 51.0	+00.1	S 01 36.4	-01.0
15	42 51.1	+00.2	S 01 35.4	-01.0
16	57 51.3	+00.2	S 01 34.4	-01.0
17	72 51.5	+00.2	S 01 33.4	-01.0
18	87 51.7	+00.2	S 01 32.4	-00.9
19	102 51.9	+00.1	S 01 31.5	-01.0
20	117 52.0	+00.2	S 01 30.5	-01.0
21	132 52.2	+00.2	S 01 29.5	-01.0
22	147 52.4	+00.2	S 01 28.5	-01.0
23	162 52.6	+00.1	S 01 27.5	-01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	004°	004°	004°	004°	004°	003°

Greenwich Culmination Time: 12:08

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 54.4	+00.0	S 15 35.9	-00.4
01	237 54.4	+00.0	S 15 35.5	-00.3
02	252 54.4	+00.0	S 15 35.2	-00.4
03	267 54.4	+00.0	S 15 34.8	-00.4
04	282 54.4	+00.0	S 15 34.4	-00.3
05	297 54.4	+00.0	S 15 34.1	-00.4
06	312 54.4	-00.1	S 15 33.7	-00.3
07	327 54.3	+00.0	S 15 33.4	-00.4
08	342 54.3	+00.0	S 15 33.0	-00.4
09	357 54.3	+00.0	S 15 32.6	-00.3
10	12 54.3	+00.0	S 15 32.3	-00.4
11	27 54.3	+00.0	S 15 31.9	-00.3
12	42 54.3	-00.1	S 15 31.6	-00.4
13	57 54.2	+00.0	S 15 31.2	-00.4
14	72 54.2	+00.0	S 15 30.8	-00.3
15	87 54.2	+00.0	S 15 30.5	-00.4
16	102 54.2	+00.0	S 15 30.1	-00.4
17	117 54.2	-00.1	S 15 29.7	-00.3
18	132 54.1	+00.0	S 15 29.4	-00.4
19	147 54.1	+00.0	S 15 29.0	-00.4
20	162 54.1	+00.0	S 15 28.6	-00.4
21	177 54.1	+00.0	S 15 28.2	-00.3
22	192 54.1	-00.1	S 15 27.9	-00.4
23	207 54.0	+00.0	S 15 27.5	-00.4

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	049°	049°	049°	049°	049°	048°

Greenwich Culmination Time: 09:08

Moon

A: 44%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	22 13.0	-28.8	N 17 08.9	-11.4
01	36 44.2	-28.7	N 16 57.5	-11.5
02	51 15.5	-28.7	N 16 46.0	-11.5
03	65 46.8	-28.7	N 16 34.5	-11.7
04	80 18.1	-28.6	N 16 22.8	-11.7
05	94 49.5	-28.7	N 16 11.1	-11.8
06	109 20.8	-28.5	N 15 59.3	-11.9
07	123 52.3	-28.6	N 15 47.4	-12.0
08	138 23.7	-28.5	N 15 35.4	-12.1
09	152 55.2	-28.5	N 15 23.3	-12.2
10	167 26.7	-28.4	N 15 11.1	-12.2
11	181 58.3	-28.5	N 14 58.9	-12.3
12	196 29.8	-28.4	N 14 46.6	-12.4
13	211 01.4	-28.4	N 14 34.2	-12.5
14	225 33.0	-28.3	N 14 21.7	-12.6
15	240 04.7	-28.3	N 14 09.1	-12.6
16	254 36.4	-28.3	N 13 56.5	-12.7
17	269 08.1	-28.3	N 13 43.8	-12.8
18	283 39.8	-28.2	N 13 31.0	-12.9
19	298 11.6	-28.3	N 13 18.1	-13.0
20	312 43.3	-28.2	N 13 05.1	-13.0
21	327 15.1	-28.2	N 12 52.1	-13.1
22	341 46.9	-28.1	N 12 39.0	-13.1
23	356 18.8	-28.1	N 12 25.9	-13.3

UT	02	06	10	14	18	22
SD	15′3	15′3	15′4	15′4	15′4	15′4
HP	56′1	56′3	56′4	56′5	56′6	56′7
SHA	208°	206°	203°	201°	199°	197°

Greenwich Culmination Time: 23:15

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	223 36.2	+00.5	S 19 26.2	-00.4
01	238 36.7	+00.5	S 19 25.8	-00.5
02	253 37.2	+00.6	S 19 25.3	-00.4
03	268 37.8	+00.5	S 19 24.9	-00.5
04	283 38.3	+00.5	S 19 24.4	-00.4
05	298 38.8	+00.6	S 19 24.0	-00.5
06	313 39.4	+00.5	S 19 23.5	-00.4
07	328 39.9	+00.5	S 19 23.1	-00.5
08	343 40.4	+00.6	S 19 22.6	-00.4
09	358 41.0	+00.5	S 19 22.2	-00.5
10	13 41.5	+00.6	S 19 21.7	-00.5
11	28 42.1	+00.5	S 19 21.2	-00.4
12	43 42.6	+00.5	S 19 20.8	-00.5
13	58 43.1	+00.6	S 19 20.3	-00.4
14	73 43.7	+00.5	S 19 19.9	-00.5
15	88 44.2	+00.5	S 19 19.4	-00.4
16	103 44.7	+00.6	S 19 19.0	-00.5
17	118 45.3	+00.5	S 19 18.5	-00.4
18	133 45.8	+00.5	S 19 18.1	-00.5
19	148 46.3	+00.6	S 19 17.6	-00.4
20	163 46.9	+00.5	S 19 17.2	-00.5
21	178 47.4	+00.6	S 19 16.7	-00.5
22	193 48.0	+00.5	S 19 16.2	-00.4
23	208 48.5	+00.5	S 19 15.8	-00.5

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	050°	050°	050°	050°	049°	049°

Greenwich Culmination Time: 09:05

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	184 41.1	+01.9	S 05 51.1	-00.2
01	199 43.0	+01.9	S 05 50.9	-00.2
02	214 44.9	+01.9	S 05 50.7	-00.2
03	229 46.8	+01.9	S 05 50.5	-00.3
04	244 48.7	+01.9	S 05 50.2	-00.2
05	259 50.6	+01.9	S 05 50.0	-00.2
06	274 52.5	+01.9	S 05 49.8	-00.3
07	289 54.4	+01.9	S 05 49.5	-00.2
08	304 56.3	+01.9	S 05 49.3	-00.2
09	319 58.2	+01.9	S 05 49.1	-00.3
10	335 00.1	+02.0	S 05 48.8	-00.2
11	350 02.1	+01.9	S 05 48.6	-00.2
12	5 04.0	+01.9	S 05 48.4	-00.3
13	20 05.9	+01.9	S 05 48.1	-00.2
14	35 07.8	+01.9	S 05 47.9	-00.2
15	50 09.7	+01.9	S 05 47.7	-00.3
16	65 11.6	+01.9	S 05 47.4	-00.2
17	80 13.5	+01.9	S 05 47.2	-00.2
18	95 15.4	+01.9	S 05 47.0	-00.3
19	110 17.3	+01.9	S 05 46.7	-00.2
20	125 19.2	+01.9	S 05 46.5	-00.2
21	140 21.1	+01.9	S 05 46.3	-00.3
22	155 23.0	+01.9	S 05 46.0	-00.2
23	170 24.9	+01.9	S 05 45.8	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	011°	011°	011°	011°	011°	011°

Greenwich Culmination Time: 11:39

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	210 24.6	+02.2	S 15 32.0	-00.1
01	225 26.8	+02.3	S 15 31.9	-00.1
02	240 29.1	+02.2	S 15 31.8	+00.0
03	255 31.3	+02.2	S 15 31.8	-00.1
04	270 33.5	+02.2	S 15 31.7	-00.1
05	285 35.7	+02.2	S 15 31.6	-00.1
06	300 37.9	+02.2	S 15 31.5	-00.1
07	315 40.1	+02.2	S 15 31.4	+00.0
08	330 42.3	+02.2	S 15 31.4	-00.1
09	345 44.5	+02.2	S 15 31.3	-00.1
10	0 46.7	+02.2	S 15 31.2	-00.1
11	15 48.9	+02.2	S 15 31.1	+00.0
12	30 51.1	+02.2	S 15 31.1	-00.1
13	45 53.3	+02.2	S 15 31.0	-00.1
14	60 55.5	+02.2	S 15 30.9	-00.1
15	75 57.7	+02.2	S 15 30.8	-00.1
16	90 59.9	+02.2	S 15 30.7	+00.0
17	106 02.1	+02.2	S 15 30.7	-00.1
18	121 04.3	+02.2	S 15 30.6	-00.1
19	136 06.5	+02.2	S 15 30.5	-00.1
20	151 08.7	+02.2	S 15 30.4	-00.1
21	166 10.9	+02.2	S 15 30.3	+00.0
22	181 13.1	+02.2	S 15 30.3	-00.1
23	196 15.3	+02.2	S 15 30.2	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 09:56

2022 March 21 Monday (day 80 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 10.3	+00.2	N 00 08.3	+01.0
01	193 10.5	+00.2	N 00 09.3	+01.0
02	208 10.7	+00.2	N 00 10.3	+01.0
03	223 10.9	+00.2	N 00 11.3	+01.0
04	238 11.1	+00.1	N 00 12.3	+01.0
05	253 11.2	+00.2	N 00 13.3	+01.0
06	268 11.4	+00.2	N 00 14.3	+01.0
07	283 11.6	+00.2	N 00 15.3	+00.9
08	298 11.8	+00.2	N 00 16.2	+01.0
09	313 12.0	+00.2	N 00 17.2	+01.0
10	328 12.2	+00.2	N 00 18.2	+01.0
11	343 12.4	+00.2	N 00 19.2	+01.0
12	358 12.6	+00.1	N 00 20.2	+01.0
13	13 12.7	+00.2	N 00 21.2	+01.0
14	28 12.9	+00.2	N 00 22.2	+00.9
15	43 13.1	+00.2	N 00 23.1	+01.0
16	58 13.3	+00.2	N 00 24.1	+01.0
17	73 13.5	+00.2	N 00 25.1	+01.0
18	88 13.7	+00.2	N 00 26.1	+01.0
19	103 13.9	+00.1	N 00 27.1	+01.0
20	118 14.0	+00.2	N 00 28.1	+01.0
21	133 14.2	+00.2	N 00 29.1	+01.0
22	148 14.4	+00.2	N 00 30.1	+00.9
23	163 14.6	+00.2	N 00 31.0	+01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	360°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 12:07

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 49.0	-00.1	S 14 47.4	-00.4
01	237 48.9	+00.0	S 14 47.0	-00.5
02	252 48.9	-00.1	S 14 46.5	-00.4
03	267 48.8	-00.1	S 14 46.1	-00.5
04	282 48.7	-00.1	S 14 45.6	-00.4
05	297 48.6	+00.0	S 14 45.2	-00.5
06	312 48.6	-00.1	S 14 44.7	-00.4
07	327 48.5	-00.1	S 14 44.3	-00.5
08	342 48.4	-00.1	S 14 43.8	-00.5
09	357 48.3	-00.1	S 14 43.3	-00.4
10	12 48.2	+00.0	S 14 42.9	-00.5
11	27 48.2	-00.1	S 14 42.4	-00.4
12	42 48.1	-00.1	S 14 42.0	-00.5
13	57 48.0	-00.1	S 14 41.5	-00.5
14	72 47.9	-00.1	S 14 41.0	-00.4
15	87 47.8	-00.1	S 14 40.6	-00.5
16	102 47.7	+00.0	S 14 40.1	-00.5
17	117 47.7	-00.1	S 14 39.6	-00.4
18	132 47.6	-00.1	S 14 39.2	-00.5
19	147 47.5	-00.1	S 14 38.7	-00.5
20	162 47.4	-00.1	S 14 38.2	-00.4
21	177 47.3	-00.1	S 14 37.8	-00.5
22	192 47.2	-00.1	S 14 37.3	-00.5
23	207 47.1	+00.0	S 14 36.8	-00.4

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	044°	044°	044°	044°	044°	043°

Greenwich Culmination Time: 09:08

Moon

A: 60%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	325 23.6	-30.2	S 11 33.6	+14.4
01	339 53.4	-30.2	S 11 48.0	+14.4
02	354 23.2	-30.4	S 12 02.4	+14.3
03	8 52.8	-30.4	S 12 16.7	+14.3
04	23 22.4	-30.5	S 12 31.0	+14.1
05	37 51.9	-30.6	S 12 45.1	+14.2
06	52 21.3	-30.6	S 12 59.3	+14.0
07	66 50.7	-30.7	S 13 13.3	+14.0
08	81 20.0	-30.8	S 13 27.3	+13.9
09	95 49.2	-30.9	S 13 41.2	+13.9
10	110 18.3	-30.9	S 13 55.1	+13.7
11	124 47.4	-31.0	S 14 08.8	+13.7
12	139 16.4	-31.1	S 14 22.5	+13.7
13	153 45.3	-31.2	S 14 36.2	+13.5
14	168 14.1	-31.3	S 14 49.7	+13.5
15	182 42.8	-31.3	S 15 03.2	+13.4
16	197 11.5	-31.4	S 15 16.6	+13.3
17	211 40.1	-31.5	S 15 29.9	+13.3
18	226 08.6	-31.6	S 15 43.2	+13.1
19	240 37.0	-31.7	S 15 56.3	+13.1
20	255 05.3	-31.7	S 16 09.4	+13.0
21	269 33.6	-31.8	S 16 22.4	+12.8
22	284 01.8	-31.9	S 16 35.2	+12.8
23	298 29.9	-32.0	S 16 48.0	+12.8

UT	02	06	10	14	18	22
SD	16′0	16′0	16′1	16′1	16′1	16′1
HP	58′8	58′9	58′9	59′0	59′0	59′1
SHA	146°	144°	141°	139°	137°	135°

Greenwich Culmination Time: 02:23

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	224 41.2	+00.6	S 18 29.9	-00.5
01	239 41.8	+00.5	S 18 29.4	-00.4
02	254 42.3	+00.6	S 18 29.0	-00.5
03	269 42.9	+00.5	S 18 28.5	-00.5
04	284 43.4	+00.6	S 18 28.0	-00.5
05	299 44.0	+00.5	S 18 27.5	-00.5
06	314 44.5	+00.6	S 18 27.0	-00.5
07	329 45.1	+00.5	S 18 26.5	-00.5
08	344 45.6	+00.6	S 18 26.0	-00.5
09	359 46.2	+00.5	S 18 25.5	-00.5
10	14 46.7	+00.6	S 18 25.0	-00.5
11	29 47.3	+00.5	S 18 24.5	-00.5
12	44 47.8	+00.6	S 18 24.0	-00.4
13	59 48.4	+00.5	S 18 23.6	-00.5
14	74 48.9	+00.6	S 18 23.1	-00.5
15	89 49.5	+00.5	S 18 22.6	-00.5
16	104 50.0	+00.6	S 18 22.1	-00.5
17	119 50.6	+00.5	S 18 21.6	-00.5
18	134 51.1	+00.6	S 18 21.1	-00.5
19	149 51.7	+00.6	S 18 20.6	-00.5
20	164 52.3	+00.5	S 18 20.1	-00.5
21	179 52.8	+00.6	S 18 19.6	-00.5
22	194 53.4	+00.5	S 18 19.1	-00.5
23	209 53.9	+00.6	S 18 18.6	-00.5

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	046°	046°	046°	046°	046°	045°

Greenwich Culmination Time: 09:00

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	188 30.0	+02.0	S 05 23.3	-00.2
01	203 32.0	+01.9	S 05 23.1	-00.3
02	218 33.9	+01.9	S 05 22.8	-00.2
03	233 35.8	+01.9	S 05 22.6	-00.2
04	248 37.7	+01.9	S 05 22.4	-00.3
05	263 39.6	+01.9	S 05 22.1	-00.2
06	278 41.5	+01.9	S 05 21.9	-00.2
07	293 43.4	+01.9	S 05 21.7	-00.3
08	308 45.3	+01.9	S 05 21.4	-00.2
09	323 47.2	+02.0	S 05 21.2	-00.2
10	338 49.2	+01.9	S 05 21.0	-00.3
11	353 51.1	+01.9	S 05 20.7	-00.2
12	8 53.0	+01.9	S 05 20.5	-00.2
13	23 54.9	+01.9	S 05 20.3	-00.2
14	38 56.8	+01.9	S 05 20.1	-00.3
15	53 58.7	+01.9	S 05 19.8	-00.2
16	69 00.6	+01.9	S 05 19.6	-00.2
17	84 02.5	+01.9	S 05 19.4	-00.3
18	99 04.4	+01.9	S 05 19.1	-00.2
19	114 06.3	+02.0	S 05 18.9	-00.2
20	129 08.3	+01.9	S 05 18.7	-00.3
21	144 10.2	+01.9	S 05 18.4	-00.2
22	159 12.1	+01.9	S 05 18.2	-00.2
23	174 14.0	+01.9	S 05 18.0	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	010°	010°	010°	010°	010°	010°

Greenwich Culmination Time: 11:24

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	214 49.6	+02.2	S 15 22.6	+00.0
01	229 51.8	+02.2	S 15 22.6	-00.1
02	244 54.0	+02.2	S 15 22.5	-00.1
03	259 56.2	+02.2	S 15 22.4	-00.1
04	274 58.4	+02.2	S 15 22.3	+00.0
05	290 00.6	+02.2	S 15 22.3	-00.1
06	305 02.8	+02.3	S 15 22.2	-00.1
07	320 05.1	+02.2	S 15 22.1	-00.1
08	335 07.3	+02.2	S 15 22.0	+00.0
09	350 09.5	+02.2	S 15 22.0	-00.1
10	5 11.7	+02.2	S 15 21.9	-00.1
11	20 13.9	+02.2	S 15 21.8	-00.1
12	35 16.1	+02.2	S 15 21.7	-00.1
13	50 18.3	+02.3	S 15 21.6	+00.0
14	65 20.6	+02.2	S 15 21.6	-00.1
15	80 22.8	+02.2	S 15 21.5	-00.1
16	95 25.0	+02.2	S 15 21.4	-00.1
17	110 27.2	+02.2	S 15 21.3	+00.0
18	125 29.4	+02.2	S 15 21.3	-00.1
19	140 31.6	+02.2	S 15 21.2	-00.1
20	155 33.8	+02.3	S 15 21.1	-00.1
21	170 36.1	+02.2	S 15 21.0	+00.0
22	185 38.3	+02.2	S 15 21.0	-00.1
23	200 40.5	+02.2	S 15 20.9	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 09:39

2022 March 18 Friday (day 77 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 57.1	+00.2	S 01 02.8	-01.0
01	192 57.3	+00.1	S 01 01.8	-01.0
02	207 57.4	+00.2	S 01 00.8	-01.0
03	222 57.6	+00.2	S 00 59.8	-01.0
04	237 57.8	+00.2	S 00 58.8	-00.9
05	252 58.0	+00.2	S 00 57.9	-01.0
06	267 58.2	+00.2	S 00 56.9	-01.0
07	282 58.4	+00.1	S 00 55.9	-01.0
08	297 58.5	+00.2	S 00 54.9	-01.0
09	312 58.7	+00.2	S 00 53.9	-01.0
10	327 58.9	+00.2	S 00 52.9	-01.0
11	342 59.1	+00.2	S 00 51.9	-01.0
12	357 59.3	+00.1	S 00 50.9	-00.9
13	12 59.4	+00.2	S 00 50.0	-01.0
14	27 59.6	+00.2	S 00 49.0	-01.0
15	42 59.8	+00.2	S 00 48.0	-01.0
16	57 60.0	+00.2	S 00 47.0	-01.0
17	73 00.2	+00.2	S 00 46.0	-01.0
18	88 00.4	+00.1	S 00 45.0	-01.0
19	103 00.5	+00.2	S 00 44.0	-01.0
20	118 00.7	+00.2	S 00 43.0	-01.0
21	133 00.9	+00.2	S 00 42.0	-00.9
22	148 01.1	+00.2	S 00 41.1	-01.0
23	163 01.3	+00.2	S 00 40.1	-01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	002°	002°	002°	002°	002°	002°

Greenwich Culmination Time: 12:08

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 53.2	+00.0	S 15 17.9	-00.4
01	237 53.2	-00.1	S 15 17.5	-00.4
02	252 53.1	+00.0	S 15 17.1	-00.4
03	267 53.1	+00.0	S 15 16.7	-00.4
04	282 53.1	-00.1	S 15 16.3	-00.4
05	297 53.0	+00.0	S 15 15.9	-00.4
06	312 53.0	-00.1	S 15 15.5	-00.4
07	327 52.9	+00.0	S 15 15.1	-00.4
08	342 52.9	+00.0	S 15 14.7	-00.4
09	357 52.9	-00.1	S 15 14.3	-00.4
10	12 52.8	+00.0	S 15 13.9	-00.4
11	27 52.8	-00.1	S 15 13.5	-00.4
12	42 52.7	+00.0	S 15 13.1	-00.4
13	57 52.7	-00.1	S 15 12.7	-00.4
14	72 52.6	+00.0	S 15 12.3	-00.4
15	87 52.6	-00.1	S 15 11.9	-00.4
16	102 52.5	+00.0	S 15 11.5	-00.4
17	117 52.5	-00.1	S 15 11.1	-00.4
18	132 52.4	+00.0	S 15 10.7	-00.4
19	147 52.4	-00.1	S 15 10.3	-00.4
20	162 52.3	+00.0	S 15 09.9	-00.4
21	177 52.3	-00.1	S 15 09.5	-00.5
22	192 52.2	+00.0	S 15 09.0	-00.4
23	207 52.2	-00.1	S 15 08.6	-00.4

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	047°	047°	047°	047°	047°	046°

Greenwich Culmination Time: 09:08

Moon

A: 51%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	359 40.1	-27.8	N 06 36.4	-14.7
01	14 12.3	-27.8	N 06 21.7	-14.7
02	28 44.5	-27.8	N 06 07.0	-14.7
03	43 16.7	-27.9	N 05 52.3	-14.8
04	57 48.8	-27.8	N 05 37.5	-14.9
05	72 21.0	-27.8	N 05 22.6	-14.8
06	86 53.2	-27.8	N 05 07.8	-14.9
07	101 25.4	-27.9	N 04 52.9	-15.0
08	115 57.5	-27.8	N 04 37.9	-15.0
09	130 29.7	-27.8	N 04 22.9	-15.0
10	145 01.9	-27.9	N 04 07.9	-15.0
11	159 34.0	-27.8	N 03 52.9	-15.1
12	174 06.2	-27.9	N 03 37.8	-15.1
13	188 38.3	-27.9	N 03 22.7	-15.1
14	203 10.4	-27.8	N 03 07.6	-15.2
15	217 42.6	-27.9	N 02 52.4	-15.2
16	232 14.7	-27.9	N 02 37.2	-15.2
17	246 46.8	-27.9	N 02 22.0	-15.2
18	261 18.9	-28.0	N 02 06.8	-15.3
19	275 50.9	-27.9	N 01 51.5	-15.2
20	290 23.0	-28.0	N 01 36.3	-15.3
21	304 55.0	-28.0	N 01 21.0	-15.4
22	319 27.0	-28.0	N 01 05.6	-15.3
23	333 59.0	-28.0	N 00 50.3	-15.3

UT	02	06	10	14	18	22
SD	15′6	15′7	15′7	15′7	15′8	15′8
HP	57′4	57′5	57′6	57′7	57′8	57′9
SHA	183°	181°	179°	177°	175°	173°

Greenwich Culmination Time: 00:01

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	224 02.0	+00.5	S 19 04.3	-00.5
01	239 02.5	+00.5	S 19 03.8	-00.5
02	254 03.0	+00.6	S 19 03.3	-00.4
03	269 03.6	+00.5	S 19 02.9	-00.5
04	284 04.1	+00.6	S 19 02.4	-00.5
05	299 04.7	+00.5	S 19 01.9	-00.4
06	314 05.2	+00.5	S 19 01.5	-00.5
07	329 05.7	+00.6	S 19 01.0	-00.5
08	344 06.3	+00.5	S 19 00.5	-00.4
09	359 06.8	+00.6	S 19 00.1	-00.5
10	14 07.4	+00.5	S 18 59.6	-00.5
11	29 07.9	+00.5	S 18 59.1	-00.4
12	44 08.4	+00.6	S 18 58.7	-00.5
13	59 09.0	+00.5	S 18 58.2	-00.5
14	74 09.5	+00.6	S 18 57.7	-00.5
15	89 10.1	+00.5	S 18 57.2	-00.4
16	104 10.6	+00.6	S 18 56.8	-00.5
17	119 11.2	+00.5	S 18 56.3	-00.5
18	134 11.7	+00.5	S 18 55.8	-00.4
19	149 12.2	+00.6	S 18 55.4	-00.5
20	164 12.8	+00.5	S 18 54.9	-00.5
21	179 13.3	+00.6	S 18 54.4	-00.5
22	194 13.9	+00.5	S 18 53.9	-00.4
23	209 14.4	+00.6	S 18 53.5	-00.5

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	048°	048°	048°	048°	048°	048°

Greenwich Culmination Time: 09:03

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	186 12.6	+01.9	S 05 40.0	-00.2
01	201 14.5	+01.9	S 05 39.8	-00.3
02	216 16.4	+01.9	S 05 39.5	-00.2
03	231 18.3	+01.9	S 05 39.3	-00.2
04	246 20.2	+02.0	S 05 39.1	-00.3
05	261 22.2	+01.9	S 05 38.8	-00.2
06	276 24.1	+01.9	S 05 38.6	-00.2
07	291 26.0	+01.9	S 05 38.4	-00.3
08	306 27.9	+01.9	S 05 38.1	-00.2
09	321 29.8	+01.9	S 05 37.9	-00.2
10	336 31.7	+01.9	S 05 37.7	-00.3
11	351 33.6	+01.9	S 05 37.4	-00.2
12	6 35.5	+01.9	S 05 37.2	-00.2
13	21 37.4	+01.9	S 05 37.0	-00.3
14	36 39.3	+01.9	S 05 36.7	-00.2
15	51 41.2	+01.9	S 05 36.5	-00.2
16	66 43.1	+01.9	S 05 36.3	-00.3
17	81 45.0	+02.0	S 05 36.0	-00.2
18	96 47.0	+01.9	S 05 35.8	-00.2
19	111 48.9	+01.9	S 05 35.6	-00.2
20	126 50.8	+01.9	S 05 35.4	-00.3
21	141 52.7	+01.9	S 05 35.1	-00.2
22	156 54.6	+01.9	S 05 34.9	-00.2
23	171 56.5	+01.9	S 05 34.7	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	011°	011°	011°	011°	011°	010°

Greenwich Culmination Time: 11:33

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	212 10.5	+02.2	S 15 28.2	-00.1
01	227 12.7	+02.2	S 15 28.1	+00.0
02	242 14.9	+02.2	S 15 28.1	-00.1
03	257 17.1	+02.2	S 15 28.0	-00.1
04	272 19.3	+02.2	S 15 27.9	-00.1
05	287 21.5	+02.2	S 15 27.8	+00.0
06	302 23.7	+02.2	S 15 27.8	-00.1
07	317 25.9	+02.2	S 15 27.7	-00.1
08	332 28.1	+02.2	S 15 27.6	-00.1
09	347 30.3	+02.2	S 15 27.5	-00.1
10	2 32.5	+02.3	S 15 27.4	+00.0
11	17 34.8	+02.2	S 15 27.4	-00.1
12	32 37.0	+02.2	S 15 27.3	-00.1
13	47 39.2	+02.2	S 15 27.2	-00.1
14	62 41.4	+02.2	S 15 27.1	-00.1
15	77 43.6	+02.2	S 15 27.0	+00.0
16	92 45.8	+02.2	S 15 27.0	-00.1
17	107 48.0	+02.2	S 15 26.9	-00.1
18	122 50.2	+02.2	S 15 26.8	-00.1
19	137 52.4	+02.2	S 15 26.7	+00.0
20	152 54.6	+02.2	S 15 26.7	-00.1
21	167 56.8	+02.2	S 15 26.6	-00.1
22	182 59.0	+02.3	S 15 26.5	-00.1
23	198 01.3	+02.2	S 15 26.4	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 09:49

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 March 19 Saturday (day 78 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 01.5	+00.1	S 00 39.1	-01.0
01	193 01.6	+00.2	S 00 38.1	-01.0
02	208 01.8	+00.2	S 00 37.1	-01.0
03	223 02.0	+00.2	S 00 36.1	-01.0
04	238 02.2	+00.2	S 00 35.1	-01.0
05	253 02.4	+00.2	S 00 34.1	-00.9
06	268 02.6	+00.1	S 00 33.2	-01.0
07	283 02.7	+00.2	S 00 32.2	-01.0
08	298 02.9	+00.2	S 00 31.2	-01.0
09	313 03.1	+00.2	S 00 30.2	-01.0
10	328 03.3	+00.2	S 00 29.2	-01.0
11	343 03.5	+00.2	S 00 28.2	-01.0
12	358 03.7	+00.1	S 00 27.2	-01.0
13	13 03.8	+00.2	S 00 26.2	-01.0
14	28 04.0	+00.2	S 00 25.2	-00.9
15	43 04.2	+00.2	S 00 24.3	-01.0
16	58 04.4	+00.2	S 00 23.3	-01.0
17	73 04.6	+00.2	S 00 22.3	-01.0
18	88 04.8	+00.1	S 00 21.3	-01.0
19	103 04.9	+00.2	S 00 20.3	-01.0
20	118 05.1	+00.2	S 00 19.3	-01.0
21	133 05.3	+00.2	S 00 18.3	-01.0
22	148 05.5	+00.2	S 00 17.3	-00.9
23	163 05.7	+00.2	S 00 16.4	-01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	001°	001°	001°	001°	001°	001°

Greenwich Culmination Time: 12:07

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	222 52.1	+00.0	S 15 08.2	-00.4
01	237 52.1	-00.1	S 15 07.8	-00.4
02	252 52.0	+00.0	S 15 07.4	-00.4
03	267 52.0	-00.1	S 15 07.0	-00.4
04	282 51.9	+00.0	S 15 06.6	-00.5
05	297 51.9	-00.1	S 15 06.1	-00.4
06	312 51.8	-00.1	S 15 05.7	-00.4
07	327 51.7	+00.0	S 15 05.3	-00.4
08	342 51.7	-00.1	S 15 04.9	-00.4
09	357 51.6	+00.0	S 15 04.5	-00.5
10	12 51.6	-00.1	S 15 04.0	-00.4
11	27 51.5	+00.0	S 15 03.6	-00.4
12	42 51.5	-00.1	S 15 03.2	-00.4
13	57 51.4	-00.1	S 15 02.8	-00.4
14	72 51.3	+00.0	S 15 02.4	-00.5
15	87 51.3	-00.1	S 15 01.9	-00.4
16	102 51.2	+00.0	S 15 01.5	-00.4
17	117 51.2	-00.1	S 15 01.1	-00.5
18	132 51.1	-00.1	S 15 00.6	-00.4
19	147 51.0	+00.0	S 15 00.2	-00.4
20	162 51.0	-00.1	S 14 59.8	-00.4
21	177 50.9	-00.1	S 14 59.4	-00.5
22	192 50.8	+00.0	S 14 58.9	-00.4
23	207 50.8	-00.1	S 14 58.5	-00.4

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	046°	046°	046°	046°	046°	045°

Greenwich Culmination Time: 09:08

Moon

A: 54%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	348 31.0	-28.0	N 00 35.0	-15.4
01	3 03.0	-28.1	N 00 19.6	-15.4
02	17 34.9	-28.0	N 00 04.2	-15.4
03	32 06.9	-28.2	S 00 11.2	+15.4
04	46 38.7	-28.1	S 00 26.6	+15.4
05	61 10.6	-28.1	S 00 42.0	+15.4
06	75 42.5	-28.2	S 00 57.4	+15.4
07	90 14.3	-28.2	S 01 12.8	+15.4
08	104 46.1	-28.2	S 01 28.2	+15.5
09	119 17.9	-28.3	S 01 43.7	+15.4
10	133 49.6	-28.3	S 01 59.1	+15.4
11	148 21.3	-28.3	S 02 14.5	+15.5
12	162 53.0	-28.4	S 02 30.0	+15.4
13	177 24.6	-28.4	S 02 45.4	+15.5
14	191 56.2	-28.4	S 03 00.9	+15.4
15	206 27.8	-28.5	S 03 16.3	+15.4
16	220 59.3	-28.5	S 03 31.7	+15.4
17	235 30.8	-28.5	S 03 47.1	+15.4
18	250 02.3	-28.6	S 04 02.5	+15.4
19	264 33.7	-28.6	S 04 17.9	+15.4
20	279 05.1	-28.6	S 04 33.3	+15.4
21	293 36.5	-28.7	S 04 48.7	+15.3
22	308 07.8	-28.8	S 05 04.0	+15.4
23	322 39.0	-28.7	S 05 19.4	+15.3

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′9	15′9	15′9
HP	58′0	58′1	58′2	58′2	58′3	58′4
SHA	171°	169°	167°	165°	163°	161°

Greenwich Culmination Time: 00:47

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	224 15.0	+00.5	S 18 53.0	-00.5
01	239 15.5	+00.5	S 18 52.5	-00.4
02	254 16.0	+00.6	S 18 52.1	-00.5
03	269 16.6	+00.5	S 18 51.6	-00.5
04	284 17.1	+00.6	S 18 51.1	-00.5
05	299 17.7	+00.5	S 18 50.6	-00.4
06	314 18.2	+00.6	S 18 50.2	-00.5
07	329 18.8	+00.5	S 18 49.7	-00.5
08	344 19.3	+00.6	S 18 49.2	-00.5
09	359 19.9	+00.5	S 18 48.7	-00.4
10	14 20.4	+00.6	S 18 48.3	-00.5
11	29 21.0	+00.5	S 18 47.8	-00.5
12	44 21.5	+00.5	S 18 47.3	-00.5
13	59 22.0	+00.6	S 18 46.8	-00.5
14	74 22.6	+00.5	S 18 46.3	-00.4
15	89 23.1	+00.6	S 18 45.9	-00.5
16	104 23.7	+00.5	S 18 45.4	-00.5
17	119 24.2	+00.6	S 18 44.9	-00.5
18	134 24.8	+00.5	S 18 44.4	-00.4
19	149 25.3	+00.6	S 18 44.0	-00.5
20	164 25.9	+00.5	S 18 43.5	-00.5
21	179 26.4	+00.6	S 18 43.0	-00.5
22	194 27.0	+00.5	S 18 42.5	-00.5
23	209 27.5	+00.5	S 18 42.0	-00.4

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	048°	048°	047°	047°	047°	047°

Greenwich Culmination Time: 09:02

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	186 58.4	+01.9	S 05 34.4	-00.2
01	202 00.3	+01.9	S 05 34.2	-00.2
02	217 02.2	+01.9	S 05 34.0	-00.3
03	232 04.1	+01.9	S 05 33.7	-00.2
04	247 06.0	+01.9	S 05 33.5	-00.2
05	262 07.9	+02.0	S 05 33.3	-00.3
06	277 09.9	+01.9	S 05 33.0	-00.2
07	292 11.8	+01.9	S 05 32.8	-00.2
08	307 13.7	+01.9	S 05 32.6	-00.3
09	322 15.6	+01.9	S 05 32.3	-00.2
10	337 17.5	+01.9	S 05 32.1	-00.2
11	352 19.4	+01.9	S 05 31.9	-00.3
12	7 21.3	+01.9	S 05 31.6	-00.2
13	22 23.2	+01.9	S 05 31.4	-00.2
14	37 25.1	+01.9	S 05 31.2	-00.3
15	52 27.0	+01.9	S 05 30.9	-00.2
16	67 28.9	+02.0	S 05 30.7	-00.2
17	82 30.9	+01.9	S 05 30.5	-00.2
18	97 32.8	+01.9	S 05 30.3	-00.3
19	112 34.7	+01.9	S 05 30.0	-00.2
20	127 36.6	+01.9	S 05 29.8	-00.2
21	142 38.5	+01.9	S 05 29.6	-00.3
22	157 40.4	+01.9	S 05 29.3	-00.2
23	172 42.3	+01.9	S 05 29.1	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	010°	010°	010°	010°	010°	010°

Greenwich Culmination Time: 11:30

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	213 03.5	+02.2	S 15 26.3	+00.0
01	228 05.7	+02.2	S 15 26.3	-00.1
02	243 07.9	+02.2	S 15 26.2	-00.1
03	258 10.1	+02.2	S 15 26.1	-00.1
04	273 12.3	+02.2	S 15 26.0	+00.0
05	288 14.5	+02.2	S 15 26.0	-00.1
06	303 16.7	+02.2	S 15 25.9	-00.1
07	318 18.9	+02.2	S 15 25.8	-00.1
08	333 21.1	+02.2	S 15 25.7	-00.1
09	348 23.3	+02.2	S 15 25.6	+00.0
10	3 25.5	+02.3	S 15 25.6	-00.1
11	18 27.8	+02.2	S 15 25.5	-00.1
12	33 30.0	+02.2	S 15 25.4	-00.1
13	48 32.2	+02.2	S 15 25.3	+00.0
14	63 34.4	+02.2	S 15 25.3	-00.1
15	78 36.6	+02.2	S 15 25.2	-00.1
16	93 38.8	+02.2	S 15 25.1	-00.1
17	108 41.0	+02.2	S 15 25.0	+00.0
18	123 43.2	+02.2	S 15 25.0	-00.1
19	138 45.4	+02.2	S 15 24.9	-00.1
20	153 47.6	+02.3	S 15 24.8	-00.1
21	168 49.9	+02.2	S 15 24.7	-00.1
22	183 52.1	+02.2	S 15 24.6	+00.0
23	198 54.3	+02.2	S 15 24.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	036°	036°	036°	036°

Greenwich Culmination Time: 09:46

2022 March 20 Sunday (day 79 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 05.9	+00.2	S 00 15.4	-01.0
01	193 06.1	+00.1	S 00 14.4	-01.0
02	208 06.2	+00.2	S 00 13.4	-01.0
03	223 06.4	+00.2	S 00 12.4	-01.0
04	238 06.6	+00.2	S 00 11.4	-01.0
05	253 06.8	+00.2	S 00 10.4	-01.0
06	268 07.0	+00.2	S 00 09.4	-00.9
07	283 07.2	+00.2	S 00 08.5	-01.0
08	298 07.4	+00.1	S 00 07.5	-01.0
09	313 07.5	+00.2	S 00 06.5	-01.0
10	328 07.7	+00.2	S 00 05.5	-01.0
11	343 07.9	+00.2	S 00 04.5	-01.0
12	358 08.1	+00.2	S 00 03.5	-01.0
13	13 08.3	+00.2	S 00 02.5	-01.0
14	28 08.5	+00.1	S 00 01.5	-01.0
15	43 08.6	+00.2	S 00 00.5	-00.9
16	58 08.8	+00.2	N 00 00.4	+01.0
17	73 09.0	+00.2	N 00 01.4	+01.0
18	88 09.2	+00.2	N 00 02.4	+01.0
19	103 09.4	+00.2	N 00 03.4	+01.0
20	118 09.6	+00.2	N 00 04.4	+01.0
21	133 09.8	+00.1	N 00 05.4	+01.0
22	148 09.9	+00.2	N 00 06.4	+01.0
23	163 10.1	+00.2	N 00 07.4	+00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	001°	000°	000°	000°	360°	360°

Greenwich Culmination Time: 12:07

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	222 50.7	+00.0	S 14 58.1	-00.5
01	237 50.7	-00.1	S 14 57.6	-00.4
02	252 50.6	-00.1	S 14 57.2	-00.4
03	267 50.5	+00.0	S 14 56.8	-00.5
04	282 50.5	-00.1	S 14 56.3	-00.4
05	297 50.4	-00.1	S 14 55.9	-00.4
06	312 50.3	+00.0	S 14 55.5	-00.5
07	327 50.3	-00.1	S 14 55.0	-00.4
08	342 50.2	-00.1	S 14 54.6	-00.5
09	357 50.1	-00.1	S 14 54.1	-00.4
10	12 50.0	+00.0	S 14 53.7	-00.4
11	27 50.0	-00.1	S 14 53.3	-00.5
12	42 49.9	-00.1	S 14 52.8	-00.4
13	57 49.8	+00.0	S 14 52.4	-00.5
14	72 49.8	-00.1	S 14 51.9	-00.4
15	87 49.7	-00.1	S 14 51.5	-00.5
16	102 49.6	-00.1	S 14 51.0	-00.4
17	117 49.5	+00.0	S 14 50.6	-00.5
18	132 49.5	-00.1	S 14 50.1	-00.4
19	147 49.4	-00.1	S 14 49.7	-00.5
20	162 49.3	-00.1	S 14 49.2	-00.4
21	177 49.2	+00.0	S 14 48.8	-00.5
22	192 49.2	-00.1	S 14 48.3	-00.4
23	207 49.1	-00.1	S 14 47.9	-00.5

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	045°	045°	045°	045°	045°	044°

Greenwich Culmination Time: 09:08

Moon

A: 57%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	337 10.3	-28.9	S 05 34.7	+15.3
01	351 41.4	-28.8	S 05 50.0	+15.3
02	6 12.6	-29.0	S 06 05.3	+15.3
03	20 43.6	-28.9	S 06 20.6	+15.2
04	35 14.7	-29.0	S 06 35.8	+15.3
05	49 45.7	-29.1	S 06 51.1	+15.1
06	64 16.6	-29.1	S 07 06.2	+15.2
07	78 47.5	-29.2	S 07 21.4	+15.2
08	93 18.3	-29.2	S 07 36.6	+15.1
09	107 49.1	-29.3	S 07 51.7	+15.0
10	122 19.8	-29.3	S 08 06.7	+15.1
11	136 50.5	-29.4	S 08 21.8	+15.0
12	151 21.1	-29.5	S 08 36.8	+15.0
13	165 51.6	-29.5	S 08 51.8	+14.9
14	180 22.1	-29.6	S 09 06.7	+14.9
15	194 52.5	-29.6	S 09 21.6	+14.9
16	209 22.9	-29.7	S 09 36.5	+14.8
17	223 53.2	-29.7	S 09 51.3	+14.7
18	238 23.5	-29.8	S 10 06.0	+14.8
19	252 53.7	-29.9	S 10 20.8	+14.6
20	267 23.8	-29.9	S 10 35.4	+14.7
21	281 53.9	-30.0	S 10 50.1	+14.5
22	296 23.9	-30.1	S 11 04.6	+14.6
23	310 53.8	-30.2	S 11 19.2	+14.4

UT	02	06	10	14	18	22
SD	15′9	16′0	16′0	16′0	16′0	16′0
HP	58′5	58′5	58′6	58′7	58′7	58′8
SHA	159°	157°	154°	152°	150°	148°

Greenwich Culmination Time: 01:34

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	224 28.0	+00.6	S 18 41.6	-00.5
01	239 28.6	+00.5	S 18 41.1	-00.5
02	254 29.1	+00.6	S 18 40.6	-00.5
03	269 29.7	+00.5	S 18 40.1	-00.5
04	284 30.2	+00.6	S 18 39.6	-00.5
05	299 30.8	+00.5	S 18 39.1	-00.4
06	314 31.3	+00.6	S 18 38.7	-00.5
07	329 31.9	+00.5	S 18 38.2	-00.5
08	344 32.4	+00.6	S 18 37.7	-00.5
09	359 33.0	+00.5	S 18 37.2	-00.5
10	14 33.5	+00.6	S 18 36.7	-00.5
11	29 34.1	+00.5	S 18 36.2	-00.4
12	44 34.6	+00.6	S 18 35.8	-00.5
13	59 35.2	+00.5	S 18 35.3	-00.5
14	74 35.7	+00.6	S 18 34.8	-00.5
15	89 36.3	+00.5	S 18 34.3	-00.5
16	104 36.8	+00.6	S 18 33.8	-00.5
17	119 37.4	+00.5	S 18 33.3	-00.4
18	134 37.9	+00.6	S 18 32.9	-00.5
19	149 38.5	+00.5	S 18 32.4	-00.5
20	164 39.0	+00.6	S 18 31.9	-00.5
21	179 39.6	+00.5	S 18 31.4	-00.5
22	194 40.1	+00.6	S 18 30.9	-00.5
23	209 40.7	+00.5	S 18 30.4	-00.5

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	047°	047°	047°	047°	046°	046°

Greenwich Culmination Time: 09:01

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	187 44.2	+01.9	S 05 28.9	-00.3
01	202 46.1	+01.9	S 05 28.6	-00.2
02	217 48.0	+01.9	S 05 28.4	-00.2
03	232 49.9	+02.0	S 05 28.2	-00.3
04	247 51.9	+01.9	S 05 27.9	-00.2
05	262 53.8	+01.9	S 05 27.7	-00.2
06	277 55.7	+01.9	S 05 27.5	-00.3
07	292 57.6	+01.9	S 05 27.2	-00.2
08	307 59.5	+01.9	S 05 27.0	-00.2
09	323 01.4	+01.9	S 05 26.8	-00.3
10	338 03.3	+01.9	S 05 26.5	-00.2
11	353 05.2	+01.9	S 05 26.3	-00.2
12	8 07.1	+01.9	S 05 26.1	-00.3
13	23 09.0	+01.9	S 05 25.8	-00.2
14	38 10.9	+02.0	S 05 25.6	-00.2
15	53 12.9	+01.9	S 05 25.4	-00.2
16	68 14.8	+01.9	S 05 25.2	-00.3
17	83 16.7	+01.9	S 05 24.9	-00.2
18	98 18.6	+01.9	S 05 24.7	-00.2
19	113 20.5	+01.9	S 05 24.5	-00.3
20	128 22.4	+01.9	S 05 24.2	-00.2
21	143 24.3	+01.9	S 05 24.0	-00.2
22	158 26.2	+01.9	S 05 23.8	-00.3
23	173 28.1	+01.9	S 05 23.5	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	010°	010°	010°	010°	010°	010°

Greenwich Culmination Time: 11:27

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	213 56.5	+02.2	S 15 24.5	-00.1
01	228 58.7	+02.2	S 15 24.4	-00.1
02	244 00.9	+02.2	S 15 24.3	+00.0
03	259 03.1	+02.2	S 15 24.3	-00.1
04	274 05.3	+02.2	S 15 24.2	-00.1
05	289 07.5	+02.3	S 15 24.1	-00.1
06	304 09.8	+02.2	S 15 24.0	-00.1
07	319 12.0	+02.2	S 15 23.9	+00.0
08	334 14.2	+02.2	S 15 23.9	-00.1
09	349 16.4	+02.2	S 15 23.8	-00.1
10	4 18.6	+02.2	S 15 23.7	-00.1
11	19 20.8	+02.2	S 15 23.6	+00.0
12	34 23.0	+02.2	S 15 23.6	-00.1
13	49 25.2	+02.2	S 15 23.5	-00.1
14	64 27.4	+02.3	S 15 23.4	-00.1
15	79 29.7	+02.2	S 15 23.3	+00.0
16	94 31.9	+02.2	S 15 23.3	-00.1
17	109 34.1	+02.2	S 15 23.2	-00.1
18	124 36.3	+02.2	S 15 23.1	-00.1
19	139 38.5	+02.2	S 15 23.0	-00.1
20	154 40.7	+02.2	S 15 22.9	+00.0
21	169 42.9	+02.2	S 15 22.9	-00.1
22	184 45.1	+02.3	S 15 22.8	-00.1
23	199 47.4	+02.2	S 15 22.7	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 09:42

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 March 25 Friday (day 84 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 28.3	+00.2	N 01 43.0	+01.0
01	193 28.5	+00.2	N 01 44.0	+00.9
02	208 28.7	+00.2	N 01 44.9	+01.0
03	223 28.9	+00.2	N 01 45.9	+01.0
04	238 29.1	+00.1	N 01 46.9	+01.0
05	253 29.2	+00.2	N 01 47.9	+01.0
06	268 29.4	+00.2	N 01 48.9	+01.0
07	283 29.6	+00.2	N 01 49.9	+00.9
08	298 29.8	+00.2	N 01 50.8	+01.0
09	313 30.0	+00.2	N 01 51.8	+01.0
10	328 30.2	+00.2	N 01 52.8	+01.0
11	343 30.4	+00.2	N 01 53.8	+01.0
12	358 30.6	+00.2	N 01 54.8	+00.9
13	13 30.8	+00.1	N 01 55.7	+01.0
14	28 30.9	+00.2	N 01 56.7	+01.0
15	43 31.1	+00.2	N 01 57.7	+01.0
16	58 31.3	+00.2	N 01 58.7	+01.0
17	73 31.5	+00.2	N 01 59.7	+01.0
18	88 31.7	+00.2	N 02 00.7	+00.9
19	103 31.9	+00.2	N 02 01.6	+01.0
20	118 32.1	+00.2	N 02 02.6	+01.0
21	133 32.3	+00.2	N 02 03.6	+01.0
22	148 32.5	+00.1	N 02 04.6	+01.0
23	163 32.6	+00.2	N 02 05.6	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	356°	356°	356°	356°	355°	355°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	222 39.8	-00.2	S 14 00.3	-00.5
01	237 39.6	-00.1	S 13 59.8	-00.5
02	252 39.5	-00.1	S 13 59.3	-00.6
03	267 39.4	-00.1	S 13 58.7	-00.5
04	282 39.3	-00.1	S 13 58.2	-00.5
05	297 39.2	-00.1	S 13 57.7	-00.6
06	312 39.1	-00.2	S 13 57.1	-00.5
07	327 38.9	-00.1	S 13 56.6	-00.5
08	342 38.8	-00.1	S 13 56.1	-00.6
09	357 38.7	-00.1	S 13 55.5	-00.5
10	12 38.6	-00.1	S 13 55.0	-00.5
11	27 38.5	-00.1	S 13 54.5	-00.6
12	42 38.4	-00.2	S 13 53.9	-00.5
13	57 38.2	-00.1	S 13 53.4	-00.5
14	72 38.1	-00.1	S 13 52.9	-00.6
15	87 38.0	-00.1	S 13 52.3	-00.5
16	102 37.9	-00.1	S 13 51.8	-00.6
17	117 37.8	-00.2	S 13 51.2	-00.5
18	132 37.6	-00.1	S 13 50.7	-00.6
19	147 37.5	-00.1	S 13 50.1	-00.5
20	162 37.4	-00.1	S 13 49.6	-00.5
21	177 37.3	-00.1	S 13 49.1	-00.6
22	192 37.2	-00.2	S 13 48.5	-00.5
23	207 37.0	-00.1	S 13 48.0	-00.6

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	040°	040°	040°	040°	039°	039°

Greenwich Culmination Time: 09:09

Moon

A: 76%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	271 03.1	-37.0	S 26 34.2	+02.1
01	285 26.1	-37.1	S 26 36.3	+01.9
02	299 49.0	-37.0	S 26 38.2	+01.7
03	314 12.0	-37.1	S 26 39.9	+01.5
04	328 34.9	-37.1	S 26 41.4	+01.4
05	342 57.8	-37.1	S 26 42.8	+01.1
06	357 20.7	-37.2	S 26 43.9	+01.0
07	11 43.5	-37.1	S 26 44.9	+00.8
08	26 06.4	-37.1	S 26 45.7	+00.6
09	40 29.3	-37.1	S 26 46.3	+00.5
10	54 52.2	-37.1	S 26 46.8	+00.2
11	69 15.1	-37.2	S 26 47.0	+00.1
12	83 37.9	-37.1	S 26 47.1	-00.1
13	98 00.8	-37.1	S 26 47.0	-00.3
14	112 23.7	-37.0	S 26 46.7	-00.5
15	126 46.7	-37.1	S 26 46.2	-00.6
16	141 09.6	-37.1	S 26 45.6	-00.9
17	155 32.5	-37.0	S 26 44.7	-01.0
18	169 55.5	-37.0	S 26 43.7	-01.2
19	184 18.5	-37.0	S 26 42.5	-01.4
20	198 41.5	-37.0	S 26 41.1	-01.6
21	213 04.5	-37.0	S 26 39.5	-01.7
22	227 27.5	-36.9	S 26 37.8	-02.0
23	241 50.6	-36.9	S 26 35.8	-02.1

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	59′2	59′2	59′2	59′2	59′1	59′1
SHA	087°	085°	082°	079°	077°	074°

Greenwich Culmination Time: 06:11

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	225 34.7	+00.6	S 17 41.6	-00.5
01	240 35.3	+00.5	S 17 41.1	-00.5
02	255 35.8	+00.6	S 17 40.6	-00.5
03	270 36.4	+00.6	S 17 40.1	-00.6
04	285 37.0	+00.5	S 17 39.5	-00.5
05	300 37.5	+00.6	S 17 39.0	-00.5
06	315 38.1	+00.6	S 17 38.5	-00.5
07	330 38.7	+00.5	S 17 38.0	-00.5
08	345 39.2	+00.6	S 17 37.5	-00.5
09	0 39.8	+00.6	S 17 37.0	-00.6
10	15 40.4	+00.5	S 17 36.4	-00.5
11	30 40.9	+00.6	S 17 35.9	-00.5
12	45 41.5	+00.6	S 17 35.4	-00.5
13	60 42.1	+00.5	S 17 34.9	-00.6
14	75 42.6	+00.6	S 17 34.3	-00.5
15	90 43.2	+00.6	S 17 33.8	-00.5
16	105 43.8	+00.5	S 17 33.3	-00.5
17	120 44.3	+00.6	S 17 32.8	-00.5
18	135 44.9	+00.6	S 17 32.3	-00.6
19	150 45.5	+00.5	S 17 31.7	-00.5
20	165 46.0	+00.6	S 17 31.2	-00.5
21	180 46.6	+00.6	S 17 30.7	-00.5
22	195 47.2	+00.5	S 17 30.2	-00.6
23	210 47.7	+00.6	S 17 29.6	-00.5

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	043°	043°	043°	043°	043°	042°

Greenwich Culmination Time: 08:57

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	191 33.6	+01.9	S 05 01.1	-00.2
01	206 35.5	+01.9	S 05 00.9	-00.3
02	221 37.4	+01.9	S 05 00.6	-00.2
03	236 39.3	+01.9	S 05 00.4	-00.2
04	251 41.2	+02.0	S 05 00.2	-00.2
05	266 43.2	+01.9	S 04 60.0	-00.3
06	281 45.1	+01.9	S 04 59.7	-00.2
07	296 47.0	+01.9	S 04 59.5	-00.2
08	311 48.9	+01.9	S 04 59.3	-00.3
09	326 50.8	+01.9	S 04 59.0	-00.2
10	341 52.7	+01.9	S 04 58.8	-00.2
11	356 54.6	+02.0	S 04 58.6	-00.3
12	11 56.6	+01.9	S 04 58.3	-00.2
13	26 58.5	+01.9	S 04 58.1	-00.2
14	42 00.4	+01.9	S 04 57.9	-00.3
15	57 02.3	+01.9	S 04 57.6	-00.2
16	72 04.2	+01.9	S 04 57.4	-00.2
17	87 06.1	+01.9	S 04 57.2	-00.2
18	102 08.0	+02.0	S 04 57.0	-00.3
19	117 10.0	+01.9	S 04 56.7	-00.2
20	132 11.9	+01.9	S 04 56.5	-00.2
21	147 13.8	+01.9	S 04 56.3	-00.3
22	162 15.7	+01.9	S 04 56.0	-00.2
23	177 17.6	+01.9	S 04 55.8	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	009°	009°	009°	009°	009°	009°

Greenwich Culmination Time: 11:12

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	218 22.4	+02.2	S 15 15.4	-00.1
01	233 24.6	+02.2	S 15 15.3	+00.0
02	248 26.8	+02.2	S 15 15.3	-00.1
03	263 29.0	+02.3	S 15 15.2	-00.1
04	278 31.3	+02.2	S 15 15.1	-00.1
05	293 33.5	+02.2	S 15 15.0	+00.0
06	308 35.7	+02.2	S 15 15.0	-00.1
07	323 37.9	+02.2	S 15 14.9	-00.1
08	338 40.1	+02.3	S 15 14.8	-00.1
09	353 42.4	+02.2	S 15 14.7	+00.0
10	8 44.6	+02.2	S 15 14.7	-00.1
11	23 46.8	+02.2	S 15 14.6	-00.1
12	38 49.0	+02.3	S 15 14.5	-00.1
13	53 51.3	+02.2	S 15 14.4	+00.0
14	68 53.5	+02.2	S 15 14.4	-00.1
15	83 55.7	+02.2	S 15 14.3	-00.1
16	98 57.9	+02.2	S 15 14.2	-00.1
17	114 00.1	+02.3	S 15 14.1	+00.0
18	129 02.4	+02.2	S 15 14.1	-00.1
19	144 04.6	+02.2	S 15 14.0	-00.1
20	159 06.8	+02.2	S 15 13.9	-00.1
21	174 09.0	+02.3	S 15 13.8	+00.0
22	189 11.3	+02.2	S 15 13.8	-00.1
23	204 13.5	+02.2	S 15 13.7	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 09:25

2022 March 22 Tuesday (day 81 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 14.8	+00.2	N 00 32.0	+01.0
01	193 15.0	+00.2	N 00 33.0	+01.0
02	208 15.2	+00.2	N 00 34.0	+01.0
03	223 15.4	+00.1	N 00 35.0	+01.0
04	238 15.5	+00.2	N 00 36.0	+01.0
05	253 15.7	+00.2	N 00 37.0	+01.0
06	268 15.9	+00.2	N 00 38.0	+00.9
07	283 16.1	+00.2	N 00 38.9	+01.0
08	298 16.3	+00.2	N 00 39.9	+01.0
09	313 16.5	+00.2	N 00 40.9	+01.0
10	328 16.7	+00.1	N 00 41.9	+01.0
11	343 16.8	+00.2	N 00 42.9	+01.0
12	358 17.0	+00.2	N 00 43.9	+01.0
13	13 17.2	+00.2	N 00 44.9	+00.9
14	28 17.4	+00.2	N 00 45.8	+01.0
15	43 17.6	+00.2	N 00 46.8	+01.0
16	58 17.8	+00.2	N 00 47.8	+01.0
17	73 18.0	+00.2	N 00 48.8	+01.0
18	88 18.2	+00.1	N 00 49.8	+01.0
19	103 18.3	+00.2	N 00 50.8	+01.0
20	118 18.5	+00.2	N 00 51.8	+00.9
21	133 18.7	+00.2	N 00 52.7	+01.0
22	148 18.9	+00.2	N 00 53.7	+01.0
23	163 19.1	+00.2	N 00 54.7	+01.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	359°	359°	358°	358°	358°	358°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	222 47.1	-00.1	S 14 36.4	-00.5
01	237 47.0	-00.1	S 14 35.9	-00.5
02	252 46.9	-00.1	S 14 35.4	-00.5
03	267 46.8	-00.1	S 14 34.9	-00.4
04	282 46.7	-00.1	S 14 34.5	-00.5
05	297 46.6	-00.1	S 14 34.0	-00.5
06	312 46.5	-00.1	S 14 33.5	-00.5
07	327 46.4	-00.1	S 14 33.0	-00.4
08	342 46.3	+00.0	S 14 32.6	-00.5
09	357 46.3	-00.1	S 14 32.1	-00.5
10	12 46.2	-00.1	S 14 31.6	-00.5
11	27 46.1	-00.1	S 14 31.1	-00.5
12	42 46.0	-00.1	S 14 30.6	-00.4
13	57 45.9	-00.1	S 14 30.2	-00.5
14	72 45.8	-00.1	S 14 29.7	-00.5
15	87 45.7	-00.1	S 14 29.2	-00.5
16	102 45.6	-00.1	S 14 28.7	-00.5
17	117 45.5	-00.1	S 14 28.2	-00.5
18	132 45.4	-00.1	S 14 27.7	-00.4
19	147 45.3	-00.1	S 14 27.3	-00.5
20	162 45.2	-00.1	S 14 26.8	-00.5
21	177 45.1	-00.1	S 14 26.3	-00.5
22	192 45.0	-00.1	S 14 25.8	-00.5
23	207 44.9	-00.1	S 14 25.3	-00.5

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	043°	043°	043°	043°	043°	042°

Greenwich Culmination Time: 09:08

Moon

A: 64%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	312 57.9	-32.1	S 17 00.8	+12.6
01	327 25.8	-32.2	S 17 13.4	+12.5
02	341 53.6	-32.2	S 17 25.9	+12.4
03	356 21.4	-32.4	S 17 38.3	+12.3
04	10 49.0	-32.4	S 17 50.6	+12.2
05	25 16.6	-32.5	S 18 02.8	+12.2
06	39 44.1	-32.6	S 18 15.0	+12.0
07	54 11.5	-32.7	S 18 27.0	+11.9
08	68 38.8	-32.8	S 18 38.9	+11.8
09	83 06.0	-32.8	S 18 50.7	+11.7
10	97 33.2	-33.0	S 19 02.4	+11.6
11	112 00.2	-33.0	S 19 14.0	+11.4
12	126 27.2	-33.1	S 19 25.4	+11.4
13	140 54.1	-33.3	S 19 36.8	+11.2
14	155 20.8	-33.3	S 19 48.0	+11.2
15	169 47.5	-33.4	S 19 59.2	+11.0
16	184 14.1	-33.4	S 20 10.2	+10.9
17	198 40.7	-33.6	S 20 21.1	+10.7
18	213 07.1	-33.6	S 20 31.8	+10.7
19	227 33.5	-33.8	S 20 42.5	+10.5
20	241 59.7	-33.8	S 20 53.0	+10.4
21	256 25.9	-33.9	S 21 03.4	+10.2
22	270 52.0	-34.0	S 21 13.6	+10.2
23	285 18.0	-34.1	S 21 23.8	+10.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	59′1	59′1	59′2	59′2	59′2	59′2
SHA	132°	130°	128°	125°	123°	120°

Greenwich Culmination Time: 03:15

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	224 54.5	+00.5	S 18 18.1	-00.5
01	239 55.0	+00.6	S 18 17.6	-00.5
02	254 55.6	+00.5	S 18 17.1	-00.5
03	269 56.1	+00.6	S 18 16.6	-00.5
04	284 56.7	+00.5	S 18 16.1	-00.5
05	299 57.2	+00.6	S 18 15.6	-00.5
06	314 57.8	+00.5	S 18 15.1	-00.5
07	329 58.3	+00.6	S 18 14.6	-00.5
08	344 58.9	+00.6	S 18 14.1	-00.5
09	359 59.5	+00.5	S 18 13.6	-00.5
10	15 00.0	+00.6	S 18 13.1	-00.5
11	30 00.6	+00.5	S 18 12.6	-00.5
12	45 01.1	+00.6	S 18 12.1	-00.5
13	60 01.7	+00.5	S 18 11.6	-00.5
14	75 02.2	+00.6	S 18 11.1	-00.5
15	90 02.8	+00.5	S 18 10.6	-00.5
16	105 03.3	+00.6	S 18 10.1	-00.5
17	120 03.9	+00.6	S 18 09.6	-00.5
18	135 04.5	+00.5	S 18 09.1	-00.5
19	150 05.0	+00.6	S 18 08.6	-00.5
20	165 05.6	+00.5	S 18 08.1	-00.5
21	180 06.1	+00.6	S 18 07.6	-00.5
22	195 06.7	+00.5	S 18 07.1	-00.5
23	210 07.2	+00.6	S 18 06.6	-00.5

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	045°	045°	045°	045°	045°	045°

Greenwich Culmination Time: 09:00

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	189 15.9	+01.9	S 05 17.7	-00.2
01	204 17.8	+01.9	S 05 17.5	-00.2
02	219 19.7	+01.9	S 05 17.3	-00.3
03	234 21.6	+01.9	S 05 17.0	-00.2
04	249 23.5	+02.0	S 05 16.8	-00.2
05	264 25.5	+01.9	S 05 16.6	-00.2
06	279 27.4	+01.9	S 05 16.4	-00.3
07	294 29.3	+01.9	S 05 16.1	-00.2
08	309 31.2	+01.9	S 05 15.9	-00.2
09	324 33.1	+01.9	S 05 15.7	-00.3
10	339 35.0	+01.9	S 05 15.4	-00.2
11	354 36.9	+01.9	S 05 15.2	-00.2
12	9 38.8	+01.9	S 05 15.0	-00.3
13	24 40.7	+02.0	S 05 14.7	-00.2
14	39 42.7	+01.9	S 05 14.5	-00.2
15	54 44.6	+01.9	S 05 14.3	-00.3
16	69 46.5	+01.9	S 05 14.0	-00.2
17	84 48.4	+01.9	S 05 13.8	-00.2
18	99 50.3	+01.9	S 05 13.6	-00.3
19	114 52.2	+01.9	S 05 13.3	-00.2
20	129 54.1	+01.9	S 05 13.1	-00.2
21	144 56.0	+01.9	S 05 12.9	-00.2
22	159 57.9	+02.0	S 05 12.7	-00.3
23	174 59.9	+01.9	S 05 12.4	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	010°	010°	010°	010°	010°	010°

Greenwich Culmination Time: 11:21

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	215 42.7	+02.2	S 15 20.8	-00.1
01	230 44.9	+02.2	S 15 20.7	+00.0
02	245 47.1	+02.2	S 15 20.7	-00.1
03	260 49.3	+02.3	S 15 20.6	-00.1
04	275 51.6	+02.2	S 15 20.5	-00.1
05	290 53.8	+02.2	S 15 20.4	+00.0
06	305 56.0	+02.2	S 15 20.4	-00.1
07	320 58.2	+02.2	S 15 20.3	-00.1
08	336 00.4	+02.2	S 15 20.2	-00.1
09	351 02.6	+02.2	S 15 20.1	-00.1
10	6 04.8	+02.3	S 15 20.0	+00.0
11	21 07.1	+02.2	S 15 20.0	-00.1
12	36 09.3	+02.2	S 15 19.9	-00.1
13	51 11.5	+02.2	S 15 19.8	-00.1
14	66 13.7	+02.2	S 15 19.7	+00.0
15	81 15.9	+02.2	S 15 19.7	-00.1
16	96 18.1	+02.3	S 15 19.6	-00.1
17	111 20.4	+02.2	S 15 19.5	-00.1
18	126 22.6	+02.2	S 15 19.4	+00.0
19	141 24.8	+02.2	S 15 19.4	-00.1
20	156 27.0	+02.2	S 15 19.3	-00.1
21	171 29.2	+02.2	S 15 19.2	-00.1
22	186 31.4	+02.3	S 15 19.1	+00.0
23	201 33.7	+02.2	S 15 19.1	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 09:35

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 March 23 Wednesday (day 82 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 19.3	+00.2	N 00 55.7	+01.0
01	193 19.5	+00.2	N 00 56.7	+01.0
02	208 19.7	+00.1	N 00 57.7	+01.0
03	223 19.8	+00.2	N 00 58.7	+00.9
04	238 20.0	+00.2	N 00 59.6	+01.0
05	253 20.2	+00.2	N 01 00.6	+01.0
06	268 20.4	+00.2	N 01 01.6	+01.0
07	283 20.6	+00.2	N 01 02.6	+01.0
08	298 20.8	+00.2	N 01 03.6	+01.0
09	313 21.0	+00.2	N 01 04.6	+01.0
10	328 21.2	+00.1	N 01 05.6	+00.9
11	343 21.3	+00.2	N 01 06.5	+01.0
12	358 21.5	+00.2	N 01 07.5	+01.0
13	13 21.7	+00.2	N 01 08.5	+01.0
14	28 21.9	+00.2	N 01 09.5	+01.0
15	43 22.1	+00.2	N 01 10.5	+01.0
16	58 22.3	+00.2	N 01 11.5	+01.0
17	73 22.5	+00.2	N 01 12.5	+00.9
18	88 22.7	+00.2	N 01 13.4	+01.0
19	103 22.9	+00.1	N 01 14.4	+01.0
20	118 23.0	+00.2	N 01 15.4	+01.0
21	133 23.2	+00.2	N 01 16.4	+01.0
22	148 23.4	+00.2	N 01 17.4	+01.0
23	163 23.6	+00.2	N 01 18.4	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	358°	358°	357°	357°	357°	357°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	222 44.8	+00.0	S 14 24.8	−00.5
01	237 44.8	−00.1	S 14 24.3	−00.5
02	252 44.7	−00.1	S 14 23.8	−00.5
03	267 44.6	−00.1	S 14 23.3	−00.5
04	282 44.5	−00.1	S 14 22.8	−00.5
05	297 44.4	−00.1	S 14 22.3	−00.4
06	312 44.3	−00.1	S 14 21.9	−00.5
07	327 44.2	−00.1	S 14 21.4	−00.5
08	342 44.1	−00.1	S 14 20.9	−00.5
09	357 44.0	−00.1	S 14 20.4	−00.5
10	12 43.9	−00.1	S 14 19.9	−00.5
11	27 43.8	−00.1	S 14 19.4	−00.5
12	42 43.7	−00.1	S 14 18.9	−00.5
13	57 43.6	−00.1	S 14 18.4	−00.5
14	72 43.5	−00.2	S 14 17.9	−00.5
15	87 43.3	−00.1	S 14 17.4	−00.5
16	102 43.2	−00.1	S 14 16.9	−00.5
17	117 43.1	−00.1	S 14 16.4	−00.6
18	132 43.0	−00.1	S 14 15.8	−00.5
19	147 42.9	−00.1	S 14 15.3	−00.5
20	162 42.8	−00.1	S 14 14.8	−00.5
21	177 42.7	−00.1	S 14 14.3	−00.5
22	192 42.6	−00.1	S 14 13.8	−00.5
23	207 42.5	−00.1	S 14 13.3	−00.5

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	042°	042°	042°	042°	042°	041°

Greenwich Culmination Time: 09:09

Moon

A: 68%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	299 43.9	−34.2	S 21 33.8	+09.9
01	314 09.7	−34.3	S 21 43.7	+09.7
02	328 35.4	−34.3	S 21 53.4	+09.6
03	343 01.1	−34.4	S 22 03.0	+09.5
04	357 26.7	−34.5	S 22 12.5	+09.3
05	11 52.2	−34.6	S 22 21.8	+09.2
06	26 17.6	−34.7	S 22 31.0	+09.0
07	40 42.9	−34.8	S 22 40.0	+08.9
08	55 08.1	−34.8	S 22 48.9	+08.8
09	69 33.3	−34.9	S 22 57.7	+08.6
10	83 58.4	−35.1	S 23 06.3	+08.5
11	98 23.3	−35.0	S 23 14.8	+08.3
12	112 48.3	−35.2	S 23 23.1	+08.2
13	127 13.1	−35.2	S 23 31.3	+08.0
14	141 37.9	−35.4	S 23 39.3	+07.8
15	156 02.5	−35.3	S 23 47.1	+07.8
16	170 27.2	−35.5	S 23 54.9	+07.5
17	184 51.7	−35.5	S 24 02.4	+07.4
18	199 16.2	−35.7	S 24 09.8	+07.3
19	213 40.5	−35.6	S 24 17.1	+07.1
20	228 04.9	−35.8	S 24 24.2	+06.9
21	242 29.1	−35.8	S 24 31.1	+06.8
22	256 53.3	−35.9	S 24 37.9	+06.6
23	271 17.4	−36.0	S 24 44.5	+06.4

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	59′2	59′2	59′3	59′3	59′3	59′3
SHA	118°	116°	113°	111°	108°	106°

Greenwich Culmination Time: 04:10

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	225 07.8	+00.6	S 18 06.1	−00.5
01	240 08.4	+00.5	S 18 05.6	−00.5
02	255 08.9	+00.6	S 18 05.1	−00.5
03	270 09.5	+00.5	S 18 04.6	−00.5
04	285 10.0	+00.6	S 18 04.1	−00.5
05	300 10.6	+00.5	S 18 03.6	−00.5
06	315 11.1	+00.6	S 18 03.1	−00.5
07	330 11.7	+00.6	S 18 02.6	−00.5
08	345 12.3	+00.5	S 18 02.1	−00.5
09	0 12.8	+00.6	S 18 01.6	−00.5
10	15 13.4	+00.5	S 18 01.1	−00.5
11	30 13.9	+00.6	S 18 00.6	−00.5
12	45 14.5	+00.6	S 18 00.1	−00.5
13	60 15.1	+00.5	S 17 59.6	−00.5
14	75 15.6	+00.6	S 17 59.1	−00.6
15	90 16.2	+00.5	S 17 58.5	−00.5
16	105 16.7	+00.6	S 17 58.0	−00.5
17	120 17.3	+00.6	S 17 57.5	−00.5
18	135 17.9	+00.5	S 17 57.0	−00.5
19	150 18.4	+00.6	S 17 56.5	−00.5
20	165 19.0	+00.5	S 17 56.0	−00.5
21	180 19.5	+00.6	S 17 55.5	−00.5
22	195 20.1	+00.6	S 17 55.0	−00.5
23	210 20.7	+00.5	S 17 54.5	−00.5

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	045°	044°	044°	044°	044°	044°

Greenwich Culmination Time: 08:59

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	190 01.8	+01.9	S 05 12.2	−00.2
01	205 03.7	+01.9	S 05 12.0	−00.3
02	220 05.6	+01.9	S 05 11.7	−00.2
03	235 07.5	+01.9	S 05 11.5	−00.2
04	250 09.4	+01.9	S 05 11.3	−00.3
05	265 11.3	+01.9	S 05 11.0	−00.2
06	280 13.2	+02.0	S 05 10.8	−00.2
07	295 15.2	+01.9	S 05 10.6	−00.3
08	310 17.1	+01.9	S 05 10.3	−00.2
09	325 19.0	+01.9	S 05 10.1	−00.2
10	340 20.9	+01.9	S 05 09.9	−00.3
11	355 22.8	+01.9	S 05 09.6	−00.2
12	10 24.7	+01.9	S 05 09.4	−00.2
13	25 26.6	+01.9	S 05 09.2	−00.2
14	40 28.5	+02.0	S 05 09.0	−00.3
15	55 30.5	+01.9	S 05 08.7	−00.2
16	70 32.4	+01.9	S 05 08.5	−00.2
17	85 34.3	+01.9	S 05 08.3	−00.3
18	100 36.2	+01.9	S 05 08.0	−00.2
19	115 38.1	+01.9	S 05 07.8	−00.2
20	130 40.0	+01.9	S 05 07.6	−00.3
21	145 41.9	+01.9	S 05 07.3	−00.2
22	160 43.8	+02.0	S 05 07.1	−00.2
23	175 45.8	+01.9	S 05 06.9	−00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	010°	010°	009°	009°	009°	009°

Greenwich Culmination Time: 11:18

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	216 35.9	+02.2	S 15 19.0	−00.1
01	231 38.1	+02.2	S 15 18.9	−00.1
02	246 40.3	+02.2	S 15 18.8	+00.0
03	261 42.5	+02.2	S 15 18.8	−00.1
04	276 44.7	+02.3	S 15 18.7	−00.1
05	291 47.0	+02.2	S 15 18.6	−00.1
06	306 49.2	+02.2	S 15 18.5	+00.0
07	321 51.4	+02.2	S 15 18.5	−00.1
08	336 53.6	+02.2	S 15 18.4	−00.1
09	351 55.8	+02.2	S 15 18.3	−00.1
10	6 58.0	+02.3	S 15 18.2	+00.0
11	22 00.3	+02.2	S 15 18.2	−00.1
12	37 02.5	+02.2	S 15 18.1	−00.1
13	52 04.7	+02.2	S 15 18.0	−00.1
14	67 06.9	+02.2	S 15 17.9	+00.0
15	82 09.1	+02.3	S 15 17.9	−00.1
16	97 11.4	+02.2	S 15 17.8	−00.1
17	112 13.6	+02.2	S 15 17.7	−00.1
18	127 15.8	+02.2	S 15 17.6	+00.0
19	142 18.0	+02.2	S 15 17.6	−00.1
20	157 20.2	+02.2	S 15 17.5	−00.1
21	172 22.4	+02.3	S 15 17.4	−00.1
22	187 24.7	+02.2	S 15 17.3	+00.0
23	202 26.9	+02.2	S 15 17.3	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 09:32

2022 March 24 Thursday (day 83 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 23.8	+00.2	N 01 19.4	+00.9
01	193 24.0	+00.2	N 01 20.3	+01.0
02	208 24.2	+00.2	N 01 21.3	+01.0
03	223 24.4	+00.1	N 01 22.3	+01.0
04	238 24.5	+00.2	N 01 23.3	+01.0
05	253 24.7	+00.2	N 01 24.3	+01.0
06	268 24.9	+00.2	N 01 25.3	+00.9
07	283 25.1	+00.2	N 01 26.2	+01.0
08	298 25.3	+00.2	N 01 27.2	+01.0
09	313 25.5	+00.2	N 01 28.2	+01.0
10	328 25.7	+00.2	N 01 29.2	+01.0
11	343 25.9	+00.1	N 01 30.2	+01.0
12	358 26.0	+00.2	N 01 31.2	+01.0
13	13 26.2	+00.2	N 01 32.2	+00.9
14	28 26.4	+00.2	N 01 33.1	+01.0
15	43 26.6	+00.2	N 01 34.1	+01.0
16	58 26.8	+00.2	N 01 35.1	+01.0
17	73 27.0	+00.2	N 01 36.1	+01.0
18	88 27.2	+00.2	N 01 37.1	+01.0
19	103 27.4	+00.2	N 01 38.1	+00.9
20	118 27.6	+00.1	N 01 39.0	+01.0
21	133 27.7	+00.2	N 01 40.0	+01.0
22	148 27.9	+00.2	N 01 41.0	+01.0
23	163 28.1	+00.2	N 01 42.0	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	357°	357°	357°	356°	356°	356°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	222 42.4	−00.1	S 14 12.8	−00.5
01	237 42.3	−00.1	S 14 12.3	−00.5
02	252 42.2	−00.1	S 14 11.8	−00.5
03	267 42.1	−00.1	S 14 11.3	−00.5
04	282 42.0	−00.1	S 14 10.8	−00.6
05	297 41.9	−00.1	S 14 10.2	−00.5
06	312 41.8	−00.1	S 14 09.7	−00.5
07	327 41.7	−00.2	S 14 09.2	−00.5
08	342 41.5	−00.1	S 14 08.7	−00.5
09	357 41.4	−00.1	S 14 08.2	−00.5
10	12 41.3	−00.1	S 14 07.7	−00.6
11	27 41.2	−00.1	S 14 07.1	−00.5
12	42 41.1	−00.1	S 14 06.6	−00.5
13	57 41.0	−00.1	S 14 06.1	−00.5
14	72 40.9	−00.1	S 14 05.6	−00.5
15	87 40.8	−00.1	S 14 05.1	−00.6
16	102 40.7	−00.2	S 14 04.5	−00.5
17	117 40.5	−00.1	S 14 04.0	−00.5
18	132 40.4	−00.1	S 14 03.5	−00.5
19	147 40.3	−00.1	S 14 03.0	−00.6
20	162 40.2	−00.1	S 14 02.4	−00.5
21	177 40.1	−00.1	S 14 01.9	−00.5
22	192 40.0	−00.1	S 14 01.4	−00.5
23	207 39.9	−00.1	S 14 00.9	−00.6

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	041°	041°	041°	041°	040°	040°

Greenwich Culmination Time: 09:09

Moon

A: 72%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	285 41.4	−36.0	S 24 50.9	+06.3
01	300 05.4	−36.0	S 24 57.2	+06.1
02	314 29.4	−36.2	S 25 03.3	+05.9
03	328 53.2	−36.2	S 25 09.2	+05.8
04	343 17.0	−36.2	S 25 15.0	+05.6
05	357 40.8	−36.4	S 25 20.6	+05.5
06	12 04.4	−36.3	S 25 26.1	+05.2
07	26 28.1	−36.5	S 25 31.3	+05.1
08	40 51.6	−36.4	S 25 36.4	+05.0
09	55 15.2	−36.6	S 25 41.4	+04.7
10	69 38.6	−36.5	S 25 46.1	+04.6
11	84 02.1	−36.6	S 25 50.7	+04.4
12	98 25.5	−36.7	S 25 55.1	+04.3
13	112 48.8	−36.7	S 25 59.4	+04.0
14	127 12.1	−36.8	S 26 03.4	+03.9
15	141 35.3	−36.7	S 26 07.3	+03.7
16	155 58.6	−36.9	S 26 11.0	+03.5
17	170 21.7	−36.8	S 26 14.5	+03.4
18	184 44.9	−36.9	S 26 17.9	+03.1
19	199 08.0	−36.9	S 26 21.0	+03.0
20	213 31.1	−37.0	S 26 24.0	+02.8
21	227 54.1	−36.9	S 26 26.8	+02.7
22	242 17.2	−37.0	S 26 29.5	+02.4
23	256 40.2	−37.1	S 26 31.9	+02.3

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	59′3	59′3	59′3	59′3	59′2	59′2
SHA	103°	100°	098°	095°	093°	090°

Greenwich Culmination Time: 05:09

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	225 21.2	+00.6	S 17 54.0	−00.5
01	240 21.8	+00.5	S 17 53.5	−00.6
02	255 22.3	+00.6	S 17 52.9	−00.5
03	270 22.9	+00.6	S 17 52.4	−00.5
04	285 23.5	+00.5	S 17 51.9	−00.5
05	300 24.0	+00.6	S 17 51.4	−00.5
06	315 24.6	+00.5	S 17 50.9	−00.5
07	330 25.1	+00.6	S 17 50.4	−00.5
08	345 25.7	+00.6	S 17 49.9	−00.5
09	0 26.3	+00.5	S 17 49.4	−00.6
10	15 26.8	+00.6	S 17 48.8	−00.5
11	30 27.4	+00.6	S 17 48.3	−00.5
12	45 28.0	+00.5	S 17 47.8	−00.5
13	60 28.5	+00.6	S 17 47.3	−00.5
14	75 29.1	+00.5	S 17 46.8	−00.5
15	90 29.6	+00.6	S 17 46.3	−00.5
16	105 30.2	+00.6	S 17 45.8	−00.6
17	120 30.8	+00.5	S 17 45.2	−00.5
18	135 31.3	+00.6	S 17 44.7	−00.5
19	150 31.9	+00.6	S 17 44.2	−00.5
20	165 32.5	+00.5	S 17 43.7	−00.5
21	180 33.0	+00.6	S 17 43.2	−00.5
22	195 33.6	+00.6	S 17 42.7	−00.6
23	210 34.2	+00.5	S 17 42.1	−00.5

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	044°	044°	044°	043°	043°	043°

Greenwich Culmination Time: 08:58

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	190 47.7	+01.9	S 05 06.6	−00.2
01	205 49.6	+01.9	S 05 06.4	−00.2
02	220 51.5	+01.9	S 05 06.2	−00.2
03	235 53.4	+01.9	S 05 06.0	−00.3
04	250 55.3	+01.9	S 05 05.7	−00.2
05	265 57.2	+01.9	S 05 05.5	−00.2
06	280 59.1	+02.0	S 05 05.3	−00.3
07	296 01.1	+01.9	S 05 05.0	−00.2
08	311 03.0	+01.9	S 05 04.8	−00.2
09	326 04.9	+01.9	S 05 04.6	−00.3
10	341 06.8	+01.9	S 05 04.3	−00.2
11	356 08.7	+01.9	S 05 04.1	−00.2
12	11 10.6	+01.9	S 05 03.9	−00.3
13	26 12.5	+01.9	S 05 03.6	−00.2
14	41 14.4	+02.0	S 05 03.4	−00.2
15	56 16.4	+01.9	S 05 03.2	−00.2
16	71 18.3	+01.9	S 05 03.0	−00.3
17	86 20.2	+01.9	S 05 02.7	−00.2
18	101 22.1	+01.9	S 05 02.5	−00.2
19	116 24.0	+01.9	S 05 02.3	−00.3
20	131 25.9	+01.9	S 05 02.0	−00.2
21	146 27.8	+02.0	S 05 01.8	−00.2
22	161 29.8	+01.9	S 05 01.6	−00.3
23	176 31.7	+01.9	S 05 01.3	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	009°	009°	009°	009°	009°	009°

Greenwich Culmination Time: 11:15

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	217 29.1	+02.2	S 15 17.2	−00.1
01	232 31.3	+02.2	S 15 17.1	−00.1
02	247 33.5	+02.3	S 15 17.0	+00.0
03	262 35.8	+02.2	S 15 17.0	−00.1
04	277 38.0	+02.2	S 15 16.9	−00.1
05	292 40.2	+02.2	S 15 16.8	−00.1
06	307 42.4	+02.2	S 15 16.7	+00.0
07	322 44.6	+02.3	S 15 16.7	−00.1
08	337 46.9	+02.2	S 15 16.6	−00.1
09	352 49.1	+02.2	S 15 16.5	−00.1
10	7 51.3	+02.2	S 15 16.4	+00.0
11	22 53.5	+02.2	S 15 16.4	−00.1
12	37 55.7	+02.3	S 15 16.3	−00.1
13	52 58.0	+02.2	S 15 16.2	−00.1
14	68 00.2	+02.2	S 15 16.1	+00.0
15	83 02.4	+02.2	S 15 16.1	−00.1
16	98 04.6	+02.2	S 15 16.0	−00.1
17	113 06.8	+02.3	S 15 15.9	−00.1
18	128 09.1	+02.2	S 15 15.8	+00.0
19	143 11.3	+02.2	S 15 15.8	−00.1
20	158 13.5	+02.2	S 15 15.7	−00.1
21	173 15.7	+02.2	S 15 15.6	−00.1
22	188 17.9	+02.3	S 15 15.5	+00.0
23	203 20.2	+02.2	S 15 15.5	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 09:28

2022 March 29 Tuesday (day 88 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 46.4	+00.2	N 03 17.0	+01.0
01	193 46.6	+00.1	N 03 18.0	+01.0
02	208 46.7	+00.2	N 03 19.0	+00.9
03	223 46.9	+00.2	N 03 19.9	+01.0
04	238 47.1	+00.2	N 03 20.9	+01.0
05	253 47.3	+00.2	N 03 21.9	+01.0
06	268 47.5	+00.2	N 03 22.9	+00.9
07	283 47.7	+00.2	N 03 23.8	+01.0
08	298 47.9	+00.2	N 03 24.8	+01.0
09	313 48.1	+00.1	N 03 25.8	+01.0
10	328 48.2	+00.2	N 03 26.8	+00.9
11	343 48.4	+00.2	N 03 27.7	+01.0
12	358 48.6	+00.2	N 03 28.7	+01.0
13	13 48.8	+00.2	N 03 29.7	+01.0
14	28 49.0	+00.2	N 03 30.7	+00.9
15	43 49.2	+00.2	N 03 31.6	+01.0
16	58 49.4	+00.1	N 03 32.6	+01.0
17	73 49.5	+00.2	N 03 33.6	+00.9
18	88 49.7	+00.2	N 03 34.5	+01.0
19	103 49.9	+00.2	N 03 35.5	+01.0
20	118 50.1	+00.2	N 03 36.5	+01.0
21	133 50.3	+00.2	N 03 37.5	+00.9
22	148 50.5	+00.2	N 03 38.4	+01.0
23	163 50.7	+00.2	N 03 39.4	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	222 27.4	-00.2	S 13 06.0	-00.6
01	237 27.2	-00.1	S 13 05.4	-00.6
02	252 27.1	-00.2	S 13 04.8	-00.6
03	267 26.9	-00.1	S 13 04.2	-00.6
04	282 26.8	-00.1	S 13 03.6	-00.6
05	297 26.7	-00.2	S 13 03.0	-00.7
06	312 26.5	-00.1	S 13 02.3	-00.6
07	327 26.4	-00.2	S 13 01.7	-00.6
08	342 26.2	-00.1	S 13 01.1	-00.6
09	357 26.1	-00.2	S 13 00.5	-00.6
10	12 25.9	-00.1	S 12 59.9	-00.6
11	27 25.8	-00.1	S 12 59.3	-00.6
12	42 25.7	-00.2	S 12 58.7	-00.6
13	57 25.5	-00.1	S 12 58.1	-00.6
14	72 25.4	-00.2	S 12 57.5	-00.7
15	87 25.2	-00.1	S 12 56.8	-00.6
16	102 25.1	-00.2	S 12 56.2	-00.6
17	117 24.9	-00.1	S 12 55.6	-00.6
18	132 24.8	-00.2	S 12 55.0	-00.6
19	147 24.6	-00.1	S 12 54.4	-00.6
20	162 24.5	-00.1	S 12 53.8	-00.7
21	177 24.4	-00.2	S 12 53.1	-00.6
22	192 24.2	-00.1	S 12 52.5	-00.6
23	207 24.1	-00.2	S 12 51.9	-00.6

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	036°	036°	036°	035°	035°	035°

Greenwich Culmination Time: 09:10

Moon

A: 91%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	214 57.0	-31.1	S 17 10.9	-12.3
01	229 25.9	-31.2	S 16 58.6	-12.4
02	243 54.7	-31.0	S 16 46.2	-12.5
03	258 23.7	-30.9	S 16 33.7	-12.6
04	272 52.8	-30.8	S 16 21.1	-12.7
05	287 22.0	-30.8	S 16 08.4	-12.7
06	301 51.2	-30.7	S 15 55.7	-12.8
07	316 20.5	-30.6	S 15 42.9	-12.9
08	330 49.9	-30.5	S 15 30.0	-13.0
09	345 19.4	-30.4	S 15 17.0	-13.1
10	359 49.0	-30.3	S 15 03.9	-13.1
11	14 18.7	-30.2	S 14 50.8	-13.2
12	28 48.5	-30.2	S 14 37.6	-13.2
13	43 18.3	-30.1	S 14 24.4	-13.4
14	57 48.2	-30.0	S 14 11.0	-13.4
15	72 18.2	-29.9	S 13 57.6	-13.4
16	86 48.3	-29.8	S 13 44.2	-13.5
17	101 18.5	-29.8	S 13 30.7	-13.6
18	115 48.7	-29.7	S 13 17.1	-13.7
19	130 19.0	-29.6	S 13 03.4	-13.7
20	144 49.4	-29.5	S 12 49.7	-13.7
21	159 19.9	-29.5	S 12 36.0	-13.9
22	173 50.4	-29.4	S 12 22.1	-13.8
23	188 21.0	-29.3	S 12 08.3	-14.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′8	15′8	15′8	15′8
HP	58′3	58′2	58′2	58′1	58′0	57′9
SHA	027°	025°	023°	021°	019°	017°

Greenwich Culmination Time: 10:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	226 29.6	+00.5	S 16 50.6	-00.6
01	241 30.1	+00.6	S 16 50.0	-00.5
02	256 30.7	+00.6	S 16 49.5	-00.6
03	271 31.3	+00.6	S 16 48.9	-00.5
04	286 31.9	+00.6	S 16 48.4	-00.6
05	301 32.5	+00.5	S 16 47.8	-00.5
06	316 33.0	+00.6	S 16 47.3	-00.5
07	331 33.6	+00.6	S 16 46.8	-00.6
08	346 34.2	+00.6	S 16 46.2	-00.5
09	1 34.8	+00.6	S 16 45.7	-00.6
10	16 35.4	+00.5	S 16 45.1	-00.5
11	31 35.9	+00.6	S 16 44.6	-00.6
12	46 36.5	+00.6	S 16 44.0	-00.5
13	61 37.1	+00.6	S 16 43.5	-00.6
14	76 37.7	+00.6	S 16 42.9	-00.5
15	91 38.3	+00.5	S 16 42.4	-00.6
16	106 38.8	+00.6	S 16 41.8	-00.5
17	121 39.4	+00.6	S 16 41.3	-00.6
18	136 40.0	+00.6	S 16 40.7	-00.5
19	151 40.6	+00.6	S 16 40.2	-00.6
20	166 41.2	+00.6	S 16 39.6	-00.5
21	181 41.8	+00.5	S 16 39.1	-00.6
22	196 42.3	+00.6	S 16 38.5	-00.5
23	211 42.9	+00.6	S 16 38.0	-00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	040°	040°	040°	040°	040°	039°

Greenwich Culmination Time: 08:53

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	194 37.5	+01.9	S 04 39.0	-00.2
01	209 39.4	+01.9	S 04 38.8	-00.2
02	224 41.3	+02.0	S 04 38.6	-00.2
03	239 43.3	+01.9	S 04 38.4	-00.3
04	254 45.2	+01.9	S 04 38.1	-00.2
05	269 47.1	+01.9	S 04 37.9	-00.2
06	284 49.0	+01.9	S 04 37.7	-00.3
07	299 50.9	+02.0	S 04 37.4	-00.2
08	314 52.9	+01.9	S 04 37.2	-00.2
09	329 54.8	+01.9	S 04 37.0	-00.3
10	344 56.7	+01.9	S 04 36.7	-00.2
11	359 58.6	+01.9	S 04 36.5	-00.2
12	15 00.5	+02.0	S 04 36.3	-00.2
13	30 02.5	+01.9	S 04 36.1	-00.3
14	45 04.4	+01.9	S 04 35.8	-00.2
15	60 06.3	+01.9	S 04 35.6	-00.2
16	75 08.2	+01.9	S 04 35.4	-00.3
17	90 10.1	+01.9	S 04 35.1	-00.2
18	105 12.0	+02.0	S 04 34.9	-00.2
19	120 14.0	+01.9	S 04 34.7	-00.2
20	135 15.9	+01.9	S 04 34.5	-00.3
21	150 17.8	+01.9	S 04 34.2	-00.2
22	165 19.7	+01.9	S 04 34.0	-00.2
23	180 21.6	+02.0	S 04 33.8	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	008°	008°	008°	008°	008°	008°

Greenwich Culmination Time: 11:00

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	221 56.0	+02.3	S 15 08.4	-00.1
01	236 58.3	+02.2	S 15 08.3	+00.0
02	252 00.5	+02.2	S 15 08.3	-00.1
03	267 02.7	+02.3	S 15 08.2	-00.1
04	282 05.0	+02.2	S 15 08.1	+00.0
05	297 07.2	+02.2	S 15 08.1	-00.1
06	312 09.4	+02.2	S 15 08.0	-00.1
07	327 11.6	+02.3	S 15 07.9	-00.1
08	342 13.9	+02.2	S 15 07.8	+00.0
09	357 16.1	+02.2	S 15 07.8	-00.1
10	12 18.3	+02.3	S 15 07.7	-00.1
11	27 20.6	+02.2	S 15 07.6	+00.0
12	42 22.8	+02.2	S 15 07.6	-00.1
13	57 25.0	+02.3	S 15 07.5	-00.1
14	72 27.3	+02.2	S 15 07.4	-00.1
15	87 29.5	+02.2	S 15 07.3	+00.0
16	102 31.7	+02.3	S 15 07.3	-00.1
17	117 34.0	+02.2	S 15 07.2	-00.1
18	132 36.2	+02.2	S 15 07.1	+00.0
19	147 38.4	+02.3	S 15 07.1	-00.1
20	162 40.7	+02.2	S 15 07.0	-00.1
21	177 42.9	+02.2	S 15 06.9	-00.1
22	192 45.1	+02.2	S 15 06.8	+00.0
23	207 47.3	+02.3	S 15 06.8	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	035°	035°

Greenwich Culmination Time: 09:10

2022 March 26 Saturday (day 85 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 32.8	+00.2	N 02 06.6	+00.9
01	193 33.0	+00.2	N 02 07.5	+01.0
02	208 33.2	+00.2	N 02 08.5	+01.0
03	223 33.4	+00.2	N 02 09.5	+01.0
04	238 33.6	+00.2	N 02 10.5	+01.0
05	253 33.8	+00.2	N 02 11.5	+00.9
06	268 34.0	+00.1	N 02 12.4	+01.0
07	283 34.1	+00.2	N 02 13.4	+01.0
08	298 34.3	+00.2	N 02 14.4	+01.0
09	313 34.5	+00.2	N 02 15.4	+01.0
10	328 34.7	+00.2	N 02 16.4	+00.9
11	343 34.9	+00.2	N 02 17.3	+01.0
12	358 35.1	+00.2	N 02 18.3	+01.0
13	13 35.3	+00.2	N 02 19.3	+01.0
14	28 35.5	+00.2	N 02 20.3	+01.0
15	43 35.7	+00.1	N 02 21.3	+00.9
16	58 35.8	+00.2	N 02 22.2	+01.0
17	73 36.0	+00.2	N 02 23.2	+01.0
18	88 36.2	+00.2	N 02 24.2	+01.0
19	103 36.4	+00.2	N 02 25.2	+01.0
20	118 36.6	+00.2	N 02 26.2	+00.9
21	133 36.8	+00.2	N 02 27.1	+01.0
22	148 37.0	+00.2	N 02 28.1	+01.0
23	163 37.2	+00.1	N 02 29.1	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	355°	355°	355°	355°	354°	354°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	222 36.9	-00.1	S 13 47.4	-00.5
01	237 36.8	-00.1	S 13 46.9	-00.6
02	252 36.7	-00.2	S 13 46.3	-00.5
03	267 36.5	-00.1	S 13 45.8	-00.6
04	282 36.4	-00.1	S 13 45.2	-00.5
05	297 36.3	-00.1	S 13 44.7	-00.6
06	312 36.2	-00.2	S 13 44.1	-00.5
07	327 36.0	-00.1	S 13 43.6	-00.6
08	342 35.9	-00.1	S 13 43.0	-00.5
09	357 35.8	-00.1	S 13 42.5	-00.6
10	12 35.7	-00.2	S 13 41.9	-00.6
11	27 35.5	-00.1	S 13 41.3	-00.5
12	42 35.4	-00.1	S 13 40.8	-00.6
13	57 35.3	-00.1	S 13 40.2	-00.5
14	72 35.2	-00.2	S 13 39.7	-00.6
15	87 35.0	-00.1	S 13 39.1	-00.6
16	102 34.9	-00.1	S 13 38.5	-00.5
17	117 34.8	-00.1	S 13 38.0	-00.6
18	132 34.7	-00.2	S 13 37.4	-00.5
19	147 34.5	-00.1	S 13 36.9	-00.6
20	162 34.4	-00.1	S 13 36.3	-00.6
21	177 34.3	-00.2	S 13 35.7	-00.5
22	192 34.1	-00.1	S 13 35.2	-00.6
23	207 34.0	-00.1	S 13 34.6	-00.6

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	039°	039°	039°	039°	038°	038°

Greenwich Culmination Time: 09:09

Moon

A: 80%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	256 13.7	-36.8	S 26 33.7	-02.3
01	270 36.9	-36.9	S 26 31.4	-02.5
02	285 00.0	-36.7	S 26 28.9	-02.6
03	299 23.3	-36.8	S 26 26.3	-02.8
04	313 46.5	-36.7	S 26 23.5	-03.1
05	328 09.8	-36.7	S 26 20.4	-03.1
06	342 33.1	-36.6	S 26 17.3	-03.4
07	356 56.5	-36.5	S 26 13.9	-03.5
08	11 20.0	-36.6	S 26 10.4	-03.7
09	25 43.4	-36.4	S 26 06.7	-03.9
10	40 07.0	-36.4	S 26 02.8	-04.1
11	54 30.6	-36.4	S 25 58.7	-04.2
12	68 54.2	-36.3	S 25 54.5	-04.4
13	83 17.9	-36.3	S 25 50.1	-04.6
14	97 41.6	-36.2	S 25 45.5	-04.7
15	112 05.4	-36.1	S 25 40.8	-04.9
16	126 29.3	-36.0	S 25 35.9	-05.1
17	140 53.3	-36.0	S 25 30.8	-05.2
18	155 17.3	-36.0	S 25 25.6	-05.5
19	169 41.3	-35.8	S 25 20.1	-05.5
20	184 05.5	-35.8	S 25 14.6	-05.8
21	198 29.7	-35.8	S 25 08.8	-05.9
22	212 53.9	-35.6	S 25 02.9	-06.0
23	227 18.3	-35.6	S 24 56.9	-06.2

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	59′1	59′1	59′0	59′0	59′0	58′9
SHA	071°	069°	066°	064°	061°	059°

Greenwich Culmination Time: 07:12

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	225 48.3	+00.6	S 17 29.1	-00.5
01	240 48.9	+00.5	S 17 28.6	-00.5
02	255 49.4	+00.6	S 17 28.1	-00.6
03	270 50.0	+00.6	S 17 27.5	-00.5
04	285 50.6	+00.5	S 17 27.0	-00.5
05	300 51.1	+00.6	S 17 26.5	-00.5
06	315 51.7	+00.6	S 17 26.0	-00.6
07	330 52.3	+00.5	S 17 25.4	-00.5
08	345 52.8	+00.6	S 17 24.9	-00.5
09	0 53.4	+00.6	S 17 24.4	-00.6
10	15 54.0	+00.6	S 17 23.8	-00.5
11	30 54.6	+00.5	S 17 23.3	-00.5
12	45 55.1	+00.6	S 17 22.8	-00.5
13	60 55.7	+00.6	S 17 22.3	-00.6
14	75 56.3	+00.5	S 17 21.7	-00.5
15	90 56.8	+00.6	S 17 21.2	-00.5
16	105 57.4	+00.6	S 17 20.7	-00.6
17	120 58.0	+00.5	S 17 20.1	-00.5
18	135 58.5	+00.6	S 17 19.6	-00.5
19	150 59.1	+00.6	S 17 19.1	-00.5
20	165 59.7	+00.6	S 17 18.6	-00.6
21	181 00.3	+00.5	S 17 18.0	-00.5
22	196 00.8	+00.6	S 17 17.5	-00.5
23	211 01.4	+00.6	S 17 17.0	-00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	042°	042°	042°	042°	042°	042°

Greenwich Culmination Time: 08:56

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	192 19.5	+01.9	S 04 55.6	-00.3
01	207 21.4	+02.0	S 04 55.3	-00.2
02	222 23.4	+01.9	S 04 55.1	-00.2
03	237 25.3	+01.9	S 04 54.9	-00.2
04	252 27.2	+01.9	S 04 54.7	-00.3
05	267 29.1	+01.9	S 04 54.4	-00.2
06	282 31.0	+01.9	S 04 54.2	-00.2
07	297 32.9	+01.9	S 04 54.0	-00.3
08	312 34.8	+02.0	S 04 53.7	-00.2
09	327 36.8	+01.9	S 04 53.5	-00.2
10	342 38.7	+01.9	S 04 53.3	-00.3
11	357 40.6	+01.9	S 04 53.0	-00.2
12	12 42.5	+01.9	S 04 52.8	-00.2
13	27 44.4	+01.9	S 04 52.6	-00.2
14	42 46.3	+02.0	S 04 52.4	-00.3
15	57 48.3	+01.9	S 04 52.1	-00.2
16	72 50.2	+01.9	S 04 51.9	-00.2
17	87 52.1	+01.9	S 04 51.7	-00.3
18	102 54.0	+01.9	S 04 51.4	-00.2
19	117 55.9	+01.9	S 04 51.2	-00.2
20	132 57.8	+01.9	S 04 51.0	-00.3
21	147 59.7	+02.0	S 04 50.7	-00.2
22	163 01.7	+01.9	S 04 50.5	-00.2
23	178 03.6	+01.9	S 04 50.3	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	009°	009°	009°	009°	009°	009°

Greenwich Culmination Time: 11:09

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	219 15.7	+02.2	S 15 13.6	+00.0
01	234 17.9	+02.3	S 15 13.6	-00.1
02	249 20.2	+02.2	S 15 13.5	-00.1
03	264 22.4	+02.2	S 15 13.4	-00.1
04	279 24.6	+02.2	S 15 13.3	+00.0
05	294 26.8	+02.2	S 15 13.3	-00.1
06	309 29.0	+02.3	S 15 13.2	-00.1
07	324 31.3	+02.2	S 15 13.1	-00.1
08	339 33.5	+02.2	S 15 13.0	+00.0
09	354 35.7	+02.2	S 15 13.0	-00.1
10	9 37.9	+02.3	S 15 12.9	-00.1
11	24 40.2	+02.2	S 15 12.8	-00.1
12	39 42.4	+02.2	S 15 12.7	+00.0
13	54 44.6	+02.2	S 15 12.7	-00.1
14	69 46.8	+02.3	S 15 12.6	-00.1
15	84 49.1	+02.2	S 15 12.5	+00.0
16	99 51.3	+02.2	S 15 12.5	-00.1
17	114 53.5	+02.2	S 15 12.4	-00.1
18	129 55.7	+02.3	S 15 12.3	-00.1
19	144 58.0	+02.2	S 15 12.2	+00.0
20	160 00.2	+02.2	S 15 12.2	-00.1
21	175 02.4	+02.2	S 15 12.1	-00.1
22	190 04.6	+02.3	S 15 12.0	-00.1
23	205 06.9	+02.2	S 15 11.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 09:21

2022 March 27 Sunday

(day 86 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 37.3	+00.2	N 02 30.1	+01.0
01	193 37.5	+00.2	N 02 31.1	+00.9
02	208 37.7	+00.2	N 02 32.0	+01.0
03	223 37.9	+00.2	N 02 33.0	+01.0
04	238 38.1	+00.2	N 02 34.0	+01.0
05	253 38.3	+00.2	N 02 35.0	+01.0
06	268 38.5	+00.2	N 02 36.0	+00.9
07	283 38.7	+00.2	N 02 36.9	+01.0
08	298 38.9	+00.1	N 02 37.9	+01.0
09	313 39.0	+00.2	N 02 38.9	+01.0
10	328 39.2	+00.2	N 02 39.9	+01.0
11	343 39.4	+00.2	N 02 40.9	+00.9
12	358 39.6	+00.2	N 02 41.8	+01.0
13	13 39.8	+00.2	N 02 42.8	+01.0
14	28 40.0	+00.2	N 02 43.8	+01.0
15	43 40.2	+00.2	N 02 44.8	+01.0
16	58 40.4	+00.1	N 02 45.8	+00.9
17	73 40.5	+00.2	N 02 46.7	+01.0
18	88 40.7	+00.2	N 02 47.7	+01.0
19	103 40.9	+00.2	N 02 48.7	+01.0
20	118 41.1	+00.2	N 02 49.7	+00.9
21	133 41.3	+00.2	N 02 50.6	+01.0
22	148 41.5	+00.2	N 02 51.6	+01.0
23	163 41.7	+00.2	N 02 52.6	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	354°	354°	354°	354°	354°	353°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 33.9	−00.1	S 13 34.0	−00.5
01	237 33.8	−00.2	S 13 33.5	−00.6
02	252 33.6	−00.1	S 13 32.9	−00.6
03	267 33.5	−00.1	S 13 32.3	−00.5
04	282 33.4	−00.2	S 13 31.8	−00.6
05	297 33.2	−00.1	S 13 31.2	−00.6
06	312 33.1	−00.1	S 13 30.6	−00.5
07	327 33.0	−00.2	S 13 30.1	−00.6
08	342 32.8	−00.1	S 13 29.5	−00.6
09	357 32.7	−00.1	S 13 28.9	−00.6
10	12 32.6	−00.2	S 13 28.3	−00.5
11	27 32.4	−00.1	S 13 27.8	−00.6
12	42 32.3	−00.1	S 13 27.2	−00.6
13	57 32.2	−00.2	S 13 26.6	−00.6
14	72 32.0	−00.1	S 13 26.0	−00.5
15	87 31.9	−00.1	S 13 25.5	−00.6
16	102 31.8	−00.2	S 13 24.9	−00.6
17	117 31.6	−00.1	S 13 24.3	−00.6
18	132 31.5	−00.1	S 13 23.7	−00.6
19	147 31.4	−00.2	S 13 23.1	−00.5
20	162 31.2	−00.1	S 13 22.6	−00.6
21	177 31.1	−00.1	S 13 22.0	−00.6
22	192 31.0	−00.2	S 13 21.4	−00.6
23	207 30.8	−00.1	S 13 20.8	−00.6

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	038°	038°	038°	038°	037°	037°

Greenwich Culmination Time: 09:09

Moon

A: 84%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	241 42.7	−35.5	S 24 50.7	−06.4
01	256 07.2	−35.4	S 24 44.3	−06.5
02	270 31.8	−35.4	S 24 37.8	−06.7
03	284 56.4	−35.3	S 24 31.1	−06.9
04	299 21.1	−35.2	S 24 24.2	−07.0
05	313 45.9	−35.1	S 24 17.2	−07.1
06	328 10.8	−35.0	S 24 10.1	−07.3
07	342 35.8	−35.0	S 24 02.8	−07.5
08	357 00.8	−34.8	S 23 55.3	−07.6
09	11 26.0	−34.8	S 23 47.7	−07.7
10	25 51.2	−34.7	S 23 40.0	−07.9
11	40 16.5	−34.6	S 23 32.1	−08.1
12	54 41.9	−34.5	S 23 24.0	−08.1
13	69 07.4	−34.5	S 23 15.9	−08.4
14	83 32.9	−34.3	S 23 07.5	−08.4
15	97 58.6	−34.3	S 22 59.1	−08.6
16	112 24.3	−34.1	S 22 50.5	−08.8
17	126 50.2	−34.1	S 22 41.7	−08.9
18	141 16.1	−34.0	S 22 32.8	−09.0
19	155 42.1	−33.9	S 22 23.8	−09.1
20	170 08.2	−33.8	S 22 14.7	−09.3
21	184 34.4	−33.7	S 22 05.4	−09.4
22	199 00.7	−33.6	S 21 56.0	−09.5
23	213 27.1	−33.6	S 21 46.5	−09.7

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	58′9	58′9	58′8	58′8	58′7	58′7
SHA	056°	054°	051°	049°	046°	044°

Greenwich Culmination Time: 08:12

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	226 02.0	+00.5	S 17 16.4	−00.5
01	241 02.5	+00.6	S 17 15.9	−00.5
02	256 03.1	+00.6	S 17 15.4	−00.6
03	271 03.7	+00.6	S 17 14.8	−00.5
04	286 04.3	+00.5	S 17 14.3	−00.5
05	301 04.8	+00.6	S 17 13.8	−00.6
06	316 05.4	+00.6	S 17 13.2	−00.5
07	331 06.0	+00.5	S 17 12.7	−00.5
08	346 06.5	+00.6	S 17 12.2	−00.6
09	1 07.1	+00.6	S 17 11.6	−00.5
10	16 07.7	+00.6	S 17 11.1	−00.5
11	31 08.3	+00.5	S 17 10.6	−00.6
12	46 08.8	+00.6	S 17 10.0	−00.5
13	61 09.4	+00.6	S 17 09.5	−00.5
14	76 10.0	+00.6	S 17 09.0	−00.6
15	91 10.6	+00.5	S 17 08.4	−00.5
16	106 11.1	+00.6	S 17 07.9	−00.6
17	121 11.7	+00.6	S 17 07.3	−00.5
18	136 12.3	+00.5	S 17 06.8	−00.5
19	151 12.8	+00.6	S 17 06.3	−00.6
20	166 13.4	+00.6	S 17 05.7	−00.5
21	181 14.0	+00.6	S 17 05.2	−00.5
22	196 14.6	+00.5	S 17 04.7	−00.6
23	211 15.1	+00.6	S 17 04.1	−00.5

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	042°	041°	041°	041°	041°	041°

Greenwich Culmination Time: 08:55

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	193 05.5	+01.9	S 04 50.1	−00.3
01	208 07.4	+01.9	S 04 49.8	−00.2
02	223 09.3	+01.9	S 04 49.6	−00.2
03	238 11.2	+02.0	S 04 49.4	−00.3
04	253 13.2	+01.9	S 04 49.1	−00.2
05	268 15.1	+01.9	S 04 48.9	−00.2
06	283 17.0	+01.9	S 04 48.7	−00.3
07	298 18.9	+01.9	S 04 48.4	−00.2
08	313 20.8	+01.9	S 04 48.2	−00.2
09	328 22.7	+02.0	S 04 48.0	−00.2
10	343 24.7	+01.9	S 04 47.8	−00.3
11	358 26.6	+01.9	S 04 47.5	−00.2
12	13 28.5	+01.9	S 04 47.3	−00.2
13	28 30.4	+01.9	S 04 47.1	−00.3
14	43 32.3	+01.9	S 04 46.8	−00.2
15	58 34.2	+02.0	S 04 46.6	−00.2
16	73 36.2	+01.9	S 04 46.4	−00.3
17	88 38.1	+01.9	S 04 46.1	−00.2
18	103 40.0	+01.9	S 04 45.9	−00.2
19	118 41.9	+01.9	S 04 45.7	−00.2
20	133 43.8	+01.9	S 04 45.5	−00.3
21	148 45.7	+02.0	S 04 45.2	−00.2
22	163 47.7	+01.9	S 04 45.0	−00.2
23	178 49.6	+01.9	S 04 44.8	−00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	009°	009°	009°	009°	009°	008°

Greenwich Culmination Time: 11:06

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	220 09.1	+02.2	S 15 11.9	−00.1
01	235 11.3	+02.2	S 15 11.8	−00.1
02	250 13.5	+02.3	S 15 11.7	+00.0
03	265 15.8	+02.2	S 15 11.7	−00.1
04	280 18.0	+02.2	S 15 11.6	−00.1
05	295 20.2	+02.2	S 15 11.5	−00.1
06	310 22.4	+02.3	S 15 11.4	+00.0
07	325 24.7	+02.2	S 15 11.4	−00.1
08	340 26.9	+02.2	S 15 11.3	−00.1
09	355 29.1	+02.3	S 15 11.2	−00.1
10	10 31.4	+02.2	S 15 11.1	+00.0
11	25 33.6	+02.2	S 15 11.1	−00.1
12	40 35.8	+02.2	S 15 11.0	−00.1
13	55 38.0	+02.3	S 15 10.9	+00.0
14	70 40.3	+02.2	S 15 10.9	−00.1
15	85 42.5	+02.2	S 15 10.8	−00.1
16	100 44.7	+02.2	S 15 10.7	−00.1
17	115 46.9	+02.3	S 15 10.6	+00.0
18	130 49.2	+02.2	S 15 10.6	−00.1
19	145 51.4	+02.2	S 15 10.5	−00.1
20	160 53.6	+02.3	S 15 10.4	−00.1
21	175 55.9	+02.2	S 15 10.3	+00.0
22	190 58.1	+02.2	S 15 10.3	−00.1
23	206 00.3	+02.2	S 15 10.2	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 09:18

2022 March 28 Monday

(day 87 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 41.9	+00.1	N 02 53.6	+01.0
01	193 42.0	+00.2	N 02 54.6	+00.9
02	208 42.2	+00.2	N 02 55.5	+01.0
03	223 42.4	+00.2	N 02 56.5	+01.0
04	238 42.6	+00.2	N 02 57.5	+01.0
05	253 42.8	+00.2	N 02 58.5	+00.9
06	268 43.0	+00.2	N 02 59.4	+01.0
07	283 43.2	+00.2	N 03 00.4	+01.0
08	298 43.4	+00.2	N 03 01.4	+01.0
09	313 43.6	+00.1	N 03 02.4	+00.9
10	328 43.7	+00.2	N 03 03.3	+01.0
11	343 43.9	+00.2	N 03 04.3	+01.0
12	358 44.1	+00.2	N 03 05.3	+01.0
13	13 44.3	+00.2	N 03 06.3	+01.0
14	28 44.5	+00.2	N 03 07.3	+00.9
15	43 44.7	+00.2	N 03 08.2	+01.0
16	58 44.9	+00.2	N 03 09.2	+01.0
17	73 45.1	+00.1	N 03 10.2	+01.0
18	88 45.2	+00.2	N 03 11.2	+00.9
19	103 45.4	+00.2	N 03 12.1	+01.0
20	118 45.6	+00.2	N 03 13.1	+01.0
21	133 45.8	+00.2	N 03 14.1	+01.0
22	148 46.0	+00.2	N 03 15.1	+00.9
23	163 46.2	+00.2	N 03 16.0	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	353°	353°	353°	353°	353°	352°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 30.7	−00.1	S 13 20.2	−00.6
01	237 30.6	−00.2	S 13 19.6	−00.5
02	252 30.4	−00.1	S 13 19.1	−00.6
03	267 30.3	−00.1	S 13 18.5	−00.6
04	282 30.2	−00.2	S 13 17.9	−00.6
05	297 30.0	−00.1	S 13 17.3	−00.6
06	312 29.9	−00.2	S 13 16.7	−00.6
07	327 29.7	−00.1	S 13 16.1	−00.6
08	342 29.6	−00.1	S 13 15.5	−00.6
09	357 29.5	−00.2	S 13 14.9	−00.6
10	12 29.3	−00.1	S 13 14.3	−00.6
11	27 29.2	−00.1	S 13 13.7	−00.5
12	42 29.1	−00.2	S 13 13.2	−00.6
13	57 28.9	−00.1	S 13 12.6	−00.6
14	72 28.8	−00.2	S 13 12.0	−00.6
15	87 28.6	−00.1	S 13 11.4	−00.6
16	102 28.5	−00.1	S 13 10.8	−00.6
17	117 28.4	−00.2	S 13 10.2	−00.6
18	132 28.2	−00.1	S 13 09.6	−00.6
19	147 28.1	−00.2	S 13 09.0	−00.6
20	162 27.9	−00.1	S 13 08.4	−00.6
21	177 27.8	−00.1	S 13 07.8	−00.6
22	192 27.7	−00.2	S 13 07.2	−00.6
23	207 27.5	−00.1	S 13 06.6	−00.6

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	037°	037°	037°	037°	036°	036°

Greenwich Culmination Time: 09:10

Moon

A: 88%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	227 53.5	−33.4	S 21 36.8	−09.8
01	242 20.1	−33.3	S 21 27.0	−09.9
02	256 46.8	−33.3	S 21 17.1	−10.0
03	271 13.5	−33.1	S 21 07.1	−10.2
04	285 40.4	−33.1	S 20 56.9	−10.2
05	300 07.3	−32.9	S 20 46.7	−10.4
06	314 34.4	−32.9	S 20 36.3	−10.5
07	329 01.5	−32.8	S 20 25.8	−10.6
08	343 28.7	−32.7	S 20 15.2	−10.8
09	357 56.0	−32.6	S 20 04.4	−10.8
10	12 23.4	−32.4	S 19 53.6	−11.0
11	26 51.0	−32.4	S 19 42.6	−11.0
12	41 18.6	−32.3	S 19 31.6	−11.2
13	55 46.3	−32.3	S 19 20.4	−11.3
14	70 14.0	−32.1	S 19 09.1	−11.4
15	84 41.9	−32.0	S 18 57.7	−11.4
16	99 09.9	−31.9	S 18 46.3	−11.6
17	113 38.0	−31.9	S 18 34.7	−11.7
18	128 06.1	−31.7	S 18 23.0	−11.8
19	142 34.4	−31.7	S 18 11.2	−11.9
20	157 02.7	−31.5	S 17 59.3	−11.9
21	171 31.2	−31.5	S 17 47.4	−12.1
22	185 59.7	−31.4	S 17 35.3	−12.1
23	200 28.3	−31.3	S 17 23.2	−12.3

UT	02	06	10	14	18	22
SD	16′0	16′0	15′9	15′9	15′9	15′9
HP	58′6	58′6	58′5	58′5	58′4	58′3
SHA	041°	039°	037°	034°	032°	030°

Greenwich Culmination Time: 09:08

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	226 15.7	+00.6	S 17 03.6	−00.6
01	241 16.3	+00.6	S 17 03.0	−00.5
02	256 16.9	+00.5	S 17 02.5	−00.5
03	271 17.4	+00.6	S 17 02.0	−00.6
04	286 18.0	+00.6	S 17 01.4	−00.5
05	301 18.6	+00.6	S 17 00.9	−00.6
06	316 19.2	+00.6	S 17 00.3	−00.5
07	331 19.8	+00.5	S 16 59.8	−00.5
08	346 20.3	+00.6	S 16 59.3	−00.6
09	1 20.9	+00.6	S 16 58.7	−00.5
10	16 21.5	+00.6	S 16 58.2	−00.6
11	31 22.1	+00.5	S 16 57.6	−00.5
12	46 22.6	+00.6	S 16 57.1	−00.5
13	61 23.2	+00.6	S 16 56.6	−00.6
14	76 23.8	+00.6	S 16 56.0	−00.5
15	91 24.4	+00.5	S 16 55.5	−00.6
16	106 24.9	+00.6	S 16 54.9	−00.5
17	121 25.5	+00.6	S 16 54.4	−00.6
18	136 26.1	+00.6	S 16 53.8	−00.5
19	151 26.7	+00.6	S 16 53.3	−00.5
20	166 27.3	+00.5	S 16 52.8	−00.6
21	181 27.8	+00.6	S 16 52.2	−00.5
22	196 28.4	+00.6	S 16 51.7	−00.6
23	211 29.0	+00.6	S 16 51.1	−00.5

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	041°	041°	041°	040°	040°	040°

Greenwich Culmination Time: 08:54

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	193 51.5	+01.9	S 04 44.5	−00.2
01	208 53.4	+01.9	S 04 44.3	−00.2
02	223 55.3	+01.9	S 04 44.1	−00.2
03	238 57.2	+02.0	S 04 43.9	−00.3
04	253 59.2	+01.9	S 04 43.6	−00.2
05	269 01.1	+01.9	S 04 43.4	−00.2
06	284 03.0	+01.9	S 04 43.2	−00.3
07	299 04.9	+01.9	S 04 42.9	−00.2
08	314 06.8	+01.9	S 04 42.7	−00.2
09	329 08.7	+02.0	S 04 42.5	−00.3
10	344 10.7	+01.9	S 04 42.2	−00.2
11	359 12.6	+01.9	S 04 42.0	−00.2
12	14 14.5	+01.9	S 04 41.8	−00.2
13	29 16.4	+01.9	S 04 41.6	−00.3
14	44 18.3	+01.9	S 04 41.3	−00.2
15	59 20.2	+02.0	S 04 41.1	−00.2
16	74 22.2	+01.9	S 04 40.9	−00.3
17	89 24.1	+01.9	S 04 40.6	−00.2
18	104 26.0	+01.9	S 04 40.4	−00.2
19	119 27.9	+01.9	S 04 40.2	−00.2
20	134 29.8	+02.0	S 04 40.0	−00.3
21	149 31.8	+01.9	S 04 39.7	−00.2
22	164 33.7	+01.9	S 04 39.5	−00.2
23	179 35.6	+01.9	S 04 39.3	−00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	008°	008°	008°	008°	008°	008°

Greenwich Culmination Time: 11:03

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	221 02.5	+02.3	S 15 10.1	+00.0
01	236 04.8	+02.2	S 15 10.1	−00.1
02	251 07.0	+02.2	S 15 10.0	−00.1
03	266 09.2	+02.2	S 15 09.9	−00.1
04	281 11.4	+02.3	S 15 09.8	+00.0
05	296 13.7	+02.2	S 15 09.8	−00.1
06	311 15.9	+02.2	S 15 09.7	−00.1
07	326 18.1	+02.3	S 15 09.6	+00.0
08	341 20.4	+02.2	S 15 09.6	−00.1
09	356 22.6	+02.2	S 15 09.5	−00.1
10	11 24.8	+02.2	S 15 09.4	−00.1
11	26 27.0	+02.3	S 15 09.3	+00.0
12	41 29.3	+02.2	S 15 09.3	−00.1
13	56 31.5	+02.2	S 15 09.2	−00.1
14	71 33.7	+02.3	S 15 09.1	+00.0
15	86 36.0	+02.2	S 15 09.1	−00.1
16	101 38.2	+02.2	S 15 09.0	−00.1
17	116 40.4	+02.2	S 15 08.9	−00.1
18	131 42.6	+02.3	S 15 08.8	+00.0
19	146 44.9	+02.2	S 15 08.8	−00.1
20	161 47.1	+02.2	S 15 08.7	−00.1
21	176 49.3	+02.3	S 15 08.6	+00.0
22	191 51.6	+02.2	S 15 08.6	−00.1
23	206 53.8	+02.2	S 15 08.5	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 09:14

2022 April 2 Saturday (day 92 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	179 04.2	+00.2	N 04 50.1	+00.9
01	194 04.4	+00.2	N 04 51.0	+01.0
02	209 04.6	+00.1	N 04 52.0	+01.0
03	224 04.7	+00.2	N 04 53.0	+00.9
04	239 04.9	+00.2	N 04 53.9	+01.0
05	254 05.1	+00.2	N 04 54.9	+00.9
06	269 05.3	+00.2	N 04 55.8	+01.0
07	284 05.5	+00.2	N 04 56.8	+01.0
08	299 05.7	+00.2	N 04 57.8	+00.9
09	314 05.9	+00.1	N 04 58.7	+01.0
10	329 06.0	+00.2	N 04 59.7	+00.9
11	344 06.2	+00.2	N 05 00.6	+01.0
12	359 06.4	+00.2	N 05 01.6	+01.0
13	14 06.6	+00.2	N 05 02.6	+00.9
14	29 06.8	+00.1	N 05 03.5	+01.0
15	44 06.9	+00.2	N 05 04.5	+00.9
16	59 07.1	+00.2	N 05 05.4	+01.0
17	74 07.3	+00.2	N 05 06.4	+01.0
18	89 07.5	+00.2	N 05 07.4	+00.9
19	104 07.7	+00.2	N 05 08.3	+01.0
20	119 07.9	+00.1	N 05 09.3	+00.9
21	134 08.0	+00.2	N 05 10.2	+01.0
22	149 08.2	+00.2	N 05 11.2	+01.0
23	164 08.4	+00.2	N 05 12.2	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	349°	349°	348°	348°	348°	348°

Greenwich Culmination Time: 12:03

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	222 12.9	-00.2	S 12 04.7	-00.7
01	237 12.7	-00.1	S 12 04.0	-00.7
02	252 12.6	-00.2	S 12 03.3	-00.6
03	267 12.4	-00.2	S 12 02.7	-00.7
04	282 12.2	-00.1	S 12 02.0	-00.7
05	297 12.1	-00.2	S 12 01.3	-00.7
06	312 11.9	-00.1	S 12 00.6	-00.6
07	327 11.8	-00.2	S 11 60.0	-00.7
08	342 11.6	-00.2	S 11 59.3	-00.7
09	357 11.4	-00.1	S 11 58.6	-00.7
10	12 11.3	-00.2	S 11 57.9	-00.7
11	27 11.1	-00.1	S 11 57.2	-00.6
12	42 11.0	-00.2	S 11 56.6	-00.7
13	57 10.8	-00.2	S 11 55.9	-00.7
14	72 10.6	-00.1	S 11 55.2	-00.7
15	87 10.5	-00.2	S 11 54.5	-00.7
16	102 10.3	-00.1	S 11 53.8	-00.7
17	117 10.2	-00.2	S 11 53.1	-00.6
18	132 10.0	-00.2	S 11 52.5	-00.7
19	147 09.8	-00.1	S 11 51.8	-00.7
20	162 09.7	-00.2	S 11 51.1	-00.7
21	177 09.5	-00.2	S 11 50.4	-00.7
22	192 09.3	-00.1	S 11 49.7	-00.7
23	207 09.2	-00.2	S 11 49.0	-00.7

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	032°	032°	031°	031°	031°	031°

Greenwich Culmination Time: 09:11

Moon

A: 04%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	169 51.4	-26.6	N 05 40.0	+14.3
01	184 24.8	-26.6	N 05 54.3	+14.2
02	198 58.2	-26.6	N 06 08.5	+14.2
03	213 31.6	-26.6	N 06 22.7	+14.2
04	228 05.0	-26.6	N 06 36.9	+14.1
05	242 38.4	-26.7	N 06 51.0	+14.1
06	257 11.7	-26.6	N 07 05.1	+14.0
07	271 45.1	-26.6	N 07 19.1	+14.0
08	286 18.5	-26.6	N 07 33.1	+13.9
09	300 51.9	-26.7	N 07 47.0	+13.9
10	315 25.2	-26.6	N 08 00.9	+13.9
11	329 58.6	-26.7	N 08 14.8	+13.8
12	344 31.9	-26.7	N 08 28.6	+13.7
13	359 05.2	-26.6	N 08 42.3	+13.7
14	13 38.6	-26.7	N 08 56.0	+13.7
15	28 11.9	-26.7	N 09 09.7	+13.6
16	42 45.2	-26.7	N 09 23.3	+13.6
17	57 18.5	-26.7	N 09 36.9	+13.5
18	71 51.8	-26.8	N 09 50.4	+13.4
19	86 25.0	-26.7	N 10 03.8	+13.4
20	100 58.3	-26.8	N 10 17.2	+13.4
21	115 31.5	-26.8	N 10 30.6	+13.3
22	130 04.7	-26.8	N 10 43.9	+13.2
23	144 37.9	-26.8	N 10 57.1	+13.2

UT	02	06	10	14	18	22
SD	15′3	15′3	15′3	15′3	15′2	15′2
HP	56′3	56′2	56′1	56′0	55′9	55′8
SHA	339°	337°	335°	333°	331°	329°

Greenwich Culmination Time: 13:03

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	227 25.8	+00.6	S 15 57.0	-00.6
01	242 26.4	+00.6	S 15 56.4	-00.6
02	257 27.0	+00.6	S 15 55.8	-00.5
03	272 27.6	+00.6	S 15 55.3	-00.6
04	287 28.2	+00.6	S 15 54.7	-00.6
05	302 28.8	+00.6	S 15 54.1	-00.6
06	317 29.4	+00.6	S 15 53.5	-00.5
07	332 30.0	+00.6	S 15 53.0	-00.6
08	347 30.6	+00.6	S 15 52.4	-00.6
09	2 31.2	+00.6	S 15 51.8	-00.5
10	17 31.8	+00.6	S 15 51.3	-00.6
11	32 32.4	+00.6	S 15 50.7	-00.6
12	47 33.0	+00.6	S 15 50.1	-00.6
13	62 33.6	+00.6	S 15 49.5	-00.5
14	77 34.2	+00.6	S 15 49.0	-00.6
15	92 34.8	+00.6	S 15 48.4	-00.6
16	107 35.4	+00.5	S 15 47.8	-00.6
17	122 35.9	+00.6	S 15 47.2	-00.5
18	137 36.5	+00.6	S 15 46.7	-00.6
19	152 37.1	+00.6	S 15 46.1	-00.6
20	167 37.7	+00.6	S 15 45.5	-00.6
21	182 38.3	+00.6	S 15 44.9	-00.6
22	197 38.9	+00.6	S 15 44.3	-00.5
23	212 39.5	+00.6	S 15 43.8	-00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	037°	037°	037°	037°	037°	036°

Greenwich Culmination Time: 08:49

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	197 41.9	+01.9	S 04 17.1	-00.2
01	212 43.8	+02.0	S 04 16.9	-00.2
02	227 45.8	+01.9	S 04 16.7	-00.2
03	242 47.7	+01.9	S 04 16.5	-00.3
04	257 49.6	+01.9	S 04 16.2	-00.2
05	272 51.5	+02.0	S 04 16.0	-00.2
06	287 53.5	+01.9	S 04 15.8	-00.3
07	302 55.4	+01.9	S 04 15.5	-00.2
08	317 57.3	+01.9	S 04 15.3	-00.2
09	332 59.2	+01.9	S 04 15.1	-00.2
10	348 01.1	+02.0	S 04 14.9	-00.3
11	3 03.1	+01.9	S 04 14.6	-00.2
12	18 05.0	+01.9	S 04 14.4	-00.2
13	33 06.9	+01.9	S 04 14.2	-00.2
14	48 08.8	+02.0	S 04 14.0	-00.3
15	63 10.8	+01.9	S 04 13.7	-00.2
16	78 12.7	+01.9	S 04 13.5	-00.2
17	93 14.6	+01.9	S 04 13.3	-00.2
18	108 16.5	+02.0	S 04 13.1	-00.3
19	123 18.5	+01.9	S 04 12.8	-00.2
20	138 20.4	+01.9	S 04 12.6	-00.2
21	153 22.3	+01.9	S 04 12.4	-00.3
22	168 24.2	+02.0	S 04 12.1	-00.2
23	183 26.2	+01.9	S 04 11.9	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	007°	007°	007°	007°	007°	007°

Greenwich Culmination Time: 10:47

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	225 30.6	+02.2	S 15 01.7	-00.1
01	240 32.8	+02.3	S 15 01.6	+00.0
02	255 35.1	+02.2	S 15 01.6	-00.1
03	270 37.3	+02.3	S 15 01.5	-00.1
04	285 39.6	+02.2	S 15 01.4	+00.0
05	300 41.8	+02.2	S 15 01.4	-00.1
06	315 44.0	+02.3	S 15 01.3	-00.1
07	330 46.3	+02.2	S 15 01.2	+00.0
08	345 48.5	+02.3	S 15 01.2	-00.1
09	0 50.8	+02.2	S 15 01.1	-00.1
10	15 53.0	+02.2	S 15 01.0	+00.0
11	30 55.2	+02.3	S 15 01.0	-00.1
12	45 57.5	+02.2	S 15 00.9	-00.1
13	60 59.7	+02.3	S 15 00.8	-00.1
14	76 02.0	+02.2	S 15 00.7	+00.0
15	91 04.2	+02.2	S 15 00.7	-00.1
16	106 06.4	+02.3	S 15 00.6	-00.1
17	121 08.7	+02.2	S 15 00.5	+00.0
18	136 10.9	+02.3	S 15 00.5	-00.1
19	151 13.2	+02.2	S 15 00.4	-00.1
20	166 15.4	+02.3	S 15 00.3	+00.0
21	181 17.7	+02.2	S 15 00.3	-00.1
22	196 19.9	+02.2	S 15 00.2	-00.1
23	211 22.1	+02.3	S 15 00.1	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 08:56

2022 March 30 Wednesday (day 89 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 50.9	+00.1	N 03 40.4	+01.0
01	193 51.0	+00.2	N 03 41.4	+00.9
02	208 51.2	+00.2	N 03 42.3	+01.0
03	223 51.4	+00.2	N 03 43.3	+01.0
04	238 51.6	+00.2	N 03 44.3	+00.9
05	253 51.8	+00.2	N 03 45.2	+01.0
06	268 52.0	+00.2	N 03 46.2	+01.0
07	283 52.2	+00.1	N 03 47.2	+01.0
08	298 52.3	+00.2	N 03 48.2	+00.9
09	313 52.5	+00.2	N 03 49.1	+01.0
10	328 52.7	+00.2	N 03 50.1	+01.0
11	343 52.9	+00.2	N 03 51.1	+00.9
12	358 53.1	+00.2	N 03 52.0	+01.0
13	13 53.3	+00.2	N 03 53.0	+01.0
14	28 53.5	+00.2	N 03 54.0	+01.0
15	43 53.7	+00.1	N 03 55.0	+00.9
16	58 53.8	+00.2	N 03 55.9	+01.0
17	73 54.0	+00.2	N 03 56.9	+01.0
18	88 54.2	+00.2	N 03 57.9	+00.9
19	103 54.4	+00.2	N 03 58.8	+01.0
20	118 54.6	+00.2	N 03 59.8	+01.0
21	133 54.8	+00.2	N 04 00.8	+00.9
22	148 55.0	+00.1	N 04 01.7	+01.0
23	163 55.1	+00.2	N 04 02.7	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	351°	351°	351°	351°	351°	351°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	222 23.9	-00.1	S 12 51.3	-00.6
01	237 23.8	-00.2	S 12 50.7	-00.7
02	252 23.6	-00.1	S 12 50.0	-00.6
03	267 23.5	-00.2	S 12 49.4	-00.6
04	282 23.3	-00.1	S 12 48.8	-00.6
05	297 23.2	-00.2	S 12 48.2	-00.6
06	312 23.0	-00.1	S 12 47.6	-00.7
07	327 22.9	-00.2	S 12 46.9	-00.6
08	342 22.7	-00.1	S 12 46.3	-00.6
09	357 22.6	-00.2	S 12 45.7	-00.7
10	12 22.4	-00.1	S 12 45.0	-00.6
11	27 22.3	-00.2	S 12 44.4	-00.6
12	42 22.1	-00.1	S 12 43.8	-00.6
13	57 22.0	-00.2	S 12 43.2	-00.7
14	72 21.8	-00.1	S 12 42.5	-00.6
15	87 21.7	-00.2	S 12 41.9	-00.6
16	102 21.5	-00.1	S 12 41.3	-00.7
17	117 21.4	-00.2	S 12 40.6	-00.6
18	132 21.2	-00.1	S 12 40.0	-00.6
19	147 21.1	-00.2	S 12 39.4	-00.7
20	162 20.9	-00.1	S 12 38.7	-00.6
21	177 20.8	-00.2	S 12 38.1	-00.6
22	192 20.6	-00.1	S 12 37.5	-00.7
23	207 20.5	-00.2	S 12 36.8	-00.6

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	035°	035°	035°	034°	034°	034°

Greenwich Culmination Time: 09:10

Moon

A: 94%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	202 51.7	-29.2	S 11 54.3	-13.9
01	217 22.5	-29.2	S 11 40.4	-14.1
02	231 53.3	-29.0	S 11 26.3	-14.0
03	246 24.3	-29.1	S 11 12.3	-14.1
04	260 55.2	-28.9	S 10 58.2	-14.2
05	275 26.3	-28.9	S 10 44.0	-14.2
06	289 57.4	-28.8	S 10 29.8	-14.3
07	304 28.6	-28.8	S 10 15.5	-14.3
08	318 59.8	-28.7	S 10 01.2	-14.3
09	333 31.1	-28.6	S 09 46.9	-14.4
10	348 02.5	-28.5	S 09 32.5	-14.4
11	2 34.0	-28.5	S 09 18.1	-14.4
12	17 05.5	-28.5	S 09 03.7	-14.5
13	31 37.0	-28.3	S 08 49.2	-14.5
14	46 08.7	-28.3	S 08 34.7	-14.6
15	60 40.4	-28.3	S 08 20.1	-14.6
16	75 12.1	-28.2	S 08 05.5	-14.6
17	89 43.9	-28.1	S 07 50.9	-14.6
18	104 15.8	-28.1	S 07 36.3	-14.6
19	118 47.7	-28.1	S 07 21.7	-14.7
20	133 19.6	-27.9	S 07 07.0	-14.7
21	147 51.7	-28.0	S 06 52.3	-14.8
22	162 23.7	-27.8	S 06 37.5	-14.7
23	176 55.9	-27.9	S 06 22.8	-14.8

UT	02	06	10	14	18	22
SD	15′8	15′7	15′7	15′7	15′7	15′7
HP	57′9	57′8	57′7	57′7	57′6	57′5
SHA	014°	012°	010°	008°	006°	004°

Greenwich Culmination Time: 10:49

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	226 43.5	+00.6	S 16 37.4	-00.5
01	241 44.1	+00.6	S 16 36.9	-00.6
02	256 44.7	+00.5	S 16 36.3	-00.5
03	271 45.2	+00.6	S 16 35.8	-00.6
04	286 45.8	+00.6	S 16 35.2	-00.6
05	301 46.4	+00.6	S 16 34.6	-00.5
06	316 47.0	+00.6	S 16 34.1	-00.6
07	331 47.6	+00.6	S 16 33.5	-00.5
08	346 48.2	+00.5	S 16 33.0	-00.6
09	1 48.7	+00.6	S 16 32.4	-00.5
10	16 49.3	+00.6	S 16 31.9	-00.6
11	31 49.9	+00.6	S 16 31.3	-00.5
12	46 50.5	+00.6	S 16 30.8	-00.6
13	61 51.1	+00.6	S 16 30.2	-00.5
14	76 51.7	+00.6	S 16 29.7	-00.6
15	91 52.3	+00.5	S 16 29.1	-00.6
16	106 52.8	+00.6	S 16 28.5	-00.5
17	121 53.4	+00.6	S 16 28.0	-00.6
18	136 54.0	+00.6	S 16 27.4	-00.5
19	151 54.6	+00.6	S 16 26.9	-00.6
20	166 55.2	+00.6	S 16 26.3	-00.5
21	181 55.8	+00.5	S 16 25.8	-00.6
22	196 56.3	+00.6	S 16 25.2	-00.6
23	211 56.9	+00.6	S 16 24.6	-00.5

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 08:52

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	195 23.6	+01.9	S 04 33.5	-00.2
01	210 25.5	+01.9	S 04 33.3	-00.2
02	225 27.4	+01.9	S 04 33.1	-00.2
03	240 29.3	+01.9	S 04 32.9	-00.3
04	255 31.2	+02.0	S 04 32.6	-00.2
05	270 33.2	+01.9	S 04 32.4	-00.2
06	285 35.1	+01.9	S 04 32.2	-00.3
07	300 37.0	+01.9	S 04 31.9	-00.2
08	315 38.9	+01.9	S 04 31.7	-00.2
09	330 40.8	+02.0	S 04 31.5	-00.2
10	345 42.8	+01.9	S 04 31.3	-00.3
11	0 44.7	+01.9	S 04 31.0	-00.2
12	15 46.6	+01.9	S 04 30.8	-00.2
13	30 48.5	+01.9	S 04 30.6	-00.3
14	45 50.4	+02.0	S 04 30.3	-00.2
15	60 52.4	+01.9	S 04 30.1	-00.2
16	75 54.3	+01.9	S 04 29.9	-00.2
17	90 56.2	+01.9	S 04 29.7	-00.3
18	105 58.1	+01.9	S 04 29.4	-00.2
19	121 00.0	+02.0	S 04 29.2	-00.2
20	136 02.0	+01.9	S 04 29.0	-00.3
21	151 03.9	+01.9	S 04 28.7	-00.2
22	166 05.8	+01.9	S 04 28.5	-00.2
23	181 07.7	+01.9	S 04 28.3	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	008°	008°	008°	008°	008°	008°

Greenwich Culmination Time: 10:57

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	222 49.6	+02.2	S 15 06.7	-00.1
01	237 51.8	+02.2	S 15 06.6	+00.0
02	252 54.0	+02.3	S 15 06.6	-00.1
03	267 56.3	+02.2	S 15 06.5	-00.1
04	282 58.5	+02.2	S 15 06.4	+00.0
05	298 00.7	+02.3	S 15 06.4	-00.1
06	313 03.0	+02.2	S 15 06.3	-00.1
07	328 05.2	+02.2	S 15 06.2	-00.1
08	343 07.4	+02.3	S 15 06.1	+00.0
09	358 09.7	+02.2	S 15 06.1	-00.1
10	13 11.9	+02.2	S 15 06.0	-00.1
11	28 14.1	+02.3	S 15 05.9	+00.0
12	43 16.4	+02.2	S 15 05.9	-00.1
13	58 18.6	+02.2	S 15 05.8	-00.1
14	73 20.8	+02.3	S 15 05.7	+00.0
15	88 23.1	+02.2	S 15 05.7	-00.1
16	103 25.3	+02.2	S 15 05.6	-00.1
17	118 27.5	+02.3	S 15 05.5	-00.1
18	133 29.8	+02.2	S 15 05.4	+00.0
19	148 32.0	+02.3	S 15 05.4	-00.1
20	163 34.3	+02.2	S 15 05.3	-00.1
21	178 36.5	+02.2	S 15 05.2	+00.0
22	193 38.7	+02.3	S 15 05.2	-00.1
23	208 41.0	+02.2	S 15 05.1	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 09:07

2022 March 31 Thursday (day 90 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 55.3	+00.2	N 04 03.7	+01.0
01	193 55.5	+00.2	N 04 04.7	+00.9
02	208 55.7	+00.2	N 04 05.6	+01.0
03	223 55.9	+00.2	N 04 06.6	+01.0
04	238 56.1	+00.2	N 04 07.6	+00.9
05	253 56.3	+00.1	N 04 08.5	+01.0
06	268 56.4	+00.2	N 04 09.5	+01.0
07	283 56.6	+00.2	N 04 10.5	+00.9
08	298 56.8	+00.2	N 04 11.4	+01.0
09	313 57.0	+00.2	N 04 12.4	+01.0
10	328 57.2	+00.2	N 04 13.4	+00.9
11	343 57.4	+00.2	N 04 14.3	+01.0
12	358 57.6	+00.1	N 04 15.3	+01.0
13	13 57.7	+00.2	N 04 16.3	+00.9
14	28 57.9	+00.2	N 04 17.2	+01.0
15	43 58.1	+00.2	N 04 18.2	+01.0
16	58 58.3	+00.2	N 04 19.2	+00.9
17	73 58.5	+00.2	N 04 20.1	+01.0
18	88 58.7	+00.2	N 04 21.1	+01.0
19	103 58.9	+00.1	N 04 22.1	+00.9
20	118 59.0	+00.2	N 04 23.0	+01.0
21	133 59.2	+00.2	N 04 24.0	+01.0
22	148 59.4	+00.2	N 04 25.0	+00.9
23	163 59.6	+00.2	N 04 25.9	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	350°	350°	350°	350°	350°	350°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	222 20.3	−00.1	S 12 36.2	−00.7
01	237 20.2	−00.2	S 12 35.5	−00.6
02	252 20.0	−00.1	S 12 34.9	−00.6
03	267 19.9	−00.2	S 12 34.3	−00.7
04	282 19.7	−00.1	S 12 33.6	−00.6
05	297 19.6	−00.2	S 12 33.0	−00.7
06	312 19.4	−00.1	S 12 32.3	−00.6
07	327 19.3	−00.2	S 12 31.7	−00.7
08	342 19.1	−00.1	S 12 31.0	−00.6
09	357 19.0	−00.2	S 12 30.4	−00.6
10	12 18.8	−00.1	S 12 29.8	−00.7
11	27 18.7	−00.2	S 12 29.1	−00.6
12	42 18.5	−00.1	S 12 28.5	−00.7
13	57 18.4	−00.2	S 12 27.8	−00.6
14	72 18.2	−00.2	S 12 27.2	−00.7
15	87 18.0	−00.1	S 12 26.5	−00.6
16	102 17.9	−00.2	S 12 25.9	−00.7
17	117 17.7	−00.1	S 12 25.2	−00.6
18	132 17.6	−00.2	S 12 24.6	−00.7
19	147 17.4	−00.1	S 12 23.9	−00.6
20	162 17.3	−00.2	S 12 23.3	−00.7
21	177 17.1	−00.1	S 12 22.6	−00.6
22	192 17.0	−00.2	S 12 22.0	−00.7
23	207 16.8	−00.1	S 12 21.3	−00.7

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	034°	034°	034°	033°	033°	033°

Greenwich Culmination Time: 09:10

Moon

A: 98%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	191 28.0	−27.7	S 06 08.0	−14.8
01	206 00.3	−27.8	S 05 53.2	−14.8
02	220 32.5	−27.6	S 05 38.4	−14.8
03	235 04.9	−27.7	S 05 23.6	−14.8
04	249 37.2	−27.6	S 05 08.8	−14.9
05	264 09.6	−27.5	S 04 53.9	−14.8
06	278 42.1	−27.5	S 04 39.1	−14.9
07	293 14.6	−27.5	S 04 24.2	−14.9
08	307 47.1	−27.4	S 04 09.3	−14.9
09	322 19.7	−27.4	S 03 54.4	−14.9
10	336 52.3	−27.3	S 03 39.5	−14.9
11	351 25.0	−27.3	S 03 24.6	−14.9
12	5 57.7	−27.3	S 03 09.7	−14.9
13	20 30.4	−27.2	S 02 54.8	−14.9
14	35 03.2	−27.2	S 02 39.9	−14.9
15	49 36.0	−27.2	S 02 25.0	−14.9
16	64 08.8	−27.1	S 02 10.1	−14.9
17	78 41.7	−27.1	S 01 55.2	−14.9
18	93 14.6	−27.0	S 01 40.3	−14.9
19	107 47.6	−27.1	S 01 25.4	−14.9
20	122 20.5	−27.0	S 01 10.5	−14.9
21	136 53.5	−27.0	S 00 55.6	−14.9
22	151 26.5	−26.9	S 00 40.7	−14.9
23	165 59.6	−27.0	S 00 25.8	−14.8

UT	02	06	10	14	18	22
SD	15′6	15′6	15′6	15′6	15′5	15′5
HP	57′4	57′3	57′2	57′1	57′0	56′9
SHA	002°	000°	358°	356°	354°	352°

Greenwich Culmination Time: 11:35

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	226 57.5	+00.6	S 16 24.1	−00.6
01	241 58.1	+00.6	S 16 23.5	−00.5
02	256 58.7	+00.6	S 16 23.0	−00.6
03	271 59.3	+00.6	S 16 22.4	−00.6
04	286 59.9	+00.6	S 16 21.8	−00.5
05	302 00.5	+00.5	S 16 21.3	−00.6
06	317 01.0	+00.6	S 16 20.7	−00.5
07	332 01.6	+00.6	S 16 20.2	−00.6
08	347 02.2	+00.6	S 16 19.6	−00.6
09	2 02.8	+00.6	S 16 19.0	−00.5
10	17 03.4	+00.6	S 16 18.5	−00.6
11	32 04.0	+00.6	S 16 17.9	−00.5
12	47 04.6	+00.6	S 16 17.4	−00.6
13	62 05.2	+00.5	S 16 16.8	−00.6
14	77 05.7	+00.6	S 16 16.2	−00.5
15	92 06.3	+00.6	S 16 15.7	−00.6
16	107 06.9	+00.6	S 16 15.1	−00.5
17	122 07.5	+00.6	S 16 14.6	−00.6
18	137 08.1	+00.6	S 16 14.0	−00.6
19	152 08.7	+00.6	S 16 13.4	−00.5
20	167 09.3	+00.6	S 16 12.9	−00.6
21	182 09.9	+00.6	S 16 12.3	−00.6
22	197 10.5	+00.5	S 16 11.7	−00.5
23	212 11.0	+00.6	S 16 11.2	−00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	039°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 08:51

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	196 09.6	+02.0	S 04 28.1	−00.3
01	211 11.6	+01.9	S 04 27.8	−00.2
02	226 13.5	+01.9	S 04 27.6	−00.2
03	241 15.4	+01.9	S 04 27.4	−00.2
04	256 17.3	+02.0	S 04 27.2	−00.3
05	271 19.3	+01.9	S 04 26.9	−00.2
06	286 21.2	+01.9	S 04 26.7	−00.2
07	301 23.1	+01.9	S 04 26.5	−00.3
08	316 25.0	+01.9	S 04 26.2	−00.2
09	331 26.9	+02.0	S 04 26.0	−00.2
10	346 28.9	+01.9	S 04 25.8	−00.2
11	1 30.8	+01.9	S 04 25.6	−00.3
12	16 32.7	+01.9	S 04 25.3	−00.2
13	31 34.6	+01.9	S 04 25.1	−00.2
14	46 36.5	+02.0	S 04 24.9	−00.3
15	61 38.5	+01.9	S 04 24.6	−00.2
16	76 40.4	+01.9	S 04 24.4	−00.2
17	91 42.3	+01.9	S 04 24.2	−00.2
18	106 44.2	+02.0	S 04 24.0	−00.3
19	121 46.2	+01.9	S 04 23.7	−00.2
20	136 48.1	+01.9	S 04 23.5	−00.2
21	151 50.0	+01.9	S 04 23.3	−00.3
22	166 51.9	+01.9	S 04 23.0	−00.2
23	181 53.8	+02.0	S 04 22.8	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	008°	008°	008°	008°	008°	008°

Greenwich Culmination Time: 10:53

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	223 43.2	+02.2	S 15 05.0	+00.0
01	238 45.4	+02.3	S 15 05.0	−00.1
02	253 47.7	+02.2	S 15 04.9	−00.1
03	268 49.9	+02.2	S 15 04.8	−00.1
04	283 52.1	+02.3	S 15 04.7	+00.0
05	298 54.4	+02.2	S 15 04.7	−00.1
06	313 56.6	+02.2	S 15 04.6	−00.1
07	328 58.8	+02.3	S 15 04.5	+00.0
08	344 01.1	+02.2	S 15 04.5	−00.1
09	359 03.3	+02.2	S 15 04.4	−00.1
10	14 05.5	+02.3	S 15 04.3	+00.0
11	29 07.8	+02.2	S 15 04.3	−00.1
12	44 10.0	+02.3	S 15 04.2	−00.1
13	59 12.3	+02.2	S 15 04.1	−00.1
14	74 14.5	+02.2	S 15 04.0	+00.0
15	89 16.7	+02.3	S 15 04.0	−00.1
16	104 19.0	+02.2	S 15 03.9	−00.1
17	119 21.2	+02.2	S 15 03.8	+00.0
18	134 23.4	+02.3	S 15 03.8	−00.1
19	149 25.7	+02.2	S 15 03.7	−00.1
20	164 27.9	+02.2	S 15 03.6	+00.0
21	179 30.1	+02.3	S 15 03.6	−00.1
22	194 32.4	+02.2	S 15 03.5	−00.1
23	209 34.6	+02.3	S 15 03.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 09:03

2022 April 1 Friday (day 91 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 59.8	+00.2	N 04 26.9	+01.0
01	193 60.0	+00.1	N 04 27.9	+00.9
02	209 00.1	+00.2	N 04 28.8	+01.0
03	224 00.3	+00.2	N 04 29.8	+01.0
04	239 00.5	+00.2	N 04 30.8	+00.9
05	254 00.7	+00.2	N 04 31.7	+01.0
06	269 00.9	+00.2	N 04 32.7	+01.0
07	284 01.1	+00.2	N 04 33.7	+00.9
08	299 01.3	+00.1	N 04 34.6	+01.0
09	314 01.4	+00.2	N 04 35.6	+01.0
10	329 01.6	+00.2	N 04 36.6	+00.9
11	344 01.8	+00.2	N 04 37.5	+01.0
12	359 02.0	+00.2	N 04 38.5	+01.0
13	14 02.2	+00.2	N 04 39.5	+00.9
14	29 02.4	+00.1	N 04 40.4	+01.0
15	44 02.5	+00.2	N 04 41.4	+01.0
16	59 02.7	+00.2	N 04 42.4	+00.9
17	74 02.9	+00.2	N 04 43.3	+01.0
18	89 03.1	+00.2	N 04 44.3	+00.9
19	104 03.3	+00.2	N 04 45.2	+01.0
20	119 03.5	+00.1	N 04 46.2	+01.0
21	134 03.6	+00.2	N 04 47.2	+00.9
22	149 03.8	+00.2	N 04 48.1	+01.0
23	164 04.0	+00.2	N 04 49.1	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	350°	349°	349°	349°	349°	349°

Greenwich Culmination Time: 12:03

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	222 16.7	−00.2	S 12 20.6	−00.6
01	237 16.5	−00.2	S 12 20.0	−00.7
02	252 16.3	−00.1	S 12 19.3	−00.6
03	267 16.2	−00.2	S 12 18.7	−00.7
04	282 16.0	−00.1	S 12 18.0	−00.6
05	297 15.9	−00.2	S 12 17.4	−00.7
06	312 15.7	−00.1	S 12 16.7	−00.7
07	327 15.6	−00.2	S 12 16.0	−00.6
08	342 15.4	−00.2	S 12 15.4	−00.7
09	357 15.2	−00.1	S 12 14.7	−00.7
10	12 15.1	−00.2	S 12 14.0	−00.6
11	27 14.9	−00.1	S 12 13.4	−00.7
12	42 14.8	−00.2	S 12 12.7	−00.6
13	57 14.6	−00.1	S 12 12.1	−00.7
14	72 14.5	−00.2	S 12 11.4	−00.7
15	87 14.3	−00.2	S 12 10.7	−00.6
16	102 14.1	−00.1	S 12 10.1	−00.7
17	117 14.0	−00.2	S 12 09.4	−00.7
18	132 13.8	−00.1	S 12 08.7	−00.7
19	147 13.7	−00.2	S 12 08.0	−00.6
20	162 13.5	−00.1	S 12 07.4	−00.7
21	177 13.4	−00.2	S 12 06.7	−00.7
22	192 13.2	−00.2	S 12 06.0	−00.6
23	207 13.0	−00.1	S 12 05.4	−00.7

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	033°	033°	033°	032°	032°	032°

Greenwich Culmination Time: 09:10

Moon

A: 01%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 32.6	−26.9	S 00 11.0	−14.9
01	195 05.7	−26.8	N 00 03.9	+14.8
02	209 38.9	−26.9	N 00 18.7	+14.8
03	224 12.0	−26.8	N 00 33.5	+14.9
04	238 45.2	−26.9	N 00 48.4	+14.8
05	253 18.3	−26.8	N 01 03.2	+14.7
06	267 51.5	−26.7	N 01 17.9	+14.8
07	282 24.8	−26.8	N 01 32.7	+14.8
08	296 58.0	−26.7	N 01 47.5	+14.7
09	311 31.3	−26.8	N 02 02.2	+14.7
10	326 04.5	−26.7	N 02 16.9	+14.7
11	340 37.8	−26.7	N 02 31.6	+14.6
12	355 11.1	−26.7	N 02 46.2	+14.7
13	9 44.4	−26.6	N 03 00.9	+14.6
14	24 17.8	−26.7	N 03 15.5	+14.6
15	38 51.1	−26.7	N 03 30.1	+14.5
16	53 24.4	−26.6	N 03 44.6	+14.6
17	67 57.8	−26.7	N 03 59.2	+14.5
18	82 31.1	−26.6	N 04 13.7	+14.4
19	97 04.5	−26.6	N 04 28.1	+14.5
20	111 37.9	−26.6	N 04 42.6	+14.4
21	126 11.3	−26.7	N 04 57.0	+14.4
22	140 44.6	−26.6	N 05 11.4	+14.3
23	155 18.0	−26.6	N 05 25.7	+14.3

UT	02	06	10	14	18	22
SD	15′5	15′5	15′4	15′4	15′4	15′4
HP	56′8	56′8	56′7	56′6	56′5	56′4
SHA	350°	348°	346°	344°	342°	341°

Greenwich Culmination Time: 12:19

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	227 11.6	+00.6	S 16 10.6	−00.6
01	242 12.2	+00.6	S 16 10.0	−00.5
02	257 12.8	+00.6	S 16 09.5	−00.6
03	272 13.4	+00.6	S 16 08.9	−00.6
04	287 14.0	+00.6	S 16 08.3	−00.5
05	302 14.6	+00.6	S 16 07.8	−00.6
06	317 15.2	+00.6	S 16 07.2	−00.6
07	332 15.8	+00.6	S 16 06.6	−00.5
08	347 16.4	+00.5	S 16 06.1	−00.6
09	2 16.9	+00.6	S 16 05.5	−00.6
10	17 17.5	+00.6	S 16 04.9	−00.5
11	32 18.1	+00.6	S 16 04.4	−00.6
12	47 18.7	+00.6	S 16 03.8	−00.6
13	62 19.3	+00.6	S 16 03.2	−00.5
14	77 19.9	+00.6	S 16 02.7	−00.6
15	92 20.5	+00.6	S 16 02.1	−00.6
16	107 21.1	+00.6	S 16 01.5	−00.5
17	122 21.7	+00.6	S 16 01.0	−00.6
18	137 22.3	+00.6	S 16 00.4	−00.6
19	152 22.9	+00.6	S 15 59.8	−00.5
20	167 23.5	+00.6	S 15 59.3	−00.6
21	182 24.1	+00.5	S 15 58.7	−00.6
22	197 24.6	+00.6	S 15 58.1	−00.6
23	212 25.2	+00.6	S 15 57.5	−00.5

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	038°	038°	038°	037°	037°	037°

Greenwich Culmination Time: 08:50

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	196 55.8	+01.9	S 04 22.6	−00.2
01	211 57.7	+01.9	S 04 22.4	−00.3
02	226 59.6	+01.9	S 04 22.1	−00.2
03	242 01.5	+01.9	S 04 21.9	−00.2
04	257 03.4	+02.0	S 04 21.7	−00.2
05	272 05.4	+01.9	S 04 21.5	−00.3
06	287 07.3	+01.9	S 04 21.2	−00.2
07	302 09.2	+01.9	S 04 21.0	−00.2
08	317 11.1	+02.0	S 04 20.8	−00.3
09	332 13.1	+01.9	S 04 20.5	−00.2
10	347 15.0	+01.9	S 04 20.3	−00.2
11	2 16.9	+01.9	S 04 20.1	−00.2
12	17 18.8	+02.0	S 04 19.9	−00.3
13	32 20.8	+01.9	S 04 19.6	−00.2
14	47 22.7	+01.9	S 04 19.4	−00.2
15	62 24.6	+01.9	S 04 19.2	−00.2
16	77 26.5	+01.9	S 04 19.0	−00.3
17	92 28.4	+02.0	S 04 18.7	−00.2
18	107 30.4	+01.9	S 04 18.5	−00.2
19	122 32.3	+01.9	S 04 18.3	−00.3
20	137 34.2	+01.9	S 04 18.0	−00.2
21	152 36.1	+02.0	S 04 17.8	−00.2
22	167 38.1	+01.9	S 04 17.6	−00.2
23	182 40.0	+01.9	S 04 17.4	−00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	008°	008°	008°	007°	007°	007°

Greenwich Culmination Time: 10:50

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	224 36.9	+02.2	S 15 03.4	−00.1
01	239 39.1	+02.2	S 15 03.3	−00.1
02	254 41.3	+02.3	S 15 03.2	−00.1
03	269 43.6	+02.2	S 15 03.1	+00.0
04	284 45.8	+02.3	S 15 03.1	−00.1
05	299 48.1	+02.2	S 15 03.0	−00.1
06	314 50.3	+02.2	S 15 02.9	+00.0
07	329 52.5	+02.3	S 15 02.9	−00.1
08	344 54.8	+02.2	S 15 02.8	−00.1
09	359 57.0	+02.2	S 15 02.7	+00.0
10	14 59.2	+02.3	S 15 02.7	−00.1
11	30 01.5	+02.2	S 15 02.6	−00.1
12	45 03.7	+02.3	S 15 02.5	+00.0
13	60 06.0	+02.2	S 15 02.5	−00.1
14	75 08.2	+02.2	S 15 02.4	−00.1
15	90 10.4	+02.3	S 15 02.3	+00.0
16	105 12.7	+02.2	S 15 02.3	−00.1
17	120 14.9	+02.3	S 15 02.2	−00.1
18	135 17.2	+02.2	S 15 02.1	−00.1
19	150 19.4	+02.2	S 15 02.0	+00.0
20	165 21.6	+02.3	S 15 02.0	−00.1
21	180 23.9	+02.2	S 15 01.9	−00.1
22	195 26.1	+02.3	S 15 01.8	+00.0
23	210 28.4	+02.2	S 15 01.8	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 09:00

2022 April 6 Wednesday (day 96 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 21.6	+00.1	N 06 21.7	+01.0
01	194 21.7	+00.2	N 06 22.7	+00.9
02	209 21.9	+00.2	N 06 23.6	+01.0
03	224 22.1	+00.2	N 06 24.6	+00.9
04	239 22.3	+00.1	N 06 25.5	+01.0
05	254 22.4	+00.2	N 06 26.5	+00.9
06	269 22.6	+00.2	N 06 27.4	+01.0
07	284 22.8	+00.2	N 06 28.4	+00.9
08	299 23.0	+00.1	N 06 29.3	+00.9
09	314 23.1	+00.2	N 06 30.2	+01.0
10	329 23.3	+00.2	N 06 31.2	+00.9
11	344 23.5	+00.2	N 06 32.1	+01.0
12	359 23.7	+00.2	N 06 33.1	+00.9
13	14 23.9	+00.1	N 06 34.0	+01.0
14	29 24.0	+00.2	N 06 35.0	+00.9
15	44 24.2	+00.2	N 06 35.9	+01.0
16	59 24.4	+00.2	N 06 36.9	+00.9
17	74 24.6	+00.1	N 06 37.8	+00.9
18	89 24.7	+00.2	N 06 38.7	+01.0
19	104 24.9	+00.2	N 06 39.7	+00.9
20	119 25.1	+00.2	N 06 40.6	+01.0
21	134 25.3	+00.1	N 06 41.6	+00.9
22	149 25.4	+00.2	N 06 42.5	+00.9
23	164 25.6	+00.2	N 06 43.4	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	345°	345°	345°	345°	344°	344°

Greenwich Culmination Time: 12:02

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	221 57.0	−00.1	S 10 56.9	−00.8
01	236 56.9	−00.2	S 10 56.1	−00.7
02	251 56.7	−00.2	S 10 55.4	−00.7
03	266 56.5	−00.1	S 10 54.7	−00.8
04	281 56.4	−00.2	S 10 53.9	−00.7
05	296 56.2	−00.2	S 10 53.2	−00.8
06	311 56.0	−00.1	S 10 52.4	−00.7
07	326 55.9	−00.2	S 10 51.7	−00.7
08	341 55.7	−00.2	S 10 51.0	−00.8
09	356 55.5	−00.2	S 10 50.2	−00.7
10	11 55.3	−00.1	S 10 49.5	−00.8
11	26 55.2	−00.2	S 10 48.7	−00.7
12	41 55.0	−00.2	S 10 48.0	−00.8
13	56 54.8	−00.1	S 10 47.2	−00.7
14	71 54.7	−00.2	S 10 46.5	−00.8
15	86 54.5	−00.2	S 10 45.7	−00.7
16	101 54.3	−00.1	S 10 45.0	−00.8
17	116 54.2	−00.2	S 10 44.2	−00.7
18	131 54.0	−00.2	S 10 43.5	−00.8
19	146 53.8	−00.2	S 10 42.7	−00.7
20	161 53.6	−00.1	S 10 42.0	−00.8
21	176 53.5	−00.2	S 10 41.2	−00.7
22	191 53.3	−00.2	S 10 40.5	−00.8
23	206 53.1	−00.1	S 10 39.7	−00.7

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	028°	027°	027°	027°	027°	027°

Greenwich Culmination Time: 09:12

Moon

A: 16%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	125 38.6	−29.4	N 23 34.3	+06.8
01	140 09.2	−29.4	N 23 41.1	+06.7
02	154 39.8	−29.4	N 23 47.8	+06.6
03	169 10.4	−29.5	N 23 54.4	+06.5
04	183 40.9	−29.5	N 24 00.9	+06.4
05	198 11.4	−29.6	N 24 07.3	+06.3
06	212 41.8	−29.6	N 24 13.6	+06.2
07	227 12.2	−29.6	N 24 19.8	+06.0
08	241 42.6	−29.6	N 24 25.8	+05.9
09	256 13.0	−29.7	N 24 31.7	+05.8
10	270 43.3	−29.8	N 24 37.5	+05.7
11	285 13.5	−29.7	N 24 43.2	+05.6
12	299 43.8	−29.9	N 24 48.8	+05.5
13	314 13.9	−29.8	N 24 54.3	+05.3
14	328 44.1	−29.9	N 24 59.6	+05.2
15	343 14.2	−29.9	N 25 04.8	+05.1
16	357 44.3	−29.9	N 25 09.9	+05.0
17	12 14.4	−30.0	N 25 14.9	+04.9
18	26 44.4	−30.0	N 25 19.8	+04.7
19	41 14.4	−30.0	N 25 24.5	+04.7
20	55 44.4	−30.1	N 25 29.2	+04.5
21	70 14.3	−30.1	N 25 33.7	+04.4
22	84 44.2	−30.1	N 25 38.1	+04.2
23	99 14.1	−30.2	N 25 42.3	+04.2

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′4	54′4	54′3	54′3	54′3	54′3
SHA	290°	288°	286°	284°	282°	280°

Greenwich Culmination Time: 16:09

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	228 23.6	+00.6	S 15 01.0	−00.6
01	243 24.2	+00.6	S 15 00.4	−00.6
02	258 24.8	+00.6	S 14 59.8	−00.6
03	273 25.4	+00.6	S 14 59.2	−00.6
04	288 26.0	+00.6	S 14 58.6	−00.6
05	303 26.6	+00.6	S 14 58.0	−00.6
06	318 27.2	+00.6	S 14 57.4	−00.6
07	333 27.8	+00.6	S 14 56.8	−00.6
08	348 28.4	+00.6	S 14 56.2	−00.6
09	3 29.0	+00.7	S 14 55.6	−00.6
10	18 29.7	+00.6	S 14 55.0	−00.6
11	33 30.3	+00.6	S 14 54.4	−00.6
12	48 30.9	+00.6	S 14 53.8	−00.6
13	63 31.5	+00.6	S 14 53.2	−00.6
14	78 32.1	+00.6	S 14 52.6	−00.6
15	93 32.7	+00.6	S 14 52.0	−00.6
16	108 33.3	+00.6	S 14 51.4	−00.6
17	123 33.9	+00.6	S 14 50.8	−00.6
18	138 34.5	+00.7	S 14 50.2	−00.6
19	153 35.2	+00.6	S 14 49.6	−00.6
20	168 35.8	+00.6	S 14 49.0	−00.6
21	183 36.4	+00.6	S 14 48.4	−00.6
22	198 37.0	+00.6	S 14 47.8	−00.6
23	213 37.6	+00.6	S 14 47.2	−00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	034°	034°	034°	034°	034°	033°

Greenwich Culmination Time: 08:46

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	200 46.9	+01.9	S 03 55.4	−00.2
01	215 48.8	+01.9	S 03 55.2	−00.2
02	230 50.7	+01.9	S 03 55.0	−00.2
03	245 52.6	+02.0	S 03 54.8	−00.3
04	260 54.6	+01.9	S 03 54.5	−00.2
05	275 56.5	+01.9	S 03 54.3	−00.2
06	290 58.4	+02.0	S 03 54.1	−00.2
07	306 00.4	+01.9	S 03 53.9	−00.3
08	321 02.3	+01.9	S 03 53.6	−00.2
09	336 04.2	+02.0	S 03 53.4	−00.2
10	351 06.2	+01.9	S 03 53.2	−00.2
11	6 08.1	+01.9	S 03 53.0	−00.3
12	21 10.0	+01.9	S 03 52.7	−00.2
13	36 11.9	+02.0	S 03 52.5	−00.2
14	51 13.9	+01.9	S 03 52.3	−00.2
15	66 15.8	+01.9	S 03 52.1	−00.3
16	81 17.7	+02.0	S 03 51.8	−00.2
17	96 19.7	+01.9	S 03 51.6	−00.2
18	111 21.6	+01.9	S 03 51.4	−00.2
19	126 23.5	+02.0	S 03 51.2	−00.3
20	141 25.5	+01.9	S 03 50.9	−00.2
21	156 27.4	+01.9	S 03 50.7	−00.2
22	171 29.3	+02.0	S 03 50.5	−00.2
23	186 31.3	+01.9	S 03 50.3	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	007°	006°	006°	006°	006°	006°

Greenwich Culmination Time: 10:35

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	229 06.1	+02.3	S 14 55.3	−00.1
01	244 08.4	+02.2	S 14 55.2	+00.0
02	259 10.6	+02.3	S 14 55.2	−00.1
03	274 12.9	+02.2	S 14 55.1	−00.1
04	289 15.1	+02.3	S 14 55.0	+00.0
05	304 17.4	+02.2	S 14 55.0	−00.1
06	319 19.6	+02.3	S 14 54.9	−00.1
07	334 21.9	+02.2	S 14 54.8	+00.0
08	349 24.1	+02.3	S 14 54.8	−00.1
09	4 26.4	+02.2	S 14 54.7	−00.1
10	19 28.6	+02.3	S 14 54.6	+00.0
11	34 30.9	+02.2	S 14 54.6	−00.1
12	49 33.1	+02.3	S 14 54.5	+00.0
13	64 35.4	+02.2	S 14 54.5	−00.1
14	79 37.6	+02.3	S 14 54.4	−00.1
15	94 39.9	+02.3	S 14 54.3	+00.0
16	109 42.2	+02.2	S 14 54.3	−00.1
17	124 44.4	+02.3	S 14 54.2	−00.1
18	139 46.7	+02.2	S 14 54.1	+00.0
19	154 48.9	+02.3	S 14 54.1	−00.1
20	169 51.2	+02.2	S 14 54.0	−00.1
21	184 53.4	+02.3	S 14 53.9	+00.0
22	199 55.7	+02.2	S 14 53.9	−00.1
23	214 57.9	+02.3	S 14 53.8	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 08:42

2022 April 3 Sunday (day 93 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 08.6	+00.2	N 05 13.1	+01.0
01	194 08.8	+00.2	N 05 14.1	+00.9
02	209 09.0	+00.1	N 05 15.0	+01.0
03	224 09.1	+00.2	N 05 16.0	+01.0
04	239 09.3	+00.2	N 05 17.0	+00.9
05	254 09.5	+00.2	N 05 17.9	+01.0
06	269 09.7	+00.2	N 05 18.9	+00.9
07	284 09.9	+00.1	N 05 19.8	+01.0
08	299 10.0	+00.2	N 05 20.8	+01.0
09	314 10.2	+00.2	N 05 21.8	+00.9
10	329 10.4	+00.2	N 05 22.7	+01.0
11	344 10.6	+00.2	N 05 23.7	+00.9
12	359 10.8	+00.2	N 05 24.6	+01.0
13	14 11.0	+00.1	N 05 25.6	+00.9
14	29 11.1	+00.2	N 05 26.5	+01.0
15	44 11.3	+00.2	N 05 27.5	+00.9
16	59 11.5	+00.2	N 05 28.4	+01.0
17	74 11.7	+00.2	N 05 29.4	+01.0
18	89 11.9	+00.1	N 05 30.4	+00.9
19	104 12.0	+00.2	N 05 31.3	+01.0
20	119 12.2	+00.2	N 05 32.3	+00.9
21	134 12.4	+00.2	N 05 33.2	+01.0
22	149 12.6	+00.2	N 05 34.2	+00.9
23	164 12.8	+00.2	N 05 35.1	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	348°	348°	347°	347°	347°	347°

Greenwich Culmination Time: 12:03

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	222 09.0	−00.1	S 11 48.3	−00.7
01	237 08.9	−00.2	S 11 47.6	−00.6
02	252 08.7	−00.2	S 11 47.0	−00.7
03	267 08.5	−00.1	S 11 46.3	−00.7
04	282 08.4	−00.2	S 11 45.6	−00.7
05	297 08.2	−00.2	S 11 44.9	−00.7
06	312 08.0	−00.1	S 11 44.2	−00.7
07	327 07.9	−00.2	S 11 43.5	−00.7
08	342 07.7	−00.1	S 11 42.8	−00.7
09	357 07.6	−00.2	S 11 42.1	−00.7
10	12 07.4	−00.2	S 11 41.4	−00.7
11	27 07.2	−00.1	S 11 40.7	−00.7
12	42 07.1	−00.2	S 11 40.0	−00.7
13	57 06.9	−00.2	S 11 39.3	−00.7
14	72 06.7	−00.1	S 11 38.6	−00.7
15	87 06.6	−00.2	S 11 37.9	−00.7
16	102 06.4	−00.2	S 11 37.2	−00.7
17	117 06.2	−00.1	S 11 36.5	−00.7
18	132 06.1	−00.2	S 11 35.8	−00.7
19	147 05.9	−00.1	S 11 35.1	−00.7
20	162 05.8	−00.2	S 11 34.4	−00.7
21	177 05.6	−00.2	S 11 33.7	−00.7
22	192 05.4	−00.1	S 11 33.0	−00.7
23	207 05.3	−00.2	S 11 32.3	−00.7

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	031°	031°	030°	030°	030°	030°

Greenwich Culmination Time: 09:11

Moon

A: 07%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	159 11.1	−26.8	N 11 10.3	+13.1
01	173 44.3	−26.9	N 11 23.4	+13.0
02	188 17.4	−26.9	N 11 36.4	+13.0
03	202 50.5	−26.9	N 11 49.4	+13.0
04	217 23.6	−26.9	N 12 02.4	+12.8
05	231 56.7	−26.9	N 12 15.2	+12.8
06	246 29.8	−27.0	N 12 28.0	+12.8
07	261 02.8	−27.0	N 12 40.8	+12.7
08	275 35.8	−27.0	N 12 53.5	+12.6
09	290 08.8	−27.0	N 13 06.1	+12.5
10	304 41.8	−27.1	N 13 18.6	+12.5
11	319 14.7	−27.0	N 13 31.1	+12.4
12	333 47.7	−27.1	N 13 43.5	+12.4
13	348 20.6	−27.2	N 13 55.9	+12.2
14	2 53.4	−27.1	N 14 08.1	+12.2
15	17 26.3	−27.2	N 14 20.3	+12.2
16	31 59.1	−27.3	N 14 32.5	+12.0
17	46 31.8	−27.2	N 14 44.5	+12.0
18	61 04.6	−27.3	N 14 56.5	+11.9
19	75 37.3	−27.3	N 15 08.4	+11.9
20	90 10.0	−27.4	N 15 20.3	+11.7
21	104 42.6	−27.3	N 15 32.0	+11.7
22	119 15.3	−27.4	N 15 43.7	+11.6
23	133 47.9	−27.5	N 15 55.3	+11.5

UT	02	06	10	14	18	22
SD	15′2	15′2	15′1	15′1	15′1	15′1
HP	55′7	55′6	55′5	55′5	55′4	55′3
SHA	327°	325°	323°	321°	319°	317°

Greenwich Culmination Time: 13:48

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	227 40.1	+00.6	S 15 43.2	−00.6
01	242 40.7	+00.6	S 15 42.6	−00.6
02	257 41.3	+00.6	S 15 42.0	−00.5
03	272 41.9	+00.6	S 15 41.5	−00.6
04	287 42.5	+00.6	S 15 40.9	−00.6
05	302 43.1	+00.6	S 15 40.3	−00.6
06	317 43.7	+00.6	S 15 39.7	−00.6
07	332 44.3	+00.6	S 15 39.1	−00.5
08	347 44.9	+00.6	S 15 38.6	−00.6
09	2 45.5	+00.6	S 15 38.0	−00.6
10	17 46.1	+00.6	S 15 37.4	−00.6
11	32 46.7	+00.6	S 15 36.8	−00.6
12	47 47.3	+00.6	S 15 36.2	−00.5
13	62 47.9	+00.6	S 15 35.7	−00.6
14	77 48.5	+00.6	S 15 35.1	−00.6
15	92 49.1	+00.6	S 15 34.5	−00.6
16	107 49.7	+00.6	S 15 33.9	−00.6
17	122 50.3	+00.6	S 15 33.3	−00.5
18	137 50.9	+00.6	S 15 32.8	−00.6
19	152 51.5	+00.6	S 15 32.2	−00.6
20	167 52.1	+00.6	S 15 31.6	−00.6
21	182 52.7	+00.6	S 15 31.0	−00.6
22	197 53.3	+00.6	S 15 30.4	−00.5
23	212 53.9	+00.6	S 15 29.9	−00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 08:48

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	198 28.1	+01.9	S 04 11.7	−00.2
01	213 30.0	+01.9	S 04 11.5	−00.3
02	228 31.9	+02.0	S 04 11.2	−00.2
03	243 33.9	+01.9	S 04 11.0	−00.2
04	258 35.8	+01.9	S 04 10.8	−00.2
05	273 37.7	+01.9	S 04 10.6	−00.3
06	288 39.6	+02.0	S 04 10.3	−00.2
07	303 41.6	+01.9	S 04 10.1	−00.2
08	318 43.5	+01.9	S 04 09.9	−00.2
09	333 45.4	+01.9	S 04 09.7	−00.3
10	348 47.3	+02.0	S 04 09.4	−00.2
11	3 49.3	+01.9	S 04 09.2	−00.2
12	18 51.2	+01.9	S 04 09.0	−00.3
13	33 53.1	+01.9	S 04 08.7	−00.2
14	48 55.0	+02.0	S 04 08.5	−00.2
15	63 57.0	+01.9	S 04 08.3	−00.2
16	78 58.9	+01.9	S 04 08.1	−00.3
17	94 00.8	+01.9	S 04 07.8	−00.2
18	109 02.7	+02.0	S 04 07.6	−00.2
19	124 04.7	+01.9	S 04 07.4	−00.2
20	139 06.6	+01.9	S 04 07.2	−00.3
21	154 08.5	+02.0	S 04 06.9	−00.2
22	169 10.5	+01.9	S 04 06.7	−00.2
23	184 12.4	+01.9	S 04 06.5	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	007°	007°	007°	007°	007°	007°

Greenwich Culmination Time: 10:44

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	226 24.4	+02.2	S 15 00.1	−00.1
01	241 26.6	+02.3	S 15 00.0	−00.1
02	256 28.9	+02.2	S 14 59.9	+00.0
03	271 31.1	+02.3	S 14 59.9	−00.1
04	286 33.4	+02.2	S 14 59.8	−00.1
05	301 35.6	+02.2	S 14 59.7	+00.0
06	316 37.8	+02.3	S 14 59.7	−00.1
07	331 40.1	+02.2	S 14 59.6	−00.1
08	346 42.3	+02.3	S 14 59.5	+00.0
09	1 44.6	+02.2	S 14 59.5	−00.1
10	16 46.8	+02.3	S 14 59.4	−00.1
11	31 49.1	+02.2	S 14 59.3	+00.0
12	46 51.3	+02.2	S 14 59.3	−00.1
13	61 53.5	+02.3	S 14 59.2	−00.1
14	76 55.8	+02.2	S 14 59.1	+00.0
15	91 58.0	+02.3	S 14 59.1	−00.1
16	107 00.3	+02.2	S 14 59.0	−00.1
17	122 02.5	+02.3	S 14 58.9	+00.0
18	137 04.8	+02.2	S 14 58.9	−00.1
19	152 07.0	+02.3	S 14 58.8	−00.1
20	167 09.3	+02.2	S 14 58.7	+00.0
21	182 11.5	+02.2	S 14 58.7	−00.1
22	197 13.7	+02.3	S 14 58.6	−00.1
23	212 16.0	+02.2	S 14 58.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 08:53

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2022 April 4 Monday (day 94 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 13.0	+00.1	N 05 36.1	+01.0
01	194 13.1	+00.2	N 05 37.1	+00.9
02	209 13.3	+00.2	N 05 38.0	+01.0
03	224 13.5	+00.2	N 05 39.0	+00.9
04	239 13.7	+00.2	N 05 39.9	+01.0
05	254 13.9	+00.1	N 05 40.9	+00.9
06	269 14.0	+00.2	N 05 41.8	+01.0
07	284 14.2	+00.2	N 05 42.8	+00.9
08	299 14.4	+00.2	N 05 43.7	+01.0
09	314 14.6	+00.2	N 05 44.7	+00.9
10	329 14.8	+00.1	N 05 45.6	+01.0
11	344 14.9	+00.2	N 05 46.6	+00.9
12	359 15.1	+00.2	N 05 47.5	+01.0
13	14 15.3	+00.2	N 05 48.5	+00.9
14	29 15.5	+00.2	N 05 49.4	+01.0
15	44 15.7	+00.1	N 05 50.4	+01.0
16	59 15.8	+00.2	N 05 51.4	+00.9
17	74 16.0	+00.2	N 05 52.3	+01.0
18	89 16.2	+00.2	N 05 53.3	+00.9
19	104 16.4	+00.2	N 05 54.2	+01.0
20	119 16.6	+00.1	N 05 55.2	+00.9
21	134 16.7	+00.2	N 05 56.1	+01.0
22	149 16.9	+00.2	N 05 57.1	+00.9
23	164 17.1	+00.2	N 05 58.0	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	347°	347°	347°	346°	346°	346°

Greenwich Culmination Time: 12:02

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	222 05.1	-00.2	S 11 31.6	-00.7
01	237 04.9	-00.1	S 11 30.9	-00.7
02	252 04.8	-00.2	S 11 30.2	-00.7
03	267 04.6	-00.2	S 11 29.5	-00.8
04	282 04.4	-00.1	S 11 28.7	-00.7
05	297 04.3	-00.2	S 11 28.0	-00.7
06	312 04.1	-00.2	S 11 27.3	-00.7
07	327 03.9	-00.1	S 11 26.6	-00.7
08	342 03.8	-00.2	S 11 25.9	-00.7
09	357 03.6	-00.2	S 11 25.2	-00.7
10	12 03.4	-00.1	S 11 24.5	-00.7
11	27 03.3	-00.2	S 11 23.8	-00.8
12	42 03.1	-00.2	S 11 23.0	-00.7
13	57 02.9	-00.1	S 11 22.3	-00.7
14	72 02.8	-00.2	S 11 21.6	-00.7
15	87 02.6	-00.2	S 11 20.9	-00.7
16	102 02.4	-00.1	S 11 20.2	-00.7
17	117 02.3	-00.2	S 11 19.5	-00.8
18	132 02.1	-00.2	S 11 18.7	-00.7
19	147 01.9	-00.1	S 11 18.0	-00.7
20	162 01.8	-00.2	S 11 17.3	-00.7
21	177 01.6	-00.2	S 11 16.6	-00.7
22	192 01.4	-00.1	S 11 15.9	-00.8
23	207 01.3	-00.2	S 11 15.1	-00.7

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	030°	030°	029°	029°	029°	029°

Greenwich Culmination Time: 09:11

Moon

A: 10%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	148 20.4	-27.5	N 16 06.8	+11.5
01	162 52.9	-27.5	N 16 18.3	+11.4
02	177 25.4	-27.5	N 16 29.7	+11.3
03	191 57.9	-27.6	N 16 41.0	+11.2
04	206 30.3	-27.6	N 16 52.2	+11.1
05	221 02.7	-27.6	N 17 03.3	+11.0
06	235 35.1	-27.7	N 17 14.3	+11.0
07	250 07.4	-27.7	N 17 25.3	+10.9
08	264 39.7	-27.8	N 17 36.2	+10.8
09	279 11.9	-27.8	N 17 47.0	+10.7
10	293 44.1	-27.8	N 17 57.7	+10.6
11	308 16.3	-27.9	N 18 08.3	+10.5
12	322 48.4	-27.9	N 18 18.8	+10.5
13	337 20.5	-27.9	N 18 29.3	+10.4
14	351 52.6	-28.0	N 18 39.7	+10.2
15	6 24.6	-28.0	N 18 49.9	+10.2
16	20 56.6	-28.1	N 19 00.1	+10.1
17	35 28.5	-28.1	N 19 10.2	+10.0
18	50 00.4	-28.1	N 19 20.2	+09.9
19	64 32.3	-28.2	N 19 30.1	+09.8
20	79 04.1	-28.2	N 19 39.9	+09.7
21	93 35.9	-28.3	N 19 49.6	+09.7
22	108 07.6	-28.3	N 19 59.3	+09.5
23	122 39.3	-28.3	N 20 08.8	+09.4

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	15′0	15′0	14′9
HP	55′2	55′1	55′0	55′0	54′9	54′8
SHA	315°	313°	311°	309°	307°	305°

Greenwich Culmination Time: 14:33

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	227 54.5	+00.6	S 15 29.3	-00.6
01	242 55.1	+00.6	S 15 28.7	-00.6
02	257 55.7	+00.6	S 15 28.1	-00.6
03	272 56.3	+00.6	S 15 27.5	-00.6
04	287 56.9	+00.6	S 15 26.9	-00.6
05	302 57.5	+00.6	S 15 26.3	-00.5
06	317 58.1	+00.6	S 15 25.8	-00.6
07	332 58.7	+00.6	S 15 25.2	-00.6
08	347 59.3	+00.6	S 15 24.6	-00.6
09	2 59.9	+00.6	S 15 24.0	-00.6
10	18 00.5	+00.6	S 15 23.4	-00.6
11	33 01.1	+00.6	S 15 22.8	-00.5
12	48 01.7	+00.6	S 15 22.3	-00.6
13	63 02.3	+00.6	S 15 21.7	-00.6
14	78 02.9	+00.7	S 15 21.1	-00.6
15	93 03.6	+00.6	S 15 20.5	-00.6
16	108 04.2	+00.6	S 15 19.9	-00.6
17	123 04.8	+00.6	S 15 19.3	-00.6
18	138 05.4	+00.6	S 15 18.7	-00.6
19	153 06.0	+00.6	S 15 18.1	-00.5
20	168 06.6	+00.6	S 15 17.6	-00.6
21	183 07.2	+00.6	S 15 17.0	-00.6
22	198 07.8	+00.6	S 15 16.4	-00.6
23	213 08.4	+00.6	S 15 15.8	-00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	036°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 08:48

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	199 14.3	+01.9	S 04 06.3	-00.3
01	214 16.2	+02.0	S 04 06.0	-00.2
02	229 18.2	+01.9	S 04 05.8	-00.2
03	244 20.1	+01.9	S 04 05.6	-00.2
04	259 22.0	+01.9	S 04 05.4	-00.3
05	274 23.9	+02.0	S 04 05.1	-00.2
06	289 25.9	+01.9	S 04 04.9	-00.2
07	304 27.8	+01.9	S 04 04.7	-00.2
08	319 29.7	+01.9	S 04 04.5	-00.3
09	334 31.6	+02.0	S 04 04.2	-00.2
10	349 33.6	+01.9	S 04 04.0	-00.2
11	4 35.5	+01.9	S 04 03.8	-00.3
12	19 37.4	+02.0	S 04 03.5	-00.2
13	34 39.4	+01.9	S 04 03.3	-00.2
14	49 41.3	+01.9	S 04 03.1	-00.2
15	64 43.2	+01.9	S 04 02.9	-00.3
16	79 45.1	+02.0	S 04 02.6	-00.2
17	94 47.1	+01.9	S 04 02.4	-00.2
18	109 49.0	+01.9	S 04 02.2	-00.2
19	124 50.9	+01.9	S 04 02.0	-00.3
20	139 52.8	+02.0	S 04 01.7	-00.2
21	154 54.8	+01.9	S 04 01.5	-00.2
22	169 56.7	+01.9	S 04 01.3	-00.2
23	184 58.6	+02.0	S 04 01.1	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	007°	007°	007°	007°	007°	007°

Greenwich Culmination Time: 10:41

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	227 18.2	+02.3	S 14 58.5	-00.1
01	242 20.5	+02.2	S 14 58.4	-00.1
02	257 22.7	+02.3	S 14 58.3	+00.0
03	272 25.0	+02.2	S 14 58.3	-00.1
04	287 27.2	+02.3	S 14 58.2	-00.1
05	302 29.5	+02.2	S 14 58.1	+00.0
06	317 31.7	+02.3	S 14 58.1	-00.1
07	332 34.0	+02.2	S 14 58.0	-00.1
08	347 36.2	+02.2	S 14 57.9	+00.0
09	2 38.4	+02.3	S 14 57.9	-00.1
10	17 40.7	+02.2	S 14 57.8	-00.1
11	32 42.9	+02.3	S 14 57.7	+00.0
12	47 45.2	+02.2	S 14 57.7	-00.1
13	62 47.4	+02.3	S 14 57.6	-00.1
14	77 49.7	+02.2	S 14 57.5	+00.0
15	92 51.9	+02.3	S 14 57.5	-00.1
16	107 54.2	+02.2	S 14 57.4	-00.1
17	122 56.4	+02.3	S 14 57.3	+00.0
18	137 58.7	+02.2	S 14 57.3	-00.1
19	153 00.9	+02.3	S 14 57.2	-00.1
20	168 03.2	+02.2	S 14 57.1	+00.0
21	183 05.4	+02.3	S 14 57.1	-00.1
22	198 07.7	+02.2	S 14 57.0	-00.1
23	213 09.9	+02.3	S 14 56.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 08:49

2022 April 5 Tuesday (day 95 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 17.3	+00.2	N 05 59.0	+00.9
01	194 17.5	+00.1	N 05 59.9	+01.0
02	209 17.6	+00.2	N 06 00.9	+00.9
03	224 17.8	+00.2	N 06 01.8	+01.0
04	239 18.0	+00.2	N 06 02.8	+00.9
05	254 18.2	+00.1	N 06 03.7	+01.0
06	269 18.3	+00.2	N 06 04.7	+00.9
07	284 18.5	+00.2	N 06 05.6	+01.0
08	299 18.7	+00.2	N 06 06.6	+00.9
09	314 18.9	+00.2	N 06 07.5	+01.0
10	329 19.1	+00.1	N 06 08.5	+00.9
11	344 19.2	+00.2	N 06 09.4	+01.0
12	359 19.4	+00.2	N 06 10.4	+00.9
13	14 19.6	+00.2	N 06 11.3	+01.0
14	29 19.8	+00.2	N 06 12.3	+00.9
15	44 20.0	+00.1	N 06 13.2	+01.0
16	59 20.1	+00.2	N 06 14.2	+00.9
17	74 20.3	+00.2	N 06 15.1	+01.0
18	89 20.5	+00.2	N 06 16.1	+00.9
19	104 20.7	+00.1	N 06 17.0	+00.9
20	119 20.8	+00.2	N 06 17.9	+01.0
21	134 21.0	+00.2	N 06 18.9	+00.9
22	149 21.2	+00.2	N 06 19.8	+01.0
23	164 21.4	+00.2	N 06 20.8	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	346°	346°	346°	345°	345°	345°

Greenwich Culmination Time: 12:02

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	222 01.1	-00.2	S 11 14.4	-00.7
01	237 00.9	-00.1	S 11 13.7	-00.7
02	252 00.8	-00.2	S 11 13.0	-00.7
03	267 00.6	-00.2	S 11 12.3	-00.8
04	282 00.4	-00.1	S 11 11.5	-00.7
05	297 00.3	-00.2	S 11 10.8	-00.7
06	312 00.1	-00.2	S 11 10.1	-00.8
07	326 59.9	-00.1	S 11 09.3	-00.7
08	341 59.8	-00.2	S 11 08.6	-00.7
09	356 59.6	-00.2	S 11 07.9	-00.7
10	11 59.4	-00.2	S 11 07.2	-00.8
11	26 59.2	-00.1	S 11 06.4	-00.7
12	41 59.1	-00.2	S 11 05.7	-00.7
13	56 58.9	-00.2	S 11 05.0	-00.8
14	71 58.7	-00.1	S 11 04.2	-00.7
15	86 58.6	-00.2	S 11 03.5	-00.7
16	101 58.4	-00.2	S 11 02.8	-00.8
17	116 58.2	-00.1	S 11 02.0	-00.7
18	131 58.1	-00.2	S 11 01.3	-00.7
19	146 57.9	-00.2	S 11 00.6	-00.8
20	161 57.7	-00.1	S 10 59.8	-00.7
21	176 57.6	-00.2	S 10 59.1	-00.7
22	191 57.4	-00.2	S 10 58.4	-00.8
23	206 57.2	-00.2	S 10 57.6	-00.7

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	029°	028°	028°	028°	028°	028°

Greenwich Culmination Time: 09:12

Moon

A: 13%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	137 11.0	-28.4	N 20 18.2	+09.4
01	151 42.6	-28.4	N 20 27.6	+09.2
02	166 14.2	-28.5	N 20 36.8	+09.1
03	180 45.7	-28.5	N 20 45.9	+09.1
04	195 17.2	-28.5	N 20 55.0	+08.9
05	209 48.7	-28.6	N 21 03.9	+08.9
06	224 20.1	-28.6	N 21 12.8	+08.7
07	238 51.5	-28.7	N 21 21.5	+08.7
08	253 22.8	-28.7	N 21 30.2	+08.5
09	267 54.1	-28.7	N 21 38.7	+08.5
10	282 25.4	-28.8	N 21 47.2	+08.3
11	296 56.6	-28.9	N 21 55.5	+08.2
12	311 27.7	-28.8	N 22 03.7	+08.2
13	325 58.9	-29.0	N 22 11.9	+08.0
14	340 29.9	-28.9	N 22 19.9	+07.9
15	355 01.0	-29.0	N 22 27.8	+07.8
16	9 32.0	-29.0	N 22 35.6	+07.7
17	24 03.0	-29.1	N 22 43.3	+07.6
18	38 33.9	-29.1	N 22 50.9	+07.5
19	53 04.8	-29.2	N 22 58.4	+07.4
20	67 35.6	-29.2	N 23 05.8	+07.3
21	82 06.4	-29.2	N 23 13.1	+07.2
22	96 37.2	-29.3	N 23 20.3	+07.0
23	111 07.9	-29.3	N 23 27.3	+07.0

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	14′9	14′8
HP	54′8	54′7	54′6	54′6	54′5	54′5
SHA	303°	301°	299°	297°	295°	292°

Greenwich Culmination Time: 15:20

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	228 09.0	+00.6	S 15 15.2	-00.6
01	243 09.6	+00.6	S 15 14.6	-00.6
02	258 10.2	+00.6	S 15 14.0	-00.6
03	273 10.8	+00.6	S 15 13.4	-00.6
04	288 11.4	+00.6	S 15 12.8	-00.6
05	303 12.0	+00.6	S 15 12.2	-00.5
06	318 12.6	+00.6	S 15 11.7	-00.6
07	333 13.2	+00.6	S 15 11.1	-00.6
08	348 13.8	+00.6	S 15 10.5	-00.6
09	3 14.4	+00.6	S 15 09.9	-00.6
10	18 15.0	+00.7	S 15 09.3	-00.6
11	33 15.7	+00.6	S 15 08.7	-00.6
12	48 16.3	+00.6	S 15 08.1	-00.6
13	63 16.9	+00.6	S 15 07.5	-00.6
14	78 17.5	+00.6	S 15 06.9	-00.6
15	93 18.1	+00.6	S 15 06.3	-00.6
16	108 18.7	+00.6	S 15 05.7	-00.6
17	123 19.3	+00.6	S 15 05.1	-00.5
18	138 19.9	+00.6	S 15 04.6	-00.6
19	153 20.5	+00.6	S 15 04.0	-00.6
20	168 21.1	+00.6	S 15 03.4	-00.6
21	183 21.7	+00.6	S 15 02.8	-00.6
22	198 22.3	+00.6	S 15 02.2	-00.6
23	213 22.9	+00.7	S 15 01.6	-00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	035°	035°	035°	034°	034°	034°

Greenwich Culmination Time: 08:47

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	200 00.6	+01.9	S 04 00.8	-00.2
01	215 02.5	+01.9	S 04 00.6	-00.2
02	230 04.4	+01.9	S 04 00.4	-00.2
03	245 06.3	+02.0	S 04 00.2	-00.3
04	260 08.3	+01.9	S 03 59.9	-00.2
05	275 10.2	+01.9	S 03 59.7	-00.2
06	290 12.1	+02.0	S 03 59.5	-00.2
07	305 14.1	+01.9	S 03 59.3	-00.3
08	320 16.0	+01.9	S 03 59.0	-00.2
09	335 17.9	+01.9	S 03 58.8	-00.2
10	350 19.8	+02.0	S 03 58.6	-00.2
11	5 21.8	+01.9	S 03 58.4	-00.3
12	20 23.7	+01.9	S 03 58.1	-00.2
13	35 25.6	+02.0	S 03 57.9	-00.2
14	50 27.6	+01.9	S 03 57.7	-00.2
15	65 29.5	+01.9	S 03 57.5	-00.3
16	80 31.4	+01.9	S 03 57.2	-00.2
17	95 33.3	+02.0	S 03 57.0	-00.2
18	110 35.3	+01.9	S 03 56.8	-00.2
19	125 37.2	+01.9	S 03 56.6	-00.3
20	140 39.1	+02.0	S 03 56.3	-00.2
21	155 41.1	+01.9	S 03 56.1	-00.2
22	170 43.0	+01.9	S 03 55.9	-00.2
23	185 44.9	+02.0	S 03 55.7	-00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	007°	007°	007°	007°	007°	007°

Greenwich Culmination Time: 10:38

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	228 12.2	+02.2	S 14 56.9	-00.1
01	243 14.4	+02.2	S 14 56.8	-00.1
02	258 16.6	+02.3	S 14 56.7	+00.0
03	273 18.9	+02.2	S 14 56.7	-00.1
04	288 21.1	+02.3	S 14 56.6	-00.1
05	303 23.4	+02.2	S 14 56.5	+00.0
06	318 25.6	+02.3	S 14 56.5	-00.1
07	333 27.9	+02.2	S 14 56.4	-00.1
08	348 30.1	+02.3	S 14 56.3	+00.0
09	3 32.4	+02.2	S 14 56.3	-00.1
10	18 34.6	+02.3	S 14 56.2	-00.1
11	33 36.9	+02.2	S 14 56.1	+00.0
12	48 39.1	+02.3	S 14 56.1	-00.1
13	63 41.4	+02.2	S 14 56.0	-00.1
14	78 43.6	+02.3	S 14 55.9	+00.0
15	93 45.9	+02.2	S 14 55.9	-00.1
16	108 48.1	+02.3	S 14 55.8	+00.0
17	123 50.4	+02.2	S 14 55.8	-00.1
18	138 52.6	+02.3	S 14 55.7	-00.1
19	153 54.9	+02.2	S 14 55.6	+00.0
20	168 57.1	+02.3	S 14 55.6	-00.1
21	183 59.4	+02.2	S 14 55.5	-00.1
22	199 01.6	+02.3	S 14 55.4	+00.0
23	214 03.9	+02.2	S 14 55.4	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 08:45

2022 April 10 Sunday (day 100 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	179 38.2	+00.1	N 07 51.6	+01.0
01	194 38.3	+00.2	N 07 52.6	+00.9
02	209 38.5	+00.2	N 07 53.5	+00.9
03	224 38.7	+00.1	N 07 54.4	+00.9
04	239 38.8	+00.2	N 07 55.3	+01.0
05	254 39.0	+00.2	N 07 56.3	+00.9
06	269 39.2	+00.1	N 07 57.2	+00.9
07	284 39.3	+00.2	N 07 58.1	+00.9
08	299 39.5	+00.2	N 07 59.0	+01.0
09	314 39.7	+00.1	N 07 60.0	+00.9
10	329 39.8	+00.2	N 08 00.9	+00.9
11	344 40.0	+00.2	N 08 01.8	+00.9
12	359 40.2	+00.1	N 08 02.7	+00.9
13	14 40.3	+00.2	N 08 03.6	+01.0
14	29 40.5	+00.2	N 08 04.6	+00.9
15	44 40.7	+00.1	N 08 05.5	+00.9
16	59 40.8	+00.2	N 08 06.4	+00.9
17	74 41.0	+00.2	N 08 07.3	+01.0
18	89 41.2	+00.1	N 08 08.3	+00.9
19	104 41.3	+00.2	N 08 09.2	+00.9
20	119 41.5	+00.2	N 08 10.1	+00.9
21	134 41.7	+00.1	N 08 11.0	+00.9
22	149 41.8	+00.2	N 08 11.9	+01.0
23	164 42.0	+00.2	N 08 12.9	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	341°	341°	341°	341°	341°	341°

Greenwich Culmination Time: 12:01

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	221 40.4	−00.1	S 09 43.0	−00.8
01	236 40.3	−00.2	S 09 42.2	−00.8
02	251 40.1	−00.2	S 09 41.4	−00.8
03	266 39.9	−00.2	S 09 40.6	−00.8
04	281 39.7	−00.2	S 09 39.8	−00.8
05	296 39.5	−00.1	S 09 39.0	−00.8
06	311 39.4	−00.2	S 09 38.2	−00.8
07	326 39.2	−00.2	S 09 37.4	−00.8
08	341 39.0	−00.2	S 09 36.6	−00.8
09	356 38.8	−00.1	S 09 35.8	−00.8
10	11 38.7	−00.2	S 09 35.0	−00.8
11	26 38.5	−00.2	S 09 34.2	−00.8
12	41 38.3	−00.2	S 09 33.4	−00.8
13	56 38.1	−00.1	S 09 32.6	−00.8
14	71 38.0	−00.2	S 09 31.8	−00.8
15	86 37.8	−00.2	S 09 31.0	−00.8
16	101 37.6	−00.2	S 09 30.2	−00.8
17	116 37.4	−00.1	S 09 29.4	−00.9
18	131 37.3	−00.2	S 09 28.5	−00.8
19	146 37.1	−00.2	S 09 27.7	−00.8
20	161 36.9	−00.2	S 09 26.9	−00.8
21	176 36.7	−00.2	S 09 26.1	−00.8
22	191 36.5	−00.1	S 09 25.3	−00.8
23	206 36.4	−00.2	S 09 24.5	−00.8

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	023°	023°	023°	023°	023°	023°

Greenwich Culmination Time: 09:13

Moon

A: 30%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	77 04.7	−30.2	N 25 11.4	−05.1
01	91 34.5	−30.2	N 25 06.3	−05.3
02	106 04.3	−30.2	N 25 01.0	−05.3
03	120 34.1	−30.1	N 24 55.7	−05.5
04	135 04.0	−30.1	N 24 50.2	−05.6
05	149 33.9	−30.1	N 24 44.6	−05.7
06	164 03.8	−30.1	N 24 38.9	−05.9
07	178 33.7	−30.0	N 24 33.0	−06.0
08	193 03.7	−30.0	N 24 27.0	−06.1
09	207 33.7	−30.0	N 24 20.9	−06.2
10	222 03.7	−29.9	N 24 14.7	−06.3
11	236 33.8	−29.9	N 24 08.4	−06.4
12	251 03.9	−29.9	N 24 02.0	−06.6
13	265 34.0	−29.8	N 23 55.4	−06.7
14	280 04.2	−29.8	N 23 48.7	−06.8
15	294 34.4	−29.8	N 23 41.9	−06.9
16	309 04.6	−29.8	N 23 35.0	−07.1
17	323 34.8	−29.7	N 23 27.9	−07.1
18	338 05.1	−29.7	N 23 20.8	−07.3
19	352 35.4	−29.6	N 23 13.5	−07.3
20	7 05.8	−29.7	N 23 06.2	−07.5
21	21 36.1	−29.6	N 22 58.7	−07.7
22	36 06.5	−29.5	N 22 51.0	−07.7
23	50 37.0	−29.5	N 22 43.3	−07.8

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	15′0	15′0
HP	54′6	54′7	54′8	54′9	54′9	55′0
SHA	238°	236°	233°	231°	229°	227°

Greenwich Culmination Time: 19:30

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	229 22.7	+00.6	S 14 02.8	−00.6
01	244 23.3	+00.7	S 14 02.2	−00.6
02	259 24.0	+00.6	S 14 01.6	−00.6
03	274 24.6	+00.6	S 14 01.0	−00.7
04	289 25.2	+00.6	S 14 00.3	−00.6
05	304 25.8	+00.7	S 13 59.7	−00.6
06	319 26.5	+00.6	S 13 59.1	−00.6
07	334 27.1	+00.6	S 13 58.5	−00.6
08	349 27.7	+00.6	S 13 57.9	−00.7
09	4 28.3	+00.7	S 13 57.2	−00.6
10	19 29.0	+00.6	S 13 56.6	−00.6
11	34 29.6	+00.6	S 13 56.0	−00.6
12	49 30.2	+00.6	S 13 55.4	−00.6
13	64 30.8	+00.7	S 13 54.8	−00.6
14	79 31.5	+00.6	S 13 54.2	−00.7
15	94 32.1	+00.6	S 13 53.5	−00.6
16	109 32.7	+00.6	S 13 52.9	−00.6
17	124 33.3	+00.7	S 13 52.3	−00.6
18	139 34.0	+00.6	S 13 51.7	−00.6
19	154 34.6	+00.6	S 13 51.1	−00.7
20	169 35.2	+00.7	S 13 50.4	−00.6
21	184 35.9	+00.6	S 13 49.8	−00.6
22	199 36.5	+00.6	S 13 49.2	−00.6
23	214 37.1	+00.6	S 13 48.6	−00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	031°	031°	031°	031°	031°	030°

Greenwich Culmination Time: 08:42

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	203 52.4	+02.0	S 03 34.0	−00.2
01	218 54.4	+01.9	S 03 33.8	−00.3
02	233 56.3	+01.9	S 03 33.5	−00.2
03	248 58.2	+02.0	S 03 33.3	−00.2
04	264 00.2	+01.9	S 03 33.1	−00.2
05	279 02.1	+01.9	S 03 32.9	−00.2
06	294 04.0	+02.0	S 03 32.7	−00.3
07	309 06.0	+01.9	S 03 32.4	−00.2
08	324 07.9	+02.0	S 03 32.2	−00.2
09	339 09.9	+01.9	S 03 32.0	−00.2
10	354 11.8	+01.9	S 03 31.8	−00.3
11	9 13.7	+02.0	S 03 31.5	−00.2
12	24 15.7	+01.9	S 03 31.3	−00.2
13	39 17.6	+01.9	S 03 31.1	−00.2
14	54 19.5	+02.0	S 03 30.9	−00.2
15	69 21.5	+01.9	S 03 30.7	−00.3
16	84 23.4	+02.0	S 03 30.4	−00.2
17	99 25.4	+01.9	S 03 30.2	−00.2
18	114 27.3	+01.9	S 03 30.0	−00.2
19	129 29.2	+02.0	S 03 29.8	−00.2
20	144 31.2	+01.9	S 03 29.6	−00.3
21	159 33.1	+01.9	S 03 29.3	−00.2
22	174 35.0	+02.0	S 03 29.1	−00.2
23	189 37.0	+01.9	S 03 28.9	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	006°	006°	006°	006°	006°	005°

Greenwich Culmination Time: 10:23

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	232 42.7	+02.3	S 14 49.2	+00.0
01	247 45.0	+02.2	S 14 49.2	−00.1
02	262 47.2	+02.3	S 14 49.1	−00.1
03	277 49.5	+02.3	S 14 49.0	+00.0
04	292 51.8	+02.2	S 14 49.0	−00.1
05	307 54.0	+02.3	S 14 48.9	+00.0
06	322 56.3	+02.2	S 14 48.9	−00.1
07	337 58.5	+02.3	S 14 48.8	−00.1
08	353 00.8	+02.3	S 14 48.7	+00.0
09	8 03.1	+02.2	S 14 48.7	−00.1
10	23 05.3	+02.3	S 14 48.6	−00.1
11	38 07.6	+02.3	S 14 48.5	+00.0
12	53 09.9	+02.2	S 14 48.5	−00.1
13	68 12.1	+02.3	S 14 48.4	+00.0
14	83 14.4	+02.2	S 14 48.4	−00.1
15	98 16.6	+02.3	S 14 48.3	−00.1
16	113 18.9	+02.3	S 14 48.2	+00.0
17	128 21.2	+02.2	S 14 48.2	−00.1
18	143 23.4	+02.3	S 14 48.1	+00.0
19	158 25.7	+02.3	S 14 48.1	−00.1
20	173 28.0	+02.2	S 14 48.0	−00.1
21	188 30.2	+02.3	S 14 47.9	+00.0
22	203 32.5	+02.3	S 14 47.9	−00.1
23	218 34.8	+02.2	S 14 47.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 08:27

2022 April 7 Thursday (day 97 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	179 25.8	+00.2	N 06 44.4	+00.9
01	194 26.0	+00.1	N 06 45.3	+01.0
02	209 26.1	+00.2	N 06 46.3	+00.9
03	224 26.3	+00.2	N 06 47.2	+01.0
04	239 26.5	+00.2	N 06 48.2	+00.9
05	254 26.7	+00.1	N 06 49.1	+00.9
06	269 26.8	+00.2	N 06 50.0	+01.0
07	284 27.0	+00.2	N 06 51.0	+00.9
08	299 27.2	+00.2	N 06 51.9	+01.0
09	314 27.4	+00.1	N 06 52.9	+00.9
10	329 27.5	+00.2	N 06 53.8	+00.9
11	344 27.7	+00.2	N 06 54.7	+01.0
12	359 27.9	+00.2	N 06 55.7	+00.9
13	14 28.1	+00.1	N 06 56.6	+01.0
14	29 28.2	+00.2	N 06 57.6	+00.9
15	44 28.4	+00.2	N 06 58.5	+00.9
16	59 28.6	+00.2	N 06 59.4	+01.0
17	74 28.8	+00.1	N 07 00.4	+00.9
18	89 28.9	+00.2	N 07 01.3	+00.9
19	104 29.1	+00.2	N 07 02.2	+01.0
20	119 29.3	+00.1	N 07 03.2	+00.9
21	134 29.4	+00.2	N 07 04.1	+01.0
22	149 29.6	+00.2	N 07 05.1	+00.9
23	164 29.8	+00.2	N 07 06.0	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	344°	344°	344°	344°	343°	343°

Greenwich Culmination Time: 12:02

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	221 53.0	−00.2	S 10 39.0	−00.8
01	236 52.8	−00.2	S 10 38.2	−00.7
02	251 52.6	−00.2	S 10 37.5	−00.8
03	266 52.4	−00.1	S 10 36.7	−00.8
04	281 52.3	−00.2	S 10 35.9	−00.7
05	296 52.1	−00.2	S 10 35.2	−00.8
06	311 51.9	−00.2	S 10 34.4	−00.7
07	326 51.7	−00.1	S 10 33.7	−00.8
08	341 51.6	−00.2	S 10 32.9	−00.7
09	356 51.4	−00.2	S 10 32.2	−00.8
10	11 51.2	−00.1	S 10 31.4	−00.8
11	26 51.1	−00.2	S 10 30.6	−00.7
12	41 50.9	−00.2	S 10 29.9	−00.8
13	56 50.7	−00.2	S 10 29.1	−00.8
14	71 50.5	−00.1	S 10 28.3	−00.7
15	86 50.4	−00.2	S 10 27.6	−00.8
16	101 50.2	−00.2	S 10 26.8	−00.7
17	116 50.0	−00.1	S 10 26.1	−00.8
18	131 49.9	−00.2	S 10 25.3	−00.8
19	146 49.7	−00.2	S 10 24.5	−00.7
20	161 49.5	−00.2	S 10 23.8	−00.8
21	176 49.3	−00.1	S 10 23.0	−00.8
22	191 49.2	−00.2	S 10 22.2	−00.8
23	206 49.0	−00.2	S 10 21.4	−00.7

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	027°	026°	026°	026°	026°	026°

Greenwich Culmination Time: 09:12

Moon

A: 19%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	113 43.9	−30.2	N 25 46.5	+04.0
01	128 13.7	−30.2	N 25 50.5	+03.9
02	142 43.5	−30.2	N 25 54.4	+03.8
03	157 13.3	−30.3	N 25 58.2	+03.6
04	171 43.0	−30.3	N 26 01.8	+03.5
05	186 12.7	−30.3	N 26 05.3	+03.4
06	200 42.4	−30.4	N 26 08.7	+03.3
07	215 12.0	−30.3	N 26 12.0	+03.2
08	229 41.7	−30.4	N 26 15.2	+03.0
09	244 11.3	−30.4	N 26 18.2	+02.9
10	258 40.9	−30.5	N 26 21.1	+02.8
11	273 10.4	−30.4	N 26 23.9	+02.6
12	287 40.0	−30.5	N 26 26.5	+02.6
13	302 09.5	−30.5	N 26 29.1	+02.3
14	316 39.0	−30.5	N 26 31.4	+02.3
15	331 08.5	−30.5	N 26 33.7	+02.2
16	345 38.0	−30.6	N 26 35.9	+02.0
17	0 07.4	−30.6	N 26 37.9	+01.9
18	14 36.8	−30.5	N 26 39.8	+01.7
19	29 06.3	−30.6	N 26 41.5	+01.7
20	43 35.7	−30.7	N 26 43.2	+01.5
21	58 05.0	−30.6	N 26 44.7	+01.4
22	72 34.4	−30.6	N 26 46.1	+01.2
23	87 03.8	−30.7	N 26 47.3	+01.2

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′2	54′2	54′2	54′2	54′2	54′2
SHA	277°	275°	273°	271°	269°	266°

Greenwich Culmination Time: 16:59

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	228 38.2	+00.6	S 14 46.6	−00.6
01	243 38.8	+00.6	S 14 46.0	−00.6
02	258 39.4	+00.7	S 14 45.4	−00.6
03	273 40.1	+00.6	S 14 44.8	−00.6
04	288 40.7	+00.6	S 14 44.2	−00.6
05	303 41.3	+00.6	S 14 43.6	−00.6
06	318 41.9	+00.6	S 14 43.0	−00.6
07	333 42.5	+00.6	S 14 42.4	−00.6
08	348 43.1	+00.6	S 14 41.8	−00.6
09	3 43.7	+00.6	S 14 41.2	−00.6
10	18 44.3	+00.7	S 14 40.6	−00.6
11	33 45.0	+00.6	S 14 40.0	−00.6
12	48 45.6	+00.6	S 14 39.4	−00.6
13	63 46.2	+00.6	S 14 38.8	−00.6
14	78 46.8	+00.6	S 14 38.2	−00.6
15	93 47.4	+00.6	S 14 37.6	−00.6
16	108 48.0	+00.7	S 14 37.0	−00.6
17	123 48.7	+00.6	S 14 36.4	−00.6
18	138 49.3	+00.6	S 14 35.8	−00.6
19	153 49.9	+00.6	S 14 35.2	−00.6
20	168 50.5	+00.6	S 14 34.6	−00.6
21	183 51.1	+00.6	S 14 34.0	−00.6
22	198 51.7	+00.6	S 14 33.4	−00.6
23	213 52.3	+00.7	S 14 32.8	−00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 08:45

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	201 33.2	+01.9	S 03 50.1	−00.3
01	216 35.1	+01.9	S 03 49.8	−00.2
02	231 37.0	+02.0	S 03 49.6	−00.2
03	246 39.0	+01.9	S 03 49.4	−00.2
04	261 40.9	+01.9	S 03 49.2	−00.3
05	276 42.8	+02.0	S 03 48.9	−00.2
06	291 44.8	+01.9	S 03 48.7	−00.2
07	306 46.7	+01.9	S 03 48.5	−00.2
08	321 48.6	+02.0	S 03 48.3	−00.3
09	336 50.6	+01.9	S 03 48.0	−00.2
10	351 52.5	+01.9	S 03 47.8	−00.2
11	6 54.4	+02.0	S 03 47.6	−00.2
12	21 56.4	+01.9	S 03 47.4	−00.3
13	36 58.3	+01.9	S 03 47.1	−00.2
14	52 00.2	+02.0	S 03 46.9	−00.2
15	67 02.2	+01.9	S 03 46.7	−00.2
16	82 04.1	+01.9	S 03 46.5	−00.3
17	97 06.0	+02.0	S 03 46.2	−00.2
18	112 08.0	+01.9	S 03 46.0	−00.2
19	127 09.9	+01.9	S 03 45.8	−00.2
20	142 11.8	+02.0	S 03 45.6	−00.2
21	157 13.8	+01.9	S 03 45.4	−00.3
22	172 15.7	+01.9	S 03 45.1	−00.2
23	187 17.6	+02.0	S 03 44.9	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	006°	006°	006°	006°	006°	006°

Greenwich Culmination Time: 10:32

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	230 00.2	+02.2	S 14 53.7	+00.0
01	245 02.4	+02.3	S 14 53.7	−00.1
02	260 04.7	+02.2	S 14 53.6	+00.0
03	275 06.9	+02.3	S 14 53.6	−00.1
04	290 09.2	+02.2	S 14 53.5	−00.1
05	305 11.4	+02.3	S 14 53.4	+00.0
06	320 13.7	+02.3	S 14 53.4	−00.1
07	335 16.0	+02.2	S 14 53.3	−00.1
08	350 18.2	+02.3	S 14 53.2	+00.0
09	5 20.5	+02.2	S 14 53.2	−00.1
10	20 22.7	+02.3	S 14 53.1	−00.1
11	35 25.0	+02.2	S 14 53.0	+00.0
12	50 27.2	+02.3	S 14 53.0	−00.1
13	65 29.5	+02.2	S 14 52.9	+00.0
14	80 31.7	+02.3	S 14 52.9	−00.1
15	95 34.0	+02.2	S 14 52.8	−00.1
16	110 36.2	+02.3	S 14 52.7	+00.0
17	125 38.5	+02.3	S 14 52.7	−00.1
18	140 40.8	+02.2	S 14 52.6	−00.1
19	155 43.0	+02.3	S 14 52.5	+00.0
20	170 45.3	+02.2	S 14 52.5	−00.1
21	185 47.5	+02.3	S 14 52.4	−00.1
22	200 49.8	+02.2	S 14 52.3	+00.0
23	215 52.0	+02.3	S 14 52.3	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 08:38

2022 April 8 Friday (day 98 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 30.0	+00.1	N 07 06.9	+01.0
01	194 30.1	+00.2	N 07 07.9	+00.9
02	209 30.3	+00.2	N 07 08.8	+00.9
03	224 30.5	+00.2	N 07 09.7	+01.0
04	239 30.7	+00.1	N 07 10.7	+00.9
05	254 30.8	+00.2	N 07 11.6	+00.9
06	269 31.0	+00.2	N 07 12.5	+01.0
07	284 31.2	+00.2	N 07 13.5	+00.9
08	299 31.4	+00.1	N 07 14.4	+00.9
09	314 31.5	+00.2	N 07 15.3	+01.0
10	329 31.7	+00.2	N 07 16.3	+00.9
11	344 31.9	+00.1	N 07 17.2	+01.0
12	359 32.0	+00.2	N 07 18.2	+00.9
13	14 32.2	+00.2	N 07 19.1	+00.9
14	29 32.4	+00.2	N 07 20.0	+01.0
15	44 32.6	+00.1	N 07 21.0	+00.9
16	59 32.7	+00.2	N 07 21.9	+00.9
17	74 32.9	+00.2	N 07 22.8	+01.0
18	89 33.1	+00.1	N 07 23.8	+00.9
19	104 33.2	+00.2	N 07 24.7	+00.9
20	119 33.4	+00.2	N 07 25.6	+00.9
21	134 33.6	+00.2	N 07 26.5	+01.0
22	149 33.8	+00.1	N 07 27.5	+00.9
23	164 33.9	+00.2	N 07 28.4	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	343°	343°	343°	343°	343°	342°

Greenwich Culmination Time: 12:01

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	221 48.8	-00.2	S 10 20.7	-00.8
01	236 48.6	-00.1	S 10 19.9	-00.8
02	251 48.5	-00.2	S 10 19.1	-00.7
03	266 48.3	-00.2	S 10 18.4	-00.8
04	281 48.1	-00.2	S 10 17.6	-00.8
05	296 47.9	-00.1	S 10 16.8	-00.7
06	311 47.8	-00.2	S 10 16.1	-00.8
07	326 47.6	-00.2	S 10 15.3	-00.8
08	341 47.4	-00.1	S 10 14.5	-00.8
09	356 47.3	-00.2	S 10 13.7	-00.7
10	11 47.1	-00.2	S 10 13.0	-00.8
11	26 46.9	-00.2	S 10 12.2	-00.8
12	41 46.7	-00.1	S 10 11.4	-00.8
13	56 46.6	-00.2	S 10 10.6	-00.8
14	71 46.4	-00.2	S 10 09.8	-00.7
15	86 46.2	-00.2	S 10 09.1	-00.8
16	101 46.0	-00.1	S 10 08.3	-00.8
17	116 45.9	-00.2	S 10 07.5	-00.8
18	131 45.7	-00.2	S 10 06.7	-00.8
19	146 45.5	-00.2	S 10 05.9	-00.7
20	161 45.3	-00.1	S 10 05.2	-00.8
21	176 45.2	-00.2	S 10 04.4	-00.8
22	191 45.0	-00.2	S 10 03.6	-00.8
23	206 44.8	-00.2	S 10 02.8	-00.8

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	025°	025°	025°	025°	025°	025°

Greenwich Culmination Time: 09:12

Moon

A: 23%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	101 33.1	-30.6	N 26 48.5	+01.0
01	116 02.5	-30.7	N 26 49.5	+00.8
02	130 31.8	-30.7	N 26 50.3	+00.8
03	145 01.1	-30.7	N 26 51.1	+00.6
04	159 30.4	-30.6	N 26 51.7	+00.5
05	173 59.8	-30.7	N 26 52.2	+00.3
06	188 29.1	-30.8	N 26 52.5	+00.2
07	202 58.3	-30.7	N 26 52.7	+00.1
08	217 27.6	-30.7	N 26 52.8	+00.0
09	231 56.9	-30.7	N 26 52.8	-00.2
10	246 26.2	-30.7	N 26 52.6	-00.3
11	260 55.5	-30.7	N 26 52.3	-00.4
12	275 24.8	-30.8	N 26 51.9	-00.5
13	289 54.0	-30.7	N 26 51.4	-00.7
14	304 23.3	-30.7	N 26 50.7	-00.8
15	318 52.6	-30.7	N 26 49.9	-01.0
16	333 21.9	-30.7	N 26 48.9	-01.0
17	347 51.2	-30.7	N 26 47.9	-01.2
18	2 20.5	-30.7	N 26 46.7	-01.3
19	16 49.8	-30.8	N 26 45.4	-01.5
20	31 19.0	-30.6	N 26 43.9	-01.6
21	45 48.4	-30.7	N 26 42.3	-01.7
22	60 17.7	-30.7	N 26 40.6	-01.8
23	74 47.0	-30.7	N 26 38.8	-02.0

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′2	54′2	54′2	54′2	54′3	54′3
SHA	264°	262°	260°	258°	255°	253°

Greenwich Culmination Time: 17:50

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	228 53.0	+00.6	S 14 32.2	-00.6
01	243 53.6	+00.6	S 14 31.6	-00.7
02	258 54.2	+00.6	S 14 30.9	-00.6
03	273 54.8	+00.6	S 14 30.3	-00.6
04	288 55.4	+00.6	S 14 29.7	-00.6
05	303 56.0	+00.7	S 14 29.1	-00.6
06	318 56.7	+00.6	S 14 28.5	-00.6
07	333 57.3	+00.6	S 14 27.9	-00.6
08	348 57.9	+00.6	S 14 27.3	-00.6
09	3 58.5	+00.6	S 14 26.7	-00.6
10	18 59.1	+00.6	S 14 26.1	-00.6
11	33 59.7	+00.7	S 14 25.5	-00.6
12	49 00.4	+00.6	S 14 24.9	-00.6
13	64 01.0	+00.6	S 14 24.3	-00.6
14	79 01.6	+00.6	S 14 23.7	-00.7
15	94 02.2	+00.6	S 14 23.0	-00.6
16	109 02.8	+00.7	S 14 22.4	-00.6
17	124 03.5	+00.6	S 14 21.8	-00.6
18	139 04.1	+00.6	S 14 21.2	-00.6
19	154 04.7	+00.6	S 14 20.6	-00.6
20	169 05.3	+00.6	S 14 20.0	-00.6
21	184 05.9	+00.7	S 14 19.4	-00.6
22	199 06.6	+00.6	S 14 18.8	-00.6
23	214 07.2	+00.6	S 14 18.2	-00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	033°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 08:44

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	202 19.6	+01.9	S 03 44.7	-00.2
01	217 21.5	+01.9	S 03 44.5	-00.3
02	232 23.4	+02.0	S 03 44.2	-00.2
03	247 25.4	+01.9	S 03 44.0	-00.2
04	262 27.3	+01.9	S 03 43.8	-00.2
05	277 29.2	+02.0	S 03 43.6	-00.3
06	292 31.2	+01.9	S 03 43.3	-00.2
07	307 33.1	+01.9	S 03 43.1	-00.2
08	322 35.0	+02.0	S 03 42.9	-00.2
09	337 37.0	+01.9	S 03 42.7	-00.3
10	352 38.9	+01.9	S 03 42.4	-00.2
11	7 40.8	+02.0	S 03 42.2	-00.2
12	22 42.8	+01.9	S 03 42.0	-00.2
13	37 44.7	+01.9	S 03 41.8	-00.2
14	52 46.6	+02.0	S 03 41.6	-00.3
15	67 48.6	+01.9	S 03 41.3	-00.2
16	82 50.5	+01.9	S 03 41.1	-00.2
17	97 52.4	+02.0	S 03 40.9	-00.2
18	112 54.4	+01.9	S 03 40.7	-00.3
19	127 56.3	+01.9	S 03 40.4	-00.2
20	142 58.2	+02.0	S 03 40.2	-00.2
21	158 00.2	+01.9	S 03 40.0	-00.2
22	173 02.1	+01.9	S 03 39.8	-00.3
23	188 04.0	+02.0	S 03 39.5	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	006°	006°	006°	006°	006°	006°

Greenwich Culmination Time: 10:29

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	230 54.3	+02.2	S 14 52.2	+00.0
01	245 56.5	+02.3	S 14 52.2	-00.1
02	260 58.8	+02.3	S 14 52.1	-00.1
03	276 01.1	+02.2	S 14 52.0	+00.0
04	291 03.3	+02.3	S 14 52.0	-00.1
05	306 05.6	+02.2	S 14 51.9	-00.1
06	321 07.8	+02.3	S 14 51.8	+00.0
07	336 10.1	+02.2	S 14 51.8	-00.1
08	351 12.3	+02.3	S 14 51.7	-00.1
09	6 14.6	+02.3	S 14 51.6	+00.0
10	21 16.9	+02.2	S 14 51.6	-00.1
11	36 19.1	+02.3	S 14 51.5	+00.0
12	51 21.4	+02.2	S 14 51.5	-00.1
13	66 23.6	+02.3	S 14 51.4	-00.1
14	81 25.9	+02.2	S 14 51.3	+00.0
15	96 28.1	+02.3	S 14 51.3	-00.1
16	111 30.4	+02.3	S 14 51.2	-00.1
17	126 32.7	+02.2	S 14 51.1	+00.0
18	141 34.9	+02.3	S 14 51.1	-00.1
19	156 37.2	+02.2	S 14 51.0	+00.0
20	171 39.4	+02.3	S 14 51.0	-00.1
21	186 41.7	+02.2	S 14 50.9	-00.1
22	201 43.9	+02.3	S 14 50.8	+00.0
23	216 46.2	+02.3	S 14 50.8	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 08:35

2022 April 9 Saturday (day 99 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 34.1	+00.2	N 07 29.3	+01.0
01	194 34.3	+00.1	N 07 30.3	+00.9
02	209 34.4	+00.2	N 07 31.2	+00.9
03	224 34.6	+00.2	N 07 32.1	+01.0
04	239 34.8	+00.1	N 07 33.1	+00.9
05	254 34.9	+00.2	N 07 34.0	+00.9
06	269 35.1	+00.2	N 07 34.9	+01.0
07	284 35.3	+00.2	N 07 35.9	+00.9
08	299 35.5	+00.1	N 07 36.8	+00.9
09	314 35.6	+00.2	N 07 37.7	+00.9
10	329 35.8	+00.2	N 07 38.6	+01.0
11	344 36.0	+00.1	N 07 39.6	+00.9
12	359 36.1	+00.2	N 07 40.5	+00.9
13	14 36.3	+00.2	N 07 41.4	+01.0
14	29 36.5	+00.1	N 07 42.4	+00.9
15	44 36.6	+00.2	N 07 43.3	+00.9
16	59 36.8	+00.2	N 07 44.2	+00.9
17	74 37.0	+00.2	N 07 45.1	+01.0
18	89 37.2	+00.1	N 07 46.1	+00.9
19	104 37.3	+00.2	N 07 47.0	+00.9
20	119 37.5	+00.2	N 07 47.9	+01.0
21	134 37.7	+00.1	N 07 48.9	+00.9
22	149 37.8	+00.2	N 07 49.8	+00.9
23	164 38.0	+00.2	N 07 50.7	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	342°	342°	342°	342°	342°	342°

Greenwich Culmination Time: 12:01

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	221 44.6	-00.1	S 10 02.0	-00.8
01	236 44.5	-00.2	S 10 01.2	-00.7
02	251 44.3	-00.2	S 10 00.5	-00.8
03	266 44.1	-00.2	S 09 59.7	-00.8
04	281 43.9	-00.1	S 09 58.9	-00.8
05	296 43.8	-00.2	S 09 58.1	-00.8
06	311 43.6	-00.2	S 09 57.3	-00.8
07	326 43.4	-00.2	S 09 56.5	-00.8
08	341 43.2	-00.1	S 09 55.7	-00.8
09	356 43.1	-00.2	S 09 54.9	-00.7
10	11 42.9	-00.2	S 09 54.2	-00.8
11	26 42.7	-00.2	S 09 53.4	-00.8
12	41 42.5	-00.1	S 09 52.6	-00.8
13	56 42.4	-00.2	S 09 51.8	-00.8
14	71 42.2	-00.2	S 09 51.0	-00.8
15	86 42.0	-00.2	S 09 50.2	-00.8
16	101 41.8	-00.1	S 09 49.4	-00.8
17	116 41.7	-00.2	S 09 48.6	-00.8
18	131 41.5	-00.2	S 09 47.8	-00.8
19	146 41.3	-00.2	S 09 47.0	-00.8
20	161 41.1	-00.1	S 09 46.2	-00.8
21	176 41.0	-00.2	S 09 45.4	-00.8
22	191 40.8	-00.2	S 09 44.6	-00.8
23	206 40.6	-00.2	S 09 43.8	-00.8

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	024°	024°	024°	024°	024°	024°

Greenwich Culmination Time: 09:13

Moon

A: 26%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	89 16.3	-30.7	N 26 36.8	-02.1
01	103 45.6	-30.6	N 26 34.7	-02.2
02	118 15.0	-30.6	N 26 32.5	-02.4
03	132 44.4	-30.7	N 26 30.1	-02.5
04	147 13.7	-30.6	N 26 27.6	-02.6
05	161 43.1	-30.6	N 26 25.0	-02.7
06	176 12.5	-30.6	N 26 22.3	-02.9
07	190 41.9	-30.6	N 26 19.4	-03.0
08	205 11.3	-30.5	N 26 16.4	-03.1
09	219 40.8	-30.6	N 26 13.3	-03.2
10	234 10.2	-30.5	N 26 10.1	-03.4
11	248 39.7	-30.5	N 26 06.7	-03.5
12	263 09.2	-30.5	N 26 03.2	-03.6
13	277 38.7	-30.5	N 25 59.6	-03.8
14	292 08.2	-30.4	N 25 55.8	-03.9
15	306 37.8	-30.4	N 25 51.9	-04.0
16	321 07.4	-30.5	N 25 47.9	-04.1
17	335 36.9	-30.3	N 25 43.8	-04.3
18	350 06.6	-30.4	N 25 39.5	-04.3
19	4 36.2	-30.3	N 25 35.2	-04.5
20	19 05.9	-30.4	N 25 30.7	-04.7
21	33 35.5	-30.3	N 25 26.0	-04.7
22	48 05.2	-30.2	N 25 21.3	-04.9
23	62 35.0	-30.3	N 25 16.4	-05.0

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′9	14′9
HP	54′3	54′4	54′4	54′4	54′5	54′5
SHA	251°	249°	247°	244°	242°	240°

Greenwich Culmination Time: 18:40

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	229 07.8	+00.6	S 14 17.5	-00.6
01	244 08.4	+00.6	S 14 16.9	-00.6
02	259 09.0	+00.7	S 14 16.3	-00.6
03	274 09.7	+00.6	S 14 15.7	-00.6
04	289 10.3	+00.6	S 14 15.1	-00.6
05	304 10.9	+00.6	S 14 14.5	-00.6
06	319 11.5	+00.6	S 14 13.9	-00.6
07	334 12.1	+00.7	S 14 13.3	-00.7
08	349 12.8	+00.6	S 14 12.6	-00.6
09	4 13.4	+00.6	S 14 12.0	-00.6
10	19 14.0	+00.6	S 14 11.4	-00.6
11	34 14.6	+00.6	S 14 10.8	-00.6
12	49 15.2	+00.7	S 14 10.2	-00.6
13	64 15.9	+00.6	S 14 09.6	-00.6
14	79 16.5	+00.6	S 14 09.0	-00.6
15	94 17.1	+00.6	S 14 08.4	-00.7
16	109 17.7	+00.7	S 14 07.7	-00.6
17	124 18.4	+00.6	S 14 07.1	-00.6
18	139 19.0	+00.6	S 14 06.5	-00.6
19	154 19.6	+00.6	S 14 05.9	-00.6
20	169 20.2	+00.7	S 14 05.3	-00.6
21	184 20.9	+00.6	S 14 04.7	-00.7
22	199 21.5	+00.6	S 14 04.0	-00.6
23	214 22.1	+00.6	S 14 03.4	-00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	032°	032°	032°	031°	031°	031°

Greenwich Culmination Time: 08:43

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	203 06.0	+01.9	S 03 39.3	-00.2
01	218 07.9	+01.9	S 03 39.1	-00.2
02	233 09.8	+02.0	S 03 38.9	-00.2
03	248 11.8	+01.9	S 03 38.7	-00.3
04	263 13.7	+01.9	S 03 38.4	-00.2
05	278 15.6	+02.0	S 03 38.2	-00.2
06	293 17.6	+01.9	S 03 38.0	-00.2
07	308 19.5	+01.9	S 03 37.8	-00.3
08	323 21.4	+02.0	S 03 37.5	-00.2
09	338 23.4	+01.9	S 03 37.3	-00.2
10	353 25.3	+02.0	S 03 37.1	-00.2
11	8 27.3	+01.9	S 03 36.9	-00.2
12	23 29.2	+01.9	S 03 36.7	-00.3
13	38 31.1	+02.0	S 03 36.4	-00.2
14	53 33.1	+01.9	S 03 36.2	-00.2
15	68 35.0	+01.9	S 03 36.0	-00.2
16	83 36.9	+02.0	S 03 35.8	-00.3
17	98 38.9	+01.9	S 03 35.5	-00.2
18	113 40.8	+01.9	S 03 35.3	-00.2
19	128 42.7	+02.0	S 03 35.1	-00.2
20	143 44.7	+01.9	S 03 34.9	-00.2
21	158 46.6	+01.9	S 03 34.7	-00.3
22	173 48.5	+02.0	S 03 34.4	-00.2
23	188 50.5	+01.9	S 03 34.2	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	006°	006°	006°	006°	006°	006°

Greenwich Culmination Time: 10:26

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	231 48.5	+02.2	S 14 50.7	-00.1
01	246 50.7	+02.3	S 14 50.6	+00.0
02	261 53.0	+02.2	S 14 50.6	-00.1
03	276 55.2	+02.3	S 14 50.5	+00.0
04	291 57.5	+02.3	S 14 50.5	-00.1
05	306 59.8	+02.2	S 14 50.4	-00.1
06	322 02.0	+02.3	S 14 50.3	+00.0
07	337 04.3	+02.2	S 14 50.3	-00.1
08	352 06.5	+02.3	S 14 50.2	-00.1
09	7 08.8	+02.3	S 14 50.1	+00.0
10	22 11.1	+02.2	S 14 50.1	-00.1
11	37 13.3	+02.3	S 14 50.0	+00.0
12	52 15.6	+02.2	S 14 50.0	-00.1
13	67 17.8	+02.3	S 14 49.9	-00.1
14	82 20.1	+02.3	S 14 49.8	+00.0
15	97 22.4	+02.2	S 14 49.8	-00.1
16	112 24.6	+02.3	S 14 49.7	+00.0
17	127 26.9	+02.2	S 14 49.7	-00.1
18	142 29.1	+02.3	S 14 49.6	-00.1
19	157 31.4	+02.3	S 14 49.5	+00.0
20	172 33.7	+02.2	S 14 49.5	-00.1
21	187 35.9	+02.3	S 14 49.4	-00.1
22	202 38.2	+02.2	S 14 49.3	+00.0
23	217 40.4	+02.3	S 14 49.3	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 08:31

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2022 April 14 Thursday

(day 104 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	179 53.8	+00.1	N 09 19.4	+00.9
01	194 53.9	+00.2	N 09 20.3	+00.9
02	209 54.1	+00.1	N 09 21.2	+00.9
03	224 54.2	+00.2	N 09 22.1	+00.9
04	239 54.4	+00.2	N 09 23.0	+00.9
05	254 54.6	+00.1	N 09 23.9	+00.9
06	269 54.7	+00.2	N 09 24.8	+00.9
07	284 54.9	+00.1	N 09 25.7	+00.9
08	299 55.0	+00.2	N 09 26.6	+00.9
09	314 55.2	+00.1	N 09 27.5	+00.9
10	329 55.3	+00.2	N 09 28.4	+00.9
11	344 55.5	+00.1	N 09 29.3	+00.9
12	359 55.6	+00.2	N 09 30.2	+00.9
13	14 55.8	+00.1	N 09 31.1	+00.9
14	29 55.9	+00.2	N 09 32.0	+00.9
15	44 56.1	+00.2	N 09 32.9	+00.9
16	59 56.3	+00.1	N 09 33.8	+00.9
17	74 56.4	+00.2	N 09 34.7	+00.9
18	89 56.6	+00.1	N 09 35.6	+00.9
19	104 56.7	+00.2	N 09 36.5	+00.9
20	119 56.9	+00.1	N 09 37.4	+00.9
21	134 57.0	+00.2	N 09 38.3	+00.8
22	149 57.2	+00.1	N 09 39.1	+00.9
23	164 57.3	+00.2	N 09 40.0	+00.9

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	338°	338°	337°	337°	337°	337°

Greenwich Culmination Time: 12:00

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	221 23.4	−00.2	S 08 23.6	−00.8
01	236 23.2	−00.2	S 08 22.8	−00.9
02	251 23.0	−00.2	S 08 21.9	−00.8
03	266 22.8	−00.2	S 08 21.1	−00.9
04	281 22.6	−00.1	S 08 20.2	−00.9
05	296 22.5	−00.2	S 08 19.3	−00.8
06	311 22.3	−00.2	S 08 18.5	−00.9
07	326 22.1	−00.2	S 08 17.6	−00.8
08	341 21.9	−00.2	S 08 16.8	−00.9
09	356 21.7	−00.1	S 08 15.9	−00.9
10	11 21.6	−00.2	S 08 15.0	−00.8
11	26 21.4	−00.2	S 08 14.2	−00.9
12	41 21.2	−00.2	S 08 13.3	−00.8
13	56 21.0	−00.2	S 08 12.5	−00.9
14	71 20.8	−00.1	S 08 11.6	−00.9
15	86 20.7	−00.2	S 08 10.7	−00.8
16	101 20.5	−00.2	S 08 09.9	−00.9
17	116 20.3	−00.2	S 08 09.0	−00.8
18	131 20.1	−00.2	S 08 08.2	−00.9
19	146 19.9	−00.1	S 08 07.3	−00.9
20	161 19.8	−00.2	S 08 06.4	−00.8
21	176 19.6	−00.2	S 08 05.6	−00.9
22	191 19.4	−00.2	S 08 04.7	−00.9
23	206 19.2	−00.2	S 08 03.8	−00.8

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	019°	019°	019°	019°	018°	018°

Greenwich Culmination Time: 09:14

Moon

A: 42%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	30 58.7	−27.8	N 08 55.6	−14.3
01	45 30.9	−27.8	N 08 41.3	−14.3
02	60 03.1	−27.8	N 08 27.0	−14.4
03	74 35.3	−27.7	N 08 12.6	−14.4
04	89 07.6	−27.8	N 07 58.2	−14.5
05	103 39.8	−27.8	N 07 43.7	−14.6
06	118 12.0	−27.8	N 07 29.1	−14.6
07	132 44.2	−27.8	N 07 14.5	−14.6
08	147 16.4	−27.8	N 06 59.9	−14.7
09	161 48.6	−27.9	N 06 45.2	−14.8
10	176 20.7	−27.8	N 06 30.4	−14.8
11	190 52.9	−27.8	N 06 15.6	−14.8
12	205 25.1	−27.8	N 06 00.8	−14.9
13	219 57.3	−27.9	N 05 45.9	−15.0
14	234 29.4	−27.9	N 05 30.9	−15.0
15	249 01.5	−27.8	N 05 15.9	−15.0
16	263 33.7	−27.9	N 05 00.9	−15.1
17	278 05.8	−27.9	N 04 45.8	−15.1
18	292 37.9	−27.9	N 04 30.7	−15.1
19	307 10.0	−28.0	N 04 15.6	−15.2
20	321 42.0	−27.9	N 04 00.4	−15.2
21	336 14.1	−28.0	N 03 45.2	−15.3
22	350 46.1	−28.0	N 03 29.9	−15.3
23	5 18.1	−28.0	N 03 14.6	−15.3

UT	02	06	10	14	18	22
SD	15′6	15′6	15′7	15′7	15′7	15′8
HP	57′2	57′4	57′5	57′6	57′8	57′9
SHA	188°	186°	184°	182°	180°	178°

Greenwich Culmination Time: 22:38

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	230 23.3	+00.6	S 13 02.6	−00.6
01	245 23.9	+00.7	S 13 02.0	−00.7
02	260 24.6	+00.6	S 13 01.3	−00.6
03	275 25.2	+00.6	S 13 00.7	−00.6
04	290 25.8	+00.7	S 13 00.1	−00.7
05	305 26.5	+00.6	S 12 59.4	−00.6
06	320 27.1	+00.7	S 12 58.8	−00.6
07	335 27.8	+00.6	S 12 58.2	−00.7
08	350 28.4	+00.6	S 12 57.5	−00.6
09	5 29.0	+00.7	S 12 56.9	−00.7
10	20 29.7	+00.6	S 12 56.2	−00.6
11	35 30.3	+00.7	S 12 55.6	−00.6
12	50 31.0	+00.6	S 12 55.0	−00.7
13	65 31.6	+00.6	S 12 54.3	−00.6
14	80 32.2	+00.7	S 12 53.7	−00.7
15	95 32.9	+00.6	S 12 53.0	−00.6
16	110 33.5	+00.7	S 12 52.4	−00.6
17	125 34.2	+00.6	S 12 51.8	−00.7
18	140 34.8	+00.6	S 12 51.1	−00.6
19	155 35.4	+00.7	S 12 50.5	−00.7
20	170 36.1	+00.6	S 12 49.8	−00.6
21	185 36.7	+00.7	S 12 49.2	−00.6
22	200 37.4	+00.6	S 12 48.6	−00.7
23	215 38.0	+00.7	S 12 47.9	−00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	028°	028°	028°	028°	028°	028°

Greenwich Culmination Time: 08:38

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	206 58.7	+01.9	S 03 12.8	−00.2
01	222 00.6	+02.0	S 03 12.6	−00.2
02	237 02.6	+01.9	S 03 12.4	−00.2
03	252 04.5	+02.0	S 03 12.2	−00.2
04	267 06.5	+01.9	S 03 12.0	−00.3
05	282 08.4	+01.9	S 03 11.7	−00.2
06	297 10.3	+02.0	S 03 11.5	−00.2
07	312 12.3	+01.9	S 03 11.3	−00.2
08	327 14.2	+02.0	S 03 11.1	−00.2
09	342 16.2	+01.9	S 03 10.9	−00.3
10	357 18.1	+02.0	S 03 10.6	−00.2
11	12 20.1	+01.9	S 03 10.4	−00.2
12	27 22.0	+02.0	S 03 10.2	−00.2
13	42 24.0	+01.9	S 03 10.0	−00.2
14	57 25.9	+01.9	S 03 09.8	−00.3
15	72 27.8	+02.0	S 03 09.5	−00.2
16	87 29.8	+01.9	S 03 09.3	−00.2
17	102 31.7	+02.0	S 03 09.1	−00.2
18	117 33.7	+01.9	S 03 08.9	−00.2
19	132 35.6	+02.0	S 03 08.7	−00.2
20	147 37.6	+01.9	S 03 08.5	−00.3
21	162 39.5	+02.0	S 03 08.2	−00.2
22	177 41.5	+01.9	S 03 08.0	−00.2
23	192 43.4	+02.0	S 03 07.8	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	005°	005°	005°	005°	005°	005°

Greenwich Culmination Time: 10:10

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	236 20.4	+02.2	S 14 43.5	−00.1
01	251 22.6	+02.3	S 14 43.4	+00.0
02	266 24.9	+02.3	S 14 43.4	−00.1
03	281 27.2	+02.3	S 14 43.3	+00.0
04	296 29.5	+02.2	S 14 43.3	−00.1
05	311 31.7	+02.3	S 14 43.2	+00.0
06	326 34.0	+02.3	S 14 43.2	−00.1
07	341 36.3	+02.3	S 14 43.1	−00.1
08	356 38.6	+02.2	S 14 43.0	+00.0
09	11 40.8	+02.3	S 14 43.0	−00.1
10	26 43.1	+02.3	S 14 42.9	+00.0
11	41 45.4	+02.2	S 14 42.9	−00.1
12	56 47.6	+02.3	S 14 42.8	+00.0
13	71 49.9	+02.3	S 14 42.8	−00.1
14	86 52.2	+02.3	S 14 42.7	−00.1
15	101 54.5	+02.2	S 14 42.6	+00.0
16	116 56.7	+02.3	S 14 42.6	−00.1
17	131 59.0	+02.3	S 14 42.5	+00.0
18	147 01.3	+02.3	S 14 42.5	−00.1
19	162 03.6	+02.2	S 14 42.4	+00.0
20	177 05.8	+02.3	S 14 42.4	−00.1
21	192 08.1	+02.3	S 14 42.3	−00.1
22	207 10.4	+02.3	S 14 42.2	+00.0
23	222 12.7	+02.3	S 14 42.2	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 08:13

2022 April 11 Monday

(day 101 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	179 42.2	+00.1	N 08 13.8	+00.9
01	194 42.3	+00.2	N 08 14.7	+00.9
02	209 42.5	+00.2	N 08 15.6	+00.9
03	224 42.7	+00.1	N 08 16.5	+01.0
04	239 42.8	+00.2	N 08 17.5	+00.9
05	254 43.0	+00.2	N 08 18.4	+00.9
06	269 43.2	+00.1	N 08 19.3	+00.9
07	284 43.3	+00.2	N 08 20.2	+00.9
08	299 43.5	+00.2	N 08 21.1	+01.0
09	314 43.7	+00.1	N 08 22.1	+00.9
10	329 43.8	+00.2	N 08 23.0	+00.9
11	344 44.0	+00.2	N 08 23.9	+00.9
12	359 44.2	+00.1	N 08 24.8	+00.9
13	14 44.3	+00.2	N 08 25.7	+00.9
14	29 44.5	+00.1	N 08 26.6	+01.0
15	44 44.6	+00.2	N 08 27.6	+00.9
16	59 44.8	+00.2	N 08 28.5	+00.9
17	74 45.0	+00.1	N 08 29.4	+00.9
18	89 45.1	+00.2	N 08 30.3	+00.9
19	104 45.3	+00.2	N 08 31.2	+00.9
20	119 45.5	+00.1	N 08 32.1	+01.0
21	134 45.6	+00.2	N 08 33.1	+00.9
22	149 45.8	+00.2	N 08 34.0	+00.9
23	164 46.0	+00.1	N 08 34.9	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	340°	340°	340°	340°	340°	340°

Greenwich Culmination Time: 12:01

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	221 36.2	−00.2	S 09 23.7	−00.8
01	236 36.0	−00.2	S 09 22.9	−00.9
02	251 35.8	−00.1	S 09 22.0	−00.8
03	266 35.7	−00.2	S 09 21.2	−00.8
04	281 35.5	−00.2	S 09 20.4	−00.8
05	296 35.3	−00.2	S 09 19.6	−00.8
06	311 35.1	−00.1	S 09 18.8	−00.8
07	326 35.0	−00.2	S 09 18.0	−00.9
08	341 34.8	−00.2	S 09 17.1	−00.8
09	356 34.6	−00.2	S 09 16.3	−00.8
10	11 34.4	−00.2	S 09 15.5	−00.8
11	26 34.2	−00.1	S 09 14.7	−00.8
12	41 34.1	−00.2	S 09 13.9	−00.9
13	56 33.9	−00.2	S 09 13.0	−00.8
14	71 33.7	−00.2	S 09 12.2	−00.8
15	86 33.5	−00.1	S 09 11.4	−00.8
16	101 33.4	−00.2	S 09 10.6	−00.8
17	116 33.2	−00.2	S 09 09.8	−00.9
18	131 33.0	−00.2	S 09 08.9	−00.8
19	146 32.8	−00.2	S 09 08.1	−00.8
20	161 32.6	−00.1	S 09 07.3	−00.8
21	176 32.5	−00.2	S 09 06.5	−00.9
22	191 32.3	−00.2	S 09 05.6	−00.8
23	206 32.1	−00.2	S 09 04.8	−00.8

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	022°	022°	022°	022°	022°	021°

Greenwich Culmination Time: 09:13

Moon

A: 33%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	65 07.5	−29.5	N 22 35.5	−08.0
01	79 38.0	−29.5	N 22 27.5	−08.0
02	94 08.5	−29.4	N 22 19.5	−08.2
03	108 39.1	−29.4	N 22 11.3	−08.3
04	123 09.7	−29.3	N 22 03.0	−08.4
05	137 40.4	−29.4	N 21 54.6	−08.5
06	152 11.0	−29.2	N 21 46.1	−08.6
07	166 41.8	−29.3	N 21 37.5	−08.7
08	181 12.5	−29.2	N 21 28.8	−08.8
09	195 43.3	−29.2	N 21 20.0	−08.9
10	210 14.1	−29.1	N 21 11.1	−09.1
11	224 45.0	−29.2	N 21 02.0	−09.1
12	239 15.8	−29.0	N 20 52.9	−09.3
13	253 46.8	−29.1	N 20 43.6	−09.3
14	268 17.7	−29.0	N 20 34.3	−09.5
15	282 48.7	−29.0	N 20 24.8	−09.6
16	297 19.7	−28.9	N 20 15.2	−09.6
17	311 50.8	−29.0	N 20 05.6	−09.8
18	326 21.8	−28.8	N 19 55.8	−09.9
19	340 53.0	−28.9	N 19 45.9	−10.0
20	355 24.1	−28.8	N 19 35.9	−10.0
21	9 55.3	−28.8	N 19 25.9	−10.2
22	24 26.5	−28.8	N 19 15.7	−10.3
23	38 57.7	−28.7	N 19 05.4	−10.4

UT	02	06	10	14	18	22
SD	15′0	15′0	15′1	15′1	15′1	15′2
HP	55′1	55′2	55′3	55′4	55′5	55′6
SHA	225°	223°	221°	219°	216°	214°

Greenwich Culmination Time: 20:19

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	229 37.7	+00.7	S 13 47.9	−00.6
01	244 38.4	+00.6	S 13 47.3	−00.6
02	259 39.0	+00.6	S 13 46.7	−00.6
03	274 39.6	+00.6	S 13 46.1	−00.6
04	289 40.2	+00.7	S 13 45.5	−00.7
05	304 40.9	+00.6	S 13 44.8	−00.6
06	319 41.5	+00.6	S 13 44.2	−00.6
07	334 42.1	+00.7	S 13 43.6	−00.6
08	349 42.8	+00.6	S 13 43.0	−00.7
09	4 43.4	+00.6	S 13 42.3	−00.6
10	19 44.0	+00.6	S 13 41.7	−00.6
11	34 44.6	+00.7	S 13 41.1	−00.6
12	49 45.3	+00.6	S 13 40.5	−00.7
13	64 45.9	+00.6	S 13 39.8	−00.6
14	79 46.5	+00.7	S 13 39.2	−00.6
15	94 47.2	+00.6	S 13 38.6	−00.6
16	109 47.8	+00.6	S 13 38.0	−00.7
17	124 48.4	+00.7	S 13 37.3	−00.6
18	139 49.1	+00.6	S 13 36.7	−00.6
19	154 49.7	+00.6	S 13 36.1	−00.6
20	169 50.3	+00.6	S 13 35.5	−00.7
21	184 50.9	+00.7	S 13 34.8	−00.6
22	199 51.6	+00.6	S 13 34.2	−00.6
23	214 52.2	+00.6	S 13 33.6	−00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	030°	030°	030°	030°	030°	030°

Greenwich Culmination Time: 08:41

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	204 38.9	+02.0	S 03 28.7	−00.3
01	219 40.9	+01.9	S 03 28.4	−00.2
02	234 42.8	+01.9	S 03 28.2	−00.2
03	249 44.7	+02.0	S 03 28.0	−00.2
04	264 46.7	+01.9	S 03 27.8	−00.2
05	279 48.6	+01.9	S 03 27.6	−00.3
06	294 50.5	+02.0	S 03 27.3	−00.2
07	309 52.5	+01.9	S 03 27.1	−00.2
08	324 54.4	+02.0	S 03 26.9	−00.2
09	339 56.4	+01.9	S 03 26.7	−00.2
10	354 58.3	+01.9	S 03 26.5	−00.3
11	10 00.2	+02.0	S 03 26.2	−00.2
12	25 02.2	+01.9	S 03 26.0	−00.2
13	40 04.1	+02.0	S 03 25.8	−00.2
14	55 06.1	+01.9	S 03 25.6	−00.2
15	70 08.0	+01.9	S 03 25.4	−00.3
16	85 09.9	+02.0	S 03 25.1	−00.2
17	100 11.9	+01.9	S 03 24.9	−00.2
18	115 13.8	+02.0	S 03 24.7	−00.2
19	130 15.8	+01.9	S 03 24.5	−00.2
20	145 17.7	+01.9	S 03 24.3	−00.3
21	160 19.6	+02.0	S 03 24.0	−00.2
22	175 21.6	+01.9	S 03 23.8	−00.2
23	190 23.5	+02.0	S 03 23.6	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	005°	005°	005°	005°	005°	005°

Greenwich Culmination Time: 10:20

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	233 37.0	+02.3	S 14 47.8	−00.1
01	248 39.3	+02.2	S 14 47.7	−00.1
02	263 41.5	+02.3	S 14 47.6	+00.0
03	278 43.8	+02.3	S 14 47.6	−00.1
04	293 46.1	+02.2	S 14 47.5	+00.0
05	308 48.3	+02.3	S 14 47.5	−00.1
06	323 50.6	+02.3	S 14 47.4	−00.1
07	338 52.9	+02.2	S 14 47.3	+00.0
08	353 55.1	+02.3	S 14 47.3	−00.1
09	8 57.4	+02.3	S 14 47.2	+00.0
10	23 59.7	+02.2	S 14 47.2	−00.1
11	39 01.9	+02.3	S 14 47.1	−00.1
12	54 04.2	+02.3	S 14 47.0	+00.0
13	69 06.5	+02.2	S 14 47.0	−00.1
14	84 08.7	+02.3	S 14 46.9	+00.0
15	99 11.0	+02.3	S 14 46.9	−00.1
16	114 13.3	+02.2	S 14 46.8	−00.1
17	129 15.5	+02.3	S 14 46.7	+00.0
18	144 17.8	+02.3	S 14 46.7	−00.1
19	159 20.1	+02.2	S 14 46.6	+00.0
20	174 22.3	+02.3	S 14 46.6	−00.1
21	189 24.6	+02.3	S 14 46.5	−00.1
22	204 26.9	+02.2	S 14 46.4	+00.0
23	219 29.1	+02.3	S 14 46.4	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 08:24

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2022 April 12 Tuesday (day 102 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 46.1	+00.2	N 08 35.8	+00.9
01	194 46.3	+00.1	N 08 36.7	+00.9
02	209 46.4	+00.2	N 08 37.6	+00.9
03	224 46.6	+00.2	N 08 38.5	+01.0
04	239 46.8	+00.1	N 08 39.5	+00.9
05	254 46.9	+00.2	N 08 40.4	+00.9
06	269 47.1	+00.1	N 08 41.3	+00.9
07	284 47.2	+00.2	N 08 42.2	+00.9
08	299 47.4	+00.2	N 08 43.1	+00.9
09	314 47.6	+00.1	N 08 44.0	+00.9
10	329 47.7	+00.2	N 08 44.9	+00.9
11	344 47.9	+00.2	N 08 45.8	+01.0
12	359 48.1	+00.1	N 08 46.8	+00.9
13	14 48.2	+00.2	N 08 47.7	+00.9
14	29 48.4	+00.1	N 08 48.6	+00.9
15	44 48.5	+00.2	N 08 49.5	+00.9
16	59 48.7	+00.2	N 08 50.4	+00.9
17	74 48.9	+00.1	N 08 51.3	+00.9
18	89 49.0	+00.2	N 08 52.2	+00.9
19	104 49.2	+00.1	N 08 53.1	+00.9
20	119 49.3	+00.2	N 08 54.0	+00.9
21	134 49.5	+00.2	N 08 54.9	+00.9
22	149 49.7	+00.1	N 08 55.8	+01.0
23	164 49.8	+00.2	N 08 56.8	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	340°	339°	339°	339°	339°	339°

Greenwich Culmination Time: 12:00

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	221 31.9	-00.1	S 09 04.0	-00.8
01	236 31.8	-00.2	S 09 03.2	-00.9
02	251 31.6	-00.2	S 09 02.3	-00.8
03	266 31.4	-00.2	S 09 01.5	-00.8
04	281 31.2	-00.2	S 09 00.7	-00.9
05	296 31.0	-00.1	S 08 59.8	-00.8
06	311 30.9	-00.2	S 08 59.0	-00.8
07	326 30.7	-00.2	S 08 58.2	-00.9
08	341 30.5	-00.2	S 08 57.3	-00.8
09	356 30.3	-00.1	S 08 56.5	-00.8
10	11 30.2	-00.2	S 08 55.7	-00.9
11	26 30.0	-00.2	S 08 54.8	-00.8
12	41 29.8	-00.2	S 08 54.0	-00.8
13	56 29.6	-00.2	S 08 53.2	-00.9
14	71 29.4	-00.1	S 08 52.3	-00.8
15	86 29.3	-00.2	S 08 51.5	-00.8
16	101 29.1	-00.2	S 08 50.7	-00.9
17	116 28.9	-00.2	S 08 49.8	-00.8
18	131 28.7	-00.2	S 08 49.0	-00.8
19	146 28.5	-00.1	S 08 48.2	-00.9
20	161 28.4	-00.2	S 08 47.3	-00.8
21	176 28.2	-00.2	S 08 46.5	-00.9
22	191 28.0	-00.2	S 08 45.6	-00.8
23	206 27.8	-00.1	S 08 44.8	-00.8

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	021°	021°	021°	021°	021°	020°

Greenwich Culmination Time: 09:13

Moon

A: 36%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	53 29.0	-28.7	N 18 55.0	-10.4
01	68 00.3	-28.6	N 18 44.6	-10.6
02	82 31.7	-28.7	N 18 34.0	-10.7
03	97 03.0	-28.6	N 18 23.3	-10.7
04	111 34.4	-28.5	N 18 12.6	-10.9
05	126 05.9	-28.6	N 18 01.7	-10.9
06	140 37.3	-28.5	N 17 50.8	-11.1
07	155 08.8	-28.5	N 17 39.7	-11.1
08	169 40.3	-28.4	N 17 28.6	-11.2
09	184 11.9	-28.4	N 17 17.4	-11.4
10	198 43.5	-28.4	N 17 06.0	-11.4
11	213 15.1	-28.4	N 16 54.6	-11.5
12	227 46.7	-28.3	N 16 43.1	-11.6
13	242 18.4	-28.4	N 16 31.5	-11.6
14	256 50.0	-28.3	N 16 19.9	-11.8
15	271 21.7	-28.2	N 16 08.1	-11.9
16	285 53.5	-28.3	N 15 56.2	-11.9
17	300 25.2	-28.2	N 15 44.3	-12.0
18	314 57.0	-28.2	N 15 32.3	-12.2
19	329 28.8	-28.1	N 15 20.1	-12.2
20	344 00.7	-28.2	N 15 07.9	-12.2
21	358 32.5	-28.1	N 14 55.7	-12.4
22	13 04.4	-28.1	N 14 43.3	-12.4
23	27 36.3	-28.1	N 14 30.9	-12.6

UT	02	06	10	14	18	22
SD	15′2	15′2	15′2	15′3	15′3	15′3
HP	55′7	55′8	56′0	56′1	56′2	56′3
SHA	212°	210°	208°	206°	204°	202°

Greenwich Culmination Time: 21:06

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	229 52.8	+00.7	S 13 33.0	-00.7
01	244 53.5	+00.6	S 13 32.3	-00.6
02	259 54.1	+00.6	S 13 31.7	-00.6
03	274 54.7	+00.7	S 13 31.1	-00.7
04	289 55.4	+00.6	S 13 30.4	-00.6
05	304 56.0	+00.6	S 13 29.8	-00.6
06	319 56.6	+00.7	S 13 29.2	-00.6
07	334 57.3	+00.6	S 13 28.6	-00.7
08	349 57.9	+00.6	S 13 27.9	-00.6
09	4 58.5	+00.7	S 13 27.3	-00.6
10	19 59.2	+00.6	S 13 26.7	-00.7
11	34 59.8	+00.6	S 13 26.0	-00.6
12	50 00.4	+00.7	S 13 25.4	-00.6
13	65 01.1	+00.6	S 13 24.8	-00.6
14	80 01.7	+00.6	S 13 24.2	-00.7
15	95 02.3	+00.7	S 13 23.5	-00.6
16	110 03.0	+00.6	S 13 22.9	-00.6
17	125 03.6	+00.6	S 13 22.3	-00.7
18	140 04.2	+00.7	S 13 21.6	-00.6
19	155 04.9	+00.6	S 13 21.0	-00.6
20	170 05.5	+00.6	S 13 20.4	-00.7
21	185 06.1	+00.7	S 13 19.7	-00.6
22	200 06.8	+00.6	S 13 19.1	-00.6
23	215 07.4	+00.6	S 13 18.5	-00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	030°	030°	029°	029°	029°	029°

Greenwich Culmination Time: 08:40

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	205 25.5	+01.9	S 03 23.4	-00.3
01	220 27.4	+01.9	S 03 23.1	-00.2
02	235 29.3	+02.0	S 03 22.9	-00.2
03	250 31.3	+01.9	S 03 22.7	-00.2
04	265 33.2	+02.0	S 03 22.5	-00.2
05	280 35.2	+01.9	S 03 22.3	-00.3
06	295 37.1	+01.9	S 03 22.0	-00.2
07	310 39.0	+02.0	S 03 21.8	-00.2
08	325 41.0	+01.9	S 03 21.6	-00.2
09	340 42.9	+02.0	S 03 21.4	-00.2
10	355 44.9	+01.9	S 03 21.2	-00.3
11	10 46.8	+01.9	S 03 20.9	-00.2
12	25 48.7	+02.0	S 03 20.7	-00.2
13	40 50.7	+01.9	S 03 20.5	-00.2
14	55 52.6	+02.0	S 03 20.3	-00.2
15	70 54.6	+01.9	S 03 20.1	-00.3
16	85 56.5	+02.0	S 03 19.8	-00.2
17	100 58.5	+01.9	S 03 19.6	-00.2
18	116 00.4	+01.9	S 03 19.4	-00.2
19	131 02.3	+02.0	S 03 19.2	-00.2
20	146 04.3	+01.9	S 03 19.0	-00.3
21	161 06.2	+02.0	S 03 18.7	-00.2
22	176 08.2	+01.9	S 03 18.5	-00.2
23	191 10.1	+01.9	S 03 18.3	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	005°	005°	005°	005°	005°	005°

Greenwich Culmination Time: 10:16

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	234 31.4	+02.3	S 14 46.3	+00.0
01	249 33.7	+02.2	S 14 46.3	-00.1
02	264 35.9	+02.3	S 14 46.2	-00.1
03	279 38.2	+02.3	S 14 46.1	+00.0
04	294 40.5	+02.2	S 14 46.1	-00.1
05	309 42.7	+02.3	S 14 46.0	+00.0
06	324 45.0	+02.3	S 14 46.0	-00.1
07	339 47.3	+02.2	S 14 45.9	-00.1
08	354 49.5	+02.3	S 14 45.8	+00.0
09	9 51.8	+02.3	S 14 45.8	-00.1
10	24 54.1	+02.2	S 14 45.7	+00.0
11	39 56.3	+02.3	S 14 45.7	-00.1
12	54 58.6	+02.3	S 14 45.6	-00.1
13	70 00.9	+02.2	S 14 45.5	+00.0
14	85 03.1	+02.3	S 14 45.5	-00.1
15	100 05.4	+02.3	S 14 45.4	+00.0
16	115 07.7	+02.3	S 14 45.4	-00.1
17	130 10.0	+02.2	S 14 45.3	+00.0
18	145 12.2	+02.3	S 14 45.3	-00.1
19	160 14.5	+02.3	S 14 45.2	-00.1
20	175 16.8	+02.2	S 14 45.1	+00.0
21	190 19.0	+02.3	S 14 45.1	-00.1
22	205 21.3	+02.3	S 14 45.0	+00.0
23	220 23.6	+02.2	S 14 45.0	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 08:20

2022 April 13 Wednesday (day 103 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 50.0	+00.1	N 08 57.7	+00.9
01	194 50.1	+00.2	N 08 58.6	+00.9
02	209 50.3	+00.2	N 08 59.5	+00.9
03	224 50.5	+00.1	N 09 00.4	+00.9
04	239 50.6	+00.2	N 09 01.3	+00.9
05	254 50.8	+00.1	N 09 02.2	+00.9
06	269 50.9	+00.2	N 09 03.1	+00.9
07	284 51.1	+00.2	N 09 04.0	+00.9
08	299 51.3	+00.1	N 09 04.9	+00.9
09	314 51.4	+00.2	N 09 05.8	+00.9
10	329 51.6	+00.1	N 09 06.7	+00.9
11	344 51.7	+00.2	N 09 07.6	+00.9
12	359 51.9	+00.1	N 09 08.5	+00.9
13	14 52.0	+00.2	N 09 09.4	+01.0
14	29 52.2	+00.2	N 09 10.4	+00.9
15	44 52.4	+00.1	N 09 11.3	+00.9
16	59 52.5	+00.2	N 09 12.2	+00.9
17	74 52.7	+00.1	N 09 13.1	+00.9
18	89 52.8	+00.2	N 09 14.0	+00.9
19	104 53.0	+00.1	N 09 14.9	+00.9
20	119 53.1	+00.2	N 09 15.8	+00.9
21	134 53.3	+00.2	N 09 16.7	+00.9
22	149 53.5	+00.1	N 09 17.6	+00.9
23	164 53.6	+00.2	N 09 18.5	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	339°	338°	338°	338°	338°	338°

Greenwich Culmination Time: 12:00

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	221 27.7	-00.2	S 08 44.0	-00.9
01	236 27.5	-00.2	S 08 43.1	-00.8
02	251 27.3	-00.2	S 08 42.3	-00.9
03	266 27.1	-00.2	S 08 41.4	-00.8
04	281 26.9	-00.1	S 08 40.6	-00.9
05	296 26.8	-00.2	S 08 39.7	-00.8
06	311 26.6	-00.2	S 08 38.9	-00.8
07	326 26.4	-00.2	S 08 38.1	-00.9
08	341 26.2	-00.2	S 08 37.2	-00.8
09	356 26.0	-00.1	S 08 36.4	-00.9
10	11 25.9	-00.2	S 08 35.5	-00.8
11	26 25.7	-00.2	S 08 34.7	-00.9
12	41 25.5	-00.2	S 08 33.8	-00.8
13	56 25.3	-00.2	S 08 33.0	-00.9
14	71 25.1	-00.1	S 08 32.1	-00.8
15	86 25.0	-00.2	S 08 31.3	-00.9
16	101 24.8	-00.2	S 08 30.4	-00.8
17	116 24.6	-00.2	S 08 29.6	-00.9
18	131 24.4	-00.1	S 08 28.7	-00.8
19	146 24.3	-00.2	S 08 27.9	-00.9
20	161 24.1	-00.2	S 08 27.0	-00.8
21	176 23.9	-00.2	S 08 26.2	-00.9
22	191 23.7	-00.2	S 08 25.3	-00.8
23	206 23.5	-00.1	S 08 24.5	-00.9

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	020°	020°	020°	020°	020°	019°

Greenwich Culmination Time: 09:14

Moon

A: 39%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	42 08.2	-28.1	N 14 18.3	-12.6
01	56 40.1	-28.0	N 14 05.7	-12.7
02	71 12.1	-28.0	N 13 53.0	-12.7
03	85 44.1	-28.0	N 13 40.3	-12.9
04	100 16.1	-28.0	N 13 27.4	-12.9
05	114 48.1	-28.0	N 13 14.5	-13.0
06	129 20.1	-27.9	N 13 01.5	-13.1
07	143 52.2	-28.0	N 12 48.4	-13.1
08	158 24.2	-27.9	N 12 35.3	-13.2
09	172 56.3	-27.9	N 12 22.1	-13.3
10	187 28.4	-27.9	N 12 08.8	-13.4
11	202 00.5	-27.9	N 11 55.4	-13.4
12	216 32.6	-27.9	N 11 42.0	-13.5
13	231 04.7	-27.8	N 11 28.5	-13.6
14	245 36.9	-27.9	N 11 14.9	-13.6
15	260 09.0	-27.8	N 11 01.3	-13.7
16	274 41.2	-27.8	N 10 47.6	-13.8
17	289 13.4	-27.9	N 10 33.8	-13.9
18	303 45.5	-27.8	N 10 19.9	-13.9
19	318 17.7	-27.8	N 10 06.0	-13.9
20	332 49.9	-27.8	N 09 52.1	-14.1
21	347 22.1	-27.8	N 09 38.0	-14.1
22	1 54.3	-27.8	N 09 23.9	-14.1
23	16 26.5	-27.8	N 09 09.8	-14.2

UT	02	06	10	14	18	22
SD	15′4	15′4	15′5	15′5	15′5	15′6
HP	56′5	56′6	56′7	56′8	57′0	57′1
SHA	200°	198°	196°	194°	192°	190°

Greenwich Culmination Time: 21:52

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	230 08.0	+00.7	S 13 17.8	-00.6
01	245 08.7	+00.6	S 13 17.2	-00.6
02	260 09.3	+00.6	S 13 16.6	-00.7
03	275 09.9	+00.7	S 13 15.9	-00.6
04	290 10.6	+00.6	S 13 15.3	-00.6
05	305 11.2	+00.6	S 13 14.7	-00.6
06	320 11.8	+00.7	S 13 14.1	-00.7
07	335 12.5	+00.6	S 13 13.4	-00.6
08	350 13.1	+00.6	S 13 12.8	-00.6
09	5 13.7	+00.7	S 13 12.2	-00.7
10	20 14.4	+00.6	S 13 11.5	-00.6
11	35 15.0	+00.6	S 13 10.9	-00.7
12	50 15.6	+00.7	S 13 10.2	-00.6
13	65 16.3	+00.6	S 13 09.6	-00.6
14	80 16.9	+00.7	S 13 09.0	-00.7
15	95 17.6	+00.6	S 13 08.3	-00.6
16	110 18.2	+00.6	S 13 07.7	-00.6
17	125 18.8	+00.7	S 13 07.1	-00.7
18	140 19.5	+00.6	S 13 06.4	-00.6
19	155 20.1	+00.6	S 13 05.8	-00.6
20	170 20.7	+00.7	S 13 05.2	-00.7
21	185 21.4	+00.6	S 13 04.5	-00.6
22	200 22.0	+00.7	S 13 03.9	-00.6
23	215 22.7	+00.6	S 13 03.3	-00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	029°	029°	029°	029°	028°	028°

Greenwich Culmination Time: 08:39

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	206 12.0	+02.0	S 03 18.1	-00.2
01	221 14.0	+01.9	S 03 17.9	-00.3
02	236 15.9	+02.0	S 03 17.6	-00.2
03	251 17.9	+01.9	S 03 17.4	-00.2
04	266 19.8	+02.0	S 03 17.2	-00.2
05	281 21.8	+01.9	S 03 17.0	-00.2
06	296 23.7	+01.9	S 03 16.8	-00.2
07	311 25.6	+02.0	S 03 16.6	-00.3
08	326 27.6	+01.9	S 03 16.3	-00.2
09	341 29.5	+02.0	S 03 16.1	-00.2
10	356 31.5	+01.9	S 03 15.9	-00.2
11	11 33.4	+02.0	S 03 15.7	-00.2
12	26 35.4	+01.9	S 03 15.5	-00.3
13	41 37.3	+01.9	S 03 15.2	-00.2
14	56 39.2	+02.0	S 03 15.0	-00.2
15	71 41.2	+01.9	S 03 14.8	-00.2
16	86 43.1	+02.0	S 03 14.6	-00.2
17	101 45.1	+01.9	S 03 14.4	-00.3
18	116 47.0	+02.0	S 03 14.1	-00.2
19	131 49.0	+01.9	S 03 13.9	-00.2
20	146 50.9	+01.9	S 03 13.7	-00.2
21	161 52.8	+02.0	S 03 13.5	-00.2
22	176 54.8	+01.9	S 03 13.3	-00.3
23	191 56.7	+02.0	S 03 13.0	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	005°	005°	005°	005°	005°	005°

Greenwich Culmination Time: 10:13

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	235 25.8	+02.3	S 14 44.9	-00.1
01	250 28.1	+02.3	S 14 44.8	+00.0
02	265 30.4	+02.3	S 14 44.8	-00.1
03	280 32.7	+02.2	S 14 44.7	+00.0
04	295 34.9	+02.3	S 14 44.7	-00.1
05	310 37.2	+02.3	S 14 44.6	-00.1
06	325 39.5	+02.2	S 14 44.5	+00.0
07	340 41.7	+02.3	S 14 44.5	-00.1
08	355 44.0	+02.3	S 14 44.4	+00.0
09	10 46.3	+02.3	S 14 44.4	-00.1
10	25 48.6	+02.2	S 14 44.3	+00.0
11	40 50.8	+02.3	S 14 44.3	-00.1
12	55 53.1	+02.3	S 14 44.2	-00.1
13	70 55.4	+02.2	S 14 44.1	+00.0
14	85 57.6	+02.3	S 14 44.1	-00.1
15	100 59.9	+02.3	S 14 44.0	+00.0
16	116 02.2	+02.3	S 14 44.0	-00.1
17	131 04.5	+02.2	S 14 43.9	-00.1
18	146 06.7	+02.3	S 14 43.8	+00.0
19	161 09.0	+02.3	S 14 43.8	-00.1
20	176 11.3	+02.2	S 14 43.7	+00.0
21	191 13.5	+02.3	S 14 43.7	-00.1
22	206 15.8	+02.3	S 14 43.6	+00.0
23	221 18.1	+02.3	S 14 43.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 08:17

2022 April 18 Monday (day 108 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 08.1	+00.1	N 10 44.6	+00.9
01	195 08.2	+00.2	N 10 45.5	+00.9
02	210 08.4	+00.1	N 10 46.4	+00.8
03	225 08.5	+00.2	N 10 47.2	+00.9
04	240 08.7	+00.1	N 10 48.1	+00.9
05	255 08.8	+00.1	N 10 49.0	+00.9
06	270 08.9	+00.2	N 10 49.9	+00.8
07	285 09.1	+00.1	N 10 50.7	+00.9
08	300 09.2	+00.2	N 10 51.6	+00.9
09	315 09.4	+00.1	N 10 52.5	+00.9
10	330 09.5	+00.1	N 10 53.4	+00.8
11	345 09.6	+00.2	N 10 54.2	+00.9
12	0 09.8	+00.1	N 10 55.1	+00.9
13	15 09.9	+00.1	N 10 56.0	+00.8
14	30 10.0	+00.2	N 10 56.8	+00.9
15	45 10.2	+00.1	N 10 57.7	+00.9
16	60 10.3	+00.2	N 10 58.6	+00.8
17	75 10.5	+00.1	N 10 59.4	+00.9
18	90 10.6	+00.1	N 11 00.3	+00.9
19	105 10.7	+00.2	N 11 01.2	+00.8
20	120 10.9	+00.1	N 11 02.0	+00.9
21	135 11.0	+00.2	N 11 02.9	+00.9
22	150 11.2	+00.1	N 11 03.8	+00.8
23	165 11.3	+00.1	N 11 04.6	+00.9

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	334°	334°	334°	334°	333°	333°

Greenwich Culmination Time: 11:59

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	221 06.0	-00.2	S 06 59.2	-00.9
01	236 05.8	-00.2	S 06 58.3	-00.9
02	251 05.6	-00.1	S 06 57.4	-00.9
03	266 05.5	-00.2	S 06 56.5	-00.9
04	281 05.3	-00.2	S 06 55.6	-00.9
05	296 05.1	-00.2	S 06 54.7	-00.9
06	311 04.9	-00.2	S 06 53.8	-00.9
07	326 04.7	-00.1	S 06 52.9	-00.9
08	341 04.6	-00.2	S 06 52.0	-01.0
09	356 04.4	-00.2	S 06 51.0	-00.9
10	11 04.2	-00.2	S 06 50.1	-00.9
11	26 04.0	-00.2	S 06 49.2	-00.9
12	41 03.8	-00.2	S 06 48.3	-00.9
13	56 03.6	-00.1	S 06 47.4	-00.9
14	71 03.5	-00.2	S 06 46.5	-00.9
15	86 03.3	-00.2	S 06 45.6	-00.9
16	101 03.1	-00.2	S 06 44.7	-00.9
17	116 02.9	-00.2	S 06 43.8	-00.9
18	131 02.7	-00.2	S 06 42.9	-01.0
19	146 02.5	-00.1	S 06 41.9	-00.9
20	161 02.4	-00.2	S 06 41.0	-00.9
21	176 02.2	-00.2	S 06 40.1	-00.9
22	191 02.0	-00.2	S 06 39.2	-00.9
23	206 01.8	-00.2	S 06 38.3	-00.9

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	015°	015°	015°	014°	014°	014°

Greenwich Culmination Time: 09:15

Moon

A: 56%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	344 11.0	-32.3	S 15 20.4	+13.8
01	358 38.7	-32.4	S 15 34.2	+13.7
02	13 06.3	-32.6	S 15 47.9	+13.6
03	27 33.7	-32.6	S 16 01.5	+13.5
04	42 01.1	-32.7	S 16 15.0	+13.4
05	56 28.4	-32.7	S 16 28.4	+13.3
06	70 55.7	-32.9	S 16 41.7	+13.3
07	85 22.8	-33.0	S 16 55.0	+13.1
08	99 49.8	-33.1	S 17 08.1	+13.0
09	114 16.7	-33.2	S 17 21.1	+13.0
10	128 43.5	-33.2	S 17 34.1	+12.8
11	143 10.3	-33.4	S 17 46.9	+12.7
12	157 36.9	-33.4	S 17 59.6	+12.6
13	172 03.5	-33.6	S 18 12.2	+12.5
14	186 29.9	-33.6	S 18 24.7	+12.4
15	200 56.3	-33.8	S 18 37.1	+12.3
16	215 22.5	-33.8	S 18 49.4	+12.2
17	229 48.7	-34.0	S 19 01.6	+12.1
18	244 14.7	-34.0	S 19 13.7	+11.9
19	258 40.7	-34.1	S 19 25.6	+11.8
20	273 06.6	-34.3	S 19 37.4	+11.7
21	287 32.3	-34.3	S 19 49.1	+11.6
22	301 58.0	-34.4	S 20 00.7	+11.5
23	316 23.6	-34.5	S 20 12.2	+11.3

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	59′8	59′8	59′9	59′9	59′9	60′0
SHA	137°	135°	132°	130°	127°	125°

Greenwich Culmination Time: 01:05

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	231 25.2	+00.7	S 12 00.6	-00.7
01	246 25.9	+00.6	S 11 59.9	-00.6
02	261 26.5	+00.7	S 11 59.3	-00.7
03	276 27.2	+00.6	S 11 58.6	-00.6
04	291 27.8	+00.7	S 11 58.0	-00.7
05	306 28.5	+00.6	S 11 57.3	-00.6
06	321 29.1	+00.7	S 11 56.7	-00.7
07	336 29.8	+00.6	S 11 56.0	-00.7
08	351 30.4	+00.7	S 11 55.3	-00.6
09	6 31.1	+00.6	S 11 54.7	-00.7
10	21 31.7	+00.7	S 11 54.0	-00.6
11	36 32.4	+00.6	S 11 53.4	-00.7
12	51 33.0	+00.7	S 11 52.7	-00.6
13	66 33.7	+00.6	S 11 52.1	-00.7
14	81 34.3	+00.7	S 11 51.4	-00.7
15	96 35.0	+00.7	S 11 50.7	-00.6
16	111 35.7	+00.6	S 11 50.1	-00.7
17	126 36.3	+00.7	S 11 49.4	-00.6
18	141 37.0	+00.6	S 11 48.8	-00.7
19	156 37.6	+00.7	S 11 48.1	-00.6
20	171 38.3	+00.6	S 11 47.5	-00.7
21	186 38.9	+00.7	S 11 46.8	-00.7
22	201 39.6	+00.6	S 11 46.1	-00.6
23	216 40.2	+00.7	S 11 45.5	-00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	025°	025°	025°	025°	025°	025°

Greenwich Culmination Time: 08:33

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	210 05.7	+01.9	S 02 52.0	-00.2
01	225 07.6	+02.0	S 02 51.8	-00.2
02	240 09.6	+01.9	S 02 51.6	-00.3
03	255 11.5	+02.0	S 02 51.3	-00.2
04	270 13.5	+01.9	S 02 51.1	-00.2
05	285 15.4	+02.0	S 02 50.9	-00.2
06	300 17.4	+02.0	S 02 50.7	-00.2
07	315 19.4	+01.9	S 02 50.5	-00.2
08	330 21.3	+02.0	S 02 50.3	-00.2
09	345 23.3	+01.9	S 02 50.1	-00.3
10	0 25.2	+02.0	S 02 49.8	-00.2
11	15 27.2	+01.9	S 02 49.6	-00.2
12	30 29.1	+02.0	S 02 49.4	-00.2
13	45 31.1	+01.9	S 02 49.2	-00.2
14	60 33.0	+02.0	S 02 49.0	-00.2
15	75 35.0	+01.9	S 02 48.8	-00.2
16	90 36.9	+02.0	S 02 48.6	-00.3
17	105 38.9	+01.9	S 02 48.3	-00.2
18	120 40.8	+02.0	S 02 48.1	-00.2
19	135 42.8	+01.9	S 02 47.9	-00.2
20	150 44.7	+02.0	S 02 47.7	-00.2
21	165 46.7	+02.0	S 02 47.5	-00.2
22	180 48.7	+01.9	S 02 47.3	-00.3
23	195 50.6	+02.0	S 02 47.0	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	004°	004°	004°	004°	004°	004°

Greenwich Culmination Time: 09:58

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	239 59.2	+02.2	S 14 38.2	-00.1
01	255 01.4	+02.3	S 14 38.1	+00.0
02	270 03.7	+02.3	S 14 38.1	-00.1
03	285 06.0	+02.3	S 14 38.0	-00.1
04	300 08.3	+02.3	S 14 37.9	+00.0
05	315 10.6	+02.3	S 14 37.9	-00.1
06	330 12.9	+02.3	S 14 37.8	+00.0
07	345 15.2	+02.2	S 14 37.8	-00.1
08	0 17.4	+02.3	S 14 37.7	+00.0
09	15 19.7	+02.3	S 14 37.7	-00.1
10	30 22.0	+02.3	S 14 37.6	+00.0
11	45 24.3	+02.3	S 14 37.6	-00.1
12	60 26.6	+02.3	S 14 37.5	+00.0
13	75 28.9	+02.3	S 14 37.5	-00.1
14	90 31.2	+02.2	S 14 37.4	+00.0
15	105 33.4	+02.3	S 14 37.4	-00.1
16	120 35.7	+02.3	S 14 37.3	+00.0
17	135 38.0	+02.3	S 14 37.3	-00.1
18	150 40.3	+02.3	S 14 37.2	-00.1
19	165 42.6	+02.3	S 14 37.1	+00.0
20	180 44.9	+02.3	S 14 37.1	-00.1
21	195 47.2	+02.3	S 14 37.0	+00.0
22	210 49.5	+02.2	S 14 37.0	-00.1
23	225 51.7	+02.3	S 14 36.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 07:58

2022 April 15 Friday (day 105 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 57.5	+00.1	N 09 40.9	+00.9
01	194 57.6	+00.2	N 09 41.8	+00.9
02	209 57.8	+00.1	N 09 42.7	+00.9
03	224 57.9	+00.2	N 09 43.6	+00.9
04	239 58.1	+00.1	N 09 44.5	+00.9
05	254 58.2	+00.2	N 09 45.4	+00.9
06	269 58.4	+00.2	N 09 46.3	+00.9
07	284 58.6	+00.1	N 09 47.2	+00.9
08	299 58.7	+00.2	N 09 48.1	+00.9
09	314 58.9	+00.1	N 09 49.0	+00.9
10	329 59.0	+00.2	N 09 49.9	+00.9
11	344 59.2	+00.1	N 09 50.8	+00.9
12	359 59.3	+00.2	N 09 51.7	+00.9
13	14 59.5	+00.1	N 09 52.6	+00.8
14	29 59.6	+00.2	N 09 53.4	+00.9
15	44 59.8	+00.1	N 09 54.3	+00.9
16	59 59.9	+00.2	N 09 55.2	+00.9
17	75 00.1	+00.1	N 09 56.1	+00.9
18	90 00.2	+00.2	N 09 57.0	+00.9
19	105 00.4	+00.1	N 09 57.9	+00.9
20	120 00.5	+00.2	N 09 58.8	+00.9
21	135 00.7	+00.1	N 09 59.7	+00.9
22	150 00.8	+00.2	N 10 00.6	+00.8
23	165 01.0	+00.1	N 10 01.4	+00.9

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	337°	337°	336°	336°	336°	336°

Greenwich Culmination Time: 12:00

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	221 19.0	-00.1	S 08 03.0	-00.9
01	236 18.9	-00.2	S 08 02.1	-00.9
02	251 18.7	-00.2	S 08 01.2	-00.8
03	266 18.5	-00.2	S 08 00.4	-00.9
04	281 18.3	-00.2	S 07 59.5	-00.9
05	296 18.1	-00.1	S 07 58.6	-00.9
06	311 18.0	-00.2	S 07 57.7	-00.8
07	326 17.8	-00.2	S 07 56.9	-00.9
08	341 17.6	-00.2	S 07 56.0	-00.9
09	356 17.4	-00.2	S 07 55.1	-00.8
10	11 17.2	-00.1	S 07 54.3	-00.9
11	26 17.1	-00.2	S 07 53.4	-00.9
12	41 16.9	-00.2	S 07 52.5	-00.9
13	56 16.7	-00.2	S 07 51.6	-00.8
14	71 16.5	-00.2	S 07 50.8	-00.9
15	86 16.3	-00.1	S 07 49.9	-00.9
16	101 16.2	-00.2	S 07 49.0	-00.9
17	116 16.0	-00.2	S 07 48.1	-00.8
18	131 15.8	-00.2	S 07 47.3	-00.9
19	146 15.6	-00.2	S 07 46.4	-00.9
20	161 15.4	-00.1	S 07 45.5	-00.9
21	176 15.3	-00.2	S 07 44.6	-00.8
22	191 15.1	-00.2	S 07 43.8	-00.9
23	206 14.9	-00.2	S 07 42.9	-00.9

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	018°	018°	018°	018°	017°	017°

Greenwich Culmination Time: 09:14

Moon

A: 46%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	19 50.1	-28.0	N 02 59.3	-15.3
01	34 22.1	-28.0	N 02 44.0	-15.4
02	48 54.1	-28.1	N 02 28.6	-15.5
03	63 26.0	-28.1	N 02 13.1	-15.4
04	77 57.9	-28.1	N 01 57.7	-15.5
05	92 29.8	-28.2	N 01 42.2	-15.5
06	107 01.6	-28.2	N 01 26.7	-15.5
07	121 33.4	-28.2	N 01 11.2	-15.6
08	136 05.2	-28.2	N 00 55.6	-15.5
09	150 37.0	-28.3	N 00 40.1	-15.6
10	165 08.7	-28.3	N 00 24.5	-15.6
11	179 40.4	-28.3	N 00 08.9	-15.7
12	194 12.1	-28.4	S 00 06.8	+15.6
13	208 43.7	-28.4	S 00 22.4	+15.7
14	223 15.3	-28.4	S 00 38.1	+15.6
15	237 46.9	-28.5	S 00 53.7	+15.7
16	252 18.4	-28.5	S 01 09.4	+15.7
17	266 49.9	-28.5	S 01 25.1	+15.7
18	281 21.4	-28.6	S 01 40.8	+15.7
19	295 52.8	-28.7	S 01 56.5	+15.8
20	310 24.1	-28.6	S 02 12.3	+15.7
21	324 55.5	-28.8	S 02 28.0	+15.7
22	339 26.7	-28.7	S 02 43.7	+15.8
23	353 58.0	-28.9	S 02 59.5	+15.7

UT	02	06	10	14	18	22
SD	15′8	15′8	15′9	15′9	15′9	16′0
HP	58′0	58′2	58′3	58′4	58′5	58′6
SHA	176°	174°	172°	170°	167°	165°

Greenwich Culmination Time: 23:24

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	230 38.7	+00.6	S 12 47.3	-00.7
01	245 39.3	+00.6	S 12 46.6	-00.6
02	260 39.9	+00.7	S 12 46.0	-00.6
03	275 40.6	+00.6	S 12 45.4	-00.7
04	290 41.2	+00.7	S 12 44.7	-00.6
05	305 41.9	+00.6	S 12 44.1	-00.7
06	320 42.5	+00.6	S 12 43.4	-00.6
07	335 43.1	+00.7	S 12 42.8	-00.7
08	350 43.8	+00.6	S 12 42.1	-00.6
09	5 44.4	+00.7	S 12 41.5	-00.6
10	20 45.1	+00.6	S 12 40.9	-00.7
11	35 45.7	+00.7	S 12 40.2	-00.6
12	50 46.4	+00.6	S 12 39.6	-00.7
13	65 47.0	+00.6	S 12 38.9	-00.6
14	80 47.6	+00.7	S 12 38.3	-00.7
15	95 48.3	+00.6	S 12 37.6	-00.6
16	110 48.9	+00.7	S 12 37.0	-00.7
17	125 49.6	+00.6	S 12 36.3	-00.6
18	140 50.2	+00.7	S 12 35.7	-00.6
19	155 50.9	+00.6	S 12 35.1	-00.7
20	170 51.5	+00.7	S 12 34.4	-00.6
21	185 52.2	+00.6	S 12 33.8	-00.7
22	200 52.8	+00.6	S 12 33.1	-00.6
23	215 53.4	+00.7	S 12 32.5	-00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	027°	027°	027°	027°	027°	027°

Greenwich Culmination Time: 08:37

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	207 45.4	+01.9	S 03 07.6	-00.2
01	222 47.3	+01.9	S 03 07.4	-00.2
02	237 49.2	+02.0	S 03 07.2	-00.3
03	252 51.2	+01.9	S 03 06.9	-00.2
04	267 53.1	+02.0	S 03 06.7	-00.2
05	282 55.1	+01.9	S 03 06.5	-00.2
06	297 57.0	+02.0	S 03 06.3	-00.2
07	312 59.0	+01.9	S 03 06.1	-00.3
08	328 00.9	+02.0	S 03 05.8	-00.2
09	343 02.9	+01.9	S 03 05.6	-00.2
10	358 04.8	+02.0	S 03 05.4	-00.2
11	13 06.8	+01.9	S 03 05.2	-00.2
12	28 08.7	+02.0	S 03 05.0	-00.2
13	43 10.7	+01.9	S 03 04.8	-00.3
14	58 12.6	+02.0	S 03 04.5	-00.2
15	73 14.6	+01.9	S 03 04.3	-00.2
16	88 16.5	+01.9	S 03 04.1	-00.2
17	103 18.4	+02.0	S 03 03.9	-00.2
18	118 20.4	+01.9	S 03 03.7	-00.2
19	133 22.3	+02.0	S 03 03.5	-00.3
20	148 24.3	+01.9	S 03 03.2	-00.2
21	163 26.2	+02.0	S 03 03.0	-00.2
22	178 28.2	+01.9	S 03 02.8	-00.2
23	193 30.1	+02.0	S 03 02.6	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	005°	005°	005°	005°	004°	004°

Greenwich Culmination Time: 10:07

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	237 15.0	+02.2	S 14 42.1	+00.0
01	252 17.2	+02.3	S 14 42.1	-00.1
02	267 19.5	+02.3	S 14 42.0	+00.0
03	282 21.8	+02.3	S 14 42.0	-00.1
04	297 24.1	+02.2	S 14 41.9	-00.1
05	312 26.3	+02.3	S 14 41.8	+00.0
06	327 28.6	+02.3	S 14 41.8	-00.1
07	342 30.9	+02.3	S 14 41.7	+00.0
08	357 33.2	+02.2	S 14 41.7	-00.1
09	12 35.4	+02.3	S 14 41.6	+00.0
10	27 37.7	+02.3	S 14 41.6	-00.1
11	42 40.0	+02.3	S 14 41.5	+00.0
12	57 42.3	+02.3	S 14 41.5	-00.1
13	72 44.6	+02.2	S 14 41.4	-00.1
14	87 46.8	+02.3	S 14 41.3	+00.0
15	102 49.1	+02.3	S 14 41.3	-00.1
16	117 51.4	+02.3	S 14 41.2	+00.0
17	132 53.7	+02.2	S 14 41.2	-00.1
18	147 55.9	+02.3	S 14 41.1	+00.0
19	162 58.2	+02.3	S 14 41.1	-00.1
20	178 00.5	+02.3	S 14 41.0	+00.0
21	193 02.8	+02.3	S 14 41.0	-00.1
22	208 05.1	+02.2	S 14 40.9	-00.1
23	223 07.3	+02.3	S 14 40.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 08:09

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2022 April 16 Saturday (day 106 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 01.1	+00.2	N 10 02.3	+00.9
01	195 01.3	+00.1	N 10 03.2	+00.9
02	210 01.4	+00.2	N 10 04.1	+00.9
03	225 01.6	+00.1	N 10 05.0	+00.9
04	240 01.7	+00.2	N 10 05.9	+00.9
05	255 01.9	+00.1	N 10 06.8	+00.9
06	270 02.0	+00.2	N 10 07.7	+00.8
07	285 02.2	+00.1	N 10 08.5	+00.9
08	300 02.3	+00.1	N 10 09.4	+00.9
09	315 02.4	+00.2	N 10 10.3	+00.9
10	330 02.6	+00.1	N 10 11.2	+00.9
11	345 02.7	+00.2	N 10 12.1	+00.9
12	0 02.9	+00.1	N 10 13.0	+00.9
13	15 03.0	+00.2	N 10 13.9	+00.8
14	30 03.2	+00.1	N 10 14.7	+00.9
15	45 03.3	+00.2	N 10 15.6	+00.9
16	60 03.5	+00.1	N 10 16.5	+00.9
17	75 03.6	+00.2	N 10 17.4	+00.9
18	90 03.8	+00.1	N 10 18.3	+00.9
19	105 03.9	+00.2	N 10 19.2	+00.8
20	120 04.1	+00.1	N 10 20.0	+00.9
21	135 04.2	+00.2	N 10 20.9	+00.9
22	150 04.4	+00.1	N 10 21.8	+00.9
23	165 04.5	+00.1	N 10 22.7	+00.9

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	336°	336°	336°	335°	335°	335°

Greenwich Culmination Time: 11:59

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	221 14.7	−00.2	S 07 42.0	−00.9
01	236 14.5	−00.2	S 07 41.1	−00.9
02	251 14.3	−00.1	S 07 40.2	−00.8
03	266 14.2	−00.2	S 07 39.4	−00.9
04	281 14.0	−00.2	S 07 38.5	−00.9
05	296 13.8	−00.2	S 07 37.6	−00.9
06	311 13.6	−00.2	S 07 36.7	−00.9
07	326 13.4	−00.1	S 07 35.8	−00.9
08	341 13.3	−00.2	S 07 34.9	−00.8
09	356 13.1	−00.2	S 07 34.1	−00.9
10	11 12.9	−00.2	S 07 33.2	−00.9
11	26 12.7	−00.2	S 07 32.3	−00.9
12	41 12.5	−00.1	S 07 31.4	−00.9
13	56 12.4	−00.2	S 07 30.5	−00.9
14	71 12.2	−00.2	S 07 29.6	−00.9
15	86 12.0	−00.2	S 07 28.7	−00.8
16	101 11.8	−00.2	S 07 27.9	−00.9
17	116 11.6	−00.1	S 07 27.0	−00.9
18	131 11.5	−00.2	S 07 26.1	−00.9
19	146 11.3	−00.2	S 07 25.2	−00.9
20	161 11.1	−00.2	S 07 24.3	−00.9
21	176 10.9	−00.2	S 07 23.4	−00.9
22	191 10.7	−00.2	S 07 22.5	−00.9
23	206 10.5	−00.1	S 07 21.6	−00.9

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	017°	017°	017°	017°	016°	016°

Greenwich Culmination Time: 09:15

Moon

A: 49%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	8 29.1	−28.8	S 03 15.2	+15.7
01	23 00.3	−28.9	S 03 30.9	+15.8
02	37 31.4	−29.0	S 03 46.7	+15.7
03	52 02.4	−29.0	S 04 02.4	+15.7
04	66 33.4	−29.1	S 04 18.1	+15.8
05	81 04.3	−29.1	S 04 33.9	+15.7
06	95 35.2	−29.1	S 04 49.6	+15.7
07	110 06.1	−29.3	S 05 05.3	+15.7
08	124 36.8	−29.2	S 05 21.0	+15.6
09	139 07.6	−29.4	S 05 36.6	+15.7
10	153 38.2	−29.4	S 05 52.3	+15.7
11	168 08.8	−29.4	S 06 08.0	+15.6
12	182 39.4	−29.5	S 06 23.6	+15.6
13	197 09.9	−29.6	S 06 39.2	+15.6
14	211 40.3	−29.7	S 06 54.8	+15.6
15	226 10.6	−29.7	S 07 10.4	+15.5
16	240 40.9	−29.7	S 07 25.9	+15.5
17	255 11.2	−29.9	S 07 41.4	+15.5
18	269 41.3	−29.9	S 07 56.9	+15.5
19	284 11.4	−29.9	S 08 12.4	+15.4
20	298 41.5	−30.1	S 08 27.8	+15.4
21	313 11.4	−30.1	S 08 43.2	+15.4
22	327 41.3	−30.2	S 08 58.6	+15.3
23	342 11.1	−30.2	S 09 13.9	+15.3

UT	02	06	10	14	18	22
SD	16′0	16′0	16′1	16′1	16′1	16′1
HP	58′8	58′9	59′0	59′1	59′2	59′3
SHA	163°	161°	159°	157°	155°	153°

Greenwich Culmination Time: −1:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	230 54.1	+00.6	S 12 31.8	−00.6
01	245 54.7	+00.7	S 12 31.2	−00.7
02	260 55.4	+00.6	S 12 30.5	−00.6
03	275 56.0	+00.7	S 12 29.9	−00.7
04	290 56.7	+00.6	S 12 29.2	−00.6
05	305 57.3	+00.7	S 12 28.6	−00.7
06	320 58.0	+00.6	S 12 27.9	−00.6
07	335 58.6	+00.7	S 12 27.3	−00.6
08	350 59.3	+00.6	S 12 26.7	−00.7
09	5 59.9	+00.6	S 12 26.0	−00.6
10	21 00.5	+00.7	S 12 25.4	−00.7
11	36 01.2	+00.6	S 12 24.7	−00.6
12	51 01.8	+00.7	S 12 24.1	−00.7
13	66 02.5	+00.6	S 12 23.4	−00.6
14	81 03.1	+00.7	S 12 22.8	−00.7
15	96 03.8	+00.6	S 12 22.1	−00.6
16	111 04.4	+00.7	S 12 21.5	−00.7
17	126 05.1	+00.6	S 12 20.8	−00.6
18	141 05.7	+00.7	S 12 20.2	−00.7
19	156 06.4	+00.6	S 12 19.5	−00.6
20	171 07.0	+00.7	S 12 18.9	−00.7
21	186 07.7	+00.6	S 12 18.2	−00.6
22	201 08.3	+00.7	S 12 17.6	−00.7
23	216 09.0	+00.6	S 12 16.9	−00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	027°	027°	026°	026°	026°	026°

Greenwich Culmination Time: 08:36

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	208 32.1	+01.9	S 03 02.4	−00.3
01	223 34.0	+02.0	S 03 02.1	−00.2
02	238 36.0	+01.9	S 03 01.9	−00.2
03	253 37.9	+02.0	S 03 01.7	−00.2
04	268 39.9	+01.9	S 03 01.5	−00.2
05	283 41.8	+02.0	S 03 01.3	−00.2
06	298 43.8	+01.9	S 03 01.1	−00.3
07	313 45.7	+02.0	S 03 00.8	−00.2
08	328 47.7	+01.9	S 03 00.6	−00.2
09	343 49.6	+02.0	S 03 00.4	−00.2
10	358 51.6	+01.9	S 03 00.2	−00.2
11	13 53.5	+02.0	S 02 60.0	−00.2
12	28 55.5	+01.9	S 02 59.8	−00.3
13	43 57.4	+02.0	S 02 59.5	−00.2
14	58 59.4	+01.9	S 02 59.3	−00.2
15	74 01.3	+02.0	S 02 59.1	−00.2
16	89 03.3	+01.9	S 02 58.9	−00.2
17	104 05.2	+02.0	S 02 58.7	−00.2
18	119 07.2	+01.9	S 02 58.5	−00.3
19	134 09.1	+02.0	S 02 58.2	−00.2
20	149 11.1	+01.9	S 02 58.0	−00.2
21	164 13.0	+02.0	S 02 57.8	−00.2
22	179 15.0	+01.9	S 02 57.6	−00.2
23	194 16.9	+02.0	S 02 57.4	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	004°	004°	004°	004°	004°	004°

Greenwich Culmination Time: 10:04

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	238 09.6	+02.3	S 14 40.8	−00.1
01	253 11.9	+02.3	S 14 40.7	+00.0
02	268 14.2	+02.3	S 14 40.7	−00.1
03	283 16.5	+02.2	S 14 40.6	+00.0
04	298 18.7	+02.3	S 14 40.6	−00.1
05	313 21.0	+02.3	S 14 40.5	+00.0
06	328 23.3	+02.3	S 14 40.5	−00.1
07	343 25.6	+02.2	S 14 40.4	−00.1
08	358 27.8	+02.3	S 14 40.3	+00.0
09	13 30.1	+02.3	S 14 40.3	−00.1
10	28 32.4	+02.3	S 14 40.2	+00.0
11	43 34.7	+02.3	S 14 40.2	−00.1
12	58 37.0	+02.3	S 14 40.1	+00.0
13	73 39.3	+02.2	S 14 40.1	−00.1
14	88 41.5	+02.3	S 14 40.0	+00.0
15	103 43.8	+02.3	S 14 40.0	−00.1
16	118 46.1	+02.3	S 14 39.9	−00.1
17	133 48.4	+02.3	S 14 39.8	+00.0
18	148 50.7	+02.2	S 14 39.8	−00.1
19	163 52.9	+02.3	S 14 39.7	+00.0
20	178 55.2	+02.3	S 14 39.7	−00.1
21	193 57.5	+02.3	S 14 39.6	+00.0
22	208 59.8	+02.3	S 14 39.6	−00.1
23	224 02.1	+02.2	S 14 39.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 08:06

2022 April 17 Sunday (day 107 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 04.6	+00.2	N 10 23.6	+00.8
01	195 04.8	+00.1	N 10 24.4	+00.9
02	210 04.9	+00.2	N 10 25.3	+00.9
03	225 05.1	+00.1	N 10 26.2	+00.9
04	240 05.2	+00.2	N 10 27.1	+00.9
05	255 05.4	+00.1	N 10 28.0	+00.8
06	270 05.5	+00.2	N 10 28.8	+00.9
07	285 05.7	+00.1	N 10 29.7	+00.9
08	300 05.8	+00.1	N 10 30.6	+00.9
09	315 05.9	+00.2	N 10 31.5	+00.9
10	330 06.1	+00.1	N 10 32.4	+00.8
11	345 06.2	+00.2	N 10 33.2	+00.9
12	0 06.4	+00.1	N 10 34.1	+00.9
13	15 06.5	+00.2	N 10 35.0	+00.9
14	30 06.7	+00.1	N 10 35.9	+00.9
15	45 06.8	+00.2	N 10 36.8	+00.8
16	60 07.0	+00.1	N 10 37.6	+00.9
17	75 07.1	+00.1	N 10 38.5	+00.9
18	90 07.2	+00.2	N 10 39.4	+00.9
19	105 07.4	+00.1	N 10 40.3	+00.8
20	120 07.5	+00.2	N 10 41.1	+00.9
21	135 07.7	+00.1	N 10 42.0	+00.9
22	150 07.8	+00.1	N 10 42.9	+00.9
23	165 07.9	+00.2	N 10 43.8	+00.8

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	335°	335°	335°	334°	334°	334°

Greenwich Culmination Time: 11:59

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	221 10.4	−00.2	S 07 20.7	−00.8
01	236 10.2	−00.2	S 07 19.9	−00.9
02	251 10.0	−00.2	S 07 19.0	−00.9
03	266 09.8	−00.2	S 07 18.1	−00.9
04	281 09.6	−00.1	S 07 17.2	−00.9
05	296 09.5	−00.2	S 07 16.3	−00.9
06	311 09.3	−00.2	S 07 15.4	−00.9
07	326 09.1	−00.2	S 07 14.5	−00.9
08	341 08.9	−00.2	S 07 13.6	−00.9
09	356 08.7	−00.1	S 07 12.7	−00.9
10	11 08.6	−00.2	S 07 11.8	−00.9
11	26 08.4	−00.2	S 07 10.9	−00.9
12	41 08.2	−00.2	S 07 10.0	−00.9
13	56 08.0	−00.2	S 07 09.1	−00.9
14	71 07.8	−00.2	S 07 08.2	−00.9
15	86 07.6	−00.1	S 07 07.3	−00.9
16	101 07.5	−00.2	S 07 06.4	−00.9
17	116 07.3	−00.2	S 07 05.5	−00.9
18	131 07.1	−00.2	S 07 04.6	−00.9
19	146 06.9	−00.2	S 07 03.7	−00.9
20	161 06.7	−00.1	S 07 02.8	−00.9
21	176 06.6	−00.2	S 07 01.9	−00.9
22	191 06.4	−00.2	S 07 01.0	−00.9
23	206 06.2	−00.2	S 07 00.1	−00.9

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	016°	016°	016°	015°	015°	015°

Greenwich Culmination Time: 09:15

Moon

A: 52%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	356 40.9	−30.3	S 09 29.2	+15.3
01	11 10.6	−30.4	S 09 44.5	+15.2
02	25 40.2	−30.5	S 09 59.7	+15.2
03	40 09.7	−30.5	S 10 14.9	+15.1
04	54 39.2	−30.7	S 10 30.0	+15.1
05	69 08.5	−30.7	S 10 45.1	+15.0
06	83 37.8	−30.7	S 11 00.1	+15.0
07	98 07.1	−30.9	S 11 15.1	+14.9
08	112 36.2	−30.9	S 11 30.0	+14.9
09	127 05.3	−31.1	S 11 44.9	+14.8
10	141 34.2	−31.1	S 11 59.7	+14.8
11	156 03.1	−31.1	S 12 14.5	+14.7
12	170 32.0	−31.3	S 12 29.2	+14.7
13	185 00.7	−31.4	S 12 43.9	+14.5
14	199 29.3	−31.4	S 12 58.4	+14.6
15	213 57.9	−31.5	S 13 13.0	+14.4
16	228 26.4	−31.6	S 13 27.4	+14.4
17	242 54.8	−31.7	S 13 41.8	+14.3
18	257 23.1	−31.8	S 13 56.1	+14.3
19	271 51.3	−31.9	S 14 10.4	+14.1
20	286 19.4	−32.0	S 14 24.5	+14.1
21	300 47.4	−32.0	S 14 38.6	+14.0
22	315 15.4	−32.2	S 14 52.6	+14.0
23	329 43.2	−32.2	S 15 06.6	+13.8

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′3	16′3
HP	59′4	59′4	59′5	59′6	59′7	59′7
SHA	150°	148°	146°	144°	142°	139°

Greenwich Culmination Time: 00:13

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	231 09.6	+00.7	S 12 16.3	−00.7
01	246 10.3	+00.6	S 12 15.6	−00.6
02	261 10.9	+00.7	S 12 15.0	−00.7
03	276 11.6	+00.6	S 12 14.3	−00.6
04	291 12.2	+00.7	S 12 13.7	−00.7
05	306 12.9	+00.6	S 12 13.0	−00.6
06	321 13.5	+00.7	S 12 12.4	−00.7
07	336 14.2	+00.6	S 12 11.7	−00.6
08	351 14.8	+00.6	S 12 11.1	−00.7
09	6 15.4	+00.7	S 12 10.4	−00.7
10	21 16.1	+00.6	S 12 09.7	−00.6
11	36 16.7	+00.7	S 12 09.1	−00.7
12	51 17.4	+00.6	S 12 08.4	−00.6
13	66 18.0	+00.7	S 12 07.8	−00.7
14	81 18.7	+00.6	S 12 07.1	−00.6
15	96 19.3	+00.7	S 12 06.5	−00.7
16	111 20.0	+00.7	S 12 05.8	−00.6
17	126 20.7	+00.6	S 12 05.2	−00.7
18	141 21.3	+00.7	S 12 04.5	−00.6
19	156 22.0	+00.6	S 12 03.9	−00.7
20	171 22.6	+00.7	S 12 03.2	−00.6
21	186 23.3	+00.6	S 12 02.6	−00.7
22	201 23.9	+00.7	S 12 01.9	−00.6
23	216 24.6	+00.6	S 12 01.3	−00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	026°	026°	026°	026°	026°	025°

Greenwich Culmination Time: 08:34

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	209 18.9	+01.9	S 02 57.2	−00.2
01	224 20.8	+02.0	S 02 57.0	−00.3
02	239 22.8	+01.9	S 02 56.7	−00.2
03	254 24.7	+02.0	S 02 56.5	−00.2
04	269 26.7	+01.9	S 02 56.3	−00.2
05	284 28.6	+02.0	S 02 56.1	−00.2
06	299 30.6	+01.9	S 02 55.9	−00.2
07	314 32.5	+02.0	S 02 55.7	−00.3
08	329 34.5	+01.9	S 02 55.4	−00.2
09	344 36.4	+02.0	S 02 55.2	−00.2
10	359 38.4	+01.9	S 02 55.0	−00.2
11	14 40.3	+02.0	S 02 54.8	−00.2
12	29 42.3	+01.9	S 02 54.6	−00.2
13	44 44.2	+02.0	S 02 54.4	−00.3
14	59 46.2	+01.9	S 02 54.1	−00.2
15	74 48.1	+02.0	S 02 53.9	−00.2
16	89 50.1	+01.9	S 02 53.7	−00.2
17	104 52.0	+02.0	S 02 53.5	−00.2
18	119 54.0	+01.9	S 02 53.3	−00.2
19	134 55.9	+02.0	S 02 53.1	−00.2
20	149 57.9	+01.9	S 02 52.9	−00.3
21	164 59.8	+02.0	S 02 52.6	−00.2
22	180 01.8	+01.9	S 02 52.4	−00.2
23	195 03.7	+02.0	S 02 52.2	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	004°	004°	004°	004°	004°	004°

Greenwich Culmination Time: 10:01

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	239 04.3	+02.3	S 14 39.5	−00.1
01	254 06.6	+02.3	S 14 39.4	−00.1
02	269 08.9	+02.3	S 14 39.3	+00.0
03	284 11.2	+02.3	S 14 39.3	−00.1
04	299 13.5	+02.3	S 14 39.2	+00.0
05	314 15.8	+02.2	S 14 39.2	−00.1
06	329 18.0	+02.3	S 14 39.1	+00.0
07	344 20.3	+02.3	S 14 39.1	−00.1
08	359 22.6	+02.3	S 14 39.0	+00.0
09	14 24.9	+02.3	S 14 39.0	−00.1
10	29 27.2	+02.3	S 14 38.9	+00.0
11	44 29.5	+02.2	S 14 38.9	−00.1
12	59 31.7	+02.3	S 14 38.8	+00.0
13	74 34.0	+02.3	S 14 38.8	−00.1
14	89 36.3	+02.3	S 14 38.7	−00.1
15	104 38.6	+02.3	S 14 38.6	+00.0
16	119 40.9	+02.3	S 14 38.6	−00.1
17	134 43.2	+02.2	S 14 38.5	+00.0
18	149 45.4	+02.3	S 14 38.5	−00.1
19	164 47.7	+02.3	S 14 38.4	+00.0
20	179 50.0	+02.3	S 14 38.4	−00.1
21	194 52.3	+02.3	S 14 38.3	+00.0
22	209 54.6	+02.3	S 14 38.3	−00.1
23	224 56.9	+02.3	S 14 38.2	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 08:02

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2022 April 22 Friday (day 112 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 20.8	+00.1	N 12 07.1	+00.8
01	195 20.9	+00.2	N 12 07.9	+00.8
02	210 21.1	+00.1	N 12 08.7	+00.9
03	225 21.2	+00.1	N 12 09.6	+00.8
04	240 21.3	+00.1	N 12 10.4	+00.9
05	255 21.4	+00.1	N 12 11.3	+00.8
06	270 21.5	+00.2	N 12 12.1	+00.8
07	285 21.7	+00.1	N 12 12.9	+00.9
08	300 21.8	+00.1	N 12 13.8	+00.8
09	315 21.9	+00.1	N 12 14.6	+00.9
10	330 22.0	+00.2	N 12 15.5	+00.8
11	345 22.2	+00.1	N 12 16.3	+00.8
12	0 22.3	+00.1	N 12 17.1	+00.9
13	15 22.4	+00.1	N 12 18.0	+00.8
14	30 22.5	+00.1	N 12 18.8	+00.9
15	45 22.6	+00.2	N 12 19.7	+00.8
16	60 22.8	+00.1	N 12 20.5	+00.8
17	75 22.9	+00.1	N 12 21.3	+00.9
18	90 23.0	+00.1	N 12 22.2	+00.8
19	105 23.1	+00.1	N 12 23.0	+00.8
20	120 23.2	+00.2	N 12 23.8	+00.9
21	135 23.4	+00.1	N 12 24.7	+00.8
22	150 23.5	+00.1	N 12 25.5	+00.8
23	165 23.6	+00.1	N 12 26.3	+00.9

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	330°	330°	330°	330°	330°	329°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	220 48.4	−00.2	S 05 30.3	−00.9
01	235 48.2	−00.1	S 05 29.4	−01.0
02	250 48.1	−00.2	S 05 28.4	−00.9
03	265 47.9	−00.2	S 05 27.5	−01.0
04	280 47.7	−00.2	S 05 26.5	−00.9
05	295 47.5	−00.2	S 05 25.6	−01.0
06	310 47.3	−00.2	S 05 24.6	−00.9
07	325 47.1	−00.1	S 05 23.7	−01.0
08	340 47.0	−00.2	S 05 22.7	−00.9
09	355 46.8	−00.2	S 05 21.8	−01.0
10	10 46.6	−00.2	S 05 20.8	−00.9
11	25 46.4	−00.2	S 05 19.9	−01.0
12	40 46.2	−00.2	S 05 18.9	−00.9
13	55 46.0	−00.1	S 05 18.0	−01.0
14	70 45.9	−00.2	S 05 17.0	−00.9
15	85 45.7	−00.2	S 05 16.1	−01.0
16	100 45.5	−00.2	S 05 15.1	−00.9
17	115 45.3	−00.2	S 05 14.2	−01.0
18	130 45.1	−00.2	S 05 13.2	−00.9
19	145 44.9	−00.2	S 05 12.3	−01.0
20	160 44.7	−00.1	S 05 11.3	−01.0
21	175 44.6	−00.2	S 05 10.3	−00.9
22	190 44.4	−00.2	S 05 09.4	−01.0
23	205 44.2	−00.2	S 05 08.4	−00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	011°	011°	010°	010°	010°	010°

Greenwich Culmination Time: 09:16

Moon

A: 72%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	286 30.7	−37.6	S 26 52.3	−01.3
01	300 53.1	−37.5	S 26 51.0	−01.5
02	315 15.6	−37.6	S 26 49.5	−01.7
03	329 38.0	−37.5	S 26 47.8	−01.8
04	344 00.5	−37.4	S 26 46.0	−02.1
05	358 23.1	−37.4	S 26 43.9	−02.2
06	12 45.7	−37.3	S 26 41.7	−02.4
07	27 08.4	−37.3	S 26 39.3	−02.6
08	41 31.1	−37.3	S 26 36.7	−02.8
09	55 53.8	−37.1	S 26 33.9	−03.0
10	70 16.7	−37.2	S 26 30.9	−03.1
11	84 39.5	−37.0	S 26 27.8	−03.3
12	99 02.5	−37.0	S 26 24.5	−03.5
13	113 25.5	−37.0	S 26 21.0	−03.7
14	127 48.5	−36.8	S 26 17.3	−03.8
15	142 11.7	−36.8	S 26 13.5	−04.1
16	156 34.9	−36.7	S 26 09.4	−04.2
17	170 58.2	−36.7	S 26 05.2	−04.4
18	185 21.5	−36.6	S 26 00.8	−04.5
19	199 44.9	−36.5	S 25 56.3	−04.7
20	214 08.4	−36.4	S 25 51.6	−04.9
21	228 32.0	−36.3	S 25 46.7	−05.1
22	242 55.7	−36.3	S 25 41.6	−05.2
23	257 19.4	−36.2	S 25 36.4	−05.4

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′1	16′1
HP	59′5	59′5	59′4	59′3	59′2	59′2
SHA	075°	072°	070°	067°	065°	062°

Greenwich Culmination Time: 05:06

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	232 28.4	+00.7	S 10 56.9	−00.7
01	247 29.1	+00.6	S 10 56.2	−00.6
02	262 29.7	+00.7	S 10 55.6	−00.7
03	277 30.4	+00.6	S 10 54.9	−00.7
04	292 31.0	+00.7	S 10 54.2	−00.7
05	307 31.7	+00.7	S 10 53.5	−00.6
06	322 32.4	+00.6	S 10 52.9	−00.7
07	337 33.0	+00.7	S 10 52.2	−00.7
08	352 33.7	+00.7	S 10 51.5	−00.6
09	7 34.4	+00.6	S 10 50.9	−00.7
10	22 35.0	+00.7	S 10 50.2	−00.7
11	37 35.7	+00.7	S 10 49.5	−00.7
12	52 36.4	+00.6	S 10 48.8	−00.6
13	67 37.0	+00.7	S 10 48.2	−00.7
14	82 37.7	+00.7	S 10 47.5	−00.7
15	97 38.4	+00.6	S 10 46.8	−00.7
16	112 39.0	+00.7	S 10 46.1	−00.6
17	127 39.7	+00.7	S 10 45.5	−00.7
18	142 40.4	+00.6	S 10 44.8	−00.7
19	157 41.0	+00.7	S 10 44.1	−00.7
20	172 41.7	+00.7	S 10 43.4	−00.6
21	187 42.4	+00.6	S 10 42.8	−00.7
22	202 43.0	+00.7	S 10 42.1	−00.7
23	217 43.7	+00.7	S 10 41.4	−00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	022°	022°	022°	022°	022°	022°

Greenwich Culmination Time: 08:29

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	213 13.5	+02.0	S 02 31.5	−00.2
01	228 15.5	+01.9	S 02 31.3	−00.2
02	243 17.4	+02.0	S 02 31.1	−00.2
03	258 19.4	+02.0	S 02 30.9	−00.2
04	273 21.4	+01.9	S 02 30.7	−00.3
05	288 23.3	+02.0	S 02 30.4	−00.2
06	303 25.3	+01.9	S 02 30.2	−00.2
07	318 27.2	+02.0	S 02 30.0	−00.2
08	333 29.2	+02.0	S 02 29.8	−00.2
09	348 31.2	+01.9	S 02 29.6	−00.2
10	3 33.1	+02.0	S 02 29.4	−00.2
11	18 35.1	+01.9	S 02 29.2	−00.2
12	33 37.0	+02.0	S 02 29.0	−00.2
13	48 39.0	+02.0	S 02 28.8	−00.3
14	63 41.0	+01.9	S 02 28.5	−00.2
15	78 42.9	+02.0	S 02 28.3	−00.2
16	93 44.9	+02.0	S 02 28.1	−00.2
17	108 46.9	+01.9	S 02 27.9	−00.2
18	123 48.8	+02.0	S 02 27.7	−00.2
19	138 50.8	+01.9	S 02 27.5	−00.2
20	153 52.7	+02.0	S 02 27.3	−00.2
21	168 54.7	+02.0	S 02 27.1	−00.2
22	183 56.7	+01.9	S 02 26.9	−00.2
23	198 58.6	+02.0	S 02 26.7	−00.3

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	003°	003°	003°	003°	003°	003°

Greenwich Culmination Time: 09:45

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	243 39.1	+02.3	S 14 33.2	+00.0
01	258 41.4	+02.3	S 14 33.2	−00.1
02	273 43.7	+02.3	S 14 33.1	+00.0
03	288 46.0	+02.3	S 14 33.1	−00.1
04	303 48.3	+02.3	S 14 33.0	+00.0
05	318 50.6	+02.3	S 14 33.0	−00.1
06	333 52.9	+02.3	S 14 32.9	+00.0
07	348 55.2	+02.3	S 14 32.9	−00.1
08	3 57.5	+02.3	S 14 32.8	+00.0
09	18 59.8	+02.3	S 14 32.8	−00.1
10	34 02.1	+02.3	S 14 32.7	+00.0
11	49 04.4	+02.3	S 14 32.7	−00.1
12	64 06.7	+02.3	S 14 32.6	+00.0
13	79 09.0	+02.3	S 14 32.6	−00.1
14	94 11.3	+02.3	S 14 32.5	+00.0
15	109 13.6	+02.3	S 14 32.5	−00.1
16	124 15.9	+02.3	S 14 32.4	+00.0
17	139 18.2	+02.3	S 14 32.4	−00.1
18	154 20.5	+02.3	S 14 32.3	+00.0
19	169 22.8	+02.3	S 14 32.3	−00.1
20	184 25.1	+02.3	S 14 32.2	+00.0
21	199 27.4	+02.3	S 14 32.2	−00.1
22	214 29.7	+02.3	S 14 32.1	+00.0
23	229 32.0	+02.3	S 14 32.1	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 07:44

2022 April 19 Tuesday (day 109 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 11.4	+00.2	N 11 05.5	+00.9
01	195 11.6	+00.1	N 11 06.4	+00.8
02	210 11.7	+00.1	N 11 07.2	+00.9
03	225 11.8	+00.2	N 11 08.1	+00.9
04	240 12.0	+00.1	N 11 09.0	+00.8
05	255 12.1	+00.1	N 11 09.8	+00.9
06	270 12.2	+00.2	N 11 10.7	+00.9
07	285 12.4	+00.1	N 11 11.6	+00.8
08	300 12.5	+00.2	N 11 12.4	+00.9
09	315 12.7	+00.1	N 11 13.3	+00.9
10	330 12.8	+00.1	N 11 14.2	+00.8
11	345 12.9	+00.2	N 11 15.0	+00.9
12	0 13.1	+00.1	N 11 15.9	+00.8
13	15 13.2	+00.1	N 11 16.7	+00.9
14	30 13.3	+00.2	N 11 17.6	+00.9
15	45 13.5	+00.1	N 11 18.5	+00.8
16	60 13.6	+00.1	N 11 19.3	+00.9
17	75 13.7	+00.2	N 11 20.2	+00.9
18	90 13.9	+00.1	N 11 21.1	+00.8
19	105 14.0	+00.1	N 11 21.9	+00.9
20	120 14.1	+00.2	N 11 22.8	+00.8
21	135 14.3	+00.1	N 11 23.6	+00.9
22	150 14.4	+00.1	N 11 24.5	+00.9
23	165 14.5	+00.2	N 11 25.4	+00.8

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	333°	333°	333°	333°	332°	332°

Greenwich Culmination Time: 11:59

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	221 01.6	−00.1	S 06 37.4	−00.9
01	236 01.5	−00.2	S 06 36.5	−01.0
02	251 01.3	−00.2	S 06 35.5	−00.9
03	266 01.1	−00.2	S 06 34.6	−00.9
04	281 00.9	−00.2	S 06 33.7	−00.9
05	296 00.7	−00.2	S 06 32.8	−00.9
06	311 00.5	−00.1	S 06 31.9	−00.9
07	326 00.4	−00.2	S 06 31.0	−01.0
08	341 00.2	−00.2	S 06 30.0	−00.9
09	355 60.0	−00.2	S 06 29.1	−00.9
10	10 59.8	−00.2	S 06 28.2	−00.9
11	25 59.6	−00.2	S 06 27.3	−00.9
12	40 59.4	−00.1	S 06 26.4	−01.0
13	55 59.3	−00.2	S 06 25.4	−00.9
14	70 59.1	−00.2	S 06 24.5	−00.9
15	85 58.9	−00.2	S 06 23.6	−00.9
16	100 58.7	−00.2	S 06 22.7	−01.0
17	115 58.5	−00.2	S 06 21.7	−00.9
18	130 58.3	−00.1	S 06 20.8	−00.9
19	145 58.2	−00.2	S 06 19.9	−00.9
20	160 58.0	−00.2	S 06 19.0	−00.9
21	175 57.8	−00.2	S 06 18.1	−01.0
22	190 57.6	−00.2	S 06 17.1	−00.9
23	205 57.4	−00.2	S 06 16.2	−00.9

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	014°	014°	014°	013°	013°	013°

Greenwich Culmination Time: 09:16

Moon

A: 60%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	330 49.1	−34.6	S 20 23.5	+11.2
01	345 14.5	−34.7	S 20 34.7	+11.1
02	359 39.8	−34.8	S 20 45.8	+10.9
03	14 05.0	−34.9	S 20 56.7	+10.8
04	28 30.1	−35.0	S 21 07.5	+10.7
05	42 55.1	−35.0	S 21 18.2	+10.5
06	57 20.1	−35.2	S 21 28.7	+10.4
07	71 44.9	−35.2	S 21 39.1	+10.2
08	86 09.7	−35.4	S 21 49.3	+10.1
09	100 34.3	−35.4	S 21 59.4	+10.0
10	114 58.9	−35.5	S 22 09.4	+09.8
11	129 23.4	−35.6	S 22 19.2	+09.7
12	143 47.8	−35.7	S 22 28.9	+09.5
13	158 12.1	−35.8	S 22 38.4	+09.4
14	172 36.3	−35.9	S 22 47.8	+09.2
15	187 00.4	−35.9	S 22 57.0	+09.0
16	201 24.5	−36.1	S 23 06.0	+08.9
17	215 48.4	−36.1	S 23 14.9	+08.8
18	230 12.3	−36.2	S 23 23.7	+08.6
19	244 36.1	−36.3	S 23 32.3	+08.4
20	258 59.8	−36.3	S 23 40.7	+08.2
21	273 23.5	−36.4	S 23 48.9	+08.2
22	287 47.1	−36.5	S 23 57.1	+07.9
23	302 10.6	−36.6	S 24 05.0	+07.8

UT	02	06	10	14	18	22
SD	16′3	16′3	16′4	16′4	16′4	16′4
HP	60′0	60′0	60′0	60′0	60′0	60′0
SHA	123°	120°	117°	115°	112°	110°

Greenwich Culmination Time: 02:01

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	231 40.9	+00.6	S 11 44.8	−00.6
01	246 41.5	+00.7	S 11 44.2	−00.7
02	261 42.2	+00.7	S 11 43.5	−00.7
03	276 42.9	+00.6	S 11 42.8	−00.6
04	291 43.5	+00.7	S 11 42.2	−00.7
05	306 44.2	+00.6	S 11 41.5	−00.6
06	321 44.8	+00.7	S 11 40.9	−00.7
07	336 45.5	+00.6	S 11 40.2	−00.7
08	351 46.1	+00.7	S 11 39.5	−00.6
09	6 46.8	+00.6	S 11 38.9	−00.7
10	21 47.4	+00.7	S 11 38.2	−00.6
11	36 48.1	+00.7	S 11 37.6	−00.7
12	51 48.8	+00.6	S 11 36.9	−00.7
13	66 49.4	+00.7	S 11 36.2	−00.6
14	81 50.1	+00.6	S 11 35.6	−00.7
15	96 50.7	+00.7	S 11 34.9	−00.7
16	111 51.4	+00.6	S 11 34.2	−00.6
17	126 52.0	+00.7	S 11 33.6	−00.7
18	141 52.7	+00.7	S 11 32.9	−00.6
19	156 53.4	+00.6	S 11 32.3	−00.7
20	171 54.0	+00.7	S 11 31.6	−00.7
21	186 54.7	+00.6	S 11 30.9	−00.6
22	201 55.3	+00.7	S 11 30.3	−00.7
23	216 56.0	+00.6	S 11 29.6	−00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	025°	024°	024°	024°	024°	024°

Greenwich Culmination Time: 08:32

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	210 52.6	+01.9	S 02 46.8	−00.2
01	225 54.5	+02.0	S 02 46.6	−00.2
02	240 56.5	+01.9	S 02 46.4	−00.2
03	255 58.4	+02.0	S 02 46.2	−00.2
04	271 00.4	+01.9	S 02 46.0	−00.2
05	286 02.3	+02.0	S 02 45.8	−00.3
06	301 04.3	+01.9	S 02 45.5	−00.2
07	316 06.2	+02.0	S 02 45.3	−00.2
08	331 08.2	+02.0	S 02 45.1	−00.2
09	346 10.2	+01.9	S 02 44.9	−00.2
10	1 12.1	+02.0	S 02 44.7	−00.2
11	16 14.1	+01.9	S 02 44.5	−00.2
12	31 16.0	+02.0	S 02 44.3	−00.2
13	46 18.0	+01.9	S 02 44.1	−00.3
14	61 19.9	+02.0	S 02 43.8	−00.2
15	76 21.9	+01.9	S 02 43.6	−00.2
16	91 23.8	+02.0	S 02 43.4	−00.2
17	106 25.8	+02.0	S 02 43.2	−00.2
18	121 27.8	+01.9	S 02 43.0	−00.2
19	136 29.7	+02.0	S 02 42.8	−00.2
20	151 31.7	+01.9	S 02 42.6	−00.3
21	166 33.6	+02.0	S 02 42.3	−00.2
22	181 35.6	+01.9	S 02 42.1	−00.2
23	196 37.5	+02.0	S 02 41.9	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	004°	004°	004°	004°	004°	004°

Greenwich Culmination Time: 09:55

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	240 54.0	+02.3	S 14 36.9	−00.1
01	255 56.3	+02.3	S 14 36.8	+00.0
02	270 58.6	+02.3	S 14 36.8	−00.1
03	286 00.9	+02.3	S 14 36.7	+00.0
04	301 03.2	+02.3	S 14 36.7	−00.1
05	316 05.5	+02.3	S 14 36.6	+00.0
06	331 07.8	+02.3	S 14 36.6	−00.1
07	346 10.1	+02.2	S 14 36.5	+00.0
08	1 12.3	+02.3	S 14 36.5	−00.1
09	16 14.6	+02.3	S 14 36.4	+00.0
10	31 16.9	+02.3	S 14 36.4	−00.1
11	46 19.2	+02.3	S 14 36.3	+00.0
12	61 21.5	+02.3	S 14 36.3	−00.1
13	76 23.8	+02.3	S 14 36.2	−00.1
14	91 26.1	+02.3	S 14 36.1	+00.0
15	106 28.4	+02.3	S 14 36.1	−00.1
16	121 30.7	+02.3	S 14 36.0	+00.0
17	136 33.0	+02.2	S 14 36.0	−00.1
18	151 35.2	+02.3	S 14 35.9	+00.0
19	166 37.5	+02.3	S 14 35.9	−00.1
20	181 39.8	+02.3	S 14 35.8	+00.0
21	196 42.1	+02.3	S 14 35.8	−00.1
22	211 44.4	+02.3	S 14 35.7	+00.0
23	226 46.7	+02.3	S 14 35.7	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 07:55

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2022 April 20 Wednesday (day 110 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 14.7	+00.1	N 11 26.2	+00.9
01	195 14.8	+00.1	N 11 27.1	+00.8
02	210 14.9	+00.2	N 11 27.9	+00.9
03	225 15.1	+00.1	N 11 28.8	+00.8
04	240 15.2	+00.1	N 11 29.6	+00.9
05	255 15.3	+00.2	N 11 30.5	+00.9
06	270 15.5	+00.1	N 11 31.4	+00.8
07	285 15.6	+00.1	N 11 32.2	+00.9
08	300 15.7	+00.2	N 11 33.1	+00.8
09	315 15.9	+00.1	N 11 33.9	+00.9
10	330 16.0	+00.1	N 11 34.8	+00.8
11	345 16.1	+00.1	N 11 35.6	+00.9
12	0 16.2	+00.2	N 11 36.5	+00.8
13	15 16.4	+00.1	N 11 37.3	+00.9
14	30 16.5	+00.1	N 11 38.2	+00.9
15	45 16.6	+00.2	N 11 39.1	+00.8
16	60 16.8	+00.1	N 11 39.9	+00.9
17	75 16.9	+00.1	N 11 40.8	+00.8
18	90 17.0	+00.2	N 11 41.6	+00.9
19	105 17.2	+00.1	N 11 42.5	+00.8
20	120 17.3	+00.1	N 11 43.3	+00.9
21	135 17.4	+00.1	N 11 44.2	+00.8
22	150 17.5	+00.2	N 11 45.0	+00.9
23	165 17.7	+00.1	N 11 45.9	+00.8

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	332°	332°	332°	332°	331°	331°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	220 57.2	-00.1	S 06 15.3	-01.0
01	235 57.1	-00.2	S 06 14.3	-00.9
02	250 56.9	-00.2	S 06 13.4	-00.9
03	265 56.7	-00.2	S 06 12.5	-00.9
04	280 56.5	-00.2	S 06 11.6	-01.0
05	295 56.3	-00.2	S 06 10.6	-00.9
06	310 56.1	-00.1	S 06 09.7	-00.9
07	325 56.0	-00.2	S 06 08.8	-00.9
08	340 55.8	-00.2	S 06 07.9	-01.0
09	355 55.6	-00.2	S 06 06.9	-00.9
10	10 55.4	-00.2	S 06 06.0	-00.9
11	25 55.2	-00.2	S 06 05.1	-01.0
12	40 55.0	-00.1	S 06 04.1	-00.9
13	55 54.9	-00.2	S 06 03.2	-00.9
14	70 54.7	-00.2	S 06 02.3	-01.0
15	85 54.5	-00.2	S 06 01.3	-00.9
16	100 54.3	-00.2	S 06 00.4	-00.9
17	115 54.1	-00.2	S 05 59.5	-01.0
18	130 53.9	-00.1	S 05 58.5	-00.9
19	145 53.8	-00.2	S 05 57.6	-00.9
20	160 53.6	-00.2	S 05 56.7	-01.0
21	175 53.4	-00.2	S 05 55.7	-00.9
22	190 53.2	-00.2	S 05 54.8	-00.9
23	205 53.0	-00.2	S 05 53.9	-01.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	013°	013°	012°	012°	012°	012°

Greenwich Culmination Time: 09:16

Moon

A: 64%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	316 34.0	-36.7	S 24 12.8	+07.6
01	330 57.3	-36.7	S 24 20.4	+07.4
02	345 20.6	-36.8	S 24 27.8	+07.3
03	359 43.8	-36.8	S 24 35.1	+07.1
04	14 07.0	-36.9	S 24 42.2	+06.9
05	28 30.1	-37.0	S 24 49.1	+06.7
06	42 53.1	-37.1	S 24 55.8	+06.6
07	57 16.0	-37.1	S 25 02.4	+06.4
08	71 38.9	-37.1	S 25 08.8	+06.2
09	86 01.8	-37.2	S 25 15.0	+06.1
10	100 24.6	-37.3	S 25 21.1	+05.8
11	114 47.3	-37.3	S 25 26.9	+05.7
12	129 10.0	-37.4	S 25 32.6	+05.5
13	143 32.6	-37.4	S 25 38.1	+05.3
14	157 55.2	-37.5	S 25 43.4	+05.2
15	172 17.7	-37.5	S 25 48.6	+04.9
16	186 40.2	-37.6	S 25 53.5	+04.8
17	201 02.6	-37.6	S 25 58.3	+04.6
18	215 25.0	-37.6	S 26 02.9	+04.4
19	229 47.4	-37.7	S 26 07.3	+04.2
20	244 09.7	-37.7	S 26 11.5	+04.0
21	258 32.0	-37.7	S 26 15.5	+03.8
22	272 54.3	-37.8	S 26 19.3	+03.7
23	287 16.5	-37.7	S 26 23.0	+03.5

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	60′0	60′0	60′0	59′9	59′9	59′9
SHA	107°	105°	102°	099°	097°	094°

Greenwich Culmination Time: 03:01

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	231 56.6	+00.7	S 11 28.9	-00.6
01	246 57.3	+00.7	S 11 28.3	-00.7
02	261 58.0	+00.6	S 11 27.6	-00.6
03	276 58.6	+00.7	S 11 27.0	-00.7
04	291 59.3	+00.6	S 11 26.3	-00.7
05	306 59.9	+00.7	S 11 25.6	-00.6
06	322 00.6	+00.7	S 11 25.0	-00.7
07	337 01.3	+00.6	S 11 24.3	-00.7
08	352 01.9	+00.7	S 11 23.6	-00.6
09	7 02.6	+00.6	S 11 23.0	-00.7
10	22 03.2	+00.7	S 11 22.3	-00.7
11	37 03.9	+00.7	S 11 21.6	-00.6
12	52 04.6	+00.6	S 11 21.0	-00.7
13	67 05.2	+00.7	S 11 20.3	-00.7
14	82 05.9	+00.6	S 11 19.6	-00.6
15	97 06.5	+00.7	S 11 19.0	-00.7
16	112 07.2	+00.7	S 11 18.3	-00.7
17	127 07.9	+00.6	S 11 17.6	-00.6
18	142 08.5	+00.7	S 11 17.0	-00.7
19	157 09.2	+00.6	S 11 16.3	-00.7
20	172 09.8	+00.7	S 11 15.6	-00.6
21	187 10.5	+00.7	S 11 15.0	-00.7
22	202 11.2	+00.6	S 11 14.3	-00.7
23	217 11.8	+00.7	S 11 13.6	-00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	024°	024°	024°	023°	023°	023°

Greenwich Culmination Time: 08:31

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	211 39.5	+01.9	S 02 41.7	-00.2
01	226 41.4	+02.0	S 02 41.5	-00.2
02	241 43.4	+02.0	S 02 41.3	-00.2
03	256 45.4	+01.9	S 02 41.1	-00.3
04	271 47.3	+02.0	S 02 40.8	-00.2
05	286 49.3	+01.9	S 02 40.6	-00.2
06	301 51.2	+02.0	S 02 40.4	-00.2
07	316 53.2	+01.9	S 02 40.2	-00.2
08	331 55.1	+02.0	S 02 40.0	-00.2
09	346 57.1	+02.0	S 02 39.8	-00.2
10	1 59.1	+01.9	S 02 39.6	-00.2
11	17 01.0	+02.0	S 02 39.4	-00.3
12	32 03.0	+01.9	S 02 39.1	-00.2
13	47 04.9	+02.0	S 02 38.9	-00.2
14	62 06.9	+01.9	S 02 38.7	-00.2
15	77 08.8	+02.0	S 02 38.5	-00.2
16	92 10.8	+02.0	S 02 38.3	-00.2
17	107 12.8	+01.9	S 02 38.1	-00.2
18	122 14.7	+02.0	S 02 37.9	-00.2
19	137 16.7	+01.9	S 02 37.7	-00.3
20	152 18.6	+02.0	S 02 37.4	-00.2
21	167 20.6	+02.0	S 02 37.2	-00.2
22	182 22.6	+01.9	S 02 37.0	-00.2
23	197 24.5	+02.0	S 02 36.8	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	004°	004°	004°	003°	003°	003°

Greenwich Culmination Time: 09:52

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	241 49.0	+02.3	S 14 35.6	+00.0
01	256 51.3	+02.3	S 14 35.6	-00.1
02	271 53.6	+02.3	S 14 35.5	+00.0
03	286 55.9	+02.3	S 14 35.5	-00.1
04	301 58.2	+02.2	S 14 35.4	+00.0
05	317 00.4	+02.3	S 14 35.4	-00.1
06	332 02.7	+02.3	S 14 35.3	+00.0
07	347 05.0	+02.3	S 14 35.3	-00.1
08	2 07.3	+02.3	S 14 35.2	+00.0
09	17 09.6	+02.3	S 14 35.2	-00.1
10	32 11.9	+02.3	S 14 35.1	+00.0
11	47 14.2	+02.3	S 14 35.1	-00.1
12	62 16.5	+02.3	S 14 35.0	+00.0
13	77 18.8	+02.3	S 14 35.0	-00.1
14	92 21.1	+02.3	S 14 34.9	+00.0
15	107 23.4	+02.3	S 14 34.9	-00.1
16	122 25.7	+02.3	S 14 34.8	+00.0
17	137 28.0	+02.3	S 14 34.8	-00.1
18	152 30.3	+02.2	S 14 34.7	+00.0
19	167 32.5	+02.3	S 14 34.7	-00.1
20	182 34.8	+02.3	S 14 34.6	+00.0
21	197 37.1	+02.3	S 14 34.6	-00.1
22	212 39.4	+02.3	S 14 34.5	+00.0
23	227 41.7	+02.3	S 14 34.5	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 07:51

2022 April 21 Thursday (day 111 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 17.8	+00.1	N 11 46.7	+00.9
01	195 17.9	+00.2	N 11 47.6	+00.8
02	210 18.1	+00.1	N 11 48.4	+00.9
03	225 18.2	+00.1	N 11 49.3	+00.8
04	240 18.3	+00.1	N 11 50.1	+00.9
05	255 18.4	+00.2	N 11 51.0	+00.8
06	270 18.6	+00.1	N 11 51.8	+00.9
07	285 18.7	+00.1	N 11 52.7	+00.8
08	300 18.8	+00.1	N 11 53.5	+00.9
09	315 18.9	+00.2	N 11 54.4	+00.8
10	330 19.1	+00.1	N 11 55.2	+00.9
11	345 19.2	+00.1	N 11 56.1	+00.8
12	0 19.3	+00.1	N 11 56.9	+00.9
13	15 19.4	+00.2	N 11 57.8	+00.8
14	30 19.6	+00.1	N 11 58.6	+00.9
15	45 19.7	+00.1	N 11 59.5	+00.8
16	60 19.8	+00.1	N 12 00.3	+00.8
17	75 19.9	+00.2	N 12 01.1	+00.9
18	90 20.1	+00.1	N 12 02.0	+00.8
19	105 20.2	+00.1	N 12 02.8	+00.9
20	120 20.3	+00.1	N 12 03.7	+00.8
21	135 20.4	+00.2	N 12 04.5	+00.9
22	150 20.6	+00.1	N 12 05.4	+00.8
23	165 20.7	+00.1	N 12 06.2	+00.9

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	331°	331°	331°	331°	331°	330°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	220 52.8	-00.1	S 05 52.9	-00.9
01	235 52.7	-00.2	S 05 52.0	-01.0
02	250 52.5	-00.2	S 05 51.0	-00.9
03	265 52.3	-00.2	S 05 50.1	-00.9
04	280 52.1	-00.2	S 05 49.2	-01.0
05	295 51.9	-00.2	S 05 48.2	-00.9
06	310 51.7	-00.1	S 05 47.3	-00.9
07	325 51.6	-00.2	S 05 46.4	-01.0
08	340 51.4	-00.2	S 05 45.4	-00.9
09	355 51.2	-00.2	S 05 44.5	-01.0
10	10 51.0	-00.2	S 05 43.5	-00.9
11	25 50.8	-00.2	S 05 42.6	-01.0
12	40 50.6	-00.1	S 05 41.6	-00.9
13	55 50.5	-00.2	S 05 40.7	-00.9
14	70 50.3	-00.2	S 05 39.8	-01.0
15	85 50.1	-00.2	S 05 38.8	-00.9
16	100 49.9	-00.2	S 05 37.9	-01.0
17	115 49.7	-00.2	S 05 36.9	-00.9
18	130 49.5	-00.1	S 05 36.0	-01.0
19	145 49.4	-00.2	S 05 35.0	-00.9
20	160 49.2	-00.2	S 05 34.1	-00.9
21	175 49.0	-00.2	S 05 33.2	-01.0
22	190 48.8	-00.2	S 05 32.2	-00.9
23	205 48.6	-00.2	S 05 31.3	-01.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	012°	012°	011°	011°	011°	011°

Greenwich Culmination Time: 09:16

Moon

A: 68%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	301 38.8	-37.8	S 26 26.5	+03.2
01	316 01.0	-37.9	S 26 29.7	+03.1
02	330 23.1	-37.8	S 26 32.8	+02.9
03	344 45.3	-37.9	S 26 35.7	+02.7
04	359 07.4	-37.9	S 26 38.4	+02.5
05	13 29.5	-37.8	S 26 40.9	+02.3
06	27 51.7	-37.9	S 26 43.2	+02.2
07	42 13.8	-37.9	S 26 45.4	+01.9
08	56 35.9	-37.9	S 26 47.3	+01.7
09	70 58.0	-37.9	S 26 49.0	+01.6
10	85 20.1	-37.9	S 26 50.6	+01.4
11	99 42.2	-37.9	S 26 52.0	+01.1
12	114 04.3	-37.9	S 26 53.1	+01.0
13	128 26.4	-37.9	S 26 54.1	+00.8
14	142 48.5	-37.9	S 26 54.9	+00.6
15	157 10.6	-37.8	S 26 55.5	+00.4
16	171 32.8	-37.9	S 26 55.9	+00.2
17	185 54.9	-37.8	S 26 56.1	+00.0
18	200 17.1	-37.8	S 26 56.1	-00.1
19	214 39.3	-37.8	S 26 56.0	-00.4
20	229 01.5	-37.7	S 26 55.6	-00.5
21	243 23.8	-37.7	S 26 55.1	-00.8
22	257 46.1	-37.7	S 26 54.3	-00.9
23	272 08.4	-37.7	S 26 53.4	-01.1

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′2	16′2
HP	59′8	59′8	59′7	59′7	59′6	59′6
SHA	091°	089°	086°	083°	080°	078°

Greenwich Culmination Time: 04:03

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	232 12.5	+00.6	S 11 13.0	-00.7
01	247 13.1	+00.7	S 11 12.3	-00.7
02	262 13.8	+00.7	S 11 11.6	-00.6
03	277 14.5	+00.6	S 11 11.0	-00.7
04	292 15.1	+00.7	S 11 10.3	-00.7
05	307 15.8	+00.6	S 11 09.6	-00.6
06	322 16.4	+00.7	S 11 09.0	-00.7
07	337 17.1	+00.7	S 11 08.3	-00.7
08	352 17.8	+00.6	S 11 07.6	-00.6
09	7 18.4	+00.7	S 11 07.0	-00.7
10	22 19.1	+00.7	S 11 06.3	-00.7
11	37 19.8	+00.6	S 11 05.6	-00.6
12	52 20.4	+00.7	S 11 05.0	-00.7
13	67 21.1	+00.6	S 11 04.3	-00.7
14	82 21.7	+00.7	S 11 03.6	-00.7
15	97 22.4	+00.7	S 11 02.9	-00.6
16	112 23.1	+00.6	S 11 02.3	-00.7
17	127 23.7	+00.7	S 11 01.6	-00.7
18	142 24.4	+00.7	S 11 00.9	-00.6
19	157 25.1	+00.6	S 11 00.3	-00.7
20	172 25.7	+00.7	S 10 59.6	-00.7
21	187 26.4	+00.7	S 10 58.9	-00.7
22	202 27.1	+00.6	S 10 58.2	-00.6
23	217 27.7	+00.7	S 10 57.6	-00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	023°	023°	023°	023°	023°	022°

Greenwich Culmination Time: 08:30

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	212 26.5	+01.9	S 02 36.6	-00.2
01	227 28.4	+02.0	S 02 36.4	-00.2
02	242 30.4	+01.9	S 02 36.2	-00.2
03	257 32.3	+02.0	S 02 36.0	-00.3
04	272 34.3	+02.0	S 02 35.7	-00.2
05	287 36.3	+01.9	S 02 35.5	-00.2
06	302 38.2	+02.0	S 02 35.3	-00.2
07	317 40.2	+01.9	S 02 35.1	-00.2
08	332 42.1	+02.0	S 02 34.9	-00.2
09	347 44.1	+02.0	S 02 34.7	-00.2
10	2 46.1	+01.9	S 02 34.5	-00.2
11	17 48.0	+02.0	S 02 34.3	-00.3
12	32 50.0	+01.9	S 02 34.0	-00.2
13	47 51.9	+02.0	S 02 33.8	-00.2
14	62 53.9	+02.0	S 02 33.6	-00.2
15	77 55.9	+01.9	S 02 33.4	-00.2
16	92 57.8	+02.0	S 02 33.2	-00.2
17	107 59.8	+01.9	S 02 33.0	-00.2
18	123 01.7	+02.0	S 02 32.8	-00.2
19	138 03.7	+02.0	S 02 32.6	-00.3
20	153 05.7	+01.9	S 02 32.3	-00.2
21	168 07.6	+02.0	S 02 32.1	-00.2
22	183 09.6	+01.9	S 02 31.9	-00.2
23	198 11.5	+02.0	S 02 31.7	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	003°	003°	003°	003°	003°	003°

Greenwich Culmination Time: 09:48

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	242 44.0	+02.3	S 14 34.4	+00.0
01	257 46.3	+02.3	S 14 34.4	-00.1
02	272 48.6	+02.3	S 14 34.3	+00.0
03	287 50.9	+02.3	S 14 34.3	-00.1
04	302 53.2	+02.3	S 14 34.2	+00.0
05	317 55.5	+02.3	S 14 34.2	-00.1
06	332 57.8	+02.3	S 14 34.1	-00.1
07	348 00.1	+02.3	S 14 34.0	+00.0
08	3 02.4	+02.3	S 14 34.0	-00.1
09	18 04.7	+02.3	S 14 33.9	+00.0
10	33 07.0	+02.3	S 14 33.9	-00.1
11	48 09.3	+02.3	S 14 33.8	+00.0
12	63 11.6	+02.3	S 14 33.8	-00.1
13	78 13.9	+02.3	S 14 33.7	+00.0
14	93 16.2	+02.3	S 14 33.7	-00.1
15	108 18.5	+02.2	S 14 33.6	+00.0
16	123 20.7	+02.3	S 14 33.6	-00.1
17	138 23.0	+02.3	S 14 33.5	+00.0
18	153 25.3	+02.3	S 14 33.5	+00.0
19	168 27.6	+02.3	S 14 33.5	-00.1
20	183 29.9	+02.3	S 14 33.4	+00.0
21	198 32.2	+02.3	S 14 33.4	-00.1
22	213 34.5	+02.3	S 14 33.3	+00.0
23	228 36.8	+02.3	S 14 33.3	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 07:47

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 April 26 Tuesday (day 116 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 31.7	+00.1	N 13 26.3	+00.8
01	195 31.8	+00.1	N 13 27.1	+00.8
02	210 31.9	+00.1	N 13 27.9	+00.8
03	225 32.0	+00.1	N 13 28.7	+00.8
04	240 32.1	+00.1	N 13 29.5	+00.9
05	255 32.2	+00.1	N 13 30.4	+00.8
06	270 32.3	+00.1	N 13 31.2	+00.8
07	285 32.4	+00.1	N 13 32.0	+00.8
08	300 32.5	+00.1	N 13 32.8	+00.8
09	315 32.6	+00.1	N 13 33.6	+00.8
10	330 32.7	+00.1	N 13 34.4	+00.8
11	345 32.8	+00.1	N 13 35.2	+00.8
12	0 32.9	+00.1	N 13 36.0	+00.8
13	15 33.0	+00.1	N 13 36.8	+00.8
14	30 33.1	+00.1	N 13 37.6	+00.8
15	45 33.2	+00.1	N 13 38.4	+00.8
16	60 33.3	+00.1	N 13 39.2	+00.8
17	75 33.4	+00.1	N 13 40.0	+00.8
18	90 33.5	+00.1	N 13 40.8	+00.8
19	105 33.6	+00.1	N 13 41.6	+00.8
20	120 33.7	+00.1	N 13 42.4	+00.8
21	135 33.8	+00.1	N 13 43.2	+00.8
22	150 33.9	+00.1	N 13 44.0	+00.8
23	165 34.0	+00.1	N 13 44.8	+00.8

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	326°	326°	326°	326°	326°	326°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	220 30.6	−00.2	S 03 57.6	−01.0
01	235 30.4	−00.2	S 03 56.6	−01.0
02	250 30.2	−00.1	S 03 55.6	−00.9
03	265 30.1	−00.2	S 03 54.7	−01.0
04	280 29.9	−00.2	S 03 53.7	−01.0
05	295 29.7	−00.2	S 03 52.7	−01.0
06	310 29.5	−00.2	S 03 51.7	−01.0
07	325 29.3	−00.2	S 03 50.7	−01.0
08	340 29.1	−00.2	S 03 49.7	−01.0
09	355 28.9	−00.1	S 03 48.7	−00.9
10	10 28.8	−00.2	S 03 47.8	−01.0
11	25 28.6	−00.2	S 03 46.8	−01.0
12	40 28.4	−00.2	S 03 45.8	−01.0
13	55 28.2	−00.2	S 03 44.8	−01.0
14	70 28.0	−00.2	S 03 43.8	−01.0
15	85 27.8	−00.2	S 03 42.8	−01.0
16	100 27.6	−00.2	S 03 41.8	−01.0
17	115 27.4	−00.1	S 03 40.8	−01.0
18	130 27.3	−00.2	S 03 39.8	−00.9
19	145 27.1	−00.2	S 03 38.9	−01.0
20	160 26.9	−00.2	S 03 37.9	−01.0
21	175 26.7	−00.2	S 03 36.9	−01.0
22	190 26.5	−00.2	S 03 35.9	−01.0
23	205 26.3	−00.2	S 03 34.9	−01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	006°	006°	006°	006°	006°	006°

Greenwich Culmination Time: 09:18

Moon

A: 87%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	232 35.6	−29.1	S 13 21.7	−13.4
01	247 06.5	−29.0	S 13 08.3	−13.6
02	261 37.5	−29.0	S 12 54.7	−13.6
03	276 08.5	−28.9	S 12 41.1	−13.6
04	290 39.6	−28.8	S 12 27.5	−13.7
05	305 10.8	−28.7	S 12 13.8	−13.7
06	319 42.1	−28.7	S 12 00.1	−13.8
07	334 13.4	−28.6	S 11 46.3	−13.8
08	348 44.8	−28.5	S 11 32.5	−13.9
09	3 16.3	−28.4	S 11 18.6	−13.9
10	17 47.9	−28.4	S 11 04.7	−14.0
11	32 19.5	−28.3	S 10 50.7	−14.0
12	46 51.2	−28.3	S 10 36.7	−14.1
13	61 22.9	−28.1	S 10 22.6	−14.1
14	75 54.8	−28.2	S 10 08.5	−14.1
15	90 26.6	−28.0	S 09 54.4	−14.1
16	104 58.6	−28.0	S 09 40.3	−14.2
17	119 30.6	−27.9	S 09 26.1	−14.3
18	134 02.7	−27.8	S 09 11.8	−14.2
19	148 34.9	−27.8	S 08 57.6	−14.3
20	163 07.1	−27.8	S 08 43.3	−14.4
21	177 39.3	−27.7	S 08 28.9	−14.3
22	192 11.6	−27.6	S 08 14.6	−14.4
23	206 44.0	−27.6	S 08 00.2	−14.4

UT	02	06	10	14	18	22
SD	15′7	15′7	15′6	15′6	15′6	15′6
HP	57′6	57′5	57′4	57′3	57′3	57′2
SHA	018°	015°	013°	011°	009°	007°

Greenwich Culmination Time: 08:46

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	233 32.8	+00.7	S 09 51.7	−00.6
01	248 33.5	+00.6	S 09 51.1	−00.7
02	263 34.1	+00.7	S 09 50.4	−00.7
03	278 34.8	+00.7	S 09 49.7	−00.7
04	293 35.5	+00.7	S 09 49.0	−00.7
05	308 36.2	+00.7	S 09 48.3	−00.7
06	323 36.9	+00.6	S 09 47.6	−00.7
07	338 37.5	+00.7	S 09 46.9	−00.6
08	353 38.2	+00.7	S 09 46.3	−00.7
09	8 38.9	+00.7	S 09 45.6	−00.7
10	23 39.6	+00.6	S 09 44.9	−00.7
11	38 40.2	+00.7	S 09 44.2	−00.7
12	53 40.9	+00.7	S 09 43.5	−00.7
13	68 41.6	+00.7	S 09 42.8	−00.7
14	83 42.3	+00.7	S 09 42.1	−00.7
15	98 43.0	+00.6	S 09 41.4	−00.6
16	113 43.6	+00.7	S 09 40.8	−00.7
17	128 44.3	+00.7	S 09 40.1	−00.7
18	143 45.0	+00.7	S 09 39.4	−00.7
19	158 45.7	+00.7	S 09 38.7	−00.7
20	173 46.4	+00.6	S 09 38.0	−00.7
21	188 47.0	+00.7	S 09 37.3	−00.7
22	203 47.7	+00.7	S 09 36.6	−00.7
23	218 48.4	+00.7	S 09 35.9	−00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	020°	019°	019°	019°	019°	019°

Greenwich Culmination Time: 08:25

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	216 22.2	+02.0	S 02 11.4	−00.2
01	231 24.2	+02.0	S 02 11.2	−00.2
02	246 26.2	+01.9	S 02 11.0	−00.2
03	261 28.1	+02.0	S 02 10.8	−00.2
04	276 30.1	+02.0	S 02 10.6	−00.2
05	291 32.1	+01.9	S 02 10.4	−00.2
06	306 34.0	+02.0	S 02 10.2	−00.2
07	321 36.0	+02.0	S 02 10.0	−00.2
08	336 38.0	+01.9	S 02 09.8	−00.3
09	351 39.9	+02.0	S 02 09.5	−00.2
10	6 41.9	+02.0	S 02 09.3	−00.2
11	21 43.9	+02.0	S 02 09.1	−00.2
12	36 45.9	+01.9	S 02 08.9	−00.2
13	51 47.8	+02.0	S 02 08.7	−00.2
14	66 49.8	+02.0	S 02 08.5	−00.2
15	81 51.8	+02.0	S 02 08.3	−00.2
16	96 53.8	+01.9	S 02 08.1	−00.2
17	111 55.7	+02.0	S 02 07.9	−00.2
18	126 57.7	+02.0	S 02 07.7	−00.2
19	141 59.7	+01.9	S 02 07.5	−00.2
20	157 01.6	+02.0	S 02 07.3	−00.2
21	172 03.6	+02.0	S 02 07.1	−00.2
22	187 05.6	+02.0	S 02 06.9	−00.2
23	202 07.6	+01.9	S 02 06.7	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	002°	002°	002°	002°	002°	002°

Greenwich Culmination Time: 09:33

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	247 20.3	+02.3	S 14 28.7	−00.1
01	262 22.6	+02.4	S 14 28.6	+00.0
02	277 25.0	+02.3	S 14 28.6	−00.1
03	292 27.3	+02.3	S 14 28.5	+00.0
04	307 29.6	+02.3	S 14 28.5	−00.1
05	322 31.9	+02.3	S 14 28.4	+00.0
06	337 34.2	+02.3	S 14 28.4	+00.0
07	352 36.5	+02.3	S 14 28.4	−00.1
08	7 38.8	+02.3	S 14 28.3	+00.0
09	22 41.1	+02.3	S 14 28.3	−00.1
10	37 43.4	+02.4	S 14 28.2	+00.0
11	52 45.8	+02.3	S 14 28.2	−00.1
12	67 48.1	+02.3	S 14 28.1	+00.0
13	82 50.4	+02.3	S 14 28.1	−00.1
14	97 52.7	+02.3	S 14 28.0	+00.0
15	112 55.0	+02.3	S 14 28.0	+00.0
16	127 57.3	+02.3	S 14 28.0	−00.1
17	142 59.6	+02.3	S 14 27.9	+00.0
18	158 01.9	+02.4	S 14 27.9	−00.1
19	173 04.3	+02.3	S 14 27.8	+00.0
20	188 06.6	+02.3	S 14 27.8	−00.1
21	203 08.9	+02.3	S 14 27.7	+00.0
22	218 11.2	+02.3	S 14 27.7	−00.1
23	233 13.5	+02.3	S 14 27.6	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 07:29

2022 April 23 Saturday (day 113 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 23.7	+00.1	N 12 27.2	+00.8
01	195 23.8	+00.1	N 12 28.0	+00.8
02	210 23.9	+00.2	N 12 28.8	+00.9
03	225 24.1	+00.1	N 12 29.7	+00.8
04	240 24.2	+00.1	N 12 30.5	+00.8
05	255 24.3	+00.1	N 12 31.3	+00.9
06	270 24.4	+00.1	N 12 32.2	+00.8
07	285 24.5	+00.2	N 12 33.0	+00.8
08	300 24.7	+00.1	N 12 33.8	+00.9
09	315 24.8	+00.1	N 12 34.7	+00.8
10	330 24.9	+00.1	N 12 35.5	+00.8
11	345 25.0	+00.1	N 12 36.3	+00.9
12	0 25.1	+00.1	N 12 37.2	+00.8
13	15 25.2	+00.1	N 12 38.0	+00.8
14	30 25.3	+00.2	N 12 38.8	+00.9
15	45 25.5	+00.1	N 12 39.7	+00.8
16	60 25.6	+00.1	N 12 40.5	+00.8
17	75 25.7	+00.1	N 12 41.3	+00.8
18	90 25.8	+00.1	N 12 42.1	+00.9
19	105 25.9	+00.1	N 12 43.0	+00.8
20	120 26.0	+00.2	N 12 43.8	+00.8
21	135 26.2	+00.1	N 12 44.6	+00.8
22	150 26.3	+00.1	N 12 45.4	+00.9
23	165 26.4	+00.1	N 12 46.3	+00.8

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	329°	329°	329°	329°	329°	329°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	220 44.0	−00.2	S 05 07.5	−01.0
01	235 43.8	−00.2	S 05 06.5	−00.9
02	250 43.6	−00.2	S 05 05.6	−01.0
03	265 43.4	−00.1	S 05 04.6	−01.0
04	280 43.3	−00.2	S 05 03.6	−00.9
05	295 43.1	−00.2	S 05 02.7	−01.0
06	310 42.9	−00.2	S 05 01.7	−00.9
07	325 42.7	−00.2	S 05 00.8	−01.0
08	340 42.5	−00.2	S 04 59.8	−01.0
09	355 42.3	−00.1	S 04 58.8	−00.9
10	10 42.2	−00.2	S 04 57.9	−01.0
11	25 42.0	−00.2	S 04 56.9	−00.9
12	40 41.8	−00.2	S 04 56.0	−01.0
13	55 41.6	−00.2	S 04 55.0	−01.0
14	70 41.4	−00.2	S 04 54.0	−00.9
15	85 41.2	−00.2	S 04 53.1	−01.0
16	100 41.0	−00.1	S 04 52.1	−00.9
17	115 40.9	−00.2	S 04 51.2	−01.0
18	130 40.7	−00.2	S 04 50.2	−01.0
19	145 40.5	−00.2	S 04 49.2	−00.9
20	160 40.3	−00.2	S 04 48.3	−01.0
21	175 40.1	−00.2	S 04 47.3	−01.0
22	190 39.9	−00.2	S 04 46.3	−00.9
23	205 39.7	−00.1	S 04 45.4	−01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	010°	009°	009°	009°	009°	009°

Greenwich Culmination Time: 09:17

Moon

A: 76%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	271 43.2	−36.1	S 25 31.0	−05.5
01	286 07.1	−36.0	S 25 25.5	−05.8
02	300 31.1	−35.9	S 25 19.7	−05.9
03	314 55.2	−35.9	S 25 13.8	−06.0
04	329 19.3	−35.7	S 25 07.8	−06.2
05	343 43.6	−35.7	S 25 01.6	−06.4
06	358 07.9	−35.6	S 24 55.2	−06.5
07	12 32.3	−35.4	S 24 48.7	−06.7
08	26 56.9	−35.4	S 24 42.0	−06.8
09	41 21.5	−35.3	S 24 35.2	−07.0
10	55 46.2	−35.2	S 24 28.2	−07.1
11	70 11.0	−35.1	S 24 21.1	−07.3
12	84 35.9	−35.0	S 24 13.8	−07.4
13	99 00.9	−34.9	S 24 06.4	−07.6
14	113 26.0	−34.8	S 23 58.8	−07.7
15	127 51.2	−34.7	S 23 51.1	−07.9
16	142 16.5	−34.6	S 23 43.2	−08.0
17	156 41.9	−34.5	S 23 35.2	−08.1
18	171 07.4	−34.4	S 23 27.1	−08.3
19	185 33.0	−34.3	S 23 18.8	−08.5
20	199 58.7	−34.2	S 23 10.3	−08.5
21	214 24.5	−34.1	S 23 01.8	−08.7
22	228 50.4	−33.9	S 22 53.1	−08.8
23	243 16.5	−33.9	S 22 44.3	−09.0

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′0	16′0	16′0
HP	59′1	59′0	58′9	58′9	58′8	58′7
SHA	059°	057°	054°	052°	049°	047°

Greenwich Culmination Time: 06:07

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	232 44.4	+00.6	S 10 40.7	−00.6
01	247 45.0	+00.7	S 10 40.1	−00.7
02	262 45.7	+00.7	S 10 39.4	−00.7
03	277 46.4	+00.6	S 10 38.7	−00.7
04	292 47.0	+00.7	S 10 38.0	−00.6
05	307 47.7	+00.7	S 10 37.4	−00.7
06	322 48.4	+00.7	S 10 36.7	−00.7
07	337 49.1	+00.6	S 10 36.0	−00.7
08	352 49.7	+00.7	S 10 35.3	−00.6
09	7 50.4	+00.7	S 10 34.7	−00.7
10	22 51.1	+00.6	S 10 34.0	−00.7
11	37 51.7	+00.7	S 10 33.3	−00.7
12	52 52.4	+00.7	S 10 32.6	−00.6
13	67 53.1	+00.6	S 10 32.0	−00.7
14	82 53.7	+00.7	S 10 31.3	−00.7
15	97 54.4	+00.7	S 10 30.6	−00.7
16	112 55.1	+00.6	S 10 29.9	−00.7
17	127 55.7	+00.7	S 10 29.2	−00.6
18	142 56.4	+00.7	S 10 28.6	−00.7
19	157 57.1	+00.7	S 10 27.9	−00.7
20	172 57.8	+00.6	S 10 27.2	−00.7
21	187 58.4	+00.7	S 10 26.5	−00.6
22	202 59.1	+00.7	S 10 25.9	−00.7
23	217 59.8	+00.6	S 10 25.2	−00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	022°	022°	021°	021°	021°	021°

Greenwich Culmination Time: 08:28

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	214 00.6	+02.0	S 02 26.4	−00.2
01	229 02.6	+01.9	S 02 26.2	−00.2
02	244 04.5	+02.0	S 02 26.0	−00.2
03	259 06.5	+01.9	S 02 25.8	−00.2
04	274 08.4	+02.0	S 02 25.6	−00.2
05	289 10.4	+02.0	S 02 25.4	−00.2
06	304 12.4	+01.9	S 02 25.2	−00.2
07	319 14.3	+02.0	S 02 25.0	−00.2
08	334 16.3	+02.0	S 02 24.8	−00.3
09	349 18.3	+01.9	S 02 24.5	−00.2
10	4 20.2	+02.0	S 02 24.3	−00.2
11	19 22.2	+02.0	S 02 24.1	−00.2
12	34 24.2	+01.9	S 02 23.9	−00.2
13	49 26.1	+02.0	S 02 23.7	−00.2
14	64 28.1	+02.0	S 02 23.5	−00.2
15	79 30.1	+01.9	S 02 23.3	−00.2
16	94 32.0	+02.0	S 02 23.1	−00.2
17	109 34.0	+02.0	S 02 22.9	−00.2
18	124 36.0	+01.9	S 02 22.7	−00.2
19	139 37.9	+02.0	S 02 22.5	−00.3
20	154 39.9	+01.9	S 02 22.2	−00.2
21	169 41.8	+02.0	S 02 22.0	−00.2
22	184 43.8	+02.0	S 02 21.8	−00.2
23	199 45.8	+01.9	S 02 21.6	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	003°	003°	003°	003°	003°	003°

Greenwich Culmination Time: 09:42

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	244 34.3	+02.3	S 14 32.0	+00.0
01	259 36.6	+02.3	S 14 32.0	−00.1
02	274 38.9	+02.3	S 14 31.9	+00.0
03	289 41.2	+02.3	S 14 31.9	−00.1
04	304 43.5	+02.3	S 14 31.8	+00.0
05	319 45.8	+02.3	S 14 31.8	−00.1
06	334 48.1	+02.3	S 14 31.7	+00.0
07	349 50.4	+02.3	S 14 31.7	−00.1
08	4 52.7	+02.3	S 14 31.6	+00.0
09	19 55.0	+02.3	S 14 31.6	−00.1
10	34 57.3	+02.3	S 14 31.5	+00.0
11	49 59.6	+02.3	S 14 31.5	+00.0
12	65 01.9	+02.3	S 14 31.5	−00.1
13	80 04.2	+02.3	S 14 31.4	+00.0
14	95 06.5	+02.3	S 14 31.4	−00.1
15	110 08.8	+02.3	S 14 31.3	+00.0
16	125 11.1	+02.3	S 14 31.3	−00.1
17	140 13.4	+02.3	S 14 31.2	+00.0
18	155 15.7	+02.4	S 14 31.2	−00.1
19	170 18.1	+02.3	S 14 31.1	+00.0
20	185 20.4	+02.3	S 14 31.1	−00.1
21	200 22.7	+02.3	S 14 31.0	+00.0
22	215 25.0	+02.3	S 14 31.0	−00.1
23	230 27.3	+02.3	S 14 30.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	033°

Greenwich Culmination Time: 07:40

2022 April 24 Sunday (day 114 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 26.5	+00.1	N 12 47.1	+00.8
01	195 26.6	+00.1	N 12 47.9	+00.9
02	210 26.7	+00.1	N 12 48.8	+00.8
03	225 26.8	+00.1	N 12 49.6	+00.8
04	240 26.9	+00.2	N 12 50.4	+00.8
05	255 27.1	+00.1	N 12 51.2	+00.8
06	270 27.2	+00.1	N 12 52.0	+00.9
07	285 27.3	+00.1	N 12 52.9	+00.8
08	300 27.4	+00.1	N 12 53.7	+00.8
09	315 27.5	+00.1	N 12 54.5	+00.8
10	330 27.6	+00.1	N 12 55.3	+00.9
11	345 27.7	+00.1	N 12 56.2	+00.8
12	0 27.8	+00.1	N 12 57.0	+00.8
13	15 27.9	+00.2	N 12 57.8	+00.8
14	30 28.1	+00.1	N 12 58.6	+00.8
15	45 28.2	+00.1	N 12 59.4	+00.9
16	60 28.3	+00.1	N 13 00.3	+00.8
17	75 28.4	+00.1	N 13 01.1	+00.8
18	90 28.5	+00.1	N 13 01.9	+00.8
19	105 28.6	+00.1	N 13 02.7	+00.8
20	120 28.7	+00.1	N 13 03.5	+00.9
21	135 28.8	+00.1	N 13 04.4	+00.8
22	150 28.9	+00.1	N 13 05.2	+00.8
23	165 29.0	+00.2	N 13 06.0	+00.8

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	328°	328°	328°	328°	328°	328°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	220 39.6	-00.2	S 04 44.4	-01.0
01	235 39.4	-00.2	S 04 43.4	-00.9
02	250 39.2	-00.2	S 04 42.5	-01.0
03	265 39.0	-00.2	S 04 41.5	-01.0
04	280 38.8	-00.2	S 04 40.5	-00.9
05	295 38.6	-00.2	S 04 39.6	-01.0
06	310 38.4	-00.1	S 04 38.6	-01.0
07	325 38.3	-00.2	S 04 37.6	-00.9
08	340 38.1	-00.2	S 04 36.7	-01.0
09	355 37.9	-00.2	S 04 35.7	-01.0
10	10 37.7	-00.2	S 04 34.7	-01.0
11	25 37.5	-00.2	S 04 33.7	-00.9
12	40 37.3	-00.2	S 04 32.8	-01.0
13	55 37.1	-00.1	S 04 31.8	-01.0
14	70 37.0	-00.2	S 04 30.8	-00.9
15	85 36.8	-00.2	S 04 29.9	-01.0
16	100 36.6	-00.2	S 04 28.9	-01.0
17	115 36.4	-00.2	S 04 27.9	-01.0
18	130 36.2	-00.2	S 04 26.9	-00.9
19	145 36.0	-00.2	S 04 26.0	-01.0
20	160 35.8	-00.1	S 04 25.0	-01.0
21	175 35.7	-00.2	S 04 24.0	-00.9
22	190 35.5	-00.2	S 04 23.1	-01.0
23	205 35.3	-00.2	S 04 22.1	-01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	009°	008°	008°	008°	008°	008°

Greenwich Culmination Time: 09:17

Moon

A: 80%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	257 42.6	-33.8	S 22 35.3	-09.1
01	272 08.8	-33.7	S 22 26.2	-09.2
02	286 35.1	-33.5	S 22 17.0	-09.4
03	301 01.6	-33.5	S 22 07.6	-09.4
04	315 28.1	-33.4	S 21 58.2	-09.6
05	329 54.7	-33.2	S 21 48.6	-09.7
06	344 21.5	-33.2	S 21 38.9	-09.9
07	358 48.3	-33.0	S 21 29.0	-09.9
08	13 15.3	-33.0	S 21 19.1	-10.1
09	27 42.3	-32.8	S 21 09.0	-10.2
10	42 09.5	-32.7	S 20 58.8	-10.3
11	56 36.8	-32.6	S 20 48.5	-10.4
12	71 04.2	-32.6	S 20 38.1	-10.5
13	85 31.6	-32.4	S 20 27.6	-10.7
14	99 59.2	-32.3	S 20 16.9	-10.7
15	114 26.9	-32.2	S 20 06.2	-10.8
16	128 54.7	-32.1	S 19 55.4	-11.0
17	143 22.6	-32.0	S 19 44.4	-11.0
18	157 50.6	-31.9	S 19 33.4	-11.2
19	172 18.7	-31.8	S 19 22.2	-11.2
20	186 46.9	-31.7	S 19 11.0	-11.4
21	201 15.2	-31.6	S 18 59.6	-11.4
22	215 43.6	-31.5	S 18 48.2	-11.6
23	230 12.1	-31.4	S 18 36.6	-11.6

UT	02	06	10	14	18	22
SD	16′0	15′9	15′9	15′9	15′9	15′9
HP	58′6	58′5	58′5	58′4	58′3	58′2
SHA	044°	042°	040°	037°	035°	033°

Greenwich Culmination Time: 07:04

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	233 00.4	+00.7	S 10 24.5	-00.7
01	248 01.1	+00.7	S 10 23.8	-00.7
02	263 01.8	+00.6	S 10 23.1	-00.6
03	278 02.4	+00.7	S 10 22.5	-00.7
04	293 03.1	+00.7	S 10 21.8	-00.7
05	308 03.8	+00.7	S 10 21.1	-00.7
06	323 04.5	+00.6	S 10 20.4	-00.7
07	338 05.1	+00.7	S 10 19.7	-00.6
08	353 05.8	+00.7	S 10 19.1	-00.7
09	8 06.5	+00.7	S 10 18.4	-00.7
10	23 07.2	+00.6	S 10 17.7	-00.7
11	38 07.8	+00.7	S 10 17.0	-00.7
12	53 08.5	+00.7	S 10 16.3	-00.6
13	68 09.2	+00.6	S 10 15.7	-00.7
14	83 09.8	+00.7	S 10 15.0	-00.7
15	98 10.5	+00.7	S 10 14.3	-00.7
16	113 11.2	+00.7	S 10 13.6	-00.7
17	128 11.9	+00.6	S 10 12.9	-00.6
18	143 12.5	+00.7	S 10 12.3	-00.7
19	158 13.2	+00.7	S 10 11.6	-00.7
20	173 13.9	+00.7	S 10 10.9	-00.7
21	188 14.6	+00.6	S 10 10.2	-00.7
22	203 15.2	+00.7	S 10 09.5	-00.7
23	218 15.9	+00.7	S 10 08.8	-00.6

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	021°	021°	021°	021°	020°	020°

Greenwich Culmination Time: 08:27

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	214 47.7	+02.0	S 02 21.4	-00.2
01	229 49.7	+02.0	S 02 21.2	-00.2
02	244 51.7	+01.9	S 02 21.0	-00.2
03	259 53.6	+02.0	S 02 20.8	-00.2
04	274 55.6	+02.0	S 02 20.6	-00.2
05	289 57.6	+01.9	S 02 20.4	-00.3
06	304 59.5	+02.0	S 02 20.1	-00.2
07	320 01.5	+02.0	S 02 19.9	-00.2
08	335 03.5	+01.9	S 02 19.7	-00.2
09	350 05.4	+02.0	S 02 19.5	-00.2
10	5 07.4	+02.0	S 02 19.3	-00.2
11	20 09.4	+01.9	S 02 19.1	-00.2
12	35 11.3	+02.0	S 02 18.9	-00.2
13	50 13.3	+02.0	S 02 18.7	-00.2
14	65 15.3	+01.9	S 02 18.5	-00.2
15	80 17.2	+02.0	S 02 18.3	-00.2
16	95 19.2	+02.0	S 02 18.1	-00.2
17	110 21.2	+01.9	S 02 17.9	-00.3
18	125 23.1	+02.0	S 02 17.6	-00.2
19	140 25.1	+02.0	S 02 17.4	-00.2
20	155 27.1	+01.9	S 02 17.2	-00.2
21	170 29.0	+02.0	S 02 17.0	-00.2
22	185 31.0	+02.0	S 02 16.8	-00.2
23	200 33.0	+01.9	S 02 16.6	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	003°	003°	003°	003°	003°	003°

Greenwich Culmination Time: 09:39

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	245 29.6	+02.3	S 14 30.9	-00.1
01	260 31.9	+02.3	S 14 30.8	+00.0
02	275 34.2	+02.3	S 14 30.8	-00.1
03	290 36.5	+02.3	S 14 30.7	+00.0
04	305 38.8	+02.3	S 14 30.7	-00.1
05	320 41.1	+02.3	S 14 30.6	+00.0
06	335 43.4	+02.3	S 14 30.6	+00.0
07	350 45.7	+02.3	S 14 30.6	-00.1
08	5 48.0	+02.3	S 14 30.5	+00.0
09	20 50.3	+02.3	S 14 30.5	-00.1
10	35 52.6	+02.3	S 14 30.4	+00.0
11	50 54.9	+02.3	S 14 30.4	-00.1
12	65 57.2	+02.3	S 14 30.3	+00.0
13	80 59.5	+02.3	S 14 30.3	-00.1
14	96 01.8	+02.3	S 14 30.2	+00.0
15	111 04.1	+02.4	S 14 30.2	-00.1
16	126 06.5	+02.3	S 14 30.1	+00.0
17	141 08.8	+02.3	S 14 30.1	-00.1
18	156 11.1	+02.3	S 14 30.0	+00.0
19	171 13.4	+02.3	S 14 30.0	-00.1
20	186 15.7	+02.3	S 14 29.9	+00.0
21	201 18.0	+02.3	S 14 29.9	+00.0
22	216 20.3	+02.3	S 14 29.9	-00.1
23	231 22.6	+02.3	S 14 29.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 07:36

2022 April 25 Monday (day 115 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 29.2	+00.1	N 13 06.8	+00.8
01	195 29.3	+00.1	N 13 07.6	+00.8
02	210 29.4	+00.1	N 13 08.4	+00.9
03	225 29.5	+00.1	N 13 09.3	+00.8
04	240 29.6	+00.1	N 13 10.1	+00.8
05	255 29.7	+00.1	N 13 10.9	+00.8
06	270 29.8	+00.1	N 13 11.7	+00.8
07	285 29.9	+00.1	N 13 12.5	+00.8
08	300 30.0	+00.1	N 13 13.3	+00.9
09	315 30.1	+00.1	N 13 14.2	+00.8
10	330 30.2	+00.1	N 13 15.0	+00.8
11	345 30.3	+00.1	N 13 15.8	+00.8
12	0 30.4	+00.1	N 13 16.6	+00.8
13	15 30.5	+00.1	N 13 17.4	+00.8
14	30 30.6	+00.2	N 13 18.2	+00.8
15	45 30.8	+00.1	N 13 19.0	+00.8
16	60 30.9	+00.1	N 13 19.8	+00.8
17	75 31.0	+00.1	N 13 20.6	+00.9
18	90 31.1	+00.1	N 13 21.5	+00.8
19	105 31.2	+00.1	N 13 22.3	+00.8
20	120 31.3	+00.1	N 13 23.1	+00.8
21	135 31.4	+00.1	N 13 23.9	+00.8
22	150 31.5	+00.1	N 13 24.7	+00.8
23	165 31.6	+00.1	N 13 25.5	+00.8

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	327°	327°	327°	327°	327°	327°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	220 35.1	-00.2	S 04 21.1	-01.0
01	235 34.9	-00.2	S 04 20.1	-00.9
02	250 34.7	-00.2	S 04 19.2	-01.0
03	265 34.5	-00.1	S 04 18.2	-01.0
04	280 34.4	-00.2	S 04 17.2	-01.0
05	295 34.2	-00.2	S 04 16.2	-01.0
06	310 34.0	-00.2	S 04 15.2	-00.9
07	325 33.8	-00.2	S 04 14.3	-01.0
08	340 33.6	-00.2	S 04 13.3	-01.0
09	355 33.4	-00.2	S 04 12.3	-01.0
10	10 33.2	-00.1	S 04 11.3	-00.9
11	25 33.1	-00.2	S 04 10.4	-01.0
12	40 32.9	-00.2	S 04 09.4	-01.0
13	55 32.7	-00.2	S 04 08.4	-01.0
14	70 32.5	-00.2	S 04 07.4	-01.0
15	85 32.3	-00.2	S 04 06.4	-00.9
16	100 32.1	-00.2	S 04 05.5	-01.0
17	115 31.9	-00.2	S 04 04.5	-01.0
18	130 31.7	-00.1	S 04 03.5	-01.0
19	145 31.6	-00.2	S 04 02.5	-01.0
20	160 31.4	-00.2	S 04 01.5	-00.9
21	175 31.2	-00.2	S 04 00.6	-01.0
22	190 31.0	-00.2	S 03 59.6	-01.0
23	205 30.8	-00.2	S 03 58.6	-01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	008°	007°	007°	007°	007°	007°

Greenwich Culmination Time: 09:17

Moon

A: 83%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	244 40.7	-31.3	S 18 25.0	-11.7
01	259 09.4	-31.2	S 18 13.3	-11.9
02	273 38.2	-31.1	S 18 01.4	-11.9
03	288 07.1	-30.9	S 17 49.5	-12.0
04	302 36.2	-30.9	S 17 37.5	-12.0
05	317 05.3	-30.9	S 17 25.5	-12.2
06	331 34.4	-30.7	S 17 13.3	-12.2
07	346 03.7	-30.6	S 17 01.1	-12.4
08	0 33.1	-30.5	S 16 48.7	-12.4
09	15 02.6	-30.4	S 16 36.3	-12.4
10	29 32.2	-30.3	S 16 23.9	-12.6
11	44 01.9	-30.3	S 16 11.3	-12.6
12	58 31.6	-30.1	S 15 58.7	-12.7
13	73 01.5	-30.1	S 15 46.0	-12.8
14	87 31.4	-29.9	S 15 33.2	-12.9
15	102 01.5	-29.9	S 15 20.3	-12.9
16	116 31.6	-29.8	S 15 07.4	-13.0
17	131 01.8	-29.7	S 14 54.4	-13.0
18	145 32.1	-29.6	S 14 41.4	-13.2
19	160 02.5	-29.6	S 14 28.2	-13.1
20	174 32.9	-29.4	S 14 15.1	-13.3
21	189 03.5	-29.4	S 14 01.8	-13.3
22	203 34.1	-29.3	S 13 48.5	-13.3
23	218 04.8	-29.2	S 13 35.2	-13.5

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′7	15′7
HP	58′1	58′0	57′9	57′9	57′8	57′7
SHA	031°	028°	026°	024°	022°	020°

Greenwich Culmination Time: 07:57

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	233 16.6	+00.6	S 10 08.2	-00.7
01	248 17.2	+00.7	S 10 07.5	-00.7
02	263 17.9	+00.7	S 10 06.8	-00.7
03	278 18.6	+00.7	S 10 06.1	-00.7
04	293 19.3	+00.6	S 10 05.4	-00.7
05	308 19.9	+00.7	S 10 04.7	-00.6
06	323 20.6	+00.7	S 10 04.1	-00.7
07	338 21.3	+00.7	S 10 03.4	-00.7
08	353 22.0	+00.6	S 10 02.7	-00.7
09	8 22.6	+00.7	S 10 02.0	-00.7
10	23 23.3	+00.7	S 10 01.3	-00.7
11	38 24.0	+00.7	S 10 00.6	-00.6
12	53 24.7	+00.6	S 09 60.0	-00.7
13	68 25.3	+00.7	S 09 59.3	-00.7
14	83 26.0	+00.7	S 09 58.6	-00.7
15	98 26.7	+00.7	S 09 57.9	-00.7
16	113 27.4	+00.7	S 09 57.2	-00.7
17	128 28.1	+00.6	S 09 56.5	-00.6
18	143 28.7	+00.7	S 09 55.9	-00.7
19	158 29.4	+00.7	S 09 55.2	-00.7
20	173 30.1	+00.7	S 09 54.5	-00.7
21	188 30.8	+00.6	S 09 53.8	-00.7
22	203 31.4	+00.7	S 09 53.1	-00.7
23	218 32.1	+00.7	S 09 52.4	-00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	020°	020°	020°	020°	020°	020°

Greenwich Culmination Time: 08:26

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	215 34.9	+02.0	S 02 16.4	-00.2
01	230 36.9	+02.0	S 02 16.2	-00.2
02	245 38.9	+02.0	S 02 16.0	-00.2
03	260 40.9	+01.9	S 02 15.8	-00.2
04	275 42.8	+02.0	S 02 15.6	-00.2
05	290 44.8	+02.0	S 02 15.4	-00.3
06	305 46.8	+01.9	S 02 15.1	-00.2
07	320 48.7	+02.0	S 02 14.9	-00.2
08	335 50.7	+02.0	S 02 14.7	-00.2
09	350 52.7	+01.9	S 02 14.5	-00.2
10	5 54.6	+02.0	S 02 14.3	-00.2
11	20 56.6	+02.0	S 02 14.1	-00.2
12	35 58.6	+01.9	S 02 13.9	-00.2
13	51 00.5	+02.0	S 02 13.7	-00.2
14	66 02.5	+02.0	S 02 13.5	-00.2
15	81 04.5	+01.9	S 02 13.3	-00.2
16	96 06.4	+02.0	S 02 13.1	-00.2
17	111 08.4	+02.0	S 02 12.9	-00.2
18	126 10.4	+02.0	S 02 12.7	-00.3
19	141 12.4	+01.9	S 02 12.4	-00.2
20	156 14.3	+02.0	S 02 12.2	-00.2
21	171 16.3	+02.0	S 02 12.0	-00.2
22	186 18.3	+01.9	S 02 11.8	-00.2
23	201 20.2	+02.0	S 02 11.6	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	003°	003°	003°	002°	002°	002°

Greenwich Culmination Time: 09:36

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	246 24.9	+02.3	S 14 29.8	-00.1
01	261 27.2	+02.3	S 14 29.7	+00.0
02	276 29.5	+02.3	S 14 29.7	-00.1
03	291 31.8	+02.3	S 14 29.6	+00.0
04	306 34.1	+02.3	S 14 29.6	-00.1
05	321 36.4	+02.4	S 14 29.5	+00.0
06	336 38.8	+02.3	S 14 29.5	-00.1
07	351 41.1	+02.3	S 14 29.4	+00.0
08	6 43.4	+02.3	S 14 29.4	-00.1
09	21 45.7	+02.3	S 14 29.3	+00.0
10	36 48.0	+02.3	S 14 29.3	+00.0
11	51 50.3	+02.3	S 14 29.3	-00.1
12	66 52.6	+02.3	S 14 29.2	+00.0
13	81 54.9	+02.3	S 14 29.2	-00.1
14	96 57.2	+02.3	S 14 29.1	+00.0
15	111 59.5	+02.3	S 14 29.1	-00.1
16	127 01.8	+02.4	S 14 29.0	+00.0
17	142 04.2	+02.3	S 14 29.0	-00.1
18	157 06.5	+02.3	S 14 28.9	+00.0
19	172 08.8	+02.3	S 14 28.9	-00.1
20	187 11.1	+02.3	S 14 28.8	+00.0
21	202 13.4	+02.3	S 14 28.8	+00.0
22	217 15.7	+02.3	S 14 28.8	-00.1
23	232 18.0	+02.3	S 14 28.7	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 07:33

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 April 30 Saturday (day 120 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 40.5	+00.1	N 14 42.1	+00.7
01	195 40.6	+00.1	N 14 42.8	+00.8
02	210 40.7	+00.1	N 14 43.6	+00.8
03	225 40.8	+00.1	N 14 44.4	+00.7
04	240 40.9	+00.0	N 14 45.1	+00.8
05	255 40.9	+00.1	N 14 45.9	+00.8
06	270 41.0	+00.1	N 14 46.7	+00.7
07	285 41.1	+00.1	N 14 47.4	+00.8
08	300 41.2	+00.1	N 14 48.2	+00.8
09	315 41.3	+00.0	N 14 49.0	+00.7
10	330 41.3	+00.1	N 14 49.7	+00.8
11	345 41.4	+00.1	N 14 50.5	+00.8
12	0 41.5	+00.1	N 14 51.3	+00.7
13	15 41.6	+00.1	N 14 52.0	+00.8
14	30 41.7	+00.0	N 14 52.8	+00.8
15	45 41.7	+00.1	N 14 53.6	+00.7
16	60 41.8	+00.1	N 14 54.3	+00.8
17	75 41.9	+00.1	N 14 55.1	+00.7
18	90 42.0	+00.0	N 14 55.8	+00.8
19	105 42.0	+00.1	N 14 56.6	+00.8
20	120 42.1	+00.1	N 14 57.4	+00.7
21	135 42.2	+00.1	N 14 58.1	+00.8
22	150 42.3	+00.0	N 14 58.9	+00.7
23	165 42.3	+00.1	N 14 59.6	+00.8

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	323°	323°	322°	322°	322°	322°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	220 12.5	-00.2	S 02 21.7	-01.0
01	235 12.3	-00.2	S 02 20.7	-01.0
02	250 12.1	-00.1	S 02 19.7	-01.0
03	265 12.0	-00.2	S 02 18.7	-01.0
04	280 11.8	-00.2	S 02 17.7	-01.0
05	295 11.6	-00.2	S 02 16.7	-01.1
06	310 11.4	-00.2	S 02 15.6	-01.0
07	325 11.2	-00.2	S 02 14.6	-01.0
08	340 11.0	-00.2	S 02 13.6	-01.0
09	355 10.8	-00.2	S 02 12.6	-01.0
10	10 10.6	-00.2	S 02 11.6	-01.0
11	25 10.4	-00.2	S 02 10.6	-01.1
12	40 10.2	-00.2	S 02 09.5	-01.0
13	55 10.0	-00.1	S 02 08.5	-01.0
14	70 09.9	-00.2	S 02 07.5	-01.0
15	85 09.7	-00.2	S 02 06.5	-01.0
16	100 09.5	-00.2	S 02 05.5	-01.0
17	115 09.3	-00.2	S 02 04.5	-01.1
18	130 09.1	-00.2	S 02 03.4	-01.0
19	145 08.9	-00.2	S 02 02.4	-01.0
20	160 08.7	-00.2	S 02 01.4	-01.0
21	175 08.5	-00.2	S 02 00.4	-01.0
22	190 08.3	-00.2	S 01 59.4	-01.0
23	205 08.1	-00.2	S 01 58.4	-01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	002°	002°	002°	002°	001°	001°

Greenwich Culmination Time: 09:19

Moon

A: 99%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	189 26.3	-26.4	N 09 30.5	+13.5
01	203 59.9	-26.4	N 09 44.0	+13.4
02	218 33.5	-26.5	N 09 57.4	+13.3
03	233 07.0	-26.4	N 10 10.7	+13.4
04	247 40.6	-26.5	N 10 24.1	+13.2
05	262 14.1	-26.6	N 10 37.3	+13.2
06	276 47.5	-26.5	N 10 50.5	+13.2
07	291 21.0	-26.6	N 11 03.7	+13.1
08	305 54.4	-26.6	N 11 16.8	+13.0
09	320 27.8	-26.6	N 11 29.8	+13.0
10	335 01.2	-26.6	N 11 42.8	+12.9
11	349 34.6	-26.7	N 11 55.7	+12.9
12	4 07.9	-26.7	N 12 08.6	+12.8
13	18 41.2	-26.7	N 12 21.4	+12.7
14	33 14.5	-26.8	N 12 34.1	+12.7
15	47 47.7	-26.8	N 12 46.8	+12.6
16	62 20.9	-26.8	N 12 59.4	+12.6
17	76 54.1	-26.8	N 13 12.0	+12.5
18	91 27.3	-26.9	N 13 24.5	+12.4
19	106 00.4	-26.9	N 13 36.9	+12.4
20	120 33.5	-27.0	N 13 49.3	+12.3
21	135 06.5	-26.9	N 14 01.6	+12.2
22	149 39.6	-27.0	N 14 13.8	+12.2
23	164 12.6	-27.1	N 14 26.0	+12.1

UT	02	06	10	14	18	22
SD	15′2	15′1	15′1	15′1	15′1	15′1
HP	55′6	55′5	55′5	55′4	55′3	55′2
SHA	331°	329°	327°	325°	323°	321°

Greenwich Culmination Time: 11:42

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	234 38.4	+00.7	S 08 45.3	-00.7
01	249 39.1	+00.7	S 08 44.6	-00.7
02	264 39.8	+00.7	S 08 43.9	-00.7
03	279 40.5	+00.6	S 08 43.2	-00.7
04	294 41.1	+00.7	S 08 42.5	-00.7
05	309 41.8	+00.7	S 08 41.8	-00.7
06	324 42.5	+00.7	S 08 41.1	-00.7
07	339 43.2	+00.7	S 08 40.4	-00.7
08	354 43.9	+00.7	S 08 39.7	-00.7
09	9 44.6	+00.7	S 08 39.0	-00.7
10	24 45.3	+00.7	S 08 38.3	-00.7
11	39 46.0	+00.7	S 08 37.6	-00.7
12	54 46.7	+00.7	S 08 36.9	-00.7
13	69 47.4	+00.6	S 08 36.2	-00.7
14	84 48.0	+00.7	S 08 35.5	-00.7
15	99 48.7	+00.7	S 08 34.8	-00.7
16	114 49.4	+00.7	S 08 34.1	-00.7
17	129 50.1	+00.7	S 08 33.4	-00.7
18	144 50.8	+00.7	S 08 32.7	-00.7
19	159 51.5	+00.7	S 08 32.0	-00.7
20	174 52.2	+00.7	S 08 31.3	-00.7
21	189 52.9	+00.7	S 08 30.6	-00.7
22	204 53.6	+00.7	S 08 29.9	-00.7
23	219 54.3	+00.7	S 08 29.2	-00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	017°	017°	016°	016°	016°	016°

Greenwich Culmination Time: 08:21

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	219 31.9	+02.0	S 01 51.8	-00.2
01	234 33.9	+01.9	S 01 51.6	-00.3
02	249 35.8	+02.0	S 01 51.3	-00.2
03	264 37.8	+02.0	S 01 51.1	-00.2
04	279 39.8	+02.0	S 01 50.9	-00.2
05	294 41.8	+02.0	S 01 50.7	-00.2
06	309 43.8	+01.9	S 01 50.5	-00.2
07	324 45.7	+02.0	S 01 50.3	-00.2
08	339 47.7	+02.0	S 01 50.1	-00.2
09	354 49.7	+02.0	S 01 49.9	-00.2
10	9 51.7	+02.0	S 01 49.7	-00.2
11	24 53.7	+02.0	S 01 49.5	-00.2
12	39 55.7	+01.9	S 01 49.3	-00.2
13	54 57.6	+02.0	S 01 49.1	-00.2
14	69 59.6	+02.0	S 01 48.9	-00.2
15	85 01.6	+02.0	S 01 48.7	-00.2
16	100 03.6	+02.0	S 01 48.5	-00.2
17	115 05.6	+02.0	S 01 48.3	-00.2
18	130 07.6	+01.9	S 01 48.1	-00.2
19	145 09.5	+02.0	S 01 47.9	-00.2
20	160 11.5	+02.0	S 01 47.7	-00.2
21	175 13.5	+02.0	S 01 47.5	-00.2
22	190 15.5	+02.0	S 01 47.3	-00.2
23	205 17.5	+02.0	S 01 47.1	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	002°	002°	002°	002°	001°	001°

Greenwich Culmination Time: 09:20

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	251 02.8	+02.3	S 14 24.6	-00.1
01	266 05.1	+02.4	S 14 24.5	+00.0
02	281 07.5	+02.3	S 14 24.5	-00.1
03	296 09.8	+02.3	S 14 24.4	+00.0
04	311 12.1	+02.3	S 14 24.4	+00.0
05	326 14.4	+02.4	S 14 24.4	-00.1
06	341 16.8	+02.3	S 14 24.3	+00.0
07	356 19.1	+02.3	S 14 24.3	-00.1
08	11 21.4	+02.3	S 14 24.2	+00.0
09	26 23.7	+02.4	S 14 24.2	+00.0
10	41 26.1	+02.3	S 14 24.2	-00.1
11	56 28.4	+02.3	S 14 24.1	+00.0
12	71 30.7	+02.4	S 14 24.1	-00.1
13	86 33.1	+02.3	S 14 24.0	+00.0
14	101 35.4	+02.3	S 14 24.0	+00.0
15	116 37.7	+02.3	S 14 24.0	-00.1
16	131 40.0	+02.4	S 14 23.9	+00.0
17	146 42.4	+02.3	S 14 23.9	-00.1
18	161 44.7	+02.3	S 14 23.8	+00.0
19	176 47.0	+02.3	S 14 23.8	+00.0
20	191 49.3	+02.4	S 14 23.8	-00.1
21	206 51.7	+02.3	S 14 23.7	+00.0
22	221 54.0	+02.3	S 14 23.7	+00.0
23	236 56.3	+02.4	S 14 23.7	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 07:14

2022 April 27 Wednesday (day 117 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 34.1	+00.1	N 13 45.6	+00.8
01	195 34.2	+00.1	N 13 46.4	+00.8
02	210 34.3	+00.1	N 13 47.2	+00.8
03	225 34.4	+00.1	N 13 48.0	+00.8
04	240 34.5	+00.1	N 13 48.8	+00.8
05	255 34.6	+00.1	N 13 49.6	+00.8
06	270 34.7	+00.1	N 13 50.4	+00.8
07	285 34.8	+00.1	N 13 51.2	+00.8
08	300 34.9	+00.1	N 13 52.0	+00.8
09	315 35.0	+00.1	N 13 52.8	+00.8
10	330 35.1	+00.1	N 13 53.6	+00.8
11	345 35.2	+00.0	N 13 54.4	+00.8
12	0 35.2	+00.1	N 13 55.2	+00.7
13	15 35.3	+00.1	N 13 55.9	+00.8
14	30 35.4	+00.1	N 13 56.7	+00.8
15	45 35.5	+00.1	N 13 57.5	+00.8
16	60 35.6	+00.1	N 13 58.3	+00.8
17	75 35.7	+00.1	N 13 59.1	+00.8
18	90 35.8	+00.1	N 13 59.9	+00.8
19	105 35.9	+00.1	N 14 00.7	+00.8
20	120 36.0	+00.1	N 14 01.5	+00.8
21	135 36.1	+00.1	N 14 02.3	+00.8
22	150 36.2	+00.1	N 14 03.1	+00.8
23	165 36.3	+00.1	N 14 03.9	+00.8

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	326°	325°	325°	325°	325°	325°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	220 26.1	-00.2	S 03 33.9	-01.0
01	235 25.9	-00.1	S 03 32.9	-01.0
02	250 25.8	-00.2	S 03 31.9	-01.0
03	265 25.6	-00.2	S 03 30.9	-01.0
04	280 25.4	-00.2	S 03 29.9	-01.0
05	295 25.2	-00.2	S 03 28.9	-01.0
06	310 25.0	-00.2	S 03 27.9	-00.9
07	325 24.8	-00.2	S 03 27.0	-01.0
08	340 24.6	-00.2	S 03 26.0	-01.0
09	355 24.4	-00.1	S 03 25.0	-01.0
10	10 24.3	-00.2	S 03 24.0	-01.0
11	25 24.1	-00.2	S 03 23.0	-01.0
12	40 23.9	-00.2	S 03 22.0	-01.0
13	55 23.7	-00.2	S 03 21.0	-01.0
14	70 23.5	-00.2	S 03 20.0	-01.0
15	85 23.3	-00.2	S 03 19.0	-01.0
16	100 23.1	-00.2	S 03 18.0	-01.0
17	115 22.9	-00.2	S 03 17.0	-01.0
18	130 22.7	-00.1	S 03 16.0	-01.0
19	145 22.6	-00.2	S 03 15.0	-01.0
20	160 22.4	-00.2	S 03 14.0	-01.0
21	175 22.2	-00.2	S 03 13.0	-01.0
22	190 22.0	-00.2	S 03 12.0	-01.0
23	205 21.8	-00.2	S 03 11.0	-01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	005°	005°	005°	005°	005°	005°

Greenwich Culmination Time: 09:18

Moon

A: 90%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	221 16.4	-27.5	S 07 45.8	-14.4
01	235 48.9	-27.4	S 07 31.4	-14.5
02	250 21.5	-27.4	S 07 16.9	-14.5
03	264 54.1	-27.4	S 07 02.4	-14.5
04	279 26.7	-27.3	S 06 47.9	-14.5
05	293 59.4	-27.3	S 06 33.4	-14.6
06	308 32.1	-27.2	S 06 18.8	-14.5
07	323 04.9	-27.1	S 06 04.3	-14.6
08	337 37.8	-27.2	S 05 49.7	-14.6
09	352 10.6	-27.0	S 05 35.1	-14.6
10	6 43.6	-27.1	S 05 20.5	-14.6
11	21 16.5	-27.0	S 05 05.9	-14.7
12	35 49.5	-26.9	S 04 51.2	-14.6
13	50 22.6	-26.9	S 04 36.6	-14.7
14	64 55.7	-26.9	S 04 21.9	-14.7
15	79 28.8	-26.8	S 04 07.2	-14.6
16	94 02.0	-26.8	S 03 52.6	-14.7
17	108 35.2	-26.8	S 03 37.9	-14.7
18	123 08.4	-26.7	S 03 23.2	-14.7
19	137 41.7	-26.7	S 03 08.5	-14.7
20	152 15.0	-26.7	S 02 53.8	-14.7
21	166 48.3	-26.6	S 02 39.1	-14.7
22	181 21.7	-26.6	S 02 24.4	-14.7
23	195 55.1	-26.6	S 02 09.7	-14.7

UT	02	06	10	14	18	22
SD	15′6	15′5	15′5	15′5	15′5	15′4
HP	57′1	57′0	56′9	56′8	56′7	56′7
SHA	005°	003°	001°	359°	357°	355°

Greenwich Culmination Time: 09:32

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	233 49.1	+00.7	S 09 35.3	-00.7
01	248 49.8	+00.6	S 09 34.6	-00.7
02	263 50.4	+00.7	S 09 33.9	-00.7
03	278 51.1	+00.7	S 09 33.2	-00.7
04	293 51.8	+00.7	S 09 32.5	-00.7
05	308 52.5	+00.7	S 09 31.8	-00.7
06	323 53.2	+00.6	S 09 31.1	-00.7
07	338 53.8	+00.7	S 09 30.4	-00.7
08	353 54.5	+00.7	S 09 29.7	-00.7
09	8 55.2	+00.7	S 09 29.0	-00.6
10	23 55.9	+00.7	S 09 28.4	-00.7
11	38 56.6	+00.6	S 09 27.7	-00.7
12	53 57.2	+00.7	S 09 27.0	-00.7
13	68 57.9	+00.7	S 09 26.3	-00.7
14	83 58.6	+00.7	S 09 25.6	-00.7
15	98 59.3	+00.7	S 09 24.9	-00.7
16	113 60.0	+00.7	S 09 24.2	-00.7
17	129 00.7	+00.6	S 09 23.5	-00.7
18	144 01.3	+00.7	S 09 22.8	-00.7
19	159 02.0	+00.7	S 09 22.1	-00.7
20	174 02.7	+00.7	S 09 21.4	-00.6
21	189 03.4	+00.7	S 09 20.8	-00.7
22	204 04.1	+00.7	S 09 20.1	-00.7
23	219 04.8	+00.6	S 09 19.4	-00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	019°	019°	019°	018°	018°	018°

Greenwich Culmination Time: 08:24

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	217 09.5	+02.0	S 02 06.5	-00.3
01	232 11.5	+02.0	S 02 06.2	-00.2
02	247 13.5	+02.0	S 02 06.0	-00.2
03	262 15.5	+01.9	S 02 05.8	-00.2
04	277 17.4	+02.0	S 02 05.6	-00.2
05	292 19.4	+02.0	S 02 05.4	-00.2
06	307 21.4	+01.9	S 02 05.2	-00.2
07	322 23.3	+02.0	S 02 05.0	-00.2
08	337 25.3	+02.0	S 02 04.8	-00.2
09	352 27.3	+02.0	S 02 04.6	-00.2
10	7 29.3	+01.9	S 02 04.4	-00.2
11	22 31.2	+02.0	S 02 04.2	-00.2
12	37 33.2	+02.0	S 02 04.0	-00.2
13	52 35.2	+02.0	S 02 03.8	-00.2
14	67 37.2	+01.9	S 02 03.6	-00.2
15	82 39.1	+02.0	S 02 03.4	-00.2
16	97 41.1	+02.0	S 02 03.2	-00.2
17	112 43.1	+02.0	S 02 03.0	-00.2
18	127 45.1	+01.9	S 02 02.8	-00.3
19	142 47.0	+02.0	S 02 02.5	-00.2
20	157 49.0	+02.0	S 02 02.3	-00.2
21	172 51.0	+02.0	S 02 02.1	-00.2
22	187 53.0	+01.9	S 02 01.9	-00.2
23	202 54.9	+02.0	S 02 01.7	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	002°	002°	002°	002°	002°	002°

Greenwich Culmination Time: 09:30

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	248 15.8	+02.3	S 14 27.6	+00.0
01	263 18.1	+02.4	S 14 27.6	-00.1
02	278 20.5	+02.3	S 14 27.5	+00.0
03	293 22.8	+02.3	S 14 27.5	-00.1
04	308 25.1	+02.3	S 14 27.4	+00.0
05	323 27.4	+02.3	S 14 27.4	-00.1
06	338 29.7	+02.3	S 14 27.3	+00.0
07	353 32.0	+02.3	S 14 27.3	+00.0
08	8 34.3	+02.4	S 14 27.3	-00.1
09	23 36.7	+02.3	S 14 27.2	+00.0
10	38 39.0	+02.3	S 14 27.2	-00.1
11	53 41.3	+02.3	S 14 27.1	+00.0
12	68 43.6	+02.3	S 14 27.1	-00.1
13	83 45.9	+02.3	S 14 27.0	+00.0
14	98 48.2	+02.4	S 14 27.0	-00.1
15	113 50.6	+02.3	S 14 26.9	+00.0
16	128 52.9	+02.3	S 14 26.9	+00.0
17	143 55.2	+02.3	S 14 26.9	-00.1
18	158 57.5	+02.3	S 14 26.8	+00.0
19	173 59.8	+02.3	S 14 26.8	-00.1
20	189 02.1	+02.4	S 14 26.7	+00.0
21	204 04.5	+02.3	S 14 26.7	-00.1
22	219 06.8	+02.3	S 14 26.6	+00.0
23	234 09.1	+02.3	S 14 26.6	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 07:25

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 April 28 Thursday (day 118 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 36.4	+00.1	N 14 04.7	+00.7
01	195 36.5	+00.1	N 14 05.4	+00.8
02	210 36.6	+00.0	N 14 06.2	+00.8
03	225 36.6	+00.1	N 14 07.0	+00.8
04	240 36.7	+00.1	N 14 07.8	+00.8
05	255 36.8	+00.1	N 14 08.6	+00.8
06	270 36.9	+00.1	N 14 09.4	+00.8
07	285 37.0	+00.1	N 14 10.2	+00.8
08	300 37.1	+00.1	N 14 11.0	+00.7
09	315 37.2	+00.1	N 14 11.7	+00.8
10	330 37.3	+00.1	N 14 12.5	+00.8
11	345 37.4	+00.1	N 14 13.3	+00.8
12	0 37.5	+00.1	N 14 14.1	+00.8
13	15 37.6	+00.0	N 14 14.9	+00.8
14	30 37.6	+00.1	N 14 15.7	+00.7
15	45 37.7	+00.1	N 14 16.4	+00.8
16	60 37.8	+00.1	N 14 17.2	+00.8
17	75 37.9	+00.1	N 14 18.0	+00.8
18	90 38.0	+00.1	N 14 18.8	+00.8
19	105 38.1	+00.1	N 14 19.6	+00.8
20	120 38.2	+00.1	N 14 20.4	+00.7
21	135 38.3	+00.0	N 14 21.1	+00.8
22	150 38.3	+00.1	N 14 21.9	+00.8
23	165 38.4	+00.1	N 14 22.7	+00.8

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	325°	324°	324°	324°	324°	324°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	220 21.6	−00.2	S 03 10.0	−01.0
01	235 21.4	−00.2	S 03 09.0	−01.0
02	250 21.2	−00.1	S 03 08.0	−01.0
03	265 21.1	−00.2	S 03 07.0	−01.0
04	280 20.9	−00.2	S 03 06.0	−01.0
05	295 20.7	−00.2	S 03 05.0	−01.0
06	310 20.5	−00.2	S 03 04.0	−01.0
07	325 20.3	−00.2	S 03 03.0	−01.0
08	340 20.1	−00.2	S 03 02.0	−01.0
09	355 19.9	−00.2	S 03 01.0	−01.0
10	10 19.7	−00.2	S 03 00.0	−01.0
11	25 19.5	−00.1	S 02 59.0	−01.0
12	40 19.4	−00.2	S 02 58.0	−01.0
13	55 19.2	−00.2	S 02 57.0	−01.0
14	70 19.0	−00.2	S 02 56.0	−01.0
15	85 18.8	−00.2	S 02 55.0	−01.0
16	100 18.6	−00.2	S 02 54.0	−01.0
17	115 18.4	−00.2	S 02 53.0	−01.0
18	130 18.2	−00.2	S 02 52.0	−01.0
19	145 18.0	−00.2	S 02 51.0	−01.0
20	160 17.8	−00.2	S 02 50.0	−01.0
21	175 17.6	−00.1	S 02 49.0	−01.0
22	190 17.5	−00.2	S 02 48.0	−01.0
23	205 17.3	−00.2	S 02 47.0	−01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	004°	004°	004°	004°	004°	003°

Greenwich Culmination Time: 09:18

Moon

A: 93%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	210 28.5	−26.5	S 01 55.0	−14.7
01	225 02.0	−26.5	S 01 40.3	−14.7
02	239 35.5	−26.5	S 01 25.6	−14.7
03	254 09.0	−26.5	S 01 10.9	−14.7
04	268 42.5	−26.4	S 00 56.2	−14.7
05	283 16.1	−26.5	S 00 41.5	−14.7
06	297 49.6	−26.4	S 00 26.8	−14.7
07	312 23.2	−26.4	S 00 12.1	−14.6
08	326 56.8	−26.3	N 00 02.5	+14.7
09	341 30.5	−26.4	N 00 17.2	+14.6
10	356 04.1	−26.3	N 00 31.8	+14.7
11	10 37.8	−26.3	N 00 46.5	+14.6
12	25 11.5	−26.3	N 01 01.1	+14.6
13	39 45.2	−26.3	N 01 15.7	+14.6
14	54 18.9	−26.3	N 01 30.3	+14.6
15	68 52.6	−26.2	N 01 44.9	+14.5
16	83 26.4	−26.3	N 01 59.4	+14.6
17	98 00.1	−26.2	N 02 14.0	+14.5
18	112 33.9	−26.2	N 02 28.5	+14.5
19	127 07.7	−26.3	N 02 43.0	+14.5
20	141 41.4	−26.2	N 02 57.5	+14.4
21	156 15.2	−26.2	N 03 11.9	+14.4
22	170 49.0	−26.2	N 03 26.3	+14.5
23	185 22.8	−26.2	N 03 40.8	+14.3

UT	02	06	10	14	18	22
SD	15′4	15′4	15′4	15′3	15′3	15′3
HP	56′6	56′5	56′4	56′3	56′2	56′2
SHA	354°	352°	350°	348°	346°	344°

Greenwich Culmination Time: 10:16

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	234 05.4	+00.7	S 09 18.7	−00.7
01	249 06.1	+00.7	S 09 18.0	−00.7
02	264 06.8	+00.7	S 09 17.3	−00.7
03	279 07.5	+00.7	S 09 16.6	−00.7
04	294 08.2	+00.7	S 09 15.9	−00.7
05	309 08.9	+00.6	S 09 15.2	−00.7
06	324 09.5	+00.7	S 09 14.5	−00.7
07	339 10.2	+00.7	S 09 13.8	−00.7
08	354 10.9	+00.7	S 09 13.1	−00.7
09	9 11.6	+00.7	S 09 12.4	−00.6
10	24 12.3	+00.7	S 09 11.8	−00.7
11	39 13.0	+00.6	S 09 11.1	−00.7
12	54 13.6	+00.7	S 09 10.4	−00.7
13	69 14.3	+00.7	S 09 09.7	−00.7
14	84 15.0	+00.7	S 09 09.0	−00.7
15	99 15.7	+00.7	S 09 08.3	−00.7
16	114 16.4	+00.7	S 09 07.6	−00.7
17	129 17.1	+00.7	S 09 06.9	−00.7
18	144 17.8	+00.6	S 09 06.2	−00.7
19	159 18.4	+00.7	S 09 05.5	−00.7
20	174 19.1	+00.7	S 09 04.8	−00.7
21	189 19.8	+00.7	S 09 04.1	−00.7
22	204 20.5	+00.7	S 09 03.4	−00.7
23	219 21.2	+00.7	S 09 02.7	−00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	018°	018°	018°	018°	018°	017°

Greenwich Culmination Time: 08:23

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	217 56.9	+02.0	S 02 01.5	−00.2
01	232 58.9	+02.0	S 02 01.3	−00.2
02	248 00.9	+01.9	S 02 01.1	−00.2
03	263 02.8	+02.0	S 02 00.9	−00.2
04	278 04.8	+02.0	S 02 00.7	−00.2
05	293 06.8	+02.0	S 02 00.5	−00.2
06	308 08.8	+02.0	S 02 00.3	−00.2
07	323 10.8	+01.9	S 02 00.1	−00.2
08	338 12.7	+02.0	S 01 59.9	−00.2
09	353 14.7	+02.0	S 01 59.7	−00.2
10	8 16.7	+02.0	S 01 59.5	−00.2
11	23 18.7	+01.9	S 01 59.3	−00.2
12	38 20.6	+02.0	S 01 59.1	−00.2
13	53 22.6	+02.0	S 01 58.9	−00.2
14	68 24.6	+02.0	S 01 58.7	−00.2
15	83 26.6	+01.9	S 01 58.5	−00.2
16	98 28.5	+02.0	S 01 58.3	−00.2
17	113 30.5	+02.0	S 01 58.1	−00.3
18	128 32.5	+02.0	S 01 57.8	−00.2
19	143 34.5	+02.0	S 01 57.6	−00.2
20	158 36.5	+01.9	S 01 57.4	−00.2
21	173 38.4	+02.0	S 01 57.2	−00.2
22	188 40.4	+02.0	S 01 57.0	−00.2
23	203 42.4	+02.0	S 01 56.8	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	002°	002°	002°	002°	002°	002°

Greenwich Culmination Time: 09:26

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	249 11.4	+02.3	S 14 26.6	−00.1
01	264 13.7	+02.3	S 14 26.5	+00.0
02	279 16.0	+02.4	S 14 26.5	−00.1
03	294 18.4	+02.3	S 14 26.4	+00.0
04	309 20.7	+02.3	S 14 26.4	−00.1
05	324 23.0	+02.3	S 14 26.3	+00.0
06	339 25.3	+02.3	S 14 26.3	+00.0
07	354 27.6	+02.4	S 14 26.3	−00.1
08	9 30.0	+02.3	S 14 26.2	+00.0
09	24 32.3	+02.3	S 14 26.2	−00.1
10	39 34.6	+02.3	S 14 26.1	+00.0
11	54 36.9	+02.3	S 14 26.1	+00.0
12	69 39.2	+02.4	S 14 26.1	−00.1
13	84 41.6	+02.3	S 14 26.0	+00.0
14	99 43.9	+02.3	S 14 26.0	−00.1
15	114 46.2	+02.3	S 14 25.9	+00.0
16	129 48.5	+02.3	S 14 25.9	−00.1
17	144 50.8	+02.4	S 14 25.8	+00.0
18	159 53.2	+02.3	S 14 25.8	+00.0
19	174 55.5	+02.3	S 14 25.8	−00.1
20	189 57.8	+02.3	S 14 25.7	+00.0
21	205 00.1	+02.3	S 14 25.7	−00.1
22	220 02.4	+02.4	S 14 25.6	+00.0
23	235 04.8	+02.3	S 14 25.6	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 07:22

2022 April 29 Friday (day 119 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 38.5	+00.1	N 14 23.5	+00.8
01	195 38.6	+00.1	N 14 24.3	+00.7
02	210 38.7	+00.1	N 14 25.0	+00.8
03	225 38.8	+00.1	N 14 25.8	+00.8
04	240 38.9	+00.1	N 14 26.6	+00.8
05	255 39.0	+00.0	N 14 27.4	+00.7
06	270 39.0	+00.1	N 14 28.1	+00.8
07	285 39.1	+00.1	N 14 28.9	+00.8
08	300 39.2	+00.1	N 14 29.7	+00.8
09	315 39.3	+00.1	N 14 30.5	+00.7
10	330 39.4	+00.1	N 14 31.2	+00.8
11	345 39.5	+00.0	N 14 32.0	+00.8
12	0 39.5	+00.1	N 14 32.8	+00.8
13	15 39.6	+00.1	N 14 33.6	+00.7
14	30 39.7	+00.1	N 14 34.3	+00.8
15	45 39.8	+00.1	N 14 35.1	+00.8
16	60 39.9	+00.1	N 14 35.9	+00.8
17	75 40.0	+00.0	N 14 36.7	+00.7
18	90 40.0	+00.1	N 14 37.4	+00.8
19	105 40.1	+00.1	N 14 38.2	+00.8
20	120 40.2	+00.1	N 14 39.0	+00.8
21	135 40.3	+00.1	N 14 39.8	+00.7
22	150 40.4	+00.1	N 14 40.5	+00.8
23	165 40.5	+00.0	N 14 41.3	+00.8

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	324°	323°	323°	323°	323°	323°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	220 17.1	−00.2	S 02 46.0	−01.1
01	235 16.9	−00.2	S 02 44.9	−01.0
02	250 16.7	−00.2	S 02 43.9	−01.0
03	265 16.5	−00.2	S 02 42.9	−01.0
04	280 16.3	−00.2	S 02 41.9	−01.0
05	295 16.1	−00.2	S 02 40.9	−01.0
06	310 15.9	−00.1	S 02 39.9	−01.0
07	325 15.8	−00.2	S 02 38.9	−01.0
08	340 15.6	−00.2	S 02 37.9	−01.0
09	355 15.4	−00.2	S 02 36.9	−01.0
10	10 15.2	−00.2	S 02 35.9	−01.0
11	25 15.0	−00.2	S 02 34.9	−01.0
12	40 14.8	−00.2	S 02 33.9	−01.1
13	55 14.6	−00.2	S 02 32.8	−01.0
14	70 14.4	−00.2	S 02 31.8	−01.0
15	85 14.2	−00.2	S 02 30.8	−01.0
16	100 14.0	−00.1	S 02 29.8	−01.0
17	115 13.9	−00.2	S 02 28.8	−01.0
18	130 13.7	−00.2	S 02 27.8	−01.0
19	145 13.5	−00.2	S 02 26.8	−01.0
20	160 13.3	−00.2	S 02 25.8	−01.0
21	175 13.1	−00.2	S 02 24.8	−01.1
22	190 12.9	−00.2	S 02 23.7	−01.0
23	205 12.7	−00.2	S 02 22.7	−01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	003°	003°	003°	003°	003°	002°

Greenwich Culmination Time: 09:18

Moon

A: 96%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	199 56.6	−26.2	N 03 55.1	+14.4
01	214 30.4	−26.2	N 04 09.5	+14.3
02	229 04.2	−26.2	N 04 23.8	+14.3
03	243 38.0	−26.2	N 04 38.1	+14.3
04	258 11.8	−26.2	N 04 52.4	+14.3
05	272 45.6	−26.2	N 05 06.7	+14.2
06	287 19.4	−26.2	N 05 20.9	+14.2
07	301 53.2	−26.2	N 05 35.1	+14.1
08	316 27.0	−26.2	N 05 49.2	+14.2
09	331 00.8	−26.3	N 06 03.4	+14.0
10	345 34.5	−26.2	N 06 17.4	+14.1
11	0 08.3	−26.2	N 06 31.5	+14.0
12	14 42.1	−26.3	N 06 45.5	+14.0
13	29 15.8	−26.2	N 06 59.5	+13.9
14	43 49.6	−26.3	N 07 13.4	+13.9
15	58 23.3	−26.3	N 07 27.3	+13.9
16	72 57.0	−26.2	N 07 41.2	+13.8
17	87 30.8	−26.3	N 07 55.0	+13.8
18	102 04.5	−26.4	N 08 08.8	+13.7
19	116 38.1	−26.3	N 08 22.5	+13.7
20	131 11.8	−26.3	N 08 36.2	+13.7
21	145 45.5	−26.4	N 08 49.9	+13.6
22	160 19.1	−26.4	N 09 03.5	+13.5
23	174 52.7	−26.4	N 09 17.0	+13.5

UT	02	06	10	14	18	22
SD	15′3	15′3	15′2	15′2	15′2	15′2
HP	56′1	56′0	55′9	55′8	55′8	55′7
SHA	342°	340°	338°	336°	334°	332°

Greenwich Culmination Time: 10:59

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	234 21.9	+00.7	S 09 02.0	−00.7
01	249 22.6	+00.6	S 09 01.3	−00.7
02	264 23.2	+00.7	S 09 00.6	−00.6
03	279 23.9	+00.7	S 08 60.0	−00.7
04	294 24.6	+00.7	S 08 59.3	−00.7
05	309 25.3	+00.7	S 08 58.6	−00.7
06	324 26.0	+00.7	S 08 57.9	−00.7
07	339 26.7	+00.7	S 08 57.2	−00.7
08	354 27.4	+00.7	S 08 56.5	−00.7
09	9 28.1	+00.6	S 08 55.8	−00.7
10	24 28.7	+00.7	S 08 55.1	−00.7
11	39 29.4	+00.7	S 08 54.4	−00.7
12	54 30.1	+00.7	S 08 53.7	−00.7
13	69 30.8	+00.7	S 08 53.0	−00.7
14	84 31.5	+00.7	S 08 52.3	−00.7
15	99 32.2	+00.7	S 08 51.6	−00.7
16	114 32.9	+00.7	S 08 50.9	−00.7
17	129 33.6	+00.6	S 08 50.2	−00.7
18	144 34.2	+00.7	S 08 49.5	−00.7
19	159 34.9	+00.7	S 08 48.8	−00.7
20	174 35.6	+00.7	S 08 48.1	−00.7
21	189 36.3	+00.7	S 08 47.4	−00.7
22	204 37.0	+00.7	S 08 46.7	−00.7
23	219 37.7	+00.7	S 08 46.0	−00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	017°	017°	017°	017°	017°	017°

Greenwich Culmination Time: 08:22

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	218 44.4	+01.9	S 01 56.6	−00.2
01	233 46.3	+02.0	S 01 56.4	−00.2
02	248 48.3	+02.0	S 01 56.2	−00.2
03	263 50.3	+02.0	S 01 56.0	−00.2
04	278 52.3	+02.0	S 01 55.8	−00.2
05	293 54.3	+01.9	S 01 55.6	−00.2
06	308 56.2	+02.0	S 01 55.4	−00.2
07	323 58.2	+02.0	S 01 55.2	−00.2
08	339 00.2	+02.0	S 01 55.0	−00.2
09	354 02.2	+02.0	S 01 54.8	−00.2
10	9 04.2	+01.9	S 01 54.6	−00.2
11	24 06.1	+02.0	S 01 54.4	−00.2
12	39 08.1	+02.0	S 01 54.2	−00.2
13	54 10.1	+02.0	S 01 54.0	−00.2
14	69 12.1	+02.0	S 01 53.8	−00.2
15	84 14.1	+01.9	S 01 53.6	−00.2
16	99 16.0	+02.0	S 01 53.4	−00.2
17	114 18.0	+02.0	S 01 53.2	−00.2
18	129 20.0	+02.0	S 01 53.0	−00.2
19	144 22.0	+02.0	S 01 52.8	−00.2
20	159 24.0	+01.9	S 01 52.6	−00.2
21	174 25.9	+02.0	S 01 52.4	−00.2
22	189 27.9	+02.0	S 01 52.2	−00.2
23	204 29.9	+02.0	S 01 52.0	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	002°	002°	002°	002°	002°	002°

Greenwich Culmination Time: 09:23

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	250 07.1	+02.3	S 14 25.6	−00.1
01	265 09.4	+02.3	S 14 25.5	+00.0
02	280 11.7	+02.3	S 14 25.5	−00.1
03	295 14.0	+02.4	S 14 25.4	+00.0
04	310 16.4	+02.3	S 14 25.4	−00.1
05	325 18.7	+02.3	S 14 25.3	+00.0
06	340 21.0	+02.3	S 14 25.3	+00.0
07	355 23.3	+02.3	S 14 25.3	−00.1
08	10 25.6	+02.4	S 14 25.2	+00.0
09	25 28.0	+02.3	S 14 25.2	−00.1
10	40 30.3	+02.3	S 14 25.1	+00.0
11	55 32.6	+02.3	S 14 25.1	+00.0
12	70 34.9	+02.4	S 14 25.1	−00.1
13	85 37.3	+02.3	S 14 25.0	+00.0
14	100 39.6	+02.3	S 14 25.0	−00.1
15	115 41.9	+02.3	S 14 24.9	+00.0
16	130 44.2	+02.4	S 14 24.9	+00.0
17	145 46.6	+02.3	S 14 24.9	−00.1
18	160 48.9	+02.3	S 14 24.8	+00.0
19	175 51.2	+02.3	S 14 24.8	−00.1
20	190 53.5	+02.3	S 14 24.7	+00.0
21	205 55.8	+02.4	S 14 24.7	−00.1
22	220 58.2	+02.3	S 14 24.6	+00.0
23	236 00.5	+02.3	S 14 24.6	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 07:18

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2022 May 4 Wednesday (day 124 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 47.3	+00.0	N 15 53.9	+00.8
01	195 47.3	+00.1	N 15 54.7	+00.7
02	210 47.4	+00.1	N 15 55.4	+00.7
03	225 47.5	+00.0	N 15 56.1	+00.7
04	240 47.5	+00.1	N 15 56.8	+00.8
05	255 47.6	+00.0	N 15 57.6	+00.7
06	270 47.6	+00.1	N 15 58.3	+00.7
07	285 47.7	+00.0	N 15 59.0	+00.7
08	300 47.7	+00.1	N 15 59.7	+00.8
09	315 47.8	+00.1	N 16 00.5	+00.7
10	330 47.9	+00.0	N 16 01.2	+00.7
11	345 47.9	+00.1	N 16 01.9	+00.7
12	0 48.0	+00.0	N 16 02.6	+00.7
13	15 48.0	+00.1	N 16 03.3	+00.8
14	30 48.1	+00.0	N 16 04.1	+00.7
15	45 48.1	+00.1	N 16 04.8	+00.7
16	60 48.2	+00.0	N 16 05.5	+00.7
17	75 48.2	+00.1	N 16 06.2	+00.7
18	90 48.3	+00.1	N 16 06.9	+00.8
19	105 48.4	+00.0	N 16 07.7	+00.7
20	120 48.4	+00.1	N 16 08.4	+00.7
21	135 48.5	+00.0	N 16 09.1	+00.7
22	150 48.5	+00.1	N 16 09.8	+00.7
23	165 48.6	+00.0	N 16 10.5	+00.7

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	319°	319°	319°	318°	318°	318°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	219 54.0	-00.2	S 00 43.4	-01.1
01	234 53.8	-00.2	S 00 42.3	-01.0
02	249 53.6	-00.2	S 00 41.3	-01.1
03	264 53.4	-00.2	S 00 40.2	-01.0
04	279 53.2	-00.2	S 00 39.2	-01.0
05	294 53.0	-00.2	S 00 38.2	-01.1
06	309 52.8	-00.2	S 00 37.1	-01.0
07	324 52.6	-00.2	S 00 36.1	-01.0
08	339 52.4	-00.2	S 00 35.1	-01.1
09	354 52.2	-00.2	S 00 34.0	-01.0
10	9 52.0	-00.2	S 00 33.0	-01.0
11	24 51.8	-00.2	S 00 32.0	-01.1
12	39 51.6	-00.2	S 00 30.9	-01.0
13	54 51.4	-00.2	S 00 29.9	-01.1
14	69 51.2	-00.2	S 00 28.8	-01.0
15	84 51.0	-00.2	S 00 27.8	-01.0
16	99 50.8	-00.2	S 00 26.8	-01.1
17	114 50.6	-00.2	S 00 25.7	-01.0
18	129 50.4	-00.2	S 00 24.7	-01.1
19	144 50.2	-00.2	S 00 23.6	-01.0
20	159 50.0	-00.2	S 00 22.6	-01.0
21	174 49.8	-00.2	S 00 21.6	-01.1
22	189 49.6	-00.2	S 00 20.5	-01.0
23	204 49.4	-00.2	S 00 19.5	-01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	358°	358°	358°	357°	357°	357°

Greenwich Culmination Time: 09:20

Moon

A: 11%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	144 29.1	-30.1	N 25 16.2	+05.0
01	158 59.0	-30.1	N 25 21.2	+04.9
02	173 28.9	-30.1	N 25 26.1	+04.7
03	187 58.8	-30.1	N 25 30.8	+04.6
04	202 28.7	-30.2	N 25 35.4	+04.5
05	216 58.5	-30.2	N 25 39.9	+04.4
06	231 28.3	-30.2	N 25 44.3	+04.2
07	245 58.1	-30.3	N 25 48.5	+04.2
08	260 27.8	-30.3	N 25 52.7	+04.0
09	274 57.5	-30.3	N 25 56.7	+03.8
10	289 27.2	-30.3	N 26 00.5	+03.8
11	303 56.9	-30.4	N 26 04.3	+03.6
12	318 26.5	-30.4	N 26 07.9	+03.5
13	332 56.1	-30.4	N 26 11.4	+03.4
14	347 25.7	-30.4	N 26 14.8	+03.3
15	1 55.3	-30.5	N 26 18.1	+03.1
16	16 24.8	-30.5	N 26 21.2	+03.0
17	30 54.3	-30.4	N 26 24.2	+02.9
18	45 23.9	-30.6	N 26 27.1	+02.7
19	59 53.3	-30.5	N 26 29.8	+02.6
20	74 22.8	-30.5	N 26 32.4	+02.5
21	88 52.3	-30.6	N 26 34.9	+02.4
22	103 21.7	-30.6	N 26 37.3	+02.2
23	117 51.1	-30.6	N 26 39.5	+02.2

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′7	14′7
HP	54′2	54′2	54′2	54′1	54′1	54′1
SHA	282°	279°	277°	275°	273°	271°

Greenwich Culmination Time: 14:52

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	235 45.1	+00.7	S 07 37.8	-00.7
01	250 45.8	+00.7	S 07 37.1	-00.7
02	265 46.5	+00.7	S 07 36.4	-00.7
03	280 47.2	+00.7	S 07 35.7	-00.7
04	295 47.9	+00.7	S 07 35.0	-00.7
05	310 48.6	+00.7	S 07 34.3	-00.7
06	325 49.3	+00.8	S 07 33.6	-00.7
07	340 50.1	+00.7	S 07 32.9	-00.7
08	355 50.8	+00.7	S 07 32.2	-00.7
09	10 51.5	+00.7	S 07 31.5	-00.7
10	25 52.2	+00.7	S 07 30.8	-00.7
11	40 52.9	+00.7	S 07 30.1	-00.8
12	55 53.6	+00.7	S 07 29.3	-00.7
13	70 54.3	+00.7	S 07 28.6	-00.7
14	85 55.0	+00.7	S 07 27.9	-00.7
15	100 55.7	+00.7	S 07 27.2	-00.7
16	115 56.4	+00.7	S 07 26.5	-00.7
17	130 57.1	+00.7	S 07 25.8	-00.7
18	145 57.8	+00.7	S 07 25.1	-00.7
19	160 58.5	+00.7	S 07 24.4	-00.7
20	175 59.2	+00.7	S 07 23.7	-00.7
21	190 59.9	+00.7	S 07 23.0	-00.7
22	206 00.6	+00.7	S 07 22.3	-00.8
23	221 01.3	+00.7	S 07 21.5	-00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	014°	014°	014°	013°	013°	013°

Greenwich Culmination Time: 08:16

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	222 42.6	+02.0	S 01 32.6	-00.2
01	237 44.6	+02.0	S 01 32.4	-00.2
02	252 46.6	+02.0	S 01 32.2	-00.2
03	267 48.6	+02.0	S 01 32.0	-00.2
04	282 50.6	+02.0	S 01 31.8	-00.2
05	297 52.6	+02.0	S 01 31.6	-00.2
06	312 54.6	+02.0	S 01 31.4	-00.2
07	327 56.6	+01.9	S 01 31.2	-00.2
08	342 58.5	+02.0	S 01 31.0	-00.2
09	358 00.5	+02.0	S 01 30.8	-00.2
10	13 02.5	+02.0	S 01 30.6	-00.2
11	28 04.5	+02.0	S 01 30.4	-00.2
12	43 06.5	+02.0	S 01 30.2	-00.2
13	58 08.5	+02.0	S 01 30.0	-00.2
14	73 10.5	+02.0	S 01 29.8	-00.2
15	88 12.5	+02.0	S 01 29.6	-00.2
16	103 14.5	+02.0	S 01 29.4	-00.2
17	118 16.5	+02.0	S 01 29.2	-00.2
18	133 18.5	+02.0	S 01 29.0	-00.2
19	148 20.5	+02.0	S 01 28.8	-00.2
20	163 22.5	+02.0	S 01 28.6	-00.2
21	178 24.5	+02.0	S 01 28.4	-00.1
22	193 26.5	+02.0	S 01 28.3	-00.2
23	208 28.5	+02.0	S 01 28.1	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	001°	001°	001°	001°	001°	001°

Greenwich Culmination Time: 09:07

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	254 46.6	+02.4	S 14 20.9	+00.0
01	269 49.0	+02.3	S 14 20.9	+00.0
02	284 51.3	+02.4	S 14 20.9	-00.1
03	299 53.7	+02.3	S 14 20.8	+00.0
04	314 56.0	+02.3	S 14 20.8	-00.1
05	329 58.3	+02.4	S 14 20.7	+00.0
06	345 00.7	+02.3	S 14 20.7	+00.0
07	0 03.0	+02.4	S 14 20.7	-00.1
08	15 05.4	+02.3	S 14 20.6	+00.0
09	30 07.7	+02.3	S 14 20.6	+00.0
10	45 10.0	+02.4	S 14 20.6	-00.1
11	60 12.4	+02.3	S 14 20.5	+00.0
12	75 14.7	+02.4	S 14 20.5	+00.0
13	90 17.1	+02.3	S 14 20.5	-00.1
14	105 19.4	+02.3	S 14 20.4	+00.0
15	120 21.7	+02.4	S 14 20.4	+00.0
16	135 24.1	+02.3	S 14 20.4	-00.1
17	150 26.4	+02.4	S 14 20.3	+00.0
18	165 28.8	+02.3	S 14 20.3	+00.0
19	180 31.1	+02.4	S 14 20.3	-00.1
20	195 33.5	+02.3	S 14 20.2	+00.0
21	210 35.8	+02.3	S 14 20.2	+00.0
22	225 38.1	+02.4	S 14 20.2	-00.1
23	240 40.5	+02.3	S 14 20.1	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 06:59

2022 May 1 Sunday (day 121 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 42.4	+00.1	N 15 00.4	+00.8
01	195 42.5	+00.1	N 15 01.2	+00.7
02	210 42.6	+00.1	N 15 01.9	+00.8
03	225 42.7	+00.0	N 15 02.7	+00.7
04	240 42.7	+00.1	N 15 03.4	+00.8
05	255 42.8	+00.1	N 15 04.2	+00.8
06	270 42.9	+00.0	N 15 05.0	+00.7
07	285 42.9	+00.1	N 15 05.7	+00.8
08	300 43.0	+00.1	N 15 06.5	+00.7
09	315 43.1	+00.1	N 15 07.2	+00.8
10	330 43.2	+00.0	N 15 08.0	+00.7
11	345 43.2	+00.1	N 15 08.7	+00.8
12	0 43.3	+00.1	N 15 09.5	+00.7
13	15 43.4	+00.1	N 15 10.2	+00.8
14	30 43.5	+00.0	N 15 11.0	+00.7
15	45 43.5	+00.1	N 15 11.7	+00.8
16	60 43.6	+00.1	N 15 12.5	+00.8
17	75 43.7	+00.1	N 15 13.3	+00.7
18	90 43.8	+00.0	N 15 14.0	+00.8
19	105 43.8	+00.1	N 15 14.8	+00.7
20	120 43.9	+00.1	N 15 15.5	+00.8
21	135 44.0	+00.0	N 15 16.3	+00.7
22	150 44.0	+00.1	N 15 17.0	+00.8
23	165 44.1	+00.1	N 15 17.8	+00.7

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	322°	322°	321°	321°	321°	321°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	220 07.9	-00.2	S 01 57.3	-01.0
01	235 07.7	-00.1	S 01 56.3	-01.0
02	250 07.6	-00.2	S 01 55.3	-01.0
03	265 07.4	-00.2	S 01 54.3	-01.0
04	280 07.2	-00.2	S 01 53.3	-01.1
05	295 07.0	-00.2	S 01 52.2	-01.0
06	310 06.8	-00.2	S 01 51.2	-01.0
07	325 06.6	-00.2	S 01 50.2	-01.0
08	340 06.4	-00.2	S 01 49.2	-01.0
09	355 06.2	-00.2	S 01 48.2	-01.1
10	70 05.2	-00.1	S 01 47.1	-01.0
11	85 05.1	-00.2	S 01 46.1	-01.0
12	100 04.9	-00.2	S 01 45.1	-01.0
13	115 04.7	-00.2	S 01 44.1	-01.1
14	130 04.5	-00.2	S 01 43.0	-01.0
15	145 04.3	-00.2	S 01 37.9	-01.0
16	160 04.1	-00.2	S 01 36.9	-01.0
17	175 03.9	-00.2	S 01 35.9	-01.0
18	190 03.7	-00.2	S 01 34.9	-01.1
19	205 03.5	-00.2	S 01 33.8	-01.0
20	220 03.3	-00.2	S 01 32.8	-01.0
21	235 03.1	-00.2	S 01 31.8	-01.0
22	250 02.9	-00.2	S 01 30.8	-01.0
23	265 02.7	-00.2	S 01 29.8	-01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	001°	001°	001°	001°	000°	000°

Greenwich Culmination Time: 09:19

Moon

A: 02%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 45.5	-27.1	N 14 38.1	+12.0
01	193 18.4	-27.1	N 14 50.1	+12.0
02	207 51.3	-27.1	N 15 02.1	+11.9
03	222 24.2	-27.2	N 15 14.0	+11.8
04	236 57.0	-27.3	N 15 25.8	+11.7
05	251 29.7	-27.2	N 15 37.5	+11.7
06	266 02.5	-27.3	N 15 49.2	+11.6
07	280 35.2	-27.4	N 16 00.8	+11.5
08	295 07.8	-27.3	N 16 12.3	+11.5
09	309 40.5	-27.5	N 16 23.8	+11.3
10	324 13.0	-27.4	N 16 35.1	+11.3
11	338 45.6	-27.5	N 16 46.4	+11.2
12	353 18.1	-27.6	N 16 57.6	+11.2
13	7 50.5	-27.5	N 17 08.8	+11.0
14	22 23.0	-27.7	N 17 19.8	+11.0
15	36 55.3	-27.6	N 17 30.8	+10.8
16	51 27.7	-27.7	N 17 41.6	+10.8
17	65 60.0	-27.8	N 17 52.4	+10.8
18	80 32.2	-27.8	N 18 03.2	+10.6
19	95 04.4	-27.8	N 18 13.8	+10.5
20	109 36.6	-27.9	N 18 24.3	+10.5
21	124 08.7	-27.9	N 18 34.8	+10.4
22	138 40.8	-28.0	N 18 45.2	+10.2
23	153 12.8	-28.0	N 18 55.4	+10.2

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	15′0	15′0	14′9
HP	55′2	55′1	55′0	55′0	54′9	54′8
SHA	319°	317°	315°	313°	311°	309°

Greenwich Culmination Time: 12:27

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	234 55.0	+00.7	S 08 28.5	-00.7
01	249 55.7	+00.7	S 08 27.8	-00.7
02	264 56.4	+00.6	S 08 27.1	-00.7
03	279 57.0	+00.7	S 08 26.4	-00.7
04	294 57.7	+00.7	S 08 25.7	-00.7
05	309 58.4	+00.7	S 08 25.0	-00.7
06	324 59.1	+00.7	S 08 24.3	-00.7
07	339 59.8	+00.7	S 08 23.6	-00.7
08	355 00.5	+00.7	S 08 22.9	-00.7
09	10 01.2	+00.7	S 08 22.2	-00.7
10	25 01.9	+00.7	S 08 21.5	-00.7
11	40 02.6	+00.7	S 08 20.8	-00.7
12	55 03.3	+00.7	S 08 20.1	-00.7
13	70 04.0	+00.7	S 08 19.4	-00.7
14	85 04.7	+00.7	S 08 18.7	-00.7
15	100 05.4	+00.7	S 08 18.0	-00.7
16	115 06.1	+00.7	S 08 17.3	-00.7
17	130 06.8	+00.6	S 08 16.6	-00.7
18	145 07.4	+00.7	S 08 15.9	-00.7
19	160 08.1	+00.7	S 08 15.2	-00.7
20	175 08.8	+00.7	S 08 14.5	-00.7
21	190 09.5	+00.7	S 08 13.8	-00.7
22	205 10.2	+00.7	S 08 13.1	-00.7
23	220 10.9	+00.7	S 08 12.4	-00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	016°	016°	016°	016°	015°	015°

Greenwich Culmination Time: 08:19

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	220 19.5	+01.9	S 01 46.9	-00.2
01	235 21.4	+02.0	S 01 46.7	-00.2
02	250 23.4	+02.0	S 01 46.5	-00.2
03	265 25.4	+02.0	S 01 46.3	-00.2
04	280 27.4	+02.0	S 01 46.1	-00.2
05	295 29.4	+02.0	S 01 45.9	-00.2
06	310 31.4	+01.9	S 01 45.7	-00.2
07	325 33.3	+02.0	S 01 45.5	-00.2
08	340 35.3	+02.0	S 01 45.3	-00.2
09	355 37.3	+02.0	S 01 45.1	-00.2
10	10 39.3	+02.0	S 01 44.9	-00.2
11	25 41.3	+02.0	S 01 44.7	-00.2
12	40 43.3	+02.0	S 01 44.5	-00.2
13	55 45.3	+01.9	S 01 44.3	-00.2
14	70 47.2	+02.0	S 01 44.1	-00.2
15	85 49.2	+02.0	S 01 43.9	-00.2
16	100 51.2	+02.0	S 01 43.7	-00.2
17	115 53.2	+02.0	S 01 43.5	-00.2
18	130 55.2	+02.0	S 01 43.3	-00.2
19	145 57.2	+02.0	S 01 43.1	-00.2
20	160 59.2	+01.9	S 01 42.9	-00.2
21	176 01.1	+02.0	S 01 42.7	-00.2
22	191 03.1	+02.0	S 01 42.5	-00.2
23	206 05.1	+02.0	S 01 42.3	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	001°	001°	001°	001°	001°	001°

Greenwich Culmination Time: 09:17

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	251 58.7	+02.3	S 14 23.6	+00.0
01	267 01.0	+02.3	S 14 23.6	-00.1
02	282 03.3	+02.3	S 14 23.5	+00.0
03	297 05.6	+02.4	S 14 23.5	+00.0
04	312 08.0	+02.3	S 14 23.5	-00.1
05	327 10.3	+02.3	S 14 23.4	+00.0
06	342 12.6	+02.3	S 14 23.4	-00.1
07	357 14.9	+02.4	S 14 23.3	+00.0
08	12 17.3	+02.3	S 14 23.3	+00.0
09	27 19.6	+02.3	S 14 23.3	-00.1
10	42 21.9	+02.4	S 14 23.2	+00.0
11	57 24.3	+02.3	S 14 23.2	-00.1
12	72 26.6	+02.3	S 14 23.1	+00.0
13	87 28.9	+02.4	S 14 23.1	+00.0
14	102 31.3	+02.3	S 14 23.1	-00.1
15	117 33.6	+02.3	S 14 23.0	+00.0
16	132 35.9	+02.3	S 14 23.0	+00.0
17	147 38.2	+02.4	S 14 23.0	-00.1
18	162 40.6	+02.3	S 14 22.9	+00.0
19	177 42.9	+02.3	S 14 22.9	-00.1
20	192 45.2	+02.4	S 14 22.8	+00.0
21	207 47.6	+02.3	S 14 22.8	+00.0
22	222 49.9	+02.3	S 14 22.8	-00.1
23	237 52.2	+02.4	S 14 22.7	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 07:10

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2022 May 2 Monday (day 122 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 44.2	+00.0	N 15 18.5	+00.8
01	195 44.2	+00.1	N 15 19.3	+00.7
02	210 44.3	+00.1	N 15 20.0	+00.7
03	225 44.4	+00.1	N 15 20.7	+00.8
04	240 44.5	+00.0	N 15 21.5	+00.7
05	255 44.5	+00.1	N 15 22.2	+00.8
06	270 44.6	+00.1	N 15 23.0	+00.7
07	285 44.7	+00.0	N 15 23.7	+00.8
08	300 44.7	+00.1	N 15 24.5	+00.7
09	315 44.8	+00.1	N 15 25.2	+00.8
10	330 44.9	+00.0	N 15 26.0	+00.7
11	345 44.9	+00.1	N 15 26.7	+00.8
12	0 45.0	+00.1	N 15 27.5	+00.7
13	15 45.1	+00.0	N 15 28.2	+00.7
14	30 45.1	+00.1	N 15 28.9	+00.8
15	45 45.2	+00.1	N 15 29.7	+00.7
16	60 45.3	+00.0	N 15 30.4	+00.8
17	75 45.3	+00.1	N 15 31.2	+00.7
18	90 45.4	+00.1	N 15 31.9	+00.7
19	105 45.5	+00.0	N 15 32.6	+00.8
20	120 45.5	+00.1	N 15 33.4	+00.7
21	135 45.6	+00.1	N 15 34.1	+00.8
22	150 45.7	+00.0	N 15 34.9	+00.7
23	165 45.7	+00.1	N 15 35.6	+00.7

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	321°	321°	320°	320°	320°	320°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	220 03.3	-00.2	S 01 32.8	-01.0
01	235 03.1	-00.2	S 01 31.8	-01.0
02	250 02.9	-00.2	S 01 30.8	-01.1
03	265 02.7	-00.2	S 01 29.7	-01.0
04	280 02.5	-00.1	S 01 28.7	-01.0
05	295 02.4	-00.2	S 01 27.7	-01.0
06	310 02.2	-00.2	S 01 26.7	-01.1
07	325 02.0	-00.2	S 01 25.6	-01.0
08	340 01.8	-00.2	S 01 24.6	-01.0
09	355 01.6	-00.2	S 01 23.6	-01.1
10	10 01.4	-00.2	S 01 22.5	-01.0
11	25 01.2	-00.2	S 01 21.5	-01.0
12	40 01.0	-00.2	S 01 20.5	-01.0
13	55 00.8	-00.2	S 01 19.5	-01.1
14	70 00.6	-00.2	S 01 18.4	-01.0
15	85 00.4	-00.2	S 01 17.4	-01.0
16	100 00.2	-00.2	S 01 16.4	-01.1
17	115 00.0	-00.2	S 01 15.3	-01.0
18	129 59.8	-00.2	S 01 14.3	-01.0
19	144 59.6	-00.2	S 01 13.3	-01.0
20	159 59.4	-00.1	S 01 12.3	-01.1
21	174 59.3	-00.2	S 01 11.2	-01.0
22	189 59.1	-00.2	S 01 10.2	-01.0
23	204 58.9	-00.2	S 01 09.2	-01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	000°	360°	360°	360°	359°	359°

Greenwich Culmination Time: 09:19

Moon

A: 05%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	167 44.8	-28.0	N 19 05.6	+10.1
01	182 16.8	-28.1	N 19 15.7	+10.1
02	196 48.7	-28.2	N 19 25.8	+09.9
03	211 20.5	-28.1	N 19 35.7	+09.8
04	225 52.4	-28.3	N 19 45.5	+09.8
05	240 24.1	-28.2	N 19 55.3	+09.6
06	254 55.9	-28.4	N 20 04.9	+09.5
07	269 27.5	-28.3	N 20 14.4	+09.5
08	283 59.2	-28.4	N 20 23.9	+09.4
09	298 30.8	-28.5	N 20 33.3	+09.2
10	313 02.3	-28.5	N 20 42.5	+09.2
11	327 33.8	-28.5	N 20 51.7	+09.1
12	342 05.3	-28.6	N 21 00.8	+08.9
13	356 36.7	-28.7	N 21 09.7	+08.9
14	11 08.0	-28.6	N 21 18.6	+08.8
15	25 39.4	-28.8	N 21 27.4	+08.6
16	40 10.6	-28.7	N 21 36.0	+08.6
17	54 41.9	-28.8	N 21 44.6	+08.5
18	69 13.1	-28.9	N 21 53.1	+08.3
19	83 44.2	-28.9	N 22 01.4	+08.3
20	98 15.3	-28.9	N 22 09.7	+08.1
21	112 46.4	-29.0	N 22 17.8	+08.1
22	127 17.4	-29.1	N 22 25.9	+07.9
23	141 48.3	-29.1	N 22 33.8	+07.9

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	14′9	14′8
HP	54′8	54′7	54′7	54′6	54′6	54′5
SHA	307°	305°	303°	301°	299°	296°

Greenwich Culmination Time: 13:13

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	235 11.6	+00.7	S 08 11.7	-00.7
01	250 12.3	+00.7	S 08 11.0	-00.7
02	265 13.0	+00.7	S 08 10.3	-00.7
03	280 13.7	+00.7	S 08 09.6	-00.7
04	295 14.4	+00.7	S 08 08.9	-00.7
05	310 15.1	+00.7	S 08 08.2	-00.7
06	325 15.8	+00.7	S 08 07.5	-00.7
07	340 16.5	+00.7	S 08 06.8	-00.7
08	355 17.2	+00.7	S 08 06.1	-00.7
09	10 17.9	+00.7	S 08 05.4	-00.7
10	25 18.6	+00.7	S 08 04.7	-00.7
11	40 19.3	+00.7	S 08 04.0	-00.7
12	55 20.0	+00.7	S 08 03.3	-00.7
13	70 20.7	+00.7	S 08 02.6	-00.7
14	85 21.4	+00.7	S 08 01.9	-00.8
15	100 22.1	+00.7	S 08 01.1	-00.7
16	115 22.8	+00.7	S 08 00.4	-00.7
17	130 23.5	+00.7	S 07 59.7	-00.7
18	145 24.2	+00.7	S 07 59.0	-00.7
19	160 24.9	+00.7	S 07 58.3	-00.7
20	175 25.6	+00.7	S 07 57.6	-00.7
21	190 26.3	+00.6	S 07 56.9	-00.7
22	205 26.9	+00.7	S 07 56.2	-00.7
23	220 27.6	+00.7	S 07 55.5	-00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	015°	015°	015°	015°	015°	015°

Greenwich Culmination Time: 08:18

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	221 07.1	+02.0	S 01 42.1	-00.2
01	236 09.1	+02.0	S 01 41.9	-00.2
02	251 11.1	+02.0	S 01 41.7	-00.2
03	266 13.1	+02.0	S 01 41.5	-00.2
04	281 15.1	+01.9	S 01 41.3	-00.2
05	296 17.0	+02.0	S 01 41.1	-00.2
06	311 19.0	+02.0	S 01 40.9	-00.2
07	326 21.0	+02.0	S 01 40.7	-00.2
08	341 23.0	+02.0	S 01 40.5	-00.2
09	356 25.0	+02.0	S 01 40.3	-00.2
10	11 27.0	+02.0	S 01 40.1	-00.2
11	26 29.0	+02.0	S 01 39.9	-00.2
12	41 31.0	+01.9	S 01 39.7	-00.2
13	56 32.9	+02.0	S 01 39.5	-00.2
14	71 34.9	+02.0	S 01 39.3	-00.2
15	86 36.9	+02.0	S 01 39.1	-00.2
16	101 38.9	+02.0	S 01 38.9	-00.2
17	116 40.9	+02.0	S 01 38.7	-00.2
18	131 42.9	+02.0	S 01 38.5	-00.2
19	146 44.9	+02.0	S 01 38.3	-00.2
20	161 46.9	+01.9	S 01 38.1	-00.2
21	176 48.8	+02.0	S 01 37.9	-00.2
22	191 50.8	+02.0	S 01 37.7	-00.2
23	206 52.8	+02.0	S 01 37.5	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	001°	001°	001°	001°	001°	001°

Greenwich Culmination Time: 09:14

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	252 54.6	+02.3	S 14 22.7	+00.0
01	267 56.9	+02.3	S 14 22.7	-00.1
02	282 59.2	+02.4	S 14 22.6	+00.0
03	298 01.6	+02.3	S 14 22.6	-00.1
04	313 03.9	+02.3	S 14 22.5	+00.0
05	328 06.2	+02.4	S 14 22.5	+00.0
06	343 08.6	+02.3	S 14 22.5	-00.1
07	358 10.9	+02.3	S 14 22.4	+00.0
08	13 13.2	+02.4	S 14 22.4	-00.1
09	28 15.6	+02.3	S 14 22.3	+00.0
10	43 17.9	+02.3	S 14 22.3	+00.0
11	58 20.2	+02.4	S 14 22.3	-00.1
12	73 22.6	+02.3	S 14 22.2	+00.0
13	88 24.9	+02.3	S 14 22.2	+00.0
14	103 27.2	+02.4	S 14 22.2	-00.1
15	118 29.6	+02.3	S 14 22.1	+00.0
16	133 31.9	+02.3	S 14 22.1	+00.0
17	148 34.2	+02.4	S 14 22.1	-00.1
18	163 36.6	+02.3	S 14 22.0	+00.0
19	178 38.9	+02.3	S 14 22.0	-00.1
20	193 41.2	+02.4	S 14 21.9	+00.0
21	208 43.6	+02.3	S 14 21.9	+00.0
22	223 45.9	+02.3	S 14 21.9	-00.1
23	238 48.2	+02.4	S 14 21.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 07:07

2022 May 3 Tuesday (day 123 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 45.8	+00.1	N 15 36.3	+00.8
01	195 45.9	+00.0	N 15 37.1	+00.7
02	210 45.9	+00.1	N 15 37.8	+00.8
03	225 46.0	+00.0	N 15 38.6	+00.7
04	240 46.0	+00.1	N 15 39.3	+00.7
05	255 46.1	+00.1	N 15 40.0	+00.8
06	270 46.2	+00.0	N 15 40.8	+00.7
07	285 46.2	+00.1	N 15 41.5	+00.7
08	300 46.3	+00.1	N 15 42.2	+00.8
09	315 46.4	+00.0	N 15 43.0	+00.7
10	330 46.4	+00.1	N 15 43.7	+00.7
11	345 46.5	+00.1	N 15 44.4	+00.8
12	0 46.6	+00.0	N 15 45.2	+00.7
13	15 46.6	+00.1	N 15 45.9	+00.7
14	30 46.7	+00.0	N 15 46.6	+00.8
15	45 46.7	+00.1	N 15 47.4	+00.7
16	60 46.8	+00.1	N 15 48.1	+00.7
17	75 46.9	+00.0	N 15 48.8	+00.8
18	90 46.9	+00.1	N 15 49.6	+00.7
19	105 47.0	+00.0	N 15 50.3	+00.7
20	120 47.0	+00.1	N 15 51.0	+00.7
21	135 47.1	+00.1	N 15 51.7	+00.8
22	150 47.2	+00.0	N 15 52.5	+00.7
23	165 47.2	+00.1	N 15 53.2	+00.7

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	320°	320°	319°	319°	319°	319°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	219 58.7	-00.2	S 01 08.1	-01.0
01	234 58.5	-00.2	S 01 07.1	-01.0
02	249 58.3	-00.2	S 01 06.1	-01.1
03	264 58.1	-00.2	S 01 05.0	-01.0
04	279 57.9	-00.2	S 01 04.0	-01.0
05	294 57.7	-00.2	S 01 03.0	-01.0
06	309 57.5	-00.2	S 01 02.0	-01.1
07	324 57.3	-00.2	S 01 00.9	-01.0
08	339 57.1	-00.2	S 00 59.9	-01.0
09	354 56.9	-00.2	S 00 58.9	-01.1
10	9 56.7	-00.2	S 00 57.8	-01.0
11	24 56.5	-00.2	S 00 56.8	-01.0
12	39 56.3	-00.2	S 00 55.8	-01.1
13	54 56.1	-00.2	S 00 54.7	-01.0
14	69 55.9	-00.2	S 00 53.7	-01.0
15	84 55.7	-00.2	S 00 52.7	-01.1
16	99 55.5	-00.2	S 00 51.6	-01.0
17	114 55.3	-00.1	S 00 50.6	-01.0
18	129 55.2	-00.2	S 00 49.6	-01.1
19	144 55.0	-00.2	S 00 48.5	-01.0
20	159 54.8	-00.2	S 00 47.5	-01.0
21	174 54.6	-00.2	S 00 46.5	-01.1
22	189 54.4	-00.2	S 00 45.4	-01.0
23	204 54.2	-00.2	S 00 44.4	-01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	359°	359°	359°	358°	358°	358°

Greenwich Culmination Time: 09:20

Moon

A: 08%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	156 19.2	-29.1	N 22 41.7	+07.7
01	170 50.1	-29.1	N 22 49.4	+07.6
02	185 21.0	-29.3	N 22 57.0	+07.5
03	199 51.7	-29.2	N 23 04.5	+07.4
04	214 22.5	-29.3	N 23 11.9	+07.3
05	228 53.2	-29.3	N 23 19.2	+07.2
06	243 23.9	-29.4	N 23 26.4	+07.1
07	257 54.5	-29.4	N 23 33.5	+07.0
08	272 25.1	-29.5	N 23 40.5	+06.8
09	286 55.6	-29.5	N 23 47.3	+06.7
10	301 26.1	-29.5	N 23 54.0	+06.7
11	315 56.6	-29.6	N 24 00.7	+06.5
12	330 27.0	-29.6	N 24 07.2	+06.4
13	344 57.4	-29.7	N 24 13.6	+06.2
14	359 27.7	-29.7	N 24 19.8	+06.2
15	13 58.0	-29.7	N 24 26.0	+06.1
16	28 28.3	-29.8	N 24 32.1	+05.9
17	42 58.5	-29.8	N 24 38.0	+05.8
18	57 28.7	-29.9	N 24 43.8	+05.7
19	71 58.8	-29.8	N 24 49.5	+05.6
20	86 29.0	-30.0	N 24 55.1	+05.4
21	100 59.0	-29.9	N 25 00.5	+05.4
22	115 29.1	-30.0	N 25 05.9	+05.2
23	129 59.1	-30.0	N 25 11.1	+05.1

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′5	54′4	54′4	54′4	54′3	54′2
SHA	294°	292°	290°	288°	286°	284°

Greenwich Culmination Time: 14:02

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	235 28.3	+00.7	S 07 54.8	-00.7
01	250 29.0	+00.7	S 07 54.1	-00.7
02	265 29.7	+00.7	S 07 53.4	-00.7
03	280 30.4	+00.7	S 07 52.7	-00.7
04	295 31.1	+00.7	S 07 52.0	-00.7
05	310 31.8	+00.7	S 07 51.3	-00.7
06	325 32.5	+00.7	S 07 50.6	-00.7
07	340 33.2	+00.7	S 07 49.9	-00.7
08	355 33.9	+00.7	S 07 49.2	-00.7
09	10 34.6	+00.7	S 07 48.5	-00.8
10	25 35.3	+00.7	S 07 47.7	-00.7
11	40 36.0	+00.7	S 07 47.0	-00.7
12	55 36.7	+00.7	S 07 46.3	-00.7
13	70 37.4	+00.7	S 07 45.6	-00.7
14	85 38.1	+00.7	S 07 44.9	-00.7
15	100 38.8	+00.7	S 07 44.2	-00.7
16	115 39.5	+00.7	S 07 43.5	-00.7
17	130 40.2	+00.7	S 07 42.8	-00.7
18	145 40.9	+00.7	S 07 42.1	-00.7
19	160 41.6	+00.7	S 07 41.4	-00.7
20	175 42.3	+00.7	S 07 40.7	-00.7
21	190 43.0	+00.7	S 07 40.0	-00.7
22	205 43.7	+00.7	S 07 39.3	-00.7
23	220 44.4	+00.7	S 07 38.6	-00.8

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	015°	014°	014°	014°	014°	014°

Greenwich Culmination Time: 08:17

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	221 54.8	+02.0	S 01 37.3	-00.2
01	236 56.8	+02.0	S 01 37.1	-00.2
02	251 58.8	+02.0	S 01 36.9	-00.2
03	267 00.8	+02.0	S 01 36.7	-00.2
04	282 02.8	+02.0	S 01 36.5	-00.2
05	297 04.8	+02.0	S 01 36.3	-00.2
06	312 06.8	+01.9	S 01 36.1	-00.2
07	327 08.7	+02.0	S 01 35.9	-00.2
08	342 10.7	+02.0	S 01 35.7	-00.2
09	357 12.7	+02.0	S 01 35.5	-00.2
10	12 14.7	+02.0	S 01 35.3	-00.2
11	27 16.7	+02.0	S 01 35.1	-00.2
12	42 18.7	+02.0	S 01 34.9	-00.2
13	57 20.7	+02.0	S 01 34.7	-00.1
14	72 22.7	+02.0	S 01 34.6	-00.2
15	87 24.7	+02.0	S 01 34.4	-00.2
16	102 26.7	+02.0	S 01 34.2	-00.2
17	117 28.7	+01.9	S 01 34.0	-00.2
18	132 30.6	+02.0	S 01 33.8	-00.2
19	147 32.6	+02.0	S 01 33.6	-00.2
20	162 34.6	+02.0	S 01 33.4	-00.2
21	177 36.6	+02.0	S 01 33.2	-00.2
22	192 38.6	+02.0	S 01 33.0	-00.2
23	207 40.6	+02.0	S 01 32.8	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	001°	001°	001°	001°	001°	001°

Greenwich Culmination Time: 09:11

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	253 50.6	+02.3	S 14 21.8	+00.0
01	268 52.9	+02.3	S 14 21.8	-00.1
02	283 55.2	+02.4	S 14 21.7	+00.0
03	298 57.6	+02.3	S 14 21.7	-00.1
04	313 59.9	+02.3	S 14 21.6	+00.0
05	329 02.2	+02.4	S 14 21.6	+00.0
06	344 04.6	+02.3	S 14 21.6	-00.1
07	359 06.9	+02.3	S 14 21.5	+00.0
08	14 09.2	+02.4	S 14 21.5	+00.0
09	29 11.6	+02.3	S 14 21.5	-00.1
10	44 13.9	+02.4	S 14 21.4	+00.0
11	59 16.3	+02.3	S 14 21.4	+00.0
12	74 18.6	+02.3	S 14 21.4	-00.1
13	89 20.9	+02.4	S 14 21.3	+00.0
14	104 23.3	+02.3	S 14 21.3	-00.1
15	119 25.6	+02.3	S 14 21.2	+00.0
16	134 27.9	+02.4	S 14 21.2	+00.0
17	149 30.3	+02.3	S 14 21.2	-00.1
18	164 32.6	+02.4	S 14 21.1	+00.0
19	179 35.0	+02.3	S 14 21.1	+00.0
20	194 37.3	+02.3	S 14 21.1	-00.1
21	209 39.6	+02.4	S 14 21.0	+00.0
22	224 42.0	+02.3	S 14 21.0	+00.0
23	239 44.3	+02.3	S 14 21.0	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 07:03

2022 May 8 Sunday (day 128 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 51.8	+00.1	N 17 01.6	+00.6
01	195 51.9	+00.0	N 17 02.2	+00.7
02	210 51.9	+00.0	N 17 02.9	+00.7
03	225 51.9	+00.1	N 17 03.6	+00.7
04	240 52.0	+00.0	N 17 04.3	+00.7
05	255 52.0	+00.0	N 17 05.0	+00.6
06	270 52.0	+00.1	N 17 05.6	+00.7
07	285 52.1	+00.0	N 17 06.3	+00.7
08	300 52.1	+00.1	N 17 07.0	+00.7
09	315 52.2	+00.0	N 17 07.7	+00.7
10	330 52.2	+00.0	N 17 08.4	+00.6
11	345 52.2	+00.1	N 17 09.0	+00.7
12	0 52.3	+00.0	N 17 09.7	+00.7
13	15 52.3	+00.0	N 17 10.4	+00.7
14	30 52.3	+00.0	N 17 11.1	+00.6
15	45 52.3	+00.1	N 17 11.7	+00.7
16	60 52.4	+00.0	N 17 12.4	+00.7
17	75 52.4	+00.0	N 17 13.1	+00.6
18	90 52.4	+00.1	N 17 13.7	+00.7
19	105 52.5	+00.0	N 17 14.4	+00.7
20	120 52.5	+00.0	N 17 15.1	+00.7
21	135 52.5	+00.1	N 17 15.8	+00.6
22	150 52.6	+00.0	N 17 16.4	+00.7
23	165 52.6	+00.0	N 17 17.1	+00.7

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	315°	315°	315°	314°	314°	314°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	219 34.7	-00.2	N 00 56.8	+01.1
01	234 34.5	-00.2	N 00 57.9	+01.0
02	249 34.3	-00.2	N 00 58.9	+01.1
03	264 34.1	-00.2	N 00 60.0	+01.0
04	279 33.9	-00.2	N 01 01.0	+01.1
05	294 33.7	-00.2	N 01 02.1	+01.0
06	309 33.5	-00.2	N 01 03.1	+01.1
07	324 33.3	-00.2	N 01 04.2	+01.0
08	339 33.1	-00.2	N 01 05.2	+01.1
09	354 32.9	-00.2	N 01 06.3	+01.0
10	9 32.7	-00.2	N 01 07.3	+01.1
11	24 32.5	-00.2	N 01 08.4	+01.0
12	39 32.3	-00.2	N 01 09.4	+01.1
13	54 32.1	-00.2	N 01 10.5	+01.0
14	69 31.9	-00.3	N 01 11.5	+01.1
15	84 31.6	-00.2	N 01 12.6	+01.0
16	99 31.4	-00.2	N 01 13.6	+01.1
17	114 31.2	-00.2	N 01 14.7	+01.0
18	129 31.0	-00.2	N 01 15.7	+01.1
19	144 30.8	-00.2	N 01 16.8	+01.0
20	159 30.6	-00.2	N 01 17.8	+01.1
21	174 30.4	-00.2	N 01 18.9	+01.1
22	189 30.2	-00.2	N 01 20.0	+01.0
23	204 30.0	-00.2	N 01 21.0	+01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	354°	354°	353°	353°	353°	353°

Greenwich Culmination Time: 09:21

Moon

A: 25%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	95 58.8	-29.3	N 23 39.8	-07.0
01	110 29.5	-29.3	N 23 32.8	-07.1
02	125 00.2	-29.3	N 23 25.7	-07.2
03	139 30.9	-29.2	N 23 18.5	-07.2
04	154 01.7	-29.2	N 23 11.3	-07.4
05	168 32.5	-29.2	N 23 03.9	-07.6
06	183 03.3	-29.1	N 22 56.3	-07.6
07	197 34.2	-29.1	N 22 48.7	-07.7
08	212 05.1	-29.0	N 22 41.0	-07.8
09	226 36.1	-29.0	N 22 33.2	-08.0
10	241 07.1	-28.9	N 22 25.2	-08.0
11	255 38.2	-29.0	N 22 17.2	-08.2
12	270 09.2	-28.8	N 22 09.0	-08.3
13	284 40.4	-28.9	N 22 00.7	-08.3
14	299 11.5	-28.8	N 21 52.4	-08.5
15	313 42.7	-28.7	N 21 43.9	-08.6
16	328 14.0	-28.8	N 21 35.3	-08.7
17	342 45.2	-28.7	N 21 26.6	-08.7
18	357 16.5	-28.6	N 21 17.9	-08.9
19	11 47.9	-28.6	N 21 09.0	-09.0
20	26 19.3	-28.6	N 20 60.0	-09.1
21	40 50.7	-28.5	N 20 50.9	-09.2
22	55 22.2	-28.5	N 20 41.7	-09.3
23	69 53.7	-28.5	N 20 32.4	-09.4

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	15′0	15′0
HP	54′6	54′6	54′7	54′8	54′9	55′0
SHA	229°	227°	225°	223°	221°	219°

Greenwich Culmination Time: 18:11

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	236 53.0	+00.7	S 06 29.5	-00.7
01	251 53.7	+00.7	S 06 28.8	-00.7
02	266 54.4	+00.7	S 06 28.1	-00.7
03	281 55.1	+00.7	S 06 27.4	-00.7
04	296 55.8	+00.8	S 06 26.7	-00.8
05	311 56.6	+00.7	S 06 25.9	-00.7
06	326 57.3	+00.7	S 06 25.2	-00.7
07	341 58.0	+00.7	S 06 24.5	-00.7
08	356 58.7	+00.7	S 06 23.8	-00.7
09	11 59.4	+00.7	S 06 23.1	-00.7
10	27 00.1	+00.7	S 06 22.4	-00.8
11	42 00.8	+00.7	S 06 21.6	-00.7
12	57 01.5	+00.8	S 06 20.9	-00.7
13	72 02.3	+00.7	S 06 20.2	-00.7
14	87 03.0	+00.7	S 06 19.5	-00.7
15	102 03.7	+00.7	S 06 18.8	-00.7
16	117 04.4	+00.7	S 06 18.1	-00.8
17	132 05.1	+00.7	S 06 17.3	-00.7
18	147 05.8	+00.7	S 06 16.6	-00.7
19	162 06.5	+00.8	S 06 15.9	-00.7
20	177 07.3	+00.7	S 06 15.2	-00.7
21	192 08.0	+00.7	S 06 14.5	-00.7
22	207 08.7	+00.7	S 06 13.8	-00.8
23	222 09.4	+00.7	S 06 13.0	-00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	011°	011°	011°	011°	011°	010°

Greenwich Culmination Time: 08:12

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	225 54.5	+02.0	S 01 13.9	-00.2
01	240 56.5	+02.0	S 01 13.7	-00.2
02	255 58.5	+02.0	S 01 13.5	-00.2
03	271 00.5	+02.0	S 01 13.3	-00.1
04	286 02.5	+02.0	S 01 13.2	-00.2
05	301 04.5	+02.0	S 01 13.0	-00.2
06	316 06.5	+02.0	S 01 12.8	-00.2
07	331 08.5	+02.0	S 01 12.6	-00.2
08	346 10.5	+02.0	S 01 12.4	-00.2
09	1 12.5	+02.0	S 01 12.2	-00.2
10	16 14.5	+02.0	S 01 12.0	-00.2
11	31 16.5	+02.0	S 01 11.8	-00.2
12	46 18.5	+02.0	S 01 11.6	-00.2
13	61 20.5	+02.0	S 01 11.4	-00.2
14	76 22.5	+02.0	S 01 11.2	-00.1
15	91 24.5	+02.1	S 01 11.1	-00.2
16	106 26.6	+02.0	S 01 10.9	-00.2
17	121 28.6	+02.0	S 01 10.7	-00.2
18	136 30.6	+02.0	S 01 10.5	-00.2
19	151 32.6	+02.0	S 01 10.3	-00.2
20	166 34.6	+02.0	S 01 10.1	-00.2
21	181 36.6	+02.0	S 01 09.9	-00.2
22	196 38.6	+02.0	S 01 09.7	-00.2
23	211 40.6	+02.0	S 01 09.5	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	360°	360°	360°

Greenwich Culmination Time: 08:55

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	258 31.9	+02.3	S 14 17.8	-00.1
01	273 34.2	+02.4	S 14 17.7	+00.0
02	288 36.6	+02.3	S 14 17.7	+00.0
03	303 38.9	+02.4	S 14 17.7	-00.1
04	318 41.3	+02.3	S 14 17.6	+00.0
05	333 43.6	+02.4	S 14 17.6	+00.0
06	348 46.0	+02.3	S 14 17.6	-00.1
07	3 48.3	+02.4	S 14 17.5	+00.0
08	18 50.7	+02.3	S 14 17.5	+00.0
09	33 53.0	+02.4	S 14 17.5	+00.0
10	48 55.4	+02.3	S 14 17.5	-00.1
11	63 57.7	+02.4	S 14 17.4	+00.0
12	79 00.1	+02.4	S 14 17.4	+00.0
13	94 02.5	+02.3	S 14 17.4	-00.1
14	109 04.8	+02.4	S 14 17.3	+00.0
15	124 07.2	+02.3	S 14 17.3	+00.0
16	139 09.5	+02.4	S 14 17.3	-00.1
17	154 11.9	+02.3	S 14 17.2	+00.0
18	169 14.2	+02.4	S 14 17.2	+00.0
19	184 16.6	+02.3	S 14 17.2	+00.0
20	199 18.9	+02.4	S 14 17.2	-00.1
21	214 21.3	+02.4	S 14 17.1	+00.0
22	229 23.7	+02.3	S 14 17.1	+00.0
23	244 26.0	+02.4	S 14 17.1	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 06:44

2022 May 5 Thursday (day 125 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 48.6	+00.1	N 16 11.2	+00.8
01	195 48.7	+00.0	N 16 12.0	+00.7
02	210 48.7	+00.1	N 16 12.7	+00.7
03	225 48.8	+00.0	N 16 13.4	+00.7
04	240 48.8	+00.1	N 16 14.1	+00.7
05	255 48.9	+00.0	N 16 14.8	+00.7
06	270 48.9	+00.1	N 16 15.5	+00.7
07	285 49.0	+00.0	N 16 16.2	+00.8
08	300 49.0	+00.1	N 16 17.0	+00.7
09	315 49.1	+00.0	N 16 17.7	+00.7
10	330 49.1	+00.1	N 16 18.4	+00.7
11	345 49.2	+00.0	N 16 19.1	+00.7
12	0 49.2	+00.1	N 16 19.8	+00.7
13	15 49.3	+00.0	N 16 20.5	+00.7
14	30 49.3	+00.1	N 16 21.2	+00.7
15	45 49.4	+00.0	N 16 21.9	+00.7
16	60 49.4	+00.1	N 16 22.6	+00.8
17	75 49.5	+00.0	N 16 23.4	+00.7
18	90 49.5	+00.1	N 16 24.1	+00.7
19	105 49.6	+00.0	N 16 24.8	+00.7
20	120 49.6	+00.1	N 16 25.5	+00.7
21	135 49.7	+00.0	N 16 26.2	+00.7
22	150 49.7	+00.1	N 16 26.9	+00.7
23	165 49.8	+00.0	N 16 27.6	+00.7

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	318°	318°	318°	317°	317°	317°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	219 49.2	-00.2	S 00 18.5	-01.1
01	234 49.0	-00.2	S 00 17.4	-01.0
02	249 48.8	-00.2	S 00 16.4	-01.1
03	264 48.6	-00.1	S 00 15.3	-01.0
04	279 48.5	-00.2	S 00 14.3	-01.0
05	294 48.3	-00.2	S 00 13.3	-01.1
06	309 48.1	-00.2	S 00 12.2	-01.0
07	324 47.9	-00.2	S 00 11.2	-01.1
08	339 47.7	-00.2	S 00 10.1	-01.0
09	354 47.5	-00.2	S 00 09.1	-01.1
10	9 47.3	-00.2	S 00 08.0	-01.0
11	24 47.1	-00.2	S 00 07.0	-01.0
12	39 46.9	-00.2	S 00 06.0	-01.1
13	54 46.7	-00.2	S 00 04.9	-01.0
14	69 46.5	-00.2	S 00 03.9	-01.1
15	84 46.3	-00.2	S 00 02.8	-01.0
16	99 46.1	-00.2	S 00 01.8	-01.0
17	114 45.9	-00.2	S 00 00.8	-01.1
18	129 45.7	-00.2	N 00 00.3	+01.0
19	144 45.5	-00.2	N 00 01.3	+01.1
20	159 45.3	-00.2	N 00 02.4	+01.0
21	174 45.1	-00.2	N 00 03.4	+01.1
22	189 44.9	-00.2	N 00 04.5	+01.0
23	204 44.7	-00.2	N 00 05.5	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	357°	357°	357°	356°	356°	356°

Greenwich Culmination Time: 09:20

Moon

A: 15%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	132 20.5	-30.6	N 26 41.7	+01.9
01	146 49.9	-30.6	N 26 43.6	+01.9
02	161 19.3	-30.6	N 26 45.5	+01.7
03	175 48.7	-30.6	N 26 47.2	+01.6
04	190 18.1	-30.7	N 26 48.8	+01.5
05	204 47.4	-30.7	N 26 50.3	+01.3
06	219 16.7	-30.6	N 26 51.6	+01.2
07	233 46.1	-30.7	N 26 52.8	+01.1
08	248 15.4	-30.7	N 26 53.9	+01.0
09	262 44.7	-30.6	N 26 54.9	+00.8
10	277 14.1	-30.7	N 26 55.7	+00.7
11	291 43.4	-30.7	N 26 56.4	+00.6
12	306 12.7	-30.7	N 26 57.0	+00.4
13	320 42.0	-30.7	N 26 57.4	+00.3
14	335 11.3	-30.7	N 26 57.7	+00.2
15	349 40.6	-30.7	N 26 57.9	+00.1
16	4 09.9	-30.7	N 26 58.0	-00.1
17	18 39.2	-30.6	N 26 57.9	-00.2
18	33 08.6	-30.7	N 26 57.7	-00.4
19	47 37.9	-30.7	N 26 57.3	-00.4
20	62 07.2	-30.7	N 26 56.9	-00.6
21	76 36.5	-30.6	N 26 56.3	-00.8
22	91 05.9	-30.7	N 26 55.5	-00.8
23	105 35.2	-30.6	N 26 54.7	-01.0

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	54′1	54′1	54′1	54′1	54′1	54′1
SHA	268°	266°	264°	262°	260°	257°

Greenwich Culmination Time: 15:42

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	236 02.0	+00.7	S 07 20.8	-00.7
01	251 02.7	+00.7	S 07 20.1	-00.7
02	266 03.4	+00.7	S 07 19.4	-00.7
03	281 04.1	+00.7	S 07 18.7	-00.7
04	296 04.8	+00.7	S 07 18.0	-00.7
05	311 05.5	+00.7	S 07 17.3	-00.7
06	326 06.2	+00.7	S 07 16.6	-00.7
07	341 06.9	+00.7	S 07 15.9	-00.7
08	356 07.6	+00.7	S 07 15.2	-00.8
09	11 08.3	+00.7	S 07 14.4	-00.7
10	26 09.0	+00.8	S 07 13.7	-00.7
11	41 09.8	+00.7	S 07 13.0	-00.7
12	56 10.5	+00.7	S 07 12.3	-00.7
13	71 11.2	+00.7	S 07 11.6	-00.7
14	86 11.9	+00.7	S 07 10.9	-00.7
15	101 12.6	+00.7	S 07 10.2	-00.7
16	116 13.3	+00.7	S 07 09.5	-00.7
17	131 14.0	+00.7	S 07 08.8	-00.8
18	146 14.7	+00.7	S 07 08.0	-00.7
19	161 15.4	+00.7	S 07 07.3	-00.7
20	176 16.1	+00.7	S 07 06.6	-00.7
21	191 16.8	+00.7	S 07 05.9	-00.7
22	206 17.5	+00.7	S 07 05.2	-00.7
23	221 18.2	+00.7	S 07 04.5	-00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	013°	013°	013°	013°	013°	013°

Greenwich Culmination Time: 08:15

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	223 30.5	+02.0	S 01 27.9	-00.2
01	238 32.5	+01.9	S 01 27.7	-00.2
02	253 34.4	+02.0	S 01 27.5	-00.2
03	268 36.4	+02.0	S 01 27.3	-00.2
04	283 38.4	+02.0	S 01 27.1	-00.2
05	298 40.4	+02.0	S 01 26.9	-00.2
06	313 42.4	+02.0	S 01 26.7	-00.2
07	328 44.4	+02.0	S 01 26.5	-00.2
08	343 46.4	+02.0	S 01 26.3	-00.2
09	358 48.4	+02.0	S 01 26.1	-00.2
10	13 50.4	+02.0	S 01 25.9	-00.2
11	28 52.4	+02.0	S 01 25.7	-00.2
12	43 54.4	+02.0	S 01 25.5	-00.2
13	58 56.4	+02.0	S 01 25.3	-00.2
14	73 58.4	+02.0	S 01 25.1	-00.2
15	89 00.4	+02.0	S 01 24.9	-00.2
16	104 02.4	+02.0	S 01 24.7	-00.2
17	119 04.4	+02.0	S 01 24.5	-00.2
18	134 06.4	+02.0	S 01 24.3	-00.1
19	149 08.4	+02.0	S 01 24.2	-00.2
20	164 10.4	+02.0	S 01 24.0	-00.2
21	179 12.4	+02.0	S 01 23.8	-00.2
22	194 14.4	+02.0	S 01 23.6	-00.2
23	209 16.4	+02.0	S 01 23.4	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	001°	001°	001°	001°	001°	000°

Greenwich Culmination Time: 09:04

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	255 42.8	+02.4	S 14 20.1	+00.0
01	270 45.2	+02.3	S 14 20.1	-00.1
02	285 47.5	+02.3	S 14 20.0	+00.0
03	300 49.8	+02.4	S 14 20.0	+00.0
04	315 52.2	+02.3	S 14 20.0	-00.1
05	330 54.5	+02.4	S 14 19.9	+00.0
06	345 56.9	+02.3	S 14 19.9	-00.1
07	0 59.2	+02.4	S 14 19.8	+00.0
08	16 01.6	+02.3	S 14 19.8	+00.0
09	31 03.9	+02.3	S 14 19.8	-00.1
10	46 06.2	+02.4	S 14 19.7	+00.0
11	61 08.6	+02.3	S 14 19.7	+00.0
12	76 10.9	+02.4	S 14 19.7	-00.1
13	91 13.3	+02.3	S 14 19.6	+00.0
14	106 15.6	+02.4	S 14 19.6	+00.0
15	121 18.0	+02.3	S 14 19.6	-00.1
16	136 20.3	+02.4	S 14 19.5	+00.0
17	151 22.7	+02.3	S 14 19.5	+00.0
18	166 25.0	+02.3	S 14 19.5	-00.1
19	181 27.3	+02.4	S 14 19.4	+00.0
20	196 29.7	+02.3	S 14 19.4	+00.0
21	211 32.0	+02.4	S 14 19.4	-00.1
22	226 34.4	+02.3	S 14 19.3	+00.0
23	241 36.7	+02.4	S 14 19.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 06:56

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Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 49.8	+00.1	N 16 28.3	+00.7
01	195 49.9	+00.0	N 16 29.0	+00.7
02	210 49.9	+00.1	N 16 29.7	+00.7
03	225 50.0	+00.0	N 16 30.4	+00.7
04	240 50.0	+00.1	N 16 31.1	+00.7
05	255 50.1	+00.0	N 16 31.8	+00.7
06	270 50.1	+00.1	N 16 32.5	+00.7
07	285 50.2	+00.0	N 16 33.2	+00.7
08	300 50.2	+00.0	N 16 33.9	+00.7
09	315 50.2	+00.1	N 16 34.6	+00.7
10	330 50.3	+00.0	N 16 35.3	+00.7
11	345 50.3	+00.1	N 16 36.0	+00.7
12	0 50.4	+00.0	N 16 36.7	+00.7
13	15 50.4	+00.1	N 16 37.4	+00.7
14	30 50.5	+00.0	N 16 38.1	+00.7
15	45 50.5	+00.1	N 16 38.8	+00.7
16	60 50.6	+00.0	N 16 39.5	+00.7
17	75 50.6	+00.0	N 16 40.2	+00.7
18	90 50.6	+00.1	N 16 40.9	+00.7
19	105 50.7	+00.0	N 16 41.6	+00.7
20	120 50.7	+00.1	N 16 42.3	+00.7
21	135 50.8	+00.0	N 16 43.0	+00.7
22	150 50.8	+00.1	N 16 43.7	+00.7
23	165 50.9	+00.0	N 16 44.4	+00.7

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	317°	317°	317°	316°	316°	316°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	219 44.5	−00.2	N 00 06.5	+01.1
01	234 44.3	−00.2	N 00 07.6	+01.0
02	249 44.1	−00.2	N 00 08.6	+01.1
03	264 43.9	−00.2	N 00 09.7	+01.0
04	279 43.7	−00.2	N 00 10.7	+01.1
05	294 43.5	−00.2	N 00 11.8	+01.0
06	309 43.3	−00.2	N 00 12.8	+01.1
07	324 43.1	−00.2	N 00 13.9	+01.0
08	339 42.9	−00.2	N 00 14.9	+01.0
09	354 42.7	−00.2	N 00 15.9	+01.1
10	9 42.5	−00.2	N 00 17.0	+01.0
11	24 42.3	−00.2	N 00 18.0	+01.1
12	39 42.1	−00.2	N 00 19.1	+01.0
13	54 41.9	−00.3	N 00 20.1	+01.1
14	69 41.6	−00.2	N 00 21.2	+01.0
15	84 41.4	−00.2	N 00 22.2	+01.1
16	99 41.2	−00.2	N 00 23.3	+01.0
17	114 41.0	−00.2	N 00 24.3	+01.1
18	129 40.8	−00.2	N 00 25.4	+01.0
19	144 40.6	−00.2	N 00 26.4	+01.1
20	159 40.4	−00.2	N 00 27.5	+01.0
21	174 40.2	−00.2	N 00 28.5	+01.0
22	189 40.0	−00.2	N 00 29.5	+01.1
23	204 39.8	−00.2	N 00 30.6	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	356°	356°	355°	355°	355°	355°

Greenwich Culmination Time: 09:21

Moon

A: 18%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	120 04.6	−30.7	N 26 53.7	−01.1
01	134 33.9	−30.6	N 26 52.6	−01.2
02	149 03.3	−30.6	N 26 51.4	−01.4
03	163 32.7	−30.6	N 26 50.0	−01.5
04	178 02.1	−30.6	N 26 48.5	−01.6
05	192 31.5	−30.6	N 26 46.9	−01.8
06	207 00.9	−30.6	N 26 45.1	−01.9
07	221 30.3	−30.5	N 26 43.2	−02.0
08	235 59.8	−30.5	N 26 41.2	−02.1
09	250 29.3	−30.6	N 26 39.1	−02.3
10	264 58.7	−30.5	N 26 36.8	−02.3
11	279 28.2	−30.4	N 26 34.5	−02.6
12	293 57.8	−30.5	N 26 31.9	−02.6
13	308 27.3	−30.4	N 26 29.3	−02.8
14	322 56.9	−30.4	N 26 26.5	−02.9
15	337 26.5	−30.4	N 26 23.6	−03.0
16	351 56.1	−30.4	N 26 20.6	−03.1
17	6 25.7	−30.4	N 26 17.5	−03.3
18	20 55.3	−30.3	N 26 14.2	−03.4
19	35 25.0	−30.3	N 26 10.8	−03.5
20	49 54.7	−30.3	N 26 07.3	−03.6
21	64 24.4	−30.2	N 26 03.7	−03.8
22	78 54.2	−30.2	N 25 59.9	−03.9
23	93 24.0	−30.2	N 25 56.0	−04.0

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′8	14′8	14′8
HP	54′1	54′1	54′1	54′2	54′2	54′2
SHA	255°	253°	251°	249°	246°	244°

Greenwich Culmination Time: 16:33

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	236 18.9	+00.7	S 07 03.8	−00.7
01	251 19.6	+00.7	S 07 03.1	−00.7
02	266 20.3	+00.8	S 07 02.4	−00.8
03	281 21.1	+00.7	S 07 01.6	−00.7
04	296 21.8	+00.7	S 07 00.9	−00.7
05	311 22.5	+00.7	S 07 00.2	−00.7
06	326 23.2	+00.7	S 06 59.5	−00.7
07	341 23.9	+00.7	S 06 58.8	−00.7
08	356 24.6	+00.7	S 06 58.1	−00.7
09	11 25.3	+00.7	S 06 57.4	−00.7
10	26 26.0	+00.7	S 06 56.7	−00.8
11	41 26.7	+00.7	S 06 55.9	−00.7
12	56 27.4	+00.7	S 06 55.2	−00.7
13	71 28.1	+00.7	S 06 54.5	−00.7
14	86 28.8	+00.8	S 06 53.8	−00.7
15	101 29.6	+00.7	S 06 53.1	−00.7
16	116 30.3	+00.7	S 06 52.4	−00.7
17	131 31.0	+00.7	S 06 51.7	−00.8
18	146 31.7	+00.7	S 06 50.9	−00.7
19	161 32.4	+00.7	S 06 50.2	−00.7
20	176 33.1	+00.7	S 06 49.5	−00.7
21	191 33.8	+00.7	S 06 48.8	−00.7
22	206 34.5	+00.7	S 06 48.1	−00.7
23	221 35.2	+00.7	S 06 47.4	−00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	012°	012°	012°	012°	012°	012°

Greenwich Culmination Time: 08:14

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	224 18.4	+02.0	S 01 23.2	−00.2
01	239 20.4	+02.0	S 01 23.0	−00.2
02	254 22.4	+02.0	S 01 22.8	−00.2
03	269 24.4	+02.0	S 01 22.6	−00.2
04	284 26.4	+02.0	S 01 22.4	−00.2
05	299 28.4	+02.0	S 01 22.2	−00.2
06	314 30.4	+02.0	S 01 22.0	−00.2
07	329 32.4	+02.0	S 01 21.8	−00.2
08	344 34.4	+02.0	S 01 21.6	−00.2
09	359 36.4	+02.0	S 01 21.4	−00.2
10	14 38.4	+02.0	S 01 21.2	−00.2
11	29 40.4	+02.0	S 01 21.0	−00.1
12	44 42.4	+02.0	S 01 20.9	−00.2
13	59 44.4	+02.0	S 01 20.7	−00.2
14	74 46.4	+02.0	S 01 20.5	−00.2
15	89 48.4	+02.0	S 01 20.3	−00.2
16	104 50.4	+02.0	S 01 20.1	−00.2
17	119 52.4	+02.0	S 01 19.9	−00.2
18	134 54.4	+02.0	S 01 19.7	−00.2
19	149 56.4	+02.0	S 01 19.5	−00.2
20	164 58.4	+02.0	S 01 19.3	−00.2
21	180 00.4	+02.0	S 01 19.1	−00.2
22	195 02.4	+02.0	S 01 18.9	−00.2
23	210 04.4	+02.0	S 01 18.7	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 09:01

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	256 39.1	+02.3	S 14 19.3	−00.1
01	271 41.4	+02.4	S 14 19.2	+00.0
02	286 43.8	+02.3	S 14 19.2	+00.0
03	301 46.1	+02.4	S 14 19.2	−00.1
04	316 48.5	+02.3	S 14 19.1	+00.0
05	331 50.8	+02.4	S 14 19.1	+00.0
06	346 53.2	+02.3	S 14 19.1	+00.0
07	1 55.5	+02.3	S 14 19.1	−00.1
08	16 57.8	+02.4	S 14 19.0	+00.0
09	32 00.2	+02.3	S 14 19.0	+00.0
10	47 02.5	+02.4	S 14 19.0	−00.1
11	62 04.9	+02.3	S 14 18.9	+00.0
12	77 07.2	+02.4	S 14 18.9	+00.0
13	92 09.6	+02.3	S 14 18.9	−00.1
14	107 11.9	+02.4	S 14 18.8	+00.0
15	122 14.3	+02.3	S 14 18.8	+00.0
16	137 16.6	+02.4	S 14 18.8	−00.1
17	152 19.0	+02.3	S 14 18.7	+00.0
18	167 21.3	+02.4	S 14 18.7	+00.0
19	182 23.7	+02.3	S 14 18.7	−00.1
20	197 26.0	+02.4	S 14 18.6	+00.0
21	212 28.4	+02.3	S 14 18.6	+00.0
22	227 30.7	+02.4	S 14 18.6	−00.1
23	242 33.1	+02.3	S 14 18.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 06:52

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 50.9	+00.0	N 16 45.1	+00.7
01	195 50.9	+00.1	N 16 45.8	+00.7
02	210 51.0	+00.0	N 16 46.5	+00.6
03	225 51.0	+00.1	N 16 47.1	+00.7
04	240 51.1	+00.0	N 16 47.8	+00.7
05	255 51.1	+00.0	N 16 48.5	+00.7
06	270 51.1	+00.1	N 16 49.2	+00.7
07	285 51.2	+00.0	N 16 49.9	+00.7
08	300 51.2	+00.1	N 16 50.6	+00.7
09	315 51.3	+00.0	N 16 51.3	+00.7
10	330 51.3	+00.0	N 16 52.0	+00.7
11	345 51.3	+00.1	N 16 52.7	+00.7
12	0 51.4	+00.0	N 16 53.4	+00.6
13	15 51.4	+00.1	N 16 54.0	+00.7
14	30 51.5	+00.0	N 16 54.7	+00.7
15	45 51.5	+00.0	N 16 55.4	+00.7
16	60 51.5	+00.1	N 16 56.1	+00.7
17	75 51.6	+00.0	N 16 56.8	+00.7
18	90 51.6	+00.1	N 16 57.5	+00.7
19	105 51.7	+00.0	N 16 58.2	+00.6
20	120 51.7	+00.0	N 16 58.8	+00.7
21	135 51.7	+00.1	N 16 59.5	+00.7
22	150 51.8	+00.0	N 17 00.2	+00.7
23	165 51.8	+00.0	N 17 00.9	+00.7

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	316°	316°	316°	315°	315°	315°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	219 39.6	−00.2	N 00 31.6	+01.1
01	234 39.4	−00.2	N 00 32.7	+01.0
02	249 39.2	−00.2	N 00 33.7	+01.1
03	264 39.0	−00.2	N 00 34.8	+01.0
04	279 38.8	−00.2	N 00 35.8	+01.1
05	294 38.6	−00.2	N 00 36.9	+01.0
06	309 38.4	−00.2	N 00 37.9	+01.1
07	324 38.2	−00.2	N 00 39.0	+01.0
08	339 38.0	−00.2	N 00 40.0	+01.1
09	354 37.8	−00.2	N 00 41.1	+01.0
10	9 37.6	−00.2	N 00 42.1	+01.1
11	24 37.4	−00.2	N 00 43.2	+01.0
12	39 37.2	−00.2	N 00 44.2	+01.1
13	54 37.0	−00.2	N 00 45.3	+01.0
14	69 36.8	−00.2	N 00 46.3	+01.1
15	84 36.6	−00.2	N 00 47.4	+01.0
16	99 36.4	−00.2	N 00 48.4	+01.1
17	114 36.2	−00.2	N 00 49.5	+01.0
18	129 36.0	−00.2	N 00 50.5	+01.1
19	144 35.8	−00.2	N 00 51.6	+01.0
20	159 35.6	−00.2	N 00 52.6	+01.1
21	174 35.4	−00.3	N 00 53.7	+01.0
22	189 35.1	−00.2	N 00 54.7	+01.1
23	204 34.9	−00.2	N 00 55.8	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	355°	355°	354°	354°	354°	354°

Greenwich Culmination Time: 09:21

Moon

A: 21%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	107 53.8	−30.2	N 25 52.0	−04.1
01	122 23.6	−30.1	N 25 47.9	−04.3
02	136 53.5	−30.1	N 25 43.6	−04.4
03	151 23.4	−30.1	N 25 39.2	−04.5
04	165 53.3	−30.0	N 25 34.7	−04.6
05	180 23.3	−30.1	N 25 30.1	−04.8
06	194 53.2	−29.9	N 25 25.3	−04.8
07	209 23.3	−30.0	N 25 20.5	−05.0
08	223 53.3	−29.9	N 25 15.5	−05.1
09	238 23.4	−29.9	N 25 10.4	−05.2
10	252 53.5	−29.8	N 25 05.2	−05.4
11	267 23.7	−29.9	N 24 59.8	−05.4
12	281 53.8	−29.7	N 24 54.4	−05.6
13	296 24.1	−29.8	N 24 48.8	−05.7
14	310 54.3	−29.7	N 24 43.1	−05.8
15	325 24.6	−29.7	N 24 37.3	−06.0
16	339 54.9	−29.6	N 24 31.3	−06.0
17	354 25.3	−29.6	N 24 25.3	−06.2
18	8 55.7	−29.6	N 24 19.1	−06.2
19	23 26.1	−29.5	N 24 12.9	−06.4
20	37 56.6	−29.5	N 24 06.5	−06.5
21	52 27.1	−29.5	N 23 60.0	−06.7
22	66 57.6	−29.4	N 23 53.3	−06.7
23	81 28.2	−29.4	N 23 46.6	−06.8

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′9
HP	54′3	54′3	54′3	54′4	54′5	54′5
SHA	242°	240°	238°	236°	233°	231°

Greenwich Culmination Time: 17:23

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	236 35.9	+00.7	S 06 46.7	−00.7
01	251 36.6	+00.8	S 06 46.0	−00.8
02	266 37.4	+00.7	S 06 45.2	−00.7
03	281 38.1	+00.7	S 06 44.5	−00.7
04	296 38.8	+00.7	S 06 43.8	−00.7
05	311 39.5	+00.7	S 06 43.1	−00.7
06	326 40.2	+00.7	S 06 42.4	−00.7
07	341 40.9	+00.7	S 06 41.7	−00.7
08	356 41.6	+00.7	S 06 41.0	−00.8
09	11 42.3	+00.7	S 06 40.2	−00.7
10	26 43.0	+00.7	S 06 39.5	−00.7
11	41 43.7	+00.8	S 06 38.8	−00.7
12	56 44.5	+00.7	S 06 38.1	−00.7
13	71 45.2	+00.7	S 06 37.4	−00.7
14	86 45.9	+00.7	S 06 36.7	−00.7
15	101 46.6	+00.7	S 06 36.0	−00.8
16	116 47.3	+00.7	S 06 35.2	−00.7
17	131 48.0	+00.7	S 06 34.5	−00.7
18	146 48.7	+00.7	S 06 33.8	−00.7
19	161 49.4	+00.7	S 06 33.1	−00.7
20	176 50.1	+00.8	S 06 32.4	−00.7
21	191 50.9	+00.7	S 06 31.7	−00.8
22	206 51.6	+00.7	S 06 30.9	−00.7
23	221 52.3	+00.7	S 06 30.2	−00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	012°	012°	011°	011°	011°	011°

Greenwich Culmination Time: 08:13

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	225 06.4	+02.0	S 01 18.5	−00.2
01	240 08.4	+02.0	S 01 18.3	−00.2
02	255 10.4	+02.0	S 01 18.1	−00.1
03	270 12.4	+02.0	S 01 18.0	−00.2
04	285 14.4	+02.0	S 01 17.8	−00.2
05	300 16.4	+02.0	S 01 17.6	−00.2
06	315 18.4	+02.0	S 01 17.4	−00.2
07	330 20.4	+02.0	S 01 17.2	−00.2
08	345 22.4	+02.0	S 01 17.0	−00.2
09	0 24.4	+02.0	S 01 16.8	−00.2
10	15 26.4	+02.0	S 01 16.6	−00.2
11	30 28.4	+02.0	S 01 16.4	−00.2
12	45 30.4	+02.0	S 01 16.2	−00.2
13	60 32.4	+02.0	S 01 16.0	−00.2
14	75 34.4	+02.0	S 01 15.8	−00.2
15	90 36.4	+02.0	S 01 15.6	−00.1
16	105 38.4	+02.0	S 01 15.5	−00.2
17	120 40.4	+02.0	S 01 15.3	−00.2
18	135 42.4	+02.0	S 01 15.1	−00.2
19	150 44.4	+02.0	S 01 14.9	−00.2
20	165 46.4	+02.0	S 01 14.7	−00.2
21	180 48.4	+02.1	S 01 14.5	−00.2
22	195 50.5	+02.0	S 01 14.3	−00.2
23	210 52.5	+02.0	S 01 14.1	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 08:58

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	257 35.4	+02.4	S 14 18.5	+00.0
01	272 37.8	+02.3	S 14 18.5	−00.1
02	287 40.1	+02.4	S 14 18.4	+00.0
03	302 42.5	+02.3	S 14 18.4	+00.0
04	317 44.8	+02.4	S 14 18.4	−00.1
05	332 47.2	+02.3	S 14 18.3	+00.0
06	347 49.5	+02.4	S 14 18.3	+00.0
07	2 51.9	+02.3	S 14 18.3	+00.0
08	17 54.2	+02.4	S 14 18.3	−00.1
09	32 56.6	+02.3	S 14 18.2	+00.0
10	47 58.9	+02.4	S 14 18.2	+00.0
11	63 01.3	+02.3	S 14 18.2	−00.1
12	78 03.6	+02.4	S 14 18.1	+00.0
13	93 06.0	+02.3	S 14 18.1	+00.0
14	108 08.3	+02.4	S 14 18.1	−00.1
15	123 10.7	+02.3	S 14 18.0	+00.0
16	138 13.0	+02.4	S 14 18.0	+00.0
17	153 15.4	+02.3	S 14 18.0	−00.1
18	168 17.7	+02.4	S 14 17.9	+00.0
19	183 20.1	+02.3	S 14 17.9	+00.0
20	198 22.4	+02.4	S 14 17.9	−00.1
21	213 24.8	+02.3	S 14 17.8	+00.0
22	228 27.1	+02.4	S 14 17.8	+00.0
23	243 29.5	+02.4	S 14 17.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 06:48

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2022 May 12 Thursday (day 132 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 54.2	+00.0	N 18 04.6	+00.7
01	195 54.2	+00.0	N 18 05.3	+00.6
02	210 54.2	+00.0	N 18 05.9	+00.6
03	225 54.2	+00.0	N 18 06.5	+00.6
04	240 54.2	+00.1	N 18 07.1	+00.7
05	255 54.3	+00.0	N 18 07.8	+00.6
06	270 54.3	+00.0	N 18 08.4	+00.6
07	285 54.3	+00.0	N 18 09.0	+00.7
08	300 54.3	+00.0	N 18 09.7	+00.6
09	315 54.3	+00.0	N 18 10.3	+00.6
10	330 54.3	+00.0	N 18 10.9	+00.6
11	345 54.3	+00.0	N 18 11.5	+00.7
12	0 54.3	+00.0	N 18 12.2	+00.6
13	15 54.3	+00.0	N 18 12.8	+00.6
14	30 54.3	+00.1	N 18 13.4	+00.6
15	45 54.4	+00.0	N 18 14.0	+00.7
16	60 54.4	+00.0	N 18 14.7	+00.6
17	75 54.4	+00.0	N 18 15.3	+00.6
18	90 54.4	+00.0	N 18 15.9	+00.6
19	105 54.4	+00.0	N 18 16.5	+00.7
20	120 54.4	+00.0	N 18 17.2	+00.6
21	135 54.4	+00.0	N 18 17.8	+00.6
22	150 54.4	+00.0	N 18 18.4	+00.6
23	165 54.4	+00.0	N 18 19.0	+00.6

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	311°	311°	311°	311°	310°	310°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	219 14.5	−00.3	N 02 38.1	+01.1
01	234 14.2	−00.2	N 02 39.2	+01.0
02	249 14.0	−00.2	N 02 40.2	+01.1
03	264 13.8	−00.2	N 02 41.3	+01.0
04	279 13.6	−00.2	N 02 42.3	+01.1
05	294 13.4	−00.2	N 02 43.4	+01.1
06	309 13.2	−00.3	N 02 44.5	+01.0
07	324 12.9	−00.2	N 02 45.5	+01.1
08	339 12.7	−00.2	N 02 46.6	+01.0
09	354 12.5	−00.2	N 02 47.6	+01.1
10	9 12.3	−00.2	N 02 48.7	+01.1
11	24 12.1	−00.3	N 02 49.8	+01.0
12	39 11.8	−00.2	N 02 50.8	+01.1
13	54 11.6	−00.2	N 02 51.9	+01.0
14	69 11.4	−00.2	N 02 52.9	+01.1
15	84 11.2	−00.2	N 02 54.0	+01.0
16	99 11.0	−00.3	N 02 55.0	+01.1
17	114 10.7	−00.2	N 02 56.1	+01.1
18	129 10.5	−00.2	N 02 57.2	+01.0
19	144 10.3	−00.2	N 02 58.2	+01.1
20	159 10.1	−00.2	N 02 59.3	+01.0
21	174 09.9	−00.3	N 03 00.3	+01.1
22	189 09.6	−00.2	N 03 01.4	+01.1
23	204 09.4	−00.2	N 03 02.5	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	349°	349°	349°	349°	349°	349°

Greenwich Culmination Time: 09:23

Moon

A: 37%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	51 20.7	−27.4	N 05 29.2	−14.8
01	65 53.3	−27.4	N 05 14.4	−14.8
02	80 25.9	−27.3	N 04 59.6	−14.9
03	94 58.6	−27.5	N 04 44.7	−14.9
04	109 31.1	−27.4	N 04 29.8	−14.9
05	124 03.7	−27.4	N 04 14.9	−15.0
06	138 36.3	−27.5	N 03 59.9	−15.0
07	153 08.8	−27.5	N 03 44.9	−15.1
08	167 41.3	−27.5	N 03 29.8	−15.1
09	182 13.8	−27.6	N 03 14.7	−15.2
10	196 46.2	−27.6	N 02 59.5	−15.1
11	211 18.6	−27.6	N 02 44.4	−15.2
12	225 51.0	−27.6	N 02 29.2	−15.3
13	240 23.4	−27.7	N 02 13.9	−15.3
14	254 55.7	−27.7	N 01 58.6	−15.3
15	269 28.0	−27.7	N 01 43.3	−15.3
16	284 00.3	−27.8	N 01 28.0	−15.3
17	298 32.5	−27.8	N 01 12.7	−15.4
18	313 04.7	−27.9	N 00 57.3	−15.4
19	327 36.8	−27.9	N 00 41.9	−15.5
20	342 08.9	−27.9	N 00 26.4	−15.4
21	356 41.0	−28.0	N 00 11.0	−15.5
22	11 13.0	−28.0	S 00 04.5	+15.5
23	25 45.0	−28.0	S 00 20.0	+15.6

UT	02	06	10	14	18	22
SD	15′6	15′7	15′7	15′8	15′8	15′8
HP	57′4	57′5	57′7	57′8	58′0	58′1
SHA	181°	179°	177°	175°	173°	171°

Greenwich Culmination Time: 21:13

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	238 01.9	+00.7	S 05 20.5	−00.7
01	253 02.6	+00.7	S 05 19.8	−00.7
02	268 03.3	+00.7	S 05 19.1	−00.7
03	283 04.0	+00.8	S 05 18.4	−00.8
04	298 04.8	+00.7	S 05 17.6	−00.7
05	313 05.5	+00.7	S 05 16.9	−00.7
06	328 06.2	+00.7	S 05 16.2	−00.7
07	343 06.9	+00.7	S 05 15.5	−00.7
08	358 07.6	+00.8	S 05 14.8	−00.8
09	13 08.4	+00.7	S 05 14.0	−00.7
10	28 09.1	+00.7	S 05 13.3	−00.7
11	43 09.8	+00.7	S 05 12.6	−00.7
12	58 10.5	+00.8	S 05 11.9	−00.8
13	73 11.3	+00.7	S 05 11.1	−00.7
14	88 12.0	+00.7	S 05 10.4	−00.7
15	103 12.7	+00.7	S 05 09.7	−00.7
16	118 13.4	+00.8	S 05 09.0	−00.7
17	133 14.2	+00.7	S 05 08.3	−00.8
18	148 14.9	+00.7	S 05 07.5	−00.7
19	163 15.6	+00.7	S 05 06.8	−00.7
20	178 16.3	+00.7	S 05 06.1	−00.7
21	193 17.0	+00.8	S 05 05.4	−00.8
22	208 17.8	+00.7	S 05 04.6	−00.7
23	223 18.5	+00.7	S 05 03.9	−00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	008°	008°	008°	008°	008°	008°

Greenwich Culmination Time: 08:07

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	229 07.5	+02.1	S 00 55.8	−00.2
01	244 09.6	+02.0	S 00 55.6	−00.1
02	259 11.6	+02.0	S 00 55.5	−00.2
03	274 13.6	+02.0	S 00 55.3	−00.2
04	289 15.6	+02.0	S 00 55.1	−00.2
05	304 17.6	+02.0	S 00 54.9	−00.2
06	319 19.6	+02.1	S 00 54.7	−00.2
07	334 21.7	+02.0	S 00 54.5	−00.2
08	349 23.7	+02.0	S 00 54.3	−00.1
09	4 25.7	+02.0	S 00 54.2	−00.2
10	19 27.7	+02.0	S 00 54.0	−00.2
11	34 29.7	+02.1	S 00 53.8	−00.2
12	49 31.8	+02.0	S 00 53.6	−00.2
13	64 33.8	+02.0	S 00 53.4	−00.2
14	79 35.8	+02.0	S 00 53.2	−00.1
15	94 37.8	+02.0	S 00 53.1	−00.2
16	109 39.8	+02.1	S 00 52.9	−00.2
17	124 41.9	+02.0	S 00 52.7	−00.2
18	139 43.9	+02.0	S 00 52.5	−00.2
19	154 45.9	+02.0	S 00 52.3	−00.2
20	169 47.9	+02.0	S 00 52.1	−00.1
21	184 49.9	+02.1	S 00 52.0	−00.2
22	199 52.0	+02.0	S 00 51.8	−00.2
23	214 54.0	+02.0	S 00 51.6	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 08:42

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	262 18.5	+02.3	S 14 15.1	+00.0
01	277 20.8	+02.4	S 14 15.1	−00.1
02	292 23.2	+02.4	S 14 15.0	+00.0
03	307 25.6	+02.3	S 14 15.0	+00.0
04	322 27.9	+02.4	S 14 15.0	+00.0
05	337 30.3	+02.4	S 14 15.0	−00.1
06	352 32.7	+02.3	S 14 14.9	+00.0
07	7 35.0	+02.4	S 14 14.9	+00.0
08	22 37.4	+02.4	S 14 14.9	+00.0
09	37 39.8	+02.3	S 14 14.9	−00.1
10	52 42.1	+02.4	S 14 14.8	+00.0
11	67 44.5	+02.4	S 14 14.8	+00.0
12	82 46.9	+02.4	S 14 14.8	+00.0
13	97 49.3	+02.3	S 14 14.8	−00.1
14	112 51.6	+02.4	S 14 14.7	+00.0
15	127 54.0	+02.4	S 14 14.7	+00.0
16	142 56.4	+02.3	S 14 14.7	+00.0
17	157 58.7	+02.4	S 14 14.7	−00.1
18	173 01.1	+02.4	S 14 14.6	+00.0
19	188 03.5	+02.4	S 14 14.6	+00.0
20	203 05.9	+02.3	S 14 14.6	+00.0
21	218 08.2	+02.4	S 14 14.6	−00.1
22	233 10.6	+02.4	S 14 14.5	+00.0
23	248 13.0	+02.3	S 14 14.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 06:29

2022 May 9 Monday (day 129 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 52.6	+00.1	N 17 17.8	+00.6
01	195 52.7	+00.0	N 17 18.4	+00.7
02	210 52.7	+00.0	N 17 19.1	+00.7
03	225 52.7	+00.1	N 17 19.8	+00.6
04	240 52.8	+00.0	N 17 20.4	+00.7
05	255 52.8	+00.0	N 17 21.1	+00.7
06	270 52.8	+00.0	N 17 21.8	+00.6
07	285 52.8	+00.1	N 17 22.4	+00.7
08	300 52.9	+00.0	N 17 23.1	+00.7
09	315 52.9	+00.0	N 17 23.8	+00.6
10	330 52.9	+00.1	N 17 24.4	+00.7
11	345 53.0	+00.0	N 17 25.1	+00.7
12	0 53.0	+00.0	N 17 25.8	+00.6
13	15 53.0	+00.0	N 17 26.4	+00.7
14	30 53.0	+00.1	N 17 27.1	+00.7
15	45 53.1	+00.0	N 17 27.8	+00.6
16	60 53.1	+00.0	N 17 28.4	+00.7
17	75 53.1	+00.0	N 17 29.1	+00.6
18	90 53.1	+00.1	N 17 29.7	+00.7
19	105 53.2	+00.0	N 17 30.4	+00.7
20	120 53.2	+00.0	N 17 31.1	+00.6
21	135 53.2	+00.0	N 17 31.7	+00.7
22	150 53.2	+00.1	N 17 32.4	+00.6
23	165 53.3	+00.0	N 17 33.0	+00.7

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	314°	314°	314°	314°	313°	313°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	219 29.8	−00.2	N 01 22.1	+01.0
01	234 29.6	−00.2	N 01 23.1	+01.1
02	249 29.4	−00.2	N 01 24.2	+01.0
03	264 29.2	−00.3	N 01 25.2	+01.1
04	279 28.9	−00.2	N 01 26.3	+01.0
05	294 28.7	−00.2	N 01 27.3	+01.1
06	309 28.5	−00.2	N 01 28.4	+01.0
07	324 28.3	−00.2	N 01 29.4	+01.1
08	339 28.1	−00.2	N 01 30.5	+01.0
09	354 27.9	−00.2	N 01 31.5	+01.1
10	9 27.7	−00.2	N 01 32.6	+01.0
11	24 27.5	−00.2	N 01 33.6	+01.1
12	39 27.3	−00.2	N 01 34.7	+01.1
13	54 27.1	−00.2	N 01 35.8	+01.0
14	69 26.9	−00.3	N 01 36.8	+01.1
15	84 26.6	−00.2	N 01 37.9	+01.0
16	99 26.4	−00.2	N 01 38.9	+01.1
17	114 26.2	−00.2	N 01 40.0	+01.0
18	129 26.0	−00.2	N 01 41.0	+01.1
19	144 25.8	−00.2	N 01 42.1	+01.0
20	159 25.6	−00.2	N 01 43.1	+01.1
21	174 25.4	−00.2	N 01 44.2	+01.1
22	189 25.2	−00.2	N 01 45.3	+01.0
23	204 25.0	−00.2	N 01 46.3	+01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	353°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 09:22

Moon

A: 28%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	84 25.2	−28.4	N 20 23.0	−09.5
01	98 56.8	−28.4	N 20 13.5	−09.5
02	113 28.4	−28.3	N 20 04.0	−09.7
03	128 00.1	−28.3	N 19 54.3	−09.8
04	142 31.8	−28.3	N 19 44.5	−09.9
05	157 03.5	−28.3	N 19 34.6	−09.9
06	171 35.2	−28.2	N 19 24.7	−10.1
07	186 07.0	−28.1	N 19 14.6	−10.2
08	200 38.9	−28.2	N 19 04.4	−10.2
09	215 10.7	−28.1	N 18 54.2	−10.4
10	229 42.6	−28.0	N 18 43.8	−10.4
11	244 14.6	−28.1	N 18 33.4	−10.5
12	258 46.5	−28.0	N 18 22.9	−10.7
13	273 18.5	−27.9	N 18 12.2	−10.7
14	287 50.6	−28.0	N 18 01.5	−10.8
15	302 22.6	−27.9	N 17 50.7	−10.9
16	316 54.7	−27.9	N 17 39.8	−10.9
17	331 26.8	−27.8	N 17 28.9	−11.1
18	345 59.0	−27.8	N 17 17.8	−11.2
19	0 31.2	−27.8	N 17 06.6	−11.2
20	15 03.4	−27.8	N 16 55.4	−11.3
21	29 35.6	−27.7	N 16 44.1	−11.4
22	44 07.9	−27.7	N 16 32.7	−11.5
23	58 40.2	−27.7	N 16 21.2	−11.6

UT	02	06	10	14	18	22
SD	15′0	15′0	15′1	15′1	15′1	15′1
HP	55′1	55′2	55′3	55′4	55′5	55′6
SHA	217°	215°	213°	210°	208°	206°

Greenwich Culmination Time: 18:57

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	237 10.1	+00.7	S 06 12.3	−00.7
01	252 10.8	+00.7	S 06 11.6	−00.7
02	267 11.5	+00.8	S 06 10.9	−00.7
03	282 12.3	+00.7	S 06 10.2	−00.7
04	297 13.0	+00.7	S 06 09.5	−00.8
05	312 13.7	+00.7	S 06 08.7	−00.7
06	327 14.4	+00.7	S 06 08.0	−00.7
07	342 15.1	+00.7	S 06 07.3	−00.7
08	357 15.8	+00.8	S 06 06.6	−00.7
09	12 16.6	+00.7	S 06 05.9	−00.8
10	27 17.3	+00.7	S 06 05.1	−00.7
11	42 18.0	+00.7	S 06 04.4	−00.7
12	57 18.7	+00.7	S 06 03.7	−00.7
13	72 19.4	+00.7	S 06 03.0	−00.7
14	87 20.1	+00.8	S 06 02.3	−00.7
15	102 20.9	+00.7	S 06 01.6	−00.8
16	117 21.6	+00.7	S 06 00.8	−00.7
17	132 22.3	+00.7	S 06 00.1	−00.7
18	147 23.0	+00.7	S 05 59.4	−00.7
19	162 23.7	+00.7	S 05 58.7	−00.7
20	177 24.4	+00.8	S 05 58.0	−00.8
21	192 25.2	+00.7	S 05 57.2	−00.7
22	207 25.9	+00.7	S 05 56.5	−00.7
23	222 26.6	+00.7	S 05 55.8	−00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	010°	010°	010°	010°	010°	010°

Greenwich Culmination Time: 08:10

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	226 42.6	+02.0	S 01 09.3	−00.1
01	241 44.6	+02.0	S 01 09.2	−00.2
02	256 46.6	+02.0	S 01 09.0	−00.2
03	271 48.6	+02.0	S 01 08.8	−00.2
04	286 50.6	+02.1	S 01 08.6	−00.2
05	301 52.7	+02.0	S 01 08.4	−00.2
06	316 54.7	+02.0	S 01 08.2	−00.2
07	331 56.7	+02.0	S 01 08.0	−00.2
08	346 58.7	+02.0	S 01 07.8	−00.2
09	2 00.7	+02.0	S 01 07.6	−00.2
10	17 02.7	+02.0	S 01 07.4	−00.1
11	32 04.7	+02.0	S 01 07.3	−00.2
12	47 06.7	+02.0	S 01 07.1	−00.2
13	62 08.7	+02.0	S 01 06.9	−00.2
14	77 10.7	+02.0	S 01 06.7	−00.2
15	92 12.7	+02.1	S 01 06.5	−00.2
16	107 14.8	+02.0	S 01 06.3	−00.2
17	122 16.8	+02.0	S 01 06.1	−00.2
18	137 18.8	+02.0	S 01 05.9	−00.2
19	152 20.8	+02.0	S 01 05.7	−00.1
20	167 22.8	+02.0	S 01 05.6	−00.2
21	182 24.8	+02.0	S 01 05.4	−00.2
22	197 26.8	+02.0	S 01 05.2	−00.2
23	212 28.8	+02.0	S 01 05.0	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 08:51

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	259 28.4	+02.3	S 14 17.0	+00.0
01	274 30.7	+02.4	S 14 17.0	+00.0
02	289 33.1	+02.3	S 14 17.0	+00.0
03	304 35.4	+02.4	S 14 17.0	−00.1
04	319 37.8	+02.4	S 14 16.9	+00.0
05	334 40.2	+02.3	S 14 16.9	+00.0
06	349 42.5	+02.4	S 14 16.9	−00.1
07	4 44.9	+02.3	S 14 16.8	+00.0
08	19 47.2	+02.4	S 14 16.8	+00.0
09	34 49.6	+02.3	S 14 16.8	+00.0
10	49 51.9	+02.4	S 14 16.8	−00.1
11	64 54.3	+02.4	S 14 16.7	+00.0
12	79 56.7	+02.3	S 14 16.7	+00.0
13	94 59.0	+02.4	S 14 16.7	−00.1
14	110 01.4	+02.3	S 14 16.6	+00.0
15	125 03.7	+02.4	S 14 16.6	+00.0
16	140 06.1	+02.4	S 14 16.6	+00.0
17	155 08.5	+02.3	S 14 16.6	−00.1
18	170 10.8	+02.4	S 14 16.5	+00.0
19	185 13.2	+02.3	S 14 16.5	+00.0
20	200 15.5	+02.4	S 14 16.5	−00.1
21	215 17.9	+02.4	S 14 16.4	+00.0
22	230 20.3	+02.3	S 14 16.4	+00.0
23	245 22.6	+02.4	S 14 16.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 06:41

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 53.3	+00.0	N 17 33.7	+00.6
01	195 53.3	+00.0	N 17 34.3	+00.7
02	210 53.3	+00.1	N 17 35.0	+00.7
03	225 53.4	+00.0	N 17 35.7	+00.6
04	240 53.4	+00.0	N 17 36.3	+00.7
05	255 53.4	+00.0	N 17 37.0	+00.6
06	270 53.4	+00.1	N 17 37.6	+00.7
07	285 53.5	+00.0	N 17 38.3	+00.6
08	300 53.5	+00.0	N 17 38.9	+00.7
09	315 53.5	+00.0	N 17 39.6	+00.6
10	330 53.5	+00.0	N 17 40.2	+00.7
11	345 53.5	+00.1	N 17 40.9	+00.6
12	0 53.6	+00.0	N 17 41.5	+00.7
13	15 53.6	+00.0	N 17 42.2	+00.6
14	30 53.6	+00.0	N 17 42.8	+00.7
15	45 53.6	+00.1	N 17 43.5	+00.6
16	60 53.7	+00.0	N 17 44.1	+00.7
17	75 53.7	+00.0	N 17 44.8	+00.6
18	90 53.7	+00.0	N 17 45.4	+00.7
19	105 53.7	+00.0	N 17 46.1	+00.6
20	120 53.7	+00.1	N 17 46.7	+00.7
21	135 53.8	+00.0	N 17 47.4	+00.6
22	150 53.8	+00.0	N 17 48.0	+00.7
23	165 53.8	+00.0	N 17 48.7	+00.6

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	313°	313°	313°	313°	312°	312°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	219 24.8	−00.3	N 01 47.4	+01.0
01	234 24.5	−00.2	N 01 48.4	+01.1
02	249 24.3	−00.2	N 01 49.5	+01.0
03	264 24.1	−00.2	N 01 50.5	+01.1
04	279 23.9	−00.2	N 01 51.6	+01.0
05	294 23.7	−00.2	N 01 52.6	+01.1
06	309 23.5	−00.2	N 01 53.7	+01.1
07	324 23.3	−00.2	N 01 54.8	+01.0
08	339 23.1	−00.3	N 01 55.8	+01.1
09	354 22.8	−00.2	N 01 56.9	+01.0
10	9 22.6	−00.2	N 01 57.9	+01.1
11	24 22.4	−00.2	N 01 59.0	+01.0
12	39 22.2	−00.2	N 02 00.0	+01.1
13	54 22.0	−00.2	N 02 01.1	+01.0
14	69 21.8	−00.2	N 02 02.1	+01.1
15	84 21.6	−00.2	N 02 03.2	+01.1
16	99 21.4	−00.3	N 02 04.3	+01.0
17	114 21.1	−00.2	N 02 05.3	+01.1
18	129 20.9	−00.2	N 02 06.4	+01.0
19	144 20.7	−00.2	N 02 07.4	+01.1
20	159 20.5	−00.2	N 02 08.5	+01.0
21	174 20.3	−00.2	N 02 09.5	+01.1
22	189 20.1	−00.2	N 02 10.6	+01.1
23	204 19.9	−00.2	N 02 11.7	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	352°	351°	351°	351°	351°	351°

Greenwich Culmination Time: 09:22

Moon

A: 31%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	73 12.5	−27.6	N 16 09.6	−11.7
01	87 44.9	−27.7	N 15 57.9	−11.7
02	102 17.2	−27.6	N 15 46.2	−11.9
03	116 49.6	−27.5	N 15 34.3	−11.9
04	131 22.1	−27.6	N 15 22.4	−12.0
05	145 54.5	−27.5	N 15 10.4	−12.0
06	160 27.0	−27.5	N 14 58.4	−12.2
07	174 59.5	−27.5	N 14 46.2	−12.2
08	189 32.0	−27.5	N 14 34.0	−12.3
09	204 04.5	−27.4	N 14 21.7	−12.4
10	218 37.1	−27.4	N 14 09.3	−12.5
11	233 09.7	−27.4	N 13 56.8	−12.5
12	247 42.3	−27.4	N 13 44.3	−12.6
13	262 14.9	−27.4	N 13 31.7	−12.7
14	276 47.5	−27.4	N 13 19.0	−12.7
15	291 20.1	−27.3	N 13 06.3	−12.9
16	305 52.8	−27.3	N 12 53.4	−12.9
17	320 25.5	−27.3	N 12 40.5	−12.9
18	334 58.2	−27.3	N 12 27.6	−13.1
19	349 30.9	−27.3	N 12 14.5	−13.1
20	4 03.6	−27.3	N 12 01.4	−13.2
21	18 36.3	−27.3	N 11 48.2	−13.2
22	33 09.0	−27.2	N 11 35.0	−13.3
23	47 41.8	−27.3	N 11 21.7	−13.4

UT	02	06	10	14	18	22
SD	15′2	15′2	15′2	15′3	15′3	15′4
HP	55′7	55′8	56′0	56′1	56′2	56′4
SHA	204°	202°	200°	198°	196°	194°

Greenwich Culmination Time: 19:43

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	237 27.3	+00.7	S 05 55.1	−00.7
01	252 28.0	+00.7	S 05 54.4	−00.7
02	267 28.7	+00.8	S 05 53.7	−00.8
03	282 29.5	+00.7	S 05 52.9	−00.7
04	297 30.2	+00.7	S 05 52.2	−00.7
05	312 30.9	+00.7	S 05 51.5	−00.7
06	327 31.6	+00.7	S 05 50.8	−00.7
07	342 32.3	+00.7	S 05 50.1	−00.8
08	357 33.0	+00.8	S 05 49.3	−00.7
09	12 33.8	+00.7	S 05 48.6	−00.7
10	27 34.5	+00.7	S 05 47.9	−00.7
11	42 35.2	+00.7	S 05 47.2	−00.7
12	57 35.9	+00.7	S 05 46.5	−00.8
13	72 36.6	+00.8	S 05 45.7	−00.7
14	87 37.4	+00.7	S 05 45.0	−00.7
15	102 38.1	+00.7	S 05 44.3	−00.7
16	117 38.8	+00.7	S 05 43.6	−00.7
17	132 39.5	+00.7	S 05 42.9	−00.8
18	147 40.2	+00.8	S 05 42.1	−00.7
19	162 41.0	+00.7	S 05 41.4	−00.7
20	177 41.7	+00.7	S 05 40.7	−00.7
21	192 42.4	+00.7	S 05 40.0	−00.7
22	207 43.1	+00.7	S 05 39.3	−00.8
23	222 43.8	+00.8	S 05 38.5	−00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	010°	010°	009°	009°	009°	009°

Greenwich Culmination Time: 08:09

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	227 30.8	+02.1	S 01 04.8	−00.2
01	242 32.9	+02.0	S 01 04.6	−00.2
02	257 34.9	+02.0	S 01 04.4	−00.2
03	272 36.9	+02.0	S 01 04.2	−00.2
04	287 38.9	+02.0	S 01 04.0	−00.1
05	302 40.9	+02.0	S 01 03.9	−00.2
06	317 42.9	+02.0	S 01 03.7	−00.2
07	332 44.9	+02.0	S 01 03.5	−00.2
08	347 46.9	+02.0	S 01 03.3	−00.2
09	2 48.9	+02.1	S 01 03.1	−00.2
10	17 51.0	+02.0	S 01 02.9	−00.2
11	32 53.0	+02.0	S 01 02.7	−00.2
12	47 55.0	+02.0	S 01 02.5	−00.1
13	62 57.0	+02.0	S 01 02.4	−00.2
14	77 59.0	+02.0	S 01 02.2	−00.2
15	93 01.0	+02.0	S 01 02.0	−00.2
16	108 03.0	+02.1	S 01 01.8	−00.2
17	123 05.1	+02.0	S 01 01.6	−00.2
18	138 07.1	+02.0	S 01 01.4	−00.2
19	153 09.1	+02.0	S 01 01.2	−00.2
20	168 11.1	+02.0	S 01 01.0	−00.1
21	183 13.1	+02.0	S 01 00.9	−00.2
22	198 15.1	+02.0	S 01 00.7	−00.2
23	213 17.1	+02.0	S 01 00.5	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 08:48

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	260 25.0	+02.3	S 14 16.4	−00.1
01	275 27.3	+02.4	S 14 16.3	+00.0
02	290 29.7	+02.4	S 14 16.3	+00.0
03	305 32.1	+02.3	S 14 16.3	−00.1
04	320 34.4	+02.4	S 14 16.2	+00.0
05	335 36.8	+02.3	S 14 16.2	+00.0
06	350 39.1	+02.4	S 14 16.2	+00.0
07	5 41.5	+02.4	S 14 16.2	−00.1
08	20 43.9	+02.3	S 14 16.1	+00.0
09	35 46.2	+02.4	S 14 16.1	+00.0
10	50 48.6	+02.4	S 14 16.1	+00.0
11	65 51.0	+02.3	S 14 16.1	−00.1
12	80 53.3	+02.4	S 14 16.0	+00.0
13	95 55.7	+02.3	S 14 16.0	+00.0
14	110 58.0	+02.4	S 14 16.0	−00.1
15	126 00.4	+02.4	S 14 15.9	+00.0
16	141 02.8	+02.3	S 14 15.9	+00.0
17	156 05.1	+02.4	S 14 15.9	+00.0
18	171 07.5	+02.4	S 14 15.9	−00.1
19	186 09.9	+02.3	S 14 15.8	+00.0
20	201 12.2	+02.4	S 14 15.8	+00.0
21	216 14.6	+02.3	S 14 15.8	+00.0
22	231 16.9	+02.4	S 14 15.8	−00.1
23	246 19.3	+02.4	S 14 15.7	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 06:37

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 53.8	+00.0	N 17 49.3	+00.6
01	195 53.8	+00.0	N 17 49.9	+00.7
02	210 53.8	+00.1	N 17 50.6	+00.6
03	225 53.9	+00.0	N 17 51.2	+00.7
04	240 53.9	+00.0	N 17 51.9	+00.6
05	255 53.9	+00.0	N 17 52.5	+00.7
06	270 53.9	+00.0	N 17 53.2	+00.6
07	285 53.9	+00.1	N 17 53.8	+00.6
08	300 54.0	+00.0	N 17 54.4	+00.7
09	315 54.0	+00.0	N 17 55.1	+00.6
10	330 54.0	+00.0	N 17 55.7	+00.7
11	345 54.0	+00.0	N 17 56.4	+00.6
12	0 54.0	+00.0	N 17 57.0	+00.6
13	15 54.0	+00.0	N 17 57.6	+00.7
14	30 54.0	+00.1	N 17 58.3	+00.6
15	45 54.1	+00.0	N 17 58.9	+00.7
16	60 54.1	+00.0	N 17 59.6	+00.6
17	75 54.1	+00.0	N 18 00.2	+00.6
18	90 54.1	+00.0	N 18 00.8	+00.7
19	105 54.1	+00.0	N 18 01.5	+00.6
20	120 54.1	+00.1	N 18 02.1	+00.6
21	135 54.2	+00.0	N 18 02.7	+00.7
22	150 54.2	+00.0	N 18 03.4	+00.6
23	165 54.2	+00.0	N 18 04.0	+00.6

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	312°	312°	312°	312°	311°	311°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	219 19.7	−00.3	N 02 12.7	+01.1
01	234 19.4	−00.2	N 02 13.8	+01.0
02	249 19.2	−00.3	N 02 14.8	+01.1
03	264 19.0	−00.2	N 02 15.9	+01.0
04	279 18.8	−00.2	N 02 16.9	+01.1
05	294 18.6	−00.2	N 02 18.0	+01.1
06	309 18.4	−00.3	N 02 19.1	+01.0
07	324 18.1	−00.2	N 02 20.1	+01.1
08	339 17.9	−00.2	N 02 21.2	+01.0
09	354 17.7	−00.2	N 02 22.2	+01.1
10	9 17.5	−00.2	N 02 23.3	+01.0
11	24 17.3	−00.2	N 02 24.3	+01.1
12	39 17.1	−00.2	N 02 25.4	+01.1
13	54 16.9	−00.3	N 02 26.5	+01.0
14	69 16.6	−00.2	N 02 27.5	+01.1
15	84 16.4	−00.2	N 02 28.6	+01.0
16	99 16.2	−00.2	N 02 29.6	+01.1
17	114 16.0	−00.2	N 02 30.7	+01.1
18	129 15.8	−00.2	N 02 31.8	+01.0
19	144 15.6	−00.3	N 02 32.8	+01.1
20	159 15.3	−00.2	N 02 33.9	+01.0
21	174 15.1	−00.2	N 02 34.9	+01.1
22	189 14.9	−00.2	N 02 36.0	+01.0
23	204 14.7	−00.2	N 02 37.0	+01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	350°	350°	350°	350°	350°	350°

Greenwich Culmination Time: 09:22

Moon

A: 34%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	62 14.5	−27.2	N 11 08.3	−13.5
01	76 47.3	−27.2	N 10 54.8	−13.5
02	91 20.1	−27.3	N 10 41.3	−13.6
03	105 52.8	−27.2	N 10 27.7	−13.6
04	120 25.6	−27.2	N 10 14.1	−13.7
05	134 58.4	−27.2	N 10 00.4	−13.8
06	149 31.2	−27.2	N 09 46.6	−13.8
07	164 04.0	−27.3	N 09 32.8	−13.9
08	178 36.7	−27.2	N 09 18.9	−14.0
09	193 09.5	−27.2	N 09 04.9	−14.0
10	207 42.3	−27.2	N 08 50.9	−14.0
11	222 15.1	−27.2	N 08 36.9	−14.1
12	236 47.9	−27.2	N 08 22.8	−14.2
13	251 20.7	−27.3	N 08 08.6	−14.3
14	265 53.4	−27.2	N 07 54.3	−14.2
15	280 26.2	−27.2	N 07 40.1	−14.4
16	294 59.0	−27.3	N 07 25.7	−14.4
17	309 31.7	−27.2	N 07 11.3	−14.4
18	324 04.5	−27.3	N 06 56.9	−14.5
19	338 37.2	−27.3	N 06 42.4	−14.5
20	353 09.9	−27.3	N 06 27.9	−14.6
21	7 42.6	−27.3	N 06 13.3	−14.7
22	22 15.3	−27.3	N 05 58.6	−14.7
23	36 48.0	−27.3	N 05 43.9	−14.7

UT	02	06	10	14	18	22
SD	15′4	15′4	15′5	15′5	15′5	15′6
HP	56′5	56′6	56′8	56′9	57′1	57′2
SHA	192°	191°	189°	187°	185°	183°

Greenwich Culmination Time: 20:28

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	237 44.6	+00.7	S 05 37.8	−00.7
01	252 45.3	+00.7	S 05 37.1	−00.7
02	267 46.0	+00.7	S 05 36.4	−00.7
03	282 46.7	+00.7	S 05 35.7	−00.8
04	297 47.4	+00.8	S 05 34.9	−00.7
05	312 48.2	+00.7	S 05 34.2	−00.7
06	327 48.9	+00.7	S 05 33.5	−00.7
07	342 49.6	+00.7	S 05 32.8	−00.7
08	357 50.3	+00.7	S 05 32.1	−00.8
09	12 51.0	+00.8	S 05 31.3	−00.7
10	27 51.8	+00.7	S 05 30.6	−00.7
11	42 52.5	+00.7	S 05 29.9	−00.7
12	57 53.2	+00.7	S 05 29.2	−00.7
13	72 53.9	+00.7	S 05 28.5	−00.8
14	87 54.6	+00.8	S 05 27.7	−00.7
15	102 55.4	+00.7	S 05 27.0	−00.7
16	117 56.1	+00.7	S 05 26.3	−00.7
17	132 56.8	+00.7	S 05 25.6	−00.7
18	147 57.5	+00.8	S 05 24.9	−00.8
19	162 58.3	+00.7	S 05 24.1	−00.7
20	177 59.0	+00.7	S 05 23.4	−00.7
21	192 59.7	+00.7	S 05 22.7	−00.7
22	208 00.4	+00.7	S 05 22.0	−00.8
23	223 01.1	+00.8	S 05 21.2	−00.7

UT	02	06	10	14	18	22
SD	00′0	00′0	00′0	00′0	00′0	00′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	009°	009°	009°	009°	008°	008°

Greenwich Culmination Time: 08:08

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	228 19.1	+02.1	S 01 00.3	−00.2
01	243 21.2	+02.0	S 01 00.1	−00.2
02	258 23.2	+02.0	S 00 59.9	−00.2
03	273 25.2	+02.0	S 00 59.7	−00.1
04	288 27.2	+02.0	S 00 59.6	−00.2
05	303 29.2	+02.0	S 00 59.4	−00.2
06	318 31.2	+02.1	S 00 59.2	−00.2
07	333 33.3	+02.0	S 00 59.0	−00.2
08	348 35.3	+02.0	S 00 58.8	−00.2
09	3 37.3	+02.0	S 00 58.6	−00.2
10	18 39.3	+02.0	S 00 58.4	−00.2
11	33 41.3	+02.0	S 00 58.2	−00.1
12	48 43.3	+02.0	S 00 58.1	−00.2
13	63 45.3	+02.1	S 00 57.9	−00.2
14	78 47.4	+02.0	S 00 57.7	−00.2
15	93 49.4	+02.0	S 00 57.5	−00.2
16	108 51.4	+02.0	S 00 57.3	−00.2
17	123 53.4	+02.0	S 00 57.1	−00.2
18	138 55.4	+02.0	S 00 56.9	−00.1
19	153 57.4	+02.1	S 00 56.8	−00.2
20	168 59.5	+02.0	S 00 56.6	−00.2
21	184 01.5	+02.0	S 00 56.4	−00.2
22	199 03.5	+02.0	S 00 56.2	−00.2
23	214 05.5	+02.0	S 00 56.0	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	359°	359°	359°	359°

Greenwich Culmination Time: 08:45

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	261 21.7	+02.3	S 14 15.7	+00.0
01	276 24.0	+02.4	S 14 15.7	+00.0
02	291 26.4	+02.4	S 14 15.7	−00.1
03	306 28.8	+02.3	S 14 15.6	+00.0
04	321 31.1	+02.4	S 14 15.6	+00.0
05	336 33.5	+02.4	S 14 15.6	−00.1
06	351 35.9	+02.3	S 14 15.5	+00.0
07	6 38.2	+02.4	S 14 15.5	+00.0
08	21 40.6	+02.4	S 14 15.5	+00.0
09	36 43.0	+02.3	S 14 15.5	−00.1
10	51 45.3	+02.4	S 14 15.4	+00.0
11	66 47.7	+02.4	S 14 15.4	+00.0
12	81 50.1	+02.3	S 14 15.4	+00.0
13	96 52.4	+02.4	S 14 15.4	−00.1
14	111 54.8	+02.4	S 14 15.3	+00.0
15	126 57.2	+02.3	S 14 15.3	+00.0
16	141 59.5	+02.4	S 14 15.3	+00.0
17	157 01.9	+02.4	S 14 15.3	−00.1
18	172 04.3	+02.3	S 14 15.2	+00.0
19	187 06.6	+02.4	S 14 15.2	+00.0
20	202 09.0	+02.4	S 14 15.2	+00.0
21	217 11.4	+02.3	S 14 15.2	−00.1
22	232 13.7	+02.4	S 14 15.1	+00.0
23	247 16.1	+02.4	S 14 15.1	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 06:33

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2022 May 16 Monday (day 136 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 54.3	+00.0	N 19 02.8	+00.6
01	195 54.3	+00.0	N 19 03.4	+00.6
02	210 54.3	+00.0	N 19 04.0	+00.5
03	225 54.3	+00.0	N 19 04.5	+00.6
04	240 54.3	+00.0	N 19 05.1	+00.6
05	255 54.3	+00.0	N 19 05.7	+00.6
06	270 54.3	−00.1	N 19 06.3	+00.5
07	285 54.2	+00.0	N 19 06.8	+00.6
08	300 54.2	+00.0	N 19 07.4	+00.6
09	315 54.2	+00.0	N 19 08.0	+00.6
10	330 54.2	+00.0	N 19 08.6	+00.5
11	345 54.2	+00.0	N 19 09.1	+00.6
12	0 54.2	+00.0	N 19 09.7	+00.6
13	15 54.2	+00.0	N 19 10.3	+00.6
14	30 54.2	−00.1	N 19 10.9	+00.5
15	45 54.1	+00.0	N 19 11.4	+00.6
16	60 54.1	+00.0	N 19 12.0	+00.6
17	75 54.1	+00.0	N 19 12.6	+00.5
18	90 54.1	+00.0	N 19 13.1	+00.6
19	105 54.1	+00.0	N 19 13.7	+00.6
20	120 54.1	+00.0	N 19 14.3	+00.5
21	135 54.1	−00.1	N 19 14.8	+00.6
22	150 54.0	+00.0	N 19 15.4	+00.6
23	165 54.0	+00.0	N 19 16.0	+00.5

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	307°	307°	307°	307°	306°	306°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	218 52.8	−00.3	N 04 19.8	+01.1
01	233 52.5	−00.2	N 04 20.9	+01.1
02	248 52.3	−00.2	N 04 22.0	+01.0
03	263 52.1	−00.3	N 04 23.0	+01.1
04	278 51.8	−00.2	N 04 24.1	+01.0
05	293 51.6	−00.3	N 04 25.1	+01.1
06	308 51.3	−00.2	N 04 26.2	+01.1
07	323 51.1	−00.2	N 04 27.3	+01.0
08	338 50.9	−00.3	N 04 28.3	+01.1
09	353 50.6	−00.2	N 04 29.4	+01.0
10	8 50.4	−00.2	N 04 30.4	+01.1
11	23 50.2	−00.3	N 04 31.5	+01.1
12	38 49.9	−00.2	N 04 32.6	+01.0
13	53 49.7	−00.3	N 04 33.6	+01.1
14	68 49.4	−00.2	N 04 34.7	+01.0
15	83 49.2	−00.2	N 04 35.7	+01.1
16	98 49.0	−00.3	N 04 36.8	+01.1
17	113 48.7	−00.2	N 04 37.9	+01.0
18	128 48.5	−00.2	N 04 38.9	+01.1
19	143 48.3	−00.3	N 04 40.0	+01.0
20	158 48.0	−00.2	N 04 41.0	+01.1
21	173 47.8	−00.3	N 04 42.1	+01.0
22	188 47.5	−00.2	N 04 43.1	+01.1
23	203 47.3	−00.2	N 04 44.2	+01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	345°	345°	345°	345°	344°	344°

Greenwich Culmination Time: 09:24

Moon

A: 51%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	3 24.3	−34.3	S 18 27.5	+12.6
01	17 50.0	−34.4	S 18 40.1	+12.5
02	32 15.6	−34.6	S 18 52.6	+12.4
03	46 41.0	−34.6	S 19 05.0	+12.3
04	61 06.4	−34.8	S 19 17.3	+12.2
05	75 31.6	−34.9	S 19 29.5	+12.0
06	89 56.7	−35.0	S 19 41.5	+12.0
07	104 21.7	−35.1	S 19 53.5	+11.8
08	118 46.6	−35.2	S 20 05.3	+11.7
09	133 11.4	−35.4	S 20 17.0	+11.5
10	147 36.0	−35.4	S 20 28.5	+11.4
11	162 00.6	−35.6	S 20 39.9	+11.3
12	176 25.0	−35.7	S 20 51.2	+11.2
13	190 49.3	−35.8	S 21 02.4	+11.0
14	205 13.5	−35.9	S 21 13.4	+10.8
15	219 37.6	−36.0	S 21 24.2	+10.8
16	234 01.6	−36.1	S 21 35.0	+10.5
17	248 25.5	−36.2	S 21 45.5	+10.5
18	262 49.3	−36.3	S 21 56.0	+10.3
19	277 13.0	−36.5	S 22 06.3	+10.1
20	291 36.5	−36.5	S 22 16.4	+10.0
21	305 60.0	−36.7	S 22 26.4	+09.8
22	320 23.3	−36.7	S 22 36.2	+09.7
23	334 46.6	−36.9	S 22 45.9	+09.6

UT	02	06	10	14	18	22
SD	16′5	16′5	16′5	16′5	16′5	16′6
HP	60′5	60′6	60′6	60′7	60′7	60′8
SHA	128°	126°	124°	121°	118°	116°

Greenwich Culmination Time: −1:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	239 11.6	+00.8	S 04 11.1	−00.8
01	254 12.4	+00.7	S 04 10.3	−00.7
02	269 13.1	+00.7	S 04 09.6	−00.7
03	284 13.8	+00.8	S 04 08.9	−00.7
04	299 14.6	+00.7	S 04 08.2	−00.8
05	314 15.3	+00.7	S 04 07.4	−00.7
06	329 16.0	+00.8	S 04 06.7	−00.7
07	344 16.8	+00.7	S 04 06.0	−00.7
08	359 17.5	+00.7	S 04 05.3	−00.8
09	14 18.2	+00.7	S 04 04.5	−00.7
10	29 18.9	+00.8	S 04 03.8	−00.7
11	44 19.7	+00.7	S 04 03.1	−00.8
12	59 20.4	+00.7	S 04 02.3	−00.7
13	74 21.1	+00.8	S 04 01.6	−00.7
14	89 21.9	+00.7	S 04 00.9	−00.7
15	104 22.6	+00.7	S 04 00.2	−00.8
16	119 23.3	+00.8	S 03 59.4	−00.7
17	134 24.1	+00.7	S 03 58.7	−00.7
18	149 24.8	+00.7	S 03 58.0	−00.7
19	164 25.5	+00.8	S 03 57.3	−00.8
20	179 26.3	+00.7	S 03 56.5	−00.7
21	194 27.0	+00.7	S 03 55.8	−00.7
22	209 27.7	+00.8	S 03 55.1	−00.7
23	224 28.5	+00.7	S 03 54.4	−00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	005°	005°	005°	005°	005°	005°

Greenwich Culmination Time: 08:02

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	232 21.9	+02.0	S 00 38.3	−00.1
01	247 23.9	+02.1	S 00 38.2	−00.2
02	262 26.0	+02.0	S 00 38.0	−00.2
03	277 28.0	+02.0	S 00 37.8	−00.2
04	292 30.0	+02.1	S 00 37.6	−00.2
05	307 32.1	+02.0	S 00 37.4	−00.1
06	322 34.1	+02.0	S 00 37.3	−00.2
07	337 36.1	+02.1	S 00 37.1	−00.2
08	352 38.2	+02.0	S 00 36.9	−00.2
09	7 40.2	+02.0	S 00 36.7	−00.1
10	22 42.2	+02.1	S 00 36.6	−00.2
11	37 44.3	+02.0	S 00 36.4	−00.2
12	52 46.3	+02.0	S 00 36.2	−00.2
13	67 48.3	+02.1	S 00 36.0	−00.2
14	82 50.4	+02.0	S 00 35.8	−00.1
15	97 52.4	+02.0	S 00 35.7	−00.2
16	112 54.4	+02.1	S 00 35.5	−00.2
17	127 56.5	+02.0	S 00 35.3	−00.2
18	142 58.5	+02.0	S 00 35.1	−00.1
19	158 00.5	+02.1	S 00 35.0	−00.2
20	173 02.6	+02.0	S 00 34.8	−00.2
21	188 04.6	+02.0	S 00 34.6	−00.2
22	203 06.6	+02.1	S 00 34.4	−00.2
23	218 08.7	+02.0	S 00 34.2	−00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 08:29

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	266 06.5	+02.4	S 14 12.9	+00.0
01	281 08.9	+02.4	S 14 12.9	+00.0
02	296 11.3	+02.4	S 14 12.9	−00.1
03	311 13.7	+02.3	S 14 12.8	+00.0
04	326 16.0	+02.4	S 14 12.8	+00.0
05	341 18.4	+02.4	S 14 12.8	+00.0
06	356 20.8	+02.4	S 14 12.8	+00.0
07	11 23.2	+02.4	S 14 12.8	−00.1
08	26 25.6	+02.4	S 14 12.7	+00.0
09	41 28.0	+02.3	S 14 12.7	+00.0
10	56 30.3	+02.4	S 14 12.7	+00.0
11	71 32.7	+02.4	S 14 12.7	+00.0
12	86 35.1	+02.4	S 14 12.7	+00.0
13	101 37.5	+02.4	S 14 12.7	−00.1
14	116 39.9	+02.4	S 14 12.6	+00.0
15	131 42.3	+02.4	S 14 12.6	+00.0
16	146 44.7	+02.3	S 14 12.6	+00.0
17	161 47.0	+02.4	S 14 12.6	+00.0
18	176 49.4	+02.4	S 14 12.6	−00.1
19	191 51.8	+02.4	S 14 12.5	+00.0
20	206 54.2	+02.4	S 14 12.5	+00.0
21	221 56.6	+02.4	S 14 12.5	+00.0
22	236 59.0	+02.4	S 14 12.5	+00.0
23	252 01.4	+02.3	S 14 12.5	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 06:14

2022 May 13 Friday (day 133 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 54.4	+00.0	N 18 19.6	+00.7
01	195 54.4	+00.0	N 18 20.3	+00.6
02	210 54.4	+00.1	N 18 20.9	+00.6
03	225 54.5	+00.0	N 18 21.5	+00.6
04	240 54.5	+00.0	N 18 22.1	+00.6
05	255 54.5	+00.0	N 18 22.7	+00.6
06	270 54.5	+00.0	N 18 23.3	+00.7
07	285 54.5	+00.0	N 18 24.0	+00.6
08	300 54.5	+00.0	N 18 24.6	+00.6
09	315 54.5	+00.0	N 18 25.2	+00.6
10	330 54.5	+00.0	N 18 25.8	+00.6
11	345 54.5	+00.0	N 18 26.4	+00.6
12	0 54.5	+00.0	N 18 27.0	+00.6
13	15 54.5	+00.0	N 18 27.6	+00.7
14	30 54.5	+00.0	N 18 28.3	+00.6
15	45 54.5	+00.0	N 18 28.9	+00.6
16	60 54.5	+00.0	N 18 29.5	+00.6
17	75 54.5	+00.0	N 18 30.1	+00.6
18	90 54.5	+00.0	N 18 30.7	+00.6
19	105 54.5	+00.0	N 18 31.3	+00.6
20	120 54.5	+00.0	N 18 31.9	+00.6
21	135 54.5	+00.0	N 18 32.5	+00.6
22	150 54.5	+00.0	N 18 33.1	+00.6
23	165 54.5	+00.0	N 18 33.7	+00.6

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	310°	310°	310°	310°	309°	309°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	219 09.2	−00.2	N 03 03.5	+01.1
01	234 09.0	−00.3	N 03 04.6	+01.0
02	249 08.7	−00.2	N 03 05.6	+01.1
03	264 08.5	−00.2	N 03 06.7	+01.1
04	279 08.3	−00.2	N 03 07.8	+01.0
05	294 08.1	−00.2	N 03 08.8	+01.1
06	309 07.9	−00.3	N 03 09.9	+01.0
07	324 07.6	−00.2	N 03 10.9	+01.1
08	339 07.4	−00.2	N 03 12.0	+01.1
09	354 07.2	−00.2	N 03 13.1	+01.0
10	9 07.0	−00.3	N 03 14.1	+01.1
11	24 06.7	−00.2	N 03 15.2	+01.0
12	39 06.5	−00.2	N 03 16.2	+01.1
13	54 06.3	−00.2	N 03 17.3	+01.1
14	69 06.1	−00.3	N 03 18.4	+01.0
15	84 05.8	−00.2	N 03 19.4	+01.1
16	99 05.6	−00.2	N 03 20.5	+01.0
17	114 05.4	−00.2	N 03 21.5	+01.1
18	129 05.2	−00.3	N 03 22.6	+01.1
19	144 04.9	−00.2	N 03 23.7	+01.0
20	159 04.7	−00.2	N 03 24.7	+01.1
21	174 04.5	−00.2	N 03 25.8	+01.0
22	189 04.3	−00.3	N 03 26.8	+01.1
23	204 04.0	−00.2	N 03 27.9	+01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	348°	348°	348°	348°	348°	347°

Greenwich Culmination Time: 09:23

Moon

A: 40%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	40 17.0	−28.1	S 00 35.6	+15.5
01	54 48.9	−28.2	S 00 51.1	+15.6
02	69 20.7	−28.2	S 01 06.7	+15.5
03	83 52.5	−28.2	S 01 22.2	+15.6
04	98 24.3	−28.3	S 01 37.8	+15.6
05	112 56.0	−28.4	S 01 53.4	+15.7
06	127 27.6	−28.4	S 02 09.1	+15.6
07	141 59.2	−28.4	S 02 24.7	+15.6
08	156 30.8	−28.5	S 02 40.3	+15.7
09	171 02.3	−28.6	S 02 56.0	+15.6
10	185 33.7	−28.6	S 03 11.6	+15.7
11	200 05.1	−28.7	S 03 27.3	+15.6
12	214 36.4	−28.7	S 03 42.9	+15.7
13	229 07.7	−28.8	S 03 58.6	+15.7
14	243 38.9	−28.9	S 04 14.3	+15.6
15	258 10.0	−28.9	S 04 29.9	+15.7
16	272 41.1	−29.0	S 04 45.6	+15.7
17	287 12.1	−29.1	S 05 01.3	+15.6
18	301 43.0	−29.1	S 05 16.9	+15.7
19	316 13.9	−29.2	S 05 32.6	+15.6
20	330 44.7	−29.2	S 05 48.2	+15.7
21	345 15.5	−29.4	S 06 03.9	+15.6
22	359 46.1	−29.4	S 06 19.5	+15.6
23	14 16.7	−29.5	S 06 35.1	+15.6

UT	02	06	10	14	18	22
SD	15′9	15′9	16′0	16′0	16′0	16′1
HP	58′3	58′4	58′6	58′7	58′9	59′0
SHA	169°	166°	164°	162°	160°	158°

Greenwich Culmination Time: 22:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	238 19.2	+00.7	S 05 03.2	−00.7
01	253 19.9	+00.8	S 05 02.5	−00.7
02	268 20.7	+00.7	S 05 01.8	−00.8
03	283 21.4	+00.7	S 05 01.0	−00.7
04	298 22.1	+00.7	S 05 00.3	−00.7
05	313 22.8	+00.8	S 04 59.6	−00.7
06	328 23.6	+00.7	S 04 58.9	−00.8
07	343 24.3	+00.7	S 04 58.1	−00.7
08	358 25.0	+00.7	S 04 57.4	−00.7
09	13 25.7	+00.8	S 04 56.7	−00.7
10	28 26.5	+00.7	S 04 56.0	−00.8
11	43 27.2	+00.7	S 04 55.2	−00.7
12	58 27.9	+00.8	S 04 54.5	−00.7
13	73 28.7	+00.7	S 04 53.8	−00.7
14	88 29.4	+00.7	S 04 53.1	−00.7
15	103 30.1	+00.7	S 04 52.4	−00.8
16	118 30.8	+00.8	S 04 51.6	−00.7
17	133 31.6	+00.7	S 04 50.9	−00.7
18	148 32.3	+00.7	S 04 50.2	−00.7
19	163 33.0	+00.7	S 04 49.5	−00.8
20	178 33.7	+00.8	S 04 48.7	−00.7
21	193 34.5	+00.7	S 04 48.0	−00.7
22	208 35.2	+00.7	S 04 47.3	−00.7
23	223 35.9	+00.7	S 04 46.6	−00.8

UT	02	06	10	14	18	22
SD	00′0	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	008°	007°	007°	007°	007°	007°

Greenwich Culmination Time: 08:06

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	229 56.0	+02.0	S 00 51.4	−00.2
01	244 58.0	+02.0	S 00 51.2	−00.2
02	260 00.0	+02.1	S 00 51.0	−00.2
03	275 02.1	+02.0	S 00 50.8	−00.1
04	290 04.1	+02.0	S 00 50.7	−00.2
05	305 06.1	+02.0	S 00 50.5	−00.2
06	320 08.1	+02.1	S 00 50.3	−00.2
07	335 10.2	+02.0	S 00 50.1	−00.2
08	350 12.2	+02.0	S 00 49.9	−00.2
09	5 14.2	+02.0	S 00 49.7	−00.1
10	20 16.2	+02.0	S 00 49.6	−00.2
11	35 18.2	+02.1	S 00 49.4	−00.2
12	50 20.3	+02.0	S 00 49.2	−00.2
13	65 22.3	+02.0	S 00 49.0	−00.2
14	80 24.3	+02.0	S 00 48.8	−00.1
15	95 26.3	+02.1	S 00 48.7	−00.2
16	110 28.4	+02.0	S 00 48.5	−00.2
17	125 30.4	+02.0	S 00 48.3	−00.2
18	140 32.4	+02.0	S 00 48.1	−00.2
19	155 34.4	+02.1	S 00 47.9	−00.2
20	170 36.5	+02.0	S 00 47.7	−00.1
21	185 38.5	+02.0	S 00 47.6	−00.2
22	200 40.5	+02.0	S 00 47.4	−00.2
23	215 42.5	+02.1	S 00 47.2	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 08:39

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	263 15.3	+02.4	S 14 14.5	+00.0
01	278 17.7	+02.4	S 14 14.5	−00.1
02	293 20.1	+02.4	S 14 14.4	+00.0
03	308 22.5	+02.3	S 14 14.4	+00.0
04	323 24.8	+02.4	S 14 14.4	+00.0
05	338 27.2	+02.4	S 14 14.4	+00.0
06	353 29.6	+02.3	S 14 14.4	−00.1
07	8 31.9	+02.4	S 14 14.3	+00.0
08	23 34.3	+02.4	S 14 14.3	+00.0
09	38 36.7	+02.4	S 14 14.3	+00.0
10	53 39.1	+02.3	S 14 14.3	−00.1
11	68 41.4	+02.4	S 14 14.2	+00.0
12	83 43.8	+02.4	S 14 14.2	+00.0
13	98 46.2	+02.4	S 14 14.2	+00.0
14	113 48.6	+02.3	S 14 14.2	−00.1
15	128 50.9	+02.4	S 14 14.1	+00.0
16	143 53.3	+02.4	S 14 14.1	+00.0
17	158 55.7	+02.4	S 14 14.1	+00.0
18	173 58.1	+02.3	S 14 14.1	−00.1
19	189 00.4	+02.4	S 14 14.0	+00.0
20	204 02.8	+02.4	S 14 14.0	+00.0
21	219 05.2	+02.4	S 14 14.0	+00.0
22	234 07.6	+02.3	S 14 14.0	+00.0
23	249 09.9	+02.4	S 14 14.0	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	032°	032°

Greenwich Culmination Time: 06:25

2022 May 14 Saturday (day 134 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 54.5	+00.0	N 18 34.3	+00.6
01	195 54.5	+00.0	N 18 34.9	+00.6
02	210 54.5	+00.0	N 18 35.5	+00.7
03	225 54.5	+00.0	N 18 36.2	+00.6
04	240 54.5	+00.0	N 18 36.8	+00.6
05	255 54.5	+00.0	N 18 37.4	+00.6
06	270 54.5	+00.0	N 18 38.0	+00.6
07	285 54.5	+00.0	N 18 38.6	+00.6
08	300 54.5	+00.0	N 18 39.2	+00.6
09	315 54.5	+00.0	N 18 39.8	+00.6
10	330 54.5	+00.0	N 18 40.4	+00.6
11	345 54.5	+00.0	N 18 41.0	+00.6
12	0 54.5	+00.0	N 18 41.6	+00.6
13	15 54.5	+00.0	N 18 42.2	+00.6
14	30 54.5	+00.0	N 18 42.8	+00.6
15	45 54.5	+00.0	N 18 43.4	+00.6
16	60 54.5	+00.0	N 18 44.0	+00.6
17	75 54.5	+00.0	N 18 44.6	+00.6
18	90 54.5	+00.0	N 18 45.2	+00.6
19	105 54.5	+00.0	N 18 45.8	+00.6
20	120 54.5	+00.0	N 18 46.4	+00.5
21	135 54.5	+00.0	N 18 46.9	+00.6
22	150 54.5	+00.0	N 18 47.5	+00.6
23	165 54.5	+00.0	N 18 48.1	+00.6

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	309°	309°	309°	309°	308°	308°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	219 03.8	−00.2	N 03 29.0	+01.0
01	234 03.6	−00.2	N 03 30.0	+01.1
02	249 03.4	−00.3	N 03 31.1	+01.0
03	264 03.1	−00.2	N 03 32.1	+01.1
04	279 02.9	−00.2	N 03 33.2	+01.1
05	294 02.7	−00.2	N 03 34.3	+01.0
06	309 02.5	−00.3	N 03 35.3	+01.1
07	324 02.2	−00.2	N 03 36.4	+01.0
08	339 02.0	−00.2	N 03 37.4	+01.1
09	354 01.8	−00.2	N 03 38.5	+01.1
10	9 01.6	−00.3	N 03 39.6	+01.0
11	24 01.3	−00.2	N 03 40.6	+01.1
12	39 01.1	−00.2	N 03 41.7	+01.0
13	54 00.9	−00.3	N 03 42.7	+01.1
14	69 00.6	−00.2	N 03 43.8	+01.1
15	84 00.4	−00.2	N 03 44.9	+01.0
16	99 00.2	−00.2	N 03 45.9	+01.1
17	113 60.0	−00.3	N 03 47.0	+01.0
18	128 59.7	−00.2	N 03 48.0	+01.1
19	143 59.5	−00.2	N 03 49.1	+01.1
20	158 59.3	−00.3	N 03 50.2	+01.0
21	173 59.0	−00.2	N 03 51.2	+01.1
22	188 58.8	−00.2	N 03 52.3	+01.0
23	203 58.6	−00.3	N 03 53.3	+01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	347°	347°	347°	347°	347°	346°

Greenwich Culmination Time: 09:23

Moon

A: 43%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	28 47.2	−29.5	S 06 50.7	+15.6
01	43 17.7	−29.7	S 07 06.3	+15.5
02	57 48.0	−29.7	S 07 21.8	+15.6
03	72 18.3	−29.7	S 07 37.4	+15.5
04	86 48.6	−29.9	S 07 52.9	+15.5
05	101 18.7	−30.0	S 08 08.4	+15.5
06	115 48.7	−30.0	S 08 23.9	+15.4
07	130 18.7	−30.1	S 08 39.3	+15.4
08	144 48.6	−30.2	S 08 54.7	+15.4
09	159 18.4	−30.3	S 09 10.1	+15.4
10	173 48.1	−30.4	S 09 25.5	+15.3
11	188 17.7	−30.4	S 09 40.8	+15.3
12	202 47.3	−30.6	S 09 56.1	+15.3
13	217 16.7	−30.6	S 10 11.4	+15.2
14	231 46.1	−30.7	S 10 26.6	+15.2
15	246 15.4	−30.8	S 10 41.8	+15.1
16	260 44.6	−30.9	S 10 56.9	+15.1
17	275 13.7	−31.1	S 11 12.0	+15.1
18	289 42.6	−31.1	S 11 27.1	+15.0
19	304 11.5	−31.2	S 11 42.1	+14.9
20	318 40.3	−31.2	S 11 57.0	+14.9
21	333 09.1	−31.4	S 12 11.9	+14.9
22	347 37.7	−31.5	S 12 26.8	+14.8
23	2 06.2	−31.6	S 12 41.6	+14.7

UT	02	06	10	14	18	22
SD	16′1	16′2	16′2	16′2	16′3	16′3
HP	59′2	59′3	59′4	59′6	59′7	59′8
SHA	156°	154°	152°	149°	147°	145°

Greenwich Culmination Time: 22:51

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	238 36.6	+00.8	S 04 45.8	−00.7
01	253 37.4	+00.7	S 04 45.1	−00.7
02	268 38.1	+00.7	S 04 44.4	−00.7
03	283 38.8	+00.7	S 04 43.7	−00.8
04	298 39.5	+00.8	S 04 42.9	−00.7
05	313 40.3	+00.7	S 04 42.2	−00.7
06	328 41.0	+00.7	S 04 41.5	−00.7
07	343 41.7	+00.8	S 04 40.8	−00.7
08	358 42.5	+00.7	S 04 40.1	−00.8
09	13 43.2	+00.7	S 04 39.3	−00.7
10	28 43.9	+00.7	S 04 38.6	−00.7
11	43 44.6	+00.8	S 04 37.9	−00.7
12	58 45.4	+00.7	S 04 37.2	−00.8
13	73 46.1	+00.7	S 04 36.4	−00.7
14	88 46.8	+00.8	S 04 35.7	−00.7
15	103 47.6	+00.7	S 04 35.0	−00.7
16	118 48.3	+00.7	S 04 34.3	−00.8
17	133 49.0	+00.7	S 04 33.5	−00.7
18	148 49.7	+00.8	S 04 32.8	−00.7
19	163 50.5	+00.7	S 04 32.1	−00.7
20	178 51.2	+00.7	S 04 31.4	−00.8
21	193 51.9	+00.8	S 04 30.6	−00.7
22	208 52.7	+00.7	S 04 29.9	−00.7
23	223 53.4	+00.7	S 04 29.2	−00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	007°	007°	007°	006°	006°	006°

Greenwich Culmination Time: 08:05

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	230 44.6	+02.0	S 00 47.0	−00.2
01	245 46.6	+02.0	S 00 46.8	−00.2
02	260 48.6	+02.0	S 00 46.6	−00.1
03	275 50.6	+02.1	S 00 46.5	−00.2
04	290 52.7	+02.0	S 00 46.3	−00.2
05	305 54.7	+02.0	S 00 46.1	−00.2
06	320 56.7	+02.0	S 00 45.9	−00.2
07	335 58.7	+02.1	S 00 45.7	−00.1
08	351 00.8	+02.0	S 00 45.6	−00.2
09	6 02.8	+02.0	S 00 45.4	−00.2
10	21 04.8	+02.0	S 00 45.2	−00.2
11	36 06.8	+02.1	S 00 45.0	−00.2
12	51 08.9	+02.0	S 00 44.8	−00.2
13	66 10.9	+02.0	S 00 44.6	−00.1
14	81 12.9	+02.0	S 00 44.5	−00.2
15	96 14.9	+02.1	S 00 44.3	−00.2
16	111 17.0	+02.0	S 00 44.1	−00.2
17	126 19.0	+02.0	S 00 43.9	−00.2
18	141 21.0	+02.0	S 00 43.7	−00.1
19	156 23.0	+02.1	S 00 43.6	−00.2
20	171 25.1	+02.0	S 00 43.4	−00.2
21	186 27.1	+02.0	S 00 43.2	−00.2
22	201 29.1	+02.1	S 00 43.0	−00.2
23	216 31.2	+02.0	S 00 42.8	−00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 08:35

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	264 12.3	+02.4	S 14 13.9	+00.0
01	279 14.7	+02.4	S 14 13.9	+00.0
02	294 17.1	+02.3	S 14 13.9	+00.0
03	309 19.4	+02.4	S 14 13.9	−00.1
04	324 21.8	+02.4	S 14 13.8	+00.0
05	339 24.2	+02.4	S 14 13.8	+00.0
06	354 26.6	+02.3	S 14 13.8	+00.0
07	9 28.9	+02.4	S 14 13.8	+00.0
08	24 31.3	+02.4	S 14 13.8	−00.1
09	39 33.7	+02.4	S 14 13.7	+00.0
10	54 36.1	+02.3	S 14 13.7	+00.0
11	69 38.4	+02.4	S 14 13.7	+00.0
12	84 40.8	+02.4	S 14 13.7	−00.1
13	99 43.2	+02.4	S 14 13.6	+00.0
14	114 45.6	+02.4	S 14 13.6	+00.0
15	129 48.0	+02.3	S 14 13.6	+00.0
16	144 50.3	+02.4	S 14 13.6	+00.0
17	159 52.7	+02.4	S 14 13.6	−00.1
18	174 55.1	+02.4	S 14 13.5	+00.0
19	189 57.5	+02.3	S 14 13.5	+00.0
20	204 59.8	+02.4	S 14 13.5	+00.0
21	220 02.2	+02.4	S 14 13.5	−00.1
22	235 04.6	+02.4	S 14 13.4	+00.0
23	250 07.0	+02.4	S 14 13.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 06:22

2022 May 15 Sunday (day 135 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 54.5	+00.0	N 18 48.7	+00.6
01	195 54.5	+00.0	N 18 49.3	+00.6
02	210 54.5	+00.0	N 18 49.9	+00.6
03	225 54.5	+00.0	N 18 50.5	+00.6
04	240 54.5	+00.0	N 18 51.1	+00.6
05	255 54.5	+00.0	N 18 51.7	+00.6
06	270 54.5	+00.0	N 18 52.3	+00.6
07	285 54.5	+00.0	N 18 52.9	+00.6
08	300 54.5	−00.1	N 18 53.5	+00.5
09	315 54.4	+00.0	N 18 54.0	+00.6
10	330 54.4	+00.0	N 18 54.6	+00.6
11	345 54.4	+00.0	N 18 55.2	+00.6
12	0 54.4	+00.0	N 18 55.8	+00.6
13	15 54.4	+00.0	N 18 56.4	+00.6
14	30 54.4	+00.0	N 18 57.0	+00.6
15	45 54.4	+00.0	N 18 57.6	+00.5
16	60 54.4	+00.0	N 18 58.1	+00.6
17	75 54.4	+00.0	N 18 58.7	+00.6
18	90 54.4	+00.0	N 18 59.3	+00.6
19	105 54.4	+00.0	N 18 59.9	+00.6
20	120 54.4	+00.0	N 19 00.5	+00.6
21	135 54.4	−00.1	N 19 01.1	+00.5
22	150 54.3	+00.0	N 19 01.6	+00.6
23	165 54.3	+00.0	N 19 02.2	+00.6

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	308°	308°	308°	308°	307°	307°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	218 58.3	−00.2	N 03 54.4	+01.1
01	233 58.1	−00.2	N 03 55.5	+01.0
02	248 57.9	−00.2	N 03 56.5	+01.1
03	263 57.7	−00.3	N 03 57.6	+01.0
04	278 57.4	−00.2	N 03 58.6	+01.1
05	293 57.2	−00.2	N 03 59.7	+01.1
06	308 57.0	−00.3	N 04 00.8	+01.0
07	323 56.7	−00.2	N 04 01.8	+01.1
08	338 56.5	−00.2	N 04 02.9	+01.0
09	353 56.3	−00.3	N 04 03.9	+01.1
10	8 56.0	−00.2	N 04 05.0	+01.1
11	23 55.8	−00.2	N 04 06.1	+01.0
12	38 55.6	−00.3	N 04 07.1	+01.1
13	53 55.3	−00.2	N 04 08.2	+01.0
14	68 55.1	−00.2	N 04 09.2	+01.1
15	83 54.9	−00.3	N 04 10.3	+01.1
16	98 54.6	−00.2	N 04 11.4	+01.0
17	113 54.4	−00.2	N 04 12.4	+01.1
18	128 54.2	−00.3	N 04 13.5	+01.0
19	143 53.9	−00.2	N 04 14.5	+01.1
20	158 53.7	−00.2	N 04 15.6	+01.1
21	173 53.5	−00.3	N 04 16.7	+01.0
22	188 53.2	−00.2	N 04 17.7	+01.1
23	203 53.0	−00.2	N 04 18.8	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	346°	346°	346°	346°	345°	345°

Greenwich Culmination Time: 09:24

Moon

A: 47%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	16 34.6	−31.7	S 12 56.3	+14.7
01	31 02.9	−31.8	S 13 11.0	+14.6
02	45 31.1	−31.9	S 13 25.6	+14.5
03	59 59.2	−32.0	S 13 40.1	+14.5
04	74 27.2	−32.1	S 13 54.6	+14.5
05	88 55.1	−32.2	S 14 09.1	+14.3
06	103 22.9	−32.4	S 14 23.4	+14.3
07	117 50.5	−32.4	S 14 37.7	+14.2
08	132 18.1	−32.5	S 14 51.9	+14.1
09	146 45.6	−32.6	S 15 06.0	+14.1
10	161 13.0	−32.8	S 15 20.1	+13.9
11	175 40.2	−32.9	S 15 34.0	+13.9
12	190 07.3	−32.9	S 15 47.9	+13.8
13	204 34.4	−33.1	S 16 01.7	+13.8
14	219 01.3	−33.2	S 16 15.5	+13.6
15	233 28.1	−33.3	S 16 29.1	+13.5
16	247 54.8	−33.4	S 16 42.6	+13.5
17	262 21.4	−33.5	S 16 56.1	+13.3
18	276 47.9	−33.7	S 17 09.4	+13.3
19	291 14.2	−33.7	S 17 22.7	+13.2
20	305 40.5	−33.9	S 17 35.9	+13.0
21	320 06.6	−34.0	S 17 48.9	+13.0
22	334 32.6	−34.0	S 18 01.9	+12.8
23	348 58.6	−34.3	S 18 14.7	+12.8

UT	02	06	10	14	18	22
SD	16′3	16′4	16′4	16′4	16′4	16′5
HP	59′9	60′0	60′1	60′2	60′3	60′4
SHA	143°	140°	138°	136°	133°	131°

Greenwich Culmination Time: 23:45

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	238 54.1	+00.7	S 04 28.5	−00.8
01	253 54.8	+00.8	S 04 27.7	−00.7
02	268 55.6	+00.7	S 04 27.0	−00.7
03	283 56.3	+00.7	S 04 26.3	−00.7
04	298 57.0	+00.8	S 04 25.6	−00.8
05	313 57.8	+00.7	S 04 24.8	−00.7
06	328 58.5	+00.7	S 04 24.1	−00.7
07	343 59.2	+00.7	S 04 23.4	−00.7
08	358 59.9	+00.8	S 04 22.7	−00.8
09	14 00.7	+00.7	S 04 21.9	−00.7
10	29 01.4	+00.7	S 04 21.2	−00.7
11	44 02.1	+00.8	S 04 20.5	−00.7
12	59 02.9	+00.7	S 04 19.8	−00.8
13	74 03.6	+00.7	S 04 19.0	−00.7
14	89 04.3	+00.8	S 04 18.3	−00.7
15	104 05.1	+00.7	S 04 17.6	−00.7
16	119 05.8	+00.7	S 04 16.9	−00.8
17	134 06.5	+00.7	S 04 16.1	−00.7
18	149 07.2	+00.8	S 04 15.4	−00.7
19	164 08.0	+00.7	S 04 14.7	−00.7
20	179 08.7	+00.7	S 04 14.0	−00.8
21	194 09.4	+00.8	S 04 13.2	−00.7
22	209 10.2	+00.7	S 04 12.5	−00.7
23	224 10.9	+00.7	S 04 11.8	−00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	006°	006°	006°	006°	006°	006°

Greenwich Culmination Time: 08:04

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	231 33.2	+02.0	S 00 42.7	−00.2
01	246 35.2	+02.0	S 00 42.5	−00.2
02	261 37.2	+02.1	S 00 42.3	−00.2
03	276 39.3	+02.0	S 00 42.1	−00.2
04	291 41.3	+02.0	S 00 41.9	−00.1
05	306 43.3	+02.1	S 00 41.8	−00.2
06	321 45.4	+02.0	S 00 41.6	−00.2
07	336 47.4	+02.0	S 00 41.4	−00.2
08	351 49.4	+02.0	S 00 41.2	−00.2
09	6 51.4	+02.1	S 00 41.0	−00.1
10	21 53.5	+02.0	S 00 40.9	−00.2
11	36 55.5	+02.0	S 00 40.7	−00.2
12	51 57.5	+02.1	S 00 40.5	−00.2
13	66 59.6	+02.0	S 00 40.3	−00.2
14	82 01.6	+02.0	S 00 40.1	−00.1
15	97 03.6	+02.1	S 00 40.0	−00.2
16	112 05.7	+02.0	S 00 39.8	−00.2
17	127 07.7	+02.0	S 00 39.6	−00.2
18	142 09.7	+02.0	S 00 39.4	−00.2
19	157 11.7	+02.1	S 00 39.2	−00.1
20	172 13.8	+02.0	S 00 39.1	−00.2
21	187 15.8	+02.0	S 00 38.9	−00.2
22	202 17.8	+02.1	S 00 38.7	−00.2
23	217 19.9	+02.0	S 00 38.5	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 08:32

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	265 09.4	+02.3	S 14 13.4	+00.0
01	280 11.7	+02.4	S 14 13.4	+00.0
02	295 14.1	+02.4	S 14 13.4	−00.1
03	310 16.5	+02.4	S 14 13.3	+00.0
04	325 18.9	+02.4	S 14 13.3	+00.0
05	340 21.3	+02.3	S 14 13.3	+00.0
06	355 23.6	+02.4	S 14 13.3	+00.0
07	10 26.0	+02.4	S 14 13.3	−00.1
08	25 28.4	+02.4	S 14 13.2	+00.0
09	40 30.8	+02.4	S 14 13.2	+00.0
10	55 33.2	+02.3	S 14 13.2	+00.0
11	70 35.5	+02.4	S 14 13.2	+00.0
12	85 37.9	+02.4	S 14 13.2	−00.1
13	100 40.3	+02.4	S 14 13.1	+00.0
14	115 42.7	+02.4	S 14 13.1	+00.0
15	130 45.1	+02.4	S 14 13.1	+00.0
16	145 47.5	+02.3	S 14 13.1	+00.0
17	160 49.8	+02.4	S 14 13.1	−00.1
18	175 52.2	+02.4	S 14 13.0	+00.0
19	190 54.6	+02.4	S 14 13.0	+00.0
20	205 57.0	+02.4	S 14 13.0	+00.0
21	220 59.4	+02.3	S 14 13.0	−00.1
22	236 01.7	+02.4	S 14 12.9	+00.0
23	251 04.1	+02.4	S 14 12.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 06:18

2022 May 20 Friday (day 140 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 52.2	+00.0	N 19 55.8	+00.5
01	195 52.2	−00.1	N 19 56.3	+00.6
02	210 52.1	+00.0	N 19 56.9	+00.5
03	225 52.1	+00.0	N 19 57.4	+00.5
04	240 52.1	−00.1	N 19 57.9	+00.5
05	255 52.0	+00.0	N 19 58.4	+00.6
06	270 52.0	+00.0	N 19 59.0	+00.5
07	285 52.0	−00.1	N 19 59.5	+00.5
08	300 51.9	+00.0	N 19 60.0	+00.5
09	315 51.9	+00.0	N 20 00.5	+00.5
10	330 51.9	−00.1	N 20 01.0	+00.6
11	345 51.8	+00.0	N 20 01.6	+00.5
12	0 51.8	−00.1	N 20 02.1	+00.5
13	15 51.7	+00.0	N 20 02.6	+00.5
14	30 51.7	+00.0	N 20 03.1	+00.5
15	45 51.7	−00.1	N 20 03.6	+00.5
16	60 51.6	+00.0	N 20 04.1	+00.6
17	75 51.6	+00.0	N 20 04.7	+00.5
18	90 51.6	−00.1	N 20 05.2	+00.5
19	105 51.5	+00.0	N 20 05.7	+00.5
20	120 51.5	−00.1	N 20 06.2	+00.5
21	135 51.4	+00.0	N 20 06.7	+00.5
22	150 51.4	+00.0	N 20 07.2	+00.5
23	165 51.4	−00.1	N 20 07.7	+00.5

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	303°	303°	303°	303°	302°	302°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	218 29.2	−00.3	N 06 01.4	+01.0
01	233 28.9	−00.2	N 06 02.4	+01.1
02	248 28.7	−00.3	N 06 03.5	+01.0
03	263 28.4	−00.3	N 06 04.5	+01.1
04	278 28.1	−00.2	N 06 05.6	+01.0
05	293 27.9	−00.3	N 06 06.6	+01.1
06	308 27.6	−00.2	N 06 07.7	+01.0
07	323 27.4	−00.3	N 06 08.7	+01.1
08	338 27.1	−00.3	N 06 09.8	+01.0
09	353 26.8	−00.2	N 06 10.8	+01.1
10	8 26.6	−00.3	N 06 11.9	+01.0
11	23 26.3	−00.2	N 06 12.9	+01.1
12	38 26.1	−00.3	N 06 14.0	+01.1
13	53 25.8	−00.3	N 06 15.1	+01.0
14	68 25.5	−00.2	N 06 16.1	+01.1
15	83 25.3	−00.3	N 06 17.2	+01.0
16	98 25.0	−00.2	N 06 18.2	+01.1
17	113 24.8	−00.3	N 06 19.3	+01.0
18	128 24.5	−00.3	N 06 20.3	+01.1
19	143 24.2	−00.2	N 06 21.4	+01.0
20	158 24.0	−00.3	N 06 22.4	+01.1
21	173 23.7	−00.2	N 06 23.5	+01.0
22	188 23.5	−00.3	N 06 24.5	+01.1
23	203 23.2	−00.3	N 06 25.6	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	341°	341°	340°	340°	340°	340°

Greenwich Culmination Time: 09:26

Moon

A: 68%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	302 51.0	−37.9	S 26 06.9	−04.5
01	317 13.1	−37.8	S 26 02.4	−04.7
02	331 35.3	−37.6	S 25 57.7	−04.9
03	345 57.7	−37.6	S 25 52.8	−05.1
04	0 20.1	−37.6	S 25 47.7	−05.2
05	14 42.5	−37.4	S 25 42.5	−05.4
06	29 05.1	−37.3	S 25 37.1	−05.6
07	43 27.8	−37.2	S 25 31.5	−05.8
08	57 50.6	−37.1	S 25 25.7	−05.9
09	72 13.5	−37.0	S 25 19.8	−06.1
10	86 36.5	−37.0	S 25 13.7	−06.3
11	100 59.5	−36.8	S 25 07.4	−06.5
12	115 22.7	−36.7	S 25 00.9	−06.6
13	129 46.0	−36.6	S 24 54.3	−06.7
14	144 09.4	−36.5	S 24 47.6	−07.0
15	158 32.9	−36.4	S 24 40.6	−07.1
16	172 56.5	−36.2	S 24 33.5	−07.2
17	187 20.3	−36.2	S 24 26.3	−07.4
18	201 44.1	−36.0	S 24 18.9	−07.6
19	216 08.1	−36.0	S 24 11.3	−07.7
20	230 32.1	−35.8	S 24 03.6	−07.9
21	244 56.3	−35.7	S 23 55.7	−08.0
22	259 20.6	−35.5	S 23 47.7	−08.2
23	273 45.1	−35.5	S 23 39.5	−08.3

UT	02	06	10	14	18	22
SD	16′4	16′3	16′3	16′3	16′3	16′2
HP	60′1	60′0	59′9	59′8	59′7	59′6
SHA	064°	061°	059°	056°	053°	051°

Greenwich Culmination Time: 03:58

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	240 22.2	+00.7	S 03 01.3	−00.8
01	255 22.9	+00.8	S 03 00.5	−00.7
02	270 23.7	+00.7	S 02 59.8	−00.7
03	285 24.4	+00.8	S 02 59.1	−00.7
04	300 25.2	+00.7	S 02 58.4	−00.8
05	315 25.9	+00.7	S 02 57.6	−00.7
06	330 26.6	+00.8	S 02 56.9	−00.7
07	345 27.4	+00.7	S 02 56.2	−00.7
08	0 28.1	+00.8	S 02 55.5	−00.8
09	15 28.9	+00.7	S 02 54.7	−00.7
10	30 29.6	+00.7	S 02 54.0	−00.7
11	45 30.3	+00.8	S 02 53.3	−00.8
12	60 31.1	+00.7	S 02 52.5	−00.7
13	75 31.8	+00.8	S 02 51.8	−00.7
14	90 32.6	+00.7	S 02 51.1	−00.7
15	105 33.3	+00.7	S 02 50.4	−00.8
16	120 34.0	+00.8	S 02 49.6	−00.7
17	135 34.8	+00.7	S 02 48.9	−00.7
18	150 35.5	+00.8	S 02 48.2	−00.8
19	165 36.3	+00.7	S 02 47.4	−00.7
20	180 37.0	+00.7	S 02 46.7	−00.7
21	195 37.7	+00.8	S 02 46.0	−00.7
22	210 38.5	+00.7	S 02 45.3	−00.8
23	225 39.2	+00.8	S 02 44.5	−00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	003°	003°	002°	002°	002°	002°

Greenwich Culmination Time: 07:58

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	235 37.6	+02.1	S 00 21.5	−00.2
01	250 39.7	+02.0	S 00 21.3	−00.2
02	265 41.7	+02.1	S 00 21.1	−00.1
03	280 43.8	+02.0	S 00 21.0	−00.2
04	295 45.8	+02.1	S 00 20.8	−00.2
05	310 47.9	+02.0	S 00 20.6	−00.2
06	325 49.9	+02.1	S 00 20.4	−00.1
07	340 52.0	+02.0	S 00 20.3	−00.2
08	355 54.0	+02.1	S 00 20.1	−00.2
09	10 56.1	+02.0	S 00 19.9	−00.1
10	25 58.1	+02.0	S 00 19.8	−00.2
11	41 00.1	+02.1	S 00 19.6	−00.2
12	56 02.2	+02.0	S 00 19.4	−00.2
13	71 04.2	+02.1	S 00 19.2	−00.1
14	86 06.3	+02.0	S 00 19.1	−00.2
15	101 08.3	+02.1	S 00 18.9	−00.2
16	116 10.4	+02.0	S 00 18.7	−00.1
17	131 12.4	+02.1	S 00 18.6	−00.2
18	146 14.5	+02.0	S 00 18.4	−00.2
19	161 16.5	+02.1	S 00 18.2	−00.2
20	176 18.6	+02.0	S 00 18.0	−00.1
21	191 20.6	+02.1	S 00 17.9	−00.2
22	206 22.7	+02.0	S 00 17.7	−00.2
23	221 24.7	+02.1	S 00 17.5	−00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 08:16

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	269 56.0	+02.4	S 14 11.2	+00.0
01	284 58.4	+02.4	S 14 11.2	+00.0
02	300 00.8	+02.4	S 14 11.2	+00.0
03	315 03.2	+02.4	S 14 11.2	+00.0
04	330 05.6	+02.4	S 14 11.2	+00.0
05	345 08.0	+02.4	S 14 11.2	+00.0
06	0 10.4	+02.4	S 14 11.2	−00.1
07	15 12.8	+02.4	S 14 11.1	+00.0
08	30 15.2	+02.4	S 14 11.1	+00.0
09	45 17.6	+02.4	S 14 11.1	+00.0
10	60 20.0	+02.4	S 14 11.1	+00.0
11	75 22.4	+02.4	S 14 11.1	+00.0
12	90 24.8	+02.4	S 14 11.1	+00.0
13	105 27.2	+02.4	S 14 11.1	−00.1
14	120 29.6	+02.4	S 14 11.0	+00.0
15	135 32.0	+02.4	S 14 11.0	+00.0
16	150 34.4	+02.4	S 14 11.0	+00.0
17	165 36.8	+02.4	S 14 11.0	+00.0
18	180 39.2	+02.4	S 14 11.0	+00.0
19	195 41.6	+02.4	S 14 11.0	+00.0
20	210 44.0	+02.4	S 14 11.0	−00.1
21	225 46.4	+02.4	S 14 10.9	+00.0
22	240 48.8	+02.4	S 14 10.9	+00.0
23	255 51.2	+02.4	S 14 10.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:59

2022 May 17 Tuesday (day 137 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 54.0	+00.0	N 19 16.5	+00.6
01	195 54.0	+00.0	N 19 17.1	+00.6
02	210 54.0	+00.0	N 19 17.7	+00.5
03	225 54.0	−00.1	N 19 18.2	+00.6
04	240 53.9	+00.0	N 19 18.8	+00.6
05	255 53.9	+00.0	N 19 19.4	+00.5
06	270 53.9	+00.0	N 19 19.9	+00.6
07	285 53.9	+00.0	N 19 20.5	+00.6
08	300 53.9	−00.1	N 19 21.1	+00.5
09	315 53.8	+00.0	N 19 21.6	+00.6
10	330 53.8	+00.0	N 19 22.2	+00.5
11	345 53.8	+00.0	N 19 22.7	+00.6
12	0 53.8	+00.0	N 19 23.3	+00.6
13	15 53.8	+00.0	N 19 23.9	+00.5
14	30 53.8	−00.1	N 19 24.4	+00.6
15	45 53.7	+00.0	N 19 25.0	+00.5
16	60 53.7	+00.0	N 19 25.5	+00.6
17	75 53.7	+00.0	N 19 26.1	+00.5
18	90 53.7	+00.0	N 19 26.6	+00.6
19	105 53.7	−00.1	N 19 27.2	+00.6
20	120 53.6	+00.0	N 19 27.8	+00.5
21	135 53.6	+00.0	N 19 28.3	+00.6
22	150 53.6	+00.0	N 19 28.9	+00.5
23	165 53.6	−00.1	N 19 29.4	+00.6

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	306°	306°	306°	306°	305°	305°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	218 47.1	−00.3	N 04 45.3	+01.0
01	233 46.8	−00.2	N 04 46.3	+01.1
02	248 46.6	−00.3	N 04 47.4	+01.0
03	263 46.3	−00.2	N 04 48.4	+01.1
04	278 46.1	−00.2	N 04 49.5	+01.1
05	293 45.9	−00.3	N 04 50.6	+01.0
06	308 45.6	−00.2	N 04 51.6	+01.1
07	323 45.4	−00.3	N 04 52.7	+01.0
08	338 45.1	−00.2	N 04 53.7	+01.1
09	353 44.9	−00.3	N 04 54.8	+01.1
10	8 44.6	−00.2	N 04 55.9	+01.0
11	23 44.4	−00.2	N 04 56.9	+01.1
12	38 44.2	−00.3	N 04 58.0	+01.0
13	53 43.9	−00.2	N 04 59.0	+01.1
14	68 43.7	−00.3	N 05 00.1	+01.0
15	83 43.4	−00.2	N 05 01.1	+01.1
16	98 43.2	−00.3	N 05 02.2	+01.1
17	113 42.9	−00.2	N 05 03.3	+01.0
18	128 42.7	−00.2	N 05 04.3	+01.1
19	143 42.5	−00.3	N 05 05.4	+01.0
20	158 42.2	−00.2	N 05 06.4	+01.1
21	173 42.0	−00.3	N 05 07.5	+01.1
22	188 41.7	−00.2	N 05 08.6	+01.0
23	203 41.5	−00.3	N 05 09.6	+01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	344°	344°	344°	343°	343°	343°

Greenwich Culmination Time: 09:25

Moon

A: 55%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	349 09.7	−36.9	S 22 55.5	+09.3
01	3 32.8	−37.1	S 23 04.8	+09.2
02	17 55.7	−37.1	S 23 14.0	+09.1
03	32 18.6	−37.3	S 23 23.1	+08.8
04	46 41.3	−37.3	S 23 31.9	+08.7
05	61 04.0	−37.4	S 23 40.6	+08.6
06	75 26.6	−37.6	S 23 49.2	+08.3
07	89 49.0	−37.6	S 23 57.5	+08.2
08	104 11.4	−37.7	S 24 05.7	+08.1
09	118 33.7	−37.8	S 24 13.8	+07.8
10	132 55.9	−37.8	S 24 21.6	+07.7
11	147 18.1	−38.0	S 24 29.3	+07.5
12	161 40.1	−38.0	S 24 36.8	+07.3
13	176 02.1	−38.1	S 24 44.1	+07.1
14	190 24.0	−38.2	S 24 51.2	+06.9
15	204 45.8	−38.3	S 24 58.1	+06.8
16	219 07.5	−38.3	S 25 04.9	+06.6
17	233 29.2	−38.4	S 25 11.5	+06.4
18	247 50.8	−38.5	S 25 17.9	+06.2
19	262 12.3	−38.5	S 25 24.1	+06.0
20	276 33.8	−38.6	S 25 30.1	+05.8
21	290 55.2	−38.7	S 25 35.9	+05.6
22	305 16.5	−38.7	S 25 41.5	+05.4
23	319 37.8	−38.8	S 25 46.9	+05.3

UT	02	06	10	14	18	22
SD	16′6	16′6	16′6	16′6	16′6	16′6
HP	60′8	60′8	60′8	60′8	60′8	60′8
SHA	113°	111°	108°	105°	102°	100°

Greenwich Culmination Time: 00:45

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	239 29.2	+00.7	S 03 53.6	−00.7
01	254 29.9	+00.8	S 03 52.9	−00.7
02	269 30.7	+00.7	S 03 52.2	−00.7
03	284 31.4	+00.7	S 03 51.5	−00.8
04	299 32.1	+00.8	S 03 50.7	−00.7
05	314 32.9	+00.7	S 03 50.0	−00.7
06	329 33.6	+00.7	S 03 49.3	−00.7
07	344 34.3	+00.8	S 03 48.6	−00.8
08	359 35.1	+00.7	S 03 47.8	−00.7
09	14 35.8	+00.7	S 03 47.1	−00.7
10	29 36.5	+00.8	S 03 46.4	−00.8
11	44 37.3	+00.7	S 03 45.6	−00.7
12	59 38.0	+00.7	S 03 44.9	−00.7
13	74 38.7	+00.8	S 03 44.2	−00.7
14	89 39.5	+00.7	S 03 43.5	−00.8
15	104 40.2	+00.7	S 03 42.7	−00.7
16	119 40.9	+00.8	S 03 42.0	−00.7
17	134 41.7	+00.7	S 03 41.3	−00.7
18	149 42.4	+00.7	S 03 40.6	−00.8
19	164 43.1	+00.8	S 03 39.8	−00.7
20	179 43.9	+00.7	S 03 39.1	−00.7
21	194 44.6	+00.8	S 03 38.4	−00.8
22	209 45.4	+00.7	S 03 37.6	−00.7
23	224 46.1	+00.7	S 03 36.9	−00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	005°	005°	005°	004°	004°	004°

Greenwich Culmination Time: 08:01

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	233 10.7	+02.0	S 00 34.1	−00.2
01	248 12.7	+02.1	S 00 33.9	−00.2
02	263 14.8	+02.0	S 00 33.7	−00.2
03	278 16.8	+02.0	S 00 33.5	−00.1
04	293 18.8	+02.1	S 00 33.4	−00.2
05	308 20.9	+02.0	S 00 33.2	−00.2
06	323 22.9	+02.1	S 00 33.0	−00.2
07	338 25.0	+02.0	S 00 32.8	−00.2
08	353 27.0	+02.0	S 00 32.6	−00.1
09	8 29.0	+02.1	S 00 32.5	−00.2
10	23 31.1	+02.0	S 00 32.3	−00.2
11	38 33.1	+02.0	S 00 32.1	−00.2
12	53 35.1	+02.1	S 00 31.9	−00.1
13	68 37.2	+02.0	S 00 31.8	−00.2
14	83 39.2	+02.0	S 00 31.6	−00.2
15	98 41.2	+02.1	S 00 31.4	−00.2
16	113 43.3	+02.0	S 00 31.2	−00.1
17	128 45.3	+02.1	S 00 31.1	−00.2
18	143 47.4	+02.0	S 00 30.9	−00.2
19	158 49.4	+02.0	S 00 30.7	−00.2
20	173 51.4	+02.1	S 00 30.5	−00.1
21	188 53.5	+02.0	S 00 30.4	−00.2
22	203 55.5	+02.1	S 00 30.2	−00.2
23	218 57.6	+02.0	S 00 30.0	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 08:26

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	267 03.7	+02.4	S 14 12.4	+00.0
01	282 06.1	+02.4	S 14 12.4	+00.0
02	297 08.5	+02.4	S 14 12.4	+00.0
03	312 10.9	+02.4	S 14 12.4	+00.0
04	327 13.3	+02.4	S 14 12.4	−00.1
05	342 15.7	+02.4	S 14 12.3	+00.0
06	357 18.1	+02.4	S 14 12.3	+00.0
07	12 20.5	+02.3	S 14 12.3	+00.0
08	27 22.8	+02.4	S 14 12.3	+00.0
09	42 25.2	+02.4	S 14 12.3	+00.0
10	57 27.6	+02.4	S 14 12.3	−00.1
11	72 30.0	+02.4	S 14 12.2	+00.0
12	87 32.4	+02.4	S 14 12.2	+00.0
13	102 34.8	+02.4	S 14 12.2	+00.0
14	117 37.2	+02.4	S 14 12.2	+00.0
15	132 39.6	+02.4	S 14 12.2	−00.1
16	147 42.0	+02.3	S 14 12.1	+00.0
17	162 44.3	+02.4	S 14 12.1	+00.0
18	177 46.7	+02.4	S 14 12.1	+00.0
19	192 49.1	+02.4	S 14 12.1	+00.0
20	207 51.5	+02.4	S 14 12.1	+00.0
21	222 53.9	+02.4	S 14 12.1	−00.1
22	237 56.3	+02.4	S 14 12.0	+00.0
23	252 58.7	+02.4	S 14 12.0	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 06:10

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2022 May 18 Wednesday (day 138 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 53.5	+00.0	N 19 30.0	+00.5
01	195 53.5	+00.0	N 19 30.5	+00.6
02	210 53.5	+00.0	N 19 31.1	+00.5
03	225 53.5	+00.0	N 19 31.6	+00.6
04	240 53.5	−00.1	N 19 32.2	+00.5
05	255 53.4	+00.0	N 19 32.7	+00.6
06	270 53.4	+00.0	N 19 33.3	+00.5
07	285 53.4	+00.0	N 19 33.8	+00.6
08	300 53.4	−00.1	N 19 34.4	+00.5
09	315 53.3	+00.0	N 19 34.9	+00.6
10	330 53.3	+00.0	N 19 35.5	+00.5
11	345 53.3	+00.0	N 19 36.0	+00.6
12	0 53.3	−00.1	N 19 36.6	+00.5
13	15 53.2	+00.0	N 19 37.1	+00.5
14	30 53.2	+00.0	N 19 37.6	+00.6
15	45 53.2	+00.0	N 19 38.2	+00.5
16	60 53.2	−00.1	N 19 38.7	+00.6
17	75 53.1	+00.0	N 19 39.3	+00.5
18	90 53.1	+00.0	N 19 39.8	+00.6
19	105 53.1	+00.0	N 19 40.4	+00.5
20	120 53.1	−00.1	N 19 40.9	+00.5
21	135 53.0	+00.0	N 19 41.4	+00.6
22	150 53.0	+00.0	N 19 42.0	+00.5
23	165 53.0	−00.1	N 19 42.5	+00.6

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	305°	305°	305°	305°	304°	304°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	218 41.2	−00.2	N 05 10.7	+01.0
01	233 41.0	−00.3	N 05 11.7	+01.1
02	248 40.7	−00.2	N 05 12.8	+01.0
03	263 40.5	−00.3	N 05 13.8	+01.1
04	278 40.2	−00.2	N 05 14.9	+01.1
05	293 40.0	−00.2	N 05 16.0	+01.0
06	308 39.8	−00.3	N 05 17.0	+01.1
07	323 39.5	−00.2	N 05 18.1	+01.0
08	338 39.3	−00.3	N 05 19.1	+01.1
09	353 39.0	−00.2	N 05 20.2	+01.0
10	8 38.8	−00.3	N 05 21.2	+01.1
11	23 38.5	−00.2	N 05 22.3	+01.1
12	38 38.3	−00.3	N 05 23.4	+01.0
13	53 38.0	−00.2	N 05 24.4	+01.1
14	68 37.8	−00.3	N 05 25.5	+01.0
15	83 37.5	−00.2	N 05 26.5	+01.1
16	98 37.3	−00.3	N 05 27.6	+01.0
17	113 37.0	−00.2	N 05 28.6	+01.1
18	128 36.8	−00.3	N 05 29.7	+01.1
19	143 36.5	−00.2	N 05 30.8	+01.0
20	158 36.3	−00.3	N 05 31.8	+01.1
21	173 36.0	−00.2	N 05 32.9	+01.0
22	188 35.8	−00.3	N 05 33.9	+01.1
23	203 35.5	−00.2	N 05 35.0	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	343°	343°	343°	342°	342°	342°

Greenwich Culmination Time: 09:25

Moon

A: 59%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	333 59.0	−38.8	S 25 52.2	+05.0
01	348 20.2	−38.9	S 25 57.2	+04.9
02	2 41.3	−38.9	S 26 02.1	+04.6
03	17 02.4	−39.0	S 26 06.7	+04.5
04	31 23.4	−39.0	S 26 11.2	+04.2
05	45 44.4	−39.0	S 26 15.4	+04.1
06	60 05.4	−39.1	S 26 19.5	+03.8
07	74 26.3	−39.1	S 26 23.3	+03.7
08	88 47.2	−39.1	S 26 27.0	+03.4
09	103 08.1	−39.2	S 26 30.4	+03.2
10	117 28.9	−39.2	S 26 33.6	+03.1
11	131 49.7	−39.2	S 26 36.7	+02.8
12	146 10.5	−39.2	S 26 39.5	+02.7
13	160 31.3	−39.3	S 26 42.2	+02.4
14	174 52.0	−39.2	S 26 44.6	+02.2
15	189 12.8	−39.3	S 26 46.8	+02.0
16	203 33.5	−39.2	S 26 48.8	+01.9
17	217 54.3	−39.3	S 26 50.7	+01.6
18	232 15.0	−39.3	S 26 52.3	+01.4
19	246 35.7	−39.2	S 26 53.7	+01.2
20	260 56.5	−39.3	S 26 54.9	+01.0
21	275 17.2	−39.2	S 26 55.9	+00.8
22	289 38.0	−39.3	S 26 56.7	+00.6
23	303 58.7	−39.2	S 26 57.3	+00.3

UT	02	06	10	14	18	22
SD	16′6	16′6	16′6	16′5	16′5	16′5
HP	60′8	60′8	60′7	60′7	60′7	60′6
SHA	097°	094°	091°	089°	086°	083°

Greenwich Culmination Time: 01:48

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	239 46.8	+00.8	S 03 36.2	−00.7
01	254 47.6	+00.7	S 03 35.5	−00.8
02	269 48.3	+00.7	S 03 34.7	−00.7
03	284 49.0	+00.8	S 03 34.0	−00.7
04	299 49.8	+00.7	S 03 33.3	−00.7
05	314 50.5	+00.7	S 03 32.6	−00.8
06	329 51.2	+00.8	S 03 31.8	−00.7
07	344 52.0	+00.7	S 03 31.1	−00.7
08	359 52.7	+00.7	S 03 30.4	−00.7
09	14 53.4	+00.8	S 03 29.7	−00.8
10	29 54.2	+00.7	S 03 28.9	−00.7
11	44 54.9	+00.8	S 03 28.2	−00.7
12	59 55.7	+00.7	S 03 27.5	−00.8
13	74 56.4	+00.7	S 03 26.7	−00.7
14	89 57.1	+00.8	S 03 26.0	−00.7
15	104 57.9	+00.7	S 03 25.3	−00.7
16	119 58.6	+00.7	S 03 24.6	−00.8
17	134 59.3	+00.8	S 03 23.8	−00.7
18	150 00.1	+00.7	S 03 23.1	−00.7
19	165 00.8	+00.7	S 03 22.4	−00.7
20	180 01.5	+00.8	S 03 21.7	−00.8
21	195 02.3	+00.7	S 03 20.9	−00.7
22	210 03.0	+00.8	S 03 20.2	−00.7
23	225 03.8	+00.7	S 03 19.5	−00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	004°	004°	004°	004°	004°	003°

Greenwich Culmination Time: 08:00

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	233 59.6	+02.0	S 00 29.8	−00.1
01	249 01.6	+02.1	S 00 29.7	−00.2
02	264 03.7	+02.0	S 00 29.5	−00.2
03	279 05.7	+02.0	S 00 29.3	−00.2
04	294 07.7	+02.1	S 00 29.1	−00.1
05	309 09.8	+02.0	S 00 29.0	−00.2
06	324 11.8	+02.1	S 00 28.8	−00.2
07	339 13.9	+02.0	S 00 28.6	−00.2
08	354 15.9	+02.0	S 00 28.4	−00.2
09	9 17.9	+02.1	S 00 28.2	−00.1
10	24 20.0	+02.0	S 00 28.1	−00.2
11	39 22.0	+02.1	S 00 27.9	−00.2
12	54 24.1	+02.0	S 00 27.7	−00.2
13	69 26.1	+02.0	S 00 27.5	−00.1
14	84 28.1	+02.1	S 00 27.4	−00.2
15	99 30.2	+02.0	S 00 27.2	−00.2
16	114 32.2	+02.1	S 00 27.0	−00.1
17	129 34.3	+02.0	S 00 26.9	−00.2
18	144 36.3	+02.1	S 00 26.7	−00.2
19	159 38.4	+02.0	S 00 26.5	−00.2
20	174 40.4	+02.0	S 00 26.3	−00.1
21	189 42.4	+02.1	S 00 26.2	−00.2
22	204 44.5	+02.0	S 00 26.0	−00.2
23	219 46.5	+02.1	S 00 25.8	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 08:22

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	268 01.1	+02.4	S 14 12.0	+00.0
01	283 03.5	+02.4	S 14 12.0	+00.0
02	298 05.9	+02.4	S 14 12.0	+00.0
03	313 08.3	+02.3	S 14 12.0	−00.1
04	328 10.6	+02.4	S 14 11.9	+00.0
05	343 13.0	+02.4	S 14 11.9	+00.0
06	358 15.4	+02.4	S 14 11.9	+00.0
07	13 17.8	+02.4	S 14 11.9	+00.0
08	28 20.2	+02.4	S 14 11.9	+00.0
09	43 22.6	+02.4	S 14 11.9	−00.1
10	58 25.0	+02.4	S 14 11.8	+00.0
11	73 27.4	+02.4	S 14 11.8	+00.0
12	88 29.8	+02.4	S 14 11.8	+00.0
13	103 32.2	+02.4	S 14 11.8	+00.0
14	118 34.6	+02.4	S 14 11.8	+00.0
15	133 37.0	+02.4	S 14 11.8	−00.1
16	148 39.4	+02.3	S 14 11.7	+00.0
17	163 41.7	+02.4	S 14 11.7	+00.0
18	178 44.1	+02.4	S 14 11.7	+00.0
19	193 46.5	+02.4	S 14 11.7	+00.0
20	208 48.9	+02.4	S 14 11.7	+00.0
21	223 51.3	+02.4	S 14 11.7	−00.1
22	238 53.7	+02.4	S 14 11.6	+00.0
23	253 56.1	+02.4	S 14 11.6	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 06:06

2022 May 19 Thursday (day 139 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 52.9	+00.0	N 19 43.1	+00.5
01	195 52.9	+00.0	N 19 43.6	+00.5
02	210 52.9	+00.0	N 19 44.1	+00.6
03	225 52.9	−00.1	N 19 44.7	+00.5
04	240 52.8	+00.0	N 19 45.2	+00.5
05	255 52.8	+00.0	N 19 45.7	+00.6
06	270 52.8	−00.1	N 19 46.3	+00.5
07	285 52.7	+00.0	N 19 46.8	+00.6
08	300 52.7	+00.0	N 19 47.4	+00.5
09	315 52.7	+00.0	N 19 47.9	+00.5
10	330 52.7	−00.1	N 19 48.4	+00.6
11	345 52.6	+00.0	N 19 49.0	+00.5
12	0 52.6	+00.0	N 19 49.5	+00.5
13	15 52.6	−00.1	N 19 50.0	+00.5
14	30 52.5	+00.0	N 19 50.5	+00.6
15	45 52.5	+00.0	N 19 51.1	+00.5
16	60 52.5	−00.1	N 19 51.6	+00.5
17	75 52.4	+00.0	N 19 52.1	+00.6
18	90 52.4	+00.0	N 19 52.7	+00.5
19	105 52.4	−00.1	N 19 53.2	+00.5
20	120 52.3	+00.0	N 19 53.7	+00.5
21	135 52.3	+00.0	N 19 54.2	+00.6
22	150 52.3	−00.1	N 19 54.8	+00.5
23	165 52.2	+00.0	N 19 55.3	+00.5

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	304°	304°	304°	304°	303°	303°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	218 35.3	−00.3	N 05 36.0	+01.1
01	233 35.0	−00.2	N 05 37.1	+01.1
02	248 34.8	−00.3	N 05 38.2	+01.0
03	263 34.5	−00.2	N 05 39.2	+01.1
04	278 34.3	−00.3	N 05 40.3	+01.0
05	293 34.0	−00.2	N 05 41.3	+01.1
06	308 33.8	−00.3	N 05 42.4	+01.0
07	323 33.5	−00.2	N 05 43.4	+01.1
08	338 33.3	−00.3	N 05 44.5	+01.0
09	353 33.0	−00.3	N 05 45.5	+01.1
10	8 32.7	−00.2	N 05 46.6	+01.1
11	23 32.5	−00.3	N 05 47.7	+01.0
12	38 32.2	−00.2	N 05 48.7	+01.1
13	53 32.0	−00.3	N 05 49.8	+01.0
14	68 31.7	−00.2	N 05 50.8	+01.1
15	83 31.5	−00.3	N 05 51.9	+01.0
16	98 31.2	−00.2	N 05 52.9	+01.1
17	113 31.0	−00.3	N 05 54.0	+01.0
18	128 30.7	−00.2	N 05 55.0	+01.1
19	143 30.5	−00.3	N 05 56.1	+01.0
20	158 30.2	−00.3	N 05 57.1	+01.1
21	173 29.9	−00.2	N 05 58.2	+01.1
22	188 29.7	−00.3	N 05 59.3	+01.0
23	203 29.4	−00.2	N 06 00.3	+01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	342°	342°	341°	341°	341°	341°

Greenwich Culmination Time: 09:25

Moon

A: 63%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	318 19.5	−39.2	S 26 57.6	+00.2
01	332 40.3	−39.2	S 26 57.8	+00.0
02	347 01.1	−39.1	S 26 57.8	−00.2
03	1 22.0	−39.1	S 26 57.6	−00.5
04	15 42.9	−39.1	S 26 57.1	−00.6
05	30 03.8	−39.1	S 26 56.5	−00.8
06	44 24.7	−39.0	S 26 55.7	−01.1
07	58 45.7	−38.9	S 26 54.6	−01.2
08	73 06.8	−39.0	S 26 53.4	−01.5
09	87 27.8	−38.9	S 26 51.9	−01.6
10	101 48.9	−38.8	S 26 50.3	−01.8
11	116 10.1	−38.8	S 26 48.5	−02.1
12	130 31.3	−38.7	S 26 46.4	−02.2
13	144 52.6	−38.7	S 26 44.2	−02.4
14	159 13.9	−38.6	S 26 41.8	−02.7
15	173 35.3	−38.5	S 26 39.1	−02.8
16	187 56.8	−38.5	S 26 36.3	−03.0
17	202 18.3	−38.4	S 26 33.3	−03.2
18	216 39.9	−38.3	S 26 30.1	−03.4
19	231 01.6	−38.3	S 26 26.7	−03.6
20	245 23.3	−38.2	S 26 23.1	−03.8
21	259 45.1	−38.1	S 26 19.3	−03.9
22	274 07.0	−38.1	S 26 15.4	−04.2
23	288 28.9	−37.9	S 26 11.2	−04.3

UT	02	06	10	14	18	22
SD	16′5	16′5	16′5	16′4	16′4	16′4
HP	60′6	60′5	60′4	60′3	60′3	60′2
SHA	080°	078°	075°	072°	069°	067°

Greenwich Culmination Time: 02:54

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	240 04.5	+00.7	S 03 18.7	−00.7
01	255 05.2	+00.8	S 03 18.0	−00.7
02	270 06.0	+00.7	S 03 17.3	−00.7
03	285 06.7	+00.7	S 03 16.6	−00.8
04	300 07.4	+00.8	S 03 15.8	−00.7
05	315 08.2	+00.7	S 03 15.1	−00.7
06	330 08.9	+00.7	S 03 14.4	−00.8
07	345 09.6	+00.8	S 03 13.6	−00.7
08	0 10.4	+00.7	S 03 12.9	−00.7
09	15 11.1	+00.8	S 03 12.2	−00.7
10	30 11.9	+00.7	S 03 11.5	−00.8
11	45 12.6	+00.7	S 03 10.7	−00.7
12	60 13.3	+00.8	S 03 10.0	−00.7
13	75 14.1	+00.7	S 03 09.3	−00.7
14	90 14.8	+00.8	S 03 08.6	−00.8
15	105 15.6	+00.7	S 03 07.8	−00.7
16	120 16.3	+00.7	S 03 07.1	−00.7
17	135 17.0	+00.8	S 03 06.4	−00.8
18	150 17.8	+00.7	S 03 05.6	−00.7
19	165 18.5	+00.7	S 03 04.9	−00.7
20	180 19.2	+00.8	S 03 04.2	−00.7
21	195 20.0	+00.7	S 03 03.5	−00.8
22	210 20.7	+00.8	S 03 02.7	−00.7
23	225 21.5	+00.7	S 03 02.0	−00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	003°	003°	003°	003°	003°	003°

Greenwich Culmination Time: 07:59

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	234 48.6	+02.0	S 00 25.6	−00.1
01	249 50.6	+02.1	S 00 25.5	−00.2
02	264 52.7	+02.0	S 00 25.3	−00.2
03	279 54.7	+02.0	S 00 25.1	−00.2
04	294 56.7	+02.1	S 00 24.9	−00.1
05	309 58.8	+02.0	S 00 24.8	−00.2
06	325 00.8	+02.1	S 00 24.6	−00.2
07	340 02.9	+02.0	S 00 24.4	−00.2
08	355 04.9	+02.1	S 00 24.2	−00.1
09	10 07.0	+02.0	S 00 24.1	−00.2
10	25 09.0	+02.0	S 00 23.9	−00.2
11	40 11.0	+02.1	S 00 23.7	−00.2
12	55 13.1	+02.0	S 00 23.5	−00.1
13	70 15.1	+02.1	S 00 23.4	−00.2
14	85 17.2	+02.0	S 00 23.2	−00.2
15	100 19.2	+02.1	S 00 23.0	−00.1
16	115 21.3	+02.0	S 00 22.9	−00.2
17	130 23.3	+02.1	S 00 22.7	−00.2
18	145 25.4	+02.0	S 00 22.5	−00.2
19	160 27.4	+02.0	S 00 22.3	−00.1
20	175 29.4	+02.1	S 00 22.2	−00.2
21	190 31.5	+02.0	S 00 22.0	−00.2
22	205 33.5	+02.1	S 00 21.8	−00.2
23	220 35.6	+02.0	S 00 21.6	−00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 08:19

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	268 58.5	+02.4	S 14 11.6	+00.0
01	284 00.9	+02.4	S 14 11.6	+00.0
02	299 03.3	+02.4	S 14 11.6	+00.0
03	314 05.7	+02.4	S 14 11.6	−00.1
04	329 08.1	+02.4	S 14 11.5	+00.0
05	344 10.5	+02.4	S 14 11.5	+00.0
06	359 12.9	+02.4	S 14 11.5	+00.0
07	14 15.3	+02.4	S 14 11.5	+00.0
08	29 17.7	+02.4	S 14 11.5	+00.0
09	44 20.1	+02.4	S 14 11.5	−00.1
10	59 22.5	+02.4	S 14 11.4	+00.0
11	74 24.9	+02.3	S 14 11.4	+00.0
12	89 27.2	+02.4	S 14 11.4	+00.0
13	104 29.6	+02.4	S 14 11.4	+00.0
14	119 32.0	+02.4	S 14 11.4	+00.0
15	134 34.4	+02.4	S 14 11.4	+00.0
16	149 36.8	+02.4	S 14 11.4	−00.1
17	164 39.2	+02.4	S 14 11.3	+00.0
18	179 41.6	+02.4	S 14 11.3	+00.0
19	194 44.0	+02.4	S 14 11.3	+00.0
20	209 46.4	+02.4	S 14 11.3	+00.0
21	224 48.8	+02.4	S 14 11.3	+00.0
22	239 51.2	+02.4	S 14 11.3	+00.0
23	254 53.6	+02.4	S 14 11.3	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 06:03

2022 May 24 Tuesday (day 144 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 47.9	−00.1	N 20 43.4	+00.5
01	195 47.8	+00.0	N 20 43.9	+00.5
02	210 47.8	−00.1	N 20 44.4	+00.4
03	225 47.7	−00.1	N 20 44.8	+00.5
04	240 47.6	+00.0	N 20 45.3	+00.5
05	255 47.6	−00.1	N 20 45.8	+00.4
06	270 47.5	+00.0	N 20 46.2	+00.5
07	285 47.5	−00.1	N 20 46.7	+00.4
08	300 47.4	+00.0	N 20 47.1	+00.5
09	315 47.4	−00.1	N 20 47.6	+00.5
10	330 47.3	−00.1	N 20 48.1	+00.4
11	345 47.2	+00.0	N 20 48.5	+00.5
12	0 47.2	−00.1	N 20 49.0	+00.4
13	15 47.1	+00.0	N 20 49.4	+00.5
14	30 47.1	−00.1	N 20 49.9	+00.5
15	45 47.0	−00.1	N 20 50.4	+00.4
16	60 46.9	+00.0	N 20 50.8	+00.5
17	75 46.9	−00.1	N 20 51.3	+00.4
18	90 46.8	+00.0	N 20 51.7	+00.5
19	105 46.8	−00.1	N 20 52.2	+00.4
20	120 46.7	−00.1	N 20 52.6	+00.5
21	135 46.6	+00.0	N 20 53.1	+00.4
22	150 46.6	−00.1	N 20 53.5	+00.5
23	165 46.5	−00.1	N 20 54.0	+00.4

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	299°	299°	299°	299°	298°	298°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	218 03.3	−00.3	N 07 42.0	+01.0
01	233 03.0	−00.3	N 07 43.0	+01.0
02	248 02.7	−00.3	N 07 44.0	+01.1
03	263 02.4	−00.3	N 07 45.1	+01.0
04	278 02.1	−00.3	N 07 46.1	+01.1
05	293 01.8	−00.2	N 07 47.2	+01.0
06	308 01.6	−00.3	N 07 48.2	+01.0
07	323 01.3	−00.3	N 07 49.2	+01.1
08	338 01.0	−00.3	N 07 50.3	+01.0
09	353 00.7	−00.3	N 07 51.3	+01.1
10	8 00.4	−00.3	N 07 52.4	+01.0
11	23 00.1	−00.3	N 07 53.4	+01.0
12	37 59.8	−00.2	N 07 54.4	+01.1
13	52 59.6	−00.3	N 07 55.5	+01.0
14	67 59.3	−00.3	N 07 56.5	+01.1
15	82 59.0	−00.3	N 07 57.6	+01.0
16	97 58.7	−00.3	N 07 58.6	+01.0
17	112 58.4	−00.3	N 07 59.6	+01.1
18	127 58.1	−00.3	N 08 00.7	+01.0
19	142 57.8	−00.3	N 08 01.7	+01.0
20	157 57.5	−00.2	N 08 02.7	+01.1
21	172 57.3	−00.3	N 08 03.8	+01.0
22	187 57.0	−00.3	N 08 04.8	+01.1
23	202 56.7	−00.3	N 08 05.9	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	336°	336°	336°	336°	336°	335°

Greenwich Culmination Time: 09:27

Moon

A: 82%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	250 36.2	−27.8	S 09 04.5	−14.2
01	265 08.4	−27.7	S 08 50.3	−14.4
02	279 40.7	−27.7	S 08 35.9	−14.3
03	294 13.0	−27.6	S 08 21.6	−14.4
04	308 45.4	−27.5	S 08 07.2	−14.3
05	323 17.9	−27.5	S 07 52.9	−14.4
06	337 50.4	−27.4	S 07 38.5	−14.5
07	352 23.0	−27.4	S 07 24.0	−14.4
08	6 55.6	−27.3	S 07 09.6	−14.5
09	21 28.3	−27.2	S 06 55.1	−14.5
10	36 01.1	−27.2	S 06 40.6	−14.5
11	50 33.9	−27.1	S 06 26.1	−14.5
12	65 06.8	−27.0	S 06 11.6	−14.5
13	79 39.8	−27.1	S 05 57.1	−14.5
14	94 12.7	−26.9	S 05 42.6	−14.6
15	108 45.8	−26.9	S 05 28.0	−14.5
16	123 18.9	−26.9	S 05 13.5	−14.6
17	137 52.0	−26.8	S 04 58.9	−14.6
18	152 25.2	−26.8	S 04 44.3	−14.6
19	166 58.4	−26.7	S 04 29.7	−14.6
20	181 31.7	−26.7	S 04 15.1	−14.6
21	196 05.0	−26.6	S 04 00.5	−14.6
22	210 38.4	−26.6	S 03 45.9	−14.6
23	225 11.8	−26.5	S 03 31.3	−14.6

UT	02	06	10	14	18	22
SD	15′6	15′6	15′5	15′5	15′5	15′5
HP	57′3	57′2	57′1	56′9	56′8	56′7
SHA	008°	006°	004°	002°	000°	358°

Greenwich Culmination Time: 07:31

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	241 33.5	+00.7	S 01 51.4	−00.8
01	256 34.2	+00.8	S 01 50.6	−00.7
02	271 35.0	+00.7	S 01 49.9	−00.7
03	286 35.7	+00.8	S 01 49.2	−00.7
04	301 36.5	+00.7	S 01 48.5	−00.8
05	316 37.2	+00.8	S 01 47.7	−00.7
06	331 38.0	+00.7	S 01 47.0	−00.7
07	346 38.7	+00.8	S 01 46.3	−00.7
08	1 39.5	+00.7	S 01 45.6	−00.8
09	16 40.2	+00.8	S 01 44.8	−00.7
10	31 41.0	+00.7	S 01 44.1	−00.7
11	46 41.7	+00.7	S 01 43.4	−00.8
12	61 42.4	+00.8	S 01 42.6	−00.7
13	76 43.2	+00.7	S 01 41.9	−00.7
14	91 43.9	+00.8	S 01 41.2	−00.7
15	106 44.7	+00.7	S 01 40.5	−00.8
16	121 45.4	+00.8	S 01 39.7	−00.7
17	136 46.2	+00.7	S 01 39.0	−00.7
18	151 46.9	+00.8	S 01 38.3	−00.8
19	166 47.7	+00.7	S 01 37.5	−00.7
20	181 48.4	+00.8	S 01 36.8	−00.7
21	196 49.2	+00.7	S 01 36.1	−00.7
22	211 49.9	+00.8	S 01 35.4	−00.8
23	226 50.7	+00.7	S 01 34.6	−00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	360°	360°	360°	360°	359°	359°

Greenwich Culmination Time: 07:53

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	238 54.8	+02.1	S 00 05.3	−00.2
01	253 56.9	+02.0	S 00 05.1	−00.1
02	268 58.9	+02.1	S 00 05.0	−00.2
03	284 01.0	+02.1	S 00 04.8	−00.2
04	299 03.1	+02.0	S 00 04.6	−00.1
05	314 05.1	+02.1	S 00 04.5	−00.2
06	329 07.2	+02.0	S 00 04.3	−00.2
07	344 09.2	+02.1	S 00 04.1	−00.1
08	359 11.3	+02.1	S 00 04.0	−00.2
09	14 13.4	+02.0	S 00 03.8	−00.2
10	29 15.4	+02.1	S 00 03.6	−00.1
11	44 17.5	+02.1	S 00 03.5	−00.2
12	59 19.6	+02.0	S 00 03.3	−00.1
13	74 21.6	+02.1	S 00 03.2	−00.2
14	89 23.7	+02.1	S 00 03.0	−00.2
15	104 25.8	+02.0	S 00 02.8	−00.1
16	119 27.8	+02.1	S 00 02.7	−00.2
17	134 29.9	+02.0	S 00 02.5	−00.2
18	149 31.9	+02.1	S 00 02.3	−00.1
19	164 34.0	+02.1	S 00 02.2	−00.2
20	179 36.1	+02.0	S 00 02.0	−00.2
21	194 38.1	+02.1	S 00 01.8	−00.1
22	209 40.2	+02.1	S 00 01.7	−00.2
23	224 42.3	+02.0	S 00 01.5	−00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	357°	357°	357°	357°	357°	357°

Greenwich Culmination Time: 08:03

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	273 47.0	+02.4	S 14 10.1	+00.0
01	288 49.4	+02.4	S 14 10.1	+00.0
02	303 51.8	+02.5	S 14 10.1	+00.0
03	318 54.3	+02.4	S 14 10.1	+00.0
04	333 56.7	+02.4	S 14 10.1	−00.1
05	348 59.1	+02.4	S 14 10.0	+00.0
06	4 01.5	+02.4	S 14 10.0	+00.0
07	19 03.9	+02.4	S 14 10.0	+00.0
08	34 06.3	+02.4	S 14 10.0	+00.0
09	49 08.7	+02.5	S 14 10.0	+00.0
10	64 11.2	+02.4	S 14 10.0	+00.0
11	79 13.6	+02.4	S 14 10.0	+00.0
12	94 16.0	+02.4	S 14 10.0	+00.0
13	109 18.4	+02.4	S 14 10.0	+00.0
14	124 20.8	+02.4	S 14 10.0	+00.0
15	139 23.2	+02.5	S 14 10.0	+00.0
16	154 25.7	+02.4	S 14 10.0	−00.1
17	169 28.1	+02.4	S 14 09.9	+00.0
18	184 30.5	+02.4	S 14 09.9	+00.0
19	199 32.9	+02.4	S 14 09.9	+00.0
20	214 35.3	+02.4	S 14 09.9	+00.0
21	229 37.7	+02.5	S 14 09.9	+00.0
22	244 40.2	+02.4	S 14 09.9	+00.0
23	259 42.6	+02.4	S 14 09.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:43

2022 May 21 Saturday (day 141 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 51.3	+00.0	N 20 08.2	+00.5
01	195 51.3	−00.1	N 20 08.7	+00.6
02	210 51.2	+00.0	N 20 09.3	+00.5
03	225 51.2	+00.0	N 20 09.8	+00.5
04	240 51.2	−00.1	N 20 10.3	+00.5
05	255 51.1	+00.0	N 20 10.8	+00.5
06	270 51.1	−00.1	N 20 11.3	+00.5
07	285 51.0	+00.0	N 20 11.8	+00.5
08	300 51.0	+00.0	N 20 12.3	+00.5
09	315 51.0	−00.1	N 20 12.8	+00.5
10	330 50.9	+00.0	N 20 13.3	+00.5
11	345 50.9	−00.1	N 20 13.8	+00.5
12	0 50.8	+00.0	N 20 14.3	+00.5
13	15 50.8	+00.0	N 20 14.8	+00.5
14	30 50.8	−00.1	N 20 15.3	+00.5
15	45 50.7	+00.0	N 20 15.8	+00.5
16	60 50.7	−00.1	N 20 16.3	+00.5
17	75 50.6	+00.0	N 20 16.8	+00.5
18	90 50.6	−00.1	N 20 17.3	+00.5
19	105 50.5	+00.0	N 20 17.8	+00.5
20	120 50.5	−00.1	N 20 18.3	+00.5
21	135 50.4	+00.0	N 20 18.8	+00.5
22	150 50.4	+00.0	N 20 19.3	+00.5
23	165 50.4	−00.1	N 20 19.8	+00.5

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	302°	302°	302°	302°	301°	301°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	218 22.9	−00.2	N 06 26.6	+01.1
01	233 22.7	−00.3	N 06 27.7	+01.0
02	248 22.4	−00.3	N 06 28.7	+01.1
03	263 22.1	−00.2	N 06 29.8	+01.0
04	278 21.9	−00.3	N 06 30.8	+01.1
05	293 21.6	−00.3	N 06 31.9	+01.0
06	308 21.3	−00.2	N 06 32.9	+01.1
07	323 21.1	−00.3	N 06 34.0	+01.0
08	338 20.8	−00.3	N 06 35.0	+01.1
09	353 20.5	−00.2	N 06 36.1	+01.0
10	8 20.3	−00.3	N 06 37.1	+01.1
11	23 20.0	−00.2	N 06 38.2	+01.0
12	38 19.8	−00.3	N 06 39.2	+01.1
13	53 19.5	−00.3	N 06 40.3	+01.0
14	68 19.2	−00.3	N 06 41.3	+01.1
15	83 18.9	−00.2	N 06 42.4	+01.0
16	98 18.7	−00.3	N 06 43.4	+01.1
17	113 18.4	−00.3	N 06 44.5	+01.0
18	128 18.1	−00.2	N 06 45.5	+01.1
19	143 17.9	−00.3	N 06 46.6	+01.0
20	158 17.6	−00.3	N 06 47.6	+01.1
21	173 17.3	−00.2	N 06 48.7	+01.0
22	188 17.1	−00.3	N 06 49.7	+01.1
23	203 16.8	−00.3	N 06 50.8	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	340°	339°	339°	339°	339°	339°

Greenwich Culmination Time: 09:26

Moon

A: 72%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	288 09.6	−35.4	S 23 31.2	−08.5
01	302 34.2	−35.2	S 23 22.7	−08.6
02	316 59.0	−35.1	S 23 14.1	−08.7
03	331 23.9	−35.0	S 23 05.4	−08.9
04	345 48.9	−34.8	S 22 56.5	−09.0
05	0 14.1	−34.8	S 22 47.5	−09.2
06	14 39.3	−34.6	S 22 38.3	−09.2
07	29 04.7	−34.5	S 22 29.1	−09.5
08	43 30.2	−34.4	S 22 19.6	−09.5
09	57 55.8	−34.3	S 22 10.1	−09.7
10	72 21.5	−34.1	S 22 00.4	−09.8
11	86 47.4	−34.0	S 21 50.6	−09.9
12	101 13.4	−33.9	S 21 40.7	−10.1
13	115 39.5	−33.8	S 21 30.6	−10.1
14	130 05.7	−33.6	S 21 20.5	−10.3
15	144 32.1	−33.6	S 21 10.2	−10.4
16	158 58.5	−33.4	S 20 59.8	−10.5
17	173 25.1	−33.3	S 20 49.3	−10.7
18	187 51.8	−33.1	S 20 38.6	−10.7
19	202 18.7	−33.1	S 20 27.9	−10.8
20	216 45.6	−32.9	S 20 17.1	−11.0
21	231 12.7	−32.8	S 20 06.1	−11.1
22	245 39.9	−32.7	S 19 55.0	−11.1
23	260 07.2	−32.5	S 19 43.9	−11.3

UT	02	06	10	14	18	22
SD	16′2	16′2	16′1	16′1	16′1	16′0
HP	59′4	59′3	59′2	59′1	59′0	58′9
SHA	048°	046°	043°	041°	039°	036°

Greenwich Culmination Time: 04:59

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	240 40.0	+00.7	S 02 43.8	−00.7
01	255 40.7	+00.7	S 02 43.1	−00.8
02	270 41.4	+00.8	S 02 42.3	−00.7
03	285 42.2	+00.7	S 02 41.6	−00.7
04	300 42.9	+00.8	S 02 40.9	−00.7
05	315 43.7	+00.7	S 02 40.2	−00.8
06	330 44.4	+00.7	S 02 39.4	−00.7
07	345 45.1	+00.8	S 02 38.7	−00.7
08	0 45.9	+00.7	S 02 38.0	−00.7
09	15 46.6	+00.8	S 02 37.3	−00.8
10	30 47.4	+00.7	S 02 36.5	−00.7
11	45 48.1	+00.8	S 02 35.8	−00.7
12	60 48.9	+00.7	S 02 35.1	−00.8
13	75 49.6	+00.7	S 02 34.3	−00.7
14	90 50.3	+00.8	S 02 33.6	−00.7
15	105 51.1	+00.7	S 02 32.9	−00.7
16	120 51.8	+00.8	S 02 32.2	−00.8
17	135 52.6	+00.7	S 02 31.4	−00.7
18	150 53.3	+00.7	S 02 30.7	−00.7
19	165 54.0	+00.8	S 02 30.0	−00.8
20	180 54.8	+00.7	S 02 29.2	−00.7
21	195 55.5	+00.8	S 02 28.5	−00.7
22	210 56.3	+00.7	S 02 27.8	−00.7
23	225 57.0	+00.8	S 02 27.1	−00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	002°	002°	002°	002°	002°	001°

Greenwich Culmination Time: 07:56

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	236 26.8	+02.0	S 00 17.4	−00.2
01	251 28.8	+02.1	S 00 17.2	−00.2
02	266 30.9	+02.0	S 00 17.0	−00.1
03	281 32.9	+02.1	S 00 16.9	−00.2
04	296 35.0	+02.0	S 00 16.7	−00.2
05	311 37.0	+02.1	S 00 16.5	−00.2
06	326 39.1	+02.0	S 00 16.3	−00.1
07	341 41.1	+02.1	S 00 16.2	−00.2
08	356 43.2	+02.0	S 00 16.0	−00.2
09	11 45.2	+02.1	S 00 15.8	−00.1
10	26 47.3	+02.0	S 00 15.7	−00.2
11	41 49.3	+02.1	S 00 15.5	−00.2
12	56 51.4	+02.0	S 00 15.3	−00.1
13	71 53.4	+02.1	S 00 15.2	−00.2
14	86 55.5	+02.1	S 00 15.0	−00.2
15	101 57.6	+02.0	S 00 14.8	−00.2
16	116 59.6	+02.1	S 00 14.6	−00.1
17	132 01.7	+02.0	S 00 14.5	−00.2
18	147 03.7	+02.1	S 00 14.3	−00.2
19	162 05.8	+02.0	S 00 14.1	−00.1
20	177 07.8	+02.1	S 00 14.0	−00.2
21	192 09.9	+02.0	S 00 13.8	−00.2
22	207 11.9	+02.1	S 00 13.6	−00.1
23	222 14.0	+02.0	S 00 13.5	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 08:13

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	270 53.6	+02.4	S 14 10.9	+00.0
01	285 56.0	+02.4	S 14 10.9	+00.0
02	300 58.4	+02.4	S 14 10.9	+00.0
03	316 00.8	+02.4	S 14 10.9	−00.1
04	331 03.2	+02.4	S 14 10.8	+00.0
05	346 05.6	+02.4	S 14 10.8	+00.0
06	1 08.0	+02.4	S 14 10.8	+00.0
07	16 10.4	+02.4	S 14 10.8	+00.0
08	31 12.8	+02.5	S 14 10.8	+00.0
09	46 15.3	+02.4	S 14 10.8	+00.0
10	61 17.7	+02.4	S 14 10.8	+00.0
11	76 20.1	+02.4	S 14 10.8	−00.1
12	91 22.5	+02.4	S 14 10.7	+00.0
13	106 24.9	+02.4	S 14 10.7	+00.0
14	121 27.3	+02.4	S 14 10.7	+00.0
15	136 29.7	+02.4	S 14 10.7	+00.0
16	151 32.1	+02.4	S 14 10.7	+00.0
17	166 34.5	+02.4	S 14 10.7	+00.0
18	181 36.9	+02.4	S 14 10.7	+00.0
19	196 39.3	+02.4	S 14 10.7	−00.1
20	211 41.7	+02.4	S 14 10.6	+00.0
21	226 44.1	+02.4	S 14 10.6	+00.0
22	241 46.5	+02.4	S 14 10.6	+00.0
23	256 48.9	+02.4	S 14 10.6	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:55

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Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 50.3	+00.0	N 20 20.3	+00.5
01	195 50.3	−00.1	N 20 20.8	+00.5
02	210 50.2	+00.0	N 20 21.3	+00.5
03	225 50.2	−00.1	N 20 21.8	+00.5
04	240 50.1	+00.0	N 20 22.3	+00.5
05	255 50.1	−00.1	N 20 22.8	+00.5
06	270 50.0	+00.0	N 20 23.3	+00.5
07	285 50.0	−00.1	N 20 23.8	+00.5
08	300 49.9	+00.0	N 20 24.3	+00.5
09	315 49.9	−00.1	N 20 24.8	+00.4
10	330 49.8	+00.0	N 20 25.2	+00.5
11	345 49.8	+00.0	N 20 25.7	+00.5
12	0 49.8	−00.1	N 20 26.2	+00.5
13	15 49.7	+00.0	N 20 26.7	+00.5
14	30 49.7	−00.1	N 20 27.2	+00.5
15	45 49.6	+00.0	N 20 27.7	+00.5
16	60 49.6	−00.1	N 20 28.2	+00.5
17	75 49.5	+00.0	N 20 28.7	+00.4
18	90 49.5	−00.1	N 20 29.1	+00.5
19	105 49.4	+00.0	N 20 29.6	+00.5
20	120 49.4	−00.1	N 20 30.1	+00.5
21	135 49.3	+00.0	N 20 30.6	+00.5
22	150 49.3	−00.1	N 20 31.1	+00.5
23	165 49.2	+00.0	N 20 31.6	+00.4

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	301°	301°	301°	301°	300°	300°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	218 16.5	−00.2	N 06 51.8	+01.1
01	233 16.3	−00.3	N 06 52.9	+01.0
02	248 16.0	−00.3	N 06 53.9	+01.1
03	263 15.7	−00.2	N 06 55.0	+01.0
04	278 15.5	−00.3	N 06 56.0	+01.1
05	293 15.2	−00.3	N 06 57.1	+01.0
06	308 14.9	−00.3	N 06 58.1	+01.1
07	323 14.6	−00.2	N 06 59.2	+01.0
08	338 14.4	−00.3	N 07 00.2	+01.1
09	353 14.1	−00.3	N 07 01.3	+01.0
10	8 13.8	−00.2	N 07 02.3	+01.0
11	23 13.6	−00.3	N 07 03.3	+01.1
12	38 13.3	−00.3	N 07 04.4	+01.0
13	53 13.0	−00.3	N 07 05.4	+01.1
14	68 12.7	−00.2	N 07 06.5	+01.0
15	83 12.5	−00.3	N 07 07.5	+01.1
16	98 12.2	−00.3	N 07 08.6	+01.0
17	113 11.9	−00.3	N 07 09.6	+01.1
18	128 11.6	−00.2	N 07 10.7	+01.0
19	143 11.4	−00.3	N 07 11.7	+01.1
20	158 11.1	−00.3	N 07 12.8	+01.0
21	173 10.8	−00.3	N 07 13.8	+01.1
22	188 10.5	−00.2	N 07 14.9	+01.0
23	203 10.3	−00.3	N 07 15.9	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	339°	338°	338°	338°	338°	338°

Greenwich Culmination Time: 09:27

Moon

A: 75%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	274 34.7	−32.5	S 19 32.6	−11.4
01	289 02.2	−32.3	S 19 21.2	−11.4
02	303 29.9	−32.2	S 19 09.8	−11.6
03	317 57.7	−32.1	S 18 58.2	−11.7
04	332 25.6	−32.0	S 18 46.5	−11.7
05	346 53.6	−31.8	S 18 34.8	−11.8
06	1 21.8	−31.8	S 18 23.0	−12.0
07	15 50.0	−31.6	S 18 11.0	−12.0
08	30 18.4	−31.5	S 17 59.0	−12.1
09	44 46.9	−31.4	S 17 46.9	−12.2
10	59 15.5	−31.3	S 17 34.7	−12.3
11	73 44.2	−31.2	S 17 22.4	−12.3
12	88 13.0	−31.1	S 17 10.1	−12.4
13	102 41.9	−30.9	S 16 57.7	−12.6
14	117 11.0	−30.9	S 16 45.1	−12.5
15	131 40.1	−30.7	S 16 32.6	−12.7
16	146 09.4	−30.6	S 16 19.9	−12.7
17	160 38.8	−30.6	S 16 07.2	−12.8
18	175 08.2	−30.4	S 15 54.4	−12.9
19	189 37.8	−30.3	S 15 41.5	−13.0
20	204 07.5	−30.2	S 15 28.5	−13.0
21	218 37.3	−30.1	S 15 15.5	−13.0
22	233 07.2	−30.1	S 15 02.5	−13.2
23	247 37.1	−29.9	S 14 49.3	−13.2

UT	02	06	10	14	18	22
SD	16′0	16′0	15′9	15′9	15′9	15′8
HP	58′7	58′6	58′5	58′4	58′2	58′1
SHA	034°	032°	029°	027°	025°	023°

Greenwich Culmination Time: 05:54

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	240 57.8	+00.7	S 02 26.3	−00.7
01	255 58.5	+00.7	S 02 25.6	−00.7
02	270 59.2	+00.8	S 02 24.9	−00.8
03	285 60.0	+00.7	S 02 24.1	−00.7
04	301 00.7	+00.8	S 02 23.4	−00.7
05	316 01.5	+00.7	S 02 22.7	−00.7
06	331 02.2	+00.8	S 02 22.0	−00.8
07	346 03.0	+00.7	S 02 21.2	−00.7
08	1 03.7	+00.7	S 02 20.5	−00.7
09	16 04.4	+00.8	S 02 19.8	−00.8
10	31 05.2	+00.7	S 02 19.0	−00.7
11	46 05.9	+00.8	S 02 18.3	−00.7
12	61 06.7	+00.7	S 02 17.6	−00.7
13	76 07.4	+00.8	S 02 16.9	−00.8
14	91 08.2	+00.7	S 02 16.1	−00.7
15	106 08.9	+00.7	S 02 15.4	−00.7
16	121 09.6	+00.8	S 02 14.7	−00.8
17	136 10.4	+00.7	S 02 13.9	−00.7
18	151 11.1	+00.8	S 02 13.2	−00.7
19	166 11.9	+00.7	S 02 12.5	−00.7
20	181 12.6	+00.8	S 02 11.8	−00.8
21	196 13.4	+00.7	S 02 11.0	−00.7
22	211 14.1	+00.8	S 02 10.3	−00.7
23	226 14.9	+00.7	S 02 09.6	−00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	001°	001°	001°	001°	001°	001°

Greenwich Culmination Time: 07:55

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	237 16.0	+02.1	S 00 13.3	−00.2
01	252 18.1	+02.0	S 00 13.1	−00.1
02	267 20.1	+02.1	S 00 13.0	−00.2
03	282 22.2	+02.0	S 00 12.8	−00.2
04	297 24.2	+02.1	S 00 12.6	−00.1
05	312 26.3	+02.1	S 00 12.5	−00.2
06	327 28.4	+02.0	S 00 12.3	−00.2
07	342 30.4	+02.1	S 00 12.1	−00.2
08	357 32.5	+02.0	S 00 11.9	−00.1
09	12 34.5	+02.1	S 00 11.8	−00.2
10	27 36.6	+02.0	S 00 11.6	−00.2
11	42 38.6	+02.1	S 00 11.4	−00.1
12	57 40.7	+02.0	S 00 11.3	−00.2
13	72 42.7	+02.1	S 00 11.1	−00.2
14	87 44.8	+02.1	S 00 10.9	−00.1
15	102 46.9	+02.0	S 00 10.8	−00.2
16	117 48.9	+02.1	S 00 10.6	−00.2
17	132 51.0	+02.0	S 00 10.4	−00.1
18	147 53.0	+02.1	S 00 10.3	−00.2
19	162 55.1	+02.0	S 00 10.1	−00.2
20	177 57.1	+02.1	S 00 09.9	−00.1
21	192 59.2	+02.1	S 00 09.8	−00.2
22	208 01.3	+02.0	S 00 09.6	−00.2
23	223 03.3	+02.1	S 00 09.4	−00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 08:09

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	271 51.3	+02.4	S 14 10.6	+00.0
01	286 53.7	+02.4	S 14 10.6	+00.0
02	301 56.1	+02.4	S 14 10.6	+00.0
03	316 58.5	+02.5	S 14 10.6	+00.0
04	332 01.0	+02.4	S 14 10.6	−00.1
05	347 03.4	+02.4	S 14 10.5	+00.0
06	2 05.8	+02.4	S 14 10.5	+00.0
07	17 08.2	+02.4	S 14 10.5	+00.0
08	32 10.6	+02.4	S 14 10.5	+00.0
09	47 13.0	+02.4	S 14 10.5	+00.0
10	62 15.4	+02.4	S 14 10.5	+00.0
11	77 17.8	+02.4	S 14 10.5	+00.0
12	92 20.2	+02.4	S 14 10.5	−00.1
13	107 22.6	+02.4	S 14 10.4	+00.0
14	122 25.0	+02.4	S 14 10.4	+00.0
15	137 27.4	+02.4	S 14 10.4	+00.0
16	152 29.8	+02.5	S 14 10.4	+00.0
17	167 32.3	+02.4	S 14 10.4	+00.0
18	182 34.7	+02.4	S 14 10.4	+00.0
19	197 37.1	+02.4	S 14 10.4	+00.0
20	212 39.5	+02.4	S 14 10.4	+00.0
21	227 41.9	+02.4	S 14 10.4	+00.0
22	242 44.3	+02.4	S 14 10.4	−00.1
23	257 46.7	+02.4	S 14 10.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:51

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 49.2	−00.1	N 20 32.0	+00.5
01	195 49.1	+00.0	N 20 32.5	+00.5
02	210 49.1	−00.1	N 20 33.0	+00.5
03	225 49.0	+00.0	N 20 33.5	+00.5
04	240 49.0	−00.1	N 20 34.0	+00.4
05	255 48.9	−00.1	N 20 34.4	+00.5
06	270 48.8	+00.0	N 20 34.9	+00.5
07	285 48.8	−00.1	N 20 35.4	+00.5
08	300 48.7	+00.0	N 20 35.9	+00.5
09	315 48.7	−00.1	N 20 36.4	+00.4
10	330 48.6	+00.0	N 20 36.8	+00.5
11	345 48.6	−00.1	N 20 37.3	+00.5
12	0 48.5	+00.0	N 20 37.8	+00.5
13	15 48.5	−00.1	N 20 38.3	+00.4
14	30 48.4	+00.0	N 20 38.7	+00.5
15	45 48.4	−00.1	N 20 39.2	+00.5
16	60 48.3	+00.0	N 20 39.7	+00.4
17	75 48.3	−00.1	N 20 40.1	+00.5
18	90 48.2	−00.1	N 20 40.6	+00.5
19	105 48.1	+00.0	N 20 41.1	+00.5
20	120 48.1	−00.1	N 20 41.6	+00.4
21	135 48.0	+00.0	N 20 42.0	+00.5
22	150 48.0	−00.1	N 20 42.5	+00.5
23	165 47.9	+00.0	N 20 43.0	+00.4

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	300°	300°	300°	300°	299°	299°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	218 10.0	−00.3	N 07 16.9	+01.1
01	233 09.7	−00.3	N 07 18.0	+01.0
02	248 09.4	−00.2	N 07 19.0	+01.1
03	263 09.2	−00.3	N 07 20.1	+01.0
04	278 08.9	−00.3	N 07 21.1	+01.1
05	293 08.6	−00.3	N 07 22.2	+01.0
06	308 08.3	−00.3	N 07 23.2	+01.0
07	323 08.0	−00.2	N 07 24.2	+01.1
08	338 07.8	−00.3	N 07 25.3	+01.0
09	353 07.5	−00.3	N 07 26.3	+01.1
10	8 07.2	−00.3	N 07 27.4	+01.0
11	23 06.9	−00.3	N 07 28.4	+01.1
12	38 06.6	−00.2	N 07 29.5	+01.0
13	53 06.4	−00.3	N 07 30.5	+01.1
14	68 06.1	−00.3	N 07 31.6	+01.0
15	83 05.8	−00.3	N 07 32.6	+01.0
16	98 05.5	−00.3	N 07 33.6	+01.1
17	113 05.2	−00.2	N 07 34.7	+01.0
18	128 05.0	−00.3	N 07 35.7	+01.1
19	143 04.7	−00.3	N 07 36.8	+01.0
20	158 04.4	−00.3	N 07 37.8	+01.0
21	173 04.1	−00.3	N 07 38.8	+01.1
22	188 03.8	−00.3	N 07 39.9	+01.0
23	203 03.5	−00.2	N 07 40.9	+01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	337°	337°	337°	337°	337°	337°

Greenwich Culmination Time: 09:27

Moon

A: 79%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	262 07.2	−29.8	S 14 36.1	−13.2
01	276 37.4	−29.7	S 14 22.9	−13.4
02	291 07.7	−29.6	S 14 09.5	−13.3
03	305 38.1	−29.6	S 13 56.2	−13.5
04	320 08.5	−29.4	S 13 42.7	−13.4
05	334 39.1	−29.3	S 13 29.3	−13.6
06	349 09.8	−29.3	S 13 15.7	−13.6
07	3 40.5	−29.1	S 13 02.1	−13.6
08	18 11.4	−29.1	S 12 48.5	−13.7
09	32 42.3	−29.0	S 12 34.8	−13.7
10	47 13.3	−28.9	S 12 21.1	−13.8
11	61 44.4	−28.8	S 12 07.3	−13.9
12	76 15.6	−28.7	S 11 53.4	−13.8
13	90 46.9	−28.6	S 11 39.6	−13.9
14	105 18.3	−28.6	S 11 25.7	−14.0
15	119 49.7	−28.5	S 11 11.7	−14.0
16	134 21.2	−28.4	S 10 57.7	−14.0
17	148 52.8	−28.3	S 10 43.7	−14.1
18	163 24.5	−28.2	S 10 29.6	−14.1
19	177 56.3	−28.2	S 10 15.5	−14.1
20	192 28.1	−28.1	S 10 01.4	−14.2
21	207 00.0	−28.0	S 09 47.2	−14.2
22	221 32.0	−27.9	S 09 33.0	−14.2
23	236 04.1	−27.9	S 09 18.8	−14.3

UT	02	06	10	14	18	22
SD	15′8	15′8	15′7	15′7	15′7	15′6
HP	58′0	57′9	57′8	57′6	57′5	57′4
SHA	020°	018°	016°	014°	012°	010°

Greenwich Culmination Time: 06:44

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	241 15.6	+00.7	S 02 08.9	−00.8
01	256 16.3	+00.8	S 02 08.1	−00.7
02	271 17.1	+00.7	S 02 07.4	−00.7
03	286 17.8	+00.8	S 02 06.7	−00.8
04	301 18.6	+00.7	S 02 05.9	−00.7
05	316 19.3	+00.8	S 02 05.2	−00.7
06	331 20.1	+00.7	S 02 04.5	−00.7
07	346 20.8	+00.8	S 02 03.8	−00.8
08	1 21.6	+00.7	S 02 03.0	−00.7
09	16 22.3	+00.7	S 02 02.3	−00.7
10	31 23.0	+00.8	S 02 01.6	−00.8
11	46 23.8	+00.7	S 02 00.8	−00.7
12	61 24.5	+00.8	S 02 00.1	−00.7
13	76 25.3	+00.7	S 01 59.4	−00.7
14	91 26.0	+00.8	S 01 58.7	−00.8
15	106 26.8	+00.7	S 01 57.9	−00.7
16	121 27.5	+00.8	S 01 57.2	−00.7
17	136 28.3	+00.7	S 01 56.5	−00.8
18	151 29.0	+00.8	S 01 55.7	−00.7
19	166 29.8	+00.7	S 01 55.0	−00.7
20	181 30.5	+00.7	S 01 54.3	−00.7
21	196 31.2	+00.8	S 01 53.6	−00.8
22	211 32.0	+00.7	S 01 52.8	−00.7
23	226 32.7	+00.8	S 01 52.1	−00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	001°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 07:54

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	238 05.4	+02.0	S 00 09.3	−00.2
01	253 07.4	+02.1	S 00 09.1	−00.2
02	268 09.5	+02.0	S 00 08.9	−00.1
03	283 11.5	+02.1	S 00 08.8	−00.2
04	298 13.6	+02.1	S 00 08.6	−00.2
05	313 15.7	+02.0	S 00 08.4	−00.1
06	328 17.7	+02.1	S 00 08.3	−00.2
07	343 19.8	+02.0	S 00 08.1	−00.2
08	358 21.8	+02.1	S 00 07.9	−00.1
09	13 23.9	+02.1	S 00 07.8	−00.2
10	28 26.0	+02.0	S 00 07.6	−00.2
11	43 28.0	+02.1	S 00 07.4	−00.1
12	58 30.1	+02.0	S 00 07.3	−00.2
13	73 32.1	+02.1	S 00 07.1	−00.2
14	88 34.2	+02.1	S 00 06.9	−00.1
15	103 36.3	+02.0	S 00 06.8	−00.2
16	118 38.3	+02.1	S 00 06.6	−00.2
17	133 40.4	+02.0	S 00 06.4	−00.1
18	148 42.4	+02.1	S 00 06.3	−00.2
19	163 44.5	+02.1	S 00 06.1	−00.1
20	178 46.6	+02.0	S 00 06.0	−00.2
21	193 48.6	+02.1	S 00 05.8	−00.2
22	208 50.7	+02.0	S 00 05.6	−00.1
23	223 52.7	+02.1	S 00 05.5	−00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	357°	357°	357°	357°	357°	357°

Greenwich Culmination Time: 08:06

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	272 49.1	+02.4	S 14 10.3	+00.0
01	287 51.5	+02.4	S 14 10.3	+00.0
02	302 53.9	+02.5	S 14 10.3	+00.0
03	317 56.4	+02.4	S 14 10.3	+00.0
04	332 58.8	+02.4	S 14 10.3	+00.0
05	348 01.2	+02.4	S 14 10.3	+00.0
06	3 03.6	+02.4	S 14 10.3	+00.0
07	18 06.0	+02.4	S 14 10.3	−00.1
08	33 08.4	+02.4	S 14 10.2	+00.0
09	48 10.8	+02.4	S 14 10.2	+00.0
10	63 13.2	+02.4	S 14 10.2	+00.0
11	78 15.6	+02.5	S 14 10.2	+00.0
12	93 18.1	+02.4	S 14 10.2	+00.0
13	108 20.5	+02.4	S 14 10.2	+00.0
14	123 22.9	+02.4	S 14 10.2	+00.0
15	138 25.3	+02.4	S 14 10.2	+00.0
16	153 27.7	+02.4	S 14 10.2	+00.0
17	168 30.1	+02.4	S 14 10.2	−00.1
18	183 32.5	+02.4	S 14 10.1	+00.0
19	198 34.9	+02.5	S 14 10.1	+00.0
20	213 37.4	+02.4	S 14 10.1	+00.0
21	228 39.8	+02.4	S 14 10.1	+00.0
22	243 42.2	+02.4	S 14 10.1	+00.0
23	258 44.6	+02.4	S 14 10.1	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:47

2022 May 28 Saturday (day 148 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 41.4	+00.0	N 21 25.3	+00.5
01	195 41.4	−00.1	N 21 25.8	+00.4
02	210 41.3	−00.1	N 21 26.2	+00.4
03	225 41.2	−00.1	N 21 26.6	+00.4
04	240 41.1	−00.1	N 21 27.0	+00.4
05	255 41.0	+00.0	N 21 27.4	+00.4
06	270 41.0	−00.1	N 21 27.8	+00.4
07	285 40.9	−00.1	N 21 28.2	+00.4
08	300 40.8	−00.1	N 21 28.6	+00.4
09	315 40.7	−00.1	N 21 29.0	+00.4
10	330 40.6	+00.0	N 21 29.4	+00.4
11	345 40.6	−00.1	N 21 29.8	+00.4
12	0 40.5	−00.1	N 21 30.2	+00.4
13	15 40.4	−00.1	N 21 30.6	+00.4
14	30 40.3	+00.0	N 21 31.0	+00.4
15	45 40.3	−00.1	N 21 31.4	+00.4
16	60 40.2	−00.1	N 21 31.8	+00.4
17	75 40.1	−00.1	N 21 32.2	+00.4
18	90 40.0	−00.1	N 21 32.6	+00.3
19	105 39.9	−00.1	N 21 32.9	+00.4
20	120 39.8	+00.0	N 21 33.3	+00.4
21	135 39.8	−00.1	N 21 33.7	+00.4
22	150 39.7	−00.1	N 21 34.1	+00.4
23	165 39.6	−00.1	N 21 34.5	+00.4

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	295°	295°	295°	295°	294°	294°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	217 34.7	−00.4	N 09 20.9	+01.0
01	232 34.3	−00.3	N 09 21.9	+01.1
02	247 34.0	−00.3	N 09 23.0	+01.0
03	262 33.7	−00.3	N 09 24.0	+01.0
04	277 33.4	−00.3	N 09 25.0	+01.0
05	292 33.1	−00.3	N 09 26.0	+01.0
06	307 32.8	−00.3	N 09 27.0	+01.1
07	322 32.5	−00.4	N 09 28.1	+01.0
08	337 32.1	−00.3	N 09 29.1	+01.0
09	352 31.8	−00.3	N 09 30.1	+01.0
10	7 31.5	−00.3	N 09 31.1	+01.0
11	22 31.2	−00.3	N 09 32.1	+01.0
12	37 30.9	−00.4	N 09 33.1	+01.1
13	52 30.5	−00.3	N 09 34.2	+01.0
14	67 30.2	−00.3	N 09 35.2	+01.0
15	82 29.9	−00.3	N 09 36.2	+01.0
16	97 29.6	−00.3	N 09 37.2	+01.0
17	112 29.3	−00.3	N 09 38.2	+01.0
18	127 29.0	−00.4	N 09 39.2	+01.0
19	142 28.6	−00.3	N 09 40.2	+01.1
20	157 28.3	−00.3	N 09 41.3	+01.0
21	172 28.0	−00.3	N 09 42.3	+01.0
22	187 27.7	−00.3	N 09 43.3	+01.0
23	202 27.4	−00.4	N 09 44.3	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	332°	332°	332°	331°	331°	331°

Greenwich Culmination Time: 09:29

Moon

A: 93%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	208 26.2	−26.6	N 13 20.9	+12.3
01	222 59.6	−26.6	N 13 33.2	+12.3
02	237 33.0	−26.6	N 13 45.5	+12.2
03	252 06.4	−26.7	N 13 57.7	+12.1
04	266 39.7	−26.7	N 14 09.8	+12.1
05	281 13.0	−26.7	N 14 21.9	+12.0
06	295 46.3	−26.8	N 14 33.9	+11.9
07	310 19.5	−26.8	N 14 45.8	+11.9
08	324 52.7	−26.8	N 14 57.7	+11.8
09	339 25.9	−26.9	N 15 09.5	+11.7
10	353 59.0	−27.0	N 15 21.2	+11.6
11	8 32.0	−26.9	N 15 32.8	+11.6
12	23 05.1	−27.0	N 15 44.4	+11.5
13	37 38.1	−27.1	N 15 55.9	+11.5
14	52 11.0	−27.1	N 16 07.4	+11.3
15	66 43.9	−27.1	N 16 18.7	+11.3
16	81 16.8	−27.2	N 16 30.0	+11.2
17	95 49.6	−27.2	N 16 41.2	+11.2
18	110 22.4	−27.3	N 16 52.4	+11.0
19	124 55.1	−27.3	N 17 03.4	+11.0
20	139 27.8	−27.3	N 17 14.4	+10.9
21	154 00.5	−27.4	N 17 25.3	+10.8
22	168 33.1	−27.4	N 17 36.1	+10.8
23	183 05.7	−27.5	N 17 46.9	+10.7

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	14′9	14′9	14′9
HP	55′1	55′0	54′9	54′9	54′8	54′7
SHA	322°	320°	318°	316°	314°	312°

Greenwich Culmination Time: 10:24

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	242 45.5	+00.7	S 00 41.6	−00.8
01	257 46.2	+00.8	S 00 40.8	−00.7
02	272 47.0	+00.7	S 00 40.1	−00.7
03	287 47.7	+00.8	S 00 39.4	−00.7
04	302 48.5	+00.7	S 00 38.7	−00.8
05	317 49.2	+00.8	S 00 37.9	−00.7
06	332 50.0	+00.7	S 00 37.2	−00.7
07	347 50.7	+00.8	S 00 36.5	−00.7
08	2 51.5	+00.7	S 00 35.8	−00.8
09	17 52.2	+00.8	S 00 35.0	−00.7
10	32 53.0	+00.7	S 00 34.3	−00.7
11	47 53.7	+00.8	S 00 33.6	−00.8
12	62 54.5	+00.8	S 00 32.8	−00.7
13	77 55.3	+00.7	S 00 32.1	−00.7
14	92 56.0	+00.8	S 00 31.4	−00.7
15	107 56.8	+00.7	S 00 30.7	−00.8
16	122 57.5	+00.8	S 00 29.9	−00.7
17	137 58.3	+00.7	S 00 29.2	−00.7
18	152 59.0	+00.8	S 00 28.5	−00.7
19	167 59.8	+00.7	S 00 27.8	−00.8
20	183 00.5	+00.8	S 00 27.0	−00.7
21	198 01.3	+00.7	S 00 26.3	−00.7
22	213 02.0	+00.8	S 00 25.6	−00.7
23	228 02.8	+00.8	S 00 24.9	−00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	357°	357°	357°	357°	357°	357°

Greenwich Culmination Time: 07:48

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	242 13.5	+02.1	N 00 10.2	+00.1
01	257 15.6	+02.1	N 00 10.3	+00.2
02	272 17.7	+02.1	N 00 10.5	+00.1
03	287 19.8	+02.0	N 00 10.6	+00.2
04	302 21.8	+02.1	N 00 10.8	+00.2
05	317 23.9	+02.1	N 00 11.0	+00.1
06	332 26.0	+02.1	N 00 11.1	+00.2
07	347 28.1	+02.1	N 00 11.3	+00.1
08	2 30.2	+02.0	N 00 11.4	+00.2
09	17 32.2	+02.1	N 00 11.6	+00.1
10	32 34.3	+02.1	N 00 11.7	+00.2
11	47 36.4	+02.1	N 00 11.9	+00.2
12	62 38.5	+02.1	N 00 12.1	+00.1
13	77 40.6	+02.0	N 00 12.2	+00.2
14	92 42.6	+02.1	N 00 12.4	+00.1
15	107 44.7	+02.1	N 00 12.5	+00.2
16	122 46.8	+02.1	N 00 12.7	+00.1
17	137 48.9	+02.1	N 00 12.8	+00.2
18	152 51.0	+02.1	N 00 13.0	+00.2
19	167 53.1	+02.0	N 00 13.2	+00.1
20	182 55.1	+02.1	N 00 13.3	+00.2
21	197 57.2	+02.1	N 00 13.5	+00.1
22	212 59.3	+02.1	N 00 13.6	+00.2
23	228 01.4	+02.1	N 00 13.8	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	357°	357°	357°	357°	357°	357°

Greenwich Culmination Time: 07:50

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	277 39.5	+02.4	S 14 09.5	+00.0
01	292 41.9	+02.5	S 14 09.5	+00.0
02	307 44.4	+02.4	S 14 09.5	+00.0
03	322 46.8	+02.4	S 14 09.5	+00.0
04	337 49.2	+02.5	S 14 09.5	+00.0
05	352 51.7	+02.4	S 14 09.5	+00.0
06	7 54.1	+02.4	S 14 09.5	+00.0
07	22 56.5	+02.5	S 14 09.5	−00.1
08	37 59.0	+02.4	S 14 09.4	+00.0
09	53 01.4	+02.4	S 14 09.4	+00.0
10	68 03.8	+02.5	S 14 09.4	+00.0
11	83 06.3	+02.4	S 14 09.4	+00.0
12	98 08.7	+02.4	S 14 09.4	+00.0
13	113 11.1	+02.5	S 14 09.4	+00.0
14	128 13.6	+02.4	S 14 09.4	+00.0
15	143 16.0	+02.4	S 14 09.4	+00.0
16	158 18.4	+02.4	S 14 09.4	+00.0
17	173 20.8	+02.5	S 14 09.4	+00.0
18	188 23.3	+02.4	S 14 09.4	+00.0
19	203 25.7	+02.4	S 14 09.4	+00.0
20	218 28.1	+02.5	S 14 09.4	+00.0
21	233 30.6	+02.4	S 14 09.4	+00.0
22	248 33.0	+02.4	S 14 09.4	+00.0
23	263 35.4	+02.5	S 14 09.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:28

2022 May 25 Wednesday (day 145 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 46.4	+00.0	N 20 54.4	+00.5
01	195 46.4	−00.1	N 20 54.9	+00.5
02	210 46.3	+00.0	N 20 55.4	+00.4
03	225 46.3	−00.1	N 20 55.8	+00.5
04	240 46.2	−00.1	N 20 56.3	+00.4
05	255 46.1	+00.0	N 20 56.7	+00.4
06	270 46.1	−00.1	N 20 57.1	+00.5
07	285 46.0	−00.1	N 20 57.6	+00.4
08	300 45.9	+00.0	N 20 58.0	+00.5
09	315 45.9	−00.1	N 20 58.5	+00.4
10	330 45.8	+00.0	N 20 58.9	+00.5
11	345 45.8	−00.1	N 20 59.4	+00.4
12	0 45.7	−00.1	N 20 59.8	+00.5
13	15 45.6	+00.0	N 21 00.3	+00.4
14	30 45.6	−00.1	N 21 00.7	+00.5
15	45 45.5	−00.1	N 21 01.2	+00.4
16	60 45.4	+00.0	N 21 01.6	+00.4
17	75 45.4	−00.1	N 21 02.0	+00.5
18	90 45.3	−00.1	N 21 02.5	+00.4
19	105 45.2	+00.0	N 21 02.9	+00.5
20	120 45.2	−00.1	N 21 03.4	+00.4
21	135 45.1	−00.1	N 21 03.8	+00.4
22	150 45.0	+00.0	N 21 04.2	+00.5
23	165 45.0	−00.1	N 21 04.7	+00.4

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	298°	298°	298°	298°	297°	297°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	217 56.4	−00.3	N 08 06.9	+01.0
01	232 56.1	−00.3	N 08 07.9	+01.1
02	247 55.8	−00.3	N 08 09.0	+01.0
03	262 55.5	−00.3	N 08 10.0	+01.0
04	277 55.2	−00.3	N 08 11.0	+01.1
05	292 54.9	−00.3	N 08 12.1	+01.0
06	307 54.6	−00.3	N 08 13.1	+01.0
07	322 54.3	−00.3	N 08 14.1	+01.1
08	337 54.0	−00.2	N 08 15.2	+01.0
09	352 53.8	−00.3	N 08 16.2	+01.0
10	7 53.5	−00.3	N 08 17.2	+01.1
11	22 53.2	−00.3	N 08 18.3	+01.0
12	37 52.9	−00.3	N 08 19.3	+01.0
13	52 52.6	−00.3	N 08 20.3	+01.1
14	67 52.3	−00.3	N 08 21.4	+01.0
15	82 52.0	−00.3	N 08 22.4	+01.0
16	97 51.7	−00.3	N 08 23.4	+01.1
17	112 51.4	−00.3	N 08 24.5	+01.0
18	127 51.1	−00.3	N 08 25.5	+01.0
19	142 50.8	−00.3	N 08 26.5	+01.1
20	157 50.5	−00.3	N 08 27.6	+01.0
21	172 50.2	−00.3	N 08 28.6	+01.0
22	187 49.9	−00.3	N 08 29.6	+01.1
23	202 49.6	−00.3	N 08 30.7	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	335°	335°	335°	335°	335°	334°

Greenwich Culmination Time: 09:28

Moon

A: 85%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	239 45.3	−26.6	S 03 16.7	−14.6
01	254 18.7	−26.4	S 03 02.1	−14.6
02	268 52.3	−26.5	S 02 47.5	−14.6
03	283 25.8	−26.4	S 02 32.9	−14.6
04	297 59.4	−26.3	S 02 18.3	−14.6
05	312 33.1	−26.4	S 02 03.7	−14.6
06	327 06.7	−26.3	S 01 49.1	−14.6
07	341 40.4	−26.2	S 01 34.5	−14.6
08	356 14.2	−26.3	S 01 19.9	−14.6
09	10 47.9	−26.2	S 01 05.3	−14.6
10	25 21.7	−26.2	S 00 50.7	−14.5
11	39 55.5	−26.1	S 00 36.2	−14.6
12	54 29.4	−26.2	S 00 21.6	−14.5
13	69 03.2	−26.1	S 00 07.1	−14.6
14	83 37.1	−26.1	N 00 07.5	+14.5
15	98 11.0	−26.0	N 00 22.0	+14.5
16	112 45.0	−26.1	N 00 36.5	+14.5
17	127 18.9	−26.0	N 00 51.0	+14.5
18	141 52.9	−26.0	N 01 05.5	+14.5
19	156 26.9	−26.0	N 01 20.0	+14.4
20	171 00.9	−26.0	N 01 34.4	+14.4
21	185 34.9	−26.0	N 01 48.8	+14.4
22	200 08.9	−25.9	N 02 03.2	+14.4
23	214 43.0	−25.9	N 02 17.6	+14.4

UT	02	06	10	14	18	22
SD	15′4	15′4	15′4	15′3	15′3	15′3
HP	56′6	56′5	56′4	56′3	56′2	56′1
SHA	356°	354°	352°	350°	349°	347°

Greenwich Culmination Time: 08:15

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	241 51.4	+00.8	S 01 33.9	−00.7
01	256 52.2	+00.7	S 01 33.2	−00.7
02	271 52.9	+00.8	S 01 32.5	−00.8
03	286 53.7	+00.7	S 01 31.7	−00.7
04	301 54.4	+00.8	S 01 31.0	−00.7
05	316 55.2	+00.7	S 01 30.3	−00.8
06	331 55.9	+00.8	S 01 29.5	−00.7
07	346 56.7	+00.7	S 01 28.8	−00.7
08	1 57.4	+00.7	S 01 28.1	−00.7
09	16 58.1	+00.8	S 01 27.4	−00.8
10	31 58.9	+00.7	S 01 26.6	−00.7
11	46 59.6	+00.8	S 01 25.9	−00.7
12	62 00.4	+00.7	S 01 25.2	−00.8
13	77 01.1	+00.8	S 01 24.4	−00.7
14	92 01.9	+00.7	S 01 23.7	−00.7
15	107 02.6	+00.8	S 01 23.0	−00.7
16	122 03.4	+00.7	S 01 22.3	−00.8
17	137 04.1	+00.8	S 01 21.5	−00.7
18	152 04.9	+00.7	S 01 20.8	−00.7
19	167 05.6	+00.8	S 01 20.1	−00.7
20	182 06.4	+00.7	S 01 19.4	−00.8
21	197 07.1	+00.8	S 01 18.6	−00.7
22	212 07.9	+00.7	S 01 17.9	−00.7
23	227 08.6	+00.8	S 01 17.2	−00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 07:52

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	239 44.3	+02.1	S 00 01.4	−00.2
01	254 46.4	+02.1	S 00 01.2	−00.2
02	269 48.5	+02.0	S 00 01.0	−00.1
03	284 50.5	+02.1	S 00 00.9	−00.2
04	299 52.6	+02.1	S 00 00.7	−00.2
05	314 54.7	+02.0	S 00 00.5	−00.1
06	329 56.7	+02.1	S 00 00.4	−00.2
07	344 58.8	+02.1	S 00 00.2	−00.1
08	0 00.9	+02.0	S 00 00.1	−00.2
09	15 02.9	+02.1	N 00 00.1	+00.2
10	30 05.0	+02.1	N 00 00.3	+00.1
11	45 07.1	+02.0	N 00 00.4	+00.2
12	60 09.1	+02.1	N 00 00.6	+00.2
13	75 11.2	+02.1	N 00 00.8	+00.1
14	90 13.3	+02.0	N 00 00.9	+00.2
15	105 15.3	+02.1	N 00 01.1	+00.1
16	120 17.4	+02.1	N 00 01.2	+00.2
17	135 19.5	+02.0	N 00 01.4	+00.2
18	150 21.5	+02.1	N 00 01.6	+00.1
19	165 23.6	+02.1	N 00 01.7	+00.2
20	180 25.7	+02.1	N 00 01.9	+00.2
21	195 27.8	+02.0	N 00 02.1	+00.1
22	210 29.8	+02.1	N 00 02.2	+00.2
23	225 31.9	+02.1	N 00 02.4	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	357°	357°	357°	357°	357°	357°

Greenwich Culmination Time: 07:59

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	274 45.0	+02.4	S 14 09.9	+00.0
01	289 47.4	+02.4	S 14 09.9	+00.0
02	304 49.8	+02.4	S 14 09.9	+00.0
03	319 52.2	+02.5	S 14 09.9	+00.0
04	334 54.7	+02.4	S 14 09.9	+00.0
05	349 57.1	+02.4	S 14 09.9	−00.1
06	4 59.5	+02.4	S 14 09.8	+00.0
07	20 01.9	+02.4	S 14 09.8	+00.0
08	35 04.3	+02.5	S 14 09.8	+00.0
09	50 06.8	+02.4	S 14 09.8	+00.0
10	65 09.2	+02.4	S 14 09.8	+00.0
11	80 11.6	+02.4	S 14 09.8	+00.0
12	95 14.0	+02.4	S 14 09.8	+00.0
13	110 16.4	+02.5	S 14 09.8	+00.0
14	125 18.9	+02.4	S 14 09.8	+00.0
15	140 21.3	+02.4	S 14 09.8	+00.0
16	155 23.7	+02.4	S 14 09.8	+00.0
17	170 26.1	+02.4	S 14 09.8	+00.0
18	185 28.5	+02.5	S 14 09.8	+00.0
19	200 31.0	+02.4	S 14 09.8	−00.1
20	215 33.4	+02.4	S 14 09.7	+00.0
21	230 35.8	+02.4	S 14 09.7	+00.0
22	245 38.2	+02.5	S 14 09.7	+00.0
23	260 40.7	+02.4	S 14 09.7	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:40

2022 May 26 Thursday (day 146 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 44.9	−00.1	N 21 05.1	+00.4
01	195 44.8	+00.0	N 21 05.5	+00.5
02	210 44.8	−00.1	N 21 06.0	+00.4
03	225 44.7	−00.1	N 21 06.4	+00.5
04	240 44.6	+00.0	N 21 06.9	+00.4
05	255 44.6	−00.1	N 21 07.3	+00.4
06	270 44.5	−00.1	N 21 07.7	+00.5
07	285 44.4	+00.0	N 21 08.2	+00.4
08	300 44.4	−00.1	N 21 08.6	+00.4
09	315 44.3	−00.1	N 21 09.0	+00.4
10	330 44.2	−00.1	N 21 09.4	+00.5
11	345 44.1	+00.0	N 21 09.9	+00.4
12	0 44.1	−00.1	N 21 10.3	+00.4
13	15 44.0	−00.1	N 21 10.7	+00.5
14	30 43.9	+00.0	N 21 11.2	+00.4
15	45 43.9	−00.1	N 21 11.6	+00.4
16	60 43.8	−00.1	N 21 12.0	+00.4
17	75 43.7	+00.0	N 21 12.4	+00.5
18	90 43.7	−00.1	N 21 12.9	+00.4
19	105 43.6	−00.1	N 21 13.3	+00.4
20	120 43.5	−00.1	N 21 13.7	+00.4
21	135 43.4	+00.0	N 21 14.1	+00.5
22	150 43.4	−00.1	N 21 14.6	+00.4
23	165 43.3	−00.1	N 21 15.0	+00.4

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	297°	297°	297°	297°	296°	296°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	217 49.3	−00.3	N 08 31.7	+01.0
01	232 49.0	−00.3	N 08 32.7	+01.1
02	247 48.7	−00.3	N 08 33.8	+01.0
03	262 48.4	−00.3	N 08 34.8	+01.0
04	277 48.1	−00.3	N 08 35.8	+01.0
05	292 47.8	−00.3	N 08 36.8	+01.1
06	307 47.5	−00.3	N 08 37.9	+01.0
07	322 47.2	−00.3	N 08 38.9	+01.0
08	337 46.9	−00.3	N 08 39.9	+01.1
09	352 46.6	−00.3	N 08 41.0	+01.0
10	7 46.3	−00.3	N 08 42.0	+01.0
11	22 46.0	−00.3	N 08 43.0	+01.1
12	37 45.7	−00.3	N 08 44.1	+01.0
13	52 45.4	−00.3	N 08 45.1	+01.0
14	67 45.1	−00.3	N 08 46.1	+01.0
15	82 44.8	−00.3	N 08 47.1	+01.1
16	97 44.5	−00.3	N 08 48.2	+01.0
17	112 44.2	−00.3	N 08 49.2	+01.0
18	127 43.9	−00.3	N 08 50.2	+01.0
19	142 43.6	−00.3	N 08 51.2	+01.1
20	157 43.3	−00.3	N 08 52.3	+01.0
21	172 43.0	−00.3	N 08 53.3	+01.0
22	187 42.7	−00.3	N 08 54.3	+01.1
23	202 42.4	−00.3	N 08 55.4	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	334°	334°	334°	334°	333°	333°

Greenwich Culmination Time: 09:28

Moon

A: 87%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	229 17.1	−26.0	N 02 32.0	+14.4
01	243 51.1	−25.9	N 02 46.4	+14.3
02	258 25.2	−25.9	N 03 00.7	+14.3
03	272 59.3	−25.9	N 03 15.0	+14.3
04	287 33.4	−25.9	N 03 29.3	+14.2
05	302 07.5	−25.9	N 03 43.5	+14.3
06	316 41.6	−25.9	N 03 57.8	+14.2
07	331 15.7	−25.8	N 04 12.0	+14.1
08	345 49.9	−25.9	N 04 26.1	+14.2
09	0 24.0	−25.9	N 04 40.3	+14.1
10	14 58.1	−25.9	N 04 54.4	+14.1
11	29 32.2	−25.8	N 05 08.5	+14.1
12	44 06.4	−25.9	N 05 22.6	+14.0
13	58 40.5	−25.9	N 05 36.6	+14.0
14	73 14.6	−25.9	N 05 50.6	+13.9
15	87 48.7	−25.9	N 06 04.5	+14.0
16	102 22.8	−25.9	N 06 18.5	+13.9
17	116 56.9	−25.9	N 06 32.4	+13.8
18	131 31.0	−25.9	N 06 46.2	+13.8
19	146 05.1	−25.9	N 07 00.0	+13.8
20	160 39.2	−25.9	N 07 13.8	+13.7
21	175 13.3	−26.0	N 07 27.5	+13.7
22	189 47.3	−25.9	N 07 41.2	+13.7
23	204 21.4	−26.0	N 07 54.9	+13.6

UT	02	06	10	14	18	22
SD	15′3	15′2	15′2	15′2	15′2	15′1
HP	56′0	55′9	55′8	55′8	55′7	55′6
SHA	345°	343°	341°	339°	337°	335°

Greenwich Culmination Time: 08:58

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	242 09.4	+00.7	S 01 16.4	−00.7
01	257 10.1	+00.8	S 01 15.7	−00.7
02	272 10.9	+00.7	S 01 15.0	−00.7
03	287 11.6	+00.8	S 01 14.3	−00.8
04	302 12.4	+00.7	S 01 13.5	−00.7
05	317 13.1	+00.8	S 01 12.8	−00.7
06	332 13.9	+00.7	S 01 12.1	−00.7
07	347 14.6	+00.8	S 01 11.4	−00.8
08	2 15.4	+00.7	S 01 10.6	−00.7
09	17 16.1	+00.8	S 01 09.9	−00.7
10	32 16.9	+00.7	S 01 09.2	−00.8
11	47 17.6	+00.8	S 01 08.4	−00.7
12	62 18.4	+00.7	S 01 07.7	−00.7
13	77 19.1	+00.8	S 01 07.0	−00.7
14	92 19.9	+00.7	S 01 06.3	−00.8
15	107 20.6	+00.8	S 01 05.5	−00.7
16	122 21.4	+00.7	S 01 04.8	−00.7
17	137 22.1	+00.8	S 01 04.1	−00.7
18	152 22.9	+00.7	S 01 03.4	−00.8
19	167 23.6	+00.8	S 01 02.6	−00.7
20	182 24.4	+00.7	S 01 01.9	−00.7
21	197 25.1	+00.8	S 01 01.2	−00.8
22	212 25.9	+00.7	S 01 00.4	−00.7
23	227 26.6	+00.8	S 00 59.7	−00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	359°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 07:50

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	240 34.0	+02.0	N 00 02.5	+00.2
01	255 36.0	+02.1	N 00 02.7	+00.2
02	270 38.1	+02.1	N 00 02.9	+00.1
03	285 40.2	+02.0	N 00 03.0	+00.2
04	300 42.2	+02.1	N 00 03.2	+00.1
05	315 44.3	+02.1	N 00 03.3	+00.2
06	330 46.4	+02.1	N 00 03.5	+00.2
07	345 48.5	+02.0	N 00 03.7	+00.1
08	0 50.5	+02.1	N 00 03.8	+00.2
09	15 52.6	+02.1	N 00 04.0	+00.1
10	30 54.7	+02.0	N 00 04.1	+00.2
11	45 56.7	+02.1	N 00 04.3	+00.2
12	60 58.8	+02.1	N 00 04.5	+00.1
13	76 00.9	+02.1	N 00 04.6	+00.2
14	91 03.0	+02.0	N 00 04.8	+00.1
15	106 05.0	+02.1	N 00 04.9	+00.2
16	121 07.1	+02.1	N 00 05.1	+00.2
17	136 09.2	+02.1	N 00 05.3	+00.1
18	151 11.3	+02.0	N 00 05.4	+00.2
19	166 13.3	+02.1	N 00 05.6	+00.1
20	181 15.4	+02.1	N 00 05.7	+00.2
21	196 17.5	+02.0	N 00 05.9	+00.2
22	211 19.5	+02.1	N 00 06.1	+00.1
23	226 21.6	+02.1	N 00 06.2	+00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	357°	357°	357°	357°	357°	357°

Greenwich Culmination Time: 07:56

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	275 43.1	+02.4	S 14 09.7	+00.0
01	290 45.5	+02.4	S 14 09.7	+00.0
02	305 47.9	+02.4	S 14 09.7	+00.0
03	320 50.3	+02.5	S 14 09.7	+00.0
04	335 52.8	+02.4	S 14 09.7	+00.0
05	350 55.2	+02.4	S 14 09.7	+00.0
06	5 57.6	+02.4	S 14 09.7	+00.0
07	21 00.0	+02.5	S 14 09.7	+00.0
08	36 02.5	+02.4	S 14 09.7	+00.0
09	51 04.9	+02.4	S 14 09.7	+00.0
10	66 07.3	+02.4	S 14 09.7	+00.0
11	81 09.7	+02.4	S 14 09.7	−00.1
12	96 12.1	+02.5	S 14 09.6	+00.0
13	111 14.6	+02.4	S 14 09.6	+00.0
14	126 17.0	+02.4	S 14 09.6	+00.0
15	141 19.4	+02.4	S 14 09.6	+00.0
16	156 21.8	+02.5	S 14 09.6	+00.0
17	171 24.3	+02.4	S 14 09.6	+00.0
18	186 26.7	+02.4	S 14 09.6	+00.0
19	201 29.1	+02.4	S 14 09.6	+00.0
20	216 31.5	+02.5	S 14 09.6	+00.0
21	231 34.0	+02.4	S 14 09.6	+00.0
22	246 36.4	+02.4	S 14 09.6	+00.0
23	261 38.8	+02.4	S 14 09.6	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:36

2022 May 27 Friday (day 147 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 43.2	+00.0	N 21 15.4	+00.4
01	195 43.2	−00.1	N 21 15.8	+00.5
02	210 43.1	−00.1	N 21 16.3	+00.4
03	225 43.0	−00.1	N 21 16.7	+00.4
04	240 42.9	+00.0	N 21 17.1	+00.4
05	255 42.9	−00.1	N 21 17.5	+00.4
06	270 42.8	−00.1	N 21 17.9	+00.4
07	285 42.7	−00.1	N 21 18.3	+00.5
08	300 42.6	+00.0	N 21 18.8	+00.4
09	315 42.6	−00.1	N 21 19.2	+00.4
10	330 42.5	−00.1	N 21 19.6	+00.4
11	345 42.4	−00.1	N 21 20.0	+00.4
12	0 42.3	+00.0	N 21 20.4	+00.4
13	15 42.3	−00.1	N 21 20.8	+00.5
14	30 42.2	−00.1	N 21 21.3	+00.4
15	45 42.1	−00.1	N 21 21.7	+00.4
16	60 42.0	+00.0	N 21 22.1	+00.4
17	75 42.0	−00.1	N 21 22.5	+00.4
18	90 41.9	−00.1	N 21 22.9	+00.4
19	105 41.8	−00.1	N 21 23.3	+00.4
20	120 41.7	+00.0	N 21 23.7	+00.4
21	135 41.7	−00.1	N 21 24.1	+00.4
22	150 41.6	−00.1	N 21 24.5	+00.4
23	165 41.5	−00.1	N 21 24.9	+00.4

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	296°	296°	296°	296°	295°	295°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	217 42.1	−00.3	N 08 56.4	+01.0
01	232 41.8	−00.3	N 08 57.4	+01.0
02	247 41.5	−00.3	N 08 58.4	+01.1
03	262 41.2	−00.3	N 08 59.5	+01.0
04	277 40.9	−00.4	N 09 00.5	+01.0
05	292 40.5	−00.3	N 09 01.5	+01.0
06	307 40.2	−00.3	N 09 02.5	+01.1
07	322 39.9	−00.3	N 09 03.6	+01.0
08	337 39.6	−00.3	N 09 04.6	+01.0
09	352 39.3	−00.3	N 09 05.6	+01.0
10	7 39.0	−00.3	N 09 06.6	+01.0
11	22 38.7	−00.3	N 09 07.6	+01.1
12	37 38.4	−00.3	N 09 08.7	+01.0
13	52 38.1	−00.3	N 09 09.7	+01.0
14	67 37.8	−00.3	N 09 10.7	+01.0
15	82 37.5	−00.4	N 09 11.7	+01.1
16	97 37.1	−00.3	N 09 12.8	+01.0
17	112 36.8	−00.3	N 09 13.8	+01.0
18	127 36.5	−00.3	N 09 14.8	+01.0
19	142 36.2	−00.3	N 09 15.8	+01.0
20	157 35.9	−00.3	N 09 16.8	+01.1
21	172 35.6	−00.3	N 09 17.9	+01.0
22	187 35.3	−00.3	N 09 18.9	+01.0
23	202 35.0	−00.3	N 09 19.9	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	333°	333°	333°	333°	332°	332°

Greenwich Culmination Time: 09:29

Moon

A: 90%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	218 55.4	−26.0	N 08 08.5	+13.6
01	233 29.4	−26.0	N 08 22.1	+13.5
02	248 03.4	−26.0	N 08 35.6	+13.5
03	262 37.4	−26.0	N 08 49.1	+13.5
04	277 11.4	−26.0	N 09 02.6	+13.4
05	291 45.4	−26.1	N 09 16.0	+13.3
06	306 19.3	−26.1	N 09 29.3	+13.4
07	320 53.2	−26.1	N 09 42.7	+13.2
08	335 27.1	−26.1	N 09 55.9	+13.2
09	350 01.0	−26.1	N 10 09.1	+13.2
10	4 34.9	−26.2	N 10 22.3	+13.1
11	19 08.7	−26.2	N 10 35.4	+13.1
12	33 42.5	−26.2	N 10 48.5	+13.0
13	48 16.3	−26.2	N 11 01.5	+12.9
14	62 50.1	−26.3	N 11 14.4	+12.9
15	77 23.8	−26.3	N 11 27.3	+12.9
16	91 57.5	−26.3	N 11 40.2	+12.8
17	106 31.2	−26.3	N 11 53.0	+12.7
18	121 04.9	−26.4	N 12 05.7	+12.7
19	135 38.5	−26.4	N 12 18.4	+12.6
20	150 12.1	−26.4	N 12 31.0	+12.6
21	164 45.7	−26.5	N 12 43.6	+12.5
22	179 19.2	−26.5	N 12 56.1	+12.4
23	193 52.7	−26.5	N 13 08.5	+12.4

UT	02	06	10	14	18	22
SD	15′1	15′1	15′1	15′1	15′0	15′0
HP	55′5	55′4	55′3	55′3	55′2	55′1
SHA	333°	332°	330°	328°	326°	324°

Greenwich Culmination Time: 09:41

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	242 27.4	+00.8	S 00 59.0	−00.7
01	257 28.2	+00.7	S 00 58.3	−00.8
02	272 28.9	+00.8	S 00 57.5	−00.7
03	287 29.7	+00.7	S 00 56.8	−00.7
04	302 30.4	+00.8	S 00 56.1	−00.7
05	317 31.2	+00.7	S 00 55.4	−00.8
06	332 31.9	+00.8	S 00 54.6	−00.7
07	347 32.7	+00.7	S 00 53.9	−00.7
08	2 33.4	+00.8	S 00 53.2	−00.7
09	17 34.2	+00.7	S 00 52.5	−00.8
10	32 34.9	+00.8	S 00 51.7	−00.7
11	47 35.7	+00.7	S 00 51.0	−00.7
12	62 36.4	+00.8	S 00 50.3	−00.8
13	77 37.2	+00.7	S 00 49.5	−00.7
14	92 37.9	+00.8	S 00 48.8	−00.7
15	107 38.7	+00.7	S 00 48.1	−00.7
16	122 39.4	+00.8	S 00 47.4	−00.8
17	137 40.2	+00.7	S 00 46.6	−00.7
18	152 40.9	+00.8	S 00 45.9	−00.7
19	167 41.7	+00.7	S 00 45.2	−00.7
20	182 42.4	+00.8	S 00 44.5	−00.8
21	197 43.2	+00.7	S 00 43.7	−00.7
22	212 43.9	+00.8	S 00 43.0	−00.7
23	227 44.7	+00.8	S 00 42.3	−00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	358°	358°	358°	358°	357°	357°

Greenwich Culmination Time: 07:49

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	241 23.7	+02.1	N 00 06.4	+00.1
01	256 25.8	+02.0	N 00 06.5	+00.2
02	271 27.8	+02.1	N 00 06.7	+00.2
03	286 29.9	+02.1	N 00 06.9	+00.1
04	301 32.0	+02.1	N 00 07.0	+00.2
05	316 34.1	+02.0	N 00 07.2	+00.1
06	331 36.1	+02.1	N 00 07.3	+00.2
07	346 38.2	+02.1	N 00 07.5	+00.2
08	1 40.3	+02.1	N 00 07.7	+00.1
09	16 42.4	+02.0	N 00 07.8	+00.2
10	31 44.4	+02.1	N 00 08.0	+00.1
11	46 46.5	+02.1	N 00 08.1	+00.2
12	61 48.6	+02.1	N 00 08.3	+00.1
13	76 50.7	+02.1	N 00 08.4	+00.2
14	91 52.8	+02.0	N 00 08.6	+00.2
15	106 54.8	+02.1	N 00 08.8	+00.1
16	121 56.9	+02.1	N 00 08.9	+00.2
17	136 59.0	+02.1	N 00 09.1	+00.1
18	152 01.1	+02.0	N 00 09.2	+00.2
19	167 03.1	+02.1	N 00 09.4	+00.1
20	182 05.2	+02.1	N 00 09.5	+00.2
21	197 07.3	+02.1	N 00 09.7	+00.2
22	212 09.4	+02.0	N 00 09.9	+00.1
23	227 11.4	+02.1	N 00 10.0	+00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	357°	357°	357°	357°	357°	357°

Greenwich Culmination Time: 07:53

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	276 41.2	+02.5	S 14 09.6	+00.0
01	291 43.7	+02.4	S 14 09.6	+00.0
02	306 46.1	+02.4	S 14 09.6	+00.0
03	321 48.5	+02.5	S 14 09.6	+00.0
04	336 51.0	+02.4	S 14 09.6	+00.0
05	351 53.4	+02.4	S 14 09.6	+00.0
06	6 55.8	+02.4	S 14 09.6	−00.1
07	21 58.2	+02.5	S 14 09.5	+00.0
08	37 00.7	+02.4	S 14 09.5	+00.0
09	52 03.1	+02.4	S 14 09.5	+00.0
10	67 05.5	+02.4	S 14 09.5	+00.0
11	82 07.9	+02.5	S 14 09.5	+00.0
12	97 10.4	+02.4	S 14 09.5	+00.0
13	112 12.8	+02.4	S 14 09.5	+00.0
14	127 15.2	+02.5	S 14 09.5	+00.0
15	142 17.7	+02.4	S 14 09.5	+00.0
16	157 20.1	+02.4	S 14 09.5	+00.0
17	172 22.5	+02.4	S 14 09.5	+00.0
18	187 24.9	+02.5	S 14 09.5	+00.0
19	202 27.4	+02.4	S 14 09.5	+00.0
20	217 29.8	+02.4	S 14 09.5	+00.0
21	232 32.2	+02.5	S 14 09.5	+00.0
22	247 34.7	+02.4	S 14 09.5	+00.0
23	262 37.1	+02.4	S 14 09.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:32

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 June 1 Wednesday (day 152 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 33.1	−00.1	N 22 01.3	+00.4
01	195 33.0	−00.1	N 22 01.7	+00.3
02	210 32.9	−00.1	N 22 02.0	+00.4
03	225 32.8	−00.1	N 22 02.4	+00.3
04	240 32.7	−00.1	N 22 02.7	+00.3
05	255 32.6	+00.0	N 22 03.0	+00.4
06	270 32.6	−00.1	N 22 03.4	+00.3
07	285 32.5	−00.1	N 22 03.7	+00.4
08	300 32.4	−00.1	N 22 04.1	+00.3
09	315 32.3	−00.1	N 22 04.4	+00.3
10	330 32.2	−00.1	N 22 04.7	+00.4
11	345 32.1	−00.1	N 22 05.1	+00.3
12	0 32.0	−00.1	N 22 05.4	+00.3
13	15 31.9	−00.1	N 22 05.7	+00.4
14	30 31.8	−00.1	N 22 06.1	+00.3
15	45 31.7	−00.1	N 22 06.4	+00.3
16	60 31.6	−00.1	N 22 06.7	+00.4
17	75 31.5	−00.1	N 22 07.1	+00.3
18	90 31.4	−00.1	N 22 07.4	+00.3
19	105 31.3	−00.1	N 22 07.7	+00.4
20	120 31.2	−00.1	N 22 08.1	+00.3
21	135 31.1	−00.1	N 22 08.4	+00.3
22	150 31.0	−00.1	N 22 08.7	+00.4
23	165 30.9	−00.1	N 22 09.1	+00.3

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	291°	291°	291°	290°	290°	290°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	217 03.0	−00.4	N 10 57.5	+01.0
01	232 02.6	−00.3	N 10 58.5	+01.0
02	247 02.3	−00.4	N 10 59.5	+01.0
03	262 01.9	−00.3	N 11 00.5	+00.9
04	277 01.6	−00.4	N 11 01.4	+01.0
05	292 01.2	−00.3	N 11 02.4	+01.0
06	307 00.9	−00.4	N 11 03.4	+01.0
07	322 00.5	−00.3	N 11 04.4	+01.0
08	337 00.2	−00.4	N 11 05.4	+01.0
09	351 59.8	−00.3	N 11 06.4	+01.0
10	6 59.5	−00.4	N 11 07.4	+01.0
11	21 59.1	−00.3	N 11 08.4	+00.9
12	36 58.8	−00.4	N 11 09.3	+01.0
13	51 58.4	−00.3	N 11 10.3	+01.0
14	66 58.1	−00.4	N 11 11.3	+01.0
15	81 57.7	−00.3	N 11 12.3	+01.0
16	96 57.4	−00.4	N 11 13.3	+01.0
17	111 57.0	−00.3	N 11 14.3	+01.0
18	126 56.7	−00.4	N 11 15.3	+00.9
19	141 56.3	−00.4	N 11 16.2	+01.0
20	156 55.9	−00.3	N 11 17.2	+01.0
21	171 55.6	−00.4	N 11 18.2	+01.0
22	186 55.2	−00.3	N 11 19.2	+01.0
23	201 54.9	−00.4	N 11 20.2	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	327°	327°	327°	327°	327°	327°

Greenwich Culmination Time: 09:32

Moon

A: 06%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	162 39.5	−30.5	N 26 23.8	+02.9
01	177 09.0	−30.5	N 26 26.7	+02.7
02	191 38.5	−30.5	N 26 29.4	+02.5
03	206 08.0	−30.6	N 26 31.9	+02.5
04	220 37.4	−30.6	N 26 34.4	+02.3
05	235 06.8	−30.5	N 26 36.7	+02.2
06	249 36.3	−30.6	N 26 38.9	+02.0
07	264 05.7	−30.7	N 26 40.9	+02.0
08	278 35.0	−30.6	N 26 42.9	+01.8
09	293 04.4	−30.6	N 26 44.7	+01.7
10	307 33.8	−30.7	N 26 46.4	+01.5
11	322 03.1	−30.6	N 26 47.9	+01.4
12	336 32.5	−30.7	N 26 49.3	+01.3
13	351 01.8	−30.6	N 26 50.6	+01.2
14	5 31.2	−30.7	N 26 51.8	+01.0
15	20 00.5	−30.7	N 26 52.8	+00.9
16	34 29.8	−30.7	N 26 53.7	+00.8
17	48 59.1	−30.7	N 26 54.5	+00.7
18	63 28.4	−30.7	N 26 55.2	+00.5
19	77 57.7	−30.6	N 26 55.7	+00.4
20	92 27.1	−30.7	N 26 56.1	+00.2
21	106 56.4	−30.7	N 26 56.3	+00.1
22	121 25.7	−30.7	N 26 56.4	+00.0
23	135 55.0	−30.7	N 26 56.4	−00.1

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	54′0	54′0	54′0	54′0	54′0	54′0
SHA	272°	270°	268°	265°	263°	261°

Greenwich Culmination Time: 13:37

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	243 58.1	+00.7	N 00 28.0	+00.7
01	258 58.8	+00.8	N 00 28.7	+00.7
02	273 59.6	+00.8	N 00 29.4	+00.7
03	289 00.4	+00.7	N 00 30.1	+00.8
04	304 01.1	+00.8	N 00 30.9	+00.7
05	319 01.9	+00.7	N 00 31.6	+00.7
06	334 02.6	+00.8	N 00 32.3	+00.7
07	349 03.4	+00.8	N 00 33.0	+00.7
08	4 04.2	+00.7	N 00 33.7	+00.8
09	19 04.9	+00.8	N 00 34.5	+00.7
10	34 05.7	+00.7	N 00 35.2	+00.7
11	49 06.4	+00.8	N 00 35.9	+00.7
12	64 07.2	+00.8	N 00 36.6	+00.8
13	79 08.0	+00.7	N 00 37.4	+00.7
14	94 08.7	+00.8	N 00 38.1	+00.7
15	109 09.5	+00.7	N 00 38.8	+00.7
16	124 10.2	+00.8	N 00 39.5	+00.7
17	139 11.0	+00.8	N 00 40.2	+00.8
18	154 11.8	+00.7	N 00 41.0	+00.7
19	169 12.5	+00.8	N 00 41.7	+00.7
20	184 13.3	+00.7	N 00 42.4	+00.7
21	199 14.0	+00.8	N 00 43.1	+00.7
22	214 14.8	+00.8	N 00 43.8	+00.8
23	229 15.6	+00.7	N 00 44.6	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 07:43

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	245 33.9	+02.1	N 00 24.9	+00.1
01	260 36.0	+02.1	N 00 25.0	+00.2
02	275 38.1	+02.1	N 00 25.2	+00.1
03	290 40.2	+02.1	N 00 25.3	+00.2
04	305 42.3	+02.1	N 00 25.5	+00.1
05	320 44.4	+02.1	N 00 25.6	+00.2
06	335 46.5	+02.1	N 00 25.8	+00.1
07	350 48.6	+02.1	N 00 25.9	+00.2
08	5 50.7	+02.1	N 00 26.1	+00.1
09	20 52.8	+02.1	N 00 26.2	+00.2
10	35 54.9	+02.1	N 00 26.4	+00.1
11	50 57.0	+02.1	N 00 26.5	+00.2
12	65 59.1	+02.1	N 00 26.7	+00.1
13	81 01.2	+02.1	N 00 26.8	+00.2
14	96 03.3	+02.1	N 00 27.0	+00.1
15	111 05.4	+02.1	N 00 27.1	+00.2
16	126 07.5	+02.1	N 00 27.3	+00.1
17	141 09.6	+02.1	N 00 27.4	+00.2
18	156 11.7	+02.1	N 00 27.6	+00.1
19	171 13.8	+02.1	N 00 27.7	+00.1
20	186 15.9	+02.1	N 00 27.8	+00.2
21	201 18.0	+02.1	N 00 28.0	+00.1
22	216 20.1	+02.1	N 00 28.1	+00.2
23	231 22.2	+02.1	N 00 28.3	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	356°	356°	356°	356°	356°

Greenwich Culmination Time: 07:36

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	281 33.6	+02.4	S 14 09.4	+00.0
01	296 36.0	+02.4	S 14 09.4	+00.0
02	311 38.4	+02.5	S 14 09.4	+00.0
03	326 40.9	+02.4	S 14 09.4	+00.0
04	341 43.3	+02.5	S 14 09.4	+00.0
05	356 45.8	+02.4	S 14 09.4	+00.0
06	11 48.2	+02.5	S 14 09.4	+00.0
07	26 50.7	+02.4	S 14 09.4	+00.0
08	41 53.1	+02.5	S 14 09.4	+00.0
09	56 55.6	+02.4	S 14 09.4	+00.0
10	71 58.0	+02.5	S 14 09.4	+00.0
11	87 00.5	+02.4	S 14 09.4	+00.0
12	102 02.9	+02.5	S 14 09.4	+00.0
13	117 05.4	+02.4	S 14 09.4	+00.0
14	132 07.8	+02.5	S 14 09.4	+00.0
15	147 10.3	+02.4	S 14 09.4	+00.0
16	162 12.7	+02.5	S 14 09.4	+00.0
17	177 15.2	+02.4	S 14 09.4	+00.0
18	192 17.6	+02.5	S 14 09.4	+00.0
19	207 20.1	+02.4	S 14 09.4	+00.0
20	222 22.5	+02.5	S 14 09.4	+00.0
21	237 25.0	+02.4	S 14 09.4	+00.0
22	252 27.4	+02.5	S 14 09.4	+00.0
23	267 29.9	+02.4	S 14 09.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:12

2022 May 29 Sunday (day 149 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 39.5	−00.1	N 21 34.9	+00.4
01	195 39.4	+00.0	N 21 35.3	+00.4
02	210 39.4	−00.1	N 21 35.7	+00.4
03	225 39.3	−00.1	N 21 36.1	+00.4
04	240 39.2	−00.1	N 21 36.5	+00.4
05	255 39.1	−00.1	N 21 36.9	+00.3
06	270 39.0	−00.1	N 21 37.2	+00.4
07	285 38.9	+00.0	N 21 37.6	+00.4
08	300 38.9	−00.1	N 21 38.0	+00.4
09	315 38.8	−00.1	N 21 38.4	+00.4
10	330 38.7	−00.1	N 21 38.8	+00.4
11	345 38.6	−00.1	N 21 39.2	+00.3
12	0 38.5	−00.1	N 21 39.5	+00.4
13	15 38.4	+00.0	N 21 39.9	+00.4
14	30 38.4	−00.1	N 21 40.3	+00.4
15	45 38.3	−00.1	N 21 40.7	+00.4
16	60 38.2	−00.1	N 21 41.1	+00.4
17	75 38.1	−00.1	N 21 41.5	+00.3
18	90 38.0	−00.1	N 21 41.8	+00.4
19	105 37.9	−00.1	N 21 42.2	+00.4
20	120 37.8	+00.0	N 21 42.6	+00.4
21	135 37.8	−00.1	N 21 43.0	+00.3
22	150 37.7	−00.1	N 21 43.3	+00.4
23	165 37.6	−00.1	N 21 43.7	+00.4

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	294°	294°	294°	294°	293°	293°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	217 27.0	−00.3	N 09 45.3	+01.0
01	232 26.7	−00.3	N 09 46.3	+01.0
02	247 26.4	−00.3	N 09 47.3	+01.1
03	262 26.1	−00.4	N 09 48.4	+01.0
04	277 25.7	−00.3	N 09 49.4	+01.0
05	292 25.4	−00.3	N 09 50.4	+01.0
06	307 25.1	−00.3	N 09 51.4	+01.0
07	322 24.8	−00.4	N 09 52.4	+01.0
08	337 24.4	−00.3	N 09 53.4	+01.0
09	352 24.1	−00.3	N 09 54.4	+01.0
10	7 23.8	−00.3	N 09 55.4	+01.0
11	22 23.5	−00.4	N 09 56.4	+01.1
12	37 23.1	−00.3	N 09 57.5	+01.0
13	52 22.8	−00.3	N 09 58.5	+01.0
14	67 22.5	−00.3	N 09 59.5	+01.0
15	82 22.2	−00.4	N 10 00.5	+01.0
16	97 21.8	−00.3	N 10 01.5	+01.0
17	112 21.5	−00.3	N 10 02.5	+01.0
18	127 21.2	−00.3	N 10 03.5	+01.0
19	142 20.9	−00.4	N 10 04.5	+01.0
20	157 20.5	−00.3	N 10 05.5	+01.0
21	172 20.2	−00.3	N 10 06.5	+01.0
22	187 19.9	−00.4	N 10 07.5	+01.0
23	202 19.5	−00.3	N 10 08.5	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	331°	331°	330°	330°	330°	330°

Greenwich Culmination Time: 09:30

Moon

A: 96%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	197 38.2	−27.6	N 17 57.6	+10.5
01	212 10.6	−27.5	N 18 08.1	+10.5
02	226 43.1	−27.6	N 18 18.6	+10.5
03	241 15.5	−27.7	N 18 29.1	+10.3
04	255 47.8	−27.7	N 18 39.4	+10.2
05	270 20.1	−27.8	N 18 49.6	+10.2
06	284 52.3	−27.8	N 18 59.8	+10.1
07	299 24.5	−27.9	N 19 09.9	+10.0
08	313 56.6	−27.9	N 19 19.9	+09.9
09	328 28.7	−27.9	N 19 29.8	+09.8
10	343 00.8	−28.0	N 19 39.6	+09.7
11	357 32.8	−28.1	N 19 49.3	+09.6
12	12 04.7	−28.1	N 19 58.9	+09.5
13	26 36.6	−28.1	N 20 08.4	+09.5
14	41 08.5	−28.2	N 20 17.9	+09.3
15	55 40.3	−28.2	N 20 27.2	+09.3
16	70 12.1	−28.3	N 20 36.5	+09.2
17	84 43.8	−28.4	N 20 45.7	+09.0
18	99 15.4	−28.4	N 20 54.7	+09.0
19	113 47.0	−28.4	N 21 03.7	+08.9
20	128 18.6	−28.5	N 21 12.6	+08.8
21	142 50.1	−28.5	N 21 21.4	+08.6
22	157 21.6	−28.6	N 21 30.0	+08.6
23	171 53.0	−28.6	N 21 38.6	+08.5

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	14′8	14′8
HP	54′7	54′6	54′6	54′5	54′5	54′4
SHA	310°	308°	306°	304°	302°	300°

Greenwich Culmination Time: 11:10

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	243 03.6	+00.7	S 00 24.1	−00.7
01	258 04.3	+00.8	S 00 23.4	−00.7
02	273 05.1	+00.7	S 00 22.7	−00.7
03	288 05.8	+00.8	S 00 22.0	−00.8
04	303 06.6	+00.7	S 00 21.2	−00.7
05	318 07.3	+00.8	S 00 20.5	−00.7
06	333 08.1	+00.7	S 00 19.8	−00.7
07	348 08.8	+00.8	S 00 19.1	−00.8
08	3 09.6	+00.7	S 00 18.3	−00.7
09	18 10.3	+00.8	S 00 17.6	−00.7
10	33 11.1	+00.8	S 00 16.9	−00.7
11	48 11.9	+00.7	S 00 16.2	−00.8
12	63 12.6	+00.8	S 00 15.4	−00.7
13	78 13.4	+00.7	S 00 14.7	−00.7
14	93 14.1	+00.8	S 00 14.0	−00.7
15	108 14.9	+00.7	S 00 13.3	−00.8
16	123 15.6	+00.8	S 00 12.5	−00.7
17	138 16.4	+00.7	S 00 11.8	−00.7
18	153 17.1	+00.8	S 00 11.1	−00.7
19	168 17.9	+00.8	S 00 10.4	−00.8
20	183 18.7	+00.7	S 00 09.6	−00.7
21	198 19.4	+00.8	S 00 08.9	−00.7
22	213 20.2	+00.7	S 00 08.2	−00.7
23	228 20.9	+00.8	S 00 07.5	−00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	357°	356°	356°	356°	356°	356°

Greenwich Culmination Time: 07:47

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	243 03.5	+02.0	N 00 13.9	+00.2
01	258 05.5	+02.1	N 00 14.1	+00.1
02	273 07.6	+02.1	N 00 14.2	+00.2
03	288 09.7	+02.1	N 00 14.4	+00.1
04	303 11.8	+02.1	N 00 14.5	+00.2
05	318 13.9	+02.1	N 00 14.7	+00.2
06	333 16.0	+02.0	N 00 14.9	+00.1
07	348 18.0	+02.1	N 00 15.0	+00.2
08	3 20.1	+02.1	N 00 15.2	+00.1
09	18 22.2	+02.1	N 00 15.3	+00.2
10	33 24.3	+02.1	N 00 15.5	+00.1
11	48 26.4	+02.1	N 00 15.6	+00.2
12	63 28.5	+02.1	N 00 15.8	+00.1
13	78 30.6	+02.0	N 00 15.9	+00.2
14	93 32.6	+02.1	N 00 16.1	+00.1
15	108 34.7	+02.1	N 00 16.2	+00.2
16	123 36.8	+02.1	N 00 16.4	+00.2
17	138 38.9	+02.1	N 00 16.6	+00.1
18	153 41.0	+02.1	N 00 16.7	+00.2
19	168 43.1	+02.1	N 00 16.9	+00.1
20	183 45.2	+02.0	N 00 17.0	+00.2
21	198 47.2	+02.1	N 00 17.2	+00.1
22	213 49.3	+02.1	N 00 17.3	+00.2
23	228 51.4	+02.1	N 00 17.5	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	357°	357°	356°	356°	356°	356°

Greenwich Culmination Time: 07:46

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	278 37.9	+02.4	S 14 09.4	+00.0
01	293 40.3	+02.4	S 14 09.4	+00.0
02	308 42.7	+02.5	S 14 09.4	+00.0
03	323 45.2	+02.4	S 14 09.4	+00.0
04	338 47.6	+02.5	S 14 09.4	+00.0
05	353 50.1	+02.4	S 14 09.4	+00.0
06	8 52.5	+02.4	S 14 09.4	+00.0
07	23 54.9	+02.5	S 14 09.4	+00.0
08	38 57.4	+02.4	S 14 09.4	+00.0
09	53 59.8	+02.4	S 14 09.4	+00.0
10	69 02.2	+02.5	S 14 09.4	+00.0
11	84 04.7	+02.4	S 14 09.4	+00.0
12	99 07.1	+02.4	S 14 09.4	+00.0
13	114 09.5	+02.5	S 14 09.4	+00.0
14	129 12.0	+02.4	S 14 09.4	+00.0
15	144 14.4	+02.4	S 14 09.4	+00.0
16	159 16.8	+02.5	S 14 09.4	+00.0
17	174 19.3	+02.4	S 14 09.4	+00.0
18	189 21.7	+02.5	S 14 09.4	+00.0
19	204 24.2	+02.4	S 14 09.4	+00.0
20	219 26.6	+02.4	S 14 09.4	+00.0
21	234 29.0	+02.5	S 14 09.4	+00.0
22	249 31.5	+02.4	S 14 09.4	+00.0
23	264 33.9	+02.4	S 14 09.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:24

2022 May 30 Monday (day 150 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 37.5	-00.1	N 21 44.1	+00.4
01	195 37.4	-00.1	N 21 44.5	+00.3
02	210 37.3	-00.1	N 21 44.8	+00.4
03	225 37.2	-00.1	N 21 45.2	+00.4
04	240 37.1	+00.0	N 21 45.6	+00.4
05	255 37.1	-00.1	N 21 46.0	+00.3
06	270 37.0	-00.1	N 21 46.3	+00.4
07	285 36.9	-00.1	N 21 46.7	+00.4
08	300 36.8	-00.1	N 21 47.1	+00.3
09	315 36.7	-00.1	N 21 47.4	+00.4
10	330 36.6	-00.1	N 21 47.8	+00.4
11	345 36.5	-00.1	N 21 48.2	+00.3
12	0 36.4	+00.0	N 21 48.5	+00.4
13	15 36.4	-00.1	N 21 48.9	+00.4
14	30 36.3	-00.1	N 21 49.3	+00.3
15	45 36.2	-00.1	N 21 49.6	+00.4
16	60 36.1	-00.1	N 21 50.0	+00.4
17	75 36.0	-00.1	N 21 50.4	+00.3
18	90 35.9	-00.1	N 21 50.7	+00.4
19	105 35.8	-00.1	N 21 51.1	+00.4
20	120 35.7	-00.1	N 21 51.5	+00.3
21	135 35.6	-00.1	N 21 51.8	+00.4
22	150 35.5	+00.0	N 21 52.2	+00.3
23	165 35.5	-00.1	N 21 52.5	+00.4

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	293°	293°	293°	293°	292°	292°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	217 19.2	-00.3	N 10 09.5	+01.1
01	232 18.9	-00.3	N 10 10.6	+01.0
02	247 18.6	-00.4	N 10 11.6	+01.0
03	262 18.2	-00.3	N 10 12.6	+01.0
04	277 17.9	-00.3	N 10 13.6	+01.0
05	292 17.6	-00.4	N 10 14.6	+01.0
06	307 17.2	-00.3	N 10 15.6	+01.0
07	322 16.9	-00.3	N 10 16.6	+01.0
08	337 16.6	-00.4	N 10 17.6	+01.0
09	352 16.2	-00.3	N 10 18.6	+01.0
10	7 15.9	-00.3	N 10 19.6	+01.0
11	22 15.6	-00.4	N 10 20.6	+01.0
12	37 15.2	-00.3	N 10 21.6	+01.0
13	52 14.9	-00.3	N 10 22.6	+01.0
14	67 14.6	-00.4	N 10 23.6	+01.0
15	82 14.2	-00.3	N 10 24.6	+01.0
16	97 13.9	-00.3	N 10 25.6	+01.0
17	112 13.6	-00.4	N 10 26.6	+01.0
18	127 13.2	-00.3	N 10 27.6	+01.0
19	142 12.9	-00.4	N 10 28.6	+01.0
20	157 12.5	-00.3	N 10 29.6	+01.0
21	172 12.2	-00.3	N 10 30.6	+01.0
22	187 11.9	-00.4	N 10 31.6	+01.0
23	202 11.5	-00.3	N 10 32.6	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	330°	330°	329°	329°	329°	329°

Greenwich Culmination Time: 09:30

Moon

A: 99%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	186 24.4	-28.7	N 21 47.1	+08.4
01	200 55.7	-28.8	N 21 55.5	+08.3
02	215 26.9	-28.7	N 22 03.8	+08.1
03	229 58.2	-28.9	N 22 11.9	+08.1
04	244 29.3	-28.8	N 22 20.0	+08.0
05	259 00.5	-29.0	N 22 28.0	+07.8
06	273 31.5	-28.9	N 22 35.8	+07.8
07	288 02.6	-29.1	N 22 43.6	+07.7
08	302 33.5	-29.0	N 22 51.3	+07.5
09	317 04.5	-29.1	N 22 58.8	+07.4
10	331 35.4	-29.2	N 23 06.2	+07.4
11	346 06.2	-29.2	N 23 13.6	+07.2
12	0 37.0	-29.2	N 23 20.8	+07.1
13	15 07.8	-29.3	N 23 27.9	+07.0
14	29 38.5	-29.4	N 23 34.9	+06.9
15	44 09.1	-29.3	N 23 41.8	+06.8
16	58 39.8	-29.5	N 23 48.6	+06.7
17	73 10.3	-29.4	N 23 55.3	+06.6
18	87 40.9	-29.6	N 24 01.9	+06.4
19	102 11.3	-29.5	N 24 08.3	+06.3
20	116 41.8	-29.6	N 24 14.6	+06.3
21	131 12.2	-29.7	N 24 20.9	+06.1
22	145 42.5	-29.6	N 24 27.0	+06.0
23	160 12.9	-29.8	N 24 33.0	+05.8

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′4	54′3	54′3	54′3	54′2	54′2
SHA	298°	296°	294°	292°	289°	287°

Greenwich Culmination Time: 11:57

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	243 21.7	+00.7	S 00 06.7	-00.7
01	258 22.4	+00.8	S 00 06.0	-00.7
02	273 23.2	+00.8	S 00 05.3	-00.7
03	288 24.0	+00.7	S 00 04.6	-00.8
04	303 24.7	+00.8	S 00 03.8	-00.7
05	318 25.5	+00.7	S 00 03.1	-00.7
06	333 26.2	+00.8	S 00 02.4	-00.7
07	348 27.0	+00.7	S 00 01.7	-00.7
08	3 27.7	+00.8	S 00 01.0	-00.8
09	18 28.5	+00.8	S 00 00.2	-00.7
10	33 29.3	+00.7	N 00 00.5	+00.7
11	48 30.0	+00.8	N 00 01.2	+00.7
12	63 30.8	+00.7	N 00 01.9	+00.8
13	78 31.5	+00.8	N 00 02.7	+00.7
14	93 32.3	+00.7	N 00 03.4	+00.7
15	108 33.0	+00.8	N 00 04.1	+00.7
16	123 33.8	+00.8	N 00 04.8	+00.8
17	138 34.6	+00.7	N 00 05.6	+00.7
18	153 35.3	+00.8	N 00 06.3	+00.7
19	168 36.1	+00.7	N 00 07.0	+00.7
20	183 36.8	+00.8	N 00 07.7	+00.8
21	198 37.6	+00.7	N 00 08.5	+00.7
22	213 38.3	+00.8	N 00 09.2	+00.7
23	228 39.1	+00.8	N 00 09.9	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	356°	356°	356°	355°	355°	355°

Greenwich Culmination Time: 07:46

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	243 53.5	+02.1	N 00 17.6	+00.2
01	258 55.6	+02.1	N 00 17.8	+00.1
02	273 57.7	+02.1	N 00 17.9	+00.2
03	288 59.8	+02.1	N 00 18.1	+00.1
04	304 01.9	+02.0	N 00 18.2	+00.2
05	319 03.9	+02.1	N 00 18.4	+00.1
06	334 06.0	+02.1	N 00 18.5	+00.2
07	349 08.1	+02.1	N 00 18.7	+00.2
08	4 10.2	+02.1	N 00 18.9	+00.1
09	19 12.3	+02.1	N 00 19.0	+00.2
10	34 14.4	+02.1	N 00 19.2	+00.1
11	49 16.5	+02.1	N 00 19.3	+00.2
12	64 18.6	+02.1	N 00 19.5	+00.1
13	79 20.7	+02.0	N 00 19.6	+00.2
14	94 22.7	+02.1	N 00 19.8	+00.1
15	109 24.8	+02.1	N 00 19.9	+00.2
16	124 26.9	+02.1	N 00 20.1	+00.1
17	139 29.0	+02.1	N 00 20.2	+00.2
18	154 31.1	+02.1	N 00 20.4	+00.1
19	169 33.2	+02.1	N 00 20.5	+00.2
20	184 35.3	+02.1	N 00 20.7	+00.1
21	199 37.4	+02.1	N 00 20.8	+00.2
22	214 39.5	+02.1	N 00 21.0	+00.1
23	229 41.6	+02.0	N 00 21.1	+00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	356°	356°	356°	356°	356°

Greenwich Culmination Time: 07:43

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	279 36.3	+02.5	S 14 09.4	+00.0
01	294 38.8	+02.4	S 14 09.4	+00.0
02	309 41.2	+02.5	S 14 09.4	+00.0
03	324 43.7	+02.4	S 14 09.4	+00.0
04	339 46.1	+02.4	S 14 09.4	+00.0
05	354 48.5	+02.5	S 14 09.4	+00.0
06	9 51.0	+02.4	S 14 09.4	+00.0
07	24 53.4	+02.5	S 14 09.4	+00.0
08	39 55.9	+02.4	S 14 09.4	+00.0
09	54 58.3	+02.4	S 14 09.4	+00.0
10	70 00.7	+02.5	S 14 09.4	+00.0
11	85 03.2	+02.4	S 14 09.4	+00.0
12	100 05.6	+02.4	S 14 09.4	+00.0
13	115 08.0	+02.5	S 14 09.4	+00.0
14	130 10.5	+02.4	S 14 09.4	+00.0
15	145 12.9	+02.5	S 14 09.4	+00.0
16	160 15.4	+02.4	S 14 09.4	+00.0
17	175 17.8	+02.5	S 14 09.4	+00.0
18	190 20.3	+02.4	S 14 09.4	+00.0
19	205 22.7	+02.4	S 14 09.4	+00.0
20	220 25.1	+02.5	S 14 09.4	+00.0
21	235 27.6	+02.4	S 14 09.4	+00.0
22	250 30.0	+02.5	S 14 09.4	+00.0
23	265 32.5	+02.4	S 14 09.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:20

2022 May 31 Tuesday (day 151 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 35.4	-00.1	N 21 52.9	+00.4
01	195 35.3	-00.1	N 21 53.3	+00.3
02	210 35.2	-00.1	N 21 53.6	+00.4
03	225 35.1	-00.1	N 21 54.0	+00.3
04	240 35.0	-00.1	N 21 54.3	+00.4
05	255 34.9	-00.1	N 21 54.7	+00.3
06	270 34.8	-00.1	N 21 55.0	+00.4
07	285 34.7	-00.1	N 21 55.4	+00.4
08	300 34.6	-00.1	N 21 55.8	+00.3
09	315 34.5	-00.1	N 21 56.1	+00.4
10	330 34.4	-00.1	N 21 56.5	+00.3
11	345 34.3	+00.0	N 21 56.8	+00.4
12	0 34.3	-00.1	N 21 57.2	+00.3
13	15 34.2	-00.1	N 21 57.5	+00.4
14	30 34.1	-00.1	N 21 57.9	+00.3
15	45 34.0	-00.1	N 21 58.2	+00.4
16	60 33.9	-00.1	N 21 58.6	+00.3
17	75 33.8	-00.1	N 21 58.9	+00.4
18	90 33.7	-00.1	N 21 59.3	+00.3
19	105 33.6	-00.1	N 21 59.6	+00.4
20	120 33.5	-00.1	N 21 60.0	+00.3
21	135 33.4	-00.1	N 22 00.3	+00.3
22	150 33.3	-00.1	N 22 00.6	+00.4
23	165 33.2	-00.1	N 22 01.0	+00.3

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	292°	292°	292°	292°	291°	291°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	217 11.2	-00.3	N 10 33.6	+01.0
01	232 10.9	-00.4	N 10 34.6	+01.0
02	247 10.5	-00.3	N 10 35.6	+01.0
03	262 10.2	-00.4	N 10 36.6	+01.0
04	277 09.8	-00.3	N 10 37.6	+01.0
05	292 09.5	-00.3	N 10 38.6	+01.0
06	307 09.2	-00.4	N 10 39.6	+01.0
07	322 08.8	-00.3	N 10 40.6	+01.0
08	337 08.5	-00.4	N 10 41.6	+01.0
09	352 08.1	-00.3	N 10 42.6	+01.0
10	7 07.8	-00.4	N 10 43.6	+01.0
11	22 07.4	-00.3	N 10 44.6	+01.0
12	37 07.1	-00.3	N 10 45.6	+01.0
13	52 06.8	-00.4	N 10 46.6	+01.0
14	67 06.4	-00.3	N 10 47.6	+01.0
15	82 06.1	-00.4	N 10 48.6	+00.9
16	97 05.7	-00.3	N 10 49.5	+01.0
17	112 05.4	-00.4	N 10 50.5	+01.0
18	127 05.0	-00.3	N 10 51.5	+01.0
19	142 04.7	-00.3	N 10 52.5	+01.0
20	157 04.4	-00.4	N 10 53.5	+01.0
21	172 04.0	-00.3	N 10 54.5	+01.0
22	187 03.7	-00.4	N 10 55.5	+01.0
23	202 03.3	-00.3	N 10 56.5	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	329°	328°	328°	328°	328°	328°

Greenwich Culmination Time: 09:31

Moon

A: 03%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	174 43.1	-29.7	N 24 38.8	+05.8
01	189 13.4	-29.8	N 24 44.6	+05.6
02	203 43.6	-29.9	N 24 50.2	+05.6
03	218 13.7	-29.8	N 24 55.8	+05.4
04	232 43.9	-30.0	N 25 01.2	+05.3
05	247 13.9	-29.9	N 25 06.5	+05.1
06	261 44.0	-30.0	N 25 11.6	+05.1
07	276 14.0	-30.0	N 25 16.7	+04.9
08	290 44.0	-30.1	N 25 21.6	+04.8
09	305 13.9	-30.1	N 25 26.4	+04.7
10	319 43.8	-30.1	N 25 31.1	+04.6
11	334 13.7	-30.1	N 25 35.7	+04.4
12	348 43.6	-30.2	N 25 40.1	+04.3
13	3 13.4	-30.2	N 25 44.4	+04.2
14	17 43.2	-30.3	N 25 48.6	+04.1
15	32 12.9	-30.3	N 25 52.7	+04.0
16	46 42.6	-30.3	N 25 56.7	+03.8
17	61 12.3	-30.3	N 26 00.5	+03.7
18	75 42.0	-30.4	N 26 04.2	+03.6
19	90 11.6	-30.3	N 26 07.8	+03.5
20	104 41.3	-30.4	N 26 11.3	+03.3
21	119 10.9	-30.5	N 26 14.6	+03.2
22	133 40.4	-30.4	N 26 17.8	+03.1
23	148 10.0	-30.5	N 26 20.9	+02.9

UT	02	06	10	14	18	22
SD	14′8	14′7	14′7	14′7	14′7	14′7
HP	54′1	54′1	54′1	54′1	54′0	54′0
SHA	285°	283°	281°	279°	276°	274°

Greenwich Culmination Time: 12:46

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	243 39.9	+00.7	N 00 10.6	+00.7
01	258 40.6	+00.8	N 00 11.3	+00.8
02	273 41.4	+00.7	N 00 12.1	+00.7
03	288 42.1	+00.8	N 00 12.8	+00.7
04	303 42.9	+00.8	N 00 13.5	+00.7
05	318 43.7	+00.7	N 00 14.2	+00.8
06	333 44.4	+00.8	N 00 15.0	+00.7
07	348 45.2	+00.7	N 00 15.7	+00.7
08	3 45.9	+00.8	N 00 16.4	+00.7
09	18 46.7	+00.7	N 00 17.1	+00.8
10	33 47.4	+00.8	N 00 17.9	+00.7
11	48 48.2	+00.8	N 00 18.6	+00.7
12	63 49.0	+00.7	N 00 19.3	+00.7
13	78 49.7	+00.8	N 00 20.0	+00.7
14	93 50.5	+00.7	N 00 20.7	+00.8
15	108 51.2	+00.8	N 00 21.5	+00.7
16	123 52.0	+00.8	N 00 22.2	+00.7
17	138 52.8	+00.7	N 00 22.9	+00.7
18	153 53.5	+00.8	N 00 23.6	+00.8
19	168 54.3	+00.7	N 00 24.4	+00.7
20	183 55.0	+00.8	N 00 25.1	+00.7
21	198 55.8	+00.8	N 00 25.8	+00.7
22	213 56.6	+00.7	N 00 26.5	+00.7
23	228 57.3	+00.8	N 00 27.2	+00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	355°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 07:44

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	244 43.6	+02.1	N 00 21.3	+00.1
01	259 45.7	+02.1	N 00 21.4	+00.2
02	274 47.8	+02.1	N 00 21.6	+00.1
03	289 49.9	+02.1	N 00 21.7	+00.2
04	304 52.0	+02.1	N 00 21.9	+00.1
05	319 54.1	+02.1	N 00 22.0	+00.2
06	334 56.2	+02.1	N 00 22.2	+00.1
07	349 58.3	+02.1	N 00 22.3	+00.2
08	5 00.4	+02.1	N 00 22.5	+00.1
09	20 02.5	+02.1	N 00 22.6	+00.2
10	35 04.6	+02.1	N 00 22.8	+00.1
11	50 06.7	+02.1	N 00 22.9	+00.2
12	65 08.8	+02.1	N 00 23.1	+00.1
13	80 10.9	+02.1	N 00 23.2	+00.2
14	95 13.0	+02.0	N 00 23.4	+00.1
15	110 15.0	+02.1	N 00 23.5	+00.2
16	125 17.1	+02.1	N 00 23.7	+00.1
17	140 19.2	+02.1	N 00 23.8	+00.2
18	155 21.3	+02.1	N 00 24.0	+00.1
19	170 23.4	+02.1	N 00 24.1	+00.2
20	185 25.5	+02.1	N 00 24.3	+00.1
21	200 27.6	+02.1	N 00 24.4	+00.2
22	215 29.7	+02.1	N 00 24.6	+00.1
23	230 31.8	+02.1	N 00 24.7	+00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	356°	356°	356°	356°	356°

Greenwich Culmination Time: 07:40

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	280 34.9	+02.4	S 14 09.4	+00.0
01	295 37.3	+02.5	S 14 09.4	+00.0
02	310 39.8	+02.4	S 14 09.4	+00.0
03	325 42.2	+02.5	S 14 09.4	+00.0
04	340 44.7	+02.4	S 14 09.4	+00.0
05	355 47.1	+02.5	S 14 09.4	+00.0
06	10 49.6	+02.4	S 14 09.4	+00.0
07	25 52.0	+02.4	S 14 09.4	+00.0
08	40 54.4	+02.5	S 14 09.4	+00.0
09	55 56.9	+02.4	S 14 09.4	+00.0
10	70 59.3	+02.5	S 14 09.4	+00.0
11	86 01.8	+02.4	S 14 09.4	+00.0
12	101 04.2	+02.5	S 14 09.4	+00.0
13	116 06.7	+02.4	S 14 09.4	+00.0
14	131 09.1	+02.4	S 14 09.4	+00.0
15	146 11.5	+02.5	S 14 09.4	+00.0
16	161 14.0	+02.4	S 14 09.4	+00.0
17	176 16.4	+02.5	S 14 09.4	+00.0
18	191 18.9	+02.4	S 14 09.4	+00.0
19	206 21.3	+02.5	S 14 09.4	+00.0
20	221 23.8	+02.4	S 14 09.4	+00.0
21	236 26.2	+02.5	S 14 09.4	+00.0
22	251 28.7	+02.4	S 14 09.4	+00.0
23	266 31.1	+02.5	S 14 09.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:16

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 June 5 Sunday (day 156 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 23.2	−00.1	N 22 31.2	+00.3
01	195 23.1	−00.1	N 22 31.5	+00.2
02	210 23.0	−00.1	N 22 31.7	+00.3
03	225 22.9	−00.1	N 22 32.0	+00.3
04	240 22.8	−00.1	N 22 32.3	+00.3
05	255 22.7	−00.1	N 22 32.6	+00.2
06	270 22.6	−00.1	N 22 32.8	+00.3
07	285 22.5	−00.1	N 22 33.1	+00.3
08	300 22.4	−00.2	N 22 33.4	+00.3
09	315 22.2	−00.1	N 22 33.7	+00.2
10	330 22.1	−00.1	N 22 33.9	+00.3
11	345 22.0	−00.1	N 22 34.2	+00.3
12	0 21.9	−00.1	N 22 34.5	+00.2
13	15 21.8	−00.1	N 22 34.7	+00.3
14	30 21.7	−00.1	N 22 35.0	+00.3
15	45 21.6	−00.1	N 22 35.3	+00.2
16	60 21.5	−00.2	N 22 35.5	+00.3
17	75 21.3	−00.1	N 22 35.8	+00.3
18	90 21.2	−00.1	N 22 36.1	+00.2
19	105 21.1	−00.1	N 22 36.3	+00.3
20	120 21.0	−00.1	N 22 36.6	+00.3
21	135 20.9	−00.1	N 22 36.9	+00.2
22	150 20.8	−00.1	N 22 37.1	+00.3
23	165 20.7	−00.1	N 22 37.4	+00.3

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	287°	287°	287°	286°	286°	286°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	216 27.8	−00.3	N 12 30.9	+01.0
01	231 27.5	−00.4	N 12 31.9	+00.9
02	246 27.1	−00.4	N 12 32.8	+01.0
03	261 26.7	−00.4	N 12 33.8	+00.9
04	276 26.3	−00.4	N 12 34.7	+01.0
05	291 25.9	−00.4	N 12 35.7	+00.9
06	306 25.5	−00.4	N 12 36.6	+01.0
07	321 25.1	−00.3	N 12 37.6	+00.9
08	336 24.8	−00.4	N 12 38.5	+01.0
09	351 24.4	−00.4	N 12 39.5	+00.9
10	6 24.0	−00.4	N 12 40.4	+01.0
11	21 23.6	−00.4	N 12 41.4	+00.9
12	36 23.2	−00.4	N 12 42.3	+01.0
13	51 22.8	−00.4	N 12 43.3	+00.9
14	66 22.4	−00.4	N 12 44.2	+01.0
15	81 22.0	−00.4	N 12 45.2	+00.9
16	96 21.6	−00.4	N 12 46.1	+01.0
17	111 21.2	−00.3	N 12 47.1	+00.9
18	126 20.9	−00.4	N 12 48.0	+01.0
19	141 20.5	−00.4	N 12 49.0	+00.9
20	156 20.1	−00.4	N 12 49.9	+01.0
21	171 19.7	−00.4	N 12 50.9	+00.9
22	186 19.3	−00.4	N 12 51.8	+00.9
23	201 18.9	−00.4	N 12 52.7	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	323°	323°	323°	322°	322°	322°

Greenwich Culmination Time: 09:34

Moon

A: 19%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	114 41.1	−28.4	N 21 24.4	−08.7
01	129 12.7	−28.3	N 21 15.7	−08.8
02	143 44.4	−28.2	N 21 06.9	−08.9
03	158 16.2	−28.2	N 20 58.0	−09.0
04	172 48.0	−28.2	N 20 49.0	−09.1
05	187 19.8	−28.1	N 20 39.9	−09.2
06	201 51.7	−28.0	N 20 30.7	−09.2
07	216 23.7	−28.0	N 20 21.5	−09.4
08	230 55.7	−28.0	N 20 12.1	−09.5
09	245 27.7	−28.0	N 20 02.6	−09.5
10	259 59.7	−27.9	N 19 53.1	−09.6
11	274 31.8	−27.8	N 19 43.5	−09.8
12	289 04.0	−27.8	N 19 33.7	−09.8
13	303 36.2	−27.8	N 19 23.9	−09.9
14	318 08.4	−27.7	N 19 14.0	−10.0
15	332 40.7	−27.7	N 19 04.0	−10.1
16	347 13.0	−27.6	N 18 53.9	−10.2
17	1 45.4	−27.6	N 18 43.7	−10.3
18	16 17.8	−27.6	N 18 33.4	−10.3
19	30 50.2	−27.5	N 18 23.1	−10.4
20	45 22.7	−27.5	N 18 12.7	−10.6
21	59 55.2	−27.5	N 18 02.1	−10.6
22	74 27.7	−27.4	N 17 51.5	−10.7
23	89 00.3	−27.4	N 17 40.8	−10.7

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	14′9	15′0
HP	54′5	54′6	54′7	54′7	54′8	54′9
SHA	220°	218°	216°	214°	212°	210°

Greenwich Culmination Time: 16:52

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	245 11.3	+00.8	N 01 37.0	+00.7
01	260 12.1	+00.7	N 01 37.7	+00.8
02	275 12.8	+00.8	N 01 38.5	+00.7
03	290 13.6	+00.8	N 01 39.2	+00.7
04	305 14.4	+00.7	N 01 39.9	+00.7
05	320 15.1	+00.8	N 01 40.6	+00.7
06	335 15.9	+00.8	N 01 41.3	+00.7
07	350 16.7	+00.7	N 01 42.0	+00.7
08	5 17.4	+00.8	N 01 42.7	+00.8
09	20 18.2	+00.8	N 01 43.5	+00.7
10	35 19.0	+00.7	N 01 44.2	+00.7
11	50 19.7	+00.8	N 01 44.9	+00.7
12	65 20.5	+00.8	N 01 45.6	+00.7
13	80 21.3	+00.7	N 01 46.3	+00.7
14	95 22.0	+00.8	N 01 47.0	+00.8
15	110 22.8	+00.8	N 01 47.8	+00.7
16	125 23.6	+00.7	N 01 48.5	+00.7
17	140 24.3	+00.8	N 01 49.2	+00.7
18	155 25.1	+00.8	N 01 49.9	+00.7
19	170 25.9	+00.7	N 01 50.6	+00.7
20	185 26.6	+00.8	N 01 51.3	+00.7
21	200 27.4	+00.8	N 01 52.0	+00.8
22	215 28.2	+00.7	N 01 52.8	+00.7
23	230 28.9	+00.8	N 01 53.5	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	352°	352°	352°	351°	351°	351°

Greenwich Culmination Time: 07:38

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	248 56.0	+02.1	N 00 38.8	+00.1
01	263 58.1	+02.2	N 00 38.9	+00.2
02	279 00.3	+02.1	N 00 39.1	+00.1
03	294 02.4	+02.1	N 00 39.2	+00.1
04	309 04.5	+02.1	N 00 39.3	+00.2
05	324 06.6	+02.1	N 00 39.5	+00.1
06	339 08.7	+02.1	N 00 39.6	+00.2
07	354 10.8	+02.2	N 00 39.8	+00.1
08	9 13.0	+02.1	N 00 39.9	+00.1
09	24 15.1	+02.1	N 00 40.0	+00.2
10	39 17.2	+02.1	N 00 40.2	+00.1
11	54 19.3	+02.1	N 00 40.3	+00.2
12	69 21.4	+02.1	N 00 40.5	+00.1
13	84 23.5	+02.2	N 00 40.6	+00.1
14	99 25.7	+02.1	N 00 40.7	+00.2
15	114 27.8	+02.1	N 00 40.9	+00.1
16	129 29.9	+02.1	N 00 41.0	+00.2
17	144 32.0	+02.1	N 00 41.2	+00.1
18	159 34.1	+02.1	N 00 41.3	+00.1
19	174 36.2	+02.2	N 00 41.4	+00.2
20	189 38.4	+02.1	N 00 41.6	+00.1
21	204 40.5	+02.1	N 00 41.7	+00.2
22	219 42.6	+02.1	N 00 41.9	+00.1
23	234 44.7	+02.1	N 00 42.0	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 07:23

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	285 29.1	+02.5	S 14 09.8	+00.0
01	300 31.6	+02.4	S 14 09.8	+00.1
02	315 34.0	+02.5	S 14 09.9	+00.0
03	330 36.5	+02.5	S 14 09.9	+00.0
04	345 39.0	+02.4	S 14 09.9	+00.0
05	0 41.4	+02.5	S 14 09.9	+00.0
06	15 43.9	+02.5	S 14 09.9	+00.0
07	30 46.4	+02.4	S 14 09.9	+00.0
08	45 48.8	+02.5	S 14 09.9	+00.0
09	60 51.3	+02.4	S 14 09.9	+00.0
10	75 53.7	+02.5	S 14 09.9	+00.0
11	90 56.2	+02.5	S 14 09.9	+00.0
12	105 58.7	+02.4	S 14 09.9	+00.0
13	121 01.1	+02.5	S 14 09.9	+00.0
14	136 03.6	+02.5	S 14 09.9	+00.1
15	151 06.1	+02.4	S 14 10.0	+00.0
16	166 08.5	+02.5	S 14 10.0	+00.0
17	181 11.0	+02.5	S 14 10.0	+00.0
18	196 13.5	+02.4	S 14 10.0	+00.0
19	211 15.9	+02.5	S 14 10.0	+00.0
20	226 18.4	+02.5	S 14 10.0	+00.0
21	241 20.9	+02.4	S 14 10.0	+00.0
22	256 23.3	+02.5	S 14 10.0	+00.0
23	271 25.8	+02.5	S 14 10.0	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 04:57

2022 June 2 Thursday (day 153 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 30.8	−00.1	N 22 09.4	+00.3
01	195 30.7	−00.1	N 22 09.7	+00.3
02	210 30.6	−00.1	N 22 10.0	+00.4
03	225 30.5	−00.1	N 22 10.4	+00.3
04	240 30.4	−00.1	N 22 10.7	+00.3
05	255 30.3	−00.1	N 22 11.0	+00.3
06	270 30.2	−00.1	N 22 11.3	+00.4
07	285 30.1	−00.1	N 22 11.7	+00.3
08	300 30.0	−00.1	N 22 12.0	+00.3
09	315 29.9	−00.1	N 22 12.3	+00.3
10	330 29.8	−00.1	N 22 12.6	+00.3
11	345 29.7	−00.1	N 22 12.9	+00.4
12	0 29.6	−00.1	N 22 13.3	+00.3
13	15 29.5	−00.1	N 22 13.6	+00.3
14	30 29.4	−00.1	N 22 13.9	+00.3
15	45 29.3	−00.1	N 22 14.2	+00.3
16	60 29.2	−00.1	N 22 14.5	+00.3
17	75 29.1	−00.1	N 22 14.8	+00.4
18	90 29.0	−00.1	N 22 15.2	+00.3
19	105 28.9	−00.1	N 22 15.5	+00.3
20	120 28.8	−00.1	N 22 15.8	+00.3
21	135 28.7	−00.1	N 22 16.1	+00.3
22	150 28.6	−00.1	N 22 16.4	+00.3
23	165 28.5	−00.1	N 22 16.7	+00.3

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	290°	290°	290°	289°	289°	289°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	216 54.5	−00.3	N 11 21.2	+00.9
01	231 54.2	−00.4	N 11 22.1	+01.0
02	246 53.8	−00.3	N 11 23.1	+01.0
03	261 53.5	−00.4	N 11 24.1	+01.0
04	276 53.1	−00.4	N 11 25.1	+01.0
05	291 52.7	−00.3	N 11 26.1	+01.0
06	306 52.4	−00.4	N 11 27.1	+00.9
07	321 52.0	−00.3	N 11 28.0	+01.0
08	336 51.7	−00.4	N 11 29.0	+01.0
09	351 51.3	−00.4	N 11 30.0	+01.0
10	6 50.9	−00.3	N 11 31.0	+00.9
11	21 50.6	−00.4	N 11 31.9	+01.0
12	36 50.2	−00.3	N 11 32.9	+01.0
13	51 49.9	−00.4	N 11 33.9	+01.0
14	66 49.5	−00.4	N 11 34.9	+01.0
15	81 49.1	−00.3	N 11 35.9	+00.9
16	96 48.8	−00.4	N 11 36.8	+01.0
17	111 48.4	−00.4	N 11 37.8	+01.0
18	126 48.0	−00.3	N 11 38.8	+01.0
19	141 47.7	−00.4	N 11 39.8	+00.9
20	156 47.3	−00.3	N 11 40.7	+01.0
21	171 47.0	−00.4	N 11 41.7	+01.0
22	186 46.6	−00.4	N 11 42.7	+01.0
23	201 46.2	−00.3	N 11 43.7	+00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	326°	326°	326°	326°	326°	325°

Greenwich Culmination Time: 09:32

Moon

A: 10%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	150 24.3	−30.7	N 26 56.3	−00.2
01	164 53.6	−30.6	N 26 56.1	−00.4
02	179 23.0	−30.7	N 26 55.7	−00.5
03	193 52.3	−30.7	N 26 55.2	−00.7
04	208 21.6	−30.6	N 26 54.5	−00.8
05	222 51.0	−30.7	N 26 53.7	−00.9
06	237 20.3	−30.6	N 26 52.8	−01.0
07	251 49.7	−30.6	N 26 51.8	−01.2
08	266 19.1	−30.6	N 26 50.6	−01.2
09	280 48.5	−30.6	N 26 49.4	−01.5
10	295 17.9	−30.6	N 26 47.9	−01.5
11	309 47.3	−30.5	N 26 46.4	−01.7
12	324 16.8	−30.6	N 26 44.7	−01.8
13	338 46.2	−30.5	N 26 42.9	−01.9
14	353 15.7	−30.5	N 26 41.0	−02.1
15	7 45.2	−30.5	N 26 38.9	−02.1
16	22 14.7	−30.5	N 26 36.8	−02.4
17	36 44.2	−30.4	N 26 34.4	−02.4
18	51 13.8	−30.4	N 26 32.0	−02.5
19	65 43.4	−30.4	N 26 29.5	−02.7
20	80 13.0	−30.4	N 26 26.8	−02.8
21	94 42.6	−30.3	N 26 24.0	−03.0
22	109 12.3	−30.4	N 26 21.0	−03.0
23	123 41.9	−30.3	N 26 18.0	−03.2

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	54′0	54′0	54′0	54′0	54′0	54′0
SHA	259°	257°	254°	252°	250°	248°

Greenwich Culmination Time: 14:27

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	244 16.3	+00.8	N 00 45.3	+00.7
01	259 17.1	+00.8	N 00 46.0	+00.7
02	274 17.9	+00.7	N 00 46.7	+00.7
03	289 18.6	+00.8	N 00 47.4	+00.8
04	304 19.4	+00.7	N 00 48.2	+00.7
05	319 20.1	+00.8	N 00 48.9	+00.7
06	334 20.9	+00.8	N 00 49.6	+00.7
07	349 21.7	+00.7	N 00 50.3	+00.8
08	4 22.4	+00.8	N 00 51.1	+00.7
09	19 23.2	+00.7	N 00 51.8	+00.7
10	34 23.9	+00.8	N 00 52.5	+00.7
11	49 24.7	+00.8	N 00 53.2	+00.7
12	64 25.5	+00.7	N 00 53.9	+00.8
13	79 26.2	+00.8	N 00 54.7	+00.7
14	94 27.0	+00.8	N 00 55.4	+00.7
15	109 27.8	+00.7	N 00 56.1	+00.7
16	124 28.5	+00.8	N 00 56.8	+00.7
17	139 29.3	+00.7	N 00 57.5	+00.8
18	154 30.0	+00.8	N 00 58.3	+00.7
19	169 30.8	+00.8	N 00 59.0	+00.7
20	184 31.6	+00.7	N 00 59.7	+00.7
21	199 32.3	+00.8	N 01 00.4	+00.7
22	214 33.1	+00.8	N 01 01.1	+00.7
23	229 33.9	+00.7	N 01 01.8	+00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	354°	354°	354°	353°	353°	353°

Greenwich Culmination Time: 07:42

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	246 24.3	+02.1	N 00 28.4	+00.2
01	261 26.4	+02.1	N 00 28.6	+00.1
02	276 28.5	+02.1	N 00 28.7	+00.2
03	291 30.6	+02.1	N 00 28.9	+00.1
04	306 32.7	+02.1	N 00 29.0	+00.2
05	321 34.8	+02.1	N 00 29.2	+00.1
06	336 36.9	+02.1	N 00 29.3	+00.2
07	351 39.0	+02.1	N 00 29.5	+00.1
08	6 41.1	+02.1	N 00 29.6	+00.2
09	21 43.2	+02.1	N 00 29.8	+00.1
10	36 45.3	+02.1	N 00 29.9	+00.1
11	51 47.4	+02.1	N 00 30.0	+00.2
12	66 49.5	+02.1	N 00 30.2	+00.1
13	81 51.6	+02.1	N 00 30.3	+00.2
14	96 53.7	+02.1	N 00 30.5	+00.1
15	111 55.8	+02.1	N 00 30.6	+00.2
16	126 57.9	+02.1	N 00 30.8	+00.1
17	142 00.0	+02.1	N 00 30.9	+00.2
18	157 02.1	+02.1	N 00 31.1	+00.1
19	172 04.2	+02.1	N 00 31.2	+00.2
20	187 06.3	+02.1	N 00 31.4	+00.1
21	202 08.4	+02.1	N 00 31.5	+00.1
22	217 10.5	+02.1	N 00 31.6	+00.2
23	232 12.6	+02.1	N 00 31.8	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	356°	356°	356°	356°	356°

Greenwich Culmination Time: 07:33

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	282 32.3	+02.5	S 14 09.4	+00.1
01	297 34.8	+02.4	S 14 09.5	+00.0
02	312 37.2	+02.5	S 14 09.5	+00.0
03	327 39.7	+02.4	S 14 09.5	+00.0
04	342 42.1	+02.5	S 14 09.5	+00.0
05	357 44.6	+02.4	S 14 09.5	+00.0
06	12 47.0	+02.5	S 14 09.5	+00.0
07	27 49.5	+02.4	S 14 09.5	+00.0
08	42 51.9	+02.5	S 14 09.5	+00.0
09	57 54.4	+02.4	S 14 09.5	+00.0
10	72 56.8	+02.5	S 14 09.5	+00.0
11	87 59.3	+02.4	S 14 09.5	+00.0
12	103 01.7	+02.5	S 14 09.5	+00.0
13	118 04.2	+02.4	S 14 09.5	+00.0
14	133 06.6	+02.5	S 14 09.5	+00.0
15	148 09.1	+02.4	S 14 09.5	+00.0
16	163 11.5	+02.5	S 14 09.5	+00.0
17	178 14.0	+02.4	S 14 09.5	+00.0
18	193 16.4	+02.5	S 14 09.5	+00.0
19	208 18.9	+02.4	S 14 09.5	+00.0
20	223 21.3	+02.5	S 14 09.5	+00.0
21	238 23.8	+02.4	S 14 09.5	+00.0
22	253 26.2	+02.5	S 14 09.5	+00.0
23	268 28.7	+02.4	S 14 09.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:09

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 28.4	−00.1	N 22 17.0	+00.3
01	195 28.3	−00.1	N 22 17.3	+00.4
02	210 28.2	−00.2	N 22 17.7	+00.3
03	225 28.0	−00.1	N 22 18.0	+00.3
04	240 27.9	−00.1	N 22 18.3	+00.3
05	255 27.8	−00.1	N 22 18.6	+00.3
06	270 27.7	−00.1	N 22 18.9	+00.3
07	285 27.6	−00.1	N 22 19.2	+00.3
08	300 27.5	−00.1	N 22 19.5	+00.3
09	315 27.4	−00.1	N 22 19.8	+00.3
10	330 27.3	−00.1	N 22 20.1	+00.3
11	345 27.2	−00.1	N 22 20.4	+00.3
12	0 27.1	−00.1	N 22 20.7	+00.3
13	15 27.0	−00.1	N 22 21.0	+00.3
14	30 26.9	−00.1	N 22 21.3	+00.3
15	45 26.8	−00.1	N 22 21.6	+00.3
16	60 26.7	−00.1	N 22 21.9	+00.3
17	75 26.6	−00.1	N 22 22.2	+00.3
18	90 26.5	−00.1	N 22 22.5	+00.3
19	105 26.4	−00.1	N 22 22.8	+00.3
20	120 26.3	−00.1	N 22 23.1	+00.3
21	135 26.2	−00.1	N 22 23.4	+00.3
22	150 26.1	−00.2	N 22 23.7	+00.3
23	165 25.9	−00.1	N 22 24.0	+00.3

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	289°	289°	289°	288°	288°	288°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	216 45.9	−00.4	N 11 44.6	+01.0
01	231 45.5	−00.4	N 11 45.6	+01.0
02	246 45.1	−00.3	N 11 46.6	+01.0
03	261 44.8	−00.4	N 11 47.6	+00.9
04	276 44.4	−00.4	N 11 48.5	+01.0
05	291 44.0	−00.3	N 11 49.5	+01.0
06	306 43.7	−00.4	N 11 50.5	+00.9
07	321 43.3	−00.4	N 11 51.4	+01.0
08	336 42.9	−00.3	N 11 52.4	+01.0
09	351 42.6	−00.4	N 11 53.4	+01.0
10	6 42.2	−00.4	N 11 54.4	+00.9
11	21 41.8	−00.4	N 11 55.3	+01.0
12	36 41.4	−00.3	N 11 56.3	+01.0
13	51 41.1	−00.4	N 11 57.3	+00.9
14	66 40.7	−00.4	N 11 58.2	+01.0
15	81 40.3	−00.3	N 11 59.2	+01.0
16	96 40.0	−00.4	N 12 00.2	+00.9
17	111 39.6	−00.4	N 12 01.1	+01.0
18	126 39.2	−00.4	N 12 02.1	+01.0
19	141 38.8	−00.3	N 12 03.1	+00.9
20	156 38.5	−00.4	N 12 04.0	+01.0
21	171 38.1	−00.4	N 12 05.0	+01.0
22	186 37.7	−00.4	N 12 06.0	+00.9
23	201 37.3	−00.3	N 12 06.9	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	325°	325°	325°	325°	324°	324°

Greenwich Culmination Time: 09:33

Moon

A: 13%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	138 11.6	−30.2	N 26 14.8	−03.3
01	152 41.4	−30.3	N 26 11.5	−03.5
02	167 11.1	−30.2	N 26 08.0	−03.5
03	181 40.9	−30.2	N 26 04.5	−03.7
04	196 10.7	−30.1	N 26 00.8	−03.8
05	210 40.6	−30.1	N 25 57.0	−03.9
06	225 10.5	−30.1	N 25 53.1	−04.1
07	239 40.4	−30.1	N 25 49.0	−04.1
08	254 10.3	−30.0	N 25 44.9	−04.3
09	268 40.3	−30.0	N 25 40.6	−04.4
10	283 10.3	−29.9	N 25 36.2	−04.6
11	297 40.4	−29.9	N 25 31.6	−04.6
12	312 10.5	−29.9	N 25 27.0	−04.8
13	326 40.6	−29.9	N 25 22.2	−04.9
14	341 10.7	−29.8	N 25 17.3	−05.0
15	355 40.9	−29.7	N 25 12.3	−05.1
16	10 11.2	−29.7	N 25 07.2	−05.3
17	24 41.5	−29.7	N 25 01.9	−05.3
18	39 11.8	−29.7	N 24 56.6	−05.5
19	53 42.1	−29.6	N 24 51.1	−05.6
20	68 12.5	−29.6	N 24 45.5	−05.7
21	82 42.9	−29.5	N 24 39.8	−05.8
22	97 13.4	−29.5	N 24 34.0	−05.9
23	111 43.9	−29.4	N 24 28.1	−06.1

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′8
HP	54′0	54′0	54′1	54′1	54′1	54′2
SHA	246°	243°	241°	239°	237°	235°

Greenwich Culmination Time: 15:17

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	244 34.6	+00.8	N 01 02.6	+00.7
01	259 35.4	+00.7	N 01 03.3	+00.7
02	274 36.1	+00.8	N 01 04.0	+00.7
03	289 36.9	+00.8	N 01 04.7	+00.7
04	304 37.7	+00.7	N 01 05.4	+00.8
05	319 38.4	+00.8	N 01 06.2	+00.7
06	334 39.2	+00.8	N 01 06.9	+00.7
07	349 40.0	+00.7	N 01 07.6	+00.7
08	4 40.7	+00.8	N 01 08.3	+00.7
09	19 41.5	+00.8	N 01 09.0	+00.8
10	34 42.3	+00.7	N 01 09.8	+00.7
11	49 43.0	+00.8	N 01 10.5	+00.7
12	64 43.8	+00.7	N 01 11.2	+00.7
13	79 44.5	+00.8	N 01 11.9	+00.7
14	94 45.3	+00.8	N 01 12.6	+00.8
15	109 46.1	+00.7	N 01 13.4	+00.7
16	124 46.8	+00.8	N 01 14.1	+00.7
17	139 47.6	+00.8	N 01 14.8	+00.7
18	154 48.4	+00.7	N 01 15.5	+00.7
19	169 49.1	+00.8	N 01 16.2	+00.7
20	184 49.9	+00.8	N 01 16.9	+00.8
21	199 50.7	+00.7	N 01 17.7	+00.7
22	214 51.4	+00.8	N 01 18.4	+00.7
23	229 52.2	+00.7	N 01 19.1	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 07:41

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	247 14.7	+02.1	N 00 31.9	+00.2
01	262 16.8	+02.2	N 00 32.1	+00.1
02	277 19.0	+02.1	N 00 32.2	+00.2
03	292 21.1	+02.1	N 00 32.4	+00.1
04	307 23.2	+02.1	N 00 32.5	+00.2
05	322 25.3	+02.1	N 00 32.7	+00.1
06	337 27.4	+02.1	N 00 32.8	+00.2
07	352 29.5	+02.1	N 00 33.0	+00.1
08	7 31.6	+02.1	N 00 33.1	+00.1
09	22 33.7	+02.1	N 00 33.2	+00.2
10	37 35.8	+02.1	N 00 33.4	+00.1
11	52 37.9	+02.1	N 00 33.5	+00.2
12	67 40.0	+02.1	N 00 33.7	+00.1
13	82 42.1	+02.1	N 00 33.8	+00.2
14	97 44.2	+02.1	N 00 34.0	+00.1
15	112 46.3	+02.2	N 00 34.1	+00.1
16	127 48.5	+02.1	N 00 34.2	+00.2
17	142 50.6	+02.1	N 00 34.4	+00.1
18	157 52.7	+02.1	N 00 34.5	+00.2
19	172 54.8	+02.1	N 00 34.7	+00.1
20	187 56.9	+02.1	N 00 34.8	+00.2
21	202 59.0	+02.1	N 00 35.0	+00.1
22	218 01.1	+02.1	N 00 35.1	+00.1
23	233 03.2	+02.1	N 00 35.2	+00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	356°	356°	356°	356°	356°

Greenwich Culmination Time: 07:29

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	283 31.1	+02.5	S 14 09.5	+00.0
01	298 33.6	+02.5	S 14 09.5	+00.1
02	313 36.1	+02.4	S 14 09.6	+00.0
03	328 38.5	+02.5	S 14 09.6	+00.0
04	343 41.0	+02.4	S 14 09.6	+00.0
05	358 43.4	+02.5	S 14 09.6	+00.0
06	13 45.9	+02.4	S 14 09.6	+00.0
07	28 48.3	+02.5	S 14 09.6	+00.0
08	43 50.8	+02.4	S 14 09.6	+00.0
09	58 53.2	+02.5	S 14 09.6	+00.0
10	73 55.7	+02.4	S 14 09.6	+00.0
11	88 58.1	+02.5	S 14 09.6	+00.0
12	104 00.6	+02.5	S 14 09.6	+00.0
13	119 03.1	+02.4	S 14 09.6	+00.0
14	134 05.5	+02.5	S 14 09.6	+00.0
15	149 08.0	+02.4	S 14 09.6	+00.0
16	164 10.4	+02.5	S 14 09.6	+00.0
17	179 12.9	+02.4	S 14 09.6	+00.0
18	194 15.3	+02.5	S 14 09.6	+00.0
19	209 17.8	+02.5	S 14 09.6	+00.0
20	224 20.3	+02.4	S 14 09.6	+00.1
21	239 22.7	+02.5	S 14 09.7	+00.0
22	254 25.2	+02.4	S 14 09.7	+00.0
23	269 27.6	+02.5	S 14 09.7	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:05

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 25.8	−00.1	N 22 24.3	+00.3
01	195 25.7	−00.1	N 22 24.6	+00.3
02	210 25.6	−00.1	N 22 24.9	+00.3
03	225 25.5	−00.1	N 22 25.2	+00.3
04	240 25.4	−00.1	N 22 25.5	+00.3
05	255 25.3	−00.1	N 22 25.8	+00.3
06	270 25.2	−00.1	N 22 26.1	+00.3
07	285 25.1	−00.1	N 22 26.4	+00.2
08	300 25.0	−00.1	N 22 26.6	+00.3
09	315 24.9	−00.1	N 22 26.9	+00.3
10	330 24.8	−00.1	N 22 27.2	+00.3
11	345 24.7	−00.1	N 22 27.5	+00.3
12	0 24.6	−00.2	N 22 27.8	+00.3
13	15 24.4	−00.1	N 22 28.1	+00.3
14	30 24.3	−00.1	N 22 28.4	+00.2
15	45 24.2	−00.1	N 22 28.6	+00.3
16	60 24.1	−00.1	N 22 28.9	+00.3
17	75 24.0	−00.1	N 22 29.2	+00.3
18	90 23.9	−00.1	N 22 29.5	+00.3
19	105 23.8	−00.1	N 22 29.8	+00.3
20	120 23.7	−00.1	N 22 30.1	+00.2
21	135 23.6	−00.1	N 22 30.3	+00.3
22	150 23.5	−00.2	N 22 30.6	+00.3
23	165 23.3	−00.1	N 22 30.9	+00.3

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	288°	288°	288°	287°	287°	287°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	216 37.0	−00.4	N 12 07.9	+01.0
01	231 36.6	−00.4	N 12 08.9	+00.9
02	246 36.2	−00.4	N 12 09.8	+01.0
03	261 35.8	−00.3	N 12 10.8	+00.9
04	276 35.5	−00.4	N 12 11.7	+01.0
05	291 35.1	−00.4	N 12 12.7	+01.0
06	306 34.7	−00.4	N 12 13.7	+00.9
07	321 34.3	−00.3	N 12 14.6	+01.0
08	336 34.0	−00.4	N 12 15.6	+01.0
09	351 33.6	−00.4	N 12 16.6	+00.9
10	6 33.2	−00.4	N 12 17.5	+01.0
11	21 32.8	−00.4	N 12 18.5	+00.9
12	36 32.4	−00.3	N 12 19.4	+01.0
13	51 32.1	−00.4	N 12 20.4	+00.9
14	66 31.7	−00.4	N 12 21.3	+01.0
15	81 31.3	−00.4	N 12 22.3	+01.0
16	96 30.9	−00.4	N 12 23.3	+00.9
17	111 30.5	−00.3	N 12 24.2	+01.0
18	126 30.2	−00.4	N 12 25.2	+00.9
19	141 29.8	−00.4	N 12 26.1	+01.0
20	156 29.4	−00.4	N 12 27.1	+00.9
21	171 29.0	−00.4	N 12 28.0	+01.0
22	186 28.6	−00.4	N 12 29.0	+01.0
23	201 28.2	−00.4	N 12 30.0	+00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	324°	324°	324°	324°	323°	323°

Greenwich Culmination Time: 09:33

Moon

A: 16%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	126 14.5	−29.4	N 24 22.0	−06.1
01	140 45.1	−29.4	N 24 15.9	−06.3
02	155 15.7	−29.3	N 24 09.6	−06.4
03	169 46.4	−29.3	N 24 03.2	−06.5
04	184 17.1	−29.2	N 23 56.7	−06.6
05	198 47.9	−29.2	N 23 50.1	−06.7
06	213 18.7	−29.1	N 23 43.4	−06.8
07	227 49.6	−29.1	N 23 36.6	−07.0
08	242 20.5	−29.1	N 23 29.6	−07.0
09	256 51.4	−29.0	N 23 22.6	−07.2
10	271 22.4	−28.9	N 23 15.4	−07.2
11	285 53.5	−29.0	N 23 08.2	−07.4
12	300 24.5	−28.8	N 23 00.8	−07.5
13	314 55.7	−28.9	N 22 53.3	−07.5
14	329 26.8	−28.7	N 22 45.8	−07.7
15	343 58.1	−28.8	N 22 38.1	−07.8
16	358 29.3	−28.7	N 22 30.3	−07.9
17	13 00.6	−28.6	N 22 22.4	−08.0
18	27 32.0	−28.6	N 22 14.4	−08.1
19	42 03.4	−28.6	N 22 06.3	−08.2
20	56 34.8	−28.5	N 21 58.1	−08.3
21	71 06.3	−28.4	N 21 49.8	−08.4
22	85 37.9	−28.5	N 21 41.4	−08.5
23	100 09.4	−28.3	N 21 32.9	−08.5

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′2	54′2	54′3	54′3	54′4	54′5
SHA	233°	231°	229°	226°	224°	222°

Greenwich Culmination Time: 16:06

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	244 52.9	+00.8	N 01 19.8	+00.7
01	259 53.7	+00.8	N 01 20.5	+00.7
02	274 54.5	+00.7	N 01 21.2	+00.8
03	289 55.2	+00.8	N 01 22.0	+00.7
04	304 56.0	+00.8	N 01 22.7	+00.7
05	319 56.8	+00.7	N 01 23.4	+00.7
06	334 57.5	+00.8	N 01 24.1	+00.7
07	349 58.3	+00.8	N 01 24.8	+00.8
08	4 59.1	+00.7	N 01 25.6	+00.7
09	19 59.8	+00.8	N 01 26.3	+00.7
10	35 00.6	+00.8	N 01 27.0	+00.7
11	50 01.4	+00.7	N 01 27.7	+00.7
12	65 02.1	+00.8	N 01 28.4	+00.7
13	80 02.9	+00.8	N 01 29.1	+00.8
14	95 03.7	+00.7	N 01 29.9	+00.7
15	110 04.4	+00.8	N 01 30.6	+00.7
16	125 05.2	+00.8	N 01 31.3	+00.7
17	140 06.0	+00.7	N 01 32.0	+00.7
18	155 06.7	+00.8	N 01 32.7	+00.7
19	170 07.5	+00.7	N 01 33.4	+00.8
20	185 08.2	+00.8	N 01 34.2	+00.7
21	200 09.0	+00.8	N 01 34.9	+00.7
22	215 09.8	+00.7	N 01 35.6	+00.7
23	230 10.5	+00.8	N 01 36.3	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 07:40

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	248 05.3	+02.1	N 00 35.4	+00.1
01	263 07.4	+02.1	N 00 35.5	+00.2
02	278 09.5	+02.2	N 00 35.7	+00.1
03	293 11.7	+02.1	N 00 35.8	+00.2
04	308 13.8	+02.1	N 00 36.0	+00.1
05	323 15.9	+02.1	N 00 36.1	+00.1
06	338 18.0	+02.1	N 00 36.2	+00.2
07	353 20.1	+02.1	N 00 36.4	+00.1
08	8 22.2	+02.1	N 00 36.5	+00.2
09	23 24.3	+02.1	N 00 36.7	+00.1
10	38 26.4	+02.2	N 00 36.8	+00.2
11	53 28.6	+02.1	N 00 37.0	+00.1
12	68 30.7	+02.1	N 00 37.1	+00.1
13	83 32.8	+02.1	N 00 37.2	+00.2
14	98 34.9	+02.1	N 00 37.4	+00.1
15	113 37.0	+02.1	N 00 37.5	+00.2
16	128 39.1	+02.1	N 00 37.7	+00.1
17	143 41.2	+02.1	N 00 37.8	+00.1
18	158 43.3	+02.2	N 00 37.9	+00.2
19	173 45.5	+02.1	N 00 38.1	+00.1
20	188 47.6	+02.1	N 00 38.2	+00.2
21	203 49.7	+02.1	N 00 38.4	+00.1
22	218 51.8	+02.1	N 00 38.5	+00.1
23	233 53.9	+02.1	N 00 38.6	+00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	356°	356°	356°	356°	356°

Greenwich Culmination Time: 07:26

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	284 30.1	+02.4	S 14 09.7	+00.0
01	299 32.5	+02.5	S 14 09.7	+00.0
02	314 35.0	+02.5	S 14 09.7	+00.0
03	329 37.5	+02.4	S 14 09.7	+00.0
04	344 39.9	+02.5	S 14 09.7	+00.0
05	359 42.4	+02.4	S 14 09.7	+00.0
06	14 44.8	+02.5	S 14 09.7	+00.0
07	29 47.3	+02.5	S 14 09.7	+00.0
08	44 49.8	+02.4	S 14 09.7	+00.0
09	59 52.2	+02.5	S 14 09.7	+00.0
10	74 54.7	+02.4	S 14 09.7	+00.0
11	89 57.1	+02.5	S 14 09.7	+00.1
12	104 59.6	+02.5	S 14 09.8	+00.0
13	120 02.1	+02.4	S 14 09.8	+00.0
14	135 04.5	+02.5	S 14 09.8	+00.0
15	150 07.0	+02.4	S 14 09.8	+00.0
16	165 09.4	+02.5	S 14 09.8	+00.0
17	180 11.9	+02.5	S 14 09.8	+00.0
18	195 14.4	+02.4	S 14 09.8	+00.0
19	210 16.8	+02.5	S 14 09.8	+00.0
20	225 19.3	+02.4	S 14 09.8	+00.0
21	240 21.7	+02.5	S 14 09.8	+00.0
22	255 24.2	+02.5	S 14 09.8	+00.0
23	270 26.7	+02.4	S 14 09.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 05:01

2022 June 9 Thursday (day 160 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 12.1	−00.1	N 22 54.7	+00.2
01	195 12.0	−00.1	N 22 54.9	+00.2
02	210 11.9	−00.2	N 22 55.1	+00.2
03	225 11.7	−00.1	N 22 55.3	+00.2
04	240 11.6	−00.1	N 22 55.5	+00.3
05	255 11.5	−00.1	N 22 55.8	+00.2
06	270 11.4	−00.2	N 22 56.0	+00.2
07	285 11.2	−00.1	N 22 56.2	+00.2
08	300 11.1	−00.1	N 22 56.4	+00.2
09	315 11.0	−00.1	N 22 56.6	+00.2
10	330 10.9	−00.1	N 22 56.8	+00.2
11	345 10.8	−00.2	N 22 57.0	+00.2
12	0 10.6	−00.1	N 22 57.2	+00.2
13	15 10.5	−00.1	N 22 57.4	+00.2
14	30 10.4	−00.1	N 22 57.6	+00.2
15	45 10.3	−00.2	N 22 57.8	+00.2
16	60 10.1	−00.1	N 22 58.0	+00.2
17	75 10.0	−00.1	N 22 58.2	+00.2
18	90 09.9	−00.1	N 22 58.4	+00.2
19	105 09.8	−00.1	N 22 58.6	+00.2
20	120 09.7	−00.2	N 22 58.8	+00.2
21	135 09.5	−00.1	N 22 59.0	+00.2
22	150 09.4	−00.1	N 22 59.2	+00.2
23	165 09.3	−00.1	N 22 59.4	+00.2

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	283°	283°	282°	282°	282°	282°

Greenwich Culmination Time: 11:59

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	215 49.0	−00.5	N 14 00.5	+00.9
01	230 48.5	−00.4	N 14 01.4	+00.9
02	245 48.1	−00.4	N 14 02.3	+00.9
03	260 47.7	−00.4	N 14 03.2	+00.9
04	275 47.3	−00.5	N 14 04.1	+00.9
05	290 46.8	−00.4	N 14 05.0	+00.9
06	305 46.4	−00.4	N 14 05.9	+00.9
07	320 46.0	−00.4	N 14 06.8	+00.9
08	335 45.6	−00.5	N 14 07.7	+00.9
09	350 45.1	−00.4	N 14 08.6	+00.9
10	5 44.7	−00.4	N 14 09.5	+00.9
11	20 44.3	−00.5	N 14 10.4	+00.9
12	35 43.8	−00.4	N 14 11.3	+00.9
13	50 43.4	−00.4	N 14 12.2	+01.0
14	65 43.0	−00.5	N 14 13.2	+00.9
15	80 42.5	−00.4	N 14 14.1	+00.9
16	95 42.1	−00.4	N 14 15.0	+00.9
17	110 41.7	−00.5	N 14 15.9	+00.9
18	125 41.2	−00.4	N 14 16.8	+00.9
19	140 40.8	−00.4	N 14 17.7	+00.9
20	155 40.4	−00.5	N 14 18.6	+00.9
21	170 39.9	−00.4	N 14 19.5	+00.9
22	185 39.5	−00.4	N 14 20.4	+00.9
23	200 39.1	−00.5	N 14 21.3	+00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	318°	318°	318°	318°	318°	317°

Greenwich Culmination Time: 09:37

Moon

A: 31%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	71 29.2	−26.9	N 01 41.0	−15.0
01	86 02.3	−27.0	N 01 26.0	−14.9
02	100 35.3	−27.0	N 01 11.1	−15.0
03	115 08.3	−27.0	N 00 56.1	−15.0
04	129 41.3	−27.1	N 00 41.1	−15.0
05	144 14.2	−27.2	N 00 26.1	−15.0
06	158 47.0	−27.1	N 00 11.1	−15.1
07	173 19.9	−27.2	S 00 04.0	+15.1
08	187 52.7	−27.3	S 00 19.1	+15.1
09	202 25.4	−27.3	S 00 34.2	+15.1
10	216 58.1	−27.3	S 00 49.3	+15.1
11	231 30.8	−27.4	S 01 04.4	+15.2
12	246 03.4	−27.4	S 01 19.6	+15.2
13	260 36.0	−27.5	S 01 34.8	+15.2
14	275 08.5	−27.6	S 01 50.0	+15.2
15	289 40.9	−27.6	S 02 05.2	+15.2
16	304 13.3	−27.6	S 02 20.4	+15.2
17	318 45.7	−27.7	S 02 35.6	+15.2
18	333 18.0	−27.8	S 02 50.8	+15.3
19	347 50.2	−27.8	S 03 06.1	+15.2
20	2 22.4	−27.9	S 03 21.3	+15.3
21	16 54.5	−27.9	S 03 36.6	+15.2
22	31 26.6	−28.0	S 03 51.8	+15.3
23	45 58.6	−28.1	S 04 07.1	+15.3

UT	02	06	10	14	18	22
SD	15′6	15′6	15′7	15′7	15′8	15′8
HP	57′3	57′4	57′6	57′7	57′9	58′0
SHA	173°	171°	169°	167°	165°	163°

Greenwich Culmination Time: 19:50

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	246 25.1	+00.8	N 02 45.4	+00.7
01	261 25.9	+00.7	N 02 46.1	+00.7
02	276 26.6	+00.8	N 02 46.8	+00.7
03	291 27.4	+00.8	N 02 47.5	+00.7
04	306 28.2	+00.8	N 02 48.2	+00.7
05	321 29.0	+00.7	N 02 48.9	+00.8
06	336 29.7	+00.8	N 02 49.7	+00.7
07	351 30.5	+00.8	N 02 50.4	+00.7
08	6 31.3	+00.7	N 02 51.1	+00.7
09	21 32.0	+00.8	N 02 51.8	+00.7
10	36 32.8	+00.8	N 02 52.5	+00.7
11	51 33.6	+00.8	N 02 53.2	+00.7
12	66 34.4	+00.7	N 02 53.9	+00.7
13	81 35.1	+00.8	N 02 54.6	+00.7
14	96 35.9	+00.8	N 02 55.3	+00.7
15	111 36.7	+00.7	N 02 56.0	+00.7
16	126 37.4	+00.8	N 02 56.7	+00.7
17	141 38.2	+00.8	N 02 57.4	+00.7
18	156 39.0	+00.8	N 02 58.1	+00.8
19	171 39.8	+00.7	N 02 58.9	+00.7
20	186 40.5	+00.8	N 02 59.6	+00.7
21	201 41.3	+00.8	N 03 00.3	+00.7
22	216 42.1	+00.7	N 03 01.0	+00.7
23	231 42.8	+00.8	N 03 01.7	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	349°	349°	349°	349°	349°	348°

Greenwich Culmination Time: 07:33

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	252 20.0	+02.1	N 00 51.8	+00.2
01	267 22.1	+02.2	N 00 52.0	+00.1
02	282 24.3	+02.1	N 00 52.1	+00.1
03	297 26.4	+02.1	N 00 52.2	+00.2
04	312 28.5	+02.2	N 00 52.4	+00.1
05	327 30.7	+02.1	N 00 52.5	+00.1
06	342 32.8	+02.1	N 00 52.6	+00.2
07	357 34.9	+02.2	N 00 52.8	+00.1
08	12 37.1	+02.1	N 00 52.9	+00.1
09	27 39.2	+02.2	N 00 53.0	+00.1
10	42 41.4	+02.1	N 00 53.1	+00.2
11	57 43.5	+02.1	N 00 53.3	+00.1
12	72 45.6	+02.2	N 00 53.4	+00.1
13	87 47.8	+02.1	N 00 53.5	+00.2
14	102 49.9	+02.1	N 00 53.7	+00.1
15	117 52.0	+02.2	N 00 53.8	+00.1
16	132 54.2	+02.1	N 00 53.9	+00.2
17	147 56.3	+02.2	N 00 54.1	+00.1
18	162 58.5	+02.1	N 00 54.2	+00.1
19	178 00.6	+02.1	N 00 54.3	+00.1
20	193 02.7	+02.2	N 00 54.4	+00.2
21	208 04.9	+02.1	N 00 54.6	+00.1
22	223 07.0	+02.1	N 00 54.7	+00.1
23	238 09.1	+02.2	N 00 54.8	+00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	355°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 07:09

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	289 26.2	+02.5	S 14 10.8	+00.0
01	304 28.7	+02.5	S 14 10.8	+00.0
02	319 31.2	+02.4	S 14 10.8	+00.1
03	334 33.6	+02.5	S 14 10.9	+00.0
04	349 36.1	+02.5	S 14 10.9	+00.0
05	4 38.6	+02.5	S 14 10.9	+00.0
06	19 41.1	+02.5	S 14 10.9	+00.0
07	34 43.6	+02.4	S 14 10.9	+00.0
08	49 46.0	+02.5	S 14 10.9	+00.0
09	64 48.5	+02.5	S 14 10.9	+00.0
10	79 51.0	+02.5	S 14 10.9	+00.1
11	94 53.5	+02.5	S 14 11.0	+00.0
12	109 56.0	+02.4	S 14 11.0	+00.0
13	124 58.4	+02.5	S 14 11.0	+00.0
14	140 00.9	+02.5	S 14 11.0	+00.0
15	155 03.4	+02.5	S 14 11.0	+00.0
16	170 05.9	+02.5	S 14 11.0	+00.0
17	185 08.4	+02.4	S 14 11.0	+00.1
18	200 10.8	+02.5	S 14 11.1	+00.0
19	215 13.3	+02.5	S 14 11.1	+00.0
20	230 15.8	+02.5	S 14 11.1	+00.0
21	245 18.3	+02.5	S 14 11.1	+00.0
22	260 20.8	+02.4	S 14 11.1	+00.0
23	275 23.2	+02.5	S 14 11.1	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 04:41

2022 June 6 Monday (day 157 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 20.6	−00.2	N 22 37.7	+00.2
01	195 20.4	−00.1	N 22 37.9	+00.3
02	210 20.3	−00.1	N 22 38.2	+00.2
03	225 20.2	−00.1	N 22 38.4	+00.3
04	240 20.1	−00.1	N 22 38.7	+00.3
05	255 20.0	−00.1	N 22 39.0	+00.2
06	270 19.9	−00.1	N 22 39.2	+00.3
07	285 19.8	−00.2	N 22 39.5	+00.2
08	300 19.6	−00.1	N 22 39.7	+00.3
09	315 19.5	−00.1	N 22 40.0	+00.2
10	330 19.4	−00.1	N 22 40.2	+00.3
11	345 19.3	−00.1	N 22 40.5	+00.3
12	0 19.2	−00.1	N 22 40.8	+00.2
13	15 19.1	−00.1	N 22 41.0	+00.3
14	30 19.0	−00.2	N 22 41.3	+00.2
15	45 18.8	−00.1	N 22 41.5	+00.3
16	60 18.7	−00.1	N 22 41.8	+00.2
17	75 18.6	−00.1	N 22 42.0	+00.3
18	90 18.5	−00.1	N 22 42.3	+00.2
19	105 18.4	−00.1	N 22 42.5	+00.3
20	120 18.3	−00.1	N 22 42.8	+00.2
21	135 18.2	−00.2	N 22 43.0	+00.3
22	150 18.0	−00.1	N 22 43.3	+00.2
23	165 17.9	−00.1	N 22 43.5	+00.2

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	286°	286°	286°	285°	285°	285°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	216 18.5	−00.4	N 12 53.7	+00.9
01	231 18.1	−00.4	N 12 54.6	+01.0
02	246 17.7	−00.4	N 12 55.6	+00.9
03	261 17.3	−00.4	N 12 56.5	+01.0
04	276 16.9	−00.4	N 12 57.5	+00.9
05	291 16.5	−00.4	N 12 58.4	+00.9
06	306 16.1	−00.4	N 12 59.3	+01.0
07	321 15.7	−00.4	N 13 00.3	+00.9
08	336 15.3	−00.4	N 13 01.2	+01.0
09	351 14.9	−00.4	N 13 02.2	+00.9
10	6 14.5	−00.4	N 13 03.1	+00.9
11	21 14.1	−00.4	N 13 04.0	+01.0
12	36 13.7	−00.4	N 13 05.0	+00.9
13	51 13.3	−00.4	N 13 05.9	+01.0
14	66 12.9	−00.4	N 13 06.9	+00.9
15	81 12.5	−00.4	N 13 07.8	+00.9
16	96 12.1	−00.4	N 13 08.7	+01.0
17	111 11.7	−00.4	N 13 09.7	+00.9
18	126 11.3	−00.4	N 13 10.6	+00.9
19	141 10.9	−00.4	N 13 11.5	+01.0
20	156 10.5	−00.4	N 13 12.5	+00.9
21	171 10.1	−00.4	N 13 13.4	+00.9
22	186 09.7	−00.4	N 13 14.3	+01.0
23	201 09.3	−00.4	N 13 15.3	+00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	322°	322°	321°	321°	321°	321°

Greenwich Culmination Time: 09:35

Moon

A: 22%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	103 32.9	−27.3	N 17 30.1	−10.9
01	118 05.6	−27.3	N 17 19.2	−10.9
02	132 38.3	−27.3	N 17 08.3	−11.1
03	147 11.0	−27.2	N 16 57.2	−11.1
04	161 43.8	−27.2	N 16 46.1	−11.1
05	176 16.6	−27.2	N 16 35.0	−11.3
06	190 49.4	−27.1	N 16 23.7	−11.3
07	205 22.3	−27.1	N 16 12.4	−11.5
08	219 55.2	−27.1	N 16 00.9	−11.4
09	234 28.1	−27.0	N 15 49.5	−11.6
10	249 01.1	−27.0	N 15 37.9	−11.7
11	263 34.1	−27.0	N 15 26.2	−11.7
12	278 07.1	−26.9	N 15 14.5	−11.8
13	292 40.2	−26.9	N 15 02.7	−11.8
14	307 13.3	−26.9	N 14 50.9	−12.0
15	321 46.4	−26.9	N 14 38.9	−12.0
16	336 19.5	−26.8	N 14 26.9	−12.1
17	350 52.7	−26.9	N 14 14.8	−12.1
18	5 25.8	−26.7	N 14 02.7	−12.3
19	19 59.1	−26.8	N 13 50.4	−12.3
20	34 32.3	−26.8	N 13 38.1	−12.3
21	49 05.5	−26.7	N 13 25.8	−12.5
22	63 38.8	−26.7	N 13 13.3	−12.5
23	78 12.1	−26.7	N 13 00.8	−12.5

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	15′1	15′1	15′1
HP	55′0	55′1	55′2	55′3	55′4	55′5
SHA	208°	206°	204°	202°	200°	198°

Greenwich Culmination Time: 17:37

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	245 29.7	+00.8	N 01 54.2	+00.7
01	260 30.5	+00.7	N 01 54.9	+00.7
02	275 31.2	+00.8	N 01 55.6	+00.7
03	290 32.0	+00.8	N 01 56.3	+00.7
04	305 32.8	+00.7	N 01 57.0	+00.8
05	320 33.5	+00.8	N 01 57.8	+00.7
06	335 34.3	+00.8	N 01 58.5	+00.7
07	350 35.1	+00.7	N 01 59.2	+00.7
08	5 35.8	+00.8	N 01 59.9	+00.7
09	20 36.6	+00.8	N 02 00.6	+00.7
10	35 37.4	+00.8	N 02 01.3	+00.7
11	50 38.2	+00.7	N 02 02.0	+00.8
12	65 38.9	+00.8	N 02 02.8	+00.7
13	80 39.7	+00.8	N 02 03.5	+00.7
14	95 40.5	+00.7	N 02 04.2	+00.7
15	110 41.2	+00.8	N 02 04.9	+00.7
16	125 42.0	+00.8	N 02 05.6	+00.7
17	140 42.8	+00.7	N 02 06.3	+00.7
18	155 43.5	+00.8	N 02 07.0	+00.7
19	170 44.3	+00.8	N 02 07.7	+00.8
20	185 45.1	+00.7	N 02 08.5	+00.7
21	200 45.8	+00.8	N 02 09.2	+00.7
22	215 46.6	+00.8	N 02 09.9	+00.7
23	230 47.4	+00.7	N 02 10.6	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	351°	351°	351°	351°	351°	350°

Greenwich Culmination Time: 07:37

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	249 46.8	+02.2	N 00 42.1	+00.2
01	264 49.0	+02.1	N 00 42.3	+00.1
02	279 51.1	+02.1	N 00 42.4	+00.1
03	294 53.2	+02.1	N 00 42.5	+00.2
04	309 55.3	+02.1	N 00 42.7	+00.1
05	324 57.4	+02.2	N 00 42.8	+00.2
06	339 59.6	+02.1	N 00 43.0	+00.1
07	355 01.7	+02.1	N 00 43.1	+00.1
08	10 03.8	+02.1	N 00 43.2	+00.2
09	25 05.9	+02.2	N 00 43.4	+00.1
10	40 08.1	+02.1	N 00 43.5	+00.1
11	55 10.2	+02.1	N 00 43.6	+00.2
12	70 12.3	+02.1	N 00 43.8	+00.1
13	85 14.4	+02.1	N 00 43.9	+00.2
14	100 16.5	+02.2	N 00 44.1	+00.1
15	115 18.7	+02.1	N 00 44.2	+00.1
16	130 20.8	+02.1	N 00 44.3	+00.2
17	145 22.9	+02.1	N 00 44.5	+00.1
18	160 25.0	+02.2	N 00 44.6	+00.1
19	175 27.2	+02.1	N 00 44.7	+00.2
20	190 29.3	+02.1	N 00 44.9	+00.1
21	205 31.4	+02.1	N 00 45.0	+00.1
22	220 33.5	+02.2	N 00 45.1	+00.2
23	235 35.7	+02.1	N 00 45.3	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	355°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 07:19

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	286 28.3	+02.4	S 14 10.0	+00.0
01	301 30.7	+02.5	S 14 10.0	+00.0
02	316 33.2	+02.4	S 14 10.0	+00.1
03	331 35.6	+02.5	S 14 10.1	+00.0
04	346 38.1	+02.5	S 14 10.1	+00.0
05	1 40.6	+02.4	S 14 10.1	+00.0
06	16 43.0	+02.5	S 14 10.1	+00.0
07	31 45.5	+02.5	S 14 10.1	+00.0
08	46 48.0	+02.5	S 14 10.1	+00.0
09	61 50.5	+02.4	S 14 10.1	+00.0
10	76 52.9	+02.5	S 14 10.1	+00.0
11	91 55.4	+02.5	S 14 10.1	+00.0
12	106 57.9	+02.4	S 14 10.1	+00.1
13	122 00.3	+02.5	S 14 10.2	+00.0
14	137 02.8	+02.5	S 14 10.2	+00.0
15	152 05.3	+02.4	S 14 10.2	+00.0
16	167 07.7	+02.5	S 14 10.2	+00.0
17	182 10.2	+02.5	S 14 10.2	+00.0
18	197 12.7	+02.4	S 14 10.2	+00.0
19	212 15.1	+02.5	S 14 10.2	+00.0
20	227 17.6	+02.5	S 14 10.2	+00.0
21	242 20.1	+02.4	S 14 10.2	+00.0
22	257 22.5	+02.5	S 14 10.2	+00.1
23	272 25.0	+02.5	S 14 10.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 04:53

2022 June 7 Tuesday (day 158 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 17.8	−00.1	N 22 43.7	+00.3
01	195 17.7	−00.1	N 22 44.0	+00.2
02	210 17.6	−00.1	N 22 44.2	+00.3
03	225 17.5	−00.2	N 22 44.5	+00.2
04	240 17.3	−00.1	N 22 44.7	+00.3
05	255 17.2	−00.1	N 22 45.0	+00.2
06	270 17.1	−00.1	N 22 45.2	+00.2
07	285 17.0	−00.1	N 22 45.4	+00.3
08	300 16.9	−00.1	N 22 45.7	+00.2
09	315 16.8	−00.2	N 22 45.9	+00.3
10	330 16.6	−00.1	N 22 46.2	+00.2
11	345 16.5	−00.1	N 22 46.4	+00.2
12	0 16.4	−00.1	N 22 46.6	+00.3
13	15 16.3	−00.1	N 22 46.9	+00.2
14	30 16.2	−00.1	N 22 47.1	+00.2
15	45 16.1	−00.2	N 22 47.3	+00.3
16	60 15.9	−00.1	N 22 47.6	+00.2
17	75 15.8	−00.1	N 22 47.8	+00.2
18	90 15.7	−00.1	N 22 48.0	+00.3
19	105 15.6	−00.1	N 22 48.3	+00.2
20	120 15.5	−00.2	N 22 48.5	+00.2
21	135 15.3	−00.1	N 22 48.7	+00.3
22	150 15.2	−00.1	N 22 49.0	+00.2
23	165 15.1	−00.1	N 22 49.2	+00.2

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	285°	285°	284°	284°	284°	284°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	216 08.9	−00.4	N 13 16.2	+01.0
01	231 08.5	−00.4	N 13 17.2	+00.9
02	246 08.1	−00.4	N 13 18.1	+00.9
03	261 07.7	−00.4	N 13 19.0	+00.9
04	276 07.3	−00.4	N 13 19.9	+01.0
05	291 06.9	−00.4	N 13 20.9	+00.9
06	306 06.5	−00.4	N 13 21.8	+00.9
07	321 06.1	−00.5	N 13 22.7	+01.0
08	336 05.6	−00.4	N 13 23.7	+00.9
09	351 05.2	−00.4	N 13 24.6	+00.9
10	6 04.8	−00.4	N 13 25.5	+01.0
11	21 04.4	−00.4	N 13 26.5	+00.9
12	36 04.0	−00.4	N 13 27.4	+00.9
13	51 03.6	−00.4	N 13 28.3	+00.9
14	66 03.2	−00.4	N 13 29.2	+01.0
15	81 02.8	−00.4	N 13 30.2	+00.9
16	96 02.4	−00.4	N 13 31.1	+00.9
17	111 02.0	−00.5	N 13 32.0	+00.9
18	126 01.5	−00.4	N 13 32.9	+01.0
19	141 01.1	−00.4	N 13 33.9	+00.9
20	156 00.7	−00.4	N 13 34.8	+00.9
21	171 00.3	−00.4	N 13 35.7	+00.9
22	185 59.9	−00.4	N 13 36.6	+01.0
23	200 59.5	−00.4	N 13 37.6	+00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	321°	320°	320°	320°	320°	320°

Greenwich Culmination Time: 09:35

Moon

A: 25%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	92 45.4	−26.6	N 12 48.3	−12.7
01	107 18.8	−26.7	N 12 35.6	−12.7
02	121 52.1	−26.6	N 12 22.9	−12.7
03	136 25.5	−26.6	N 12 10.2	−12.8
04	150 58.9	−26.6	N 11 57.4	−12.9
05	165 32.3	−26.6	N 11 44.5	−13.0
06	180 05.7	−26.5	N 11 31.5	−13.0
07	194 39.2	−26.6	N 11 18.5	−13.1
08	209 12.6	−26.5	N 11 05.4	−13.1
09	223 46.1	−26.6	N 10 52.3	−13.2
10	238 19.5	−26.5	N 10 39.1	−13.3
11	252 53.0	−26.5	N 10 25.8	−13.3
12	267 26.5	−26.5	N 10 12.5	−13.3
13	282 00.0	−26.5	N 09 59.2	−13.5
14	296 33.5	−26.5	N 09 45.7	−13.5
15	311 07.0	−26.5	N 09 32.2	−13.5
16	325 40.5	−26.4	N 09 18.7	−13.6
17	340 14.1	−26.5	N 09 05.1	−13.6
18	354 47.6	−26.5	N 08 51.5	−13.7
19	9 21.1	−26.5	N 08 37.8	−13.8
20	23 54.6	−26.4	N 08 24.0	−13.8
21	38 28.2	−26.5	N 08 10.2	−13.8
22	53 01.7	−26.5	N 07 56.4	−13.9
23	67 35.2	−26.5	N 07 42.5	−14.0

UT	02	06	10	14	18	22
SD	15′2	15′2	15′2	15′3	15′3	15′3
HP	55′6	55′7	55′9	56′0	56′1	56′2
SHA	196°	194°	193°	191°	189°	187°

Greenwich Culmination Time: 18:21

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	245 48.1	+00.8	N 02 11.3	+00.7
01	260 48.9	+00.8	N 02 12.0	+00.7
02	275 49.7	+00.7	N 02 12.7	+00.7
03	290 50.4	+00.8	N 02 13.4	+00.8
04	305 51.2	+00.8	N 02 14.2	+00.7
05	320 52.0	+00.8	N 02 14.9	+00.7
06	335 52.8	+00.7	N 02 15.6	+00.7
07	350 53.5	+00.8	N 02 16.3	+00.7
08	5 54.3	+00.8	N 02 17.0	+00.7
09	20 55.1	+00.7	N 02 17.7	+00.7
10	35 55.8	+00.8	N 02 18.4	+00.7
11	50 56.6	+00.8	N 02 19.1	+00.8
12	65 57.4	+00.7	N 02 19.9	+00.7
13	80 58.1	+00.8	N 02 20.6	+00.7
14	95 58.9	+00.8	N 02 21.3	+00.7
15	110 59.7	+00.7	N 02 22.0	+00.7
16	126 00.4	+00.8	N 02 22.7	+00.7
17	141 01.2	+00.8	N 02 23.4	+00.7
18	156 02.0	+00.8	N 02 24.1	+00.7
19	171 02.8	+00.7	N 02 24.8	+00.7
20	186 03.5	+00.8	N 02 25.5	+00.8
21	201 04.3	+00.8	N 02 26.3	+00.7
22	216 05.1	+00.7	N 02 27.0	+00.7
23	231 05.8	+00.8	N 02 27.7	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	350°	350°	350°	350°	350°	350°

Greenwich Culmination Time: 07:36

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	250 37.8	+02.1	N 00 45.4	+00.2
01	265 39.9	+02.1	N 00 45.6	+00.1
02	280 42.0	+02.2	N 00 45.7	+00.1
03	295 44.2	+02.1	N 00 45.8	+00.2
04	310 46.3	+02.1	N 00 46.0	+00.1
05	325 48.4	+02.1	N 00 46.1	+00.1
06	340 50.5	+02.2	N 00 46.2	+00.2
07	355 52.7	+02.1	N 00 46.4	+00.1
08	10 54.8	+02.1	N 00 46.5	+00.1
09	25 56.9	+02.1	N 00 46.6	+00.2
10	40 59.0	+02.2	N 00 46.8	+00.1
11	56 01.2	+02.1	N 00 46.9	+00.1
12	71 03.3	+02.1	N 00 47.0	+00.2
13	86 05.4	+02.1	N 00 47.2	+00.1
14	101 07.5	+02.2	N 00 47.3	+00.1
15	116 09.7	+02.1	N 00 47.4	+00.2
16	131 11.8	+02.1	N 00 47.6	+00.1
17	146 13.9	+02.2	N 00 47.7	+00.1
18	161 16.1	+02.1	N 00 47.8	+00.2
19	176 18.2	+02.1	N 00 48.0	+00.1
20	191 20.3	+02.1	N 00 48.1	+00.2
21	206 22.4	+02.2	N 00 48.3	+00.1
22	221 24.6	+02.1	N 00 48.4	+00.1
23	236 26.7	+02.1	N 00 48.5	+00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	355°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 07:16

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	287 27.5	+02.4	S 14 10.3	+00.0
01	302 29.9	+02.5	S 14 10.3	+00.0
02	317 32.4	+02.5	S 14 10.3	+00.0
03	332 34.9	+02.5	S 14 10.3	+00.0
04	347 37.4	+02.4	S 14 10.3	+00.0
05	2 39.8	+02.5	S 14 10.3	+00.0
06	17 42.3	+02.5	S 14 10.3	+00.0
07	32 44.8	+02.4	S 14 10.3	+00.0
08	47 47.2	+02.5	S 14 10.3	+00.1
09	62 49.7	+02.5	S 14 10.4	+00.0
10	77 52.2	+02.5	S 14 10.4	+00.0
11	92 54.7	+02.4	S 14 10.4	+00.0
12	107 57.1	+02.5	S 14 10.4	+00.0
13	122 59.6	+02.5	S 14 10.4	+00.0
14	138 02.1	+02.4	S 14 10.4	+00.0
15	153 04.5	+02.5	S 14 10.4	+00.0
16	168 07.0	+02.5	S 14 10.4	+00.0
17	183 09.5	+02.5	S 14 10.4	+00.1
18	198 12.0	+02.4	S 14 10.5	+00.0
19	213 14.4	+02.5	S 14 10.5	+00.0
20	228 16.9	+02.5	S 14 10.5	+00.0
21	243 19.4	+02.5	S 14 10.5	+00.0
22	258 21.9	+02.4	S 14 10.5	+00.0
23	273 24.3	+02.5	S 14 10.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 04:49

2022 June 8 Wednesday (day 159 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 15.0	−00.1	N 22 49.4	+00.3
01	195 14.9	−00.2	N 22 49.7	+00.2
02	210 14.7	−00.1	N 22 49.9	+00.2
03	225 14.6	−00.1	N 22 50.1	+00.2
04	240 14.5	−00.1	N 22 50.3	+00.3
05	255 14.4	−00.1	N 22 50.6	+00.2
06	270 14.3	−00.1	N 22 50.8	+00.2
07	285 14.2	−00.2	N 22 51.0	+00.2
08	300 14.0	−00.1	N 22 51.2	+00.2
09	315 13.9	−00.1	N 22 51.4	+00.3
10	330 13.8	−00.1	N 22 51.7	+00.2
11	345 13.7	−00.1	N 22 51.9	+00.2
12	0 13.6	−00.2	N 22 52.1	+00.2
13	15 13.4	−00.1	N 22 52.3	+00.3
14	30 13.3	−00.1	N 22 52.6	+00.2
15	45 13.2	−00.1	N 22 52.8	+00.2
16	60 13.1	−00.2	N 22 53.0	+00.2
17	75 12.9	−00.1	N 22 53.2	+00.2
18	90 12.8	−00.1	N 22 53.4	+00.2
19	105 12.7	−00.1	N 22 53.6	+00.3
20	120 12.6	−00.1	N 22 53.9	+00.2
21	135 12.5	−00.2	N 22 54.1	+00.2
22	150 12.3	−00.1	N 22 54.3	+00.2
23	165 12.2	−00.1	N 22 54.5	+00.2

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	284°	284°	283°	283°	283°	283°

Greenwich Culmination Time: 11:59

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	215 59.1	−00.5	N 13 38.5	+00.9
01	230 58.6	−00.4	N 13 39.4	+00.9
02	245 58.2	−00.4	N 13 40.3	+00.9
03	260 57.8	−00.4	N 13 41.2	+01.0
04	275 57.4	−00.4	N 13 42.2	+00.9
05	290 57.0	−00.4	N 13 43.1	+00.9
06	305 56.6	−00.5	N 13 44.0	+00.9
07	320 56.1	−00.4	N 13 44.9	+00.9
08	335 55.7	−00.4	N 13 45.8	+01.0
09	350 55.3	−00.4	N 13 46.8	+00.9
10	5 54.9	−00.4	N 13 47.7	+00.9
11	20 54.5	−00.5	N 13 48.6	+00.9
12	35 54.0	−00.4	N 13 49.5	+00.9
13	50 53.6	−00.4	N 13 50.4	+00.9
14	65 53.2	−00.4	N 13 51.3	+01.0
15	80 52.8	−00.4	N 13 52.3	+00.9
16	95 52.4	−00.5	N 13 53.2	+00.9
17	110 51.9	−00.4	N 13 54.1	+00.9
18	125 51.5	−00.4	N 13 55.0	+00.9
19	140 51.1	−00.4	N 13 55.9	+00.9
20	155 50.7	−00.5	N 13 56.8	+00.9
21	170 50.2	−00.4	N 13 57.7	+00.9
22	185 49.8	−00.4	N 13 58.6	+01.0
23	200 49.4	−00.4	N 13 59.6	+00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	320°	319°	319°	319°	319°	319°

Greenwich Culmination Time: 09:36

Moon

A: 28%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	82 08.7	−26.5	N 07 28.5	−14.0
01	96 42.2	−26.4	N 07 14.5	−14.0
02	111 15.8	−26.5	N 07 00.5	−14.1
03	125 49.3	−26.6	N 06 46.4	−14.2
04	140 22.7	−26.5	N 06 32.2	−14.2
05	154 56.2	−26.5	N 06 18.0	−14.2
06	169 29.7	−26.5	N 06 03.8	−14.3
07	184 03.2	−26.6	N 05 49.5	−14.3
08	198 36.6	−26.5	N 05 35.2	−14.4
09	213 10.1	−26.6	N 05 20.8	−14.4
10	227 43.5	−26.6	N 05 06.4	−14.4
11	242 16.9	−26.6	N 04 52.0	−14.5
12	256 50.3	−26.6	N 04 37.5	−14.5
13	271 23.7	−26.7	N 04 23.0	−14.6
14	285 57.0	−26.6	N 04 08.4	−14.6
15	300 30.4	−26.7	N 03 53.8	−14.6
16	315 03.7	−26.7	N 03 39.2	−14.7
17	329 37.0	−26.8	N 03 24.5	−14.7
18	344 10.2	−26.7	N 03 09.8	−14.7
19	358 43.5	−26.8	N 02 55.1	−14.8
20	13 16.7	−26.8	N 02 40.3	−14.8
21	27 49.9	−26.9	N 02 25.5	−14.8
22	42 23.0	−26.9	N 02 10.7	−14.9
23	56 56.1	−26.9	N 01 55.8	−14.8

UT	02	06	10	14	18	22
SD	15′4	15′4	15′4	15′5	15′5	15′6
HP	56′4	56′5	56′7	56′8	57′0	57′1
SHA	185°	183°	181°	179°	177°	175°

Greenwich Culmination Time: 19:05

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	246 06.6	+00.8	N 02 28.4	+00.7
01	261 07.4	+00.7	N 02 29.1	+00.7
02	276 08.1	+00.8	N 02 29.8	+00.7
03	291 08.9	+00.8	N 02 30.5	+00.7
04	306 09.7	+00.8	N 02 31.2	+00.7
05	321 10.5	+00.7	N 02 31.9	+00.7
06	336 11.2	+00.8	N 02 32.6	+00.8
07	351 12.0	+00.8	N 02 33.4	+00.7
08	6 12.8	+00.7	N 02 34.1	+00.7
09	21 13.5	+00.8	N 02 34.8	+00.7
10	36 14.3	+00.8	N 02 35.5	+00.7
11	51 15.1	+00.7	N 02 36.2	+00.7
12	66 15.8	+00.8	N 02 36.9	+00.7
13	81 16.6	+00.8	N 02 37.6	+00.7
14	96 17.4	+00.8	N 02 38.3	+00.7
15	111 18.2	+00.7	N 02 39.0	+00.7
16	126 18.9	+00.8	N 02 39.7	+00.7
17	141 19.7	+00.8	N 02 40.4	+00.8
18	156 20.5	+00.7	N 02 41.2	+00.7
19	171 21.2	+00.8	N 02 41.9	+00.7
20	186 22.0	+00.8	N 02 42.6	+00.7
21	201 22.8	+00.8	N 02 43.3	+00.7
22	216 23.6	+00.7	N 02 44.0	+00.7
23	231 24.3	+00.8	N 02 44.7	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	350°	350°	349°	349°	349°	349°

Greenwich Culmination Time: 07:35

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	251 28.8	+02.2	N 00 48.7	+00.1
01	266 31.0	+02.1	N 00 48.8	+00.1
02	281 33.1	+02.1	N 00 48.9	+00.2
03	296 35.2	+02.1	N 00 49.1	+00.1
04	311 37.3	+02.2	N 00 49.2	+00.1
05	326 39.5	+02.1	N 00 49.3	+00.2
06	341 41.6	+02.1	N 00 49.5	+00.1
07	356 43.7	+02.2	N 00 49.6	+00.1
08	11 45.9	+02.1	N 00 49.7	+00.2
09	26 48.0	+02.1	N 00 49.9	+00.1
10	41 50.1	+02.2	N 00 50.0	+00.1
11	56 52.3	+02.1	N 00 50.1	+00.1
12	71 54.4	+02.1	N 00 50.2	+00.2
13	86 56.5	+02.2	N 00 50.4	+00.1
14	101 58.7	+02.1	N 00 50.5	+00.1
15	117 00.8	+02.1	N 00 50.6	+00.2
16	132 02.9	+02.2	N 00 50.8	+00.1
17	147 05.1	+02.1	N 00 50.9	+00.1
18	162 07.2	+02.1	N 00 51.0	+00.2
19	177 09.3	+02.2	N 00 51.2	+00.1
20	192 11.5	+02.1	N 00 51.3	+00.1
21	207 13.6	+02.1	N 00 51.4	+00.2
22	222 15.7	+02.2	N 00 51.6	+00.1
23	237 17.9	+02.1	N 00 51.7	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	355°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 07:13

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	288 26.8	+02.5	S 14 10.5	+00.0
01	303 29.3	+02.4	S 14 10.5	+00.0
02	318 31.7	+02.5	S 14 10.5	+00.1
03	333 34.2	+02.5	S 14 10.6	+00.0
04	348 36.7	+02.5	S 14 10.6	+00.0
05	3 39.2	+02.4	S 14 10.6	+00.0
06	18 41.6	+02.5	S 14 10.6	+00.0
07	33 44.1	+02.5	S 14 10.6	+00.0
08	48 46.6	+02.5	S 14 10.6	+00.0
09	63 49.1	+02.4	S 14 10.6	+00.0
10	78 51.5	+02.5	S 14 10.6	+00.1
11	93 54.0	+02.5	S 14 10.7	+00.0
12	108 56.5	+02.5	S 14 10.7	+00.0
13	123 59.0	+02.4	S 14 10.7	+00.0
14	139 01.4	+02.5	S 14 10.7	+00.0
15	154 03.9	+02.5	S 14 10.7	+00.0
16	169 06.4	+02.5	S 14 10.7	+00.0
17	184 08.9	+02.5	S 14 10.7	+00.0
18	199 11.4	+02.4	S 14 10.7	+00.1
19	214 13.8	+02.5	S 14 10.8	+00.0
20	229 16.3	+02.5	S 14 10.8	+00.0
21	244 18.8	+02.5	S 14 10.8	+00.0
22	259 21.3	+02.4	S 14 10.8	+00.0
23	274 23.7	+02.5	S 14 10.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 04:45

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2022 June 13 Monday (day 164 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 00.0	−00.1	N 23 11.8	+00.1
01	194 59.9	−00.1	N 23 11.9	+00.1
02	209 59.8	−00.1	N 23 12.0	+00.2
03	224 59.7	−00.2	N 23 12.2	+00.1
04	239 59.5	−00.1	N 23 12.3	+00.2
05	254 59.4	−00.1	N 23 12.5	+00.1
06	269 59.3	−00.2	N 23 12.6	+00.2
07	284 59.1	−00.1	N 23 12.8	+00.1
08	299 59.0	−00.1	N 23 12.9	+00.1
09	314 58.9	−00.2	N 23 13.0	+00.2
10	329 58.7	−00.1	N 23 13.2	+00.1
11	344 58.6	−00.1	N 23 13.3	+00.1
12	359 58.5	−00.1	N 23 13.4	+00.2
13	14 58.4	−00.2	N 23 13.6	+00.1
14	29 58.2	−00.1	N 23 13.7	+00.1
15	44 58.1	−00.1	N 23 13.8	+00.2
16	59 58.0	−00.2	N 23 14.0	+00.1
17	74 57.8	−00.1	N 23 14.1	+00.1
18	89 57.7	−00.1	N 23 14.2	+00.2
19	104 57.6	−00.2	N 23 14.4	+00.1
20	119 57.4	−00.1	N 23 14.5	+00.1
21	134 57.3	−00.1	N 23 14.6	+00.2
22	149 57.2	−00.2	N 23 14.8	+00.1
23	164 57.0	−00.1	N 23 14.9	+00.1

UT	02	06	10	14	18	22
SD	15′8	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	279°	278°	278°	278°	278°	278°

Greenwich Culmination Time: 12:00

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	215 06.0	−00.4	N 15 25.4	+00.9
01	230 05.6	−00.5	N 15 26.3	+00.8
02	245 05.1	−00.5	N 15 27.1	+00.9
03	260 04.6	−00.5	N 15 28.0	+00.8
04	275 04.1	−00.4	N 15 28.8	+00.9
05	290 03.7	−00.5	N 15 29.7	+00.8
06	305 03.2	−00.5	N 15 30.5	+00.9
07	320 02.7	−00.4	N 15 31.4	+00.8
08	335 02.3	−00.5	N 15 32.2	+00.9
09	350 01.8	−00.5	N 15 33.1	+00.9
10	5 01.3	−00.5	N 15 34.0	+00.8
11	20 00.8	−00.4	N 15 34.8	+00.9
12	35 00.4	−00.5	N 15 35.7	+00.8
13	49 59.9	−00.5	N 15 36.5	+00.9
14	64 59.4	−00.5	N 15 37.4	+00.8
15	79 58.9	−00.4	N 15 38.2	+00.9
16	94 58.5	−00.5	N 15 39.1	+00.8
17	109 58.0	−00.5	N 15 39.9	+00.9
18	124 57.5	−00.5	N 15 40.8	+00.8
19	139 57.0	−00.5	N 15 41.6	+00.9
20	154 56.5	−00.4	N 15 42.5	+00.8
21	169 56.1	−00.5	N 15 43.3	+00.8
22	184 55.6	−00.5	N 15 44.1	+00.9
23	199 55.1	−00.5	N 15 45.0	+00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	314°	314°	313°	313°	313°	313°

Greenwich Culmination Time: 09:39

Moon

A: 45%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	22 41.3	−35.8	S 21 06.4	+10.9
01	37 05.5	−36.0	S 21 17.3	+10.8
02	51 29.5	−36.1	S 21 28.1	+10.6
03	65 53.4	−36.2	S 21 38.7	+10.5
04	80 17.2	−36.3	S 21 49.2	+10.4
05	94 40.9	−36.5	S 21 59.6	+10.2
06	109 04.4	−36.6	S 22 09.8	+10.1
07	123 27.8	−36.7	S 22 19.9	+09.9
08	137 51.1	−36.8	S 22 29.8	+09.8
09	152 14.3	−37.0	S 22 39.6	+09.6
10	166 37.3	−37.1	S 22 49.2	+09.5
11	181 00.2	−37.2	S 22 58.7	+09.3
12	195 23.0	−37.3	S 23 08.0	+09.1
13	209 45.7	−37.4	S 23 17.1	+09.0
14	224 08.3	−37.6	S 23 26.1	+08.8
15	238 30.7	−37.6	S 23 34.9	+08.7
16	252 53.1	−37.8	S 23 43.6	+08.5
17	267 15.3	−37.9	S 23 52.1	+08.3
18	281 37.4	−38.0	S 24 00.4	+08.1
19	295 59.4	−38.1	S 24 08.5	+08.0
20	310 21.3	−38.2	S 24 16.5	+07.8
21	324 43.1	−38.3	S 24 24.3	+07.6
22	339 04.8	−38.4	S 24 31.9	+07.5
23	353 26.4	−38.5	S 24 39.4	+07.2

UT	02	06	10	14	18	22
SD	16′5	16′6	16′6	16′6	16′6	16′7
HP	60′7	60′8	60′9	61′0	61′1	61′1
SHA	120°	118°	115°	112°	110°	107°

Greenwich Culmination Time: 23:27

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	247 39.4	+00.7	N 03 53.0	+00.7
01	262 40.1	+00.8	N 03 53.7	+00.7
02	277 40.9	+00.8	N 03 54.4	+00.7
03	292 41.7	+00.8	N 03 55.1	+00.7
04	307 42.5	+00.7	N 03 55.8	+00.7
05	322 43.2	+00.8	N 03 56.5	+00.7
06	337 44.0	+00.8	N 03 57.2	+00.7
07	352 44.8	+00.8	N 03 57.9	+00.7
08	7 45.6	+00.7	N 03 58.6	+00.7
09	22 46.3	+00.8	N 03 59.3	+00.7
10	37 47.1	+00.8	N 03 60.0	+00.7
11	52 47.9	+00.8	N 04 00.7	+00.7
12	67 48.7	+00.7	N 04 01.4	+00.7
13	82 49.4	+00.8	N 04 02.1	+00.7
14	97 50.2	+00.8	N 04 02.8	+00.6
15	112 51.0	+00.8	N 04 03.4	+00.7
16	127 51.8	+00.8	N 04 04.1	+00.7
17	142 52.6	+00.7	N 04 04.8	+00.7
18	157 53.3	+00.8	N 04 05.5	+00.7
19	172 54.1	+00.8	N 04 06.2	+00.7
20	187 54.9	+00.8	N 04 06.9	+00.7
21	202 55.7	+00.7	N 04 07.6	+00.7
22	217 56.4	+00.8	N 04 08.3	+00.7
23	232 57.2	+00.8	N 04 09.0	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	346°	346°	346°	346°	346°	346°

Greenwich Culmination Time: 07:28

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	255 45.9	+02.2	N 01 04.0	+00.1
01	270 48.1	+02.1	N 01 04.1	+00.1
02	285 50.2	+02.2	N 01 04.2	+00.2
03	300 52.4	+02.1	N 01 04.4	+00.1
04	315 54.5	+02.2	N 01 04.5	+00.1
05	330 56.7	+02.1	N 01 04.6	+00.1
06	345 58.8	+02.2	N 01 04.7	+00.1
07	1 01.0	+02.1	N 01 04.8	+00.2
08	16 03.1	+02.2	N 01 05.0	+00.1
09	31 05.3	+02.2	N 01 05.1	+00.1
10	46 07.5	+02.1	N 01 05.2	+00.1
11	61 09.6	+02.2	N 01 05.3	+00.2
12	76 11.8	+02.1	N 01 05.5	+00.1
13	91 13.9	+02.2	N 01 05.6	+00.1
14	106 16.1	+02.2	N 01 05.7	+00.1
15	121 18.3	+02.1	N 01 05.8	+00.1
16	136 20.4	+02.2	N 01 05.9	+00.2
17	151 22.6	+02.1	N 01 06.1	+00.1
18	166 24.7	+02.2	N 01 06.2	+00.1
19	181 26.9	+02.1	N 01 06.3	+00.1
20	196 29.0	+02.2	N 01 06.4	+00.1
21	211 31.2	+02.2	N 01 06.5	+00.2
22	226 33.4	+02.1	N 01 06.7	+00.1
23	241 35.5	+02.2	N 01 06.8	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 06:55

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	293 24.8	+02.5	S 14 12.3	+00.0
01	308 27.3	+02.5	S 14 12.3	+00.1
02	323 29.8	+02.5	S 14 12.4	+00.0
03	338 32.3	+02.5	S 14 12.4	+00.0
04	353 34.8	+02.5	S 14 12.4	+00.0
05	8 37.3	+02.5	S 14 12.4	+00.0
06	23 39.8	+02.5	S 14 12.4	+00.0
07	38 42.3	+02.5	S 14 12.4	+00.1
08	53 44.8	+02.5	S 14 12.5	+00.0
09	68 47.3	+02.5	S 14 12.5	+00.0
10	83 49.8	+02.5	S 14 12.5	+00.0
11	98 52.3	+02.5	S 14 12.5	+00.0
12	113 54.8	+02.4	S 14 12.5	+00.1
13	128 57.2	+02.5	S 14 12.6	+00.0
14	143 59.7	+02.5	S 14 12.6	+00.0
15	159 02.2	+02.5	S 14 12.6	+00.0
16	174 04.7	+02.5	S 14 12.6	+00.0
17	189 07.2	+02.5	S 14 12.6	+00.1
18	204 09.7	+02.5	S 14 12.7	+00.0
19	219 12.2	+02.5	S 14 12.7	+00.0
20	234 14.7	+02.5	S 14 12.7	+00.0
21	249 17.2	+02.5	S 14 12.7	+00.0
22	264 19.7	+02.5	S 14 12.7	+00.0
23	279 22.2	+02.5	S 14 12.7	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 04:25

2022 June 10 Friday (day 161 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 09.2	−00.2	N 22 59.6	+00.2
01	195 09.0	−00.1	N 22 59.8	+00.2
02	210 08.9	−00.1	N 22 60.0	+00.2
03	225 08.8	−00.1	N 23 00.2	+00.1
04	240 08.7	−00.2	N 23 00.3	+00.2
05	255 08.5	−00.1	N 23 00.5	+00.2
06	270 08.4	−00.1	N 23 00.7	+00.2
07	285 08.3	−00.1	N 23 00.9	+00.2
08	300 08.2	−00.2	N 23 01.1	+00.2
09	315 08.0	−00.1	N 23 01.3	+00.2
10	330 07.9	−00.1	N 23 01.5	+00.2
11	345 07.8	−00.1	N 23 01.7	+00.2
12	0 07.7	−00.2	N 23 01.9	+00.1
13	15 07.5	−00.1	N 23 02.0	+00.2
14	30 07.4	−00.1	N 23 02.2	+00.2
15	45 07.3	−00.1	N 23 02.4	+00.2
16	60 07.2	−00.2	N 23 02.6	+00.2
17	75 07.0	−00.1	N 23 02.8	+00.2
18	90 06.9	−00.1	N 23 03.0	+00.1
19	105 06.8	−00.1	N 23 03.1	+00.2
20	120 06.7	−00.2	N 23 03.3	+00.2
21	135 06.5	−00.1	N 23 03.5	+00.2
22	150 06.4	−00.1	N 23 03.7	+00.2
23	165 06.3	−00.1	N 23 03.9	+00.1

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	282°	282°	281°	281°	281°	281°

Greenwich Culmination Time: 11:59

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	215 38.6	−00.4	N 14 22.2	+00.9
01	230 38.2	−00.4	N 14 23.1	+00.9
02	245 37.8	−00.5	N 14 24.0	+00.8
03	260 37.3	−00.4	N 14 24.8	+00.9
04	275 36.9	−00.5	N 14 25.7	+00.9
05	290 36.4	−00.4	N 14 26.6	+00.9
06	305 36.0	−00.4	N 14 27.5	+00.9
07	320 35.6	−00.5	N 14 28.4	+00.9
08	335 35.1	−00.4	N 14 29.3	+00.9
09	350 34.7	−00.5	N 14 30.2	+00.9
10	5 34.2	−00.4	N 14 31.1	+00.9
11	20 33.8	−00.4	N 14 32.0	+00.9
12	35 33.4	−00.5	N 14 32.9	+00.9
13	50 32.9	−00.4	N 14 33.8	+00.9
14	65 32.5	−00.5	N 14 34.7	+00.9
15	80 32.0	−00.4	N 14 35.6	+00.9
16	95 31.6	−00.5	N 14 36.5	+00.8
17	110 31.1	−00.4	N 14 37.3	+00.9
18	125 30.7	−00.4	N 14 38.2	+00.9
19	140 30.3	−00.5	N 14 39.1	+00.9
20	155 29.8	−00.4	N 14 40.0	+00.9
21	170 29.4	−00.5	N 14 40.9	+00.9
22	185 28.9	−00.4	N 14 41.8	+00.9
23	200 28.5	−00.5	N 14 42.7	+00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	317°	317°	317°	317°	316°	316°

Greenwich Culmination Time: 09:37

Moon

A: 34%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	60 30.5	−28.1	S 04 22.4	+15.2
01	75 02.4	−28.2	S 04 37.6	+15.3
02	89 34.2	−28.2	S 04 52.9	+15.3
03	104 06.0	−28.4	S 05 08.2	+15.2
04	118 37.6	−28.4	S 05 23.4	+15.3
05	133 09.2	−28.4	S 05 38.7	+15.2
06	147 40.8	−28.6	S 05 53.9	+15.3
07	162 12.2	−28.6	S 06 09.2	+15.2
08	176 43.6	−28.7	S 06 24.4	+15.2
09	191 14.9	−28.8	S 06 39.6	+15.3
10	205 46.1	−28.8	S 06 54.9	+15.2
11	220 17.3	−29.0	S 07 10.1	+15.2
12	234 48.3	−29.0	S 07 25.3	+15.1
13	249 19.3	−29.1	S 07 40.4	+15.2
14	263 50.2	−29.1	S 07 55.6	+15.2
15	278 21.1	−29.3	S 08 10.8	+15.1
16	292 51.8	−29.4	S 08 25.9	+15.1
17	307 22.4	−29.4	S 08 41.0	+15.1
18	321 53.0	−29.5	S 08 56.1	+15.0
19	336 23.5	−29.6	S 09 11.1	+15.0
20	350 53.9	−29.8	S 09 26.1	+15.0
21	5 24.1	−29.8	S 09 41.1	+15.0
22	19 54.3	−29.9	S 09 56.1	+15.0
23	34 24.4	−29.9	S 10 11.1	+14.9

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	16′0	16′0	16′1
HP	58′2	58′4	58′5	58′7	58′9	59′0
SHA	161°	159°	157°	155°	153°	151°

Greenwich Culmination Time: 20:37

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	246 43.6	+00.8	N 03 02.4	+00.7
01	261 44.4	+00.8	N 03 03.1	+00.7
02	276 45.2	+00.7	N 03 03.8	+00.7
03	291 45.9	+00.8	N 03 04.5	+00.7
04	306 46.7	+00.8	N 03 05.2	+00.7
05	321 47.5	+00.8	N 03 05.9	+00.7
06	336 48.3	+00.7	N 03 06.6	+00.7
07	351 49.0	+00.8	N 03 07.3	+00.7
08	6 49.8	+00.8	N 03 08.0	+00.7
09	21 50.6	+00.7	N 03 08.7	+00.7
10	36 51.3	+00.8	N 03 09.4	+00.7
11	51 52.1	+00.8	N 03 10.1	+00.7
12	66 52.9	+00.8	N 03 10.8	+00.8
13	81 53.7	+00.7	N 03 11.6	+00.7
14	96 54.4	+00.8	N 03 12.3	+00.7
15	111 55.2	+00.8	N 03 13.0	+00.7
16	126 56.0	+00.8	N 03 13.7	+00.7
17	141 56.8	+00.7	N 03 14.4	+00.7
18	156 57.5	+00.8	N 03 15.1	+00.7
19	171 58.3	+00.8	N 03 15.8	+00.7
20	186 59.1	+00.8	N 03 16.5	+00.7
21	201 59.9	+00.7	N 03 17.2	+00.7
22	217 00.6	+00.8	N 03 17.9	+00.7
23	232 01.4	+00.8	N 03 18.6	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	348°	348°	348°	348°	348°	348°

Greenwich Culmination Time: 07:32

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	253 11.3	+02.1	N 00 55.0	+00.1
01	268 13.4	+02.2	N 00 55.1	+00.1
02	283 15.6	+02.1	N 00 55.2	+00.1
03	298 17.7	+02.1	N 00 55.3	+00.2
04	313 19.8	+02.2	N 00 55.5	+00.1
05	328 22.0	+02.1	N 00 55.6	+00.1
06	343 24.1	+02.2	N 00 55.7	+00.2
07	358 26.3	+02.1	N 00 55.9	+00.1
08	13 28.4	+02.2	N 00 56.0	+00.1
09	28 30.6	+02.1	N 00 56.1	+00.1
10	43 32.7	+02.1	N 00 56.2	+00.2
11	58 34.8	+02.2	N 00 56.4	+00.1
12	73 37.0	+02.1	N 00 56.5	+00.1
13	88 39.1	+02.2	N 00 56.6	+00.2
14	103 41.3	+02.1	N 00 56.8	+00.1
15	118 43.4	+02.2	N 00 56.9	+00.1
16	133 45.6	+02.1	N 00 57.0	+00.1
17	148 47.7	+02.1	N 00 57.1	+00.2
18	163 49.8	+02.2	N 00 57.3	+00.1
19	178 52.0	+02.1	N 00 57.4	+00.1
20	193 54.1	+02.2	N 00 57.5	+00.1
21	208 56.3	+02.1	N 00 57.6	+00.2
22	223 58.4	+02.2	N 00 57.8	+00.1
23	239 00.6	+02.1	N 00 57.9	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	355°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 07:06

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	290 25.7	+02.5	S 14 11.1	+00.1
01	305 28.2	+02.5	S 14 11.2	+00.0
02	320 30.7	+02.5	S 14 11.2	+00.0
03	335 33.2	+02.5	S 14 11.2	+00.0
04	350 35.7	+02.4	S 14 11.2	+00.0
05	5 38.1	+02.5	S 14 11.2	+00.0
06	20 40.6	+02.5	S 14 11.2	+00.0
07	35 43.1	+02.5	S 14 11.2	+00.1
08	50 45.6	+02.5	S 14 11.3	+00.0
09	65 48.1	+02.5	S 14 11.3	+00.0
10	80 50.6	+02.4	S 14 11.3	+00.0
11	95 53.0	+02.5	S 14 11.3	+00.0
12	110 55.5	+02.5	S 14 11.3	+00.0
13	125 58.0	+02.5	S 14 11.3	+00.0
14	141 00.5	+02.5	S 14 11.3	+00.1
15	156 03.0	+02.5	S 14 11.4	+00.0
16	171 05.5	+02.4	S 14 11.4	+00.0
17	186 07.9	+02.5	S 14 11.4	+00.0
18	201 10.4	+02.5	S 14 11.4	+00.0
19	216 12.9	+02.5	S 14 11.4	+00.0
20	231 15.4	+02.5	S 14 11.4	+00.1
21	246 17.9	+02.5	S 14 11.5	+00.0
22	261 20.4	+02.4	S 14 11.5	+00.0
23	276 22.8	+02.5	S 14 11.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 04:37

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2022 June 11 Saturday (day 162 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 06.2	−00.2	N 23 04.0	+00.2
01	195 06.0	−00.1	N 23 04.2	+00.2
02	210 05.9	−00.1	N 23 04.4	+00.2
03	225 05.8	−00.1	N 23 04.6	+00.2
04	240 05.7	−00.2	N 23 04.8	+00.1
05	255 05.5	−00.1	N 23 04.9	+00.2
06	270 05.4	−00.1	N 23 05.1	+00.2
07	285 05.3	−00.1	N 23 05.3	+00.1
08	300 05.2	−00.2	N 23 05.4	+00.2
09	315 05.0	−00.1	N 23 05.6	+00.2
10	330 04.9	−00.1	N 23 05.8	+00.2
11	345 04.8	−00.1	N 23 06.0	+00.1
12	0 04.7	−00.2	N 23 06.1	+00.2
13	15 04.5	−00.1	N 23 06.3	+00.2
14	30 04.4	−00.1	N 23 06.5	+00.1
15	45 04.3	−00.2	N 23 06.6	+00.2
16	60 04.1	−00.1	N 23 06.8	+00.2
17	75 04.0	−00.1	N 23 07.0	+00.1
18	90 03.9	−00.1	N 23 07.1	+00.2
19	105 03.8	−00.2	N 23 07.3	+00.2
20	120 03.6	−00.1	N 23 07.5	+00.1
21	135 03.5	−00.1	N 23 07.6	+00.2
22	150 03.4	−00.1	N 23 07.8	+00.1
23	165 03.3	−00.2	N 23 07.9	+00.2

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	281°	281°	280°	280°	280°	280°

Greenwich Culmination Time: 11:59

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	215 28.0	−00.4	N 14 43.6	+00.8
01	230 27.6	−00.5	N 14 44.4	+00.9
02	245 27.1	−00.4	N 14 45.3	+00.9
03	260 26.7	−00.5	N 14 46.2	+00.9
04	275 26.2	−00.4	N 14 47.1	+00.9
05	290 25.8	−00.5	N 14 48.0	+00.9
06	305 25.3	−00.4	N 14 48.9	+00.8
07	320 24.9	−00.5	N 14 49.7	+00.9
08	335 24.4	−00.4	N 14 50.6	+00.9
09	350 24.0	−00.5	N 14 51.5	+00.9
10	5 23.5	−00.4	N 14 52.4	+00.9
11	20 23.1	−00.5	N 14 53.3	+00.8
12	35 22.6	−00.4	N 14 54.1	+00.9
13	50 22.2	−00.5	N 14 55.0	+00.9
14	65 21.7	−00.4	N 14 55.9	+00.9
15	80 21.3	−00.5	N 14 56.8	+00.8
16	95 20.8	−00.4	N 14 57.6	+00.9
17	110 20.4	−00.5	N 14 58.5	+00.9
18	125 19.9	−00.5	N 14 59.4	+00.9
19	140 19.4	−00.4	N 15 00.3	+00.8
20	155 19.0	−00.5	N 15 01.1	+00.9
21	170 18.5	−00.4	N 15 02.0	+00.9
22	185 18.1	−00.5	N 15 02.9	+00.9
23	200 17.6	−00.4	N 15 03.8	+00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	316°	316°	316°	315°	315°	315°

Greenwich Culmination Time: 09:38

Moon

A: 38%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	48 54.5	−30.1	S 10 26.0	+14.9
01	63 24.4	−30.2	S 10 40.9	+14.8
02	77 54.2	−30.3	S 10 55.7	+14.8
03	92 23.9	−30.4	S 11 10.5	+14.8
04	106 53.5	−30.5	S 11 25.3	+14.7
05	121 23.0	−30.6	S 11 40.0	+14.7
06	135 52.4	−30.7	S 11 54.7	+14.6
07	150 21.7	−30.8	S 12 09.3	+14.6
08	164 50.9	−30.9	S 12 23.9	+14.5
09	179 20.0	−31.0	S 12 38.4	+14.5
10	193 49.0	−31.2	S 12 52.9	+14.4
11	208 17.8	−31.2	S 13 07.3	+14.4
12	222 46.6	−31.4	S 13 21.7	+14.4
13	237 15.2	−31.4	S 13 36.1	+14.2
14	251 43.8	−31.6	S 13 50.3	+14.2
15	266 12.2	−31.7	S 14 04.5	+14.2
16	280 40.5	−31.8	S 14 18.7	+14.1
17	295 08.7	−31.9	S 14 32.8	+14.0
18	309 36.8	−32.1	S 14 46.8	+13.9
19	324 04.7	−32.1	S 15 00.7	+13.9
20	338 32.6	−32.3	S 15 14.6	+13.8
21	353 00.3	−32.4	S 15 28.4	+13.8
22	7 27.9	−32.5	S 15 42.2	+13.6
23	21 55.4	−32.7	S 15 55.8	+13.6

UT	02	06	10	14	18	22
SD	16′1	16′2	16′2	16′2	16′3	16′3
HP	59′2	59′3	59′5	59′6	59′8	59′9
SHA	149°	146°	144°	142°	140°	137°

Greenwich Culmination Time: 21:29

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	247 02.2	+00.7	N 03 19.3	+00.7
01	262 02.9	+00.8	N 03 20.0	+00.7
02	277 03.7	+00.8	N 03 20.7	+00.7
03	292 04.5	+00.8	N 03 21.4	+00.7
04	307 05.3	+00.7	N 03 22.1	+00.7
05	322 06.0	+00.8	N 03 22.8	+00.7
06	337 06.8	+00.8	N 03 23.5	+00.7
07	352 07.6	+00.8	N 03 24.2	+00.7
08	7 08.4	+00.7	N 03 24.9	+00.7
09	22 09.1	+00.8	N 03 25.6	+00.7
10	37 09.9	+00.8	N 03 26.3	+00.7
11	52 10.7	+00.8	N 03 27.0	+00.7
12	67 11.5	+00.7	N 03 27.7	+00.7
13	82 12.2	+00.8	N 03 28.4	+00.7
14	97 13.0	+00.8	N 03 29.1	+00.7
15	112 13.8	+00.8	N 03 29.8	+00.8
16	127 14.6	+00.7	N 03 30.6	+00.7
17	142 15.3	+00.8	N 03 31.3	+00.7
18	157 16.1	+00.8	N 03 32.0	+00.7
19	172 16.9	+00.8	N 03 32.7	+00.7
20	187 17.7	+00.7	N 03 33.4	+00.7
21	202 18.4	+00.8	N 03 34.1	+00.7
22	217 19.2	+00.8	N 03 34.8	+00.7
23	232 20.0	+00.8	N 03 35.5	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	348°	348°	347°	347°	347°	347°

Greenwich Culmination Time: 07:31

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	254 02.7	+02.1	N 00 58.0	+00.2
01	269 04.8	+02.2	N 00 58.2	+00.1
02	284 07.0	+02.1	N 00 58.3	+00.1
03	299 09.1	+02.2	N 00 58.4	+00.1
04	314 11.3	+02.1	N 00 58.5	+00.2
05	329 13.4	+02.2	N 00 58.7	+00.1
06	344 15.6	+02.1	N 00 58.8	+00.1
07	359 17.7	+02.2	N 00 58.9	+00.1
08	14 19.9	+02.1	N 00 59.0	+00.2
09	29 22.0	+02.2	N 00 59.2	+00.1
10	44 24.2	+02.1	N 00 59.3	+00.1
11	59 26.3	+02.2	N 00 59.4	+00.1
12	74 28.5	+02.1	N 00 59.5	+00.2
13	89 30.6	+02.2	N 00 59.7	+00.1
14	104 32.8	+02.1	N 00 59.8	+00.1
15	119 34.9	+02.1	N 00 59.9	+00.1
16	134 37.0	+02.2	N 01 00.0	+00.2
17	149 39.2	+02.1	N 01 00.2	+00.1
18	164 41.3	+02.2	N 01 00.3	+00.1
19	179 43.5	+02.1	N 01 00.4	+00.1
20	194 45.6	+02.2	N 01 00.5	+00.2
21	209 47.8	+02.1	N 01 00.7	+00.1
22	224 49.9	+02.2	N 01 00.8	+00.1
23	239 52.1	+02.1	N 01 00.9	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	355°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 07:02

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	291 25.3	+02.5	S 14 11.5	+00.0
01	306 27.8	+02.5	S 14 11.5	+00.0
02	321 30.3	+02.5	S 14 11.5	+00.0
03	336 32.8	+02.5	S 14 11.5	+00.1
04	351 35.3	+02.5	S 14 11.6	+00.0
05	6 37.8	+02.4	S 14 11.6	+00.0
06	21 40.2	+02.5	S 14 11.6	+00.0
07	36 42.7	+02.5	S 14 11.6	+00.0
08	51 45.2	+02.5	S 14 11.6	+00.0
09	66 47.7	+02.5	S 14 11.6	+00.1
10	81 50.2	+02.5	S 14 11.7	+00.0
11	96 52.7	+02.5	S 14 11.7	+00.0
12	111 55.2	+02.5	S 14 11.7	+00.0
13	126 57.7	+02.4	S 14 11.7	+00.0
14	142 00.1	+02.5	S 14 11.7	+00.0
15	157 02.6	+02.5	S 14 11.7	+00.1
16	172 05.1	+02.5	S 14 11.8	+00.0
17	187 07.6	+02.5	S 14 11.8	+00.0
18	202 10.1	+02.5	S 14 11.8	+00.0
19	217 12.6	+02.5	S 14 11.8	+00.0
20	232 15.1	+02.5	S 14 11.8	+00.0
21	247 17.6	+02.5	S 14 11.8	+00.1
22	262 20.1	+02.4	S 14 11.9	+00.0
23	277 22.5	+02.5	S 14 11.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 04:33

2022 June 12 Sunday (day 163 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 03.1	−00.1	N 23 08.1	+00.2
01	195 03.0	−00.1	N 23 08.3	+00.1
02	210 02.9	−00.2	N 23 08.4	+00.2
03	225 02.7	−00.1	N 23 08.6	+00.1
04	240 02.6	−00.1	N 23 08.7	+00.2
05	255 02.5	−00.1	N 23 08.9	+00.2
06	270 02.4	−00.2	N 23 09.1	+00.1
07	285 02.2	−00.1	N 23 09.2	+00.2
08	300 02.1	−00.1	N 23 09.4	+00.1
09	315 02.0	−00.2	N 23 09.5	+00.2
10	330 01.8	−00.1	N 23 09.7	+00.1
11	345 01.7	−00.1	N 23 09.8	+00.2
12	0 01.6	−00.1	N 23 10.0	+00.1
13	15 01.5	−00.2	N 23 10.1	+00.2
14	30 01.3	−00.1	N 23 10.3	+00.1
15	45 01.2	−00.1	N 23 10.4	+00.2
16	60 01.1	−00.2	N 23 10.6	+00.1
17	75 00.9	−00.1	N 23 10.7	+00.2
18	90 00.8	−00.1	N 23 10.9	+00.1
19	105 00.7	−00.1	N 23 11.0	+00.2
20	120 00.6	−00.2	N 23 11.2	+00.1
21	135 00.4	−00.1	N 23 11.3	+00.2
22	150 00.3	−00.1	N 23 11.5	+00.1
23	165 00.2	−00.2	N 23 11.6	+00.2

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	280°	279°	279°	279°	279°	279°

Greenwich Culmination Time: 11:59

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	215 17.2	−00.5	N 15 04.6	+00.9
01	230 16.7	−00.5	N 15 05.5	+00.9
02	245 16.2	−00.4	N 15 06.4	+00.9
03	260 15.8	−00.5	N 15 07.3	+00.8
04	275 15.3	−00.4	N 15 08.1	+00.9
05	290 14.9	−00.5	N 15 09.0	+00.9
06	305 14.4	−00.5	N 15 09.9	+00.8
07	320 13.9	−00.4	N 15 10.7	+00.9
08	335 13.5	−00.5	N 15 11.6	+00.9
09	350 13.0	−00.4	N 15 12.5	+00.8
10	5 12.6	−00.5	N 15 13.3	+00.9
11	20 12.1	−00.5	N 15 14.2	+00.9
12	35 11.6	−00.4	N 15 15.1	+00.8
13	50 11.2	−00.5	N 15 15.9	+00.9
14	65 10.7	−00.5	N 15 16.8	+00.9
15	80 10.2	−00.4	N 15 17.7	+00.8
16	95 09.8	−00.5	N 15 18.5	+00.9
17	110 09.3	−00.5	N 15 19.4	+00.8
18	125 08.8	−00.4	N 15 20.2	+00.9
19	140 08.4	−00.5	N 15 21.1	+00.9
20	155 07.9	−00.5	N 15 22.0	+00.8
21	170 07.4	−00.4	N 15 22.8	+00.9
22	185 07.0	−00.5	N 15 23.7	+00.8
23	200 06.5	−00.5	N 15 24.5	+00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	315°	315°	314°	314°	314°	314°

Greenwich Culmination Time: 09:39

Moon

A: 41%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	36 22.7	−32.8	S 16 09.4	+13.5
01	50 49.9	−32.8	S 16 22.9	+13.4
02	65 17.1	−33.1	S 16 36.3	+13.4
03	79 44.0	−33.1	S 16 49.7	+13.2
04	94 10.9	−33.3	S 17 02.9	+13.2
05	108 37.6	−33.3	S 17 16.1	+13.1
06	123 04.3	−33.6	S 17 29.2	+12.9
07	137 30.7	−33.6	S 17 42.1	+12.9
08	151 57.1	−33.8	S 17 55.0	+12.8
09	166 23.3	−33.9	S 18 07.8	+12.7
10	180 49.4	−34.0	S 18 20.5	+12.6
11	195 15.4	−34.2	S 18 33.1	+12.4
12	209 41.2	−34.2	S 18 45.5	+12.4
13	224 07.0	−34.5	S 18 57.9	+12.3
14	238 32.5	−34.5	S 19 10.2	+12.1
15	252 58.0	−34.7	S 19 22.3	+12.1
16	267 23.3	−34.8	S 19 34.4	+11.9
17	281 48.5	−34.9	S 19 46.3	+11.8
18	296 13.6	−35.1	S 19 58.1	+11.7
19	310 38.5	−35.2	S 20 09.8	+11.6
20	325 03.3	−35.3	S 20 21.4	+11.4
21	339 28.0	−35.4	S 20 32.8	+11.3
22	353 52.6	−35.6	S 20 44.1	+11.2
23	8 17.0	−35.7	S 20 55.3	+11.1

UT	02	06	10	14	18	22
SD	16′4	16′4	16′4	16′5	16′5	16′5
HP	60′0	60′2	60′3	60′4	60′5	60′6
SHA	135°	133°	130°	128°	125°	123°

Greenwich Culmination Time: 22:25

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	247 20.8	+00.7	N 03 36.2	+00.7
01	262 21.5	+00.8	N 03 36.9	+00.7
02	277 22.3	+00.8	N 03 37.6	+00.7
03	292 23.1	+00.8	N 03 38.3	+00.7
04	307 23.9	+00.7	N 03 39.0	+00.7
05	322 24.6	+00.8	N 03 39.7	+00.7
06	337 25.4	+00.8	N 03 40.4	+00.7
07	352 26.2	+00.8	N 03 41.1	+00.7
08	7 27.0	+00.7	N 03 41.8	+00.7
09	22 27.7	+00.8	N 03 42.5	+00.7
10	37 28.5	+00.8	N 03 43.2	+00.7
11	52 29.3	+00.8	N 03 43.9	+00.7
12	67 30.1	+00.7	N 03 44.6	+00.7
13	82 30.8	+00.8	N 03 45.3	+00.7
14	97 31.6	+00.8	N 03 46.0	+00.7
15	112 32.4	+00.8	N 03 46.7	+00.7
16	127 33.2	+00.7	N 03 47.4	+00.7
17	142 33.9	+00.8	N 03 48.1	+00.7
18	157 34.7	+00.8	N 03 48.8	+00.7
19	172 35.5	+00.8	N 03 49.5	+00.7
20	187 36.3	+00.7	N 03 50.2	+00.7
21	202 37.0	+00.8	N 03 50.9	+00.7
22	217 37.8	+00.8	N 03 51.6	+00.7
23	232 38.6	+00.8	N 03 52.3	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	347°	347°	347°	347°	347°	346°

Greenwich Culmination Time: 07:30

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	254 54.2	+02.2	N 01 01.0	+00.2
01	269 56.4	+02.1	N 01 01.2	+00.1
02	284 58.5	+02.2	N 01 01.3	+00.1
03	300 00.7	+02.1	N 01 01.4	+00.1
04	315 02.8	+02.2	N 01 01.5	+00.2
05	330 05.0	+02.1	N 01 01.7	+00.1
06	345 07.1	+02.2	N 01 01.8	+00.1
07	0 09.3	+02.1	N 01 01.9	+00.1
08	15 11.4	+02.2	N 01 02.0	+00.2
09	30 13.6	+02.1	N 01 02.2	+00.1
10	45 15.7	+02.2	N 01 02.3	+00.1
11	60 17.9	+02.2	N 01 02.4	+00.1
12	75 20.1	+02.1	N 01 02.5	+00.1
13	90 22.2	+02.2	N 01 02.6	+00.2
14	105 24.4	+02.1	N 01 02.8	+00.1
15	120 26.5	+02.2	N 01 02.9	+00.1
16	135 28.7	+02.1	N 01 03.0	+00.1
17	150 30.8	+02.2	N 01 03.1	+00.2
18	165 33.0	+02.1	N 01 03.3	+00.1
19	180 35.1	+02.2	N 01 03.4	+00.1
20	195 37.3	+02.1	N 01 03.5	+00.1
21	210 39.4	+02.2	N 01 03.6	+00.2
22	225 41.6	+02.1	N 01 03.8	+00.1
23	240 43.7	+02.2	N 01 03.9	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	355°	355°	355°	355°	355°	354°

Greenwich Culmination Time: 06:59

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	292 25.0	+02.5	S 14 11.9	+00.0
01	307 27.5	+02.5	S 14 11.9	+00.0
02	322 30.0	+02.5	S 14 11.9	+00.0
03	337 32.5	+02.5	S 14 11.9	+00.1
04	352 35.0	+02.5	S 14 12.0	+00.0
05	7 37.5	+02.5	S 14 12.0	+00.0
06	22 40.0	+02.5	S 14 12.0	+00.0
07	37 42.5	+02.5	S 14 12.0	+00.0
08	52 45.0	+02.4	S 14 12.0	+00.0
09	67 47.4	+02.5	S 14 12.0	+00.1
10	82 49.9	+02.5	S 14 12.1	+00.0
11	97 52.4	+02.5	S 14 12.1	+00.0
12	112 54.9	+02.5	S 14 12.1	+00.0
13	127 57.4	+02.5	S 14 12.1	+00.0
14	142 59.9	+02.5	S 14 12.1	+00.1
15	158 02.4	+02.5	S 14 12.2	+00.0
16	173 04.9	+02.5	S 14 12.2	+00.0
17	188 07.4	+02.5	S 14 12.2	+00.0
18	203 09.9	+02.5	S 14 12.2	+00.0
19	218 12.4	+02.5	S 14 12.2	+00.0
20	233 14.9	+02.4	S 14 12.2	+00.1
21	248 17.3	+02.5	S 14 12.3	+00.0
22	263 19.8	+02.5	S 14 12.3	+00.0
23	278 22.3	+02.5	S 14 12.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 04:29

2022 June 17 Friday (day 168 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 47.4	−00.2	N 23 22.3	+00.1
01	194 47.2	−00.1	N 23 22.4	+00.0
02	209 47.1	−00.1	N 23 22.4	+00.1
03	224 47.0	−00.2	N 23 22.5	+00.1
04	239 46.8	−00.1	N 23 22.6	+00.1
05	254 46.7	−00.1	N 23 22.7	+00.0
06	269 46.6	−00.2	N 23 22.7	+00.1
07	284 46.4	−00.1	N 23 22.8	+00.1
08	299 46.3	−00.2	N 23 22.9	+00.0
09	314 46.1	−00.1	N 23 22.9	+00.1
10	329 46.0	−00.1	N 23 23.0	+00.1
11	344 45.9	−00.2	N 23 23.1	+00.0
12	359 45.7	−00.1	N 23 23.1	+00.1
13	14 45.6	−00.1	N 23 23.2	+00.1
14	29 45.5	−00.2	N 23 23.3	+00.0
15	44 45.3	−00.1	N 23 23.3	+00.1
16	59 45.2	−00.1	N 23 23.4	+00.1
17	74 45.1	−00.2	N 23 23.5	+00.0
18	89 44.9	−00.1	N 23 23.5	+00.1
19	104 44.8	−00.1	N 23 23.6	+00.1
20	119 44.7	−00.2	N 23 23.7	+00.0
21	134 44.5	−00.1	N 23 23.7	+00.1
22	149 44.4	−00.1	N 23 23.8	+00.0
23	164 44.3	−00.2	N 23 23.8	+00.1

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	274°	274°	274°	274°	274°	274°

Greenwich Culmination Time: 12:00

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	214 18.7	−00.5	N 16 45.0	+00.8
01	229 18.2	−00.5	N 16 45.8	+00.8
02	244 17.7	−00.5	N 16 46.6	+00.8
03	259 17.2	−00.5	N 16 47.4	+00.8
04	274 16.7	−00.5	N 16 48.2	+00.8
05	289 16.2	−00.6	N 16 49.0	+00.8
06	304 15.6	−00.5	N 16 49.8	+00.8
07	319 15.1	−00.5	N 16 50.6	+00.8
08	334 14.6	−00.5	N 16 51.4	+00.8
09	349 14.1	−00.5	N 16 52.2	+00.8
10	4 13.6	−00.6	N 16 53.0	+00.8
11	19 13.0	−00.5	N 16 53.8	+00.8
12	34 12.5	−00.5	N 16 54.6	+00.8
13	49 12.0	−00.5	N 16 55.4	+00.7
14	64 11.5	−00.5	N 16 56.1	+00.8
15	79 11.0	−00.6	N 16 56.9	+00.8
16	94 10.4	−00.5	N 16 57.7	+00.8
17	109 09.9	−00.5	N 16 58.5	+00.8
18	124 09.4	−00.5	N 16 59.3	+00.8
19	139 08.9	−00.6	N 17 00.1	+00.8
20	154 08.3	−00.5	N 17 00.9	+00.8
21	169 07.8	−00.5	N 17 01.7	+00.7
22	184 07.3	−00.6	N 17 02.4	+00.8
23	199 06.7	−00.5	N 17 03.2	+00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	309°	309°	309°	308°	308°	308°

Greenwich Culmination Time: 09:43

Moon

A: 62%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	320 24.2	−37.6	S 24 35.0	−07.5
01	334 46.6	−37.5	S 24 27.5	−07.5
02	349 09.1	−37.4	S 24 20.0	−07.8
03	3 31.7	−37.3	S 24 12.2	−07.9
04	17 54.4	−37.2	S 24 04.3	−08.1
05	32 17.2	−37.1	S 23 56.2	−08.2
06	46 40.1	−36.9	S 23 48.0	−08.4
07	61 03.2	−36.8	S 23 39.6	−08.6
08	75 26.4	−36.7	S 23 31.0	−08.7
09	89 49.7	−36.5	S 23 22.3	−08.9
10	104 13.2	−36.5	S 23 13.4	−09.0
11	118 36.7	−36.3	S 23 04.4	−09.1
12	133 00.4	−36.1	S 22 55.3	−09.4
13	147 24.3	−36.1	S 22 45.9	−09.4
14	161 48.2	−35.9	S 22 36.5	−09.6
15	176 12.3	−35.8	S 22 26.9	−09.8
16	190 36.5	−35.7	S 22 17.1	−09.8
17	205 00.8	−35.5	S 22 07.3	−10.0
18	219 25.3	−35.4	S 21 57.3	−10.2
19	233 49.9	−35.2	S 21 47.1	−10.3
20	248 14.7	−35.2	S 21 36.8	−10.4
21	262 39.5	−35.0	S 21 26.4	−10.5
22	277 04.5	−34.8	S 21 15.9	−10.7
23	291 29.7	−34.8	S 21 05.2	−10.8

UT	02	06	10	14	18	22
SD	16′5	16′5	16′5	16′4	16′4	16′4
HP	60′6	60′5	60′4	60′3	60′2	60′0
SHA	054°	051°	049°	046°	043°	041°

Greenwich Culmination Time: 02:45

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	248 54.0	+00.8	N 04 59.6	+00.7
01	263 54.8	+00.8	N 05 00.3	+00.7
02	278 55.6	+00.8	N 05 01.0	+00.6
03	293 56.4	+00.7	N 05 01.6	+00.7
04	308 57.1	+00.8	N 05 02.3	+00.7
05	323 57.9	+00.8	N 05 03.0	+00.7
06	338 58.7	+00.8	N 05 03.7	+00.7
07	353 59.5	+00.8	N 05 04.4	+00.7
08	9 00.3	+00.7	N 05 05.1	+00.7
09	24 01.0	+00.8	N 05 05.8	+00.7
10	39 01.8	+00.8	N 05 06.5	+00.6
11	54 02.6	+00.8	N 05 07.1	+00.7
12	69 03.4	+00.8	N 05 07.8	+00.7
13	84 04.2	+00.7	N 05 08.5	+00.7
14	99 04.9	+00.8	N 05 09.2	+00.7
15	114 05.7	+00.8	N 05 09.9	+00.7
16	129 06.5	+00.8	N 05 10.6	+00.7
17	144 07.3	+00.8	N 05 11.3	+00.6
18	159 08.1	+00.7	N 05 11.9	+00.7
19	174 08.8	+00.8	N 05 12.6	+00.7
20	189 09.6	+00.8	N 05 13.3	+00.7
21	204 10.4	+00.8	N 05 14.0	+00.7
22	219 11.2	+00.8	N 05 14.7	+00.7
23	234 12.0	+00.7	N 05 15.4	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	344°	344°	343°	343°	343°	343°

Greenwich Culmination Time: 07:24

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	259 13.8	+02.2	N 01 15.2	+00.2
01	274 16.0	+02.2	N 01 15.4	+00.1
02	289 18.2	+02.2	N 01 15.5	+00.1
03	304 20.4	+02.1	N 01 15.6	+00.1
04	319 22.5	+02.2	N 01 15.7	+00.1
05	334 24.7	+02.2	N 01 15.8	+00.1
06	349 26.9	+02.2	N 01 15.9	+00.1
07	4 29.1	+02.1	N 01 16.0	+00.1
08	19 31.2	+02.2	N 01 16.1	+00.2
09	34 33.4	+02.2	N 01 16.3	+00.1
10	49 35.6	+02.2	N 01 16.4	+00.1
11	64 37.8	+02.2	N 01 16.5	+00.1
12	79 40.0	+02.1	N 01 16.6	+00.1
13	94 42.1	+02.2	N 01 16.7	+00.1
14	109 44.3	+02.2	N 01 16.8	+00.1
15	124 46.5	+02.2	N 01 16.9	+00.1
16	139 48.7	+02.2	N 01 17.0	+00.1
17	154 50.9	+02.1	N 01 17.1	+00.2
18	169 53.0	+02.2	N 01 17.3	+00.1
19	184 55.2	+02.2	N 01 17.4	+00.1
20	199 57.4	+02.2	N 01 17.5	+00.1
21	214 59.6	+02.2	N 01 17.6	+00.1
22	230 01.8	+02.1	N 01 17.7	+00.1
23	245 03.9	+02.2	N 01 17.8	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 06:42

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	297 24.9	+02.5	S 14 14.3	+00.0
01	312 27.4	+02.5	S 14 14.3	+00.1
02	327 29.9	+02.5	S 14 14.4	+00.0
03	342 32.4	+02.6	S 14 14.4	+00.0
04	357 35.0	+02.5	S 14 14.4	+00.0
05	12 37.5	+02.5	S 14 14.4	+00.1
06	27 40.0	+02.5	S 14 14.5	+00.0
07	42 42.5	+02.5	S 14 14.5	+00.0
08	57 45.0	+02.5	S 14 14.5	+00.0
09	72 47.5	+02.5	S 14 14.5	+00.1
10	87 50.0	+02.5	S 14 14.6	+00.0
11	102 52.5	+02.5	S 14 14.6	+00.0
12	117 55.0	+02.5	S 14 14.6	+00.0
13	132 57.5	+02.6	S 14 14.6	+00.1
14	148 00.1	+02.5	S 14 14.7	+00.0
15	163 02.6	+02.5	S 14 14.7	+00.0
16	178 05.1	+02.5	S 14 14.7	+00.0
17	193 07.6	+02.5	S 14 14.7	+00.1
18	208 10.1	+02.5	S 14 14.8	+00.0
19	223 12.6	+02.5	S 14 14.8	+00.0
20	238 15.1	+02.5	S 14 14.8	+00.0
21	253 17.6	+02.5	S 14 14.8	+00.1
22	268 20.1	+02.6	S 14 14.9	+00.0
23	283 22.7	+02.5	S 14 14.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 04:09

2022 June 14 Tuesday (day 165 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 56.9	−00.1	N 23 15.0	+00.1
01	194 56.8	−00.1	N 23 15.1	+00.2
02	209 56.7	−00.2	N 23 15.3	+00.1
03	224 56.5	−00.1	N 23 15.4	+00.1
04	239 56.4	−00.1	N 23 15.5	+00.1
05	254 56.3	−00.2	N 23 15.6	+00.2
06	269 56.1	−00.1	N 23 15.8	+00.1
07	284 56.0	−00.1	N 23 15.9	+00.1
08	299 55.9	−00.2	N 23 16.0	+00.1
09	314 55.7	−00.1	N 23 16.1	+00.1
10	329 55.6	−00.1	N 23 16.2	+00.2
11	344 55.5	−00.2	N 23 16.4	+00.1
12	359 55.3	−00.1	N 23 16.5	+00.1
13	14 55.2	−00.1	N 23 16.6	+00.1
14	29 55.1	−00.2	N 23 16.7	+00.1
15	44 54.9	−00.1	N 23 16.8	+00.1
16	59 54.8	−00.1	N 23 16.9	+00.2
17	74 54.7	−00.1	N 23 17.1	+00.1
18	89 54.6	−00.2	N 23 17.2	+00.1
19	104 54.4	−00.1	N 23 17.3	+00.1
20	119 54.3	−00.1	N 23 17.4	+00.1
21	134 54.2	−00.2	N 23 17.5	+00.1
22	149 54.0	−00.1	N 23 17.6	+00.1
23	164 53.9	−00.1	N 23 17.7	+00.1

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	278°	277°	277°	277°	277°	277°

Greenwich Culmination Time: 12:00

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	214 54.6	−00.5	N 15 45.8	+00.9
01	229 54.1	−00.4	N 15 46.7	+00.8
02	244 53.7	−00.5	N 15 47.5	+00.9
03	259 53.2	−00.5	N 15 48.4	+00.8
04	274 52.7	−00.5	N 15 49.2	+00.8
05	289 52.2	−00.5	N 15 50.0	+00.9
06	304 51.7	−00.5	N 15 50.9	+00.8
07	319 51.2	−00.4	N 15 51.7	+00.9
08	334 50.8	−00.5	N 15 52.6	+00.8
09	349 50.3	−00.5	N 15 53.4	+00.8
10	4 49.8	−00.5	N 15 54.2	+00.9
11	19 49.3	−00.5	N 15 55.1	+00.8
12	34 48.8	−00.5	N 15 55.9	+00.9
13	49 48.3	−00.5	N 15 56.8	+00.8
14	64 47.8	−00.4	N 15 57.6	+00.8
15	79 47.4	−00.5	N 15 58.4	+00.9
16	94 46.9	−00.5	N 15 59.3	+00.8
17	109 46.4	−00.5	N 16 00.1	+00.8
18	124 45.9	−00.5	N 16 00.9	+00.9
19	139 45.4	−00.5	N 16 01.8	+00.8
20	154 44.9	−00.5	N 16 02.6	+00.8
21	169 44.4	−00.5	N 16 03.4	+00.9
22	184 43.9	−00.5	N 16 04.3	+00.8
23	199 43.4	−00.5	N 16 05.1	+00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	313°	312°	312°	312°	312°	312°

Greenwich Culmination Time: 09:40

Moon

A: 49%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	7 47.9	−38.6	S 24 46.6	+07.1
01	22 09.3	−38.7	S 24 53.7	+06.9
02	36 30.6	−38.8	S 25 00.6	+06.7
03	50 51.8	−38.9	S 25 07.3	+06.5
04	65 12.9	−39.0	S 25 13.8	+06.3
05	79 33.9	−39.0	S 25 20.1	+06.2
06	93 54.9	−39.2	S 25 26.3	+05.9
07	108 15.7	−39.2	S 25 32.2	+05.7
08	122 36.5	−39.3	S 25 37.9	+05.6
09	136 57.2	−39.4	S 25 43.5	+05.3
10	151 17.8	−39.4	S 25 48.8	+05.2
11	165 38.4	−39.5	S 25 54.0	+04.9
12	179 58.9	−39.6	S 25 58.9	+04.8
13	194 19.3	−39.7	S 26 03.7	+04.5
14	208 39.6	−39.7	S 26 08.2	+04.4
15	222 59.9	−39.7	S 26 12.6	+04.1
16	237 20.2	−39.9	S 26 16.7	+04.0
17	251 40.3	−39.8	S 26 20.7	+03.7
18	266 00.5	−40.0	S 26 24.4	+03.5
19	280 20.5	−39.9	S 26 27.9	+03.3
20	294 40.6	−40.0	S 26 31.2	+03.1
21	309 00.6	−40.1	S 26 34.3	+02.9
22	323 20.5	−40.1	S 26 37.2	+02.7
23	337 40.4	−40.1	S 26 39.9	+02.4

UT	02	06	10	14	18	22
SD	16′7	16′7	16′7	16′7	16′7	16′7
HP	61′2	61′2	61′3	61′3	61′3	61′3
SHA	104°	101°	099°	096°	093°	090°

Greenwich Culmination Time: −1:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	247 58.0	+00.8	N 04 09.7	+00.7
01	262 58.8	+00.7	N 04 10.4	+00.7
02	277 59.5	+00.8	N 04 11.1	+00.7
03	293 00.3	+00.8	N 04 11.8	+00.7
04	308 01.1	+00.8	N 04 12.5	+00.7
05	323 01.9	+00.8	N 04 13.2	+00.7
06	338 02.7	+00.7	N 04 13.9	+00.7
07	353 03.4	+00.8	N 04 14.6	+00.7
08	8 04.2	+00.8	N 04 15.3	+00.7
09	23 05.0	+00.8	N 04 16.0	+00.7
10	38 05.8	+00.7	N 04 16.7	+00.7
11	53 06.5	+00.8	N 04 17.4	+00.7
12	68 07.3	+00.8	N 04 18.1	+00.7
13	83 08.1	+00.8	N 04 18.8	+00.7
14	98 08.9	+00.7	N 04 19.5	+00.7
15	113 09.6	+00.8	N 04 20.2	+00.7
16	128 10.4	+00.8	N 04 20.9	+00.6
17	143 11.2	+00.8	N 04 21.5	+00.7
18	158 12.0	+00.8	N 04 22.2	+00.7
19	173 12.8	+00.7	N 04 22.9	+00.7
20	188 13.5	+00.8	N 04 23.6	+00.7
21	203 14.3	+00.8	N 04 24.3	+00.7
22	218 15.1	+00.8	N 04 25.0	+00.7
23	233 15.9	+00.7	N 04 25.7	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	346°	346°	345°	345°	345°	345°

Greenwich Culmination Time: 07:27

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	256 37.7	+02.1	N 01 06.9	+00.1
01	271 39.8	+02.2	N 01 07.0	+00.1
02	286 42.0	+02.2	N 01 07.1	+00.2
03	301 44.2	+02.1	N 01 07.3	+00.1
04	316 46.3	+02.2	N 01 07.4	+00.1
05	331 48.5	+02.2	N 01 07.5	+00.1
06	346 50.7	+02.1	N 01 07.6	+00.1
07	1 52.8	+02.2	N 01 07.7	+00.2
08	16 55.0	+02.1	N 01 07.9	+00.1
09	31 57.1	+02.2	N 01 08.0	+00.1
10	46 59.3	+02.2	N 01 08.1	+00.1
11	62 01.5	+02.1	N 01 08.2	+00.1
12	77 03.6	+02.2	N 01 08.3	+00.1
13	92 05.8	+02.2	N 01 08.4	+00.2
14	107 08.0	+02.1	N 01 08.6	+00.1
15	122 10.1	+02.2	N 01 08.7	+00.1
16	137 12.3	+02.1	N 01 08.8	+00.1
17	152 14.4	+02.2	N 01 08.9	+00.1
18	167 16.6	+02.2	N 01 09.0	+00.2
19	182 18.8	+02.1	N 01 09.2	+00.1
20	197 20.9	+02.2	N 01 09.3	+00.1
21	212 23.1	+02.2	N 01 09.4	+00.1
22	227 25.3	+02.1	N 01 09.5	+00.1
23	242 27.4	+02.2	N 01 09.6	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 06:52

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	294 24.7	+02.5	S 14 12.8	+00.0
01	309 27.2	+02.5	S 14 12.8	+00.0
02	324 29.7	+02.5	S 14 12.8	+00.0
03	339 32.2	+02.5	S 14 12.8	+00.0
04	354 34.7	+02.5	S 14 12.8	+00.1
05	9 37.2	+02.5	S 14 12.9	+00.0
06	24 39.7	+02.5	S 14 12.9	+00.0
07	39 42.2	+02.5	S 14 12.9	+00.0
08	54 44.7	+02.5	S 14 12.9	+00.0
09	69 47.2	+02.5	S 14 12.9	+00.1
10	84 49.7	+02.5	S 14 13.0	+00.0
11	99 52.2	+02.5	S 14 13.0	+00.0
12	114 54.7	+02.5	S 14 13.0	+00.0
13	129 57.2	+02.5	S 14 13.0	+00.0
14	144 59.7	+02.5	S 14 13.0	+00.1
15	160 02.2	+02.5	S 14 13.1	+00.0
16	175 04.7	+02.5	S 14 13.1	+00.0
17	190 07.2	+02.5	S 14 13.1	+00.0
18	205 09.7	+02.5	S 14 13.1	+00.1
19	220 12.2	+02.5	S 14 13.2	+00.0
20	235 14.7	+02.5	S 14 13.2	+00.0
21	250 17.2	+02.5	S 14 13.2	+00.0
22	265 19.7	+02.5	S 14 13.2	+00.0
23	280 22.2	+02.5	S 14 13.2	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 04:21

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2022 June 15 Wednesday (day 166 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 53.8	−00.2	N 23 17.8	+00.2
01	194 53.6	−00.1	N 23 18.0	+00.1
02	209 53.5	−00.1	N 23 18.1	+00.1
03	224 53.4	−00.2	N 23 18.2	+00.1
04	239 53.2	−00.1	N 23 18.3	+00.1
05	254 53.1	−00.1	N 23 18.4	+00.1
06	269 53.0	−00.2	N 23 18.5	+00.1
07	284 52.8	−00.1	N 23 18.6	+00.1
08	299 52.7	−00.1	N 23 18.7	+00.1
09	314 52.6	−00.2	N 23 18.8	+00.1
10	329 52.4	−00.1	N 23 18.9	+00.1
11	344 52.3	−00.1	N 23 19.0	+00.1
12	359 52.2	−00.2	N 23 19.1	+00.1
13	14 52.0	−00.1	N 23 19.2	+00.1
14	29 51.9	−00.1	N 23 19.3	+00.1
15	44 51.8	−00.2	N 23 19.4	+00.1
16	59 51.6	−00.1	N 23 19.5	+00.1
17	74 51.5	−00.1	N 23 19.6	+00.1
18	89 51.4	−00.2	N 23 19.7	+00.1
19	104 51.2	−00.1	N 23 19.8	+00.1
20	119 51.1	−00.1	N 23 19.9	+00.1
21	134 51.0	−00.2	N 23 20.0	+00.1
22	149 50.8	−00.1	N 23 20.1	+00.1
23	164 50.7	−00.1	N 23 20.2	+00.1

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	277°	276°	276°	276°	276°	276°

Greenwich Culmination Time: 12:00

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	214 42.9	−00.5	N 16 05.9	+00.8
01	229 42.4	−00.4	N 16 06.7	+00.9
02	244 42.0	−00.5	N 16 07.6	+00.8
03	259 41.5	−00.5	N 16 08.4	+00.8
04	274 41.0	−00.5	N 16 09.2	+00.9
05	289 40.5	−00.5	N 16 10.1	+00.8
06	304 40.0	−00.5	N 16 10.9	+00.8
07	319 39.5	−00.5	N 16 11.7	+00.8
08	334 39.0	−00.5	N 16 12.5	+00.9
09	349 38.5	−00.5	N 16 13.4	+00.8
10	4 38.0	−00.5	N 16 14.2	+00.8
11	19 37.5	−00.5	N 16 15.0	+00.8
12	34 37.0	−00.5	N 16 15.8	+00.9
13	49 36.5	−00.5	N 16 16.7	+00.8
14	64 36.0	−00.5	N 16 17.5	+00.8
15	79 35.5	−00.5	N 16 18.3	+00.8
16	94 35.0	−00.5	N 16 19.1	+00.8
17	109 34.5	−00.5	N 16 19.9	+00.9
18	124 34.0	−00.5	N 16 20.8	+00.8
19	139 33.5	−00.5	N 16 21.6	+00.8
20	154 33.0	−00.5	N 16 22.4	+00.8
21	169 32.5	−00.5	N 16 23.2	+00.8
22	184 32.0	−00.5	N 16 24.0	+00.8
23	199 31.5	−00.5	N 16 24.8	+00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	311°	311°	311°	311°	311°	310°

Greenwich Culmination Time: 09:41

Moon

A: 54%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	352 00.3	−40.1	S 26 42.3	+02.3
01	6 20.2	−40.2	S 26 44.6	+02.0
02	20 40.0	−40.2	S 26 46.6	+01.9
03	34 59.8	−40.2	S 26 48.5	+01.6
04	49 19.6	−40.2	S 26 50.1	+01.4
05	63 39.4	−40.3	S 26 51.5	+01.2
06	77 59.1	−40.2	S 26 52.7	+00.9
07	92 18.9	−40.2	S 26 53.6	+00.8
08	106 38.7	−40.3	S 26 54.4	+00.5
09	120 58.4	−40.2	S 26 54.9	+00.4
10	135 18.2	−40.3	S 26 55.3	+00.1
11	149 37.9	−40.2	S 26 55.4	−00.1
12	163 57.7	−40.2	S 26 55.3	−00.3
13	178 17.5	−40.2	S 26 55.0	−00.5
14	192 37.3	−40.2	S 26 54.5	−00.8
15	206 57.1	−40.1	S 26 53.7	−00.9
16	221 17.0	−40.1	S 26 52.8	−01.2
17	235 36.9	−40.1	S 26 51.6	−01.4
18	249 56.8	−40.1	S 26 50.2	−01.6
19	264 16.7	−40.0	S 26 48.6	−01.8
20	278 36.7	−39.9	S 26 46.8	−02.0
21	292 56.8	−40.0	S 26 44.8	−02.2
22	307 16.8	−39.8	S 26 42.6	−02.4
23	321 37.0	−39.9	S 26 40.2	−02.7

UT	02	06	10	14	18	22
SD	16′7	16′7	16′7	16′7	16′7	16′7
HP	61′3	61′3	61′3	61′3	61′2	61′2
SHA	087°	084°	082°	079°	076°	073°

Greenwich Culmination Time: 00:33

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	248 16.6	+00.8	N 04 26.4	+00.7
01	263 17.4	+00.8	N 04 27.1	+00.7
02	278 18.2	+00.8	N 04 27.8	+00.7
03	293 19.0	+00.8	N 04 28.5	+00.7
04	308 19.8	+00.7	N 04 29.2	+00.7
05	323 20.5	+00.8	N 04 29.9	+00.7
06	338 21.3	+00.8	N 04 30.6	+00.7
07	353 22.1	+00.8	N 04 31.3	+00.7
08	8 22.9	+00.7	N 04 32.0	+00.6
09	23 23.6	+00.8	N 04 32.6	+00.7
10	38 24.4	+00.8	N 04 33.3	+00.7
11	53 25.2	+00.8	N 04 34.0	+00.7
12	68 26.0	+00.8	N 04 34.7	+00.7
13	83 26.8	+00.7	N 04 35.4	+00.7
14	98 27.5	+00.8	N 04 36.1	+00.7
15	113 28.3	+00.8	N 04 36.8	+00.7
16	128 29.1	+00.8	N 04 37.5	+00.7
17	143 29.9	+00.8	N 04 38.2	+00.7
18	158 30.7	+00.7	N 04 38.9	+00.7
19	173 31.4	+00.8	N 04 39.6	+00.7
20	188 32.2	+00.8	N 04 40.3	+00.6
21	203 33.0	+00.8	N 04 40.9	+00.7
22	218 33.8	+00.7	N 04 41.6	+00.7
23	233 34.5	+00.8	N 04 42.3	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	345°	345°	345°	345°	345°	344°

Greenwich Culmination Time: 07:26

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	257 29.6	+02.2	N 01 09.7	+00.2
01	272 31.8	+02.1	N 01 09.9	+00.1
02	287 33.9	+02.2	N 01 10.0	+00.1
03	302 36.1	+02.2	N 01 10.1	+00.1
04	317 38.3	+02.1	N 01 10.2	+00.1
05	332 40.4	+02.2	N 01 10.3	+00.1
06	347 42.6	+02.2	N 01 10.4	+00.2
07	2 44.8	+02.1	N 01 10.6	+00.1
08	17 46.9	+02.2	N 01 10.7	+00.1
09	32 49.1	+02.2	N 01 10.8	+00.1
10	47 51.3	+02.1	N 01 10.9	+00.1
11	62 53.4	+02.2	N 01 11.0	+00.1
12	77 55.6	+02.2	N 01 11.1	+00.2
13	92 57.8	+02.1	N 01 11.3	+00.1
14	107 59.9	+02.2	N 01 11.4	+00.1
15	123 02.1	+02.2	N 01 11.5	+00.1
16	138 04.3	+02.2	N 01 11.6	+00.1
17	153 06.5	+02.1	N 01 11.7	+00.1
18	168 08.6	+02.2	N 01 11.8	+00.1
19	183 10.8	+02.2	N 01 11.9	+00.2
20	198 13.0	+02.1	N 01 12.1	+00.1
21	213 15.1	+02.2	N 01 12.2	+00.1
22	228 17.3	+02.2	N 01 12.3	+00.1
23	243 19.5	+02.1	N 01 12.4	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 06:49

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	295 24.7	+02.5	S 14 13.3	+00.0
01	310 27.2	+02.5	S 14 13.3	+00.0
02	325 29.7	+02.5	S 14 13.3	+00.0
03	340 32.2	+02.5	S 14 13.3	+00.0
04	355 34.7	+02.5	S 14 13.3	+00.1
05	10 37.2	+02.5	S 14 13.4	+00.0
06	25 39.7	+02.5	S 14 13.4	+00.0
07	40 42.2	+02.5	S 14 13.4	+00.0
08	55 44.7	+02.5	S 14 13.4	+00.0
09	70 47.2	+02.5	S 14 13.4	+00.1
10	85 49.7	+02.5	S 14 13.5	+00.0
11	100 52.2	+02.5	S 14 13.5	+00.0
12	115 54.7	+02.5	S 14 13.5	+00.0
13	130 57.2	+02.5	S 14 13.5	+00.1
14	145 59.7	+02.5	S 14 13.6	+00.0
15	161 02.2	+02.5	S 14 13.6	+00.0
16	176 04.7	+02.5	S 14 13.6	+00.0
17	191 07.2	+02.5	S 14 13.6	+00.0
18	206 09.7	+02.5	S 14 13.6	+00.1
19	221 12.2	+02.5	S 14 13.7	+00.0
20	236 14.7	+02.5	S 14 13.7	+00.0
21	251 17.2	+02.5	S 14 13.7	+00.0
22	266 19.7	+02.5	S 14 13.7	+00.0
23	281 22.2	+02.6	S 14 13.7	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 04:17

2022 June 16 Thursday (day 167 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 50.6	−00.2	N 23 20.3	+00.1
01	194 50.4	−00.1	N 23 20.4	+00.1
02	209 50.3	−00.1	N 23 20.5	+00.0
03	224 50.2	−00.2	N 23 20.5	+00.1
04	239 50.0	−00.1	N 23 20.6	+00.1
05	254 49.9	−00.1	N 23 20.7	+00.1
06	269 49.8	−00.2	N 23 20.8	+00.1
07	284 49.6	−00.1	N 23 20.9	+00.1
08	299 49.5	−00.1	N 23 21.0	+00.1
09	314 49.4	−00.2	N 23 21.1	+00.1
10	329 49.2	−00.1	N 23 21.2	+00.0
11	344 49.1	−00.1	N 23 21.2	+00.1
12	359 49.0	−00.2	N 23 21.3	+00.1
13	14 48.8	−00.1	N 23 21.4	+00.1
14	29 48.7	−00.1	N 23 21.5	+00.1
15	44 48.6	−00.2	N 23 21.6	+00.1
16	59 48.4	−00.1	N 23 21.7	+00.0
17	74 48.3	−00.1	N 23 21.7	+00.1
18	89 48.2	−00.2	N 23 21.8	+00.1
19	104 48.0	−00.1	N 23 21.9	+00.1
20	119 47.9	−00.1	N 23 22.0	+00.1
21	134 47.8	−00.2	N 23 22.1	+00.0
22	149 47.6	−00.1	N 23 22.1	+00.1
23	164 47.5	−00.1	N 23 22.2	+00.1

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	276°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 12:00

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	214 31.0	−00.5	N 16 25.7	+00.8
01	229 30.5	−00.5	N 16 26.5	+00.8
02	244 30.0	−00.5	N 16 27.3	+00.8
03	259 29.5	−00.5	N 16 28.1	+00.8
04	274 29.0	−00.5	N 16 28.9	+00.8
05	289 28.5	−00.6	N 16 29.7	+00.8
06	304 27.9	−00.5	N 16 30.5	+00.8
07	319 27.4	−00.5	N 16 31.3	+00.9
08	334 26.9	−00.5	N 16 32.2	+00.8
09	349 26.4	−00.5	N 16 33.0	+00.8
10	4 25.9	−00.5	N 16 33.8	+00.8
11	19 25.4	−00.5	N 16 34.6	+00.8
12	34 24.9	−00.5	N 16 35.4	+00.8
13	49 24.4	−00.5	N 16 36.2	+00.8
14	64 23.9	−00.5	N 16 37.0	+00.8
15	79 23.4	−00.5	N 16 37.8	+00.8
16	94 22.9	−00.6	N 16 38.6	+00.8
17	109 22.3	−00.5	N 16 39.4	+00.8
18	124 21.8	−00.5	N 16 40.2	+00.8
19	139 21.3	−00.5	N 16 41.0	+00.8
20	154 20.8	−00.5	N 16 41.8	+00.8
21	169 20.3	−00.5	N 16 42.6	+00.8
22	184 19.8	−00.5	N 16 43.4	+00.8
23	199 19.3	−00.6	N 16 44.2	+00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	310°	310°	310°	310°	309°	309°

Greenwich Culmination Time: 09:42

Moon

A: 58%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	335 57.1	−39.7	S 26 37.5	−02.8
01	350 17.4	−39.8	S 26 34.7	−03.1
02	4 37.6	−39.6	S 26 31.6	−03.2
03	18 58.0	−39.6	S 26 28.4	−03.5
04	33 18.4	−39.5	S 26 24.9	−03.7
05	47 38.9	−39.5	S 26 21.2	−03.8
06	61 59.4	−39.4	S 26 17.4	−04.1
07	76 20.0	−39.3	S 26 13.3	−04.2
08	90 40.7	−39.2	S 26 09.1	−04.5
09	105 01.5	−39.1	S 26 04.6	−04.7
10	119 22.4	−39.1	S 25 59.9	−04.8
11	133 43.3	−39.0	S 25 55.1	−05.1
12	148 04.3	−38.9	S 25 50.0	−05.2
13	162 25.4	−38.7	S 25 44.8	−05.4
14	176 46.7	−38.7	S 25 39.4	−05.7
15	191 08.0	−38.7	S 25 33.7	−05.8
16	205 29.3	−38.5	S 25 27.9	−06.0
17	219 50.8	−38.4	S 25 21.9	−06.1
18	234 12.4	−38.3	S 25 15.8	−06.4
19	248 34.1	−38.2	S 25 09.4	−06.5
20	262 55.9	−38.0	S 25 02.9	−06.7
21	277 17.9	−38.0	S 24 56.2	−06.9
22	291 39.9	−37.9	S 24 49.3	−07.1
23	306 02.0	−37.8	S 24 42.2	−07.2

UT	02	06	10	14	18	22
SD	16′7	16′6	16′6	16′6	16′6	16′5
HP	61′1	61′1	61′0	60′9	60′8	60′7
SHA	070°	067°	065°	062°	059°	057°

Greenwich Culmination Time: 01:40

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	248 35.3	+00.8	N 04 43.0	+00.7
01	263 36.1	+00.8	N 04 43.7	+00.7
02	278 36.9	+00.8	N 04 44.4	+00.7
03	293 37.7	+00.7	N 04 45.1	+00.7
04	308 38.4	+00.8	N 04 45.8	+00.7
05	323 39.2	+00.8	N 04 46.5	+00.7
06	338 40.0	+00.8	N 04 47.2	+00.7
07	353 40.8	+00.8	N 04 47.9	+00.6
08	8 41.6	+00.7	N 04 48.5	+00.7
09	23 42.3	+00.8	N 04 49.2	+00.7
10	38 43.1	+00.8	N 04 49.9	+00.7
11	53 43.9	+00.8	N 04 50.6	+00.7
12	68 44.7	+00.7	N 04 51.3	+00.7
13	83 45.4	+00.8	N 04 52.0	+00.7
14	98 46.2	+00.8	N 04 52.7	+00.7
15	113 47.0	+00.8	N 04 53.4	+00.7
16	128 47.8	+00.8	N 04 54.1	+00.7
17	143 48.6	+00.7	N 04 54.8	+00.6
18	158 49.3	+00.8	N 04 55.4	+00.7
19	173 50.1	+00.8	N 04 56.1	+00.7
20	188 50.9	+00.8	N 04 56.8	+00.7
21	203 51.7	+00.8	N 04 57.5	+00.7
22	218 52.5	+00.7	N 04 58.2	+00.7
23	233 53.2	+00.8	N 04 58.9	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	344°	344°	344°	344°	344°	344°

Greenwich Culmination Time: 07:25

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	258 21.6	+02.2	N 01 12.5	+00.1
01	273 23.8	+02.2	N 01 12.6	+00.2
02	288 26.0	+02.2	N 01 12.8	+00.1
03	303 28.2	+02.1	N 01 12.9	+00.1
04	318 30.3	+02.2	N 01 13.0	+00.1
05	333 32.5	+02.2	N 01 13.1	+00.1
06	348 34.7	+02.2	N 01 13.2	+00.1
07	3 36.9	+02.1	N 01 13.3	+00.1
08	18 39.0	+02.2	N 01 13.4	+00.2
09	33 41.2	+02.2	N 01 13.6	+00.1
10	48 43.4	+02.1	N 01 13.7	+00.1
11	63 45.5	+02.2	N 01 13.8	+00.1
12	78 47.7	+02.2	N 01 13.9	+00.1
13	93 49.9	+02.2	N 01 14.0	+00.1
14	108 52.1	+02.1	N 01 14.1	+00.1
15	123 54.2	+02.2	N 01 14.2	+00.1
16	138 56.4	+02.2	N 01 14.3	+00.2
17	153 58.6	+02.2	N 01 14.5	+00.1
18	169 00.8	+02.1	N 01 14.6	+00.1
19	184 02.9	+02.2	N 01 14.7	+00.1
20	199 05.1	+02.2	N 01 14.8	+00.1
21	214 07.3	+02.2	N 01 14.9	+00.1
22	229 09.5	+02.1	N 01 15.0	+00.1
23	244 11.6	+02.2	N 01 15.1	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 06:45

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	296 24.8	+02.5	S 14 13.8	+00.0
01	311 27.3	+02.5	S 14 13.8	+00.0
02	326 29.8	+02.5	S 14 13.8	+00.0
03	341 32.3	+02.5	S 14 13.8	+00.1
04	356 34.8	+02.5	S 14 13.9	+00.0
05	11 37.3	+02.5	S 14 13.9	+00.0
06	26 39.8	+02.5	S 14 13.9	+00.0
07	41 42.3	+02.5	S 14 13.9	+00.1
08	56 44.8	+02.5	S 14 14.0	+00.0
09	71 47.3	+02.5	S 14 14.0	+00.0
10	86 49.8	+02.5	S 14 14.0	+00.0
11	101 52.3	+02.5	S 14 14.0	+00.0
12	116 54.8	+02.5	S 14 14.0	+00.1
13	131 57.3	+02.5	S 14 14.1	+00.0
14	146 59.8	+02.5	S 14 14.1	+00.0
15	162 02.3	+02.6	S 14 14.1	+00.0
16	177 04.9	+02.5	S 14 14.1	+00.1
17	192 07.4	+02.5	S 14 14.2	+00.0
18	207 09.9	+02.5	S 14 14.2	+00.0
19	222 12.4	+02.5	S 14 14.2	+00.0
20	237 14.9	+02.5	S 14 14.2	+00.1
21	252 17.4	+02.5	S 14 14.3	+00.0
22	267 19.9	+02.5	S 14 14.3	+00.0
23	282 22.4	+02.5	S 14 14.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 04:13

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2022 June 21 Tuesday

(day 172 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	179 34.3	−00.1	N 23 26.2	+00.0
01	194 34.2	−00.1	N 23 26.2	+00.0
02	209 34.1	−00.2	N 23 26.2	+00.1
03	224 33.9	−00.1	N 23 26.3	+00.0
04	239 33.8	−00.1	N 23 26.3	+00.0
05	254 33.7	−00.2	N 23 26.3	+00.0
06	269 33.5	−00.1	N 23 26.3	+00.0
07	284 33.4	−00.1	N 23 26.3	+00.0
08	299 33.3	−00.2	N 23 26.3	+00.0
09	314 33.1	−00.1	N 23 26.3	+00.0
10	329 33.0	−00.1	N 23 26.3	+00.0
11	344 32.9	−00.2	N 23 26.3	+00.0
12	359 32.7	−00.1	N 23 26.3	+00.0
13	14 32.6	−00.2	N 23 26.3	+00.0
14	29 32.4	−00.1	N 23 26.3	+00.0
15	44 32.3	−00.1	N 23 26.3	+00.0
16	59 32.2	−00.2	N 23 26.3	−00.1
17	74 32.0	−00.1	N 23 26.2	+00.0
18	89 31.9	−00.1	N 23 26.2	+00.0
19	104 31.8	−00.2	N 23 26.2	+00.0
20	119 31.6	−00.1	N 23 26.2	+00.0
21	134 31.5	−00.1	N 23 26.2	+00.0
22	149 31.4	−00.2	N 23 26.2	+00.0
23	164 31.2	−00.1	N 23 26.2	+00.0

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	270°	270°	270°	270°	270°	269°

Greenwich Culmination Time: 12:01

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	213 27.0	−00.6	N 17 58.6	+00.7
01	228 26.4	−00.6	N 17 59.3	+00.8
02	243 25.8	−00.5	N 18 00.1	+00.7
03	258 25.3	−00.6	N 18 00.8	+00.7
04	273 24.7	−00.6	N 18 01.5	+00.7
05	288 24.1	−00.5	N 18 02.2	+00.8
06	303 23.6	−00.6	N 18 03.0	+00.7
07	318 23.0	−00.6	N 18 03.7	+00.7
08	333 22.4	−00.5	N 18 04.4	+00.8
09	348 21.9	−00.6	N 18 05.2	+00.7
10	3 21.3	−00.6	N 18 05.9	+00.7
11	18 20.7	−00.5	N 18 06.6	+00.7
12	33 20.2	−00.6	N 18 07.3	+00.7
13	48 19.6	−00.6	N 18 08.0	+00.8
14	63 19.0	−00.5	N 18 08.8	+00.7
15	78 18.5	−00.6	N 18 09.5	+00.7
16	93 17.9	−00.6	N 18 10.2	+00.7
17	108 17.3	−00.6	N 18 10.9	+00.8
18	123 16.7	−00.5	N 18 11.7	+00.7
19	138 16.2	−00.6	N 18 12.4	+00.7
20	153 15.6	−00.6	N 18 13.1	+00.7
21	168 15.0	−00.6	N 18 13.8	+00.7
22	183 14.4	−00.5	N 18 14.5	+00.7
23	198 13.9	−00.6	N 18 15.2	+00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	304°	304°	304°	304°	303°	303°

Greenwich Culmination Time: 09:46

Moon

A: 76%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	269 19.7	−27.2	S 04 38.9	−14.8
01	283 52.5	−27.2	S 04 24.1	−14.8
02	298 25.3	−27.1	S 04 09.3	−14.9
03	312 58.2	−27.1	S 03 54.4	−14.8
04	327 31.1	−27.0	S 03 39.6	−14.8
05	342 04.1	−27.0	S 03 24.8	−14.8
06	356 37.1	−26.9	S 03 10.0	−14.8
07	11 10.2	−26.9	S 02 55.2	−14.8
08	25 43.3	−26.8	S 02 40.4	−14.8
09	40 16.5	−26.8	S 02 25.6	−14.8
10	54 49.7	−26.8	S 02 10.8	−14.8
11	69 22.9	−26.7	S 01 56.0	−14.8
12	83 56.2	−26.6	S 01 41.2	−14.7
13	98 29.6	−26.6	S 01 26.5	−14.8
14	113 03.0	−26.6	S 01 11.7	−14.7
15	127 36.4	−26.5	S 00 57.0	−14.8
16	142 09.9	−26.5	S 00 42.2	−14.7
17	156 43.4	−26.5	S 00 27.5	−14.7
18	171 16.9	−26.4	S 00 12.8	−14.7
19	185 50.5	−26.4	N 00 01.9	+14.6
20	200 24.1	−26.4	N 00 16.5	+14.7
21	214 57.7	−26.3	N 00 31.2	+14.6
22	229 31.4	−26.4	N 00 45.8	+14.6
23	244 05.0	−26.2	N 01 00.4	+14.6

UT	02	06	10	14	18	22
SD	15′6	15′6	15′5	15′5	15′5	15′4
HP	57′3	57′2	57′0	56′9	56′7	56′6
SHA	359°	357°	355°	353°	351°	349°

Greenwich Culmination Time: 06:13

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	250 09.1	+00.7	N 06 05.0	+00.7
01	265 09.8	+00.8	N 06 05.7	+00.7
02	280 10.6	+00.8	N 06 06.4	+00.7
03	295 11.4	+00.8	N 06 07.1	+00.6
04	310 12.2	+00.8	N 06 07.7	+00.7
05	325 13.0	+00.8	N 06 08.4	+00.7
06	340 13.8	+00.7	N 06 09.1	+00.7
07	355 14.5	+00.8	N 06 09.8	+00.6
08	10 15.3	+00.8	N 06 10.4	+00.7
09	25 16.1	+00.8	N 06 11.1	+00.7
10	40 16.9	+00.8	N 06 11.8	+00.7
11	55 17.7	+00.8	N 06 12.5	+00.6
12	70 18.5	+00.7	N 06 13.1	+00.7
13	85 19.2	+00.8	N 06 13.8	+00.7
14	100 20.0	+00.8	N 06 14.5	+00.7
15	115 20.8	+00.8	N 06 15.2	+00.6
16	130 21.6	+00.8	N 06 15.8	+00.7
17	145 22.4	+00.8	N 06 16.5	+00.7
18	160 23.2	+00.7	N 06 17.2	+00.7
19	175 23.9	+00.8	N 06 17.9	+00.6
20	190 24.7	+00.8	N 06 18.5	+00.7
21	205 25.5	+00.8	N 06 19.2	+00.7
22	220 26.3	+00.8	N 06 19.9	+00.6
23	235 27.1	+00.8	N 06 20.5	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	341°	341°	341°	341°	340°	340°

Greenwich Culmination Time: 07:19

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	262 43.9	+02.2	N 01 25.5	+00.1
01	277 46.1	+02.2	N 01 25.6	+00.1
02	292 48.3	+02.2	N 01 25.7	+00.1
03	307 50.5	+02.2	N 01 25.8	+00.1
04	322 52.7	+02.2	N 01 25.9	+00.1
05	337 54.9	+02.2	N 01 26.0	+00.1
06	352 57.1	+02.2	N 01 26.1	+00.2
07	7 59.3	+02.2	N 01 26.3	+00.1
08	23 01.5	+02.2	N 01 26.4	+00.1
09	38 03.7	+02.2	N 01 26.5	+00.1
10	53 05.9	+02.2	N 01 26.6	+00.1
11	68 08.1	+02.2	N 01 26.7	+00.1
12	83 10.3	+02.2	N 01 26.8	+00.1
13	98 12.5	+02.2	N 01 26.9	+00.1
14	113 14.7	+02.2	N 01 27.0	+00.1
15	128 16.9	+02.2	N 01 27.1	+00.1
16	143 19.1	+02.2	N 01 27.2	+00.1
17	158 21.3	+02.2	N 01 27.3	+00.1
18	173 23.5	+02.2	N 01 27.4	+00.1
19	188 25.7	+02.2	N 01 27.5	+00.1
20	203 27.9	+02.2	N 01 27.6	+00.1
21	218 30.1	+02.2	N 01 27.7	+00.1
22	233 32.3	+02.2	N 01 27.8	+00.1
23	248 34.5	+02.2	N 01 27.9	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	353°	353°	353°

Greenwich Culmination Time: 06:28

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	301 26.5	+02.5	S 14 16.8	+00.1
01	316 29.0	+02.5	S 14 16.9	+00.0
02	331 31.5	+02.5	S 14 16.9	+00.0
03	346 34.0	+02.6	S 14 16.9	+00.0
04	1 36.6	+02.5	S 14 16.9	+00.1
05	16 39.1	+02.5	S 14 17.0	+00.0
06	31 41.6	+02.5	S 14 17.0	+00.0
07	46 44.1	+02.6	S 14 17.0	+00.1
08	61 46.7	+02.5	S 14 17.1	+00.0
09	76 49.2	+02.5	S 14 17.1	+00.0
10	91 51.7	+02.5	S 14 17.1	+00.0
11	106 54.2	+02.6	S 14 17.1	+00.1
12	121 56.8	+02.5	S 14 17.2	+00.0
13	136 59.3	+02.5	S 14 17.2	+00.0
14	152 01.8	+02.6	S 14 17.2	+00.1
15	167 04.4	+02.5	S 14 17.3	+00.0
16	182 06.9	+02.5	S 14 17.3	+00.0
17	197 09.4	+02.5	S 14 17.3	+00.1
18	212 11.9	+02.6	S 14 17.4	+00.0
19	227 14.5	+02.5	S 14 17.4	+00.0
20	242 17.0	+02.5	S 14 17.4	+00.0
21	257 19.5	+02.5	S 14 17.4	+00.1
22	272 22.0	+02.6	S 14 17.5	+00.0
23	287 24.6	+02.5	S 14 17.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 03:53

2022 June 18 Saturday

(day 169 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	179 44.1	−00.1	N 23 23.9	+00.1
01	194 44.0	−00.1	N 23 24.0	+00.0
02	209 43.9	−00.2	N 23 24.0	+00.1
03	224 43.7	−00.1	N 23 24.1	+00.0
04	239 43.6	−00.2	N 23 24.1	+00.1
05	254 43.4	−00.1	N 23 24.2	+00.0
06	269 43.3	−00.1	N 23 24.2	+00.1
07	284 43.2	−00.2	N 23 24.3	+00.0
08	299 43.0	−00.1	N 23 24.3	+00.1
09	314 42.9	−00.1	N 23 24.4	+00.0
10	329 42.8	−00.2	N 23 24.4	+00.1
11	344 42.6	−00.1	N 23 24.5	+00.0
12	359 42.5	−00.1	N 23 24.5	+00.1
13	14 42.4	−00.2	N 23 24.6	+00.0
14	29 42.2	−00.1	N 23 24.6	+00.1
15	44 42.1	−00.1	N 23 24.7	+00.0
16	59 42.0	−00.2	N 23 24.7	+00.1
17	74 41.8	−00.1	N 23 24.8	+00.0
18	89 41.7	−00.1	N 23 24.8	+00.1
19	104 41.6	−00.2	N 23 24.9	+00.0
20	119 41.4	−00.1	N 23 24.9	+00.1
21	134 41.3	−00.2	N 23 25.0	+00.0
22	149 41.1	−00.1	N 23 25.0	+00.0
23	164 41.0	−00.1	N 23 25.0	+00.1

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	273°	273°	273°	273°	273°	273°

Greenwich Culmination Time: 12:01

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	214 06.2	−00.5	N 17 04.0	+00.8
01	229 05.7	−00.5	N 17 04.8	+00.8
02	244 05.2	−00.6	N 17 05.6	+00.8
03	259 04.6	−00.5	N 17 06.4	+00.7
04	274 04.1	−00.5	N 17 07.1	+00.8
05	289 03.6	−00.6	N 17 07.9	+00.8
06	304 03.0	−00.5	N 17 08.7	+00.8
07	319 02.5	−00.5	N 17 09.5	+00.8
08	334 02.0	−00.5	N 17 10.3	+00.7
09	349 01.5	−00.6	N 17 11.0	+00.8
10	4 00.9	−00.5	N 17 11.8	+00.8
11	19 00.4	−00.5	N 17 12.6	+00.8
12	33 59.9	−00.6	N 17 13.4	+00.7
13	48 59.3	−00.5	N 17 14.1	+00.8
14	63 58.8	−00.5	N 17 14.9	+00.8
15	78 58.3	−00.6	N 17 15.7	+00.8
16	93 57.7	−00.5	N 17 16.5	+00.7
17	108 57.2	−00.6	N 17 17.2	+00.8
18	123 56.6	−00.5	N 17 18.0	+00.8
19	138 56.1	−00.5	N 17 18.8	+00.7
20	153 55.6	−00.6	N 17 19.5	+00.8
21	168 55.0	−00.5	N 17 20.3	+00.8
22	183 54.5	−00.5	N 17 21.1	+00.7
23	198 54.0	−00.6	N 17 21.8	+00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	308°	308°	307°	307°	307°	307°

Greenwich Culmination Time: 09:43

Moon

A: 66%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	305 54.9	−34.6	S 20 54.4	−10.9
01	320 20.3	−34.4	S 20 43.5	−11.0
02	334 45.9	−34.4	S 20 32.5	−11.2
03	349 11.5	−34.2	S 20 21.3	−11.2
04	3 37.3	−34.0	S 20 10.1	−11.4
05	18 03.3	−34.0	S 19 58.7	−11.5
06	32 29.3	−33.8	S 19 47.2	−11.6
07	46 55.5	−33.6	S 19 35.6	−11.7
08	61 21.9	−33.6	S 19 23.9	−11.8
09	75 48.3	−33.4	S 19 12.1	−11.9
10	90 14.9	−33.3	S 19 00.2	−12.0
11	104 41.6	−33.1	S 18 48.2	−12.1
12	119 08.5	−33.1	S 18 36.1	−12.2
13	133 35.4	−32.9	S 18 23.9	−12.3
14	148 02.5	−32.7	S 18 11.6	−12.4
15	162 29.8	−32.7	S 17 59.2	−12.4
16	176 57.1	−32.5	S 17 46.8	−12.6
17	191 24.6	−32.4	S 17 34.2	−12.7
18	205 52.2	−32.2	S 17 21.5	−12.7
19	220 20.0	−32.2	S 17 08.8	−12.8
20	234 47.8	−32.0	S 16 56.0	−12.9
21	249 15.8	−31.9	S 16 43.1	−13.0
22	263 43.9	−31.8	S 16 30.1	−13.0
23	278 12.1	−31.6	S 16 17.1	−13.2

UT	02	06	10	14	18	22
SD	16′3	16′3	16′2	16′2	16′2	16′1
HP	59′9	59′8	59′6	59′5	59′4	59′2
SHA	038°	036°	034°	031°	029°	027°

Greenwich Culmination Time: 03:44

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	249 12.7	+00.8	N 05 16.1	+00.6
01	264 13.5	+00.8	N 05 16.7	+00.7
02	279 14.3	+00.8	N 05 17.4	+00.7
03	294 15.1	+00.8	N 05 18.1	+00.7
04	309 15.9	+00.7	N 05 18.8	+00.7
05	324 16.6	+00.8	N 05 19.5	+00.7
06	339 17.4	+00.8	N 05 20.2	+00.6
07	354 18.2	+00.8	N 05 20.8	+00.7
08	9 19.0	+00.8	N 05 21.5	+00.7
09	24 19.8	+00.8	N 05 22.2	+00.7
10	39 20.6	+00.7	N 05 22.9	+00.7
11	54 21.3	+00.8	N 05 23.6	+00.7
12	69 22.1	+00.8	N 05 24.3	+00.7
13	84 22.9	+00.8	N 05 25.0	+00.6
14	99 23.7	+00.8	N 05 25.6	+00.7
15	114 24.5	+00.7	N 05 26.3	+00.7
16	129 25.2	+00.8	N 05 27.0	+00.7
17	144 26.0	+00.8	N 05 27.7	+00.7
18	159 26.8	+00.8	N 05 28.4	+00.7
19	174 27.6	+00.8	N 05 29.1	+00.6
20	189 28.4	+00.7	N 05 29.7	+00.7
21	204 29.1	+00.8	N 05 30.4	+00.7
22	219 29.9	+00.8	N 05 31.1	+00.7
23	234 30.7	+00.8	N 05 31.8	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	343°	343°	343°	343°	342°	342°

Greenwich Culmination Time: 07:22

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	260 06.1	+02.2	N 01 17.9	+00.1
01	275 08.3	+02.2	N 01 18.0	+00.1
02	290 10.5	+02.2	N 01 18.1	+00.1
03	305 12.7	+02.2	N 01 18.2	+00.2
04	320 14.9	+02.1	N 01 18.4	+00.1
05	335 17.0	+02.2	N 01 18.5	+00.1
06	350 19.2	+02.2	N 01 18.6	+00.1
07	5 21.4	+02.2	N 01 18.7	+00.1
08	20 23.6	+02.2	N 01 18.8	+00.1
09	35 25.8	+02.2	N 01 18.9	+00.1
10	50 28.0	+02.1	N 01 19.0	+00.1
11	65 30.1	+02.2	N 01 19.1	+00.1
12	80 32.3	+02.2	N 01 19.2	+00.1
13	95 34.5	+02.2	N 01 19.3	+00.1
14	110 36.7	+02.2	N 01 19.4	+00.1
15	125 38.9	+02.2	N 01 19.5	+00.2
16	140 41.1	+02.2	N 01 19.7	+00.1
17	155 43.3	+02.1	N 01 19.8	+00.1
18	170 45.4	+02.2	N 01 19.9	+00.1
19	185 47.6	+02.2	N 01 20.0	+00.1
20	200 49.8	+02.2	N 01 20.1	+00.1
21	215 52.0	+02.2	N 01 20.2	+00.1
22	230 54.2	+02.2	N 01 20.3	+00.1
23	245 56.4	+02.2	N 01 20.4	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 06:38

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	298 25.2	+02.5	S 14 14.9	+00.0
01	313 27.7	+02.5	S 14 14.9	+00.1
02	328 30.2	+02.5	S 14 15.0	+00.0
03	343 32.7	+02.5	S 14 15.0	+00.0
04	358 35.2	+02.5	S 14 15.0	+00.0
05	13 37.7	+02.5	S 14 15.0	+00.1
06	28 40.2	+02.6	S 14 15.1	+00.0
07	43 42.8	+02.5	S 14 15.1	+00.0
08	58 45.3	+02.5	S 14 15.1	+00.0
09	73 47.8	+02.5	S 14 15.1	+00.1
10	88 50.3	+02.5	S 14 15.2	+00.0
11	103 52.8	+02.5	S 14 15.2	+00.0
12	118 55.3	+02.5	S 14 15.2	+00.0
13	133 57.8	+02.6	S 14 15.2	+00.1
14	149 00.4	+02.5	S 14 15.3	+00.0
15	164 02.9	+02.5	S 14 15.3	+00.0
16	179 05.4	+02.5	S 14 15.3	+00.0
17	194 07.9	+02.5	S 14 15.3	+00.1
18	209 10.4	+02.5	S 14 15.4	+00.0
19	224 12.9	+02.6	S 14 15.4	+00.0
20	239 15.5	+02.5	S 14 15.4	+00.0
21	254 18.0	+02.5	S 14 15.4	+00.1
22	269 20.5	+02.5	S 14 15.5	+00.0
23	284 23.0	+02.5	S 14 15.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 04:05

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2022 June 19 Sunday (day 170 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 40.9	−00.2	N 23 25.1	+00.0
01	194 40.7	−00.1	N 23 25.1	+00.1
02	209 40.6	−00.1	N 23 25.2	+00.0
03	224 40.5	−00.2	N 23 25.2	+00.0
04	239 40.3	−00.1	N 23 25.2	+00.1
05	254 40.2	−00.1	N 23 25.3	+00.0
06	269 40.1	−00.2	N 23 25.3	+00.1
07	284 39.9	−00.1	N 23 25.4	+00.0
08	299 39.8	−00.1	N 23 25.4	+00.0
09	314 39.7	−00.2	N 23 25.4	+00.1
10	329 39.5	−00.1	N 23 25.5	+00.0
11	344 39.4	−00.2	N 23 25.5	+00.0
12	359 39.2	−00.1	N 23 25.5	+00.1
13	14 39.1	−00.1	N 23 25.6	+00.0
14	29 39.0	−00.2	N 23 25.6	+00.0
15	44 38.8	−00.1	N 23 25.6	+00.1
16	59 38.7	−00.1	N 23 25.7	+00.0
17	74 38.6	−00.2	N 23 25.7	+00.0
18	89 38.4	−00.1	N 23 25.7	+00.0
19	104 38.3	−00.1	N 23 25.7	+00.1
20	119 38.2	−00.2	N 23 25.8	+00.0
21	134 38.0	−00.1	N 23 25.8	+00.0
22	149 37.9	−00.1	N 23 25.8	+00.0
23	164 37.8	−00.2	N 23 25.8	+00.1

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	272°	272°	272°	272°	272°	272°

Greenwich Culmination Time: 12:01

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	213 53.4	−00.5	N 17 22.6	+00.8
01	228 52.9	−00.6	N 17 23.4	+00.7
02	243 52.3	−00.5	N 17 24.1	+00.8
03	258 51.8	−00.5	N 17 24.9	+00.8
04	273 51.3	−00.6	N 17 25.7	+00.7
05	288 50.7	−00.5	N 17 26.4	+00.8
06	303 50.2	−00.6	N 17 27.2	+00.8
07	318 49.6	−00.5	N 17 28.0	+00.7
08	333 49.1	−00.6	N 17 28.7	+00.8
09	348 48.5	−00.5	N 17 29.5	+00.7
10	3 48.0	−00.5	N 17 30.2	+00.8
11	18 47.5	−00.6	N 17 31.0	+00.8
12	33 46.9	−00.5	N 17 31.8	+00.7
13	48 46.4	−00.6	N 17 32.5	+00.8
14	63 45.8	−00.5	N 17 33.3	+00.7
15	78 45.3	−00.6	N 17 34.0	+00.8
16	93 44.7	−00.5	N 17 34.8	+00.7
17	108 44.2	−00.6	N 17 35.5	+00.8
18	123 43.6	−00.5	N 17 36.3	+00.7
19	138 43.1	−00.6	N 17 37.0	+00.8
20	153 42.5	−00.5	N 17 37.8	+00.8
21	168 42.0	−00.6	N 17 38.6	+00.7
22	183 41.4	−00.5	N 17 39.3	+00.8
23	198 40.9	−00.6	N 17 40.1	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	307°	306°	306°	306°	306°	306°

Greenwich Culmination Time: 09:44

Moon

A: 70%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	292 40.5	−31.6	S 16 03.9	−13.2
01	307 08.9	−31.4	S 15 50.7	−13.2
02	321 37.5	−31.3	S 15 37.5	−13.4
03	336 06.2	−31.2	S 15 24.1	−13.4
04	350 35.0	−31.0	S 15 10.7	−13.5
05	5 04.0	−31.0	S 14 57.2	−13.5
06	19 33.0	−30.8	S 14 43.7	−13.6
07	34 02.2	−30.7	S 14 30.1	−13.6
08	48 31.5	−30.7	S 14 16.5	−13.8
09	63 00.8	−30.5	S 14 02.7	−13.7
10	77 30.3	−30.4	S 13 49.0	−13.9
11	91 59.9	−30.3	S 13 35.1	−13.8
12	106 29.6	−30.1	S 13 21.3	−14.0
13	120 59.5	−30.1	S 13 07.3	−14.0
14	135 29.4	−30.0	S 12 53.3	−14.0
15	149 59.4	−29.9	S 12 39.3	−14.1
16	164 29.5	−29.8	S 12 25.2	−14.1
17	178 59.7	−29.6	S 12 11.1	−14.2
18	193 30.1	−29.6	S 11 56.9	−14.2
19	208 00.5	−29.5	S 11 42.7	−14.2
20	222 31.0	−29.4	S 11 28.5	−14.3
21	237 01.6	−29.2	S 11 14.2	−14.3
22	251 32.4	−29.2	S 10 59.9	−14.4
23	266 03.2	−29.1	S 10 45.5	−14.4

UT	02	06	10	14	18	22
SD	16′1	16′1	16′0	16′0	15′9	15′9
HP	59′1	58′9	58′8	58′6	58′5	58′3
SHA	024°	022°	020°	018°	016°	013°

Greenwich Culmination Time: 04:39

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	249 31.5	+00.8	N 05 32.5	+00.6
01	264 32.3	+00.8	N 05 33.1	+00.7
02	279 33.1	+00.7	N 05 33.8	+00.7
03	294 33.8	+00.8	N 05 34.5	+00.7
04	309 34.6	+00.8	N 05 35.2	+00.7
05	324 35.4	+00.8	N 05 35.9	+00.7
06	339 36.2	+00.8	N 05 36.6	+00.6
07	354 37.0	+00.7	N 05 37.2	+00.7
08	9 37.7	+00.8	N 05 37.9	+00.7
09	24 38.5	+00.8	N 05 38.6	+00.7
10	39 39.3	+00.8	N 05 39.3	+00.7
11	54 40.1	+00.8	N 05 40.0	+00.6
12	69 40.9	+00.8	N 05 40.6	+00.7
13	84 41.7	+00.7	N 05 41.3	+00.7
14	99 42.4	+00.8	N 05 42.0	+00.7
15	114 43.2	+00.8	N 05 42.7	+00.7
16	129 44.0	+00.8	N 05 43.4	+00.6
17	144 44.8	+00.8	N 05 44.0	+00.7
18	159 45.6	+00.7	N 05 44.7	+00.7
19	174 46.3	+00.8	N 05 45.4	+00.7
20	189 47.1	+00.8	N 05 46.1	+00.7
21	204 47.9	+00.8	N 05 46.8	+00.6
22	219 48.7	+00.8	N 05 47.4	+00.7
23	234 49.5	+00.8	N 05 48.1	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	342°	342°	342°	342°	342°	342°

Greenwich Culmination Time: 07:21

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	260 58.6	+02.2	N 01 20.5	+00.1
01	276 00.8	+02.1	N 01 20.6	+00.1
02	291 02.9	+02.2	N 01 20.7	+00.1
03	306 05.1	+02.2	N 01 20.8	+00.1
04	321 07.3	+02.2	N 01 20.9	+00.2
05	336 09.5	+02.2	N 01 21.1	+00.1
06	351 11.7	+02.2	N 01 21.2	+00.1
07	6 13.9	+02.2	N 01 21.3	+00.1
08	21 16.1	+02.2	N 01 21.4	+00.1
09	36 18.3	+02.2	N 01 21.5	+00.1
10	51 20.5	+02.1	N 01 21.6	+00.1
11	66 22.6	+02.2	N 01 21.7	+00.1
12	81 24.8	+02.2	N 01 21.8	+00.1
13	96 27.0	+02.2	N 01 21.9	+00.1
14	111 29.2	+02.2	N 01 22.0	+00.1
15	126 31.4	+02.2	N 01 22.1	+00.1
16	141 33.6	+02.2	N 01 22.2	+00.1
17	156 35.8	+02.2	N 01 22.3	+00.1
18	171 38.0	+02.2	N 01 22.4	+00.1
19	186 40.2	+02.2	N 01 22.5	+00.1
20	201 42.4	+02.2	N 01 22.6	+00.1
21	216 44.6	+02.2	N 01 22.7	+00.1
22	231 46.8	+02.2	N 01 22.8	+00.2
23	246 49.0	+02.1	N 01 23.0	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 06:35

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	299 25.5	+02.5	S 14 15.5	+00.0
01	314 28.0	+02.5	S 14 15.5	+00.1
02	329 30.5	+02.6	S 14 15.6	+00.0
03	344 33.1	+02.5	S 14 15.6	+00.0
04	359 35.6	+02.5	S 14 15.6	+00.0
05	14 38.1	+02.5	S 14 15.6	+00.1
06	29 40.6	+02.5	S 14 15.7	+00.0
07	44 43.1	+02.5	S 14 15.7	+00.0
08	59 45.6	+02.6	S 14 15.7	+00.1
09	74 48.2	+02.5	S 14 15.8	+00.0
10	89 50.7	+02.5	S 14 15.8	+00.0
11	104 53.2	+02.5	S 14 15.8	+00.0
12	119 55.7	+02.5	S 14 15.8	+00.1
13	134 58.2	+02.6	S 14 15.9	+00.0
14	150 00.8	+02.5	S 14 15.9	+00.0
15	165 03.3	+02.5	S 14 15.9	+00.0
16	180 05.8	+02.5	S 14 15.9	+00.1
17	195 08.3	+02.5	S 14 16.0	+00.0
18	210 10.8	+02.6	S 14 16.0	+00.0
19	225 13.4	+02.5	S 14 16.0	+00.0
20	240 15.9	+02.5	S 14 16.0	+00.1
21	255 18.4	+02.5	S 14 16.1	+00.0
22	270 20.9	+02.5	S 14 16.1	+00.0
23	285 23.4	+02.6	S 14 16.1	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 04:01

2022 June 20 Monday (day 171 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 37.6	−00.1	N 23 25.9	+00.0
01	194 37.5	−00.2	N 23 25.9	+00.0
02	209 37.3	−00.1	N 23 25.9	+00.0
03	224 37.2	−00.1	N 23 25.9	+00.1
04	239 37.1	−00.2	N 23 26.0	+00.0
05	254 36.9	−00.1	N 23 26.0	+00.0
06	269 36.8	−00.1	N 23 26.0	+00.0
07	284 36.7	−00.2	N 23 26.0	+00.0
08	299 36.5	−00.1	N 23 26.0	+00.1
09	314 36.4	−00.1	N 23 26.1	+00.0
10	329 36.3	−00.2	N 23 26.1	+00.0
11	344 36.1	−00.1	N 23 26.1	+00.0
12	359 36.0	−00.2	N 23 26.1	+00.0
13	14 35.8	−00.1	N 23 26.1	+00.0
14	29 35.7	−00.1	N 23 26.1	+00.0
15	44 35.6	−00.2	N 23 26.1	+00.1
16	59 35.4	−00.1	N 23 26.2	+00.0
17	74 35.3	−00.1	N 23 26.2	+00.0
18	89 35.2	−00.2	N 23 26.2	+00.0
19	104 35.0	−00.1	N 23 26.2	+00.0
20	119 34.9	−00.1	N 23 26.2	+00.0
21	134 34.8	−00.2	N 23 26.2	+00.0
22	149 34.6	−00.1	N 23 26.2	+00.0
23	164 34.5	−00.2	N 23 26.2	+00.0

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	271°	271°	271°	271°	271°	270°

Greenwich Culmination Time: 12:01

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	213 40.3	−00.5	N 17 40.8	+00.8
01	228 39.8	−00.6	N 17 41.6	+00.7
02	243 39.2	−00.5	N 17 42.3	+00.8
03	258 38.7	−00.6	N 17 43.1	+00.7
04	273 38.1	−00.5	N 17 43.8	+00.7
05	288 37.6	−00.6	N 17 44.5	+00.8
06	303 37.0	−00.5	N 17 45.3	+00.7
07	318 36.5	−00.6	N 17 46.0	+00.8
08	333 35.9	−00.6	N 17 46.8	+00.7
09	348 35.3	−00.5	N 17 47.5	+00.8
10	3 34.8	−00.6	N 17 48.3	+00.7
11	18 34.2	−00.5	N 17 49.0	+00.8
12	33 33.7	−00.6	N 17 49.8	+00.7
13	48 33.1	−00.5	N 17 50.5	+00.7
14	63 32.6	−00.6	N 17 51.2	+00.8
15	78 32.0	−00.6	N 17 52.0	+00.7
16	93 31.4	−00.5	N 17 52.7	+00.7
17	108 30.9	−00.6	N 17 53.4	+00.8
18	123 30.3	−00.5	N 17 54.2	+00.7
19	138 29.8	−00.6	N 17 54.9	+00.8
20	153 29.2	−00.6	N 17 55.7	+00.7
21	168 28.6	−00.5	N 17 56.4	+00.7
22	183 28.1	−00.6	N 17 57.1	+00.8
23	198 27.5	−00.5	N 17 57.9	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	305°	305°	305°	305°	305°	304°

Greenwich Culmination Time: 09:45

Moon

A: 73%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	280 34.1	−29.0	S 10 31.1	−14.4
01	295 05.1	−29.0	S 10 16.7	−14.5
02	309 36.1	−28.8	S 10 02.2	−14.5
03	324 07.3	−28.7	S 09 47.7	−14.5
04	338 38.6	−28.7	S 09 33.2	−14.5
05	353 09.9	−28.6	S 09 18.7	−14.6
06	7 41.3	−28.5	S 09 04.1	−14.6
07	22 12.8	−28.4	S 08 49.5	−14.6
08	36 44.4	−28.3	S 08 34.9	−14.6
09	51 16.1	−28.3	S 08 20.3	−14.7
10	65 47.8	−28.2	S 08 05.6	−14.7
11	80 19.6	−28.1	S 07 50.9	−14.7
12	94 51.5	−28.0	S 07 36.2	−14.7
13	109 23.5	−27.9	S 07 21.5	−14.7
14	123 55.6	−27.9	S 07 06.8	−14.8
15	138 27.7	−27.8	S 06 52.0	−14.7
16	152 59.9	−27.8	S 06 37.3	−14.8
17	167 32.1	−27.7	S 06 22.5	−14.8
18	182 04.4	−27.6	S 06 07.7	−14.8
19	196 36.8	−27.5	S 05 52.9	−14.8
20	211 09.3	−27.5	S 05 38.1	−14.8
21	225 41.8	−27.4	S 05 23.3	−14.8
22	240 14.4	−27.4	S 05 08.5	−14.8
23	254 47.0	−27.3	S 04 53.7	−14.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′7	15′7	15′6
HP	58′2	58′0	57′9	57′7	57′6	57′4
SHA	011°	009°	007°	005°	003°	001°

Greenwich Culmination Time: 05:28

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	249 50.3	+00.7	N 05 48.8	+00.7
01	264 51.0	+00.8	N 05 49.5	+00.7
02	279 51.8	+00.8	N 05 50.2	+00.6
03	294 52.6	+00.8	N 05 50.8	+00.7
04	309 53.4	+00.8	N 05 51.5	+00.7
05	324 54.2	+00.8	N 05 52.2	+00.7
06	339 55.0	+00.7	N 05 52.9	+00.6
07	354 55.7	+00.8	N 05 53.5	+00.7
08	9 56.5	+00.8	N 05 54.2	+00.7
09	24 57.3	+00.8	N 05 54.9	+00.7
10	39 58.1	+00.8	N 05 55.6	+00.7
11	54 58.9	+00.8	N 05 56.3	+00.6
12	69 59.7	+00.7	N 05 56.9	+00.7
13	85 00.4	+00.8	N 05 57.6	+00.7
14	100 01.2	+00.8	N 05 58.3	+00.7
15	115 02.0	+00.8	N 05 59.0	+00.6
16	130 02.8	+00.8	N 05 59.6	+00.7
17	145 03.6	+00.8	N 06 00.3	+00.7
18	160 04.4	+00.7	N 06 01.0	+00.7
19	175 05.1	+00.8	N 06 01.7	+00.6
20	190 05.9	+00.8	N 06 02.3	+00.7
21	205 06.7	+00.8	N 06 03.0	+00.7
22	220 07.5	+00.8	N 06 03.7	+00.7
23	235 08.3	+00.8	N 06 04.4	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	342°	341°	341°	341°	341°	341°

Greenwich Culmination Time: 07:20

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	261 51.1	+02.2	N 01 23.1	+00.1
01	276 53.3	+02.2	N 01 23.2	+00.1
02	291 55.5	+02.2	N 01 23.3	+00.1
03	306 57.7	+02.2	N 01 23.4	+00.1
04	321 59.9	+02.2	N 01 23.5	+00.1
05	337 02.1	+02.2	N 01 23.6	+00.1
06	352 04.3	+02.2	N 01 23.7	+00.1
07	7 06.5	+02.2	N 01 23.8	+00.1
08	22 08.7	+02.2	N 01 23.9	+00.1
09	37 10.9	+02.2	N 01 24.0	+00.1
10	52 13.1	+02.2	N 01 24.1	+00.1
11	67 15.3	+02.2	N 01 24.2	+00.1
12	82 17.5	+02.2	N 01 24.3	+00.1
13	97 19.7	+02.2	N 01 24.4	+00.1
14	112 21.9	+02.2	N 01 24.5	+00.1
15	127 24.1	+02.2	N 01 24.6	+00.1
16	142 26.3	+02.2	N 01 24.7	+00.1
17	157 28.5	+02.2	N 01 24.8	+00.1
18	172 30.7	+02.2	N 01 24.9	+00.1
19	187 32.9	+02.2	N 01 25.0	+00.1
20	202 35.1	+02.2	N 01 25.1	+00.1
21	217 37.3	+02.2	N 01 25.2	+00.1
22	232 39.5	+02.2	N 01 25.3	+00.1
23	247 41.7	+02.2	N 01 25.4	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 06:31

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	300 26.0	+02.5	S 14 16.2	+00.0
01	315 28.5	+02.5	S 14 16.2	+00.0
02	330 31.0	+02.5	S 14 16.2	+00.0
03	345 33.5	+02.5	S 14 16.2	+00.1
04	0 36.0	+02.6	S 14 16.3	+00.0
05	15 38.6	+02.5	S 14 16.3	+00.0
06	30 41.1	+02.5	S 14 16.3	+00.0
07	45 43.6	+02.5	S 14 16.3	+00.1
08	60 46.1	+02.5	S 14 16.4	+00.0
09	75 48.6	+02.6	S 14 16.4	+00.0
10	90 51.2	+02.5	S 14 16.4	+00.1
11	105 53.7	+02.5	S 14 16.5	+00.0
12	120 56.2	+02.5	S 14 16.5	+00.0
13	135 58.7	+02.5	S 14 16.5	+00.0
14	151 01.2	+02.6	S 14 16.5	+00.1
15	166 03.8	+02.5	S 14 16.6	+00.0
16	181 06.3	+02.5	S 14 16.6	+00.0
17	196 08.8	+02.5	S 14 16.6	+00.1
18	211 11.3	+02.6	S 14 16.7	+00.0
19	226 13.9	+02.5	S 14 16.7	+00.0
20	241 16.4	+02.5	S 14 16.7	+00.0
21	256 18.9	+02.5	S 14 16.7	+00.1
22	271 21.4	+02.6	S 14 16.8	+00.0
23	286 24.0	+02.5	S 14 16.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 03:57

2022 June 25 Saturday (day 176 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 21.4	−00.2	N 23 23.6	−00.1
01	194 21.2	−00.1	N 23 23.5	−00.1
02	209 21.1	−00.1	N 23 23.4	+00.0
03	224 21.0	−00.2	N 23 23.4	−00.1
04	239 20.8	−00.1	N 23 23.3	+00.0
05	254 20.7	−00.2	N 23 23.3	−00.1
06	269 20.5	−00.1	N 23 23.2	−00.1
07	284 20.4	−00.1	N 23 23.1	+00.0
08	299 20.3	−00.2	N 23 23.1	−00.1
09	314 20.1	−00.1	N 23 23.0	−00.1
10	329 20.0	−00.1	N 23 22.9	−00.1
11	344 19.9	−00.2	N 23 22.8	+00.0
12	359 19.7	−00.1	N 23 22.8	−00.1
13	14 19.6	−00.1	N 23 22.7	−00.1
14	29 19.5	−00.2	N 23 22.6	+00.0
15	44 19.3	−00.1	N 23 22.6	−00.1
16	59 19.2	−00.1	N 23 22.5	−00.1
17	74 19.1	−00.2	N 23 22.4	−00.1
18	89 18.9	−00.1	N 23 22.3	+00.0
19	104 18.8	−00.1	N 23 22.3	−00.1
20	119 18.7	−00.1	N 23 22.2	−00.1
21	134 18.6	−00.2	N 23 22.1	−00.1
22	149 18.4	−00.1	N 23 22.0	+00.0
23	164 18.3	−00.1	N 23 22.0	−00.1

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	266°	266°	266°	266°	265°	265°

Greenwich Culmination Time: 12:02

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	212 30.6	−00.6	N 19 05.4	+00.6
01	227 30.0	−00.6	N 19 06.0	+00.7
02	242 29.4	−00.6	N 19 06.7	+00.7
03	257 28.8	−00.6	N 19 07.4	+00.6
04	272 28.2	−00.6	N 19 08.0	+00.7
05	287 27.6	−00.6	N 19 08.7	+00.6
06	302 27.0	−00.6	N 19 09.3	+00.7
07	317 26.4	−00.7	N 19 10.0	+00.6
08	332 25.7	−00.6	N 19 10.6	+00.7
09	347 25.1	−00.6	N 19 11.3	+00.6
10	2 24.5	−00.6	N 19 11.9	+00.7
11	17 23.9	−00.6	N 19 12.6	+00.6
12	32 23.3	−00.6	N 19 13.2	+00.7
13	47 22.7	−00.6	N 19 13.9	+00.6
14	62 22.1	−00.7	N 19 14.5	+00.7
15	77 21.4	−00.6	N 19 15.2	+00.6
16	92 20.8	−00.6	N 19 15.8	+00.7
17	107 20.2	−00.6	N 19 16.5	+00.6
18	122 19.6	−00.6	N 19 17.1	+00.6
19	137 19.0	−00.6	N 19 17.7	+00.7
20	152 18.4	−00.7	N 19 18.4	+00.6
21	167 17.7	−00.6	N 19 19.0	+00.7
22	182 17.1	−00.6	N 19 19.7	+00.6
23	197 16.5	−00.6	N 19 20.3	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	299°	299°	299°	299°	298°	298°

Greenwich Culmination Time: 09:50

Moon

A: 88%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	227 06.5	−27.2	N 16 59.0	+10.9
01	241 39.3	−27.1	N 17 09.9	+10.9
02	256 12.2	−27.3	N 17 20.8	+10.7
03	270 44.9	−27.2	N 17 31.5	+10.7
04	285 17.7	−27.3	N 17 42.2	+10.7
05	299 50.4	−27.4	N 17 52.9	+10.5
06	314 23.0	−27.4	N 18 03.4	+10.5
07	328 55.6	−27.4	N 18 13.9	+10.3
08	343 28.2	−27.5	N 18 24.2	+10.3
09	358 00.7	−27.5	N 18 34.5	+10.2
10	12 33.2	−27.6	N 18 44.7	+10.2
11	27 05.6	−27.6	N 18 54.9	+10.0
12	41 38.0	−27.7	N 19 04.9	+09.9
13	56 10.3	−27.7	N 19 14.8	+09.9
14	70 42.6	−27.8	N 19 24.7	+09.8
15	85 14.8	−27.8	N 19 34.5	+09.7
16	99 47.0	−27.8	N 19 44.2	+09.6
17	114 19.2	−27.9	N 19 53.8	+09.5
18	128 51.3	−28.0	N 20 03.3	+09.4
19	143 23.3	−28.0	N 20 12.7	+09.3
20	157 55.3	−28.0	N 20 22.0	+09.2
21	172 27.3	−28.1	N 20 31.2	+09.2
22	186 59.2	−28.2	N 20 40.4	+09.0
23	201 31.0	−28.2	N 20 49.4	+09.0

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	14′8	14′8
HP	54′7	54′7	54′6	54′5	54′5	54′4
SHA	313°	311°	309°	307°	305°	303°

Greenwich Culmination Time: 09:08

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	251 24.5	+00.8	N 07 09.2	+00.7
01	266 25.3	+00.7	N 07 09.9	+00.6
02	281 26.0	+00.8	N 07 10.5	+00.7
03	296 26.8	+00.8	N 07 11.2	+00.7
04	311 27.6	+00.8	N 07 11.9	+00.6
05	326 28.4	+00.8	N 07 12.5	+00.7
06	341 29.2	+00.8	N 07 13.2	+00.6
07	356 30.0	+00.8	N 07 13.8	+00.7
08	11 30.8	+00.8	N 07 14.5	+00.6
09	26 31.6	+00.7	N 07 15.1	+00.7
10	41 32.3	+00.8	N 07 15.8	+00.7
11	56 33.1	+00.8	N 07 16.5	+00.6
12	71 33.9	+00.8	N 07 17.1	+00.7
13	86 34.7	+00.8	N 07 17.8	+00.6
14	101 35.5	+00.8	N 07 18.4	+00.7
15	116 36.3	+00.8	N 07 19.1	+00.7
16	131 37.1	+00.8	N 07 19.8	+00.6
17	146 37.9	+00.8	N 07 20.4	+00.7
18	161 38.7	+00.7	N 07 21.1	+00.6
19	176 39.4	+00.8	N 07 21.7	+00.7
20	191 40.2	+00.8	N 07 22.4	+00.7
21	206 41.0	+00.8	N 07 23.1	+00.6
22	221 41.8	+00.8	N 07 23.7	+00.7
23	236 42.6	+00.8	N 07 24.4	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	338°	338°	338°	338°	338°	338°

Greenwich Culmination Time: 07:13

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	266 16.1	+02.2	N 01 34.8	+00.1
01	281 18.3	+02.3	N 01 34.9	+00.1
02	296 20.6	+02.2	N 01 35.0	+00.1
03	311 22.8	+02.2	N 01 35.1	+00.1
04	326 25.0	+02.2	N 01 35.2	+00.1
05	341 27.2	+02.3	N 01 35.3	+00.1
06	356 29.5	+02.2	N 01 35.4	+00.1
07	11 31.7	+02.2	N 01 35.5	+00.1
08	26 33.9	+02.2	N 01 35.6	+00.0
09	41 36.1	+02.3	N 01 35.6	+00.1
10	56 38.4	+02.2	N 01 35.7	+00.1
11	71 40.6	+02.2	N 01 35.8	+00.1
12	86 42.8	+02.2	N 01 35.9	+00.1
13	101 45.0	+02.3	N 01 36.0	+00.1
14	116 47.3	+02.2	N 01 36.1	+00.1
15	131 49.5	+02.2	N 01 36.2	+00.1
16	146 51.7	+02.3	N 01 36.3	+00.1
17	161 54.0	+02.2	N 01 36.4	+00.1
18	176 56.2	+02.2	N 01 36.5	+00.0
19	191 58.4	+02.2	N 01 36.5	+00.1
20	207 00.6	+02.3	N 01 36.6	+00.1
21	222 02.9	+02.2	N 01 36.7	+00.1
22	237 05.1	+02.2	N 01 36.8	+00.1
23	252 07.3	+02.3	N 01 36.9	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 06:14

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	305 29.5	+02.5	S 14 19.8	+00.1
01	320 32.0	+02.6	S 14 19.9	+00.0
02	335 34.6	+02.5	S 14 19.9	+00.0
03	350 37.1	+02.5	S 14 19.9	+00.1
04	5 39.6	+02.6	S 14 20.0	+00.0
05	20 42.2	+02.5	S 14 20.0	+00.0
06	35 44.7	+02.6	S 14 20.0	+00.1
07	50 47.3	+02.5	S 14 20.1	+00.0
08	65 49.8	+02.5	S 14 20.1	+00.0
09	80 52.3	+02.6	S 14 20.1	+00.1
10	95 54.9	+02.5	S 14 20.2	+00.0
11	110 57.4	+02.6	S 14 20.2	+00.0
12	125 60.0	+02.5	S 14 20.2	+00.1
13	141 02.5	+02.5	S 14 20.3	+00.0
14	156 05.0	+02.6	S 14 20.3	+00.0
15	171 07.6	+02.5	S 14 20.3	+00.1
16	186 10.1	+02.6	S 14 20.4	+00.0
17	201 12.7	+02.5	S 14 20.4	+00.0
18	216 15.2	+02.5	S 14 20.4	+00.1
19	231 17.7	+02.6	S 14 20.5	+00.0
20	246 20.3	+02.5	S 14 20.5	+00.0
21	261 22.8	+02.6	S 14 20.5	+00.1
22	276 25.4	+02.5	S 14 20.6	+00.0
23	291 27.9	+02.6	S 14 20.6	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 03:37

2022 June 22 Wednesday (day 173 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 31.1	−00.2	N 23 26.2	+00.0
01	194 30.9	−00.1	N 23 26.2	+00.0
02	209 30.8	−00.1	N 23 26.2	+00.0
03	224 30.7	−00.2	N 23 26.2	−00.1
04	239 30.5	−00.1	N 23 26.1	+00.0
05	254 30.4	−00.1	N 23 26.1	+00.0
06	269 30.3	−00.2	N 23 26.1	+00.0
07	284 30.1	−00.1	N 23 26.1	+00.0
08	299 30.0	−00.1	N 23 26.1	+00.0
09	314 29.9	−00.2	N 23 26.1	−00.1
10	329 29.7	−00.1	N 23 26.0	+00.0
11	344 29.6	−00.1	N 23 26.0	+00.0
12	359 29.5	−00.2	N 23 26.0	+00.0
13	14 29.3	−00.1	N 23 26.0	+00.0
14	29 29.2	−00.2	N 23 26.0	+00.0
15	44 29.0	−00.1	N 23 26.0	−00.1
16	59 28.9	−00.1	N 23 25.9	+00.0
17	74 28.8	−00.2	N 23 25.9	+00.0
18	89 28.6	−00.1	N 23 25.9	+00.0
19	104 28.5	−00.1	N 23 25.9	−00.1
20	119 28.4	−00.2	N 23 25.8	+00.0
21	134 28.2	−00.1	N 23 25.8	+00.0
22	149 28.1	−00.1	N 23 25.8	+00.0
23	164 28.0	−00.2	N 23 25.8	−00.1

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	269°	269°	269°	269°	269°	268°

Greenwich Culmination Time: 12:02

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	213 13.3	−00.6	N 18 16.0	+00.7
01	228 12.7	−00.5	N 18 16.7	+00.7
02	243 12.2	−00.6	N 18 17.4	+00.7
03	258 11.6	−00.6	N 18 18.1	+00.7
04	273 11.0	−00.6	N 18 18.8	+00.7
05	288 10.4	−00.6	N 18 19.5	+00.7
06	303 09.8	−00.5	N 18 20.2	+00.7
07	318 09.3	−00.6	N 18 20.9	+00.7
08	333 08.7	−00.6	N 18 21.6	+00.8
09	348 08.1	−00.6	N 18 22.4	+00.7
10	3 07.5	−00.6	N 18 23.1	+00.7
11	18 06.9	−00.5	N 18 23.8	+00.7
12	33 06.4	−00.6	N 18 24.5	+00.7
13	48 05.8	−00.6	N 18 25.2	+00.7
14	63 05.2	−00.6	N 18 25.9	+00.7
15	78 04.6	−00.6	N 18 26.6	+00.7
16	93 04.0	−00.5	N 18 27.3	+00.7
17	108 03.5	−00.6	N 18 28.0	+00.7
18	123 02.9	−00.6	N 18 28.7	+00.7
19	138 02.3	−00.6	N 18 29.4	+00.7
20	153 01.7	−00.6	N 18 30.1	+00.7
21	168 01.1	−00.6	N 18 30.8	+00.7
22	183 00.5	−00.6	N 18 31.5	+00.7
23	197 59.9	−00.5	N 18 32.2	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	303°	303°	303°	302°	302°	302°

Greenwich Culmination Time: 09:47

Moon

A: 79%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	258 38.8	−26.3	N 01 15.0	+14.6
01	273 12.5	−26.2	N 01 29.6	+14.5
02	287 46.3	−26.2	N 01 44.1	+14.5
03	302 20.1	−26.2	N 01 58.6	+14.5
04	316 53.9	−26.2	N 02 13.1	+14.5
05	331 27.7	−26.1	N 02 27.6	+14.5
06	346 01.6	−26.1	N 02 42.1	+14.4
07	0 35.5	−26.1	N 02 56.5	+14.4
08	15 09.4	−26.1	N 03 10.9	+14.3
09	29 43.3	−26.1	N 03 25.2	+14.4
10	44 17.2	−26.1	N 03 39.6	+14.3
11	58 51.1	−26.0	N 03 53.9	+14.3
12	73 25.1	−26.0	N 04 08.2	+14.2
13	87 59.1	−26.1	N 04 22.4	+14.2
14	102 33.0	−26.0	N 04 36.6	+14.2
15	117 07.0	−26.0	N 04 50.8	+14.1
16	131 41.0	−26.0	N 05 04.9	+14.2
17	146 15.0	−26.0	N 05 19.1	+14.0
18	160 49.0	−26.0	N 05 33.1	+14.1
19	175 23.0	−25.9	N 05 47.2	+14.0
20	189 57.1	−26.0	N 06 01.2	+13.9
21	204 31.1	−26.0	N 06 15.1	+14.0
22	219 05.1	−26.0	N 06 29.1	+13.8
23	233 39.1	−26.0	N 06 42.9	+13.9

UT	02	06	10	14	18	22
SD	15′4	15′4	15′3	15′3	15′3	15′2
HP	56′5	56′4	56′2	56′1	56′0	55′9
SHA	348°	346°	344°	342°	340°	338°

Greenwich Culmination Time: 06:57

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	250 27.9	+00.8	N 06 21.2	+00.7
01	265 28.7	+00.7	N 06 21.9	+00.7
02	280 29.4	+00.8	N 06 22.6	+00.6
03	295 30.2	+00.8	N 06 23.2	+00.7
04	310 31.0	+00.8	N 06 23.9	+00.7
05	325 31.8	+00.8	N 06 24.6	+00.6
06	340 32.6	+00.8	N 06 25.2	+00.7
07	355 33.4	+00.7	N 06 25.9	+00.7
08	10 34.1	+00.8	N 06 26.6	+00.7
09	25 34.9	+00.8	N 06 27.3	+00.6
10	40 35.7	+00.8	N 06 27.9	+00.7
11	55 36.5	+00.8	N 06 28.6	+00.7
12	70 37.3	+00.8	N 06 29.3	+00.6
13	85 38.1	+00.8	N 06 29.9	+00.7
14	100 38.9	+00.7	N 06 30.6	+00.7
15	115 39.6	+00.8	N 06 31.3	+00.6
16	130 40.4	+00.8	N 06 31.9	+00.7
17	145 41.2	+00.8	N 06 32.6	+00.7
18	160 42.0	+00.8	N 06 33.3	+00.7
19	175 42.8	+00.8	N 06 34.0	+00.6
20	190 43.6	+00.8	N 06 34.6	+00.7
21	205 44.4	+00.7	N 06 35.3	+00.7
22	220 45.1	+00.8	N 06 36.0	+00.6
23	235 45.9	+00.8	N 06 36.6	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	340°	340°	340°	340°	340°	340°

Greenwich Culmination Time: 07:17

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	263 36.7	+02.2	N 01 28.0	+00.1
01	278 38.9	+02.2	N 01 28.1	+00.1
02	293 41.1	+02.2	N 01 28.2	+00.1
03	308 43.3	+02.2	N 01 28.3	+00.1
04	323 45.5	+02.2	N 01 28.4	+00.1
05	338 47.7	+02.2	N 01 28.5	+00.1
06	353 49.9	+02.3	N 01 28.6	+00.0
07	8 52.2	+02.2	N 01 28.6	+00.1
08	23 54.4	+02.2	N 01 28.7	+00.1
09	38 56.6	+02.2	N 01 28.8	+00.1
10	53 58.8	+02.2	N 01 28.9	+00.1
11	69 01.0	+02.2	N 01 29.0	+00.1
12	84 03.2	+02.2	N 01 29.1	+00.1
13	99 05.4	+02.2	N 01 29.2	+00.1
14	114 07.6	+02.2	N 01 29.3	+00.1
15	129 09.8	+02.2	N 01 29.4	+00.1
16	144 12.0	+02.2	N 01 29.5	+00.1
17	159 14.2	+02.2	N 01 29.6	+00.1
18	174 16.4	+02.3	N 01 29.7	+00.1
19	189 18.7	+02.2	N 01 29.8	+00.1
20	204 20.9	+02.2	N 01 29.9	+00.1
21	219 23.1	+02.2	N 01 30.0	+00.1
22	234 25.3	+02.2	N 01 30.1	+00.1
23	249 27.5	+02.2	N 01 30.2	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 06:24

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	302 27.1	+02.5	S 14 17.5	+00.1
01	317 29.6	+02.5	S 14 17.6	+00.0
02	332 32.1	+02.6	S 14 17.6	+00.0
03	347 34.7	+02.5	S 14 17.6	+00.1
04	2 37.2	+02.5	S 14 17.7	+00.0
05	17 39.7	+02.6	S 14 17.7	+00.0
06	32 42.3	+02.5	S 14 17.7	+00.0
07	47 44.8	+02.5	S 14 17.7	+00.1
08	62 47.3	+02.5	S 14 17.8	+00.0
09	77 49.8	+02.6	S 14 17.8	+00.0
10	92 52.4	+02.5	S 14 17.8	+00.1
11	107 54.9	+02.5	S 14 17.9	+00.0
12	122 57.4	+02.6	S 14 17.9	+00.0
13	137 60.0	+02.5	S 14 17.9	+00.1
14	153 02.5	+02.5	S 14 18.0	+00.0
15	168 05.0	+02.6	S 14 18.0	+00.0
16	183 07.6	+02.5	S 14 18.0	+00.0
17	198 10.1	+02.5	S 14 18.0	+00.1
18	213 12.6	+02.5	S 14 18.1	+00.0
19	228 15.1	+02.6	S 14 18.1	+00.0
20	243 17.7	+02.5	S 14 18.1	+00.1
21	258 20.2	+02.5	S 14 18.2	+00.0
22	273 22.7	+02.6	S 14 18.2	+00.0
23	288 25.3	+02.5	S 14 18.2	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 03:49

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 27.8	−00.1	N 23 25.7	+00.0
01	194 27.7	−00.1	N 23 25.7	+00.0
02	209 27.6	−00.2	N 23 25.7	−00.1
03	224 27.4	−00.1	N 23 25.6	+00.0
04	239 27.3	−00.2	N 23 25.6	+00.0
05	254 27.1	−00.1	N 23 25.6	+00.0
06	269 27.0	−00.1	N 23 25.6	−00.1
07	284 26.9	−00.2	N 23 25.5	+00.0
08	299 26.7	−00.1	N 23 25.5	+00.0
09	314 26.6	−00.1	N 23 25.5	−00.1
10	329 26.5	−00.2	N 23 25.4	+00.0
11	344 26.3	−00.1	N 23 25.4	−00.1
12	359 26.2	−00.1	N 23 25.3	+00.0
13	14 26.1	−00.2	N 23 25.3	+00.0
14	29 25.9	−00.1	N 23 25.3	−00.1
15	44 25.8	−00.1	N 23 25.2	+00.0
16	59 25.7	−00.2	N 23 25.2	+00.0
17	74 25.5	−00.1	N 23 25.2	−00.1
18	89 25.4	−00.1	N 23 25.1	+00.0
19	104 25.3	−00.2	N 23 25.1	−00.1
20	119 25.1	−00.1	N 23 25.0	+00.0
21	134 25.0	−00.2	N 23 25.0	−00.1
22	149 24.8	−00.1	N 23 24.9	+00.0
23	164 24.7	−00.1	N 23 24.9	+00.0

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	268°	268°	268°	268°	268°	267°

Greenwich Culmination Time: 12:02

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	212 59.4	−00.6	N 18 32.9	+00.7
01	227 58.8	−00.6	N 18 33.6	+00.7
02	242 58.2	−00.6	N 18 34.3	+00.7
03	257 57.6	−00.6	N 18 35.0	+00.7
04	272 57.0	−00.6	N 18 35.7	+00.7
05	287 56.4	−00.6	N 18 36.4	+00.6
06	302 55.8	−00.6	N 18 37.0	+00.7
07	317 55.2	−00.5	N 18 37.7	+00.7
08	332 54.7	−00.6	N 18 38.4	+00.7
09	347 54.1	−00.6	N 18 39.1	+00.7
10	2 53.5	−00.6	N 18 39.8	+00.7
11	17 52.9	−00.6	N 18 40.5	+00.7
12	32 52.3	−00.6	N 18 41.2	+00.7
13	47 51.7	−00.6	N 18 41.9	+00.6
14	62 51.1	−00.6	N 18 42.5	+00.7
15	77 50.5	−00.6	N 18 43.2	+00.7
16	92 49.9	−00.6	N 18 43.9	+00.7
17	107 49.3	−00.6	N 18 44.6	+00.7
18	122 48.7	−00.6	N 18 45.3	+00.7
19	137 48.1	−00.6	N 18 46.0	+00.6
20	152 47.5	−00.6	N 18 46.6	+00.7
21	167 46.9	−00.6	N 18 47.3	+00.7
22	182 46.3	−00.6	N 18 48.0	+00.7
23	197 45.7	−00.6	N 18 48.7	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	302°	302°	301°	301°	301°	301°

Greenwich Culmination Time: 09:48

Moon

A: 82%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	248 13.1	−26.0	N 06 56.8	+13.8
01	262 47.1	−25.9	N 07 10.6	+13.8
02	277 21.2	−26.0	N 07 24.4	+13.7
03	291 55.2	−26.0	N 07 38.1	+13.7
04	306 29.2	−26.0	N 07 51.8	+13.6
05	321 03.2	−26.0	N 08 05.4	+13.6
06	335 37.2	−26.0	N 08 19.0	+13.5
07	350 11.2	−26.1	N 08 32.5	+13.5
08	4 45.1	−26.0	N 08 46.0	+13.5
09	19 19.1	−26.0	N 08 59.5	+13.4
10	33 53.1	−26.1	N 09 12.9	+13.3
11	48 27.0	−26.1	N 09 26.2	+13.3
12	63 00.9	−26.0	N 09 39.5	+13.3
13	77 34.9	−26.1	N 09 52.8	+13.2
14	92 08.8	−26.2	N 10 06.0	+13.1
15	106 42.6	−26.1	N 10 19.1	+13.1
16	121 16.5	−26.1	N 10 32.2	+13.0
17	135 50.4	−26.2	N 10 45.2	+13.0
18	150 24.2	−26.2	N 10 58.2	+13.0
19	164 58.0	−26.2	N 11 11.2	+12.8
20	179 31.8	−26.2	N 11 24.0	+12.9
21	194 05.6	−26.3	N 11 36.9	+12.7
22	208 39.3	−26.2	N 11 49.6	+12.7
23	223 13.1	−26.3	N 12 02.3	+12.7

UT	02	06	10	14	18	22
SD	15′2	15′2	15′1	15′1	15′1	15′1
HP	55′8	55′7	55′6	55′5	55′4	55′3
SHA	336°	334°	332°	330°	329°	327°

Greenwich Culmination Time: 07:40

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	250 46.7	+00.8	N 06 37.3	+00.7
01	265 47.5	+00.8	N 06 38.0	+00.6
02	280 48.3	+00.8	N 06 38.6	+00.7
03	295 49.1	+00.8	N 06 39.3	+00.7
04	310 49.9	+00.7	N 06 40.0	+00.6
05	325 50.6	+00.8	N 06 40.6	+00.7
06	340 51.4	+00.8	N 06 41.3	+00.7
07	355 52.2	+00.8	N 06 42.0	+00.6
08	10 53.0	+00.8	N 06 42.6	+00.7
09	25 53.8	+00.8	N 06 43.3	+00.7
10	40 54.6	+00.8	N 06 44.0	+00.6
11	55 55.4	+00.7	N 06 44.6	+00.7
12	70 56.1	+00.8	N 06 45.3	+00.7
13	85 56.9	+00.8	N 06 46.0	+00.6
14	100 57.7	+00.8	N 06 46.6	+00.7
15	115 58.5	+00.8	N 06 47.3	+00.7
16	130 59.3	+00.8	N 06 48.0	+00.6
17	146 00.1	+00.8	N 06 48.6	+00.7
18	161 00.9	+00.7	N 06 49.3	+00.7
19	176 01.6	+00.8	N 06 50.0	+00.6
20	191 02.4	+00.8	N 06 50.6	+00.7
21	206 03.2	+00.8	N 06 51.3	+00.7
22	221 04.0	+00.8	N 06 52.0	+00.6
23	236 04.8	+00.8	N 06 52.6	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	340°	339°	339°	339°	339°	339°

Greenwich Culmination Time: 07:16

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	264 29.7	+02.2	N 01 30.3	+00.1
01	279 31.9	+02.2	N 01 30.4	+00.1
02	294 34.1	+02.2	N 01 30.5	+00.1
03	309 36.3	+02.3	N 01 30.6	+00.1
04	324 38.6	+02.2	N 01 30.7	+00.1
05	339 40.8	+02.2	N 01 30.8	+00.1
06	354 43.0	+02.2	N 01 30.9	+00.1
07	9 45.2	+02.2	N 01 31.0	+00.1
08	24 47.4	+02.2	N 01 31.1	+00.1
09	39 49.6	+02.2	N 01 31.2	+00.1
10	54 51.8	+02.2	N 01 31.3	+00.1
11	69 54.0	+02.3	N 01 31.4	+00.1
12	84 56.3	+02.2	N 01 31.5	+00.1
13	99 58.5	+02.2	N 01 31.6	+00.1
14	115 00.7	+02.2	N 01 31.7	+00.1
15	130 02.9	+02.2	N 01 31.8	+00.0
16	145 05.1	+02.2	N 01 31.8	+00.1
17	160 07.3	+02.2	N 01 31.9	+00.1
18	175 09.5	+02.3	N 01 32.0	+00.1
19	190 11.8	+02.2	N 01 32.1	+00.1
20	205 14.0	+02.2	N 01 32.2	+00.1
21	220 16.2	+02.2	N 01 32.3	+00.1
22	235 18.4	+02.2	N 01 32.4	+00.1
23	250 20.6	+02.2	N 01 32.5	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 06:21

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	303 27.8	+02.5	S 14 18.3	+00.0
01	318 30.3	+02.6	S 14 18.3	+00.0
02	333 32.9	+02.5	S 14 18.3	+00.1
03	348 35.4	+02.5	S 14 18.4	+00.0
04	3 37.9	+02.6	S 14 18.4	+00.0
05	18 40.5	+02.5	S 14 18.4	+00.1
06	33 43.0	+02.5	S 14 18.5	+00.0
07	48 45.5	+02.6	S 14 18.5	+00.0
08	63 48.1	+02.5	S 14 18.5	+00.0
09	78 50.6	+02.5	S 14 18.5	+00.1
10	93 53.1	+02.6	S 14 18.6	+00.0
11	108 55.7	+02.5	S 14 18.6	+00.0
12	123 58.2	+02.5	S 14 18.6	+00.1
13	139 00.7	+02.6	S 14 18.7	+00.0
14	154 03.3	+02.5	S 14 18.7	+00.0
15	169 05.8	+02.5	S 14 18.7	+00.1
16	184 08.3	+02.6	S 14 18.8	+00.0
17	199 10.9	+02.5	S 14 18.8	+00.0
18	214 13.4	+02.5	S 14 18.8	+00.1
19	229 15.9	+02.6	S 14 18.9	+00.0
20	244 18.5	+02.5	S 14 18.9	+00.0
21	259 21.0	+02.5	S 14 18.9	+00.1
22	274 23.5	+02.6	S 14 19.0	+00.0
23	289 26.1	+02.5	S 14 19.0	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 03:45

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 24.6	−00.2	N 23 24.9	−00.1
01	194 24.4	−00.1	N 23 24.8	+00.0
02	209 24.3	−00.1	N 23 24.8	−00.1
03	224 24.2	−00.2	N 23 24.7	+00.0
04	239 24.0	−00.1	N 23 24.7	−00.1
05	254 23.9	−00.1	N 23 24.6	+00.0
06	269 23.8	−00.2	N 23 24.6	−00.1
07	284 23.6	−00.1	N 23 24.5	+00.0
08	299 23.5	−00.1	N 23 24.5	−00.1
09	314 23.4	−00.2	N 23 24.4	+00.0
10	329 23.2	−00.1	N 23 24.4	−00.1
11	344 23.1	−00.1	N 23 24.3	+00.0
12	359 23.0	−00.2	N 23 24.3	−00.1
13	14 22.8	−00.1	N 23 24.2	+00.0
14	29 22.7	−00.1	N 23 24.2	−00.1
15	44 22.6	−00.2	N 23 24.1	−00.1
16	59 22.4	−00.1	N 23 24.0	+00.0
17	74 22.3	−00.1	N 23 24.0	−00.1
18	89 22.2	−00.2	N 23 23.9	+00.0
19	104 22.0	−00.1	N 23 23.9	−00.1
20	119 21.9	−00.1	N 23 23.8	+00.0
21	134 21.8	−00.2	N 23 23.8	−00.1
22	149 21.6	−00.1	N 23 23.7	−00.1
23	164 21.5	−00.1	N 23 23.6	+00.0

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	267°	267°	267°	267°	267°	266°

Greenwich Culmination Time: 12:02

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	212 45.1	−00.6	N 18 49.4	+00.6
01	227 44.5	−00.6	N 18 50.0	+00.7
02	242 43.9	−00.6	N 18 50.7	+00.7
03	257 43.3	−00.6	N 18 51.4	+00.7
04	272 42.7	−00.6	N 18 52.1	+00.6
05	287 42.1	−00.6	N 18 52.7	+00.7
06	302 41.5	−00.6	N 18 53.4	+00.7
07	317 40.9	−00.6	N 18 54.1	+00.7
08	332 40.3	−00.6	N 18 54.8	+00.6
09	347 39.7	−00.6	N 18 55.4	+00.7
10	2 39.1	−00.6	N 18 56.1	+00.7
11	17 38.5	−00.6	N 18 56.8	+00.6
12	32 37.9	−00.6	N 18 57.4	+00.7
13	47 37.3	−00.6	N 18 58.1	+00.7
14	62 36.7	−00.6	N 18 58.8	+00.6
15	77 36.1	−00.6	N 18 59.4	+00.7
16	92 35.5	−00.6	N 19 00.1	+00.7
17	107 34.9	−00.6	N 19 00.8	+00.6
18	122 34.3	−00.6	N 19 01.4	+00.7
19	137 33.7	−00.6	N 19 02.1	+00.6
20	152 33.1	−00.6	N 19 02.7	+00.7
21	167 32.5	−00.6	N 19 03.4	+00.7
22	182 31.9	−00.6	N 19 04.1	+00.6
23	197 31.3	−00.7	N 19 04.7	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	301°	300°	300°	300°	300°	299°

Greenwich Culmination Time: 09:49

Moon

A: 85%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	237 46.8	−26.4	N 12 15.0	+12.6
01	252 20.4	−26.3	N 12 27.6	+12.5
02	266 54.1	−26.4	N 12 40.1	+12.5
03	281 27.7	−26.4	N 12 52.6	+12.4
04	296 01.3	−26.4	N 13 05.0	+12.3
05	310 34.9	−26.5	N 13 17.3	+12.3
06	325 08.4	−26.4	N 13 29.6	+12.2
07	339 42.0	−26.6	N 13 41.8	+12.2
08	354 15.4	−26.5	N 13 54.0	+12.0
09	8 48.9	−26.6	N 14 06.0	+12.1
10	23 22.3	−26.6	N 14 18.1	+11.9
11	37 55.7	−26.6	N 14 30.0	+11.9
12	52 29.1	−26.7	N 14 41.9	+11.8
13	67 02.4	−26.7	N 14 53.7	+11.8
14	81 35.7	−26.8	N 15 05.5	+11.6
15	96 08.9	−26.8	N 15 17.1	+11.6
16	110 42.1	−26.8	N 15 28.7	+11.6
17	125 15.3	−26.9	N 15 40.3	+11.4
18	139 48.4	−26.9	N 15 51.7	+11.4
19	154 21.5	−26.9	N 16 03.1	+11.4
20	168 54.6	−27.0	N 16 14.5	+11.2
21	183 27.6	−27.0	N 16 25.7	+11.2
22	198 00.6	−27.0	N 16 36.9	+11.1
23	212 33.6	−27.1	N 16 48.0	+11.0

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	15′0	14′9	14′9
HP	55′2	55′1	55′0	54′9	54′9	54′8
SHA	325°	323°	321°	319°	317°	315°

Greenwich Culmination Time: 08:23

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	251 05.6	+00.8	N 06 53.3	+00.7
01	266 06.4	+00.8	N 06 54.0	+00.6
02	281 07.2	+00.7	N 06 54.6	+00.7
03	296 07.9	+00.8	N 06 55.3	+00.7
04	311 08.7	+00.8	N 06 56.0	+00.6
05	326 09.5	+00.8	N 06 56.6	+00.7
06	341 10.3	+00.8	N 06 57.3	+00.6
07	356 11.1	+00.8	N 06 57.9	+00.7
08	11 11.9	+00.8	N 06 58.6	+00.7
09	26 12.7	+00.7	N 06 59.3	+00.6
10	41 13.4	+00.8	N 06 59.9	+00.7
11	56 14.2	+00.8	N 07 00.6	+00.7
12	71 15.0	+00.8	N 07 01.3	+00.6
13	86 15.8	+00.8	N 07 01.9	+00.7
14	101 16.6	+00.8	N 07 02.6	+00.7
15	116 17.4	+00.8	N 07 03.3	+00.6
16	131 18.2	+00.8	N 07 03.9	+00.7
17	146 19.0	+00.7	N 07 04.6	+00.6
18	161 19.7	+00.8	N 07 05.2	+00.7
19	176 20.5	+00.8	N 07 05.9	+00.7
20	191 21.3	+00.8	N 07 06.6	+00.6
21	206 22.1	+00.8	N 07 07.2	+00.7
22	221 22.9	+00.8	N 07 07.9	+00.6
23	236 23.7	+00.8	N 07 08.5	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	339°	339°	339°	339°	338°	338°

Greenwich Culmination Time: 07:15

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	265 22.8	+02.3	N 01 32.6	+00.1
01	280 25.1	+02.2	N 01 32.7	+00.1
02	295 27.3	+02.2	N 01 32.8	+00.1
03	310 29.5	+02.2	N 01 32.9	+00.1
04	325 31.7	+02.2	N 01 33.0	+00.1
05	340 33.9	+02.2	N 01 33.1	+00.1
06	355 36.1	+02.3	N 01 33.2	+00.1
07	10 38.4	+02.2	N 01 33.3	+00.1
08	25 40.6	+02.2	N 01 33.4	+00.0
09	40 42.8	+02.2	N 01 33.4	+00.1
10	55 45.0	+02.2	N 01 33.5	+00.1
11	70 47.2	+02.3	N 01 33.6	+00.1
12	85 49.5	+02.2	N 01 33.7	+00.1
13	100 51.7	+02.2	N 01 33.8	+00.1
14	115 53.9	+02.2	N 01 33.9	+00.1
15	130 56.1	+02.2	N 01 34.0	+00.1
16	145 58.3	+02.3	N 01 34.1	+00.1
17	161 00.6	+02.2	N 01 34.2	+00.1
18	176 02.8	+02.2	N 01 34.3	+00.1
19	191 05.0	+02.2	N 01 34.4	+00.1
20	206 07.2	+02.3	N 01 34.5	+00.1
21	221 09.5	+02.2	N 01 34.6	+00.0
22	236 11.7	+02.2	N 01 34.6	+00.1
23	251 13.9	+02.2	N 01 34.7	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 06:17

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	304 28.6	+02.5	S 14 19.0	+00.1
01	319 31.1	+02.6	S 14 19.1	+00.0
02	334 33.7	+02.5	S 14 19.1	+00.0
03	349 36.2	+02.5	S 14 19.1	+00.1
04	4 38.7	+02.6	S 14 19.2	+00.0
05	19 41.3	+02.5	S 14 19.2	+00.0
06	34 43.8	+02.5	S 14 19.2	+00.1
07	49 46.3	+02.6	S 14 19.3	+00.0
08	64 48.9	+02.5	S 14 19.3	+00.0
09	79 51.4	+02.6	S 14 19.3	+00.1
10	94 54.0	+02.5	S 14 19.4	+00.0
11	109 56.5	+02.5	S 14 19.4	+00.0
12	124 59.0	+02.6	S 14 19.4	+00.1
13	140 01.6	+02.5	S 14 19.5	+00.0
14	155 04.1	+02.5	S 14 19.5	+00.0
15	170 06.6	+02.6	S 14 19.5	+00.1
16	185 09.2	+02.5	S 14 19.6	+00.0
17	200 11.7	+02.6	S 14 19.6	+00.0
18	215 14.3	+02.5	S 14 19.6	+00.1
19	230 16.8	+02.5	S 14 19.7	+00.0
20	245 19.3	+02.6	S 14 19.7	+00.0
21	260 21.9	+02.5	S 14 19.7	+00.1
22	275 24.4	+02.5	S 14 19.8	+00.0
23	290 26.9	+02.6	S 14 19.8	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 03:41

2022 June 29 Wednesday (day 180 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	179 08.8	−00.2	N 23 14.3	−00.1
01	194 08.6	−00.1	N 23 14.2	−00.1
02	209 08.5	−00.1	N 23 14.1	−00.2
03	224 08.4	−00.1	N 23 13.9	−00.1
04	239 08.3	−00.2	N 23 13.8	−00.1
05	254 08.1	−00.1	N 23 13.7	−00.2
06	269 08.0	−00.1	N 23 13.5	−00.1
07	284 07.9	−00.1	N 23 13.4	−00.1
08	299 07.8	−00.2	N 23 13.3	−00.2
09	314 07.6	−00.1	N 23 13.1	−00.1
10	329 07.5	−00.1	N 23 13.0	−00.2
11	344 07.4	−00.1	N 23 12.8	−00.1
12	359 07.3	−00.2	N 23 12.7	−00.1
13	14 07.1	−00.1	N 23 12.6	−00.2
14	29 07.0	−00.1	N 23 12.4	−00.1
15	44 06.9	−00.2	N 23 12.3	−00.2
16	59 06.7	−00.1	N 23 12.1	−00.1
17	74 06.6	−00.1	N 23 12.0	−00.1
18	89 06.5	−00.1	N 23 11.9	−00.2
19	104 06.4	−00.2	N 23 11.7	−00.1
20	119 06.2	−00.1	N 23 11.6	−00.2
21	134 06.1	−00.1	N 23 11.4	−00.1
22	149 06.0	−00.1	N 23 11.3	−00.2
23	164 05.9	−00.2	N 23 11.1	−00.1

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	262°	262°	262°	261°	261°	261°

Greenwich Culmination Time: 12:03

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	211 29.9	−00.6	N 20 04.7	+00.6
01	226 29.3	−00.7	N 20 05.3	+00.5
02	241 28.6	−00.6	N 20 05.8	+00.6
03	256 28.0	−00.7	N 20 06.4	+00.6
04	271 27.3	−00.7	N 20 07.0	+00.6
05	286 26.6	−00.6	N 20 07.6	+00.5
06	301 26.0	−00.7	N 20 08.1	+00.6
07	316 25.3	−00.6	N 20 08.7	+00.6
08	331 24.7	−00.7	N 20 09.3	+00.6
09	346 24.0	−00.6	N 20 09.9	+00.5
10	1 23.4	−00.7	N 20 10.4	+00.6
11	16 22.7	−00.7	N 20 11.0	+00.6
12	31 22.0	−00.6	N 20 11.6	+00.5
13	46 21.4	−00.7	N 20 12.1	+00.6
14	61 20.7	−00.6	N 20 12.7	+00.5
15	76 20.1	−00.7	N 20 13.2	+00.6
16	91 19.4	−00.7	N 20 13.8	+00.6
17	106 18.7	−00.6	N 20 14.4	+00.5
18	121 18.1	−00.7	N 20 14.9	+00.6
19	136 17.4	−00.7	N 20 15.5	+00.6
20	151 16.7	−00.6	N 20 16.1	+00.5
21	166 16.1	−00.7	N 20 16.6	+00.6
22	181 15.4	−00.7	N 20 17.2	+00.5
23	196 14.7	−00.6	N 20 17.7	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	294°	294°	294°	294°	294°	293°

Greenwich Culmination Time: 09:54

Moon

A: 01%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 22.8	−30.7	N 26 52.9	+00.5
01	194 52.1	−30.7	N 26 53.4	+00.3
02	209 21.4	−30.7	N 26 53.7	+00.2
03	223 50.7	−30.6	N 26 53.9	+00.1
04	238 20.1	−30.7	N 26 54.0	−00.1
05	252 49.4	−30.7	N 26 53.9	−00.1
06	267 18.7	−30.7	N 26 53.8	−00.3
07	281 48.0	−30.7	N 26 53.5	−00.5
08	296 17.3	−30.6	N 26 53.0	−00.6
09	310 46.7	−30.7	N 26 52.4	−00.7
10	325 16.0	−30.6	N 26 51.7	−00.8
11	339 45.4	−30.7	N 26 50.9	−01.0
12	354 14.7	−30.6	N 26 49.9	−01.0
13	8 44.1	−30.7	N 26 48.9	−01.3
14	23 13.4	−30.6	N 26 47.6	−01.3
15	37 42.8	−30.6	N 26 46.3	−01.5
16	52 12.2	−30.6	N 26 44.8	−01.6
17	66 41.6	−30.5	N 26 43.2	−01.7
18	81 11.1	−30.6	N 26 41.5	−01.9
19	95 40.5	−30.5	N 26 39.6	−02.0
20	110 10.0	−30.6	N 26 37.6	−02.1
21	124 39.4	−30.5	N 26 35.5	−02.2
22	139 08.9	−30.5	N 26 33.3	−02.4
23	153 38.4	−30.4	N 26 30.9	−02.5

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	53′9	53′9	53′9	53′9	53′9	53′9
SHA	262°	260°	258°	256°	253°	251°

Greenwich Culmination Time: 12:23

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	252 40.3	+00.8	N 08 11.9	+00.6
01	267 41.1	+00.8	N 08 12.5	+00.7
02	282 41.9	+00.8	N 08 13.2	+00.6
03	297 42.7	+00.8	N 08 13.8	+00.7
04	312 43.5	+00.8	N 08 14.5	+00.6
05	327 44.3	+00.8	N 08 15.1	+00.7
06	342 45.1	+00.8	N 08 15.8	+00.6
07	357 45.9	+00.8	N 08 16.4	+00.6
08	12 46.7	+00.8	N 08 17.0	+00.7
09	27 47.5	+00.7	N 08 17.7	+00.6
10	42 48.2	+00.8	N 08 18.3	+00.7
11	57 49.0	+00.8	N 08 19.0	+00.6
12	72 49.8	+00.8	N 08 19.6	+00.7
13	87 50.6	+00.8	N 08 20.3	+00.6
14	102 51.4	+00.8	N 08 20.9	+00.6
15	117 52.2	+00.8	N 08 21.5	+00.7
16	132 53.0	+00.8	N 08 22.2	+00.6
17	147 53.8	+00.8	N 08 22.8	+00.7
18	162 54.6	+00.8	N 08 23.5	+00.6
19	177 55.4	+00.8	N 08 24.1	+00.7
20	192 56.2	+00.8	N 08 24.8	+00.6
21	207 57.0	+00.8	N 08 25.4	+00.6
22	222 57.8	+00.8	N 08 26.0	+00.7
23	237 58.6	+00.8	N 08 26.7	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	336°	335°	335°	335°	335°	335°

Greenwich Culmination Time: 07:08

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	269 50.7	+02.3	N 01 43.1	+00.1
01	284 53.0	+02.2	N 01 43.2	+00.0
02	299 55.2	+02.3	N 01 43.2	+00.1
03	314 57.5	+02.2	N 01 43.3	+00.1
04	329 59.7	+02.3	N 01 43.4	+00.1
05	345 02.0	+02.2	N 01 43.5	+00.1
06	0 04.2	+02.3	N 01 43.6	+00.0
07	15 06.5	+02.2	N 01 43.6	+00.1
08	30 08.7	+02.3	N 01 43.7	+00.1
09	45 11.0	+02.2	N 01 43.8	+00.1
10	60 13.2	+02.3	N 01 43.9	+00.1
11	75 15.5	+02.2	N 01 44.0	+00.0
12	90 17.7	+02.3	N 01 44.0	+00.1
13	105 20.0	+02.2	N 01 44.1	+00.1
14	120 22.2	+02.3	N 01 44.2	+00.1
15	135 24.5	+02.2	N 01 44.3	+00.0
16	150 26.7	+02.3	N 01 44.3	+00.1
17	165 29.0	+02.2	N 01 44.4	+00.1
18	180 31.2	+02.3	N 01 44.5	+00.1
19	195 33.5	+02.2	N 01 44.6	+00.1
20	210 35.7	+02.3	N 01 44.7	+00.0
21	225 38.0	+02.2	N 01 44.7	+00.1
22	240 40.2	+02.3	N 01 44.8	+00.1
23	255 42.5	+02.3	N 01 44.9	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 05:59

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	309 33.9	+02.5	S 14 23.3	+00.0
01	324 36.4	+02.6	S 14 23.3	+00.0
02	339 39.0	+02.5	S 14 23.3	+00.1
03	354 41.5	+02.6	S 14 23.4	+00.0
04	9 44.1	+02.5	S 14 23.4	+00.1
05	24 46.6	+02.6	S 14 23.5	+00.0
06	39 49.2	+02.6	S 14 23.5	+00.0
07	54 51.8	+02.5	S 14 23.5	+00.1
08	69 54.3	+02.6	S 14 23.6	+00.0
09	84 56.9	+02.5	S 14 23.6	+00.1
10	99 59.4	+02.6	S 14 23.7	+00.0
11	115 02.0	+02.5	S 14 23.7	+00.0
12	130 04.5	+02.6	S 14 23.7	+00.1
13	145 07.1	+02.5	S 14 23.8	+00.0
14	160 09.6	+02.6	S 14 23.8	+00.0
15	175 12.2	+02.5	S 14 23.8	+00.1
16	190 14.7	+02.6	S 14 23.9	+00.0
17	205 17.3	+02.6	S 14 23.9	+00.1
18	220 19.9	+02.5	S 14 24.0	+00.0
19	235 22.4	+02.6	S 14 24.0	+00.0
20	250 25.0	+02.5	S 14 24.0	+00.1
21	265 27.5	+02.6	S 14 24.1	+00.0
22	280 30.1	+02.5	S 14 24.1	+00.1
23	295 32.6	+02.6	S 14 24.2	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 03:21

2022 June 26 Sunday (day 177 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	179 18.2	−00.2	N 23 21.9	−00.1
01	194 18.0	−00.1	N 23 21.8	−00.1
02	209 17.9	−00.1	N 23 21.7	−00.1
03	224 17.8	−00.2	N 23 21.6	+00.0
04	239 17.6	−00.1	N 23 21.6	−00.1
05	254 17.5	−00.1	N 23 21.5	−00.1
06	269 17.4	−00.2	N 23 21.4	−00.1
07	284 17.2	−00.1	N 23 21.3	−00.1
08	299 17.1	−00.1	N 23 21.2	−00.1
09	314 17.0	−00.2	N 23 21.1	−00.1
10	329 16.8	−00.1	N 23 21.0	+00.0
11	344 16.7	−00.1	N 23 21.0	−00.1
12	359 16.6	−00.2	N 23 20.9	−00.1
13	14 16.4	−00.1	N 23 20.8	−00.1
14	29 16.3	−00.1	N 23 20.7	−00.1
15	44 16.2	−00.2	N 23 20.6	−00.1
16	59 16.0	−00.1	N 23 20.5	−00.1
17	74 15.9	−00.1	N 23 20.4	−00.1
18	89 15.8	−00.2	N 23 20.3	−00.1
19	104 15.6	−00.1	N 23 20.2	−00.1
20	119 15.5	−00.1	N 23 20.1	+00.0
21	134 15.4	−00.2	N 23 20.1	−00.1
22	149 15.2	−00.1	N 23 20.0	−00.1
23	164 15.1	−00.1	N 23 19.9	−00.1

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	265°	265°	265°	265°	264°	264°

Greenwich Culmination Time: 12:02

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	212 15.9	−00.7	N 19 20.9	+00.7
01	227 15.2	−00.6	N 19 21.6	+00.6
02	242 14.6	−00.6	N 19 22.2	+00.7
03	257 14.0	−00.6	N 19 22.9	+00.6
04	272 13.4	−00.6	N 19 23.5	+00.6
05	287 12.8	−00.7	N 19 24.1	+00.7
06	302 12.1	−00.6	N 19 24.8	+00.6
07	317 11.5	−00.6	N 19 25.4	+00.6
08	332 10.9	−00.6	N 19 26.0	+00.7
09	347 10.3	−00.7	N 19 26.7	+00.6
10	2 09.6	−00.6	N 19 27.3	+00.6
11	17 09.0	−00.6	N 19 27.9	+00.6
12	32 08.4	−00.6	N 19 28.5	+00.7
13	47 07.8	−00.7	N 19 29.2	+00.6
14	62 07.1	−00.6	N 19 29.8	+00.6
15	77 06.5	−00.6	N 19 30.4	+00.6
16	92 05.9	−00.7	N 19 31.0	+00.7
17	107 05.2	−00.6	N 19 31.7	+00.6
18	122 04.6	−00.6	N 19 32.3	+00.6
19	137 04.0	−00.7	N 19 32.9	+00.6
20	152 03.3	−00.6	N 19 33.5	+00.7
21	167 02.7	−00.6	N 19 34.2	+00.6
22	182 02.1	−00.6	N 19 34.8	+00.6
23	197 01.5	−00.7	N 19 35.4	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	298°	298°	298°	297°	297°	297°

Greenwich Culmination Time: 09:51

Moon

A: 91%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	216 02.8	−28.2	N 20 58.4	+08.8
01	230 34.6	−28.3	N 21 07.2	+08.8
02	245 06.3	−28.3	N 21 16.0	+08.6
03	259 38.0	−28.4	N 21 24.6	+08.6
04	274 09.6	−28.5	N 21 33.2	+08.5
05	288 41.1	−28.5	N 21 41.7	+08.3
06	303 12.6	−28.5	N 21 50.0	+08.3
07	317 44.1	−28.6	N 21 58.3	+08.2
08	332 15.5	−28.6	N 22 06.5	+08.0
09	346 46.9	−28.7	N 22 14.5	+08.0
10	1 18.2	−28.7	N 22 22.5	+07.9
11	15 49.5	−28.8	N 22 30.4	+07.7
12	30 20.7	−28.8	N 22 38.1	+07.7
13	44 51.9	−28.9	N 22 45.8	+07.5
14	59 23.0	−28.9	N 22 53.3	+07.5
15	73 54.1	−29.0	N 23 00.8	+07.3
16	88 25.1	−29.0	N 23 08.1	+07.3
17	102 56.1	−29.1	N 23 15.4	+07.1
18	117 27.0	−29.1	N 23 22.5	+07.0
19	131 57.9	−29.1	N 23 29.5	+06.9
20	146 28.8	−29.3	N 23 36.4	+06.8
21	160 59.5	−29.2	N 23 43.2	+06.7
22	175 30.3	−29.3	N 23 49.9	+06.6
23	190 01.0	−29.3	N 23 56.5	+06.5

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′4	54′3	54′3	54′2	54′2	54′2
SHA	301°	299°	297°	295°	293°	291°

Greenwich Culmination Time: 09:54

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	251 43.4	+00.8	N 07 25.0	+00.7
01	266 44.2	+00.8	N 07 25.7	+00.6
02	281 45.0	+00.8	N 07 26.3	+00.7
03	296 45.8	+00.7	N 07 27.0	+00.7
04	311 46.5	+00.8	N 07 27.7	+00.6
05	326 47.3	+00.8	N 07 28.3	+00.7
06	341 48.1	+00.8	N 07 29.0	+00.6
07	356 48.9	+00.8	N 07 29.6	+00.7
08	11 49.7	+00.8	N 07 30.3	+00.6
09	26 50.5	+00.8	N 07 30.9	+00.7
10	41 51.3	+00.8	N 07 31.6	+00.6
11	56 52.1	+00.8	N 07 32.2	+00.7
12	71 52.9	+00.7	N 07 32.9	+00.7
13	86 53.6	+00.8	N 07 33.6	+00.6
14	101 54.4	+00.8	N 07 34.2	+00.7
15	116 55.2	+00.8	N 07 34.9	+00.6
16	131 56.0	+00.8	N 07 35.5	+00.7
17	146 56.8	+00.8	N 07 36.2	+00.6
18	161 57.6	+00.8	N 07 36.8	+00.7
19	176 58.4	+00.8	N 07 37.5	+00.6
20	191 59.2	+00.8	N 07 38.1	+00.7
21	206 60.0	+00.8	N 07 38.8	+00.6
22	222 00.8	+00.7	N 07 39.4	+00.7
23	237 01.5	+00.8	N 07 40.1	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	338°	337°	337°	337°	337°	337°

Greenwich Culmination Time: 07:12

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	267 09.6	+02.2	N 01 37.0	+00.1
01	282 11.8	+02.2	N 01 37.1	+00.1
02	297 14.0	+02.2	N 01 37.2	+00.1
03	312 16.2	+02.3	N 01 37.3	+00.0
04	327 18.5	+02.2	N 01 37.3	+00.1
05	342 20.7	+02.2	N 01 37.4	+00.1
06	357 22.9	+02.3	N 01 37.5	+00.1
07	12 25.2	+02.2	N 01 37.6	+00.1
08	27 27.4	+02.2	N 01 37.7	+00.1
09	42 29.6	+02.3	N 01 37.8	+00.1
10	57 31.9	+02.2	N 01 37.9	+00.1
11	72 34.1	+02.2	N 01 38.0	+00.0
12	87 36.3	+02.3	N 01 38.0	+00.1
13	102 38.6	+02.2	N 01 38.1	+00.1
14	117 40.8	+02.2	N 01 38.2	+00.1
15	132 43.0	+02.3	N 01 38.3	+00.1
16	147 45.3	+02.2	N 01 38.4	+00.1
17	162 47.5	+02.2	N 01 38.5	+00.1
18	177 49.7	+02.3	N 01 38.6	+00.1
19	192 52.0	+02.2	N 01 38.7	+00.0
20	207 54.2	+02.2	N 01 38.7	+00.1
21	222 56.4	+02.3	N 01 38.8	+00.1
22	237 58.7	+02.2	N 01 38.9	+00.1
23	253 00.9	+02.2	N 01 39.0	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 06:10

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	306 30.5	+02.5	S 14 20.6	+00.1
01	321 33.0	+02.5	S 14 20.7	+00.0
02	336 35.5	+02.6	S 14 20.7	+00.0
03	351 38.1	+02.5	S 14 20.7	+00.1
04	6 40.6	+02.6	S 14 20.8	+00.0
05	21 43.2	+02.5	S 14 20.8	+00.0
06	36 45.7	+02.6	S 14 20.8	+00.1
07	51 48.3	+02.5	S 14 20.9	+00.0
08	66 50.8	+02.5	S 14 20.9	+00.1
09	81 53.3	+02.6	S 14 21.0	+00.0
10	96 55.9	+02.5	S 14 21.0	+00.0
11	111 58.4	+02.6	S 14 21.0	+00.1
12	127 01.0	+02.5	S 14 21.1	+00.0
13	142 03.5	+02.6	S 14 21.1	+00.0
14	157 06.1	+02.5	S 14 21.1	+00.1
15	172 08.6	+02.5	S 14 21.2	+00.0
16	187 11.1	+02.6	S 14 21.2	+00.0
17	202 13.7	+02.5	S 14 21.2	+00.1
18	217 16.2	+02.6	S 14 21.3	+00.0
19	232 18.8	+02.5	S 14 21.3	+00.0
20	247 21.3	+02.6	S 14 21.3	+00.1
21	262 23.9	+02.5	S 14 21.4	+00.0
22	277 26.4	+02.6	S 14 21.4	+00.1
23	292 29.0	+02.5	S 14 21.5	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 03:33

2022 June 27 Monday (day 178 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 15.0	-00.1	N 23 19.8	-00.1
01	194 14.9	-00.2	N 23 19.7	-00.1
02	209 14.7	-00.1	N 23 19.6	-00.1
03	224 14.6	-00.1	N 23 19.5	-00.1
04	239 14.5	-00.2	N 23 19.4	-00.1
05	254 14.3	-00.1	N 23 19.3	-00.1
06	269 14.2	-00.1	N 23 19.2	-00.1
07	284 14.1	-00.2	N 23 19.1	-00.1
08	299 13.9	-00.1	N 23 19.0	-00.1
09	314 13.8	-00.1	N 23 18.9	-00.1
10	329 13.7	-00.2	N 23 18.8	-00.1
11	344 13.5	-00.1	N 23 18.7	-00.1
12	359 13.4	-00.1	N 23 18.6	-00.1
13	14 13.3	-00.1	N 23 18.5	-00.2
14	29 13.2	-00.2	N 23 18.3	-00.1
15	44 13.0	-00.1	N 23 18.2	-00.1
16	59 12.9	-00.1	N 23 18.1	-00.1
17	74 12.8	-00.2	N 23 18.0	-00.1
18	89 12.6	-00.1	N 23 17.9	-00.1
19	104 12.5	-00.1	N 23 17.8	-00.1
20	119 12.4	-00.2	N 23 17.7	-00.1
21	134 12.2	-00.1	N 23 17.6	-00.1
22	149 12.1	-00.1	N 23 17.5	-00.1
23	164 12.0	-00.1	N 23 17.4	-00.2

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	264°	264°	264°	264°	263°	263°

Greenwich Culmination Time: 12:03

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	212 00.8	-00.6	N 19 36.0	+00.6
01	227 00.2	-00.6	N 19 36.6	+00.7
02	241 59.6	-00.7	N 19 37.3	+00.6
03	256 58.9	-00.6	N 19 37.9	+00.6
04	271 58.3	-00.6	N 19 38.5	+00.6
05	286 57.7	-00.7	N 19 39.1	+00.6
06	301 57.0	-00.6	N 19 39.7	+00.6
07	316 56.4	-00.7	N 19 40.3	+00.6
08	331 55.7	-00.6	N 19 40.9	+00.6
09	346 55.1	-00.6	N 19 41.5	+00.7
10	1 54.5	-00.7	N 19 42.2	+00.6
11	16 53.8	-00.6	N 19 42.8	+00.6
12	31 53.2	-00.6	N 19 43.4	+00.6
13	46 52.6	-00.7	N 19 44.0	+00.6
14	61 51.9	-00.6	N 19 44.6	+00.6
15	76 51.3	-00.7	N 19 45.2	+00.6
16	91 50.6	-00.6	N 19 45.8	+00.6
17	106 50.0	-00.6	N 19 46.4	+00.6
18	121 49.4	-00.7	N 19 47.0	+00.6
19	136 48.7	-00.6	N 19 47.6	+00.6
20	151 48.1	-00.7	N 19 48.2	+00.6
21	166 47.4	-00.6	N 19 48.8	+00.6
22	181 46.8	-00.7	N 19 49.4	+00.6
23	196 46.1	-00.6	N 19 50.0	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	297°	297°	296°	296°	296°	296°

Greenwich Culmination Time: 09:52

Moon

A: 94%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	204 31.7	-29.4	N 24 03.0	+06.3
01	219 02.3	-29.5	N 24 09.3	+06.3
02	233 32.8	-29.4	N 24 15.6	+06.1
03	248 03.4	-29.6	N 24 21.7	+06.0
04	262 33.8	-29.5	N 24 27.7	+05.9
05	277 04.3	-29.6	N 24 33.6	+05.8
06	291 34.7	-29.7	N 24 39.4	+05.7
07	306 05.0	-29.7	N 24 45.1	+05.5
08	320 35.3	-29.7	N 24 50.6	+05.5
09	335 05.6	-29.8	N 24 56.1	+05.3
10	349 35.8	-29.8	N 25 01.4	+05.2
11	4 06.0	-29.8	N 25 06.6	+05.1
12	18 36.2	-29.9	N 25 11.7	+05.0
13	33 06.3	-29.9	N 25 16.7	+04.8
14	47 36.4	-30.0	N 25 21.5	+04.8
15	62 06.4	-30.0	N 25 26.3	+04.6
16	76 36.4	-30.0	N 25 30.9	+04.5
17	91 06.4	-30.1	N 25 35.4	+04.4
18	105 36.3	-30.1	N 25 39.8	+04.2
19	120 06.2	-30.1	N 25 44.0	+04.1
20	134 36.1	-30.2	N 25 48.1	+04.0
21	149 05.9	-30.1	N 25 52.1	+03.9
22	163 35.8	-30.3	N 25 56.0	+03.8
23	178 05.5	-30.2	N 25 59.8	+03.6

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	54′1	54′1	54′1	54′0	54′0	54′0
SHA	288°	286°	284°	282°	280°	278°

Greenwich Culmination Time: 10:43

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	252 02.3	+00.8	N 07 40.7	+00.7
01	267 03.1	+00.8	N 07 41.4	+00.7
02	282 03.9	+00.8	N 07 42.1	+00.6
03	297 04.7	+00.8	N 07 42.7	+00.7
04	312 05.5	+00.8	N 07 43.4	+00.6
05	327 06.3	+00.8	N 07 44.0	+00.7
06	342 07.1	+00.8	N 07 44.7	+00.6
07	357 07.9	+00.8	N 07 45.3	+00.7
08	12 08.7	+00.8	N 07 46.0	+00.6
09	27 09.5	+00.7	N 07 46.6	+00.7
10	42 10.2	+00.8	N 07 47.3	+00.6
11	57 11.0	+00.8	N 07 47.9	+00.7
12	72 11.8	+00.8	N 07 48.6	+00.6
13	87 12.6	+00.8	N 07 49.2	+00.7
14	102 13.4	+00.8	N 07 49.9	+00.6
15	117 14.2	+00.8	N 07 50.5	+00.7
16	132 15.0	+00.8	N 07 51.2	+00.6
17	147 15.8	+00.8	N 07 51.8	+00.7
18	162 16.6	+00.8	N 07 52.5	+00.6
19	177 17.4	+00.7	N 07 53.1	+00.7
20	192 18.1	+00.8	N 07 53.8	+00.6
21	207 18.9	+00.8	N 07 54.4	+00.7
22	222 19.7	+00.8	N 07 55.1	+00.6
23	237 20.5	+00.8	N 07 55.7	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	337°	337°	337°	337°	336°	336°

Greenwich Culmination Time: 07:11

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	268 03.1	+02.3	N 01 39.1	+00.1
01	283 05.4	+02.2	N 01 39.2	+00.1
02	298 07.6	+02.2	N 01 39.3	+00.0
03	313 09.8	+02.3	N 01 39.3	+00.1
04	328 12.1	+02.2	N 01 39.4	+00.1
05	343 14.3	+02.2	N 01 39.5	+00.1
06	358 16.5	+02.3	N 01 39.6	+00.1
07	13 18.8	+02.2	N 01 39.7	+00.1
08	28 21.0	+02.3	N 01 39.8	+00.1
09	43 23.3	+02.2	N 01 39.9	+00.0
10	58 25.5	+02.2	N 01 39.9	+00.1
11	73 27.7	+02.3	N 01 40.0	+00.1
12	88 30.0	+02.2	N 01 40.1	+00.1
13	103 32.2	+02.2	N 01 40.2	+00.1
14	118 34.4	+02.3	N 01 40.3	+00.1
15	133 36.7	+02.2	N 01 40.4	+00.0
16	148 38.9	+02.3	N 01 40.4	+00.1
17	163 41.2	+02.2	N 01 40.5	+00.1
18	178 43.4	+02.2	N 01 40.6	+00.1
19	193 45.6	+02.3	N 01 40.7	+00.1
20	208 47.9	+02.2	N 01 40.8	+00.1
21	223 50.1	+02.3	N 01 40.9	+00.0
22	238 52.4	+02.2	N 01 40.9	+00.1
23	253 54.6	+02.3	N 01 41.0	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 06:06

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	307 31.5	+02.6	S 14 21.5	+00.0
01	322 34.1	+02.5	S 14 21.5	+00.1
02	337 36.6	+02.5	S 14 21.6	+00.0
03	352 39.1	+02.6	S 14 21.6	+00.0
04	7 41.7	+02.5	S 14 21.6	+00.1
05	22 44.2	+02.6	S 14 21.7	+00.0
06	37 46.8	+02.5	S 14 21.7	+00.0
07	52 49.3	+02.6	S 14 21.7	+00.1
08	67 51.9	+02.5	S 14 21.8	+00.0
09	82 54.4	+02.6	S 14 21.8	+00.0
10	97 57.0	+02.5	S 14 21.8	+00.1
11	112 59.5	+02.6	S 14 21.9	+00.0
12	128 02.1	+02.5	S 14 21.9	+00.1
13	143 04.6	+02.6	S 14 22.0	+00.0
14	158 07.2	+02.5	S 14 22.0	+00.0
15	173 09.7	+02.6	S 14 22.0	+00.1
16	188 12.3	+02.5	S 14 22.1	+00.0
17	203 14.8	+02.6	S 14 22.1	+00.0
18	218 17.4	+02.5	S 14 22.1	+00.1
19	233 19.9	+02.6	S 14 22.2	+00.0
20	248 22.5	+02.5	S 14 22.2	+00.1
21	263 25.0	+02.6	S 14 22.3	+00.0
22	278 27.6	+02.5	S 14 22.3	+00.0
23	293 30.1	+02.6	S 14 22.3	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	032°

Greenwich Culmination Time: 03:29

2022 June 28 Tuesday (day 179 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 11.9	-00.2	N 23 17.2	-00.1
01	194 11.7	-00.1	N 23 17.1	-00.1
02	209 11.6	-00.1	N 23 17.0	-00.1
03	224 11.5	-00.2	N 23 16.9	-00.1
04	239 11.3	-00.1	N 23 16.8	-00.1
05	254 11.2	-00.1	N 23 16.7	-00.1
06	269 11.1	-00.1	N 23 16.6	-00.2
07	284 11.0	-00.2	N 23 16.4	-00.1
08	299 10.8	-00.1	N 23 16.3	-00.1
09	314 10.7	-00.1	N 23 16.2	-00.1
10	329 10.6	-00.2	N 23 16.1	-00.1
11	344 10.4	-00.1	N 23 16.0	-00.2
12	359 10.3	-00.1	N 23 15.8	-00.1
13	14 10.2	-00.1	N 23 15.7	-00.1
14	29 10.1	-00.2	N 23 15.6	-00.1
15	44 09.9	-00.1	N 23 15.5	-00.2
16	59 09.8	-00.1	N 23 15.3	-00.1
17	74 09.7	-00.2	N 23 15.2	-00.1
18	89 09.5	-00.1	N 23 15.1	-00.1
19	104 09.4	-00.1	N 23 15.0	-00.2
20	119 09.3	-00.1	N 23 14.8	-00.1
21	134 09.2	-00.2	N 23 14.7	-00.1
22	149 09.0	-00.1	N 23 14.6	-00.1
23	164 08.9	-00.1	N 23 14.5	-00.2

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	263°	263°	263°	263°	262°	262°

Greenwich Culmination Time: 12:03

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	211 45.5	-00.6	N 19 50.6	+00.6
01	226 44.9	-00.7	N 19 51.2	+00.6
02	241 44.2	-00.6	N 19 51.8	+00.6
03	256 43.6	-00.7	N 19 52.4	+00.6
04	271 42.9	-00.6	N 19 53.0	+00.6
05	286 42.3	-00.7	N 19 53.6	+00.6
06	301 41.6	-00.6	N 19 54.2	+00.6
07	316 41.0	-00.7	N 19 54.8	+00.6
08	331 40.3	-00.6	N 19 55.4	+00.6
09	346 39.7	-00.7	N 19 56.0	+00.5
10	1 39.0	-00.6	N 19 56.5	+00.6
11	16 38.4	-00.7	N 19 57.1	+00.6
12	31 37.7	-00.6	N 19 57.7	+00.6
13	46 37.1	-00.7	N 19 58.3	+00.6
14	61 36.4	-00.6	N 19 58.9	+00.6
15	76 35.8	-00.7	N 19 59.5	+00.6
16	91 35.1	-00.6	N 20 00.1	+00.5
17	106 34.5	-00.7	N 20 00.6	+00.6
18	121 33.8	-00.6	N 20 01.2	+00.6
19	136 33.2	-00.7	N 20 01.8	+00.6
20	151 32.5	-00.6	N 20 02.4	+00.6
21	166 31.9	-00.7	N 20 03.0	+00.5
22	181 31.2	-00.6	N 20 03.5	+00.6
23	196 30.6	-00.7	N 20 04.1	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	296°	295°	295°	295°	295°	295°

Greenwich Culmination Time: 09:53

Moon

A: 97%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	192 35.3	-30.3	N 26 03.4	+03.5
01	207 05.0	-30.3	N 26 06.9	+03.4
02	221 34.7	-30.4	N 26 10.3	+03.3
03	236 04.3	-30.3	N 26 13.6	+03.1
04	250 34.0	-30.4	N 26 16.7	+03.1
05	265 03.6	-30.4	N 26 19.8	+02.9
06	279 33.2	-30.5	N 26 22.7	+02.7
07	294 02.7	-30.4	N 26 25.4	+02.7
08	308 32.3	-30.5	N 26 28.1	+02.5
09	323 01.8	-30.5	N 26 30.6	+02.4
10	337 31.3	-30.5	N 26 33.0	+02.2
11	352 00.8	-30.6	N 26 35.2	+02.2
12	6 30.2	-30.5	N 26 37.4	+02.0
13	20 59.7	-30.6	N 26 39.4	+01.8
14	35 29.1	-30.6	N 26 41.2	+01.8
15	49 58.5	-30.6	N 26 43.0	+01.6
16	64 27.9	-30.6	N 26 44.6	+01.5
17	78 57.3	-30.6	N 26 46.1	+01.4
18	93 26.7	-30.6	N 26 47.5	+01.2
19	107 56.1	-30.7	N 26 48.7	+01.1
20	122 25.4	-30.6	N 26 49.8	+01.0
21	136 54.8	-30.7	N 26 50.8	+00.8
22	151 24.1	-30.7	N 26 51.6	+00.7
23	165 53.4	-30.6	N 26 52.3	+00.6

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	54′0	54′0	53′9	53′9	53′9	53′9
SHA	275°	273°	271°	269°	267°	264°

Greenwich Culmination Time: 11:33

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	252 21.3	+00.8	N 07 56.4	+00.6
01	267 22.1	+00.8	N 07 57.0	+00.7
02	282 22.9	+00.8	N 07 57.7	+00.6
03	297 23.7	+00.8	N 07 58.3	+00.7
04	312 24.5	+00.8	N 07 59.0	+00.6
05	327 25.3	+00.8	N 07 59.6	+00.7
06	342 26.1	+00.8	N 08 00.3	+00.6
07	357 26.9	+00.7	N 08 00.9	+00.7
08	12 27.6	+00.8	N 08 01.6	+00.6
09	27 28.4	+00.8	N 08 02.2	+00.7
10	42 29.2	+00.8	N 08 02.9	+00.6
11	57 30.0	+00.8	N 08 03.5	+00.6
12	72 30.8	+00.8	N 08 04.1	+00.7
13	87 31.6	+00.8	N 08 04.8	+00.6
14	102 32.4	+00.8	N 08 05.4	+00.7
15	117 33.2	+00.8	N 08 06.1	+00.6
16	132 34.0	+00.8	N 08 06.7	+00.7
17	147 34.8	+00.8	N 08 07.4	+00.6
18	162 35.6	+00.8	N 08 08.0	+00.7
19	177 36.4	+00.7	N 08 08.7	+00.6
20	192 37.1	+00.8	N 08 09.3	+00.7
21	207 37.9	+00.8	N 08 10.0	+00.6
22	222 38.7	+00.8	N 08 10.6	+00.6
23	237 39.5	+00.8	N 08 11.2	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	336°	336°	336°	336°	336°	336°

Greenwich Culmination Time: 07:10

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	268 56.9	+02.2	N 01 41.1	+00.1
01	283 59.1	+02.2	N 01 41.2	+00.1
02	299 01.3	+02.3	N 01 41.3	+00.1
03	314 03.6	+02.2	N 01 41.4	+00.0
04	329 05.8	+02.3	N 01 41.4	+00.1
05	344 08.1	+02.2	N 01 41.5	+00.1
06	359 10.3	+02.2	N 01 41.6	+00.1
07	14 12.5	+02.3	N 01 41.7	+00.1
08	29 14.8	+02.2	N 01 41.8	+00.1
09	44 17.0	+02.3	N 01 41.9	+00.0
10	59 19.3	+02.2	N 01 41.9	+00.1
11	74 21.5	+02.3	N 01 42.0	+00.1
12	89 23.8	+02.2	N 01 42.1	+00.1
13	104 26.0	+02.3	N 01 42.2	+00.1
14	119 28.3	+02.2	N 01 42.3	+00.0
15	134 30.5	+02.3	N 01 42.3	+00.1
16	149 32.8	+02.2	N 01 42.4	+00.1
17	164 35.0	+02.2	N 01 42.5	+00.1
18	179 37.2	+02.3	N 01 42.6	+00.1
19	194 39.5	+02.2	N 01 42.7	+00.1
20	209 41.7	+02.3	N 01 42.8	+00.0
21	224 44.0	+02.2	N 01 42.8	+00.1
22	239 46.2	+02.3	N 01 42.9	+00.1
23	254 48.5	+02.2	N 01 43.0	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 06:03

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	308 32.7	+02.5	S 14 22.4	+00.0
01	323 35.2	+02.6	S 14 22.4	+00.0
02	338 37.8	+02.5	S 14 22.4	+00.1
03	353 40.3	+02.6	S 14 22.5	+00.0
04	8 42.9	+02.5	S 14 22.5	+00.1
05	23 45.4	+02.6	S 14 22.6	+00.0
06	38 48.0	+02.5	S 14 22.6	+00.0
07	53 50.5	+02.6	S 14 22.6	+00.1
08	68 53.1	+02.5	S 14 22.7	+00.0
09	83 55.6	+02.6	S 14 22.7	+00.0
10	98 58.2	+02.5	S 14 22.7	+00.1
11	114 00.7	+02.6	S 14 22.8	+00.0
12	129 03.3	+02.5	S 14 22.8	+00.1
13	144 05.8	+02.6	S 14 22.9	+00.0
14	159 08.4	+02.5	S 14 22.9	+00.0
15	174 10.9	+02.6	S 14 22.9	+00.1
16	189 13.5	+02.5	S 14 23.0	+00.0
17	204 16.0	+02.6	S 14 23.0	+00.0
18	219 18.6	+02.5	S 14 23.0	+00.1
19	234 21.1	+02.6	S 14 23.1	+00.0
20	249 23.7	+02.5	S 14 23.1	+00.1
21	264 26.2	+02.6	S 14 23.2	+00.0
22	279 28.8	+02.5	S 14 23.2	+00.0
23	294 31.3	+02.6	S 14 23.2	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	032°	032°	032°	032°	032°	033°

Greenwich Culmination Time: 03:25

2022 July 3 Sunday (day 184 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 57.0	−00.1	N 22 58.5	−00.2
01	193 56.9	−00.1	N 22 58.3	−00.2
02	208 56.8	−00.1	N 22 58.1	−00.2
03	223 56.7	−00.1	N 22 57.9	−00.2
04	238 56.6	−00.2	N 22 57.7	−00.2
05	253 56.4	−00.1	N 22 57.5	−00.2
06	268 56.3	−00.1	N 22 57.3	−00.2
07	283 56.2	−00.1	N 22 57.1	−00.2
08	298 56.1	−00.1	N 22 56.9	−00.2
09	313 56.0	−00.1	N 22 56.7	−00.2
10	328 55.9	−00.1	N 22 56.5	−00.2
11	343 55.8	−00.2	N 22 56.3	−00.2
12	358 55.6	−00.1	N 22 56.1	−00.2
13	13 55.5	−00.1	N 22 55.9	−00.2
14	28 55.4	−00.1	N 22 55.7	−00.2
15	43 55.3	−00.1	N 22 55.5	−00.2
16	58 55.2	−00.1	N 22 55.3	−00.2
17	73 55.1	−00.1	N 22 55.1	−00.2
18	88 55.0	−00.2	N 22 54.9	−00.2
19	103 54.8	−00.1	N 22 54.7	−00.3
20	118 54.7	−00.1	N 22 54.4	−00.2
21	133 54.6	−00.1	N 22 54.2	−00.2
22	148 54.5	−00.1	N 22 54.0	−00.2
23	163 54.4	−00.1	N 22 53.8	−00.2

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	258°	258°	258°	257°	257°	257°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	210 25.0	−00.6	N 20 55.9	+00.5
01	225 24.4	−00.7	N 20 56.4	+00.4
02	240 23.7	−00.7	N 20 56.8	+00.5
03	255 23.0	−00.7	N 20 57.3	+00.5
04	270 22.3	−00.7	N 20 57.8	+00.5
05	285 21.6	−00.7	N 20 58.3	+00.5
06	300 20.9	−00.7	N 20 58.8	+00.5
07	315 20.2	−00.7	N 20 59.3	+00.5
08	330 19.5	−00.7	N 20 59.8	+00.4
09	345 18.8	−00.7	N 21 00.2	+00.5
10	0 18.1	−00.7	N 21 00.7	+00.5
11	15 17.4	−00.7	N 21 01.2	+00.5
12	30 16.7	−00.7	N 21 01.7	+00.4
13	45 16.0	−00.7	N 21 02.1	+00.5
14	60 15.3	−00.7	N 21 02.6	+00.5
15	75 14.6	−00.7	N 21 03.1	+00.5
16	90 13.9	−00.7	N 21 03.6	+00.4
17	105 13.2	−00.7	N 21 04.0	+00.5
18	120 12.5	−00.8	N 21 04.5	+00.5
19	135 11.7	−00.7	N 21 05.0	+00.5
20	150 11.0	−00.7	N 21 05.5	+00.4
21	165 10.3	−00.7	N 21 05.9	+00.5
22	180 09.6	−00.7	N 21 06.4	+00.5
23	195 08.9	−00.7	N 21 06.9	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	289°	289°	289°	289°	288°	288°

Greenwich Culmination Time: 09:58

Moon

A: 14%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	133 14.6	−27.4	N 18 26.7	−10.3
01	147 47.2	−27.3	N 18 16.4	−10.4
02	162 19.9	−27.3	N 18 06.0	−10.5
03	176 52.6	−27.3	N 17 55.5	−10.6
04	191 25.3	−27.2	N 17 44.9	−10.7
05	205 58.1	−27.2	N 17 34.2	−10.7
06	220 30.9	−27.1	N 17 23.5	−10.8
07	235 03.8	−27.1	N 17 12.7	−10.9
08	249 36.7	−27.0	N 17 01.8	−11.0
09	264 09.7	−27.0	N 16 50.8	−11.0
10	278 42.7	−27.0	N 16 39.8	−11.2
11	293 15.7	−26.9	N 16 28.6	−11.2
12	307 48.8	−26.9	N 16 17.4	−11.2
13	322 21.9	−26.9	N 16 06.2	−11.4
14	336 55.0	−26.8	N 15 54.8	−11.4
15	351 28.2	−26.7	N 15 43.4	−11.5
16	6 01.5	−26.8	N 15 31.9	−11.6
17	20 34.7	−26.7	N 15 20.3	−11.6
18	35 08.0	−26.6	N 15 08.7	−11.7
19	49 41.4	−26.7	N 14 57.0	−11.8
20	64 14.7	−26.6	N 14 45.2	−11.8
21	78 48.1	−26.5	N 14 33.4	−11.9
22	93 21.6	−26.5	N 14 21.5	−12.0
23	107 55.1	−26.5	N 14 09.5	−12.1

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	15′0	15′0
HP	54′6	54′7	54′7	54′8	54′9	55′0
SHA	211°	209°	207°	205°	203°	201°

Greenwich Culmination Time: 15:35

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	253 56.6	+00.8	N 09 12.9	+00.7
01	268 57.4	+00.8	N 09 13.6	+00.6
02	283 58.2	+00.8	N 09 14.2	+00.6
03	298 59.0	+00.8	N 09 14.8	+00.6
04	313 59.8	+00.8	N 09 15.4	+00.7
05	329 00.6	+00.8	N 09 16.1	+00.6
06	344 01.4	+00.8	N 09 16.7	+00.6
07	359 02.2	+00.8	N 09 17.3	+00.7
08	14 03.0	+00.8	N 09 18.0	+00.6
09	29 03.8	+00.8	N 09 18.6	+00.6
10	44 04.6	+00.8	N 09 19.2	+00.6
11	59 05.4	+00.8	N 09 19.8	+00.7
12	74 06.2	+00.8	N 09 20.5	+00.6
13	89 07.0	+00.8	N 09 21.1	+00.6
14	104 07.8	+00.8	N 09 21.7	+00.6
15	119 08.6	+00.8	N 09 22.3	+00.6
16	134 09.4	+00.8	N 09 22.9	+00.7
17	149 10.2	+00.8	N 09 23.6	+00.6
18	164 11.0	+00.8	N 09 24.2	+00.6
19	179 11.8	+00.8	N 09 24.8	+00.6
20	194 12.6	+00.8	N 09 25.4	+00.7
21	209 13.4	+00.8	N 09 26.1	+00.6
22	224 14.2	+00.8	N 09 26.7	+00.6
23	239 15.0	+00.8	N 09 27.3	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	333°	333°	333°	333°	332°	332°

Greenwich Culmination Time: 07:03

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	273 27.8	+02.2	N 01 50.2	+00.1
01	288 30.0	+02.3	N 01 50.3	+00.1
02	303 32.3	+02.3	N 01 50.4	+00.0
03	318 34.6	+02.3	N 01 50.4	+00.1
04	333 36.9	+02.2	N 01 50.5	+00.1
05	348 39.1	+02.3	N 01 50.6	+00.0
06	3 41.4	+02.3	N 01 50.6	+00.1
07	18 43.7	+02.3	N 01 50.7	+00.1
08	33 46.0	+02.2	N 01 50.8	+00.1
09	48 48.2	+02.3	N 01 50.9	+00.0
10	63 50.5	+02.3	N 01 50.9	+00.1
11	78 52.8	+02.3	N 01 51.0	+00.1
12	93 55.1	+02.3	N 01 51.1	+00.0
13	108 57.4	+02.2	N 01 51.1	+00.1
14	123 59.6	+02.3	N 01 51.2	+00.1
15	139 01.9	+02.3	N 01 51.3	+00.0
16	154 04.2	+02.3	N 01 51.3	+00.1
17	169 06.5	+02.2	N 01 51.4	+00.1
18	184 08.7	+02.3	N 01 51.5	+00.0
19	199 11.0	+02.3	N 01 51.5	+00.1
20	214 13.3	+02.3	N 01 51.6	+00.1
21	229 15.6	+02.3	N 01 51.7	+00.0
22	244 17.9	+02.2	N 01 51.7	+00.1
23	259 20.1	+02.3	N 01 51.8	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 05:45

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	313 39.6	+02.6	S 14 27.2	+00.0
01	328 42.2	+02.6	S 14 27.2	+00.0
02	343 44.8	+02.5	S 14 27.2	+00.1
03	358 47.3	+02.6	S 14 27.3	+00.0
04	13 49.9	+02.6	S 14 27.3	+00.1
05	28 52.5	+02.5	S 14 27.4	+00.0
06	43 55.0	+02.6	S 14 27.4	+00.1
07	58 57.6	+02.6	S 14 27.5	+00.0
08	74 00.2	+02.5	S 14 27.5	+00.0
09	89 02.7	+02.6	S 14 27.5	+00.1
10	104 05.3	+02.6	S 14 27.6	+00.0
11	119 07.9	+02.5	S 14 27.6	+00.1
12	134 10.4	+02.6	S 14 27.7	+00.0
13	149 13.0	+02.6	S 14 27.7	+00.1
14	164 15.6	+02.5	S 14 27.8	+00.0
15	179 18.1	+02.6	S 14 27.8	+00.1
16	194 20.7	+02.6	S 14 27.9	+00.0
17	209 23.3	+02.5	S 14 27.9	+00.0
18	224 25.8	+02.6	S 14 27.9	+00.1
19	239 28.4	+02.6	S 14 28.0	+00.0
20	254 31.0	+02.6	S 14 28.0	+00.1
21	269 33.6	+02.5	S 14 28.1	+00.0
22	284 36.1	+02.6	S 14 28.1	+00.1
23	299 38.7	+02.6	S 14 28.2	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 03:04

2022 June 30 Thursday (day 181 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	179 05.7	−00.1	N 23 11.0	−00.2
01	194 05.6	−00.1	N 23 10.8	−00.1
02	209 05.5	−00.1	N 23 10.7	−00.2
03	224 05.4	−00.2	N 23 10.5	−00.1
04	239 05.2	−00.1	N 23 10.4	−00.2
05	254 05.1	−00.1	N 23 10.2	−00.1
06	269 05.0	−00.1	N 23 10.1	−00.2
07	284 04.9	−00.2	N 23 09.9	−00.1
08	299 04.7	−00.1	N 23 09.8	−00.2
09	314 04.6	−00.1	N 23 09.6	−00.1
10	329 04.5	−00.1	N 23 09.5	−00.2
11	344 04.4	−00.2	N 23 09.3	−00.1
12	359 04.2	−00.1	N 23 09.2	−00.2
13	14 04.1	−00.1	N 23 09.0	−00.1
14	29 04.0	−00.1	N 23 08.9	−00.2
15	44 03.9	−00.1	N 23 08.7	−00.2
16	59 03.8	−00.2	N 23 08.5	−00.1
17	74 03.6	−00.1	N 23 08.4	−00.2
18	89 03.5	−00.1	N 23 08.2	−00.1
19	104 03.4	−00.1	N 23 08.1	−00.2
20	119 03.3	−00.2	N 23 07.9	−00.2
21	134 03.1	−00.1	N 23 07.7	−00.1
22	149 03.0	−00.1	N 23 07.6	−00.2
23	164 02.9	−00.1	N 23 07.4	−00.2

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	261°	261°	261°	260°	260°	260°

Greenwich Culmination Time: 12:03

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	211 14.1	−00.7	N 20 18.3	+00.5
01	226 13.4	−00.6	N 20 18.8	+00.6
02	241 12.8	−00.7	N 20 19.4	+00.5
03	256 12.1	−00.7	N 20 19.9	+00.6
04	271 11.4	−00.6	N 20 20.5	+00.5
05	286 10.8	−00.7	N 20 21.0	+00.6
06	301 10.1	−00.7	N 20 21.6	+00.5
07	316 09.4	−00.7	N 20 22.1	+00.6
08	331 08.7	−00.6	N 20 22.7	+00.5
09	346 08.1	−00.7	N 20 23.2	+00.6
10	1 07.4	−00.7	N 20 23.8	+00.5
11	16 06.7	−00.6	N 20 24.3	+00.6
12	31 06.1	−00.7	N 20 24.9	+00.5
13	46 05.4	−00.7	N 20 25.4	+00.6
14	61 04.7	−00.6	N 20 26.0	+00.5
15	76 04.1	−00.7	N 20 26.5	+00.5
16	91 03.4	−00.7	N 20 27.0	+00.6
17	106 02.7	−00.7	N 20 27.6	+00.5
18	121 02.0	−00.6	N 20 28.1	+00.6
19	136 01.4	−00.7	N 20 28.7	+00.5
20	151 00.7	−00.7	N 20 29.2	+00.5
21	166 00.0	−00.7	N 20 29.7	+00.6
22	180 59.3	−00.6	N 20 30.3	+00.5
23	195 58.7	−00.7	N 20 30.8	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	293°	293°	293°	292°	292°	292°

Greenwich Culmination Time: 09:55

Moon

A: 04%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	168 08.0	−30.5	N 26 28.4	−02.6
01	182 37.5	−30.4	N 26 25.8	−02.7
02	197 07.1	−30.4	N 26 23.1	−02.9
03	211 36.7	−30.4	N 26 20.2	−03.0
04	226 06.3	−30.3	N 26 17.2	−03.1
05	240 36.0	−30.3	N 26 14.1	−03.3
06	255 05.7	−30.3	N 26 10.8	−03.3
07	269 35.4	−30.3	N 26 07.5	−03.5
08	284 05.1	−30.2	N 26 04.0	−03.6
09	298 34.9	−30.2	N 26 00.4	−03.8
10	313 04.7	−30.2	N 25 56.6	−03.8
11	327 34.5	−30.1	N 25 52.8	−04.0
12	342 04.4	−30.1	N 25 48.8	−04.1
13	356 34.3	−30.1	N 25 44.7	−04.3
14	11 04.2	−30.0	N 25 40.4	−04.3
15	25 34.2	−30.0	N 25 36.1	−04.5
16	40 04.2	−30.0	N 25 31.6	−04.6
17	54 34.2	−29.9	N 25 27.0	−04.7
18	69 04.3	−29.9	N 25 22.3	−04.8
19	83 34.4	−29.9	N 25 17.5	−05.0
20	98 04.5	−29.8	N 25 12.5	−05.0
21	112 34.7	−29.8	N 25 07.5	−05.2
22	127 04.9	−29.7	N 25 02.3	−05.3
23	141 35.2	−29.7	N 24 57.0	−05.4

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	53′9	53′9	54′0	54′0	54′0	54′0
SHA	249°	247°	245°	242°	240°	238°

Greenwich Culmination Time: 13:14

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	252 59.4	+00.7	N 08 27.3	+00.7
01	268 00.1	+00.8	N 08 28.0	+00.6
02	283 00.9	+00.8	N 08 28.6	+00.6
03	298 01.7	+00.8	N 08 29.2	+00.7
04	313 02.5	+00.8	N 08 29.9	+00.6
05	328 03.3	+00.8	N 08 30.5	+00.7
06	343 04.1	+00.8	N 08 31.2	+00.6
07	358 04.9	+00.8	N 08 31.8	+00.6
08	13 05.7	+00.8	N 08 32.4	+00.7
09	28 06.5	+00.8	N 08 33.1	+00.6
10	43 07.3	+00.8	N 08 33.7	+00.6
11	58 08.1	+00.8	N 08 34.3	+00.7
12	73 08.9	+00.8	N 08 35.0	+00.6
13	88 09.7	+00.8	N 08 35.6	+00.7
14	103 10.5	+00.8	N 08 36.3	+00.6
15	118 11.3	+00.8	N 08 36.9	+00.6
16	133 12.1	+00.8	N 08 37.5	+00.7
17	148 12.9	+00.8	N 08 38.2	+00.6
18	163 13.7	+00.7	N 08 38.8	+00.7
19	178 14.4	+00.8	N 08 39.5	+00.6
20	193 15.2	+00.8	N 08 40.1	+00.6
21	208 16.0	+00.8	N 08 40.7	+00.7
22	223 16.8	+00.8	N 08 41.4	+00.6
23	238 17.6	+00.8	N 08 42.0	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	335°	335°	335°	335°	334°	334°

Greenwich Culmination Time: 07:07

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	270 44.8	+02.2	N 01 45.0	+00.0
01	285 47.0	+02.3	N 01 45.0	+00.1
02	300 49.3	+02.2	N 01 45.1	+00.1
03	315 51.5	+02.3	N 01 45.2	+00.1
04	330 53.8	+02.2	N 01 45.3	+00.1
05	345 56.0	+02.3	N 01 45.4	+00.0
06	0 58.3	+02.2	N 01 45.4	+00.1
07	16 00.5	+02.3	N 01 45.5	+00.1
08	31 02.8	+02.3	N 01 45.6	+00.1
09	46 05.1	+02.2	N 01 45.7	+00.0
10	61 07.3	+02.3	N 01 45.7	+00.1
11	76 09.6	+02.2	N 01 45.8	+00.1
12	91 11.8	+02.3	N 01 45.9	+00.1
13	106 14.1	+02.2	N 01 46.0	+00.0
14	121 16.3	+02.3	N 01 46.0	+00.1
15	136 18.6	+02.3	N 01 46.1	+00.1
16	151 20.9	+02.2	N 01 46.2	+00.1
17	166 23.1	+02.3	N 01 46.3	+00.0
18	181 25.4	+02.2	N 01 46.3	+00.1
19	196 27.6	+02.3	N 01 46.4	+00.1
20	211 29.9	+02.3	N 01 46.5	+00.1
21	226 32.2	+02.2	N 01 46.6	+00.0
22	241 34.4	+02.3	N 01 46.6	+00.1
23	256 36.7	+02.2	N 01 46.7	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 05:56

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	310 35.2	+02.6	S 14 24.2	+00.0
01	325 37.8	+02.5	S 14 24.2	+00.1
02	340 40.3	+02.6	S 14 24.3	+00.0
03	355 42.9	+02.5	S 14 24.3	+00.1
04	10 45.4	+02.6	S 14 24.4	+00.0
05	25 48.0	+02.5	S 14 24.4	+00.0
06	40 50.5	+02.6	S 14 24.4	+00.1
07	55 53.1	+02.6	S 14 24.5	+00.0
08	70 55.7	+02.5	S 14 24.5	+00.1
09	85 58.2	+02.6	S 14 24.6	+00.0
10	101 00.8	+02.5	S 14 24.6	+00.0
11	116 03.3	+02.6	S 14 24.6	+00.1
12	131 05.9	+02.5	S 14 24.7	+00.0
13	146 08.4	+02.6	S 14 24.7	+00.1
14	161 11.0	+02.6	S 14 24.8	+00.0
15	176 13.6	+02.5	S 14 24.8	+00.0
16	191 16.1	+02.6	S 14 24.8	+00.1
17	206 18.7	+02.5	S 14 24.9	+00.0
18	221 21.2	+02.6	S 14 24.9	+00.1
19	236 23.8	+02.6	S 14 25.0	+00.0
20	251 26.4	+02.5	S 14 25.0	+00.0
21	266 28.9	+02.6	S 14 25.0	+00.1
22	281 31.5	+02.5	S 14 25.1	+00.0
23	296 34.0	+02.6	S 14 25.1	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 03:17

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 July 1 Friday (day 182 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 02.8	−00.2	N 23 07.2	−00.1
01	194 02.6	−00.1	N 23 07.1	−00.2
02	209 02.5	−00.1	N 23 06.9	−00.2
03	224 02.4	−00.1	N 23 06.7	−00.1
04	239 02.3	−00.1	N 23 06.6	−00.2
05	254 02.2	−00.2	N 23 06.4	−00.2
06	269 02.0	−00.1	N 23 06.2	−00.1
07	284 01.9	−00.1	N 23 06.1	−00.2
08	299 01.8	−00.1	N 23 05.9	−00.2
09	314 01.7	−00.1	N 23 05.7	−00.1
10	329 01.6	−00.2	N 23 05.6	−00.2
11	344 01.4	−00.1	N 23 05.4	−00.2
12	359 01.3	−00.1	N 23 05.2	−00.2
13	14 01.2	−00.1	N 23 05.0	−00.1
14	29 01.1	−00.2	N 23 04.9	−00.2
15	44 00.9	−00.1	N 23 04.7	−00.2
16	59 00.8	−00.1	N 23 04.5	−00.2
17	74 00.7	−00.1	N 23 04.3	−00.1
18	89 00.6	−00.1	N 23 04.2	−00.2
19	104 00.5	−00.2	N 23 04.0	−00.2
20	119 00.3	−00.1	N 23 03.8	−00.2
21	134 00.2	−00.1	N 23 03.6	−00.1
22	149 00.1	−00.1	N 23 03.5	−00.2
23	163 60.0	−00.1	N 23 03.3	−00.2

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	260°	260°	260°	259°	259°	259°

Greenwich Culmination Time: 12:03

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	210 58.0	−00.7	N 20 31.3	+00.6
01	225 57.3	−00.7	N 20 31.9	+00.5
02	240 56.6	−00.6	N 20 32.4	+00.5
03	255 56.0	−00.7	N 20 32.9	+00.6
04	270 55.3	−00.7	N 20 33.5	+00.5
05	285 54.6	−00.7	N 20 34.0	+00.5
06	300 53.9	−00.7	N 20 34.5	+00.6
07	315 53.2	−00.6	N 20 35.1	+00.5
08	330 52.6	−00.7	N 20 35.6	+00.5
09	345 51.9	−00.7	N 20 36.1	+00.5
10	0 51.2	−00.7	N 20 36.6	+00.6
11	15 50.5	−00.7	N 20 37.2	+00.5
12	30 49.8	−00.6	N 20 37.7	+00.5
13	45 49.2	−00.7	N 20 38.2	+00.5
14	60 48.5	−00.7	N 20 38.7	+00.5
15	75 47.8	−00.7	N 20 39.2	+00.6
16	90 47.1	−00.7	N 20 39.8	+00.5
17	105 46.4	−00.7	N 20 40.3	+00.5
18	120 45.7	−00.6	N 20 40.8	+00.5
19	135 45.1	−00.7	N 20 41.3	+00.5
20	150 44.4	−00.7	N 20 41.8	+00.5
21	165 43.7	−00.7	N 20 42.3	+00.6
22	180 43.0	−00.7	N 20 42.9	+00.5
23	195 42.3	−00.7	N 20 43.4	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	292°	292°	291°	291°	291°	291°

Greenwich Culmination Time: 09:56

Moon

A: 08%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	156 05.5	−29.7	N 24 51.6	−05.6
01	170 35.8	−29.6	N 24 46.0	−05.6
02	185 06.2	−29.6	N 24 40.4	−05.8
03	199 36.6	−29.5	N 24 34.6	−05.9
04	214 07.1	−29.5	N 24 28.7	−06.0
05	228 37.6	−29.4	N 24 22.7	−06.1
06	243 08.2	−29.4	N 24 16.6	−06.2
07	257 38.8	−29.4	N 24 10.4	−06.3
08	272 09.4	−29.3	N 24 04.1	−06.5
09	286 40.1	−29.2	N 23 57.6	−06.5
10	301 10.9	−29.2	N 23 51.1	−06.7
11	315 41.7	−29.2	N 23 44.4	−06.7
12	330 12.5	−29.1	N 23 37.7	−06.9
13	344 43.4	−29.1	N 23 30.8	−07.0
14	359 14.3	−29.0	N 23 23.8	−07.1
15	13 45.3	−29.0	N 23 16.7	−07.2
16	28 16.3	−29.0	N 23 09.5	−07.3
17	42 47.3	−28.8	N 23 02.2	−07.4
18	57 18.5	−28.9	N 22 54.8	−07.6
19	71 49.6	−28.8	N 22 47.2	−07.6
20	86 20.8	−28.7	N 22 39.6	−07.7
21	100 52.1	−28.7	N 22 31.9	−07.8
22	115 23.4	−28.6	N 22 24.1	−08.0
23	129 54.8	−28.6	N 22 16.1	−08.0

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′8	14′8	14′8
HP	54′1	54′1	54′1	54′2	54′2	54′2
SHA	236°	234°	232°	230°	228°	225°

Greenwich Culmination Time: 14:03

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	253 18.4	+00.8	N 08 42.6	+00.7
01	268 19.2	+00.8	N 08 43.3	+00.6
02	283 20.0	+00.8	N 08 43.9	+00.6
03	298 20.8	+00.8	N 08 44.5	+00.7
04	313 21.6	+00.8	N 08 45.2	+00.6
05	328 22.4	+00.8	N 08 45.8	+00.6
06	343 23.2	+00.8	N 08 46.4	+00.7
07	358 24.0	+00.8	N 08 47.1	+00.6
08	13 24.8	+00.8	N 08 47.7	+00.6
09	28 25.6	+00.8	N 08 48.3	+00.7
10	43 26.4	+00.8	N 08 49.0	+00.6
11	58 27.2	+00.8	N 08 49.6	+00.7
12	73 28.0	+00.8	N 08 50.3	+00.6
13	88 28.8	+00.8	N 08 50.9	+00.6
14	103 29.6	+00.8	N 08 51.5	+00.7
15	118 30.4	+00.8	N 08 52.2	+00.6
16	133 31.2	+00.7	N 08 52.8	+00.6
17	148 31.9	+00.8	N 08 53.4	+00.7
18	163 32.7	+00.8	N 08 54.1	+00.6
19	178 33.5	+00.8	N 08 54.7	+00.6
20	193 34.3	+00.8	N 08 55.3	+00.6
21	208 35.1	+00.8	N 08 55.9	+00.7
22	223 35.9	+00.8	N 08 56.6	+00.6
23	238 36.7	+00.8	N 08 57.2	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	334°	334°	334°	334°	334°	334°

Greenwich Culmination Time: 07:06

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	271 38.9	+02.3	N 01 46.8	+00.1
01	286 41.2	+02.3	N 01 46.9	+00.0
02	301 43.5	+02.2	N 01 46.9	+00.1
03	316 45.7	+02.3	N 01 47.0	+00.1
04	331 48.0	+02.2	N 01 47.1	+00.1
05	346 50.2	+02.3	N 01 47.2	+00.0
06	1 52.5	+02.3	N 01 47.2	+00.1
07	16 54.8	+02.2	N 01 47.3	+00.1
08	31 57.0	+02.3	N 01 47.4	+00.1
09	46 59.3	+02.3	N 01 47.5	+00.0
10	62 01.6	+02.2	N 01 47.5	+00.1
11	77 03.8	+02.3	N 01 47.6	+00.1
12	92 06.1	+02.3	N 01 47.7	+00.1
13	107 08.4	+02.2	N 01 47.8	+00.0
14	122 10.6	+02.3	N 01 47.8	+00.1
15	137 12.9	+02.2	N 01 47.9	+00.1
16	152 15.1	+02.3	N 01 48.0	+00.0
17	167 17.4	+02.3	N 01 48.0	+00.1
18	182 19.7	+02.2	N 01 48.1	+00.1
19	197 21.9	+02.3	N 01 48.2	+00.1
20	212 24.2	+02.3	N 01 48.3	+00.0
21	227 26.5	+02.2	N 01 48.3	+00.1
22	242 28.7	+02.3	N 01 48.4	+00.1
23	257 31.0	+02.3	N 01 48.5	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 05:52

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	311 36.6	+02.6	S 14 25.2	+00.0
01	326 39.2	+02.5	S 14 25.2	+00.0
02	341 41.7	+02.6	S 14 25.2	+00.1
03	356 44.3	+02.5	S 14 25.3	+00.0
04	11 46.8	+02.6	S 14 25.3	+00.1
05	26 49.4	+02.6	S 14 25.4	+00.0
06	41 52.0	+02.5	S 14 25.4	+00.0
07	56 54.5	+02.6	S 14 25.4	+00.1
08	71 57.1	+02.5	S 14 25.5	+00.0
09	86 59.6	+02.6	S 14 25.5	+00.1
10	102 02.2	+02.6	S 14 25.6	+00.0
11	117 04.8	+02.5	S 14 25.6	+00.1
12	132 07.3	+02.6	S 14 25.7	+00.0
13	147 09.9	+02.5	S 14 25.7	+00.0
14	162 12.4	+02.6	S 14 25.7	+00.1
15	177 15.0	+02.6	S 14 25.8	+00.0
16	192 17.6	+02.5	S 14 25.8	+00.1
17	207 20.1	+02.6	S 14 25.9	+00.0
18	222 22.7	+02.6	S 14 25.9	+00.0
19	237 25.3	+02.5	S 14 25.9	+00.1
20	252 27.8	+02.6	S 14 26.0	+00.0
21	267 30.4	+02.5	S 14 26.0	+00.1
22	282 32.9	+02.6	S 14 26.1	+00.0
23	297 35.5	+02.6	S 14 26.1	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 03:13

2022 July 2 Saturday (day 183 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 59.9	−00.2	N 23 03.1	−00.2
01	193 59.7	−00.1	N 23 02.9	−00.2
02	208 59.6	−00.1	N 23 02.7	−00.2
03	223 59.5	−00.1	N 23 02.5	−00.1
04	238 59.4	−00.1	N 23 02.4	−00.2
05	253 59.3	−00.2	N 23 02.2	−00.2
06	268 59.1	−00.1	N 23 02.0	−00.2
07	283 59.0	−00.1	N 23 01.8	−00.2
08	298 58.9	−00.1	N 23 01.6	−00.2
09	313 58.8	−00.1	N 23 01.4	−00.2
10	328 58.7	−00.1	N 23 01.2	−00.1
11	343 58.6	−00.2	N 23 01.1	−00.2
12	358 58.4	−00.1	N 23 00.9	−00.2
13	13 58.3	−00.1	N 23 00.7	−00.2
14	28 58.2	−00.1	N 23 00.5	−00.2
15	43 58.1	−00.1	N 23 00.3	−00.2
16	58 58.0	−00.2	N 23 00.1	−00.2
17	73 57.8	−00.1	N 22 59.9	−00.2
18	88 57.7	−00.1	N 22 59.7	−00.2
19	103 57.6	−00.1	N 22 59.5	−00.2
20	118 57.5	−00.1	N 22 59.3	−00.2
21	133 57.4	−00.1	N 22 59.1	−00.2
22	148 57.3	−00.2	N 22 58.9	−00.2
23	163 57.1	−00.1	N 22 58.7	−00.2

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	259°	259°	259°	258°	258°	258°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	210 41.6	−00.6	N 20 43.9	+00.5
01	225 41.0	−00.7	N 20 44.4	+00.5
02	240 40.3	−00.7	N 20 44.9	+00.5
03	255 39.6	−00.7	N 20 45.4	+00.5
04	270 38.9	−00.7	N 20 45.9	+00.5
05	285 38.2	−00.7	N 20 46.4	+00.5
06	300 37.5	−00.7	N 20 46.9	+00.5
07	315 36.8	−00.7	N 20 47.4	+00.5
08	330 36.1	−00.7	N 20 47.9	+00.5
09	345 35.4	−00.6	N 20 48.4	+00.5
10	0 34.8	−00.7	N 20 48.9	+00.5
11	15 34.1	−00.7	N 20 49.4	+00.5
12	30 33.4	−00.7	N 20 49.9	+00.5
13	45 32.7	−00.7	N 20 50.4	+00.5
14	60 32.0	−00.7	N 20 50.9	+00.5
15	75 31.3	−00.7	N 20 51.4	+00.5
16	90 30.6	−00.7	N 20 51.9	+00.5
17	105 29.9	−00.7	N 20 52.4	+00.5
18	120 29.2	−00.7	N 20 52.9	+00.5
19	135 28.5	−00.7	N 20 53.4	+00.5
20	150 27.8	−00.7	N 20 53.9	+00.5
21	165 27.1	−00.7	N 20 54.4	+00.5
22	180 26.4	−00.7	N 20 54.9	+00.5
23	195 25.7	−00.7	N 20 55.4	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	291°	290°	290°	290°	290°	290°

Greenwich Culmination Time: 09:57

Moon

A: 11%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	144 26.2	−28.6	N 22 08.1	−08.1
01	158 57.6	−28.5	N 21 60.0	−08.3
02	173 29.1	−28.4	N 21 51.7	−08.3
03	188 00.7	−28.4	N 21 43.4	−08.4
04	202 32.3	−28.3	N 21 35.0	−08.6
05	217 04.0	−28.3	N 21 26.4	−08.6
06	231 35.7	−28.3	N 21 17.8	−08.7
07	246 07.4	−28.2	N 21 09.1	−08.8
08	260 39.2	−28.1	N 21 00.3	−09.0
09	275 11.1	−28.1	N 20 51.3	−09.0
10	289 43.0	−28.1	N 20 42.3	−09.1
11	304 14.9	−28.0	N 20 33.2	−09.2
12	318 46.9	−27.9	N 20 24.0	−09.2
13	333 19.0	−27.9	N 20 14.8	−09.4
14	347 51.1	−27.9	N 20 05.4	−09.5
15	2 23.2	−27.8	N 19 55.9	−09.6
16	16 55.4	−27.8	N 19 46.3	−09.6
17	31 27.6	−27.7	N 19 36.7	−09.7
18	45 59.9	−27.6	N 19 27.0	−09.9
19	60 32.3	−27.7	N 19 17.1	−09.9
20	75 04.6	−27.5	N 19 07.2	−10.0
21	89 37.1	−27.6	N 18 57.2	−10.1
22	104 09.5	−27.4	N 18 47.1	−10.1
23	118 42.1	−27.5	N 18 37.0	−10.3

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′9
HP	54′3	54′3	54′4	54′4	54′5	54′5
SHA	223°	221°	219°	217°	215°	213°

Greenwich Culmination Time: 14:50

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	253 37.5	+00.8	N 08 57.8	+00.7
01	268 38.3	+00.8	N 08 58.5	+00.6
02	283 39.1	+00.8	N 08 59.1	+00.6
03	298 39.9	+00.8	N 08 59.7	+00.7
04	313 40.7	+00.8	N 09 00.4	+00.6
05	328 41.5	+00.8	N 09 01.0	+00.6
06	343 42.3	+00.8	N 09 01.6	+00.7
07	358 43.1	+00.8	N 09 02.3	+00.6
08	13 43.9	+00.8	N 09 02.9	+00.6
09	28 44.7	+00.8	N 09 03.5	+00.6
10	43 45.5	+00.8	N 09 04.1	+00.7
11	58 46.3	+00.8	N 09 04.8	+00.6
12	73 47.1	+00.8	N 09 05.4	+00.6
13	88 47.9	+00.8	N 09 06.0	+00.7
14	103 48.7	+00.8	N 09 06.7	+00.6
15	118 49.5	+00.8	N 09 07.3	+00.6
16	133 50.3	+00.8	N 09 07.9	+00.6
17	148 51.1	+00.8	N 09 08.5	+00.7
18	163 51.9	+00.8	N 09 09.2	+00.6
19	178 52.7	+00.8	N 09 09.8	+00.6
20	193 53.5	+00.8	N 09 10.4	+00.7
21	208 54.3	+00.8	N 09 11.1	+00.6
22	223 55.1	+00.8	N 09 11.7	+00.6
23	238 55.9	+00.7	N 09 12.3	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	334°	333°	333°	333°	333°	333°

Greenwich Culmination Time: 07:05

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	272 33.3	+02.2	N 01 48.6	+00.0
01	287 35.5	+02.3	N 01 48.6	+00.1
02	302 37.8	+02.3	N 01 48.7	+00.1
03	317 40.1	+02.2	N 01 48.8	+00.0
04	332 42.3	+02.3	N 01 48.8	+00.1
05	347 44.6	+02.3	N 01 48.9	+00.1
06	2 46.9	+02.3	N 01 49.0	+00.1
07	17 49.2	+02.2	N 01 49.1	+00.0
08	32 51.4	+02.3	N 01 49.1	+00.1
09	47 53.7	+02.3	N 01 49.2	+00.1
10	62 56.0	+02.2	N 01 49.3	+00.0
11	77 58.2	+02.3	N 01 49.3	+00.1
12	93 00.5	+02.3	N 01 49.4	+00.1
13	108 02.8	+02.2	N 01 49.5	+00.0
14	123 05.0	+02.3	N 01 49.5	+00.1
15	138 07.3	+02.3	N 01 49.6	+00.1
16	153 09.6	+02.3	N 01 49.7	+00.1
17	168 11.9	+02.2	N 01 49.8	+00.0
18	183 14.1	+02.3	N 01 49.8	+00.1
19	198 16.4	+02.3	N 01 49.9	+00.1
20	213 18.7	+02.2	N 01 50.0	+00.0
21	228 20.9	+02.3	N 01 50.0	+00.1
22	243 23.2	+02.3	N 01 50.1	+00.1
23	258 25.5	+02.3	N 01 50.2	+00.0

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	352°	352°	352°

Greenwich Culmination Time: 05:48

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	312 38.1	+02.5	S 14 26.1	+00.1
01	327 40.6	+02.6	S 14 26.2	+00.0
02	342 43.2	+02.6	S 14 26.2	+00.1
03	357 45.8	+02.5	S 14 26.3	+00.0
04	12 48.3	+02.6	S 14 26.3	+00.1
05	27 50.9	+02.6	S 14 26.4	+00.0
06	42 53.5	+02.5	S 14 26.4	+00.0
07	57 56.0	+02.6	S 14 26.4	+00.1
08	72 58.6	+02.5	S 14 26.5	+00.0
09	88 01.1	+02.6	S 14 26.5	+00.1
10	103 03.7	+02.6	S 14 26.6	+00.0
11	118 06.3	+02.5	S 14 26.6	+00.1
12	133 08.8	+02.6	S 14 26.7	+00.0
13	148 11.4	+02.6	S 14 26.7	+00.0
14	163 14.0	+02.5	S 14 26.7	+00.1
15	178 16.5	+02.6	S 14 26.8	+00.0
16	193 19.1	+02.6	S 14 26.8	+00.1
17	208 21.7	+02.5	S 14 26.9	+00.0
18	223 24.2	+02.6	S 14 26.9	+00.0
19	238 26.8	+02.6	S 14 26.9	+00.1
20	253 29.4	+02.5	S 14 27.0	+00.0
21	268 31.9	+02.6	S 14 27.0	+00.1
22	283 34.5	+02.6	S 14 27.1	+00.0
23	298 37.1	+02.5	S 14 27.1	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 03:08

2022 July 7 Thursday (day 188 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 46.5	−00.1	N 22 36.4	−00.3
01	193 46.4	−00.1	N 22 36.1	−00.3
02	208 46.3	−00.1	N 22 35.8	−00.2
03	223 46.2	−00.1	N 22 35.6	−00.3
04	238 46.1	−00.1	N 22 35.3	−00.3
05	253 46.0	−00.1	N 22 35.0	−00.2
06	268 45.9	−00.1	N 22 34.8	−00.3
07	283 45.8	−00.1	N 22 34.5	−00.3
08	298 45.7	−00.1	N 22 34.2	−00.2
09	313 45.6	−00.1	N 22 34.0	−00.3
10	328 45.5	−00.1	N 22 33.7	−00.3
11	343 45.4	−00.1	N 22 33.4	−00.3
12	358 45.3	−00.1	N 22 33.1	−00.2
13	13 45.2	−00.1	N 22 32.9	−00.3
14	28 45.1	−00.1	N 22 32.6	−00.3
15	43 45.0	−00.1	N 22 32.3	−00.3
16	58 44.9	−00.1	N 22 32.0	−00.2
17	73 44.8	−00.1	N 22 31.8	−00.3
18	88 44.7	−00.1	N 22 31.5	−00.3
19	103 44.6	−00.1	N 22 31.2	−00.3
20	118 44.5	−00.1	N 22 30.9	−00.2
21	133 44.4	−00.1	N 22 30.7	−00.3
22	148 44.3	−00.1	N 22 30.4	−00.3
23	163 44.2	−00.1	N 22 30.1	−00.3

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	254°	254°	253°	253°	253°	253°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	209 16.4	−00.8	N 21 38.3	+00.4
01	224 15.6	−00.7	N 21 38.7	+00.4
02	239 14.9	−00.7	N 21 39.1	+00.4
03	254 14.2	−00.8	N 21 39.5	+00.4
04	269 13.4	−00.7	N 21 39.9	+00.4
05	284 12.7	−00.7	N 21 40.3	+00.3
06	299 12.0	−00.8	N 21 40.6	+00.4
07	314 11.2	−00.7	N 21 41.0	+00.4
08	329 10.5	−00.7	N 21 41.4	+00.4
09	344 09.8	−00.8	N 21 41.8	+00.4
10	359 09.0	−00.7	N 21 42.2	+00.4
11	14 08.3	−00.7	N 21 42.6	+00.4
12	29 07.6	−00.8	N 21 43.0	+00.3
13	44 06.8	−00.7	N 21 43.3	+00.4
14	59 06.1	−00.8	N 21 43.7	+00.4
15	74 05.3	−00.7	N 21 44.1	+00.4
16	89 04.6	−00.7	N 21 44.5	+00.4
17	104 03.9	−00.8	N 21 44.9	+00.3
18	119 03.1	−00.7	N 21 45.2	+00.4
19	134 02.4	−00.8	N 21 45.6	+00.4
20	149 01.6	−00.7	N 21 46.0	+00.4
21	164 00.9	−00.7	N 21 46.4	+00.3
22	179 00.2	−00.8	N 21 46.7	+00.4
23	193 59.4	−00.7	N 21 47.1	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	284°	284°	284°	284°	283°	283°

Greenwich Culmination Time: 10:03

Moon

A: 25%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	91 04.5	−26.9	S 02 34.4	+14.8
01	105 37.6	−26.8	S 02 49.2	+14.8
02	120 10.8	−27.0	S 03 04.0	+14.8
03	134 43.8	−26.9	S 03 18.8	+14.8
04	149 16.9	−27.1	S 03 33.6	+14.8
05	163 49.8	−27.0	S 03 48.4	+14.8
06	178 22.8	−27.2	S 04 03.2	+14.8
07	192 55.6	−27.2	S 04 18.0	+14.8
08	207 28.4	−27.2	S 04 32.8	+14.8
09	222 01.2	−27.3	S 04 47.6	+14.9
10	236 33.9	−27.4	S 05 02.5	+14.8
11	251 06.5	−27.4	S 05 17.3	+14.7
12	265 39.1	−27.5	S 05 32.0	+14.8
13	280 11.6	−27.6	S 05 46.8	+14.8
14	294 44.0	−27.6	S 06 01.6	+14.8
15	309 16.4	−27.7	S 06 16.4	+14.7
16	323 48.7	−27.7	S 06 31.1	+14.8
17	338 21.0	−27.9	S 06 45.9	+14.7
18	352 53.1	−27.9	S 07 00.6	+14.8
19	7 25.2	−27.9	S 07 15.4	+14.7
20	21 57.3	−28.1	S 07 30.1	+14.7
21	36 29.2	−28.1	S 07 44.8	+14.7
22	51 01.1	−28.2	S 07 59.5	+14.6
23	65 32.9	−28.3	S 08 14.1	+14.7

UT	02	06	10	14	18	22
SD	15′6	15′6	15′6	15′7	15′7	15′8
HP	57′1	57′2	57′4	57′5	57′7	57′8
SHA	165°	163°	161°	159°	157°	155°

Greenwich Culmination Time: 18:29

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	255 13.5	+00.8	N 10 12.2	+00.6
01	270 14.3	+00.8	N 10 12.8	+00.6
02	285 15.1	+00.8	N 10 13.4	+00.6
03	300 15.9	+00.8	N 10 14.0	+00.6
04	315 16.7	+00.8	N 10 14.6	+00.6
05	330 17.5	+00.8	N 10 15.2	+00.7
06	345 18.3	+00.8	N 10 15.9	+00.6
07	0 19.1	+00.8	N 10 16.5	+00.6
08	15 19.9	+00.8	N 10 17.1	+00.6
09	30 20.7	+00.8	N 10 17.7	+00.6
10	45 21.5	+00.8	N 10 18.3	+00.6
11	60 22.3	+00.8	N 10 18.9	+00.6
12	75 23.1	+00.8	N 10 19.5	+00.6
13	90 23.9	+00.9	N 10 20.1	+00.6
14	105 24.8	+00.8	N 10 20.7	+00.6
15	120 25.6	+00.8	N 10 21.3	+00.6
16	135 26.4	+00.8	N 10 21.9	+00.6
17	150 27.2	+00.8	N 10 22.5	+00.6
18	165 28.0	+00.8	N 10 23.1	+00.6
19	180 28.8	+00.8	N 10 23.7	+00.6
20	195 29.6	+00.8	N 10 24.3	+00.6
21	210 30.4	+00.8	N 10 24.9	+00.6
22	225 31.2	+00.8	N 10 25.5	+00.6
23	240 32.0	+00.8	N 10 26.1	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	330°	330°	330°	330°	330°	330°

Greenwich Culmination Time: 06:58

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	277 07.3	+02.3	N 01 56.3	+00.0
01	292 09.6	+02.3	N 01 56.3	+00.1
02	307 11.9	+02.3	N 01 56.4	+00.1
03	322 14.2	+02.3	N 01 56.5	+00.0
04	337 16.5	+02.3	N 01 56.5	+00.1
05	352 18.8	+02.3	N 01 56.6	+00.0
06	7 21.1	+02.3	N 01 56.6	+00.1
07	22 23.4	+02.4	N 01 56.7	+00.0
08	37 25.8	+02.3	N 01 56.7	+00.1
09	52 28.1	+02.3	N 01 56.8	+00.0
10	67 30.4	+02.3	N 01 56.8	+00.1
11	82 32.7	+02.3	N 01 56.9	+00.1
12	97 35.0	+02.3	N 01 57.0	+00.0
13	112 37.3	+02.3	N 01 57.0	+00.1
14	127 39.6	+02.3	N 01 57.1	+00.0
15	142 41.9	+02.3	N 01 57.1	+00.1
16	157 44.2	+02.3	N 01 57.2	+00.0
17	172 46.5	+02.3	N 01 57.2	+00.1
18	187 48.8	+02.3	N 01 57.3	+00.0
19	202 51.1	+02.3	N 01 57.3	+00.1
20	217 53.4	+02.3	N 01 57.4	+00.1
21	232 55.7	+02.3	N 01 57.5	+00.0
22	247 58.0	+02.3	N 01 57.5	+00.1
23	263 00.3	+02.3	N 01 57.6	+00.0

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 05:30

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	317 46.6	+02.6	S 14 31.5	+00.0
01	332 49.2	+02.6	S 14 31.5	+00.1
02	347 51.8	+02.6	S 14 31.6	+00.0
03	2 54.4	+02.6	S 14 31.6	+00.1
04	17 57.0	+02.5	S 14 31.7	+00.0
05	32 59.5	+02.6	S 14 31.7	+00.0
06	48 02.1	+02.6	S 14 31.7	+00.1
07	63 04.7	+02.6	S 14 31.8	+00.0
08	78 07.3	+02.6	S 14 31.8	+00.1
09	93 09.9	+02.5	S 14 31.9	+00.0
10	108 12.4	+02.6	S 14 31.9	+00.1
11	123 15.0	+02.6	S 14 32.0	+00.0
12	138 17.6	+02.6	S 14 32.0	+00.1
13	153 20.2	+02.6	S 14 32.1	+00.0
14	168 22.8	+02.5	S 14 32.1	+00.1
15	183 25.3	+02.6	S 14 32.2	+00.0
16	198 27.9	+02.6	S 14 32.2	+00.1
17	213 30.5	+02.6	S 14 32.3	+00.0
18	228 33.1	+02.6	S 14 32.3	+00.1
19	243 35.7	+02.6	S 14 32.4	+00.0
20	258 38.3	+02.5	S 14 32.4	+00.1
21	273 40.8	+02.6	S 14 32.5	+00.0
22	288 43.4	+02.6	S 14 32.5	+00.1
23	303 46.0	+02.6	S 14 32.6	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 02:48

2022 July 4 Monday (day 185 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 54.3	−00.1	N 22 53.6	−00.2
01	193 54.2	−00.2	N 22 53.4	−00.2
02	208 54.0	−00.1	N 22 53.2	−00.3
03	223 53.9	−00.1	N 22 52.9	−00.2
04	238 53.8	−00.1	N 22 52.7	−00.2
05	253 53.7	−00.1	N 22 52.5	−00.2
06	268 53.6	−00.1	N 22 52.3	−00.2
07	283 53.5	−00.1	N 22 52.1	−00.2
08	298 53.4	−00.1	N 22 51.9	−00.3
09	313 53.3	−00.2	N 22 51.6	−00.2
10	328 53.1	−00.1	N 22 51.4	−00.2
11	343 53.0	−00.1	N 22 51.2	−00.2
12	358 52.9	−00.1	N 22 51.0	−00.3
13	13 52.8	−00.1	N 22 50.7	−00.2
14	28 52.7	−00.1	N 22 50.5	−00.2
15	43 52.6	−00.1	N 22 50.3	−00.2
16	58 52.5	−00.1	N 22 50.1	−00.3
17	73 52.4	−00.1	N 22 49.8	−00.2
18	88 52.3	−00.2	N 22 49.6	−00.2
19	103 52.1	−00.1	N 22 49.4	−00.2
20	118 52.0	−00.1	N 22 49.2	−00.3
21	133 51.9	−00.1	N 22 48.9	−00.2
22	148 51.8	−00.1	N 22 48.7	−00.2
23	163 51.7	−00.1	N 22 48.5	−00.3

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	257°	257°	256°	256°	256°	256°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	210 08.2	−00.7	N 21 07.3	+00.5
01	225 07.5	−00.7	N 21 07.8	+00.5
02	240 06.8	−00.7	N 21 08.3	+00.4
03	255 06.1	−00.7	N 21 08.7	+00.5
04	270 05.4	−00.7	N 21 09.2	+00.4
05	285 04.7	−00.7	N 21 09.6	+00.5
06	300 04.0	−00.7	N 21 10.1	+00.5
07	315 03.3	−00.7	N 21 10.6	+00.4
08	330 02.6	−00.7	N 21 11.0	+00.5
09	345 01.9	−00.8	N 21 11.5	+00.4
10	0 01.1	−00.7	N 21 11.9	+00.5
11	15 00.4	−00.7	N 21 12.4	+00.4
12	29 59.7	−00.7	N 21 12.8	+00.5
13	44 59.0	−00.7	N 21 13.3	+00.4
14	59 58.3	−00.7	N 21 13.7	+00.5
15	74 57.6	−00.7	N 21 14.2	+00.4
16	89 56.9	−00.7	N 21 14.6	+00.5
17	104 56.2	−00.8	N 21 15.1	+00.4
18	119 55.4	−00.7	N 21 15.5	+00.5
19	134 54.7	−00.7	N 21 16.0	+00.4
20	149 54.0	−00.7	N 21 16.4	+00.5
21	164 53.3	−00.7	N 21 16.9	+00.4
22	179 52.6	−00.7	N 21 17.3	+00.5
23	194 51.9	−00.7	N 21 17.8	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	288°	288°	288°	287°	287°	287°

Greenwich Culmination Time: 09:59

Moon

A: 17%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	122 28.6	−26.5	N 13 57.4	−12.1
01	137 02.1	−26.4	N 13 45.3	−12.1
02	151 35.7	−26.5	N 13 33.2	−12.3
03	166 09.2	−26.3	N 13 20.9	−12.3
04	180 42.9	−26.4	N 13 08.6	−12.3
05	195 16.5	−26.3	N 12 56.3	−12.5
06	209 50.2	−26.3	N 12 43.8	−12.5
07	224 23.9	−26.3	N 12 31.3	−12.5
08	238 57.6	−26.2	N 12 18.8	−12.6
09	253 31.4	−26.2	N 12 06.2	−12.7
10	268 05.2	−26.2	N 11 53.5	−12.7
11	282 39.0	−26.2	N 11 40.8	−12.8
12	297 12.8	−26.2	N 11 28.0	−12.8
13	311 46.6	−26.1	N 11 15.2	−12.9
14	326 20.5	−26.1	N 11 02.3	−12.9
15	340 54.4	−26.1	N 10 49.4	−13.0
16	355 28.3	−26.1	N 10 36.4	−13.1
17	10 02.2	−26.0	N 10 23.3	−13.1
18	24 36.2	−26.1	N 10 10.2	−13.2
19	39 10.1	−26.0	N 09 57.0	−13.2
20	53 44.1	−26.0	N 09 43.8	−13.2
21	68 18.1	−26.0	N 09 30.6	−13.3
22	82 52.1	−26.0	N 09 17.3	−13.4
23	97 26.1	−26.0	N 09 03.9	−13.4

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	15′1	15′1	15′1
HP	55′1	55′1	55′2	55′3	55′4	55′5
SHA	200°	198°	196°	194°	192°	190°

Greenwich Culmination Time: 16:18

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	254 15.8	+00.8	N 09 27.9	+00.7
01	269 16.6	+00.8	N 09 28.6	+00.6
02	284 17.4	+00.8	N 09 29.2	+00.6
03	299 18.2	+00.8	N 09 29.8	+00.6
04	314 19.0	+00.8	N 09 30.4	+00.6
05	329 19.8	+00.8	N 09 31.0	+00.7
06	344 20.6	+00.8	N 09 31.7	+00.6
07	359 21.4	+00.8	N 09 32.3	+00.6
08	14 22.2	+00.8	N 09 32.9	+00.6
09	29 23.0	+00.8	N 09 33.5	+00.6
10	44 23.8	+00.8	N 09 34.1	+00.7
11	59 24.6	+00.8	N 09 34.8	+00.6
12	74 25.4	+00.8	N 09 35.4	+00.6
13	89 26.2	+00.8	N 09 36.0	+00.6
14	104 27.0	+00.8	N 09 36.6	+00.6
15	119 27.8	+00.8	N 09 37.2	+00.7
16	134 28.6	+00.8	N 09 37.9	+00.6
17	149 29.4	+00.8	N 09 38.5	+00.6
18	164 30.2	+00.8	N 09 39.1	+00.6
19	179 31.0	+00.8	N 09 39.7	+00.6
20	194 31.8	+00.8	N 09 40.3	+00.7
21	209 32.6	+00.8	N 09 41.0	+00.6
22	224 33.4	+00.8	N 09 41.6	+00.6
23	239 34.2	+00.8	N 09 42.2	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	332°	332°	332°	332°	332°	332°

Greenwich Culmination Time: 07:02

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	274 22.4	+02.3	N 01 51.9	+00.0
01	289 24.7	+02.3	N 01 51.9	+00.1
02	304 27.0	+02.3	N 01 52.0	+00.1
03	319 29.3	+02.2	N 01 52.1	+00.0
04	334 31.5	+02.3	N 01 52.1	+00.1
05	349 33.8	+02.3	N 01 52.2	+00.0
06	4 36.1	+02.3	N 01 52.2	+00.1
07	19 38.4	+02.3	N 01 52.3	+00.1
08	34 40.7	+02.3	N 01 52.4	+00.0
09	49 43.0	+02.2	N 01 52.4	+00.1
10	64 45.2	+02.3	N 01 52.5	+00.1
11	79 47.5	+02.3	N 01 52.6	+00.0
12	94 49.8	+02.3	N 01 52.6	+00.1
13	109 52.1	+02.3	N 01 52.7	+00.1
14	124 54.4	+02.3	N 01 52.8	+00.0
15	139 56.7	+02.2	N 01 52.8	+00.1
16	154 58.9	+02.3	N 01 52.9	+00.1
17	170 01.2	+02.3	N 01 53.0	+00.0
18	185 03.5	+02.3	N 01 53.0	+00.1
19	200 05.8	+02.3	N 01 53.1	+00.0
20	215 08.1	+02.3	N 01 53.1	+00.1
21	230 10.4	+02.3	N 01 53.2	+00.1
22	245 12.7	+02.2	N 01 53.3	+00.0
23	260 14.9	+02.3	N 01 53.3	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 05:41

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	314 41.3	+02.5	S 14 28.2	+00.0
01	329 43.8	+02.6	S 14 28.2	+00.1
02	344 46.4	+02.6	S 14 28.3	+00.0
03	359 49.0	+02.5	S 14 28.3	+00.1
04	14 51.5	+02.6	S 14 28.4	+00.0
05	29 54.1	+02.6	S 14 28.4	+00.1
06	44 56.7	+02.6	S 14 28.5	+00.0
07	59 59.3	+02.5	S 14 28.5	+00.1
08	75 01.8	+02.6	S 14 28.6	+00.0
09	90 04.4	+02.6	S 14 28.6	+00.0
10	105 07.0	+02.5	S 14 28.6	+00.1
11	120 09.5	+02.6	S 14 28.7	+00.0
12	135 12.1	+02.6	S 14 28.7	+00.1
13	150 14.7	+02.6	S 14 28.8	+00.0
14	165 17.3	+02.5	S 14 28.8	+00.1
15	180 19.8	+02.6	S 14 28.9	+00.0
16	195 22.4	+02.6	S 14 28.9	+00.1
17	210 25.0	+02.5	S 14 29.0	+00.0
18	225 27.5	+02.6	S 14 29.0	+00.0
19	240 30.1	+02.6	S 14 29.0	+00.1
20	255 32.7	+02.6	S 14 29.1	+00.0
21	270 35.3	+02.5	S 14 29.1	+00.1
22	285 37.8	+02.6	S 14 29.2	+00.0
23	300 40.4	+02.6	S 14 29.2	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 03:00

2022 July 5 Tuesday (day 186 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 51.6	−00.1	N 22 48.2	−00.2
01	193 51.5	−00.1	N 22 48.0	−00.2
02	208 51.4	−00.1	N 22 47.8	−00.3
03	223 51.3	−00.1	N 22 47.5	−00.2
04	238 51.2	−00.1	N 22 47.3	−00.2
05	253 51.1	−00.2	N 22 47.1	−00.3
06	268 50.9	−00.1	N 22 46.8	−00.2
07	283 50.8	−00.1	N 22 46.6	−00.2
08	298 50.7	−00.1	N 22 46.4	−00.3
09	313 50.6	−00.1	N 22 46.1	−00.2
10	328 50.5	−00.1	N 22 45.9	−00.2
11	343 50.4	−00.1	N 22 45.7	−00.3
12	358 50.3	−00.1	N 22 45.4	−00.2
13	13 50.2	−00.1	N 22 45.2	−00.3
14	28 50.1	−00.1	N 22 44.9	−00.2
15	43 50.0	−00.1	N 22 44.7	−00.2
16	58 49.9	−00.1	N 22 44.5	−00.3
17	73 49.8	−00.2	N 22 44.2	−00.2
18	88 49.6	−00.1	N 22 44.0	−00.3
19	103 49.5	−00.1	N 22 43.7	−00.2
20	118 49.4	−00.1	N 22 43.5	−00.3
21	133 49.3	−00.1	N 22 43.2	−00.2
22	148 49.2	−00.1	N 22 43.0	−00.3
23	163 49.1	−00.1	N 22 42.7	−00.2

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	256°	256°	255°	255°	255°	255°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	209 51.2	−00.8	N 21 18.2	+00.5
01	224 50.4	−00.7	N 21 18.7	+00.4
02	239 49.7	−00.7	N 21 19.1	+00.4
03	254 49.0	−00.7	N 21 19.5	+00.5
04	269 48.3	−00.7	N 21 20.0	+00.4
05	284 47.6	−00.7	N 21 20.4	+00.5
06	299 46.9	−00.8	N 21 20.9	+00.4
07	314 46.1	−00.7	N 21 21.3	+00.4
08	329 45.4	−00.7	N 21 21.7	+00.5
09	344 44.7	−00.7	N 21 22.2	+00.4
10	359 44.0	−00.7	N 21 22.6	+00.4
11	14 43.3	−00.8	N 21 23.0	+00.5
12	29 42.5	−00.7	N 21 23.5	+00.4
13	44 41.8	−00.7	N 21 23.9	+00.4
14	59 41.1	−00.7	N 21 24.3	+00.4
15	74 40.4	−00.7	N 21 24.7	+00.5
16	89 39.7	−00.8	N 21 25.2	+00.4
17	104 38.9	−00.7	N 21 25.6	+00.4
18	119 38.2	−00.7	N 21 26.0	+00.4
19	134 37.5	−00.7	N 21 26.4	+00.5
20	149 36.8	−00.7	N 21 26.9	+00.4
21	164 36.1	−00.8	N 21 27.3	+00.4
22	179 35.3	−00.7	N 21 27.7	+00.4
23	194 34.6	−00.7	N 21 28.1	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	287°	287°	286°	286°	286°	286°

Greenwich Culmination Time: 10:01

Moon

A: 20%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	112 00.1	−26.0	N 08 50.5	−13.5
01	126 34.1	−25.9	N 08 37.0	−13.5
02	141 08.2	−26.0	N 08 23.5	−13.5
03	155 42.2	−25.9	N 08 10.0	−13.6
04	170 16.3	−26.0	N 07 56.4	−13.6
05	184 50.3	−25.9	N 07 42.8	−13.7
06	199 24.4	−26.0	N 07 29.1	−13.7
07	213 58.4	−25.9	N 07 15.4	−13.8
08	228 32.5	−25.9	N 07 01.6	−13.8
09	243 06.6	−25.9	N 06 47.8	−13.9
10	257 40.7	−26.0	N 06 33.9	−13.9
11	272 14.7	−25.9	N 06 20.0	−13.9
12	286 48.8	−25.9	N 06 06.1	−14.0
13	301 22.9	−26.0	N 05 52.1	−14.0
14	315 56.9	−25.9	N 05 38.1	−14.0
15	330 31.0	−26.0	N 05 24.1	−14.1
16	345 05.0	−25.9	N 05 10.0	−14.1
17	359 39.1	−26.0	N 04 55.9	−14.1
18	14 13.1	−25.9	N 04 41.8	−14.2
19	28 47.2	−26.0	N 04 27.6	−14.2
20	43 21.2	−26.0	N 04 13.4	−14.3
21	57 55.2	−26.0	N 03 59.1	−14.2
22	72 29.2	−26.0	N 03 44.9	−14.3
23	87 03.2	−26.1	N 03 30.6	−14.4

UT	02	06	10	14	18	22
SD	15′2	15′2	15′2	15′2	15′3	15′3
HP	55′6	55′7	55′8	56′0	56′1	56′2
SHA	188°	186°	184°	182°	181°	179°

Greenwich Culmination Time: 17:01

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	254 35.0	+00.8	N 09 42.8	+00.6
01	269 35.8	+00.8	N 09 43.4	+00.6
02	284 36.6	+00.8	N 09 44.0	+00.7
03	299 37.4	+00.8	N 09 44.7	+00.6
04	314 38.2	+00.8	N 09 45.3	+00.6
05	329 39.0	+00.8	N 09 45.9	+00.6
06	344 39.8	+00.8	N 09 46.5	+00.6
07	359 40.6	+00.8	N 09 47.1	+00.6
08	14 41.4	+00.8	N 09 47.7	+00.7
09	29 42.2	+00.8	N 09 48.4	+00.6
10	44 43.0	+00.8	N 09 49.0	+00.6
11	59 43.8	+00.8	N 09 49.6	+00.6
12	74 44.6	+00.8	N 09 50.2	+00.6
13	89 45.4	+00.8	N 09 50.8	+00.6
14	104 46.2	+00.8	N 09 51.4	+00.6
15	119 47.0	+00.8	N 09 52.0	+00.7
16	134 47.8	+00.8	N 09 52.7	+00.6
17	149 48.6	+00.8	N 09 53.3	+00.6
18	164 49.4	+00.8	N 09 53.9	+00.6
19	179 50.2	+00.8	N 09 54.5	+00.6
20	194 51.0	+00.8	N 09 55.1	+00.6
21	209 51.8	+00.8	N 09 55.7	+00.6
22	224 52.6	+00.8	N 09 56.3	+00.7
23	239 53.4	+00.8	N 09 57.0	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	332°	331°	331°	331°	331°	331°

Greenwich Culmination Time: 07:01

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	275 17.2	+02.3	N 01 53.4	+00.1
01	290 19.5	+02.3	N 01 53.5	+00.0
02	305 21.8	+02.3	N 01 53.5	+00.1
03	320 24.1	+02.3	N 01 53.6	+00.1
04	335 26.4	+02.3	N 01 53.7	+00.0
05	350 28.7	+02.3	N 01 53.7	+00.1
06	5 31.0	+02.2	N 01 53.8	+00.0
07	20 33.2	+02.3	N 01 53.8	+00.1
08	35 35.5	+02.3	N 01 53.9	+00.1
09	50 37.8	+02.3	N 01 54.0	+00.0
10	65 40.1	+02.3	N 01 54.0	+00.1
11	80 42.4	+02.3	N 01 54.1	+00.0
12	95 44.7	+02.3	N 01 54.1	+00.1
13	110 47.0	+02.3	N 01 54.2	+00.1
14	125 49.3	+02.3	N 01 54.3	+00.0
15	140 51.6	+02.3	N 01 54.3	+00.1
16	155 53.9	+02.3	N 01 54.4	+00.1
17	170 56.2	+02.2	N 01 54.5	+00.0
18	185 58.4	+02.3	N 01 54.5	+00.1
19	201 00.7	+02.3	N 01 54.6	+00.0
20	216 03.0	+02.3	N 01 54.6	+00.1
21	231 05.3	+02.3	N 01 54.7	+00.1
22	246 07.6	+02.3	N 01 54.8	+00.0
23	261 09.9	+02.3	N 01 54.8	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 05:37

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	315 43.0	+02.6	S 14 29.3	+00.0
01	330 45.6	+02.5	S 14 29.3	+00.1
02	345 48.1	+02.6	S 14 29.4	+00.0
03	0 50.7	+02.6	S 14 29.4	+00.0
04	15 53.3	+02.5	S 14 29.4	+00.1
05	30 55.8	+02.6	S 14 29.5	+00.0
06	45 58.4	+02.6	S 14 29.5	+00.1
07	61 01.0	+02.6	S 14 29.6	+00.0
08	76 03.6	+02.5	S 14 29.6	+00.1
09	91 06.1	+02.6	S 14 29.7	+00.0
10	106 08.7	+02.6	S 14 29.7	+00.1
11	121 11.3	+02.6	S 14 29.8	+00.0
12	136 13.9	+02.5	S 14 29.8	+00.1
13	151 16.4	+02.6	S 14 29.9	+00.0
14	166 19.0	+02.6	S 14 29.9	+00.0
15	181 21.6	+02.6	S 14 29.9	+00.1
16	196 24.2	+02.5	S 14 30.0	+00.0
17	211 26.7	+02.6	S 14 30.0	+00.1
18	226 29.3	+02.6	S 14 30.1	+00.0
19	241 31.9	+02.6	S 14 30.1	+00.1
20	256 34.5	+02.5	S 14 30.2	+00.0
21	271 37.0	+02.6	S 14 30.2	+00.1
22	286 39.6	+02.6	S 14 30.3	+00.0
23	301 42.2	+02.6	S 14 30.3	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 02:56

2022 July 6 Wednesday (day 187 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 49.0	−00.1	N 22 42.5	−00.2
01	193 48.9	−00.1	N 22 42.3	−00.3
02	208 48.8	−00.1	N 22 42.0	−00.2
03	223 48.7	−00.1	N 22 41.8	−00.3
04	238 48.6	−00.1	N 22 41.5	−00.2
05	253 48.5	−00.1	N 22 41.3	−00.3
06	268 48.4	−00.1	N 22 41.0	−00.3
07	283 48.3	−00.1	N 22 40.7	−00.2
08	298 48.2	−00.1	N 22 40.5	−00.3
09	313 48.1	−00.1	N 22 40.2	−00.2
10	328 48.0	−00.1	N 22 40.0	−00.3
11	343 47.9	−00.1	N 22 39.7	−00.2
12	358 47.8	−00.2	N 22 39.5	−00.3
13	13 47.6	−00.1	N 22 39.2	−00.2
14	28 47.5	−00.1	N 22 39.0	−00.3
15	43 47.4	−00.1	N 22 38.7	−00.3
16	58 47.3	−00.1	N 22 38.4	−00.2
17	73 47.2	−00.1	N 22 38.2	−00.3
18	88 47.1	−00.1	N 22 37.9	−00.2
19	103 47.0	−00.1	N 22 37.7	−00.3
20	118 46.9	−00.1	N 22 37.4	−00.3
21	133 46.8	−00.1	N 22 37.1	−00.2
22	148 46.7	−00.1	N 22 36.9	−00.3
23	163 46.6	−00.1	N 22 36.6	−00.2

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	255°	255°	254°	254°	254°	254°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	209 33.9	−00.7	N 21 28.5	+00.5
01	224 33.2	−00.8	N 21 29.0	+00.4
02	239 32.4	−00.7	N 21 29.4	+00.4
03	254 31.7	−00.7	N 21 29.8	+00.4
04	269 31.0	−00.7	N 21 30.2	+00.4
05	284 30.3	−00.8	N 21 30.6	+00.4
06	299 29.5	−00.7	N 21 31.0	+00.4
07	314 28.8	−00.7	N 21 31.4	+00.5
08	329 28.1	−00.8	N 21 31.9	+00.4
09	344 27.3	−00.7	N 21 32.3	+00.4
10	359 26.6	−00.7	N 21 32.7	+00.4
11	14 25.9	−00.7	N 21 33.1	+00.4
12	29 25.2	−00.8	N 21 33.5	+00.4
13	44 24.4	−00.7	N 21 33.9	+00.4
14	59 23.7	−00.7	N 21 34.3	+00.4
15	74 23.0	−00.8	N 21 34.7	+00.4
16	89 22.2	−00.7	N 21 35.1	+00.4
17	104 21.5	−00.7	N 21 35.5	+00.4
18	119 20.8	−00.8	N 21 35.9	+00.4
19	134 20.0	−00.7	N 21 36.3	+00.4
20	149 19.3	−00.7	N 21 36.7	+00.4
21	164 18.6	−00.8	N 21 37.1	+00.4
22	179 17.8	−00.7	N 21 37.5	+00.4
23	194 17.1	−00.7	N 21 37.9	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	286°	285°	285°	285°	285°	284°

Greenwich Culmination Time: 10:02

Moon

A: 22%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	101 37.1	−26.0	N 03 16.2	−14.3
01	116 11.1	−26.1	N 03 01.9	−14.4
02	130 45.0	−26.1	N 02 47.5	−14.4
03	145 18.9	−26.1	N 02 33.1	−14.5
04	159 52.8	−26.1	N 02 18.6	−14.5
05	174 26.7	−26.2	N 02 04.1	−14.5
06	189 00.5	−26.2	N 01 49.6	−14.5
07	203 34.3	−26.2	N 01 35.1	−14.5
08	218 08.1	−26.2	N 01 20.6	−14.6
09	232 41.9	−26.3	N 01 06.0	−14.6
10	247 15.6	−26.2	N 00 51.4	−14.6
11	261 49.4	−26.4	N 00 36.8	−14.6
12	276 23.0	−26.3	N 00 22.2	−14.6
13	290 56.7	−26.4	N 00 07.6	−14.7
14	305 30.3	−26.4	S 00 07.1	+14.7
15	320 03.9	−26.4	S 00 21.8	+14.7
16	334 37.5	−26.5	S 00 36.5	+14.7
17	349 11.0	−26.5	S 00 51.2	+14.7
18	3 44.5	−26.6	S 01 05.9	+14.7
19	18 17.9	−26.6	S 01 20.6	+14.8
20	32 51.3	−26.7	S 01 35.4	+14.7
21	47 24.6	−26.6	S 01 50.1	+14.8
22	61 58.0	−26.8	S 02 04.9	+14.8
23	76 31.2	−26.7	S 02 19.7	+14.7

UT	02	06	10	14	18	22
SD	15′3	15′4	15′4	15′4	15′5	15′5
HP	56′3	56′4	56′6	56′7	56′8	57′0
SHA	177°	175°	173°	171°	169°	167°

Greenwich Culmination Time: 17:44

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	254 54.2	+00.8	N 09 57.6	+00.6
01	269 55.0	+00.8	N 09 58.2	+00.6
02	284 55.8	+00.8	N 09 58.8	+00.6
03	299 56.6	+00.8	N 09 59.4	+00.6
04	314 57.4	+00.8	N 10 00.0	+00.6
05	329 58.2	+00.8	N 10 00.6	+00.6
06	344 59.0	+00.9	N 10 01.2	+00.6
07	359 59.9	+00.8	N 10 01.8	+00.7
08	15 00.7	+00.8	N 10 02.5	+00.6
09	30 01.5	+00.8	N 10 03.1	+00.6
10	45 02.3	+00.8	N 10 03.7	+00.6
11	60 03.1	+00.8	N 10 04.3	+00.6
12	75 03.9	+00.8	N 10 04.9	+00.6
13	90 04.7	+00.8	N 10 05.5	+00.6
14	105 05.5	+00.8	N 10 06.1	+00.6
15	120 06.3	+00.8	N 10 06.7	+00.6
16	135 07.1	+00.8	N 10 07.3	+00.7
17	150 07.9	+00.8	N 10 08.0	+00.6
18	165 08.7	+00.8	N 10 08.6	+00.6
19	180 09.5	+00.8	N 10 09.2	+00.6
20	195 10.3	+00.8	N 10 09.8	+00.6
21	210 11.1	+00.8	N 10 10.4	+00.6
22	225 11.9	+00.8	N 10 11.0	+00.6
23	240 12.7	+00.8	N 10 11.6	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	331°	331°	331°	331°	330°	330°

Greenwich Culmination Time: 07:00

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	276 12.2	+02.3	N 01 54.9	+00.0
01	291 14.5	+02.3	N 01 54.9	+00.1
02	306 16.8	+02.3	N 01 55.0	+00.1
03	321 19.1	+02.3	N 01 55.1	+00.0
04	336 21.4	+02.3	N 01 55.1	+00.1
05	351 23.7	+02.3	N 01 55.2	+00.0
06	6 26.0	+02.3	N 01 55.2	+00.1
07	21 28.3	+02.3	N 01 55.3	+00.1
08	36 30.6	+02.3	N 01 55.4	+00.0
09	51 32.9	+02.3	N 01 55.4	+00.1
10	66 35.2	+02.3	N 01 55.5	+00.0
11	81 37.5	+02.3	N 01 55.5	+00.1
12	96 39.8	+02.2	N 01 55.6	+00.0
13	111 42.0	+02.3	N 01 55.6	+00.1
14	126 44.3	+02.3	N 01 55.7	+00.1
15	141 46.6	+02.3	N 01 55.8	+00.0
16	156 48.9	+02.3	N 01 55.8	+00.1
17	171 51.2	+02.3	N 01 55.9	+00.0
18	186 53.5	+02.3	N 01 55.9	+00.1
19	201 55.8	+02.3	N 01 56.0	+00.1
20	216 58.1	+02.3	N 01 56.1	+00.0
21	232 00.4	+02.3	N 01 56.1	+00.1
22	247 02.7	+02.3	N 01 56.2	+00.0
23	262 05.0	+02.3	N 01 56.2	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 05:34

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	316 44.8	+02.6	S 14 30.4	+00.0
01	331 47.4	+02.5	S 14 30.4	+00.0
02	346 49.9	+02.6	S 14 30.4	+00.1
03	1 52.5	+02.6	S 14 30.5	+00.0
04	16 55.1	+02.6	S 14 30.5	+00.1
05	31 57.7	+02.5	S 14 30.6	+00.0
06	47 00.2	+02.6	S 14 30.6	+00.1
07	62 02.8	+02.6	S 14 30.7	+00.0
08	77 05.4	+02.6	S 14 30.7	+00.1
09	92 08.0	+02.5	S 14 30.8	+00.0
10	107 10.5	+02.6	S 14 30.8	+00.1
11	122 13.1	+02.6	S 14 30.9	+00.0
12	137 15.7	+02.6	S 14 30.9	+00.1
13	152 18.3	+02.6	S 14 31.0	+00.0
14	167 20.9	+02.5	S 14 31.0	+00.0
15	182 23.4	+02.6	S 14 31.0	+00.1
16	197 26.0	+02.6	S 14 31.1	+00.0
17	212 28.6	+02.6	S 14 31.1	+00.1
18	227 31.2	+02.5	S 14 31.2	+00.0
19	242 33.7	+02.6	S 14 31.2	+00.1
20	257 36.3	+02.6	S 14 31.3	+00.0
21	272 38.9	+02.6	S 14 31.3	+00.1
22	287 41.5	+02.6	S 14 31.4	+00.0
23	302 44.1	+02.5	S 14 31.4	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 02:52

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 July 11 Monday (day 192 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 37.6	-00.1	N 22 07.9	-00.3
01	193 37.5	-00.1	N 22 07.6	-00.4
02	208 37.4	-00.1	N 22 07.2	-00.3
03	223 37.3	-00.1	N 22 06.9	-00.3
04	238 37.2	+00.0	N 22 06.6	-00.3
05	253 37.2	-00.1	N 22 06.3	-00.4
06	268 37.1	-00.1	N 22 05.9	-00.3
07	283 37.0	-00.1	N 22 05.6	-00.3
08	298 36.9	-00.1	N 22 05.3	-00.4
09	313 36.8	+00.0	N 22 04.9	-00.3
10	328 36.8	-00.1	N 22 04.6	-00.3
11	343 36.7	-00.1	N 22 04.3	-00.4
12	358 36.6	-00.1	N 22 03.9	-00.3
13	13 36.5	-00.1	N 22 03.6	-00.4
14	28 36.4	-00.1	N 22 03.2	-00.3
15	43 36.3	+00.0	N 22 02.9	-00.3
16	58 36.3	-00.1	N 22 02.6	-00.4
17	73 36.2	-00.1	N 22 02.2	-00.3
18	88 36.1	-00.1	N 22 01.9	-00.3
19	103 36.0	-00.1	N 22 01.6	-00.4
20	118 35.9	+00.0	N 22 01.2	-00.3
21	133 35.9	-00.1	N 22 00.9	-00.4
22	148 35.8	-00.1	N 22 00.5	-00.3
23	163 35.7	-00.1	N 22 00.2	-00.4

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	250°	249°	249°	249°	249°	249°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	208 04.4	-00.8	N 22 11.5	+00.2
01	223 03.6	-00.7	N 22 11.7	+00.3
02	238 02.9	-00.8	N 22 12.0	+00.3
03	253 02.1	-00.8	N 22 12.3	+00.3
04	268 01.3	-00.7	N 22 12.6	+00.3
05	283 00.6	-00.8	N 22 12.9	+00.3
06	297 59.8	-00.8	N 22 13.2	+00.3
07	312 59.0	-00.7	N 22 13.5	+00.3
08	327 58.3	-00.8	N 22 13.8	+00.3
09	342 57.5	-00.8	N 22 14.1	+00.3
10	357 56.7	-00.7	N 22 14.4	+00.2
11	12 56.0	-00.8	N 22 14.6	+00.3
12	27 55.2	-00.8	N 22 14.9	+00.3
13	42 54.4	-00.7	N 22 15.2	+00.3
14	57 53.7	-00.8	N 22 15.5	+00.3
15	72 52.9	-00.8	N 22 15.8	+00.2
16	87 52.1	-00.8	N 22 16.0	+00.3
17	102 51.3	-00.7	N 22 16.3	+00.3
18	117 50.6	-00.8	N 22 16.6	+00.3
19	132 49.8	-00.8	N 22 16.9	+00.2
20	147 49.0	-00.7	N 22 17.1	+00.3
21	162 48.3	-00.8	N 22 17.4	+00.3
22	177 47.5	-00.8	N 22 17.7	+00.3
23	192 46.7	-00.8	N 22 18.0	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	279°	279°	279°	278°	278°	278°

Greenwich Culmination Time: 10:08

Moon

A: 40%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	41 25.7	-36.8	S 23 27.5	+08.6
01	55 48.9	-36.9	S 23 36.1	+08.5
02	70 12.0	-37.0	S 23 44.6	+08.3
03	84 35.0	-37.2	S 23 52.9	+08.1
04	98 57.8	-37.2	S 24 01.0	+08.0
05	113 20.6	-37.4	S 24 09.0	+07.8
06	127 43.2	-37.5	S 24 16.8	+07.7
07	142 05.7	-37.7	S 24 24.5	+07.5
08	156 28.0	-37.7	S 24 32.0	+07.3
09	170 50.3	-37.9	S 24 39.3	+07.1
10	185 12.4	-37.9	S 24 46.4	+07.0
11	199 34.5	-38.1	S 24 53.4	+06.8
12	213 56.4	-38.2	S 25 00.2	+06.6
13	228 18.2	-38.3	S 25 06.8	+06.4
14	242 39.9	-38.4	S 25 13.2	+06.3
15	257 01.5	-38.5	S 25 19.5	+06.0
16	271 23.0	-38.6	S 25 25.5	+05.9
17	285 44.4	-38.7	S 25 31.4	+05.7
18	300 05.7	-38.8	S 25 37.1	+05.5
19	314 26.9	-38.9	S 25 42.6	+05.3
20	328 48.0	-39.0	S 25 47.9	+05.2
21	343 09.0	-39.0	S 25 53.1	+04.9
22	357 30.0	-39.2	S 25 58.0	+04.7
23	11 50.8	-39.2	S 26 02.7	+04.6

UT	02	06	10	14	18	22
SD	16′5	16′5	16′5	16′6	16′6	16′6
HP	60′5	60′6	60′7	60′8	60′9	61′0
SHA	111°	109°	106°	103°	100°	098°

Greenwich Culmination Time: 22:10

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	256 30.9	+00.8	N 11 09.6	+00.6
01	271 31.7	+00.8	N 11 10.2	+00.6
02	286 32.5	+00.8	N 11 10.8	+00.5
03	301 33.3	+00.8	N 11 11.3	+00.6
04	316 34.1	+00.8	N 11 11.9	+00.6
05	331 34.9	+00.9	N 11 12.5	+00.6
06	346 35.8	+00.8	N 11 13.1	+00.6
07	1 36.6	+00.8	N 11 13.7	+00.6
08	16 37.4	+00.8	N 11 14.3	+00.6
09	31 38.2	+00.8	N 11 14.9	+00.5
10	46 39.0	+00.8	N 11 15.4	+00.6
11	61 39.8	+00.8	N 11 16.0	+00.6
12	76 40.6	+00.8	N 11 16.6	+00.6
13	91 41.4	+00.8	N 11 17.2	+00.6
14	106 42.2	+00.8	N 11 17.8	+00.6
15	121 43.0	+00.9	N 11 18.4	+00.6
16	136 43.9	+00.8	N 11 19.0	+00.5
17	151 44.7	+00.8	N 11 19.5	+00.6
18	166 45.5	+00.8	N 11 20.1	+00.6
19	181 46.3	+00.8	N 11 20.7	+00.6
20	196 47.1	+00.8	N 11 21.3	+00.6
21	211 47.9	+00.8	N 11 21.9	+00.6
22	226 48.7	+00.8	N 11 22.5	+00.5
23	241 49.5	+00.8	N 11 23.0	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	328°	327°	327°	327°	327°	327°

Greenwich Culmination Time: 06:53

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	280 49.5	+02.3	N 02 01.2	+00.0
01	295 51.8	+02.4	N 02 01.2	+00.1
02	310 54.2	+02.3	N 02 01.3	+00.0
03	325 56.5	+02.3	N 02 01.3	+00.1
04	340 58.8	+02.4	N 02 01.4	+00.0
05	356 01.2	+02.3	N 02 01.4	+00.1
06	11 03.5	+02.3	N 02 01.5	+00.0
07	26 05.8	+02.3	N 02 01.5	+00.0
08	41 08.1	+02.4	N 02 01.5	+00.1
09	56 10.5	+02.3	N 02 01.6	+00.0
10	71 12.8	+02.3	N 02 01.6	+00.1
11	86 15.1	+02.4	N 02 01.7	+00.0
12	101 17.5	+02.3	N 02 01.7	+00.1
13	116 19.8	+02.3	N 02 01.8	+00.0
14	131 22.1	+02.4	N 02 01.8	+00.0
15	146 24.5	+02.3	N 02 01.8	+00.1
16	161 26.8	+02.3	N 02 01.9	+00.0
17	176 29.1	+02.4	N 02 01.9	+00.1
18	191 31.5	+02.3	N 02 02.0	+00.0
19	206 33.8	+02.3	N 02 02.0	+00.1
20	221 36.1	+02.4	N 02 02.1	+00.0
21	236 38.5	+02.3	N 02 02.1	+00.0
22	251 40.8	+02.3	N 02 02.1	+00.1
23	266 43.1	+02.4	N 02 02.2	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 05:15

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	321 54.8	+02.6	S 14 36.1	+00.1
01	336 57.4	+02.6	S 14 36.2	+00.0
02	352 00.0	+02.6	S 14 36.2	+00.1
03	7 02.6	+02.6	S 14 36.3	+00.0
04	22 05.2	+02.6	S 14 36.3	+00.1
05	37 07.8	+02.6	S 14 36.4	+00.0
06	52 10.4	+02.6	S 14 36.4	+00.1
07	67 13.0	+02.6	S 14 36.5	+00.0
08	82 15.6	+02.6	S 14 36.5	+00.1
09	97 18.2	+02.6	S 14 36.6	+00.0
10	112 20.8	+02.6	S 14 36.6	+00.1
11	127 23.4	+02.6	S 14 36.7	+00.0
12	142 26.0	+02.5	S 14 36.7	+00.1
13	157 28.5	+02.6	S 14 36.8	+00.0
14	172 31.1	+02.6	S 14 36.8	+00.1
15	187 33.7	+02.6	S 14 36.9	+00.1
16	202 36.3	+02.6	S 14 37.0	+00.0
17	217 38.9	+02.6	S 14 37.0	+00.1
18	232 41.5	+02.6	S 14 37.1	+00.0
19	247 44.1	+02.6	S 14 37.1	+00.1
20	262 46.7	+02.6	S 14 37.2	+00.0
21	277 49.3	+02.6	S 14 37.2	+00.1
22	292 51.9	+02.6	S 14 37.3	+00.0
23	307 54.5	+02.6	S 14 37.3	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 02:31

2022 July 8 Friday (day 189 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 44.1	-00.1	N 22 29.8	-00.3
01	193 44.0	-00.1	N 22 29.5	-00.2
02	208 43.9	-00.1	N 22 29.3	-00.3
03	223 43.8	-00.1	N 22 29.0	-00.3
04	238 43.7	-00.1	N 22 28.7	-00.3
05	253 43.6	-00.1	N 22 28.4	-00.3
06	268 43.5	-00.1	N 22 28.1	-00.3
07	283 43.4	+00.0	N 22 27.8	-00.2
08	298 43.4	-00.1	N 22 27.6	-00.3
09	313 43.3	-00.1	N 22 27.3	-00.3
10	328 43.2	-00.1	N 22 27.0	-00.3
11	343 43.1	-00.1	N 22 26.7	-00.3
12	358 43.0	-00.1	N 22 26.4	-00.3
13	13 42.9	-00.1	N 22 26.1	-00.3
14	28 42.8	-00.1	N 22 25.8	-00.3
15	43 42.7	-00.1	N 22 25.5	-00.2
16	58 42.6	-00.1	N 22 25.3	-00.3
17	73 42.5	-00.1	N 22 25.0	-00.3
18	88 42.4	-00.1	N 22 24.7	-00.3
19	103 42.3	-00.1	N 22 24.4	-00.3
20	118 42.2	-00.1	N 22 24.1	-00.3
21	133 42.1	-00.1	N 22 23.8	-00.3
22	148 42.0	-00.1	N 22 23.5	-00.3
23	163 41.9	-00.1	N 22 23.2	-00.3

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	253°	253°	252°	252°	252°	252°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	208 58.7	-00.8	N 21 47.5	+00.3
01	223 57.9	-00.7	N 21 47.8	+00.4
02	238 57.2	-00.7	N 21 48.2	+00.4
03	253 56.5	-00.8	N 21 48.6	+00.3
04	268 55.7	-00.7	N 21 48.9	+00.4
05	283 55.0	-00.8	N 21 49.3	+00.4
06	298 54.2	-00.7	N 21 49.7	+00.3
07	313 53.5	-00.8	N 21 50.0	+00.4
08	328 52.7	-00.7	N 21 50.4	+00.4
09	343 52.0	-00.8	N 21 50.8	+00.3
10	358 51.2	-00.7	N 21 51.1	+00.4
11	13 50.5	-00.8	N 21 51.5	+00.3
12	28 49.7	-00.7	N 21 51.8	+00.4
13	43 49.0	-00.7	N 21 52.2	+00.4
14	58 48.3	-00.8	N 21 52.6	+00.3
15	73 47.5	-00.7	N 21 52.9	+00.4
16	88 46.8	-00.8	N 21 53.3	+00.3
17	103 46.0	-00.7	N 21 53.6	+00.4
18	118 45.3	-00.8	N 21 54.0	+00.3
19	133 44.5	-00.7	N 21 54.3	+00.4
20	148 43.8	-00.8	N 21 54.7	+00.3
21	163 43.0	-00.7	N 21 55.0	+00.4
22	178 42.3	-00.8	N 21 55.4	+00.3
23	193 41.5	-00.7	N 21 55.7	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	283°	283°	283°	282°	282°	282°

Greenwich Culmination Time: 10:04

Moon

A: 29%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	80 04.6	-28.4	S 08 28.8	+14.6
01	94 36.2	-28.4	S 08 43.4	+14.6
02	109 07.8	-28.5	S 08 58.0	+14.6
03	123 39.3	-28.6	S 09 12.6	+14.5
04	138 10.7	-28.7	S 09 27.1	+14.5
05	152 42.0	-28.8	S 09 41.6	+14.5
06	167 13.2	-28.9	S 09 56.1	+14.5
07	181 44.3	-28.9	S 10 10.6	+14.4
08	196 15.4	-29.1	S 10 25.0	+14.4
09	210 46.3	-29.1	S 10 39.4	+14.4
10	225 17.2	-29.3	S 10 53.8	+14.3
11	239 47.9	-29.3	S 11 08.1	+14.3
12	254 18.6	-29.4	S 11 22.4	+14.3
13	268 49.2	-29.5	S 11 36.7	+14.2
14	283 19.7	-29.7	S 11 50.9	+14.2
15	297 50.0	-29.7	S 12 05.1	+14.1
16	312 20.3	-29.8	S 12 19.2	+14.1
17	326 50.5	-29.9	S 12 33.3	+14.1
18	341 20.6	-30.1	S 12 47.4	+14.0
19	355 50.5	-30.1	S 13 01.4	+13.9
20	10 20.4	-30.2	S 13 15.3	+13.9
21	24 50.2	-30.4	S 13 29.2	+13.9
22	39 19.8	-30.4	S 13 43.1	+13.8
23	53 49.4	-30.6	S 13 56.9	+13.7

UT	02	06	10	14	18	22
SD	15′8	15′8	15′9	15′9	16′0	16′0
HP	58′0	58′1	58′3	58′4	58′6	58′7
SHA	153°	151°	149°	147°	145°	142°

Greenwich Culmination Time: 19:17

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	255 32.8	+00.8	N 10 26.7	+00.6
01	270 33.6	+00.8	N 10 27.3	+00.6
02	285 34.4	+00.8	N 10 27.9	+00.6
03	300 35.2	+00.8	N 10 28.5	+00.6
04	315 36.0	+00.8	N 10 29.1	+00.6
05	330 36.8	+00.8	N 10 29.7	+00.6
06	345 37.6	+00.8	N 10 30.3	+00.6
07	0 38.4	+00.8	N 10 30.9	+00.6
08	15 39.2	+00.8	N 10 31.5	+00.6
09	30 40.0	+00.8	N 10 32.1	+00.7
10	45 40.8	+00.9	N 10 32.8	+00.6
11	60 41.7	+00.8	N 10 33.4	+00.6
12	75 42.5	+00.8	N 10 34.0	+00.6
13	90 43.3	+00.8	N 10 34.6	+00.6
14	105 44.1	+00.8	N 10 35.2	+00.6
15	120 44.9	+00.8	N 10 35.8	+00.5
16	135 45.7	+00.8	N 10 36.3	+00.6
17	150 46.5	+00.8	N 10 36.9	+00.6
18	165 47.3	+00.8	N 10 37.5	+00.6
19	180 48.1	+00.8	N 10 38.1	+00.6
20	195 48.9	+00.8	N 10 38.7	+00.6
21	210 49.7	+00.8	N 10 39.3	+00.6
22	225 50.5	+00.8	N 10 39.9	+00.6
23	240 51.3	+00.8	N 10 40.5	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	330°	329°	329°	329°	329°	329°

Greenwich Culmination Time: 06:57

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	278 02.6	+02.3	N 01 57.6	+00.1
01	293 04.9	+02.3	N 01 57.7	+00.0
02	308 07.2	+02.4	N 01 57.7	+00.1
03	323 09.6	+02.3	N 01 57.8	+00.0
04	338 11.9	+02.3	N 01 57.8	+00.1
05	353 14.2	+02.3	N 01 57.9	+00.0
06	8 16.5	+02.3	N 01 57.9	+00.1
07	23 18.8	+02.3	N 01 58.0	+00.0
08	38 21.1	+02.3	N 01 58.0	+00.1
09	53 23.4	+02.3	N 01 58.1	+00.1
10	68 25.7	+02.3	N 01 58.2	+00.0
11	83 28.0	+02.3	N 01 58.2	+00.1
12	98 30.3	+02.4	N 01 58.3	+00.0
13	113 32.7	+02.3	N 01 58.3	+00.1
14	128 35.0	+02.3	N 01 58.4	+00.0
15	143 37.3	+02.3	N 01 58.4	+00.1
16	158 39.6	+02.3	N 01 58.5	+00.0
17	173 41.9	+02.3	N 01 58.5	+00.1
18	188 44.2	+02.3	N 01 58.6	+00.0
19	203 46.5	+02.3	N 01 58.6	+00.1
20	218 48.8	+02.4	N 01 58.7	+00.0
21	233 51.2	+02.3	N 01 58.7	+00.1
22	248 53.5	+02.3	N 01 58.8	+00.0
23	263 55.8	+02.3	N 01 58.8	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 05:26

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	318 48.6	+02.6	S 14 32.6	+00.0
01	333 51.2	+02.6	S 14 32.6	+00.1
02	348 53.8	+02.5	S 14 32.7	+00.0
03	3 56.3	+02.6	S 14 32.7	+00.1
04	18 58.9	+02.6	S 14 32.8	+00.0
05	34 01.5	+02.6	S 14 32.8	+00.1
06	49 04.1	+02.6	S 14 32.9	+00.0
07	64 06.7	+02.6	S 14 32.9	+00.1
08	79 09.3	+02.5	S 14 33.0	+00.0
09	94 11.8	+02.6	S 14 33.0	+00.1
10	109 14.4	+02.6	S 14 33.1	+00.0
11	124 17.0	+02.6	S 14 33.1	+00.1
12	139 19.6	+02.6	S 14 33.2	+00.0
13	154 22.2	+02.6	S 14 33.2	+00.1
14	169 24.8	+02.5	S 14 33.3	+00.0
15	184 27.3	+02.6	S 14 33.3	+00.1
16	199 29.9	+02.6	S 14 33.4	+00.0
17	214 32.5	+02.6	S 14 33.4	+00.1
18	229 35.1	+02.6	S 14 33.5	+00.0
19	244 37.7	+02.6	S 14 33.5	+00.1
20	259 40.3	+02.5	S 14 33.6	+00.0
21	274 42.8	+02.6	S 14 33.6	+00.1
22	289 45.4	+02.6	S 14 33.7	+00.0
23	304 48.0	+02.6	S 14 33.7	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 02:44

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 July 9 Saturday (day 190 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 41.8	-00.1	N 22 22.9	-00.3
01	193 41.7	-00.1	N 22 22.6	-00.3
02	208 41.6	+00.0	N 22 22.3	-00.3
03	223 41.6	-00.1	N 22 22.0	-00.3
04	238 41.5	-00.1	N 22 21.7	-00.3
05	253 41.4	-00.1	N 22 21.4	-00.3
06	268 41.3	-00.1	N 22 21.1	-00.3
07	283 41.2	-00.1	N 22 20.8	-00.3
08	298 41.1	-00.1	N 22 20.5	-00.3
09	313 41.0	-00.1	N 22 20.2	-00.3
10	328 40.9	-00.1	N 22 19.9	-00.3
11	343 40.8	-00.1	N 22 19.6	-00.3
12	358 40.7	-00.1	N 22 19.3	-00.3
13	13 40.6	-00.1	N 22 19.0	-00.3
14	28 40.5	+00.0	N 22 18.7	-00.3
15	43 40.5	-00.1	N 22 18.4	-00.3
16	58 40.4	-00.1	N 22 18.1	-00.3
17	73 40.3	-00.1	N 22 17.8	-00.3
18	88 40.2	-00.1	N 22 17.5	-00.3
19	103 40.1	-00.1	N 22 17.2	-00.4
20	118 40.0	-00.1	N 22 16.8	-00.3
21	133 39.9	-00.1	N 22 16.5	-00.3
22	148 39.8	-00.1	N 22 16.2	-00.3
23	163 39.7	+00.0	N 22 15.9	-00.3

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	252°	252°	251°	251°	251°	251°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	208 40.8	-00.8	N 21 56.1	+00.3
01	223 40.0	-00.7	N 21 56.4	+00.4
02	238 39.3	-00.8	N 21 56.8	+00.3
03	253 38.5	-00.7	N 21 57.1	+00.3
04	268 37.8	-00.8	N 21 57.4	+00.4
05	283 37.0	-00.7	N 21 57.8	+00.3
06	298 36.3	-00.8	N 21 58.1	+00.4
07	313 35.5	-00.7	N 21 58.5	+00.3
08	328 34.8	-00.8	N 21 58.8	+00.3
09	343 34.0	-00.7	N 21 59.1	+00.4
10	358 33.3	-00.8	N 21 59.5	+00.3
11	13 32.5	-00.8	N 21 59.8	+00.3
12	28 31.7	-00.7	N 22 00.1	+00.4
13	43 31.0	-00.8	N 22 00.5	+00.3
14	58 30.2	-00.7	N 22 00.8	+00.3
15	73 29.5	-00.8	N 22 01.1	+00.4
16	88 28.7	-00.7	N 22 01.5	+00.3
17	103 28.0	-00.8	N 22 01.8	+00.3
18	118 27.2	-00.7	N 22 02.1	+00.3
19	133 26.5	-00.8	N 22 02.4	+00.4
20	148 25.7	-00.8	N 22 02.8	+00.3
21	163 24.9	-00.7	N 22 03.1	+00.3
22	178 24.2	-00.8	N 22 03.4	+00.3
23	193 23.4	-00.7	N 22 03.7	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	282°	281°	281°	281°	281°	281°

Greenwich Culmination Time: 10:05

Moon

A: 32%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	68 18.8	-30.7	S 14 10.6	+13.7
01	82 48.1	-30.8	S 14 24.3	+13.6
02	97 17.3	-30.9	S 14 37.9	+13.6
03	111 46.4	-31.0	S 14 51.5	+13.5
04	126 15.4	-31.1	S 15 05.0	+13.4
05	140 44.3	-31.3	S 15 18.4	+13.4
06	155 13.0	-31.4	S 15 31.8	+13.3
07	169 41.6	-31.4	S 15 45.1	+13.2
08	184 10.2	-31.7	S 15 58.3	+13.2
09	198 38.5	-31.7	S 16 11.5	+13.1
10	213 06.8	-31.8	S 16 24.6	+13.0
11	227 35.0	-32.0	S 16 37.6	+12.9
12	242 03.0	-32.1	S 16 50.5	+12.9
13	256 30.9	-32.2	S 17 03.4	+12.8
14	270 58.7	-32.4	S 17 16.2	+12.7
15	285 26.3	-32.4	S 17 28.9	+12.6
16	299 53.9	-32.6	S 17 41.5	+12.5
17	314 21.3	-32.8	S 17 54.0	+12.4
18	328 48.5	-32.8	S 18 06.4	+12.3
19	343 15.7	-33.0	S 18 18.7	+12.3
20	357 42.7	-33.1	S 18 31.0	+12.1
21	12 09.6	-33.2	S 18 43.1	+12.1
22	26 36.4	-33.4	S 18 55.2	+11.9
23	41 03.0	-33.5	S 19 07.1	+11.9

UT	02	06	10	14	18	22
SD	16′0	16′1	16′1	16′2	16′2	16′2
HP	58′9	59′0	59′2	59′3	59′5	59′6
SHA	140°	138°	136°	133°	131°	129°

Greenwich Culmination Time: 20:09

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	255 52.1	+00.8	N 10 41.1	+00.6
01	270 52.9	+00.8	N 10 41.7	+00.6
02	285 53.7	+00.8	N 10 42.3	+00.6
03	300 54.5	+00.9	N 10 42.9	+00.6
04	315 55.4	+00.8	N 10 43.5	+00.6
05	330 56.2	+00.8	N 10 44.1	+00.6
06	345 57.0	+00.8	N 10 44.7	+00.6
07	0 57.8	+00.8	N 10 45.3	+00.6
08	15 58.6	+00.8	N 10 45.9	+00.6
09	30 59.4	+00.8	N 10 46.5	+00.6
10	46 00.2	+00.8	N 10 47.1	+00.6
11	61 01.0	+00.8	N 10 47.7	+00.6
12	76 01.8	+00.8	N 10 48.3	+00.6
13	91 02.6	+00.8	N 10 48.9	+00.6
14	106 03.4	+00.8	N 10 49.5	+00.6
15	121 04.2	+00.8	N 10 50.1	+00.6
16	136 05.0	+00.8	N 10 50.7	+00.6
17	151 05.8	+00.9	N 10 51.3	+00.6
18	166 06.7	+00.8	N 10 51.9	+00.6
19	181 07.5	+00.8	N 10 52.5	+00.5
20	196 08.3	+00.8	N 10 53.0	+00.6
21	211 09.1	+00.8	N 10 53.6	+00.6
22	226 09.9	+00.8	N 10 54.2	+00.6
23	241 10.7	+00.8	N 10 54.8	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	329°	329°	329°	329°	328°	328°

Greenwich Culmination Time: 06:56

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	278 58.1	+02.3	N 01 58.9	+00.0
01	294 00.4	+02.3	N 01 58.9	+00.1
02	309 02.7	+02.3	N 01 59.0	+00.0
03	324 05.0	+02.4	N 01 59.0	+00.1
04	339 07.4	+02.3	N 01 59.1	+00.0
05	354 09.7	+02.3	N 01 59.1	+00.1
06	9 12.0	+02.3	N 01 59.2	+00.0
07	24 14.3	+02.3	N 01 59.2	+00.1
08	39 16.6	+02.3	N 01 59.3	+00.0
09	54 18.9	+02.4	N 01 59.3	+00.1
10	69 21.3	+02.3	N 01 59.4	+00.0
11	84 23.6	+02.3	N 01 59.4	+00.1
12	99 25.9	+02.3	N 01 59.5	+00.0
13	114 28.2	+02.3	N 01 59.5	+00.1
14	129 30.5	+02.3	N 01 59.6	+00.0
15	144 32.8	+02.4	N 01 59.6	+00.1
16	159 35.2	+02.3	N 01 59.7	+00.0
17	174 37.5	+02.3	N 01 59.7	+00.1
18	189 39.8	+02.3	N 01 59.8	+00.0
19	204 42.1	+02.3	N 01 59.8	+00.1
20	219 44.4	+02.4	N 01 59.9	+00.0
21	234 46.8	+02.3	N 01 59.9	+00.1
22	249 49.1	+02.3	N 01 60.0	+00.0
23	264 51.4	+02.3	N 02 00.0	+00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 05:23

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	319 50.6	+02.6	S 14 33.8	+00.0
01	334 53.2	+02.6	S 14 33.8	+00.1
02	349 55.8	+02.6	S 14 33.9	+00.0
03	4 58.4	+02.5	S 14 33.9	+00.1
04	20 00.9	+02.6	S 14 34.0	+00.0
05	35 03.5	+02.6	S 14 34.0	+00.1
06	50 06.1	+02.6	S 14 34.1	+00.0
07	65 08.7	+02.6	S 14 34.1	+00.1
08	80 11.3	+02.6	S 14 34.2	+00.0
09	95 13.9	+02.6	S 14 34.2	+00.0
10	110 16.5	+02.6	S 14 34.2	+00.1
11	125 19.1	+02.5	S 14 34.3	+00.0
12	140 21.6	+02.6	S 14 34.3	+00.1
13	155 24.2	+02.6	S 14 34.4	+00.0
14	170 26.8	+02.6	S 14 34.4	+00.1
15	185 29.4	+02.6	S 14 34.5	+00.0
16	200 32.0	+02.6	S 14 34.5	+00.1
17	215 34.6	+02.6	S 14 34.6	+00.0
18	230 37.2	+02.5	S 14 34.6	+00.1
19	245 39.7	+02.6	S 14 34.7	+00.0
20	260 42.3	+02.6	S 14 34.7	+00.1
21	275 44.9	+02.6	S 14 34.8	+00.0
22	290 47.5	+02.6	S 14 34.8	+00.1
23	305 50.1	+02.6	S 14 34.9	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 02:40

2022 July 10 Sunday (day 191 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 39.7	-00.1	N 22 15.6	-00.3
01	193 39.6	-00.1	N 22 15.3	-00.3
02	208 39.5	-00.1	N 22 15.0	-00.3
03	223 39.4	-00.1	N 22 14.7	-00.4
04	238 39.3	-00.1	N 22 14.3	-00.3
05	253 39.2	-00.1	N 22 14.0	-00.3
06	268 39.1	-00.1	N 22 13.7	-00.3
07	283 39.0	+00.0	N 22 13.4	-00.3
08	298 39.0	-00.1	N 22 13.1	-00.3
09	313 38.9	-00.1	N 22 12.8	-00.4
10	328 38.8	-00.1	N 22 12.4	-00.3
11	343 38.7	-00.1	N 22 12.1	-00.3
12	358 38.6	-00.1	N 22 11.8	-00.3
13	13 38.5	-00.1	N 22 11.5	-00.3
14	28 38.4	-00.1	N 22 11.2	-00.4
15	43 38.3	+00.0	N 22 10.8	-00.3
16	58 38.3	-00.1	N 22 10.5	-00.3
17	73 38.2	-00.1	N 22 10.2	-00.3
18	88 38.1	-00.1	N 22 09.9	-00.4
19	103 38.0	-00.1	N 22 09.5	-00.3
20	118 37.9	-00.1	N 22 09.2	-00.3
21	133 37.8	+00.0	N 22 08.9	-00.3
22	148 37.8	-00.1	N 22 08.6	-00.4
23	163 37.7	-00.1	N 22 08.2	-00.3

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	251°	251°	250°	250°	250°	250°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	208 22.7	-00.8	N 22 04.1	+00.3
01	223 21.9	-00.7	N 22 04.4	+00.3
02	238 21.2	-00.8	N 22 04.7	+00.3
03	253 20.4	-00.8	N 22 05.0	+00.3
04	268 19.6	-00.7	N 22 05.3	+00.3
05	283 18.9	-00.8	N 22 05.6	+00.4
06	298 18.1	-00.7	N 22 06.0	+00.3
07	313 17.4	-00.8	N 22 06.3	+00.3
08	328 16.6	-00.8	N 22 06.6	+00.3
09	343 15.8	-00.7	N 22 06.9	+00.3
10	358 15.1	-00.8	N 22 07.2	+00.3
11	13 14.3	-00.7	N 22 07.5	+00.3
12	28 13.6	-00.8	N 22 07.8	+00.3
13	43 12.8	-00.8	N 22 08.1	+00.3
14	58 12.0	-00.7	N 22 08.4	+00.3
15	73 11.3	-00.8	N 22 08.7	+00.4
16	88 10.5	-00.8	N 22 09.1	+00.3
17	103 09.7	-00.7	N 22 09.4	+00.3
18	118 09.0	-00.8	N 22 09.7	+00.3
19	133 08.2	-00.7	N 22 10.0	+00.3
20	148 07.5	-00.8	N 22 10.3	+00.3
21	163 06.7	-00.8	N 22 10.6	+00.3
22	178 05.9	-00.7	N 22 10.9	+00.3
23	193 05.2	-00.8	N 22 11.2	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	280°	280°	280°	280°	280°	279°

Greenwich Culmination Time: 10:07

Moon

A: 36%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	55 29.5	-33.7	S 19 19.0	+11.7
01	69 55.8	-33.7	S 19 30.7	+11.7
02	84 22.1	-33.9	S 19 42.4	+11.5
03	98 48.2	-34.0	S 19 53.9	+11.4
04	113 14.2	-34.2	S 20 05.3	+11.4
05	127 40.0	-34.3	S 20 16.7	+11.2
06	142 05.7	-34.4	S 20 27.9	+11.0
07	156 31.3	-34.6	S 20 38.9	+11.0
08	170 56.7	-34.7	S 20 49.9	+10.8
09	185 22.0	-34.8	S 21 00.7	+10.8
10	199 47.2	-35.0	S 21 11.5	+10.6
11	214 12.2	-35.1	S 21 22.1	+10.4
12	228 37.1	-35.2	S 21 32.5	+10.4
13	243 01.9	-35.4	S 21 42.9	+10.2
14	257 26.5	-35.5	S 21 53.1	+10.1
15	271 51.0	-35.6	S 22 03.2	+09.9
16	286 15.4	-35.7	S 22 13.1	+09.8
17	300 39.7	-35.9	S 22 22.9	+09.7
18	315 03.8	-36.1	S 22 32.6	+09.5
19	329 27.7	-36.1	S 22 42.1	+09.4
20	343 51.6	-36.3	S 22 51.5	+09.2
21	358 15.3	-36.4	S 23 00.7	+09.1
22	12 38.9	-36.5	S 23 09.8	+08.9
23	27 02.4	-36.7	S 23 18.7	+08.8

UT	02	06	10	14	18	22
SD	16′3	16′3	16′4	16′4	16′4	16′5
HP	59′8	59′9	60′0	60′2	60′3	60′4
SHA	126°	124°	121°	119°	116°	114°

Greenwich Culmination Time: 21:07

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	256 11.5	+00.8	N 10 55.4	+00.6
01	271 12.3	+00.8	N 10 56.0	+00.6
02	286 13.1	+00.8	N 10 56.6	+00.6
03	301 13.9	+00.8	N 10 57.2	+00.6
04	316 14.7	+00.8	N 10 57.8	+00.6
05	331 15.5	+00.8	N 10 58.4	+00.6
06	346 16.3	+00.9	N 10 59.0	+00.6
07	1 17.2	+00.8	N 10 59.6	+00.6
08	16 18.0	+00.8	N 11 00.2	+00.5
09	31 18.8	+00.8	N 11 00.7	+00.6
10	46 19.6	+00.8	N 11 01.3	+00.6
11	61 20.4	+00.8	N 11 01.9	+00.6
12	76 21.2	+00.8	N 11 02.5	+00.6
13	91 22.0	+00.8	N 11 03.1	+00.6
14	106 22.8	+00.8	N 11 03.7	+00.6
15	121 23.6	+00.8	N 11 04.3	+00.6
16	136 24.4	+00.8	N 11 04.9	+00.6
17	151 25.2	+00.8	N 11 05.5	+00.6
18	166 26.0	+00.9	N 11 06.1	+00.5
19	181 26.9	+00.8	N 11 06.6	+00.6
20	196 27.7	+00.8	N 11 07.2	+00.6
21	211 28.5	+00.8	N 11 07.8	+00.6
22	226 29.3	+00.8	N 11 08.4	+00.6
23	241 30.1	+00.8	N 11 09.0	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	328°	328°	328°	328°	328°	328°

Greenwich Culmination Time: 06:54

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	279 53.7	+02.3	N 02 00.1	+00.0
01	294 56.0	+02.4	N 02 00.1	+00.1
02	309 58.4	+02.3	N 02 00.2	+00.0
03	325 00.7	+02.3	N 02 00.2	+00.1
04	340 03.0	+02.3	N 02 00.3	+00.0
05	355 05.3	+02.4	N 02 00.3	+00.1
06	10 07.7	+02.3	N 02 00.4	+00.0
07	25 10.0	+02.3	N 02 00.4	+00.0
08	40 12.3	+02.3	N 02 00.4	+00.1
09	55 14.6	+02.3	N 02 00.5	+00.0
10	70 16.9	+02.4	N 02 00.5	+00.1
11	85 19.3	+02.3	N 02 00.6	+00.0
12	100 21.6	+02.3	N 02 00.6	+00.1
13	115 23.9	+02.3	N 02 00.7	+00.0
14	130 26.2	+02.4	N 02 00.7	+00.1
15	145 28.6	+02.3	N 02 00.8	+00.0
16	160 30.9	+02.3	N 02 00.8	+00.1
17	175 33.2	+02.3	N 02 00.9	+00.0
18	190 35.5	+02.4	N 02 00.9	+00.1
19	205 37.9	+02.3	N 02 01.0	+00.0
20	220 40.2	+02.3	N 02 01.0	+00.1
21	235 42.5	+02.4	N 02 01.1	+00.0
22	250 44.9	+02.3	N 02 01.1	+00.0
23	265 47.2	+02.3	N 02 01.1	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 05:19

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	320 52.7	+02.6	S 14 34.9	+00.1
01	335 55.3	+02.6	S 14 35.0	+00.0
02	350 57.9	+02.6	S 14 35.0	+00.1
03	6 00.5	+02.5	S 14 35.1	+00.0
04	21 03.0	+02.6	S 14 35.1	+00.1
05	36 05.6	+02.6	S 14 35.2	+00.0
06	51 08.2	+02.6	S 14 35.2	+00.1
07	66 10.8	+02.6	S 14 35.3	+00.0
08	81 13.4	+02.6	S 14 35.3	+00.1
09	96 16.0	+02.6	S 14 35.4	+00.0
10	111 18.6	+02.6	S 14 35.4	+00.1
11	126 21.2	+02.6	S 14 35.5	+00.0
12	141 23.8	+02.6	S 14 35.5	+00.1
13	156 26.4	+02.5	S 14 35.6	+00.0
14	171 28.9	+02.6	S 14 35.6	+00.1
15	186 31.5	+02.6	S 14 35.7	+00.0
16	201 34.1	+02.6	S 14 35.7	+00.1
17	216 36.7	+02.6	S 14 35.8	+00.0
18	231 39.3	+02.6	S 14 35.8	+00.1
19	246 41.9	+02.6	S 14 35.9	+00.0
20	261 44.5	+02.6	S 14 35.9	+00.1
21	276 47.1	+02.6	S 14 36.0	+00.0
22	291 49.7	+02.6	S 14 36.0	+00.1
23	306 52.3	+02.5	S 14 36.1	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 02:36

2022 July 15 Friday (day 196 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 30.5	-00.1	N 21 33.4	-00.4
01	193 30.4	-00.1	N 21 33.0	-00.4
02	208 30.3	+00.0	N 21 32.6	-00.4
03	223 30.3	-00.1	N 21 32.2	-00.4
04	238 30.2	-00.1	N 21 31.8	-00.4
05	253 30.1	+00.0	N 21 31.4	-00.4
06	268 30.1	-00.1	N 21 31.0	-00.4
07	283 30.0	+00.0	N 21 30.6	-00.4
08	298 30.0	-00.1	N 21 30.2	-00.3
09	313 29.9	-00.1	N 21 29.9	-00.4
10	328 29.8	+00.0	N 21 29.5	-00.4
11	343 29.8	-00.1	N 21 29.1	-00.4
12	358 29.7	+00.0	N 21 28.7	-00.4
13	13 29.7	-00.1	N 21 28.3	-00.4
14	28 29.6	-00.1	N 21 27.9	-00.4
15	43 29.5	+00.0	N 21 27.5	-00.4
16	58 29.5	-00.1	N 21 27.1	-00.4
17	73 29.4	-00.1	N 21 26.7	-00.4
18	88 29.3	+00.0	N 21 26.3	-00.4
19	103 29.3	-00.1	N 21 25.9	-00.4
20	118 29.2	+00.0	N 21 25.5	-00.4
21	133 29.2	-00.1	N 21 25.1	-00.5
22	148 29.1	-00.1	N 21 24.6	-00.4
23	163 29.0	+00.0	N 21 24.2	-00.4

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	246°	245°	245°	245°	245°	245°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	206 49.6	-00.7	N 22 34.9	+00.2
01	221 48.9	-00.8	N 22 35.1	+00.2
02	236 48.1	-00.8	N 22 35.3	+00.2
03	251 47.3	-00.8	N 22 35.5	+00.1
04	266 46.5	-00.8	N 22 35.6	+00.2
05	281 45.7	-00.8	N 22 35.8	+00.2
06	296 44.9	-00.8	N 22 36.0	+00.2
07	311 44.1	-00.8	N 22 36.2	+00.2
08	326 43.3	-00.8	N 22 36.4	+00.2
09	341 42.5	-00.8	N 22 36.6	+00.2
10	356 41.7	-00.8	N 22 36.8	+00.1
11	11 40.9	-00.8	N 22 36.9	+00.2
12	26 40.1	-00.8	N 22 37.1	+00.2
13	41 39.3	-00.8	N 22 37.3	+00.2
14	56 38.5	-00.7	N 22 37.5	+00.1
15	71 37.8	-00.8	N 22 37.6	+00.2
16	86 37.0	-00.8	N 22 37.8	+00.2
17	101 36.2	-00.8	N 22 38.0	+00.2
18	116 35.4	-00.8	N 22 38.2	+00.1
19	131 34.6	-00.8	N 22 38.3	+00.2
20	146 33.8	-00.8	N 22 38.5	+00.2
21	161 33.0	-00.8	N 22 38.7	+00.1
22	176 32.2	-00.8	N 22 38.8	+00.2
23	191 31.4	-00.8	N 22 39.0	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	274°	274°	273°	273°	273°	273°

Greenwich Culmination Time: 10:13

Moon

A: 57%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	338 58.0	-36.8	S 22 32.3	-09.9
01	353 21.2	-36.7	S 22 22.4	-10.1
02	7 44.5	-36.5	S 22 12.3	-10.1
03	22 08.0	-36.4	S 22 02.2	-10.4
04	36 31.6	-36.3	S 21 51.8	-10.5
05	50 55.3	-36.2	S 21 41.3	-10.6
06	65 19.1	-36.0	S 21 30.7	-10.8
07	79 43.1	-35.9	S 21 19.9	-10.9
08	94 07.2	-35.7	S 21 09.0	-11.0
09	108 31.5	-35.7	S 20 58.0	-11.1
10	122 55.8	-35.5	S 20 46.9	-11.3
11	137 20.3	-35.4	S 20 35.6	-11.5
12	151 44.9	-35.2	S 20 24.1	-11.5
13	166 09.7	-35.2	S 20 12.6	-11.7
14	180 34.5	-35.0	S 20 00.9	-11.8
15	194 59.5	-34.8	S 19 49.1	-11.9
16	209 24.7	-34.8	S 19 37.2	-12.0
17	223 49.9	-34.6	S 19 25.2	-12.2
18	238 15.3	-34.4	S 19 13.0	-12.2
19	252 40.9	-34.4	S 19 00.8	-12.4
20	267 06.5	-34.2	S 18 48.4	-12.4
21	281 32.3	-34.1	S 18 36.0	-12.6
22	295 58.2	-34.0	S 18 23.4	-12.7
23	310 24.2	-33.8	S 18 10.7	-12.8

UT	02	06	10	14	18	22
SD	16′6	16′6	16′5	16′5	16′5	16′4
HP	60′9	60′8	60′7	60′6	60′5	60′3
SHA	045°	042°	040°	037°	035°	032°

Greenwich Culmination Time: 01:27

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	257 48.9	+00.8	N 12 05.0	+00.5
01	272 49.7	+00.8	N 12 05.5	+00.6
02	287 50.5	+00.8	N 12 06.1	+00.6
03	302 51.3	+00.8	N 12 06.7	+00.5
04	317 52.1	+00.8	N 12 07.2	+00.6
05	332 52.9	+00.9	N 12 07.8	+00.6
06	347 53.8	+00.8	N 12 08.4	+00.5
07	2 54.6	+00.8	N 12 08.9	+00.6
08	17 55.4	+00.8	N 12 09.5	+00.6
09	32 56.2	+00.8	N 12 10.1	+00.5
10	47 57.0	+00.8	N 12 10.6	+00.6
11	62 57.8	+00.9	N 12 11.2	+00.5
12	77 58.7	+00.8	N 12 11.7	+00.6
13	92 59.5	+00.8	N 12 12.3	+00.6
14	108 00.3	+00.8	N 12 12.9	+00.5
15	123 01.1	+00.8	N 12 13.4	+00.6
16	138 01.9	+00.8	N 12 14.0	+00.6
17	153 02.7	+00.9	N 12 14.6	+00.5
18	168 03.6	+00.8	N 12 15.1	+00.6
19	183 04.4	+00.8	N 12 15.7	+00.5
20	198 05.2	+00.8	N 12 16.2	+00.6
21	213 06.0	+00.8	N 12 16.8	+00.6
22	228 06.8	+00.8	N 12 17.4	+00.5
23	243 07.6	+00.9	N 12 17.9	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	325°	325°	325°	325°	324°	324°

Greenwich Culmination Time: 06:48

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	284 34.4	+02.3	N 02 04.9	+00.1
01	299 36.7	+02.4	N 02 05.0	+00.0
02	314 39.1	+02.3	N 02 05.0	+00.0
03	329 41.4	+02.4	N 02 05.0	+00.1
04	344 43.8	+02.3	N 02 05.1	+00.0
05	359 46.1	+02.4	N 02 05.1	+00.0
06	14 48.5	+02.4	N 02 05.1	+00.1
07	29 50.9	+02.3	N 02 05.2	+00.0
08	44 53.2	+02.4	N 02 05.2	+00.0
09	59 55.6	+02.3	N 02 05.2	+00.1
10	74 57.9	+02.4	N 02 05.3	+00.0
11	90 00.3	+02.4	N 02 05.3	+00.0
12	105 02.7	+02.3	N 02 05.3	+00.0
13	120 05.0	+02.4	N 02 05.3	+00.1
14	135 07.4	+02.3	N 02 05.4	+00.0
15	150 09.7	+02.4	N 02 05.4	+00.0
16	165 12.1	+02.4	N 02 05.4	+00.1
17	180 14.5	+02.3	N 02 05.5	+00.0
18	195 16.8	+02.4	N 02 05.5	+00.0
19	210 19.2	+02.3	N 02 05.5	+00.1
20	225 21.5	+02.4	N 02 05.6	+00.0
21	240 23.9	+02.4	N 02 05.6	+00.0
22	255 26.3	+02.3	N 02 05.6	+00.1
23	270 28.6	+02.4	N 02 05.7	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 05:00

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	326 04.2	+02.6	S 14 41.1	+00.1
01	341 06.8	+02.6	S 14 41.2	+00.1
02	356 09.4	+02.6	S 14 41.3	+00.0
03	11 12.0	+02.6	S 14 41.3	+00.1
04	26 14.6	+02.6	S 14 41.4	+00.0
05	41 17.2	+02.6	S 14 41.4	+00.1
06	56 19.8	+02.6	S 14 41.5	+00.0
07	71 22.4	+02.6	S 14 41.5	+00.1
08	86 25.0	+02.6	S 14 41.6	+00.0
09	101 27.6	+02.6	S 14 41.6	+00.1
10	116 30.2	+02.6	S 14 41.7	+00.0
11	131 32.8	+02.6	S 14 41.7	+00.1
12	146 35.4	+02.6	S 14 41.8	+00.1
13	161 38.0	+02.6	S 14 41.9	+00.0
14	176 40.6	+02.6	S 14 41.9	+00.1
15	191 43.2	+02.6	S 14 42.0	+00.0
16	206 45.8	+02.6	S 14 42.0	+00.1
17	221 48.4	+02.6	S 14 42.1	+00.0
18	236 51.0	+02.6	S 14 42.1	+00.1
19	251 53.6	+02.6	S 14 42.2	+00.0
20	266 56.2	+02.6	S 14 42.2	+00.1
21	281 58.8	+02.6	S 14 42.3	+00.0
22	297 01.4	+02.6	S 14 42.3	+00.1
23	312 04.0	+02.6	S 14 42.4	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 02:15

2022 July 12 Tuesday (day 193 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 35.6	-00.1	N 21 59.8	-00.3
01	193 35.5	+00.0	N 21 59.5	-00.4
02	208 35.5	-00.1	N 21 59.1	-00.3
03	223 35.4	-00.1	N 21 58.8	-00.3
04	238 35.3	-00.1	N 21 58.5	-00.4
05	253 35.2	+00.0	N 21 58.1	-00.3
06	268 35.2	-00.1	N 21 57.8	-00.4
07	283 35.1	-00.1	N 21 57.4	-00.3
08	298 35.0	-00.1	N 21 57.1	-00.4
09	313 34.9	-00.1	N 21 56.7	-00.3
10	328 34.8	+00.0	N 21 56.4	-00.4
11	343 34.8	-00.1	N 21 56.0	-00.3
12	358 34.7	-00.1	N 21 55.7	-00.4
13	13 34.6	-00.1	N 21 55.3	-00.3
14	28 34.5	+00.0	N 21 55.0	-00.4
15	43 34.5	-00.1	N 21 54.6	-00.3
16	58 34.4	-00.1	N 21 54.3	-00.4
17	73 34.3	-00.1	N 21 53.9	-00.4
18	88 34.2	+00.0	N 21 53.5	-00.3
19	103 34.2	-00.1	N 21 53.2	-00.4
20	118 34.1	-00.1	N 21 52.8	-00.3
21	133 34.0	-00.1	N 21 52.5	-00.4
22	148 33.9	+00.0	N 21 52.1	-00.3
23	163 33.9	-00.1	N 21 51.8	-00.4

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	249°	248°	248°	248°	248°	248°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	207 45.9	-00.7	N 22 18.2	+00.3
01	222 45.2	-00.8	N 22 18.5	+00.3
02	237 44.4	-00.8	N 22 18.8	+00.2
03	252 43.6	-00.7	N 22 19.0	+00.3
04	267 42.9	-00.8	N 22 19.3	+00.3
05	282 42.1	-00.8	N 22 19.6	+00.2
06	297 41.3	-00.8	N 22 19.8	+00.3
07	312 40.5	-00.7	N 22 20.1	+00.3
08	327 39.8	-00.8	N 22 20.4	+00.2
09	342 39.0	-00.8	N 22 20.6	+00.3
10	357 38.2	-00.8	N 22 20.9	+00.2
11	12 37.4	-00.7	N 22 21.1	+00.3
12	27 36.7	-00.8	N 22 21.4	+00.3
13	42 35.9	-00.8	N 22 21.7	+00.2
14	57 35.1	-00.8	N 22 21.9	+00.3
15	72 34.3	-00.7	N 22 22.2	+00.2
16	87 33.6	-00.8	N 22 22.4	+00.3
17	102 32.8	-00.8	N 22 22.7	+00.2
18	117 32.0	-00.8	N 22 22.9	+00.3
19	132 31.2	-00.8	N 22 23.2	+00.2
20	147 30.4	-00.7	N 22 23.4	+00.3
21	162 29.7	-00.8	N 22 23.7	+00.2
22	177 28.9	-00.8	N 22 23.9	+00.3
23	192 28.1	-00.8	N 22 24.2	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	278°	278°	277°	277°	277°	277°

Greenwich Culmination Time: 10:09

Moon

A: 44%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	26 11.6	-39.3	S 26 07.3	+04.3
01	40 32.3	-39.4	S 26 11.6	+04.1
02	54 52.9	-39.5	S 26 15.7	+04.0
03	69 13.4	-39.5	S 26 19.7	+03.7
04	83 33.9	-39.6	S 26 23.4	+03.5
05	97 54.3	-39.7	S 26 26.9	+03.4
06	112 14.6	-39.7	S 26 30.3	+03.1
07	126 34.9	-39.8	S 26 33.4	+02.9
08	140 55.1	-39.8	S 26 36.3	+02.7
09	155 15.3	-39.9	S 26 39.0	+02.5
10	169 35.4	-40.0	S 26 41.5	+02.3
11	183 55.4	-40.0	S 26 43.8	+02.1
12	198 15.4	-40.0	S 26 45.9	+01.9
13	212 35.4	-40.1	S 26 47.8	+01.7
14	226 55.3	-40.1	S 26 49.5	+01.4
15	241 15.2	-40.1	S 26 50.9	+01.3
16	255 35.1	-40.2	S 26 52.2	+01.0
17	269 54.9	-40.2	S 26 53.2	+00.8
18	284 14.7	-40.2	S 26 54.0	+00.6
19	298 34.5	-40.3	S 26 54.6	+00.4
20	312 54.2	-40.2	S 26 55.0	+00.2
21	327 14.0	-40.3	S 26 55.2	-00.1
22	341 33.7	-40.3	S 26 55.1	-00.2
23	355 53.4	-40.3	S 26 54.9	-00.5

UT	02	06	10	14	18	22
SD	16′6	16′7	16′7	16′7	16′7	16′7
HP	61′1	61′1	61′2	61′2	61′3	61′3
SHA	095°	092°	089°	086°	084°	081°

Greenwich Culmination Time: 23:17

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	256 50.3	+00.8	N 11 23.6	+00.6
01	271 51.1	+00.9	N 11 24.2	+00.6
02	286 52.0	+00.8	N 11 24.8	+00.6
03	301 52.8	+00.8	N 11 25.4	+00.5
04	316 53.6	+00.8	N 11 25.9	+00.6
05	331 54.4	+00.8	N 11 26.5	+00.6
06	346 55.2	+00.8	N 11 27.1	+00.6
07	1 56.0	+00.8	N 11 27.7	+00.6
08	16 56.8	+00.8	N 11 28.3	+00.5
09	31 57.6	+00.8	N 11 28.8	+00.6
10	46 58.4	+00.9	N 11 29.4	+00.6
11	61 59.3	+00.8	N 11 30.0	+00.6
12	77 00.1	+00.8	N 11 30.6	+00.6
13	92 00.9	+00.8	N 11 31.2	+00.5
14	107 01.7	+00.8	N 11 31.7	+00.6
15	122 02.5	+00.8	N 11 32.3	+00.6
16	137 03.3	+00.8	N 11 32.9	+00.6
17	152 04.1	+00.8	N 11 33.5	+00.6
18	167 04.9	+00.9	N 11 34.1	+00.5
19	182 05.8	+00.8	N 11 34.6	+00.6
20	197 06.6	+00.8	N 11 35.2	+00.6
21	212 07.4	+00.8	N 11 35.8	+00.6
22	227 08.2	+00.8	N 11 36.4	+00.6
23	242 09.0	+00.8	N 11 37.0	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	327°	327°	327°	327°	326°	326°

Greenwich Culmination Time: 06:52

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	281 45.5	+02.3	N 02 02.2	+00.1
01	296 47.8	+02.3	N 02 02.3	+00.0
02	311 50.1	+02.4	N 02 02.3	+00.1
03	326 52.5	+02.3	N 02 02.4	+00.0
04	341 54.8	+02.3	N 02 02.4	+00.0
05	356 57.1	+02.4	N 02 02.4	+00.1
06	11 59.5	+02.3	N 02 02.5	+00.0
07	27 01.8	+02.4	N 02 02.5	+00.1
08	42 04.2	+02.3	N 02 02.6	+00.0
09	57 06.5	+02.3	N 02 02.6	+00.0
10	72 08.8	+02.4	N 02 02.6	+00.1
11	87 11.2	+02.3	N 02 02.7	+00.0
12	102 13.5	+02.3	N 02 02.7	+00.1
13	117 15.8	+02.4	N 02 02.8	+00.0
14	132 18.2	+02.3	N 02 02.8	+00.0
15	147 20.5	+02.4	N 02 02.8	+00.1
16	162 22.9	+02.3	N 02 02.9	+00.0
17	177 25.2	+02.3	N 02 02.9	+00.1
18	192 27.5	+02.4	N 02 03.0	+00.0
19	207 29.9	+02.3	N 02 03.0	+00.0
20	222 32.2	+02.4	N 02 03.0	+00.1
21	237 34.6	+02.3	N 02 03.1	+00.0
22	252 36.9	+02.4	N 02 03.1	+00.1
23	267 39.3	+02.3	N 02 03.2	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 05:12

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	322 57.1	+02.6	S 14 37.4	+00.0
01	337 59.7	+02.6	S 14 37.4	+00.1
02	353 02.3	+02.6	S 14 37.5	+00.0
03	8 04.9	+02.6	S 14 37.5	+00.1
04	23 07.5	+02.5	S 14 37.6	+00.0
05	38 10.0	+02.6	S 14 37.6	+00.1
06	53 12.6	+02.6	S 14 37.7	+00.0
07	68 15.2	+02.6	S 14 37.7	+00.1
08	83 17.8	+02.6	S 14 37.8	+00.0
09	98 20.4	+02.6	S 14 37.8	+00.1
10	113 23.0	+02.6	S 14 37.9	+00.0
11	128 25.6	+02.6	S 14 37.9	+00.1
12	143 28.2	+02.6	S 14 38.0	+00.0
13	158 30.8	+02.6	S 14 38.0	+00.1
14	173 33.4	+02.6	S 14 38.1	+00.0
15	188 36.0	+02.6	S 14 38.1	+00.1
16	203 38.6	+02.6	S 14 38.2	+00.0
17	218 41.2	+02.6	S 14 38.2	+00.1
18	233 43.8	+02.6	S 14 38.3	+00.0
19	248 46.4	+02.6	S 14 38.3	+00.1
20	263 49.0	+02.6	S 14 38.4	+00.0
21	278 51.6	+02.6	S 14 38.4	+00.1
22	293 54.2	+02.6	S 14 38.5	+00.1
23	308 56.8	+02.6	S 14 38.6	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 02:27

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Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 33.8	-00.1	N 21 51.4	-00.4
01	193 33.7	-00.1	N 21 51.0	-00.3
02	208 33.6	+00.0	N 21 50.7	-00.4
03	223 33.6	-00.1	N 21 50.3	-00.3
04	238 33.5	-00.1	N 21 50.0	-00.4
05	253 33.4	-00.1	N 21 49.6	-00.4
06	268 33.3	+00.0	N 21 49.2	-00.3
07	283 33.3	-00.1	N 21 48.9	-00.4
08	298 33.2	-00.1	N 21 48.5	-00.4
09	313 33.1	+00.0	N 21 48.1	-00.3
10	328 33.1	-00.1	N 21 47.8	-00.4
11	343 33.0	-00.1	N 21 47.4	-00.4
12	358 32.9	-00.1	N 21 47.0	-00.3
13	13 32.8	+00.0	N 21 46.7	-00.4
14	28 32.8	-00.1	N 21 46.3	-00.4
15	43 32.7	-00.1	N 21 45.9	-00.3
16	58 32.6	+00.0	N 21 45.6	-00.4
17	73 32.6	-00.1	N 21 45.2	-00.4
18	88 32.5	-00.1	N 21 44.8	-00.4
19	103 32.4	-00.1	N 21 44.4	-00.3
20	118 32.3	+00.0	N 21 44.1	-00.4
21	133 32.3	-00.1	N 21 43.7	-00.4
22	148 32.2	-00.1	N 21 43.3	-00.3
23	163 32.1	+00.0	N 21 43.0	-00.4

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	248°	247°	247°	247°	247°	247°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	207 27.3	-00.8	N 22 24.4	+00.2
01	222 26.5	-00.7	N 22 24.6	+00.3
02	237 25.8	-00.8	N 22 24.9	+00.2
03	252 25.0	-00.8	N 22 25.1	+00.3
04	267 24.2	-00.8	N 22 25.4	+00.2
05	282 23.4	-00.8	N 22 25.6	+00.3
06	297 22.6	-00.7	N 22 25.9	+00.2
07	312 21.9	-00.8	N 22 26.1	+00.2
08	327 21.1	-00.8	N 22 26.3	+00.3
09	342 20.3	-00.8	N 22 26.6	+00.2
10	357 19.5	-00.8	N 22 26.8	+00.2
11	12 18.7	-00.7	N 22 27.0	+00.3
12	27 18.0	-00.8	N 22 27.3	+00.2
13	42 17.2	-00.8	N 22 27.5	+00.2
14	57 16.4	-00.8	N 22 27.7	+00.2
15	72 15.6	-00.8	N 22 27.9	+00.3
16	87 14.8	-00.8	N 22 28.2	+00.2
17	102 14.0	-00.7	N 22 28.4	+00.2
18	117 13.3	-00.8	N 22 28.6	+00.3
19	132 12.5	-00.8	N 22 28.9	+00.2
20	147 11.7	-00.8	N 22 29.1	+00.2
21	162 10.9	-00.8	N 22 29.3	+00.2
22	177 10.1	-00.8	N 22 29.5	+00.2
23	192 09.3	-00.7	N 22 29.7	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	276°	276°	276°	276°	276°	275°

Greenwich Culmination Time: 10:10

Moon

A: 48%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	10 13.1	-40.2	S 26 54.4	-00.7
01	24 32.9	-40.3	S 26 53.7	-00.9
02	38 52.6	-40.3	S 26 52.8	-01.1
03	53 12.3	-40.3	S 26 51.7	-01.4
04	67 32.0	-40.2	S 26 50.3	-01.5
05	81 51.8	-40.2	S 26 48.8	-01.8
06	96 11.6	-40.2	S 26 47.0	-01.9
07	110 31.4	-40.2	S 26 45.1	-02.2
08	124 51.2	-40.2	S 26 42.9	-02.4
09	139 11.0	-40.1	S 26 40.5	-02.6
10	153 30.9	-40.1	S 26 37.9	-02.9
11	167 50.8	-40.1	S 26 35.0	-03.0
12	182 10.7	-40.0	S 26 32.0	-03.3
13	196 30.7	-40.0	S 26 28.7	-03.4
14	210 50.7	-39.9	S 26 25.3	-03.7
15	225 10.8	-39.9	S 26 21.6	-03.9
16	239 30.9	-39.8	S 26 17.7	-04.0
17	253 51.1	-39.8	S 26 13.7	-04.3
18	268 11.3	-39.7	S 26 09.4	-04.5
19	282 31.6	-39.6	S 26 04.9	-04.7
20	296 52.0	-39.6	S 26 00.2	-04.9
21	311 12.4	-39.5	S 25 55.3	-05.1
22	325 32.9	-39.5	S 25 50.2	-05.3
23	339 53.4	-39.3	S 25 44.9	-05.5

UT	02	06	10	14	18	22
SD	16′7	16′7	16′7	16′7	16′7	16′7
HP	61′3	61′3	61′3	61′3	61′3	61′3
SHA	078°	075°	072°	069°	067°	064°

Greenwich Culmination Time: −1:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	257 09.8	+00.8	N 11 37.5	+00.6
01	272 10.6	+00.8	N 11 38.1	+00.6
02	287 11.4	+00.8	N 11 38.7	+00.6
03	302 12.2	+00.9	N 11 39.3	+00.5
04	317 13.1	+00.8	N 11 39.8	+00.6
05	332 13.9	+00.8	N 11 40.4	+00.6
06	347 14.7	+00.8	N 11 41.0	+00.6
07	2 15.5	+00.8	N 11 41.6	+00.5
08	17 16.3	+00.8	N 11 42.1	+00.6
09	32 17.1	+00.8	N 11 42.7	+00.6
10	47 17.9	+00.8	N 11 43.3	+00.6
11	62 18.7	+00.9	N 11 43.9	+00.5
12	77 19.6	+00.8	N 11 44.4	+00.6
13	92 20.4	+00.8	N 11 45.0	+00.6
14	107 21.2	+00.8	N 11 45.6	+00.6
15	122 22.0	+00.8	N 11 46.2	+00.5
16	137 22.8	+00.8	N 11 46.7	+00.6
17	152 23.6	+00.8	N 11 47.3	+00.6
18	167 24.4	+00.9	N 11 47.9	+00.6
19	182 25.3	+00.8	N 11 48.5	+00.5
20	197 26.1	+00.8	N 11 49.0	+00.6
21	212 26.9	+00.8	N 11 49.6	+00.6
22	227 27.7	+00.8	N 11 50.2	+00.5
23	242 28.5	+00.8	N 11 50.7	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	326°	326°	326°	326°	326°	326°

Greenwich Culmination Time: 06:50

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	282 41.6	+02.3	N 02 03.2	+00.0
01	297 43.9	+02.4	N 02 03.2	+00.1
02	312 46.3	+02.3	N 02 03.3	+00.0
03	327 48.6	+02.4	N 02 03.3	+00.1
04	342 51.0	+02.3	N 02 03.4	+00.0
05	357 53.3	+02.4	N 02 03.4	+00.0
06	12 55.7	+02.3	N 02 03.4	+00.1
07	27 58.0	+02.3	N 02 03.5	+00.0
08	43 00.3	+02.4	N 02 03.5	+00.1
09	58 02.7	+02.3	N 02 03.6	+00.0
10	73 05.0	+02.4	N 02 03.6	+00.0
11	88 07.4	+02.3	N 02 03.6	+00.1
12	103 09.7	+02.4	N 02 03.7	+00.0
13	118 12.1	+02.3	N 02 03.7	+00.0
14	133 14.4	+02.4	N 02 03.7	+00.1
15	148 16.8	+02.3	N 02 03.8	+00.0
16	163 19.1	+02.4	N 02 03.8	+00.1
17	178 21.5	+02.3	N 02 03.9	+00.0
18	193 23.8	+02.3	N 02 03.9	+00.0
19	208 26.1	+02.4	N 02 03.9	+00.1
20	223 28.5	+02.3	N 02 04.0	+00.0
21	238 30.8	+02.4	N 02 04.0	+00.0
22	253 33.2	+02.3	N 02 04.0	+00.1
23	268 35.5	+02.4	N 02 04.1	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 05:08

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	323 59.4	+02.6	S 14 38.6	+00.1
01	339 02.0	+02.6	S 14 38.7	+00.0
02	354 04.6	+02.6	S 14 38.7	+00.1
03	9 07.2	+02.6	S 14 38.8	+00.0
04	24 09.8	+02.6	S 14 38.8	+00.1
05	39 12.4	+02.6	S 14 38.9	+00.0
06	54 15.0	+02.6	S 14 38.9	+00.1
07	69 17.6	+02.5	S 14 39.0	+00.0
08	84 20.1	+02.6	S 14 39.0	+00.1
09	99 22.7	+02.6	S 14 39.1	+00.0
10	114 25.3	+02.6	S 14 39.1	+00.1
11	129 27.9	+02.6	S 14 39.2	+00.0
12	144 30.5	+02.6	S 14 39.2	+00.1
13	159 33.1	+02.6	S 14 39.3	+00.0
14	174 35.7	+02.6	S 14 39.3	+00.1
15	189 38.3	+02.6	S 14 39.4	+00.0
16	204 40.9	+02.6	S 14 39.4	+00.1
17	219 43.5	+02.6	S 14 39.5	+00.0
18	234 46.1	+02.6	S 14 39.5	+00.1
19	249 48.7	+02.6	S 14 39.6	+00.1
20	264 51.3	+02.6	S 14 39.7	+00.0
21	279 53.9	+02.6	S 14 39.7	+00.1
22	294 56.5	+02.6	S 14 39.8	+00.0
23	309 59.1	+02.6	S 14 39.8	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 02:23

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 32.1	-00.1	N 21 42.6	-00.4
01	193 32.0	-00.1	N 21 42.2	-00.4
02	208 31.9	+00.0	N 21 41.8	-00.4
03	223 31.9	-00.1	N 21 41.4	-00.3
04	238 31.8	-00.1	N 21 41.1	-00.4
05	253 31.7	+00.0	N 21 40.7	-00.4
06	268 31.7	-00.1	N 21 40.3	-00.4
07	283 31.6	-00.1	N 21 39.9	-00.3
08	298 31.5	+00.0	N 21 39.6	-00.4
09	313 31.5	-00.1	N 21 39.2	-00.4
10	328 31.4	-00.1	N 21 38.8	-00.4
11	343 31.3	+00.0	N 21 38.4	-00.4
12	358 31.3	-00.1	N 21 38.0	-00.4
13	13 31.2	-00.1	N 21 37.6	-00.3
14	28 31.1	+00.0	N 21 37.3	-00.4
15	43 31.1	-00.1	N 21 36.9	-00.4
16	58 31.0	-00.1	N 21 36.5	-00.4
17	73 30.9	+00.0	N 21 36.1	-00.4
18	88 30.9	-00.1	N 21 35.7	-00.4
19	103 30.8	-00.1	N 21 35.3	-00.4
20	118 30.7	+00.0	N 21 34.9	-00.3
21	133 30.7	-00.1	N 21 34.6	-00.4
22	148 30.6	-00.1	N 21 34.2	-00.4
23	163 30.5	+00.0	N 21 33.8	-00.4

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	247°	246°	246°	246°	246°	246°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	207 08.6	-00.8	N 22 30.0	+00.2
01	222 07.8	-00.8	N 22 30.2	+00.2
02	237 07.0	-00.8	N 22 30.4	+00.2
03	252 06.2	-00.8	N 22 30.6	+00.2
04	267 05.4	-00.8	N 22 30.8	+00.2
05	282 04.6	-00.8	N 22 31.0	+00.2
06	297 03.8	-00.7	N 22 31.2	+00.3
07	312 03.1	-00.8	N 22 31.5	+00.2
08	327 02.3	-00.8	N 22 31.7	+00.2
09	342 01.5	-00.8	N 22 31.9	+00.2
10	357 00.7	-00.8	N 22 32.1	+00.2
11	11 59.9	-00.8	N 22 32.3	+00.2
12	26 59.1	-00.8	N 22 32.5	+00.2
13	41 58.3	-00.8	N 22 32.7	+00.2
14	56 57.5	-00.7	N 22 32.9	+00.2
15	71 56.8	-00.8	N 22 33.1	+00.2
16	86 56.0	-00.8	N 22 33.3	+00.2
17	101 55.2	-00.8	N 22 33.5	+00.2
18	116 54.4	-00.8	N 22 33.7	+00.2
19	131 53.6	-00.8	N 22 33.9	+00.2
20	146 52.8	-00.8	N 22 34.1	+00.2
21	161 52.0	-00.8	N 22 34.3	+00.2
22	176 51.2	-00.8	N 22 34.5	+00.2
23	191 50.4	-00.8	N 22 34.7	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	275°	275°	275°	275°	274°	274°

Greenwich Culmination Time: 10:11

Moon

A: 53%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	354 14.1	-39.3	S 25 39.4	-05.7
01	8 34.8	-39.2	S 25 33.7	-05.9
02	22 55.6	-39.1	S 25 27.8	-06.0
03	37 16.5	-39.1	S 25 21.8	-06.3
04	51 37.4	-38.9	S 25 15.5	-06.5
05	65 58.5	-38.9	S 25 09.0	-06.6
06	80 19.6	-38.7	S 25 02.4	-06.9
07	94 40.9	-38.7	S 24 55.5	-07.0
08	109 02.2	-38.6	S 24 48.5	-07.2
09	123 23.6	-38.5	S 24 41.3	-07.4
10	137 45.1	-38.3	S 24 33.9	-07.6
11	152 06.8	-38.3	S 24 26.3	-07.7
12	166 28.5	-38.2	S 24 18.6	-08.0
13	180 50.3	-38.0	S 24 10.6	-08.1
14	195 12.3	-38.0	S 24 02.5	-08.3
15	209 34.3	-37.8	S 23 54.2	-08.4
16	223 56.5	-37.7	S 23 45.8	-08.6
17	238 18.8	-37.6	S 23 37.2	-08.8
18	252 41.2	-37.5	S 23 28.4	-09.0
19	267 03.7	-37.4	S 23 19.4	-09.1
20	281 26.3	-37.3	S 23 10.3	-09.2
21	295 49.0	-37.1	S 23 01.1	-09.5
22	310 11.9	-37.0	S 22 51.6	-09.6
23	324 34.9	-36.9	S 22 42.0	-09.7

UT	02	06	10	14	18	22
SD	16′7	16′7	16′7	16′6	16′6	16′6
HP	61′3	61′2	61′2	61′1	61′0	61′0
SHA	061°	058°	055°	053°	050°	047°

Greenwich Culmination Time: 00:24

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	257 29.3	+00.8	N 11 51.3	+00.6
01	272 30.1	+00.8	N 11 51.9	+00.6
02	287 30.9	+00.9	N 11 52.5	+00.5
03	302 31.8	+00.8	N 11 53.0	+00.6
04	317 32.6	+00.8	N 11 53.6	+00.6
05	332 33.4	+00.8	N 11 54.2	+00.5
06	347 34.2	+00.8	N 11 54.7	+00.6
07	2 35.0	+00.8	N 11 55.3	+00.6
08	17 35.8	+00.8	N 11 55.9	+00.5
09	32 36.6	+00.9	N 11 56.4	+00.6
10	47 37.5	+00.8	N 11 57.0	+00.6
11	62 38.3	+00.8	N 11 57.6	+00.6
12	77 39.1	+00.8	N 11 58.2	+00.5
13	92 39.9	+00.8	N 11 58.7	+00.6
14	107 40.7	+00.8	N 11 59.3	+00.6
15	122 41.5	+00.9	N 11 59.9	+00.5
16	137 42.4	+00.8	N 12 00.4	+00.6
17	152 43.2	+00.8	N 12 01.0	+00.6
18	167 44.0	+00.8	N 12 01.6	+00.5
19	182 44.8	+00.8	N 12 02.1	+00.6
20	197 45.6	+00.8	N 12 02.7	+00.6
21	212 46.4	+00.8	N 12 03.3	+00.5
22	227 47.2	+00.9	N 12 03.8	+00.6
23	242 48.1	+00.8	N 12 04.4	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	326°	325°	325°	325°	325°	325°

Greenwich Culmination Time: 06:49

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	283 37.9	+02.3	N 02 04.1	+00.0
01	298 40.2	+02.4	N 02 04.1	+00.1
02	313 42.6	+02.3	N 02 04.2	+00.0
03	328 44.9	+02.4	N 02 04.2	+00.0
04	343 47.3	+02.3	N 02 04.2	+00.1
05	358 49.6	+02.4	N 02 04.3	+00.0
06	13 52.0	+02.3	N 02 04.3	+00.1
07	28 54.3	+02.4	N 02 04.4	+00.0
08	43 56.7	+02.3	N 02 04.4	+00.0
09	58 59.0	+02.4	N 02 04.4	+00.1
10	74 01.4	+02.3	N 02 04.5	+00.0
11	89 03.7	+02.4	N 02 04.5	+00.0
12	104 06.1	+02.4	N 02 04.5	+00.1
13	119 08.5	+02.3	N 02 04.6	+00.0
14	134 10.8	+02.4	N 02 04.6	+00.0
15	149 13.2	+02.3	N 02 04.6	+00.1
16	164 15.5	+02.4	N 02 04.7	+00.0
17	179 17.9	+02.3	N 02 04.7	+00.0
18	194 20.2	+02.4	N 02 04.7	+00.1
19	209 22.6	+02.3	N 02 04.8	+00.0
20	224 24.9	+02.4	N 02 04.8	+00.0
21	239 27.3	+02.3	N 02 04.8	+00.1
22	254 29.6	+02.4	N 02 04.9	+00.0
23	269 32.0	+02.4	N 02 04.9	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 05:04

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	325 01.7	+02.6	S 14 39.9	+00.0
01	340 04.3	+02.6	S 14 39.9	+00.1
02	355 06.9	+02.6	S 14 40.0	+00.0
03	10 09.5	+02.6	S 14 40.0	+00.1
04	25 12.1	+02.6	S 14 40.1	+00.0
05	40 14.7	+02.6	S 14 40.1	+00.1
06	55 17.3	+02.6	S 14 40.2	+00.0
07	70 19.9	+02.6	S 14 40.2	+00.1
08	85 22.5	+02.6	S 14 40.3	+00.0
09	100 25.1	+02.6	S 14 40.3	+00.1
10	115 27.7	+02.6	S 14 40.4	+00.1
11	130 30.3	+02.6	S 14 40.5	+00.0
12	145 32.9	+02.6	S 14 40.5	+00.1
13	160 35.5	+02.6	S 14 40.6	+00.0
14	175 38.1	+02.6	S 14 40.6	+00.1
15	190 40.7	+02.6	S 14 40.7	+00.0
16	205 43.3	+02.6	S 14 40.7	+00.1
17	220 45.9	+02.6	S 14 40.8	+00.0
18	235 48.5	+02.6	S 14 40.8	+00.1
19	250 51.1	+02.6	S 14 40.9	+00.0
20	265 53.7	+02.6	S 14 40.9	+00.1
21	280 56.3	+02.6	S 14 41.0	+00.0
22	295 58.9	+02.7	S 14 41.0	+00.1
23	311 01.6	+02.6	S 14 41.1	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 02:19

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2022 July 19 Tuesday

(day 200 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 25.3	+00.0	N 20 53.0	−00.4
01	193 25.3	−00.1	N 20 52.6	−00.5
02	208 25.2	+00.0	N 20 52.1	−00.4
03	223 25.2	+00.0	N 20 51.7	−00.5
04	238 25.2	−00.1	N 20 51.2	−00.4
05	253 25.1	+00.0	N 20 50.8	−00.5
06	268 25.1	−00.1	N 20 50.3	−00.5
07	283 25.0	+00.0	N 20 49.8	−00.4
08	298 25.0	+00.0	N 20 49.4	−00.5
09	313 25.0	−00.1	N 20 48.9	−00.4
10	328 24.9	+00.0	N 20 48.5	−00.5
11	343 24.9	−00.1	N 20 48.0	−00.4
12	358 24.8	+00.0	N 20 47.6	−00.5
13	13 24.8	−00.1	N 20 47.1	−00.5
14	28 24.7	+00.0	N 20 46.6	−00.4
15	43 24.7	+00.0	N 20 46.2	−00.5
16	58 24.7	−00.1	N 20 45.7	−00.4
17	73 24.6	+00.0	N 20 45.3	−00.5
18	88 24.6	+00.0	N 20 44.8	−00.5
19	103 24.6	−00.1	N 20 44.3	−00.4
20	118 24.5	+00.0	N 20 43.9	−00.5
21	133 24.5	−00.1	N 20 43.4	−00.4
22	148 24.4	+00.0	N 20 43.0	−00.5
23	163 24.4	+00.0	N 20 42.5	−00.5

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	242°	241°	241°	241°	241°	241°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	205 32.8	−00.8	N 22 48.2	+00.1
01	220 32.0	−00.9	N 22 48.3	+00.1
02	235 31.1	−00.8	N 22 48.4	+00.1
03	250 30.3	−00.8	N 22 48.5	+00.1
04	265 29.5	−00.8	N 22 48.6	+00.1
05	280 28.7	−00.8	N 22 48.7	+00.0
06	295 27.9	−00.8	N 22 48.7	+00.1
07	310 27.1	−00.8	N 22 48.8	+00.1
08	325 26.3	−00.8	N 22 48.9	+00.1
09	340 25.5	−00.8	N 22 49.0	+00.0
10	355 24.7	−00.9	N 22 49.0	+00.1
11	10 23.8	−00.8	N 22 49.1	+00.1
12	25 23.0	−00.8	N 22 49.2	+00.1
13	40 22.2	−00.8	N 22 49.3	+00.0
14	55 21.4	−00.8	N 22 49.3	+00.1
15	70 20.6	−00.8	N 22 49.4	+00.1
16	85 19.8	−00.8	N 22 49.5	+00.0
17	100 19.0	−00.8	N 22 49.5	+00.1
18	115 18.2	−00.8	N 22 49.6	+00.1
19	130 17.4	−00.9	N 22 49.7	+00.0
20	145 16.5	−00.8	N 22 49.7	+00.1
21	160 15.7	−00.8	N 22 49.8	+00.1
22	175 14.9	−00.8	N 22 49.9	+00.0
23	190 14.1	−00.8	N 22 49.9	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	269°	268°	268°	268°	268°	268°

Greenwich Culmination Time: 10:18

Moon

A: 70%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	288 51.3	−27.3	S 00 21.0	−15.1
01	303 24.0	−27.2	S 00 05.9	−15.1
02	317 56.8	−27.1	N 00 09.2	+15.1
03	332 29.7	−27.2	N 00 24.3	+15.1
04	347 02.5	−27.0	N 00 39.4	+15.0
05	1 35.5	−27.1	N 00 54.4	+15.0
06	16 08.4	−27.0	N 01 09.4	+15.0
07	30 41.4	−27.0	N 01 24.4	+14.9
08	45 14.4	−26.9	N 01 39.3	+14.9
09	59 47.5	−27.0	N 01 54.2	+14.9
10	74 20.5	−26.8	N 02 09.1	+14.9
11	88 53.7	−26.9	N 02 24.0	+14.8
12	103 26.8	−26.8	N 02 38.8	+14.8
13	117 60.0	−26.8	N 02 53.6	+14.8
14	132 33.2	−26.8	N 03 08.4	+14.7
15	147 06.4	−26.8	N 03 23.1	+14.7
16	161 39.6	−26.7	N 03 37.8	+14.7
17	176 12.9	−26.7	N 03 52.5	+14.6
18	190 46.2	−26.7	N 04 07.1	+14.6
19	205 19.5	−26.6	N 04 21.7	+14.5
20	219 52.9	−26.7	N 04 36.2	+14.6
21	234 26.2	−26.6	N 04 50.8	+14.4
22	248 59.6	−26.6	N 05 05.2	+14.5
23	263 33.0	−26.6	N 05 19.7	+14.4

UT	02	06	10	14	18	22
SD	15′7	15′6	15′6	15′5	15′5	15′5
HP	57′5	57′3	57′2	57′0	56′9	56′7
SHA	351°	349°	347°	345°	343°	341°

Greenwich Culmination Time: 04:53

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	259 07.5	+00.8	N 12 58.3	+00.5
01	274 08.3	+00.8	N 12 58.8	+00.6
02	289 09.1	+00.9	N 12 59.4	+00.5
03	304 10.0	+00.8	N 12 59.9	+00.5
04	319 10.8	+00.8	N 13 00.4	+00.6
05	334 11.6	+00.8	N 13 01.0	+00.5
06	349 12.4	+00.8	N 13 01.5	+00.6
07	4 13.2	+00.9	N 13 02.1	+00.5
08	19 14.1	+00.8	N 13 02.6	+00.5
09	34 14.9	+00.8	N 13 03.1	+00.6
10	49 15.7	+00.8	N 13 03.7	+00.5
11	64 16.5	+00.9	N 13 04.2	+00.6
12	79 17.4	+00.8	N 13 04.8	+00.5
13	94 18.2	+00.8	N 13 05.3	+00.6
14	109 19.0	+00.8	N 13 05.9	+00.5
15	124 19.8	+00.9	N 13 06.4	+00.5
16	139 20.7	+00.8	N 13 06.9	+00.6
17	154 21.5	+00.8	N 13 07.5	+00.5
18	169 22.3	+00.8	N 13 08.0	+00.6
19	184 23.1	+00.9	N 13 08.6	+00.5
20	199 24.0	+00.8	N 13 09.1	+00.5
21	214 24.8	+00.8	N 13 09.6	+00.6
22	229 25.6	+00.8	N 13 10.2	+00.5
23	244 26.4	+00.9	N 13 10.7	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	322°	322°	322°	322°	322°	322°

Greenwich Culmination Time: 06:43

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	288 21.9	+02.4	N 02 07.5	+00.0
01	303 24.3	+02.4	N 02 07.5	+00.0
02	318 26.7	+02.4	N 02 07.5	+00.0
03	333 29.1	+02.4	N 02 07.5	+00.1
04	348 31.5	+02.4	N 02 07.6	+00.0
05	3 33.9	+02.4	N 02 07.6	+00.0
06	18 36.3	+02.3	N 02 07.6	+00.0
07	33 38.6	+02.4	N 02 07.6	+00.0
08	48 41.0	+02.4	N 02 07.6	+00.1
09	63 43.4	+02.4	N 02 07.7	+00.0
10	78 45.8	+02.4	N 02 07.7	+00.0
11	93 48.2	+02.4	N 02 07.7	+00.0
12	108 50.6	+02.4	N 02 07.7	+00.0
13	123 53.0	+02.4	N 02 07.7	+00.1
14	138 55.4	+02.4	N 02 07.8	+00.0
15	153 57.8	+02.3	N 02 07.8	+00.0
16	169 00.1	+02.4	N 02 07.8	+00.0
17	184 02.5	+02.4	N 02 07.8	+00.0
18	199 04.9	+02.4	N 02 07.8	+00.0
19	214 07.3	+02.4	N 02 07.8	+00.1
20	229 09.7	+02.4	N 02 07.9	+00.0
21	244 12.1	+02.4	N 02 07.9	+00.0
22	259 14.5	+02.4	N 02 07.9	+00.0
23	274 16.9	+02.4	N 02 07.9	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 04:45

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	330 14.5	+02.6	S 14 46.5	+00.0
01	345 17.1	+02.6	S 14 46.5	+00.1
02	0 19.7	+02.6	S 14 46.6	+00.0
03	15 22.3	+02.6	S 14 46.6	+00.1
04	30 24.9	+02.6	S 14 46.7	+00.0
05	45 27.5	+02.7	S 14 46.7	+00.1
06	60 30.2	+02.6	S 14 46.8	+00.1
07	75 32.8	+02.6	S 14 46.9	+00.0
08	90 35.4	+02.6	S 14 46.9	+00.1
09	105 38.0	+02.6	S 14 47.0	+00.0
10	120 40.6	+02.6	S 14 47.0	+00.1
11	135 43.2	+02.6	S 14 47.1	+00.0
12	150 45.8	+02.6	S 14 47.1	+00.1
13	165 48.4	+02.7	S 14 47.2	+00.1
14	180 51.1	+02.6	S 14 47.3	+00.0
15	195 53.7	+02.6	S 14 47.3	+00.1
16	210 56.3	+02.6	S 14 47.4	+00.0
17	225 58.9	+02.6	S 14 47.4	+00.1
18	241 01.5	+02.6	S 14 47.5	+00.0
19	256 04.1	+02.6	S 14 47.5	+00.1
20	271 06.7	+02.7	S 14 47.6	+00.1
21	286 09.4	+02.6	S 14 47.7	+00.0
22	301 12.0	+02.6	S 14 47.7	+00.1
23	316 14.6	+02.6	S 14 47.8	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	034°	034°	034°

Greenwich Culmination Time: 01:58

2022 July 16 Saturday

(day 197 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 29.0	−00.1	N 21 23.8	−00.4
01	193 28.9	+00.0	N 21 23.4	−00.4
02	208 28.9	−00.1	N 21 23.0	−00.4
03	223 28.8	+00.0	N 21 22.6	−00.4
04	238 28.8	−00.1	N 21 22.2	−00.4
05	253 28.7	−00.1	N 21 21.8	−00.4
06	268 28.6	+00.0	N 21 21.4	−00.4
07	283 28.6	−00.1	N 21 21.0	−00.4
08	298 28.5	+00.0	N 21 20.6	−00.4
09	313 28.5	−00.1	N 21 20.2	−00.5
10	328 28.4	+00.0	N 21 19.7	−00.4
11	343 28.4	−00.1	N 21 19.3	−00.4
12	358 28.3	−00.1	N 21 18.9	−00.4
13	13 28.2	+00.0	N 21 18.5	−00.4
14	28 28.2	−00.1	N 21 18.1	−00.4
15	43 28.1	+00.0	N 21 17.7	−00.4
16	58 28.1	−00.1	N 21 17.3	−00.4
17	73 28.0	+00.0	N 21 16.9	−00.5
18	88 28.0	−00.1	N 21 16.4	−00.4
19	103 27.9	+00.0	N 21 16.0	−00.4
20	118 27.9	−00.1	N 21 15.6	−00.4
21	133 27.8	−00.1	N 21 15.2	−00.4
22	148 27.7	+00.0	N 21 14.8	−00.5
23	163 27.7	−00.1	N 21 14.3	−00.4

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	245°	244°	244°	244°	244°	244°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	206 30.6	−00.8	N 22 39.2	+00.1
01	221 29.8	−00.8	N 22 39.3	+00.2
02	236 29.0	−00.8	N 22 39.5	+00.2
03	251 28.2	−00.8	N 22 39.7	+00.1
04	266 27.4	−00.8	N 22 39.8	+00.2
05	281 26.6	−00.8	N 22 40.0	+00.2
06	296 25.8	−00.8	N 22 40.2	+00.1
07	311 25.0	−00.8	N 22 40.3	+00.2
08	326 24.2	−00.8	N 22 40.5	+00.1
09	341 23.4	−00.8	N 22 40.6	+00.2
10	356 22.6	−00.8	N 22 40.8	+00.1
11	11 21.8	−00.8	N 22 40.9	+00.2
12	26 21.0	−00.8	N 22 41.1	+00.1
13	41 20.2	−00.8	N 22 41.2	+00.2
14	56 19.4	−00.8	N 22 41.4	+00.1
15	71 18.6	−00.8	N 22 41.5	+00.2
16	86 17.8	−00.8	N 22 41.7	+00.1
17	101 17.0	−00.8	N 22 41.8	+00.2
18	116 16.2	−00.8	N 22 42.0	+00.1
19	131 15.4	−00.8	N 22 42.1	+00.2
20	146 14.6	−00.8	N 22 42.3	+00.1
21	161 13.8	−00.8	N 22 42.4	+00.2
22	176 13.0	−00.8	N 22 42.6	+00.1
23	191 12.2	−00.8	N 22 42.7	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	273°	272°	272°	272°	272°	271°

Greenwich Culmination Time: 10:14

Moon

A: 61%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	324 50.4	−33.7	S 17 57.9	−12.8
01	339 16.7	−33.6	S 17 45.1	−13.0
02	353 43.1	−33.4	S 17 32.1	−13.1
03	8 09.7	−33.3	S 17 19.0	−13.1
04	22 36.4	−33.2	S 17 05.9	−13.3
05	37 03.2	−33.1	S 16 52.6	−13.3
06	51 30.1	−33.0	S 16 39.3	−13.4
07	65 57.1	−32.8	S 16 25.9	−13.5
08	80 24.3	−32.7	S 16 12.4	−13.6
09	94 51.6	−32.6	S 15 58.8	−13.7
10	109 19.0	−32.4	S 15 45.1	−13.7
11	123 46.6	−32.4	S 15 31.4	−13.8
12	138 14.2	−32.2	S 15 17.6	−13.9
13	152 42.0	−32.1	S 15 03.7	−13.9
14	167 09.9	−32.0	S 14 49.8	−14.1
15	181 37.9	−31.8	S 14 35.7	−14.1
16	196 06.1	−31.8	S 14 21.6	−14.1
17	210 34.3	−31.6	S 14 07.5	−14.2
18	225 02.7	−31.5	S 13 53.3	−14.3
19	239 31.2	−31.4	S 13 39.0	−14.3
20	253 59.8	−31.3	S 13 24.7	−14.4
21	268 28.5	−31.2	S 13 10.3	−14.5
22	282 57.3	−31.1	S 12 55.8	−14.5
23	297 26.2	−30.9	S 12 41.3	−14.5

UT	02	06	10	14	18	22
SD	16′4	16′4	16′3	16′3	16′3	16′2
HP	60′2	60′1	59′9	59′8	59′7	59′5
SHA	030°	027°	025°	023°	020°	018°

Greenwich Culmination Time: 02:26

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	258 08.5	+00.8	N 12 18.5	+00.6
01	273 09.3	+00.8	N 12 19.1	+00.5
02	288 10.1	+00.8	N 12 19.6	+00.6
03	303 10.9	+00.8	N 12 20.2	+00.5
04	318 11.7	+00.8	N 12 20.7	+00.6
05	333 12.5	+00.9	N 12 21.3	+00.6
06	348 13.4	+00.8	N 12 21.9	+00.5
07	3 14.2	+00.8	N 12 22.4	+00.6
08	18 15.0	+00.8	N 12 23.0	+00.5
09	33 15.8	+00.8	N 12 23.5	+00.6
10	48 16.6	+00.9	N 12 24.1	+00.5
11	63 17.5	+00.8	N 12 24.6	+00.6
12	78 18.3	+00.8	N 12 25.2	+00.6
13	93 19.1	+00.8	N 12 25.8	+00.5
14	108 19.9	+00.8	N 12 26.3	+00.6
15	123 20.7	+00.8	N 12 26.9	+00.5
16	138 21.5	+00.9	N 12 27.4	+00.6
17	153 22.4	+00.8	N 12 28.0	+00.5
18	168 23.2	+00.8	N 12 28.5	+00.6
19	183 24.0	+00.8	N 12 29.1	+00.6
20	198 24.8	+00.8	N 12 29.7	+00.5
21	213 25.6	+00.9	N 12 30.2	+00.6
22	228 26.5	+00.8	N 12 30.8	+00.5
23	243 27.3	+00.8	N 12 31.3	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	324°	324°	324°	324°	324°	324°

Greenwich Culmination Time: 06:47

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	285 31.0	+02.4	N 02 05.7	+00.0
01	300 33.4	+02.3	N 02 05.7	+00.0
02	315 35.7	+02.4	N 02 05.7	+00.1
03	330 38.1	+02.3	N 02 05.8	+00.0
04	345 40.4	+02.4	N 02 05.8	+00.0
05	0 42.8	+02.4	N 02 05.8	+00.1
06	15 45.2	+02.3	N 02 05.9	+00.0
07	30 47.5	+02.4	N 02 05.9	+00.0
08	45 49.9	+02.4	N 02 05.9	+00.0
09	60 52.3	+02.3	N 02 05.9	+00.1
10	75 54.6	+02.4	N 02 06.0	+00.0
11	90 57.0	+02.4	N 02 06.0	+00.0
12	105 59.4	+02.3	N 02 06.0	+00.1
13	121 01.7	+02.4	N 02 06.1	+00.0
14	136 04.1	+02.4	N 02 06.1	+00.0
15	151 06.5	+02.3	N 02 06.1	+00.0
16	166 08.8	+02.4	N 02 06.1	+00.1
17	181 11.2	+02.4	N 02 06.2	+00.0
18	196 13.6	+02.3	N 02 06.2	+00.0
19	211 15.9	+02.4	N 02 06.2	+00.1
20	226 18.3	+02.4	N 02 06.3	+00.0
21	241 20.7	+02.4	N 02 06.3	+00.0
22	256 23.1	+02.3	N 02 06.3	+00.0
23	271 25.4	+02.4	N 02 06.3	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 04:57

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	327 06.6	+02.6	S 14 42.5	+00.0
01	342 09.2	+02.7	S 14 42.5	+00.1
02	357 11.9	+02.6	S 14 42.6	+00.0
03	12 14.5	+02.6	S 14 42.6	+00.1
04	27 17.1	+02.6	S 14 42.7	+00.0
05	42 19.7	+02.6	S 14 42.7	+00.1
06	57 22.3	+02.6	S 14 42.8	+00.0
07	72 24.9	+02.6	S 14 42.8	+00.1
08	87 27.5	+02.6	S 14 42.9	+00.0
09	102 30.1	+02.6	S 14 42.9	+00.1
10	117 32.7	+02.6	S 14 43.0	+00.1
11	132 35.3	+02.6	S 14 43.1	+00.0
12	147 37.9	+02.6	S 14 43.1	+00.1
13	162 40.5	+02.6	S 14 43.2	+00.0
14	177 43.1	+02.6	S 14 43.2	+00.1
15	192 45.7	+02.6	S 14 43.3	+00.0
16	207 48.3	+02.6	S 14 43.3	+00.1
17	222 50.9	+02.6	S 14 43.4	+00.0
18	237 53.5	+02.7	S 14 43.4	+00.1
19	252 56.2	+02.6	S 14 43.5	+00.0
20	267 58.8	+02.6	S 14 43.5	+00.1
21	283 01.4	+02.6	S 14 43.6	+00.1
22	298 04.0	+02.6	S 14 43.7	+00.0
23	313 06.6	+02.6	S 14 43.7	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 02:11

2022 July 17 Sunday (day 198 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 27.6	+00.0	N 21 13.9	−00.4
01	193 27.6	−00.1	N 21 13.5	−00.4
02	208 27.5	+00.0	N 21 13.1	−00.4
03	223 27.5	−00.1	N 21 12.7	−00.5
04	238 27.4	+00.0	N 21 12.2	−00.4
05	253 27.4	−00.1	N 21 11.8	−00.4
06	268 27.3	+00.0	N 21 11.4	−00.4
07	283 27.3	−00.1	N 21 11.0	−00.5
08	298 27.2	+00.0	N 21 10.5	−00.4
09	313 27.2	−00.1	N 21 10.1	−00.4
10	328 27.1	+00.0	N 21 09.7	−00.4
11	343 27.1	−00.1	N 21 09.3	−00.5
12	358 27.0	+00.0	N 21 08.8	−00.4
13	13 27.0	−00.1	N 21 08.4	−00.4
14	28 26.9	+00.0	N 21 08.0	−00.5
15	43 26.9	−00.1	N 21 07.5	−00.4
16	58 26.8	+00.0	N 21 07.1	−00.4
17	73 26.8	−00.1	N 21 06.7	−00.5
18	88 26.7	+00.0	N 21 06.2	−00.4
19	103 26.7	−00.1	N 21 05.8	−00.4
20	118 26.6	+00.0	N 21 05.4	−00.5
21	133 26.6	−00.1	N 21 04.9	−00.4
22	148 26.5	+00.0	N 21 04.5	−00.4
23	163 26.5	−00.1	N 21 04.1	−00.5

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	244°	243°	243°	243°	243°	243°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	206 11.4	−00.8	N 22 42.8	+00.2
01	221 10.6	−00.8	N 22 43.0	+00.1
02	236 09.8	−00.8	N 22 43.1	+00.2
03	251 09.0	−00.8	N 22 43.3	+00.1
04	266 08.2	−00.8	N 22 43.4	+00.1
05	281 07.4	−00.8	N 22 43.5	+00.2
06	296 06.6	−00.8	N 22 43.7	+00.1
07	311 05.8	−00.8	N 22 43.8	+00.1
08	326 05.0	−00.8	N 22 43.9	+00.1
09	341 04.2	−00.8	N 22 44.0	+00.2
10	356 03.4	−00.8	N 22 44.2	+00.1
11	11 02.6	−00.8	N 22 44.3	+00.1
12	26 01.8	−00.8	N 22 44.4	+00.2
13	41 01.0	−00.8	N 22 44.6	+00.1
14	56 00.2	−00.8	N 22 44.7	+00.1
15	70 59.4	−00.8	N 22 44.8	+00.1
16	85 58.6	−00.8	N 22 44.9	+00.1
17	100 57.8	−00.8	N 22 45.0	+00.2
18	115 57.0	−00.8	N 22 45.2	+00.1
19	130 56.2	−00.8	N 22 45.3	+00.1
20	145 55.4	−00.8	N 22 45.4	+00.1
21	160 54.6	−00.8	N 22 45.5	+00.1
22	175 53.8	−00.9	N 22 45.6	+00.1
23	190 52.9	−00.8	N 22 45.7	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	271°	271°	271°	271°	270°	270°

Greenwich Culmination Time: 10:15

Moon

A: 64%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	311 55.3	−30.9	S 12 26.8	−14.6
01	326 24.4	−30.8	S 12 12.2	−14.7
02	340 53.6	−30.6	S 11 57.5	−14.6
03	355 23.0	−30.6	S 11 42.9	−14.8
04	9 52.4	−30.4	S 11 28.1	−14.8
05	24 22.0	−30.3	S 11 13.3	−14.8
06	38 51.7	−30.3	S 10 58.5	−14.8
07	53 21.4	−30.1	S 10 43.7	−14.9
08	67 51.3	−30.1	S 10 28.8	−14.9
09	82 21.2	−29.9	S 10 13.9	−15.0
10	96 51.3	−29.9	S 09 58.9	−15.0
11	111 21.4	−29.7	S 09 43.9	−15.0
12	125 51.7	−29.7	S 09 28.9	−15.0
13	140 22.0	−29.6	S 09 13.9	−15.1
14	154 52.4	−29.5	S 08 58.8	−15.1
15	169 22.9	−29.4	S 08 43.7	−15.1
16	183 53.5	−29.3	S 08 28.6	−15.2
17	198 24.2	−29.2	S 08 13.4	−15.1
18	212 55.0	−29.1	S 07 58.3	−15.2
19	227 25.9	−29.1	S 07 43.1	−15.2
20	241 56.8	−29.0	S 07 27.9	−15.2
21	256 27.8	−28.9	S 07 12.7	−15.3
22	270 58.9	−28.8	S 06 57.4	−15.2
23	285 30.1	−28.7	S 06 42.2	−15.3

UT	02	06	10	14	18	22
SD	16′2	16′1	16′1	16′0	16′0	16′0
HP	59′4	59′2	59′1	58′9	58′7	58′6
SHA	016°	014°	012°	009°	007°	005°

Greenwich Culmination Time: 03:19

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	258 28.1	+00.8	N 12 31.9	+00.5
01	273 28.9	+00.8	N 12 32.4	+00.6
02	288 29.7	+00.8	N 12 33.0	+00.5
03	303 30.5	+00.9	N 12 33.5	+00.6
04	318 31.4	+00.8	N 12 34.1	+00.6
05	333 32.2	+00.8	N 12 34.7	+00.5
06	348 33.0	+00.8	N 12 35.2	+00.6
07	3 33.8	+00.8	N 12 35.8	+00.5
08	18 34.6	+00.9	N 12 36.3	+00.6
09	33 35.5	+00.8	N 12 36.9	+00.5
10	48 36.3	+00.8	N 12 37.4	+00.6
11	63 37.1	+00.8	N 12 38.0	+00.5
12	78 37.9	+00.8	N 12 38.5	+00.6
13	93 38.7	+00.9	N 12 39.1	+00.5
14	108 39.6	+00.8	N 12 39.6	+00.6
15	123 40.4	+00.8	N 12 40.2	+00.5
16	138 41.2	+00.8	N 12 40.7	+00.6
17	153 42.0	+00.8	N 12 41.3	+00.5
18	168 42.8	+00.9	N 12 41.8	+00.6
19	183 43.7	+00.8	N 12 42.4	+00.5
20	198 44.5	+00.8	N 12 42.9	+00.6
21	213 45.3	+00.8	N 12 43.5	+00.5
22	228 46.1	+00.8	N 12 44.0	+00.6
23	243 46.9	+00.9	N 12 44.6	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	324°	324°	323°	323°	323°	323°

Greenwich Culmination Time: 06:45

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	286 27.8	+02.4	N 02 06.4	+00.0
01	301 30.2	+02.3	N 02 06.4	+00.0
02	316 32.5	+02.4	N 02 06.4	+00.0
03	331 34.9	+02.4	N 02 06.4	+00.1
04	346 37.3	+02.4	N 02 06.5	+00.0
05	1 39.7	+02.3	N 02 06.5	+00.0
06	16 42.0	+02.4	N 02 06.5	+00.0
07	31 44.4	+02.4	N 02 06.5	+00.1
08	46 46.8	+02.3	N 02 06.6	+00.0
09	61 49.1	+02.4	N 02 06.6	+00.0
10	76 51.5	+02.4	N 02 06.6	+00.0
11	91 53.9	+02.4	N 02 06.6	+00.1
12	106 56.3	+02.3	N 02 06.7	+00.0
13	121 58.6	+02.4	N 02 06.7	+00.0
14	137 01.0	+02.4	N 02 06.7	+00.0
15	152 03.4	+02.4	N 02 06.7	+00.1
16	167 05.8	+02.3	N 02 06.8	+00.0
17	182 08.1	+02.4	N 02 06.8	+00.0
18	197 10.5	+02.4	N 02 06.8	+00.0
19	212 12.9	+02.4	N 02 06.8	+00.1
20	227 15.3	+02.3	N 02 06.9	+00.0
21	242 17.6	+02.4	N 02 06.9	+00.0
22	257 20.0	+02.4	N 02 06.9	+00.0
23	272 22.4	+02.4	N 02 06.9	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 04:53

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	328 09.2	+02.6	S 14 43.8	+00.0
01	343 11.8	+02.6	S 14 43.8	+00.1
02	358 14.4	+02.6	S 14 43.9	+00.0
03	13 17.0	+02.6	S 14 43.9	+00.1
04	28 19.6	+02.6	S 14 44.0	+00.0
05	43 22.2	+02.6	S 14 44.0	+00.1
06	58 24.8	+02.6	S 14 44.1	+00.1
07	73 27.4	+02.7	S 14 44.2	+00.0
08	88 30.1	+02.6	S 14 44.2	+00.1
09	103 32.7	+02.6	S 14 44.3	+00.0
10	118 35.3	+02.6	S 14 44.3	+00.1
11	133 37.9	+02.6	S 14 44.4	+00.0
12	148 40.5	+02.6	S 14 44.4	+00.1
13	163 43.1	+02.6	S 14 44.5	+00.0
14	178 45.7	+02.6	S 14 44.5	+00.1
15	193 48.3	+02.6	S 14 44.6	+00.1
16	208 50.9	+02.6	S 14 44.7	+00.0
17	223 53.5	+02.6	S 14 44.7	+00.1
18	238 56.1	+02.7	S 14 44.8	+00.0
19	253 58.8	+02.6	S 14 44.8	+00.1
20	269 01.4	+02.6	S 14 44.9	+00.0
21	284 04.0	+02.6	S 14 44.9	+00.1
22	299 06.6	+02.6	S 14 45.0	+00.1
23	314 09.2	+02.6	S 14 45.1	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 02:07

2022 July 18 Monday (day 199 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 26.4	+00.0	N 21 03.6	−00.4
01	193 26.4	−00.1	N 21 03.2	−00.4
02	208 26.3	+00.0	N 21 02.8	−00.5
03	223 26.3	−00.1	N 21 02.3	−00.4
04	238 26.2	+00.0	N 21 01.9	−00.4
05	253 26.2	−00.1	N 21 01.5	−00.5
06	268 26.1	+00.0	N 21 01.0	−00.4
07	283 26.1	−00.1	N 21 00.6	−00.5
08	298 26.0	+00.0	N 21 00.1	−00.4
09	313 26.0	−00.1	N 20 59.7	−00.4
10	328 25.9	+00.0	N 20 59.3	−00.5
11	343 25.9	+00.0	N 20 58.8	−00.4
12	358 25.9	−00.1	N 20 58.4	−00.5
13	13 25.8	+00.0	N 20 57.9	−00.4
14	28 25.8	−00.1	N 20 57.5	−00.5
15	43 25.7	+00.0	N 20 57.0	−00.4
16	58 25.7	−00.1	N 20 56.6	−00.4
17	73 25.6	+00.0	N 20 56.2	−00.5
18	88 25.6	−00.1	N 20 55.7	−00.4
19	103 25.5	+00.0	N 20 55.3	−00.5
20	118 25.5	+00.0	N 20 54.8	−00.4
21	133 25.5	−00.1	N 20 54.4	−00.5
22	148 25.4	+00.0	N 20 53.9	−00.4
23	163 25.4	−00.1	N 20 53.5	−00.5

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	243°	242°	242°	242°	242°	242°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	205 52.1	−00.8	N 22 45.9	+00.1
01	220 51.3	−00.8	N 22 46.0	+00.1
02	235 50.5	−00.8	N 22 46.1	+00.1
03	250 49.7	−00.8	N 22 46.2	+00.1
04	265 48.9	−00.8	N 22 46.3	+00.1
05	280 48.1	−00.8	N 22 46.4	+00.1
06	295 47.3	−00.8	N 22 46.5	+00.1
07	310 46.5	−00.8	N 22 46.6	+00.1
08	325 45.7	−00.8	N 22 46.7	+00.1
09	340 44.9	−00.8	N 22 46.8	+00.1
10	355 44.1	−00.8	N 22 46.9	+00.1
11	10 43.3	−00.8	N 22 47.0	+00.1
12	25 42.5	−00.8	N 22 47.1	+00.1
13	40 41.7	−00.9	N 22 47.2	+00.1
14	55 40.8	−00.8	N 22 47.3	+00.1
15	70 40.0	−00.8	N 22 47.4	+00.1
16	85 39.2	−00.8	N 22 47.5	+00.1
17	100 38.4	−00.8	N 22 47.6	+00.1
18	115 37.6	−00.8	N 22 47.7	+00.1
19	130 36.8	−00.8	N 22 47.8	+00.1
20	145 36.0	−00.8	N 22 47.9	+00.1
21	160 35.2	−00.8	N 22 48.0	+00.1
22	175 34.4	−00.8	N 22 48.1	+00.1
23	190 33.6	−00.8	N 22 48.2	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	270°	270°	270°	269°	269°	269°

Greenwich Culmination Time: 10:17

Moon

A: 67%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	300 01.4	−28.7	S 06 26.9	−15.2
01	314 32.7	−28.6	S 06 11.7	−15.3
02	329 04.1	−28.5	S 05 56.4	−15.3
03	343 35.6	−28.4	S 05 41.1	−15.2
04	358 07.2	−28.4	S 05 25.9	−15.3
05	12 38.8	−28.3	S 05 10.6	−15.3
06	27 10.5	−28.2	S 04 55.3	−15.3
07	41 42.3	−28.2	S 04 40.0	−15.3
08	56 14.1	−28.1	S 04 24.7	−15.3
09	70 46.0	−28.1	S 04 09.4	−15.3
10	85 17.9	−27.9	S 03 54.1	−15.3
11	99 50.0	−28.0	S 03 38.8	−15.3
12	114 22.0	−27.8	S 03 23.5	−15.2
13	128 54.2	−27.8	S 03 08.3	−15.3
14	143 26.4	−27.8	S 02 53.0	−15.3
15	157 58.6	−27.6	S 02 37.7	−15.2
16	172 31.0	−27.7	S 02 22.5	−15.2
17	187 03.3	−27.6	S 02 07.3	−15.3
18	201 35.7	−27.5	S 01 52.0	−15.2
19	216 08.2	−27.5	S 01 36.8	−15.2
20	230 40.7	−27.4	S 01 21.6	−15.2
21	245 13.3	−27.4	S 01 06.4	−15.1
22	259 45.9	−27.3	S 00 51.3	−15.2
23	274 18.6	−27.3	S 00 36.1	−15.1

UT	02	06	10	14	18	22
SD	15′9	15′9	15′8	15′8	15′7	15′7
HP	58′4	58′3	58′1	57′9	57′8	57′6
SHA	003°	001°	359°	357°	355°	353°

Greenwich Culmination Time: 04:07

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	258 47.8	+00.8	N 12 45.1	+00.6
01	273 48.6	+00.8	N 12 45.7	+00.5
02	288 49.4	+00.8	N 12 46.2	+00.6
03	303 50.2	+00.8	N 12 46.8	+00.5
04	318 51.0	+00.9	N 12 47.3	+00.6
05	333 51.9	+00.8	N 12 47.9	+00.5
06	348 52.7	+00.8	N 12 48.4	+00.6
07	3 53.5	+00.8	N 12 49.0	+00.5
08	18 54.3	+00.9	N 12 49.5	+00.6
09	33 55.2	+00.8	N 12 50.1	+00.5
10	48 56.0	+00.8	N 12 50.6	+00.6
11	63 56.8	+00.8	N 12 51.2	+00.5
12	78 57.6	+00.8	N 12 51.7	+00.6
13	93 58.4	+00.9	N 12 52.3	+00.5
14	108 59.3	+00.8	N 12 52.8	+00.6
15	124 00.1	+00.8	N 12 53.4	+00.5
16	139 00.9	+00.8	N 12 53.9	+00.6
17	154 01.7	+00.9	N 12 54.5	+00.5
18	169 02.6	+00.8	N 12 55.0	+00.5
19	184 03.4	+00.8	N 12 55.5	+00.6
20	199 04.2	+00.8	N 12 56.1	+00.5
21	214 05.0	+00.8	N 12 56.6	+00.6
22	229 05.8	+00.9	N 12 57.2	+00.5
23	244 06.7	+00.8	N 12 57.7	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	323°	323°	323°	323°	323°	322°

Greenwich Culmination Time: 06:44

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	287 24.8	+02.4	N 02 07.0	+00.0
01	302 27.2	+02.3	N 02 07.0	+00.0
02	317 29.5	+02.4	N 02 07.0	+00.0
03	332 31.9	+02.4	N 02 07.0	+00.1
04	347 34.3	+02.4	N 02 07.1	+00.0
05	2 36.7	+02.4	N 02 07.1	+00.0
06	17 39.1	+02.3	N 02 07.1	+00.0
07	32 41.4	+02.4	N 02 07.1	+00.0
08	47 43.8	+02.4	N 02 07.1	+00.1
09	62 46.2	+02.4	N 02 07.2	+00.0
10	77 48.6	+02.4	N 02 07.2	+00.0
11	92 51.0	+02.3	N 02 07.2	+00.0
12	107 53.3	+02.4	N 02 07.2	+00.1
13	122 55.7	+02.4	N 02 07.3	+00.0
14	137 58.1	+02.4	N 02 07.3	+00.0
15	153 00.5	+02.4	N 02 07.3	+00.0
16	168 02.9	+02.4	N 02 07.3	+00.0
17	183 05.3	+02.3	N 02 07.3	+00.1
18	198 07.6	+02.4	N 02 07.4	+00.0
19	213 10.0	+02.4	N 02 07.4	+00.0
20	228 12.4	+02.4	N 02 07.4	+00.0
21	243 14.8	+02.4	N 02 07.4	+00.0
22	258 17.2	+02.4	N 02 07.4	+00.1
23	273 19.6	+02.3	N 02 07.5	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 04:49

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	329 11.8	+02.6	S 14 45.1	+00.1
01	344 14.4	+02.6	S 14 45.2	+00.0
02	359 17.0	+02.6	S 14 45.2	+00.1
03	14 19.6	+02.6	S 14 45.3	+00.0
04	29 22.2	+02.7	S 14 45.3	+00.1
05	44 24.9	+02.6	S 14 45.4	+00.0
06	59 27.5	+02.6	S 14 45.4	+00.1
07	74 30.1	+02.6	S 14 45.5	+00.1
08	89 32.7	+02.6	S 14 45.6	+00.0
09	104 35.3	+02.6	S 14 45.6	+00.1
10	119 37.9	+02.6	S 14 45.7	+00.0
11	134 40.5	+02.6	S 14 45.7	+00.1
12	149 43.1	+02.6	S 14 45.8	+00.0
13	164 45.7	+02.7	S 14 45.8	+00.1
14	179 48.4	+02.6	S 14 45.9	+00.1
15	194 51.0	+02.6	S 14 46.0	+00.0
16	209 53.6	+02.6	S 14 46.0	+00.1
17	224 56.2	+02.6	S 14 46.1	+00.0
18	239 58.8	+02.6	S 14 46.1	+00.1
19	255 01.4	+02.6	S 14 46.2	+00.0
20	270 04.0	+02.6	S 14 46.2	+00.1
21	285 06.6	+02.6	S 14 46.3	+00.0
22	300 09.2	+02.7	S 14 46.3	+00.1
23	315 11.9	+02.6	S 14 46.4	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	033°	033°	033°	033°	033°	033°

Greenwich Culmination Time: 02:02

2022 July 23 Saturday (day 204 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 22.3	+00.0	N 20 07.0	-00.5
01	193 22.3	+00.0	N 20 06.5	-00.5
02	208 22.3	-00.1	N 20 06.0	-00.5
03	223 22.2	+00.0	N 20 05.5	-00.5
04	238 22.2	+00.0	N 20 05.0	-00.6
05	253 22.2	+00.0	N 20 04.4	-00.5
06	268 22.2	+00.0	N 20 03.9	-00.5
07	283 22.2	-00.1	N 20 03.4	-00.5
08	298 22.1	+00.0	N 20 02.9	-00.5
09	313 22.1	+00.0	N 20 02.4	-00.5
10	328 22.1	+00.0	N 20 01.9	-00.5
11	343 22.1	+00.0	N 20 01.4	-00.5
12	358 22.1	+00.0	N 20 00.9	-00.6
13	13 22.1	-00.1	N 20 00.3	-00.5
14	28 22.0	+00.0	N 19 59.8	-00.5
15	43 22.0	+00.0	N 19 59.3	-00.5
16	58 22.0	+00.0	N 19 58.8	-00.5
17	73 22.0	+00.0	N 19 58.3	-00.5
18	88 22.0	+00.0	N 19 57.8	-00.6
19	103 22.0	-00.1	N 19 57.2	-00.5
20	118 21.9	+00.0	N 19 56.7	-00.5
21	133 21.9	+00.0	N 19 56.2	-00.5
22	148 21.9	+00.0	N 19 55.7	-00.5
23	163 21.9	+00.0	N 19 55.2	-00.6

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	238°	237°	237°	237°	237°	237°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	204 14.5	-00.8	N 22 51.3	-00.1
01	219 13.7	-00.8	N 22 51.2	+00.0
02	234 12.9	-00.9	N 22 51.2	+00.0
03	249 12.0	-00.8	N 22 51.2	-00.1
04	264 11.2	-00.8	N 22 51.1	+00.0
05	279 10.4	-00.8	N 22 51.1	+00.0
06	294 09.6	-00.8	N 22 51.1	+00.0
07	309 08.8	-00.9	N 22 51.1	-00.1
08	324 07.9	-00.8	N 22 51.0	+00.0
09	339 07.1	-00.8	N 22 51.0	+00.0
10	354 06.3	-00.8	N 22 51.0	-00.1
11	9 05.5	-00.8	N 22 50.9	+00.0
12	24 04.7	-00.9	N 22 50.9	+00.0
13	39 03.8	-00.8	N 22 50.9	-00.1
14	54 03.0	-00.8	N 22 50.8	+00.0
15	69 02.2	-00.8	N 22 50.8	-00.1
16	84 01.4	-00.8	N 22 50.7	+00.0
17	99 00.6	-00.9	N 22 50.7	-00.1
18	113 59.7	-00.8	N 22 50.6	+00.0
19	128 58.9	-00.8	N 22 50.6	+00.0
20	143 58.1	-00.8	N 22 50.6	-00.1
21	158 57.3	-00.8	N 22 50.5	+00.0
22	173 56.5	-00.9	N 22 50.5	-00.1
23	188 55.6	-00.8	N 22 50.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	263°	263°	263°	263°	263°	262°

Greenwich Culmination Time: 10:23

Moon

A: 82%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	245 44.2	-28.1	N 20 12.9	+09.4
01	260 16.1	-28.1	N 20 22.3	+09.3
02	274 48.0	-28.1	N 20 31.6	+09.2
03	289 19.9	-28.2	N 20 40.8	+09.1
04	303 51.7	-28.3	N 20 49.9	+09.0
05	318 23.4	-28.3	N 20 58.9	+08.9
06	332 55.1	-28.3	N 21 07.8	+08.8
07	347 26.8	-28.4	N 21 16.6	+08.7
08	1 58.4	-28.4	N 21 25.3	+08.6
09	16 30.0	-28.4	N 21 33.9	+08.5
10	31 01.6	-28.6	N 21 42.4	+08.4
11	45 33.0	-28.5	N 21 50.8	+08.3
12	60 04.5	-28.6	N 21 59.1	+08.2
13	74 35.9	-28.7	N 22 07.3	+08.1
14	89 07.2	-28.6	N 22 15.4	+08.0
15	103 38.6	-28.8	N 22 23.4	+07.9
16	118 09.8	-28.8	N 22 31.3	+07.8
17	132 41.0	-28.8	N 22 39.1	+07.7
18	147 12.2	-28.8	N 22 46.8	+07.5
19	161 43.4	-29.0	N 22 54.3	+07.5
20	176 14.4	-28.9	N 23 01.8	+07.4
21	190 45.5	-29.0	N 23 09.2	+07.2
22	205 16.5	-29.1	N 23 16.4	+07.2
23	219 47.4	-29.1	N 23 23.6	+07.0

UT	02	06	10	14	18	22
SD	14′9	14′9	14′8	14′8	14′8	14′8
HP	54′6	54′6	54′5	54′4	54′4	54′3
SHA	304°	302°	300°	298°	296°	294°

Greenwich Culmination Time: 07:51

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	260 26.9	+00.8	N 13 49.4	+00.5
01	275 27.7	+00.9	N 13 49.9	+00.5
02	290 28.6	+00.8	N 13 50.4	+00.5
03	305 29.4	+00.8	N 13 50.9	+00.5
04	320 30.2	+00.8	N 13 51.4	+00.6
05	335 31.0	+00.9	N 13 52.0	+00.5
06	350 31.9	+00.8	N 13 52.5	+00.5
07	5 32.7	+00.8	N 13 53.0	+00.5
08	20 33.5	+00.9	N 13 53.5	+00.5
09	35 34.4	+00.8	N 13 54.0	+00.5
10	50 35.2	+00.8	N 13 54.5	+00.6
11	65 36.0	+00.9	N 13 55.1	+00.5
12	80 36.9	+00.8	N 13 55.6	+00.5
13	95 37.7	+00.8	N 13 56.1	+00.5
14	110 38.5	+00.9	N 13 56.6	+00.5
15	125 39.4	+00.8	N 13 57.1	+00.5
16	140 40.2	+00.8	N 13 57.6	+00.6
17	155 41.0	+00.9	N 13 58.2	+00.5
18	170 41.9	+00.8	N 13 58.7	+00.5
19	185 42.7	+00.8	N 13 59.2	+00.5
20	200 43.5	+00.9	N 13 59.7	+00.5
21	215 44.4	+00.8	N 14 00.2	+00.5
22	230 45.2	+00.8	N 14 00.7	+00.6
23	245 46.0	+00.9	N 14 01.3	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	320°	320°	319°	319°	319°	319°

Greenwich Culmination Time: 06:37

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	292 12.3	+02.5	N 02 08.8	+00.0
01	307 14.8	+02.4	N 02 08.8	+00.0
02	322 17.2	+02.4	N 02 08.8	+00.1
03	337 19.6	+02.4	N 02 08.9	+00.0
04	352 22.0	+02.4	N 02 08.9	+00.0
05	7 24.4	+02.4	N 02 08.9	+00.0
06	22 26.8	+02.5	N 02 08.9	+00.0
07	37 29.3	+02.4	N 02 08.9	+00.0
08	52 31.7	+02.4	N 02 08.9	+00.0
09	67 34.1	+02.4	N 02 08.9	+00.0
10	82 36.5	+02.4	N 02 08.9	+00.0
11	97 38.9	+02.4	N 02 08.9	+00.0
12	112 41.3	+02.5	N 02 08.9	+00.0
13	127 43.8	+02.4	N 02 08.9	+00.0
14	142 46.2	+02.4	N 02 08.9	+00.0
15	157 48.6	+02.4	N 02 08.9	+00.0
16	172 51.0	+02.4	N 02 08.9	+00.0
17	187 53.4	+02.5	N 02 08.9	+00.0
18	202 55.9	+02.4	N 02 08.9	+00.0
19	217 58.3	+02.4	N 02 08.9	+00.1
20	233 00.7	+02.4	N 02 09.0	+00.0
21	248 03.1	+02.4	N 02 09.0	+00.0
22	263 05.5	+02.5	N 02 09.0	+00.0
23	278 08.0	+02.4	N 02 09.0	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	351°	351°	351°	351°	351°	351°

Greenwich Culmination Time: 04:30

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	334 25.7	+02.6	S 14 52.0	+00.1
01	349 28.3	+02.7	S 14 52.1	+00.1
02	4 31.0	+02.6	S 14 52.2	+00.0
03	19 33.6	+02.6	S 14 52.2	+00.1
04	34 36.2	+02.6	S 14 52.3	+00.0
05	49 38.8	+02.6	S 14 52.3	+00.1
06	64 41.4	+02.7	S 14 52.4	+00.1
07	79 44.1	+02.6	S 14 52.5	+00.0
08	94 46.7	+02.6	S 14 52.5	+00.1
09	109 49.3	+02.6	S 14 52.6	+00.0
10	124 51.9	+02.7	S 14 52.6	+00.1
11	139 54.6	+02.6	S 14 52.7	+00.0
12	154 57.2	+02.6	S 14 52.7	+00.1
13	169 59.8	+02.6	S 14 52.8	+00.1
14	185 02.4	+02.6	S 14 52.9	+00.0
15	200 05.0	+02.7	S 14 52.9	+00.1
16	215 07.7	+02.6	S 14 53.0	+00.0
17	230 10.3	+02.6	S 14 53.0	+00.1
18	245 12.9	+02.6	S 14 53.1	+00.1
19	260 15.5	+02.7	S 14 53.2	+00.0
20	275 18.2	+02.6	S 14 53.2	+00.1
21	290 20.8	+02.6	S 14 53.3	+00.0
22	305 23.4	+02.6	S 14 53.3	+00.1
23	320 26.0	+02.7	S 14 53.4	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 01:41

2022 July 20 Wednesday (day 201 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 24.4	-00.1	N 20 42.0	-00.4
01	193 24.3	+00.0	N 20 41.6	-00.5
02	208 24.3	+00.0	N 20 41.1	-00.5
03	223 24.3	-00.1	N 20 40.6	-00.4
04	238 24.2	+00.0	N 20 40.2	-00.5
05	253 24.2	-00.1	N 20 39.7	-00.5
06	268 24.1	+00.0	N 20 39.2	-00.4
07	283 24.1	+00.0	N 20 38.8	-00.5
08	298 24.1	-00.1	N 20 38.3	-00.5
09	313 24.0	+00.0	N 20 37.8	-00.5
10	328 24.0	+00.0	N 20 37.3	-00.4
11	343 24.0	-00.1	N 20 36.9	-00.5
12	358 23.9	+00.0	N 20 36.4	-00.5
13	13 23.9	+00.0	N 20 35.9	-00.4
14	28 23.9	-00.1	N 20 35.5	-00.5
15	43 23.8	+00.0	N 20 35.0	-00.5
16	58 23.8	+00.0	N 20 34.5	-00.5
17	73 23.8	-00.1	N 20 34.0	-00.4
18	88 23.7	+00.0	N 20 33.6	-00.5
19	103 23.7	+00.0	N 20 33.1	-00.5
20	118 23.7	-00.1	N 20 32.6	-00.5
21	133 23.6	+00.0	N 20 32.1	-00.5
22	148 23.6	+00.0	N 20 31.6	-00.4
23	163 23.6	-00.1	N 20 31.2	-00.5

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	241°	240°	240°	240°	240°	240°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	205 13.3	-00.8	N 22 50.0	+00.0
01	220 12.5	-00.8	N 22 50.0	+00.1
02	235 11.7	-00.8	N 22 50.1	+00.0
03	250 10.9	-00.9	N 22 50.1	+00.1
04	265 10.0	-00.8	N 22 50.2	+00.0
05	280 09.2	-00.8	N 22 50.2	+00.1
06	295 08.4	-00.8	N 22 50.3	+00.1
07	310 07.6	-00.8	N 22 50.4	+00.0
08	325 06.8	-00.8	N 22 50.4	+00.1
09	340 06.0	-00.8	N 22 50.5	+00.0
10	355 05.2	-00.9	N 22 50.5	+00.0
11	10 04.3	-00.8	N 22 50.5	+00.1
12	25 03.5	-00.8	N 22 50.6	+00.0
13	40 02.7	-00.8	N 22 50.6	+00.1
14	55 01.9	-00.8	N 22 50.7	+00.0
15	70 01.1	-00.8	N 22 50.7	+00.1
16	85 00.3	-00.8	N 22 50.8	+00.0
17	99 59.5	-00.9	N 22 50.8	+00.0
18	114 58.6	-00.8	N 22 50.8	+00.1
19	129 57.8	-00.8	N 22 50.9	+00.0
20	144 57.0	-00.8	N 22 50.9	+00.1
21	159 56.2	-00.8	N 22 51.0	+00.0
22	174 55.4	-00.8	N 22 51.0	+00.0
23	189 54.6	-00.8	N 22 51.0	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	267°	267°	267°	267°	266°	266°

Greenwich Culmination Time: 10:19

Moon

A: 73%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	278 06.4	-26.6	N 05 34.1	+14.3
01	292 39.8	-26.6	N 05 48.4	+14.3
02	307 13.2	-26.6	N 06 02.7	+14.3
03	321 46.6	-26.5	N 06 17.0	+14.2
04	336 20.1	-26.6	N 06 31.2	+14.2
05	350 53.5	-26.5	N 06 45.4	+14.1
06	5 27.0	-26.5	N 06 59.5	+14.1
07	20 00.5	-26.6	N 07 13.6	+14.0
08	34 33.9	-26.5	N 07 27.6	+14.0
09	49 07.4	-26.5	N 07 41.6	+14.0
10	63 40.9	-26.5	N 07 55.6	+13.8
11	78 14.4	-26.5	N 08 09.4	+13.9
12	92 47.9	-26.5	N 08 23.3	+13.8
13	107 21.4	-26.6	N 08 37.1	+13.7
14	121 54.8	-26.5	N 08 50.8	+13.7
15	136 28.3	-26.5	N 09 04.5	+13.6
16	151 01.8	-26.5	N 09 18.1	+13.6
17	165 35.3	-26.6	N 09 31.7	+13.5
18	180 08.7	-26.5	N 09 45.2	+13.5
19	194 42.2	-26.5	N 09 58.7	+13.4
20	209 15.7	-26.6	N 10 12.1	+13.3
21	223 49.1	-26.6	N 10 25.4	+13.3
22	238 22.5	-26.5	N 10 38.7	+13.2
23	252 56.0	-26.6	N 10 51.9	+13.2

UT	02	06	10	14	18	22
SD	15′4	15′4	15′3	15′3	15′3	15′2
HP	56′6	56′4	56′3	56′2	56′0	55′9
SHA	339°	337°	336°	334°	332°	330°

Greenwich Culmination Time: 05:37

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	259 27.3	+00.8	N 13 11.2	+00.6
01	274 28.1	+00.8	N 13 11.8	+00.5
02	289 28.9	+00.8	N 13 12.3	+00.6
03	304 29.7	+00.9	N 13 12.9	+00.5
04	319 30.6	+00.8	N 13 13.4	+00.5
05	334 31.4	+00.8	N 13 13.9	+00.6
06	349 32.2	+00.8	N 13 14.5	+00.5
07	4 33.0	+00.9	N 13 15.0	+00.5
08	19 33.9	+00.8	N 13 15.5	+00.6
09	34 34.7	+00.8	N 13 16.1	+00.5
10	49 35.5	+00.8	N 13 16.6	+00.6
11	64 36.3	+00.9	N 13 17.2	+00.5
12	79 37.2	+00.8	N 13 17.7	+00.5
13	94 38.0	+00.8	N 13 18.2	+00.6
14	109 38.8	+00.8	N 13 18.8	+00.5
15	124 39.6	+00.9	N 13 19.3	+00.5
16	139 40.5	+00.8	N 13 19.8	+00.6
17	154 41.3	+00.8	N 13 20.4	+00.5
18	169 42.1	+00.8	N 13 20.9	+00.5
19	184 42.9	+00.9	N 13 21.4	+00.6
20	199 43.8	+00.8	N 13 22.0	+00.5
21	214 44.6	+00.8	N 13 22.5	+00.5
22	229 45.4	+00.8	N 13 23.0	+00.6
23	244 46.2	+00.9	N 13 23.6	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	322°	322°	321°	321°	321°	321°

Greenwich Culmination Time: 06:41

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	289 19.3	+02.4	N 02 07.9	+00.1
01	304 21.7	+02.4	N 02 08.0	+00.0
02	319 24.1	+02.4	N 02 08.0	+00.0
03	334 26.5	+02.3	N 02 08.0	+00.0
04	349 28.8	+02.4	N 02 08.0	+00.0
05	4 31.2	+02.4	N 02 08.0	+00.0
06	19 33.6	+02.4	N 02 08.0	+00.1
07	34 36.0	+02.4	N 02 08.1	+00.0
08	49 38.4	+02.4	N 02 08.1	+00.0
09	64 40.8	+02.4	N 02 08.1	+00.0
10	79 43.2	+02.4	N 02 08.1	+00.0
11	94 45.6	+02.4	N 02 08.1	+00.0
12	109 48.0	+02.4	N 02 08.1	+00.0
13	124 50.4	+02.4	N 02 08.1	+00.1
14	139 52.8	+02.4	N 02 08.2	+00.0
15	154 55.2	+02.4	N 02 08.2	+00.0
16	169 57.6	+02.4	N 02 08.2	+00.0
17	184 60.0	+02.4	N 02 08.2	+00.0
18	200 02.4	+02.4	N 02 08.2	+00.0
19	215 04.8	+02.4	N 02 08.2	+00.1
20	230 07.2	+02.4	N 02 08.3	+00.0
21	245 09.6	+02.4	N 02 08.3	+00.0
22	260 12.0	+02.4	N 02 08.3	+00.0
23	275 14.4	+02.4	N 02 08.3	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 04:41

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	331 17.2	+02.6	S 14 47.8	+00.1
01	346 19.8	+02.6	S 14 47.9	+00.0
02	1 22.4	+02.6	S 14 47.9	+00.1
03	16 25.0	+02.7	S 14 48.0	+00.1
04	31 27.7	+02.6	S 14 48.1	+00.0
05	46 30.3	+02.6	S 14 48.1	+00.1
06	61 32.9	+02.6	S 14 48.2	+00.0
07	76 35.5	+02.6	S 14 48.2	+00.1
08	91 38.1	+02.6	S 14 48.3	+00.1
09	106 40.7	+02.7	S 14 48.4	+00.0
10	121 43.4	+02.6	S 14 48.4	+00.1
11	136 46.0	+02.6	S 14 48.5	+00.0
12	151 48.6	+02.6	S 14 48.5	+00.1
13	166 51.2	+02.6	S 14 48.6	+00.0
14	181 53.8	+02.6	S 14 48.6	+00.1
15	196 56.4	+02.7	S 14 48.7	+00.1
16	211 59.1	+02.6	S 14 48.8	+00.0
17	227 01.7	+02.6	S 14 48.8	+00.1
18	242 04.3	+02.6	S 14 48.9	+00.0
19	257 06.9	+02.6	S 14 48.9	+00.1
20	272 09.5	+02.6	S 14 49.0	+00.0
21	287 12.1	+02.7	S 14 49.0	+00.1
22	302 14.8	+02.6	S 14 49.1	+00.1
23	317 17.4	+02.6	S 14 49.2	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 01:54

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2022 July 21 Thursday

(day 202 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 23.5	+00.0	N 20 30.7	−00.5
01	193 23.5	+00.0	N 20 30.2	−00.5
02	208 23.5	−00.1	N 20 29.7	−00.4
03	223 23.4	+00.0	N 20 29.3	−00.5
04	238 23.4	+00.0	N 20 28.8	−00.5
05	253 23.4	+00.0	N 20 28.3	−00.5
06	268 23.4	−00.1	N 20 27.8	−00.5
07	283 23.3	+00.0	N 20 27.3	−00.5
08	298 23.3	+00.0	N 20 26.8	−00.4
09	313 23.3	−00.1	N 20 26.4	−00.5
10	328 23.2	+00.0	N 20 25.9	−00.5
11	343 23.2	+00.0	N 20 25.4	−00.5
12	358 23.2	−00.1	N 20 24.9	−00.5
13	13 23.1	+00.0	N 20 24.4	−00.5
14	28 23.1	+00.0	N 20 23.9	−00.5
15	43 23.1	+00.0	N 20 23.4	−00.5
16	58 23.1	−00.1	N 20 22.9	−00.4
17	73 23.0	+00.0	N 20 22.5	−00.5
18	88 23.0	+00.0	N 20 22.0	−00.5
19	103 23.0	+00.0	N 20 21.5	−00.5
20	118 23.0	−00.1	N 20 21.0	−00.5
21	133 22.9	+00.0	N 20 20.5	−00.5
22	148 22.9	+00.0	N 20 20.0	−00.5
23	163 22.9	−00.1	N 20 19.5	−00.5

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	240°	239°	239°	239°	239°	239°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	204 53.8	−00.9	N 22 51.1	+00.0
01	219 52.9	−00.8	N 22 51.1	+00.0
02	234 52.1	−00.8	N 22 51.1	+00.0
03	249 51.3	−00.8	N 22 51.1	+00.1
04	264 50.5	−00.8	N 22 51.2	+00.0
05	279 49.7	−00.8	N 22 51.2	+00.0
06	294 48.9	−00.9	N 22 51.2	+00.0
07	309 48.0	−00.8	N 22 51.2	+00.1
08	324 47.2	−00.8	N 22 51.3	+00.0
09	339 46.4	−00.8	N 22 51.3	+00.0
10	354 45.6	−00.8	N 22 51.3	+00.0
11	9 44.8	−00.8	N 22 51.3	+00.0
12	24 44.0	−00.9	N 22 51.3	+00.1
13	39 43.1	−00.8	N 22 51.4	+00.0
14	54 42.3	−00.8	N 22 51.4	+00.0
15	69 41.5	−00.8	N 22 51.4	+00.0
16	84 40.7	−00.8	N 22 51.4	+00.0
17	99 39.9	−00.8	N 22 51.4	+00.0
18	114 39.1	−00.9	N 22 51.4	+00.0
19	129 38.2	−00.8	N 22 51.4	+00.1
20	144 37.4	−00.8	N 22 51.5	+00.0
21	159 36.6	−00.8	N 22 51.5	+00.0
22	174 35.8	−00.8	N 22 51.5	+00.0
23	189 35.0	−00.8	N 22 51.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	266°	266°	266°	265°	265°	265°

Greenwich Culmination Time: 10:20

Moon

A: 76%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	267 29.4	−26.6	N 11 05.1	+13.1
01	282 02.8	−26.6	N 11 18.2	+13.0
02	296 36.2	−26.6	N 11 31.2	+13.0
03	311 09.6	−26.7	N 11 44.2	+12.9
04	325 42.9	−26.6	N 11 57.1	+12.9
05	340 16.3	−26.7	N 12 10.0	+12.8
06	354 49.6	−26.7	N 12 22.8	+12.7
07	9 22.9	−26.7	N 12 35.5	+12.7
08	23 56.2	−26.7	N 12 48.2	+12.6
09	38 29.5	−26.8	N 13 00.8	+12.5
10	53 02.7	−26.7	N 13 13.3	+12.5
11	67 36.0	−26.8	N 13 25.8	+12.4
12	82 09.2	−26.8	N 13 38.2	+12.3
13	96 42.4	−26.9	N 13 50.5	+12.2
14	111 15.5	−26.8	N 14 02.7	+12.2
15	125 48.7	−26.9	N 14 14.9	+12.1
16	140 21.8	−26.9	N 14 27.0	+12.1
17	154 54.9	−26.9	N 14 39.1	+11.9
18	169 28.0	−27.0	N 14 51.0	+11.9
19	184 01.0	−27.0	N 15 02.9	+11.9
20	198 34.0	−27.0	N 15 14.8	+11.7
21	213 07.0	−27.1	N 15 26.5	+11.7
22	227 39.9	−27.1	N 15 38.2	+11.6
23	242 12.8	−27.1	N 15 49.8	+11.5

UT	02	06	10	14	18	22
SD	15′2	15′2	15′1	15′1	15′1	15′0
HP	55′8	55′7	55′5	55′4	55′3	55′2
SHA	328°	326°	324°	322°	320°	318°

Greenwich Culmination Time: 06:21

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	259 47.1	+00.8	N 13 24.1	+00.5
01	274 47.9	+00.8	N 13 24.6	+00.6
02	289 48.7	+00.9	N 13 25.2	+00.5
03	304 49.6	+00.8	N 13 25.7	+00.5
04	319 50.4	+00.8	N 13 26.2	+00.5
05	334 51.2	+00.8	N 13 26.7	+00.6
06	349 52.0	+00.9	N 13 27.3	+00.5
07	4 52.9	+00.8	N 13 27.8	+00.5
08	19 53.7	+00.8	N 13 28.3	+00.6
09	34 54.5	+00.9	N 13 28.9	+00.5
10	49 55.4	+00.8	N 13 29.4	+00.5
11	64 56.2	+00.8	N 13 29.9	+00.6
12	79 57.0	+00.8	N 13 30.5	+00.5
13	94 57.8	+00.9	N 13 31.0	+00.5
14	109 58.7	+00.8	N 13 31.5	+00.5
15	124 59.5	+00.8	N 13 32.0	+00.6
16	140 00.3	+00.8	N 13 32.6	+00.5
17	155 01.1	+00.9	N 13 33.1	+00.5
18	170 02.0	+00.8	N 13 33.6	+00.6
19	185 02.8	+00.8	N 13 34.2	+00.5
20	200 03.6	+00.9	N 13 34.7	+00.5
21	215 04.5	+00.8	N 13 35.2	+00.5
22	230 05.3	+00.8	N 13 35.7	+00.6
23	245 06.1	+00.9	N 13 36.3	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	321°	321°	321°	321°	321°	320°

Greenwich Culmination Time: 06:40

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	290 16.8	+02.4	N 02 08.3	+00.0
01	305 19.2	+02.4	N 02 08.3	+00.0
02	320 21.6	+02.4	N 02 08.3	+00.1
03	335 24.0	+02.4	N 02 08.4	+00.0
04	350 26.4	+02.4	N 02 08.4	+00.0
05	5 28.8	+02.4	N 02 08.4	+00.0
06	20 31.2	+02.4	N 02 08.4	+00.0
07	35 33.6	+02.4	N 02 08.4	+00.0
08	50 36.0	+02.4	N 02 08.4	+00.0
09	65 38.4	+02.4	N 02 08.4	+00.0
10	80 40.8	+02.4	N 02 08.4	+00.1
11	95 43.2	+02.4	N 02 08.5	+00.0
12	110 45.6	+02.4	N 02 08.5	+00.0
13	125 48.0	+02.4	N 02 08.5	+00.0
14	140 50.4	+02.4	N 02 08.5	+00.0
15	155 52.8	+02.4	N 02 08.5	+00.0
16	170 55.2	+02.4	N 02 08.5	+00.0
17	185 57.6	+02.4	N 02 08.5	+00.0
18	201 00.0	+02.4	N 02 08.5	+00.1
19	216 02.4	+02.4	N 02 08.6	+00.0
20	231 04.8	+02.5	N 02 08.6	+00.0
21	246 07.3	+02.4	N 02 08.6	+00.0
22	261 09.7	+02.4	N 02 08.6	+00.0
23	276 12.1	+02.4	N 02 08.6	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 04:38

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	332 20.0	+02.6	S 14 49.2	+00.1
01	347 22.6	+02.6	S 14 49.3	+00.0
02	2 25.2	+02.6	S 14 49.3	+00.1
03	17 27.8	+02.7	S 14 49.4	+00.1
04	32 30.5	+02.6	S 14 49.5	+00.0
05	47 33.1	+02.6	S 14 49.5	+00.1
06	62 35.7	+02.6	S 14 49.6	+00.0
07	77 38.3	+02.6	S 14 49.6	+00.1
08	92 40.9	+02.6	S 14 49.7	+00.0
09	107 43.5	+02.7	S 14 49.7	+00.1
10	122 46.2	+02.6	S 14 49.8	+00.1
11	137 48.8	+02.6	S 14 49.9	+00.0
12	152 51.4	+02.6	S 14 49.9	+00.1
13	167 54.0	+02.6	S 14 50.0	+00.0
14	182 56.6	+02.7	S 14 50.0	+00.1
15	197 59.3	+02.6	S 14 50.1	+00.1
16	213 01.9	+02.6	S 14 50.2	+00.0
17	228 04.5	+02.6	S 14 50.2	+00.1
18	243 07.1	+02.6	S 14 50.3	+00.0
19	258 09.7	+02.6	S 14 50.3	+00.1
20	273 12.3	+02.7	S 14 50.4	+00.0
21	288 15.0	+02.6	S 14 50.4	+00.1
22	303 17.6	+02.6	S 14 50.5	+00.1
23	318 20.2	+02.6	S 14 50.6	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 01:50

2022 July 22 Friday

(day 203 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 22.8	+00.0	N 20 19.0	−00.5
01	193 22.8	+00.0	N 20 18.5	−00.5
02	208 22.8	+00.0	N 20 18.0	−00.5
03	223 22.8	−00.1	N 20 17.5	−00.5
04	238 22.7	+00.0	N 20 17.0	−00.5
05	253 22.7	+00.0	N 20 16.5	−00.5
06	268 22.7	+00.0	N 20 16.0	−00.5
07	283 22.7	−00.1	N 20 15.5	−00.5
08	298 22.6	+00.0	N 20 15.0	−00.5
09	313 22.6	+00.0	N 20 14.5	−00.5
10	328 22.6	+00.0	N 20 14.0	−00.5
11	343 22.6	+00.0	N 20 13.5	−00.5
12	358 22.6	−00.1	N 20 13.0	−00.5
13	13 22.5	+00.0	N 20 12.5	−00.5
14	28 22.5	+00.0	N 20 12.0	−00.5
15	43 22.5	+00.0	N 20 11.5	−00.5
16	58 22.5	−00.1	N 20 11.0	−00.5
17	73 22.4	+00.0	N 20 10.5	−00.5
18	88 22.4	+00.0	N 20 10.0	−00.5
19	103 22.4	+00.0	N 20 09.5	−00.5
20	118 22.4	+00.0	N 20 09.0	−00.5
21	133 22.4	−00.1	N 20 08.5	−00.5
22	148 22.3	+00.0	N 20 08.0	−00.5
23	163 22.3	+00.0	N 20 07.5	−00.5

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	239°	238°	238°	238°	238°	238°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	204 34.2	−00.9	N 22 51.5	+00.0
01	219 33.3	−00.8	N 22 51.5	+00.0
02	234 32.5	−00.8	N 22 51.5	+00.0
03	249 31.7	−00.8	N 22 51.5	+00.0
04	264 30.9	−00.8	N 22 51.5	+00.0
05	279 30.1	−00.9	N 22 51.5	+00.0
06	294 29.2	−00.8	N 22 51.5	+00.0
07	309 28.4	−00.8	N 22 51.5	+00.0
08	324 27.6	−00.8	N 22 51.5	+00.0
09	339 26.8	−00.8	N 22 51.5	+00.0
10	354 26.0	−00.8	N 22 51.5	+00.0
11	9 25.2	−00.9	N 22 51.5	−00.1
12	24 24.3	−00.8	N 22 51.4	+00.0
13	39 23.5	−00.8	N 22 51.4	+00.0
14	54 22.7	−00.8	N 22 51.4	+00.0
15	69 21.9	−00.8	N 22 51.4	+00.0
16	84 21.1	−00.9	N 22 51.4	+00.0
17	99 20.2	−00.8	N 22 51.4	+00.0
18	114 19.4	−00.8	N 22 51.4	+00.0
19	129 18.6	−00.8	N 22 51.4	−00.1
20	144 17.8	−00.8	N 22 51.3	+00.0
21	159 17.0	−00.9	N 22 51.3	+00.0
22	174 16.1	−00.8	N 22 51.3	+00.0
23	189 15.3	−00.8	N 22 51.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	265°	265°	264°	264°	264°	264°

Greenwich Culmination Time: 10:22

Moon

A: 79%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	256 45.7	−27.1	N 16 01.3	+11.4
01	271 18.6	−27.2	N 16 12.7	+11.4
02	285 51.4	−27.2	N 16 24.1	+11.3
03	300 24.2	−27.2	N 16 35.4	+11.2
04	314 57.0	−27.3	N 16 46.6	+11.1
05	329 29.7	−27.3	N 16 57.7	+11.0
06	344 02.4	−27.4	N 17 08.7	+11.0
07	358 35.0	−27.4	N 17 19.7	+10.9
08	13 07.6	−27.4	N 17 30.6	+10.8
09	27 40.2	−27.4	N 17 41.4	+10.7
10	42 12.8	−27.5	N 17 52.1	+10.6
11	56 45.3	−27.6	N 18 02.7	+10.6
12	71 17.7	−27.5	N 18 13.3	+10.4
13	85 50.2	−27.7	N 18 23.7	+10.4
14	100 22.5	−27.6	N 18 34.1	+10.3
15	114 54.9	−27.7	N 18 44.4	+10.2
16	129 27.2	−27.7	N 18 54.6	+10.1
17	143 59.5	−27.8	N 19 04.7	+10.0
18	158 31.7	−27.8	N 19 14.7	+09.9
19	173 03.9	−27.9	N 19 24.6	+09.9
20	187 36.0	−27.9	N 19 34.5	+09.7
21	202 08.1	−27.9	N 19 44.2	+09.7
22	216 40.2	−28.0	N 19 53.9	+09.6
23	231 12.2	−28.0	N 20 03.5	+09.4

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	14′9	14′9	14′9
HP	55′1	55′0	54′9	54′9	54′8	54′7
SHA	316°	314°	312°	310°	308°	306°

Greenwich Culmination Time: 07:05

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	260 07.0	+00.8	N 13 36.8	+00.5
01	275 07.8	+00.8	N 13 37.3	+00.5
02	290 08.6	+00.8	N 13 37.8	+00.6
03	305 09.4	+00.9	N 13 38.4	+00.5
04	320 10.3	+00.8	N 13 38.9	+00.5
05	335 11.1	+00.8	N 13 39.4	+00.5
06	350 11.9	+00.9	N 13 39.9	+00.6
07	5 12.8	+00.8	N 13 40.5	+00.5
08	20 13.6	+00.8	N 13 41.0	+00.5
09	35 14.4	+00.9	N 13 41.5	+00.5
10	50 15.3	+00.8	N 13 42.0	+00.6
11	65 16.1	+00.8	N 13 42.6	+00.5
12	80 16.9	+00.8	N 13 43.1	+00.5
13	95 17.7	+00.9	N 13 43.6	+00.5
14	110 18.6	+00.8	N 13 44.1	+00.6
15	125 19.4	+00.8	N 13 44.7	+00.5
16	140 20.2	+00.9	N 13 45.2	+00.5
17	155 21.1	+00.8	N 13 45.7	+00.5
18	170 21.9	+00.8	N 13 46.2	+00.5
19	185 22.7	+00.9	N 13 46.7	+00.6
20	200 23.6	+00.8	N 13 47.3	+00.5
21	215 24.4	+00.8	N 13 47.8	+00.5
22	230 25.2	+00.9	N 13 48.3	+00.5
23	245 26.1	+00.8	N 13 48.8	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	320°	320°	320°	320°	320°	320°

Greenwich Culmination Time: 06:39

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	291 14.5	+02.4	N 02 08.6	+00.0
01	306 16.9	+02.4	N 02 08.6	+00.0
02	321 19.3	+02.4	N 02 08.6	+00.0
03	336 21.7	+02.4	N 02 08.6	+00.0
04	351 24.1	+02.4	N 02 08.6	+00.1
05	6 26.5	+02.4	N 02 08.7	+00.0
06	21 28.9	+02.4	N 02 08.7	+00.0
07	36 31.3	+02.4	N 02 08.7	+00.0
08	51 33.7	+02.5	N 02 08.7	+00.0
09	66 36.2	+02.4	N 02 08.7	+00.0
10	81 38.6	+02.4	N 02 08.7	+00.0
11	96 41.0	+02.4	N 02 08.7	+00.0
12	111 43.4	+02.4	N 02 08.7	+00.0
13	126 45.8	+02.4	N 02 08.7	+00.0
14	141 48.2	+02.4	N 02 08.7	+00.1
15	156 50.6	+02.4	N 02 08.8	+00.0
16	171 53.0	+02.4	N 02 08.8	+00.0
17	186 55.4	+02.5	N 02 08.8	+00.0
18	201 57.9	+02.4	N 02 08.8	+00.0
19	217 00.3	+02.4	N 02 08.8	+00.0
20	232 02.7	+02.4	N 02 08.8	+00.0
21	247 05.1	+02.4	N 02 08.8	+00.0
22	262 07.5	+02.4	N 02 08.8	+00.0
23	277 09.9	+02.4	N 02 08.8	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	351°	351°

Greenwich Culmination Time: 04:34

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	333 22.8	+02.6	S 14 50.6	+00.1
01	348 25.4	+02.7	S 14 50.7	+00.0
02	3 28.1	+02.6	S 14 50.7	+00.1
03	18 30.7	+02.6	S 14 50.8	+00.1
04	33 33.3	+02.6	S 14 50.9	+00.0
05	48 35.9	+02.6	S 14 50.9	+00.1
06	63 38.5	+02.7	S 14 51.0	+00.0
07	78 41.2	+02.6	S 14 51.0	+00.1
08	93 43.8	+02.6	S 14 51.1	+00.1
09	108 46.4	+02.6	S 14 51.2	+00.0
10	123 49.0	+02.6	S 14 51.2	+00.1
11	138 51.6	+02.7	S 14 51.3	+00.0
12	153 54.3	+02.6	S 14 51.3	+00.1
13	168 56.9	+02.6	S 14 51.4	+00.0
14	183 59.5	+02.6	S 14 51.4	+00.1
15	199 02.1	+02.6	S 14 51.5	+00.1
16	214 04.7	+02.7	S 14 51.6	+00.0
17	229 07.4	+02.6	S 14 51.6	+00.1
18	244 10.0	+02.6	S 14 51.7	+00.0
19	259 12.6	+02.6	S 14 51.7	+00.1
20	274 15.2	+02.6	S 14 51.8	+00.1
21	289 17.8	+02.7	S 14 51.9	+00.0
22	304 20.5	+02.6	S 14 51.9	+00.1
23	319 23.1	+02.6	S 14 52.0	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 01:46

2022 July 27 Wednesday (day 208 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 21.5	+00.0	N 19 15.6	-00.6
01	193 21.5	+00.0	N 19 15.0	-00.5
02	208 21.5	+00.0	N 19 14.5	-00.6
03	223 21.5	+00.0	N 19 13.9	-00.6
04	238 21.5	+00.0	N 19 13.3	-00.5
05	253 21.5	+00.0	N 19 12.8	-00.6
06	268 21.5	+00.1	N 19 12.2	-00.6
07	283 21.6	+00.0	N 19 11.6	-00.5
08	298 21.6	+00.0	N 19 11.1	-00.6
09	313 21.6	+00.0	N 19 10.5	-00.6
10	328 21.6	+00.0	N 19 09.9	-00.5
11	343 21.6	+00.0	N 19 09.4	-00.6
12	358 21.6	+00.0	N 19 08.8	-00.6
13	13 21.6	+00.0	N 19 08.2	-00.5
14	28 21.6	+00.0	N 19 07.7	-00.6
15	43 21.6	+00.0	N 19 07.1	-00.6
16	58 21.6	+00.0	N 19 06.5	-00.6
17	73 21.6	+00.0	N 19 05.9	-00.5
18	88 21.6	+00.0	N 19 05.4	-00.6
19	103 21.6	+00.1	N 19 04.8	-00.6
20	118 21.7	+00.0	N 19 04.2	-00.6
21	133 21.7	+00.0	N 19 03.6	-00.5
22	148 21.7	+00.0	N 19 03.1	-00.6
23	163 21.7	+00.0	N 19 02.5	-00.6

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	234°	233°	233°	233°	233°	233°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	202 55.7	-00.8	N 22 43.8	-00.2
01	217 54.9	-00.8	N 22 43.6	-00.1
02	232 54.1	-00.9	N 22 43.5	-00.1
03	247 53.2	-00.8	N 22 43.4	-00.2
04	262 52.4	-00.8	N 22 43.2	-00.1
05	277 51.6	-00.8	N 22 43.1	-00.1
06	292 50.8	-00.8	N 22 43.0	-00.2
07	307 50.0	-00.9	N 22 42.8	-00.1
08	322 49.1	-00.8	N 22 42.7	-00.2
09	337 48.3	-00.8	N 22 42.5	-00.1
10	352 47.5	-00.8	N 22 42.4	-00.2
11	7 46.7	-00.8	N 22 42.2	-00.1
12	22 45.9	-00.9	N 22 42.1	-00.2
13	37 45.0	-00.8	N 22 41.9	-00.1
14	52 44.2	-00.8	N 22 41.8	-00.1
15	67 43.4	-00.8	N 22 41.7	-00.2
16	82 42.6	-00.8	N 22 41.5	-00.2
17	97 41.8	-00.9	N 22 41.3	-00.1
18	112 40.9	-00.8	N 22 41.2	-00.2
19	127 40.1	-00.8	N 22 41.0	-00.1
20	142 39.3	-00.8	N 22 40.9	-00.2
21	157 38.5	-00.8	N 22 40.7	-00.1
22	172 37.7	-00.9	N 22 40.6	-00.2
23	187 36.8	-00.8	N 22 40.4	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	258°	258°	258°	258°	257°	257°

Greenwich Culmination Time: 10:28

Moon

A: 96%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	198 02.9	-30.6	N 26 42.6	-01.9
01	212 32.3	-30.6	N 26 40.7	-02.1
02	227 01.7	-30.5	N 26 38.6	-02.2
03	241 31.2	-30.6	N 26 36.4	-02.4
04	256 00.6	-30.5	N 26 34.0	-02.4
05	270 30.1	-30.5	N 26 31.6	-02.6
06	284 59.6	-30.5	N 26 29.0	-02.8
07	299 29.1	-30.4	N 26 26.2	-02.8
08	313 58.7	-30.5	N 26 23.4	-03.0
09	328 28.2	-30.4	N 26 20.4	-03.1
10	342 57.8	-30.4	N 26 17.3	-03.2
11	357 27.4	-30.3	N 26 14.1	-03.4
12	11 57.1	-30.4	N 26 10.7	-03.5
13	26 26.7	-30.3	N 26 07.2	-03.6
14	40 56.4	-30.3	N 26 03.6	-03.7
15	55 26.1	-30.2	N 25 59.9	-03.9
16	69 55.9	-30.3	N 25 56.0	-04.0
17	84 25.6	-30.2	N 25 52.0	-04.1
18	98 55.4	-30.1	N 25 47.9	-04.2
19	113 25.3	-30.2	N 25 43.7	-04.3
20	127 55.1	-30.1	N 25 39.4	-04.5
21	142 25.0	-30.1	N 25 34.9	-04.6
22	156 54.9	-30.0	N 25 30.3	-04.7
23	171 24.9	-30.0	N 25 25.6	-04.9

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	54′0	54′0	54′0	54′0	54′0	54′1
SHA	252°	250°	248°	246°	244°	241°

Greenwich Culmination Time: 11:10

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	261 47.3	+00.8	N 14 38.1	+00.5
01	276 48.1	+00.9	N 14 38.6	+00.5
02	291 49.0	+00.8	N 14 39.1	+00.5
03	306 49.8	+00.8	N 14 39.6	+00.5
04	321 50.6	+00.9	N 14 40.1	+00.5
05	336 51.5	+00.8	N 14 40.6	+00.5
06	351 52.3	+00.9	N 14 41.1	+00.5
07	6 53.2	+00.8	N 14 41.6	+00.5
08	21 54.0	+00.9	N 14 42.1	+00.5
09	36 54.9	+00.8	N 14 42.6	+00.5
10	51 55.7	+00.8	N 14 43.1	+00.5
11	66 56.5	+00.9	N 14 43.6	+00.5
12	81 57.4	+00.8	N 14 44.1	+00.5
13	96 58.2	+00.9	N 14 44.6	+00.5
14	111 59.1	+00.8	N 14 45.1	+00.4
15	126 59.9	+00.9	N 14 45.5	+00.5
16	142 00.8	+00.8	N 14 46.0	+00.5
17	157 01.6	+00.9	N 14 46.5	+00.5
18	172 02.5	+00.8	N 14 47.0	+00.5
19	187 03.3	+00.9	N 14 47.5	+00.5
20	202 04.2	+00.8	N 14 48.0	+00.5
21	217 05.0	+00.8	N 14 48.5	+00.5
22	232 05.8	+00.9	N 14 49.0	+00.5
23	247 06.7	+00.8	N 14 49.5	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	317°	317°	317°	317°	317°	317°

Greenwich Culmination Time: 06:32

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	296 05.6	+02.5	N 02 08.9	+00.0
01	311 08.1	+02.4	N 02 08.9	+00.0
02	326 10.5	+02.5	N 02 08.9	+00.0
03	341 13.0	+02.4	N 02 08.9	+00.0
04	356 15.4	+02.5	N 02 08.9	+00.0
05	11 17.9	+02.4	N 02 08.9	+00.0
06	26 20.3	+02.5	N 02 08.9	+00.0
07	41 22.8	+02.4	N 02 08.9	+00.0
08	56 25.2	+02.4	N 02 08.9	+00.0
09	71 27.6	+02.5	N 02 08.9	+00.0
10	86 30.1	+02.4	N 02 08.9	+00.0
11	101 32.5	+02.5	N 02 08.9	+00.0
12	116 35.0	+02.4	N 02 08.9	+00.0
13	131 37.4	+02.5	N 02 08.9	+00.0
14	146 39.9	+02.4	N 02 08.9	-00.1
15	161 42.3	+02.5	N 02 08.8	+00.0
16	176 44.8	+02.4	N 02 08.8	+00.0
17	191 47.2	+02.5	N 02 08.8	+00.0
18	206 49.7	+02.4	N 02 08.8	+00.0
19	221 52.1	+02.5	N 02 08.8	+00.0
20	236 54.6	+02.4	N 02 08.8	+00.0
21	251 57.0	+02.5	N 02 08.8	+00.0
22	266 59.5	+02.4	N 02 08.8	+00.0
23	282 01.9	+02.5	N 02 08.8	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	351°	351°	351°	351°	351°	351°

Greenwich Culmination Time: 04:14

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	338 37.8	+02.6	S 14 57.8	+00.1
01	353 40.4	+02.6	S 14 57.9	+00.0
02	8 43.0	+02.6	S 14 57.9	+00.1
03	23 45.6	+02.7	S 14 58.0	+00.1
04	38 48.3	+02.6	S 14 58.1	+00.0
05	53 50.9	+02.6	S 14 58.1	+00.1
06	68 53.5	+02.7	S 14 58.2	+00.1
07	83 56.2	+02.6	S 14 58.3	+00.0
08	98 58.8	+02.6	S 14 58.3	+00.1
09	114 01.4	+02.7	S 14 58.4	+00.0
10	129 04.1	+02.6	S 14 58.4	+00.1
11	144 06.7	+02.6	S 14 58.5	+00.1
12	159 09.3	+02.6	S 14 58.6	+00.0
13	174 11.9	+02.7	S 14 58.6	+00.1
14	189 14.6	+02.6	S 14 58.7	+00.0
15	204 17.2	+02.6	S 14 58.7	+00.1
16	219 19.8	+02.7	S 14 58.8	+00.1
17	234 22.5	+02.6	S 14 58.9	+00.0
18	249 25.1	+02.6	S 14 58.9	+00.1
19	264 27.7	+02.7	S 14 59.0	+00.1
20	279 30.4	+02.6	S 14 59.1	+00.0
21	294 33.0	+02.6	S 14 59.1	+00.1
22	309 35.6	+02.7	S 14 59.2	+00.0
23	324 38.3	+02.6	S 14 59.2	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 01:25

2022 July 24 Sunday (day 205 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 21.9	+00.0	N 19 54.6	-00.5
01	193 21.9	+00.0	N 19 54.1	-00.5
02	208 21.9	-00.1	N 19 53.6	-00.5
03	223 21.8	+00.0	N 19 53.1	-00.6
04	238 21.8	+00.0	N 19 52.5	-00.5
05	253 21.8	+00.0	N 19 52.0	-00.5
06	268 21.8	+00.0	N 19 51.5	-00.5
07	283 21.8	+00.0	N 19 51.0	-00.6
08	298 21.8	+00.0	N 19 50.4	-00.5
09	313 21.8	+00.0	N 19 49.9	-00.5
10	328 21.8	-00.1	N 19 49.4	-00.5
11	343 21.7	+00.0	N 19 48.9	-00.6
12	358 21.7	+00.0	N 19 48.3	-00.5
13	13 21.7	+00.0	N 19 47.8	-00.5
14	28 21.7	+00.0	N 19 47.3	-00.6
15	43 21.7	+00.0	N 19 46.7	-00.5
16	58 21.7	+00.0	N 19 46.2	-00.5
17	73 21.7	+00.0	N 19 45.7	-00.6
18	88 21.7	+00.0	N 19 45.1	-00.5
19	103 21.7	+00.0	N 19 44.6	-00.5
20	118 21.7	-00.1	N 19 44.1	-00.6
21	133 21.6	+00.0	N 19 43.5	-00.5
22	148 21.6	+00.0	N 19 43.0	-00.5
23	163 21.6	+00.0	N 19 42.5	-00.6

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	237°	236°	236°	236°	236°	236°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	203 54.8	-00.8	N 22 50.4	-00.1
01	218 54.0	-00.8	N 22 50.3	+00.0
02	233 53.2	-00.8	N 22 50.3	-00.1
03	248 52.4	-00.9	N 22 50.2	+00.0
04	263 51.5	-00.8	N 22 50.2	-00.1
05	278 50.7	-00.8	N 22 50.1	-00.1
06	293 49.9	-00.8	N 22 50.0	+00.0
07	308 49.1	-00.8	N 22 50.0	-00.1
08	323 48.3	-00.9	N 22 49.9	+00.0
09	338 47.4	-00.8	N 22 49.9	-00.1
10	353 46.6	-00.8	N 22 49.8	-00.1
11	8 45.8	-00.8	N 22 49.7	+00.0
12	23 45.0	-00.9	N 22 49.7	-00.1
13	38 44.1	-00.8	N 22 49.6	-00.1
14	53 43.3	-00.8	N 22 49.5	+00.0
15	68 42.5	-00.8	N 22 49.5	-00.1
16	83 41.7	-00.8	N 22 49.4	-00.1
17	98 40.9	-00.9	N 22 49.3	+00.0
18	113 40.0	-00.8	N 22 49.3	-00.1
19	128 39.2	-00.8	N 22 49.2	-00.1
20	143 38.4	-00.8	N 22 49.1	+00.0
21	158 37.6	-00.8	N 22 49.1	-00.1
22	173 36.8	-00.9	N 22 49.0	-00.1
23	188 35.9	-00.8	N 22 48.9	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	262°	262°	262°	261°	261°	261°

Greenwich Culmination Time: 10:24

Moon

A: 86%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	234 18.3	-29.1	N 23 30.6	+07.0
01	248 49.2	-29.2	N 23 37.6	+06.8
02	263 20.0	-29.2	N 23 44.4	+06.7
03	277 50.8	-29.3	N 23 51.1	+06.6
04	292 21.5	-29.3	N 23 57.7	+06.5
05	306 52.2	-29.3	N 24 04.2	+06.4
06	321 22.9	-29.4	N 24 10.6	+06.3
07	335 53.5	-29.5	N 24 16.9	+06.1
08	350 24.0	-29.4	N 24 23.0	+06.1
09	4 54.6	-29.6	N 24 29.1	+05.9
10	19 25.0	-29.5	N 24 35.0	+05.8
11	33 55.5	-29.6	N 24 40.8	+05.7
12	48 25.9	-29.7	N 24 46.5	+05.6
13	62 56.2	-29.7	N 24 52.1	+05.4
14	77 26.5	-29.7	N 24 57.5	+05.4
15	91 56.8	-29.7	N 25 02.9	+05.2
16	106 27.1	-29.8	N 25 08.1	+05.1
17	120 57.3	-29.9	N 25 13.2	+05.0
18	135 27.4	-29.8	N 25 18.2	+04.9
19	149 57.6	-29.9	N 25 23.1	+04.8
20	164 27.7	-30.0	N 25 27.9	+04.6
21	178 57.7	-30.0	N 25 32.5	+04.5
22	193 27.7	-30.0	N 25 37.0	+04.4
23	207 57.7	-30.0	N 25 41.4	+04.3

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′7	14′7
HP	54′3	54′2	54′2	54′1	54′1	54′1
SHA	292°	289°	287°	285°	283°	281°

Greenwich Culmination Time: 08:39

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	260 46.9	+00.8	N 14 01.8	+00.5
01	275 47.7	+00.9	N 14 02.3	+00.5
02	290 48.6	+00.8	N 14 02.8	+00.5
03	305 49.4	+00.8	N 14 03.3	+00.5
04	320 50.2	+00.9	N 14 03.8	+00.5
05	335 51.1	+00.8	N 14 04.3	+00.6
06	350 51.9	+00.8	N 14 04.9	+00.5
07	5 52.7	+00.9	N 14 05.4	+00.5
08	20 53.6	+00.8	N 14 05.9	+00.5
09	35 54.4	+00.8	N 14 06.4	+00.5
10	50 55.2	+00.9	N 14 06.9	+00.5
11	65 56.1	+00.8	N 14 07.4	+00.5
12	80 56.9	+00.8	N 14 07.9	+00.5
13	95 57.7	+00.9	N 14 08.4	+00.5
14	110 58.6	+00.8	N 14 08.9	+00.6
15	125 59.4	+00.8	N 14 09.5	+00.5
16	141 00.2	+00.9	N 14 10.0	+00.5
17	156 01.1	+00.8	N 14 10.5	+00.5
18	171 01.9	+00.9	N 14 11.0	+00.5
19	186 02.8	+00.8	N 14 11.5	+00.5
20	201 03.6	+00.8	N 14 12.0	+00.5
21	216 04.4	+00.9	N 14 12.5	+00.5
22	231 05.3	+00.8	N 14 13.0	+00.5
23	246 06.1	+00.8	N 14 13.5	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	319°	319°	319°	319°	319°	318°

Greenwich Culmination Time: 06:36

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	293 10.4	+02.4	N 02 09.0	+00.0
01	308 12.8	+02.4	N 02 09.0	+00.0
02	323 15.2	+02.5	N 02 09.0	+00.0
03	338 17.7	+02.4	N 02 09.0	+00.0
04	353 20.1	+02.4	N 02 09.0	+00.0
05	8 22.5	+02.4	N 02 09.0	+00.0
06	23 24.9	+02.5	N 02 09.0	+00.0
07	38 27.4	+02.4	N 02 09.0	+00.0
08	53 29.8	+02.4	N 02 09.0	+00.0
09	68 32.2	+02.4	N 02 09.0	+00.0
10	83 34.6	+02.5	N 02 09.0	+00.0
11	98 37.1	+02.4	N 02 09.0	+00.0
12	113 39.5	+02.4	N 02 09.0	+00.0
13	128 41.9	+02.4	N 02 09.0	+00.0
14	143 44.3	+02.5	N 02 09.0	+00.0
15	158 46.8	+02.4	N 02 09.0	+00.0
16	173 49.2	+02.4	N 02 09.0	+00.0
17	188 51.6	+02.4	N 02 09.0	+00.0
18	203 54.0	+02.5	N 02 09.0	+00.0
19	218 56.5	+02.4	N 02 09.0	+00.0
20	233 58.9	+02.4	N 02 09.0	+00.0
21	249 01.3	+02.5	N 02 09.0	+00.0
22	264 03.8	+02.4	N 02 09.0	+00.0
23	279 06.2	+02.4	N 02 09.0	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	351°	351°	351°	351°	351°	351°

Greenwich Culmination Time: 04:26

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	335 28.7	+02.6	S 14 53.5	+00.0
01	350 31.3	+02.6	S 14 53.5	+00.1
02	5 33.9	+02.6	S 14 53.6	+00.0
03	20 36.5	+02.6	S 14 53.6	+00.1
04	35 39.1	+02.7	S 14 53.7	+00.1
05	50 41.8	+02.6	S 14 53.8	+00.0
06	65 44.4	+02.6	S 14 53.8	+00.1
07	80 47.0	+02.6	S 14 53.9	+00.0
08	95 49.6	+02.7	S 14 53.9	+00.1
09	110 52.3	+02.6	S 14 54.0	+00.1
10	125 54.9	+02.6	S 14 54.1	+00.0
11	140 57.5	+02.6	S 14 54.1	+00.1
12	156 00.1	+02.7	S 14 54.2	+00.0
13	171 02.8	+02.6	S 14 54.2	+00.1
14	186 05.4	+02.6	S 14 54.3	+00.1
15	201 08.0	+02.6	S 14 54.4	+00.0
16	216 10.6	+02.7	S 14 54.4	+00.1
17	231 13.3	+02.6	S 14 54.5	+00.0
18	246 15.9	+02.6	S 14 54.5	+00.1
19	261 18.5	+02.6	S 14 54.6	+00.1
20	276 21.1	+02.7	S 14 54.7	+00.0
21	291 23.8	+02.6	S 14 54.7	+00.1
22	306 26.4	+02.6	S 14 54.8	+00.0
23	321 29.0	+02.6	S 14 54.8	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 01:37

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2022 July 25 Monday (day 206 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 21.6	+00.0	N 19 41.9	-00.5
01	193 21.6	+00.0	N 19 41.4	-00.5
02	208 21.6	+00.0	N 19 40.9	-00.6
03	223 21.6	+00.0	N 19 40.3	-00.5
04	238 21.6	+00.0	N 19 39.8	-00.5
05	253 21.6	+00.0	N 19 39.3	-00.6
06	268 21.6	+00.0	N 19 38.7	-00.5
07	283 21.6	+00.0	N 19 38.2	-00.6
08	298 21.6	+00.0	N 19 37.6	-00.5
09	313 21.6	-00.1	N 19 37.1	-00.5
10	328 21.5	+00.0	N 19 36.6	-00.6
11	343 21.5	+00.0	N 19 36.0	-00.5
12	358 21.5	+00.0	N 19 35.5	-00.6
13	13 21.5	+00.0	N 19 34.9	-00.5
14	28 21.5	+00.0	N 19 34.4	-00.6
15	43 21.5	+00.0	N 19 33.8	-00.5
16	58 21.5	+00.0	N 19 33.3	-00.5
17	73 21.5	+00.0	N 19 32.8	-00.6
18	88 21.5	+00.0	N 19 32.2	-00.5
19	103 21.5	+00.0	N 19 31.7	-00.6
20	118 21.5	+00.0	N 19 31.1	-00.5
21	133 21.5	+00.0	N 19 30.6	-00.6
22	148 21.5	+00.0	N 19 30.0	-00.5
23	163 21.5	+00.0	N 19 29.5	-00.6

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	236°	235°	235°	235°	235°	235°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	203 35.1	-00.8	N 22 48.8	-00.1
01	218 34.3	-00.8	N 22 48.7	+00.0
02	233 33.5	-00.8	N 22 48.7	-00.1
03	248 32.7	-00.9	N 22 48.6	-00.1
04	263 31.8	-00.8	N 22 48.5	-00.1
05	278 31.0	-00.8	N 22 48.4	-00.1
06	293 30.2	-00.8	N 22 48.3	+00.0
07	308 29.4	-00.9	N 22 48.3	-00.1
08	323 28.5	-00.8	N 22 48.2	-00.1
09	338 27.7	-00.8	N 22 48.1	-00.1
10	353 26.9	-00.8	N 22 48.0	-00.1
11	8 26.1	-00.8	N 22 47.9	-00.1
12	23 25.3	-00.9	N 22 47.8	-00.1
13	38 24.4	-00.8	N 22 47.7	-00.1
14	53 23.6	-00.8	N 22 47.6	-00.1
15	68 22.8	-00.8	N 22 47.5	-00.1
16	83 22.0	-00.8	N 22 47.4	-00.1
17	98 21.2	-00.9	N 22 47.3	-00.1
18	113 20.3	-00.8	N 22 47.2	-00.1
19	128 19.5	-00.8	N 22 47.1	-00.1
20	143 18.7	-00.8	N 22 47.0	-00.1
21	158 17.9	-00.9	N 22 46.9	-00.1
22	173 17.0	-00.8	N 22 46.8	-00.1
23	188 16.2	-00.8	N 22 46.7	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	261°	261°	260°	260°	260°	260°

Greenwich Culmination Time: 10:26

Moon

A: 89%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	222 27.7	-30.1	N 25 45.7	+04.2
01	236 57.6	-30.1	N 25 49.9	+04.0
02	251 27.5	-30.1	N 25 53.9	+03.9
03	265 57.4	-30.2	N 25 57.8	+03.8
04	280 27.2	-30.2	N 26 01.6	+03.7
05	294 57.0	-30.2	N 26 05.3	+03.5
06	309 26.8	-30.3	N 26 08.8	+03.4
07	323 56.5	-30.3	N 26 12.2	+03.3
08	338 26.2	-30.3	N 26 15.5	+03.2
09	352 55.9	-30.4	N 26 18.7	+03.0
10	7 25.5	-30.3	N 26 21.7	+02.9
11	21 55.2	-30.4	N 26 24.6	+02.8
12	36 24.8	-30.4	N 26 27.4	+02.7
13	50 54.4	-30.5	N 26 30.1	+02.5
14	65 23.9	-30.4	N 26 32.6	+02.4
15	79 53.5	-30.5	N 26 35.0	+02.3
16	94 23.0	-30.5	N 26 37.3	+02.2
17	108 52.5	-30.5	N 26 39.5	+02.0
18	123 22.0	-30.5	N 26 41.5	+01.9
19	137 51.5	-30.6	N 26 43.4	+01.8
20	152 20.9	-30.6	N 26 45.2	+01.7
21	166 50.3	-30.5	N 26 46.9	+01.5
22	181 19.8	-30.6	N 26 48.4	+01.4
23	195 49.2	-30.6	N 26 49.8	+01.2

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	54′0	54′0	54′0	54′0	54′0	54′0
SHA	279°	277°	274°	272°	270°	268°

Greenwich Culmination Time: 09:29

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	261 06.9	+00.9	N 14 14.0	+00.5
01	276 07.8	+00.8	N 14 14.5	+00.6
02	291 08.6	+00.9	N 14 15.1	+00.5
03	306 09.5	+00.8	N 14 15.6	+00.5
04	321 10.3	+00.8	N 14 16.1	+00.5
05	336 11.1	+00.9	N 14 16.6	+00.5
06	351 12.0	+00.8	N 14 17.1	+00.5
07	6 12.8	+00.8	N 14 17.6	+00.5
08	21 13.6	+00.9	N 14 18.1	+00.5
09	36 14.5	+00.8	N 14 18.6	+00.5
10	51 15.3	+00.9	N 14 19.1	+00.5
11	66 16.2	+00.8	N 14 19.6	+00.5
12	81 17.0	+00.8	N 14 20.1	+00.5
13	96 17.8	+00.9	N 14 20.6	+00.5
14	111 18.7	+00.8	N 14 21.1	+00.5
15	126 19.5	+00.9	N 14 21.6	+00.5
16	141 20.4	+00.8	N 14 22.1	+00.5
17	156 21.2	+00.8	N 14 22.6	+00.5
18	171 22.0	+00.9	N 14 23.1	+00.6
19	186 22.9	+00.8	N 14 23.7	+00.5
20	201 23.7	+00.8	N 14 24.2	+00.5
21	216 24.5	+00.9	N 14 24.7	+00.5
22	231 25.4	+00.8	N 14 25.2	+00.5
23	246 26.2	+00.9	N 14 25.7	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	318°	318°	318°	318°	318°	318°

Greenwich Culmination Time: 06:35

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	294 08.6	+02.5	N 02 09.0	+00.0
01	309 11.1	+02.4	N 02 09.0	+00.0
02	324 13.5	+02.4	N 02 09.0	+00.0
03	339 15.9	+02.4	N 02 09.0	+00.0
04	354 18.3	+02.5	N 02 09.0	+00.0
05	9 20.8	+02.4	N 02 09.0	+00.0
06	24 23.2	+02.4	N 02 09.0	+00.0
07	39 25.6	+02.5	N 02 09.0	+00.0
08	54 28.1	+02.4	N 02 09.0	+00.0
09	69 30.5	+02.4	N 02 09.0	+00.0
10	84 32.9	+02.5	N 02 09.0	+00.0
11	99 35.4	+02.4	N 02 09.0	+00.0
12	114 37.8	+02.4	N 02 09.0	+00.0
13	129 40.2	+02.5	N 02 09.0	+00.0
14	144 42.7	+02.4	N 02 09.0	+00.0
15	159 45.1	+02.4	N 02 09.0	+00.0
16	174 47.5	+02.5	N 02 09.0	+00.0
17	189 50.0	+02.4	N 02 09.0	+00.0
18	204 52.4	+02.4	N 02 09.0	+00.0
19	219 54.8	+02.5	N 02 09.0	+00.0
20	234 57.3	+02.4	N 02 09.0	+00.0
21	249 59.7	+02.5	N 02 09.0	+00.0
22	265 02.2	+02.4	N 02 09.0	+00.0
23	280 04.6	+02.4	N 02 09.0	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	351°	351°	351°	351°	351°	351°

Greenwich Culmination Time: 04:22

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	336 31.6	+02.7	S 14 54.9	+00.1
01	351 34.3	+02.6	S 14 55.0	+00.0
02	6 36.9	+02.6	S 14 55.0	+00.1
03	21 39.5	+02.6	S 14 55.1	+00.0
04	36 42.1	+02.7	S 14 55.1	+00.1
05	51 44.8	+02.6	S 14 55.2	+00.1
06	66 47.4	+02.6	S 14 55.3	+00.0
07	81 50.0	+02.6	S 14 55.3	+00.1
08	96 52.6	+02.7	S 14 55.4	+00.1
09	111 55.3	+02.6	S 14 55.5	+00.0
10	126 57.9	+02.6	S 14 55.5	+00.1
11	142 00.5	+02.7	S 14 55.6	+00.0
12	157 03.2	+02.6	S 14 55.6	+00.1
13	172 05.8	+02.6	S 14 55.7	+00.1
14	187 08.4	+02.6	S 14 55.8	+00.0
15	202 11.0	+02.7	S 14 55.8	+00.1
16	217 13.7	+02.6	S 14 55.9	+00.0
17	232 16.3	+02.6	S 14 55.9	+00.1
18	247 18.9	+02.6	S 14 56.0	+00.1
19	262 21.5	+02.7	S 14 56.1	+00.0
20	277 24.2	+02.6	S 14 56.1	+00.1
21	292 26.8	+02.6	S 14 56.2	+00.0
22	307 29.4	+02.7	S 14 56.2	+00.1
23	322 32.1	+02.6	S 14 56.3	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 01:33

2022 July 26 Tuesday (day 207 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 21.5	+00.0	N 19 28.9	-00.5
01	193 21.5	+00.0	N 19 28.4	-00.6
02	208 21.5	+00.0	N 19 27.8	-00.5
03	223 21.5	+00.0	N 19 27.3	-00.6
04	238 21.5	+00.0	N 19 26.7	-00.5
05	253 21.5	+00.0	N 19 26.2	-00.6
06	268 21.5	+00.0	N 19 25.6	-00.5
07	283 21.5	+00.0	N 19 25.1	-00.6
08	298 21.5	+00.0	N 19 24.5	-00.5
09	313 21.5	+00.0	N 19 24.0	-00.6
10	328 21.5	+00.0	N 19 23.4	-00.6
11	343 21.5	+00.0	N 19 22.8	-00.5
12	358 21.5	+00.0	N 19 22.3	-00.6
13	13 21.5	+00.0	N 19 21.7	-00.5
14	28 21.5	+00.0	N 19 21.2	-00.6
15	43 21.5	+00.0	N 19 20.6	-00.5
16	58 21.5	+00.0	N 19 20.1	-00.6
17	73 21.5	+00.0	N 19 19.5	-00.6
18	88 21.5	+00.0	N 19 18.9	-00.5
19	103 21.5	+00.0	N 19 18.4	-00.6
20	118 21.5	+00.0	N 19 17.8	-00.5
21	133 21.5	+00.0	N 19 17.3	-00.6
22	148 21.5	+00.0	N 19 16.7	-00.6
23	163 21.5	+00.0	N 19 16.1	-00.5

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′7
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	235°	234°	234°	234°	234°	234°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	203 15.4	-00.8	N 22 46.6	-00.1
01	218 14.6	-00.8	N 22 46.5	-00.1
02	233 13.8	-00.9	N 22 46.4	-00.1
03	248 12.9	-00.8	N 22 46.3	-00.1
04	263 12.1	-00.8	N 22 46.2	-00.1
05	278 11.3	-00.8	N 22 46.1	-00.1
06	293 10.5	-00.8	N 22 46.0	-00.1
07	308 09.7	-00.9	N 22 45.9	-00.2
08	323 08.8	-00.8	N 22 45.7	-00.1
09	338 08.0	-00.8	N 22 45.6	-00.1
10	353 07.2	-00.8	N 22 45.5	-00.1
11	8 06.4	-00.8	N 22 45.4	-00.1
12	23 05.6	-00.9	N 22 45.3	-00.1
13	38 04.7	-00.8	N 22 45.2	-00.2
14	53 03.9	-00.8	N 22 45.0	-00.1
15	68 03.1	-00.8	N 22 44.9	-00.1
16	83 02.3	-00.9	N 22 44.8	-00.1
17	98 01.4	-00.8	N 22 44.7	-00.2
18	113 00.6	-00.8	N 22 44.5	-00.1
19	127 59.8	-00.8	N 22 44.4	-00.1
20	142 59.0	-00.8	N 22 44.3	-00.1
21	157 58.2	-00.9	N 22 44.2	-00.2
22	172 57.3	-00.8	N 22 44.0	-00.1
23	187 56.5	-00.8	N 22 43.9	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	259°	259°	259°	259°	259°	258°

Greenwich Culmination Time: 10:27

Moon

A: 92%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	210 18.6	-30.7	N 26 51.0	+01.2
01	224 47.9	-30.6	N 26 52.2	+01.0
02	239 17.3	-30.6	N 26 53.2	+00.9
03	253 46.7	-30.7	N 26 54.1	+00.7
04	268 16.0	-30.6	N 26 54.8	+00.6
05	282 45.4	-30.7	N 26 55.4	+00.5
06	297 14.7	-30.7	N 26 55.9	+00.4
07	311 44.0	-30.6	N 26 56.3	+00.2
08	326 13.4	-30.7	N 26 56.5	+00.1
09	340 42.7	-30.7	N 26 56.6	+00.0
10	355 12.0	-30.7	N 26 56.6	-00.2
11	9 41.3	-30.7	N 26 56.4	-00.2
12	24 10.6	-30.6	N 26 56.2	-00.5
13	38 40.0	-30.7	N 26 55.7	-00.5
14	53 09.3	-30.7	N 26 55.2	-00.7
15	67 38.6	-30.6	N 26 54.5	-00.8
16	82 08.0	-30.7	N 26 53.7	-00.9
17	96 37.3	-30.7	N 26 52.8	-01.1
18	111 06.6	-30.6	N 26 51.7	-01.2
19	125 36.0	-30.7	N 26 50.5	-01.3
20	140 05.3	-30.6	N 26 49.2	-01.4
21	154 34.7	-30.6	N 26 47.8	-01.6
22	169 04.1	-30.6	N 26 46.2	-01.7
23	183 33.5	-30.6	N 26 44.5	-01.9

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	54′0	53′9	53′9	53′9	54′0	54′0
SHA	266°	263°	261°	259°	257°	254°

Greenwich Culmination Time: 10:19

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	261 27.1	+00.8	N 14 26.2	+00.5
01	276 27.9	+00.8	N 14 26.7	+00.5
02	291 28.7	+00.9	N 14 27.2	+00.5
03	306 29.6	+00.8	N 14 27.7	+00.5
04	321 30.4	+00.9	N 14 28.2	+00.5
05	336 31.3	+00.8	N 14 28.7	+00.5
06	351 32.1	+00.9	N 14 29.2	+00.5
07	6 33.0	+00.8	N 14 29.7	+00.5
08	21 33.8	+00.8	N 14 30.2	+00.5
09	36 34.6	+00.9	N 14 30.7	+00.5
10	51 35.5	+00.8	N 14 31.2	+00.5
11	66 36.3	+00.9	N 14 31.7	+00.5
12	81 37.2	+00.8	N 14 32.2	+00.5
13	96 38.0	+00.8	N 14 32.7	+00.5
14	111 38.8	+00.9	N 14 33.2	+00.5
15	126 39.7	+00.8	N 14 33.7	+00.5
16	141 40.5	+00.9	N 14 34.2	+00.5
17	156 41.4	+00.8	N 14 34.7	+00.5
18	171 42.2	+00.9	N 14 35.2	+00.5
19	186 43.1	+00.8	N 14 35.7	+00.5
20	201 43.9	+00.8	N 14 36.2	+00.5
21	216 44.7	+00.9	N 14 36.7	+00.4
22	231 45.6	+00.8	N 14 37.1	+00.5
23	246 46.4	+00.9	N 14 37.6	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	318°	318°	318°	317°	317°	317°

Greenwich Culmination Time: 06:33

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	295 07.0	+02.5	N 02 09.0	+00.0
01	310 09.5	+02.4	N 02 09.0	+00.0
02	325 11.9	+02.4	N 02 09.0	+00.0
03	340 14.3	+02.5	N 02 09.0	+00.0
04	355 16.8	+02.4	N 02 09.0	+00.0
05	10 19.2	+02.5	N 02 09.0	+00.0
06	25 21.7	+02.4	N 02 09.0	+00.0
07	40 24.1	+02.4	N 02 09.0	+00.0
08	55 26.5	+02.5	N 02 09.0	+00.0
09	70 29.0	+02.4	N 02 09.0	+00.0
10	85 31.4	+02.5	N 02 09.0	+00.0
11	100 33.9	+02.4	N 02 09.0	+00.0
12	115 36.3	+02.4	N 02 09.0	+00.0
13	130 38.7	+02.5	N 02 09.0	+00.0
14	145 41.2	+02.4	N 02 09.0	+00.0
15	160 43.6	+02.5	N 02 09.0	+00.0
16	175 46.1	+02.4	N 02 09.0	+00.0
17	190 48.5	+02.5	N 02 09.0	+00.0
18	205 51.0	+02.4	N 02 09.0	+00.0
19	220 53.4	+02.4	N 02 09.0	+00.0
20	235 55.8	+02.5	N 02 09.0	+00.0
21	250 58.3	+02.4	N 02 09.0	+00.0
22	266 00.7	+02.5	N 02 09.0	-00.1
23	281 03.2	+02.4	N 02 08.9	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	351°	351°	351°	351°	351°	351°

Greenwich Culmination Time: 04:18

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	337 34.7	+02.6	S 14 56.4	+00.0
01	352 37.3	+02.6	S 14 56.4	+00.1
02	7 39.9	+02.7	S 14 56.5	+00.0
03	22 42.6	+02.6	S 14 56.5	+00.1
04	37 45.2	+02.6	S 14 56.6	+00.1
05	52 47.8	+02.6	S 14 56.7	+00.0
06	67 50.4	+02.7	S 14 56.7	+00.1
07	82 53.1	+02.6	S 14 56.8	+00.0
08	97 55.7	+02.6	S 14 56.8	+00.1
09	112 58.3	+02.7	S 14 56.9	+00.1
10	128 01.0	+02.6	S 14 57.0	+00.0
11	143 03.6	+02.6	S 14 57.0	+00.1
12	158 06.2	+02.6	S 14 57.1	+00.1
13	173 08.8	+02.7	S 14 57.2	+00.0
14	188 11.5	+02.6	S 14 57.2	+00.1
15	203 14.1	+02.6	S 14 57.3	+00.0
16	218 16.7	+02.7	S 14 57.3	+00.1
17	233 19.4	+02.6	S 14 57.4	+00.1
18	248 22.0	+02.6	S 14 57.5	+00.0
19	263 24.6	+02.6	S 14 57.5	+00.1
20	278 27.2	+02.7	S 14 57.6	+00.0
21	293 29.9	+02.6	S 14 57.6	+00.1
22	308 32.5	+02.6	S 14 57.7	+00.1
23	323 35.1	+02.7	S 14 57.8	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 01:29

2022 July 31 Sunday (day 212 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 23.1	+00.1	N 18 19.1	-00.6
01	193 23.2	+00.0	N 18 18.5	-00.7
02	208 23.2	+00.0	N 18 17.8	-00.6
03	223 23.2	+00.0	N 18 17.2	-00.6
04	238 23.2	+00.1	N 18 16.6	-00.6
05	253 23.3	+00.0	N 18 16.0	-00.6
06	268 23.3	+00.0	N 18 15.4	-00.6
07	283 23.3	+00.1	N 18 14.8	-00.7
08	298 23.4	+00.0	N 18 14.1	-00.6
09	313 23.4	+00.0	N 18 13.5	-00.6
10	328 23.4	+00.1	N 18 12.9	-00.6
11	343 23.5	+00.0	N 18 12.3	-00.6
12	358 23.5	+00.0	N 18 11.7	-00.7
13	13 23.5	+00.1	N 18 11.0	-00.6
14	28 23.6	+00.0	N 18 10.4	-00.6
15	43 23.6	+00.0	N 18 09.8	-00.6
16	58 23.6	+00.1	N 18 09.2	-00.6
17	73 23.7	+00.0	N 18 08.6	-00.7
18	88 23.7	+00.0	N 18 07.9	-00.6
19	103 23.7	+00.1	N 18 07.3	-00.6
20	118 23.8	+00.0	N 18 06.7	-00.6
21	133 23.8	+00.0	N 18 06.1	-00.7
22	148 23.8	+00.1	N 18 05.4	-00.6
23	163 23.9	+00.0	N 18 04.8	-00.6

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	230°	230°	229°	229°	229°	229°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	201 37.2	-00.8	N 22 25.8	-00.3
01	216 36.4	-00.8	N 22 25.5	-00.2
02	231 35.6	-00.8	N 22 25.3	-00.3
03	246 34.8	-00.8	N 22 25.0	-00.2
04	261 34.0	-00.8	N 22 24.8	-00.3
05	276 33.2	-00.9	N 22 24.5	-00.2
06	291 32.3	-00.8	N 22 24.3	-00.2
07	306 31.5	-00.8	N 22 24.1	-00.3
08	321 30.7	-00.8	N 22 23.8	-00.2
09	336 29.9	-00.8	N 22 23.6	-00.3
10	351 29.1	-00.8	N 22 23.3	-00.3
11	6 28.3	-00.8	N 22 23.0	-00.2
12	21 27.5	-00.8	N 22 22.8	-00.3
13	36 26.7	-00.9	N 22 22.5	-00.2
14	51 25.8	-00.8	N 22 22.3	-00.3
15	66 25.0	-00.8	N 22 22.0	-00.2
16	81 24.2	-00.8	N 22 21.8	-00.3
17	96 23.4	-00.8	N 22 21.5	-00.3
18	111 22.6	-00.8	N 22 21.2	-00.2
19	126 21.8	-00.8	N 22 21.0	-00.3
20	141 21.0	-00.8	N 22 20.7	-00.3
21	156 20.2	-00.8	N 22 20.4	-00.2
22	171 19.4	-00.8	N 22 20.2	-00.3
23	186 18.6	-00.9	N 22 19.9	-00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	253°	253°	252°	252°	252°	252°

Greenwich Culmination Time: 10:34

Moon

A: 08%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	151 52.2	-26.7	N 14 56.2	-11.8
01	166 25.5	-26.7	N 14 44.4	-11.9
02	180 58.8	-26.6	N 14 32.5	-12.0
03	195 32.2	-26.6	N 14 20.5	-12.1
04	210 05.6	-26.6	N 14 08.4	-12.1
05	224 39.0	-26.5	N 13 56.3	-12.2
06	239 12.5	-26.5	N 13 44.1	-12.2
07	253 46.0	-26.5	N 13 31.9	-12.3
08	268 19.5	-26.4	N 13 19.6	-12.4
09	282 53.1	-26.4	N 13 07.2	-12.4
10	297 26.7	-26.4	N 12 54.8	-12.5
11	312 00.3	-26.3	N 12 42.3	-12.6
12	326 34.0	-26.3	N 12 29.7	-12.6
13	341 07.7	-26.3	N 12 17.1	-12.7
14	355 41.4	-26.2	N 12 04.4	-12.7
15	10 15.2	-26.2	N 11 51.7	-12.8
16	24 49.0	-26.2	N 11 38.9	-12.8
17	39 22.8	-26.2	N 11 26.1	-12.9
18	53 56.6	-26.1	N 11 13.2	-12.9
19	68 30.5	-26.1	N 11 00.3	-13.0
20	83 04.4	-26.1	N 10 47.3	-13.1
21	97 38.3	-26.1	N 10 34.2	-13.1
22	112 12.2	-26.0	N 10 21.1	-13.1
23	126 46.2	-26.0	N 10 08.0	-13.2

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	15′0	15′0	15′1
HP	54′9	55′0	55′0	55′1	55′2	55′3
SHA	202°	200°	198°	197°	195°	193°

Greenwich Culmination Time: 14:17

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	263 08.8	+00.9	N 15 24.5	+00.5
01	278 09.7	+00.8	N 15 25.0	+00.5
02	293 10.5	+00.9	N 15 25.5	+00.4
03	308 11.4	+00.9	N 15 25.9	+00.5
04	323 12.3	+00.8	N 15 26.4	+00.5
05	338 13.1	+00.9	N 15 26.9	+00.5
06	353 14.0	+00.8	N 15 27.4	+00.4
07	8 14.8	+00.9	N 15 27.8	+00.5
08	23 15.7	+00.8	N 15 28.3	+00.5
09	38 16.5	+00.9	N 15 28.8	+00.4
10	53 17.4	+00.9	N 15 29.2	+00.5
11	68 18.3	+00.8	N 15 29.7	+00.5
12	83 19.1	+00.9	N 15 30.2	+00.4
13	98 20.0	+00.8	N 15 30.6	+00.5
14	113 20.8	+00.9	N 15 31.1	+00.5
15	128 21.7	+00.9	N 15 31.6	+00.4
16	143 22.6	+00.8	N 15 32.0	+00.5
17	158 23.4	+00.9	N 15 32.5	+00.5
18	173 24.3	+00.8	N 15 33.0	+00.4
19	188 25.1	+00.9	N 15 33.4	+00.5
20	203 26.0	+00.9	N 15 33.9	+00.5
21	218 26.9	+00.8	N 15 34.4	+00.4
22	233 27.7	+00.9	N 15 34.8	+00.5
23	248 28.6	+00.8	N 15 35.3	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	314°	314°	314°	314°	314°	314°

Greenwich Culmination Time: 06:27

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	300 01.8	+02.5	N 02 07.8	+00.0
01	315 04.3	+02.5	N 02 07.8	+00.0
02	330 06.8	+02.5	N 02 07.8	+00.0
03	345 09.3	+02.4	N 02 07.8	-00.1
04	0 11.7	+02.5	N 02 07.7	+00.0
05	15 14.2	+02.5	N 02 07.7	+00.0
06	30 16.7	+02.5	N 02 07.7	+00.0
07	45 19.2	+02.4	N 02 07.7	+00.0
08	60 21.6	+02.5	N 02 07.7	-00.1
09	75 24.1	+02.5	N 02 07.6	+00.0
10	90 26.6	+02.5	N 02 07.6	+00.0
11	105 29.1	+02.5	N 02 07.6	+00.0
12	120 31.6	+02.4	N 02 07.6	+00.0
13	135 34.0	+02.5	N 02 07.6	-00.1
14	150 36.5	+02.5	N 02 07.5	+00.0
15	165 39.0	+02.5	N 02 07.5	+00.0
16	180 41.5	+02.5	N 02 07.5	+00.0
17	195 44.0	+02.4	N 02 07.5	+00.0
18	210 46.4	+02.5	N 02 07.5	-00.1
19	225 48.9	+02.5	N 02 07.4	+00.0
20	240 51.4	+02.5	N 02 07.4	+00.0
21	255 53.9	+02.5	N 02 07.4	+00.0
22	270 56.4	+02.4	N 02 07.4	+00.0
23	285 58.8	+02.5	N 02 07.4	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	351°	351°	351°	351°	351°	351°

Greenwich Culmination Time: 03:59

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	342 50.5	+02.6	S 15 03.8	+00.1
01	357 53.1	+02.7	S 15 03.9	+00.0
02	12 55.8	+02.6	S 15 03.9	+00.1
03	27 58.4	+02.6	S 15 04.0	+00.0
04	43 01.0	+02.7	S 15 04.0	+00.1
05	58 03.7	+02.6	S 15 04.1	+00.1
06	73 06.3	+02.6	S 15 04.2	+00.0
07	88 08.9	+02.7	S 15 04.2	+00.1
08	103 11.6	+02.6	S 15 04.3	+00.1
09	118 14.2	+02.6	S 15 04.4	+00.0
10	133 16.8	+02.7	S 15 04.4	+00.1
11	148 19.5	+02.6	S 15 04.5	+00.0
12	163 22.1	+02.7	S 15 04.5	+00.1
13	178 24.8	+02.6	S 15 04.6	+00.1
14	193 27.4	+02.6	S 15 04.7	+00.0
15	208 30.0	+02.7	S 15 04.7	+00.1
16	223 32.7	+02.6	S 15 04.8	+00.1
17	238 35.3	+02.6	S 15 04.9	+00.0
18	253 37.9	+02.7	S 15 04.9	+00.1
19	268 40.6	+02.6	S 15 05.0	+00.1
20	283 43.2	+02.7	S 15 05.1	+00.0
21	298 45.9	+02.6	S 15 05.1	+00.1
22	313 48.5	+02.6	S 15 05.2	+00.0
23	328 51.1	+02.7	S 15 05.2	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 01:08

2022 July 28 Thursday (day 209 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 21.7	+00.0	N 19 01.9	-00.6
01	193 21.7	+00.0	N 19 01.3	-00.5
02	208 21.7	+00.0	N 19 00.8	-00.6
03	223 21.7	+00.0	N 19 00.2	-00.6
04	238 21.7	+00.0	N 18 59.6	-00.6
05	253 21.7	+00.1	N 18 59.0	-00.5
06	268 21.8	+00.0	N 18 58.5	-00.6
07	283 21.8	+00.0	N 18 57.9	-00.6
08	298 21.8	+00.0	N 18 57.3	-00.6
09	313 21.8	+00.0	N 18 56.7	-00.6
10	328 21.8	+00.0	N 18 56.1	-00.5
11	343 21.8	+00.0	N 18 55.6	-00.6
12	358 21.8	+00.1	N 18 55.0	-00.6
13	13 21.9	+00.0	N 18 54.4	-00.6
14	28 21.9	+00.0	N 18 53.8	-00.6
15	43 21.9	+00.0	N 18 53.2	-00.6
16	58 21.9	+00.0	N 18 52.6	-00.5
17	73 21.9	+00.0	N 18 52.1	-00.6
18	88 21.9	+00.0	N 18 51.5	-00.6
19	103 21.9	+00.1	N 18 50.9	-00.6
20	118 22.0	+00.0	N 18 50.3	-00.6
21	133 22.0	+00.0	N 18 49.7	-00.6
22	148 22.0	+00.0	N 18 49.1	-00.6
23	163 22.0	+00.0	N 18 48.5	-00.6

UT	02	06	10	14	18	22
SD	15′7	15′7	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	233°	232°	232°	232°	232°	232°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	202 36.0	-00.8	N 22 40.3	-00.2
01	217 35.2	-00.8	N 22 40.1	-00.2
02	232 34.4	-00.8	N 22 39.9	-00.1
03	247 33.6	-00.9	N 22 39.8	-00.2
04	262 32.7	-00.8	N 22 39.6	-00.2
05	277 31.9	-00.8	N 22 39.4	-00.1
06	292 31.1	-00.8	N 22 39.3	-00.2
07	307 30.3	-00.8	N 22 39.1	-00.2
08	322 29.5	-00.9	N 22 38.9	-00.1
09	337 28.6	-00.8	N 22 38.8	-00.2
10	352 27.8	-00.8	N 22 38.6	-00.2
11	7 27.0	-00.8	N 22 38.4	-00.1
12	22 26.2	-00.8	N 22 38.3	-00.2
13	37 25.4	-00.8	N 22 38.1	-00.2
14	52 24.6	-00.9	N 22 37.9	-00.2
15	67 23.7	-00.8	N 22 37.7	-00.2
16	82 22.9	-00.8	N 22 37.5	-00.1
17	97 22.1	-00.8	N 22 37.4	-00.2
18	112 21.3	-00.8	N 22 37.2	-00.2
19	127 20.5	-00.9	N 22 37.0	-00.2
20	142 19.6	-00.8	N 22 36.8	-00.2
21	157 18.8	-00.8	N 22 36.6	-00.1
22	172 18.0	-00.8	N 22 36.5	-00.2
23	187 17.2	-00.8	N 22 36.3	-00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	257°	257°	256°	256°	256°	256°

Greenwich Culmination Time: 10:30

Moon

A: 99%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	185 54.9	-30.0	N 25 20.7	-04.9
01	200 24.9	-29.9	N 25 15.8	-05.1
02	214 55.0	-29.9	N 25 10.7	-05.2
03	229 25.1	-29.8	N 25 05.5	-05.3
04	243 55.3	-29.9	N 25 00.2	-05.4
05	258 25.4	-29.7	N 24 54.8	-05.6
06	272 55.7	-29.8	N 24 49.2	-05.6
07	287 25.9	-29.7	N 24 43.6	-05.8
08	301 56.2	-29.6	N 24 37.8	-05.9
09	316 26.6	-29.7	N 24 31.9	-06.0
10	330 56.9	-29.5	N 24 25.9	-06.2
11	345 27.4	-29.6	N 24 19.7	-06.2
12	359 57.8	-29.4	N 24 13.5	-06.3
13	14 28.4	-29.5	N 24 07.2	-06.5
14	28 58.9	-29.4	N 24 00.7	-06.6
15	43 29.5	-29.4	N 23 54.1	-06.7
16	58 00.1	-29.3	N 23 47.4	-06.8
17	72 30.8	-29.2	N 23 40.6	-06.9
18	87 01.6	-29.2	N 23 33.7	-07.0
19	101 32.4	-29.2	N 23 26.7	-07.2
20	116 03.2	-29.2	N 23 19.5	-07.2
21	130 34.0	-29.0	N 23 12.3	-07.4
22	145 05.0	-29.1	N 23 04.9	-07.4
23	159 35.9	-29.0	N 22 57.5	-07.6

UT	02	06	10	14	18	22
SD	14′7	14′7	14′8	14′8	14′8	14′8
HP	54′1	54′1	54′1	54′2	54′2	54′2
SHA	239°	237°	235°	233°	231°	229°

Greenwich Culmination Time: 12:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	262 07.5	+00.9	N 14 50.0	+00.5
01	277 08.4	+00.8	N 14 50.5	+00.4
02	292 09.2	+00.9	N 14 50.9	+00.5
03	307 10.1	+00.8	N 14 51.4	+00.5
04	322 10.9	+00.9	N 14 51.9	+00.5
05	337 11.8	+00.8	N 14 52.4	+00.5
06	352 12.6	+00.9	N 14 52.9	+00.5
07	7 13.5	+00.8	N 14 53.4	+00.5
08	22 14.3	+00.9	N 14 53.9	+00.5
09	37 15.2	+00.8	N 14 54.4	+00.4
10	52 16.0	+00.9	N 14 54.8	+00.5
11	67 16.9	+00.8	N 14 55.3	+00.5
12	82 17.7	+00.9	N 14 55.8	+00.5
13	97 18.6	+00.8	N 14 56.3	+00.5
14	112 19.4	+00.8	N 14 56.8	+00.5
15	127 20.2	+00.9	N 14 57.3	+00.5
16	142 21.1	+00.8	N 14 57.8	+00.5
17	157 21.9	+00.9	N 14 58.3	+00.4
18	172 22.8	+00.8	N 14 58.7	+00.5
19	187 23.6	+00.9	N 14 59.2	+00.5
20	202 24.5	+00.8	N 14 59.7	+00.5
21	217 25.3	+00.9	N 15 00.2	+00.5
22	232 26.2	+00.8	N 15 00.7	+00.5
23	247 27.0	+00.9	N 15 01.2	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	316°	316°	316°	316°	316°	316°

Greenwich Culmination Time: 06:31

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	297 04.4	+02.5	N 02 08.8	+00.0
01	312 06.9	+02.4	N 02 08.8	+00.0
02	327 09.3	+02.5	N 02 08.8	+00.0
03	342 11.8	+02.4	N 02 08.8	-00.1
04	357 14.2	+02.5	N 02 08.7	+00.0
05	12 16.7	+02.4	N 02 08.7	+00.0
06	27 19.1	+02.5	N 02 08.7	+00.0
07	42 21.6	+02.4	N 02 08.7	+00.0
08	57 24.0	+02.5	N 02 08.7	+00.0
09	72 26.5	+02.4	N 02 08.7	+00.0
10	87 28.9	+02.5	N 02 08.7	+00.0
11	102 31.4	+02.5	N 02 08.7	+00.0
12	117 33.9	+02.4	N 02 08.7	+00.0
13	132 36.3	+02.5	N 02 08.7	-00.1
14	147 38.8	+02.4	N 02 08.6	+00.0
15	162 41.2	+02.5	N 02 08.6	+00.0
16	177 43.7	+02.4	N 02 08.6	+00.0
17	192 46.1	+02.5	N 02 08.6	+00.0
18	207 48.6	+02.5	N 02 08.6	+00.0
19	222 51.1	+02.4	N 02 08.6	+00.0
20	237 53.5	+02.5	N 02 08.6	+00.0
21	252 56.0	+02.4	N 02 08.6	+00.0
22	267 58.4	+02.5	N 02 08.6	-00.1
23	283 00.9	+02.5	N 02 08.5	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	351°	351°	351°	351°	351°	351°

Greenwich Culmination Time: 04:11

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	339 40.9	+02.6	S 14 59.3	+00.1
01	354 43.5	+02.6	S 14 59.4	+00.0
02	9 46.1	+02.7	S 14 59.4	+00.1
03	24 48.8	+02.6	S 14 59.5	+00.1
04	39 51.4	+02.6	S 14 59.6	+00.0
05	54 54.0	+02.7	S 14 59.6	+00.1
06	69 56.7	+02.6	S 14 59.7	+00.0
07	84 59.3	+02.6	S 14 59.7	+00.1
08	100 01.9	+02.7	S 14 59.8	+00.1
09	115 04.6	+02.6	S 14 59.9	+00.0
10	130 07.2	+02.6	S 14 59.9	+00.1
11	145 09.8	+02.7	S 14 60.0	+00.0
12	160 12.5	+02.6	S 15 00.0	+00.1
13	175 15.1	+02.6	S 15 00.1	+00.1
14	190 17.7	+02.7	S 15 00.2	+00.0
15	205 20.4	+02.6	S 15 00.2	+00.1
16	220 23.0	+02.6	S 15 00.3	+00.1
17	235 25.6	+02.7	S 15 00.4	+00.0
18	250 28.3	+02.6	S 15 00.4	+00.1
19	265 30.9	+02.6	S 15 00.5	+00.0
20	280 33.5	+02.6	S 15 00.5	+00.1
21	295 36.1	+02.7	S 15 00.6	+00.1
22	310 38.8	+02.6	S 15 00.7	+00.0
23	325 41.4	+02.6	S 15 00.7	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 01:21

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Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 22.0	+00.0	N 18 47.9	-00.5
01	193 22.0	+00.1	N 18 47.4	-00.6
02	208 22.1	+00.0	N 18 46.8	-00.6
03	223 22.1	+00.0	N 18 46.2	-00.6
04	238 22.1	+00.0	N 18 45.6	-00.6
05	253 22.1	+00.0	N 18 45.0	-00.6
06	268 22.1	+00.0	N 18 44.4	-00.6
07	283 22.1	+00.1	N 18 43.8	-00.6
08	298 22.2	+00.0	N 18 43.2	-00.6
09	313 22.2	+00.0	N 18 42.6	-00.6
10	328 22.2	+00.0	N 18 42.0	-00.6
11	343 22.2	+00.0	N 18 41.4	-00.6
12	358 22.2	+00.1	N 18 40.8	-00.6
13	13 22.3	+00.0	N 18 40.2	-00.5
14	28 22.3	+00.0	N 18 39.7	-00.6
15	43 22.3	+00.0	N 18 39.1	-00.6
16	58 22.3	+00.0	N 18 38.5	-00.6
17	73 22.3	+00.1	N 18 37.9	-00.6
18	88 22.4	+00.0	N 18 37.3	-00.6
19	103 22.4	+00.0	N 18 36.7	-00.6
20	118 22.4	+00.0	N 18 36.1	-00.6
21	133 22.4	+00.0	N 18 35.5	-00.6
22	148 22.4	+00.1	N 18 34.9	-00.6
23	163 22.5	+00.0	N 18 34.3	-00.6

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	232°	231°	231°	231°	231°	231°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	202 16.4	-00.9	N 22 36.1	-00.2
01	217 15.5	-00.8	N 22 35.9	-00.2
02	232 14.7	-00.8	N 22 35.7	-00.2
03	247 13.9	-00.8	N 22 35.5	-00.2
04	262 13.1	-00.8	N 22 35.3	-00.2
05	277 12.3	-00.8	N 22 35.1	-00.2
06	292 11.5	-00.9	N 22 34.9	-00.2
07	307 10.6	-00.8	N 22 34.7	-00.2
08	322 09.8	-00.8	N 22 34.5	-00.2
09	337 09.0	-00.8	N 22 34.3	-00.1
10	352 08.2	-00.8	N 22 34.2	-00.2
11	7 07.4	-00.8	N 22 34.0	-00.2
12	22 06.6	-00.9	N 22 33.8	-00.3
13	37 05.7	-00.8	N 22 33.5	-00.2
14	52 04.9	-00.8	N 22 33.3	-00.2
15	67 04.1	-00.8	N 22 33.1	-00.2
16	82 03.3	-00.8	N 22 32.9	-00.2
17	97 02.5	-00.8	N 22 32.7	-00.2
18	112 01.7	-00.9	N 22 32.5	-00.2
19	127 00.8	-00.8	N 22 32.3	-00.2
20	142 00.0	-00.8	N 22 32.1	-00.2
21	156 59.2	-00.8	N 22 31.9	-00.2
22	171 58.4	-00.8	N 22 31.7	-00.2
23	186 57.6	-00.8	N 22 31.5	-00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	256°	255°	255°	255°	255°	254°

Greenwich Culmination Time: 10:31

Moon

A: 02%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	174 06.9	-28.9	N 22 49.9	-07.6
01	188 38.0	-28.9	N 22 42.3	-07.8
02	203 09.1	-28.8	N 22 34.5	-07.9
03	217 40.3	-28.8	N 22 26.6	-08.0
04	232 11.5	-28.8	N 22 18.6	-08.1
05	246 42.7	-28.7	N 22 10.5	-08.2
06	261 14.0	-28.6	N 22 02.3	-08.2
07	275 45.4	-28.6	N 21 54.1	-08.4
08	290 16.8	-28.6	N 21 45.7	-08.5
09	304 48.2	-28.5	N 21 37.2	-08.6
10	319 19.7	-28.4	N 21 28.6	-08.7
11	333 51.3	-28.4	N 21 19.9	-08.8
12	348 22.9	-28.4	N 21 11.1	-08.9
13	2 54.5	-28.3	N 21 02.2	-08.9
14	17 26.2	-28.2	N 20 53.3	-09.1
15	31 58.0	-28.2	N 20 44.2	-09.2
16	46 29.8	-28.2	N 20 35.0	-09.3
17	61 01.6	-28.1	N 20 25.7	-09.3
18	75 33.5	-28.0	N 20 16.4	-09.5
19	90 05.5	-28.0	N 20 06.9	-09.5
20	104 37.5	-28.0	N 19 57.4	-09.6
21	119 09.5	-27.9	N 19 47.8	-09.8
22	133 41.6	-27.9	N 19 38.0	-09.8
23	148 13.7	-27.8	N 19 28.2	-09.9

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′9
HP	54′3	54′3	54′4	54′4	54′5	54′5
SHA	226°	224°	222°	220°	218°	216°

Greenwich Culmination Time: 12:47

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	262 27.9	+00.8	N 15 01.6	+00.5
01	277 28.7	+00.9	N 15 02.1	+00.5
02	292 29.6	+00.8	N 15 02.6	+00.5
03	307 30.4	+00.9	N 15 03.1	+00.5
04	322 31.3	+00.8	N 15 03.6	+00.5
05	337 32.1	+00.9	N 15 04.1	+00.4
06	352 33.0	+00.8	N 15 04.5	+00.5
07	7 33.8	+00.9	N 15 05.0	+00.5
08	22 34.7	+00.8	N 15 05.5	+00.5
09	37 35.5	+00.9	N 15 06.0	+00.5
10	52 36.4	+00.8	N 15 06.5	+00.4
11	67 37.2	+00.9	N 15 06.9	+00.5
12	82 38.1	+00.8	N 15 07.4	+00.5
13	97 38.9	+00.9	N 15 07.9	+00.5
14	112 39.8	+00.8	N 15 08.4	+00.5
15	127 40.6	+00.9	N 15 08.9	+00.4
16	142 41.5	+00.9	N 15 09.3	+00.5
17	157 42.4	+00.8	N 15 09.8	+00.5
18	172 43.2	+00.9	N 15 10.3	+00.5
19	187 44.1	+00.8	N 15 10.8	+00.5
20	202 44.9	+00.9	N 15 11.3	+00.4
21	217 45.8	+00.8	N 15 11.7	+00.5
22	232 46.6	+00.9	N 15 12.2	+00.5
23	247 47.5	+00.8	N 15 12.7	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	316°	316°	316°	315°	315°	315°

Greenwich Culmination Time: 06:29

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	298 03.4	+02.4	N 02 08.5	+00.0
01	313 05.8	+02.5	N 02 08.5	+00.0
02	328 08.3	+02.4	N 02 08.5	+00.0
03	343 10.7	+02.5	N 02 08.5	+00.0
04	358 13.2	+02.5	N 02 08.5	+00.0
05	13 15.7	+02.4	N 02 08.5	+00.0
06	28 18.1	+02.5	N 02 08.5	-00.1
07	43 20.6	+02.5	N 02 08.4	+00.0
08	58 23.1	+02.4	N 02 08.4	+00.0
09	73 25.5	+02.5	N 02 08.4	+00.0
10	88 28.0	+02.4	N 02 08.4	+00.0
11	103 30.4	+02.5	N 02 08.4	+00.0
12	118 32.9	+02.5	N 02 08.4	+00.0
13	133 35.4	+02.4	N 02 08.4	+00.0
14	148 37.8	+02.5	N 02 08.4	-00.1
15	163 40.3	+02.5	N 02 08.3	+00.0
16	178 42.8	+02.4	N 02 08.3	+00.0
17	193 45.2	+02.5	N 02 08.3	+00.0
18	208 47.7	+02.5	N 02 08.3	+00.0
19	223 50.2	+02.4	N 02 08.3	+00.0
20	238 52.6	+02.5	N 02 08.3	+00.0
21	253 55.1	+02.5	N 02 08.3	-00.1
22	268 57.6	+02.4	N 02 08.2	+00.0
23	284 00.0	+02.5	N 02 08.2	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	351°	351°	351°	351°	351°	351°

Greenwich Culmination Time: 04:07

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	340 44.0	+02.7	S 15 00.8	+00.1
01	355 46.7	+02.6	S 15 00.9	+00.0
02	10 49.3	+02.6	S 15 00.9	+00.1
03	25 51.9	+02.7	S 15 01.0	+00.0
04	40 54.6	+02.6	S 15 01.0	+00.1
05	55 57.2	+02.6	S 15 01.1	+00.1
06	70 59.8	+02.7	S 15 01.2	+00.0
07	86 02.5	+02.6	S 15 01.2	+00.1
08	101 05.1	+02.6	S 15 01.3	+00.1
09	116 07.7	+02.7	S 15 01.4	+00.0
10	131 10.4	+02.6	S 15 01.4	+00.1
11	146 13.0	+02.6	S 15 01.5	+00.0
12	161 15.6	+02.7	S 15 01.5	+00.1
13	176 18.3	+02.6	S 15 01.6	+00.1
14	191 20.9	+02.6	S 15 01.7	+00.0
15	206 23.5	+02.7	S 15 01.7	+00.1
16	221 26.2	+02.6	S 15 01.8	+00.0
17	236 28.8	+02.6	S 15 01.8	+00.1
18	251 31.4	+02.7	S 15 01.9	+00.1
19	266 34.1	+02.6	S 15 02.0	+00.0
20	281 36.7	+02.6	S 15 02.0	+00.1
21	296 39.3	+02.7	S 15 02.1	+00.1
22	311 42.0	+02.6	S 15 02.2	+00.0
23	326 44.6	+02.6	S 15 02.2	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 01:16

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 22.5	+00.0	N 18 33.7	-00.6
01	193 22.5	+00.0	N 18 33.1	-00.6
02	208 22.5	+00.1	N 18 32.5	-00.6
03	223 22.6	+00.0	N 18 31.9	-00.6
04	238 22.6	+00.0	N 18 31.3	-00.7
05	253 22.6	+00.0	N 18 30.6	-00.6
06	268 22.6	+00.1	N 18 30.0	-00.6
07	283 22.7	+00.0	N 18 29.4	-00.6
08	298 22.7	+00.0	N 18 28.8	-00.6
09	313 22.7	+00.0	N 18 28.2	-00.6
10	328 22.7	+00.1	N 18 27.6	-00.6
11	343 22.8	+00.0	N 18 27.0	-00.6
12	358 22.8	+00.0	N 18 26.4	-00.6
13	13 22.8	+00.0	N 18 25.8	-00.6
14	28 22.8	+00.1	N 18 25.2	-00.6
15	43 22.9	+00.0	N 18 24.6	-00.6
16	58 22.9	+00.0	N 18 24.0	-00.6
17	73 22.9	+00.1	N 18 23.4	-00.6
18	88 23.0	+00.0	N 18 22.8	-00.7
19	103 23.0	+00.0	N 18 22.1	-00.6
20	118 23.0	+00.0	N 18 21.5	-00.6
21	133 23.0	+00.1	N 18 20.9	-00.6
22	148 23.1	+00.0	N 18 20.3	-00.6
23	163 23.1	+00.0	N 18 19.7	-00.6

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	231°	231°	230°	230°	230°	230°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	201 56.8	-00.9	N 22 31.3	-00.3
01	216 55.9	-00.8	N 22 31.0	-00.2
02	231 55.1	-00.8	N 22 30.8	-00.2
03	246 54.3	-00.8	N 22 30.6	-00.2
04	261 53.5	-00.8	N 22 30.4	-00.2
05	276 52.7	-00.8	N 22 30.2	-00.3
06	291 51.9	-00.8	N 22 29.9	-00.2
07	306 51.1	-00.9	N 22 29.7	-00.2
08	321 50.2	-00.8	N 22 29.5	-00.2
09	336 49.4	-00.8	N 22 29.3	-00.2
10	351 48.6	-00.8	N 22 29.1	-00.3
11	6 47.8	-00.8	N 22 28.8	-00.2
12	21 47.0	-00.8	N 22 28.6	-00.2
13	36 46.2	-00.8	N 22 28.4	-00.3
14	51 45.4	-00.9	N 22 28.1	-00.2
15	66 44.5	-00.8	N 22 27.9	-00.2
16	81 43.7	-00.8	N 22 27.7	-00.3
17	96 42.9	-00.8	N 22 27.4	-00.2
18	111 42.1	-00.8	N 22 27.2	-00.2
19	126 41.3	-00.8	N 22 27.0	-00.3
20	141 40.5	-00.8	N 22 26.7	-00.2
21	156 39.7	-00.9	N 22 26.5	-00.2
22	171 38.8	-00.8	N 22 26.3	-00.3
23	186 38.0	-00.8	N 22 26.0	-00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	254°	254°	254°	254°	253°	253°

Greenwich Culmination Time: 10:32

Moon

A: 05%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	162 45.9	-27.7	N 19 18.3	-10.0
01	177 18.2	-27.8	N 19 08.3	-10.0
02	191 50.4	-27.6	N 18 58.3	-10.2
03	206 22.8	-27.6	N 18 48.1	-10.2
04	220 55.2	-27.6	N 18 37.9	-10.4
05	235 27.6	-27.5	N 18 27.5	-10.4
06	250 00.1	-27.5	N 18 17.1	-10.5
07	264 32.6	-27.5	N 18 06.6	-10.6
08	279 05.1	-27.3	N 17 56.0	-10.6
09	293 37.8	-27.4	N 17 45.4	-10.8
10	308 10.4	-27.3	N 17 34.6	-10.8
11	322 43.1	-27.2	N 17 23.8	-10.9
12	337 15.9	-27.2	N 17 12.9	-11.0
13	351 48.7	-27.2	N 17 01.9	-11.0
14	6 21.5	-27.1	N 16 50.9	-11.2
15	20 54.4	-27.1	N 16 39.7	-11.2
16	35 27.3	-27.0	N 16 28.5	-11.3
17	50 00.3	-27.0	N 16 17.2	-11.3
18	64 33.3	-27.0	N 16 05.9	-11.5
19	79 06.3	-26.9	N 15 54.4	-11.5
20	93 39.4	-26.8	N 15 42.9	-11.5
21	108 12.6	-26.9	N 15 31.4	-11.7
22	122 45.7	-26.8	N 15 19.7	-11.7
23	137 18.9	-26.7	N 15 08.0	-11.8

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	14′9	14′9
HP	54′6	54′6	54′7	54′7	54′8	54′8
SHA	214°	212°	210°	208°	206°	204°

Greenwich Culmination Time: 13:33

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	262 48.3	+00.9	N 15 13.2	+00.4
01	277 49.2	+00.8	N 15 13.6	+00.5
02	292 50.0	+00.9	N 15 14.1	+00.5
03	307 50.9	+00.8	N 15 14.6	+00.5
04	322 51.7	+00.9	N 15 15.1	+00.4
05	337 52.6	+00.8	N 15 15.5	+00.5
06	352 53.4	+00.9	N 15 16.0	+00.5
07	7 54.3	+00.8	N 15 16.5	+00.5
08	22 55.1	+00.9	N 15 17.0	+00.4
09	37 56.0	+00.9	N 15 17.4	+00.5
10	52 56.9	+00.8	N 15 17.9	+00.5
11	67 57.7	+00.9	N 15 18.4	+00.5
12	82 58.6	+00.8	N 15 18.9	+00.4
13	97 59.4	+00.9	N 15 19.3	+00.5
14	113 00.3	+00.8	N 15 19.8	+00.5
15	128 01.1	+00.9	N 15 20.3	+00.5
16	143 02.0	+00.8	N 15 20.8	+00.4
17	158 02.8	+00.9	N 15 21.2	+00.5
18	173 03.7	+00.9	N 15 21.7	+00.5
19	188 04.6	+00.8	N 15 22.2	+00.4
20	203 05.4	+00.9	N 15 22.6	+00.5
21	218 06.3	+00.8	N 15 23.1	+00.5
22	233 07.1	+00.9	N 15 23.6	+00.5
23	248 08.0	+00.8	N 15 24.1	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	315°	315°	315°	315°	315°	315°

Greenwich Culmination Time: 06:28

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	299 02.5	+02.5	N 02 08.2	+00.0
01	314 05.0	+02.4	N 02 08.2	+00.0
02	329 07.4	+02.5	N 02 08.2	+00.0
03	344 09.9	+02.5	N 02 08.2	+00.0
04	359 12.4	+02.4	N 02 08.2	-00.1
05	14 14.8	+02.5	N 02 08.1	+00.0
06	29 17.3	+02.5	N 02 08.1	+00.0
07	44 19.8	+02.5	N 02 08.1	+00.0
08	59 22.3	+02.4	N 02 08.1	+00.0
09	74 24.7	+02.5	N 02 08.1	+00.0
10	89 27.2	+02.5	N 02 08.1	-00.1
11	104 29.7	+02.4	N 02 08.0	+00.0
12	119 32.1	+02.5	N 02 08.0	+00.0
13	134 34.6	+02.5	N 02 08.0	+00.0
14	149 37.1	+02.5	N 02 08.0	+00.0
15	164 39.6	+02.4	N 02 08.0	+00.0
16	179 42.0	+02.5	N 02 08.0	-00.1
17	194 44.5	+02.5	N 02 07.9	+00.0
18	209 47.0	+02.4	N 02 07.9	+00.0
19	224 49.4	+02.5	N 02 07.9	+00.0
20	239 51.9	+02.5	N 02 07.9	+00.0
21	254 54.4	+02.5	N 02 07.9	+00.0
22	269 56.9	+02.4	N 02 07.9	-00.1
23	284 59.3	+02.5	N 02 07.8	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	351°	351°	351°	351°	351°	351°

Greenwich Culmination Time: 04:03

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	341 47.2	+02.7	S 15 02.3	+00.0
01	356 49.9	+02.6	S 15 02.3	+00.1
02	11 52.5	+02.7	S 15 02.4	+00.1
03	26 55.2	+02.6	S 15 02.5	+00.0
04	41 57.8	+02.6	S 15 02.5	+00.1
05	57 00.4	+02.7	S 15 02.6	+00.1
06	72 03.1	+02.6	S 15 02.7	+00.0
07	87 05.7	+02.6	S 15 02.7	+00.1
08	102 08.3	+02.7	S 15 02.8	+00.0
09	117 11.0	+02.6	S 15 02.8	+00.1
10	132 13.6	+02.6	S 15 02.9	+00.1
11	147 16.2	+02.7	S 15 03.0	+00.0
12	162 18.9	+02.6	S 15 03.0	+00.1
13	177 21.5	+02.6	S 15 03.1	+00.1
14	192 24.1	+02.7	S 15 03.2	+00.0
15	207 26.8	+02.6	S 15 03.2	+00.1
16	222 29.4	+02.6	S 15 03.3	+00.1
17	237 32.0	+02.7	S 15 03.4	+00.0
18	252 34.7	+02.6	S 15 03.4	+00.1
19	267 37.3	+02.6	S 15 03.5	+00.0
20	282 39.9	+02.7	S 15 03.5	+00.1
21	297 42.6	+02.6	S 15 03.6	+00.1
22	312 45.2	+02.7	S 15 03.7	+00.0
23	327 47.9	+02.6	S 15 03.7	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 01:12

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2022 August 4 Thursday (day 216 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 27.2	+00.0	N 17 17.8	−00.7
01	193 27.2	+00.1	N 17 17.1	−00.7
02	208 27.3	+00.1	N 17 16.4	−00.6
03	223 27.4	+00.0	N 17 15.8	−00.7
04	238 27.4	+00.1	N 17 15.1	−00.6
05	253 27.5	+00.0	N 17 14.5	−00.7
06	268 27.5	+00.1	N 17 13.8	−00.7
07	283 27.6	+00.0	N 17 13.1	−00.6
08	298 27.6	+00.1	N 17 12.5	−00.7
09	313 27.7	+00.1	N 17 11.8	−00.7
10	328 27.8	+00.0	N 17 11.1	−00.6
11	343 27.8	+00.1	N 17 10.5	−00.7
12	358 27.9	+00.0	N 17 09.8	−00.7
13	13 27.9	+00.1	N 17 09.1	−00.6
14	28 28.0	+00.1	N 17 08.5	−00.7
15	43 28.1	+00.0	N 17 07.8	−00.7
16	58 28.1	+00.1	N 17 07.1	−00.7
17	73 28.2	+00.0	N 17 06.4	−00.6
18	88 28.2	+00.1	N 17 05.8	−00.7
19	103 28.3	+00.1	N 17 05.1	−00.7
20	118 28.4	+00.0	N 17 04.4	−00.6
21	133 28.4	+00.1	N 17 03.8	−00.7
22	148 28.5	+00.0	N 17 03.1	−00.7
23	163 28.5	+00.1	N 17 02.4	−00.7

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	226°	226°	226°	225°	225°	225°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	200 19.9	−00.8	N 21 57.4	−00.4
01	215 19.1	−00.8	N 21 57.0	−00.3
02	230 18.3	−00.8	N 21 56.7	−00.4
03	245 17.5	−00.8	N 21 56.3	−00.3
04	260 16.7	−00.8	N 21 56.0	−00.4
05	275 15.9	−00.8	N 21 55.6	−00.4
06	290 15.1	−00.8	N 21 55.2	−00.3
07	305 14.3	−00.8	N 21 54.9	−00.4
08	320 13.5	−00.8	N 21 54.5	−00.3
09	335 12.7	−00.8	N 21 54.2	−00.4
10	350 11.9	−00.8	N 21 53.8	−00.4
11	5 11.1	−00.8	N 21 53.4	−00.3
12	20 10.3	−00.8	N 21 53.1	−00.4
13	35 09.5	−00.8	N 21 52.7	−00.3
14	50 08.7	−00.8	N 21 52.4	−00.4
15	65 07.9	−00.8	N 21 52.0	−00.4
16	80 07.1	−00.8	N 21 51.6	−00.3
17	95 06.3	−00.7	N 21 51.3	−00.4
18	110 05.6	−00.8	N 21 50.9	−00.4
19	125 04.8	−00.8	N 21 50.5	−00.4
20	140 04.0	−00.8	N 21 50.1	−00.3
21	155 03.2	−00.8	N 21 49.8	−00.4
22	170 02.4	−00.8	N 21 49.4	−00.4
23	185 01.6	−00.8	N 21 49.0	−00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	248°	247°	247°	247°	247°	247°

Greenwich Culmination Time: 10:39

Moon

A: 20%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	109 58.3	−27.3	S 07 10.0	+14.5
01	124 31.0	−27.3	S 07 24.5	+14.4
02	139 03.7	−27.4	S 07 38.9	+14.4
03	153 36.3	−27.5	S 07 53.3	+14.4
04	168 08.8	−27.5	S 08 07.7	+14.4
05	182 41.3	−27.6	S 08 22.1	+14.3
06	197 13.7	−27.7	S 08 36.4	+14.3
07	211 46.0	−27.7	S 08 50.7	+14.3
08	226 18.3	−27.8	S 09 05.0	+14.3
09	240 50.5	−27.9	S 09 19.3	+14.2
10	255 22.6	−28.0	S 09 33.5	+14.3
11	269 54.6	−28.0	S 09 47.8	+14.1
12	284 26.6	−28.1	S 10 01.9	+14.2
13	298 58.5	−28.2	S 10 16.1	+14.1
14	313 30.3	−28.2	S 10 30.2	+14.1
15	328 02.1	−28.3	S 10 44.3	+14.0
16	342 33.8	−28.4	S 10 58.3	+14.0
17	357 05.4	−28.5	S 11 12.3	+14.0
18	11 36.9	−28.6	S 11 26.3	+13.9
19	26 08.3	−28.7	S 11 40.2	+13.9
20	40 39.6	−28.7	S 11 54.1	+13.9
21	55 10.9	−28.9	S 12 08.0	+13.8
22	69 42.0	−28.9	S 12 21.8	+13.7
23	84 13.1	−29.0	S 12 35.5	+13.7

UT	02	06	10	14	18	22
SD	15′6	15′6	15′6	15′7	15′7	15′7
HP	57′1	57′2	57′4	57′5	57′6	57′7
SHA	156°	154°	152°	150°	148°	146°

Greenwich Culmination Time: 17:12

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	264 31.8	+00.9	N 16 08.5	+00.4
01	279 32.7	+00.8	N 16 08.9	+00.5
02	294 33.5	+00.9	N 16 09.4	+00.4
03	309 34.4	+00.9	N 16 09.8	+00.4
04	324 35.3	+00.9	N 16 10.2	+00.5
05	339 36.2	+00.8	N 16 10.7	+00.4
06	354 37.0	+00.9	N 16 11.1	+00.5
07	9 37.9	+00.9	N 16 11.6	+00.4
08	24 38.8	+00.8	N 16 12.0	+00.5
09	39 39.6	+00.9	N 16 12.5	+00.4
10	54 40.5	+00.9	N 16 12.9	+00.4
11	69 41.4	+00.9	N 16 13.3	+00.5
12	84 42.3	+00.8	N 16 13.8	+00.4
13	99 43.1	+00.9	N 16 14.2	+00.5
14	114 44.0	+00.9	N 16 14.7	+00.4
15	129 44.9	+00.9	N 16 15.1	+00.5
16	144 45.8	+00.8	N 16 15.6	+00.4
17	159 46.6	+00.9	N 16 16.0	+00.4
18	174 47.5	+00.9	N 16 16.4	+00.5
19	189 48.4	+00.9	N 16 16.9	+00.4
20	204 49.3	+00.8	N 16 17.3	+00.5
21	219 50.1	+00.9	N 16 17.8	+00.4
22	234 51.0	+00.9	N 16 18.2	+00.4
23	249 51.9	+00.9	N 16 18.6	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	312°	312°	312°	312°	312°	311°

Greenwich Culmination Time: 06:21

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	304 00.9	+02.5	N 02 05.5	−00.1
01	319 03.4	+02.6	N 02 05.4	+00.0
02	334 06.0	+02.5	N 02 05.4	+00.0
03	349 08.5	+02.5	N 02 05.4	−00.1
04	4 11.0	+02.5	N 02 05.3	+00.0
05	19 13.5	+02.5	N 02 05.3	+00.0
06	34 16.0	+02.5	N 02 05.3	−00.1
07	49 18.5	+02.5	N 02 05.2	+00.0
08	64 21.0	+02.5	N 02 05.2	+00.0
09	79 23.5	+02.5	N 02 05.2	−00.1
10	94 26.0	+02.5	N 02 05.1	+00.0
11	109 28.5	+02.5	N 02 05.1	+00.0
12	124 31.0	+02.5	N 02 05.1	−00.1
13	139 33.5	+02.6	N 02 05.0	+00.0
14	154 36.1	+02.5	N 02 05.0	+00.0
15	169 38.6	+02.5	N 02 05.0	−00.1
16	184 41.1	+02.5	N 02 04.9	+00.0
17	199 43.6	+02.5	N 02 04.9	+00.0
18	214 46.1	+02.5	N 02 04.9	−00.1
19	229 48.6	+02.5	N 02 04.8	+00.0
20	244 51.1	+02.5	N 02 04.8	+00.0
21	259 53.6	+02.6	N 02 04.8	−00.1
22	274 56.2	+02.5	N 02 04.7	+00.0
23	289 58.7	+02.5	N 02 04.7	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	351°	351°	351°	351°	351°	351°

Greenwich Culmination Time: 03:43

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	347 03.8	+02.6	S 15 09.9	+00.0
01	2 06.4	+02.6	S 15 09.9	+00.1
02	17 09.0	+02.7	S 15 10.0	+00.1
03	32 11.7	+02.6	S 15 10.1	+00.0
04	47 14.3	+02.7	S 15 10.1	+00.1
05	62 17.0	+02.6	S 15 10.2	+00.1
06	77 19.6	+02.7	S 15 10.3	+00.0
07	92 22.3	+02.6	S 15 10.3	+00.1
08	107 24.9	+02.6	S 15 10.4	+00.1
09	122 27.5	+02.7	S 15 10.5	+00.0
10	137 30.2	+02.6	S 15 10.5	+00.1
11	152 32.8	+02.7	S 15 10.6	+00.0
12	167 35.5	+02.6	S 15 10.6	+00.1
13	182 38.1	+02.6	S 15 10.7	+00.1
14	197 40.7	+02.7	S 15 10.8	+00.0
15	212 43.4	+02.6	S 15 10.8	+00.1
16	227 46.0	+02.7	S 15 10.9	+00.1
17	242 48.7	+02.6	S 15 11.0	+00.0
18	257 51.3	+02.6	S 15 11.0	+00.1
19	272 53.9	+02.7	S 15 11.1	+00.1
20	287 56.6	+02.6	S 15 11.2	+00.0
21	302 59.2	+02.7	S 15 11.2	+00.1
22	318 01.9	+02.6	S 15 11.3	+00.0
23	333 04.5	+02.7	S 15 11.3	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 00:51

2022 August 1 Monday (day 213 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 23.9	+00.0	N 18 04.2	−00.6
01	193 23.9	+00.1	N 18 03.6	−00.7
02	208 24.0	+00.0	N 18 02.9	−00.6
03	223 24.0	+00.1	N 18 02.3	−00.6
04	238 24.1	+00.0	N 18 01.7	−00.7
05	253 24.1	+00.0	N 18 01.0	−00.6
06	268 24.1	+00.1	N 18 00.4	−00.6
07	283 24.2	+00.0	N 17 59.8	−00.6
08	298 24.2	+00.0	N 17 59.2	−00.7
09	313 24.2	+00.1	N 17 58.5	−00.6
10	328 24.3	+00.0	N 17 57.9	−00.6
11	343 24.3	+00.1	N 17 57.3	−00.7
12	358 24.4	+00.0	N 17 56.6	−00.6
13	13 24.4	+00.0	N 17 56.0	−00.6
14	28 24.4	+00.1	N 17 55.4	−00.7
15	43 24.5	+00.0	N 17 54.7	−00.6
16	58 24.5	+00.1	N 17 54.1	−00.6
17	73 24.6	+00.0	N 17 53.5	−00.7
18	88 24.6	+00.0	N 17 52.8	−00.6
19	103 24.6	+00.1	N 17 52.2	−00.6
20	118 24.7	+00.0	N 17 51.6	−00.7
21	133 24.7	+00.1	N 17 50.9	−00.6
22	148 24.8	+00.0	N 17 50.3	−00.7
23	163 24.8	+00.0	N 17 49.6	−00.6

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	229°	229°	228°	228°	228°	228°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	201 17.7	−00.8	N 22 19.6	−00.2
01	216 16.9	−00.8	N 22 19.4	−00.3
02	231 16.1	−00.8	N 22 19.1	−00.3
03	246 15.3	−00.8	N 22 18.8	−00.2
04	261 14.5	−00.8	N 22 18.6	−00.3
05	276 13.7	−00.8	N 22 18.3	−00.3
06	291 12.9	−00.8	N 22 18.0	−00.3
07	306 12.1	−00.8	N 22 17.7	−00.2
08	321 11.3	−00.8	N 22 17.5	−00.3
09	336 10.5	−00.8	N 22 17.2	−00.3
10	351 09.7	−00.9	N 22 16.9	−00.3
11	6 08.8	−00.8	N 22 16.6	−00.3
12	21 08.0	−00.8	N 22 16.3	−00.3
13	36 07.2	−00.8	N 22 16.0	−00.2
14	51 06.4	−00.8	N 22 15.8	−00.3
15	66 05.6	−00.8	N 22 15.5	−00.3
16	81 04.8	−00.8	N 22 15.2	−00.3
17	96 04.0	−00.8	N 22 14.9	−00.3
18	111 03.2	−00.8	N 22 14.6	−00.3
19	126 02.4	−00.8	N 22 14.3	−00.3
20	141 01.6	−00.8	N 22 14.0	−00.3
21	156 00.8	−00.8	N 22 13.7	−00.3
22	170 60.0	−00.8	N 22 13.4	−00.2
23	185 59.2	−00.8	N 22 13.2	−00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	252°	251°	251°	251°	251°	251°

Greenwich Culmination Time: 10:35

Moon

A: 11%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	141 20.2	−26.0	N 09 54.8	−13.3
01	155 54.2	−26.0	N 09 41.5	−13.3
02	170 28.2	−25.9	N 09 28.2	−13.3
03	185 02.3	−26.0	N 09 14.9	−13.4
04	199 36.3	−25.9	N 09 01.5	−13.4
05	214 10.4	−25.9	N 08 48.1	−13.5
06	228 44.5	−25.9	N 08 34.6	−13.5
07	243 18.6	−25.9	N 08 21.1	−13.6
08	257 52.7	−25.8	N 08 07.5	−13.6
09	272 26.9	−25.9	N 07 53.9	−13.6
10	287 01.0	−25.8	N 07 40.3	−13.7
11	301 35.2	−25.9	N 07 26.6	−13.7
12	316 09.3	−25.8	N 07 12.9	−13.8
13	330 43.5	−25.8	N 06 59.1	−13.8
14	345 17.7	−25.8	N 06 45.3	−13.8
15	359 51.9	−25.8	N 06 31.5	−13.9
16	14 26.1	−25.8	N 06 17.6	−13.9
17	29 00.3	−25.8	N 06 03.7	−14.0
18	43 34.5	−25.8	N 05 49.7	−13.9
19	58 08.7	−25.7	N 05 35.8	−14.1
20	72 43.0	−25.8	N 05 21.7	−14.0
21	87 17.2	−25.8	N 05 07.7	−14.1
22	101 51.4	−25.8	N 04 53.6	−14.1
23	116 25.6	−25.8	N 04 39.5	−14.1

UT	02	06	10	14	18	22
SD	15′1	15′1	15′1	15′1	15′2	15′2
HP	55′3	55′4	55′5	55′6	55′7	55′8
SHA	191°	189°	187°	185°	183°	181°

Greenwich Culmination Time: 15:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	263 29.4	+00.9	N 15 35.7	+00.5
01	278 30.3	+00.9	N 15 36.2	+00.5
02	293 31.2	+00.8	N 15 36.7	+00.4
03	308 32.0	+00.9	N 15 37.1	+00.5
04	323 32.9	+00.8	N 15 37.6	+00.5
05	338 33.7	+00.9	N 15 38.1	+00.4
06	353 34.6	+00.9	N 15 38.5	+00.5
07	8 35.5	+00.8	N 15 39.0	+00.5
08	23 36.3	+00.9	N 15 39.5	+00.4
09	38 37.2	+00.8	N 15 39.9	+00.5
10	53 38.0	+00.9	N 15 40.4	+00.4
11	68 38.9	+00.9	N 15 40.8	+00.5
12	83 39.8	+00.8	N 15 41.3	+00.5
13	98 40.6	+00.9	N 15 41.8	+00.4
14	113 41.5	+00.9	N 15 42.2	+00.5
15	128 42.4	+00.8	N 15 42.7	+00.4
16	143 43.2	+00.9	N 15 43.1	+00.5
17	158 44.1	+00.8	N 15 43.6	+00.5
18	173 44.9	+00.9	N 15 44.1	+00.4
19	188 45.8	+00.9	N 15 44.5	+00.5
20	203 46.7	+00.8	N 15 45.0	+00.4
21	218 47.5	+00.9	N 15 45.4	+00.5
22	233 48.4	+00.9	N 15 45.9	+00.5
23	248 49.3	+00.8	N 15 46.4	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	314°	314°	314°	314°	313°	313°

Greenwich Culmination Time: 06:25

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	301 01.3	+02.5	N 02 07.3	+00.0
01	316 03.8	+02.5	N 02 07.3	+00.0
02	331 06.3	+02.5	N 02 07.3	+00.0
03	346 08.8	+02.5	N 02 07.3	+00.0
04	1 11.3	+02.5	N 02 07.3	−00.1
05	16 13.8	+02.4	N 02 07.2	+00.0
06	31 16.2	+02.5	N 02 07.2	+00.0
07	46 18.7	+02.5	N 02 07.2	+00.0
08	61 21.2	+02.5	N 02 07.2	−00.1
09	76 23.7	+02.5	N 02 07.1	+00.0
10	91 26.2	+02.5	N 02 07.1	+00.0
11	106 28.7	+02.5	N 02 07.1	+00.0
12	121 31.2	+02.4	N 02 07.1	+00.0
13	136 33.6	+02.5	N 02 07.1	−00.1
14	151 36.1	+02.5	N 02 07.0	+00.0
15	166 38.6	+02.5	N 02 07.0	+00.0
16	181 41.1	+02.5	N 02 07.0	+00.0
17	196 43.6	+02.5	N 02 07.0	−00.1
18	211 46.1	+02.5	N 02 06.9	+00.0
19	226 48.6	+02.5	N 02 06.9	+00.0
20	241 51.1	+02.4	N 02 06.9	+00.0
21	256 53.5	+02.5	N 02 06.9	−00.1
22	271 56.0	+02.5	N 02 06.8	+00.0
23	286 58.5	+02.5	N 02 06.8	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	351°	351°	351°	351°	351°	351°

Greenwich Culmination Time: 03:55

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	343 53.8	+02.6	S 15 05.3	+00.1
01	358 56.4	+02.6	S 15 05.4	+00.0
02	13 59.0	+02.7	S 15 05.4	+00.1
03	29 01.7	+02.6	S 15 05.5	+00.1
04	44 04.3	+02.6	S 15 05.6	+00.0
05	59 06.9	+02.7	S 15 05.6	+00.1
06	74 09.6	+02.6	S 15 05.7	+00.0
07	89 12.2	+02.7	S 15 05.7	+00.1
08	104 14.9	+02.6	S 15 05.8	+00.1
09	119 17.5	+02.6	S 15 05.9	+00.0
10	134 20.1	+02.7	S 15 05.9	+00.1
11	149 22.8	+02.6	S 15 06.0	+00.1
12	164 25.4	+02.6	S 15 06.1	+00.0
13	179 28.0	+02.7	S 15 06.1	+00.1
14	194 30.7	+02.6	S 15 06.2	+00.1
15	209 33.3	+02.7	S 15 06.3	+00.0
16	224 36.0	+02.6	S 15 06.3	+00.1
17	239 38.6	+02.6	S 15 06.4	+00.0
18	254 41.2	+02.7	S 15 06.4	+00.1
19	269 43.9	+02.6	S 15 06.5	+00.1
20	284 46.5	+02.7	S 15 06.6	+00.0
21	299 49.2	+02.6	S 15 06.6	+00.1
22	314 51.8	+02.6	S 15 06.7	+00.1
23	329 54.4	+02.7	S 15 06.8	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 01:04

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 August 2 Tuesday (day 214 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 24.8	+00.1	N 17 49.0	-00.6
01	193 24.9	+00.0	N 17 48.4	-00.7
02	208 24.9	+00.1	N 17 47.7	-00.6
03	223 25.0	+00.0	N 17 47.1	-00.7
04	238 25.0	+00.1	N 17 46.4	-00.6
05	253 25.1	+00.0	N 17 45.8	-00.6
06	268 25.1	+00.0	N 17 45.2	-00.7
07	283 25.1	+00.1	N 17 44.5	-00.6
08	298 25.2	+00.0	N 17 43.9	-00.7
09	313 25.2	+00.1	N 17 43.2	-00.6
10	328 25.3	+00.0	N 17 42.6	-00.7
11	343 25.3	+00.1	N 17 41.9	-00.6
12	358 25.4	+00.0	N 17 41.3	-00.6
13	13 25.4	+00.1	N 17 40.7	-00.7
14	28 25.5	+00.0	N 17 40.0	-00.6
15	43 25.5	+00.1	N 17 39.4	-00.7
16	58 25.6	+00.0	N 17 38.7	-00.6
17	73 25.6	+00.1	N 17 38.1	-00.7
18	88 25.7	+00.0	N 17 37.4	-00.6
19	103 25.7	+00.0	N 17 36.8	-00.7
20	118 25.7	+00.1	N 17 36.1	-00.6
21	133 25.8	+00.0	N 17 35.5	-00.7
22	148 25.8	+00.1	N 17 34.8	-00.6
23	163 25.9	+00.0	N 17 34.2	-00.7

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	228°	228°	227°	227°	227°	227°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	200 58.4	-00.9	N 22 12.9	-00.3
01	215 57.5	-00.8	N 22 12.6	-00.3
02	230 56.7	-00.8	N 22 12.3	-00.3
03	245 55.9	-00.8	N 22 12.0	-00.3
04	260 55.1	-00.8	N 22 11.7	-00.3
05	275 54.3	-00.8	N 22 11.4	-00.3
06	290 53.5	-00.8	N 22 11.1	-00.3
07	305 52.7	-00.8	N 22 10.8	-00.3
08	320 51.9	-00.8	N 22 10.5	-00.4
09	335 51.1	-00.8	N 22 10.1	-00.3
10	350 50.3	-00.8	N 22 09.8	-00.3
11	5 49.5	-00.8	N 22 09.5	-00.3
12	20 48.7	-00.8	N 22 09.2	-00.3
13	35 47.9	-00.8	N 22 08.9	-00.3
14	50 47.1	-00.8	N 22 08.6	-00.3
15	65 46.3	-00.8	N 22 08.3	-00.3
16	80 45.5	-00.8	N 22 08.0	-00.3
17	95 44.7	-00.8	N 22 07.7	-00.4
18	110 43.9	-00.8	N 22 07.3	-00.3
19	125 43.1	-00.8	N 22 07.0	-00.3
20	140 42.3	-00.8	N 22 06.7	-00.3
21	155 41.5	-00.8	N 22 06.4	-00.3
22	170 40.7	-00.8	N 22 06.1	-00.3
23	185 39.9	-00.8	N 22 05.8	-00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	250°	250°	250°	250°	249°	249°

Greenwich Culmination Time: 10:36

Moon

A: 14%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	130 59.8	-25.7	N 04 25.4	-14.2
01	145 34.1	-25.8	N 04 11.2	-14.2
02	160 08.3	-25.8	N 03 57.0	-14.2
03	174 42.5	-25.8	N 03 42.8	-14.2
04	189 16.7	-25.8	N 03 28.6	-14.3
05	203 50.9	-25.8	N 03 14.3	-14.3
06	218 25.1	-25.9	N 03 00.0	-14.3
07	232 59.2	-25.8	N 02 45.7	-14.3
08	247 33.4	-25.8	N 02 31.4	-14.4
09	262 07.6	-25.9	N 02 17.0	-14.4
10	276 41.7	-25.9	N 02 02.6	-14.4
11	291 15.8	-25.8	N 01 48.2	-14.4
12	305 50.0	-25.9	N 01 33.8	-14.4
13	320 24.1	-26.0	N 01 19.4	-14.5
14	334 58.1	-25.9	N 01 04.9	-14.4
15	349 32.2	-26.0	N 00 50.5	-14.5
16	4 06.2	-25.9	N 00 36.0	-14.5
17	18 40.3	-26.0	N 00 21.5	-14.5
18	33 14.3	-26.0	N 00 07.0	-14.6
19	47 48.3	-26.1	S 00 07.6	+14.5
20	62 22.2	-26.1	S 00 22.1	+14.5
21	76 56.1	-26.1	S 00 36.6	+14.6
22	91 30.0	-26.1	S 00 51.2	+14.6
23	106 03.9	-26.1	S 01 05.8	+14.6

UT	02	06	10	14	18	22
SD	15′2	15′2	15′3	15′3	15′3	15′4
HP	55′9	56′0	56′0	56′1	56′2	56′3
SHA	179°	178°	176°	174°	172°	170°

Greenwich Culmination Time: 15:43

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	263 50.1	+00.9	N 15 46.8	+00.5
01	278 51.0	+00.9	N 15 47.3	+00.4
02	293 51.9	+00.8	N 15 47.7	+00.5
03	308 52.7	+00.9	N 15 48.2	+00.4
04	323 53.6	+00.8	N 15 48.6	+00.5
05	338 54.4	+00.9	N 15 49.1	+00.5
06	353 55.3	+00.9	N 15 49.6	+00.4
07	8 56.2	+00.8	N 15 50.0	+00.5
08	23 57.0	+00.9	N 15 50.5	+00.4
09	38 57.9	+00.9	N 15 50.9	+00.5
10	53 58.8	+00.8	N 15 51.4	+00.4
11	68 59.6	+00.9	N 15 51.8	+00.5
12	84 00.5	+00.9	N 15 52.3	+00.4
13	99 01.4	+00.8	N 15 52.7	+00.5
14	114 02.2	+00.9	N 15 53.2	+00.4
15	129 03.1	+00.9	N 15 53.6	+00.5
16	144 04.0	+00.8	N 15 54.1	+00.5
17	159 04.8	+00.9	N 15 54.6	+00.4
18	174 05.7	+00.9	N 15 55.0	+00.5
19	189 06.6	+00.8	N 15 55.5	+00.4
20	204 07.4	+00.9	N 15 55.9	+00.5
21	219 08.3	+00.9	N 15 56.4	+00.4
22	234 09.2	+00.8	N 15 56.8	+00.5
23	249 10.0	+00.9	N 15 57.3	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	313°	313°	313°	313°	313°	313°

Greenwich Culmination Time: 06:24

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	302 01.0	+02.5	N 02 06.8	+00.0
01	317 03.5	+02.5	N 02 06.8	-00.1
02	332 06.0	+02.5	N 02 06.7	+00.0
03	347 08.5	+02.5	N 02 06.7	+00.0
04	2 11.0	+02.5	N 02 06.7	+00.0
05	17 13.5	+02.5	N 02 06.7	-00.1
06	32 16.0	+02.5	N 02 06.6	+00.0
07	47 18.5	+02.5	N 02 06.6	+00.0
08	62 21.0	+02.4	N 02 06.6	+00.0
09	77 23.4	+02.5	N 02 06.6	-00.1
10	92 25.9	+02.5	N 02 06.5	+00.0
11	107 28.4	+02.5	N 02 06.5	+00.0
12	122 30.9	+02.5	N 02 06.5	+00.0
13	137 33.4	+02.5	N 02 06.5	-00.1
14	152 35.9	+02.5	N 02 06.4	+00.0
15	167 38.4	+02.5	N 02 06.4	+00.0
16	182 40.9	+02.5	N 02 06.4	+00.0
17	197 43.4	+02.5	N 02 06.4	-00.1
18	212 45.9	+02.5	N 02 06.3	+00.0
19	227 48.4	+02.5	N 02 06.3	+00.0
20	242 50.9	+02.5	N 02 06.3	-00.1
21	257 53.4	+02.5	N 02 06.2	+00.0
22	272 55.9	+02.5	N 02 06.2	+00.0
23	287 58.4	+02.5	N 02 06.2	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	351°	351°	351°	351°	351°	351°

Greenwich Culmination Time: 03:51

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	344 57.1	+02.6	S 15 06.8	+00.1
01	359 59.7	+02.6	S 15 06.9	+00.1
02	15 02.3	+02.7	S 15 07.0	+00.0
03	30 05.0	+02.6	S 15 07.0	+00.1
04	45 07.6	+02.7	S 15 07.1	+00.0
05	60 10.3	+02.6	S 15 07.1	+00.1
06	75 12.9	+02.6	S 15 07.2	+00.1
07	90 15.5	+02.7	S 15 07.3	+00.0
08	105 18.2	+02.6	S 15 07.3	+00.1
09	120 20.8	+02.7	S 15 07.4	+00.1
10	135 23.5	+02.6	S 15 07.5	+00.0
11	150 26.1	+02.6	S 15 07.5	+00.1
12	165 28.7	+02.7	S 15 07.6	+00.0
13	180 31.4	+02.6	S 15 07.6	+00.1
14	195 34.0	+02.6	S 15 07.7	+00.1
15	210 36.6	+02.7	S 15 07.8	+00.0
16	225 39.3	+02.6	S 15 07.8	+00.1
17	240 41.9	+02.7	S 15 07.9	+00.1
18	255 44.6	+02.6	S 15 08.0	+00.0
19	270 47.2	+02.6	S 15 08.0	+00.1
20	285 49.8	+02.7	S 15 08.1	+00.1
21	300 52.5	+02.6	S 15 08.2	+00.0
22	315 55.1	+02.7	S 15 08.2	+00.1
23	330 57.8	+02.6	S 15 08.3	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	034°	034°

Greenwich Culmination Time: 01:00

2022 August 3 Wednesday (day 215 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 25.9	+00.1	N 17 33.5	-00.6
01	193 26.0	+00.0	N 17 32.9	-00.7
02	208 26.0	+00.1	N 17 32.2	-00.6
03	223 26.1	+00.0	N 17 31.6	-00.7
04	238 26.1	+00.1	N 17 30.9	-00.6
05	253 26.2	+00.0	N 17 30.3	-00.7
06	268 26.2	+00.1	N 17 29.6	-00.6
07	283 26.3	+00.0	N 17 29.0	-00.7
08	298 26.3	+00.1	N 17 28.3	-00.6
09	313 26.4	+00.0	N 17 27.7	-00.7
10	328 26.4	+00.1	N 17 27.0	-00.7
11	343 26.5	+00.0	N 17 26.3	-00.6
12	358 26.5	+00.1	N 17 25.7	-00.7
13	13 26.6	+00.0	N 17 25.0	-00.6
14	28 26.6	+00.1	N 17 24.4	-00.7
15	43 26.7	+00.1	N 17 23.7	-00.6
16	58 26.8	+00.0	N 17 23.1	-00.7
17	73 26.8	+00.1	N 17 22.4	-00.7
18	88 26.9	+00.0	N 17 21.7	-00.6
19	103 26.9	+00.1	N 17 21.1	-00.7
20	118 27.0	+00.0	N 17 20.4	-00.6
21	133 27.0	+00.1	N 17 19.8	-00.7
22	148 27.1	+00.0	N 17 19.1	-00.7
23	163 27.1	+00.1	N 17 18.4	-00.6

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	227°	227°	226°	226°	226°	226°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	200 39.1	-00.8	N 22 05.4	-00.3
01	215 38.3	-00.8	N 22 05.1	-00.3
02	230 37.5	-00.8	N 22 04.8	-00.3
03	245 36.7	-00.8	N 22 04.5	-00.4
04	260 35.9	-00.9	N 22 04.1	-00.3
05	275 35.0	-00.8	N 22 03.8	-00.3
06	290 34.2	-00.8	N 22 03.5	-00.4
07	305 33.4	-00.8	N 22 03.1	-00.3
08	320 32.6	-00.8	N 22 02.8	-00.3
09	335 31.8	-00.8	N 22 02.5	-00.4
10	350 31.0	-00.8	N 22 02.1	-00.3
11	5 30.2	-00.8	N 22 01.8	-00.3
12	20 29.4	-00.8	N 22 01.5	-00.4
13	35 28.6	-00.8	N 22 01.1	-00.3
14	50 27.8	-00.7	N 22 00.8	-00.3
15	65 27.1	-00.8	N 22 00.5	-00.4
16	80 26.3	-00.8	N 22 00.1	-00.3
17	95 25.5	-00.8	N 21 59.8	-00.4
18	110 24.7	-00.8	N 21 59.4	-00.3
19	125 23.9	-00.8	N 21 59.1	-00.4
20	140 23.1	-00.8	N 21 58.7	-00.3
21	155 22.3	-00.8	N 21 58.4	-00.3
22	170 21.5	-00.8	N 21 58.1	-00.4
23	185 20.7	-00.8	N 21 57.7	-00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	249°	249°	249°	248°	248°	248°

Greenwich Culmination Time: 10:37

Moon

A: 17%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	120 37.8	-26.2	S 01 20.4	+14.5
01	135 11.6	-26.2	S 01 34.9	+14.6
02	149 45.4	-26.3	S 01 49.5	+14.6
03	164 19.1	-26.3	S 02 04.1	+14.6
04	178 52.8	-26.3	S 02 18.7	+14.6
05	193 26.5	-26.3	S 02 33.3	+14.6
06	208 00.2	-26.4	S 02 47.9	+14.6
07	222 33.8	-26.4	S 03 02.5	+14.6
08	237 07.4	-26.5	S 03 17.1	+14.6
09	251 40.9	-26.5	S 03 31.7	+14.6
10	266 14.4	-26.6	S 03 46.3	+14.6
11	280 47.8	-26.5	S 04 00.9	+14.6
12	295 21.3	-26.7	S 04 15.5	+14.6
13	309 54.6	-26.7	S 04 30.1	+14.6
14	324 27.9	-26.7	S 04 44.7	+14.6
15	339 01.2	-26.8	S 04 59.3	+14.6
16	353 34.4	-26.8	S 05 13.9	+14.5
17	8 07.6	-26.9	S 05 28.4	+14.6
18	22 40.7	-26.9	S 05 43.0	+14.5
19	37 13.8	-27.0	S 05 57.5	+14.5
20	51 46.8	-27.1	S 06 12.0	+14.6
21	66 19.7	-27.1	S 06 26.6	+14.5
22	80 52.6	-27.1	S 06 41.1	+14.4
23	95 25.5	-27.2	S 06 55.5	+14.5

UT	02	06	10	14	18	22
SD	15′4	15′4	15′4	15′5	15′5	15′5
HP	56′5	56′6	56′7	56′8	56′9	57′0
SHA	168°	166°	164°	162°	160°	158°

Greenwich Culmination Time: 16:26

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	264 10.9	+00.9	N 15 57.7	+00.5
01	279 11.8	+00.8	N 15 58.2	+00.4
02	294 12.6	+00.9	N 15 58.6	+00.5
03	309 13.5	+00.9	N 15 59.1	+00.4
04	324 14.4	+00.9	N 15 59.5	+00.5
05	339 15.3	+00.8	N 16 00.0	+00.4
06	354 16.1	+00.9	N 16 00.4	+00.5
07	9 17.0	+00.9	N 16 00.9	+00.4
08	24 17.9	+00.8	N 16 01.3	+00.5
09	39 18.7	+00.9	N 16 01.8	+00.4
10	54 19.6	+00.9	N 16 02.2	+00.5
11	69 20.5	+00.8	N 16 02.7	+00.4
12	84 21.3	+00.9	N 16 03.1	+00.5
13	99 22.2	+00.9	N 16 03.6	+00.4
14	114 23.1	+00.8	N 16 04.0	+00.5
15	129 23.9	+00.9	N 16 04.5	+00.4
16	144 24.8	+00.9	N 16 04.9	+00.4
17	159 25.7	+00.9	N 16 05.3	+00.5
18	174 26.6	+00.8	N 16 05.8	+00.4
19	189 27.4	+00.9	N 16 06.2	+00.5
20	204 28.3	+00.9	N 16 06.7	+00.4
21	219 29.2	+00.8	N 16 07.1	+00.5
22	234 30.0	+00.9	N 16 07.6	+00.4
23	249 30.9	+00.9	N 16 08.0	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	313°	312°	312°	312°	312°	312°

Greenwich Culmination Time: 06:22

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	303 00.9	+02.5	N 02 06.2	-00.1
01	318 03.4	+02.5	N 02 06.1	+00.0
02	333 05.9	+02.5	N 02 06.1	+00.0
03	348 08.4	+02.5	N 02 06.1	-00.1
04	3 10.9	+02.5	N 02 06.0	+00.0
05	18 13.4	+02.5	N 02 06.0	+00.0
06	33 15.9	+02.5	N 02 06.0	+00.0
07	48 18.4	+02.5	N 02 06.0	-00.1
08	63 20.9	+02.5	N 02 05.9	+00.0
09	78 23.4	+02.5	N 02 05.9	+00.0
10	93 25.9	+02.5	N 02 05.9	-00.1
11	108 28.4	+02.5	N 02 05.8	+00.0
12	123 30.9	+02.5	N 02 05.8	+00.0
13	138 33.4	+02.5	N 02 05.8	+00.0
14	153 35.9	+02.5	N 02 05.8	-00.1
15	168 38.4	+02.5	N 02 05.7	+00.0
16	183 40.9	+02.5	N 02 05.7	+00.0
17	198 43.4	+02.5	N 02 05.7	-00.1
18	213 45.9	+02.5	N 02 05.6	+00.0
19	228 48.4	+02.5	N 02 05.6	+00.0
20	243 50.9	+02.5	N 02 05.6	-00.1
21	258 53.4	+02.5	N 02 05.5	+00.0
22	273 55.9	+02.5	N 02 05.5	+00.0
23	288 58.4	+02.5	N 02 05.5	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	351°	351°	351°	351°	351°	351°

Greenwich Culmination Time: 03:47

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	346 00.4	+02.6	S 15 08.3	+00.1
01	1 03.0	+02.7	S 15 08.4	+00.1
02	16 05.7	+02.6	S 15 08.5	+00.0
03	31 08.3	+02.7	S 15 08.5	+00.1
04	46 11.0	+02.6	S 15 08.6	+00.1
05	61 13.6	+02.6	S 15 08.7	+00.0
06	76 16.2	+02.7	S 15 08.7	+00.1
07	91 18.9	+02.6	S 15 08.8	+00.1
08	106 21.5	+02.7	S 15 08.9	+00.0
09	121 24.2	+02.6	S 15 08.9	+00.1
10	136 26.8	+02.6	S 15 09.0	+00.0
11	151 29.4	+02.7	S 15 09.0	+00.1
12	166 32.1	+02.6	S 15 09.1	+00.1
13	181 34.7	+02.7	S 15 09.2	+00.0
14	196 37.4	+02.6	S 15 09.2	+00.1
15	211 40.0	+02.6	S 15 09.3	+00.1
16	226 42.6	+02.7	S 15 09.4	+00.0
17	241 45.3	+02.6	S 15 09.4	+00.1
18	256 47.9	+02.7	S 15 09.5	+00.1
19	271 50.6	+02.6	S 15 09.6	+00.0
20	286 53.2	+02.6	S 15 09.6	+00.1
21	301 55.8	+02.7	S 15 09.7	+00.1
22	316 58.5	+02.6	S 15 09.8	+00.0
23	332 01.1	+02.7	S 15 09.8	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	034°	034°	034°	034°	035°	035°

Greenwich Culmination Time: 00:55

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 August 8 Monday (day 220 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 33.7	+00.1	N 16 12.0	-00.7
01	193 33.8	+00.1	N 16 11.3	-00.7
02	208 33.9	+00.1	N 16 10.6	-00.7
03	223 34.0	+00.1	N 16 09.9	-00.7
04	238 34.1	+00.0	N 16 09.2	-00.7
05	253 34.1	+00.1	N 16 08.5	-00.8
06	268 34.2	+00.1	N 16 07.7	-00.7
07	283 34.3	+00.1	N 16 07.0	-00.7
08	298 34.4	+00.1	N 16 06.3	-00.7
09	313 34.5	+00.1	N 16 05.6	-00.7
10	328 34.6	+00.0	N 16 04.9	-00.7
11	343 34.6	+00.1	N 16 04.2	-00.7
12	358 34.7	+00.1	N 16 03.5	-00.7
13	13 34.8	+00.1	N 16 02.8	-00.7
14	28 34.9	+00.1	N 16 02.1	-00.8
15	43 35.0	+00.1	N 16 01.3	-00.7
16	58 35.1	+00.1	N 16 00.6	-00.7
17	73 35.2	+00.0	N 15 59.9	-00.7
18	88 35.2	+00.1	N 15 59.2	-00.7
19	103 35.3	+00.1	N 15 58.5	-00.7
20	118 35.4	+00.1	N 15 57.8	-00.8
21	133 35.5	+00.1	N 15 57.0	-00.7
22	148 35.6	+00.1	N 15 56.3	-00.7
23	163 35.7	+00.1	N 15 55.6	-00.7

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	222°	222°	222°	222°	221°	221°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	199 04.4	-00.8	N 21 18.7	-00.4
01	214 03.6	-00.7	N 21 18.3	-00.5
02	229 02.9	-00.8	N 21 17.8	-00.4
03	244 02.1	-00.8	N 21 17.4	-00.5
04	259 01.3	-00.8	N 21 16.9	-00.4
05	274 00.5	-00.7	N 21 16.5	-00.5
06	288 59.8	-00.8	N 21 16.0	-00.5
07	303 59.0	-00.8	N 21 15.5	-00.4
08	318 58.2	-00.7	N 21 15.1	-00.5
09	333 57.5	-00.8	N 21 14.6	-00.5
10	348 56.7	-00.8	N 21 14.1	-00.4
11	3 55.9	-00.8	N 21 13.7	-00.5
12	18 55.1	-00.7	N 21 13.2	-00.5
13	33 54.4	-00.8	N 21 12.7	-00.4
14	48 53.6	-00.8	N 21 12.3	-00.5
15	63 52.8	-00.7	N 21 11.8	-00.5
16	78 52.1	-00.8	N 21 11.3	-00.4
17	93 51.3	-00.8	N 21 10.9	-00.5
18	108 50.5	-00.7	N 21 10.4	-00.5
19	123 49.8	-00.8	N 21 09.9	-00.5
20	138 49.0	-00.8	N 21 09.4	-00.4
21	153 48.2	-00.8	N 21 09.0	-00.5
22	168 47.4	-00.7	N 21 08.5	-00.5
23	183 46.7	-00.8	N 21 08.0	-00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	242°	242°	242°	242°	242°	241°

Greenwich Culmination Time: 10:44

Moon

A: 35%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	59 04.9	-37.3	S 25 29.0	+05.8
01	73 27.6	-37.4	S 25 34.8	+05.6
02	87 50.2	-37.5	S 25 40.4	+05.5
03	102 12.7	-37.6	S 25 45.9	+05.3
04	116 35.1	-37.7	S 25 51.2	+05.0
05	130 57.4	-37.7	S 25 56.2	+05.0
06	145 19.7	-37.9	S 26 01.2	+04.7
07	159 41.8	-37.9	S 26 05.9	+04.5
08	174 03.9	-38.1	S 26 10.4	+04.4
09	188 25.8	-38.1	S 26 14.8	+04.1
10	202 47.7	-38.2	S 26 18.9	+04.0
11	217 09.5	-38.3	S 26 22.9	+03.8
12	231 31.2	-38.3	S 26 26.7	+03.6
13	245 52.9	-38.4	S 26 30.3	+03.4
14	260 14.5	-38.5	S 26 33.7	+03.3
15	274 36.0	-38.6	S 26 37.0	+03.0
16	288 57.4	-38.7	S 26 40.0	+02.8
17	303 18.7	-38.7	S 26 42.8	+02.7
18	317 40.0	-38.7	S 26 45.5	+02.4
19	332 01.3	-38.9	S 26 47.9	+02.2
20	346 22.4	-38.8	S 26 50.1	+02.1
21	0 43.6	-39.0	S 26 52.2	+01.8
22	15 04.6	-39.0	S 26 54.0	+01.7
23	29 25.6	-39.0	S 26 55.7	+01.4

UT	02	06	10	14	18	22
SD	16′4	16′4	16′4	16′4	16′5	16′5
HP	60′0	60′1	60′2	60′3	60′4	60′5
SHA	101°	099°	096°	093°	090°	088°

Greenwich Culmination Time: 20:56

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	265 56.3	+00.9	N 16 49.9	+00.4
01	280 57.2	+00.9	N 16 50.3	+00.5
02	295 58.1	+00.9	N 16 50.8	+00.4
03	310 59.0	+00.9	N 16 51.2	+00.4
04	325 59.9	+00.9	N 16 51.6	+00.4
05	341 00.8	+00.9	N 16 52.0	+00.4
06	356 01.7	+00.9	N 16 52.4	+00.5
07	11 02.6	+00.9	N 16 52.9	+00.4
08	26 03.5	+00.8	N 16 53.3	+00.4
09	41 04.3	+00.9	N 16 53.7	+00.4
10	56 05.2	+00.9	N 16 54.1	+00.4
11	71 06.1	+00.9	N 16 54.5	+00.4
12	86 07.0	+00.9	N 16 54.9	+00.5
13	101 07.9	+00.9	N 16 55.4	+00.4
14	116 08.8	+00.9	N 16 55.8	+00.4
15	131 09.7	+00.9	N 16 56.2	+00.4
16	146 10.6	+00.9	N 16 56.6	+00.4
17	161 11.5	+00.9	N 16 57.0	+00.4
18	176 12.4	+00.9	N 16 57.4	+00.4
19	191 13.3	+00.9	N 16 57.8	+00.5
20	206 14.2	+00.9	N 16 58.3	+00.4
21	221 15.1	+00.9	N 16 58.7	+00.4
22	236 16.0	+00.8	N 16 59.1	+00.4
23	251 16.8	+00.9	N 16 59.5	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	309°	309°	309°	309°	309°	309°

Greenwich Culmination Time: 06:15

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	308 03.0	+02.5	N 02 01.9	-00.1
01	323 05.5	+02.5	N 02 01.8	+00.0
02	338 08.0	+02.6	N 02 01.8	-00.1
03	353 10.6	+02.5	N 02 01.7	+00.0
04	8 13.1	+02.5	N 02 01.7	+00.0
05	23 15.6	+02.6	N 02 01.7	-00.1
06	38 18.2	+02.5	N 02 01.6	+00.0
07	53 20.7	+02.6	N 02 01.6	-00.1
08	68 23.3	+02.5	N 02 01.5	+00.0
09	83 25.8	+02.5	N 02 01.5	-00.1
10	98 28.3	+02.6	N 02 01.4	+00.0
11	113 30.9	+02.5	N 02 01.4	-00.1
12	128 33.4	+02.6	N 02 01.3	+00.0
13	143 36.0	+02.5	N 02 01.3	+00.0
14	158 38.5	+02.5	N 02 01.3	-00.1
15	173 41.0	+02.6	N 02 01.2	+00.0
16	188 43.6	+02.5	N 02 01.2	-00.1
17	203 46.1	+02.6	N 02 01.1	+00.0
18	218 48.7	+02.5	N 02 01.1	-00.1
19	233 51.2	+02.5	N 02 01.0	+00.0
20	248 53.7	+02.6	N 02 01.0	-00.1
21	263 56.3	+02.5	N 02 00.9	+00.0
22	278 58.8	+02.6	N 02 00.9	-00.1
23	294 01.4	+02.5	N 02 00.8	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 03:27

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	351 17.4	+02.7	S 15 16.0	+00.1
01	6 20.1	+02.6	S 15 16.1	+00.1
02	21 22.7	+02.7	S 15 16.2	+00.0
03	36 25.4	+02.6	S 15 16.2	+00.1
04	51 28.0	+02.7	S 15 16.3	+00.1
05	66 30.7	+02.6	S 15 16.4	+00.0
06	81 33.3	+02.7	S 15 16.4	+00.1
07	96 36.0	+02.6	S 15 16.5	+00.0
08	111 38.6	+02.6	S 15 16.5	+00.1
09	126 41.2	+02.7	S 15 16.6	+00.1
10	141 43.9	+02.6	S 15 16.7	+00.0
11	156 46.5	+02.7	S 15 16.7	+00.1
12	171 49.2	+02.6	S 15 16.8	+00.1
13	186 51.8	+02.7	S 15 16.9	+00.0
14	201 54.5	+02.6	S 15 16.9	+00.1
15	216 57.1	+02.7	S 15 17.0	+00.1
16	231 59.8	+02.6	S 15 17.1	+00.0
17	247 02.4	+02.6	S 15 17.1	+00.1
18	262 05.0	+02.7	S 15 17.2	+00.1
19	277 07.7	+02.6	S 15 17.3	+00.0
20	292 10.3	+02.7	S 15 17.3	+00.1
21	307 13.0	+02.6	S 15 17.4	+00.0
22	322 15.6	+02.7	S 15 17.4	+00.1
23	337 18.3	+02.6	S 15 17.5	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 00:34

2022 August 5 Friday (day 217 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 28.6	+00.1	N 17 01.7	-00.6
01	193 28.7	+00.0	N 17 01.1	-00.7
02	208 28.7	+00.1	N 17 00.4	-00.7
03	223 28.8	+00.0	N 16 59.7	-00.7
04	238 28.8	+00.1	N 16 59.0	-00.6
05	253 28.9	+00.1	N 16 58.4	-00.7
06	268 29.0	+00.0	N 16 57.7	-00.7
07	283 29.0	+00.1	N 16 57.0	-00.7
08	298 29.1	+00.1	N 16 56.3	-00.6
09	313 29.2	+00.0	N 16 55.7	-00.7
10	328 29.2	+00.1	N 16 55.0	-00.7
11	343 29.3	+00.1	N 16 54.3	-00.7
12	358 29.4	+00.0	N 16 53.6	-00.7
13	13 29.4	+00.1	N 16 52.9	-00.6
14	28 29.5	+00.1	N 16 52.3	-00.7
15	43 29.6	+00.0	N 16 51.6	-00.7
16	58 29.6	+00.1	N 16 50.9	-00.7
17	73 29.7	+00.1	N 16 50.2	-00.7
18	88 29.8	+00.0	N 16 49.5	-00.7
19	103 29.8	+00.1	N 16 48.8	-00.6
20	118 29.9	+00.1	N 16 48.2	-00.7
21	133 30.0	+00.0	N 16 47.5	-00.7
22	148 30.0	+00.1	N 16 46.8	-00.7
23	163 30.1	+00.1	N 16 46.1	-00.7

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	225°	225°	225°	224°	224°	224°

Greenwich Culmination Time: 12:06

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	200 00.8	-00.8	N 21 48.6	-00.3
01	215 00.0	-00.8	N 21 48.3	-00.4
02	229 59.2	-00.8	N 21 47.9	-00.4
03	244 58.4	-00.8	N 21 47.5	-00.4
04	259 57.6	-00.8	N 21 47.1	-00.3
05	274 56.8	-00.7	N 21 46.8	-00.4
06	289 56.1	-00.8	N 21 46.4	-00.4
07	304 55.3	-00.8	N 21 46.0	-00.4
08	319 54.5	-00.8	N 21 45.6	-00.4
09	334 53.7	-00.8	N 21 45.2	-00.4
10	349 52.9	-00.8	N 21 44.8	-00.4
11	4 52.1	-00.8	N 21 44.4	-00.3
12	19 51.3	-00.8	N 21 44.1	-00.4
13	34 50.5	-00.8	N 21 43.7	-00.4
14	49 49.7	-00.8	N 21 43.3	-00.4
15	64 48.9	-00.7	N 21 42.9	-00.4
16	79 48.2	-00.8	N 21 42.5	-00.4
17	94 47.4	-00.8	N 21 42.1	-00.4
18	109 46.6	-00.8	N 21 41.7	-00.4
19	124 45.8	-00.8	N 21 41.3	-00.4
20	139 45.0	-00.8	N 21 40.9	-00.4
21	154 44.2	-00.8	N 21 40.5	-00.4
22	169 43.4	-00.8	N 21 40.1	-00.4
23	184 42.6	-00.7	N 21 39.7	-00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	246°	246°	246°	246°	246°	245°

Greenwich Culmination Time: 10:40

Moon

A: 23%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	98 44.1	-29.1	S 12 49.2	+13.7
01	113 15.0	-29.2	S 13 02.9	+13.6
02	127 45.8	-29.3	S 13 16.5	+13.6
03	142 16.5	-29.4	S 13 30.1	+13.5
04	156 47.1	-29.4	S 13 43.6	+13.4
05	171 17.7	-29.6	S 13 57.0	+13.4
06	185 48.1	-29.7	S 14 10.4	+13.4
07	200 18.4	-29.8	S 14 23.8	+13.3
08	214 48.6	-29.8	S 14 37.1	+13.2
09	229 18.8	-30.0	S 14 50.3	+13.2
10	243 48.8	-30.1	S 15 03.5	+13.1
11	258 18.7	-30.2	S 15 16.6	+13.0
12	272 48.5	-30.2	S 15 29.6	+13.0
13	287 18.3	-30.4	S 15 42.6	+12.9
14	301 47.9	-30.5	S 15 55.5	+12.8
15	316 17.4	-30.6	S 16 08.3	+12.8
16	330 46.8	-30.7	S 16 21.1	+12.7
17	345 16.1	-30.8	S 16 33.8	+12.6
18	359 45.3	-31.0	S 16 46.4	+12.6
19	14 14.3	-31.0	S 16 59.0	+12.4
20	28 43.3	-31.1	S 17 11.4	+12.4
21	43 12.2	-31.3	S 17 23.8	+12.3
22	57 40.9	-31.4	S 17 36.1	+12.2
23	72 09.5	-31.5	S 17 48.3	+12.2

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′9	15′9	15′9
HP	57′8	58′0	58′1	58′2	58′3	58′5
SHA	144°	142°	140°	138°	135°	133°

Greenwich Culmination Time: 18:01

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	264 52.8	+00.8	N 16 19.1	+00.4
01	279 53.6	+00.9	N 16 19.5	+00.4
02	294 54.5	+00.9	N 16 19.9	+00.5
03	309 55.4	+00.9	N 16 20.4	+00.4
04	324 56.3	+00.9	N 16 20.8	+00.5
05	339 57.2	+00.8	N 16 21.3	+00.4
06	354 58.0	+00.9	N 16 21.7	+00.4
07	9 58.9	+00.9	N 16 22.1	+00.5
08	24 59.8	+00.9	N 16 22.6	+00.4
09	40 00.7	+00.8	N 16 23.0	+00.4
10	55 01.5	+00.9	N 16 23.4	+00.5
11	70 02.4	+00.9	N 16 23.9	+00.4
12	85 03.3	+00.9	N 16 24.3	+00.4
13	100 04.2	+00.9	N 16 24.7	+00.5
14	115 05.1	+00.8	N 16 25.2	+00.4
15	130 05.9	+00.9	N 16 25.6	+00.4
16	145 06.8	+00.9	N 16 26.0	+00.5
17	160 07.7	+00.9	N 16 26.5	+00.4
18	175 08.6	+00.9	N 16 26.9	+00.4
19	190 09.5	+00.8	N 16 27.3	+00.5
20	205 10.3	+00.9	N 16 27.8	+00.4
21	220 11.2	+00.9	N 16 28.2	+00.4
22	235 12.1	+00.9	N 16 28.6	+00.5
23	250 13.0	+00.9	N 16 29.1	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	311°	311°	311°	311°	311°	311°

Greenwich Culmination Time: 06:20

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	305 01.2	+02.5	N 02 04.7	-00.1
01	320 03.7	+02.5	N 02 04.6	+00.0
02	335 06.2	+02.5	N 02 04.6	+00.0
03	350 08.7	+02.5	N 02 04.6	-00.1
04	5 11.2	+02.5	N 02 04.5	+00.0
05	20 13.7	+02.6	N 02 04.5	+00.0
06	35 16.3	+02.5	N 02 04.5	-00.1
07	50 18.8	+02.5	N 02 04.4	+00.0
08	65 21.3	+02.5	N 02 04.4	+00.0
09	80 23.8	+02.5	N 02 04.4	-00.1
10	95 26.3	+02.5	N 02 04.3	+00.0
11	110 28.8	+02.6	N 02 04.3	+00.0
12	125 31.4	+02.5	N 02 04.3	-00.1
13	140 33.9	+02.5	N 02 04.2	+00.0
14	155 36.4	+02.5	N 02 04.2	-00.1
15	170 38.9	+02.5	N 02 04.1	+00.0
16	185 41.4	+02.6	N 02 04.1	+00.0
17	200 44.0	+02.5	N 02 04.1	-00.1
18	215 46.5	+02.5	N 02 04.0	+00.0
19	230 49.0	+02.5	N 02 04.0	+00.0
20	245 51.5	+02.5	N 02 04.0	-00.1
21	260 54.0	+02.6	N 02 03.9	+00.0
22	275 56.6	+02.5	N 02 03.9	+00.0
23	290 59.1	+02.5	N 02 03.9	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	351°	351°	352°	352°	352°	352°

Greenwich Culmination Time: 03:39

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	348 07.2	+02.6	S 15 11.4	+00.1
01	3 09.8	+02.6	S 15 11.5	+00.0
02	18 12.4	+02.7	S 15 11.5	+00.1
03	33 15.1	+02.6	S 15 11.6	+00.1
04	48 17.7	+02.7	S 15 11.7	+00.0
05	63 20.4	+02.6	S 15 11.7	+00.1
06	78 23.0	+02.6	S 15 11.8	+00.1
07	93 25.6	+02.7	S 15 11.9	+00.0
08	108 28.3	+02.6	S 15 11.9	+00.1
09	123 30.9	+02.7	S 15 12.0	+00.1
10	138 33.6	+02.6	S 15 12.1	+00.0
11	153 36.2	+02.7	S 15 12.1	+00.1
12	168 38.9	+02.6	S 15 12.2	+00.0
13	183 41.5	+02.6	S 15 12.2	+00.1
14	198 44.1	+02.7	S 15 12.3	+00.1
15	213 46.8	+02.6	S 15 12.4	+00.0
16	228 49.4	+02.7	S 15 12.4	+00.1
17	243 52.1	+02.6	S 15 12.5	+00.1
18	258 54.7	+02.7	S 15 12.6	+00.0
19	273 57.4	+02.6	S 15 12.6	+00.1
20	288 60.0	+02.6	S 15 12.7	+00.1
21	304 02.6	+02.7	S 15 12.8	+00.0
22	319 05.3	+02.6	S 15 12.8	+00.1
23	334 07.9	+02.7	S 15 12.9	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 00:47

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 August 6 Saturday (day 218 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 30.2	+00.0	N 16 45.4	-00.7
01	193 30.2	+00.1	N 16 44.7	-00.6
02	208 30.3	+00.1	N 16 44.1	-00.7
03	223 30.4	+00.0	N 16 43.4	-00.7
04	238 30.4	+00.1	N 16 42.7	-00.7
05	253 30.5	+00.1	N 16 42.0	-00.7
06	268 30.6	+00.0	N 16 41.3	-00.7
07	283 30.6	+00.1	N 16 40.6	-00.7
08	298 30.7	+00.1	N 16 39.9	-00.7
09	313 30.8	+00.1	N 16 39.2	-00.7
10	328 30.9	+00.0	N 16 38.5	-00.6
11	343 30.9	+00.1	N 16 37.9	-00.7
12	358 31.0	+00.1	N 16 37.2	-00.7
13	13 31.1	+00.0	N 16 36.5	-00.7
14	28 31.1	+00.1	N 16 35.8	-00.7
15	43 31.2	+00.1	N 16 35.1	-00.7
16	58 31.3	+00.1	N 16 34.4	-00.7
17	73 31.4	+00.0	N 16 33.7	-00.7
18	88 31.4	+00.1	N 16 33.0	-00.7
19	103 31.5	+00.1	N 16 32.3	-00.7
20	118 31.6	+00.0	N 16 31.6	-00.7
21	133 31.6	+00.1	N 16 30.9	-00.7
22	148 31.7	+00.1	N 16 30.2	-00.7
23	163 31.8	+00.1	N 16 29.5	-00.7

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	224°	224°	224°	223°	223°	223°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	199 41.9	-00.8	N 21 39.3	-00.4
01	214 41.1	-00.8	N 21 38.9	-00.4
02	229 40.3	-00.8	N 21 38.5	-00.4
03	244 39.5	-00.8	N 21 38.1	-00.4
04	259 38.7	-00.8	N 21 37.7	-00.4
05	274 37.9	-00.8	N 21 37.3	-00.4
06	289 37.1	-00.7	N 21 36.9	-00.4
07	304 36.4	-00.8	N 21 36.5	-00.4
08	319 35.6	-00.8	N 21 36.1	-00.5
09	334 34.8	-00.8	N 21 35.6	-00.4
10	349 34.0	-00.8	N 21 35.2	-00.4
11	4 33.2	-00.8	N 21 34.8	-00.4
12	19 32.4	-00.7	N 21 34.4	-00.4
13	34 31.7	-00.8	N 21 34.0	-00.4
14	49 30.9	-00.8	N 21 33.6	-00.5
15	64 30.1	-00.8	N 21 33.1	-00.4
16	79 29.3	-00.8	N 21 32.7	-00.4
17	94 28.5	-00.8	N 21 32.3	-00.4
18	109 27.7	-00.7	N 21 31.9	-00.4
19	124 27.0	-00.8	N 21 31.5	-00.5
20	139 26.2	-00.8	N 21 31.0	-00.4
21	154 25.4	-00.8	N 21 30.6	-00.4
22	169 24.6	-00.8	N 21 30.2	-00.4
23	184 23.8	-00.7	N 21 29.8	-00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	245°	245°	245°	244°	244°	244°

Greenwich Culmination Time: 10:41

Moon

A: 27%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	86 38.0	-31.6	S 18 00.5	+12.0
01	101 06.4	-31.7	S 18 12.5	+12.0
02	115 34.7	-31.8	S 18 24.5	+11.9
03	130 02.9	-32.0	S 18 36.4	+11.8
04	144 30.9	-32.1	S 18 48.2	+11.7
05	158 58.8	-32.2	S 18 59.9	+11.6
06	173 26.6	-32.3	S 19 11.5	+11.5
07	187 54.3	-32.4	S 19 23.0	+11.4
08	202 21.9	-32.6	S 19 34.4	+11.3
09	216 49.3	-32.6	S 19 45.7	+11.2
10	231 16.7	-32.8	S 19 56.9	+11.1
11	245 43.9	-33.0	S 20 08.0	+11.0
12	260 10.9	-33.0	S 20 19.0	+10.9
13	274 37.9	-33.2	S 20 29.9	+10.8
14	289 04.7	-33.2	S 20 40.7	+10.6
15	303 31.5	-33.5	S 20 51.3	+10.6
16	317 58.0	-33.5	S 21 01.9	+10.4
17	332 24.5	-33.6	S 21 12.3	+10.4
18	346 50.9	-33.8	S 21 22.7	+10.2
19	1 17.1	-33.9	S 21 32.9	+10.1
20	15 43.2	-34.1	S 21 43.0	+09.9
21	30 09.1	-34.1	S 21 52.9	+09.9
22	44 35.0	-34.3	S 22 02.8	+09.7
23	59 00.7	-34.4	S 22 12.5	+09.6

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′1	16′1	16′1
HP	58′6	58′7	58′9	59′0	59′1	59′2
SHA	131°	129°	126°	124°	122°	119°

Greenwich Culmination Time: 18:54

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	265 13.9	+00.8	N 16 29.5	+00.4
01	280 14.7	+00.9	N 16 29.9	+00.5
02	295 15.6	+00.9	N 16 30.4	+00.4
03	310 16.5	+00.9	N 16 30.8	+00.4
04	325 17.4	+00.9	N 16 31.2	+00.5
05	340 18.3	+00.8	N 16 31.7	+00.4
06	355 19.1	+00.9	N 16 32.1	+00.4
07	10 20.0	+00.9	N 16 32.5	+00.5
08	25 20.9	+00.9	N 16 33.0	+00.4
09	40 21.8	+00.9	N 16 33.4	+00.4
10	55 22.7	+00.8	N 16 33.8	+00.4
11	70 23.5	+00.9	N 16 34.2	+00.5
12	85 24.4	+00.9	N 16 34.7	+00.4
13	100 25.3	+00.9	N 16 35.1	+00.4
14	115 26.2	+00.9	N 16 35.5	+00.5
15	130 27.1	+00.9	N 16 36.0	+00.4
16	145 28.0	+00.8	N 16 36.4	+00.4
17	160 28.8	+00.9	N 16 36.8	+00.4
18	175 29.7	+00.9	N 16 37.2	+00.5
19	190 30.6	+00.9	N 16 37.7	+00.4
20	205 31.5	+00.9	N 16 38.1	+00.4
21	220 32.4	+00.9	N 16 38.5	+00.4
22	235 33.3	+00.9	N 16 38.9	+00.5
23	250 34.2	+00.8	N 16 39.4	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	311°	311°	310°	310°	310°	310°

Greenwich Culmination Time: 06:18

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	306 01.6	+02.5	N 02 03.8	+00.0
01	321 04.1	+02.5	N 02 03.8	-00.1
02	336 06.6	+02.6	N 02 03.7	+00.0
03	351 09.2	+02.5	N 02 03.7	+00.0
04	6 11.7	+02.5	N 02 03.7	-00.1
05	21 14.2	+02.5	N 02 03.6	+00.0
06	36 16.7	+02.5	N 02 03.6	-00.1
07	51 19.2	+02.6	N 02 03.5	+00.0
08	66 21.8	+02.5	N 02 03.5	+00.0
09	81 24.3	+02.5	N 02 03.5	-00.1
10	96 26.8	+02.5	N 02 03.4	+00.0
11	111 29.3	+02.6	N 02 03.4	+00.0
12	126 31.9	+02.5	N 02 03.4	-00.1
13	141 34.4	+02.5	N 02 03.3	+00.0
14	156 36.9	+02.5	N 02 03.3	-00.1
15	171 39.4	+02.6	N 02 03.2	+00.0
16	186 42.0	+02.5	N 02 03.2	+00.0
17	201 44.5	+02.5	N 02 03.2	-00.1
18	216 47.0	+02.5	N 02 03.1	+00.0
19	231 49.5	+02.6	N 02 03.1	-00.1
20	246 52.1	+02.5	N 02 03.0	+00.0
21	261 54.6	+02.5	N 02 03.0	+00.0
22	276 57.1	+02.6	N 02 03.0	-00.1
23	291 59.7	+02.5	N 02 02.9	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 03:35

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	349 10.6	+02.6	S 15 13.0	+00.0
01	4 13.2	+02.7	S 15 13.0	+00.1
02	19 15.9	+02.6	S 15 13.1	+00.0
03	34 18.5	+02.6	S 15 13.1	+00.1
04	49 21.1	+02.7	S 15 13.2	+00.1
05	64 23.8	+02.6	S 15 13.3	+00.0
06	79 26.4	+02.7	S 15 13.3	+00.1
07	94 29.1	+02.6	S 15 13.4	+00.1
08	109 31.7	+02.7	S 15 13.5	+00.0
09	124 34.4	+02.6	S 15 13.5	+00.1
10	139 37.0	+02.6	S 15 13.6	+00.1
11	154 39.6	+02.7	S 15 13.7	+00.0
12	169 42.3	+02.6	S 15 13.7	+00.1
13	184 44.9	+02.7	S 15 13.8	+00.0
14	199 47.6	+02.6	S 15 13.8	+00.1
15	214 50.2	+02.7	S 15 13.9	+00.1
16	229 52.9	+02.6	S 15 14.0	+00.0
17	244 55.5	+02.6	S 15 14.0	+00.1
18	259 58.1	+02.7	S 15 14.1	+00.1
19	275 00.8	+02.6	S 15 14.2	+00.0
20	290 03.4	+02.7	S 15 14.2	+00.1
21	305 06.1	+02.6	S 15 14.3	+00.1
22	320 08.7	+02.7	S 15 14.4	+00.0
23	335 11.4	+02.6	S 15 14.4	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 00:43

2022 August 7 Sunday (day 219 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 31.9	+00.0	N 16 28.8	-00.7
01	193 31.9	+00.1	N 16 28.1	-00.6
02	208 32.0	+00.1	N 16 27.5	-00.7
03	223 32.1	+00.1	N 16 26.8	-00.7
04	238 32.2	+00.0	N 16 26.1	-00.7
05	253 32.2	+00.1	N 16 25.4	-00.7
06	268 32.3	+00.1	N 16 24.7	-00.7
07	283 32.4	+00.1	N 16 24.0	-00.7
08	298 32.5	+00.1	N 16 23.3	-00.7
09	313 32.6	+00.0	N 16 22.6	-00.7
10	328 32.6	+00.1	N 16 21.9	-00.7
11	343 32.7	+00.1	N 16 21.2	-00.7
12	358 32.8	+00.1	N 16 20.5	-00.7
13	13 32.9	+00.0	N 16 19.8	-00.7
14	28 32.9	+00.1	N 16 19.1	-00.8
15	43 33.0	+00.1	N 16 18.3	-00.7
16	58 33.1	+00.1	N 16 17.6	-00.7
17	73 33.2	+00.1	N 16 16.9	-00.7
18	88 33.3	+00.0	N 16 16.2	-00.7
19	103 33.3	+00.1	N 16 15.5	-00.7
20	118 33.4	+00.1	N 16 14.8	-00.7
21	133 33.5	+00.1	N 16 14.1	-00.7
22	148 33.6	+00.1	N 16 13.4	-00.7
23	163 33.7	+00.0	N 16 12.7	-00.7

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	223°	223°	223°	222°	222°	222°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	199 23.1	-00.8	N 21 29.3	-00.4
01	214 22.3	-00.8	N 21 28.9	-00.4
02	229 21.5	-00.8	N 21 28.5	-00.5
03	244 20.7	-00.8	N 21 28.0	-00.4
04	259 19.9	-00.7	N 21 27.6	-00.4
05	274 19.2	-00.8	N 21 27.2	-00.5
06	289 18.4	-00.8	N 21 26.7	-00.4
07	304 17.6	-00.8	N 21 26.3	-00.4
08	319 16.8	-00.8	N 21 25.9	-00.5
09	334 16.0	-00.7	N 21 25.4	-00.4
10	349 15.3	-00.8	N 21 25.0	-00.4
11	4 14.5	-00.8	N 21 24.6	-00.5
12	19 13.7	-00.8	N 21 24.1	-00.4
13	34 12.9	-00.7	N 21 23.7	-00.5
14	49 12.2	-00.8	N 21 23.2	-00.4
15	64 11.4	-00.8	N 21 22.8	-00.5
16	79 10.6	-00.8	N 21 22.3	-00.4
17	94 09.8	-00.7	N 21 21.9	-00.5
18	109 09.1	-00.8	N 21 21.4	-00.4
19	124 08.3	-00.8	N 21 21.0	-00.5
20	139 07.5	-00.8	N 21 20.5	-00.4
21	154 06.7	-00.7	N 21 20.1	-00.5
22	169 06.0	-00.8	N 21 19.6	-00.4
23	184 05.2	-00.8	N 21 19.2	-00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	244°	244°	243°	243°	243°	243°

Greenwich Culmination Time: 10:43

Moon

A: 31%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	73 26.3	-34.5	S 22 22.1	+09.4
01	87 51.8	-34.7	S 22 31.5	+09.4
02	102 17.1	-34.7	S 22 40.9	+09.1
03	116 42.4	-34.9	S 22 50.0	+09.1
04	131 07.5	-35.0	S 22 59.1	+08.9
05	145 32.5	-35.2	S 23 08.0	+08.8
06	159 57.3	-35.2	S 23 16.8	+08.7
07	174 22.1	-35.4	S 23 25.5	+08.5
08	188 46.7	-35.5	S 23 34.0	+08.3
09	203 11.2	-35.6	S 23 42.3	+08.2
10	217 35.6	-35.8	S 23 50.5	+08.1
11	231 59.8	-35.8	S 23 58.6	+07.9
12	246 24.0	-36.0	S 24 06.5	+07.7
13	260 48.0	-36.1	S 24 14.2	+07.6
14	275 11.9	-36.2	S 24 21.8	+07.5
15	289 35.7	-36.3	S 24 29.3	+07.3
16	303 59.4	-36.5	S 24 36.6	+07.1
17	318 22.9	-36.5	S 24 43.7	+07.0
18	332 46.4	-36.7	S 24 50.7	+06.8
19	347 09.7	-36.7	S 24 57.5	+06.6
20	1 33.0	-36.9	S 25 04.1	+06.5
21	15 56.1	-37.0	S 25 10.6	+06.3
22	30 19.1	-37.0	S 25 16.9	+06.2
23	44 42.1	-37.2	S 25 23.1	+05.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′3	16′3	16′3
HP	59′3	59′5	59′6	59′7	59′8	59′9
SHA	117°	114°	112°	109°	107°	104°

Greenwich Culmination Time: 19:53

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	265 35.0	+00.9	N 16 39.8	+00.4
01	280 35.9	+00.9	N 16 40.2	+00.4
02	295 36.8	+00.9	N 16 40.6	+00.5
03	310 37.7	+00.9	N 16 41.1	+00.4
04	325 38.6	+00.9	N 16 41.5	+00.4
05	340 39.5	+00.9	N 16 41.9	+00.4
06	355 40.4	+00.8	N 16 42.3	+00.5
07	10 41.2	+00.9	N 16 42.8	+00.4
08	25 42.1	+00.9	N 16 43.2	+00.4
09	40 43.0	+00.9	N 16 43.6	+00.4
10	55 43.9	+00.9	N 16 44.0	+00.5
11	70 44.8	+00.9	N 16 44.5	+00.4
12	85 45.7	+00.9	N 16 44.9	+00.4
13	100 46.6	+00.8	N 16 45.3	+00.4
14	115 47.4	+00.9	N 16 45.7	+00.4
15	130 48.3	+00.9	N 16 46.1	+00.5
16	145 49.2	+00.9	N 16 46.6	+00.4
17	160 50.1	+00.9	N 16 47.0	+00.4
18	175 51.0	+00.9	N 16 47.4	+00.4
19	190 51.9	+00.9	N 16 47.8	+00.4
20	205 52.8	+00.9	N 16 48.2	+00.5
21	220 53.7	+00.9	N 16 48.7	+00.4
22	235 54.6	+00.8	N 16 49.1	+00.4
23	250 55.4	+00.9	N 16 49.5	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	310°	310°	310°	310°	310°	310°

Greenwich Culmination Time: 06:17

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	307 02.2	+02.5	N 02 02.9	-00.1
01	322 04.7	+02.5	N 02 02.8	+00.0
02	337 07.2	+02.6	N 02 02.8	+00.0
03	352 09.8	+02.5	N 02 02.8	-00.1
04	7 12.3	+02.5	N 02 02.7	+00.0
05	22 14.8	+02.6	N 02 02.7	-00.1
06	37 17.4	+02.5	N 02 02.6	+00.0
07	52 19.9	+02.5	N 02 02.6	+00.0
08	67 22.4	+02.6	N 02 02.6	-00.1
09	82 25.0	+02.5	N 02 02.5	+00.0
10	97 27.5	+02.5	N 02 02.5	-00.1
11	112 30.0	+02.6	N 02 02.4	+00.0
12	127 32.6	+02.5	N 02 02.4	-00.1
13	142 35.1	+02.5	N 02 02.3	+00.0
14	157 37.6	+02.6	N 02 02.3	+00.0
15	172 40.2	+02.5	N 02 02.3	-00.1
16	187 42.7	+02.5	N 02 02.2	+00.0
17	202 45.2	+02.6	N 02 02.2	-00.1
18	217 47.8	+02.5	N 02 02.1	+00.0
19	232 50.3	+02.5	N 02 02.1	-00.1
20	247 52.8	+02.6	N 02 02.0	+00.0
21	262 55.4	+02.5	N 02 02.0	+00.0
22	277 57.9	+02.5	N 02 02.0	-00.1
23	293 00.4	+02.6	N 02 01.9	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 03:31

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	350 14.0	+02.6	S 15 14.5	+00.1
01	5 16.6	+02.7	S 15 14.6	+00.0
02	20 19.3	+02.6	S 15 14.6	+00.1
03	35 21.9	+02.7	S 15 14.7	+00.0
04	50 24.6	+02.6	S 15 14.7	+00.1
05	65 27.2	+02.7	S 15 14.8	+00.1
06	80 29.9	+02.6	S 15 14.9	+00.0
07	95 32.5	+02.6	S 15 14.9	+00.1
08	110 35.1	+02.7	S 15 15.0	+00.1
09	125 37.8	+02.6	S 15 15.1	+00.0
10	140 40.4	+02.7	S 15 15.1	+00.1
11	155 43.1	+02.6	S 15 15.2	+00.1
12	170 45.7	+02.7	S 15 15.3	+00.0
13	185 48.4	+02.6	S 15 15.3	+00.1
14	200 51.0	+02.7	S 15 15.4	+00.1
15	215 53.7	+02.6	S 15 15.5	+00.0
16	230 56.3	+02.6	S 15 15.5	+00.1
17	245 58.9	+02.7	S 15 15.6	+00.0
18	261 01.6	+02.6	S 15 15.6	+00.1
19	276 04.2	+02.7	S 15 15.7	+00.1
20	291 06.9	+02.6	S 15 15.8	+00.0
21	306 09.5	+02.7	S 15 15.8	+00.1
22	321 12.2	+02.6	S 15 15.9	+00.1
23	336 14.8	+02.6	S 15 16.0	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 00:38

2022 August 12 Friday (day 224 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 42.7	+00.1	N 15 02.1	-00.8
01	193 42.8	+00.1	N 15 01.3	-00.7
02	208 42.9	+00.1	N 15 00.6	-00.8
03	223 43.0	+00.1	N 14 59.8	-00.7
04	238 43.1	+00.1	N 14 59.1	-00.8
05	253 43.2	+00.1	N 14 58.3	-00.7
06	268 43.3	+00.1	N 14 57.6	-00.8
07	283 43.4	+00.2	N 14 56.8	-00.7
08	298 43.6	+00.1	N 14 56.1	-00.8
09	313 43.7	+00.1	N 14 55.3	-00.7
10	328 43.8	+00.1	N 14 54.6	-00.8
11	343 43.9	+00.1	N 14 53.8	-00.7
12	358 44.0	+00.1	N 14 53.1	-00.8
13	13 44.1	+00.1	N 14 52.3	-00.7
14	28 44.2	+00.1	N 14 51.6	-00.8
15	43 44.3	+00.1	N 14 50.8	-00.7
16	58 44.4	+00.1	N 14 50.1	-00.8
17	73 44.5	+00.1	N 14 49.3	-00.7
18	88 44.6	+00.1	N 14 48.6	-00.8
19	103 44.7	+00.2	N 14 47.8	-00.8
20	118 44.9	+00.1	N 14 47.0	-00.7
21	133 45.0	+00.1	N 14 46.3	-00.8
22	148 45.1	+00.1	N 14 45.5	-00.7
23	163 45.2	+00.1	N 14 44.8	-00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	218°	218°	218°	218°	218°	217°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	197 51.5	-00.8	N 20 30.2	-00.5
01	212 50.7	-00.7	N 20 29.7	-00.6
02	227 50.0	-00.8	N 20 29.1	-00.5
03	242 49.2	-00.7	N 20 28.6	-00.6
04	257 48.5	-00.8	N 20 28.0	-00.5
05	272 47.7	-00.7	N 20 27.5	-00.6
06	287 47.0	-00.8	N 20 26.9	-00.6
07	302 46.2	-00.7	N 20 26.3	-00.5
08	317 45.5	-00.7	N 20 25.8	-00.6
09	332 44.8	-00.8	N 20 25.2	-00.6
10	347 44.0	-00.7	N 20 24.6	-00.5
11	2 43.3	-00.8	N 20 24.1	-00.6
12	17 42.5	-00.7	N 20 23.5	-00.6
13	32 41.8	-00.7	N 20 22.9	-00.5
14	47 41.1	-00.8	N 20 22.4	-00.6
15	62 40.3	-00.7	N 20 21.8	-00.6
16	77 39.6	-00.8	N 20 21.2	-00.5
17	92 38.8	-00.7	N 20 20.7	-00.6
18	107 38.1	-00.7	N 20 20.1	-00.6
19	122 37.4	-00.8	N 20 19.5	-00.6
20	137 36.6	-00.7	N 20 18.9	-00.5
21	152 35.9	-00.8	N 20 18.4	-00.6
22	167 35.1	-00.7	N 20 17.8	-00.6
23	182 34.4	-00.7	N 20 17.2	-00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	237°	237°	237°	237°	236°	236°

Greenwich Culmination Time: 10:49

Moon

A: 52%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	357 59.4	-35.2	S 20 04.7	-12.0
01	12 24.2	-35.0	S 19 52.7	-12.0
02	26 49.2	-35.0	S 19 40.7	-12.2
03	41 14.2	-34.8	S 19 28.5	-12.2
04	55 39.4	-34.7	S 19 16.3	-12.4
05	70 04.7	-34.7	S 19 03.9	-12.6
06	84 30.0	-34.4	S 18 51.3	-12.6
07	98 55.6	-34.4	S 18 38.7	-12.7
08	113 21.2	-34.3	S 18 26.0	-12.9
09	127 46.9	-34.1	S 18 13.1	-13.0
10	142 12.8	-34.1	S 18 00.1	-13.0
11	156 38.7	-33.9	S 17 47.1	-13.2
12	171 04.8	-33.8	S 17 33.9	-13.3
13	185 31.0	-33.7	S 17 20.6	-13.4
14	199 57.3	-33.6	S 17 07.2	-13.4
15	214 23.7	-33.4	S 16 53.8	-13.6
16	228 50.3	-33.4	S 16 40.2	-13.7
17	243 16.9	-33.2	S 16 26.5	-13.7
18	257 43.7	-33.1	S 16 12.8	-13.8
19	272 10.6	-33.0	S 15 59.0	-14.0
20	286 37.6	-32.9	S 15 45.0	-14.0
21	301 04.7	-32.8	S 15 31.0	-14.1
22	315 31.9	-32.7	S 15 16.9	-14.1
23	329 59.2	-32.6	S 15 02.8	-14.3

UT	02	06	10	14	18	22
SD	16′5	16′5	16′5	16′5	16′4	16′4
HP	60′6	60′6	60′5	60′4	60′3	60′2
SHA	036°	034°	031°	029°	027°	024°

Greenwich Culmination Time: 00:08

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	267 22.7	+00.9	N 17 28.9	+00.4
01	282 23.6	+00.9	N 17 29.3	+00.4
02	297 24.5	+00.9	N 17 29.7	+00.4
03	312 25.4	+00.9	N 17 30.1	+00.4
04	327 26.3	+00.9	N 17 30.5	+00.4
05	342 27.2	+00.9	N 17 30.9	+00.4
06	357 28.1	+00.9	N 17 31.3	+00.4
07	12 29.0	+00.9	N 17 31.7	+00.3
08	27 29.9	+00.9	N 17 32.0	+00.4
09	42 30.8	+01.0	N 17 32.4	+00.4
10	57 31.8	+00.9	N 17 32.8	+00.4
11	72 32.7	+00.9	N 17 33.2	+00.4
12	87 33.6	+00.9	N 17 33.6	+00.4
13	102 34.5	+00.9	N 17 34.0	+00.4
14	117 35.4	+00.9	N 17 34.4	+00.4
15	132 36.3	+00.9	N 17 34.8	+00.4
16	147 37.2	+00.9	N 17 35.2	+00.4
17	162 38.1	+01.0	N 17 35.6	+00.3
18	177 39.1	+00.9	N 17 35.9	+00.4
19	192 40.0	+00.9	N 17 36.3	+00.4
20	207 40.9	+00.9	N 17 36.7	+00.4
21	222 41.8	+00.9	N 17 37.1	+00.4
22	237 42.7	+00.9	N 17 37.5	+00.4
23	252 43.6	+00.9	N 17 37.9	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	307°	307°	307°	307°	306°	306°

Greenwich Culmination Time: 06:10

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	312 07.8	+02.6	N 01 57.1	+00.0
01	327 10.4	+02.6	N 01 57.1	-00.1
02	342 13.0	+02.5	N 01 57.0	-00.1
03	357 15.5	+02.6	N 01 56.9	+00.0
04	12 18.1	+02.6	N 01 56.9	-00.1
05	27 20.7	+02.5	N 01 56.8	+00.0
06	42 23.2	+02.6	N 01 56.8	-00.1
07	57 25.8	+02.6	N 01 56.7	+00.0
08	72 28.4	+02.5	N 01 56.7	-00.1
09	87 30.9	+02.6	N 01 56.6	-00.1
10	102 33.5	+02.6	N 01 56.5	+00.0
11	117 36.1	+02.5	N 01 56.5	-00.1
12	132 38.6	+02.6	N 01 56.4	+00.0
13	147 41.2	+02.6	N 01 56.4	-00.1
14	162 43.8	+02.6	N 01 56.3	+00.0
15	177 46.4	+02.5	N 01 56.3	-00.1
16	192 48.9	+02.6	N 01 56.2	-00.1
17	207 51.5	+02.6	N 01 56.1	+00.0
18	222 54.1	+02.5	N 01 56.1	-00.1
19	237 56.6	+02.6	N 01 56.0	+00.0
20	252 59.2	+02.6	N 01 56.0	-00.1
21	268 01.8	+02.6	N 01 55.9	+00.0
22	283 04.4	+02.5	N 01 55.9	-00.1
23	298 06.9	+02.6	N 01 55.8	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 03:10

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	355 31.4	+02.6	S 15 22.2	+00.1
01	10 34.0	+02.7	S 15 22.3	+00.0
02	25 36.7	+02.6	S 15 22.3	+00.1
03	40 39.3	+02.7	S 15 22.4	+00.1
04	55 42.0	+02.6	S 15 22.5	+00.0
05	70 44.6	+02.7	S 15 22.5	+00.1
06	85 47.3	+02.6	S 15 22.6	+00.1
07	100 49.9	+02.7	S 15 22.7	+00.0
08	115 52.6	+02.6	S 15 22.7	+00.1
09	130 55.2	+02.7	S 15 22.8	+00.0
10	145 57.9	+02.6	S 15 22.8	+00.1
11	161 00.5	+02.7	S 15 22.9	+00.1
12	176 03.2	+02.6	S 15 23.0	+00.0
13	191 05.8	+02.6	S 15 23.0	+00.1
14	206 08.4	+02.7	S 15 23.1	+00.1
15	221 11.1	+02.6	S 15 23.2	+00.0
16	236 13.7	+02.7	S 15 23.2	+00.1
17	251 16.4	+02.6	S 15 23.3	+00.1
18	266 19.0	+02.7	S 15 23.4	+00.0
19	281 21.7	+02.6	S 15 23.4	+00.1
20	296 24.3	+02.7	S 15 23.5	+00.1
21	311 27.0	+02.6	S 15 23.6	+00.0
22	326 29.6	+02.7	S 15 23.6	+00.1
23	341 32.3	+02.6	S 15 23.7	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 00:17

2022 August 9 Tuesday (day 221 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 35.8	+00.0	N 15 54.9	-00.7
01	193 35.8	+00.1	N 15 54.2	-00.7
02	208 35.9	+00.1	N 15 53.5	-00.8
03	223 36.0	+00.1	N 15 52.7	-00.7
04	238 36.1	+00.1	N 15 52.0	-00.7
05	253 36.2	+00.1	N 15 51.3	-00.7
06	268 36.3	+00.1	N 15 50.6	-00.7
07	283 36.4	+00.1	N 15 49.9	-00.8
08	298 36.5	+00.1	N 15 49.1	-00.7
09	313 36.6	+00.0	N 15 48.4	-00.7
10	328 36.6	+00.1	N 15 47.7	-00.7
11	343 36.7	+00.1	N 15 47.0	-00.7
12	358 36.8	+00.1	N 15 46.3	-00.8
13	13 36.9	+00.1	N 15 45.5	-00.7
14	28 37.0	+00.1	N 15 44.8	-00.7
15	43 37.1	+00.1	N 15 44.1	-00.7
16	58 37.2	+00.1	N 15 43.4	-00.8
17	73 37.3	+00.1	N 15 42.6	-00.7
18	88 37.4	+00.1	N 15 41.9	-00.7
19	103 37.5	+00.1	N 15 41.2	-00.7
20	118 37.6	+00.0	N 15 40.5	-00.8
21	133 37.6	+00.1	N 15 39.7	-00.7
22	148 37.7	+00.1	N 15 39.0	-00.7
23	163 37.8	+00.1	N 15 38.3	-00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	221°	221°	221°	221°	220°	220°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	198 45.9	-00.8	N 21 07.5	-00.5
01	213 45.1	-00.7	N 21 07.0	-00.4
02	228 44.4	-00.8	N 21 06.6	-00.5
03	243 43.6	-00.8	N 21 06.1	-00.5
04	258 42.8	-00.7	N 21 05.6	-00.5
05	273 42.1	-00.8	N 21 05.1	-00.5
06	288 41.3	-00.8	N 21 04.6	-00.5
07	303 40.5	-00.7	N 21 04.1	-00.4
08	318 39.8	-00.8	N 21 03.7	-00.5
09	333 39.0	-00.7	N 21 03.2	-00.5
10	348 38.3	-00.8	N 21 02.7	-00.5
11	3 37.5	-00.8	N 21 02.2	-00.5
12	18 36.7	-00.7	N 21 01.7	-00.5
13	33 36.0	-00.8	N 21 01.2	-00.5
14	48 35.2	-00.8	N 21 00.7	-00.5
15	63 34.4	-00.7	N 21 00.2	-00.5
16	78 33.7	-00.8	N 20 59.7	-00.5
17	93 32.9	-00.7	N 20 59.2	-00.5
18	108 32.2	-00.8	N 20 58.7	-00.5
19	123 31.4	-00.8	N 20 58.2	-00.5
20	138 30.6	-00.7	N 20 57.7	-00.5
21	153 29.9	-00.8	N 20 57.2	-00.5
22	168 29.1	-00.8	N 20 56.7	-00.5
23	183 28.3	-00.7	N 20 56.2	-00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	241°	241°	241°	241°	240°	240°

Greenwich Culmination Time: 10:45

Moon

A: 39%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	43 46.6	-39.1	S 26 57.1	+01.2
01	58 07.5	-39.1	S 26 58.3	+01.1
02	72 28.4	-39.1	S 26 59.4	+00.8
03	86 49.3	-39.2	S 27 00.2	+00.6
04	101 10.1	-39.3	S 27 00.8	+00.5
05	115 30.8	-39.2	S 27 01.3	+00.2
06	129 51.6	-39.3	S 27 01.5	+00.0
07	144 12.3	-39.3	S 27 01.5	-00.2
08	158 33.0	-39.3	S 27 01.3	-00.4
09	172 53.7	-39.4	S 27 00.9	-00.6
10	187 14.3	-39.3	S 27 00.3	-00.8
11	201 35.0	-39.4	S 26 59.5	-01.0
12	215 55.6	-39.4	S 26 58.5	-01.2
13	230 16.2	-39.4	S 26 57.3	-01.5
14	244 36.8	-39.3	S 26 55.8	-01.6
15	258 57.5	-39.4	S 26 54.2	-01.9
16	273 18.1	-39.4	S 26 52.3	-02.0
17	287 38.7	-39.4	S 26 50.3	-02.3
18	301 59.3	-39.3	S 26 48.0	-02.4
19	316 20.0	-39.4	S 26 45.6	-02.7
20	330 40.6	-39.3	S 26 42.9	-02.9
21	345 01.3	-39.3	S 26 40.0	-03.1
22	359 22.0	-39.3	S 26 36.9	-03.2
23	13 42.7	-39.2	S 26 33.7	-03.5

UT	02	06	10	14	18	22
SD	16′5	16′5	16′5	16′5	16′6	16′6
HP	60′5	60′6	60′7	60′7	60′8	60′8
SHA	085°	082°	079°	077°	074°	071°

Greenwich Culmination Time: 22:02

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	266 17.7	+00.9	N 16 59.9	+00.4
01	281 18.6	+00.9	N 17 00.3	+00.4
02	296 19.5	+00.9	N 17 00.7	+00.4
03	311 20.4	+00.9	N 17 01.1	+00.5
04	326 21.3	+00.9	N 17 01.6	+00.4
05	341 22.2	+00.9	N 17 02.0	+00.4
06	356 23.1	+00.9	N 17 02.4	+00.4
07	11 24.0	+00.9	N 17 02.8	+00.4
08	26 24.9	+00.9	N 17 03.2	+00.4
09	41 25.8	+00.9	N 17 03.6	+00.4
10	56 26.7	+00.9	N 17 04.0	+00.4
11	71 27.6	+00.9	N 17 04.4	+00.4
12	86 28.5	+00.9	N 17 04.8	+00.4
13	101 29.4	+00.9	N 17 05.2	+00.5
14	116 30.3	+00.9	N 17 05.7	+00.4
15	131 31.2	+00.9	N 17 06.1	+00.4
16	146 32.1	+00.9	N 17 06.5	+00.4
17	161 33.0	+00.9	N 17 06.9	+00.4
18	176 33.9	+00.9	N 17 07.3	+00.4
19	191 34.8	+00.9	N 17 07.7	+00.4
20	206 35.7	+00.9	N 17 08.1	+00.4
21	221 36.6	+00.9	N 17 08.5	+00.4
22	236 37.5	+00.9	N 17 08.9	+00.4
23	251 38.4	+00.9	N 17 09.3	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	309°	309°	309°	308°	308°	308°

Greenwich Culmination Time: 06:14

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	309 03.9	+02.6	N 02 00.8	-00.1
01	324 06.5	+02.5	N 02 00.7	+00.0
02	339 09.0	+02.5	N 02 00.7	+00.0
03	354 11.5	+02.6	N 02 00.7	-00.1
04	9 14.1	+02.5	N 02 00.6	+00.0
05	24 16.6	+02.6	N 02 00.6	-00.1
06	39 19.2	+02.5	N 02 00.5	+00.0
07	54 21.7	+02.6	N 02 00.5	-00.1
08	69 24.3	+02.5	N 02 00.4	+00.0
09	84 26.8	+02.6	N 02 00.4	-00.1
10	99 29.4	+02.5	N 02 00.3	+00.0
11	114 31.9	+02.6	N 02 00.3	-00.1
12	129 34.5	+02.5	N 02 00.2	+00.0
13	144 37.0	+02.6	N 02 00.2	-00.1
14	159 39.6	+02.5	N 02 00.1	+00.0
15	174 42.1	+02.6	N 02 00.1	-00.1
16	189 44.7	+02.5	N 02 00.0	+00.0
17	204 47.2	+02.5	N 01 60.0	-00.1
18	219 49.7	+02.6	N 01 59.9	+00.0
19	234 52.3	+02.5	N 01 59.9	-00.1
20	249 54.8	+02.6	N 01 59.8	+00.0
21	264 57.4	+02.5	N 01 59.8	-00.1
22	279 59.9	+02.6	N 01 59.7	+00.0
23	295 02.5	+02.5	N 01 59.7	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 03:23

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	352 20.9	+02.7	S 15 17.6	+00.0
01	7 23.6	+02.6	S 15 17.6	+00.1
02	22 26.2	+02.7	S 15 17.7	+00.1
03	37 28.9	+02.6	S 15 17.8	+00.0
04	52 31.5	+02.6	S 15 17.8	+00.1
05	67 34.1	+02.7	S 15 17.9	+00.1
06	82 36.8	+02.6	S 15 18.0	+00.0
07	97 39.4	+02.7	S 15 18.0	+00.1
08	112 42.1	+02.6	S 15 18.1	+00.1
09	127 44.7	+02.7	S 15 18.2	+00.0
10	142 47.4	+02.6	S 15 18.2	+00.1
11	157 50.0	+02.7	S 15 18.3	+00.0
12	172 52.7	+02.6	S 15 18.3	+00.1
13	187 55.3	+02.6	S 15 18.4	+00.1
14	202 57.9	+02.7	S 15 18.5	+00.0
15	218 00.6	+02.6	S 15 18.5	+00.1
16	233 03.2	+02.7	S 15 18.6	+00.1
17	248 05.9	+02.6	S 15 18.7	+00.0
18	263 08.5	+02.7	S 15 18.7	+00.1
19	278 11.2	+02.6	S 15 18.8	+00.1
20	293 13.8	+02.7	S 15 18.9	+00.0
21	308 16.5	+02.6	S 15 18.9	+00.1
22	323 19.1	+02.7	S 15 19.0	+00.1
23	338 21.8	+02.6	S 15 19.1	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 00:30

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 August 10 Wednesday (day 222 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 37.9	+00.1	N 15 37.5	-00.7
01	193 38.0	+00.1	N 15 36.8	-00.7
02	208 38.1	+00.1	N 15 36.1	-00.7
03	223 38.2	+00.1	N 15 35.4	-00.8
04	238 38.3	+00.1	N 15 34.6	-00.7
05	253 38.4	+00.1	N 15 33.9	-00.7
06	268 38.5	+00.1	N 15 33.2	-00.8
07	283 38.6	+00.1	N 15 32.4	-00.7
08	298 38.7	+00.1	N 15 31.7	-00.7
09	313 38.8	+00.1	N 15 31.0	-00.8
10	328 38.9	+00.1	N 15 30.2	-00.7
11	343 39.0	+00.1	N 15 29.5	-00.7
12	358 39.1	+00.1	N 15 28.8	-00.8
13	13 39.2	+00.1	N 15 28.0	-00.7
14	28 39.3	+00.1	N 15 27.3	-00.7
15	43 39.4	+00.1	N 15 26.6	-00.8
16	58 39.5	+00.1	N 15 25.8	-00.7
17	73 39.6	+00.0	N 15 25.1	-00.7
18	88 39.6	+00.1	N 15 24.4	-00.8
19	103 39.7	+00.1	N 15 23.6	-00.7
20	118 39.8	+00.1	N 15 22.9	-00.7
21	133 39.9	+00.1	N 15 22.2	-00.8
22	148 40.0	+00.1	N 15 21.4	-00.7
23	163 40.1	+00.1	N 15 20.7	-00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	220°	220°	220°	220°	219°	219°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	198 27.6	-00.8	N 20 55.7	-00.5
01	213 26.8	-00.7	N 20 55.2	-00.5
02	228 26.1	-00.8	N 20 54.7	-00.5
03	243 25.3	-00.8	N 20 54.2	-00.5
04	258 24.5	-00.7	N 20 53.7	-00.5
05	273 23.8	-00.8	N 20 53.2	-00.6
06	288 23.0	-00.7	N 20 52.6	-00.5
07	303 22.3	-00.8	N 20 52.1	-00.5
08	318 21.5	-00.7	N 20 51.6	-00.5
09	333 20.8	-00.8	N 20 51.1	-00.5
10	348 20.0	-00.8	N 20 50.6	-00.5
11	3 19.2	-00.7	N 20 50.1	-00.5
12	18 18.5	-00.8	N 20 49.6	-00.6
13	33 17.7	-00.7	N 20 49.0	-00.5
14	48 17.0	-00.8	N 20 48.5	-00.5
15	63 16.2	-00.7	N 20 48.0	-00.5
16	78 15.5	-00.8	N 20 47.5	-00.5
17	93 14.7	-00.7	N 20 47.0	-00.6
18	108 14.0	-00.8	N 20 46.4	-00.5
19	123 13.2	-00.8	N 20 45.9	-00.5
20	138 12.4	-00.7	N 20 45.4	-00.5
21	153 11.7	-00.8	N 20 44.9	-00.6
22	168 10.9	-00.7	N 20 44.3	-00.5
23	183 10.2	-00.8	N 20 43.8	-00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	240°	240°	239°	239°	239°	239°

Greenwich Culmination Time: 10:46

Moon

A: 43%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	28 03.5	-39.3	S 26 30.2	-03.7
01	42 24.2	-39.2	S 26 26.5	-03.9
02	56 45.0	-39.1	S 26 22.6	-04.1
03	71 05.9	-39.1	S 26 18.5	-04.3
04	85 26.8	-39.1	S 26 14.2	-04.5
05	99 47.7	-39.0	S 26 09.7	-04.7
06	114 08.7	-39.0	S 26 05.0	-04.9
07	128 29.7	-39.0	S 26 00.1	-05.1
08	142 50.7	-38.8	S 25 55.0	-05.3
09	157 11.9	-38.9	S 25 49.7	-05.5
10	171 33.0	-38.7	S 25 44.2	-05.7
11	185 54.3	-38.8	S 25 38.5	-05.9
12	200 15.5	-38.6	S 25 32.6	-06.0
13	214 36.9	-38.6	S 25 26.6	-06.3
14	228 58.3	-38.5	S 25 20.3	-06.5
15	243 19.8	-38.4	S 25 13.8	-06.6
16	257 41.4	-38.4	S 25 07.2	-06.8
17	272 03.0	-38.3	S 25 00.4	-07.0
18	286 24.7	-38.2	S 24 53.4	-07.2
19	300 46.5	-38.2	S 24 46.2	-07.4
20	315 08.3	-38.0	S 24 38.8	-07.6
21	329 30.3	-38.0	S 24 31.2	-07.7
22	343 52.3	-37.9	S 24 23.5	-08.0
23	358 14.4	-37.8	S 24 15.5	-08.1

UT	02	06	10	14	18	22
SD	16′6	16′6	16′6	16′6	16′6	16′6
HP	60′9	60′9	60′9	60′9	60′9	60′9
SHA	068°	065°	063°	060°	057°	055°

Greenwich Culmination Time: 23:07

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	266 39.3	+00.9	N 17 09.7	+00.4
01	281 40.2	+00.9	N 17 10.1	+00.4
02	296 41.1	+00.9	N 17 10.5	+00.4
03	311 42.0	+00.9	N 17 10.9	+00.4
04	326 42.9	+00.9	N 17 11.3	+00.5
05	341 43.8	+00.9	N 17 11.8	+00.4
06	356 44.7	+00.9	N 17 12.2	+00.4
07	11 45.6	+00.9	N 17 12.6	+00.4
08	26 46.5	+00.9	N 17 13.0	+00.4
09	41 47.4	+00.9	N 17 13.4	+00.4
10	56 48.3	+00.9	N 17 13.8	+00.4
11	71 49.2	+00.9	N 17 14.2	+00.4
12	86 50.1	+00.9	N 17 14.6	+00.4
13	101 51.0	+00.9	N 17 15.0	+00.4
14	116 51.9	+00.9	N 17 15.4	+00.4
15	131 52.8	+00.9	N 17 15.8	+00.4
16	146 53.7	+00.9	N 17 16.2	+00.4
17	161 54.6	+00.9	N 17 16.6	+00.4
18	176 55.5	+00.9	N 17 17.0	+00.4
19	191 56.4	+00.9	N 17 17.4	+00.4
20	206 57.3	+00.9	N 17 17.8	+00.4
21	221 58.2	+00.9	N 17 18.2	+00.4
22	236 59.1	+00.9	N 17 18.6	+00.4
23	251 60.0	+00.9	N 17 19.0	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	308°	308°	308°	308°	308°	308°

Greenwich Culmination Time: 06:13

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	310 05.0	+02.6	N 01 59.6	+00.0
01	325 07.6	+02.5	N 01 59.6	-00.1
02	340 10.1	+02.6	N 01 59.5	+00.0
03	355 12.7	+02.6	N 01 59.5	-00.1
04	10 15.3	+02.5	N 01 59.4	+00.0
05	25 17.8	+02.6	N 01 59.4	-00.1
06	40 20.4	+02.5	N 01 59.3	+00.0
07	55 22.9	+02.6	N 01 59.3	-00.1
08	70 25.5	+02.5	N 01 59.2	+00.0
09	85 28.0	+02.6	N 01 59.2	-00.1
10	100 30.6	+02.5	N 01 59.1	+00.0
11	115 33.1	+02.6	N 01 59.1	-00.1
12	130 35.7	+02.5	N 01 59.0	+00.0
13	145 38.2	+02.6	N 01 59.0	-00.1
14	160 40.8	+02.5	N 01 58.9	+00.0
15	175 43.3	+02.6	N 01 58.9	-00.1
16	190 45.9	+02.6	N 01 58.8	+00.0
17	205 48.5	+02.5	N 01 58.8	-00.1
18	220 51.0	+02.6	N 01 58.7	+00.0
19	235 53.6	+02.5	N 01 58.7	-00.1
20	250 56.1	+02.6	N 01 58.6	+00.0
21	265 58.7	+02.5	N 01 58.6	-00.1
22	281 01.2	+02.6	N 01 58.5	+00.0
23	296 03.8	+02.6	N 01 58.5	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 03:19

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	353 24.4	+02.6	S 15 19.1	+00.1
01	8 27.0	+02.7	S 15 19.2	+00.0
02	23 29.7	+02.6	S 15 19.2	+00.1
03	38 32.3	+02.7	S 15 19.3	+00.1
04	53 35.0	+02.6	S 15 19.4	+00.0
05	68 37.6	+02.7	S 15 19.4	+00.1
06	83 40.3	+02.6	S 15 19.5	+00.1
07	98 42.9	+02.7	S 15 19.6	+00.0
08	113 45.6	+02.6	S 15 19.6	+00.1
09	128 48.2	+02.7	S 15 19.7	+00.1
10	143 50.9	+02.6	S 15 19.8	+00.0
11	158 53.5	+02.6	S 15 19.8	+00.1
12	173 56.1	+02.7	S 15 19.9	+00.1
13	188 58.8	+02.6	S 15 20.0	+00.0
14	204 01.4	+02.7	S 15 20.0	+00.1
15	219 04.1	+02.6	S 15 20.1	+00.0
16	234 06.7	+02.7	S 15 20.1	+00.1
17	249 09.4	+02.6	S 15 20.2	+00.1
18	264 12.0	+02.7	S 15 20.3	+00.0
19	279 14.7	+02.6	S 15 20.3	+00.1
20	294 17.3	+02.7	S 15 20.4	+00.1
21	309 20.0	+02.6	S 15 20.5	+00.0
22	324 22.6	+02.6	S 15 20.5	+00.1
23	339 25.2	+02.7	S 15 20.6	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 00:26

2022 August 11 Thursday (day 223 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 40.2	+00.1	N 15 19.9	-00.7
01	193 40.3	+00.1	N 15 19.2	-00.7
02	208 40.4	+00.1	N 15 18.5	-00.8
03	223 40.5	+00.1	N 15 17.7	-00.7
04	238 40.6	+00.1	N 15 17.0	-00.8
05	253 40.7	+00.1	N 15 16.2	-00.7
06	268 40.8	+00.1	N 15 15.5	-00.7
07	283 40.9	+00.1	N 15 14.8	-00.8
08	298 41.0	+00.1	N 15 14.0	-00.7
09	313 41.1	+00.1	N 15 13.3	-00.8
10	328 41.2	+00.2	N 15 12.5	-00.7
11	343 41.4	+00.1	N 15 11.8	-00.8
12	358 41.5	+00.1	N 15 11.0	-00.7
13	13 41.6	+00.1	N 15 10.3	-00.7
14	28 41.7	+00.1	N 15 09.6	-00.8
15	43 41.8	+00.1	N 15 08.8	-00.7
16	58 41.9	+00.1	N 15 08.1	-00.8
17	73 42.0	+00.1	N 15 07.3	-00.7
18	88 42.1	+00.1	N 15 06.6	-00.8
19	103 42.2	+00.1	N 15 05.8	-00.7
20	118 42.3	+00.1	N 15 05.1	-00.8
21	133 42.4	+00.1	N 15 04.3	-00.7
22	148 42.5	+00.1	N 15 03.6	-00.8
23	163 42.6	+00.1	N 15 02.8	-00.7

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	219°	219°	219°	219°	219°	218°

Greenwich Culmination Time: 12:05

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	198 09.4	-00.7	N 20 43.3	-00.6
01	213 08.7	-00.8	N 20 42.7	-00.5
02	228 07.9	-00.7	N 20 42.2	-00.5
03	243 07.2	-00.8	N 20 41.7	-00.6
04	258 06.4	-00.7	N 20 41.1	-00.5
05	273 05.7	-00.8	N 20 40.6	-00.5
06	288 04.9	-00.7	N 20 40.1	-00.6
07	303 04.2	-00.8	N 20 39.5	-00.5
08	318 03.4	-00.7	N 20 39.0	-00.5
09	333 02.7	-00.8	N 20 38.5	-00.6
10	348 01.9	-00.7	N 20 37.9	-00.5
11	3 01.2	-00.8	N 20 37.4	-00.6
12	18 00.4	-00.7	N 20 36.8	-00.5
13	32 59.7	-00.8	N 20 36.3	-00.6
14	47 58.9	-00.7	N 20 35.7	-00.5
15	62 58.2	-00.8	N 20 35.2	-00.5
16	77 57.4	-00.7	N 20 34.7	-00.6
17	92 56.7	-00.8	N 20 34.1	-00.5
18	107 55.9	-00.7	N 20 33.6	-00.6
19	122 55.2	-00.8	N 20 33.0	-00.5
20	137 54.4	-00.7	N 20 32.5	-00.6
21	152 53.7	-00.8	N 20 31.9	-00.5
22	167 52.9	-00.7	N 20 31.4	-00.6
23	182 52.2	-00.7	N 20 30.8	-00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	239°	238°	238°	238°	238°	238°

Greenwich Culmination Time: 10:47

Moon

A: 48%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	12 36.6	-37.7	S 24 07.4	-08.2
01	26 58.9	-37.6	S 23 59.2	-08.5
02	41 21.3	-37.5	S 23 50.7	-08.6
03	55 43.8	-37.5	S 23 42.1	-08.8
04	70 06.3	-37.3	S 23 33.3	-09.0
05	84 29.0	-37.3	S 23 24.3	-09.1
06	98 51.7	-37.1	S 23 15.2	-09.3
07	113 14.6	-37.0	S 23 05.9	-09.5
08	127 37.6	-37.0	S 22 56.4	-09.6
09	142 00.6	-36.8	S 22 46.8	-09.7
10	156 23.8	-36.7	S 22 37.1	-10.0
11	170 47.1	-36.7	S 22 27.1	-10.1
12	185 10.4	-36.5	S 22 17.0	-10.2
13	199 33.9	-36.4	S 22 06.8	-10.4
14	213 57.5	-36.3	S 21 56.4	-10.5
15	228 21.2	-36.2	S 21 45.9	-10.7
16	242 45.0	-36.1	S 21 35.2	-10.9
17	257 08.9	-36.0	S 21 24.3	-10.9
18	271 32.9	-35.8	S 21 13.4	-11.1
19	285 57.1	-35.8	S 21 02.3	-11.3
20	300 21.3	-35.6	S 20 51.0	-11.4
21	314 45.7	-35.6	S 20 39.6	-11.5
22	329 10.1	-35.4	S 20 28.1	-11.7
23	343 34.7	-35.3	S 20 16.4	-11.7

UT	02	06	10	14	18	22
SD	16′6	16′6	16′6	16′6	16′6	16′5
HP	60′9	60′9	60′9	60′8	60′8	60′7
SHA	052°	049°	047°	044°	041°	039°

Greenwich Culmination Time: -1:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	267 00.9	+00.9	N 17 19.4	+00.4
01	282 01.8	+00.9	N 17 19.8	+00.4
02	297 02.7	+00.9	N 17 20.2	+00.4
03	312 03.6	+00.9	N 17 20.6	+00.4
04	327 04.5	+00.9	N 17 21.0	+00.4
05	342 05.4	+00.9	N 17 21.4	+00.4
06	357 06.3	+00.9	N 17 21.8	+00.4
07	12 07.2	+00.9	N 17 22.2	+00.4
08	27 08.1	+00.9	N 17 22.6	+00.4
09	42 09.0	+00.9	N 17 23.0	+00.4
10	57 09.9	+01.0	N 17 23.4	+00.4
11	72 10.9	+00.9	N 17 23.8	+00.4
12	87 11.8	+00.9	N 17 24.2	+00.4
13	102 12.7	+00.9	N 17 24.6	+00.4
14	117 13.6	+00.9	N 17 25.0	+00.4
15	132 14.5	+00.9	N 17 25.4	+00.4
16	147 15.4	+00.9	N 17 25.8	+00.3
17	162 16.3	+00.9	N 17 26.1	+00.4
18	177 17.2	+00.9	N 17 26.5	+00.4
19	192 18.1	+00.9	N 17 26.9	+00.4
20	207 19.0	+00.9	N 17 27.3	+00.4
21	222 19.9	+00.9	N 17 27.7	+00.4
22	237 20.8	+00.9	N 17 28.1	+00.4
23	252 21.7	+01.0	N 17 28.5	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	308°	307°	307°	307°	307°	307°

Greenwich Culmination Time: 06:11

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	311 06.4	+02.5	N 01 58.4	+00.0
01	326 08.9	+02.6	N 01 58.4	-00.1
02	341 11.5	+02.5	N 01 58.3	+00.0
03	356 14.0	+02.6	N 01 58.3	-00.1
04	11 16.6	+02.5	N 01 58.2	-00.1
05	26 19.1	+02.6	N 01 58.1	+00.0
06	41 21.7	+02.6	N 01 58.1	-00.1
07	56 24.3	+02.5	N 01 58.0	+00.0
08	71 26.8	+02.6	N 01 58.0	-00.1
09	86 29.4	+02.6	N 01 57.9	+00.0
10	101 32.0	+02.5	N 01 57.9	-00.1
11	116 34.5	+02.6	N 01 57.8	+00.0
12	131 37.1	+02.5	N 01 57.8	-00.1
13	146 39.6	+02.6	N 01 57.7	+00.0
14	161 42.2	+02.6	N 01 57.7	-00.1
15	176 44.8	+02.5	N 01 57.6	+00.0
16	191 47.3	+02.6	N 01 57.6	-00.1
17	206 49.9	+02.6	N 01 57.5	-00.1
18	221 52.5	+02.5	N 01 57.4	+00.0
19	236 55.0	+02.6	N 01 57.4	-00.1
20	251 57.6	+02.5	N 01 57.3	+00.0
21	267 00.1	+02.6	N 01 57.3	-00.1
22	282 02.7	+02.6	N 01 57.2	+00.0
23	297 05.3	+02.5	N 01 57.2	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 03:15

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	354 27.9	+02.6	S 15 20.7	+00.0
01	9 30.5	+02.7	S 15 20.7	+00.1
02	24 33.2	+02.6	S 15 20.8	+00.1
03	39 35.8	+02.7	S 15 20.9	+00.0
04	54 38.5	+02.6	S 15 20.9	+00.1
05	69 41.1	+02.7	S 15 21.0	+00.0
06	84 43.8	+02.6	S 15 21.0	+00.1
07	99 46.4	+02.7	S 15 21.1	+00.1
08	114 49.1	+02.6	S 15 21.2	+00.0
09	129 51.7	+02.7	S 15 21.2	+00.1
10	144 54.4	+02.6	S 15 21.3	+00.1
11	159 57.0	+02.6	S 15 21.4	+00.0
12	174 59.6	+02.7	S 15 21.4	+00.1
13	190 02.3	+02.6	S 15 21.5	+00.1
14	205 04.9	+02.7	S 15 21.6	+00.0
15	220 07.6	+02.6	S 15 21.6	+00.1
16	235 10.2	+02.7	S 15 21.7	+00.1
17	250 12.9	+02.6	S 15 21.8	+00.0
18	265 15.5	+02.7	S 15 21.8	+00.1
19	280 18.2	+02.6	S 15 21.9	+00.0
20	295 20.8	+02.7	S 15 21.9	+00.1
21	310 23.5	+02.6	S 15 22.0	+00.1
22	325 26.1	+02.7	S 15 22.1	+00.0
23	340 28.8	+02.6	S 15 22.1	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 00:22

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 August 16 Tuesday (day 228 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 53.9	+00.1	N 13 48.4	−00.8
01	193 54.0	+00.2	N 13 47.6	−00.8
02	208 54.2	+00.1	N 13 46.8	−00.8
03	223 54.3	+00.1	N 13 46.0	−00.8
04	238 54.4	+00.1	N 13 45.2	−00.8
05	253 54.5	+00.2	N 13 44.4	−00.8
06	268 54.7	+00.1	N 13 43.6	−00.8
07	283 54.8	+00.1	N 13 42.8	−00.7
08	298 54.9	+00.2	N 13 42.1	−00.8
09	313 55.1	+00.1	N 13 41.3	−00.8
10	328 55.2	+00.1	N 13 40.5	−00.8
11	343 55.3	+00.1	N 13 39.7	−00.8
12	358 55.4	+00.2	N 13 38.9	−00.8
13	13 55.6	+00.1	N 13 38.1	−00.8
14	28 55.7	+00.1	N 13 37.3	−00.8
15	43 55.8	+00.2	N 13 36.5	−00.8
16	58 56.0	+00.1	N 13 35.7	−00.8
17	73 56.1	+00.1	N 13 34.9	−00.8
18	88 56.2	+00.2	N 13 34.1	−00.8
19	103 56.4	+00.1	N 13 33.3	−00.7
20	118 56.5	+00.1	N 13 32.6	−00.8
21	133 56.6	+00.2	N 13 31.8	−00.8
22	148 56.8	+00.1	N 13 31.0	−00.8
23	163 56.9	+00.1	N 13 30.2	−00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	214°	214°	214°	214°	214°	214°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	196 41.5	−00.7	N 19 32.3	−00.7
01	211 40.8	−00.7	N 19 31.6	−00.6
02	226 40.1	−00.7	N 19 31.0	−00.7
03	241 39.4	−00.7	N 19 30.3	−00.6
04	256 38.7	−00.8	N 19 29.7	−00.7
05	271 37.9	−00.7	N 19 29.0	−00.6
06	286 37.2	−00.7	N 19 28.4	−00.7
07	301 36.5	−00.7	N 19 27.7	−00.7
08	316 35.8	−00.7	N 19 27.0	−00.6
09	331 35.1	−00.7	N 19 26.4	−00.7
10	346 34.4	−00.7	N 19 25.7	−00.6
11	1 33.7	−00.7	N 19 25.1	−00.7
12	16 33.0	−00.7	N 19 24.4	−00.7
13	31 32.3	−00.7	N 19 23.7	−00.6
14	46 31.6	−00.7	N 19 23.1	−00.7
15	61 30.9	−00.7	N 19 22.4	−00.7
16	76 30.2	−00.7	N 19 21.7	−00.6
17	91 29.5	−00.8	N 19 21.1	−00.7
18	106 28.7	−00.7	N 19 20.4	−00.7
19	121 28.0	−00.7	N 19 19.7	−00.6
20	136 27.3	−00.7	N 19 19.1	−00.7
21	151 26.6	−00.7	N 19 18.4	−00.7
22	166 25.9	−00.7	N 19 17.7	−00.7
23	181 25.2	−00.7	N 19 17.0	−00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	232°	232°	232°	232°	231°	231°

Greenwich Culmination Time: 10:53

Moon

A: 65%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	309 01.5	−27.5	N 03 40.7	+15.1
01	323 34.0	−27.5	N 03 55.8	+15.1
02	338 06.5	−27.5	N 04 10.9	+15.1
03	352 39.0	−27.5	N 04 26.0	+15.0
04	7 11.5	−27.4	N 04 41.0	+15.0
05	21 44.1	−27.4	N 04 56.0	+15.0
06	36 16.7	−27.4	N 05 11.0	+14.9
07	50 49.3	−27.4	N 05 25.9	+14.8
08	65 21.9	−27.4	N 05 40.7	+14.8
09	79 54.5	−27.4	N 05 55.5	+14.8
10	94 27.1	−27.3	N 06 10.3	+14.7
11	108 59.8	−27.3	N 06 25.0	+14.7
12	123 32.5	−27.3	N 06 39.7	+14.6
13	138 05.2	−27.3	N 06 54.3	+14.5
14	152 37.9	−27.3	N 07 08.8	+14.5
15	167 10.6	−27.3	N 07 23.3	+14.5
16	181 43.3	−27.3	N 07 37.8	+14.4
17	196 16.0	−27.3	N 07 52.2	+14.4
18	210 48.7	−27.3	N 08 06.6	+14.3
19	225 21.4	−27.2	N 08 20.9	+14.2
20	239 54.2	−27.3	N 08 35.1	+14.2
21	254 26.9	−27.2	N 08 49.3	+14.1
22	268 59.7	−27.3	N 09 03.4	+14.1
23	283 32.4	−27.3	N 09 17.5	+14.0

UT	02	06	10	14	18	22
SD	15′7	15′6	15′6	15′6	15′5	15′5
HP	57′6	57′4	57′3	57′1	57′0	56′8
SHA	344°	342°	340°	338°	336°	334°

Greenwich Culmination Time: 03:30

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	268 51.0	+00.9	N 18 05.4	+00.4
01	283 51.9	+00.9	N 18 05.8	+00.3
02	298 52.8	+01.0	N 18 06.1	+00.4
03	313 53.8	+00.9	N 18 06.5	+00.4
04	328 54.7	+00.9	N 18 06.9	+00.3
05	343 55.6	+01.0	N 18 07.2	+00.4
06	358 56.6	+00.9	N 18 07.6	+00.4
07	13 57.5	+00.9	N 18 08.0	+00.3
08	28 58.4	+01.0	N 18 08.3	+00.4
09	43 59.4	+00.9	N 18 08.7	+00.4
10	59 00.3	+00.9	N 18 09.1	+00.3
11	74 01.2	+01.0	N 18 09.4	+00.4
12	89 02.2	+00.9	N 18 09.8	+00.4
13	104 03.1	+00.9	N 18 10.2	+00.3
14	119 04.0	+01.0	N 18 10.5	+00.4
15	134 05.0	+00.9	N 18 10.9	+00.4
16	149 05.9	+01.0	N 18 11.3	+00.3
17	164 06.9	+00.9	N 18 11.6	+00.4
18	179 07.8	+00.9	N 18 12.0	+00.3
19	194 08.7	+01.0	N 18 12.3	+00.4
20	209 09.7	+00.9	N 18 12.7	+00.4
21	224 10.6	+00.9	N 18 13.1	+00.3
22	239 11.5	+01.0	N 18 13.4	+00.4
23	254 12.5	+00.9	N 18 13.8	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	304°	304°	304°	304°	304°	304°

Greenwich Culmination Time: 06:04

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	316 15.5	+02.6	N 01 51.2	−00.1
01	331 18.1	+02.6	N 01 51.1	+00.0
02	346 20.7	+02.6	N 01 51.1	−00.1
03	1 23.3	+02.6	N 01 51.0	−00.1
04	16 25.9	+02.6	N 01 50.9	−00.1
05	31 28.5	+02.6	N 01 50.8	+00.0
06	46 31.1	+02.6	N 01 50.8	−00.1
07	61 33.7	+02.6	N 01 50.7	−00.1
08	76 36.3	+02.6	N 01 50.6	+00.0
09	91 38.9	+02.6	N 01 50.6	−00.1
10	106 41.5	+02.6	N 01 50.5	−00.1
11	121 44.1	+02.6	N 01 50.4	+00.0
12	136 46.7	+02.6	N 01 50.4	−00.1
13	151 49.3	+02.6	N 01 50.3	−00.1
14	166 51.9	+02.6	N 01 50.2	+00.0
15	181 54.5	+02.6	N 01 50.2	−00.1
16	196 57.1	+02.6	N 01 50.1	−00.1
17	211 59.7	+02.6	N 01 50.0	+00.0
18	227 02.3	+02.6	N 01 50.0	−00.1
19	242 04.9	+02.6	N 01 49.9	−00.1
20	257 07.5	+02.6	N 01 49.8	−00.1
21	272 10.1	+02.6	N 01 49.7	+00.0
22	287 12.7	+02.6	N 01 49.7	−00.1
23	302 15.3	+02.6	N 01 49.6	−00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 02:54

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	359 45.5	+02.6	S 15 28.4	+00.0
01	14 48.1	+02.7	S 15 28.4	+00.1
02	29 50.8	+02.6	S 15 28.5	+00.0
03	44 53.4	+02.7	S 15 28.5	+00.1
04	59 56.1	+02.6	S 15 28.6	+00.1
05	74 58.7	+02.7	S 15 28.7	+00.0
06	90 01.4	+02.6	S 15 28.7	+00.1
07	105 04.0	+02.7	S 15 28.8	+00.1
08	120 06.7	+02.6	S 15 28.9	+00.0
09	135 09.3	+02.6	S 15 28.9	+00.1
10	150 11.9	+02.7	S 15 29.0	+00.1
11	165 14.6	+02.6	S 15 29.1	+00.0
12	180 17.2	+02.7	S 15 29.1	+00.1
13	195 19.9	+02.6	S 15 29.2	+00.0
14	210 22.5	+02.7	S 15 29.2	+00.1
15	225 25.2	+02.6	S 15 29.3	+00.1
16	240 27.8	+02.7	S 15 29.4	+00.0
17	255 30.5	+02.6	S 15 29.4	+00.1
18	270 33.1	+02.7	S 15 29.5	+00.1
19	285 35.8	+02.6	S 15 29.6	+00.0
20	300 38.4	+02.7	S 15 29.6	+00.1
21	315 41.1	+02.6	S 15 29.7	+00.1
22	330 43.7	+02.7	S 15 29.8	+00.0
23	345 46.4	+02.6	S 15 29.8	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 00:00

2022 August 13 Saturday (day 225 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 45.3	+00.1	N 14 44.0	−00.8
01	193 45.4	+00.1	N 14 43.2	−00.7
02	208 45.5	+00.1	N 14 42.5	−00.8
03	223 45.6	+00.1	N 14 41.7	−00.7
04	238 45.7	+00.2	N 14 41.0	−00.8
05	253 45.9	+00.1	N 14 40.2	−00.8
06	268 46.0	+00.1	N 14 39.4	−00.7
07	283 46.1	+00.1	N 14 38.7	−00.8
08	298 46.2	+00.1	N 14 37.9	−00.7
09	313 46.3	+00.1	N 14 37.2	−00.8
10	328 46.4	+00.1	N 14 36.4	−00.8
11	343 46.5	+00.1	N 14 35.6	−00.7
12	358 46.6	+00.2	N 14 34.9	−00.8
13	13 46.8	+00.1	N 14 34.1	−00.8
14	28 46.9	+00.1	N 14 33.3	−00.7
15	43 47.0	+00.1	N 14 32.6	−00.8
16	58 47.1	+00.1	N 14 31.8	−00.7
17	73 47.2	+00.1	N 14 31.1	−00.8
18	88 47.3	+00.2	N 14 30.3	−00.8
19	103 47.5	+00.1	N 14 29.5	−00.7
20	118 47.6	+00.1	N 14 28.8	−00.8
21	133 47.7	+00.1	N 14 28.0	−00.8
22	148 47.8	+00.1	N 14 27.2	−00.7
23	163 47.9	+00.1	N 14 26.5	−00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	217°	217°	217°	217°	217°	216°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	197 33.7	−00.8	N 20 16.6	−00.6
01	212 32.9	−00.7	N 20 16.0	−00.5
02	227 32.2	−00.7	N 20 15.5	−00.6
03	242 31.5	−00.8	N 20 14.9	−00.6
04	257 30.7	−00.7	N 20 14.3	−00.6
05	272 30.0	−00.7	N 20 13.7	−00.6
06	287 29.3	−00.8	N 20 13.1	−00.6
07	302 28.5	−00.7	N 20 12.5	−00.5
08	317 27.8	−00.8	N 20 12.0	−00.6
09	332 27.0	−00.7	N 20 11.4	−00.6
10	347 26.3	−00.7	N 20 10.8	−00.6
11	2 25.6	−00.8	N 20 10.2	−00.6
12	17 24.8	−00.7	N 20 09.6	−00.6
13	32 24.1	−00.7	N 20 09.0	−00.6
14	47 23.4	−00.7	N 20 08.4	−00.6
15	62 22.7	−00.8	N 20 07.8	−00.6
16	77 21.9	−00.7	N 20 07.2	−00.6
17	92 21.2	−00.7	N 20 06.6	−00.6
18	107 20.5	−00.8	N 20 06.0	−00.6
19	122 19.7	−00.7	N 20 05.4	−00.6
20	137 19.0	−00.7	N 20 04.8	−00.6
21	152 18.3	−00.8	N 20 04.2	−00.6
22	167 17.5	−00.7	N 20 03.6	−00.6
23	182 16.8	−00.7	N 20 03.0	−00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	236°	236°	236°	235°	235°	235°

Greenwich Culmination Time: 10:50

Moon

A: 55%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	344 26.6	−32.5	S 14 48.5	−14.3
01	358 54.1	−32.3	S 14 34.2	−14.4
02	13 21.8	−32.3	S 14 19.8	−14.5
03	27 49.5	−32.1	S 14 05.3	−14.5
04	42 17.4	−32.1	S 13 50.8	−14.6
05	56 45.3	−31.9	S 13 36.2	−14.7
06	71 13.4	−31.8	S 13 21.5	−14.7
07	85 41.6	−31.7	S 13 06.8	−14.8
08	100 09.9	−31.7	S 12 52.0	−14.9
09	114 38.2	−31.5	S 12 37.1	−14.9
10	129 06.7	−31.4	S 12 22.2	−14.9
11	143 35.3	−31.4	S 12 07.3	−15.1
12	158 03.9	−31.2	S 11 52.2	−15.0
13	172 32.7	−31.1	S 11 37.2	−15.1
14	187 01.6	−31.1	S 11 22.1	−15.2
15	201 30.5	−30.9	S 11 06.9	−15.2
16	215 59.6	−30.8	S 10 51.7	−15.3
17	230 28.8	−30.8	S 10 36.4	−15.3
18	244 58.0	−30.7	S 10 21.1	−15.3
19	259 27.3	−30.5	S 10 05.8	−15.4
20	273 56.8	−30.5	S 09 50.4	−15.4
21	288 26.3	−30.4	S 09 35.0	−15.4
22	302 55.9	−30.3	S 09 19.6	−15.5
23	317 25.6	−30.2	S 09 04.1	−15.5

UT	02	06	10	14	18	22
SD	16′4	16′3	16′3	16′3	16′2	16′2
HP	60′1	60′0	59′9	59′8	59′6	59′5
SHA	022°	020°	017°	015°	013°	011°

Greenwich Culmination Time: 01:04

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	267 44.5	+01.0	N 17 38.3	+00.4
01	282 45.5	+00.9	N 17 38.7	+00.3
02	297 46.4	+00.9	N 17 39.0	+00.4
03	312 47.3	+00.9	N 17 39.4	+00.4
04	327 48.2	+00.9	N 17 39.8	+00.4
05	342 49.1	+00.9	N 17 40.2	+00.4
06	357 50.0	+00.9	N 17 40.6	+00.4
07	12 50.9	+01.0	N 17 41.0	+00.4
08	27 51.9	+00.9	N 17 41.4	+00.3
09	42 52.8	+00.9	N 17 41.7	+00.4
10	57 53.7	+00.9	N 17 42.1	+00.4
11	72 54.6	+00.9	N 17 42.5	+00.4
12	87 55.5	+00.9	N 17 42.9	+00.4
13	102 56.4	+01.0	N 17 43.3	+00.4
14	117 57.4	+00.9	N 17 43.7	+00.3
15	132 58.3	+00.9	N 17 44.0	+00.4
16	147 59.2	+00.9	N 17 44.4	+00.4
17	163 00.1	+00.9	N 17 44.8	+00.4
18	178 01.0	+01.0	N 17 45.2	+00.4
19	193 02.0	+00.9	N 17 45.6	+00.3
20	208 02.9	+00.9	N 17 45.9	+00.4
21	223 03.8	+00.9	N 17 46.3	+00.4
22	238 04.7	+00.9	N 17 46.7	+00.4
23	253 05.6	+00.9	N 17 47.1	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	306°	306°	306°	306°	306°	306°

Greenwich Culmination Time: 06:08

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	313 09.5	+02.6	N 01 55.7	+00.0
01	328 12.1	+02.5	N 01 55.7	−00.1
02	343 14.6	+02.6	N 01 55.6	+00.0
03	358 17.2	+02.6	N 01 55.6	−00.1
04	13 19.8	+02.6	N 01 55.5	−00.1
05	28 22.4	+02.5	N 01 55.4	+00.0
06	43 24.9	+02.6	N 01 55.4	−00.1
07	58 27.5	+02.6	N 01 55.3	+00.0
08	73 30.1	+02.6	N 01 55.3	−00.1
09	88 32.7	+02.5	N 01 55.2	−00.1
10	103 35.2	+02.6	N 01 55.1	+00.0
11	118 37.8	+02.6	N 01 55.1	−00.1
12	133 40.4	+02.6	N 01 55.0	+00.0
13	148 43.0	+02.5	N 01 55.0	−00.1
14	163 45.5	+02.6	N 01 54.9	−00.1
15	178 48.1	+02.6	N 01 54.8	+00.0
16	193 50.7	+02.6	N 01 54.8	−00.1
17	208 53.3	+02.6	N 01 54.7	+00.0
18	223 55.9	+02.5	N 01 54.7	−00.1
19	238 58.4	+02.6	N 01 54.6	−00.1
20	254 01.0	+02.6	N 01 54.5	+00.0
21	269 03.6	+02.6	N 01 54.5	−00.1
22	284 06.2	+02.5	N 01 54.4	+00.0
23	299 08.7	+02.6	N 01 54.4	−00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 03:06

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	356 34.9	+02.7	S 15 23.7	+00.1
01	11 37.6	+02.6	S 15 23.8	+00.1
02	26 40.2	+02.7	S 15 23.9	+00.0
03	41 42.9	+02.6	S 15 23.9	+00.1
04	56 45.5	+02.6	S 15 24.0	+00.1
05	71 48.1	+02.7	S 15 24.1	+00.0
06	86 50.8	+02.6	S 15 24.1	+00.1
07	101 53.4	+02.7	S 15 24.2	+00.1
08	116 56.1	+02.6	S 15 24.3	+00.0
09	131 58.7	+02.7	S 15 24.3	+00.1
10	147 01.4	+02.6	S 15 24.4	+00.1
11	162 04.0	+02.7	S 15 24.5	+00.0
12	177 06.7	+02.6	S 15 24.5	+00.1
13	192 09.3	+02.7	S 15 24.6	+00.0
14	207 12.0	+02.6	S 15 24.6	+00.1
15	222 14.6	+02.7	S 15 24.7	+00.1
16	237 17.3	+02.6	S 15 24.8	+00.0
17	252 19.9	+02.6	S 15 24.8	+00.1
18	267 22.5	+02.7	S 15 24.9	+00.1
19	282 25.2	+02.6	S 15 25.0	+00.0
20	297 27.8	+02.7	S 15 25.0	+00.1
21	312 30.5	+02.6	S 15 25.1	+00.1
22	327 33.1	+02.7	S 15 25.2	+00.0
23	342 35.8	+02.6	S 15 25.2	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 00:13

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2022 August 14 Sunday

(day 226 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 48.0	+00.1	N 14 25.7	−00.8
01	193 48.1	+00.2	N 14 24.9	−00.8
02	208 48.3	+00.1	N 14 24.1	−00.7
03	223 48.4	+00.1	N 14 23.4	−00.8
04	238 48.5	+00.1	N 14 22.6	−00.8
05	253 48.6	+00.1	N 14 21.8	−00.7
06	268 48.7	+00.2	N 14 21.1	−00.8
07	283 48.9	+00.1	N 14 20.3	−00.8
08	298 49.0	+00.1	N 14 19.5	−00.7
09	313 49.1	+00.1	N 14 18.8	−00.8
10	328 49.2	+00.1	N 14 18.0	−00.8
11	343 49.3	+00.2	N 14 17.2	−00.8
12	358 49.5	+00.1	N 14 16.4	−00.7
13	13 49.6	+00.1	N 14 15.7	−00.8
14	28 49.7	+00.1	N 14 14.9	−00.8
15	43 49.8	+00.1	N 14 14.1	−00.8
16	58 49.9	+00.2	N 14 13.3	−00.7
17	73 50.1	+00.1	N 14 12.6	−00.8
18	88 50.2	+00.1	N 14 11.8	−00.8
19	103 50.3	+00.1	N 14 11.0	−00.8
20	118 50.4	+00.1	N 14 10.2	−00.7
21	133 50.5	+00.2	N 14 09.5	−00.8
22	148 50.7	+00.1	N 14 08.7	−00.8
23	163 50.8	+00.1	N 14 07.9	−00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	216°	216°	216°	216°	216°	216°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	197 16.1	−00.8	N 20 02.4	−00.6
01	212 15.3	−00.7	N 20 01.8	−00.6
02	227 14.6	−00.7	N 20 01.2	−00.6
03	242 13.9	−00.7	N 20 00.6	−00.6
04	257 13.2	−00.8	N 19 60.0	−00.6
05	272 12.4	−00.7	N 19 59.4	−00.6
06	287 11.7	−00.7	N 19 58.8	−00.6
07	302 11.0	−00.7	N 19 58.2	−00.6
08	317 10.3	−00.8	N 19 57.6	−00.7
09	332 09.5	−00.7	N 19 56.9	−00.6
10	347 08.8	−00.7	N 19 56.3	−00.6
11	2 08.1	−00.7	N 19 55.7	−00.6
12	17 07.4	−00.8	N 19 55.1	−00.6
13	32 06.6	−00.7	N 19 54.5	−00.6
14	47 05.9	−00.7	N 19 53.9	−00.7
15	62 05.2	−00.7	N 19 53.2	−00.6
16	77 04.5	−00.8	N 19 52.6	−00.6
17	92 03.7	−00.7	N 19 52.0	−00.6
18	107 03.0	−00.7	N 19 51.4	−00.6
19	122 02.3	−00.7	N 19 50.8	−00.7
20	137 01.6	−00.8	N 19 50.1	−00.6
21	152 00.8	−00.7	N 19 49.5	−00.6
22	167 00.1	−00.7	N 19 48.9	−00.6
23	181 59.4	−00.7	N 19 48.3	−00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	235°	235°	234°	234°	234°	234°

Greenwich Culmination Time: 10:51

Moon

A: 59%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	331 55.4	−30.2	S 08 48.6	−15.6
01	346 25.2	−30.0	S 08 33.0	−15.5
02	0 55.2	−30.0	S 08 17.5	−15.6
03	15 25.2	−29.9	S 08 01.9	−15.6
04	29 55.3	−29.8	S 07 46.3	−15.7
05	44 25.5	−29.7	S 07 30.6	−15.6
06	58 55.8	−29.7	S 07 15.0	−15.7
07	73 26.1	−29.6	S 06 59.3	−15.7
08	87 56.5	−29.5	S 06 43.6	−15.7
09	102 27.0	−29.4	S 06 27.9	−15.7
10	116 57.6	−29.4	S 06 12.2	−15.7
11	131 28.2	−29.3	S 05 56.5	−15.8
12	145 58.9	−29.2	S 05 40.7	−15.7
13	160 29.7	−29.1	S 05 25.0	−15.8
14	175 00.6	−29.1	S 05 09.2	−15.7
15	189 31.5	−29.0	S 04 53.5	−15.8
16	204 02.5	−29.0	S 04 37.7	−15.8
17	218 33.5	−28.8	S 04 21.9	−15.7
18	233 04.7	−28.9	S 04 06.2	−15.8
19	247 35.8	−28.7	S 03 50.4	−15.8
20	262 07.1	−28.7	S 03 34.6	−15.7
21	276 38.4	−28.7	S 03 18.9	−15.8
22	291 09.7	−28.6	S 03 03.1	−15.8
23	305 41.1	−28.5	S 02 47.3	−15.7

UT	02	06	10	14	18	22
SD	16′2	16′1	16′1	16′1	16′0	16′0
HP	59′4	59′2	59′1	58′9	58′8	58′7
SHA	008°	006°	004°	002°	360°	358°

Greenwich Culmination Time: 01:56

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	268 06.5	+01.0	N 17 47.5	+00.3
01	283 07.5	+00.9	N 17 47.8	+00.4
02	298 08.4	+00.9	N 17 48.2	+00.4
03	313 09.3	+00.9	N 17 48.6	+00.4
04	328 10.2	+01.0	N 17 49.0	+00.4
05	343 11.2	+00.9	N 17 49.4	+00.3
06	358 12.1	+00.9	N 17 49.7	+00.4
07	13 13.0	+00.9	N 17 50.1	+00.4
08	28 13.9	+00.9	N 17 50.5	+00.4
09	43 14.8	+01.0	N 17 50.9	+00.4
10	58 15.8	+00.9	N 17 51.3	+00.3
11	73 16.7	+00.9	N 17 51.6	+00.4
12	88 17.6	+00.9	N 17 52.0	+00.4
13	103 18.5	+00.9	N 17 52.4	+00.4
14	118 19.4	+01.0	N 17 52.8	+00.3
15	133 20.4	+00.9	N 17 53.1	+00.4
16	148 21.3	+00.9	N 17 53.5	+00.4
17	163 22.2	+00.9	N 17 53.9	+00.4
18	178 23.1	+01.0	N 17 54.3	+00.3
19	193 24.1	+00.9	N 17 54.6	+00.4
20	208 25.0	+00.9	N 17 55.0	+00.4
21	223 25.9	+00.9	N 17 55.4	+00.4
22	238 26.8	+01.0	N 17 55.8	+00.3
23	253 27.8	+00.9	N 17 56.1	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	306°	306°	305°	305°	305°	305°

Greenwich Culmination Time: 06:07

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	314 11.3	+02.6	N 01 54.3	−00.1
01	329 13.9	+02.6	N 01 54.2	+00.0
02	344 16.5	+02.6	N 01 54.2	−00.1
03	359 19.1	+02.6	N 01 54.1	−00.1
04	14 21.7	+02.5	N 01 54.0	+00.0
05	29 24.2	+02.6	N 01 54.0	−00.1
06	44 26.8	+02.6	N 01 53.9	+00.0
07	59 29.4	+02.6	N 01 53.9	−00.1
08	74 32.0	+02.6	N 01 53.8	−00.1
09	89 34.6	+02.5	N 01 53.7	+00.0
10	104 37.1	+02.6	N 01 53.7	−00.1
11	119 39.7	+02.6	N 01 53.6	−00.1
12	134 42.3	+02.6	N 01 53.5	+00.0
13	149 44.9	+02.6	N 01 53.5	−00.1
14	164 47.5	+02.6	N 01 53.4	+00.0
15	179 50.1	+02.5	N 01 53.4	−00.1
16	194 52.6	+02.6	N 01 53.3	−00.1
17	209 55.2	+02.6	N 01 53.2	+00.0
18	224 57.8	+02.6	N 01 53.2	−00.1
19	240 00.4	+02.6	N 01 53.1	−00.1
20	255 03.0	+02.6	N 01 53.0	+00.0
21	270 05.6	+02.6	N 01 53.0	−00.1
22	285 08.2	+02.5	N 01 52.9	−00.1
23	300 10.7	+02.6	N 01 52.8	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 03:02

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	357 38.4	+02.7	S 15 25.3	+00.1
01	12 41.1	+02.6	S 15 25.4	+00.0
02	27 43.7	+02.7	S 15 25.4	+00.1
03	42 46.4	+02.6	S 15 25.5	+00.0
04	57 49.0	+02.7	S 15 25.5	+00.1
05	72 51.7	+02.6	S 15 25.6	+00.1
06	87 54.3	+02.7	S 15 25.7	+00.0
07	102 57.0	+02.6	S 15 25.7	+00.1
08	117 59.6	+02.7	S 15 25.8	+00.1
09	133 02.3	+02.6	S 15 25.9	+00.0
10	148 04.9	+02.6	S 15 25.9	+00.1
11	163 07.5	+02.7	S 15 26.0	+00.1
12	178 10.2	+02.6	S 15 26.1	+00.0
13	193 12.8	+02.7	S 15 26.1	+00.1
14	208 15.5	+02.6	S 15 26.2	+00.0
15	223 18.1	+02.7	S 15 26.2	+00.1
16	238 20.8	+02.6	S 15 26.3	+00.1
17	253 23.4	+02.7	S 15 26.4	+00.0
18	268 26.1	+02.6	S 15 26.4	+00.1
19	283 28.7	+02.7	S 15 26.5	+00.1
20	298 31.4	+02.6	S 15 26.6	+00.0
21	313 34.0	+02.7	S 15 26.6	+00.1
22	328 36.7	+02.6	S 15 26.7	+00.1
23	343 39.3	+02.7	S 15 26.8	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 00:09

2022 August 15 Monday

(day 227 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 50.9	+00.1	N 14 07.1	−00.7
01	193 51.0	+00.1	N 14 06.4	−00.8
02	208 51.1	+00.2	N 14 05.6	−00.8
03	223 51.3	+00.1	N 14 04.8	−00.8
04	238 51.4	+00.1	N 14 04.0	−00.8
05	253 51.5	+00.1	N 14 03.2	−00.7
06	268 51.6	+00.2	N 14 02.5	−00.8
07	283 51.8	+00.1	N 14 01.7	−00.8
08	298 51.9	+00.1	N 14 00.9	−00.8
09	313 52.0	+00.1	N 14 00.1	−00.8
10	328 52.1	+00.2	N 13 59.3	−00.7
11	343 52.3	+00.1	N 13 58.6	−00.8
12	358 52.4	+00.1	N 13 57.8	−00.8
13	13 52.5	+00.1	N 13 57.0	−00.8
14	28 52.6	+00.2	N 13 56.2	−00.8
15	43 52.8	+00.1	N 13 55.4	−00.8
16	58 52.9	+00.1	N 13 54.6	−00.7
17	73 53.0	+00.1	N 13 53.9	−00.8
18	88 53.1	+00.2	N 13 53.1	−00.8
19	103 53.3	+00.1	N 13 52.3	−00.8
20	118 53.4	+00.1	N 13 51.5	−00.8
21	133 53.5	+00.1	N 13 50.7	−00.8
22	148 53.6	+00.2	N 13 49.9	−00.7
23	163 53.8	+00.1	N 13 49.2	−00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	215°	215°	215°	215°	215°	215°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	196 58.7	−00.7	N 19 47.6	−00.6
01	211 58.0	−00.8	N 19 47.0	−00.6
02	226 57.2	−00.7	N 19 46.4	−00.7
03	241 56.5	−00.7	N 19 45.7	−00.6
04	256 55.8	−00.7	N 19 45.1	−00.6
05	271 55.1	−00.7	N 19 44.5	−00.6
06	286 54.4	−00.7	N 19 43.9	−00.7
07	301 53.7	−00.8	N 19 43.2	−00.6
08	316 52.9	−00.7	N 19 42.6	−00.7
09	331 52.2	−00.7	N 19 41.9	−00.6
10	346 51.5	−00.7	N 19 41.3	−00.6
11	1 50.8	−00.7	N 19 40.7	−00.7
12	16 50.1	−00.8	N 19 40.0	−00.6
13	31 49.3	−00.7	N 19 39.4	−00.7
14	46 48.6	−00.7	N 19 38.7	−00.6
15	61 47.9	−00.7	N 19 38.1	−00.6
16	76 47.2	−00.7	N 19 37.5	−00.7
17	91 46.5	−00.7	N 19 36.8	−00.6
18	106 45.8	−00.7	N 19 36.2	−00.7
19	121 45.1	−00.8	N 19 35.5	−00.6
20	136 44.3	−00.7	N 19 34.9	−00.7
21	151 43.6	−00.7	N 19 34.2	−00.6
22	166 42.9	−00.7	N 19 33.6	−00.7
23	181 42.2	−00.7	N 19 32.9	−00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	233°	233°	233°	233°	233°	232°

Greenwich Culmination Time: 10:52

Moon

A: 62%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	320 12.6	−28.5	S 02 31.6	−15.7
01	334 44.1	−28.4	S 02 15.9	−15.8
02	349 15.7	−28.3	S 02 00.1	−15.7
03	3 47.4	−28.4	S 01 44.4	−15.7
04	18 19.0	−28.2	S 01 28.7	−15.7
05	32 50.8	−28.3	S 01 13.0	−15.6
06	47 22.5	−28.1	S 00 57.4	−15.7
07	61 54.4	−28.1	S 00 41.7	−15.6
08	76 26.3	−28.1	S 00 26.1	−15.7
09	90 58.2	−28.1	S 00 10.4	−15.6
10	105 30.1	−28.0	N 00 05.2	+15.5
11	120 02.1	−27.9	N 00 20.7	+15.6
12	134 34.2	−27.9	N 00 36.3	+15.5
13	149 06.3	−27.9	N 00 51.8	+15.5
14	163 38.4	−27.8	N 01 07.3	+15.5
15	178 10.6	−27.8	N 01 22.8	+15.4
16	192 42.8	−27.8	N 01 38.2	+15.5
17	207 15.0	−27.7	N 01 53.7	+15.3
18	221 47.3	−27.7	N 02 09.0	+15.4
19	236 19.6	−27.7	N 02 24.4	+15.3
20	250 51.9	−27.7	N 02 39.7	+15.3
21	265 24.2	−27.6	N 02 55.0	+15.3
22	279 56.6	−27.5	N 03 10.3	+15.2
23	294 29.1	−27.6	N 03 25.5	+15.2

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′8	15′8	15′7
HP	58′5	58′3	58′2	58′0	57′9	57′7
SHA	356°	354°	352°	350°	348°	346°

Greenwich Culmination Time: 02:44

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	268 28.7	+00.9	N 17 56.5	+00.4
01	283 29.6	+00.9	N 17 56.9	+00.4
02	298 30.5	+01.0	N 17 57.3	+00.3
03	313 31.5	+00.9	N 17 57.6	+00.4
04	328 32.4	+00.9	N 17 58.0	+00.4
05	343 33.3	+01.0	N 17 58.4	+00.4
06	358 34.3	+00.9	N 17 58.8	+00.3
07	13 35.2	+00.9	N 17 59.1	+00.4
08	28 36.1	+00.9	N 17 59.5	+00.4
09	43 37.0	+01.0	N 17 59.9	+00.3
10	58 38.0	+00.9	N 18 00.2	+00.4
11	73 38.9	+00.9	N 18 00.6	+00.4
12	88 39.8	+00.9	N 18 01.0	+00.4
13	103 40.7	+01.0	N 18 01.4	+00.3
14	118 41.7	+00.9	N 18 01.7	+00.4
15	133 42.6	+00.9	N 18 02.1	+00.4
16	148 43.5	+01.0	N 18 02.5	+00.3
17	163 44.5	+00.9	N 18 02.8	+00.4
18	178 45.4	+00.9	N 18 03.2	+00.4
19	193 46.3	+01.0	N 18 03.6	+00.3
20	208 47.3	+00.9	N 18 03.9	+00.4
21	223 48.2	+00.9	N 18 04.3	+00.4
22	238 49.1	+00.9	N 18 04.7	+00.3
23	253 50.0	+01.0	N 18 05.0	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	305°	305°	305°	305°	305°	305°

Greenwich Culmination Time: 06:05

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	315 13.3	+02.6	N 01 52.8	−00.1
01	330 15.9	+02.6	N 01 52.7	−00.1
02	345 18.5	+02.6	N 01 52.6	+00.0
03	0 21.1	+02.6	N 01 52.6	−00.1
04	15 23.7	+02.6	N 01 52.5	+00.0
05	30 26.3	+02.6	N 01 52.5	−00.1
06	45 28.9	+02.6	N 01 52.4	−00.1
07	60 31.5	+02.5	N 01 52.3	+00.0
08	75 34.0	+02.6	N 01 52.3	−00.1
09	90 36.6	+02.6	N 01 52.2	−00.1
10	105 39.2	+02.6	N 01 52.1	+00.0
11	120 41.8	+02.6	N 01 52.1	−00.1
12	135 44.4	+02.6	N 01 52.0	−00.1
13	150 47.0	+02.6	N 01 51.9	+00.0
14	165 49.6	+02.6	N 01 51.9	−00.1
15	180 52.2	+02.6	N 01 51.8	−00.1
16	195 54.8	+02.6	N 01 51.7	+00.0
17	210 57.4	+02.6	N 01 51.7	−00.1
18	225 60.0	+02.5	N 01 51.6	−00.1
19	241 02.5	+02.6	N 01 51.5	+00.0
20	256 05.1	+02.6	N 01 51.5	−00.1
21	271 07.7	+02.6	N 01 51.4	−00.1
22	286 10.3	+02.6	N 01 51.3	+00.0
23	301 12.9	+02.6	N 01 51.3	−00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 02:58

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	358 42.0	+02.6	S 15 26.8	+00.1
01	13 44.6	+02.6	S 15 26.9	+00.1
02	28 47.2	+02.7	S 15 27.0	+00.0
03	43 49.9	+02.6	S 15 27.0	+00.1
04	58 52.5	+02.7	S 15 27.1	+00.0
05	73 55.2	+02.6	S 15 27.1	+00.1
06	88 57.8	+02.7	S 15 27.2	+00.1
07	104 00.5	+02.6	S 15 27.3	+00.0
08	119 03.1	+02.7	S 15 27.3	+00.1
09	134 05.8	+02.6	S 15 27.4	+00.1
10	149 08.4	+02.7	S 15 27.5	+00.0
11	164 11.1	+02.6	S 15 27.5	+00.1
12	179 13.7	+02.7	S 15 27.6	+00.1
13	194 16.4	+02.6	S 15 27.7	+00.0
14	209 19.0	+02.7	S 15 27.7	+00.1
15	224 21.7	+02.6	S 15 27.8	+00.0
16	239 24.3	+02.7	S 15 27.8	+00.1
17	254 27.0	+02.6	S 15 27.9	+00.1
18	269 29.6	+02.6	S 15 28.0	+00.0
19	284 32.2	+02.7	S 15 28.0	+00.1
20	299 34.9	+02.6	S 15 28.1	+00.1
21	314 37.5	+02.7	S 15 28.2	+00.0
22	329 40.2	+02.6	S 15 28.2	+00.1
23	344 42.8	+02.7	S 15 28.3	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 00:05

2022 August 20 Saturday (day 232 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	179 07.1	+00.2	N 12 31.1	-00.8
01	194 07.3	+00.1	N 12 30.3	-00.8
02	209 07.4	+00.2	N 12 29.5	-00.9
03	224 07.6	+00.1	N 12 28.6	-00.8
04	239 07.7	+00.2	N 12 27.8	-00.8
05	254 07.9	+00.1	N 12 27.0	-00.8
06	269 08.0	+00.2	N 12 26.2	-00.8
07	284 08.2	+00.1	N 12 25.4	-00.9
08	299 08.3	+00.2	N 12 24.5	-00.8
09	314 08.5	+00.1	N 12 23.7	-00.8
10	329 08.6	+00.2	N 12 22.9	-00.8
11	344 08.8	+00.1	N 12 22.1	-00.9
12	359 08.9	+00.2	N 12 21.2	-00.8
13	14 09.1	+00.1	N 12 20.4	-00.8
14	29 09.2	+00.2	N 12 19.6	-00.9
15	44 09.4	+00.1	N 12 18.7	-00.8
16	59 09.5	+00.2	N 12 17.9	-00.8
17	74 09.7	+00.1	N 12 17.1	-00.8
18	89 09.8	+00.2	N 12 16.3	-00.9
19	104 10.0	+00.1	N 12 15.4	-00.8
20	119 10.1	+00.2	N 12 14.6	-00.8
21	134 10.3	+00.1	N 12 13.8	-00.8
22	149 10.4	+00.2	N 12 13.0	-00.9
23	164 10.6	+00.1	N 12 12.1	-00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	211°	211°	210°	210°	210°	210°

Greenwich Culmination Time: 12:03

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	195 34.9	-00.7	N 18 25.3	-00.7
01	210 34.2	-00.6	N 18 24.6	-00.7
02	225 33.6	-00.7	N 18 23.9	-00.8
03	240 32.9	-00.7	N 18 23.1	-00.7
04	255 32.2	-00.7	N 18 22.4	-00.8
05	270 31.5	-00.6	N 18 21.6	-00.7
06	285 30.9	-00.7	N 18 20.9	-00.8
07	300 30.2	-00.7	N 18 20.1	-00.7
08	315 29.5	-00.7	N 18 19.4	-00.8
09	330 28.8	-00.6	N 18 18.6	-00.7
10	345 28.2	-00.7	N 18 17.9	-00.8
11	0 27.5	-00.7	N 18 17.1	-00.7
12	15 26.8	-00.6	N 18 16.4	-00.8
13	30 26.2	-00.7	N 18 15.6	-00.7
14	45 25.5	-00.7	N 18 14.9	-00.8
15	60 24.8	-00.6	N 18 14.1	-00.7
16	75 24.2	-00.7	N 18 13.4	-00.8
17	90 23.5	-00.7	N 18 12.6	-00.8
18	105 22.8	-00.6	N 18 11.8	-00.7
19	120 22.2	-00.7	N 18 11.1	-00.8
20	135 21.5	-00.7	N 18 10.3	-00.7
21	150 20.8	-00.6	N 18 09.6	-00.8
22	165 20.2	-00.7	N 18 08.8	-00.8
23	180 19.5	-00.7	N 18 08.0	-00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	227°	227°	227°	227°	226°	226°

Greenwich Culmination Time: 10:58

Moon

A: 77%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	264 31.6	-29.2	N 22 54.6	+07.7
01	279 02.4	-29.2	N 23 02.3	+07.6
02	293 33.2	-29.2	N 23 09.9	+07.4
03	308 04.0	-29.3	N 23 17.3	+07.4
04	322 34.7	-29.3	N 23 24.7	+07.3
05	337 05.4	-29.4	N 23 32.0	+07.1
06	351 36.0	-29.4	N 23 39.1	+07.0
07	6 06.6	-29.4	N 23 46.1	+06.9
08	20 37.2	-29.5	N 23 53.0	+06.8
09	35 07.7	-29.5	N 23 59.8	+06.7
10	49 38.2	-29.5	N 24 06.5	+06.6
11	64 08.7	-29.6	N 24 13.1	+06.4
12	78 39.1	-29.7	N 24 19.5	+06.4
13	93 09.4	-29.6	N 24 25.9	+06.2
14	107 39.8	-29.7	N 24 32.1	+06.1
15	122 10.1	-29.7	N 24 38.2	+06.0
16	136 40.4	-29.8	N 24 44.2	+05.8
17	151 10.6	-29.8	N 24 50.0	+05.8
18	165 40.8	-29.9	N 24 55.8	+05.6
19	180 10.9	-29.8	N 25 01.4	+05.5
20	194 41.1	-29.9	N 25 06.9	+05.4
21	209 11.2	-30.0	N 25 12.3	+05.3
22	223 41.2	-29.9	N 25 17.6	+05.2
23	238 11.3	-30.0	N 25 22.8	+05.0

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′8	14′8	14′8
HP	54′7	54′6	54′5	54′5	54′4	54′4
SHA	295°	293°	291°	289°	287°	284°

Greenwich Culmination Time: 06:34

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	270 21.6	+01.0	N 18 39.4	+00.4
01	285 22.6	+01.0	N 18 39.8	+00.3
02	300 23.6	+00.9	N 18 40.1	+00.4
03	315 24.5	+01.0	N 18 40.5	+00.3
04	330 25.5	+00.9	N 18 40.8	+00.3
05	345 26.4	+01.0	N 18 41.1	+00.4
06	0 27.4	+01.0	N 18 41.5	+00.3
07	15 28.4	+00.9	N 18 41.8	+00.4
08	30 29.3	+01.0	N 18 42.2	+00.3
09	45 30.3	+00.9	N 18 42.5	+00.3
10	60 31.2	+01.0	N 18 42.8	+00.4
11	75 32.2	+01.0	N 18 43.2	+00.3
12	90 33.2	+00.9	N 18 43.5	+00.3
13	105 34.1	+01.0	N 18 43.8	+00.4
14	120 35.1	+00.9	N 18 44.2	+00.3
15	135 36.0	+01.0	N 18 44.5	+00.4
16	150 37.0	+01.0	N 18 44.9	+00.3
17	165 38.0	+00.9	N 18 45.2	+00.3
18	180 38.9	+01.0	N 18 45.5	+00.4
19	195 39.9	+01.0	N 18 45.9	+00.3
20	210 40.9	+00.9	N 18 46.2	+00.3
21	225 41.8	+01.0	N 18 46.5	+00.4
22	240 42.8	+01.0	N 18 46.9	+00.3
23	255 43.8	+00.9	N 18 47.2	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	302°	302°	302°	302°	302°	301°

Greenwich Culmination Time: 05:58

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	320 25.9	+02.6	N 01 44.1	+00.0
01	335 28.5	+02.7	N 01 44.1	-00.1
02	350 31.2	+02.6	N 01 44.0	-00.1
03	5 33.8	+02.6	N 01 43.9	-00.1
04	20 36.4	+02.6	N 01 43.8	+00.0
05	35 39.0	+02.7	N 01 43.8	-00.1
06	50 41.7	+02.6	N 01 43.7	-00.1
07	65 44.3	+02.6	N 01 43.6	-00.1
08	80 46.9	+02.6	N 01 43.5	-00.1
09	95 49.5	+02.7	N 01 43.4	+00.0
10	110 52.2	+02.6	N 01 43.4	-00.1
11	125 54.8	+02.6	N 01 43.3	-00.1
12	140 57.4	+02.6	N 01 43.2	-00.1
13	156 00.0	+02.7	N 01 43.1	-00.1
14	171 02.7	+02.6	N 01 43.0	+00.0
15	186 05.3	+02.6	N 01 43.0	-00.1
16	201 07.9	+02.6	N 01 42.9	-00.1
17	216 10.5	+02.7	N 01 42.8	-00.1
18	231 13.2	+02.6	N 01 42.7	-00.1
19	246 15.8	+02.6	N 01 42.6	-00.1
20	261 18.4	+02.6	N 01 42.5	+00.0
21	276 21.0	+02.7	N 01 42.5	-00.1
22	291 23.7	+02.6	N 01 42.4	-00.1
23	306 26.3	+02.6	N 01 42.3	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 02:37

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	3 59.6	+02.6	S 15 34.4	+00.1
01	19 02.2	+02.6	S 15 34.5	+00.1
02	34 04.8	+02.7	S 15 34.6	+00.0
03	49 07.5	+02.6	S 15 34.6	+00.1
04	64 10.1	+02.7	S 15 34.7	+00.0
05	79 12.8	+02.6	S 15 34.7	+00.1
06	94 15.4	+02.7	S 15 34.8	+00.1
07	109 18.1	+02.6	S 15 34.9	+00.0
08	124 20.7	+02.7	S 15 34.9	+00.1
09	139 23.4	+02.6	S 15 35.0	+00.1
10	154 26.0	+02.7	S 15 35.1	+00.0
11	169 28.7	+02.6	S 15 35.1	+00.1
12	184 31.3	+02.7	S 15 35.2	+00.0
13	199 34.0	+02.6	S 15 35.2	+00.1
14	214 36.6	+02.6	S 15 35.3	+00.1
15	229 39.2	+02.7	S 15 35.4	+00.0
16	244 41.9	+02.6	S 15 35.4	+00.1
17	259 44.5	+02.7	S 15 35.5	+00.1
18	274 47.2	+02.6	S 15 35.6	+00.0
19	289 49.8	+02.7	S 15 35.6	+00.1
20	304 52.5	+02.6	S 15 35.7	+00.0
21	319 55.1	+02.7	S 15 35.7	+00.1
22	334 57.8	+02.6	S 15 35.8	+00.1
23	350 00.4	+02.7	S 15 35.9	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 23:39

2022 August 17 Wednesday (day 229 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 57.0	+00.2	N 13 29.4	-00.8
01	193 57.2	+00.1	N 13 28.6	-00.8
02	208 57.3	+00.1	N 13 27.8	-00.8
03	223 57.4	+00.2	N 13 27.0	-00.8
04	238 57.6	+00.1	N 13 26.2	-00.8
05	253 57.7	+00.1	N 13 25.4	-00.8
06	268 57.8	+00.2	N 13 24.6	-00.8
07	283 58.0	+00.1	N 13 23.8	-00.8
08	298 58.1	+00.1	N 13 23.0	-00.8
09	313 58.2	+00.2	N 13 22.2	-00.8
10	328 58.4	+00.1	N 13 21.4	-00.8
11	343 58.5	+00.1	N 13 20.6	-00.8
12	358 58.6	+00.2	N 13 19.8	-00.8
13	13 58.8	+00.1	N 13 19.0	-00.8
14	28 58.9	+00.1	N 13 18.2	-00.8
15	43 59.0	+00.2	N 13 17.4	-00.8
16	58 59.2	+00.1	N 13 16.6	-00.8
17	73 59.3	+00.2	N 13 15.8	-00.8
18	88 59.5	+00.1	N 13 15.0	-00.8
19	103 59.6	+00.1	N 13 14.2	-00.8
20	118 59.7	+00.2	N 13 13.4	-00.8
21	133 59.9	+00.1	N 13 12.6	-00.8
22	148 60.0	+00.1	N 13 11.8	-00.8
23	164 00.1	+00.2	N 13 11.0	-00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	214°	213°	213°	213°	213°	213°

Greenwich Culmination Time: 12:04

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	196 24.5	-00.7	N 19 16.4	-00.7
01	211 23.8	-00.7	N 19 15.7	-00.7
02	226 23.1	-00.7	N 19 15.0	-00.7
03	241 22.4	-00.7	N 19 14.3	-00.6
04	256 21.7	-00.7	N 19 13.7	-00.7
05	271 21.0	-00.7	N 19 13.0	-00.7
06	286 20.3	-00.7	N 19 12.3	-00.7
07	301 19.6	-00.7	N 19 11.6	-00.7
08	316 18.9	-00.7	N 19 10.9	-00.6
09	331 18.2	-00.7	N 19 10.3	-00.7
10	346 17.5	-00.7	N 19 09.6	-00.7
11	1 16.8	-00.7	N 19 08.9	-00.7
12	16 16.1	-00.7	N 19 08.2	-00.7
13	31 15.4	-00.7	N 19 07.5	-00.7
14	46 14.7	-00.7	N 19 06.8	-00.7
15	61 14.0	-00.7	N 19 06.1	-00.6
16	76 13.3	-00.7	N 19 05.5	-00.7
17	91 12.6	-00.7	N 19 04.8	-00.7
18	106 11.9	-00.7	N 19 04.1	-00.7
19	121 11.2	-00.7	N 19 03.4	-00.7
20	136 10.5	-00.7	N 19 02.7	-00.7
21	151 09.8	-00.6	N 19 02.0	-00.7
22	166 09.2	-00.7	N 19 01.3	-00.7
23	181 08.5	-00.7	N 19 00.6	-00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	231°	231°	231°	230°	230°	230°

Greenwich Culmination Time: 10:54

Moon

A: 68%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	298 05.1	-27.2	N 09 31.5	+13.9
01	312 37.9	-27.3	N 09 45.4	+13.9
02	327 10.6	-27.2	N 09 59.3	+13.8
03	341 43.4	-27.3	N 10 13.1	+13.8
04	356 16.1	-27.3	N 10 26.9	+13.7
05	10 48.8	-27.2	N 10 40.6	+13.6
06	25 21.6	-27.3	N 10 54.2	+13.6
07	39 54.3	-27.3	N 11 07.8	+13.5
08	54 27.0	-27.3	N 11 21.3	+13.4
09	68 59.7	-27.3	N 11 34.7	+13.4
10	83 32.4	-27.3	N 11 48.1	+13.3
11	98 05.1	-27.4	N 12 01.4	+13.2
12	112 37.7	-27.3	N 12 14.6	+13.2
13	127 10.4	-27.4	N 12 27.8	+13.0
14	141 43.0	-27.3	N 12 40.8	+13.1
15	156 15.7	-27.4	N 12 53.9	+12.9
16	170 48.3	-27.4	N 13 06.8	+12.9
17	185 20.9	-27.4	N 13 19.7	+12.8
18	199 53.5	-27.5	N 13 32.5	+12.7
19	214 26.0	-27.4	N 13 45.2	+12.6
20	228 58.6	-27.5	N 13 57.8	+12.6
21	243 31.1	-27.5	N 14 10.4	+12.5
22	258 03.6	-27.5	N 14 22.9	+12.4
23	272 36.1	-27.5	N 14 35.3	+12.3

UT	02	06	10	14	18	22
SD	15′4	15′4	15′4	15′3	15′3	15′3
HP	56′7	56′5	56′4	56′3	56′1	56′0
SHA	332°	330°	328°	326°	324°	322°

Greenwich Culmination Time: 04:15

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	269 13.4	+01.0	N 18 14.1	+00.4
01	284 14.4	+00.9	N 18 14.5	+00.4
02	299 15.3	+00.9	N 18 14.9	+00.3
03	314 16.2	+01.0	N 18 15.2	+00.4
04	329 17.2	+00.9	N 18 15.6	+00.3
05	344 18.1	+00.9	N 18 15.9	+00.4
06	359 19.0	+01.0	N 18 16.3	+00.4
07	14 20.0	+00.9	N 18 16.7	+00.3
08	29 20.9	+01.0	N 18 17.0	+00.4
09	44 21.9	+00.9	N 18 17.4	+00.3
10	59 22.8	+00.9	N 18 17.7	+00.4
11	74 23.7	+01.0	N 18 18.1	+00.4
12	89 24.7	+00.9	N 18 18.5	+00.3
13	104 25.6	+01.0	N 18 18.8	+00.4
14	119 26.6	+00.9	N 18 19.2	+00.3
15	134 27.5	+01.0	N 18 19.5	+00.4
16	149 28.5	+00.9	N 18 19.9	+00.3
17	164 29.4	+00.9	N 18 20.2	+00.4
18	179 30.3	+01.0	N 18 20.6	+00.4
19	194 31.3	+00.9	N 18 21.0	+00.3
20	209 32.2	+01.0	N 18 21.3	+00.4
21	224 33.2	+00.9	N 18 21.7	+00.3
22	239 34.1	+01.0	N 18 22.0	+00.4
23	254 35.1	+00.9	N 18 22.4	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	304°	304°	304°	304°	303°	303°

Greenwich Culmination Time: 06:02

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	317 17.9	+02.6	N 01 49.5	+00.0
01	332 20.5	+02.6	N 01 49.5	-00.1
02	347 23.1	+02.6	N 01 49.4	-00.1
03	2 25.7	+02.6	N 01 49.3	-00.1
04	17 28.3	+02.6	N 01 49.2	+00.0
05	32 30.9	+02.6	N 01 49.2	-00.1
06	47 33.5	+02.6	N 01 49.1	-00.1
07	62 36.1	+02.6	N 01 49.0	+00.0
08	77 38.7	+02.6	N 01 49.0	-00.1
09	92 41.3	+02.6	N 01 48.9	-00.1
10	107 43.9	+02.6	N 01 48.8	-00.1
11	122 46.5	+02.6	N 01 48.7	+00.0
12	137 49.1	+02.6	N 01 48.7	-00.1
13	152 51.7	+02.6	N 01 48.6	-00.1
14	167 54.3	+02.6	N 01 48.5	+00.0
15	182 56.9	+02.6	N 01 48.5	-00.1
16	197 59.5	+02.6	N 01 48.4	-00.1
17	213 02.1	+02.6	N 01 48.3	-00.1
18	228 04.7	+02.6	N 01 48.2	+00.0
19	243 07.3	+02.6	N 01 48.2	-00.1
20	258 09.9	+02.7	N 01 48.1	-00.1
21	273 12.6	+02.6	N 01 48.0	+00.0
22	288 15.2	+02.6	N 01 48.0	-00.1
23	303 17.8	+02.6	N 01 47.9	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 02:50

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	0 49.0	+02.7	S 15 29.9	+00.0
01	15 51.7	+02.6	S 15 29.9	+00.1
02	30 54.3	+02.6	S 15 30.0	+00.1
03	45 56.9	+02.7	S 15 30.1	+00.0
04	60 59.6	+02.6	S 15 30.1	+00.1
05	76 02.2	+02.7	S 15 30.2	+00.1
06	91 04.9	+02.6	S 15 30.3	+00.0
07	106 07.5	+02.7	S 15 30.3	+00.1
08	121 10.2	+02.6	S 15 30.4	+00.1
09	136 12.8	+02.7	S 15 30.5	+00.0
10	151 15.5	+02.6	S 15 30.5	+00.1
11	166 18.1	+02.7	S 15 30.6	+00.0
12	181 20.8	+02.6	S 15 30.6	+00.1
13	196 23.4	+02.7	S 15 30.7	+00.1
14	211 26.1	+02.6	S 15 30.8	+00.0
15	226 28.7	+02.7	S 15 30.8	+00.1
16	241 31.4	+02.6	S 15 30.9	+00.1
17	256 34.0	+02.6	S 15 31.0	+00.0
18	271 36.6	+02.7	S 15 31.0	+00.1
19	286 39.3	+02.6	S 15 31.1	+00.0
20	301 41.9	+02.7	S 15 31.1	+00.1
21	316 44.6	+02.6	S 15 31.2	+00.1
22	331 47.2	+02.7	S 15 31.3	+00.0
23	346 49.9	+02.6	S 15 31.3	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	036°	036°	036°

Greenwich Culmination Time: 23:52

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Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 00.3	+00.1	N 13 10.2	−00.8
01	194 00.4	+00.2	N 13 09.4	−00.9
02	209 00.6	+00.1	N 13 08.5	−00.8
03	224 00.7	+00.1	N 13 07.7	−00.8
04	239 00.8	+00.2	N 13 06.9	−00.8
05	254 01.0	+00.1	N 13 06.1	−00.8
06	269 01.1	+00.1	N 13 05.3	−00.8
07	284 01.2	+00.2	N 13 04.5	−00.8
08	299 01.4	+00.1	N 13 03.7	−00.8
09	314 01.5	+00.2	N 13 02.9	−00.8
10	329 01.7	+00.1	N 13 02.1	−00.8
11	344 01.8	+00.1	N 13 01.3	−00.8
12	359 01.9	+00.2	N 13 00.5	−00.8
13	14 02.1	+00.1	N 12 59.7	−00.8
14	29 02.2	+00.2	N 12 58.9	−00.9
15	44 02.4	+00.1	N 12 58.0	−00.8
16	59 02.5	+00.2	N 12 57.2	−00.8
17	74 02.7	+00.1	N 12 56.4	−00.8
18	89 02.8	+00.1	N 12 55.6	−00.8
19	104 02.9	+00.2	N 12 54.8	−00.8
20	119 03.1	+00.1	N 12 54.0	−00.8
21	134 03.2	+00.2	N 12 53.2	−00.8
22	149 03.4	+00.1	N 12 52.4	−00.8
23	164 03.5	+00.1	N 12 51.6	−00.9

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	213°	212°	212°	212°	212°	212°

Greenwich Culmination Time: 12:03

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	196 07.8	−00.7	N 18 59.9	−00.7
01	211 07.1	−00.7	N 18 59.2	−00.7
02	226 06.4	−00.7	N 18 58.5	−00.7
03	241 05.7	−00.7	N 18 57.8	−00.7
04	256 05.0	−00.7	N 18 57.1	−00.7
05	271 04.3	−00.7	N 18 56.4	−00.7
06	286 03.6	−00.7	N 18 55.7	−00.7
07	301 02.9	−00.7	N 18 55.0	−00.7
08	316 02.2	−00.7	N 18 54.3	−00.7
09	331 01.5	−00.7	N 18 53.6	−00.7
10	346 00.8	−00.6	N 18 52.9	−00.7
11	1 00.2	−00.7	N 18 52.2	−00.7
12	15 59.5	−00.7	N 18 51.5	−00.7
13	30 58.8	−00.7	N 18 50.8	−00.8
14	45 58.1	−00.7	N 18 50.0	−00.7
15	60 57.4	−00.7	N 18 49.3	−00.7
16	75 56.7	−00.7	N 18 48.6	−00.7
17	90 56.0	−00.7	N 18 47.9	−00.7
18	105 55.3	−00.6	N 18 47.2	−00.7
19	120 54.7	−00.7	N 18 46.5	−00.7
20	135 54.0	−00.7	N 18 45.8	−00.8
21	150 53.3	−00.7	N 18 45.0	−00.7
22	165 52.6	−00.7	N 18 44.3	−00.7
23	180 51.9	−00.7	N 18 43.6	−00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	230°	229°	229°	229°	229°	229°

Greenwich Culmination Time: 10:55

Moon

A: 71%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	287 08.6	−27.6	N 14 47.6	+12.3
01	301 41.0	−27.5	N 14 59.9	+12.2
02	316 13.5	−27.6	N 15 12.1	+12.1
03	330 45.9	−27.6	N 15 24.2	+12.0
04	345 18.3	−27.7	N 15 36.2	+11.9
05	359 50.6	−27.6	N 15 48.1	+11.9
06	14 23.0	−27.7	N 15 60.0	+11.8
07	28 55.3	−27.8	N 16 11.8	+11.6
08	43 27.5	−27.7	N 16 23.4	+11.6
09	57 59.8	−27.8	N 16 35.0	+11.6
10	72 32.0	−27.8	N 16 46.6	+11.4
11	87 04.2	−27.8	N 16 58.0	+11.3
12	101 36.4	−27.9	N 17 09.3	+11.3
13	116 08.5	−27.9	N 17 20.6	+11.2
14	130 40.6	−27.9	N 17 31.8	+11.0
15	145 12.7	−27.9	N 17 42.8	+11.0
16	159 44.8	−28.0	N 17 53.8	+10.9
17	174 16.8	−28.0	N 18 04.7	+10.8
18	188 48.8	−28.1	N 18 15.5	+10.8
19	203 20.7	−28.1	N 18 26.3	+10.6
20	217 52.6	−28.1	N 18 36.9	+10.5
21	232 24.5	−28.1	N 18 47.4	+10.5
22	246 56.4	−28.2	N 18 57.9	+10.3
23	261 28.2	−28.2	N 19 08.2	+10.3

UT	02	06	10	14	18	22
SD	15′2	15′2	15′2	15′1	15′1	15′1
HP	55′9	55′7	55′6	55′5	55′4	55′3
SHA	320°	318°	316°	314°	312°	310°

Greenwich Culmination Time: 05:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	269 36.0	+00.9	N 18 22.7	+00.4
01	284 36.9	+01.0	N 18 23.1	+00.3
02	299 37.9	+00.9	N 18 23.4	+00.4
03	314 38.8	+01.0	N 18 23.8	+00.3
04	329 39.8	+00.9	N 18 24.1	+00.4
05	344 40.7	+01.0	N 18 24.5	+00.3
06	359 41.7	+00.9	N 18 24.8	+00.4
07	14 42.6	+01.0	N 18 25.2	+00.4
08	29 43.6	+00.9	N 18 25.6	+00.3
09	44 44.5	+01.0	N 18 25.9	+00.4
10	59 45.5	+00.9	N 18 26.3	+00.3
11	74 46.4	+00.9	N 18 26.6	+00.4
12	89 47.3	+01.0	N 18 27.0	+00.3
13	104 48.3	+00.9	N 18 27.3	+00.4
14	119 49.2	+01.0	N 18 27.7	+00.3
15	134 50.2	+00.9	N 18 28.0	+00.4
16	149 51.1	+01.0	N 18 28.4	+00.3
17	164 52.1	+00.9	N 18 28.7	+00.4
18	179 53.0	+01.0	N 18 29.1	+00.3
19	194 54.0	+00.9	N 18 29.4	+00.4
20	209 54.9	+01.0	N 18 29.8	+00.3
21	224 55.9	+00.9	N 18 30.1	+00.4
22	239 56.8	+01.0	N 18 30.5	+00.3
23	254 57.8	+00.9	N 18 30.8	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	303°	303°	303°	303°	303°	303°

Greenwich Culmination Time: 06:01

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	318 20.4	+02.6	N 01 47.8	−00.1
01	333 23.0	+02.6	N 01 47.7	+00.0
02	348 25.6	+02.6	N 01 47.7	−00.1
03	3 28.2	+02.6	N 01 47.6	−00.1
04	18 30.8	+02.6	N 01 47.5	−00.1
05	33 33.4	+02.6	N 01 47.4	+00.0
06	48 36.0	+02.6	N 01 47.4	−00.1
07	63 38.6	+02.7	N 01 47.3	−00.1
08	78 41.3	+02.6	N 01 47.2	−00.1
09	93 43.9	+02.6	N 01 47.1	+00.0
10	108 46.5	+02.6	N 01 47.1	−00.1
11	123 49.1	+02.6	N 01 47.0	−00.1
12	138 51.7	+02.6	N 01 46.9	−00.1
13	153 54.3	+02.6	N 01 46.8	+00.0
14	168 56.9	+02.6	N 01 46.8	−00.1
15	183 59.5	+02.7	N 01 46.7	−00.1
16	199 02.2	+02.6	N 01 46.6	−00.1
17	214 04.8	+02.6	N 01 46.5	+00.0
18	229 07.4	+02.6	N 01 46.5	−00.1
19	244 10.0	+02.6	N 01 46.4	−00.1
20	259 12.6	+02.6	N 01 46.3	−00.1
21	274 15.2	+02.6	N 01 46.2	+00.0
22	289 17.8	+02.6	N 01 46.2	−00.1
23	304 20.4	+02.7	N 01 46.1	−00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 02:46

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	1 52.5	+02.7	S 15 31.4	+00.1
01	16 55.2	+02.6	S 15 31.5	+00.0
02	31 57.8	+02.7	S 15 31.5	+00.1
03	47 00.5	+02.6	S 15 31.6	+00.1
04	62 03.1	+02.7	S 15 31.7	+00.0
05	77 05.8	+02.6	S 15 31.7	+00.1
06	92 08.4	+02.7	S 15 31.8	+00.0
07	107 11.1	+02.6	S 15 31.8	+00.1
08	122 13.7	+02.6	S 15 31.9	+00.1
09	137 16.3	+02.7	S 15 32.0	+00.0
10	152 19.0	+02.6	S 15 32.0	+00.1
11	167 21.6	+02.7	S 15 32.1	+00.1
12	182 24.3	+02.6	S 15 32.2	+00.0
13	197 26.9	+02.7	S 15 32.2	+00.1
14	212 29.6	+02.6	S 15 32.3	+00.1
15	227 32.2	+02.7	S 15 32.4	+00.0
16	242 34.9	+02.6	S 15 32.4	+00.1
17	257 37.5	+02.7	S 15 32.5	+00.0
18	272 40.2	+02.6	S 15 32.5	+00.1
19	287 42.8	+02.7	S 15 32.6	+00.1
20	302 45.5	+02.6	S 15 32.7	+00.0
21	317 48.1	+02.7	S 15 32.7	+00.1
22	332 50.8	+02.6	S 15 32.8	+00.1
23	347 53.4	+02.6	S 15 32.9	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 23:48

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 03.6	+00.2	N 12 50.7	−00.8
01	194 03.8	+00.1	N 12 49.9	−00.8
02	209 03.9	+00.2	N 12 49.1	−00.8
03	224 04.1	+00.1	N 12 48.3	−00.8
04	239 04.2	+00.2	N 12 47.5	−00.8
05	254 04.4	+00.1	N 12 46.7	−00.8
06	269 04.5	+00.2	N 12 45.9	−00.9
07	284 04.7	+00.1	N 12 45.0	−00.8
08	299 04.8	+00.1	N 12 44.2	−00.8
09	314 04.9	+00.2	N 12 43.4	−00.8
10	329 05.1	+00.1	N 12 42.6	−00.8
11	344 05.2	+00.2	N 12 41.8	−00.8
12	359 05.4	+00.1	N 12 41.0	−00.9
13	14 05.5	+00.2	N 12 40.1	−00.8
14	29 05.7	+00.1	N 12 39.3	−00.8
15	44 05.8	+00.2	N 12 38.5	−00.8
16	59 06.0	+00.1	N 12 37.7	−00.8
17	74 06.1	+00.2	N 12 36.9	−00.9
18	89 06.3	+00.1	N 12 36.0	−00.8
19	104 06.4	+00.1	N 12 35.2	−00.8
20	119 06.5	+00.2	N 12 34.4	−00.8
21	134 06.7	+00.1	N 12 33.6	−00.8
22	149 06.8	+00.2	N 12 32.8	−00.9
23	164 07.0	+00.1	N 12 31.9	−00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	212°	212°	211°	211°	211°	211°

Greenwich Culmination Time: 12:03

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	195 51.2	−00.7	N 18 42.9	−00.7
01	210 50.5	−00.6	N 18 42.2	−00.8
02	225 49.9	−00.7	N 18 41.4	−00.7
03	240 49.2	−00.7	N 18 40.7	−00.7
04	255 48.5	−00.7	N 18 40.0	−00.7
05	270 47.8	−00.7	N 18 39.3	−00.7
06	285 47.1	−00.7	N 18 38.6	−00.8
07	300 46.4	−00.6	N 18 37.8	−00.7
08	315 45.8	−00.7	N 18 37.1	−00.7
09	330 45.1	−00.7	N 18 36.4	−00.8
10	345 44.4	−00.7	N 18 35.6	−00.7
11	0 43.7	−00.7	N 18 34.9	−00.7
12	15 43.0	−00.6	N 18 34.2	−00.7
13	30 42.4	−00.7	N 18 33.5	−00.8
14	45 41.7	−00.7	N 18 32.7	−00.7
15	60 41.0	−00.7	N 18 32.0	−00.7
16	75 40.3	−00.7	N 18 31.3	−00.8
17	90 39.6	−00.6	N 18 30.5	−00.7
18	105 39.0	−00.7	N 18 29.8	−00.8
19	120 38.3	−00.7	N 18 29.0	−00.7
20	135 37.6	−00.7	N 18 28.3	−00.7
21	150 36.9	−00.6	N 18 27.6	−00.8
22	165 36.3	−00.7	N 18 26.8	−00.7
23	180 35.6	−00.7	N 18 26.1	−00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	228°	228°	228°	228°	228°	227°

Greenwich Culmination Time: 10:57

Moon

A: 74%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	275 60.0	−28.3	N 19 18.5	+10.1
01	290 31.7	−28.3	N 19 28.6	+10.1
02	305 03.4	−28.3	N 19 38.7	+10.0
03	319 35.1	−28.4	N 19 48.7	+09.8
04	334 06.7	−28.4	N 19 58.5	+09.8
05	348 38.3	−28.4	N 20 08.3	+09.7
06	3 09.9	−28.5	N 20 18.0	+09.5
07	17 41.4	−28.5	N 20 27.5	+09.5
08	32 12.9	−28.5	N 20 37.0	+09.4
09	46 44.4	−28.6	N 20 46.4	+09.3
10	61 15.8	−28.6	N 20 55.7	+09.1
11	75 47.2	−28.7	N 21 04.8	+09.1
12	90 18.5	−28.7	N 21 13.9	+09.0
13	104 49.8	−28.7	N 21 22.9	+08.8
14	119 21.1	−28.8	N 21 31.7	+08.8
15	133 52.3	−28.8	N 21 40.5	+08.7
16	148 23.5	−28.9	N 21 49.2	+08.5
17	162 54.6	−28.8	N 21 57.7	+08.5
18	177 25.8	−29.0	N 22 06.2	+08.3
19	191 56.8	−28.9	N 22 14.5	+08.2
20	206 27.9	−29.1	N 22 22.7	+08.2
21	220 58.8	−29.0	N 22 30.9	+08.0
22	235 29.8	−29.1	N 22 38.9	+07.9
23	250 00.7	−29.1	N 22 46.8	+07.8

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	15′0	14′9	14′9
HP	55′2	55′1	55′0	54′9	54′8	54′7
SHA	308°	306°	304°	301°	299°	297°

Greenwich Culmination Time: 05:46

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	269 58.7	+01.0	N 18 31.2	+00.3
01	284 59.7	+00.9	N 18 31.5	+00.4
02	300 00.6	+01.0	N 18 31.9	+00.3
03	315 01.6	+00.9	N 18 32.2	+00.3
04	330 02.5	+01.0	N 18 32.5	+00.4
05	345 03.5	+00.9	N 18 32.9	+00.3
06	0 04.4	+01.0	N 18 33.2	+00.4
07	15 05.4	+01.0	N 18 33.6	+00.3
08	30 06.4	+00.9	N 18 33.9	+00.4
09	45 07.3	+01.0	N 18 34.3	+00.3
10	60 08.3	+00.9	N 18 34.6	+00.4
11	75 09.2	+01.0	N 18 35.0	+00.3
12	90 10.2	+00.9	N 18 35.3	+00.4
13	105 11.1	+01.0	N 18 35.7	+00.3
14	120 12.1	+00.9	N 18 36.0	+00.3
15	135 13.0	+01.0	N 18 36.3	+00.4
16	150 14.0	+00.9	N 18 36.7	+00.3
17	165 14.9	+01.0	N 18 37.0	+00.4
18	180 15.9	+01.0	N 18 37.4	+00.3
19	195 16.9	+00.9	N 18 37.7	+00.4
20	210 17.8	+01.0	N 18 38.1	+00.3
21	225 18.8	+00.9	N 18 38.4	+00.3
22	240 19.7	+01.0	N 18 38.7	+00.4
23	255 20.7	+00.9	N 18 39.1	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	303°	303°	302°	302°	302°	302°

Greenwich Culmination Time: 05:59

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	319 23.1	+02.6	N 01 46.0	−00.1
01	334 25.7	+02.6	N 01 45.9	+00.0
02	349 28.3	+02.6	N 01 45.9	−00.1
03	4 30.9	+02.6	N 01 45.8	−00.1
04	19 33.5	+02.6	N 01 45.7	−00.1
05	34 36.1	+02.7	N 01 45.6	+00.0
06	49 38.8	+02.6	N 01 45.6	−00.1
07	64 41.4	+02.6	N 01 45.5	−00.1
08	79 44.0	+02.6	N 01 45.4	−00.1
09	94 46.6	+02.6	N 01 45.3	−00.1
10	109 49.2	+02.7	N 01 45.2	+00.0
11	124 51.9	+02.6	N 01 45.2	−00.1
12	139 54.5	+02.6	N 01 45.1	−00.1
13	154 57.1	+02.6	N 01 45.0	−00.1
14	169 59.7	+02.6	N 01 44.9	+00.0
15	185 02.3	+02.6	N 01 44.9	−00.1
16	200 04.9	+02.7	N 01 44.8	−00.1
17	215 07.6	+02.6	N 01 44.7	−00.1
18	230 10.2	+02.6	N 01 44.6	−00.1
19	245 12.8	+02.6	N 01 44.5	+00.0
20	260 15.4	+02.7	N 01 44.5	−00.1
21	275 18.1	+02.6	N 01 44.4	−00.1
22	290 20.7	+02.6	N 01 44.3	−00.1
23	305 23.3	+02.6	N 01 44.2	−00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 02:41

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	2 56.0	+02.7	S 15 32.9	+00.1
01	17 58.7	+02.6	S 15 33.0	+00.0
02	33 01.3	+02.7	S 15 33.0	+00.1
03	48 04.0	+02.6	S 15 33.1	+00.1
04	63 06.6	+02.7	S 15 33.2	+00.0
05	78 09.3	+02.6	S 15 33.2	+00.1
06	93 11.9	+02.7	S 15 33.3	+00.1
07	108 14.6	+02.6	S 15 33.4	+00.0
08	123 17.2	+02.7	S 15 33.4	+00.1
09	138 19.9	+02.6	S 15 33.5	+00.0
10	153 22.5	+02.7	S 15 33.5	+00.1
11	168 25.2	+02.6	S 15 33.6	+00.1
12	183 27.8	+02.6	S 15 33.7	+00.0
13	198 30.4	+02.7	S 15 33.7	+00.1
14	213 33.1	+02.6	S 15 33.8	+00.1
15	228 35.7	+02.7	S 15 33.9	+00.0
16	243 38.4	+02.6	S 15 33.9	+00.1
17	258 41.0	+02.7	S 15 34.0	+00.0
18	273 43.7	+02.6	S 15 34.0	+00.1
19	288 46.3	+02.7	S 15 34.1	+00.1
20	303 49.0	+02.6	S 15 34.2	+00.0
21	318 51.6	+02.7	S 15 34.2	+00.1
22	333 54.3	+02.6	S 15 34.3	+00.1
23	348 56.9	+02.7	S 15 34.4	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 23:44

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2022 August 24 Wednesday (day 236 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 22.2	+00.2	N 11 10.7	-00.9
01	194 22.4	+00.2	N 11 09.8	-00.8
02	209 22.6	+00.1	N 11 09.0	-00.9
03	224 22.7	+00.2	N 11 08.1	-00.8
04	239 22.9	+00.2	N 11 07.3	-00.9
05	254 23.1	+00.1	N 11 06.4	-00.9
06	269 23.2	+00.2	N 11 05.5	-00.8
07	284 23.4	+00.2	N 11 04.7	-00.9
08	299 23.6	+00.1	N 11 03.8	-00.8
09	314 23.7	+00.2	N 11 03.0	-00.9
10	329 23.9	+00.2	N 11 02.1	-00.8
11	344 24.1	+00.1	N 11 01.3	-00.9
12	359 24.2	+00.2	N 11 00.4	-00.8
13	14 24.4	+00.2	N 10 59.6	-00.9
14	29 24.6	+00.1	N 10 58.7	-00.9
15	44 24.7	+00.2	N 10 57.8	-00.8
16	59 24.9	+00.2	N 10 57.0	-00.9
17	74 25.1	+00.1	N 10 56.1	-00.8
18	89 25.2	+00.2	N 10 55.3	-00.9
19	104 25.4	+00.2	N 10 54.4	-00.9
20	119 25.6	+00.2	N 10 53.5	-00.8
21	134 25.8	+00.1	N 10 52.7	-00.9
22	149 25.9	+00.2	N 10 51.8	-00.8
23	164 26.1	+00.2	N 10 51.0	-00.9

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	207°	207°	207°	207°	206°	206°

Greenwich Culmination Time: 12:02

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	194 32.0	-00.7	N 17 10.0	-00.8
01	209 31.3	-00.6	N 17 09.2	-00.9
02	224 30.7	-00.6	N 17 08.3	-00.8
03	239 30.1	-00.7	N 17 07.5	-00.8
04	254 29.4	-00.6	N 17 06.7	-00.9
05	269 28.8	-00.7	N 17 05.8	-00.8
06	284 28.1	-00.6	N 17 05.0	-00.8
07	299 27.5	-00.6	N 17 04.2	-00.9
08	314 26.9	-00.7	N 17 03.3	-00.8
09	329 26.2	-00.6	N 17 02.5	-00.8
10	344 25.6	-00.6	N 17 01.7	-00.9
11	359 25.0	-00.6	N 17 00.8	-00.8
12	14 24.4	-00.7	N 17 00.0	-00.8
13	29 23.7	-00.6	N 16 59.2	-00.9
14	44 23.1	-00.6	N 16 58.3	-00.8
15	59 22.5	-00.7	N 16 57.5	-00.8
16	74 21.8	-00.6	N 16 56.7	-00.9
17	89 21.2	-00.6	N 16 55.8	-00.8
18	104 20.6	-00.7	N 16 55.0	-00.9
19	119 19.9	-00.6	N 16 54.1	-00.8
20	134 19.3	-00.6	N 16 53.3	-00.9
21	149 18.7	-00.6	N 16 52.4	-00.8
22	164 18.1	-00.7	N 16 51.6	-00.8
23	179 17.4	-00.6	N 16 50.8	-00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	222°	222°	222°	222°	221°	221°

Greenwich Culmination Time: 11:02

Moon

A: 91%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	216 04.4	-30.2	N 25 56.5	-04.3
01	230 34.2	-30.2	N 25 52.2	-04.4
02	245 04.0	-30.2	N 25 47.8	-04.5
03	259 33.8	-30.1	N 25 43.3	-04.7
04	274 03.7	-30.1	N 25 38.6	-04.7
05	288 33.6	-30.0	N 25 33.9	-04.9
06	303 03.6	-30.1	N 25 29.0	-05.0
07	317 33.5	-29.9	N 25 24.0	-05.1
08	332 03.6	-30.0	N 25 18.9	-05.3
09	346 33.6	-29.9	N 25 13.6	-05.4
10	1 03.7	-29.9	N 25 08.2	-05.5
11	15 33.8	-29.9	N 25 02.7	-05.6
12	30 03.9	-29.8	N 24 57.1	-05.7
13	44 34.1	-29.7	N 24 51.4	-05.8
14	59 04.4	-29.8	N 24 45.6	-06.0
15	73 34.6	-29.7	N 24 39.6	-06.1
16	88 04.9	-29.6	N 24 33.5	-06.2
17	102 35.3	-29.6	N 24 27.3	-06.3
18	117 05.7	-29.6	N 24 21.0	-06.4
19	131 36.1	-29.5	N 24 14.6	-06.5
20	146 06.6	-29.5	N 24 08.1	-06.7
21	160 37.1	-29.5	N 24 01.4	-06.8
22	175 07.6	-29.4	N 23 54.6	-06.9
23	189 38.2	-29.4	N 23 47.7	-07.0

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′1	54′2	54′2	54′2	54′3	54′3
SHA	243°	241°	238°	236°	234°	232°

Greenwich Culmination Time: 09:55

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	271 55.0	+01.0	N 19 11.0	+00.3
01	286 56.0	+01.0	N 19 11.3	+00.3
02	301 57.0	+01.0	N 19 11.6	+00.3
03	316 58.0	+01.0	N 19 11.9	+00.3
04	331 59.0	+01.0	N 19 12.2	+00.4
05	346 60.0	+01.0	N 19 12.6	+00.3
06	2 01.0	+01.0	N 19 12.9	+00.3
07	17 02.0	+01.0	N 19 13.2	+00.3
08	32 03.0	+01.0	N 19 13.5	+00.3
09	47 04.0	+00.9	N 19 13.8	+00.3
10	62 04.9	+01.0	N 19 14.1	+00.3
11	77 05.9	+01.0	N 19 14.4	+00.4
12	92 06.9	+01.0	N 19 14.8	+00.3
13	107 07.9	+01.0	N 19 15.1	+00.3
14	122 08.9	+01.0	N 19 15.4	+00.3
15	137 09.9	+01.0	N 19 15.7	+00.3
16	152 10.9	+01.0	N 19 16.0	+00.3
17	167 11.9	+01.0	N 19 16.3	+00.3
18	182 12.9	+01.0	N 19 16.6	+00.3
19	197 13.9	+01.0	N 19 16.9	+00.3
20	212 14.9	+01.0	N 19 17.2	+00.4
21	227 15.9	+01.0	N 19 17.6	+00.3
22	242 16.9	+01.0	N 19 17.9	+00.3
23	257 17.9	+01.0	N 19 18.2	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	300°	300°	299°	299°	299°	299°

Greenwich Culmination Time: 05:51

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	324 38.9	+02.7	N 01 36.0	+00.0
01	339 41.6	+02.6	N 01 36.0	-00.1
02	354 44.2	+02.7	N 01 35.9	-00.1
03	9 46.9	+02.6	N 01 35.8	-00.1
04	24 49.5	+02.7	N 01 35.7	-00.1
05	39 52.2	+02.6	N 01 35.6	-00.1
06	54 54.8	+02.7	N 01 35.5	-00.1
07	69 57.5	+02.6	N 01 35.4	-00.1
08	85 00.1	+02.7	N 01 35.3	-00.1
09	100 02.8	+02.6	N 01 35.2	-00.1
10	115 05.4	+02.7	N 01 35.1	+00.0
11	130 08.1	+02.6	N 01 35.1	-00.1
12	145 10.7	+02.7	N 01 35.0	-00.1
13	160 13.4	+02.7	N 01 34.9	-00.1
14	175 16.1	+02.6	N 01 34.8	-00.1
15	190 18.7	+02.7	N 01 34.7	-00.1
16	205 21.4	+02.6	N 01 34.6	-00.1
17	220 24.0	+02.7	N 01 34.5	-00.1
18	235 26.7	+02.6	N 01 34.4	-00.1
19	250 29.3	+02.7	N 01 34.3	-00.1
20	265 32.0	+02.6	N 01 34.2	-00.1
21	280 34.6	+02.7	N 01 34.1	-00.1
22	295 37.3	+02.6	N 01 34.0	+00.0
23	310 39.9	+02.7	N 01 34.0	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 02:20

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	8 13.5	+02.6	S 15 40.4	+00.0
01	23 16.1	+02.7	S 15 40.4	+00.1
02	38 18.8	+02.6	S 15 40.5	+00.1
03	53 21.4	+02.7	S 15 40.6	+00.0
04	68 24.1	+02.6	S 15 40.6	+00.1
05	83 26.7	+02.6	S 15 40.7	+00.0
06	98 29.3	+02.7	S 15 40.7	+00.1
07	113 32.0	+02.6	S 15 40.8	+00.1
08	128 34.6	+02.7	S 15 40.9	+00.0
09	143 37.3	+02.6	S 15 40.9	+00.1
10	158 39.9	+02.7	S 15 41.0	+00.0
11	173 42.6	+02.6	S 15 41.0	+00.1
12	188 45.2	+02.6	S 15 41.1	+00.1
13	203 47.8	+02.7	S 15 41.2	+00.0
14	218 50.5	+02.6	S 15 41.2	+00.1
15	233 53.1	+02.7	S 15 41.3	+00.1
16	248 55.8	+02.6	S 15 41.4	+00.0
17	263 58.4	+02.7	S 15 41.4	+00.1
18	279 01.1	+02.6	S 15 41.5	+00.0
19	294 03.7	+02.6	S 15 41.5	+00.1
20	309 06.3	+02.7	S 15 41.6	+00.1
21	324 09.0	+02.6	S 15 41.7	+00.0
22	339 11.6	+02.7	S 15 41.7	+00.1
23	354 14.3	+02.6	S 15 41.8	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 23:22

2022 August 21 Sunday (day 233 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 10.7	+00.2	N 12 11.3	-00.8
01	194 10.9	+00.1	N 12 10.5	-00.9
02	209 11.0	+00.2	N 12 09.6	-00.8
03	224 11.2	+00.2	N 12 08.8	-00.8
04	239 11.4	+00.1	N 12 08.0	-00.9
05	254 11.5	+00.2	N 12 07.1	-00.8
06	269 11.7	+00.1	N 12 06.3	-00.8
07	284 11.8	+00.2	N 12 05.5	-00.9
08	299 12.0	+00.1	N 12 04.6	-00.8
09	314 12.1	+00.2	N 12 03.8	-00.8
10	329 12.3	+00.1	N 12 03.0	-00.9
11	344 12.4	+00.2	N 12 02.1	-00.8
12	359 12.6	+00.1	N 12 01.3	-00.8
13	14 12.7	+00.2	N 12 00.5	-00.9
14	29 12.9	+00.2	N 11 59.6	-00.8
15	44 13.1	+00.1	N 11 58.8	-00.8
16	59 13.2	+00.2	N 11 58.0	-00.9
17	74 13.4	+00.1	N 11 57.1	-00.8
18	89 13.5	+00.2	N 11 56.3	-00.8
19	104 13.7	+00.1	N 11 55.5	-00.9
20	119 13.8	+00.2	N 11 54.6	-00.8
21	134 14.0	+00.1	N 11 53.8	-00.9
22	149 14.1	+00.2	N 11 52.9	-00.8
23	164 14.3	+00.2	N 11 52.1	-00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	210°	210°	209°	209°	209°	209°

Greenwich Culmination Time: 12:03

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	195 18.8	-00.6	N 18 07.3	-00.8
01	210 18.2	-00.7	N 18 06.5	-00.8
02	225 17.5	-00.7	N 18 05.7	-00.7
03	240 16.8	-00.6	N 18 05.0	-00.8
04	255 16.2	-00.7	N 18 04.2	-00.8
05	270 15.5	-00.7	N 18 03.4	-00.7
06	285 14.8	-00.6	N 18 02.7	-00.8
07	300 14.2	-00.7	N 18 01.9	-00.8
08	315 13.5	-00.7	N 18 01.1	-00.7
09	330 12.8	-00.6	N 18 00.4	-00.8
10	345 12.2	-00.7	N 17 59.6	-00.8
11	0 11.5	-00.6	N 17 58.8	-00.8
12	15 10.9	-00.7	N 17 58.0	-00.7
13	30 10.2	-00.7	N 17 57.3	-00.8
14	45 09.5	-00.6	N 17 56.5	-00.8
15	60 08.9	-00.7	N 17 55.7	-00.8
16	75 08.2	-00.6	N 17 54.9	-00.7
17	90 07.6	-00.7	N 17 54.2	-00.8
18	105 06.9	-00.6	N 17 53.4	-00.8
19	120 06.3	-00.7	N 17 52.6	-00.8
20	135 05.6	-00.7	N 17 51.8	-00.8
21	150 04.9	-00.6	N 17 51.0	-00.8
22	165 04.3	-00.7	N 17 50.2	-00.7
23	180 03.6	-00.6	N 17 49.5	-00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	226°	226°	225°	225°	225°	225°

Greenwich Culmination Time: 10:59

Moon

A: 81%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	252 41.3	-30.1	N 25 27.8	+04.9
01	267 11.2	-30.0	N 25 32.7	+04.8
02	281 41.2	-30.1	N 25 37.5	+04.7
03	296 11.1	-30.2	N 25 42.2	+04.5
04	310 40.9	-30.1	N 25 46.7	+04.4
05	325 10.8	-30.2	N 25 51.1	+04.3
06	339 40.6	-30.2	N 25 55.4	+04.2
07	354 10.4	-30.3	N 25 59.6	+04.1
08	8 40.1	-30.3	N 26 03.7	+03.9
09	23 09.8	-30.2	N 26 07.6	+03.8
10	37 39.6	-30.4	N 26 11.4	+03.7
11	52 09.2	-30.3	N 26 15.1	+03.5
12	66 38.9	-30.4	N 26 18.6	+03.4
13	81 08.5	-30.4	N 26 22.0	+03.3
14	95 38.1	-30.4	N 26 25.3	+03.2
15	110 07.7	-30.5	N 26 28.5	+03.1
16	124 37.2	-30.4	N 26 31.6	+02.9
17	139 06.8	-30.5	N 26 34.5	+02.8
18	153 36.3	-30.5	N 26 37.3	+02.6
19	168 05.8	-30.5	N 26 39.9	+02.6
20	182 35.3	-30.6	N 26 42.5	+02.4
21	197 04.7	-30.5	N 26 44.9	+02.3
22	211 34.2	-30.6	N 26 47.2	+02.1
23	226 03.6	-30.6	N 26 49.3	+02.1

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′7
HP	54′3	54′3	54′2	54′2	54′2	54′1
SHA	282°	280°	278°	276°	274°	271°

Greenwich Culmination Time: 07:24

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	270 44.7	+01.0	N 18 47.5	+00.4
01	285 45.7	+01.0	N 18 47.9	+00.3
02	300 46.7	+00.9	N 18 48.2	+00.3
03	315 47.6	+01.0	N 18 48.5	+00.4
04	330 48.6	+01.0	N 18 48.9	+00.3
05	345 49.6	+00.9	N 18 49.2	+00.4
06	0 50.5	+01.0	N 18 49.6	+00.3
07	15 51.5	+01.0	N 18 49.9	+00.3
08	30 52.5	+00.9	N 18 50.2	+00.4
09	45 53.4	+01.0	N 18 50.6	+00.3
10	60 54.4	+01.0	N 18 50.9	+00.3
11	75 55.4	+00.9	N 18 51.2	+00.3
12	90 56.3	+01.0	N 18 51.5	+00.4
13	105 57.3	+01.0	N 18 51.9	+00.3
14	120 58.3	+00.9	N 18 52.2	+00.3
15	135 59.2	+01.0	N 18 52.5	+00.4
16	151 00.2	+01.0	N 18 52.9	+00.3
17	166 01.2	+00.9	N 18 53.2	+00.3
18	181 02.1	+01.0	N 18 53.5	+00.4
19	196 03.1	+01.0	N 18 53.9	+00.3
20	211 04.1	+01.0	N 18 54.2	+00.3
21	226 05.1	+00.9	N 18 54.5	+00.4
22	241 06.0	+01.0	N 18 54.9	+00.3
23	256 07.0	+01.0	N 18 55.2	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	301°	301°	301°	301°	301°	301°

Greenwich Culmination Time: 05:56

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	321 28.9	+02.7	N 01 42.2	-00.1
01	336 31.6	+02.6	N 01 42.1	+00.0
02	351 34.2	+02.6	N 01 42.1	-00.1
03	6 36.8	+02.6	N 01 42.0	-00.1
04	21 39.4	+02.7	N 01 41.9	-00.1
05	36 42.1	+02.6	N 01 41.8	-00.1
06	51 44.7	+02.6	N 01 41.7	-00.1
07	66 47.3	+02.7	N 01 41.6	+00.0
08	81 50.0	+02.6	N 01 41.6	-00.1
09	96 52.6	+02.6	N 01 41.5	-00.1
10	111 55.2	+02.7	N 01 41.4	-00.1
11	126 57.9	+02.6	N 01 41.3	-00.1
12	142 00.5	+02.6	N 01 41.2	-00.1
13	157 03.1	+02.7	N 01 41.1	+00.0
14	172 05.8	+02.6	N 01 41.1	-00.1
15	187 08.4	+02.6	N 01 41.0	-00.1
16	202 11.0	+02.7	N 01 40.9	-00.1
17	217 13.7	+02.6	N 01 40.8	-00.1
18	232 16.3	+02.6	N 01 40.7	-00.1
19	247 18.9	+02.7	N 01 40.6	+00.0
20	262 21.6	+02.6	N 01 40.6	-00.1
21	277 24.2	+02.6	N 01 40.5	-00.1
22	292 26.8	+02.7	N 01 40.4	-00.1
23	307 29.5	+02.6	N 01 40.3	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 02:33

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	5 03.1	+02.6	S 15 35.9	+00.1
01	20 05.7	+02.6	S 15 36.0	+00.1
02	35 08.3	+02.7	S 15 36.1	+00.0
03	50 11.0	+02.6	S 15 36.1	+00.1
04	65 13.6	+02.7	S 15 36.2	+00.0
05	80 16.3	+02.6	S 15 36.2	+00.1
06	95 18.9	+02.7	S 15 36.3	+00.1
07	110 21.6	+02.6	S 15 36.4	+00.0
08	125 24.2	+02.7	S 15 36.4	+00.1
09	140 26.9	+02.6	S 15 36.5	+00.0
10	155 29.5	+02.7	S 15 36.5	+00.1
11	170 32.2	+02.6	S 15 36.6	+00.1
12	185 34.8	+02.6	S 15 36.7	+00.0
13	200 37.4	+02.7	S 15 36.7	+00.1
14	215 40.1	+02.6	S 15 36.8	+00.1
15	230 42.7	+02.7	S 15 36.9	+00.0
16	245 45.4	+02.6	S 15 36.9	+00.1
17	260 48.0	+02.7	S 15 37.0	+00.0
18	275 50.7	+02.6	S 15 37.0	+00.1
19	290 53.3	+02.7	S 15 37.1	+00.1
20	305 56.0	+02.6	S 15 37.2	+00.0
21	320 58.6	+02.7	S 15 37.2	+00.1
22	336 01.3	+02.6	S 15 37.3	+00.1
23	351 03.9	+02.6	S 15 37.4	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 23:35

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2022 August 22 Monday (day 234 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	179 14.5	+00.1	N 11 51.3	-00.9
01	194 14.6	+00.2	N 11 50.4	-00.8
02	209 14.8	+00.1	N 11 49.6	-00.8
03	224 14.9	+00.2	N 11 48.8	-00.9
04	239 15.1	+00.1	N 11 47.9	-00.8
05	254 15.2	+00.2	N 11 47.1	-00.9
06	269 15.4	+00.2	N 11 46.2	-00.8
07	284 15.6	+00.1	N 11 45.4	-00.8
08	299 15.7	+00.2	N 11 44.6	-00.9
09	314 15.9	+00.1	N 11 43.7	-00.8
10	329 16.0	+00.2	N 11 42.9	-00.9
11	344 16.2	+00.2	N 11 42.0	-00.8
12	359 16.4	+00.1	N 11 41.2	-00.9
13	14 16.5	+00.2	N 11 40.3	-00.8
14	29 16.7	+00.1	N 11 39.5	-00.8
15	44 16.8	+00.2	N 11 38.7	-00.9
16	59 17.0	+00.2	N 11 37.8	-00.8
17	74 17.2	+00.1	N 11 37.0	-00.9
18	89 17.3	+00.2	N 11 36.1	-00.8
19	104 17.5	+00.1	N 11 35.3	-00.9
20	119 17.6	+00.2	N 11 34.4	-00.8
21	134 17.8	+00.2	N 11 33.6	-00.8
22	149 18.0	+00.1	N 11 32.8	-00.9
23	164 18.1	+00.2	N 11 31.9	-00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	209°	209°	209°	208°	208°	208°

Greenwich Culmination Time: 12:02

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	195 03.0	-00.7	N 17 48.7	-00.8
01	210 02.3	-00.6	N 17 47.9	-00.8
02	225 01.7	-00.7	N 17 47.1	-00.8
03	240 01.0	-00.7	N 17 46.3	-00.8
04	255 00.3	-00.6	N 17 45.5	-00.8
05	269 59.7	-00.7	N 17 44.7	-00.7
06	284 59.0	-00.6	N 17 44.0	-00.8
07	299 58.4	-00.7	N 17 43.2	-00.8
08	314 57.7	-00.6	N 17 42.4	-00.8
09	329 57.1	-00.7	N 17 41.6	-00.8
10	344 56.4	-00.6	N 17 40.8	-00.8
11	359 55.8	-00.7	N 17 40.0	-00.8
12	14 55.1	-00.6	N 17 39.2	-00.8
13	29 54.5	-00.7	N 17 38.4	-00.8
14	44 53.8	-00.6	N 17 37.6	-00.8
15	59 53.2	-00.7	N 17 36.8	-00.8
16	74 52.5	-00.6	N 17 36.0	-00.8
17	89 51.9	-00.7	N 17 35.2	-00.8
18	104 51.2	-00.6	N 17 34.4	-00.8
19	119 50.6	-00.7	N 17 33.6	-00.8
20	134 49.9	-00.6	N 17 32.8	-00.8
21	149 49.3	-00.7	N 17 32.0	-00.8
22	164 48.6	-00.6	N 17 31.2	-00.8
23	179 48.0	-00.7	N 17 30.4	-00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	225°	224°	224°	224°	224°	224°

Greenwich Culmination Time: 11:00

Moon

A: 84%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	240 33.0	-30.6	N 26 51.4	+01.9
01	255 02.4	-30.6	N 26 53.3	+01.7
02	269 31.8	-30.7	N 26 55.0	+01.7
03	284 01.1	-30.6	N 26 56.7	+01.5
04	298 30.5	-30.7	N 26 58.2	+01.4
05	312 59.8	-30.6	N 26 59.6	+01.2
06	327 29.2	-30.7	N 27 00.8	+01.1
07	341 58.5	-30.7	N 27 01.9	+01.0
08	356 27.8	-30.7	N 27 02.9	+00.9
09	10 57.1	-30.7	N 27 03.8	+00.7
10	25 26.4	-30.7	N 27 04.5	+00.6
11	39 55.7	-30.7	N 27 05.1	+00.5
12	54 25.0	-30.7	N 27 05.6	+00.3
13	68 54.3	-30.7	N 27 05.9	+00.3
14	83 23.6	-30.8	N 27 06.2	+00.0
15	97 52.8	-30.7	N 27 06.2	+00.0
16	112 22.1	-30.7	N 27 06.2	-00.2
17	126 51.4	-30.7	N 27 06.0	-00.3
18	141 20.7	-30.7	N 27 05.7	-00.4
19	155 50.0	-30.7	N 27 05.3	-00.6
20	170 19.3	-30.7	N 27 04.7	-00.7
21	184 48.6	-30.7	N 27 04.0	-00.8
22	199 17.9	-30.7	N 27 03.2	-01.0
23	213 47.2	-30.7	N 27 02.2	-01.1

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	54′1	54′1	54′1	54′1	54′1	54′1
SHA	269°	267°	265°	263°	260°	258°

Greenwich Culmination Time: 08:14

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	271 08.0	+00.9	N 18 55.5	+00.3
01	286 08.9	+01.0	N 18 55.8	+00.4
02	301 09.9	+01.0	N 18 56.2	+00.3
03	316 10.9	+01.0	N 18 56.5	+00.3
04	331 11.9	+00.9	N 18 56.8	+00.4
05	346 12.8	+01.0	N 18 57.2	+00.3
06	1 13.8	+01.0	N 18 57.5	+00.3
07	16 14.8	+01.0	N 18 57.8	+00.3
08	31 15.8	+00.9	N 18 58.1	+00.4
09	46 16.7	+01.0	N 18 58.5	+00.3
10	61 17.7	+01.0	N 18 58.8	+00.3
11	76 18.7	+01.0	N 18 59.1	+00.3
12	91 19.7	+00.9	N 18 59.4	+00.4
13	106 20.6	+01.0	N 18 59.8	+00.3
14	121 21.6	+01.0	N 19 00.1	+00.3
15	136 22.6	+01.0	N 19 00.4	+00.3
16	151 23.6	+01.0	N 19 00.7	+00.4
17	166 24.6	+00.9	N 19 01.1	+00.3
18	181 25.5	+01.0	N 19 01.4	+00.3
19	196 26.5	+01.0	N 19 01.7	+00.3
20	211 27.5	+01.0	N 19 02.0	+00.4
21	226 28.5	+01.0	N 19 02.4	+00.3
22	241 29.5	+00.9	N 19 02.7	+00.3
23	256 30.4	+01.0	N 19 03.0	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	301°	301°	301°	301°	300°	300°

Greenwich Culmination Time: 05:55

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	322 32.1	+02.6	N 01 40.2	-00.1
01	337 34.7	+02.7	N 01 40.1	+00.0
02	352 37.4	+02.6	N 01 40.1	-00.1
03	7 40.0	+02.7	N 01 40.0	-00.1
04	22 42.7	+02.6	N 01 39.9	-00.1
05	37 45.3	+02.6	N 01 39.8	-00.1
06	52 47.9	+02.7	N 01 39.7	-00.1
07	67 50.6	+02.6	N 01 39.6	-00.1
08	82 53.2	+02.6	N 01 39.5	+00.0
09	97 55.8	+02.7	N 01 39.5	-00.1
10	112 58.5	+02.6	N 01 39.4	-00.1
11	128 01.1	+02.7	N 01 39.3	-00.1
12	143 03.8	+02.6	N 01 39.2	-00.1
13	158 06.4	+02.6	N 01 39.1	-00.1
14	173 09.0	+02.7	N 01 39.0	-00.1
15	188 11.7	+02.6	N 01 38.9	+00.0
16	203 14.3	+02.7	N 01 38.9	-00.1
17	218 17.0	+02.6	N 01 38.8	-00.1
18	233 19.6	+02.6	N 01 38.7	-00.1
19	248 22.2	+02.7	N 01 38.6	-00.1
20	263 24.9	+02.6	N 01 38.5	-00.1
21	278 27.5	+02.7	N 01 38.4	-00.1
22	293 30.2	+02.6	N 01 38.3	+00.0
23	308 32.8	+02.6	N 01 38.3	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 02:29

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	6 06.5	+02.7	S 15 37.4	+00.1
01	21 09.2	+02.6	S 15 37.5	+00.0
02	36 11.8	+02.7	S 15 37.5	+00.1
03	51 14.5	+02.6	S 15 37.6	+00.1
04	66 17.1	+02.7	S 15 37.7	+00.0
05	81 19.8	+02.6	S 15 37.7	+00.1
06	96 22.4	+02.7	S 15 37.8	+00.1
07	111 25.1	+02.6	S 15 37.9	+00.0
08	126 27.7	+02.6	S 15 37.9	+00.1
09	141 30.3	+02.7	S 15 38.0	+00.0
10	156 33.0	+02.6	S 15 38.0	+00.1
11	171 35.6	+02.7	S 15 38.1	+00.1
12	186 38.3	+02.6	S 15 38.2	+00.0
13	201 40.9	+02.7	S 15 38.2	+00.1
14	216 43.6	+02.6	S 15 38.3	+00.0
15	231 46.2	+02.7	S 15 38.3	+00.1
16	246 48.9	+02.6	S 15 38.4	+00.1
17	261 51.5	+02.7	S 15 38.5	+00.0
18	276 54.2	+02.6	S 15 38.5	+00.1
19	291 56.8	+02.6	S 15 38.6	+00.1
20	306 59.4	+02.7	S 15 38.7	+00.0
21	322 02.1	+02.6	S 15 38.7	+00.1
22	337 04.7	+02.7	S 15 38.8	+00.0
23	352 07.4	+02.6	S 15 38.8	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 23:31

2022 August 23 Tuesday (day 235 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	179 18.3	+00.1	N 11 31.1	-00.9
01	194 18.4	+00.2	N 11 30.2	-00.8
02	209 18.6	+00.2	N 11 29.4	-00.9
03	224 18.8	+00.1	N 11 28.5	-00.8
04	239 18.9	+00.2	N 11 27.7	-00.9
05	254 19.1	+00.2	N 11 26.8	-00.8
06	269 19.3	+00.1	N 11 26.0	-00.9
07	284 19.4	+00.2	N 11 25.1	-00.8
08	299 19.6	+00.1	N 11 24.3	-00.9
09	314 19.7	+00.2	N 11 23.4	-00.8
10	329 19.9	+00.2	N 11 22.6	-00.9
11	344 20.1	+00.1	N 11 21.7	-00.8
12	359 20.2	+00.2	N 11 20.9	-00.9
13	14 20.4	+00.2	N 11 20.0	-00.8
14	29 20.6	+00.1	N 11 19.2	-00.9
15	44 20.7	+00.2	N 11 18.3	-00.8
16	59 20.9	+00.2	N 11 17.5	-00.9
17	74 21.1	+00.1	N 11 16.6	-00.8
18	89 21.2	+00.2	N 11 15.8	-00.9
19	104 21.4	+00.2	N 11 14.9	-00.8
20	119 21.6	+00.1	N 11 14.1	-00.9
21	134 21.7	+00.2	N 11 13.2	-00.8
22	149 21.9	+00.2	N 11 12.4	-00.9
23	164 22.1	+00.1	N 11 11.5	-00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	208°	208°	208°	207°	207°	207°

Greenwich Culmination Time: 12:02

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	194 47.3	-00.6	N 17 29.6	-00.8
01	209 46.7	-00.6	N 17 28.8	-00.8
02	224 46.1	-00.7	N 17 28.0	-00.8
03	239 45.4	-00.6	N 17 27.2	-00.8
04	254 44.8	-00.7	N 17 26.4	-00.9
05	269 44.1	-00.6	N 17 25.5	-00.8
06	284 43.5	-00.7	N 17 24.7	-00.8
07	299 42.8	-00.6	N 17 23.9	-00.8
08	314 42.2	-00.7	N 17 23.1	-00.8
09	329 41.5	-00.6	N 17 22.3	-00.8
10	344 40.9	-00.6	N 17 21.5	-00.8
11	359 40.3	-00.7	N 17 20.7	-00.9
12	14 39.6	-00.6	N 17 19.8	-00.8
13	29 39.0	-00.7	N 17 19.0	-00.8
14	44 38.3	-00.6	N 17 18.2	-00.8
15	59 37.7	-00.6	N 17 17.4	-00.8
16	74 37.1	-00.7	N 17 16.6	-00.8
17	89 36.4	-00.6	N 17 15.8	-00.9
18	104 35.8	-00.7	N 17 14.9	-00.8
19	119 35.1	-00.6	N 17 14.1	-00.8
20	134 34.5	-00.6	N 17 13.3	-00.8
21	149 33.9	-00.7	N 17 12.5	-00.9
22	164 33.2	-00.6	N 17 11.6	-00.8
23	179 32.6	-00.6	N 17 10.8	-00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	223°	223°	223°	223°	223°	222°

Greenwich Culmination Time: 11:01

Moon

A: 88%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	228 16.5	-30.7	N 27 01.1	-01.2
01	242 45.8	-30.7	N 26 59.9	-01.3
02	257 15.1	-30.7	N 26 58.6	-01.5
03	271 44.4	-30.6	N 26 57.1	-01.6
04	286 13.8	-30.7	N 26 55.5	-01.8
05	300 43.1	-30.6	N 26 53.7	-01.8
06	315 12.5	-30.6	N 26 51.9	-02.0
07	329 41.9	-30.6	N 26 49.9	-02.1
08	344 11.3	-30.6	N 26 47.8	-02.3
09	358 40.7	-30.6	N 26 45.5	-02.4
10	13 10.1	-30.5	N 26 43.1	-02.5
11	27 39.6	-30.5	N 26 40.6	-02.6
12	42 09.1	-30.6	N 26 38.0	-02.8
13	56 38.5	-30.4	N 26 35.2	-02.9
14	71 08.1	-30.5	N 26 32.3	-03.0
15	85 37.6	-30.5	N 26 29.3	-03.1
16	100 07.1	-30.4	N 26 26.2	-03.3
17	114 36.7	-30.4	N 26 22.9	-03.4
18	129 06.3	-30.4	N 26 19.5	-03.5
19	143 35.9	-30.3	N 26 16.0	-03.7
20	158 05.6	-30.4	N 26 12.3	-03.8
21	172 35.2	-30.3	N 26 08.5	-03.9
22	187 04.9	-30.2	N 26 04.6	-04.0
23	201 34.7	-30.3	N 26 00.6	-04.1

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	54′1	54′1	54′1	54′1	54′1	54′1
SHA	256°	254°	251°	249°	247°	245°

Greenwich Culmination Time: 09:05

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	271 31.4	+01.0	N 19 03.3	+00.3
01	286 32.4	+01.0	N 19 03.6	+00.4
02	301 33.4	+01.0	N 19 04.0	+00.3
03	316 34.4	+00.9	N 19 04.3	+00.3
04	331 35.3	+01.0	N 19 04.6	+00.3
05	346 36.3	+01.0	N 19 04.9	+00.4
06	1 37.3	+01.0	N 19 05.3	+00.3
07	16 38.3	+01.0	N 19 05.6	+00.3
08	31 39.3	+01.0	N 19 05.9	+00.3
09	46 40.3	+00.9	N 19 06.2	+00.3
10	61 41.2	+01.0	N 19 06.5	+00.4
11	76 42.2	+01.0	N 19 06.9	+00.3
12	91 43.2	+01.0	N 19 07.2	+00.3
13	106 44.2	+01.0	N 19 07.5	+00.3
14	121 45.2	+01.0	N 19 07.8	+00.3
15	136 46.2	+00.9	N 19 08.1	+00.3
16	151 47.1	+01.0	N 19 08.4	+00.4
17	166 48.1	+01.0	N 19 08.8	+00.3
18	181 49.1	+01.0	N 19 09.1	+00.3
19	196 50.1	+01.0	N 19 09.4	+00.3
20	211 51.1	+01.0	N 19 09.7	+00.3
21	226 52.1	+01.0	N 19 10.0	+00.3
22	241 53.1	+01.0	N 19 10.3	+00.4
23	256 54.1	+00.9	N 19 10.7	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	300°	300°	300°	300°	300°	300°

Greenwich Culmination Time: 05:53

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	323 35.4	+02.7	N 01 38.2	-00.1
01	338 38.1	+02.6	N 01 38.1	-00.1
02	353 40.7	+02.7	N 01 38.0	-00.1
03	8 43.4	+02.6	N 01 37.9	-00.1
04	23 46.0	+02.7	N 01 37.8	-00.1
05	38 48.7	+02.6	N 01 37.7	-00.1
06	53 51.3	+02.6	N 01 37.6	+00.0
07	68 53.9	+02.7	N 01 37.6	-00.1
08	83 56.6	+02.6	N 01 37.5	-00.1
09	98 59.2	+02.7	N 01 37.4	-00.1
10	114 01.9	+02.6	N 01 37.3	-00.1
11	129 04.5	+02.7	N 01 37.2	-00.1
12	144 07.2	+02.6	N 01 37.1	-00.1
13	159 09.8	+02.7	N 01 37.0	-00.1
14	174 12.5	+02.6	N 01 36.9	+00.0
15	189 15.1	+02.7	N 01 36.9	-00.1
16	204 17.8	+02.6	N 01 36.8	-00.1
17	219 20.4	+02.7	N 01 36.7	-00.1
18	234 23.1	+02.6	N 01 36.6	-00.1
19	249 25.7	+02.6	N 01 36.5	-00.1
20	264 28.3	+02.7	N 01 36.4	-00.1
21	279 31.0	+02.6	N 01 36.3	-00.1
22	294 33.6	+02.7	N 01 36.2	-00.1
23	309 36.3	+02.6	N 01 36.1	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	352°	352°	352°	352°

Greenwich Culmination Time: 02:25

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	7 10.0	+02.7	S 15 38.9	+00.1
01	22 12.7	+02.6	S 15 39.0	+00.0
02	37 15.3	+02.7	S 15 39.0	+00.1
03	52 18.0	+02.6	S 15 39.1	+00.0
04	67 20.6	+02.6	S 15 39.1	+00.1
05	82 23.2	+02.7	S 15 39.2	+00.1
06	97 25.9	+02.6	S 15 39.3	+00.0
07	112 28.5	+02.7	S 15 39.3	+00.1
08	127 31.2	+02.6	S 15 39.4	+00.1
09	142 33.8	+02.7	S 15 39.5	+00.0
10	157 36.5	+02.6	S 15 39.5	+00.1
11	172 39.1	+02.7	S 15 39.6	+00.0
12	187 41.8	+02.6	S 15 39.6	+00.1
13	202 44.4	+02.6	S 15 39.7	+00.1
14	217 47.0	+02.7	S 15 39.8	+00.0
15	232 49.7	+02.6	S 15 39.8	+00.1
16	247 52.3	+02.7	S 15 39.9	+00.0
17	262 55.0	+02.6	S 15 39.9	+00.1
18	277 57.6	+02.7	S 15 40.0	+00.1
19	293 00.3	+02.6	S 15 40.1	+00.0
20	308 02.9	+02.6	S 15 40.1	+00.1
21	323 05.5	+02.7	S 15 40.2	+00.1
22	338 08.2	+02.6	S 15 40.3	+00.0
23	353 10.8	+02.7	S 15 40.3	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 23:27

2022 August 28 Sunday (day 240 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	179 39.0	+00.2	N 09 47.4	-00.9
01	194 39.2	+00.1	N 09 46.5	-00.9
02	209 39.3	+00.2	N 09 45.6	-00.9
03	224 39.5	+00.2	N 09 44.7	-00.8
04	239 39.7	+00.2	N 09 43.9	-00.9
05	254 39.9	+00.2	N 09 43.0	-00.9
06	269 40.1	+00.2	N 09 42.1	-00.9
07	284 40.3	+00.1	N 09 41.2	-00.9
08	299 40.4	+00.2	N 09 40.3	-00.9
09	314 40.6	+00.2	N 09 39.4	-00.8
10	329 40.8	+00.2	N 09 38.6	-00.9
11	344 41.0	+00.2	N 09 37.7	-00.9
12	359 41.2	+00.2	N 09 36.8	-00.9
13	14 41.4	+00.1	N 09 35.9	-00.9
14	29 41.5	+00.2	N 09 35.0	-00.9
15	44 41.7	+00.2	N 09 34.1	-00.8
16	59 41.9	+00.2	N 09 33.3	-00.9
17	74 42.1	+00.2	N 09 32.4	-00.9
18	89 42.3	+00.2	N 09 31.5	-00.9
19	104 42.5	+00.2	N 09 30.6	-00.9
20	119 42.7	+00.1	N 09 29.7	-00.9
21	134 42.8	+00.2	N 09 28.8	-00.9
22	149 43.0	+00.2	N 09 27.9	-00.9
23	164 43.2	+00.2	N 09 27.0	-00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	203°	203°	203°	203°	203°	203°

Greenwich Culmination Time: 12:01

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	193 32.8	-00.6	N 15 46.9	-00.9
01	208 32.2	-00.6	N 15 46.0	-00.9
02	223 31.6	-00.6	N 15 45.1	-01.0
03	238 31.0	-00.6	N 15 44.1	-00.9
04	253 30.4	-00.6	N 15 43.2	-00.9
05	268 29.8	-00.6	N 15 42.3	-00.9
06	283 29.2	-00.6	N 15 41.4	-00.9
07	298 28.6	-00.6	N 15 40.5	-00.9
08	313 28.0	-00.6	N 15 39.6	-00.9
09	328 27.4	-00.6	N 15 38.7	-00.9
10	343 26.8	-00.5	N 15 37.8	-00.9
11	358 26.3	-00.6	N 15 36.9	-00.9
12	13 25.7	-00.6	N 15 36.0	-01.0
13	28 25.1	-00.6	N 15 35.0	-00.9
14	43 24.5	-00.6	N 15 34.1	-00.9
15	58 23.9	-00.6	N 15 33.2	-00.9
16	73 23.3	-00.6	N 15 32.3	-00.9
17	88 22.7	-00.6	N 15 31.4	-00.9
18	103 22.1	-00.6	N 15 30.5	-01.0
19	118 21.5	-00.6	N 15 29.5	-00.9
20	133 20.9	-00.5	N 15 28.6	-00.9
21	148 20.4	-00.6	N 15 27.7	-00.9
22	163 19.8	-00.6	N 15 26.8	-00.9
23	178 19.2	-00.6	N 15 25.9	-01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	217°	217°	217°	217°	216°	216°

Greenwich Culmination Time: 11:06

Moon

A: 03%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	170 50.4	-26.4	N 11 08.4	-13.2
01	185 24.0	-26.4	N 10 55.2	-13.3
02	199 57.6	-26.3	N 10 41.9	-13.2
03	214 31.3	-26.3	N 10 28.7	-13.4
04	229 05.0	-26.3	N 10 15.3	-13.4
05	243 38.7	-26.3	N 10 01.9	-13.4
06	258 12.4	-26.2	N 09 48.5	-13.5
07	272 46.2	-26.3	N 09 35.0	-13.6
08	287 19.9	-26.2	N 09 21.4	-13.6
09	301 53.7	-26.2	N 09 07.8	-13.6
10	316 27.5	-26.1	N 08 54.2	-13.7
11	331 01.4	-26.2	N 08 40.5	-13.7
12	345 35.2	-26.1	N 08 26.8	-13.8
13	0 09.1	-26.2	N 08 13.0	-13.8
14	14 42.9	-26.1	N 07 59.2	-13.9
15	29 16.8	-26.1	N 07 45.3	-13.9
16	43 50.7	-26.1	N 07 31.4	-13.9
17	58 24.6	-26.1	N 07 17.5	-14.0
18	72 58.5	-26.0	N 07 03.5	-14.0
19	87 32.5	-26.1	N 06 49.5	-14.0
20	102 06.4	-26.0	N 06 35.5	-14.1
21	116 40.4	-26.1	N 06 21.4	-14.2
22	131 14.3	-26.0	N 06 07.2	-14.1
23	145 48.3	-26.1	N 05 53.1	-14.2

UT	02	06	10	14	18	22
SD	15′1	15′1	15′1	15′2	15′2	15′2
HP	55′4	55′5	55′6	55′7	55′7	55′8
SHA	194°	192°	190°	188°	186°	184°

Greenwich Culmination Time: 12:59

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	273 31.6	+01.0	N 19 40.1	+00.3
01	288 32.6	+01.1	N 19 40.4	+00.3
02	303 33.7	+01.0	N 19 40.7	+00.3
03	318 34.7	+01.0	N 19 41.0	+00.3
04	333 35.7	+01.0	N 19 41.3	+00.3
05	348 36.7	+01.1	N 19 41.6	+00.2
06	3 37.8	+01.0	N 19 41.8	+00.3
07	18 38.8	+01.0	N 19 42.1	+00.3
08	33 39.8	+01.0	N 19 42.4	+00.3
09	48 40.8	+01.1	N 19 42.7	+00.3
10	63 41.9	+01.0	N 19 43.0	+00.3
11	78 42.9	+01.0	N 19 43.3	+00.3
12	93 43.9	+01.1	N 19 43.6	+00.3
13	108 45.0	+01.0	N 19 43.9	+00.3
14	123 46.0	+01.0	N 19 44.2	+00.2
15	138 47.0	+01.0	N 19 44.4	+00.3
16	153 48.0	+01.1	N 19 44.7	+00.3
17	168 49.1	+01.0	N 19 45.0	+00.3
18	183 50.1	+01.0	N 19 45.3	+00.3
19	198 51.1	+01.1	N 19 45.6	+00.3
20	213 52.2	+01.0	N 19 45.9	+00.3
21	228 53.2	+01.0	N 19 46.2	+00.2
22	243 54.2	+01.1	N 19 46.4	+00.3
23	258 55.3	+01.0	N 19 46.7	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′2
SHA	297°	297°	297°	297°	297°	297°

Greenwich Culmination Time: 05:45

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	328 54.4	+02.7	N 01 26.9	-00.1
01	343 57.1	+02.7	N 01 26.8	-00.1
02	358 59.8	+02.7	N 01 26.7	-00.1
03	14 02.5	+02.6	N 01 26.6	-00.1
04	29 05.1	+02.7	N 01 26.5	-00.1
05	44 07.8	+02.7	N 01 26.4	-00.1
06	59 10.5	+02.7	N 01 26.3	-00.1
07	74 13.2	+02.6	N 01 26.2	-00.1
08	89 15.8	+02.7	N 01 26.1	-00.1
09	104 18.5	+02.7	N 01 26.0	-00.1
10	119 21.2	+02.7	N 01 25.9	-00.1
11	134 23.9	+02.6	N 01 25.8	-00.1
12	149 26.5	+02.7	N 01 25.7	-00.1
13	164 29.2	+02.7	N 01 25.6	-00.1
14	179 31.9	+02.7	N 01 25.5	-00.1
15	194 34.6	+02.7	N 01 25.4	-00.1
16	209 37.3	+02.6	N 01 25.3	-00.1
17	224 39.9	+02.7	N 01 25.2	-00.1
18	239 42.6	+02.7	N 01 25.1	-00.1
19	254 45.3	+02.7	N 01 25.0	-00.1
20	269 48.0	+02.6	N 01 24.9	-00.1
21	284 50.6	+02.7	N 01 24.8	-00.1
22	299 53.3	+02.7	N 01 24.7	-00.1
23	314 56.0	+02.7	N 01 24.6	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 02:04

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	12 27.1	+02.6	S 15 46.2	+00.0
01	27 29.7	+02.7	S 15 46.2	+00.1
02	42 32.4	+02.6	S 15 46.3	+00.0
03	57 35.0	+02.7	S 15 46.3	+00.1
04	72 37.7	+02.6	S 15 46.4	+00.1
05	87 40.3	+02.6	S 15 46.5	+00.0
06	102 42.9	+02.7	S 15 46.5	+00.1
07	117 45.6	+02.6	S 15 46.6	+00.0
08	132 48.2	+02.7	S 15 46.6	+00.1
09	147 50.9	+02.6	S 15 46.7	+00.1
10	162 53.5	+02.6	S 15 46.8	+00.0
11	177 56.1	+02.7	S 15 46.8	+00.1
12	192 58.8	+02.6	S 15 46.9	+00.0
13	208 01.4	+02.7	S 15 46.9	+00.1
14	223 04.1	+02.6	S 15 47.0	+00.0
15	238 06.7	+02.6	S 15 47.0	+00.1
16	253 09.3	+02.7	S 15 47.1	+00.1
17	268 12.0	+02.6	S 15 47.2	+00.0
18	283 14.6	+02.6	S 15 47.2	+00.1
19	298 17.2	+02.7	S 15 47.3	+00.0
20	313 19.9	+02.6	S 15 47.3	+00.1
21	328 22.5	+02.7	S 15 47.4	+00.1
22	343 25.2	+02.6	S 15 47.5	+00.0
23	358 27.8	+02.6	S 15 47.5	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 23:06

2022 August 25 Thursday (day 237 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	179 26.3	+00.1	N 10 50.1	-00.9
01	194 26.4	+00.2	N 10 49.2	-00.8
02	209 26.6	+00.2	N 10 48.4	-00.9
03	224 26.8	+00.1	N 10 47.5	-00.8
04	239 26.9	+00.2	N 10 46.7	-00.9
05	254 27.1	+00.2	N 10 45.8	-00.9
06	269 27.3	+00.2	N 10 44.9	-00.8
07	284 27.5	+00.1	N 10 44.1	-00.9
08	299 27.6	+00.2	N 10 43.2	-00.9
09	314 27.8	+00.2	N 10 42.3	-00.8
10	329 28.0	+00.1	N 10 41.5	-00.9
11	344 28.1	+00.2	N 10 40.6	-00.8
12	359 28.3	+00.2	N 10 39.8	-00.9
13	14 28.5	+00.2	N 10 38.9	-00.9
14	29 28.7	+00.1	N 10 38.0	-00.8
15	44 28.8	+00.2	N 10 37.2	-00.9
16	59 29.0	+00.2	N 10 36.3	-00.9
17	74 29.2	+00.2	N 10 35.4	-00.8
18	89 29.4	+00.1	N 10 34.6	-00.9
19	104 29.5	+00.2	N 10 33.7	-00.9
20	119 29.7	+00.2	N 10 32.8	-00.8
21	134 29.9	+00.2	N 10 32.0	-00.9
22	149 30.1	+00.1	N 10 31.1	-00.9
23	164 30.2	+00.2	N 10 30.2	-00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	206°	206°	206°	206°	206°	205°

Greenwich Culmination Time: 12:02

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	194 16.8	-00.6	N 16 49.9	-00.8
01	209 16.2	-00.6	N 16 49.1	-00.9
02	224 15.6	-00.7	N 16 48.2	-00.8
03	239 14.9	-00.6	N 16 47.4	-00.9
04	254 14.3	-00.6	N 16 46.5	-00.8
05	269 13.7	-00.6	N 16 45.7	-00.9
06	284 13.1	-00.7	N 16 44.8	-00.8
07	299 12.4	-00.6	N 16 44.0	-00.9
08	314 11.8	-00.6	N 16 43.1	-00.8
09	329 11.2	-00.6	N 16 42.3	-00.9
10	344 10.6	-00.7	N 16 41.4	-00.9
11	359 09.9	-00.6	N 16 40.5	-00.8
12	14 09.3	-00.6	N 16 39.7	-00.9
13	29 08.7	-00.6	N 16 38.8	-00.8
14	44 08.1	-00.6	N 16 38.0	-00.9
15	59 07.5	-00.7	N 16 37.1	-00.8
16	74 06.8	-00.6	N 16 36.3	-00.9
17	89 06.2	-00.6	N 16 35.4	-00.9
18	104 05.6	-00.6	N 16 34.5	-00.8
19	119 05.0	-00.6	N 16 33.7	-00.9
20	134 04.4	-00.7	N 16 32.8	-00.9
21	149 03.7	-00.6	N 16 31.9	-00.8
22	164 03.1	-00.6	N 16 31.1	-00.9
23	179 02.5	-00.6	N 16 30.2	-00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	221°	221°	221°	220°	220°	220°

Greenwich Culmination Time: 11:03

Moon

A: 94%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	204 08.8	-29.3	N 23 40.7	-07.1
01	218 39.5	-29.3	N 23 33.6	-07.2
02	233 10.2	-29.2	N 23 26.4	-07.3
03	247 41.0	-29.2	N 23 19.1	-07.4
04	262 11.8	-29.1	N 23 11.7	-07.6
05	276 42.7	-29.1	N 23 04.1	-07.6
06	291 13.6	-29.1	N 22 56.5	-07.8
07	305 44.5	-29.0	N 22 48.7	-07.9
08	320 15.5	-29.0	N 22 40.8	-08.0
09	334 46.5	-28.9	N 22 32.8	-08.0
10	349 17.6	-28.8	N 22 24.8	-08.2
11	3 48.8	-28.9	N 22 16.6	-08.3
12	18 19.9	-28.8	N 22 08.3	-08.4
13	32 51.1	-28.7	N 21 59.9	-08.5
14	47 22.4	-28.7	N 21 51.4	-08.6
15	61 53.7	-28.6	N 21 42.8	-08.7
16	76 25.1	-28.6	N 21 34.1	-08.8
17	90 56.5	-28.6	N 21 25.3	-08.9
18	105 27.9	-28.5	N 21 16.4	-09.0
19	119 59.4	-28.4	N 21 07.4	-09.1
20	134 31.0	-28.4	N 20 58.3	-09.2
21	149 02.6	-28.4	N 20 49.1	-09.3
22	163 34.2	-28.3	N 20 39.8	-09.4
23	178 05.9	-28.3	N 20 30.4	-09.5

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′9	14′9
HP	54′4	54′4	54′4	54′4	54′5	54′6
SHA	230°	228°	226°	224°	221°	219°

Greenwich Culmination Time: 10:44

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	272 18.9	+01.0	N 19 18.5	+00.3
01	287 19.9	+01.0	N 19 18.8	+00.3
02	302 20.9	+01.0	N 19 19.1	+00.3
03	317 21.9	+01.0	N 19 19.4	+00.3
04	332 22.9	+01.0	N 19 19.7	+00.3
05	347 23.9	+01.0	N 19 20.0	+00.3
06	2 24.9	+01.0	N 19 20.3	+00.3
07	17 25.9	+01.0	N 19 20.6	+00.4
08	32 26.9	+01.0	N 19 21.0	+00.3
09	47 27.9	+01.0	N 19 21.3	+00.3
10	62 28.9	+01.0	N 19 21.6	+00.3
11	77 29.9	+01.0	N 19 21.9	+00.3
12	92 30.9	+01.0	N 19 22.2	+00.3
13	107 31.9	+01.0	N 19 22.5	+00.3
14	122 32.9	+01.0	N 19 22.8	+00.3
15	137 33.9	+01.0	N 19 23.1	+00.3
16	152 34.9	+01.0	N 19 23.4	+00.3
17	167 35.9	+01.0	N 19 23.7	+00.3
18	182 36.9	+01.0	N 19 24.0	+00.3
19	197 37.9	+01.0	N 19 24.3	+00.3
20	212 38.9	+01.0	N 19 24.6	+00.3
21	227 39.9	+01.0	N 19 24.9	+00.3
22	242 40.9	+01.0	N 19 25.2	+00.3
23	257 41.9	+01.0	N 19 25.5	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	299°	299°	299°	299°	299°	299°

Greenwich Culmination Time: 05:50

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	325 42.6	+02.6	N 01 33.9	-00.1
01	340 45.2	+02.7	N 01 33.8	-00.1
02	355 47.9	+02.7	N 01 33.7	-00.1
03	10 50.6	+02.6	N 01 33.6	-00.1
04	25 53.2	+02.7	N 01 33.5	-00.1
05	40 55.9	+02.6	N 01 33.4	-00.1
06	55 58.5	+02.7	N 01 33.3	-00.1
07	71 01.2	+02.6	N 01 33.2	-00.1
08	86 03.8	+02.7	N 01 33.1	-00.1
09	101 06.5	+02.7	N 01 33.0	-00.1
10	116 09.2	+02.6	N 01 32.9	-00.1
11	131 11.8	+02.7	N 01 32.8	-00.1
12	146 14.5	+02.6	N 01 32.7	+00.0
13	161 17.1	+02.7	N 01 32.7	-00.1
14	176 19.8	+02.6	N 01 32.6	-00.1
15	191 22.4	+02.7	N 01 32.5	-00.1
16	206 25.1	+02.7	N 01 32.4	-00.1
17	221 27.8	+02.6	N 01 32.3	-00.1
18	236 30.4	+02.7	N 01 32.2	-00.1
19	251 33.1	+02.6	N 01 32.1	-00.1
20	266 35.7	+02.7	N 01 32.0	-00.1
21	281 38.4	+02.7	N 01 31.9	-00.1
22	296 41.1	+02.6	N 01 31.8	-00.1
23	311 43.7	+02.7	N 01 31.7	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	352°	352°	353°	353°	353°	353°

Greenwich Culmination Time: 02:16

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	9 16.9	+02.7	S 15 41.8	+00.1
01	24 19.6	+02.6	S 15 41.9	+00.1
02	39 22.2	+02.6	S 15 42.0	+00.0
03	54 24.8	+02.7	S 15 42.0	+00.1
04	69 27.5	+02.6	S 15 42.1	+00.0
05	84 30.1	+02.7	S 15 42.1	+00.1
06	99 32.8	+02.6	S 15 42.2	+00.1
07	114 35.4	+02.7	S 15 42.3	+00.0
08	129 38.1	+02.6	S 15 42.3	+00.1
09	144 40.7	+02.6	S 15 42.4	+00.0
10	159 43.3	+02.7	S 15 42.4	+00.1
11	174 46.0	+02.6	S 15 42.5	+00.1
12	189 48.6	+02.7	S 15 42.6	+00.0
13	204 51.3	+02.6	S 15 42.6	+00.1
14	219 53.9	+02.7	S 15 42.7	+00.0
15	234 56.6	+02.6	S 15 42.7	+00.1
16	249 59.2	+02.6	S 15 42.8	+00.1
17	265 01.8	+02.7	S 15 42.9	+00.0
18	280 04.5	+02.6	S 15 42.9	+00.1
19	295 07.1	+02.7	S 15 43.0	+00.0
20	310 09.8	+02.6	S 15 43.0	+00.1
21	325 12.4	+02.7	S 15 43.1	+00.1
22	340 15.1	+02.6	S 15 43.2	+00.0
23	355 17.7	+02.6	S 15 43.2	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 23:18

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2022 August 26 Friday (day 238 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 30.4	+00.2	N 10 29.4	-00.9
01	194 30.6	+00.2	N 10 28.5	-00.9
02	209 30.8	+00.1	N 10 27.6	-00.8
03	224 30.9	+00.2	N 10 26.8	-00.9
04	239 31.1	+00.2	N 10 25.9	-00.9
05	254 31.3	+00.2	N 10 25.0	-00.8
06	269 31.5	+00.1	N 10 24.2	-00.9
07	284 31.6	+00.2	N 10 23.3	-00.9
08	299 31.8	+00.2	N 10 22.4	-00.9
09	314 32.0	+00.2	N 10 21.5	-00.8
10	329 32.2	+00.1	N 10 20.7	-00.9
11	344 32.3	+00.2	N 10 19.8	-00.9
12	359 32.5	+00.2	N 10 18.9	-00.8
13	14 32.7	+00.2	N 10 18.1	-00.9
14	29 32.9	+00.1	N 10 17.2	-00.9
15	44 33.0	+00.2	N 10 16.3	-00.9
16	59 33.2	+00.2	N 10 15.4	-00.8
17	74 33.4	+00.2	N 10 14.6	-00.9
18	89 33.6	+00.2	N 10 13.7	-00.9
19	104 33.8	+00.1	N 10 12.8	-00.8
20	119 33.9	+00.2	N 10 12.0	-00.9
21	134 34.1	+00.2	N 10 11.1	-00.9
22	149 34.3	+00.2	N 10 10.2	-00.9
23	164 34.5	+00.1	N 10 09.3	-00.8

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	205°	205°	205°	205°	205°	204°

Greenwich Culmination Time: 12:01

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	194 01.9	-00.6	N 16 29.4	-00.9
01	209 01.3	-00.6	N 16 28.5	-00.9
02	224 00.7	-00.6	N 16 27.6	-00.8
03	239 00.1	-00.7	N 16 26.8	-00.9
04	253 59.4	-00.6	N 16 25.9	-00.9
05	268 58.8	-00.6	N 16 25.0	-00.9
06	283 58.2	-00.6	N 16 24.1	-00.8
07	298 57.6	-00.6	N 16 23.3	-00.9
08	313 57.0	-00.6	N 16 22.4	-00.9
09	328 56.4	-00.6	N 16 21.5	-00.8
10	343 55.8	-00.7	N 16 20.7	-00.9
11	358 55.1	-00.6	N 16 19.8	-00.9
12	13 54.5	-00.6	N 16 18.9	-00.9
13	28 53.9	-00.6	N 16 18.0	-00.9
14	43 53.3	-00.6	N 16 17.1	-00.8
15	58 52.7	-00.6	N 16 16.3	-00.9
16	73 52.1	-00.6	N 16 15.4	-00.9
17	88 51.5	-00.6	N 16 14.5	-00.9
18	103 50.9	-00.6	N 16 13.6	-00.8
19	118 50.3	-00.6	N 16 12.8	-00.9
20	133 49.7	-00.7	N 16 11.9	-00.9
21	148 49.0	-00.6	N 16 11.0	-00.9
22	163 48.4	-00.6	N 16 10.1	-00.9
23	178 47.8	-00.6	N 16 09.2	-00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	220°	219°	219°	219°	219°	219°

Greenwich Culmination Time: 11:04

Moon

A: 97%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	192 37.6	-28.2	N 20 20.9	-09.6
01	207 09.4	-28.2	N 20 11.3	-09.7
02	221 41.2	-28.1	N 20 01.6	-09.8
03	236 13.1	-28.1	N 19 51.8	-09.8
04	250 45.0	-28.0	N 19 42.0	-10.0
05	265 17.0	-28.0	N 19 32.0	-10.0
06	279 49.0	-28.0	N 19 22.0	-10.2
07	294 21.0	-27.9	N 19 11.8	-10.2
08	308 53.1	-27.8	N 19 01.6	-10.3
09	323 25.3	-27.8	N 18 51.3	-10.4
10	337 57.5	-27.8	N 18 40.9	-10.5
11	352 29.7	-27.7	N 18 30.4	-10.6
12	7 02.0	-27.7	N 18 19.8	-10.7
13	21 34.3	-27.6	N 18 09.1	-10.7
14	36 06.7	-27.6	N 17 58.4	-10.9
15	50 39.1	-27.5	N 17 47.5	-10.9
16	65 11.6	-27.5	N 17 36.6	-11.0
17	79 44.1	-27.5	N 17 25.6	-11.1
18	94 16.6	-27.4	N 17 14.5	-11.1
19	108 49.2	-27.4	N 17 03.4	-11.3
20	123 21.8	-27.3	N 16 52.1	-11.3
21	137 54.5	-27.3	N 16 40.8	-11.4
22	152 27.2	-27.3	N 16 29.4	-11.5
23	166 59.9	-27.2	N 16 17.9	-11.5

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	15′0	15′0
HP	54′6	54′7	54′8	54′8	54′9	55′0
SHA	217°	215°	213°	211°	209°	207°

Greenwich Culmination Time: 11:30

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	272 42.9	+01.0	N 19 25.8	+00.3
01	287 43.9	+01.0	N 19 26.1	+00.3
02	302 44.9	+01.0	N 19 26.4	+00.4
03	317 45.9	+01.0	N 19 26.8	+00.3
04	332 46.9	+01.0	N 19 27.1	+00.3
05	347 47.9	+01.0	N 19 27.4	+00.3
06	2 48.9	+01.1	N 19 27.7	+00.3
07	17 50.0	+01.0	N 19 28.0	+00.3
08	32 51.0	+01.0	N 19 28.3	+00.3
09	47 52.0	+01.0	N 19 28.6	+00.3
10	62 53.0	+01.0	N 19 28.9	+00.3
11	77 54.0	+01.0	N 19 29.2	+00.3
12	92 55.0	+01.0	N 19 29.5	+00.3
13	107 56.0	+01.0	N 19 29.8	+00.3
14	122 57.0	+01.0	N 19 30.1	+00.3
15	137 58.0	+01.0	N 19 30.4	+00.3
16	152 59.0	+01.1	N 19 30.7	+00.3
17	168 00.1	+01.0	N 19 31.0	+00.3
18	183 01.1	+01.0	N 19 31.3	+00.3
19	198 02.1	+01.0	N 19 31.6	+00.3
20	213 03.1	+01.0	N 19 31.9	+00.3
21	228 04.1	+01.0	N 19 32.2	+00.3
22	243 05.1	+01.0	N 19 32.5	+00.3
23	258 06.1	+01.1	N 19 32.8	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	298°	298°	298°	298°	298°	298°

Greenwich Culmination Time: 05:48

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	326 46.4	+02.7	N 01 31.6	-00.1
01	341 49.1	+02.6	N 01 31.5	-00.1
02	356 51.7	+02.7	N 01 31.4	-00.1
03	11 54.4	+02.6	N 01 31.3	-00.1
04	26 57.0	+02.7	N 01 31.2	-00.1
05	41 59.7	+02.7	N 01 31.1	-00.1
06	57 02.4	+02.6	N 01 31.0	+00.0
07	72 05.0	+02.7	N 01 31.0	-00.1
08	87 07.7	+02.7	N 01 30.9	-00.1
09	102 10.4	+02.6	N 01 30.8	-00.1
10	117 13.0	+02.7	N 01 30.7	-00.1
11	132 15.7	+02.6	N 01 30.6	-00.1
12	147 18.3	+02.7	N 01 30.5	-00.1
13	162 21.0	+02.7	N 01 30.4	-00.1
14	177 23.7	+02.6	N 01 30.3	-00.1
15	192 26.3	+02.7	N 01 30.2	-00.1
16	207 29.0	+02.7	N 01 30.1	-00.1
17	222 31.7	+02.6	N 01 30.0	-00.1
18	237 34.3	+02.7	N 01 29.9	-00.1
19	252 37.0	+02.7	N 01 29.8	-00.1
20	267 39.7	+02.6	N 01 29.7	-00.1
21	282 42.3	+02.7	N 01 29.6	-00.1
22	297 45.0	+02.7	N 01 29.5	-00.1
23	312 47.7	+02.6	N 01 29.4	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 02:12

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	10 20.3	+02.7	S 15 43.3	+00.1
01	25 23.0	+02.6	S 15 43.4	+00.0
02	40 25.6	+02.7	S 15 43.4	+00.1
03	55 28.3	+02.6	S 15 43.5	+00.0
04	70 30.9	+02.6	S 15 43.5	+00.1
05	85 33.5	+02.7	S 15 43.6	+00.1
06	100 36.2	+02.6	S 15 43.7	+00.0
07	115 38.8	+02.7	S 15 43.7	+00.1
08	130 41.5	+02.6	S 15 43.8	+00.0
09	145 44.1	+02.7	S 15 43.8	+00.1
10	160 46.8	+02.6	S 15 43.9	+00.1
11	175 49.4	+02.6	S 15 44.0	+00.0
12	190 52.0	+02.7	S 15 44.0	+00.1
13	205 54.7	+02.6	S 15 44.1	+00.0
14	220 57.3	+02.7	S 15 44.1	+00.1
15	235 60.0	+02.6	S 15 44.2	+00.1
16	251 02.6	+02.6	S 15 44.3	+00.0
17	266 05.2	+02.7	S 15 44.3	+00.1
18	281 07.9	+02.6	S 15 44.4	+00.0
19	296 10.5	+02.7	S 15 44.4	+00.1
20	311 13.2	+02.6	S 15 44.5	+00.1
21	326 15.8	+02.6	S 15 44.6	+00.0
22	341 18.4	+02.7	S 15 44.6	+00.1
23	356 21.1	+02.6	S 15 44.7	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 23:14

2022 August 27 Saturday (day 239 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 34.6	+00.2	N 10 08.5	-00.9
01	194 34.8	+00.2	N 10 07.6	-00.9
02	209 35.0	+00.2	N 10 06.7	-00.9
03	224 35.2	+00.2	N 10 05.8	-00.8
04	239 35.4	+00.1	N 10 05.0	-00.9
05	254 35.5	+00.2	N 10 04.1	-00.9
06	269 35.7	+00.2	N 10 03.2	-00.9
07	284 35.9	+00.2	N 10 02.3	-00.9
08	299 36.1	+00.2	N 10 01.4	-00.8
09	314 36.3	+00.1	N 10 00.6	-00.9
10	329 36.4	+00.2	N 09 59.7	-00.9
11	344 36.6	+00.2	N 09 58.8	-00.9
12	359 36.8	+00.2	N 09 57.9	-00.8
13	14 37.0	+00.2	N 09 57.1	-00.9
14	29 37.2	+00.1	N 09 56.2	-00.9
15	44 37.3	+00.2	N 09 55.3	-00.9
16	59 37.5	+00.2	N 09 54.4	-00.9
17	74 37.7	+00.2	N 09 53.5	-00.8
18	89 37.9	+00.2	N 09 52.7	-00.9
19	104 38.1	+00.1	N 09 51.8	-00.9
20	119 38.2	+00.2	N 09 50.9	-00.9
21	134 38.4	+00.2	N 09 50.0	-00.9
22	149 38.6	+00.2	N 09 49.1	-00.8
23	164 38.8	+00.2	N 09 48.3	-00.9

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	204°	204°	204°	204°	204°	204°

Greenwich Culmination Time: 12:01

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	193 47.2	-00.6	N 16 08.3	-00.9
01	208 46.6	-00.6	N 16 07.4	-00.8
02	223 46.0	-00.6	N 16 06.6	-00.9
03	238 45.4	-00.6	N 16 05.7	-00.9
04	253 44.8	-00.6	N 16 04.8	-00.9
05	268 44.2	-00.6	N 16 03.9	-00.9
06	283 43.6	-00.6	N 16 03.0	-00.9
07	298 43.0	-00.6	N 16 02.1	-00.9
08	313 42.4	-00.6	N 16 01.2	-00.9
09	328 41.8	-00.6	N 16 00.3	-00.9
10	343 41.2	-00.6	N 15 59.4	-00.9
11	358 40.6	-00.6	N 15 58.5	-00.8
12	13 40.0	-00.6	N 15 57.7	-00.9
13	28 39.4	-00.6	N 15 56.8	-00.9
14	43 38.8	-00.6	N 15 55.9	-00.9
15	58 38.2	-00.6	N 15 55.0	-00.9
16	73 37.6	-00.6	N 15 54.1	-00.9
17	88 37.0	-00.6	N 15 53.2	-00.9
18	103 36.4	-00.6	N 15 52.3	-00.9
19	118 35.8	-00.6	N 15 51.4	-00.9
20	133 35.2	-00.6	N 15 50.5	-00.9
21	148 34.6	-00.6	N 15 49.6	-00.9
22	163 34.0	-00.6	N 15 48.7	-00.9
23	178 33.4	-00.6	N 15 47.8	-00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	218°	218°	218°	218°	218°	217°

Greenwich Culmination Time: 11:05

Moon

A: 00%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	181 32.7	-27.1	N 16 06.4	-11.7
01	196 05.6	-27.2	N 15 54.7	-11.7
02	210 38.4	-27.1	N 15 43.0	-11.7
03	225 11.3	-27.0	N 15 31.3	-11.9
04	239 44.3	-27.0	N 15 19.4	-11.9
05	254 17.3	-27.0	N 15 07.5	-12.0
06	268 50.3	-27.0	N 14 55.5	-12.1
07	283 23.3	-26.9	N 14 43.4	-12.1
08	297 56.4	-26.8	N 14 31.3	-12.2
09	312 29.6	-26.9	N 14 19.1	-12.3
10	327 02.7	-26.8	N 14 06.8	-12.3
11	341 35.9	-26.7	N 13 54.5	-12.4
12	356 09.2	-26.8	N 13 42.1	-12.5
13	10 42.4	-26.7	N 13 29.6	-12.5
14	25 15.7	-26.6	N 13 17.1	-12.6
15	39 49.1	-26.7	N 13 04.5	-12.7
16	54 22.4	-26.6	N 12 51.8	-12.7
17	68 55.8	-26.6	N 12 39.1	-12.8
18	83 29.2	-26.5	N 12 26.3	-12.8
19	98 02.7	-26.5	N 12 13.5	-12.9
20	112 36.2	-26.5	N 12 00.6	-13.0
21	127 09.7	-26.5	N 11 47.6	-13.0
22	141 43.2	-26.4	N 11 34.6	-13.1
23	156 16.8	-26.4	N 11 21.5	-13.1

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	15′0	15′1	15′1
HP	55′0	55′1	55′2	55′2	55′3	55′4
SHA	205°	203°	201°	199°	198°	196°

Greenwich Culmination Time: 12:15

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	273 07.2	+01.0	N 19 33.0	+00.3
01	288 08.2	+01.0	N 19 33.3	+00.3
02	303 09.2	+01.0	N 19 33.6	+00.3
03	318 10.2	+01.0	N 19 33.9	+00.3
04	333 11.2	+01.0	N 19 34.2	+00.3
05	348 12.2	+01.0	N 19 34.5	+00.3
06	3 13.2	+01.1	N 19 34.8	+00.3
07	18 14.3	+01.0	N 19 35.1	+00.3
08	33 15.3	+01.0	N 19 35.4	+00.3
09	48 16.3	+01.0	N 19 35.7	+00.3
10	63 17.3	+01.0	N 19 36.0	+00.3
11	78 18.3	+01.1	N 19 36.3	+00.3
12	93 19.4	+01.0	N 19 36.6	+00.3
13	108 20.4	+01.0	N 19 36.9	+00.3
14	123 21.4	+01.0	N 19 37.2	+00.3
15	138 22.4	+01.0	N 19 37.5	+00.3
16	153 23.4	+01.1	N 19 37.8	+00.3
17	168 24.5	+01.0	N 19 38.1	+00.3
18	183 25.5	+01.0	N 19 38.4	+00.2
19	198 26.5	+01.0	N 19 38.6	+00.3
20	213 27.5	+01.0	N 19 38.9	+00.3
21	228 28.5	+01.1	N 19 39.2	+00.3
22	243 29.6	+01.0	N 19 39.5	+00.3
23	258 30.6	+01.0	N 19 39.8	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	298°	298°	298°	298°	297°	297°

Greenwich Culmination Time: 05:47

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	327 50.3	+02.7	N 01 29.3	-00.1
01	342 53.0	+02.7	N 01 29.2	-00.1
02	357 55.7	+02.6	N 01 29.1	-00.1
03	12 58.3	+02.7	N 01 29.0	-00.1
04	28 01.0	+02.7	N 01 28.9	-00.1
05	43 03.7	+02.7	N 01 28.8	-00.1
06	58 06.4	+02.6	N 01 28.7	-00.1
07	73 09.0	+02.7	N 01 28.6	-00.1
08	88 11.7	+02.7	N 01 28.5	-00.1
09	103 14.4	+02.6	N 01 28.4	-00.1
10	118 17.0	+02.7	N 01 28.3	-00.1
11	133 19.7	+02.7	N 01 28.2	-00.1
12	148 22.4	+02.6	N 01 28.1	-00.1
13	163 25.0	+02.7	N 01 28.0	-00.1
14	178 27.7	+02.7	N 01 27.9	-00.1
15	193 30.4	+02.7	N 01 27.8	-00.1
16	208 33.1	+02.6	N 01 27.7	-00.1
17	223 35.7	+02.7	N 01 27.6	-00.1
18	238 38.4	+02.7	N 01 27.5	-00.1
19	253 41.1	+02.6	N 01 27.4	-00.1
20	268 43.7	+02.7	N 01 27.3	-00.1
21	283 46.4	+02.7	N 01 27.2	-00.1
22	298 49.1	+02.7	N 01 27.1	-00.1
23	313 51.8	+02.6	N 01 27.0	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 02:08

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	11 23.7	+02.7	S 15 44.7	+00.1
01	26 26.4	+02.6	S 15 44.8	+00.1
02	41 29.0	+02.7	S 15 44.9	+00.0
03	56 31.7	+02.6	S 15 44.9	+00.1
04	71 34.3	+02.6	S 15 45.0	+00.0
05	86 36.9	+02.7	S 15 45.0	+00.1
06	101 39.6	+02.6	S 15 45.1	+00.0
07	116 42.2	+02.7	S 15 45.1	+00.1
08	131 44.9	+02.6	S 15 45.2	+00.1
09	146 47.5	+02.6	S 15 45.3	+00.0
10	161 50.1	+02.7	S 15 45.3	+00.1
11	176 52.8	+02.6	S 15 45.4	+00.0
12	191 55.4	+02.7	S 15 45.4	+00.1
13	206 58.1	+02.6	S 15 45.5	+00.1
14	222 00.7	+02.6	S 15 45.6	+00.0
15	237 03.3	+02.7	S 15 45.6	+00.1
16	252 06.0	+02.6	S 15 45.7	+00.0
17	267 08.6	+02.7	S 15 45.7	+00.1
18	282 11.3	+02.6	S 15 45.8	+00.1
19	297 13.9	+02.6	S 15 45.9	+00.0
20	312 16.5	+02.7	S 15 45.9	+00.1
21	327 19.2	+02.6	S 15 46.0	+00.0
22	342 21.8	+02.7	S 15 46.0	+00.1
23	357 24.5	+02.6	S 15 46.1	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 23:10

2022 September 1 Thursday (day 244 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 57.2	+00.2	N 08 21.6	-00.9
01	194 57.4	+00.2	N 08 20.7	-00.9
02	209 57.6	+00.2	N 08 19.8	-00.9
03	224 57.8	+00.2	N 08 18.9	-00.9
04	239 58.0	+00.2	N 08 18.0	-00.9
05	254 58.2	+00.2	N 08 17.1	-00.9
06	269 58.4	+00.2	N 08 16.2	-00.9
07	284 58.6	+00.2	N 08 15.3	-00.9
08	299 58.8	+00.2	N 08 14.4	-00.9
09	314 59.0	+00.2	N 08 13.5	-01.0
10	329 59.2	+00.2	N 08 12.5	-00.9
11	344 59.4	+00.2	N 08 11.6	-00.9
12	359 59.6	+00.2	N 08 10.7	-00.9
13	14 59.8	+00.2	N 08 09.8	-00.9
14	29 60.0	+00.2	N 08 08.9	-00.9
15	45 00.2	+00.2	N 08 08.0	-00.9
16	60 00.4	+00.2	N 08 07.1	-00.9
17	75 00.6	+00.2	N 08 06.2	-00.9
18	90 00.8	+00.2	N 08 05.3	-00.9
19	105 01.0	+00.2	N 08 04.4	-00.9
20	120 01.2	+00.2	N 08 03.5	-01.0
21	135 01.4	+00.2	N 08 02.5	-00.9
22	150 01.6	+00.2	N 08 01.6	-00.9
23	165 01.8	+00.2	N 08 00.7	-00.9

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	200°	200°	199°	199°	199°	199°

Greenwich Culmination Time: 12:00

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	192 37.4	-00.5	N 14 16.6	-00.9
01	207 36.9	-00.6	N 14 15.7	-01.0
02	222 36.3	-00.5	N 14 14.7	-01.0
03	237 35.8	-00.6	N 14 13.7	-01.0
04	252 35.2	-00.5	N 14 12.7	-00.9
05	267 34.7	-00.6	N 14 11.8	-01.0
06	282 34.1	-00.6	N 14 10.8	-01.0
07	297 33.5	-00.5	N 14 09.8	-01.0
08	312 33.0	-00.6	N 14 08.8	-01.0
09	327 32.4	-00.5	N 14 07.8	-00.9
10	342 31.9	-00.6	N 14 06.9	-01.0
11	357 31.3	-00.5	N 14 05.9	-01.0
12	12 30.8	-00.6	N 14 04.9	-01.0
13	27 30.2	-00.5	N 14 03.9	-01.0
14	42 29.7	-00.6	N 14 02.9	-01.0
15	57 29.1	-00.5	N 14 01.9	-00.9
16	72 28.6	-00.6	N 14 01.0	-01.0
17	87 28.0	-00.5	N 13 60.0	-01.0
18	102 27.5	-00.6	N 13 59.0	-01.0
19	117 26.9	-00.5	N 13 58.0	-01.0
20	132 26.4	-00.6	N 13 57.0	-01.0
21	147 25.8	-00.5	N 13 56.0	-01.0
22	162 25.3	-00.6	N 13 55.0	-01.0
23	177 24.7	-00.5	N 13 54.0	-00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	212°	212°	212°	212°	212°	211°

Greenwich Culmination Time: 11:09

Moon

A: 15%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	128 15.5	-28.5	S 11 47.5	+13.9
01	142 47.0	-28.5	S 12 01.4	+13.8
02	157 18.5	-28.7	S 12 15.2	+13.8
03	171 49.8	-28.7	S 12 29.0	+13.8
04	186 21.1	-28.8	S 12 42.8	+13.7
05	200 52.3	-28.8	S 12 56.5	+13.6
06	215 23.5	-29.0	S 13 10.1	+13.6
07	229 54.5	-29.0	S 13 23.7	+13.5
08	244 25.5	-29.1	S 13 37.2	+13.5
09	258 56.4	-29.2	S 13 50.7	+13.5
10	273 27.2	-29.3	S 14 04.2	+13.3
11	287 57.9	-29.4	S 14 17.5	+13.3
12	302 28.5	-29.4	S 14 30.8	+13.3
13	316 59.1	-29.6	S 14 44.1	+13.1
14	331 29.5	-29.6	S 14 57.2	+13.2
15	345 59.9	-29.7	S 15 10.4	+13.0
16	0 30.2	-29.8	S 15 23.4	+13.0
17	15 00.4	-29.9	S 15 36.4	+12.9
18	29 30.5	-30.0	S 15 49.3	+12.8
19	44 00.5	-30.1	S 16 02.1	+12.8
20	58 30.4	-30.2	S 16 14.9	+12.7
21	73 00.2	-30.3	S 16 27.6	+12.6
22	87 29.9	-30.3	S 16 40.2	+12.6
23	101 59.6	-30.5	S 16 52.8	+12.4

UT	02	06	10	14	18	22
SD	15′6	15′7	15′7	15′7	15′7	15′8
HP	57′4	57′5	57′6	57′7	57′8	57′9
SHA	147°	145°	143°	141°	139°	136°

Greenwich Culmination Time: 15:57

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	275 11.8	+01.0	N 20 06.9	+00.2
01	290 12.8	+01.1	N 20 07.1	+00.3
02	305 13.9	+01.1	N 20 07.4	+00.3
03	320 15.0	+01.0	N 20 07.7	+00.2
04	335 16.0	+01.1	N 20 07.9	+00.3
05	350 17.1	+01.1	N 20 08.2	+00.3
06	5 18.2	+01.0	N 20 08.5	+00.2
07	20 19.2	+01.1	N 20 08.7	+00.3
08	35 20.3	+01.1	N 20 09.0	+00.3
09	50 21.4	+01.0	N 20 09.3	+00.2
10	65 22.4	+01.1	N 20 09.5	+00.3
11	80 23.5	+01.1	N 20 09.8	+00.2
12	95 24.6	+01.0	N 20 10.0	+00.3
13	110 25.6	+01.1	N 20 10.3	+00.3
14	125 26.7	+01.1	N 20 10.6	+00.2
15	140 27.8	+01.1	N 20 10.8	+00.3
16	155 28.9	+01.0	N 20 11.1	+00.3
17	170 29.9	+01.1	N 20 11.4	+00.2
18	185 31.0	+01.1	N 20 11.6	+00.3
19	200 32.1	+01.0	N 20 11.9	+00.3
20	215 33.1	+01.1	N 20 12.2	+00.2
21	230 34.2	+01.1	N 20 12.4	+00.3
22	245 35.3	+01.1	N 20 12.7	+00.2
23	260 36.4	+01.0	N 20 12.9	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	295°	295°	295°	295°	295°	295°

Greenwich Culmination Time: 05:38

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	333 12.2	+02.7	N 01 16.9	-00.1
01	348 14.9	+02.7	N 01 16.8	-00.1
02	3 17.6	+02.7	N 01 16.7	-00.1
03	18 20.3	+02.7	N 01 16.6	-00.1
04	33 23.0	+02.7	N 01 16.5	-00.1
05	48 25.7	+02.7	N 01 16.4	-00.1
06	63 28.4	+02.7	N 01 16.3	-00.1
07	78 31.1	+02.7	N 01 16.2	-00.1
08	93 33.8	+02.7	N 01 16.1	-00.1
09	108 36.5	+02.7	N 01 16.0	-00.1
10	123 39.2	+02.7	N 01 15.9	-00.2
11	138 41.9	+02.7	N 01 15.7	-00.1
12	153 44.6	+02.7	N 01 15.6	-00.1
13	168 47.3	+02.7	N 01 15.5	-00.1
14	183 50.0	+02.7	N 01 15.4	-00.1
15	198 52.7	+02.7	N 01 15.3	-00.1
16	213 55.4	+02.7	N 01 15.2	-00.1
17	228 58.1	+02.7	N 01 15.1	-00.1
18	244 00.8	+02.7	N 01 15.0	-00.1
19	259 03.5	+02.7	N 01 14.9	-00.1
20	274 06.2	+02.7	N 01 14.8	-00.2
21	289 08.9	+02.7	N 01 14.6	-00.1
22	304 11.6	+02.7	N 01 14.5	-00.1
23	319 14.3	+02.7	N 01 14.4	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 01:46

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	16 40.3	+02.6	S 15 51.7	+00.1
01	31 42.9	+02.6	S 15 51.8	+00.0
02	46 45.5	+02.7	S 15 51.8	+00.1
03	61 48.2	+02.6	S 15 51.9	+00.1
04	76 50.8	+02.6	S 15 52.0	+00.0
05	91 53.4	+02.7	S 15 52.0	+00.1
06	106 56.1	+02.6	S 15 52.1	+00.0
07	121 58.7	+02.6	S 15 52.1	+00.1
08	137 01.3	+02.7	S 15 52.2	+00.0
09	152 04.0	+02.6	S 15 52.2	+00.1
10	167 06.6	+02.6	S 15 52.3	+00.0
11	182 09.2	+02.7	S 15 52.3	+00.1
12	197 11.9	+02.6	S 15 52.4	+00.1
13	212 14.5	+02.6	S 15 52.5	+00.0
14	227 17.1	+02.7	S 15 52.5	+00.1
15	242 19.8	+02.6	S 15 52.6	+00.0
16	257 22.4	+02.6	S 15 52.6	+00.1
17	272 25.0	+02.7	S 15 52.7	+00.0
18	287 27.7	+02.6	S 15 52.7	+00.1
19	302 30.3	+02.6	S 15 52.8	+00.1
20	317 32.9	+02.7	S 15 52.9	+00.0
21	332 35.6	+02.6	S 15 52.9	+00.1
22	347 38.2	+02.6	S 15 53.0	+00.0
23	2 40.8	+02.7	S 15 53.0	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 22:49

2022 August 29 Monday (day 241 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 43.4	+00.2	N 09 26.2	-00.9
01	194 43.6	+00.2	N 09 25.3	-00.9
02	209 43.8	+00.2	N 09 24.4	-00.9
03	224 44.0	+00.2	N 09 23.5	-00.9
04	239 44.2	+00.1	N 09 22.6	-00.9
05	254 44.3	+00.2	N 09 21.7	-00.9
06	269 44.5	+00.2	N 09 20.8	-00.9
07	284 44.7	+00.2	N 09 19.9	-00.8
08	299 44.9	+00.2	N 09 19.1	-00.9
09	314 45.1	+00.2	N 09 18.2	-00.9
10	329 45.3	+00.2	N 09 17.3	-00.9
11	344 45.5	+00.2	N 09 16.4	-00.9
12	359 45.7	+00.1	N 09 15.5	-00.9
13	14 45.8	+00.2	N 09 14.6	-00.9
14	29 46.0	+00.2	N 09 13.7	-00.9
15	44 46.2	+00.2	N 09 12.8	-00.9
16	59 46.4	+00.2	N 09 11.9	-00.9
17	74 46.6	+00.2	N 09 11.0	-00.9
18	89 46.8	+00.2	N 09 10.1	-00.8
19	104 47.0	+00.2	N 09 09.3	-00.9
20	119 47.2	+00.2	N 09 08.4	-00.9
21	134 47.4	+00.1	N 09 07.5	-00.9
22	149 47.5	+00.2	N 09 06.6	-00.9
23	164 47.7	+00.2	N 09 05.7	-00.9

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	202°	202°	202°	202°	202°	202°

Greenwich Culmination Time: 12:00

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	193 18.6	-00.6	N 15 24.9	-00.9
01	208 18.0	-00.6	N 15 24.0	-00.9
02	223 17.4	-00.6	N 15 23.1	-00.9
03	238 16.8	-00.5	N 15 22.2	-01.0
04	253 16.3	-00.6	N 15 21.2	-00.9
05	268 15.7	-00.6	N 15 20.3	-00.9
06	283 15.1	-00.6	N 15 19.4	-00.9
07	298 14.5	-00.6	N 15 18.5	-01.0
08	313 13.9	-00.6	N 15 17.5	-00.9
09	328 13.3	-00.5	N 15 16.6	-00.9
10	343 12.8	-00.6	N 15 15.7	-00.9
11	358 12.2	-00.6	N 15 14.8	-01.0
12	13 11.6	-00.6	N 15 13.8	-00.9
13	28 11.0	-00.6	N 15 12.9	-00.9
14	43 10.4	-00.6	N 15 12.0	-01.0
15	58 09.8	-00.5	N 15 11.0	-00.9
16	73 09.3	-00.6	N 15 10.1	-00.9
17	88 08.7	-00.6	N 15 09.2	-01.0
18	103 08.1	-00.6	N 15 08.2	-00.9
19	118 07.5	-00.5	N 15 07.3	-01.0
20	133 07.0	-00.6	N 15 06.3	-00.9
21	148 06.4	-00.6	N 15 05.4	-00.9
22	163 05.8	-00.6	N 15 04.5	-01.0
23	178 05.2	-00.6	N 15 03.5	-00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	216°	216°	216°	215°	215°	215°

Greenwich Culmination Time: 11:07

Moon

A: 06%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	160 22.2	-26.0	N 05 38.9	-14.3
01	174 56.2	-26.0	N 05 24.6	-14.2
02	189 30.2	-26.0	N 05 10.4	-14.3
03	204 04.2	-26.0	N 04 56.1	-14.3
04	218 38.2	-26.1	N 04 41.8	-14.4
05	233 12.1	-26.0	N 04 27.4	-14.4
06	247 46.1	-26.0	N 04 13.0	-14.4
07	262 20.1	-26.0	N 03 58.6	-14.4
08	276 54.1	-26.0	N 03 44.2	-14.5
09	291 28.1	-26.1	N 03 29.7	-14.4
10	306 02.0	-26.0	N 03 15.3	-14.5
11	320 36.0	-26.0	N 03 00.8	-14.6
12	335 10.0	-26.1	N 02 46.2	-14.5
13	349 43.9	-26.0	N 02 31.7	-14.6
14	4 17.9	-26.1	N 02 17.1	-14.6
15	18 51.8	-26.1	N 02 02.5	-14.6
16	33 25.7	-26.1	N 01 47.9	-14.6
17	47 59.6	-26.1	N 01 33.3	-14.6
18	62 33.5	-26.1	N 01 18.7	-14.7
19	77 07.4	-26.1	N 01 04.0	-14.7
20	91 41.3	-26.1	N 00 49.3	-14.7
21	106 15.2	-26.2	N 00 34.6	-14.7
22	120 49.0	-26.2	N 00 19.9	-14.7
23	135 22.8	-26.2	N 00 05.2	-14.7

UT	02	06	10	14	18	22
SD	15′2	15′3	15′3	15′3	15′3	15′3
HP	55′9	56′0	56′1	56′1	56′2	56′3
SHA	182°	180°	178°	177°	175°	173°

Greenwich Culmination Time: 13:42

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	273 56.3	+01.0	N 19 47.0	+00.3
01	288 57.3	+01.1	N 19 47.3	+00.3
02	303 58.4	+01.0	N 19 47.6	+00.3
03	318 59.4	+01.0	N 19 47.9	+00.2
04	334 00.4	+01.1	N 19 48.1	+00.3
05	349 01.5	+01.0	N 19 48.4	+00.3
06	4 02.5	+01.0	N 19 48.7	+00.3
07	19 03.5	+01.1	N 19 49.0	+00.3
08	34 04.6	+01.0	N 19 49.3	+00.3
09	49 05.6	+01.1	N 19 49.6	+00.2
10	64 06.7	+01.0	N 19 49.8	+00.3
11	79 07.7	+01.0	N 19 50.1	+00.3
12	94 08.7	+01.1	N 19 50.4	+00.3
13	109 09.8	+01.0	N 19 50.7	+00.3
14	124 10.8	+01.0	N 19 51.0	+00.3
15	139 11.8	+01.1	N 19 51.3	+00.2
16	154 12.9	+01.0	N 19 51.5	+00.3
17	169 13.9	+01.1	N 19 51.8	+00.3
18	184 15.0	+01.0	N 19 52.1	+00.3
19	199 16.0	+01.0	N 19 52.4	+00.3
20	214 17.0	+01.1	N 19 52.7	+00.2
21	229 18.1	+01.0	N 19 52.9	+00.3
22	244 19.1	+01.1	N 19 53.2	+00.3
23	259 20.2	+01.0	N 19 53.5	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	297°	297°	297°	296°	296°	296°

Greenwich Culmination Time: 05:43

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	329 58.7	+02.7	N 01 24.5	-00.1
01	345 01.4	+02.6	N 01 24.4	-00.1
02	0 04.0	+02.7	N 01 24.3	-00.1
03	15 06.7	+02.7	N 01 24.2	-00.1
04	30 09.4	+02.7	N 01 24.1	-00.1
05	45 12.1	+02.7	N 01 24.0	-00.1
06	60 14.8	+02.6	N 01 23.9	-00.1
07	75 17.4	+02.7	N 01 23.8	-00.1
08	90 20.1	+02.7	N 01 23.7	-00.1
09	105 22.8	+02.7	N 01 23.6	-00.1
10	120 25.5	+02.7	N 01 23.5	-00.1
11	135 28.2	+02.7	N 01 23.4	-00.1
12	150 30.9	+02.6	N 01 23.3	-00.1
13	165 33.5	+02.7	N 01 23.2	-00.1
14	180 36.2	+02.7	N 01 23.1	-00.1
15	195 38.9	+02.7	N 01 23.0	-00.1
16	210 41.6	+02.7	N 01 22.9	-00.1
17	225 44.3	+02.7	N 01 22.8	-00.1
18	240 47.0	+02.6	N 01 22.7	-00.1
19	255 49.6	+02.7	N 01 22.6	-00.1
20	270 52.3	+02.7	N 01 22.5	-00.1
21	285 55.0	+02.7	N 01 22.4	-00.1
22	300 57.7	+02.7	N 01 22.3	-00.1
23	316 00.4	+02.7	N 01 22.2	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 01:59

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	13 30.4	+02.7	S 15 47.6	+00.0
01	28 33.1	+02.6	S 15 47.6	+00.1
02	43 35.7	+02.7	S 15 47.7	+00.0
03	58 38.4	+02.6	S 15 47.7	+00.1
04	73 41.0	+02.6	S 15 47.8	+00.1
05	88 43.6	+02.7	S 15 47.9	+00.0
06	103 46.3	+02.6	S 15 47.9	+00.1
07	118 48.9	+02.6	S 15 48.0	+00.0
08	133 51.5	+02.7	S 15 48.0	+00.1
09	148 54.2	+02.6	S 15 48.1	+00.1
10	163 56.8	+02.7	S 15 48.2	+00.0
11	178 59.5	+02.6	S 15 48.2	+00.1
12	194 02.1	+02.6	S 15 48.3	+00.0
13	209 04.7	+02.7	S 15 48.3	+00.1
14	224 07.4	+02.6	S 15 48.4	+00.0
15	239 10.0	+02.7	S 15 48.4	+00.1
16	254 12.7	+02.6	S 15 48.5	+00.1
17	269 15.3	+02.6	S 15 48.6	+00.0
18	284 17.9	+02.7	S 15 48.6	+00.1
19	299 20.6	+02.6	S 15 48.7	+00.0
20	314 23.2	+02.6	S 15 48.7	+00.1
21	329 25.8	+02.7	S 15 48.8	+00.1
22	344 28.5	+02.6	S 15 48.9	+00.0
23	359 31.1	+02.6	S 15 48.9	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 23:01

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2022 August 30 Tuesday (day 242 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	179 47.9	+00.2	N 09 04.8	-00.9
01	194 48.1	+00.2	N 09 03.9	-00.9
02	209 48.3	+00.2	N 09 03.0	-00.9
03	224 48.5	+00.2	N 09 02.1	-00.9
04	239 48.7	+00.2	N 09 01.2	-00.9
05	254 48.9	+00.2	N 09 00.3	-00.9
06	269 49.1	+00.2	N 08 59.4	-00.9
07	284 49.3	+00.1	N 08 58.5	-00.9
08	299 49.4	+00.2	N 08 57.6	-00.9
09	314 49.6	+00.2	N 08 56.7	-00.9
10	329 49.8	+00.2	N 08 55.8	-00.9
11	344 50.0	+00.2	N 08 54.9	-00.9
12	359 50.2	+00.2	N 08 54.0	-00.9
13	14 50.4	+00.2	N 08 53.1	-00.8
14	29 50.6	+00.2	N 08 52.3	-00.9
15	44 50.8	+00.2	N 08 51.4	-00.9
16	59 51.0	+00.2	N 08 50.5	-00.9
17	74 51.2	+00.2	N 08 49.6	-00.9
18	89 51.4	+00.2	N 08 48.7	-00.9
19	104 51.6	+00.2	N 08 47.8	-00.9
20	119 51.8	+00.1	N 08 46.9	-00.9
21	134 51.9	+00.2	N 08 46.0	-00.9
22	149 52.1	+00.2	N 08 45.1	-00.9
23	164 52.3	+00.2	N 08 44.2	-00.9

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	202°	201°	201°	201°	201°	201°

Greenwich Culmination Time: 12:00

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	193 04.6	-00.5	N 15 02.6	-00.9
01	208 04.1	-00.6	N 15 01.7	-01.0
02	223 03.5	-00.6	N 15 00.7	-00.9
03	238 02.9	-00.6	N 14 59.8	-01.0
04	253 02.3	-00.5	N 14 58.8	-00.9
05	268 01.8	-00.6	N 14 57.9	-01.0
06	283 01.2	-00.6	N 14 56.9	-00.9
07	298 00.6	-00.6	N 14 56.0	-01.0
08	313 00.0	-00.5	N 14 55.0	-00.9
09	327 59.5	-00.6	N 14 54.1	-00.9
10	342 58.9	-00.6	N 14 53.2	-01.0
11	357 58.3	-00.5	N 14 52.2	-00.9
12	12 57.8	-00.6	N 14 51.3	-01.0
13	27 57.2	-00.6	N 14 50.3	-00.9
14	42 56.6	-00.6	N 14 49.4	-01.0
15	57 56.0	-00.5	N 14 48.4	-00.9
16	72 55.5	-00.6	N 14 47.5	-01.0
17	87 54.9	-00.6	N 14 46.5	-00.9
18	102 54.3	-00.5	N 14 45.6	-01.0
19	117 53.8	-00.6	N 14 44.6	-01.0
20	132 53.2	-00.6	N 14 43.6	-00.9
21	147 52.6	-00.5	N 14 42.7	-01.0
22	162 52.1	-00.6	N 14 41.7	-00.9
23	177 51.5	-00.6	N 14 40.8	-01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	215°	215°	214°	214°	214°	214°

Greenwich Culmination Time: 11:08

Moon

A: 09%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	149 56.6	-26.2	S 00 09.5	+14.7
01	164 30.4	-26.2	S 00 24.2	+14.8
02	179 04.2	-26.3	S 00 39.0	+14.7
03	193 37.9	-26.3	S 00 53.7	+14.7
04	208 11.6	-26.3	S 01 08.4	+14.8
05	222 45.3	-26.3	S 01 23.2	+14.8
06	237 19.0	-26.3	S 01 38.0	+14.7
07	251 52.7	-26.4	S 01 52.7	+14.8
08	266 26.3	-26.4	S 02 07.5	+14.8
09	280 59.9	-26.5	S 02 22.3	+14.7
10	295 33.4	-26.4	S 02 37.0	+14.8
11	310 07.0	-26.5	S 02 51.8	+14.8
12	324 40.5	-26.6	S 03 06.6	+14.7
13	339 13.9	-26.6	S 03 21.3	+14.8
14	353 47.3	-26.6	S 03 36.1	+14.7
15	8 20.7	-26.6	S 03 50.8	+14.8
16	22 54.1	-26.7	S 04 05.6	+14.7
17	37 27.4	-26.7	S 04 20.3	+14.8
18	52 00.7	-26.8	S 04 35.1	+14.7
19	66 33.9	-26.8	S 04 49.8	+14.7
20	81 07.1	-26.8	S 05 04.5	+14.7
21	95 40.3	-26.9	S 05 19.2	+14.7
22	110 13.4	-26.9	S 05 33.9	+14.7
23	124 46.5	-27.0	S 05 48.6	+14.6

UT	02	06	10	14	18	22
SD	15′4	15′4	15′4	15′4	15′5	15′5
HP	56′4	56′5	56′6	56′6	56′7	56′8
SHA	171°	169°	167°	165°	163°	161°

Greenwich Culmination Time: 14:25

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	274 21.2	+01.1	N 19 53.8	+00.3
01	289 22.3	+01.0	N 19 54.1	+00.2
02	304 23.3	+01.0	N 19 54.3	+00.3
03	319 24.3	+01.1	N 19 54.6	+00.3
04	334 25.4	+01.0	N 19 54.9	+00.3
05	349 26.4	+01.1	N 19 55.2	+00.2
06	4 27.5	+01.0	N 19 55.4	+00.3
07	19 28.5	+01.1	N 19 55.7	+00.3
08	34 29.6	+01.0	N 19 56.0	+00.3
09	49 30.6	+01.1	N 19 56.3	+00.2
10	64 31.7	+01.0	N 19 56.5	+00.3
11	79 32.7	+01.1	N 19 56.8	+00.3
12	94 33.8	+01.0	N 19 57.1	+00.3
13	109 34.8	+01.1	N 19 57.4	+00.3
14	124 35.9	+01.0	N 19 57.7	+00.2
15	139 36.9	+01.1	N 19 57.9	+00.3
16	154 38.0	+01.0	N 19 58.2	+00.3
17	169 39.0	+01.1	N 19 58.5	+00.3
18	184 40.1	+01.0	N 19 58.8	+00.2
19	199 41.1	+01.1	N 19 59.0	+00.3
20	214 42.2	+01.0	N 19 59.3	+00.3
21	229 43.2	+01.1	N 19 59.6	+00.2
22	244 44.3	+01.0	N 19 59.8	+00.3
23	259 45.3	+01.1	N 20 00.1	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	296°	296°	296°	296°	296°	296°

Greenwich Culmination Time: 05:42

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	331 03.1	+02.6	N 01 22.1	-00.2
01	346 05.7	+02.7	N 01 21.9	-00.1
02	1 08.4	+02.7	N 01 21.8	-00.1
03	16 11.1	+02.7	N 01 21.7	-00.1
04	31 13.8	+02.7	N 01 21.6	-00.1
05	46 16.5	+02.7	N 01 21.5	-00.1
06	61 19.2	+02.7	N 01 21.4	-00.1
07	76 21.9	+02.6	N 01 21.3	-00.1
08	91 24.5	+02.7	N 01 21.2	-00.1
09	106 27.2	+02.7	N 01 21.1	-00.1
10	121 29.9	+02.7	N 01 21.0	-00.1
11	136 32.6	+02.7	N 01 20.9	-00.1
12	151 35.3	+02.7	N 01 20.8	-00.1
13	166 38.0	+02.7	N 01 20.7	-00.1
14	181 40.7	+02.7	N 01 20.6	-00.1
15	196 43.4	+02.7	N 01 20.5	-00.1
16	211 46.1	+02.6	N 01 20.4	-00.1
17	226 48.7	+02.7	N 01 20.3	-00.1
18	241 51.4	+02.7	N 01 20.2	-00.1
19	256 54.1	+02.7	N 01 20.1	-00.2
20	271 56.8	+02.7	N 01 19.9	-00.1
21	286 59.5	+02.7	N 01 19.8	-00.1
22	302 02.2	+02.7	N 01 19.7	-00.1
23	317 04.9	+02.7	N 01 19.6	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 01:55

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	14 33.7	+02.7	S 15 49.0	+00.0
01	29 36.4	+02.6	S 15 49.0	+00.1
02	44 39.0	+02.7	S 15 49.1	+00.0
03	59 41.7	+02.6	S 15 49.1	+00.1
04	74 44.3	+02.6	S 15 49.2	+00.1
05	89 46.9	+02.7	S 15 49.3	+00.0
06	104 49.6	+02.6	S 15 49.3	+00.1
07	119 52.2	+02.6	S 15 49.4	+00.0
08	134 54.8	+02.7	S 15 49.4	+00.1
09	149 57.5	+02.6	S 15 49.5	+00.1
10	165 00.1	+02.7	S 15 49.6	+00.0
11	180 02.8	+02.6	S 15 49.6	+00.1
12	195 05.4	+02.6	S 15 49.7	+00.0
13	210 08.0	+02.7	S 15 49.7	+00.1
14	225 10.7	+02.6	S 15 49.8	+00.0
15	240 13.3	+02.6	S 15 49.8	+00.1
16	255 15.9	+02.7	S 15 49.9	+00.1
17	270 18.6	+02.6	S 15 50.0	+00.0
18	285 21.2	+02.6	S 15 50.0	+00.1
19	300 23.8	+02.7	S 15 50.1	+00.0
20	315 26.5	+02.6	S 15 50.1	+00.1
21	330 29.1	+02.7	S 15 50.2	+00.0
22	345 31.8	+02.6	S 15 50.2	+00.1
23	0 34.4	+02.6	S 15 50.3	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 22:57

2022 August 31 Wednesday (day 243 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	179 52.5	+00.2	N 08 43.3	-00.9
01	194 52.7	+00.2	N 08 42.4	-00.9
02	209 52.9	+00.2	N 08 41.5	-00.9
03	224 53.1	+00.2	N 08 40.6	-00.9
04	239 53.3	+00.2	N 08 39.7	-00.9
05	254 53.5	+00.2	N 08 38.8	-00.9
06	269 53.7	+00.2	N 08 37.9	-00.9
07	284 53.9	+00.2	N 08 37.0	-00.9
08	299 54.1	+00.2	N 08 36.1	-00.9
09	314 54.3	+00.2	N 08 35.2	-00.9
10	329 54.5	+00.2	N 08 34.3	-00.9
11	344 54.7	+00.2	N 08 33.4	-00.9
12	359 54.9	+00.2	N 08 32.5	-00.9
13	14 55.1	+00.2	N 08 31.6	-01.0
14	29 55.3	+00.1	N 08 30.6	-00.9
15	44 55.4	+00.2	N 08 29.7	-00.9
16	59 55.6	+00.2	N 08 28.8	-00.9
17	74 55.8	+00.2	N 08 27.9	-00.9
18	89 56.0	+00.2	N 08 27.0	-00.9
19	104 56.2	+00.2	N 08 26.1	-00.9
20	119 56.4	+00.2	N 08 25.2	-00.9
21	134 56.6	+00.2	N 08 24.3	-00.9
22	149 56.8	+00.2	N 08 23.4	-00.9
23	164 57.0	+00.2	N 08 22.5	-00.9

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′8	15′8	15′8
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	201°	200°	200°	200°	200°	200°

Greenwich Culmination Time: 12:00

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	192 50.9	-00.5	N 14 39.8	-00.9
01	207 50.4	-00.6	N 14 38.9	-01.0
02	222 49.8	-00.6	N 14 37.9	-01.0
03	237 49.2	-00.5	N 14 36.9	-00.9
04	252 48.7	-00.6	N 14 36.0	-01.0
05	267 48.1	-00.6	N 14 35.0	-00.9
06	282 47.5	-00.5	N 14 34.1	-01.0
07	297 47.0	-00.6	N 14 33.1	-01.0
08	312 46.4	-00.6	N 14 32.1	-00.9
09	327 45.8	-00.5	N 14 31.2	-01.0
10	342 45.3	-00.6	N 14 30.2	-01.0
11	357 44.7	-00.6	N 14 29.2	-00.9
12	12 44.1	-00.5	N 14 28.3	-01.0
13	27 43.6	-00.6	N 14 27.3	-01.0
14	42 43.0	-00.5	N 14 26.3	-00.9
15	57 42.5	-00.6	N 14 25.4	-01.0
16	72 41.9	-00.6	N 14 24.4	-01.0
17	87 41.3	-00.5	N 14 23.4	-00.9
18	102 40.8	-00.6	N 14 22.5	-01.0
19	117 40.2	-00.5	N 14 21.5	-01.0
20	132 39.7	-00.6	N 14 20.5	-00.9
21	147 39.1	-00.6	N 14 19.6	-01.0
22	162 38.5	-00.5	N 14 18.6	-01.0
23	177 38.0	-00.6	N 14 17.6	-01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	214°	213°	213°	213°	213°	213°

Greenwich Culmination Time: 11:09

Moon

A: 12%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	139 19.5	-27.0	S 06 03.2	+14.7
01	153 52.5	-27.1	S 06 17.9	+14.6
02	168 25.4	-27.1	S 06 32.5	+14.6
03	182 58.3	-27.1	S 06 47.1	+14.6
04	197 31.2	-27.3	S 07 01.7	+14.6
05	212 03.9	-27.2	S 07 16.3	+14.5
06	226 36.7	-27.4	S 07 30.8	+14.5
07	241 09.3	-27.3	S 07 45.3	+14.5
08	255 42.0	-27.5	S 07 59.8	+14.5
09	270 14.5	-27.5	S 08 14.3	+14.4
10	284 47.0	-27.5	S 08 28.7	+14.4
11	299 19.5	-27.6	S 08 43.1	+14.4
12	313 51.9	-27.7	S 08 57.5	+14.4
13	328 24.2	-27.7	S 09 11.9	+14.3
14	342 56.5	-27.8	S 09 26.2	+14.3
15	357 28.7	-27.9	S 09 40.5	+14.3
16	12 00.8	-27.9	S 09 54.8	+14.2
17	26 32.9	-28.0	S 10 09.0	+14.2
18	41 04.9	-28.1	S 10 23.2	+14.1
19	55 36.8	-28.1	S 10 37.3	+14.1
20	70 08.7	-28.2	S 10 51.4	+14.1
21	84 40.5	-28.2	S 11 05.5	+14.0
22	99 12.3	-28.4	S 11 19.5	+14.0
23	113 43.9	-28.4	S 11 33.5	+14.0

UT	02	06	10	14	18	22
SD	15′5	15′5	15′6	15′6	15′6	15′6
HP	56′9	57′0	57′1	57′2	57′3	57′3
SHA	159°	157°	155°	153°	151°	149°

Greenwich Culmination Time: 15:10

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	274 46.4	+01.0	N 20 00.4	+00.3
01	289 47.4	+01.1	N 20 00.7	+00.2
02	304 48.5	+01.0	N 20 00.9	+00.3
03	319 49.5	+01.1	N 20 01.2	+00.3
04	334 50.6	+01.0	N 20 01.5	+00.3
05	349 51.6	+01.1	N 20 01.8	+00.2
06	4 52.7	+01.1	N 20 02.0	+00.3
07	19 53.8	+01.0	N 20 02.3	+00.3
08	34 54.8	+01.1	N 20 02.6	+00.2
09	49 55.9	+01.0	N 20 02.8	+00.3
10	64 56.9	+01.1	N 20 03.1	+00.3
11	79 58.0	+01.0	N 20 03.4	+00.2
12	94 59.0	+01.1	N 20 03.6	+00.3
13	110 00.1	+01.1	N 20 03.9	+00.3
14	125 01.2	+01.0	N 20 04.2	+00.3
15	140 02.2	+01.1	N 20 04.5	+00.2
16	155 03.3	+01.0	N 20 04.7	+00.3
17	170 04.3	+01.1	N 20 05.0	+00.3
18	185 05.4	+01.1	N 20 05.3	+00.2
19	200 06.5	+01.0	N 20 05.5	+00.3
20	215 07.5	+01.1	N 20 05.8	+00.3
21	230 08.6	+01.1	N 20 06.1	+00.2
22	245 09.7	+01.0	N 20 06.3	+00.3
23	260 10.7	+01.1	N 20 06.6	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	296°	295°	295°	295°	295°	295°

Greenwich Culmination Time: 05:40

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	332 07.6	+02.7	N 01 19.5	-00.1
01	347 10.3	+02.7	N 01 19.4	-00.1
02	2 13.0	+02.6	N 01 19.3	-00.1
03	17 15.6	+02.7	N 01 19.2	-00.1
04	32 18.3	+02.7	N 01 19.1	-00.1
05	47 21.0	+02.7	N 01 19.0	-00.1
06	62 23.7	+02.7	N 01 18.9	-00.1
07	77 26.4	+02.7	N 01 18.8	-00.1
08	92 29.1	+02.7	N 01 18.7	-00.1
09	107 31.8	+02.7	N 01 18.6	-00.1
10	122 34.5	+02.7	N 01 18.5	-00.2
11	137 37.2	+02.7	N 01 18.3	-00.1
12	152 39.9	+02.7	N 01 18.2	-00.1
13	167 42.6	+02.7	N 01 18.1	-00.1
14	182 45.3	+02.7	N 01 18.0	-00.1
15	197 48.0	+02.7	N 01 17.9	-00.1
16	212 50.7	+02.7	N 01 17.8	-00.1
17	227 53.4	+02.6	N 01 17.7	-00.1
18	242 56.0	+02.7	N 01 17.6	-00.1
19	257 58.7	+02.7	N 01 17.5	-00.1
20	273 01.4	+02.7	N 01 17.4	-00.1
21	288 04.1	+02.7	N 01 17.3	-00.1
22	303 06.8	+02.7	N 01 17.2	-00.1
23	318 09.5	+02.7	N 01 17.1	-00.2

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 01:51

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	15 37.0	+02.7	S 15 50.4	+00.0
01	30 39.7	+02.6	S 15 50.4	+00.1
02	45 42.3	+02.6	S 15 50.5	+00.0
03	60 44.9	+02.7	S 15 50.5	+00.1
04	75 47.6	+02.6	S 15 50.6	+00.0
05	90 50.2	+02.6	S 15 50.6	+00.1
06	105 52.8	+02.7	S 15 50.7	+00.1
07	120 55.5	+02.6	S 15 50.8	+00.0
08	135 58.1	+02.6	S 15 50.8	+00.1
09	151 00.7	+02.7	S 15 50.9	+00.0
10	166 03.4	+02.6	S 15 50.9	+00.1
11	181 06.0	+02.7	S 15 51.0	+00.0
12	196 08.7	+02.6	S 15 51.0	+00.1
13	211 11.3	+02.6	S 15 51.1	+00.1
14	226 13.9	+02.7	S 15 51.2	+00.0
15	241 16.6	+02.6	S 15 51.2	+00.1
16	256 19.2	+02.6	S 15 51.3	+00.0
17	271 21.8	+02.7	S 15 51.3	+00.1
18	286 24.5	+02.6	S 15 51.4	+00.0
19	301 27.1	+02.6	S 15 51.4	+00.1
20	316 29.7	+02.7	S 15 51.5	+00.1
21	331 32.4	+02.6	S 15 51.6	+00.0
22	346 35.0	+02.6	S 15 51.6	+00.1
23	1 37.6	+02.7	S 15 51.7	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	037°	037°	037°

Greenwich Culmination Time: 22:53

2022 September 5 Monday (day 248 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 16.7	+00.2	N 06 53.7	-00.9
01	195 16.9	+00.2	N 06 52.8	-00.9
02	210 17.1	+00.2	N 06 51.9	-01.0
03	225 17.3	+00.3	N 06 50.9	-00.9
04	240 17.6	+00.2	N 06 50.0	-00.9
05	255 17.8	+00.2	N 06 49.1	-01.0
06	270 18.0	+00.2	N 06 48.1	-00.9
07	285 18.2	+00.2	N 06 47.2	-00.9
08	300 18.4	+00.2	N 06 46.3	-00.9
09	315 18.6	+00.2	N 06 45.4	-01.0
10	330 18.8	+00.2	N 06 44.4	-00.9
11	345 19.0	+00.2	N 06 43.5	-00.9
12	0 19.2	+00.2	N 06 42.6	-00.9
13	15 19.4	+00.3	N 06 41.7	-01.0
14	30 19.7	+00.2	N 06 40.7	-00.9
15	45 19.9	+00.2	N 06 39.8	-00.9
16	60 20.1	+00.2	N 06 38.9	-01.0
17	75 20.3	+00.2	N 06 37.9	-00.9
18	90 20.5	+00.2	N 06 37.0	-00.9
19	105 20.7	+00.2	N 06 36.1	-00.9
20	120 20.9	+00.2	N 06 35.2	-01.0
21	135 21.1	+00.2	N 06 34.2	-00.9
22	150 21.3	+00.2	N 06 33.3	-00.9
23	165 21.5	+00.3	N 06 32.4	-01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	196°	196°	196°	196°	196°	195°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	191 45.8	-00.5	N 12 40.0	-01.0
01	206 45.3	-00.6	N 12 39.0	-01.0
02	221 44.7	-00.5	N 12 38.0	-01.1
03	236 44.2	-00.5	N 12 36.9	-01.0
04	251 43.7	-00.5	N 12 35.9	-01.1
05	266 43.2	-00.5	N 12 34.8	-01.0
06	281 42.7	-00.6	N 12 33.8	-01.0
07	296 42.1	-00.5	N 12 32.8	-01.1
08	311 41.6	-00.5	N 12 31.7	-01.0
09	326 41.1	-00.5	N 12 30.7	-01.1
10	341 40.6	-00.5	N 12 29.6	-01.0
11	356 40.1	-00.5	N 12 28.6	-01.0
12	11 39.6	-00.6	N 12 27.6	-01.1
13	26 39.0	-00.5	N 12 26.5	-01.0
14	41 38.5	-00.5	N 12 25.5	-01.1
15	56 38.0	-00.5	N 12 24.4	-01.0
16	71 37.5	-00.5	N 12 23.4	-01.1
17	86 37.0	-00.5	N 12 22.3	-01.0
18	101 36.5	-00.5	N 12 21.3	-01.1
19	116 36.0	-00.5	N 12 20.2	-01.0
20	131 35.5	-00.6	N 12 19.2	-01.1
21	146 34.9	-00.5	N 12 18.1	-01.0
22	161 34.4	-00.5	N 12 17.1	-01.1
23	176 33.9	-00.5	N 12 16.0	-01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	208°	207°	207°	207°	207°	207°

Greenwich Culmination Time: 11:13

Moon

A: 31%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	75 26.5	-37.4	S 26 54.9	+02.5
01	89 49.1	-37.5	S 26 57.4	+02.4
02	104 11.6	-37.6	S 26 59.8	+02.1
03	118 34.0	-37.6	S 27 01.9	+02.0
04	132 56.4	-37.7	S 27 03.9	+01.8
05	147 18.7	-37.7	S 27 05.7	+01.6
06	161 41.0	-37.8	S 27 07.3	+01.5
07	176 03.2	-37.8	S 27 08.8	+01.2
08	190 25.4	-37.8	S 27 10.0	+01.0
09	204 47.6	-37.9	S 27 11.0	+00.9
10	219 09.7	-37.9	S 27 11.9	+00.6
11	233 31.8	-37.9	S 27 12.5	+00.5
12	247 53.9	-37.9	S 27 13.0	+00.2
13	262 16.0	-38.0	S 27 13.2	+00.1
14	276 38.0	-38.0	S 27 13.3	-00.1
15	290 60.0	-38.1	S 27 13.2	-00.3
16	305 21.9	-38.0	S 27 12.9	-00.6
17	319 43.9	-38.1	S 27 12.3	-00.7
18	334 05.8	-38.0	S 27 11.6	-00.9
19	348 27.8	-38.1	S 27 10.7	-01.1
20	2 49.7	-38.1	S 27 09.6	-01.2
21	17 11.6	-38.1	S 27 08.4	-01.5
22	31 33.5	-38.1	S 27 06.9	-01.7
23	45 55.4	-38.1	S 27 05.2	-01.9

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′3	16′3	16′3
HP	59′5	59′6	59′6	59′7	59′8	59′8
SHA	090°	087°	085°	082°	079°	077°

Greenwich Culmination Time: 19:48

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	276 56.0	+01.1	N 20 31.4	+00.2
01	291 57.1	+01.1	N 20 31.6	+00.3
02	306 58.2	+01.1	N 20 31.9	+00.2
03	321 59.3	+01.1	N 20 32.1	+00.2
04	337 00.4	+01.1	N 20 32.3	+00.3
05	352 01.5	+01.1	N 20 32.6	+00.2
06	7 02.6	+01.1	N 20 32.8	+00.3
07	22 03.7	+01.1	N 20 33.1	+00.2
08	37 04.8	+01.1	N 20 33.3	+00.3
09	52 05.9	+01.2	N 20 33.6	+00.2
10	67 07.1	+01.1	N 20 33.8	+00.2
11	82 08.2	+01.1	N 20 34.0	+00.3
12	97 09.3	+01.1	N 20 34.3	+00.2
13	112 10.4	+01.1	N 20 34.5	+00.3
14	127 11.5	+01.1	N 20 34.8	+00.2
15	142 12.6	+01.1	N 20 35.0	+00.2
16	157 13.7	+01.2	N 20 35.2	+00.3
17	172 14.9	+01.1	N 20 35.5	+00.2
18	187 16.0	+01.1	N 20 35.7	+00.3
19	202 17.1	+01.1	N 20 36.0	+00.2
20	217 18.2	+01.1	N 20 36.2	+00.2
21	232 19.3	+01.1	N 20 36.4	+00.3
22	247 20.4	+01.2	N 20 36.7	+00.2
23	262 21.6	+01.1	N 20 36.9	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	293°	293°	293°	293°	292°	292°

Greenwich Culmination Time: 05:31

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	337 32.0	+02.8	N 01 06.2	-00.2
01	352 34.8	+02.7	N 01 06.0	-00.1
02	7 37.5	+02.7	N 01 05.9	-00.1
03	22 40.2	+02.7	N 01 05.8	-00.1
04	37 42.9	+02.7	N 01 05.7	-00.1
05	52 45.6	+02.7	N 01 05.6	-00.1
06	67 48.3	+02.8	N 01 05.5	-00.2
07	82 51.1	+02.7	N 01 05.3	-00.1
08	97 53.8	+02.7	N 01 05.2	-00.1
09	112 56.5	+02.7	N 01 05.1	-00.1
10	127 59.2	+02.7	N 01 05.0	-00.1
11	143 01.9	+02.8	N 01 04.9	-00.1
12	158 04.7	+02.7	N 01 04.8	-00.2
13	173 07.4	+02.7	N 01 04.6	-00.1
14	188 10.1	+02.7	N 01 04.5	-00.1
15	203 12.8	+02.7	N 01 04.4	-00.1
16	218 15.5	+02.8	N 01 04.3	-00.1
17	233 18.3	+02.7	N 01 04.2	-00.2
18	248 21.0	+02.7	N 01 04.0	-00.1
19	263 23.7	+02.7	N 01 03.9	-00.1
20	278 26.4	+02.7	N 01 03.8	-00.1
21	293 29.1	+02.8	N 01 03.7	-00.1
22	308 31.9	+02.7	N 01 03.6	-00.1
23	323 34.6	+02.7	N 01 03.5	-00.2

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	354°	354°	354°

Greenwich Culmination Time: 01:29

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	20 52.8	+02.7	S 15 57.0	+00.1
01	35 55.5	+02.6	S 15 57.1	+00.0
02	50 58.1	+02.6	S 15 57.1	+00.1
03	66 00.7	+02.7	S 15 57.2	+00.0
04	81 03.4	+02.6	S 15 57.2	+00.1
05	96 06.0	+02.6	S 15 57.3	+00.0
06	111 08.6	+02.6	S 15 57.3	+00.1
07	126 11.2	+02.7	S 15 57.4	+00.1
08	141 13.9	+02.6	S 15 57.5	+00.0
09	156 16.5	+02.6	S 15 57.5	+00.1
10	171 19.1	+02.6	S 15 57.6	+00.0
11	186 21.7	+02.7	S 15 57.6	+00.1
12	201 24.4	+02.6	S 15 57.7	+00.0
13	216 27.0	+02.6	S 15 57.7	+00.1
14	231 29.6	+02.6	S 15 57.8	+00.0
15	246 32.2	+02.7	S 15 57.8	+00.1
16	261 34.9	+02.6	S 15 57.9	+00.0
17	276 37.5	+02.6	S 15 57.9	+00.1
18	291 40.1	+02.6	S 15 58.0	+00.0
19	306 42.7	+02.7	S 15 58.0	+00.1
20	321 45.4	+02.6	S 15 58.1	+00.0
21	336 48.0	+02.6	S 15 58.1	+00.1
22	351 50.6	+02.7	S 15 58.2	+00.1
23	6 53.3	+02.6	S 15 58.3	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 22:32

2022 September 2 Friday (day 245 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 02.0	+00.2	N 07 59.8	-00.9
01	195 02.2	+00.2	N 07 58.9	-00.9
02	210 02.4	+00.2	N 07 58.0	-00.9
03	225 02.6	+00.2	N 07 57.1	-00.9
04	240 02.8	+00.2	N 07 56.2	-00.9
05	255 03.0	+00.2	N 07 55.3	-00.9
06	270 03.2	+00.2	N 07 54.4	-01.0
07	285 03.4	+00.2	N 07 53.4	-00.9
08	300 03.6	+00.2	N 07 52.5	-00.9
09	315 03.8	+00.2	N 07 51.6	-00.9
10	330 04.0	+00.2	N 07 50.7	-00.9
11	345 04.2	+00.2	N 07 49.8	-00.9
12	0 04.4	+00.2	N 07 48.9	-00.9
13	15 04.6	+00.2	N 07 48.0	-01.0
14	30 04.8	+00.2	N 07 47.0	-00.9
15	45 05.0	+00.2	N 07 46.1	-00.9
16	60 05.2	+00.2	N 07 45.2	-00.9
17	75 05.4	+00.2	N 07 44.3	-00.9
18	90 05.6	+00.2	N 07 43.4	-00.9
19	105 05.8	+00.2	N 07 42.5	-00.9
20	120 06.0	+00.2	N 07 41.6	-01.0
21	135 06.2	+00.2	N 07 40.6	-00.9
22	150 06.4	+00.2	N 07 39.7	-00.9
23	165 06.6	+00.2	N 07 38.8	-00.9

UT	02	06	10	14	18	22
SD	15′8	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	199°	199°	199°	198°	198°	198°

Greenwich Culmination Time: 11:59

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	192 24.2	-00.6	N 13 53.1	-01.0
01	207 23.6	-00.5	N 13 52.1	-01.0
02	222 23.1	-00.6	N 13 51.1	-01.0
03	237 22.5	-00.5	N 13 50.1	-01.0
04	252 22.0	-00.6	N 13 49.1	-01.0
05	267 21.4	-00.5	N 13 48.1	-01.0
06	282 20.9	-00.5	N 13 47.1	-01.0
07	297 20.4	-00.6	N 13 46.1	-01.0
08	312 19.8	-00.5	N 13 45.1	-01.0
09	327 19.3	-00.6	N 13 44.1	-01.0
10	342 18.7	-00.5	N 13 43.1	-01.0
11	357 18.2	-00.6	N 13 42.1	-01.0
12	12 17.6	-00.5	N 13 41.1	-01.0
13	27 17.1	-00.5	N 13 40.1	-01.0
14	42 16.6	-00.6	N 13 39.1	-01.0
15	57 16.0	-00.5	N 13 38.1	-01.0
16	72 15.5	-00.6	N 13 37.1	-01.0
17	87 14.9	-00.5	N 13 36.1	-01.0
18	102 14.4	-00.6	N 13 35.1	-01.0
19	117 13.8	-00.5	N 13 34.1	-01.0
20	132 13.3	-00.5	N 13 33.1	-01.0
21	147 12.8	-00.6	N 13 32.1	-01.0
22	162 12.2	-00.5	N 13 31.1	-01.0
23	177 11.7	-00.5	N 13 30.1	-01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	211°	211°	211°	211°	210°	210°

Greenwich Culmination Time: 11:10

Moon

A: 19%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	116 29.1	-30.6	S 17 05.2	+12.4
01	130 58.5	-30.6	S 17 17.6	+12.3
02	145 27.9	-30.8	S 17 29.9	+12.3
03	159 57.1	-30.8	S 17 42.2	+12.1
04	174 26.3	-31.0	S 17 54.3	+12.0
05	188 55.3	-31.1	S 18 06.3	+12.0
06	203 24.2	-31.1	S 18 18.3	+11.9
07	217 53.1	-31.3	S 18 30.2	+11.8
08	232 21.8	-31.4	S 18 42.0	+11.7
09	246 50.4	-31.4	S 18 53.7	+11.6
10	261 19.0	-31.6	S 19 05.3	+11.5
11	275 47.4	-31.7	S 19 16.8	+11.4
12	290 15.7	-31.8	S 19 28.2	+11.3
13	304 43.9	-31.9	S 19 39.5	+11.2
14	319 12.0	-32.0	S 19 50.7	+11.1
15	333 40.0	-32.1	S 20 01.8	+11.0
16	348 07.9	-32.2	S 20 12.8	+10.9
17	2 35.7	-32.3	S 20 23.7	+10.8
18	17 03.4	-32.4	S 20 34.5	+10.7
19	31 31.0	-32.5	S 20 45.2	+10.5
20	45 58.5	-32.7	S 20 55.7	+10.5
21	60 25.8	-32.7	S 21 06.2	+10.4
22	74 53.1	-32.9	S 21 16.6	+10.2
23	89 20.2	-32.9	S 21 26.8	+10.1

UT	02	06	10	14	18	22
SD	15′8	15′8	15′8	15′9	15′9	15′9
HP	58′0	58′1	58′2	58′2	58′3	58′4
SHA	134°	132°	130°	128°	125°	123°

Greenwich Culmination Time: 16:49

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	275 37.4	+01.1	N 20 13.2	+00.3
01	290 38.5	+01.1	N 20 13.5	+00.2
02	305 39.6	+01.1	N 20 13.7	+00.3
03	320 40.7	+01.0	N 20 14.0	+00.2
04	335 41.7	+01.1	N 20 14.2	+00.3
05	350 42.8	+01.1	N 20 14.5	+00.3
06	5 43.9	+01.1	N 20 14.8	+00.2
07	20 45.0	+01.0	N 20 15.0	+00.3
08	35 46.0	+01.1	N 20 15.3	+00.2
09	50 47.1	+01.1	N 20 15.5	+00.3
10	65 48.2	+01.1	N 20 15.8	+00.3
11	80 49.3	+01.1	N 20 16.1	+00.2
12	95 50.4	+01.0	N 20 16.3	+00.3
13	110 51.4	+01.1	N 20 16.6	+00.2
14	125 52.5	+01.1	N 20 16.8	+00.3
15	140 53.6	+01.1	N 20 17.1	+00.2
16	155 54.7	+01.1	N 20 17.3	+00.3
17	170 55.8	+01.0	N 20 17.6	+00.3
18	185 56.8	+01.1	N 20 17.9	+00.2
19	200 57.9	+01.1	N 20 18.1	+00.3
20	215 59.0	+01.1	N 20 18.4	+00.2
21	231 00.1	+01.1	N 20 18.6	+00.3
22	246 01.2	+01.1	N 20 18.9	+00.2
23	261 02.3	+01.0	N 20 19.1	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	294°	294°	294°	294°	294°	294°

Greenwich Culmination Time: 05:37

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	334 17.0	+02.7	N 01 14.3	-00.1
01	349 19.7	+02.7	N 01 14.2	-00.1
02	4 22.4	+02.7	N 01 14.1	-00.1
03	19 25.1	+02.7	N 01 14.0	-00.1
04	34 27.8	+02.7	N 01 13.9	-00.1
05	49 30.5	+02.7	N 01 13.8	-00.1
06	64 33.2	+02.7	N 01 13.7	-00.2
07	79 35.9	+02.7	N 01 13.5	-00.1
08	94 38.6	+02.7	N 01 13.4	-00.1
09	109 41.3	+02.7	N 01 13.3	-00.1
10	124 44.0	+02.7	N 01 13.2	-00.1
11	139 46.7	+02.7	N 01 13.1	-00.1
12	154 49.4	+02.7	N 01 13.0	-00.1
13	169 52.1	+02.7	N 01 12.9	-00.1
14	184 54.8	+02.7	N 01 12.8	-00.2
15	199 57.5	+02.7	N 01 12.6	-00.1
16	215 00.2	+02.8	N 01 12.5	-00.1
17	230 03.0	+02.7	N 01 12.4	-00.1
18	245 05.7	+02.7	N 01 12.3	-00.1
19	260 08.4	+02.7	N 01 12.2	-00.1
20	275 11.1	+02.7	N 01 12.1	-00.1
21	290 13.8	+02.7	N 01 12.0	-00.1
22	305 16.5	+02.7	N 01 11.9	-00.1
23	320 19.2	+02.7	N 01 11.8	-00.2

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 01:42

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	17 43.5	+02.6	S 15 53.1	+00.0
01	32 46.1	+02.6	S 15 53.1	+00.1
02	47 48.7	+02.7	S 15 53.2	+00.0
03	62 51.4	+02.6	S 15 53.2	+00.1
04	77 54.0	+02.6	S 15 53.3	+00.1
05	92 56.6	+02.7	S 15 53.4	+00.0
06	107 59.3	+02.6	S 15 53.4	+00.1
07	123 01.9	+02.6	S 15 53.5	+00.0
08	138 04.5	+02.7	S 15 53.5	+00.1
09	153 07.2	+02.6	S 15 53.6	+00.0
10	168 09.8	+02.6	S 15 53.6	+00.1
11	183 12.4	+02.7	S 15 53.7	+00.0
12	198 15.1	+02.6	S 15 53.7	+00.1
13	213 17.7	+02.6	S 15 53.8	+00.1
14	228 20.3	+02.7	S 15 53.9	+00.0
15	243 23.0	+02.6	S 15 53.9	+00.1
16	258 25.6	+02.6	S 15 54.0	+00.0
17	273 28.2	+02.7	S 15 54.0	+00.1
18	288 30.9	+02.6	S 15 54.1	+00.0
19	303 33.5	+02.6	S 15 54.1	+00.1
20	318 36.1	+02.6	S 15 54.2	+00.0
21	333 38.7	+02.7	S 15 54.2	+00.1
22	348 41.4	+02.6	S 15 54.3	+00.1
23	3 44.0	+02.6	S 15 54.4	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 22:45

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2022 September 3 Saturday (day 246 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 06.8	+00.2	N 07 37.9	-00.9
01	195 07.0	+00.2	N 07 37.0	-00.9
02	210 07.2	+00.2	N 07 36.1	-00.9
03	225 07.4	+00.2	N 07 35.2	-01.0
04	240 07.6	+00.2	N 07 34.2	-00.9
05	255 07.8	+00.2	N 07 33.3	-00.9
06	270 08.0	+00.2	N 07 32.4	-00.9
07	285 08.2	+00.3	N 07 31.5	-00.9
08	300 08.5	+00.2	N 07 30.6	-01.0
09	315 08.7	+00.2	N 07 29.6	-00.9
10	330 08.9	+00.2	N 07 28.7	-00.9
11	345 09.1	+00.2	N 07 27.8	-00.9
12	0 09.3	+00.2	N 07 26.9	-00.9
13	15 09.5	+00.2	N 07 26.0	-00.9
14	30 09.7	+00.2	N 07 25.1	-01.0
15	45 09.9	+00.2	N 07 24.1	-00.9
16	60 10.1	+00.2	N 07 23.2	-00.9
17	75 10.3	+00.2	N 07 22.3	-00.9
18	90 10.5	+00.2	N 07 21.4	-00.9
19	105 10.7	+00.2	N 07 20.5	-01.0
20	120 10.9	+00.2	N 07 19.5	-00.9
21	135 11.1	+00.2	N 07 18.6	-00.9
22	150 11.3	+00.2	N 07 17.7	-00.9
23	165 11.5	+00.2	N 07 16.8	-00.9

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	198°	198°	198°	197°	197°	197°

Greenwich Culmination Time: 11:59

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	192 11.2	-00.6	N 13 29.1	-01.0
01	207 10.6	-00.5	N 13 28.1	-01.0
02	222 10.1	-00.6	N 13 27.1	-01.0
03	237 09.5	-00.5	N 13 26.1	-01.0
04	252 09.0	-00.5	N 13 25.1	-01.1
05	267 08.5	-00.6	N 13 24.0	-01.0
06	282 07.9	-00.5	N 13 23.0	-01.0
07	297 07.4	-00.5	N 13 22.0	-01.0
08	312 06.9	-00.6	N 13 21.0	-01.0
09	327 06.3	-00.5	N 13 20.0	-01.0
10	342 05.8	-00.5	N 13 19.0	-01.0
11	357 05.3	-00.6	N 13 18.0	-01.0
12	12 04.7	-00.5	N 13 17.0	-01.1
13	27 04.2	-00.5	N 13 15.9	-01.0
14	42 03.7	-00.6	N 13 14.9	-01.0
15	57 03.1	-00.5	N 13 13.9	-01.0
16	72 02.6	-00.5	N 13 12.9	-01.0
17	87 02.1	-00.6	N 13 11.9	-01.0
18	102 01.5	-00.5	N 13 10.9	-01.1
19	117 01.0	-00.5	N 13 09.8	-01.0
20	132 00.5	-00.6	N 13 08.8	-01.0
21	146 59.9	-00.5	N 13 07.8	-01.0
22	161 59.4	-00.5	N 13 06.8	-01.0
23	176 58.9	-00.5	N 13 05.8	-01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	210°	210°	210°	209°	209°	209°

Greenwich Culmination Time: 11:11

Moon

A: 23%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	103 47.3	-33.1	S 21 36.9	+10.0
01	118 14.2	-33.2	S 21 46.9	+09.9
02	132 41.0	-33.3	S 21 56.8	+09.8
03	147 07.7	-33.4	S 22 06.6	+09.6
04	161 34.3	-33.5	S 22 16.2	+09.5
05	176 00.8	-33.6	S 22 25.7	+09.4
06	190 27.2	-33.7	S 22 35.1	+09.3
07	204 53.5	-33.8	S 22 44.4	+09.1
08	219 19.7	-34.0	S 22 53.5	+09.0
09	233 45.7	-34.0	S 23 02.5	+08.8
10	248 11.7	-34.2	S 23 11.3	+08.8
11	262 37.5	-34.2	S 23 20.1	+08.6
12	277 03.3	-34.4	S 23 28.7	+08.4
13	291 28.9	-34.4	S 23 37.1	+08.3
14	305 54.5	-34.6	S 23 45.4	+08.2
15	320 19.9	-34.7	S 23 53.6	+08.1
16	334 45.2	-34.8	S 24 01.7	+07.9
17	349 10.4	-34.9	S 24 09.6	+07.7
18	3 35.5	-35.0	S 24 17.3	+07.6
19	18 00.5	-35.0	S 24 24.9	+07.5
20	32 25.5	-35.2	S 24 32.4	+07.3
21	46 50.3	-35.3	S 24 39.7	+07.1
22	61 15.0	-35.4	S 24 46.8	+07.0
23	75 39.6	-35.5	S 24 53.8	+06.8

UT	02	06	10	14	18	22
SD	15′9	16′0	16′0	16′0	16′0	16′1
HP	58′5	58′6	58′7	58′8	58′9	59′0
SHA	120°	118°	116°	113°	111°	108°

Greenwich Culmination Time: 17:45

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	276 03.3	+01.1	N 20 19.4	+00.2
01	291 04.4	+01.1	N 20 19.6	+00.3
02	306 05.5	+01.1	N 20 19.9	+00.3
03	321 06.6	+01.1	N 20 20.2	+00.2
04	336 07.7	+01.1	N 20 20.4	+00.3
05	351 08.8	+01.1	N 20 20.7	+00.2
06	6 09.9	+01.0	N 20 20.9	+00.3
07	21 10.9	+01.1	N 20 21.2	+00.2
08	36 12.0	+01.1	N 20 21.4	+00.3
09	51 13.1	+01.1	N 20 21.7	+00.2
10	66 14.2	+01.1	N 20 21.9	+00.3
11	81 15.3	+01.1	N 20 22.2	+00.2
12	96 16.4	+01.1	N 20 22.4	+00.3
13	111 17.5	+01.1	N 20 22.7	+00.2
14	126 18.6	+01.1	N 20 22.9	+00.3
15	141 19.7	+01.1	N 20 23.2	+00.2
16	156 20.8	+01.1	N 20 23.4	+00.3
17	171 21.9	+01.0	N 20 23.7	+00.2
18	186 22.9	+01.1	N 20 23.9	+00.3
19	201 24.0	+01.1	N 20 24.2	+00.2
20	216 25.1	+01.1	N 20 24.4	+00.3
21	231 26.2	+01.1	N 20 24.7	+00.2
22	246 27.3	+01.1	N 20 24.9	+00.3
23	261 28.4	+01.1	N 20 25.2	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	294°	294°	294°	294°	294°	293°

Greenwich Culmination Time: 05:35

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	335 21.9	+02.7	N 01 11.6	-00.1
01	350 24.6	+02.7	N 01 11.5	-00.1
02	5 27.3	+02.7	N 01 11.4	-00.1
03	20 30.0	+02.7	N 01 11.3	-00.1
04	35 32.7	+02.7	N 01 11.2	-00.1
05	50 35.4	+02.7	N 01 11.1	-00.1
06	65 38.1	+02.7	N 01 11.0	-00.2
07	80 40.8	+02.8	N 01 10.8	-00.1
08	95 43.6	+02.7	N 01 10.7	-00.1
09	110 46.3	+02.7	N 01 10.6	-00.1
10	125 49.0	+02.7	N 01 10.5	-00.1
11	140 51.7	+02.7	N 01 10.4	-00.1
12	155 54.4	+02.7	N 01 10.3	-00.1
13	170 57.1	+02.7	N 01 10.2	-00.1
14	185 59.8	+02.7	N 01 10.1	-00.2
15	201 02.5	+02.7	N 01 09.9	-00.1
16	216 05.2	+02.7	N 01 09.8	-00.1
17	231 07.9	+02.7	N 01 09.7	-00.1
18	246 10.6	+02.8	N 01 09.6	-00.1
19	261 13.4	+02.7	N 01 09.5	-00.1
20	276 16.1	+02.7	N 01 09.4	-00.1
21	291 18.8	+02.7	N 01 09.3	-00.2
22	306 21.5	+02.7	N 01 09.1	-00.1
23	321 24.2	+02.7	N 01 09.0	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 01:38

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	18 46.6	+02.7	S 15 54.4	+00.1
01	33 49.3	+02.6	S 15 54.5	+00.0
02	48 51.9	+02.6	S 15 54.5	+00.1
03	63 54.5	+02.7	S 15 54.6	+00.0
04	78 57.2	+02.6	S 15 54.6	+00.1
05	93 59.8	+02.6	S 15 54.7	+00.0
06	109 02.4	+02.7	S 15 54.7	+00.1
07	124 05.1	+02.6	S 15 54.8	+00.1
08	139 07.7	+02.6	S 15 54.9	+00.0
09	154 10.3	+02.6	S 15 54.9	+00.1
10	169 12.9	+02.7	S 15 55.0	+00.0
11	184 15.6	+02.6	S 15 55.0	+00.1
12	199 18.2	+02.6	S 15 55.1	+00.0
13	214 20.8	+02.7	S 15 55.1	+00.1
14	229 23.5	+02.6	S 15 55.2	+00.0
15	244 26.1	+02.6	S 15 55.2	+00.1
16	259 28.7	+02.7	S 15 55.3	+00.0
17	274 31.4	+02.6	S 15 55.3	+00.1
18	289 34.0	+02.6	S 15 55.4	+00.1
19	304 36.6	+02.6	S 15 55.5	+00.0
20	319 39.2	+02.7	S 15 55.5	+00.1
21	334 41.9	+02.6	S 15 55.6	+00.0
22	349 44.5	+02.6	S 15 55.6	+00.1
23	4 47.1	+02.7	S 15 55.7	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 22:40

2022 September 4 Sunday (day 247 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 11.7	+00.2	N 07 15.9	-01.0
01	195 11.9	+00.2	N 07 14.9	-00.9
02	210 12.1	+00.3	N 07 14.0	-00.9
03	225 12.4	+00.2	N 07 13.1	-00.9
04	240 12.6	+00.2	N 07 12.2	-00.9
05	255 12.8	+00.2	N 07 11.3	-01.0
06	270 13.0	+00.2	N 07 10.3	-00.9
07	285 13.2	+00.2	N 07 09.4	-00.9
08	300 13.4	+00.2	N 07 08.5	-00.9
09	315 13.6	+00.2	N 07 07.6	-01.0
10	330 13.8	+00.2	N 07 06.6	-00.9
11	345 14.0	+00.2	N 07 05.7	-00.9
12	0 14.2	+00.2	N 07 04.8	-00.9
13	15 14.4	+00.2	N 07 03.9	-01.0
14	30 14.6	+00.2	N 07 02.9	-00.9
15	45 14.8	+00.2	N 07 02.0	-00.9
16	60 15.0	+00.3	N 07 01.1	-00.9
17	75 15.3	+00.2	N 07 00.2	-00.9
18	90 15.5	+00.2	N 06 59.3	-01.0
19	105 15.7	+00.2	N 06 58.3	-00.9
20	120 15.9	+00.2	N 06 57.4	-00.9
21	135 16.1	+00.2	N 06 56.5	-00.9
22	150 16.3	+00.2	N 06 55.6	-01.0
23	165 16.5	+00.2	N 06 54.6	-00.9

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	197°	197°	197°	197°	196°	196°

Greenwich Culmination Time: 11:59

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	191 58.4	-00.6	N 13 04.7	-01.0
01	206 57.8	-00.5	N 13 03.7	-01.0
02	221 57.3	-00.5	N 13 02.7	-01.0
03	236 56.8	-00.6	N 13 01.7	-01.0
04	251 56.2	-00.5	N 13 00.7	-01.1
05	266 55.7	-00.5	N 12 59.6	-01.0
06	281 55.2	-00.5	N 12 58.6	-01.0
07	296 54.7	-00.6	N 12 57.6	-01.0
08	311 54.1	-00.5	N 12 56.6	-01.1
09	326 53.6	-00.5	N 12 55.5	-01.0
10	341 53.1	-00.5	N 12 54.5	-01.0
11	356 52.6	-00.6	N 12 53.5	-01.1
12	11 52.0	-00.5	N 12 52.4	-01.0
13	26 51.5	-00.5	N 12 51.4	-01.0
14	41 51.0	-00.5	N 12 50.4	-01.1
15	56 50.5	-00.6	N 12 49.3	-01.0
16	71 49.9	-00.5	N 12 48.3	-01.0
17	86 49.4	-00.5	N 12 47.3	-01.1
18	101 48.9	-00.5	N 12 46.2	-01.0
19	116 48.4	-00.5	N 12 45.2	-01.0
20	131 47.9	-00.6	N 12 44.2	-01.1
21	146 47.3	-00.5	N 12 43.1	-01.0
22	161 46.8	-00.5	N 12 42.1	-01.0
23	176 46.3	-00.5	N 12 41.1	-01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	209°	209°	208°	208°	208°	208°

Greenwich Culmination Time: 11:12

Moon

A: 27%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	90 04.1	-35.6	S 25 00.6	+06.7
01	104 28.5	-35.7	S 25 07.3	+06.6
02	118 52.8	-35.7	S 25 13.9	+06.3
03	133 17.1	-35.9	S 25 20.2	+06.2
04	147 41.2	-36.0	S 25 26.4	+06.1
05	162 05.2	-36.0	S 25 32.5	+05.9
06	176 29.2	-36.2	S 25 38.4	+05.7
07	190 53.0	-36.2	S 25 44.1	+05.5
08	205 16.8	-36.3	S 25 49.6	+05.4
09	219 40.5	-36.4	S 25 55.0	+05.2
10	234 04.1	-36.5	S 26 00.2	+05.1
11	248 27.6	-36.5	S 26 05.3	+04.9
12	262 51.1	-36.7	S 26 10.2	+04.7
13	277 14.4	-36.7	S 26 14.9	+04.5
14	291 37.7	-36.8	S 26 19.4	+04.3
15	306 00.9	-36.9	S 26 23.7	+04.2
16	320 24.0	-36.9	S 26 27.9	+04.0
17	334 47.1	-37.1	S 26 31.9	+03.8
18	349 10.0	-37.1	S 26 35.7	+03.7
19	3 32.9	-37.1	S 26 39.4	+03.5
20	17 55.8	-37.2	S 26 42.9	+03.2
21	32 18.6	-37.3	S 26 46.1	+03.1
22	46 41.3	-37.4	S 26 49.2	+02.9
23	61 03.9	-37.4	S 26 52.1	+02.8

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′2	16′2
HP	59′0	59′1	59′2	59′3	59′4	59′4
SHA	106°	103°	101°	098°	095°	093°

Greenwich Culmination Time: 18:45

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	276 29.5	+01.1	N 20 25.4	+00.3
01	291 30.6	+01.1	N 20 25.7	+00.2
02	306 31.7	+01.1	N 20 25.9	+00.3
03	321 32.8	+01.1	N 20 26.2	+00.2
04	336 33.9	+01.1	N 20 26.4	+00.3
05	351 35.0	+01.1	N 20 26.7	+00.2
06	6 36.1	+01.1	N 20 26.9	+00.3
07	21 37.2	+01.1	N 20 27.2	+00.2
08	36 38.3	+01.1	N 20 27.4	+00.3
09	51 39.4	+01.1	N 20 27.7	+00.2
10	66 40.5	+01.1	N 20 27.9	+00.3
11	81 41.6	+01.1	N 20 28.2	+00.2
12	96 42.7	+01.1	N 20 28.4	+00.3
13	111 43.8	+01.1	N 20 28.7	+00.2
14	126 44.9	+01.1	N 20 28.9	+00.3
15	141 46.0	+01.1	N 20 29.2	+00.2
16	156 47.1	+01.1	N 20 29.4	+00.3
17	171 48.2	+01.1	N 20 29.7	+00.2
18	186 49.3	+01.1	N 20 29.9	+00.2
19	201 50.4	+01.1	N 20 30.1	+00.3
20	216 51.5	+01.1	N 20 30.4	+00.2
21	231 52.6	+01.1	N 20 30.6	+00.3
22	246 53.7	+01.2	N 20 30.9	+00.2
23	261 54.9	+01.1	N 20 31.1	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	293°	293°	293°	293°	293°	293°

Greenwich Culmination Time: 05:33

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	336 26.9	+02.7	N 01 08.9	-00.1
01	351 29.6	+02.7	N 01 08.8	-00.1
02	6 32.3	+02.7	N 01 08.7	-00.1
03	21 35.0	+02.8	N 01 08.6	-00.1
04	36 37.8	+02.7	N 01 08.5	-00.2
05	51 40.5	+02.7	N 01 08.3	-00.1
06	66 43.2	+02.7	N 01 08.2	-00.1
07	81 45.9	+02.7	N 01 08.1	-00.1
08	96 48.6	+02.7	N 01 08.0	-00.1
09	111 51.3	+02.7	N 01 07.9	-00.1
10	126 54.0	+02.8	N 01 07.8	-00.1
11	141 56.8	+02.7	N 01 07.7	-00.2
12	156 59.5	+02.7	N 01 07.5	-00.1
13	172 02.2	+02.7	N 01 07.4	-00.1
14	187 04.9	+02.7	N 01 07.3	-00.1
15	202 07.6	+02.7	N 01 07.2	-00.1
16	217 10.3	+02.7	N 01 07.1	-00.1
17	232 13.0	+02.8	N 01 07.0	-00.2
18	247 15.8	+02.7	N 01 06.8	-00.1
19	262 18.5	+02.7	N 01 06.7	-00.1
20	277 21.2	+02.7	N 01 06.6	-00.1
21	292 23.9	+02.7	N 01 06.5	-00.1
22	307 26.6	+02.7	N 01 06.4	-00.1
23	322 29.3	+02.7	N 01 06.3	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	353°	353°	353°	353°	353°	353°

Greenwich Culmination Time: 01:33

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	19 49.8	+02.6	S 15 55.7	+00.1
01	34 52.4	+02.6	S 15 55.8	+00.0
02	49 55.0	+02.7	S 15 55.8	+00.1
03	64 57.7	+02.6	S 15 55.9	+00.0
04	80 00.3	+02.6	S 15 55.9	+00.1
05	95 02.9	+02.6	S 15 56.0	+00.1
06	110 05.5	+02.7	S 15 56.1	+00.0
07	125 08.2	+02.6	S 15 56.1	+00.1
08	140 10.8	+02.6	S 15 56.2	+00.0
09	155 13.4	+02.7	S 15 56.2	+00.1
10	170 16.1	+02.6	S 15 56.3	+00.0
11	185 18.7	+02.6	S 15 56.3	+00.1
12	200 21.3	+02.6	S 15 56.4	+00.0
13	215 23.9	+02.7	S 15 56.4	+00.1
14	230 26.6	+02.6	S 15 56.5	+00.0
15	245 29.2	+02.6	S 15 56.5	+00.1
16	260 31.8	+02.6	S 15 56.6	+00.1
17	275 34.4	+02.7	S 15 56.7	+00.0
18	290 37.1	+02.6	S 15 56.7	+00.1
19	305 39.7	+02.6	S 15 56.8	+00.0
20	320 42.3	+02.7	S 15 56.8	+00.1
21	335 45.0	+02.6	S 15 56.9	+00.0
22	350 47.6	+02.6	S 15 56.9	+00.1
23	5 50.2	+02.6	S 15 57.0	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 22:36

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 37.2	+00.2	N 05 24.0	-00.9
01	195 37.4	+00.3	N 05 23.1	-00.9
02	210 37.7	+00.2	N 05 22.2	-01.0
03	225 37.9	+00.2	N 05 21.2	-00.9
04	240 38.1	+00.2	N 05 20.3	-01.0
05	255 38.3	+00.2	N 05 19.3	-00.9
06	270 38.5	+00.2	N 05 18.4	-01.0
07	285 38.7	+00.3	N 05 17.4	-00.9
08	300 39.0	+00.2	N 05 16.5	-00.9
09	315 39.2	+00.2	N 05 15.6	-01.0
10	330 39.4	+00.2	N 05 14.6	-00.9
11	345 39.6	+00.2	N 05 13.7	-01.0
12	0 39.8	+00.3	N 05 12.7	-00.9
13	15 40.1	+00.2	N 05 11.8	-01.0
14	30 40.3	+00.2	N 05 10.8	-00.9
15	45 40.5	+00.2	N 05 09.9	-01.0
16	60 40.7	+00.2	N 05 08.9	-00.9
17	75 40.9	+00.2	N 05 08.0	-00.9
18	90 41.1	+00.3	N 05 07.1	-01.0
19	105 41.4	+00.2	N 05 06.1	-00.9
20	120 41.6	+00.2	N 05 05.2	-01.0
21	135 41.8	+00.2	N 05 04.2	-00.9
22	150 42.0	+00.2	N 05 03.3	-01.0
23	165 42.2	+00.3	N 05 02.3	-00.9

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	193°	192°	192°	192°	192°	192°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	190 57.5	-00.4	N 10 57.8	-01.1
01	205 57.1	-00.5	N 10 56.7	-01.1
02	220 56.6	-00.5	N 10 55.6	-01.1
03	235 56.1	-00.5	N 10 54.5	-01.1
04	250 55.6	-00.5	N 10 53.4	-01.1
05	265 55.1	-00.5	N 10 52.3	-01.1
06	280 54.6	-00.4	N 10 51.2	-01.0
07	295 54.2	-00.5	N 10 50.2	-01.1
08	310 53.7	-00.5	N 10 49.1	-01.1
09	325 53.2	-00.5	N 10 48.0	-01.1
10	340 52.7	-00.5	N 10 46.9	-01.1
11	355 52.2	-00.5	N 10 45.8	-01.1
12	10 51.7	-00.4	N 10 44.7	-01.1
13	25 51.3	-00.5	N 10 43.6	-01.1
14	40 50.8	-00.5	N 10 42.5	-01.1
15	55 50.3	-00.5	N 10 41.4	-01.1
16	70 49.8	-00.5	N 10 40.3	-01.1
17	85 49.3	-00.4	N 10 39.2	-01.1
18	100 48.9	-00.5	N 10 38.1	-01.1
19	115 48.4	-00.5	N 10 37.0	-01.1
20	130 47.9	-00.5	N 10 35.9	-01.1
21	145 47.4	-00.5	N 10 34.8	-01.1
22	160 46.9	-00.4	N 10 33.7	-01.1
23	175 46.5	-00.5	N 10 32.6	-01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	203°	203°	202°	202°	202°	202°

Greenwich Culmination Time: 11:16

Moon

A: 47%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	16 54.7	-33.0	S 17 07.2	-13.4
01	31 21.7	-32.9	S 16 53.8	-13.5
02	45 48.8	-32.8	S 16 40.3	-13.7
03	60 16.0	-32.7	S 16 26.6	-13.7
04	74 43.3	-32.7	S 16 12.9	-13.8
05	89 10.6	-32.5	S 15 59.1	-13.9
06	103 38.1	-32.4	S 15 45.2	-14.0
07	118 05.7	-32.4	S 15 31.2	-14.0
08	132 33.3	-32.2	S 15 17.2	-14.2
09	147 01.1	-32.2	S 15 03.0	-14.2
10	161 28.9	-32.0	S 14 48.8	-14.3
11	175 56.9	-32.0	S 14 34.5	-14.4
12	190 24.9	-31.9	S 14 20.1	-14.5
13	204 53.0	-31.8	S 14 05.6	-14.5
14	219 21.2	-31.7	S 13 51.1	-14.7
15	233 49.5	-31.6	S 13 36.4	-14.6
16	248 17.9	-31.5	S 13 21.8	-14.8
17	262 46.4	-31.5	S 13 07.0	-14.8
18	277 14.9	-31.3	S 12 52.2	-14.9
19	291 43.6	-31.3	S 12 37.3	-14.9
20	306 12.3	-31.2	S 12 22.4	-15.1
21	320 41.1	-31.1	S 12 07.3	-15.0
22	335 10.0	-31.0	S 11 52.3	-15.1
23	349 39.0	-30.9	S 11 37.2	-15.2

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′2
HP	59′9	59′9	59′8	59′8	59′7	59′6
SHA	028°	025°	023°	021°	018°	016°

Greenwich Culmination Time: 23:42

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	278 44.6	+01.1	N 20 53.7	+00.3
01	293 45.7	+01.2	N 20 54.0	+00.2
02	308 46.9	+01.1	N 20 54.2	+00.2
03	323 48.0	+01.2	N 20 54.4	+00.2
04	338 49.2	+01.2	N 20 54.6	+00.3
05	353 50.4	+01.1	N 20 54.9	+00.2
06	8 51.5	+01.2	N 20 55.1	+00.2
07	23 52.7	+01.1	N 20 55.3	+00.2
08	38 53.8	+01.2	N 20 55.5	+00.2
09	53 55.0	+01.2	N 20 55.7	+00.3
10	68 56.2	+01.1	N 20 56.0	+00.2
11	83 57.3	+01.2	N 20 56.2	+00.2
12	98 58.5	+01.1	N 20 56.4	+00.2
13	113 59.6	+01.2	N 20 56.6	+00.2
14	129 00.8	+01.2	N 20 56.8	+00.3
15	144 02.0	+01.1	N 20 57.1	+00.2
16	159 03.1	+01.2	N 20 57.3	+00.2
17	174 04.3	+01.2	N 20 57.5	+00.2
18	189 05.5	+01.1	N 20 57.7	+00.2
19	204 06.6	+01.2	N 20 57.9	+00.3
20	219 07.8	+01.2	N 20 58.2	+00.2
21	234 09.0	+01.1	N 20 58.4	+00.2
22	249 10.1	+01.2	N 20 58.6	+00.2
23	264 11.3	+01.2	N 20 58.8	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	291°	291°	291°	290°	290°	290°

Greenwich Culmination Time: 05:24

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	341 53.7	+02.7	N 00 54.7	-00.1
01	356 56.4	+02.7	N 00 54.6	-00.2
02	11 59.1	+02.8	N 00 54.4	-00.1
03	27 01.9	+02.7	N 00 54.3	-00.1
04	42 04.6	+02.7	N 00 54.2	-00.1
05	57 07.3	+02.8	N 00 54.1	-00.1
06	72 10.1	+02.7	N 00 54.0	-00.2
07	87 12.8	+02.7	N 00 53.8	-00.1
08	102 15.5	+02.8	N 00 53.7	-00.1
09	117 18.3	+02.7	N 00 53.6	-00.1
10	132 21.0	+02.7	N 00 53.5	-00.2
11	147 23.7	+02.8	N 00 53.3	-00.1
12	162 26.5	+02.7	N 00 53.2	-00.1
13	177 29.2	+02.7	N 00 53.1	-00.1
14	192 31.9	+02.8	N 00 53.0	-00.2
15	207 34.7	+02.7	N 00 52.8	-00.1
16	222 37.4	+02.8	N 00 52.7	-00.1
17	237 40.2	+02.7	N 00 52.6	-00.1
18	252 42.9	+02.7	N 00 52.5	-00.2
19	267 45.6	+02.8	N 00 52.3	-00.1
20	282 48.4	+02.7	N 00 52.2	-00.1
21	297 51.1	+02.7	N 00 52.1	-00.1
22	312 53.8	+02.8	N 00 52.0	-00.1
23	327 56.6	+02.7	N 00 51.9	-00.2

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 01:12

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	25 04.7	+02.6	S 16 02.0	+00.1
01	40 07.3	+02.6	S 16 02.1	+00.0
02	55 09.9	+02.6	S 16 02.1	+00.1
03	70 12.5	+02.7	S 16 02.2	+00.0
04	85 15.2	+02.6	S 16 02.2	+00.1
05	100 17.8	+02.6	S 16 02.3	+00.0
06	115 20.4	+02.6	S 16 02.3	+00.1
07	130 23.0	+02.6	S 16 02.4	+00.0
08	145 25.6	+02.7	S 16 02.4	+00.1
09	160 28.3	+02.6	S 16 02.5	+00.0
10	175 30.9	+02.6	S 16 02.5	+00.1
11	190 33.5	+02.6	S 16 02.6	+00.0
12	205 36.1	+02.6	S 16 02.6	+00.1
13	220 38.7	+02.6	S 16 02.7	+00.0
14	235 41.3	+02.7	S 16 02.7	+00.1
15	250 44.0	+02.6	S 16 02.8	+00.0
16	265 46.6	+02.6	S 16 02.8	+00.1
17	280 49.2	+02.6	S 16 02.9	+00.0
18	295 51.8	+02.6	S 16 02.9	+00.1
19	310 54.4	+02.6	S 16 03.0	+00.0
20	325 57.0	+02.7	S 16 03.0	+00.1
21	340 59.7	+02.6	S 16 03.1	+00.0
22	356 02.3	+02.6	S 16 03.1	+00.1
23	11 04.9	+02.6	S 16 03.2	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 22:15

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 21.8	+00.2	N 06 31.4	-00.9
01	195 22.0	+00.2	N 06 30.5	-00.9
02	210 22.2	+00.2	N 06 29.6	-01.0
03	225 22.4	+00.2	N 06 28.6	-00.9
04	240 22.6	+00.2	N 06 27.7	-00.9
05	255 22.8	+00.2	N 06 26.8	-00.9
06	270 23.0	+00.2	N 06 25.9	-01.0
07	285 23.2	+00.3	N 06 24.9	-00.9
08	300 23.5	+00.2	N 06 24.0	-00.9
09	315 23.7	+00.2	N 06 23.1	-01.0
10	330 23.9	+00.2	N 06 22.1	-00.9
11	345 24.1	+00.2	N 06 21.2	-00.9
12	0 24.3	+00.2	N 06 20.3	-01.0
13	15 24.5	+00.2	N 06 19.3	-00.9
14	30 24.7	+00.2	N 06 18.4	-00.9
15	45 24.9	+00.3	N 06 17.5	-01.0
16	60 25.2	+00.2	N 06 16.5	-00.9
17	75 25.4	+00.2	N 06 15.6	-00.9
18	90 25.6	+00.2	N 06 14.7	-01.0
19	105 25.8	+00.2	N 06 13.7	-00.9
20	120 26.0	+00.2	N 06 12.8	-00.9
21	135 26.2	+00.2	N 06 11.9	-01.0
22	150 26.4	+00.2	N 06 10.9	-00.9
23	165 26.6	+00.3	N 06 10.0	-00.9

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	195°	195°	195°	195°	195°	194°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	191 33.4	-00.5	N 12 15.0	-01.1
01	206 32.9	-00.5	N 12 13.9	-01.0
02	221 32.4	-00.5	N 12 12.9	-01.1
03	236 31.9	-00.5	N 12 11.8	-01.0
04	251 31.4	-00.5	N 12 10.8	-01.1
05	266 30.9	-00.6	N 12 09.7	-01.0
06	281 30.3	-00.5	N 12 08.7	-01.1
07	296 29.8	-00.5	N 12 07.6	-01.1
08	311 29.3	-00.5	N 12 06.5	-01.0
09	326 28.8	-00.5	N 12 05.5	-01.1
10	341 28.3	-00.5	N 12 04.4	-01.0
11	356 27.8	-00.5	N 12 03.4	-01.1
12	11 27.3	-00.5	N 12 02.3	-01.0
13	26 26.8	-00.5	N 12 01.3	-01.1
14	41 26.3	-00.5	N 12 00.2	-01.1
15	56 25.8	-00.5	N 11 59.1	-01.0
16	71 25.3	-00.5	N 11 58.1	-01.1
17	86 24.8	-00.5	N 11 57.0	-01.0
18	101 24.3	-00.5	N 11 56.0	-01.1
19	116 23.8	-00.5	N 11 54.9	-01.1
20	131 23.3	-00.5	N 11 53.8	-01.0
21	146 22.8	-00.5	N 11 52.8	-01.1
22	161 22.3	-00.5	N 11 51.7	-01.1
23	176 21.8	-00.6	N 11 50.6	-01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	206°	206°	206°	206°	206°	205°

Greenwich Culmination Time: 11:14

Moon

A: 35%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	60 17.3	-38.1	S 27 03.3	-02.1
01	74 39.2	-38.0	S 27 01.2	-02.2
02	89 01.2	-38.1	S 26 59.0	-02.5
03	103 23.1	-38.1	S 26 56.5	-02.6
04	117 45.0	-38.0	S 26 53.9	-02.9
05	132 07.0	-38.0	S 26 51.0	-03.0
06	146 29.0	-38.1	S 26 48.0	-03.3
07	160 50.9	-37.9	S 26 44.7	-03.4
08	175 13.0	-38.0	S 26 41.3	-03.6
09	189 35.0	-37.9	S 26 37.7	-03.8
10	203 57.1	-38.0	S 26 33.9	-04.0
11	218 19.1	-37.8	S 26 29.9	-04.2
12	232 41.3	-37.9	S 26 25.7	-04.4
13	247 03.4	-37.8	S 26 21.3	-04.6
14	261 25.6	-37.8	S 26 16.7	-04.8
15	275 47.8	-37.7	S 26 11.9	-04.9
16	290 10.1	-37.7	S 26 07.0	-05.2
17	304 32.4	-37.6	S 26 01.8	-05.3
18	318 54.8	-37.6	S 25 56.5	-05.5
19	333 17.2	-37.5	S 25 51.0	-05.7
20	347 39.7	-37.5	S 25 45.3	-05.9
21	2 02.2	-37.5	S 25 39.4	-06.1
22	16 24.7	-37.3	S 25 33.3	-06.2
23	30 47.4	-37.4	S 25 27.1	-06.4

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′4	16′4
HP	59′9	59′9	60′0	60′0	60′0	60′1
SHA	074°	071°	068°	066°	063°	060°

Greenwich Culmination Time: 20:51

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	277 22.7	+01.1	N 20 37.2	+00.2
01	292 23.8	+01.1	N 20 37.4	+00.2
02	307 24.9	+01.1	N 20 37.6	+00.3
03	322 26.0	+01.2	N 20 37.9	+00.2
04	337 27.2	+01.1	N 20 38.1	+00.2
05	352 28.3	+01.1	N 20 38.3	+00.3
06	7 29.4	+01.1	N 20 38.6	+00.2
07	22 30.5	+01.1	N 20 38.8	+00.3
08	37 31.6	+01.2	N 20 39.1	+00.2
09	52 32.8	+01.1	N 20 39.3	+00.2
10	67 33.9	+01.1	N 20 39.5	+00.3
11	82 35.0	+01.1	N 20 39.8	+00.2
12	97 36.1	+01.2	N 20 40.0	+00.2
13	112 37.3	+01.1	N 20 40.2	+00.3
14	127 38.4	+01.1	N 20 40.5	+00.2
15	142 39.5	+01.2	N 20 40.7	+00.2
16	157 40.7	+01.1	N 20 40.9	+00.3
17	172 41.8	+01.1	N 20 41.2	+00.2
18	187 42.9	+01.1	N 20 41.4	+00.2
19	202 44.0	+01.2	N 20 41.6	+00.3
20	217 45.2	+01.1	N 20 41.9	+00.2
21	232 46.3	+01.1	N 20 42.1	+00.2
22	247 47.4	+01.2	N 20 42.3	+00.3
23	262 48.6	+01.1	N 20 42.6	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	292°	292°	292°	292°	292°	292°

Greenwich Culmination Time: 05:30

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	338 37.3	+02.7	N 01 03.3	-00.1
01	353 40.0	+02.7	N 01 03.2	-00.1
02	8 42.7	+02.8	N 01 03.1	-00.1
03	23 45.5	+02.7	N 01 03.0	-00.1
04	38 48.2	+02.7	N 01 02.9	-00.1
05	53 50.9	+02.7	N 01 02.8	-00.2
06	68 53.6	+02.7	N 01 02.6	-00.1
07	83 56.3	+02.8	N 01 02.5	-00.1
08	98 59.1	+02.7	N 01 02.4	-00.1
09	114 01.8	+02.7	N 01 02.3	-00.1
10	129 04.5	+02.7	N 01 02.2	-00.2
11	144 07.2	+02.8	N 01 02.0	-00.1
12	159 10.0	+02.7	N 01 01.9	-00.1
13	174 12.7	+02.7	N 01 01.8	-00.1
14	189 15.4	+02.7	N 01 01.7	-00.1
15	204 18.1	+02.8	N 01 01.6	-00.2
16	219 20.9	+02.7	N 01 01.4	-00.1
17	234 23.6	+02.7	N 01 01.3	-00.1
18	249 26.3	+02.7	N 01 01.2	-00.1
19	264 29.0	+02.7	N 01 01.1	-00.1
20	279 31.7	+02.8	N 01 01.0	-00.1
21	294 34.5	+02.7	N 01 00.9	-00.2
22	309 37.2	+02.7	N 01 00.7	-00.1
23	324 39.9	+02.7	N 01 00.6	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 01:25

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	21 55.9	+02.6	S 15 58.3	+00.1
01	36 58.5	+02.6	S 15 58.4	+00.0
02	52 01.1	+02.7	S 15 58.4	+00.1
03	67 03.8	+02.6	S 15 58.5	+00.0
04	82 06.4	+02.6	S 15 58.5	+00.1
05	97 09.0	+02.6	S 15 58.6	+00.0
06	112 11.6	+02.7	S 15 58.6	+00.1
07	127 14.3	+02.6	S 15 58.7	+00.0
08	142 16.9	+02.6	S 15 58.7	+00.1
09	157 19.5	+02.6	S 15 58.8	+00.0
10	172 22.1	+02.7	S 15 58.8	+00.1
11	187 24.8	+02.6	S 15 58.9	+00.0
12	202 27.4	+02.6	S 15 58.9	+00.1
13	217 30.0	+02.6	S 15 59.0	+00.0
14	232 32.6	+02.6	S 15 59.0	+00.1
15	247 35.2	+02.7	S 15 59.1	+00.1
16	262 37.9	+02.6	S 15 59.2	+00.0
17	277 40.5	+02.6	S 15 59.2	+00.1
18	292 43.1	+02.6	S 15 59.3	+00.0
19	307 45.7	+02.7	S 15 59.3	+00.1
20	322 48.4	+02.6	S 15 59.4	+00.0
21	337 51.0	+02.6	S 15 59.4	+00.1
22	352 53.6	+02.6	S 15 59.5	+00.0
23	7 56.2	+02.7	S 15 59.5	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 22:28

2022 September 7 Wednesday (day 250 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 26.9	+00.2	N 06 09.1	-01.0
01	195 27.1	+00.2	N 06 08.1	-00.9
02	210 27.3	+00.2	N 06 07.2	-00.9
03	225 27.5	+00.2	N 06 06.3	-01.0
04	240 27.7	+00.2	N 06 05.3	-00.9
05	255 27.9	+00.2	N 06 04.4	-00.9
06	270 28.1	+00.3	N 06 03.5	-01.0
07	285 28.4	+00.2	N 06 02.5	-00.9
08	300 28.6	+00.2	N 06 01.6	-00.9
09	315 28.8	+00.2	N 06 00.7	-01.0
10	330 29.0	+00.2	N 05 59.7	-00.9
11	345 29.2	+00.2	N 05 58.8	-01.0
12	0 29.4	+00.2	N 05 57.8	-00.9
13	15 29.6	+00.3	N 05 56.9	-00.9
14	30 29.9	+00.2	N 05 56.0	-01.0
15	45 30.1	+00.2	N 05 55.0	-00.9
16	60 30.3	+00.2	N 05 54.1	-00.9
17	75 30.5	+00.2	N 05 53.2	-01.0
18	90 30.7	+00.2	N 05 52.2	-00.9
19	105 30.9	+00.3	N 05 51.3	-00.9
20	120 31.2	+00.2	N 05 50.4	-01.0
21	135 31.4	+00.2	N 05 49.4	-00.9
22	150 31.6	+00.2	N 05 48.5	-01.0
23	165 31.8	+00.2	N 05 47.5	-00.9

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	194°	194°	194°	194°	194°	194°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	191 21.2	-00.5	N 11 49.6	-01.1
01	206 20.7	-00.5	N 11 48.5	-01.1
02	221 20.2	-00.5	N 11 47.4	-01.0
03	236 19.7	-00.5	N 11 46.4	-01.1
04	251 19.2	-00.5	N 11 45.3	-01.1
05	266 18.7	-00.5	N 11 44.2	-01.0
06	281 18.2	-00.5	N 11 43.2	-01.1
07	296 17.7	-00.5	N 11 42.1	-01.1
08	311 17.2	-00.5	N 11 41.0	-01.0
09	326 16.7	-00.5	N 11 40.0	-01.1
10	341 16.2	-00.5	N 11 38.9	-01.1
11	356 15.7	-00.5	N 11 37.8	-01.0
12	11 15.2	-00.4	N 11 36.8	-01.1
13	26 14.8	-00.5	N 11 35.7	-01.1
14	41 14.3	-00.5	N 11 34.6	-01.1
15	56 13.8	-00.5	N 11 33.5	-01.0
16	71 13.3	-00.5	N 11 32.5	-01.1
17	86 12.8	-00.5	N 11 31.4	-01.1
18	101 12.3	-00.5	N 11 30.3	-01.1
19	116 11.8	-00.5	N 11 29.2	-01.0
20	131 11.3	-00.5	N 11 28.2	-01.1
21	146 10.8	-00.5	N 11 27.1	-01.1
22	161 10.3	-00.5	N 11 26.0	-01.1
23	176 09.8	-00.5	N 11 24.9	-01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	205°	205°	205°	205°	204°	204°

Greenwich Culmination Time: 11:14

Moon

A: 39%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	45 10.0	-37.2	S 25 20.7	-06.7
01	59 32.8	-37.2	S 25 14.0	-06.7
02	73 55.6	-37.1	S 25 07.3	-07.0
03	88 18.5	-37.1	S 25 00.3	-07.2
04	102 41.4	-37.0	S 24 53.1	-07.3
05	117 04.4	-36.9	S 24 45.8	-07.5
06	131 27.5	-36.9	S 24 38.3	-07.6
07	145 50.6	-36.8	S 24 30.7	-07.9
08	160 13.8	-36.7	S 24 22.8	-08.0
09	174 37.1	-36.6	S 24 14.8	-08.1
10	189 00.5	-36.6	S 24 06.7	-08.4
11	203 23.9	-36.4	S 23 58.3	-08.5
12	217 47.5	-36.4	S 23 49.8	-08.7
13	232 11.1	-36.4	S 23 41.1	-08.8
14	246 34.7	-36.2	S 23 32.3	-09.0
15	260 58.5	-36.1	S 23 23.3	-09.2
16	275 22.4	-36.1	S 23 14.1	-09.3
17	289 46.3	-36.0	S 23 04.8	-09.4
18	304 10.3	-35.9	S 22 55.4	-09.7
19	318 34.4	-35.8	S 22 45.7	-09.7
20	332 58.6	-35.7	S 22 36.0	-10.0
21	347 22.9	-35.6	S 22 26.0	-10.0
22	1 47.3	-35.5	S 22 16.0	-10.3
23	16 11.8	-35.5	S 22 05.7	-10.3

UT	02	06	10	14	18	22
SD	16′4	16′4	16′4	16′4	16′4	16′4
HP	60′1	60′1	60′1	60′1	60′1	60′1
SHA	058°	055°	053°	050°	047°	045°

Greenwich Culmination Time: 21:52

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	277 49.7	+01.1	N 20 42.8	+00.2
01	292 50.8	+01.1	N 20 43.0	+00.3
02	307 51.9	+01.2	N 20 43.3	+00.2
03	322 53.1	+01.1	N 20 43.5	+00.2
04	337 54.2	+01.1	N 20 43.7	+00.3
05	352 55.3	+01.2	N 20 44.0	+00.2
06	7 56.5	+01.1	N 20 44.2	+00.2
07	22 57.6	+01.1	N 20 44.4	+00.3
08	37 58.7	+01.2	N 20 44.7	+00.2
09	52 59.9	+01.1	N 20 44.9	+00.2
10	68 01.0	+01.2	N 20 45.1	+00.3
11	83 02.2	+01.1	N 20 45.4	+00.2
12	98 03.3	+01.1	N 20 45.6	+00.2
13	113 04.4	+01.2	N 20 45.8	+00.3
14	128 05.6	+01.1	N 20 46.1	+00.2
15	143 06.7	+01.1	N 20 46.3	+00.2
16	158 07.8	+01.2	N 20 46.5	+00.2
17	173 09.0	+01.1	N 20 46.7	+00.3
18	188 10.1	+01.2	N 20 47.0	+00.2
19	203 11.3	+01.1	N 20 47.2	+00.2
20	218 12.4	+01.2	N 20 47.4	+00.3
21	233 13.6	+01.1	N 20 47.7	+00.2
22	248 14.7	+01.1	N 20 47.9	+00.2
23	263 15.8	+01.2	N 20 48.1	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	292°	292°	292°	291°	291°	291°

Greenwich Culmination Time: 05:28

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	339 42.6	+02.8	N 01 00.5	-00.1
01	354 45.4	+02.7	N 01 00.4	-00.1
02	9 48.1	+02.7	N 01 00.3	-00.2
03	24 50.8	+02.8	N 01 00.1	-00.1
04	39 53.6	+02.7	N 01 00.0	-00.1
05	54 56.3	+02.7	N 00 59.9	-00.1
06	69 59.0	+02.7	N 00 59.8	-00.1
07	85 01.7	+02.8	N 00 59.7	-00.2
08	100 04.5	+02.7	N 00 59.5	-00.1
09	115 07.2	+02.7	N 00 59.4	-00.1
10	130 09.9	+02.7	N 00 59.3	-00.1
11	145 12.6	+02.8	N 00 59.2	-00.1
12	160 15.4	+02.7	N 00 59.1	-00.2
13	175 18.1	+02.7	N 00 58.9	-00.1
14	190 20.8	+02.7	N 00 58.8	-00.1
15	205 23.5	+02.8	N 00 58.7	-00.1
16	220 26.3	+02.7	N 00 58.6	-00.1
17	235 29.0	+02.7	N 00 58.5	-00.2
18	250 31.7	+02.8	N 00 58.3	-00.1
19	265 34.5	+02.7	N 00 58.2	-00.1
20	280 37.2	+02.7	N 00 58.1	-00.1
21	295 39.9	+02.7	N 00 58.0	-00.1
22	310 42.6	+02.8	N 00 57.9	-00.2
23	325 45.4	+02.7	N 00 57.7	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 01:20

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	22 58.9	+02.6	S 15 59.6	+00.0
01	38 01.5	+02.6	S 15 59.6	+00.1
02	53 04.1	+02.6	S 15 59.7	+00.0
03	68 06.7	+02.7	S 15 59.7	+00.1
04	83 09.4	+02.6	S 15 59.8	+00.0
05	98 12.0	+02.6	S 15 59.8	+00.1
06	113 14.6	+02.6	S 15 59.9	+00.0
07	128 17.2	+02.6	S 15 59.9	+00.1
08	143 19.8	+02.7	S 15 60.0	+00.0
09	158 22.5	+02.6	S 16 00.0	+00.1
10	173 25.1	+02.6	S 16 00.1	+00.0
11	188 27.7	+02.6	S 16 00.1	+00.1
12	203 30.3	+02.7	S 16 00.2	+00.0
13	218 33.0	+02.6	S 16 00.2	+00.1
14	233 35.6	+02.6	S 16 00.3	+00.0
15	248 38.2	+02.6	S 16 00.3	+00.1
16	263 40.8	+02.6	S 16 00.4	+00.1
17	278 43.4	+02.7	S 16 00.5	+00.0
18	293 46.1	+02.6	S 16 00.5	+00.1
19	308 48.7	+02.6	S 16 00.6	+00.0
20	323 51.3	+02.6	S 16 00.6	+00.1
21	338 53.9	+02.7	S 16 00.7	+00.0
22	353 56.6	+02.6	S 16 00.7	+00.1
23	8 59.2	+02.6	S 16 00.8	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 22:24

2022 September 8 Thursday (day 251 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 32.0	+00.2	N 05 46.6	-00.9
01	195 32.2	+00.2	N 05 45.7	-01.0
02	210 32.4	+00.3	N 05 44.7	-00.9
03	225 32.7	+00.2	N 05 43.8	-01.0
04	240 32.9	+00.2	N 05 42.8	-00.9
05	255 33.1	+00.2	N 05 41.9	-00.9
06	270 33.3	+00.2	N 05 41.0	-01.0
07	285 33.5	+00.2	N 05 40.0	-00.9
08	300 33.7	+00.3	N 05 39.1	-01.0
09	315 34.0	+00.2	N 05 38.1	-00.9
10	330 34.2	+00.2	N 05 37.2	-00.9
11	345 34.4	+00.2	N 05 36.3	-01.0
12	0 34.6	+00.2	N 05 35.3	-00.9
13	15 34.8	+00.2	N 05 34.4	-01.0
14	30 35.0	+00.3	N 05 33.4	-00.9
15	45 35.3	+00.2	N 05 32.5	-00.9
16	60 35.5	+00.2	N 05 31.6	-01.0
17	75 35.7	+00.2	N 05 30.6	-00.9
18	90 35.9	+00.2	N 05 29.7	-01.0
19	105 36.1	+00.2	N 05 28.7	-00.9
20	120 36.3	+00.3	N 05 27.8	-00.9
21	135 36.6	+00.2	N 05 26.9	-01.0
22	150 36.8	+00.2	N 05 25.9	-00.9
23	165 37.0	+00.2	N 05 25.0	-01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	193°	193°	193°	193°	193°	193°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	191 09.3	-00.5	N 11 23.9	-01.1
01	206 08.8	-00.5	N 11 22.8	-01.1
02	221 08.3	-00.5	N 11 21.7	-01.1
03	236 07.8	-00.5	N 11 20.6	-01.1
04	251 07.3	-00.5	N 11 19.5	-01.0
05	266 06.8	-00.5	N 11 18.5	-01.1
06	281 06.3	-00.4	N 11 17.4	-01.1
07	296 05.9	-00.5	N 11 16.3	-01.1
08	311 05.4	-00.5	N 11 15.2	-01.1
09	326 04.9	-00.5	N 11 14.1	-01.1
10	341 04.4	-00.5	N 11 13.0	-01.0
11	356 03.9	-00.5	N 11 12.0	-01.1
12	11 03.4	-00.5	N 11 10.9	-01.1
13	26 02.9	-00.5	N 11 09.8	-01.1
14	41 02.4	-00.5	N 11 08.7	-01.1
15	56 01.9	-00.5	N 11 07.6	-01.1
16	71 01.4	-00.4	N 11 06.5	-01.1
17	86 01.0	-00.5	N 11 05.4	-01.1
18	101 00.5	-00.5	N 11 04.3	-01.0
19	115 60.0	-00.5	N 11 03.3	-01.1
20	130 59.5	-00.5	N 11 02.2	-01.1
21	145 59.0	-00.5	N 11 01.1	-01.1
22	160 58.5	-00.5	N 10 60.0	-01.1
23	175 58.0	-00.5	N 10 58.9	-01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	204°	204°	204°	203°	203°	203°

Greenwich Culmination Time: 11:15

Moon

A: 43%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	30 36.3	-35.3	S 21 55.4	-10.6
01	45 01.0	-35.3	S 21 44.8	-10.6
02	59 25.7	-35.1	S 21 34.2	-10.8
03	73 50.6	-35.1	S 21 23.4	-11.0
04	88 15.5	-34.9	S 21 12.4	-11.0
05	102 40.6	-34.9	S 21 01.4	-11.3
06	117 05.7	-34.8	S 20 50.1	-11.3
07	131 30.9	-34.7	S 20 38.8	-11.5
08	145 56.2	-34.5	S 20 27.3	-11.6
09	160 21.7	-34.5	S 20 15.7	-11.7
10	174 47.2	-34.4	S 20 04.0	-11.9
11	189 12.8	-34.3	S 19 52.1	-12.0
12	203 38.5	-34.2	S 19 40.1	-12.1
13	218 04.3	-34.1	S 19 28.0	-12.2
14	232 30.2	-34.0	S 19 15.8	-12.4
15	246 56.2	-33.9	S 19 03.4	-12.5
16	261 22.3	-33.7	S 18 50.9	-12.5
17	275 48.6	-33.7	S 18 38.4	-12.7
18	290 14.9	-33.6	S 18 25.7	-12.8
19	304 41.3	-33.5	S 18 12.9	-13.0
20	319 07.8	-33.4	S 17 59.9	-13.0
21	333 34.4	-33.3	S 17 46.9	-13.1
22	348 01.1	-33.3	S 17 33.8	-13.2
23	2 27.8	-33.1	S 17 20.6	-13.4

UT	02	06	10	14	18	22
SD	16′4	16′4	16′4	16′4	16′4	16′3
HP	60′1	60′1	60′1	60′1	60′0	60′0
SHA	042°	040°	037°	035°	032°	030°

Greenwich Culmination Time: 22:49

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	278 17.0	+01.1	N 20 48.3	+00.3
01	293 18.1	+01.2	N 20 48.6	+00.2
02	308 19.3	+01.1	N 20 48.8	+00.2
03	323 20.4	+01.2	N 20 49.0	+00.3
04	338 21.6	+01.1	N 20 49.3	+00.2
05	353 22.7	+01.1	N 20 49.5	+00.2
06	8 23.8	+01.2	N 20 49.7	+00.2
07	23 25.0	+01.1	N 20 49.9	+00.3
08	38 26.1	+01.2	N 20 50.2	+00.2
09	53 27.3	+01.1	N 20 50.4	+00.2
10	68 28.4	+01.2	N 20 50.6	+00.2
11	83 29.6	+01.1	N 20 50.8	+00.3
12	98 30.7	+01.2	N 20 51.1	+00.2
13	113 31.9	+01.1	N 20 51.3	+00.2
14	128 33.0	+01.2	N 20 51.5	+00.2
15	143 34.2	+01.1	N 20 51.7	+00.3
16	158 35.3	+01.2	N 20 52.0	+00.2
17	173 36.5	+01.1	N 20 52.2	+00.2
18	188 37.6	+01.2	N 20 52.4	+00.2
19	203 38.8	+01.2	N 20 52.6	+00.3
20	218 40.0	+01.1	N 20 52.9	+00.2
21	233 41.1	+01.2	N 20 53.1	+00.2
22	248 42.3	+01.1	N 20 53.3	+00.2
23	263 43.4	+01.2	N 20 53.5	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	291°	291°	291°	291°	291°	291°

Greenwich Culmination Time: 05:26

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	340 48.1	+02.7	N 00 57.6	-00.1
01	355 50.8	+02.8	N 00 57.5	-00.1
02	10 53.6	+02.7	N 00 57.4	-00.2
03	25 56.3	+02.7	N 00 57.2	-00.1
04	40 59.0	+02.8	N 00 57.1	-00.1
05	56 01.8	+02.7	N 00 57.0	-00.1
06	71 04.5	+02.7	N 00 56.9	-00.1
07	86 07.2	+02.7	N 00 56.8	-00.2
08	101 09.9	+02.8	N 00 56.6	-00.1
09	116 12.7	+02.7	N 00 56.5	-00.1
10	131 15.4	+02.7	N 00 56.4	-00.1
11	146 18.1	+02.8	N 00 56.3	-00.1
12	161 20.9	+02.7	N 00 56.2	-00.2
13	176 23.6	+02.7	N 00 56.0	-00.1
14	191 26.3	+02.8	N 00 55.9	-00.1
15	206 29.1	+02.7	N 00 55.8	-00.1
16	221 31.8	+02.7	N 00 55.7	-00.2
17	236 34.5	+02.8	N 00 55.5	-00.1
18	251 37.3	+02.7	N 00 55.4	-00.1
19	266 40.0	+02.7	N 00 55.3	-00.1
20	281 42.7	+02.8	N 00 55.2	-00.1
21	296 45.5	+02.7	N 00 55.1	-00.2
22	311 48.2	+02.7	N 00 54.9	-00.1
23	326 50.9	+02.8	N 00 54.8	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 01:16

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	24 01.8	+02.6	S 16 00.8	+00.1
01	39 04.4	+02.6	S 16 00.9	+00.0
02	54 07.0	+02.7	S 16 00.9	+00.1
03	69 09.7	+02.6	S 16 01.0	+00.0
04	84 12.3	+02.6	S 16 01.0	+00.1
05	99 14.9	+02.6	S 16 01.1	+00.0
06	114 17.5	+02.6	S 16 01.1	+00.1
07	129 20.1	+02.7	S 16 01.2	+00.0
08	144 22.8	+02.6	S 16 01.2	+00.1
09	159 25.4	+02.6	S 16 01.3	+00.0
10	174 28.0	+02.6	S 16 01.3	+00.1
11	189 30.6	+02.6	S 16 01.4	+00.0
12	204 33.2	+02.7	S 16 01.4	+00.1
13	219 35.9	+02.6	S 16 01.5	+00.0
14	234 38.5	+02.6	S 16 01.5	+00.1
15	249 41.1	+02.6	S 16 01.6	+00.0
16	264 43.7	+02.6	S 16 01.6	+00.1
17	279 46.3	+02.7	S 16 01.7	+00.0
18	294 49.0	+02.6	S 16 01.7	+00.1
19	309 51.6	+02.6	S 16 01.8	+00.0
20	324 54.2	+02.6	S 16 01.8	+00.1
21	339 56.8	+02.6	S 16 01.9	+00.0
22	354 59.4	+02.7	S 16 01.9	+00.1
23	10 02.1	+02.6	S 16 02.0	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 22:19

2022 September 13 Tuesday (day 256 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 58.4	+00.2	N 03 52.9	-00.9
01	195 58.6	+00.2	N 03 52.0	-01.0
02	210 58.8	+00.2	N 03 51.0	-00.9
03	225 59.0	+00.3	N 03 50.1	-01.0
04	240 59.3	+00.2	N 03 49.1	-00.9
05	255 59.5	+00.2	N 03 48.2	-01.0
06	270 59.7	+00.2	N 03 47.2	-01.0
07	285 59.9	+00.3	N 03 46.2	-00.9
08	301 00.2	+00.2	N 03 45.3	-01.0
09	316 00.4	+00.2	N 03 44.3	-00.9
10	331 00.6	+00.2	N 03 43.4	-01.0
11	346 00.8	+00.2	N 03 42.4	-00.9
12	1 01.0	+00.3	N 03 41.5	-01.0
13	16 01.3	+00.2	N 03 40.5	-00.9
14	31 01.5	+00.2	N 03 39.6	-01.0
15	46 01.7	+00.2	N 03 38.6	-01.0
16	61 01.9	+00.3	N 03 37.6	-00.9
17	76 02.2	+00.2	N 03 36.7	-01.0
18	91 02.4	+00.2	N 03 35.7	-00.9
19	106 02.6	+00.2	N 03 34.8	-01.0
20	121 02.8	+00.3	N 03 33.8	-01.0
21	136 03.1	+00.2	N 03 32.8	-00.9
22	151 03.3	+00.2	N 03 31.9	-01.0
23	166 03.5	+00.2	N 03 30.9	-00.9

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	189°	189°	189°	188°	188°	188°

Greenwich Culmination Time: 11:55

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	190 12.4	-00.5	N 09 10.7	-01.2
01	205 11.9	-00.4	N 09 09.5	-01.1
02	220 11.5	-00.5	N 09 08.4	-01.1
03	235 11.0	-00.4	N 09 07.3	-01.2
04	250 10.6	-00.5	N 09 06.1	-01.1
05	265 10.1	-00.4	N 09 05.0	-01.2
06	280 09.7	-00.5	N 09 03.8	-01.1
07	295 09.2	-00.5	N 09 02.7	-01.1
08	310 08.7	-00.4	N 09 01.6	-01.2
09	325 08.3	-00.5	N 09 00.4	-01.1
10	340 07.8	-00.4	N 08 59.3	-01.2
11	355 07.4	-00.5	N 08 58.1	-01.1
12	10 06.9	-00.4	N 08 57.0	-01.2
13	25 06.5	-00.5	N 08 55.8	-01.1
14	40 06.0	-00.4	N 08 54.7	-01.2
15	55 05.6	-00.5	N 08 53.5	-01.1
16	70 05.1	-00.4	N 08 52.4	-01.1
17	85 04.7	-00.5	N 08 51.3	-01.2
18	100 04.2	-00.4	N 08 50.1	-01.1
19	115 03.8	-00.5	N 08 49.0	-01.2
20	130 03.3	-00.4	N 08 47.8	-01.1
21	145 02.9	-00.5	N 08 46.7	-01.2
22	160 02.4	-00.4	N 08 45.5	-01.1
23	175 02.0	-00.5	N 08 44.4	-01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	198°	198°	198°	198°	197°	197°

Greenwich Culmination Time: 11:19

Moon

A: 60%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	329 28.6	-27.8	N 07 26.1	+14.8
01	344 00.8	-27.9	N 07 40.9	+14.8
02	358 32.9	-27.8	N 07 55.7	+14.7
03	13 05.1	-27.8	N 08 10.4	+14.7
04	27 37.3	-27.8	N 08 25.1	+14.6
05	42 09.5	-27.8	N 08 39.7	+14.6
06	56 41.7	-27.9	N 08 54.3	+14.5
07	71 13.8	-27.8	N 09 08.8	+14.4
08	85 46.0	-27.8	N 09 23.2	+14.4
09	100 18.2	-27.8	N 09 37.6	+14.3
10	114 50.4	-27.9	N 09 51.9	+14.3
11	129 22.5	-27.8	N 10 06.2	+14.2
12	143 54.7	-27.9	N 10 20.4	+14.1
13	158 26.8	-27.8	N 10 34.5	+14.1
14	172 59.0	-27.9	N 10 48.6	+14.0
15	187 31.1	-27.9	N 11 02.6	+13.9
16	202 03.2	-27.9	N 11 16.5	+13.8
17	216 35.3	-27.9	N 11 30.3	+13.8
18	231 07.4	-27.9	N 11 44.1	+13.8
19	245 39.5	-27.9	N 11 57.9	+13.6
20	260 11.6	-27.9	N 12 11.5	+13.6
21	274 43.7	-28.0	N 12 25.1	+13.5
22	289 15.7	-28.0	N 12 38.6	+13.4
23	303 47.7	-27.9	N 12 52.0	+13.4

UT	02	06	10	14	18	22
SD	15′7	15′6	15′6	15′5	15′5	15′5
HP	57′4	57′3	57′2	57′0	56′9	56′8
SHA	336°	334°	332°	330°	328°	326°

Greenwich Culmination Time: 02:05

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	280 38.1	+01.2	N 21 14.1	+00.2
01	295 39.3	+01.2	N 21 14.3	+00.2
02	310 40.5	+01.2	N 21 14.5	+00.2
03	325 41.7	+01.2	N 21 14.7	+00.3
04	340 42.9	+01.2	N 21 15.0	+00.2
05	355 44.1	+01.2	N 21 15.2	+00.2
06	10 45.3	+01.3	N 21 15.4	+00.2
07	25 46.6	+01.2	N 21 15.6	+00.2
08	40 47.8	+01.2	N 21 15.8	+00.2
09	55 49.0	+01.2	N 21 16.0	+00.2
10	70 50.2	+01.2	N 21 16.2	+00.2
11	85 51.4	+01.2	N 21 16.4	+00.2
12	100 52.6	+01.2	N 21 16.6	+00.2
13	115 53.8	+01.3	N 21 16.8	+00.2
14	130 55.1	+01.2	N 21 17.0	+00.2
15	145 56.3	+01.2	N 21 17.2	+00.2
16	160 57.5	+01.2	N 21 17.4	+00.2
17	175 58.7	+01.2	N 21 17.6	+00.2
18	190 59.9	+01.3	N 21 17.8	+00.2
19	206 01.2	+01.2	N 21 18.0	+00.2
20	221 02.4	+01.2	N 21 18.2	+00.2
21	236 03.6	+01.2	N 21 18.4	+00.1
22	251 04.8	+01.3	N 21 18.5	+00.2
23	266 06.1	+01.2	N 21 18.7	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	289°	289°	288°	288°	288°	288°

Greenwich Culmination Time: 05:17

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	346 16.8	+02.7	N 00 42.7	-00.2
01	1 19.5	+02.8	N 00 42.5	-00.1
02	16 22.3	+02.7	N 00 42.4	-00.1
03	31 25.0	+02.8	N 00 42.3	-00.1
04	46 27.8	+02.7	N 00 42.2	-00.2
05	61 30.5	+02.8	N 00 42.0	-00.1
06	76 33.3	+02.7	N 00 41.9	-00.1
07	91 36.0	+02.8	N 00 41.8	-00.2
08	106 38.8	+02.7	N 00 41.6	-00.1
09	121 41.5	+02.8	N 00 41.5	-00.1
10	136 44.3	+02.7	N 00 41.4	-00.1
11	151 47.0	+02.8	N 00 41.3	-00.2
12	166 49.8	+02.7	N 00 41.1	-00.1
13	181 52.5	+02.8	N 00 41.0	-00.1
14	196 55.3	+02.7	N 00 40.9	-00.2
15	211 58.0	+02.8	N 00 40.7	-00.1
16	227 00.8	+02.7	N 00 40.6	-00.1
17	242 03.5	+02.8	N 00 40.5	-00.1
18	257 06.3	+02.7	N 00 40.4	-00.2
19	272 09.0	+02.8	N 00 40.2	-00.1
20	287 11.8	+02.7	N 00 40.1	-00.1
21	302 14.5	+02.8	N 00 40.0	-00.1
22	317 17.3	+02.7	N 00 39.9	-00.2
23	332 20.0	+02.8	N 00 39.7	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 00:54

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	29 15.7	+02.6	S 16 06.7	+00.1
01	44 18.3	+02.6	S 16 06.8	+00.0
02	59 20.9	+02.6	S 16 06.8	+00.0
03	74 23.5	+02.6	S 16 06.8	+00.1
04	89 26.1	+02.6	S 16 06.9	+00.0
05	104 28.7	+02.6	S 16 06.9	+00.1
06	119 31.3	+02.6	S 16 07.0	+00.0
07	134 33.9	+02.7	S 16 07.0	+00.1
08	149 36.6	+02.6	S 16 07.1	+00.0
09	164 39.2	+02.6	S 16 07.1	+00.1
10	179 41.8	+02.6	S 16 07.2	+00.0
11	194 44.4	+02.6	S 16 07.2	+00.1
12	209 47.0	+02.6	S 16 07.3	+00.0
13	224 49.6	+02.6	S 16 07.3	+00.1
14	239 52.2	+02.6	S 16 07.4	+00.0
15	254 54.8	+02.6	S 16 07.4	+00.0
16	269 57.4	+02.6	S 16 07.4	+00.1
17	285 00.0	+02.6	S 16 07.5	+00.0
18	300 02.6	+02.6	S 16 07.5	+00.1
19	315 05.2	+02.7	S 16 07.6	+00.0
20	330 07.9	+02.6	S 16 07.6	+00.1
21	345 10.5	+02.6	S 16 07.7	+00.0
22	0 13.1	+02.6	S 16 07.7	+00.1
23	15 15.7	+02.6	S 16 07.8	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 21:59

2022 September 10 Saturday (day 253 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 42.5	+00.2	N 05 01.4	-01.0
01	195 42.7	+00.2	N 05 00.4	-00.9
02	210 42.9	+00.2	N 04 59.5	-01.0
03	225 43.1	+00.2	N 04 58.5	-00.9
04	240 43.3	+00.3	N 04 57.6	-00.9
05	255 43.6	+00.2	N 04 56.7	-01.0
06	270 43.8	+00.2	N 04 55.7	-00.9
07	285 44.0	+00.2	N 04 54.8	-01.0
08	300 44.2	+00.2	N 04 53.8	-00.9
09	315 44.4	+00.3	N 04 52.9	-01.0
10	330 44.7	+00.2	N 04 51.9	-00.9
11	345 44.9	+00.2	N 04 51.0	-01.0
12	0 45.1	+00.2	N 04 50.0	-00.9
13	15 45.3	+00.2	N 04 49.1	-01.0
14	30 45.5	+00.3	N 04 48.1	-00.9
15	45 45.8	+00.2	N 04 47.2	-01.0
16	60 46.0	+00.2	N 04 46.2	-00.9
17	75 46.2	+00.2	N 04 45.3	-01.0
18	90 46.4	+00.2	N 04 44.3	-00.9
19	105 46.6	+00.3	N 04 43.4	-01.0
20	120 46.9	+00.2	N 04 42.4	-00.9
21	135 47.1	+00.2	N 04 41.5	-01.0
22	150 47.3	+00.2	N 04 40.5	-00.9
23	165 47.5	+00.2	N 04 39.6	-01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	192°	191°	191°	191°	191°	191°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	190 46.0	-00.5	N 10 31.5	-01.2
01	205 45.5	-00.5	N 10 30.3	-01.1
02	220 45.0	-00.4	N 10 29.2	-01.1
03	235 44.6	-00.5	N 10 28.1	-01.1
04	250 44.1	-00.5	N 10 27.0	-01.1
05	265 43.6	-00.5	N 10 25.9	-01.1
06	280 43.1	-00.5	N 10 24.8	-01.1
07	295 42.6	-00.4	N 10 23.7	-01.1
08	310 42.2	-00.5	N 10 22.6	-01.1
09	325 41.7	-00.5	N 10 21.5	-01.1
10	340 41.2	-00.4	N 10 20.4	-01.1
11	355 40.8	-00.5	N 10 19.3	-01.1
12	10 40.3	-00.5	N 10 18.2	-01.1
13	25 39.8	-00.5	N 10 17.1	-01.2
14	40 39.3	-00.4	N 10 15.9	-01.1
15	55 38.9	-00.5	N 10 14.8	-01.1
16	70 38.4	-00.5	N 10 13.7	-01.1
17	85 37.9	-00.5	N 10 12.6	-01.1
18	100 37.4	-00.4	N 10 11.5	-01.1
19	115 37.0	-00.5	N 10 10.4	-01.1
20	130 36.5	-00.5	N 10 09.3	-01.1
21	145 36.0	-00.4	N 10 08.2	-01.2
22	160 35.6	-00.5	N 10 07.0	-01.1
23	175 35.1	-00.5	N 10 05.9	-01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	202°	201°	201°	201°	201°	201°

Greenwich Culmination Time: 11:17

Moon

A: 50%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	4 08.1	-30.9	S 11 22.0	-15.2
01	18 37.2	-30.7	S 11 06.8	-15.3
02	33 06.5	-30.7	S 10 51.5	-15.4
03	47 35.8	-30.6	S 10 36.1	-15.3
04	62 05.2	-30.6	S 10 20.8	-15.5
05	76 34.6	-30.4	S 10 05.3	-15.4
06	91 04.2	-30.4	S 09 49.9	-15.5
07	105 33.8	-30.3	S 09 34.4	-15.6
08	120 03.5	-30.3	S 09 18.8	-15.6
09	134 33.2	-30.1	S 09 03.2	-15.6
10	149 03.1	-30.1	S 08 47.6	-15.6
11	163 33.0	-30.0	S 08 32.0	-15.7
12	178 03.0	-30.0	S 08 16.3	-15.8
13	192 33.0	-29.9	S 08 00.5	-15.7
14	207 03.1	-29.8	S 07 44.8	-15.8
15	221 33.3	-29.7	S 07 29.0	-15.8
16	236 03.6	-29.7	S 07 13.2	-15.8
17	250 33.9	-29.6	S 06 57.4	-15.9
18	265 04.3	-29.6	S 06 41.5	-15.8
19	279 34.7	-29.5	S 06 25.7	-15.9
20	294 05.2	-29.4	S 06 09.8	-15.9
21	308 35.8	-29.4	S 05 53.9	-16.0
22	323 06.4	-29.3	S 05 37.9	-15.9
23	337 37.1	-29.3	S 05 22.0	-16.0

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′1	16′1
HP	59′5	59′5	59′4	59′3	59′2	59′1
SHA	014°	012°	010°	007°	005°	003°

Greenwich Culmination Time: -1:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	279 12.5	+01.1	N 20 59.0	+00.2
01	294 13.6	+01.2	N 20 59.2	+00.3
02	309 14.8	+01.2	N 20 59.5	+00.2
03	324 16.0	+01.1	N 20 59.7	+00.2
04	339 17.1	+01.2	N 20 59.9	+00.2
05	354 18.3	+01.2	N 21 00.1	+00.2
06	9 19.5	+01.2	N 21 00.3	+00.2
07	24 20.7	+01.1	N 21 00.5	+00.3
08	39 21.8	+01.2	N 21 00.8	+00.2
09	54 23.0	+01.2	N 21 01.0	+00.2
10	69 24.2	+01.2	N 21 01.2	+00.2
11	84 25.4	+01.1	N 21 01.4	+00.2
12	99 26.5	+01.2	N 21 01.6	+00.2
13	114 27.7	+01.2	N 21 01.8	+00.3
14	129 28.9	+01.2	N 21 02.1	+00.2
15	144 30.1	+01.1	N 21 02.3	+00.2
16	159 31.2	+01.2	N 21 02.5	+00.2
17	174 32.4	+01.2	N 21 02.7	+00.2
18	189 33.6	+01.2	N 21 02.9	+00.2
19	204 34.8	+01.2	N 21 03.1	+00.2
20	219 36.0	+01.1	N 21 03.3	+00.2
21	234 37.1	+01.2	N 21 03.5	+00.3
22	249 38.3	+01.2	N 21 03.8	+00.2
23	264 39.5	+01.2	N 21 04.0	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	290°	290°	290°	290°	290°	290°

Greenwich Culmination Time: 05:22

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	342 59.3	+02.8	N 00 51.7	-00.1
01	358 02.1	+02.7	N 00 51.6	-00.1
02	13 04.8	+02.7	N 00 51.5	-00.1
03	28 07.5	+02.8	N 00 51.4	-00.2
04	43 10.3	+02.7	N 00 51.2	-00.1
05	58 13.0	+02.7	N 00 51.1	-00.1
06	73 15.7	+02.8	N 00 51.0	-00.1
07	88 18.5	+02.7	N 00 50.9	-00.2
08	103 21.2	+02.8	N 00 50.7	-00.1
09	118 24.0	+02.7	N 00 50.6	-00.1
10	133 26.7	+02.7	N 00 50.5	-00.1
11	148 29.4	+02.8	N 00 50.4	-00.2
12	163 32.2	+02.7	N 00 50.2	-00.1
13	178 34.9	+02.8	N 00 50.1	-00.1
14	193 37.7	+02.7	N 00 50.0	-00.1
15	208 40.4	+02.7	N 00 49.9	-00.2
16	223 43.1	+02.8	N 00 49.7	-00.1
17	238 45.9	+02.7	N 00 49.6	-00.1
18	253 48.6	+02.8	N 00 49.5	-00.1
19	268 51.4	+02.7	N 00 49.4	-00.2
20	283 54.1	+02.7	N 00 49.2	-00.1
21	298 56.8	+02.8	N 00 49.1	-00.1
22	313 59.6	+02.7	N 00 49.0	-00.1
23	329 02.3	+02.8	N 00 48.9	-00.2

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 01:07

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	26 07.5	+02.6	S 16 03.2	+00.1
01	41 10.1	+02.6	S 16 03.3	+00.0
02	56 12.7	+02.7	S 16 03.3	+00.1
03	71 15.4	+02.6	S 16 03.4	+00.0
04	86 18.0	+02.6	S 16 03.4	+00.1
05	101 20.6	+02.6	S 16 03.5	+00.0
06	116 23.2	+02.6	S 16 03.5	+00.1
07	131 25.8	+02.6	S 16 03.6	+00.0
08	146 28.4	+02.7	S 16 03.6	+00.1
09	161 31.1	+02.6	S 16 03.7	+00.0
10	176 33.7	+02.6	S 16 03.7	+00.1
11	191 36.3	+02.6	S 16 03.8	+00.0
12	206 38.9	+02.6	S 16 03.8	+00.1
13	221 41.5	+02.6	S 16 03.9	+00.0
14	236 44.1	+02.7	S 16 03.9	+00.1
15	251 46.8	+02.6	S 16 04.0	+00.0
16	266 49.4	+02.6	S 16 04.0	+00.1
17	281 52.0	+02.6	S 16 04.1	+00.0
18	296 54.6	+02.6	S 16 04.1	+00.1
19	311 57.2	+02.6	S 16 04.2	+00.0
20	326 59.8	+02.6	S 16 04.2	+00.1
21	342 02.4	+02.7	S 16 04.3	+00.0
22	357 05.1	+02.6	S 16 04.3	+00.1
23	12 07.7	+02.6	S 16 04.4	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 22:11

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 September 11 Sunday (day 254 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 47.7	+00.3	N 04 38.6	-00.9
01	195 48.0	+00.2	N 04 37.7	-01.0
02	210 48.2	+00.2	N 04 36.7	-00.9
03	225 48.4	+00.2	N 04 35.8	-01.0
04	240 48.6	+00.2	N 04 34.8	-00.9
05	255 48.8	+00.3	N 04 33.9	-01.0
06	270 49.1	+00.2	N 04 32.9	-00.9
07	285 49.3	+00.2	N 04 32.0	-01.0
08	300 49.5	+00.2	N 04 31.0	-00.9
09	315 49.7	+00.2	N 04 30.1	-01.0
10	330 49.9	+00.3	N 04 29.1	-00.9
11	345 50.2	+00.2	N 04 28.2	-01.0
12	0 50.4	+00.2	N 04 27.2	-00.9
13	15 50.6	+00.2	N 04 26.3	-01.0
14	30 50.8	+00.2	N 04 25.3	-00.9
15	45 51.0	+00.3	N 04 24.4	-01.0
16	60 51.3	+00.2	N 04 23.4	-00.9
17	75 51.5	+00.2	N 04 22.5	-01.0
18	90 51.7	+00.2	N 04 21.5	-00.9
19	105 51.9	+00.3	N 04 20.6	-01.0
20	120 52.2	+00.2	N 04 19.6	-00.9
21	135 52.4	+00.2	N 04 18.7	-01.0
22	150 52.6	+00.2	N 04 17.7	-00.9
23	165 52.8	+00.2	N 04 16.8	-01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	191°	191°	190°	190°	190°	190°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	190 34.6	-00.5	N 10 04.8	-01.1
01	205 34.1	-00.4	N 10 03.7	-01.1
02	220 33.7	-00.5	N 10 02.6	-01.1
03	235 33.2	-00.5	N 10 01.5	-01.2
04	250 32.7	-00.4	N 10 00.3	-01.1
05	265 32.3	-00.5	N 09 59.2	-01.1
06	280 31.8	-00.5	N 09 58.1	-01.1
07	295 31.3	-00.4	N 09 57.0	-01.1
08	310 30.9	-00.5	N 09 55.9	-01.2
09	325 30.4	-00.5	N 09 54.7	-01.1
10	340 29.9	-00.4	N 09 53.6	-01.1
11	355 29.5	-00.5	N 09 52.5	-01.1
12	10 29.0	-00.5	N 09 51.4	-01.1
13	25 28.5	-00.4	N 09 50.3	-01.2
14	40 28.1	-00.5	N 09 49.1	-01.1
15	55 27.6	-00.5	N 09 48.0	-01.1
16	70 27.1	-00.4	N 09 46.9	-01.1
17	85 26.7	-00.5	N 09 45.8	-01.2
18	100 26.2	-00.5	N 09 44.6	-01.1
19	115 25.7	-00.4	N 09 43.5	-01.1
20	130 25.3	-00.5	N 09 42.4	-01.1
21	145 24.8	-00.5	N 09 41.3	-01.2
22	160 24.3	-00.4	N 09 40.1	-01.1
23	175 23.9	-00.5	N 09 39.0	-01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	200°	200°	200°	200°	200°	200°

Greenwich Culmination Time: 11:18

Moon

A: 54%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	352 07.8	-29.2	S 05 06.0	-15.9
01	6 38.6	-29.1	S 04 50.1	-16.0
02	21 09.5	-29.1	S 04 34.1	-16.0
03	35 40.4	-29.1	S 04 18.1	-16.0
04	50 11.3	-29.0	S 04 02.1	-16.0
05	64 42.3	-28.9	S 03 46.1	-16.0
06	79 13.4	-28.9	S 03 30.1	-16.0
07	93 44.5	-28.8	S 03 14.1	-16.0
08	108 15.7	-28.8	S 02 58.1	-16.0
09	122 46.9	-28.8	S 02 42.1	-16.0
10	137 18.1	-28.7	S 02 26.1	-16.0
11	151 49.4	-28.7	S 02 10.1	-16.0
12	166 20.7	-28.6	S 01 54.1	-15.9
13	180 52.1	-28.6	S 01 38.2	-16.0
14	195 23.5	-28.5	S 01 22.2	-16.0
15	209 55.0	-28.5	S 01 06.2	-15.9
16	224 26.5	-28.4	S 00 50.3	-16.0
17	238 58.1	-28.5	S 00 34.3	-15.9
18	253 29.6	-28.4	S 00 18.4	-15.9
19	268 01.2	-28.3	S 00 02.5	-15.9
20	282 32.9	-28.3	N 00 13.4	+15.8
21	297 04.6	-28.3	N 00 29.2	+15.9
22	311 36.3	-28.3	N 00 45.1	+15.8
23	326 08.0	-28.2	N 01 00.9	+15.8

UT	02	06	10	14	18	22
SD	16′1	16′0	16′0	16′0	15′9	15′9
HP	59′0	58′9	58′7	58′6	58′5	58′4
SHA	001°	359°	357°	355°	353°	351°

Greenwich Culmination Time: 00:32

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	279 40.7	+01.2	N 21 04.2	+00.2
01	294 41.9	+01.1	N 21 04.4	+00.2
02	309 43.0	+01.2	N 21 04.6	+00.2
03	324 44.2	+01.2	N 21 04.8	+00.2
04	339 45.4	+01.2	N 21 05.0	+00.2
05	354 46.6	+01.2	N 21 05.2	+00.3
06	9 47.8	+01.2	N 21 05.5	+00.2
07	24 49.0	+01.2	N 21 05.7	+00.2
08	39 50.2	+01.1	N 21 05.9	+00.2
09	54 51.3	+01.2	N 21 06.1	+00.2
10	69 52.5	+01.2	N 21 06.3	+00.2
11	84 53.7	+01.2	N 21 06.5	+00.2
12	99 54.9	+01.2	N 21 06.7	+00.2
13	114 56.1	+01.2	N 21 06.9	+00.2
14	129 57.3	+01.2	N 21 07.1	+00.2
15	144 58.5	+01.2	N 21 07.3	+00.3
16	159 59.7	+01.2	N 21 07.6	+00.2
17	175 00.9	+01.1	N 21 07.8	+00.2
18	190 02.0	+01.2	N 21 08.0	+00.2
19	205 03.2	+01.2	N 21 08.2	+00.2
20	220 04.4	+01.2	N 21 08.4	+00.2
21	235 05.6	+01.2	N 21 08.6	+00.2
22	250 06.8	+01.2	N 21 08.8	+00.2
23	265 08.0	+01.2	N 21 09.0	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	290°	290°	289°	289°	289°	289°

Greenwich Culmination Time: 05:20

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	344 05.1	+02.7	N 00 48.7	-00.1
01	359 07.8	+02.7	N 00 48.6	-00.1
02	14 10.5	+02.8	N 00 48.5	-00.1
03	29 13.3	+02.7	N 00 48.4	-00.2
04	44 16.0	+02.8	N 00 48.2	-00.1
05	59 18.8	+02.7	N 00 48.1	-00.1
06	74 21.5	+02.7	N 00 48.0	-00.1
07	89 24.2	+02.8	N 00 47.9	-00.2
08	104 27.0	+02.7	N 00 47.7	-00.1
09	119 29.7	+02.8	N 00 47.6	-00.1
10	134 32.5	+02.7	N 00 47.5	-00.1
11	149 35.2	+02.8	N 00 47.4	-00.2
12	164 38.0	+02.7	N 00 47.2	-00.1
13	179 40.7	+02.7	N 00 47.1	-00.1
14	194 43.4	+02.8	N 00 47.0	-00.1
15	209 46.2	+02.7	N 00 46.9	-00.2
16	224 48.9	+02.8	N 00 46.7	-00.1
17	239 51.7	+02.7	N 00 46.6	-00.1
18	254 54.4	+02.8	N 00 46.5	-00.2
19	269 57.2	+02.7	N 00 46.3	-00.1
20	284 59.9	+02.8	N 00 46.2	-00.1
21	300 02.7	+02.7	N 00 46.1	-00.1
22	315 05.4	+02.7	N 00 46.0	-00.2
23	330 08.1	+02.8	N 00 45.8	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 01:03

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	27 10.3	+02.6	S 16 04.4	+00.1
01	42 12.9	+02.6	S 16 04.5	+00.0
02	57 15.5	+02.6	S 16 04.5	+00.1
03	72 18.1	+02.7	S 16 04.6	+00.0
04	87 20.8	+02.6	S 16 04.6	+00.1
05	102 23.4	+02.6	S 16 04.7	+00.0
06	117 26.0	+02.6	S 16 04.7	+00.1
07	132 28.6	+02.6	S 16 04.8	+00.0
08	147 31.2	+02.6	S 16 04.8	+00.0
09	162 33.8	+02.6	S 16 04.8	+00.1
10	177 36.4	+02.6	S 16 04.9	+00.0
11	192 39.0	+02.7	S 16 04.9	+00.1
12	207 41.7	+02.6	S 16 05.0	+00.0
13	222 44.3	+02.6	S 16 05.0	+00.1
14	237 46.9	+02.6	S 16 05.1	+00.0
15	252 49.5	+02.6	S 16 05.1	+00.1
16	267 52.1	+02.6	S 16 05.2	+00.0
17	282 54.7	+02.6	S 16 05.2	+00.1
18	297 57.3	+02.7	S 16 05.3	+00.0
19	312 60.0	+02.6	S 16 05.3	+00.1
20	328 02.6	+02.6	S 16 05.4	+00.0
21	343 05.2	+02.6	S 16 05.4	+00.1
22	358 07.8	+02.6	S 16 05.5	+00.0
23	13 10.4	+02.6	S 16 05.5	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 22:07

2022 September 12 Monday (day 255 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	180 53.0	+00.3	N 04 15.8	-00.9
01	195 53.3	+00.2	N 04 14.9	-01.0
02	210 53.5	+00.2	N 04 13.9	-00.9
03	225 53.7	+00.2	N 04 13.0	-01.0
04	240 53.9	+00.3	N 04 12.0	-00.9
05	255 54.2	+00.2	N 04 11.1	-01.0
06	270 54.4	+00.2	N 04 10.1	-00.9
07	285 54.6	+00.2	N 04 09.2	-01.0
08	300 54.8	+00.2	N 04 08.2	-00.9
09	315 55.0	+00.3	N 04 07.3	-01.0
10	330 55.3	+00.2	N 04 06.3	-01.0
11	345 55.5	+00.2	N 04 05.3	-00.9
12	0 55.7	+00.2	N 04 04.4	-01.0
13	15 55.9	+00.2	N 04 03.4	-00.9
14	30 56.1	+00.3	N 04 02.5	-01.0
15	45 56.4	+00.2	N 04 01.5	-00.9
16	60 56.6	+00.2	N 04 00.6	-01.0
17	75 56.8	+00.2	N 03 59.6	-00.9
18	90 57.0	+00.3	N 03 58.7	-01.0
19	105 57.3	+00.2	N 03 57.7	-00.9
20	120 57.5	+00.2	N 03 56.8	-01.0
21	135 57.7	+00.2	N 03 55.8	-01.0
22	150 57.9	+00.2	N 03 54.8	-00.9
23	165 58.1	+00.3	N 03 53.9	-01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	190°	190°	190°	189°	189°	189°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	190 23.4	-00.4	N 09 37.9	-01.2
01	205 23.0	-00.5	N 09 36.7	-01.1
02	220 22.5	-00.5	N 09 35.6	-01.1
03	235 22.0	-00.4	N 09 34.5	-01.1
04	250 21.6	-00.5	N 09 33.4	-01.2
05	265 21.1	-00.5	N 09 32.2	-01.1
06	280 20.6	-00.4	N 09 31.1	-01.1
07	295 20.2	-00.5	N 09 30.0	-01.2
08	310 19.7	-00.4	N 09 28.8	-01.1
09	325 19.3	-00.5	N 09 27.7	-01.1
10	340 18.8	-00.5	N 09 26.6	-01.2
11	355 18.3	-00.4	N 09 25.4	-01.1
12	10 17.9	-00.5	N 09 24.3	-01.1
13	25 17.4	-00.4	N 09 23.2	-01.2
14	40 17.0	-00.5	N 09 22.0	-01.1
15	55 16.5	-00.5	N 09 20.9	-01.1
16	70 16.0	-00.4	N 09 19.8	-01.2
17	85 15.6	-00.5	N 09 18.6	-01.1
18	100 15.1	-00.4	N 09 17.5	-01.1
19	115 14.7	-00.5	N 09 16.4	-01.2
20	130 14.2	-00.4	N 09 15.2	-01.1
21	145 13.8	-00.5	N 09 14.1	-01.1
22	160 13.3	-00.5	N 09 13.0	-01.2
23	175 12.8	-00.4	N 09 11.8	-01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	199°	199°	199°	199°	199°	198°

Greenwich Culmination Time: 11:18

Moon

A: 57%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	340 39.8	-28.2	N 01 16.7	+15.8
01	355 11.6	-28.2	N 01 32.5	+15.8
02	9 43.4	-28.1	N 01 48.3	+15.7
03	24 15.3	-28.1	N 02 04.0	+15.7
04	38 47.2	-28.1	N 02 19.7	+15.7
05	53 19.1	-28.1	N 02 35.4	+15.6
06	67 51.0	-28.0	N 02 51.0	+15.6
07	82 23.0	-28.1	N 03 06.6	+15.6
08	96 54.9	-28.0	N 03 22.2	+15.6
09	111 26.9	-27.9	N 03 37.8	+15.5
10	125 59.0	-28.0	N 03 53.3	+15.4
11	140 31.0	-28.0	N 04 08.7	+15.5
12	155 03.0	-27.9	N 04 24.2	+15.4
13	169 35.1	-27.9	N 04 39.6	+15.3
14	184 07.2	-27.9	N 04 54.9	+15.4
15	198 39.3	-27.9	N 05 10.3	+15.2
16	213 11.4	-27.9	N 05 25.5	+15.3
17	227 43.5	-27.9	N 05 40.8	+15.1
18	242 15.6	-27.8	N 05 55.9	+15.2
19	256 47.8	-27.9	N 06 11.1	+15.1
20	271 19.9	-27.8	N 06 26.2	+15.0
21	285 52.1	-27.9	N 06 41.2	+15.0
22	300 24.2	-27.8	N 06 56.2	+15.0
23	314 56.4	-27.8	N 07 11.2	+14.9

UT	02	06	10	14	18	22
SD	15′9	15′8	15′8	15′8	15′7	15′7
HP	58′2	58′1	58′0	57′8	57′7	57′6
SHA	349°	347°	345°	343°	341°	339°

Greenwich Culmination Time: 01:19

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	280 09.2	+01.2	N 21 09.2	+00.2
01	295 10.4	+01.2	N 21 09.4	+00.2
02	310 11.6	+01.2	N 21 09.6	+00.2
03	325 12.8	+01.2	N 21 09.8	+00.3
04	340 14.0	+01.2	N 21 10.1	+00.2
05	355 15.2	+01.2	N 21 10.3	+00.2
06	10 16.4	+01.2	N 21 10.5	+00.2
07	25 17.6	+01.2	N 21 10.7	+00.2
08	40 18.8	+01.2	N 21 10.9	+00.2
09	55 20.0	+01.2	N 21 11.1	+00.2
10	70 21.2	+01.2	N 21 11.3	+00.2
11	85 22.4	+01.2	N 21 11.5	+00.2
12	100 23.6	+01.2	N 21 11.7	+00.2
13	115 24.8	+01.2	N 21 11.9	+00.2
14	130 26.0	+01.2	N 21 12.1	+00.2
15	145 27.2	+01.2	N 21 12.3	+00.2
16	160 28.4	+01.2	N 21 12.5	+00.2
17	175 29.6	+01.2	N 21 12.7	+00.2
18	190 30.8	+01.2	N 21 12.9	+00.2
19	205 32.0	+01.2	N 21 13.1	+00.2
20	220 33.2	+01.2	N 21 13.3	+00.2
21	235 34.4	+01.3	N 21 13.5	+00.2
22	250 35.7	+01.2	N 21 13.7	+00.2
23	265 36.9	+01.2	N 21 13.9	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	289°	289°	289°	289°	289°	289°

Greenwich Culmination Time: 05:18

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	345 10.9	+02.7	N 00 45.7	-00.1
01	0 13.6	+02.8	N 00 45.6	-00.1
02	15 16.4	+02.7	N 00 45.5	-00.2
03	30 19.1	+02.8	N 00 45.3	-00.1
04	45 21.9	+02.7	N 00 45.2	-00.1
05	60 24.6	+02.8	N 00 45.1	-00.1
06	75 27.4	+02.7	N 00 45.0	-00.2
07	90 30.1	+02.7	N 00 44.8	-00.1
08	105 32.8	+02.8	N 00 44.7	-00.1
09	120 35.6	+02.7	N 00 44.6	-00.1
10	135 38.3	+02.8	N 00 44.5	-00.2
11	150 41.1	+02.7	N 00 44.3	-00.1
12	165 43.8	+02.8	N 00 44.2	-00.1
13	180 46.6	+02.7	N 00 44.1	-00.2
14	195 49.3	+02.8	N 00 43.9	-00.1
15	210 52.1	+02.7	N 00 43.8	-00.1
16	225 54.8	+02.8	N 00 43.7	-00.1
17	240 57.6	+02.7	N 00 43.6	-00.2
18	256 00.3	+02.8	N 00 43.4	-00.1
19	271 03.1	+02.7	N 00 43.3	-00.1
20	286 05.8	+02.8	N 00 43.2	-00.1
21	301 08.6	+02.7	N 00 43.1	-00.2
22	316 11.3	+02.7	N 00 42.9	-00.1
23	331 14.0	+02.8	N 00 42.8	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	354°	354°

Greenwich Culmination Time: 00:59

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	28 13.0	+02.6	S 16 05.6	+00.0
01	43 15.6	+02.6	S 16 05.6	+00.1
02	58 18.2	+02.7	S 16 05.7	+00.0
03	73 20.9	+02.6	S 16 05.7	+00.1
04	88 23.5	+02.6	S 16 05.8	+00.0
05	103 26.1	+02.6	S 16 05.8	+00.1
06	118 28.7	+02.6	S 16 05.9	+00.0
07	133 31.3	+02.6	S 16 05.9	+00.1
08	148 33.9	+02.6	S 16 06.0	+00.0
09	163 36.5	+02.6	S 16 06.0	+00.0
10	178 39.1	+02.6	S 16 06.0	+00.1
11	193 41.7	+02.7	S 16 06.1	+00.0
12	208 44.4	+02.6	S 16 06.1	+00.1
13	223 47.0	+02.6	S 16 06.2	+00.0
14	238 49.6	+02.6	S 16 06.2	+00.1
15	253 52.2	+02.6	S 16 06.3	+00.0
16	268 54.8	+02.6	S 16 06.3	+00.1
17	283 57.4	+02.6	S 16 06.4	+00.0
18	299 00.0	+02.6	S 16 06.4	+00.1
19	314 02.6	+02.6	S 16 06.5	+00.0
20	329 05.2	+02.6	S 16 06.5	+00.1
21	344 07.8	+02.7	S 16 06.6	+00.0
22	359 10.5	+02.6	S 16 06.6	+00.1
23	14 13.1	+02.6	S 16 06.7	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 22:03

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 September 17 Saturday (day 260 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	181 19.8	+00.2	N 02 20.7	-00.9
01	196 20.0	+00.3	N 02 19.8	-01.0
02	211 20.3	+00.2	N 02 18.8	-01.0
03	226 20.5	+00.2	N 02 17.8	-00.9
04	241 20.7	+00.2	N 02 16.9	-01.0
05	256 20.9	+00.3	N 02 15.9	-01.0
06	271 21.2	+00.2	N 02 14.9	-00.9
07	286 21.4	+00.2	N 02 14.0	-01.0
08	301 21.6	+00.2	N 02 13.0	-01.0
09	316 21.8	+00.3	N 02 12.0	-00.9
10	331 22.1	+00.2	N 02 11.1	-01.0
11	346 22.3	+00.2	N 02 10.1	-01.0
12	1 22.5	+00.2	N 02 09.1	-00.9
13	16 22.7	+00.2	N 02 08.2	-01.0
14	31 22.9	+00.3	N 02 07.2	-01.0
15	46 23.2	+00.2	N 02 06.2	-00.9
16	61 23.4	+00.2	N 02 05.3	-01.0
17	76 23.6	+00.2	N 02 04.3	-01.0
18	91 23.8	+00.3	N 02 03.3	-00.9
19	106 24.1	+00.2	N 02 02.4	-01.0
20	121 24.3	+00.2	N 02 01.4	-01.0
21	136 24.5	+00.2	N 02 00.4	-00.9
22	151 24.7	+00.3	N 01 59.5	-01.0
23	166 25.0	+00.2	N 01 58.5	-01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	185°	185°	185°	185°	185°	185°

Greenwich Culmination Time: 11:54

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	189 29.8	-00.4	N 07 19.4	-01.2
01	204 29.4	-00.4	N 07 18.2	-01.2
02	219 29.0	-00.5	N 07 17.0	-01.1
03	234 28.5	-00.4	N 07 15.9	-01.2
04	249 28.1	-00.4	N 07 14.7	-01.2
05	264 27.7	-00.5	N 07 13.5	-01.2
06	279 27.2	-00.4	N 07 12.3	-01.2
07	294 26.8	-00.4	N 07 11.1	-01.1
08	309 26.4	-00.4	N 07 10.0	-01.2
09	324 26.0	-00.5	N 07 08.8	-01.2
10	339 25.5	-00.4	N 07 07.6	-01.2
11	354 25.1	-00.4	N 07 06.4	-01.2
12	9 24.7	-00.5	N 07 05.2	-01.2
13	24 24.2	-00.4	N 07 04.0	-01.1
14	39 23.8	-00.4	N 07 02.9	-01.2
15	54 23.4	-00.4	N 07 01.7	-01.2
16	69 23.0	-00.5	N 07 00.5	-01.2
17	84 22.5	-00.4	N 06 59.3	-01.2
18	99 22.1	-00.4	N 06 58.1	-01.2
19	114 21.7	-00.5	N 06 56.9	-01.1
20	129 21.2	-00.4	N 06 55.8	-01.2
21	144 20.8	-00.4	N 06 54.6	-01.2
22	159 20.4	-00.4	N 06 53.4	-01.2
23	174 20.0	-00.5	N 06 52.2	-01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	193°	193°	193°	193°	193°	193°

Greenwich Culmination Time: 11:22

Moon

A: 73%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	283 31.1	-30.2	N 24 59.8	+05.9
01	298 00.9	-30.2	N 25 05.7	+05.8
02	312 30.7	-30.3	N 25 11.5	+05.6
03	327 00.4	-30.3	N 25 17.1	+05.6
04	341 30.1	-30.3	N 25 22.7	+05.4
05	355 59.8	-30.4	N 25 28.1	+05.3
06	10 29.4	-30.3	N 25 33.4	+05.1
07	24 59.1	-30.4	N 25 38.5	+05.1
08	39 28.7	-30.4	N 25 43.6	+04.9
09	53 58.3	-30.5	N 25 48.5	+04.7
10	68 27.8	-30.5	N 25 53.2	+04.7
11	82 57.3	-30.5	N 25 57.9	+04.5
12	97 26.8	-30.5	N 26 02.4	+04.4
13	111 56.3	-30.5	N 26 06.8	+04.3
14	126 25.8	-30.6	N 26 11.1	+04.1
15	140 55.2	-30.6	N 26 15.2	+04.0
16	155 24.6	-30.6	N 26 19.2	+03.9
17	169 54.0	-30.6	N 26 23.1	+03.8
18	184 23.4	-30.7	N 26 26.9	+03.6
19	198 52.7	-30.6	N 26 30.5	+03.5
20	213 22.1	-30.7	N 26 34.0	+03.4
21	227 51.4	-30.7	N 26 37.4	+03.2
22	242 20.7	-30.7	N 26 40.6	+03.1
23	256 50.0	-30.7	N 26 43.7	+03.0

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	14′8	14′8
HP	54′7	54′7	54′6	54′5	54′5	54′4
SHA	287°	284°	282°	280°	278°	276°

Greenwich Culmination Time: 05:16

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	282 37.1	+01.2	N 21 32.7	+00.2
01	297 38.3	+01.3	N 21 32.9	+00.2
02	312 39.6	+01.3	N 21 33.1	+00.1
03	327 40.9	+01.2	N 21 33.2	+00.2
04	342 42.1	+01.3	N 21 33.4	+00.2
05	357 43.4	+01.3	N 21 33.6	+00.2
06	12 44.7	+01.3	N 21 33.8	+00.2
07	27 46.0	+01.2	N 21 34.0	+00.2
08	42 47.2	+01.3	N 21 34.2	+00.1
09	57 48.5	+01.3	N 21 34.3	+00.2
10	72 49.8	+01.3	N 21 34.5	+00.2
11	87 51.1	+01.2	N 21 34.7	+00.2
12	102 52.3	+01.3	N 21 34.9	+00.2
13	117 53.6	+01.3	N 21 35.1	+00.1
14	132 54.9	+01.3	N 21 35.2	+00.2
15	147 56.2	+01.3	N 21 35.4	+00.2
16	162 57.5	+01.2	N 21 35.6	+00.2
17	177 58.7	+01.3	N 21 35.8	+00.2
18	193 00.0	+01.3	N 21 36.0	+00.2
19	208 01.3	+01.3	N 21 36.2	+00.1
20	223 02.6	+01.3	N 21 36.3	+00.2
21	238 03.9	+01.3	N 21 36.5	+00.2
22	253 05.2	+01.2	N 21 36.7	+00.2
23	268 06.4	+01.3	N 21 36.9	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	287°	287°	287°	286°	286°	286°

Greenwich Culmination Time: 05:09

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	350 41.2	+02.7	N 00 30.2	-00.1
01	5 43.9	+02.8	N 00 30.1	-00.1
02	20 46.7	+02.7	N 00 30.0	-00.2
03	35 49.4	+02.8	N 00 29.8	-00.1
04	50 52.2	+02.8	N 00 29.7	-00.1
05	65 55.0	+02.7	N 00 29.6	-00.2
06	80 57.7	+02.8	N 00 29.4	-00.1
07	96 00.5	+02.7	N 00 29.3	-00.1
08	111 03.2	+02.8	N 00 29.2	-00.2
09	126 06.0	+02.8	N 00 29.0	-00.1
10	141 08.8	+02.7	N 00 28.9	-00.1
11	156 11.5	+02.8	N 00 28.8	-00.1
12	171 14.3	+02.7	N 00 28.7	-00.2
13	186 17.0	+02.8	N 00 28.5	-00.1
14	201 19.8	+02.8	N 00 28.4	-00.1
15	216 22.6	+02.7	N 00 28.3	-00.2
16	231 25.3	+02.8	N 00 28.1	-00.1
17	246 28.1	+02.7	N 00 28.0	-00.1
18	261 30.8	+02.8	N 00 27.9	-00.2
19	276 33.6	+02.8	N 00 27.7	-00.1
20	291 36.4	+02.7	N 00 27.6	-00.1
21	306 39.1	+02.8	N 00 27.5	-00.2
22	321 41.9	+02.7	N 00 27.3	-00.1
23	336 44.6	+02.8	N 00 27.2	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	355°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 00:37

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	33 25.7	+02.6	S 16 11.0	+00.0
01	48 28.3	+02.6	S 16 11.0	+00.1
02	63 30.9	+02.6	S 16 11.1	+00.0
03	78 33.5	+02.6	S 16 11.1	+00.1
04	93 36.1	+02.6	S 16 11.2	+00.0
05	108 38.7	+02.6	S 16 11.2	+00.1
06	123 41.3	+02.6	S 16 11.3	+00.0
07	138 43.9	+02.6	S 16 11.3	+00.0
08	153 46.5	+02.6	S 16 11.3	+00.1
09	168 49.1	+02.6	S 16 11.4	+00.0
10	183 51.7	+02.6	S 16 11.4	+00.1
11	198 54.3	+02.6	S 16 11.5	+00.0
12	213 56.9	+02.6	S 16 11.5	+00.1
13	228 59.5	+02.6	S 16 11.6	+00.0
14	244 02.1	+02.6	S 16 11.6	+00.0
15	259 04.7	+02.6	S 16 11.6	+00.1
16	274 07.3	+02.6	S 16 11.7	+00.0
17	289 09.9	+02.6	S 16 11.7	+00.1
18	304 12.5	+02.6	S 16 11.8	+00.0
19	319 15.1	+02.6	S 16 11.8	+00.1
20	334 17.7	+02.6	S 16 11.9	+00.0
21	349 20.3	+02.6	S 16 11.9	+00.0
22	4 22.9	+02.6	S 16 11.9	+00.1
23	19 25.5	+02.6	S 16 12.0	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 21:42

2022 September 14 Wednesday (day 257 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	181 03.7	+00.2	N 03 30.0	-01.0
01	196 03.9	+00.3	N 03 29.0	-00.9
02	211 04.2	+00.2	N 03 28.1	-01.0
03	226 04.4	+00.2	N 03 27.1	-01.0
04	241 04.6	+00.2	N 03 26.1	-00.9
05	256 04.8	+00.3	N 03 25.2	-01.0
06	271 05.1	+00.2	N 03 24.2	-00.9
07	286 05.3	+00.2	N 03 23.3	-01.0
08	301 05.5	+00.2	N 03 22.3	-01.0
09	316 05.7	+00.3	N 03 21.3	-00.9
10	331 06.0	+00.2	N 03 20.4	-01.0
11	346 06.2	+00.2	N 03 19.4	-00.9
12	1 06.4	+00.2	N 03 18.5	-01.0
13	16 06.6	+00.2	N 03 17.5	-00.9
14	31 06.8	+00.3	N 03 16.6	-01.0
15	46 07.1	+00.2	N 03 15.6	-01.0
16	61 07.3	+00.2	N 03 14.6	-00.9
17	76 07.5	+00.2	N 03 13.7	-01.0
18	91 07.7	+00.3	N 03 12.7	-00.9
19	106 08.0	+00.2	N 03 11.8	-01.0
20	121 08.2	+00.2	N 03 10.8	-01.0
21	136 08.4	+00.2	N 03 09.8	-00.9
22	151 08.6	+00.3	N 03 08.9	-01.0
23	166 08.9	+00.2	N 03 07.9	-01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	188°	188°	188°	188°	187°	187°

Greenwich Culmination Time: 11:55

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	190 01.5	-00.4	N 08 43.2	-01.1
01	205 01.1	-00.5	N 08 42.1	-01.2
02	220 00.6	-00.4	N 08 40.9	-01.1
03	235 00.2	-00.5	N 08 39.8	-01.2
04	249 59.7	-00.4	N 08 38.6	-01.1
05	264 59.3	-00.5	N 08 37.5	-01.2
06	279 58.8	-00.4	N 08 36.3	-01.1
07	294 58.4	-00.5	N 08 35.2	-01.2
08	309 57.9	-00.4	N 08 34.0	-01.1
09	324 57.5	-00.5	N 08 32.9	-01.2
10	339 57.0	-00.4	N 08 31.7	-01.2
11	354 56.6	-00.5	N 08 30.5	-01.1
12	9 56.1	-00.4	N 08 29.4	-01.2
13	24 55.7	-00.4	N 08 28.2	-01.1
14	39 55.3	-00.5	N 08 27.1	-01.2
15	54 54.8	-00.4	N 08 25.9	-01.1
16	69 54.4	-00.5	N 08 24.8	-01.2
17	84 53.9	-00.4	N 08 23.6	-01.1
18	99 53.5	-00.5	N 08 22.5	-01.2
19	114 53.0	-00.4	N 08 21.3	-01.2
20	129 52.6	-00.5	N 08 20.1	-01.1
21	144 52.1	-00.4	N 08 19.0	-01.2
22	159 51.7	-00.4	N 08 17.8	-01.1
23	174 51.3	-00.5	N 08 16.7	-01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	197°	197°	197°	196°	196°	196°

Greenwich Culmination Time: 11:20

Moon

A: 63%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	318 19.8	-28.0	N 13 05.4	+13.2
01	332 51.8	-28.1	N 13 18.6	+13.2
02	347 23.7	-28.0	N 13 31.8	+13.2
03	1 55.7	-28.1	N 13 45.0	+13.0
04	16 27.6	-28.0	N 13 58.0	+13.0
05	30 59.6	-28.1	N 14 11.0	+12.9
06	45 31.5	-28.1	N 14 23.9	+12.8
07	60 03.4	-28.2	N 14 36.7	+12.7
08	74 35.2	-28.1	N 14 49.4	+12.6
09	89 07.1	-28.2	N 15 02.0	+12.6
10	103 38.9	-28.2	N 15 14.6	+12.5
11	118 10.7	-28.3	N 15 27.1	+12.4
12	132 42.4	-28.2	N 15 39.5	+12.3
13	147 14.2	-28.3	N 15 51.8	+12.2
14	161 45.9	-28.3	N 16 04.0	+12.1
15	176 17.6	-28.3	N 16 16.1	+12.0
16	190 49.3	-28.4	N 16 28.1	+12.0
17	205 20.9	-28.4	N 16 40.1	+11.8
18	219 52.5	-28.4	N 16 51.9	+11.8
19	234 24.1	-28.4	N 17 03.7	+11.7
20	248 55.7	-28.5	N 17 15.4	+11.6
21	263 27.2	-28.5	N 17 27.0	+11.5
22	277 58.7	-28.5	N 17 38.5	+11.4
23	292 30.2	-28.6	N 17 49.9	+11.3

UT	02	06	10	14	18	22
SD	15′4	15′4	15′4	15′3	15′3	15′3
HP	56′6	56′5	56′4	56′2	56′1	56′0
SHA	324°	322°	320°	318°	316°	314°

Greenwich Culmination Time: 02:52

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	281 07.3	+01.2	N 21 18.9	+00.2
01	296 08.5	+01.2	N 21 19.1	+00.2
02	311 09.7	+01.3	N 21 19.3	+00.2
03	326 11.0	+01.2	N 21 19.5	+00.2
04	341 12.2	+01.2	N 21 19.7	+00.2
05	356 13.4	+01.2	N 21 19.9	+00.2
06	11 14.6	+01.3	N 21 20.1	+00.2
07	26 15.9	+01.2	N 21 20.3	+00.2
08	41 17.1	+01.2	N 21 20.5	+00.2
09	56 18.3	+01.3	N 21 20.7	+00.2
10	71 19.6	+01.2	N 21 20.9	+00.2
11	86 20.8	+01.2	N 21 21.1	+00.2
12	101 22.0	+01.2	N 21 21.3	+00.2
13	116 23.2	+01.3	N 21 21.5	+00.2
14	131 24.5	+01.2	N 21 21.7	+00.2
15	146 25.7	+01.2	N 21 21.9	+00.2
16	161 26.9	+01.3	N 21 22.1	+00.2
17	176 28.2	+01.2	N 21 22.3	+00.2
18	191 29.4	+01.2	N 21 22.5	+00.2
19	206 30.6	+01.3	N 21 22.7	+00.2
20	221 31.9	+01.2	N 21 22.9	+00.2
21	236 33.1	+01.3	N 21 23.1	+00.1
22	251 34.4	+01.2	N 21 23.2	+00.2
23	266 35.6	+01.2	N 21 23.4	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	288°	288°	288°	288°	288°	288°

Greenwich Culmination Time: 05:15

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	347 22.8	+02.7	N 00 39.6	-00.1
01	2 25.5	+02.8	N 00 39.5	-00.2
02	17 28.3	+02.7	N 00 39.3	-00.1
03	32 31.0	+02.8	N 00 39.2	-00.1
04	47 33.8	+02.7	N 00 39.1	-00.2
05	62 36.5	+02.8	N 00 38.9	-00.1
06	77 39.3	+02.7	N 00 38.8	-00.1
07	92 42.0	+02.8	N 00 38.7	-00.1
08	107 44.8	+02.7	N 00 38.6	-00.2
09	122 47.5	+02.8	N 00 38.4	-00.1
10	137 50.3	+02.8	N 00 38.3	-00.1
11	152 53.1	+02.7	N 00 38.2	-00.2
12	167 55.8	+02.8	N 00 38.0	-00.1
13	182 58.6	+02.7	N 00 37.9	-00.1
14	198 01.3	+02.8	N 00 37.8	-00.1
15	213 04.1	+02.7	N 00 37.7	-00.2
16	228 06.8	+02.8	N 00 37.5	-00.1
17	243 09.6	+02.7	N 00 37.4	-00.1
18	258 12.3	+02.8	N 00 37.3	-00.2
19	273 15.1	+02.7	N 00 37.1	-00.1
20	288 17.8	+02.8	N 00 37.0	-00.1
21	303 20.6	+02.7	N 00 36.9	-00.1
22	318 23.3	+02.8	N 00 36.8	-00.2
23	333 26.1	+02.7	N 00 36.6	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	354°	354°	354°	354°	355°	355°

Greenwich Culmination Time: 00:50

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	30 18.3	+02.6	S 16 07.8	+00.1
01	45 20.9	+02.6	S 16 07.9	+00.0
02	60 23.5	+02.6	S 16 07.9	+00.1
03	75 26.1	+02.6	S 16 08.0	+00.0
04	90 28.7	+02.6	S 16 08.0	+00.0
05	105 31.3	+02.6	S 16 08.0	+00.1
06	120 33.9	+02.6	S 16 08.1	+00.0
07	135 36.5	+02.6	S 16 08.1	+00.1
08	150 39.1	+02.6	S 16 08.2	+00.0
09	165 41.7	+02.6	S 16 08.2	+00.1
10	180 44.3	+02.7	S 16 08.3	+00.0
11	195 47.0	+02.6	S 16 08.3	+00.1
12	210 49.6	+02.6	S 16 08.4	+00.0
13	225 52.2	+02.6	S 16 08.4	+00.1
14	240 54.8	+02.6	S 16 08.5	+00.0
15	255 57.4	+02.6	S 16 08.5	+00.0
16	270 60.0	+02.6	S 16 08.5	+00.1
17	286 02.6	+02.6	S 16 08.6	+00.0
18	301 05.2	+02.6	S 16 08.6	+00.1
19	316 07.8	+02.6	S 16 08.7	+00.0
20	331 10.4	+02.6	S 16 08.7	+00.1
21	346 13.0	+02.6	S 16 08.8	+00.0
22	1 15.6	+02.6	S 16 08.8	+00.1
23	16 18.2	+02.6	S 16 08.9	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 21:54

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2022 September 15 Thursday (day 258 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	181 09.1	+00.2	N 03 06.9	-00.9
01	196 09.3	+00.2	N 03 06.0	-01.0
02	211 09.5	+00.3	N 03 05.0	-00.9
03	226 09.8	+00.2	N 03 04.1	-01.0
04	241 10.0	+00.2	N 03 03.1	-01.0
05	256 10.2	+00.2	N 03 02.1	-00.9
06	271 10.4	+00.2	N 03 01.2	-01.0
07	286 10.6	+00.3	N 03 00.2	-00.9
08	301 10.9	+00.2	N 02 59.3	-01.0
09	316 11.1	+00.2	N 02 58.3	-01.0
10	331 11.3	+00.2	N 02 57.3	-00.9
11	346 11.5	+00.3	N 02 56.4	-01.0
12	1 11.8	+00.2	N 02 55.4	-00.9
13	16 12.0	+00.2	N 02 54.5	-01.0
14	31 12.2	+00.2	N 02 53.5	-01.0
15	46 12.4	+00.3	N 02 52.5	-00.9
16	61 12.7	+00.2	N 02 51.6	-01.0
17	76 12.9	+00.2	N 02 50.6	-01.0
18	91 13.1	+00.2	N 02 49.6	-00.9
19	106 13.3	+00.3	N 02 48.7	-01.0
20	121 13.6	+00.2	N 02 47.7	-00.9
21	136 13.8	+00.2	N 02 46.8	-01.0
22	151 14.0	+00.2	N 02 45.8	-01.0
23	166 14.2	+00.2	N 02 44.8	-00.9

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	187°	187°	187°	187°	187°	186°

Greenwich Culmination Time: 11:55

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	189 50.8	-00.4	N 08 15.5	-01.2
01	204 50.4	-00.5	N 08 14.3	-01.1
02	219 49.9	-00.4	N 08 13.2	-01.2
03	234 49.5	-00.5	N 08 12.0	-01.1
04	249 49.0	-00.4	N 08 10.9	-01.2
05	264 48.6	-00.4	N 08 09.7	-01.2
06	279 48.2	-00.5	N 08 08.5	-01.1
07	294 47.7	-00.4	N 08 07.4	-01.2
08	309 47.3	-00.5	N 08 06.2	-01.1
09	324 46.8	-00.4	N 08 05.1	-01.2
10	339 46.4	-00.4	N 08 03.9	-01.2
11	354 46.0	-00.5	N 08 02.7	-01.1
12	9 45.5	-00.4	N 08 01.6	-01.2
13	24 45.1	-00.5	N 08 00.4	-01.2
14	39 44.6	-00.4	N 07 59.2	-01.1
15	54 44.2	-00.4	N 07 58.1	-01.2
16	69 43.8	-00.5	N 07 56.9	-01.2
17	84 43.3	-00.4	N 07 55.7	-01.1
18	99 42.9	-00.5	N 07 54.6	-01.2
19	114 42.4	-00.4	N 07 53.4	-01.2
20	129 42.0	-00.4	N 07 52.2	-01.1
21	144 41.6	-00.5	N 07 51.1	-01.2
22	159 41.1	-00.4	N 07 49.9	-01.2
23	174 40.7	-00.4	N 07 48.7	-01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	196°	196°	195°	195°	195°	195°

Greenwich Culmination Time: 11:20

Moon

A: 66%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	307 01.6	-28.6	N 18 01.2	+11.2
01	321 33.0	-28.6	N 18 12.4	+11.1
02	336 04.4	-28.7	N 18 23.5	+11.0
03	350 35.7	-28.6	N 18 34.5	+10.9
04	5 07.1	-28.8	N 18 45.4	+10.9
05	19 38.3	-28.7	N 18 56.3	+10.7
06	34 09.6	-28.8	N 19 07.0	+10.6
07	48 40.8	-28.8	N 19 17.6	+10.5
08	63 12.0	-28.9	N 19 28.1	+10.4
09	77 43.1	-28.8	N 19 38.5	+10.4
10	92 14.3	-29.0	N 19 48.9	+10.2
11	106 45.3	-28.9	N 19 59.1	+10.1
12	121 16.4	-29.0	N 20 09.2	+10.0
13	135 47.4	-29.0	N 20 19.2	+09.9
14	150 18.4	-29.1	N 20 29.1	+09.8
15	164 49.3	-29.1	N 20 38.9	+09.7
16	179 20.2	-29.1	N 20 48.6	+09.6
17	193 51.1	-29.1	N 20 58.2	+09.5
18	208 22.0	-29.2	N 21 07.7	+09.4
19	222 52.8	-29.3	N 21 17.1	+09.3
20	237 23.5	-29.2	N 21 26.4	+09.1
21	251 54.3	-29.3	N 21 35.5	+09.1
22	266 25.0	-29.3	N 21 44.6	+08.9
23	280 55.7	-29.4	N 21 53.5	+08.8

UT	02	06	10	14	18	22
SD	15′2	15′2	15′2	15′1	15′1	15′1
HP	55′9	55′8	55′7	55′5	55′4	55′3
SHA	312°	310°	308°	306°	304°	302°

Greenwich Culmination Time: 03:38

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	281 36.8	+01.3	N 21 23.6	+00.2
01	296 38.1	+01.2	N 21 23.8	+00.2
02	311 39.3	+01.3	N 21 24.0	+00.2
03	326 40.6	+01.2	N 21 24.2	+00.2
04	341 41.8	+01.2	N 21 24.4	+00.2
05	356 43.0	+01.3	N 21 24.6	+00.2
06	11 44.3	+01.2	N 21 24.8	+00.2
07	26 45.5	+01.3	N 21 25.0	+00.2
08	41 46.8	+01.2	N 21 25.2	+00.2
09	56 48.0	+01.3	N 21 25.4	+00.2
10	71 49.3	+01.2	N 21 25.6	+00.1
11	86 50.5	+01.2	N 21 25.7	+00.2
12	101 51.7	+01.3	N 21 25.9	+00.2
13	116 53.0	+01.2	N 21 26.1	+00.2
14	131 54.2	+01.3	N 21 26.3	+00.2
15	146 55.5	+01.2	N 21 26.5	+00.2
16	161 56.7	+01.3	N 21 26.7	+00.2
17	176 58.0	+01.2	N 21 26.9	+00.2
18	191 59.2	+01.3	N 21 27.1	+00.2
19	207 00.5	+01.2	N 21 27.3	+00.2
20	222 01.7	+01.3	N 21 27.5	+00.1
21	237 03.0	+01.2	N 21 27.6	+00.2
22	252 04.2	+01.3	N 21 27.8	+00.2
23	267 05.5	+01.3	N 21 28.0	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	288°	288°	287°	287°	287°	287°

Greenwich Culmination Time: 05:13

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	348 28.8	+02.8	N 00 36.5	-00.1
01	3 31.6	+02.7	N 00 36.4	-00.2
02	18 34.3	+02.8	N 00 36.2	-00.1
03	33 37.1	+02.8	N 00 36.1	-00.1
04	48 39.9	+02.7	N 00 36.0	-00.2
05	63 42.6	+02.8	N 00 35.8	-00.1
06	78 45.4	+02.7	N 00 35.7	-00.1
07	93 48.1	+02.8	N 00 35.6	-00.1
08	108 50.9	+02.7	N 00 35.5	-00.2
09	123 53.6	+02.8	N 00 35.3	-00.1
10	138 56.4	+02.7	N 00 35.2	-00.1
11	153 59.1	+02.8	N 00 35.1	-00.2
12	169 01.9	+02.8	N 00 34.9	-00.1
13	184 04.7	+02.7	N 00 34.8	-00.1
14	199 07.4	+02.8	N 00 34.7	-00.2
15	214 10.2	+02.7	N 00 34.5	-00.1
16	229 12.9	+02.8	N 00 34.4	-00.1
17	244 15.7	+02.7	N 00 34.3	-00.1
18	259 18.4	+02.8	N 00 34.2	-00.2
19	274 21.2	+02.7	N 00 34.0	-00.1
20	289 23.9	+02.8	N 00 33.9	-00.1
21	304 26.7	+02.8	N 00 33.8	-00.2
22	319 29.5	+02.7	N 00 33.6	-00.1
23	334 32.2	+02.8	N 00 33.5	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	355°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 00:45

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	31 20.8	+02.6	S 16 08.9	+00.0
01	46 23.4	+02.6	S 16 08.9	+00.1
02	61 26.0	+02.6	S 16 09.0	+00.0
03	76 28.6	+02.6	S 16 09.0	+00.1
04	91 31.2	+02.6	S 16 09.1	+00.0
05	106 33.8	+02.6	S 16 09.1	+00.1
06	121 36.4	+02.6	S 16 09.2	+00.0
07	136 39.0	+02.7	S 16 09.2	+00.1
08	151 41.7	+02.6	S 16 09.3	+00.0
09	166 44.3	+02.6	S 16 09.3	+00.0
10	181 46.9	+02.6	S 16 09.3	+00.1
11	196 49.5	+02.6	S 16 09.4	+00.0
12	211 52.1	+02.6	S 16 09.4	+00.1
13	226 54.7	+02.6	S 16 09.5	+00.0
14	241 57.3	+02.6	S 16 09.5	+00.1
15	256 59.9	+02.6	S 16 09.6	+00.0
16	272 02.5	+02.6	S 16 09.6	+00.1
17	287 05.1	+02.6	S 16 09.7	+00.0
18	302 07.7	+02.6	S 16 09.7	+00.0
19	317 10.3	+02.6	S 16 09.7	+00.1
20	332 12.9	+02.6	S 16 09.8	+00.0
21	347 15.5	+02.6	S 16 09.8	+00.1
22	2 18.1	+02.6	S 16 09.9	+00.0
23	17 20.7	+02.6	S 16 09.9	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 21:50

2022 September 16 Friday (day 259 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	181 14.4	+00.3	N 02 43.9	-01.0
01	196 14.7	+00.2	N 02 42.9	-01.0
02	211 14.9	+00.2	N 02 41.9	-00.9
03	226 15.1	+00.2	N 02 41.0	-01.0
04	241 15.3	+00.3	N 02 40.0	-01.0
05	256 15.6	+00.2	N 02 39.0	-00.9
06	271 15.8	+00.2	N 02 38.1	-01.0
07	286 16.0	+00.2	N 02 37.1	-00.9
08	301 16.2	+00.3	N 02 36.2	-01.0
09	316 16.5	+00.2	N 02 35.2	-01.0
10	331 16.7	+00.2	N 02 34.2	-00.9
11	346 16.9	+00.2	N 02 33.3	-01.0
12	1 17.1	+00.3	N 02 32.3	-01.0
13	16 17.4	+00.2	N 02 31.3	-00.9
14	31 17.6	+00.2	N 02 30.4	-01.0
15	46 17.8	+00.2	N 02 29.4	-01.0
16	61 18.0	+00.3	N 02 28.4	-00.9
17	76 18.3	+00.2	N 02 27.5	-01.0
18	91 18.5	+00.2	N 02 26.5	-01.0
19	106 18.7	+00.2	N 02 25.5	-00.9
20	121 18.9	+00.2	N 02 24.6	-01.0
21	136 19.1	+00.3	N 02 23.6	-00.9
22	151 19.4	+00.2	N 02 22.7	-01.0
23	166 19.6	+00.2	N 02 21.7	-01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	186°	186°	186°	186°	186°	185°

Greenwich Culmination Time: 11:54

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	189 40.3	-00.5	N 07 47.6	-01.2
01	204 39.8	-00.4	N 07 46.4	-01.2
02	219 39.4	-00.5	N 07 45.2	-01.1
03	234 38.9	-00.4	N 07 44.1	-01.2
04	249 38.5	-00.4	N 07 42.9	-01.2
05	264 38.1	-00.5	N 07 41.7	-01.2
06	279 37.6	-00.4	N 07 40.5	-01.1
07	294 37.2	-00.4	N 07 39.4	-01.2
08	309 36.8	-00.5	N 07 38.2	-01.2
09	324 36.3	-00.4	N 07 37.0	-01.2
10	339 35.9	-00.4	N 07 35.8	-01.1
11	354 35.5	-00.5	N 07 34.7	-01.2
12	9 35.0	-00.4	N 07 33.5	-01.2
13	24 34.6	-00.4	N 07 32.3	-01.1
14	39 34.2	-00.5	N 07 31.2	-01.2
15	54 33.7	-00.4	N 07 30.0	-01.2
16	69 33.3	-00.4	N 07 28.8	-01.2
17	84 32.9	-00.5	N 07 27.6	-01.1
18	99 32.4	-00.4	N 07 26.5	-01.2
19	114 32.0	-00.4	N 07 25.3	-01.2
20	129 31.6	-00.5	N 07 24.1	-01.2
21	144 31.1	-00.4	N 07 22.9	-01.2
22	159 30.7	-00.4	N 07 21.7	-01.1
23	174 30.3	-00.5	N 07 20.6	-01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	195°	194°	194°	194°	194°	194°

Greenwich Culmination Time: 11:21

Moon

A: 69%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	295 26.3	-29.4	N 22 02.3	+08.8
01	309 56.9	-29.5	N 22 11.1	+08.6
02	324 27.4	-29.4	N 22 19.7	+08.5
03	338 58.0	-29.5	N 22 28.2	+08.4
04	353 28.5	-29.6	N 22 36.6	+08.2
05	7 58.9	-29.6	N 22 44.8	+08.2
06	22 29.3	-29.6	N 22 53.0	+08.0
07	36 59.7	-29.6	N 23 01.0	+08.0
08	51 30.1	-29.7	N 23 09.0	+07.8
09	66 00.4	-29.7	N 23 16.8	+07.7
10	80 30.7	-29.8	N 23 24.5	+07.6
11	95 00.9	-29.8	N 23 32.1	+07.4
12	109 31.1	-29.8	N 23 39.5	+07.4
13	124 01.3	-29.9	N 23 46.9	+07.2
14	138 31.4	-29.9	N 23 54.1	+07.1
15	153 01.5	-29.9	N 24 01.2	+07.0
16	167 31.6	-29.9	N 24 08.2	+06.9
17	182 01.7	-30.0	N 24 15.1	+06.7
18	196 31.7	-30.0	N 24 21.8	+06.7
19	211 01.7	-30.1	N 24 28.5	+06.5
20	225 31.6	-30.1	N 24 35.0	+06.4
21	240 01.5	-30.1	N 24 41.4	+06.2
22	254 31.4	-30.1	N 24 47.6	+06.2
23	269 01.3	-30.2	N 24 53.8	+06.0

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	15′0	15′0	14′9
HP	55′2	55′1	55′0	55′0	54′9	54′8
SHA	299°	297°	295°	293°	291°	289°

Greenwich Culmination Time: 04:26

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	282 06.8	+01.2	N 21 28.2	+00.2
01	297 08.0	+01.3	N 21 28.4	+00.2
02	312 09.3	+01.2	N 21 28.6	+00.2
03	327 10.5	+01.3	N 21 28.8	+00.2
04	342 11.8	+01.2	N 21 29.0	+00.2
05	357 13.0	+01.3	N 21 29.2	+00.1
06	12 14.3	+01.3	N 21 29.3	+00.2
07	27 15.6	+01.2	N 21 29.5	+00.2
08	42 16.8	+01.3	N 21 29.7	+00.2
09	57 18.1	+01.2	N 21 29.9	+00.2
10	72 19.3	+01.3	N 21 30.1	+00.2
11	87 20.6	+01.3	N 21 30.3	+00.2
12	102 21.9	+01.2	N 21 30.5	+00.2
13	117 23.1	+01.3	N 21 30.7	+00.1
14	132 24.4	+01.2	N 21 30.8	+00.2
15	147 25.6	+01.3	N 21 31.0	+00.2
16	162 26.9	+01.3	N 21 31.2	+00.2
17	177 28.2	+01.2	N 21 31.4	+00.2
18	192 29.4	+01.3	N 21 31.6	+00.2
19	207 30.7	+01.3	N 21 31.8	+00.1
20	222 32.0	+01.2	N 21 31.9	+00.2
21	237 33.2	+01.3	N 21 32.1	+00.2
22	252 34.5	+01.3	N 21 32.3	+00.2
23	267 35.8	+01.3	N 21 32.5	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	287°	287°	287°	287°	287°	287°

Greenwich Culmination Time: 05:11

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	349 35.0	+02.7	N 00 33.4	-00.2
01	4 37.7	+02.8	N 00 33.2	-00.1
02	19 40.5	+02.7	N 00 33.1	-00.1
03	34 43.2	+02.8	N 00 33.0	-00.1
04	49 46.0	+02.8	N 00 32.9	-00.2
05	64 48.8	+02.7	N 00 32.7	-00.1
06	79 51.5	+02.8	N 00 32.6	-00.1
07	94 54.3	+02.7	N 00 32.5	-00.2
08	109 57.0	+02.8	N 00 32.3	-00.1
09	124 59.8	+02.7	N 00 32.2	-00.1
10	140 02.5	+02.8	N 00 32.1	-00.2
11	155 05.3	+02.8	N 00 31.9	-00.1
12	170 08.1	+02.7	N 00 31.8	-00.1
13	185 10.8	+02.8	N 00 31.7	-00.2
14	200 13.6	+02.7	N 00 31.5	-00.1
15	215 16.3	+02.8	N 00 31.4	-00.1
16	230 19.1	+02.7	N 00 31.3	-00.2
17	245 21.8	+02.8	N 00 31.1	-00.1
18	260 24.6	+02.8	N 00 31.0	-00.1
19	275 27.4	+02.7	N 00 30.9	-00.1
20	290 30.1	+02.8	N 00 30.8	-00.2
21	305 32.9	+02.7	N 00 30.6	-00.1
22	320 35.6	+02.8	N 00 30.5	-00.1
23	335 38.4	+02.8	N 00 30.4	-00.2

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	355°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 00:41

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	32 23.3	+02.6	S 16 10.0	+00.0
01	47 25.9	+02.6	S 16 10.0	+00.1
02	62 28.5	+02.6	S 16 10.1	+00.0
03	77 31.1	+02.6	S 16 10.1	+00.0
04	92 33.7	+02.6	S 16 10.1	+00.1
05	107 36.3	+02.6	S 16 10.2	+00.0
06	122 38.9	+02.6	S 16 10.2	+00.1
07	137 41.5	+02.6	S 16 10.3	+00.0
08	152 44.1	+02.6	S 16 10.3	+00.1
09	167 46.7	+02.6	S 16 10.4	+00.0
10	182 49.3	+02.6	S 16 10.4	+00.0
11	197 51.9	+02.6	S 16 10.4	+00.1
12	212 54.5	+02.6	S 16 10.5	+00.0
13	227 57.1	+02.6	S 16 10.5	+00.1
14	242 59.7	+02.6	S 16 10.6	+00.0
15	258 02.3	+02.6	S 16 10.6	+00.1
16	273 04.9	+02.6	S 16 10.7	+00.0
17	288 07.5	+02.6	S 16 10.7	+00.0
18	303 10.1	+02.6	S 16 10.7	+00.1
19	318 12.7	+02.6	S 16 10.8	+00.0
20	333 15.3	+02.6	S 16 10.8	+00.1
21	348 17.9	+02.6	S 16 10.9	+00.0
22	3 20.5	+02.6	S 16 10.9	+00.1
23	18 23.1	+02.6	S 16 11.0	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	038°	038°

Greenwich Culmination Time: 21:46

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2022 September 21 Wednesday (day 264 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	181 41.2	+00.2	N 00 47.7	-00.9
01	196 41.4	+00.3	N 00 46.8	-01.0
02	211 41.7	+00.2	N 00 45.8	-01.0
03	226 41.9	+00.2	N 00 44.8	-01.0
04	241 42.1	+00.2	N 00 43.8	-00.9
05	256 42.3	+00.2	N 00 42.9	-01.0
06	271 42.5	+00.3	N 00 41.9	-01.0
07	286 42.8	+00.2	N 00 40.9	-00.9
08	301 43.0	+00.2	N 00 40.0	-01.0
09	316 43.2	+00.2	N 00 39.0	-01.0
10	331 43.4	+00.2	N 00 38.0	-01.0
11	346 43.6	+00.3	N 00 37.0	-00.9
12	1 43.9	+00.2	N 00 36.1	-01.0
13	16 44.1	+00.2	N 00 35.1	-01.0
14	31 44.3	+00.2	N 00 34.1	-01.0
15	46 44.5	+00.2	N 00 33.1	-00.9
16	61 44.7	+00.3	N 00 32.2	-01.0
17	76 45.0	+00.2	N 00 31.2	-01.0
18	91 45.2	+00.2	N 00 30.2	-00.9
19	106 45.4	+00.2	N 00 29.3	-01.0
20	121 45.6	+00.3	N 00 28.3	-01.0
21	136 45.9	+00.2	N 00 27.3	-01.0
22	151 46.1	+00.2	N 00 26.3	-00.9
23	166 46.3	+00.2	N 00 25.4	-01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	182°	182°	181°	181°	181°	181°

Greenwich Culmination Time: 11:53

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	188 49.4	-00.4	N 05 24.7	-01.2
01	203 49.0	-00.5	N 05 23.5	-01.2
02	218 48.5	-00.4	N 05 22.3	-01.2
03	233 48.1	-00.4	N 05 21.1	-01.2
04	248 47.7	-00.4	N 05 19.9	-01.2
05	263 47.3	-00.4	N 05 18.7	-01.3
06	278 46.9	-00.4	N 05 17.4	-01.2
07	293 46.5	-00.4	N 05 16.2	-01.2
08	308 46.1	-00.4	N 05 15.0	-01.2
09	323 45.7	-00.4	N 05 13.8	-01.2
10	338 45.3	-00.5	N 05 12.6	-01.2
11	353 44.8	-00.4	N 05 11.4	-01.2
12	8 44.4	-00.4	N 05 10.2	-01.2
13	23 44.0	-00.4	N 05 09.0	-01.3
14	38 43.6	-00.4	N 05 07.7	-01.2
15	53 43.2	-00.4	N 05 06.5	-01.2
16	68 42.8	-00.4	N 05 05.3	-01.2
17	83 42.4	-00.4	N 05 04.1	-01.2
18	98 42.0	-00.4	N 05 02.9	-01.2
19	113 41.6	-00.4	N 05 01.7	-01.2
20	128 41.2	-00.5	N 05 00.5	-01.3
21	143 40.7	-00.4	N 04 59.2	-01.2
22	158 40.3	-00.4	N 04 58.0	-01.2
23	173 39.9	-00.4	N 04 56.8	-01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	189°	189°	188°	188°	188°	188°

Greenwich Culmination Time: 11:25

Moon

A: 86%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	234 42.3	-29.6	N 24 39.6	-06.3
01	249 12.7	-29.5	N 24 33.3	-06.5
02	263 43.2	-29.5	N 24 26.8	-06.5
03	278 13.7	-29.5	N 24 20.3	-06.7
04	292 44.2	-29.4	N 24 13.6	-06.8
05	307 14.8	-29.4	N 24 06.8	-06.9
06	321 45.4	-29.3	N 23 59.9	-07.0
07	336 16.1	-29.3	N 23 52.9	-07.1
08	350 46.8	-29.2	N 23 45.8	-07.3
09	5 17.6	-29.2	N 23 38.5	-07.3
10	19 48.4	-29.2	N 23 31.2	-07.5
11	34 19.2	-29.1	N 23 23.7	-07.6
12	48 50.1	-29.1	N 23 16.1	-07.6
13	63 21.0	-29.0	N 23 08.5	-07.8
14	77 52.0	-29.0	N 23 00.7	-07.9
15	92 23.0	-28.9	N 22 52.8	-08.0
16	106 54.1	-28.9	N 22 44.8	-08.1
17	121 25.2	-28.9	N 22 36.7	-08.3
18	135 56.3	-28.8	N 22 28.4	-08.3
19	150 27.5	-28.7	N 22 20.1	-08.4
20	164 58.8	-28.7	N 22 11.7	-08.5
21	179 30.1	-28.7	N 22 03.2	-08.7
22	194 01.4	-28.6	N 21 54.5	-08.7
23	208 32.8	-28.6	N 21 45.8	-08.9

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′9	14′9
HP	54′3	54′4	54′4	54′5	54′5	54′6
SHA	234°	232°	230°	227°	225°	223°

Greenwich Culmination Time: 08:38

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	284 42.2	+01.3	N 21 49.5	+00.2
01	299 43.5	+01.4	N 21 49.7	+00.2
02	314 44.9	+01.3	N 21 49.9	+00.1
03	329 46.2	+01.3	N 21 50.0	+00.2
04	344 47.5	+01.4	N 21 50.2	+00.2
05	359 48.9	+01.3	N 21 50.4	+00.1
06	14 50.2	+01.4	N 21 50.5	+00.2
07	29 51.6	+01.3	N 21 50.7	+00.2
08	44 52.9	+01.4	N 21 50.9	+00.1
09	59 54.3	+01.3	N 21 51.0	+00.2
10	74 55.6	+01.4	N 21 51.2	+00.2
11	89 57.0	+01.3	N 21 51.4	+00.1
12	104 58.3	+01.3	N 21 51.5	+00.2
13	119 59.6	+01.4	N 21 51.7	+00.2
14	135 01.0	+01.3	N 21 51.9	+00.1
15	150 02.3	+01.4	N 21 52.0	+00.2
16	165 03.7	+01.3	N 21 52.2	+00.2
17	180 05.0	+01.4	N 21 52.4	+00.1
18	195 06.4	+01.4	N 21 52.5	+00.2
19	210 07.8	+01.3	N 21 52.7	+00.2
20	225 09.1	+01.4	N 21 52.9	+00.1
21	240 10.5	+01.3	N 21 53.0	+00.2
22	255 11.8	+01.4	N 21 53.2	+00.2
23	270 13.2	+01.3	N 21 53.4	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	285°	285°	285°	285°	285°	284°

Greenwich Culmination Time: 05:00

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	355 06.4	+02.8	N 00 17.5	-00.1
01	10 09.2	+02.8	N 00 17.4	-00.1
02	25 12.0	+02.7	N 00 17.3	-00.2
03	40 14.7	+02.8	N 00 17.1	-00.1
04	55 17.5	+02.8	N 00 17.0	-00.1
05	70 20.3	+02.7	N 00 16.9	-00.2
06	85 23.0	+02.8	N 00 16.7	-00.1
07	100 25.8	+02.8	N 00 16.6	-00.1
08	115 28.6	+02.7	N 00 16.5	-00.2
09	130 31.3	+02.8	N 00 16.3	-00.1
10	145 34.1	+02.8	N 00 16.2	-00.1
11	160 36.9	+02.7	N 00 16.1	-00.2
12	175 39.6	+02.8	N 00 15.9	-00.1
13	190 42.4	+02.8	N 00 15.8	-00.2
14	205 45.2	+02.7	N 00 15.6	-00.1
15	220 47.9	+02.8	N 00 15.5	-00.1
16	235 50.7	+02.8	N 00 15.4	-00.2
17	250 53.5	+02.7	N 00 15.2	-00.1
18	265 56.2	+02.8	N 00 15.1	-00.1
19	280 59.0	+02.8	N 00 15.0	-00.2
20	296 01.8	+02.8	N 00 14.8	-00.1
21	311 04.6	+02.7	N 00 14.7	-00.1
22	326 07.3	+02.8	N 00 14.6	-00.2
23	341 10.1	+02.8	N 00 14.4	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	355°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 00:19

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	37 34.7	+02.6	S 16 14.9	+00.1
01	52 37.3	+02.5	S 16 15.0	+00.0
02	67 39.8	+02.6	S 16 15.0	+00.0
03	82 42.4	+02.6	S 16 15.0	+00.1
04	97 45.0	+02.6	S 16 15.1	+00.0
05	112 47.6	+02.6	S 16 15.1	+00.0
06	127 50.2	+02.6	S 16 15.1	+00.1
07	142 52.8	+02.6	S 16 15.2	+00.0
08	157 55.4	+02.5	S 16 15.2	+00.1
09	172 57.9	+02.6	S 16 15.3	+00.0
10	188 00.5	+02.6	S 16 15.3	+00.0
11	203 03.1	+02.6	S 16 15.3	+00.1
12	218 05.7	+02.6	S 16 15.4	+00.0
13	233 08.3	+02.6	S 16 15.4	+00.1
14	248 10.9	+02.6	S 16 15.5	+00.0
15	263 13.5	+02.5	S 16 15.5	+00.0
16	278 16.0	+02.6	S 16 15.5	+00.1
17	293 18.6	+02.6	S 16 15.6	+00.0
18	308 21.2	+02.6	S 16 15.6	+00.0
19	323 23.8	+02.6	S 16 15.6	+00.1
20	338 26.4	+02.6	S 16 15.7	+00.0
21	353 29.0	+02.6	S 16 15.7	+00.1
22	8 31.6	+02.5	S 16 15.8	+00.0
23	23 34.1	+02.6	S 16 15.8	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 21:25

2022 September 18 Sunday (day 261 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	181 25.2	+00.2	N 01 57.5	-00.9
01	196 25.4	+00.2	N 01 56.6	-01.0
02	211 25.6	+00.3	N 01 55.6	-01.0
03	226 25.9	+00.2	N 01 54.6	-00.9
04	241 26.1	+00.2	N 01 53.7	-01.0
05	256 26.3	+00.2	N 01 52.7	-01.0
06	271 26.5	+00.2	N 01 51.7	-00.9
07	286 26.7	+00.3	N 01 50.8	-01.0
08	301 27.0	+00.2	N 01 49.8	-01.0
09	316 27.2	+00.2	N 01 48.8	-00.9
10	331 27.4	+00.2	N 01 47.9	-01.0
11	346 27.6	+00.3	N 01 46.9	-01.0
12	1 27.9	+00.2	N 01 45.9	-00.9
13	16 28.1	+00.2	N 01 45.0	-01.0
14	31 28.3	+00.2	N 01 44.0	-01.0
15	46 28.5	+00.3	N 01 43.0	-01.0
16	61 28.8	+00.2	N 01 42.0	-00.9
17	76 29.0	+00.2	N 01 41.1	-01.0
18	91 29.2	+00.2	N 01 40.1	-01.0
19	106 29.4	+00.2	N 01 39.1	-00.9
20	121 29.6	+00.3	N 01 38.2	-01.0
21	136 29.9	+00.2	N 01 37.2	-01.0
22	151 30.1	+00.2	N 01 36.2	-00.9
23	166 30.3	+00.2	N 01 35.3	-01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	184°	184°	184°	184°	184°	184°

Greenwich Culmination Time: 11:54

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	189 19.5	-00.4	N 06 51.0	-01.2
01	204 19.1	-00.4	N 06 49.8	-01.2
02	219 18.7	-00.4	N 06 48.6	-01.2
03	234 18.3	-00.5	N 06 47.4	-01.1
04	249 17.8	-00.4	N 06 46.3	-01.2
05	264 17.4	-00.4	N 06 45.1	-01.2
06	279 17.0	-00.4	N 06 43.9	-01.2
07	294 16.6	-00.5	N 06 42.7	-01.2
08	309 16.1	-00.4	N 06 41.5	-01.2
09	324 15.7	-00.4	N 06 40.3	-01.2
10	339 15.3	-00.4	N 06 39.1	-01.2
11	354 14.9	-00.5	N 06 37.9	-01.2
12	9 14.4	-00.4	N 06 36.7	-01.2
13	24 14.0	-00.4	N 06 35.5	-01.1
14	39 13.6	-00.4	N 06 34.4	-01.2
15	54 13.2	-00.5	N 06 33.2	-01.2
16	69 12.7	-00.4	N 06 32.0	-01.2
17	84 12.3	-00.4	N 06 30.8	-01.2
18	99 11.9	-00.4	N 06 29.6	-01.2
19	114 11.5	-00.4	N 06 28.4	-01.2
20	129 11.1	-00.5	N 06 27.2	-01.2
21	144 10.6	-00.4	N 06 26.0	-01.2
22	159 10.2	-00.4	N 06 24.8	-01.2
23	174 09.8	-00.4	N 06 23.6	-01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	192°	192°	192°	192°	192°	191°

Greenwich Culmination Time: 11:23

Moon

A: 76%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	271 19.3	-30.8	N 26 46.7	+02.8
01	285 48.5	-30.7	N 26 49.5	+02.8
02	300 17.8	-30.8	N 26 52.3	+02.6
03	314 47.0	-30.8	N 26 54.9	+02.4
04	329 16.2	-30.8	N 26 57.3	+02.3
05	343 45.4	-30.8	N 26 59.6	+02.2
06	358 14.6	-30.8	N 27 01.8	+02.1
07	12 43.8	-30.8	N 27 03.9	+01.9
08	27 13.0	-30.8	N 27 05.8	+01.8
09	41 42.2	-30.9	N 27 07.6	+01.7
10	56 11.3	-30.8	N 27 09.3	+01.5
11	70 40.5	-30.9	N 27 10.8	+01.5
12	85 09.6	-30.8	N 27 12.3	+01.2
13	99 38.8	-30.9	N 27 13.5	+01.2
14	114 07.9	-30.8	N 27 14.7	+01.0
15	128 37.1	-30.9	N 27 15.7	+00.9
16	143 06.2	-30.8	N 27 16.6	+00.7
17	157 35.4	-30.9	N 27 17.3	+00.6
18	172 04.5	-30.9	N 27 17.9	+00.5
19	186 33.6	-30.8	N 27 18.4	+00.4
20	201 02.8	-30.9	N 27 18.8	+00.2
21	215 31.9	-30.8	N 27 19.0	+00.1
22	230 01.1	-30.9	N 27 19.1	-00.1
23	244 30.2	-30.8	N 27 19.0	-00.1

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′4	54′3	54′3	54′3	54′2	54′2
SHA	273°	271°	269°	267°	264°	262°

Greenwich Culmination Time: 06:07

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	283 07.7	+01.3	N 21 37.1	+00.1
01	298 09.0	+01.3	N 21 37.2	+00.2
02	313 10.3	+01.3	N 21 37.4	+00.2
03	328 11.6	+01.3	N 21 37.6	+00.2
04	343 12.9	+01.3	N 21 37.8	+00.2
05	358 14.2	+01.3	N 21 38.0	+00.1
06	13 15.5	+01.3	N 21 38.1	+00.2
07	28 16.8	+01.2	N 21 38.3	+00.2
08	43 18.0	+01.3	N 21 38.5	+00.2
09	58 19.3	+01.3	N 21 38.7	+00.1
10	73 20.6	+01.3	N 21 38.8	+00.2
11	88 21.9	+01.3	N 21 39.0	+00.2
12	103 23.2	+01.3	N 21 39.2	+00.2
13	118 24.5	+01.3	N 21 39.4	+00.2
14	133 25.8	+01.3	N 21 39.6	+00.1
15	148 27.1	+01.3	N 21 39.7	+00.2
16	163 28.4	+01.3	N 21 39.9	+00.2
17	178 29.7	+01.3	N 21 40.1	+00.2
18	193 31.0	+01.3	N 21 40.3	+00.1
19	208 32.3	+01.3	N 21 40.4	+00.2
20	223 33.6	+01.3	N 21 40.6	+00.2
21	238 34.9	+01.3	N 21 40.8	+00.2
22	253 36.2	+01.3	N 21 41.0	+00.1
23	268 37.5	+01.3	N 21 41.1	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	286°	286°	286°	286°	286°	286°

Greenwich Culmination Time: 05:07

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	351 47.4	+02.8	N 00 27.1	-00.2
01	6 50.2	+02.7	N 00 26.9	-00.1
02	21 52.9	+02.8	N 00 26.8	-00.1
03	36 55.7	+02.8	N 00 26.7	-00.2
04	51 58.5	+02.7	N 00 26.5	-00.1
05	67 01.2	+02.8	N 00 26.4	-00.1
06	82 04.0	+02.7	N 00 26.3	-00.1
07	97 06.7	+02.8	N 00 26.2	-00.2
08	112 09.5	+02.8	N 00 26.0	-00.1
09	127 12.3	+02.7	N 00 25.9	-00.1
10	142 15.0	+02.8	N 00 25.8	-00.2
11	157 17.8	+02.7	N 00 25.6	-00.1
12	172 20.5	+02.8	N 00 25.5	-00.1
13	187 23.3	+02.8	N 00 25.4	-00.2
14	202 26.1	+02.7	N 00 25.2	-00.1
15	217 28.8	+02.8	N 00 25.1	-00.1
16	232 31.6	+02.8	N 00 25.0	-00.2
17	247 34.4	+02.7	N 00 24.8	-00.1
18	262 37.1	+02.8	N 00 24.7	-00.1
19	277 39.9	+02.7	N 00 24.6	-00.2
20	292 42.6	+02.8	N 00 24.4	-00.1
21	307 45.4	+02.8	N 00 24.3	-00.1
22	322 48.2	+02.7	N 00 24.2	-00.2
23	337 50.9	+02.8	N 00 24.0	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	355°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 00:32

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	34 28.1	+02.5	S 16 12.0	+00.1
01	49 30.6	+02.6	S 16 12.1	+00.0
02	64 33.2	+02.6	S 16 12.1	+00.0
03	79 35.8	+02.6	S 16 12.1	+00.1
04	94 38.4	+02.6	S 16 12.2	+00.0
05	109 41.0	+02.6	S 16 12.2	+00.1
06	124 43.6	+02.6	S 16 12.3	+00.0
07	139 46.2	+02.6	S 16 12.3	+00.1
08	154 48.8	+02.6	S 16 12.4	+00.0
09	169 51.4	+02.6	S 16 12.4	+00.0
10	184 54.0	+02.6	S 16 12.4	+00.1
11	199 56.6	+02.6	S 16 12.5	+00.0
12	214 59.2	+02.6	S 16 12.5	+00.1
13	230 01.8	+02.6	S 16 12.6	+00.0
14	245 04.4	+02.6	S 16 12.6	+00.0
15	260 07.0	+02.6	S 16 12.6	+00.1
16	275 09.6	+02.6	S 16 12.7	+00.0
17	290 12.2	+02.6	S 16 12.7	+00.1
18	305 14.8	+02.6	S 16 12.8	+00.0
19	320 17.4	+02.6	S 16 12.8	+00.0
20	335 20.0	+02.5	S 16 12.8	+00.1
21	350 22.5	+02.6	S 16 12.9	+00.0
22	5 25.1	+02.6	S 16 12.9	+00.1
23	20 27.7	+02.6	S 16 13.0	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 21:38

2022 September 19 Monday (day 262 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	181 30.5	+00.3	N 01 34.3	-01.0
01	196 30.8	+00.2	N 01 33.3	-00.9
02	211 31.0	+00.2	N 01 32.4	-01.0
03	226 31.2	+00.2	N 01 31.4	-01.0
04	241 31.4	+00.3	N 01 30.4	-00.9
05	256 31.7	+00.2	N 01 29.5	-01.0
06	271 31.9	+00.2	N 01 28.5	-01.0
07	286 32.1	+00.2	N 01 27.5	-01.0
08	301 32.3	+00.2	N 01 26.5	-00.9
09	316 32.5	+00.3	N 01 25.6	-01.0
10	331 32.8	+00.2	N 01 24.6	-01.0
11	346 33.0	+00.2	N 01 23.6	-00.9
12	1 33.2	+00.2	N 01 22.7	-01.0
13	16 33.4	+00.3	N 01 21.7	-01.0
14	31 33.7	+00.2	N 01 20.7	-00.9
15	46 33.9	+00.2	N 01 19.8	-01.0
16	61 34.1	+00.2	N 01 18.8	-01.0
17	76 34.3	+00.2	N 01 17.8	-01.0
18	91 34.5	+00.3	N 01 16.8	-00.9
19	106 34.8	+00.2	N 01 15.9	-01.0
20	121 35.0	+00.2	N 01 14.9	-01.0
21	136 35.2	+00.2	N 01 13.9	-00.9
22	151 35.4	+00.3	N 01 13.0	-01.0
23	166 35.7	+00.2	N 01 12.0	-01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	184°	183°	183°	183°	183°	183°

Greenwich Culmination Time: 11:53

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	189 09.4	-00.5	N 06 22.4	-01.2
01	204 08.9	-00.4	N 06 21.2	-01.2
02	219 08.5	-00.4	N 06 20.0	-01.2
03	234 08.1	-00.4	N 06 18.8	-01.2
04	249 07.7	-00.4	N 06 17.6	-01.2
05	264 07.3	-00.5	N 06 16.4	-01.2
06	279 06.8	-00.4	N 06 15.2	-01.1
07	294 06.4	-00.4	N 06 14.1	-01.2
08	309 06.0	-00.4	N 06 12.9	-01.2
09	324 05.6	-00.4	N 06 11.7	-01.2
10	339 05.2	-00.5	N 06 10.5	-01.2
11	354 04.7	-00.4	N 06 09.3	-01.2
12	9 04.3	-00.4	N 06 08.1	-01.2
13	24 03.9	-00.4	N 06 06.9	-01.2
14	39 03.5	-00.4	N 06 05.7	-01.2
15	54 03.1	-00.4	N 06 04.5	-01.2
16	69 02.7	-00.5	N 06 03.3	-01.2
17	84 02.2	-00.4	N 06 02.1	-01.2
18	99 01.8	-00.4	N 06 00.9	-01.2
19	114 01.4	-00.4	N 05 59.7	-01.2
20	129 01.0	-00.4	N 05 58.5	-01.2
21	144 00.6	-00.5	N 05 57.3	-01.2
22	159 00.1	-00.4	N 05 56.1	-01.2
23	173 59.7	-00.4	N 05 54.9	-01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	191°	191°	191°	191°	190°	190°

Greenwich Culmination Time: 11:23

Moon

A: 80%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	258 59.4	-30.8	N 27 18.9	-00.3
01	273 28.6	-30.8	N 27 18.6	-00.5
02	287 57.8	-30.9	N 27 18.1	-00.5
03	302 26.9	-30.8	N 27 17.6	-00.7
04	316 56.1	-30.8	N 27 16.9	-00.9
05	331 25.3	-30.8	N 27 16.0	-00.9
06	345 54.5	-30.7	N 27 15.1	-01.1
07	0 23.8	-30.8	N 27 14.0	-01.2
08	14 53.0	-30.7	N 27 12.8	-01.4
09	29 22.3	-30.8	N 27 11.4	-01.5
10	43 51.5	-30.7	N 27 09.9	-01.6
11	58 20.8	-30.7	N 27 08.3	-01.7
12	72 50.1	-30.7	N 27 06.6	-01.9
13	87 19.4	-30.6	N 27 04.7	-02.0
14	101 48.8	-30.7	N 27 02.7	-02.1
15	116 18.1	-30.6	N 27 00.6	-02.3
16	130 47.5	-30.6	N 26 58.3	-02.4
17	145 16.9	-30.6	N 26 55.9	-02.5
18	159 46.3	-30.6	N 26 53.4	-02.7
19	174 15.7	-30.5	N 26 50.7	-02.7
20	188 45.2	-30.5	N 26 48.0	-02.9
21	203 14.7	-30.5	N 26 45.1	-03.1
22	217 44.2	-30.5	N 26 42.0	-03.1
23	232 13.7	-30.4	N 26 38.9	-03.3

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′2	54′2	54′2	54′2	54′2	54′2
SHA	260°	258°	256°	253°	251°	249°

Greenwich Culmination Time: 06:58

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	283 38.8	+01.3	N 21 41.3	+00.2
01	298 40.1	+01.3	N 21 41.5	+00.2
02	313 41.4	+01.3	N 21 41.7	+00.1
03	328 42.7	+01.3	N 21 41.8	+00.2
04	343 44.0	+01.3	N 21 42.0	+00.2
05	358 45.3	+01.3	N 21 42.2	+00.2
06	13 46.6	+01.3	N 21 42.4	+00.1
07	28 47.9	+01.4	N 21 42.5	+00.2
08	43 49.3	+01.3	N 21 42.7	+00.2
09	58 50.6	+01.3	N 21 42.9	+00.2
10	73 51.9	+01.3	N 21 43.1	+00.1
11	88 53.2	+01.3	N 21 43.2	+00.2
12	103 54.5	+01.3	N 21 43.4	+00.2
13	118 55.8	+01.3	N 21 43.6	+00.2
14	133 57.1	+01.3	N 21 43.8	+00.1
15	148 58.4	+01.3	N 21 43.9	+00.2
16	163 59.7	+01.4	N 21 44.1	+00.2
17	179 01.1	+01.3	N 21 44.3	+00.1
18	194 02.4	+01.3	N 21 44.4	+00.2
19	209 03.7	+01.3	N 21 44.6	+00.2
20	224 05.0	+01.3	N 21 44.8	+00.2
21	239 06.3	+01.3	N 21 45.0	+00.1
22	254 07.6	+01.4	N 21 45.1	+00.2
23	269 09.0	+01.3	N 21 45.3	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	286°	286°	286°	285°	285°	285°

Greenwich Culmination Time: 05:04

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	352 53.7	+02.8	N 00 23.9	-00.1
01	7 56.5	+02.7	N 00 23.8	-00.2
02	22 59.2	+02.8	N 00 23.6	-00.1
03	38 02.0	+02.8	N 00 23.5	-00.1
04	53 04.8	+02.7	N 00 23.4	-00.2
05	68 07.5	+02.8	N 00 23.2	-00.1
06	83 10.3	+02.7	N 00 23.1	-00.1
07	98 13.0	+02.8	N 00 23.0	-00.2
08	113 15.8	+02.8	N 00 22.8	-00.1
09	128 18.6	+02.7	N 00 22.7	-00.1
10	143 21.3	+02.8	N 00 22.6	-00.2
11	158 24.1	+02.8	N 00 22.4	-00.1
12	173 26.9	+02.7	N 00 22.3	-00.1
13	188 29.6	+02.8	N 00 22.2	-00.2
14	203 32.4	+02.8	N 00 22.0	-00.1
15	218 35.2	+02.7	N 00 21.9	-00.1
16	233 37.9	+02.8	N 00 21.8	-00.2
17	248 40.7	+02.8	N 00 21.6	-00.1
18	263 43.5	+02.7	N 00 21.5	-00.1
19	278 46.2	+02.8	N 00 21.4	-00.2
20	293 49.0	+02.8	N 00 21.2	-00.1
21	308 51.8	+02.7	N 00 21.1	-00.1
22	323 54.5	+02.8	N 00 21.0	-00.2
23	338 57.3	+02.7	N 00 20.8	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	355°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 00:28

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	35 30.3	+02.6	S 16 13.0	+00.1
01	50 32.9	+02.6	S 16 13.1	+00.0
02	65 35.5	+02.6	S 16 13.1	+00.0
03	80 38.1	+02.6	S 16 13.1	+00.1
04	95 40.7	+02.6	S 16 13.2	+00.0
05	110 43.3	+02.6	S 16 13.2	+00.1
06	125 45.9	+02.6	S 16 13.3	+00.0
07	140 48.5	+02.6	S 16 13.3	+00.0
08	155 51.1	+02.6	S 16 13.3	+00.1
09	170 53.7	+02.6	S 16 13.4	+00.0
10	185 56.3	+02.5	S 16 13.4	+00.1
11	200 58.8	+02.6	S 16 13.5	+00.0
12	216 01.4	+02.6	S 16 13.5	+00.0
13	231 04.0	+02.6	S 16 13.5	+00.1
14	246 06.6	+02.6	S 16 13.6	+00.0
15	261 09.2	+02.6	S 16 13.6	+00.1
16	276 11.8	+02.6	S 16 13.7	+00.0
17	291 14.4	+02.6	S 16 13.7	+00.0
18	306 17.0	+02.6	S 16 13.7	+00.1
19	321 19.6	+02.6	S 16 13.8	+00.0
20	336 22.2	+02.6	S 16 13.8	+00.1
21	351 24.8	+02.6	S 16 13.9	+00.0
22	6 27.4	+02.5	S 16 13.9	+00.0
23	21 29.9	+02.6	S 16 13.9	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 21:34

2022 September 20 Tuesday (day 263 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	181 35.9	+00.2	N 01 11.0	-00.9
01	196 36.1	+00.2	N 01 10.1	-01.0
02	211 36.3	+00.3	N 01 09.1	-01.0
03	226 36.6	+00.2	N 01 08.1	-01.0
04	241 36.8	+00.2	N 01 07.1	-00.9
05	256 37.0	+00.2	N 01 06.2	-01.0
06	271 37.2	+00.2	N 01 05.2	-01.0
07	286 37.4	+00.3	N 01 04.2	-00.9
08	301 37.7	+00.2	N 01 03.3	-01.0
09	316 37.9	+00.2	N 01 02.3	-01.0
10	331 38.1	+00.2	N 01 01.3	-00.9
11	346 38.3	+00.2	N 01 00.4	-01.0
12	1 38.5	+00.3	N 00 59.4	-01.0
13	16 38.8	+00.2	N 00 58.4	-01.0
14	31 39.0	+00.2	N 00 57.4	-00.9
15	46 39.2	+00.2	N 00 56.5	-01.0
16	61 39.4	+00.3	N 00 55.5	-01.0
17	76 39.7	+00.2	N 00 54.5	-00.9
18	91 39.9	+00.2	N 00 53.6	-01.0
19	106 40.1	+00.2	N 00 52.6	-01.0
20	121 40.3	+00.2	N 00 51.6	-01.0
21	136 40.5	+00.3	N 00 50.6	-00.9
22	151 40.8	+00.2	N 00 49.7	-01.0
23	166 41.0	+00.2	N 00 48.7	-01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	183°	183°	182°	182°	182°	182°

Greenwich Culmination Time: 11:53

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	188 59.3	-00.4	N 05 53.7	-01.2
01	203 58.9	-00.4	N 05 52.5	-01.3
02	218 58.5	-00.4	N 05 51.2	-01.2
03	233 58.1	-00.4	N 05 50.0	-01.2
04	248 57.7	-00.5	N 05 48.8	-01.2
05	263 57.2	-00.4	N 05 47.6	-01.2
06	278 56.8	-00.4	N 05 46.4	-01.2
07	293 56.4	-00.4	N 05 45.2	-01.2
08	308 56.0	-00.4	N 05 44.0	-01.2
09	323 55.6	-00.4	N 05 42.8	-01.2
10	338 55.2	-00.5	N 05 41.6	-01.2
11	353 54.7	-00.4	N 05 40.4	-01.2
12	8 54.3	-00.4	N 05 39.2	-01.2
13	23 53.9	-00.4	N 05 38.0	-01.2
14	38 53.5	-00.4	N 05 36.8	-01.2
15	53 53.1	-00.4	N 05 35.6	-01.2
16	68 52.7	-00.4	N 05 34.4	-01.2
17	83 52.3	-00.5	N 05 33.2	-01.2
18	98 51.8	-00.4	N 05 32.0	-01.2
19	113 51.4	-00.4	N 05 30.8	-01.3
20	128 51.0	-00.4	N 05 29.5	-01.2
21	143 50.6	-00.4	N 05 28.3	-01.2
22	158 50.2	-00.4	N 05 27.1	-01.2
23	173 49.8	-00.4	N 05 25.9	-01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	190°	190°	190°	189°	189°	189°

Greenwich Culmination Time: 11:24

Moon

A: 83%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	246 43.3	-30.4	N 26 35.6	-03.4
01	261 12.9	-30.4	N 26 32.2	-03.6
02	275 42.5	-30.4	N 26 28.6	-03.6
03	290 12.1	-30.3	N 26 25.0	-03.8
04	304 41.8	-30.3	N 26 21.2	-03.9
05	319 11.5	-30.3	N 26 17.3	-04.1
06	333 41.2	-30.2	N 26 13.2	-04.1
07	348 11.0	-30.2	N 26 09.1	-04.3
08	2 40.8	-30.2	N 26 04.8	-04.4
09	17 10.6	-30.1	N 26 00.4	-04.6
10	31 40.5	-30.1	N 25 55.8	-04.6
11	46 10.4	-30.1	N 25 51.2	-04.8
12	60 40.3	-30.0	N 25 46.4	-04.9
13	75 10.3	-30.0	N 25 41.5	-05.0
14	89 40.3	-30.0	N 25 36.5	-05.2
15	104 10.3	-29.9	N 25 31.3	-05.3
16	118 40.4	-29.9	N 25 26.0	-05.3
17	133 10.5	-29.9	N 25 20.7	-05.6
18	147 40.6	-29.8	N 25 15.1	-05.6
19	162 10.8	-29.8	N 25 09.5	-05.7
20	176 41.0	-29.7	N 25 03.8	-05.9
21	191 11.3	-29.7	N 24 57.9	-06.0
22	205 41.6	-29.7	N 24 51.9	-06.1
23	220 11.9	-29.6	N 24 45.8	-06.2

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′2	54′2	54′2	54′2	54′3	54′3
SHA	247°	245°	242°	240°	238°	236°

Greenwich Culmination Time: 07:48

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	284 10.3	+01.3	N 21 45.5	+00.2
01	299 11.6	+01.3	N 21 45.7	+00.1
02	314 12.9	+01.4	N 21 45.8	+00.2
03	329 14.3	+01.3	N 21 46.0	+00.2
04	344 15.6	+01.3	N 21 46.2	+00.1
05	359 16.9	+01.3	N 21 46.3	+00.2
06	14 18.2	+01.3	N 21 46.5	+00.2
07	29 19.5	+01.4	N 21 46.7	+00.1
08	44 20.9	+01.3	N 21 46.8	+00.2
09	59 22.2	+01.3	N 21 47.0	+00.2
10	74 23.5	+01.4	N 21 47.2	+00.2
11	89 24.9	+01.3	N 21 47.4	+00.1
12	104 26.2	+01.3	N 21 47.5	+00.2
13	119 27.5	+01.3	N 21 47.7	+00.2
14	134 28.8	+01.4	N 21 47.9	+00.1
15	149 30.2	+01.3	N 21 48.0	+00.2
16	164 31.5	+01.3	N 21 48.2	+00.2
17	179 32.8	+01.4	N 21 48.4	+00.1
18	194 34.2	+01.3	N 21 48.5	+00.2
19	209 35.5	+01.3	N 21 48.7	+00.2
20	224 36.8	+01.4	N 21 48.9	+00.1
21	239 38.2	+01.3	N 21 49.0	+00.2
22	254 39.5	+01.4	N 21 49.2	+00.2
23	269 40.9	+01.3	N 21 49.4	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	285°	285°	285°	285°	285°	285°

Greenwich Culmination Time: 05:02

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	354 00.0	+02.8	N 00 20.7	-00.1
01	9 02.8	+02.8	N 00 20.6	-00.2
02	24 05.6	+02.7	N 00 20.4	-00.1
03	39 08.3	+02.8	N 00 20.3	-00.1
04	54 11.1	+02.8	N 00 20.2	-00.2
05	69 13.9	+02.7	N 00 20.0	-00.1
06	84 16.6	+02.8	N 00 19.9	-00.1
07	99 19.4	+02.8	N 00 19.8	-00.1
08	114 22.2	+02.7	N 00 19.7	-00.2
09	129 24.9	+02.8	N 00 19.5	-00.1
10	144 27.7	+02.8	N 00 19.4	-00.1
11	159 30.5	+02.7	N 00 19.3	-00.2
12	174 33.2	+02.8	N 00 19.1	-00.1
13	189 36.0	+02.8	N 00 19.0	-00.1
14	204 38.8	+02.7	N 00 18.9	-00.2
15	219 41.5	+02.8	N 00 18.7	-00.1
16	234 44.3	+02.8	N 00 18.6	-00.1
17	249 47.1	+02.7	N 00 18.5	-00.2
18	264 49.8	+02.8	N 00 18.3	-00.1
19	279 52.6	+02.8	N 00 18.2	-00.1
20	294 55.4	+02.7	N 00 18.1	-00.2
21	309 58.1	+02.8	N 00 17.9	-00.1
22	325 00.9	+02.8	N 00 17.8	-00.1
23	340 03.7	+02.7	N 00 17.7	-00.2

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	355°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 00:23

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	36 32.5	+02.6	S 16 14.0	+00.0
01	51 35.1	+02.6	S 16 14.0	+00.1
02	66 37.7	+02.6	S 16 14.1	+00.0
03	81 40.3	+02.6	S 16 14.1	+00.0
04	96 42.9	+02.6	S 16 14.1	+00.1
05	111 45.5	+02.6	S 16 14.2	+00.0
06	126 48.1	+02.6	S 16 14.2	+00.1
07	141 50.7	+02.6	S 16 14.3	+00.0
08	156 53.3	+02.5	S 16 14.3	+00.0
09	171 55.8	+02.6	S 16 14.3	+00.1
10	186 58.4	+02.6	S 16 14.4	+00.0
11	202 01.0	+02.6	S 16 14.4	+00.0
12	217 03.6	+02.6	S 16 14.4	+00.1
13	232 06.2	+02.6	S 16 14.5	+00.0
14	247 08.8	+02.6	S 16 14.5	+00.1
15	262 11.4	+02.6	S 16 14.6	+00.0
16	277 14.0	+02.5	S 16 14.6	+00.0
17	292 16.5	+02.6	S 16 14.6	+00.1
18	307 19.1	+02.6	S 16 14.7	+00.0
19	322 21.7	+02.6	S 16 14.7	+00.1
20	337 24.3	+02.6	S 16 14.8	+00.0
21	352 26.9	+02.6	S 16 14.8	+00.0
22	7 29.5	+02.6	S 16 14.8	+00.1
23	22 32.1	+02.6	S 16 14.9	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 21:30

2022 September 25 Sunday

(day 268 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	182 02.2	+00.3	S 00 45.7	+01.0
01	197 02.5	+00.2	S 00 46.7	+00.9
02	212 02.7	+00.2	S 00 47.6	+01.0
03	227 02.9	+00.2	S 00 48.6	+01.0
04	242 03.1	+00.2	S 00 49.6	+01.0
05	257 03.3	+00.2	S 00 50.6	+00.9
06	272 03.5	+00.3	S 00 51.5	+01.0
07	287 03.8	+00.2	S 00 52.5	+01.0
08	302 04.0	+00.2	S 00 53.5	+01.0
09	317 04.2	+00.2	S 00 54.5	+00.9
10	332 04.4	+00.2	S 00 55.4	+01.0
11	347 04.6	+00.2	S 00 56.4	+01.0
12	2 04.8	+00.2	S 00 57.4	+01.0
13	17 05.0	+00.3	S 00 58.4	+00.9
14	32 05.3	+00.2	S 00 59.3	+01.0
15	47 05.5	+00.2	S 01 00.3	+01.0
16	62 05.7	+00.2	S 01 01.3	+00.9
17	77 05.9	+00.2	S 01 02.2	+01.0
18	92 06.1	+00.2	S 01 03.2	+01.0
19	107 06.3	+00.3	S 01 04.2	+01.0
20	122 06.6	+00.2	S 01 05.2	+00.9
21	137 06.8	+00.2	S 01 06.1	+01.0
22	152 07.0	+00.2	S 01 07.1	+01.0
23	167 07.2	+00.2	S 01 08.1	+01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	178°	178°	178°	178°	178°	177°

Greenwich Culmination Time: 11:51

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	188 10.5	-00.4	N 03 27.4	-01.2
01	203 10.1	-00.4	N 03 26.2	-01.3
02	218 09.7	-00.4	N 03 24.9	-01.2
03	233 09.3	-00.4	N 03 23.7	-01.2
04	248 08.9	-00.4	N 03 22.5	-01.3
05	263 08.5	-00.4	N 03 21.2	-01.2
06	278 08.1	-00.4	N 03 20.0	-01.2
07	293 07.7	-00.4	N 03 18.8	-01.3
08	308 07.3	-00.4	N 03 17.5	-01.2
09	323 06.9	-00.4	N 03 16.3	-01.2
10	338 06.5	-00.4	N 03 15.1	-01.3
11	353 06.1	-00.4	N 03 13.8	-01.2
12	8 05.7	-00.4	N 03 12.6	-01.2
13	23 05.3	-00.4	N 03 11.4	-01.3
14	38 04.9	-00.4	N 03 10.1	-01.2
15	53 04.5	-00.4	N 03 08.9	-01.2
16	68 04.1	-00.4	N 03 07.7	-01.3
17	83 03.7	-00.4	N 03 06.4	-01.2
18	98 03.3	-00.4	N 03 05.2	-01.3
19	113 02.9	-00.4	N 03 03.9	-01.2
20	128 02.5	-00.4	N 03 02.7	-01.2
21	143 02.1	-00.4	N 03 01.5	-01.3
22	158 01.7	-00.4	N 03 00.2	-01.2
23	173 01.3	-00.4	N 02 59.0	-01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	184°	184°	184°	184°	184°	183°

Greenwich Culmination Time: 11:27

Moon

A: 99%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	190 23.8	-26.3	N 07 19.8	-14.2
01	204 57.5	-26.4	N 07 05.6	-14.3
02	219 31.1	-26.3	N 06 51.3	-14.3
03	234 04.8	-26.4	N 06 37.0	-14.4
04	248 38.4	-26.3	N 06 22.6	-14.4
05	263 12.1	-26.4	N 06 08.2	-14.4
06	277 45.7	-26.3	N 05 53.8	-14.5
07	292 19.4	-26.4	N 05 39.3	-14.5
08	306 53.0	-26.3	N 05 24.8	-14.5
09	321 26.7	-26.4	N 05 10.3	-14.6
10	336 00.3	-26.3	N 04 55.7	-14.6
11	350 34.0	-26.4	N 04 41.1	-14.6
12	5 07.6	-26.3	N 04 26.5	-14.7
13	19 41.3	-26.4	N 04 11.8	-14.7
14	34 14.9	-26.4	N 03 57.1	-14.8
15	48 48.5	-26.4	N 03 42.3	-14.7
16	63 22.1	-26.3	N 03 27.6	-14.8
17	77 55.8	-26.4	N 03 12.8	-14.8
18	92 29.4	-26.5	N 02 58.0	-14.9
19	107 02.9	-26.4	N 02 43.1	-14.8
20	121 36.5	-26.4	N 02 28.3	-14.9
21	136 10.1	-26.5	N 02 13.4	-14.9
22	150 43.6	-26.4	N 01 58.5	-14.9
23	165 17.2	-26.5	N 01 43.6	-15.0

UT	02	06	10	14	18	22
SD	15′3	15′3	15′3	15′4	15′4	15′4
HP	56′1	56′2	56′3	56′4	56′5	56′5
SHA	186°	184°	182°	180°	178°	176°

Greenwich Culmination Time: 11:38

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	286 54.2	+01.4	N 22 04.9	+00.1
01	301 55.6	+01.5	N 22 05.0	+00.2
02	316 57.1	+01.4	N 22 05.2	+00.2
03	331 58.5	+01.4	N 22 05.4	+00.1
04	346 59.9	+01.4	N 22 05.5	+00.2
05	2 01.3	+01.4	N 22 05.7	+00.1
06	17 02.7	+01.4	N 22 05.8	+00.2
07	32 04.1	+01.5	N 22 06.0	+00.1
08	47 05.6	+01.4	N 22 06.1	+00.2
09	62 07.0	+01.4	N 22 06.3	+00.1
10	77 08.4	+01.4	N 22 06.4	+00.2
11	92 09.8	+01.5	N 22 06.6	+00.1
12	107 11.3	+01.4	N 22 06.7	+00.2
13	122 12.7	+01.4	N 22 06.9	+00.1
14	137 14.1	+01.4	N 22 07.0	+00.2
15	152 15.5	+01.5	N 22 07.2	+00.1
16	167 17.0	+01.4	N 22 07.3	+00.2
17	182 18.4	+01.4	N 22 07.5	+00.1
18	197 19.8	+01.4	N 22 07.6	+00.2
19	212 21.2	+01.5	N 22 07.8	+00.1
20	227 22.7	+01.4	N 22 07.9	+00.2
21	242 24.1	+01.4	N 22 08.1	+00.1
22	257 25.5	+01.5	N 22 08.2	+00.2
23	272 27.0	+01.4	N 22 08.4	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	283°	283°	283°	283°	283°	283°

Greenwich Culmination Time: 04:51

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	359 32.3	+02.8	N 00 04.7	-00.2
01	14 35.1	+02.7	N 00 04.5	-00.1
02	29 37.8	+02.8	N 00 04.4	-00.1
03	44 40.6	+02.8	N 00 04.3	-00.2
04	59 43.4	+02.7	N 00 04.1	-00.1
05	74 46.1	+02.8	N 00 04.0	-00.1
06	89 48.9	+02.8	N 00 03.9	-00.2
07	104 51.7	+02.7	N 00 03.7	-00.1
08	119 54.4	+02.8	N 00 03.6	-00.1
09	134 57.2	+02.8	N 00 03.5	-00.2
10	149 60.0	+02.8	N 00 03.3	-00.1
11	165 02.8	+02.7	N 00 03.2	-00.1
12	180 05.5	+02.8	N 00 03.1	-00.2
13	195 08.3	+02.8	N 00 02.9	-00.1
14	210 11.1	+02.7	N 00 02.8	-00.1
15	225 13.8	+02.8	N 00 02.7	-00.2
16	240 16.6	+02.8	N 00 02.5	-00.1
17	255 19.4	+02.8	N 00 02.4	-00.1
18	270 22.2	+02.7	N 00 02.3	-00.2
19	285 24.9	+02.8	N 00 02.1	-00.1
20	300 27.7	+02.8	N 00 02.0	-00.1
21	315 30.5	+02.7	N 00 01.9	-00.2
22	330 33.2	+02.8	N 00 01.7	-00.1
23	345 36.0	+02.8	N 00 01.6	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	356°	356°	356°	356°	356°

Greenwich Culmination Time: 00:01

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	41 42.4	+02.6	S 16 18.4	+00.0
01	56 45.0	+02.6	S 16 18.4	+00.1
02	71 47.6	+02.6	S 16 18.5	+00.0
03	86 50.2	+02.5	S 16 18.5	+00.0
04	101 52.7	+02.6	S 16 18.5	+00.1
05	116 55.3	+02.6	S 16 18.6	+00.0
06	131 57.9	+02.6	S 16 18.6	+00.0
07	147 00.5	+02.5	S 16 18.6	+00.1
08	162 03.0	+02.6	S 16 18.7	+00.0
09	177 05.6	+02.6	S 16 18.7	+00.0
10	192 08.2	+02.5	S 16 18.7	+00.1
11	207 10.7	+02.6	S 16 18.8	+00.0
12	222 13.3	+02.6	S 16 18.8	+00.0
13	237 15.9	+02.6	S 16 18.8	+00.1
14	252 18.5	+02.5	S 16 18.9	+00.0
15	267 21.0	+02.6	S 16 18.9	+00.0
16	282 23.6	+02.6	S 16 18.9	+00.1
17	297 26.2	+02.6	S 16 19.0	+00.0
18	312 28.8	+02.5	S 16 19.0	+00.0
19	327 31.3	+02.6	S 16 19.0	+00.1
20	342 33.9	+02.6	S 16 19.1	+00.0
21	357 36.5	+02.5	S 16 19.1	+00.0
22	12 39.0	+02.6	S 16 19.1	+00.1
23	27 41.6	+02.6	S 16 19.2	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 21:09

2022 September 22 Thursday

(day 265 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	181 46.5	+00.2	N 00 24.4	-01.0
01	196 46.7	+00.3	N 00 23.4	-01.0
02	211 47.0	+00.2	N 00 22.4	-00.9
03	226 47.2	+00.2	N 00 21.5	-01.0
04	241 47.4	+00.2	N 00 20.5	-01.0
05	256 47.6	+00.2	N 00 19.5	-00.9
06	271 47.8	+00.3	N 00 18.6	-01.0
07	286 48.1	+00.2	N 00 17.6	-01.0
08	301 48.3	+00.2	N 00 16.6	-01.0
09	316 48.5	+00.2	N 00 15.6	-00.9
10	331 48.7	+00.2	N 00 14.7	-01.0
11	346 48.9	+00.3	N 00 13.7	-01.0
12	1 49.2	+00.2	N 00 12.7	-01.0
13	16 49.4	+00.2	N 00 11.7	-00.9
14	31 49.6	+00.2	N 00 10.8	-01.0
15	46 49.8	+00.2	N 00 09.8	-01.0
16	61 50.0	+00.3	N 00 08.8	-00.9
17	76 50.3	+00.2	N 00 07.9	-01.0
18	91 50.5	+00.2	N 00 06.9	-01.0
19	106 50.7	+00.2	N 00 05.9	-01.0
20	121 50.9	+00.2	N 00 04.9	-00.9
21	136 51.1	+00.3	N 00 04.0	-01.0
22	151 51.4	+00.2	N 00 03.0	-01.0
23	166 51.6	+00.2	N 00 02.0	-01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	181°	181°	181°	180°	180°	180°

Greenwich Culmination Time: 11:52

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	188 39.5	-00.4	N 04 55.6	-01.2
01	203 39.1	-00.4	N 04 54.4	-01.2
02	218 38.7	-00.4	N 04 53.2	-01.3
03	233 38.3	-00.4	N 04 51.9	-01.2
04	248 37.9	-00.4	N 04 50.7	-01.2
05	263 37.5	-00.4	N 04 49.5	-01.2
06	278 37.1	-00.4	N 04 48.3	-01.2
07	293 36.7	-00.4	N 04 47.1	-01.2
08	308 36.3	-00.5	N 04 45.9	-01.3
09	323 35.8	-00.4	N 04 44.6	-01.2
10	338 35.4	-00.4	N 04 43.4	-01.2
11	353 35.0	-00.4	N 04 42.2	-01.2
12	8 34.6	-00.4	N 04 41.0	-01.2
13	23 34.2	-00.4	N 04 39.8	-01.3
14	38 33.8	-00.4	N 04 38.5	-01.2
15	53 33.4	-00.4	N 04 37.3	-01.2
16	68 33.0	-00.4	N 04 36.1	-01.2
17	83 32.6	-00.4	N 04 34.9	-01.2
18	98 32.2	-00.4	N 04 33.7	-01.3
19	113 31.8	-00.4	N 04 32.4	-01.2
20	128 31.4	-00.4	N 04 31.2	-01.2
21	143 31.0	-00.4	N 04 30.0	-01.2
22	158 30.6	-00.4	N 04 28.8	-01.2
23	173 30.2	-00.4	N 04 27.6	-01.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	188°	188°	187°	187°	187°	187°

Greenwich Culmination Time: 11:25

Moon

A: 90%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	223 04.2	-28.6	N 21 36.9	-08.9
01	237 35.6	-28.5	N 21 28.0	-09.1
02	252 07.1	-28.4	N 21 18.9	-09.1
03	266 38.7	-28.4	N 21 09.8	-09.2
04	281 10.3	-28.4	N 21 00.6	-09.4
05	295 41.9	-28.3	N 20 51.2	-09.4
06	310 13.6	-28.3	N 20 41.8	-09.6
07	324 45.3	-28.2	N 20 32.2	-09.6
08	339 17.1	-28.2	N 20 22.6	-09.7
09	353 48.9	-28.1	N 20 12.9	-09.9
10	8 20.8	-28.1	N 20 03.0	-09.9
11	22 52.7	-28.1	N 19 53.1	-10.0
12	37 24.6	-28.0	N 19 43.1	-10.1
13	51 56.6	-27.9	N 19 33.0	-10.2
14	66 28.7	-28.0	N 19 22.8	-10.3
15	81 00.7	-27.9	N 19 12.5	-10.4
16	95 32.8	-27.8	N 19 02.1	-10.5
17	110 05.0	-27.8	N 18 51.6	-10.5
18	124 37.2	-27.8	N 18 41.1	-10.7
19	139 09.4	-27.7	N 18 30.4	-10.7
20	153 41.7	-27.7	N 18 19.7	-10.8
21	168 14.0	-27.6	N 18 08.9	-10.9
22	182 46.4	-27.6	N 17 58.0	-11.0
23	197 18.8	-27.6	N 17 47.0	-11.1

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	15′0	15′0
HP	54′6	54′7	54′8	54′8	54′9	55′0
SHA	221°	219°	217°	215°	213°	211°

Greenwich Culmination Time: 09:25

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	285 14.5	+01.4	N 21 53.5	+00.2
01	300 15.9	+01.3	N 21 53.7	+00.1
02	315 17.2	+01.4	N 21 53.8	+00.2
03	330 18.6	+01.4	N 21 54.0	+00.2
04	345 20.0	+01.3	N 21 54.2	+00.1
05	0 21.3	+01.4	N 21 54.3	+00.2
06	15 22.7	+01.3	N 21 54.5	+00.2
07	30 24.0	+01.4	N 21 54.7	+00.1
08	45 25.4	+01.4	N 21 54.8	+00.2
09	60 26.8	+01.3	N 21 55.0	+00.1
10	75 28.1	+01.4	N 21 55.1	+00.2
11	90 29.5	+01.4	N 21 55.3	+00.2
12	105 30.9	+01.3	N 21 55.5	+00.1
13	120 32.2	+01.4	N 21 55.6	+00.2
14	135 33.6	+01.4	N 21 55.8	+00.2
15	150 35.0	+01.3	N 21 56.0	+00.1
16	165 36.3	+01.4	N 21 56.1	+00.2
17	180 37.7	+01.4	N 21 56.3	+00.1
18	195 39.1	+01.3	N 21 56.4	+00.2
19	210 40.4	+01.4	N 21 56.6	+00.2
20	225 41.8	+01.4	N 21 56.8	+00.1
21	240 43.2	+01.4	N 21 56.9	+00.2
22	255 44.6	+01.3	N 21 57.1	+00.1
23	270 45.9	+01.4	N 21 57.2	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	284°	284°	284°	284°	284°	284°

Greenwich Culmination Time: 04:58

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	356 12.9	+02.7	N 00 14.3	-00.1
01	11 15.6	+02.8	N 00 14.2	-00.2
02	26 18.4	+02.8	N 00 14.0	-00.1
03	41 21.2	+02.7	N 00 13.9	-00.1
04	56 23.9	+02.8	N 00 13.8	-00.2
05	71 26.7	+02.8	N 00 13.6	-00.1
06	86 29.5	+02.7	N 00 13.5	-00.1
07	101 32.2	+02.8	N 00 13.4	-00.2
08	116 35.0	+02.8	N 00 13.2	-00.1
09	131 37.8	+02.7	N 00 13.1	-00.1
10	146 40.5	+02.8	N 00 13.0	-00.2
11	161 43.3	+02.8	N 00 12.8	-00.1
12	176 46.1	+02.7	N 00 12.7	-00.1
13	191 48.8	+02.8	N 00 12.6	-00.2
14	206 51.6	+02.8	N 00 12.4	-00.1
15	221 54.4	+02.8	N 00 12.3	-00.1
16	236 57.2	+02.7	N 00 12.2	-00.2
17	251 59.9	+02.8	N 00 12.0	-00.1
18	267 02.7	+02.8	N 00 11.9	-00.1
19	282 05.5	+02.7	N 00 11.8	-00.2
20	297 08.2	+02.8	N 00 11.6	-00.1
21	312 11.0	+02.8	N 00 11.5	-00.1
22	327 13.8	+02.7	N 00 11.4	-00.2
23	342 16.5	+02.8	N 00 11.2	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	355°	355°	355°	355°	355°	355°

Greenwich Culmination Time: 00:15

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	38 36.7	+02.6	S 16 15.8	+00.1
01	53 39.3	+02.6	S 16 15.9	+00.0
02	68 41.9	+02.6	S 16 15.9	+00.0
03	83 44.5	+02.6	S 16 15.9	+00.1
04	98 47.1	+02.5	S 16 16.0	+00.0
05	113 49.6	+02.6	S 16 16.0	+00.1
06	128 52.2	+02.6	S 16 16.1	+00.0
07	143 54.8	+02.6	S 16 16.1	+00.0
08	158 57.4	+02.6	S 16 16.1	+00.1
09	173 60.0	+02.6	S 16 16.2	+00.0
10	189 02.6	+02.5	S 16 16.2	+00.0
11	204 05.1	+02.6	S 16 16.2	+00.1
12	219 07.7	+02.6	S 16 16.3	+00.0
13	234 10.3	+02.6	S 16 16.3	+00.0
14	249 12.9	+02.6	S 16 16.3	+00.1
15	264 15.5	+02.6	S 16 16.4	+00.0
16	279 18.1	+02.5	S 16 16.4	+00.1
17	294 20.6	+02.6	S 16 16.5	+00.0
18	309 23.2	+02.6	S 16 16.5	+00.0
19	324 25.8	+02.6	S 16 16.5	+00.1
20	339 28.4	+02.6	S 16 16.6	+00.0
21	354 31.0	+02.5	S 16 16.6	+00.0
22	9 33.5	+02.6	S 16 16.6	+00.1
23	24 36.1	+02.6	S 16 16.7	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 21:21

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2022 September 23 Friday (day 266 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	181 51.8	+00.2	N 00 01.0	-00.9
01	196 52.0	+00.2	N 00 00.1	-01.0
02	211 52.2	+00.2	S 00 00.9	+01.0
03	226 52.4	+00.3	S 00 01.9	+00.9
04	241 52.7	+00.2	S 00 02.8	+01.0
05	256 52.9	+00.2	S 00 03.8	+01.0
06	271 53.1	+00.2	S 00 04.8	+01.0
07	286 53.3	+00.2	S 00 05.8	+00.9
08	301 53.5	+00.3	S 00 06.7	+01.0
09	316 53.8	+00.2	S 00 07.7	+01.0
10	331 54.0	+00.2	S 00 08.7	+01.0
11	346 54.2	+00.2	S 00 09.7	+00.9
12	1 54.4	+00.2	S 00 10.6	+01.0
13	16 54.6	+00.3	S 00 11.6	+01.0
14	31 54.9	+00.2	S 00 12.6	+01.0
15	46 55.1	+00.2	S 00 13.6	+00.9
16	61 55.3	+00.2	S 00 14.5	+01.0
17	76 55.5	+00.2	S 00 15.5	+01.0
18	91 55.7	+00.2	S 00 16.5	+01.0
19	106 55.9	+00.3	S 00 17.5	+00.9
20	121 56.2	+00.2	S 00 18.4	+01.0
21	136 56.4	+00.2	S 00 19.4	+01.0
22	151 56.6	+00.2	S 00 20.4	+00.9
23	166 56.8	+00.2	S 00 21.3	+01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	180°	180°	180°	180°	179°	179°

Greenwich Culmination Time: 11:52

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	188 29.8	-00.5	N 04 26.3	-01.2
01	203 29.3	-00.4	N 04 25.1	-01.2
02	218 28.9	-00.4	N 04 23.9	-01.2
03	233 28.5	-00.4	N 04 22.7	-01.3
04	248 28.1	-00.4	N 04 21.4	-01.2
05	263 27.7	-00.4	N 04 20.2	-01.2
06	278 27.3	-00.4	N 04 19.0	-01.2
07	293 26.9	-00.4	N 04 17.8	-01.3
08	308 26.5	-00.4	N 04 16.5	-01.2
09	323 26.1	-00.4	N 04 15.3	-01.2
10	338 25.7	-00.4	N 04 14.1	-01.2
11	353 25.3	-00.4	N 04 12.9	-01.3
12	8 24.9	-00.4	N 04 11.6	-01.2
13	23 24.5	-00.4	N 04 10.4	-01.2
14	38 24.1	-00.4	N 04 09.2	-01.2
15	53 23.7	-00.4	N 04 08.0	-01.3
16	68 23.3	-00.4	N 04 06.7	-01.2
17	83 22.9	-00.4	N 04 05.5	-01.2
18	98 22.5	-00.4	N 04 04.3	-01.2
19	113 22.1	-00.4	N 04 03.1	-01.3
20	128 21.7	-00.4	N 04 01.8	-01.2
21	143 21.3	-00.4	N 04 00.6	-01.2
22	158 20.9	-00.4	N 03 59.4	-01.2
23	173 20.5	-00.4	N 03 58.2	-01.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	187°	186°	186°	186°	186°	186°

Greenwich Culmination Time: 11:26

Moon

A: 93%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	211 51.2	-27.5	N 17 35.9	-11.2
01	226 23.7	-27.5	N 17 24.7	-11.3
02	240 56.2	-27.4	N 17 13.4	-11.3
03	255 28.8	-27.4	N 17 02.1	-11.4
04	270 01.4	-27.4	N 16 50.7	-11.5
05	284 34.0	-27.3	N 16 39.2	-11.6
06	299 06.7	-27.3	N 16 27.6	-11.6
07	313 39.4	-27.3	N 16 16.0	-11.8
08	328 12.1	-27.2	N 16 04.2	-11.8
09	342 44.9	-27.2	N 15 52.4	-11.9
10	357 17.7	-27.1	N 15 40.5	-11.9
11	11 50.6	-27.2	N 15 28.6	-12.1
12	26 23.4	-27.1	N 15 16.5	-12.1
13	40 56.3	-27.0	N 15 04.4	-12.2
14	55 29.3	-27.0	N 14 52.2	-12.3
15	70 02.3	-27.0	N 14 39.9	-12.3
16	84 35.3	-27.0	N 14 27.6	-12.4
17	99 08.3	-26.9	N 14 15.2	-12.5
18	113 41.4	-26.9	N 14 02.7	-12.5
19	128 14.5	-26.9	N 13 50.2	-12.6
20	142 47.6	-26.9	N 13 37.6	-12.7
21	157 20.7	-26.8	N 13 24.9	-12.8
22	171 53.9	-26.8	N 13 12.1	-12.8
23	186 27.1	-26.7	N 12 59.3	-12.9

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	15′1	15′1	15′1
HP	55′1	55′1	55′2	55′3	55′4	55′5
SHA	209°	207°	205°	203°	201°	199°

Greenwich Culmination Time: 10:11

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	285 47.3	+01.4	N 21 57.4	+00.2
01	300 48.7	+01.4	N 21 57.6	+00.1
02	315 50.1	+01.3	N 21 57.7	+00.2
03	330 51.4	+01.4	N 21 57.9	+00.1
04	345 52.8	+01.4	N 21 58.0	+00.2
05	0 54.2	+01.4	N 21 58.2	+00.2
06	15 55.6	+01.3	N 21 58.4	+00.1
07	30 56.9	+01.4	N 21 58.5	+00.2
08	45 58.3	+01.4	N 21 58.7	+00.1
09	60 59.7	+01.4	N 21 58.8	+00.2
10	76 01.1	+01.4	N 21 59.0	+00.1
11	91 02.5	+01.4	N 21 59.1	+00.2
12	106 03.9	+01.3	N 21 59.3	+00.2
13	121 05.2	+01.4	N 21 59.5	+00.1
14	136 06.6	+01.4	N 21 59.6	+00.2
15	151 08.0	+01.4	N 21 59.8	+00.1
16	166 09.4	+01.4	N 21 59.9	+00.2
17	181 10.8	+01.4	N 22 00.1	+00.1
18	196 12.2	+01.4	N 22 00.2	+00.2
19	211 13.6	+01.4	N 22 00.4	+00.2
20	226 15.0	+01.4	N 22 00.6	+00.1
21	241 16.4	+01.3	N 22 00.7	+00.2
22	256 17.7	+01.4	N 22 00.9	+00.1
23	271 19.1	+01.4	N 22 01.0	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	284°	284°	284°	284°	284°	284°

Greenwich Culmination Time: 04:56

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	357 19.3	+02.8	N 00 11.1	-00.1
01	12 22.1	+02.7	N 00 11.0	-00.2
02	27 24.8	+02.8	N 00 10.8	-00.1
03	42 27.6	+02.8	N 00 10.7	-00.1
04	57 30.4	+02.8	N 00 10.6	-00.2
05	72 33.2	+02.7	N 00 10.4	-00.1
06	87 35.9	+02.8	N 00 10.3	-00.1
07	102 38.7	+02.8	N 00 10.2	-00.2
08	117 41.5	+02.7	N 00 10.0	-00.1
09	132 44.2	+02.8	N 00 09.9	-00.1
10	147 47.0	+02.8	N 00 09.8	-00.2
11	162 49.8	+02.7	N 00 09.6	-00.1
12	177 52.5	+02.8	N 00 09.5	-00.1
13	192 55.3	+02.8	N 00 09.4	-00.2
14	207 58.1	+02.8	N 00 09.2	-00.1
15	223 00.9	+02.7	N 00 09.1	-00.1
16	238 03.6	+02.8	N 00 09.0	-00.2
17	253 06.4	+02.8	N 00 08.8	-00.1
18	268 09.2	+02.7	N 00 08.7	-00.1
19	283 11.9	+02.8	N 00 08.6	-00.2
20	298 14.7	+02.8	N 00 08.4	-00.1
21	313 17.5	+02.7	N 00 08.3	-00.1
22	328 20.2	+02.8	N 00 08.2	-00.2
23	343 23.0	+02.8	N 00 08.0	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	356°	356°	356°	356°	356°

Greenwich Culmination Time: 00:10

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	39 38.7	+02.6	S 16 16.7	+00.1
01	54 41.3	+02.6	S 16 16.8	+00.0
02	69 43.9	+02.5	S 16 16.8	+00.0
03	84 46.4	+02.6	S 16 16.8	+00.1
04	99 49.0	+02.6	S 16 16.9	+00.0
05	114 51.6	+02.6	S 16 16.9	+00.0
06	129 54.2	+02.6	S 16 16.9	+00.1
07	144 56.8	+02.5	S 16 17.0	+00.0
08	159 59.3	+02.6	S 16 17.0	+00.0
09	175 01.9	+02.6	S 16 17.0	+00.1
10	190 04.5	+02.6	S 16 17.1	+00.0
11	205 07.1	+02.6	S 16 17.1	+00.0
12	220 09.7	+02.5	S 16 17.1	+00.1
13	235 12.2	+02.6	S 16 17.2	+00.0
14	250 14.8	+02.6	S 16 17.2	+00.1
15	265 17.4	+02.6	S 16 17.3	+00.0
16	280 20.0	+02.6	S 16 17.3	+00.0
17	295 22.6	+02.5	S 16 17.3	+00.1
18	310 25.1	+02.6	S 16 17.4	+00.0
19	325 27.7	+02.6	S 16 17.4	+00.0
20	340 30.3	+02.6	S 16 17.4	+00.1
21	355 32.9	+02.6	S 16 17.5	+00.0
22	10 35.5	+02.5	S 16 17.5	+00.0
23	25 38.0	+02.6	S 16 17.5	+00.1

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 21:17

2022 September 24 Saturday (day 267 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	181 57.0	+00.3	S 00 22.3	+01.0
01	196 57.3	+00.2	S 00 23.3	+01.0
02	211 57.5	+00.2	S 00 24.3	+00.9
03	226 57.7	+00.2	S 00 25.2	+01.0
04	241 57.9	+00.2	S 00 26.2	+01.0
05	256 58.1	+00.2	S 00 27.2	+01.0
06	271 58.3	+00.3	S 00 28.2	+00.9
07	286 58.6	+00.2	S 00 29.1	+01.0
08	301 58.8	+00.2	S 00 30.1	+01.0
09	316 59.0	+00.2	S 00 31.1	+01.0
10	331 59.2	+00.2	S 00 32.1	+00.9
11	346 59.4	+00.2	S 00 33.0	+01.0
12	1 59.6	+00.3	S 00 34.0	+01.0
13	16 59.9	+00.2	S 00 35.0	+01.0
14	32 00.1	+00.2	S 00 36.0	+00.9
15	47 00.3	+00.2	S 00 36.9	+01.0
16	62 00.5	+00.2	S 00 37.9	+01.0
17	77 00.7	+00.2	S 00 38.9	+00.9
18	92 00.9	+00.3	S 00 39.8	+01.0
19	107 01.2	+00.2	S 00 40.8	+01.0
20	122 01.4	+00.2	S 00 41.8	+01.0
21	137 01.6	+00.2	S 00 42.8	+00.9
22	152 01.8	+00.2	S 00 43.7	+01.0
23	167 02.0	+00.2	S 00 44.7	+01.0

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′9	15′9	15′9
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	179°	179°	179°	179°	178°	178°

Greenwich Culmination Time: 11:52

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	188 20.1	-00.4	N 03 56.9	-01.2
01	203 19.7	-00.4	N 03 55.7	-01.2
02	218 19.3	-00.4	N 03 54.5	-01.3
03	233 18.9	-00.4	N 03 53.2	-01.2
04	248 18.5	-00.4	N 03 52.0	-01.2
05	263 18.1	-00.4	N 03 50.8	-01.2
06	278 17.7	-00.4	N 03 49.6	-01.3
07	293 17.3	-00.4	N 03 48.3	-01.2
08	308 16.9	-00.4	N 03 47.1	-01.2
09	323 16.5	-00.4	N 03 45.9	-01.3
10	338 16.1	-00.4	N 03 44.6	-01.2
11	353 15.7	-00.4	N 03 43.4	-01.2
12	8 15.3	-00.4	N 03 42.2	-01.2
13	23 14.9	-00.4	N 03 41.0	-01.3
14	38 14.5	-00.4	N 03 39.7	-01.2
15	53 14.1	-00.4	N 03 38.5	-01.2
16	68 13.7	-00.4	N 03 37.3	-01.3
17	83 13.3	-00.4	N 03 36.0	-01.2
18	98 12.9	-00.4	N 03 34.8	-01.2
19	113 12.5	-00.4	N 03 33.6	-01.3
20	128 12.1	-00.4	N 03 32.3	-01.2
21	143 11.7	-00.4	N 03 31.1	-01.2
22	158 11.3	-00.4	N 03 29.9	-01.3
23	173 10.9	-00.4	N 03 28.6	-01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	185°	185°	185°	185°	185°	184°

Greenwich Culmination Time: 11:26

Moon

A: 96%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	201 00.4	-26.8	N 12 46.4	-12.9
01	215 33.6	-26.7	N 12 33.5	-13.0
02	230 06.9	-26.7	N 12 20.5	-13.1
03	244 40.2	-26.7	N 12 07.4	-13.2
04	259 13.5	-26.6	N 11 54.2	-13.2
05	273 46.9	-26.6	N 11 41.0	-13.2
06	288 20.3	-26.7	N 11 27.8	-13.3
07	302 53.6	-26.5	N 11 14.5	-13.4
08	317 27.1	-26.6	N 11 01.1	-13.4
09	332 00.5	-26.5	N 10 47.7	-13.5
10	346 34.0	-26.6	N 10 34.2	-13.6
11	1 07.4	-26.5	N 10 20.6	-13.6
12	15 40.9	-26.5	N 10 07.0	-13.6
13	30 14.4	-26.5	N 09 53.4	-13.8
14	44 47.9	-26.4	N 09 39.6	-13.7
15	59 21.5	-26.5	N 09 25.9	-13.8
16	73 55.0	-26.4	N 09 12.1	-13.9
17	88 28.6	-26.4	N 08 58.2	-13.9
18	103 02.2	-26.5	N 08 44.3	-14.0
19	117 35.7	-26.4	N 08 30.3	-14.0
20	132 09.3	-26.3	N 08 16.3	-14.0
21	146 43.0	-26.4	N 08 02.3	-14.1
22	161 16.6	-26.4	N 07 48.2	-14.2
23	175 50.2	-26.4	N 07 34.0	-14.2

UT	02	06	10	14	18	22
SD	15′1	15′2	15′2	15′2	15′2	15′3
HP	55′5	55′6	55′7	55′8	55′9	56′0
SHA	197°	195°	193°	191°	189°	188°

Greenwich Culmination Time: 10:55

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	286 20.5	+01.4	N 22 01.2	+00.1
01	301 21.9	+01.4	N 22 01.3	+00.2
02	316 23.3	+01.4	N 22 01.5	+00.2
03	331 24.7	+01.4	N 22 01.7	+00.1
04	346 26.1	+01.4	N 22 01.8	+00.2
05	1 27.5	+01.4	N 22 02.0	+00.1
06	16 28.9	+01.4	N 22 02.1	+00.2
07	31 30.3	+01.4	N 22 02.3	+00.1
08	46 31.7	+01.4	N 22 02.4	+00.2
09	61 33.1	+01.4	N 22 02.6	+00.1
10	76 34.5	+01.4	N 22 02.7	+00.2
11	91 35.9	+01.4	N 22 02.9	+00.2
12	106 37.3	+01.4	N 22 03.1	+00.1
13	121 38.7	+01.4	N 22 03.2	+00.2
14	136 40.1	+01.4	N 22 03.4	+00.1
15	151 41.5	+01.4	N 22 03.5	+00.2
16	166 42.9	+01.5	N 22 03.7	+00.1
17	181 44.4	+01.4	N 22 03.8	+00.2
18	196 45.8	+01.4	N 22 04.0	+00.1
19	211 47.2	+01.4	N 22 04.1	+00.2
20	226 48.6	+01.4	N 22 04.3	+00.1
21	241 50.0	+01.4	N 22 04.4	+00.2
22	256 51.4	+01.4	N 22 04.6	+00.1
23	271 52.8	+01.4	N 22 04.7	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	283°	283°	283°	283°	283°	283°

Greenwich Culmination Time: 04:54

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	358 25.8	+02.8	N 00 07.9	-00.1
01	13 28.6	+02.7	N 00 07.8	-00.2
02	28 31.3	+02.8	N 00 07.6	-00.1
03	43 34.1	+02.8	N 00 07.5	-00.1
04	58 36.9	+02.7	N 00 07.4	-00.2
05	73 39.6	+02.8	N 00 07.2	-00.1
06	88 42.4	+02.8	N 00 07.1	-00.1
07	103 45.2	+02.7	N 00 07.0	-00.2
08	118 47.9	+02.8	N 00 06.8	-00.1
09	133 50.7	+02.8	N 00 06.7	-00.1
10	148 53.5	+02.8	N 00 06.6	-00.2
11	163 56.3	+02.7	N 00 06.4	-00.1
12	178 59.0	+02.8	N 00 06.3	-00.2
13	194 01.8	+02.8	N 00 06.1	-00.1
14	209 04.6	+02.7	N 00 06.0	-00.1
15	224 07.3	+02.8	N 00 05.9	-00.2
16	239 10.1	+02.8	N 00 05.7	-00.1
17	254 12.9	+02.8	N 00 05.6	-00.1
18	269 15.7	+02.7	N 00 05.5	-00.2
19	284 18.4	+02.8	N 00 05.3	-00.1
20	299 21.2	+02.8	N 00 05.2	-00.1
21	314 24.0	+02.7	N 00 05.1	-00.2
22	329 26.7	+02.8	N 00 04.9	-00.1
23	344 29.5	+02.8	N 00 04.8	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	356°	356°	356°	356°	356°

Greenwich Culmination Time: 00:06

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	40 40.6	+02.6	S 16 17.6	+00.0
01	55 43.2	+02.6	S 16 17.6	+00.0
02	70 45.8	+02.5	S 16 17.6	+00.1
03	85 48.3	+02.6	S 16 17.7	+00.0
04	100 50.9	+02.6	S 16 17.7	+00.0
05	115 53.5	+02.6	S 16 17.7	+00.1
06	130 56.1	+02.5	S 16 17.8	+00.0
07	145 58.6	+02.6	S 16 17.8	+00.1
08	161 01.2	+02.6	S 16 17.9	+00.0
09	176 03.8	+02.6	S 16 17.9	+00.0
10	191 06.4	+02.6	S 16 17.9	+00.1
11	206 09.0	+02.5	S 16 18.0	+00.0
12	221 11.5	+02.6	S 16 18.0	+00.0
13	236 14.1	+02.6	S 16 18.0	+00.1
14	251 16.7	+02.6	S 16 18.1	+00.0
15	266 19.3	+02.5	S 16 18.1	+00.0
16	281 21.8	+02.6	S 16 18.1	+00.1
17	296 24.4	+02.6	S 16 18.2	+00.0
18	311 27.0	+02.6	S 16 18.2	+00.0
19	326 29.6	+02.5	S 16 18.2	+00.1
20	341 32.1	+02.6	S 16 18.3	+00.0
21	356 34.7	+02.6	S 16 18.3	+00.0
22	11 37.3	+02.6	S 16 18.3	+00.1
23	26 39.9	+02.5	S 16 18.4	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 21:13

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2022 September 29 Thursday (day 272 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	182 22.6	+00.2	S 02 19.1	+01.0
01	197 22.8	+00.2	S 02 20.1	+01.0
02	212 23.0	+00.2	S 02 21.1	+01.0
03	227 23.2	+00.3	S 02 22.1	+00.9
04	242 23.5	+00.2	S 02 23.0	+01.0
05	257 23.7	+00.2	S 02 24.0	+01.0
06	272 23.9	+00.2	S 02 25.0	+01.0
07	287 24.1	+00.2	S 02 26.0	+00.9
08	302 24.3	+00.2	S 02 26.9	+01.0
09	317 24.5	+00.2	S 02 27.9	+01.0
10	332 24.7	+00.2	S 02 28.9	+00.9
11	347 24.9	+00.2	S 02 29.8	+01.0
12	2 25.1	+00.2	S 02 30.8	+01.0
13	17 25.3	+00.2	S 02 31.8	+01.0
14	32 25.5	+00.2	S 02 32.8	+00.9
15	47 25.7	+00.2	S 02 33.7	+01.0
16	62 25.9	+00.2	S 02 34.7	+01.0
17	77 26.1	+00.3	S 02 35.7	+00.9
18	92 26.4	+00.2	S 02 36.6	+01.0
19	107 26.6	+00.2	S 02 37.6	+01.0
20	122 26.8	+00.2	S 02 38.6	+01.0
21	137 27.0	+00.2	S 02 39.6	+00.9
22	152 27.2	+00.2	S 02 40.5	+01.0
23	167 27.4	+00.2	S 02 41.5	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	175°	174°	174°	174°	174°	174°

Greenwich Culmination Time: 11:50

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	187 32.5	−00.4	N 01 28.3	−01.3
01	202 32.1	−00.4	N 01 27.0	−01.2
02	217 31.7	−00.4	N 01 25.8	−01.3
03	232 31.3	−00.3	N 01 24.5	−01.2
04	247 31.0	−00.4	N 01 23.3	−01.3
05	262 30.6	−00.4	N 01 22.0	−01.2
06	277 30.2	−00.4	N 01 20.8	−01.3
07	292 29.8	−00.4	N 01 19.5	−01.2
08	307 29.4	−00.4	N 01 18.3	−01.3
09	322 29.0	−00.4	N 01 17.0	−01.2
10	337 28.6	−00.4	N 01 15.8	−01.3
11	352 28.2	−00.4	N 01 14.5	−01.2
12	7 27.8	−00.4	N 01 13.3	−01.3
13	22 27.4	−00.4	N 01 12.0	−01.2
14	37 27.0	−00.4	N 01 10.8	−01.3
15	52 26.6	−00.3	N 01 09.5	−01.2
16	67 26.3	−00.4	N 01 08.3	−01.3
17	82 25.9	−00.4	N 01 07.0	−01.2
18	97 25.5	−00.4	N 01 05.8	−01.3
19	112 25.1	−00.4	N 01 04.5	−01.2
20	127 24.7	−00.4	N 01 03.3	−01.3
21	142 24.3	−00.4	N 01 02.0	−01.2
22	157 23.9	−00.4	N 01 00.8	−01.3
23	172 23.5	−00.4	N 00 59.5	−01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	180°	180°	179°	179°	179°	179°

Greenwich Culmination Time: 11:30

Moon

A: 11%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	146 14.4	−30.5	S 16 02.5	+13.1
01	160 43.9	−30.5	S 16 15.6	+13.0
02	175 13.4	−30.7	S 16 28.6	+12.9
03	189 42.7	−30.7	S 16 41.5	+12.8
04	204 12.0	−30.8	S 16 54.3	+12.7
05	218 41.2	−30.9	S 17 07.0	+12.7
06	233 10.3	−31.0	S 17 19.7	+12.6
07	247 39.3	−31.1	S 17 32.3	+12.4
08	262 08.2	−31.2	S 17 44.7	+12.4
09	276 37.0	−31.3	S 17 57.1	+12.3
10	291 05.7	−31.4	S 18 09.4	+12.2
11	305 34.3	−31.5	S 18 21.6	+12.2
12	320 02.8	−31.5	S 18 33.8	+12.0
13	334 31.3	−31.7	S 18 45.8	+11.9
14	348 59.6	−31.8	S 18 57.7	+11.8
15	3 27.8	−31.8	S 19 09.5	+11.7
16	17 56.0	−32.0	S 19 21.2	+11.7
17	32 24.0	−32.1	S 19 32.9	+11.5
18	46 51.9	−32.1	S 19 44.4	+11.4
19	61 19.8	−32.3	S 19 55.8	+11.3
20	75 47.5	−32.3	S 20 07.1	+11.2
21	90 15.2	−32.5	S 20 18.3	+11.1
22	104 42.7	−32.5	S 20 29.4	+10.9
23	119 10.2	−32.7	S 20 40.3	+10.9

UT	02	06	10	14	18	22
SD	15′8	15′9	15′9	15′9	15′9	15′9
HP	58′1	58′2	58′2	58′3	58′4	58′4
SHA	137°	135°	133°	131°	128°	126°

Greenwich Culmination Time: 14:45

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	289 13.9	+01.5	N 22 18.9	+00.2
01	304 15.4	+01.5	N 22 19.1	+00.1
02	319 16.9	+01.5	N 22 19.2	+00.1
03	334 18.4	+01.5	N 22 19.3	+00.2
04	349 19.9	+01.5	N 22 19.5	+00.1
05	4 21.4	+01.5	N 22 19.6	+00.2
06	19 22.9	+01.5	N 22 19.8	+00.1
07	34 24.4	+01.5	N 22 19.9	+00.1
08	49 25.9	+01.5	N 22 20.0	+00.2
09	64 27.4	+01.5	N 22 20.2	+00.1
10	79 28.9	+01.6	N 22 20.3	+00.2
11	94 30.5	+01.5	N 22 20.5	+00.1
12	109 32.0	+01.5	N 22 20.6	+00.1
13	124 33.5	+01.5	N 22 20.7	+00.2
14	139 35.0	+01.5	N 22 20.9	+00.1
15	154 36.5	+01.5	N 22 21.0	+00.2
16	169 38.0	+01.5	N 22 21.2	+00.1
17	184 39.5	+01.5	N 22 21.3	+00.1
18	199 41.0	+01.5	N 22 21.4	+00.2
19	214 42.5	+01.6	N 22 21.6	+00.1
20	229 44.1	+01.5	N 22 21.7	+00.1
21	244 45.6	+01.5	N 22 21.8	+00.2
22	259 47.1	+01.5	N 22 22.0	+00.1
23	274 48.6	+01.5	N 22 22.1	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	281°	281°	281°	281°	281°	281°

Greenwich Culmination Time: 04:42

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	3 58.3	+02.8	S 00 08.1	+00.2
01	19 01.1	+02.8	S 00 08.3	+00.1
02	34 03.9	+02.7	S 00 08.4	+00.1
03	49 06.6	+02.8	S 00 08.5	+00.2
04	64 09.4	+02.8	S 00 08.7	+00.1
05	79 12.2	+02.8	S 00 08.8	+00.1
06	94 15.0	+02.7	S 00 08.9	+00.2
07	109 17.7	+02.8	S 00 09.1	+00.1
08	124 20.5	+02.8	S 00 09.2	+00.1
09	139 23.3	+02.7	S 00 09.3	+00.2
10	154 26.0	+02.8	S 00 09.5	+00.1
11	169 28.8	+02.8	S 00 09.6	+00.1
12	184 31.6	+02.7	S 00 09.7	+00.2
13	199 34.3	+02.8	S 00 09.9	+00.1
14	214 37.1	+02.8	S 00 10.0	+00.1
15	229 39.9	+02.8	S 00 10.1	+00.2
16	244 42.7	+02.7	S 00 10.3	+00.1
17	259 45.4	+02.8	S 00 10.4	+00.1
18	274 48.2	+02.8	S 00 10.5	+00.1
19	289 51.0	+02.7	S 00 10.6	+00.2
20	304 53.7	+02.8	S 00 10.8	+00.1
21	319 56.5	+02.8	S 00 10.9	+00.1
22	334 59.3	+02.8	S 00 11.0	+00.2
23	350 02.1	+02.7	S 00 11.2	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	356°	356°	356°	356°	356°

Greenwich Culmination Time: 23:39

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	45 48.9	+02.6	S 16 21.4	+00.1
01	60 51.5	+02.5	S 16 21.5	+00.0
02	75 54.0	+02.6	S 16 21.5	+00.0
03	90 56.6	+02.6	S 16 21.5	+00.1
04	105 59.2	+02.5	S 16 21.6	+00.0
05	121 01.7	+02.6	S 16 21.6	+00.0
06	136 04.3	+02.5	S 16 21.6	+00.0
07	151 06.8	+02.6	S 16 21.6	+00.1
08	166 09.4	+02.6	S 16 21.7	+00.0
09	181 12.0	+02.5	S 16 21.7	+00.0
10	196 14.5	+02.6	S 16 21.7	+00.1
11	211 17.1	+02.5	S 16 21.8	+00.0
12	226 19.6	+02.6	S 16 21.8	+00.0
13	241 22.2	+02.6	S 16 21.8	+00.1
14	256 24.8	+02.5	S 16 21.9	+00.0
15	271 27.3	+02.6	S 16 21.9	+00.0
16	286 29.9	+02.5	S 16 21.9	+00.0
17	301 32.4	+02.6	S 16 21.9	+00.1
18	316 35.0	+02.6	S 16 22.0	+00.0
19	331 37.6	+02.5	S 16 22.0	+00.0
20	346 40.1	+02.6	S 16 22.0	+00.0
21	1 42.7	+02.5	S 16 22.0	+00.1
22	16 45.2	+02.6	S 16 22.1	+00.0
23	31 47.8	+02.5	S 16 22.1	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 20:53

2022 September 26 Monday (day 269 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	182 07.4	+00.2	S 01 09.1	+00.9
01	197 07.6	+00.2	S 01 10.0	+01.0
02	212 07.8	+00.3	S 01 11.0	+01.0
03	227 08.1	+00.2	S 01 12.0	+01.0
04	242 08.3	+00.2	S 01 13.0	+00.9
05	257 08.5	+00.2	S 01 13.9	+01.0
06	272 08.7	+00.2	S 01 14.9	+01.0
07	287 08.9	+00.2	S 01 15.9	+01.0
08	302 09.1	+00.2	S 01 16.9	+00.9
09	317 09.3	+00.2	S 01 17.8	+01.0
10	332 09.5	+00.3	S 01 18.8	+01.0
11	347 09.8	+00.2	S 01 19.8	+01.0
12	2 10.0	+00.2	S 01 20.8	+00.9
13	17 10.2	+00.2	S 01 21.7	+01.0
14	32 10.4	+00.2	S 01 22.7	+01.0
15	47 10.6	+00.2	S 01 23.7	+00.9
16	62 10.8	+00.2	S 01 24.6	+01.0
17	77 11.0	+00.3	S 01 25.6	+01.0
18	92 11.3	+00.2	S 01 26.6	+01.0
19	107 11.5	+00.2	S 01 27.6	+00.9
20	122 11.7	+00.2	S 01 28.5	+01.0
21	137 11.9	+00.2	S 01 29.5	+01.0
22	152 12.1	+00.2	S 01 30.5	+01.0
23	167 12.3	+00.2	S 01 31.5	+00.9

UT	02	06	10	14	18	22
SD	15′9	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	177°	177°	177°	177°	177°	177°

Greenwich Culmination Time: 11:51

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	188 00.9	−00.4	N 02 57.8	−01.3
01	203 00.5	−00.4	N 02 56.5	−01.2
02	218 00.1	−00.4	N 02 55.3	−01.3
03	232 59.7	−00.4	N 02 54.0	−01.2
04	247 59.3	−00.4	N 02 52.8	−01.2
05	262 58.9	−00.4	N 02 51.6	−01.3
06	277 58.5	−00.4	N 02 50.3	−01.2
07	292 58.1	−00.4	N 02 49.1	−01.2
08	307 57.7	−00.4	N 02 47.9	−01.3
09	322 57.3	−00.4	N 02 46.6	−01.2
10	337 56.9	−00.4	N 02 45.4	−01.3
11	352 56.5	−00.4	N 02 44.1	−01.2
12	7 56.1	−00.3	N 02 42.9	−01.2
13	22 55.8	−00.4	N 02 41.7	−01.3
14	37 55.4	−00.4	N 02 40.4	−01.2
15	52 55.0	−00.4	N 02 39.2	−01.3
16	67 54.6	−00.4	N 02 37.9	−01.2
17	82 54.2	−00.4	N 02 36.7	−01.2
18	97 53.8	−00.4	N 02 35.5	−01.3
19	112 53.4	−00.4	N 02 34.2	−01.2
20	127 53.0	−00.4	N 02 33.0	−01.3
21	142 52.6	−00.4	N 02 31.7	−01.2
22	157 52.2	−00.4	N 02 30.5	−01.2
23	172 51.8	−00.4	N 02 29.3	−01.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	183°	183°	183°	183°	182°	182°

Greenwich Culmination Time: 11:28

Moon

A: 02%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 50.7	−26.5	N 01 28.6	−15.0
01	194 24.2	−26.5	N 01 13.6	−14.9
02	208 57.7	−26.5	N 00 58.7	−15.1
03	223 31.2	−26.6	N 00 43.6	−15.0
04	238 04.6	−26.6	N 00 28.6	−15.0
05	252 38.0	−26.6	N 00 13.6	−15.0
06	267 11.4	−26.6	S 00 01.4	+15.1
07	281 44.8	−26.6	S 00 16.5	+15.1
08	296 18.2	−26.7	S 00 31.6	+15.0
09	310 51.5	−26.7	S 00 46.6	+15.1
10	325 24.8	−26.7	S 01 01.7	+15.1
11	339 58.1	−26.8	S 01 16.8	+15.1
12	354 31.3	−26.7	S 01 31.9	+15.1
13	9 04.6	−26.8	S 01 47.0	+15.1
14	23 37.8	−26.9	S 02 02.1	+15.2
15	38 10.9	−26.9	S 02 17.3	+15.1
16	52 44.0	−26.9	S 02 32.4	+15.1
17	67 17.1	−26.9	S 02 47.5	+15.1
18	81 50.2	−27.0	S 03 02.6	+15.1
19	96 23.2	−27.0	S 03 17.7	+15.1
20	110 56.2	−27.0	S 03 32.8	+15.1
21	125 29.2	−27.1	S 03 47.9	+15.1
22	140 02.1	−27.2	S 04 03.0	+15.1
23	154 34.9	−27.1	S 04 18.1	+15.1

UT	02	06	10	14	18	22
SD	15′4	15′5	15′5	15′5	15′5	15′6
HP	56′6	56′7	56′8	56′9	57′0	57′1
SHA	174°	172°	170°	168°	166°	164°

Greenwich Culmination Time: 12:22

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	287 28.4	+01.4	N 22 08.5	+00.2
01	302 29.8	+01.5	N 22 08.7	+00.1
02	317 31.3	+01.4	N 22 08.8	+00.2
03	332 32.7	+01.5	N 22 09.0	+00.1
04	347 34.2	+01.4	N 22 09.1	+00.2
05	2 35.6	+01.4	N 22 09.3	+00.1
06	17 37.0	+01.5	N 22 09.4	+00.2
07	32 38.5	+01.4	N 22 09.6	+00.1
08	47 39.9	+01.4	N 22 09.7	+00.2
09	62 41.3	+01.5	N 22 09.9	+00.1
10	77 42.8	+01.4	N 22 10.0	+00.2
11	92 44.2	+01.5	N 22 10.2	+00.1
12	107 45.7	+01.4	N 22 10.3	+00.1
13	122 47.1	+01.5	N 22 10.4	+00.2
14	137 48.6	+01.4	N 22 10.6	+00.1
15	152 50.0	+01.5	N 22 10.7	+00.2
16	167 51.5	+01.4	N 22 10.9	+00.1
17	182 52.9	+01.5	N 22 11.0	+00.2
18	197 54.4	+01.4	N 22 11.2	+00.1
19	212 55.8	+01.5	N 22 11.3	+00.2
20	227 57.3	+01.4	N 22 11.5	+00.1
21	242 58.7	+01.5	N 22 11.6	+00.2
22	258 00.2	+01.4	N 22 11.8	+00.1
23	273 01.6	+01.5	N 22 11.9	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	283°	283°	283°	282°	282°	282°

Greenwich Culmination Time: 04:49

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	0 38.8	+02.8	N 00 01.5	−00.2
01	15 41.6	+02.7	N 00 01.3	−00.1
02	30 44.3	+02.8	N 00 01.2	−00.1
03	45 47.1	+02.8	N 00 01.1	−00.2
04	60 49.9	+02.7	N 00 00.9	−00.1
05	75 52.6	+02.8	N 00 00.8	−00.1
06	90 55.4	+02.8	N 00 00.7	−00.2
07	105 58.2	+02.8	N 00 00.5	−00.1
08	121 01.0	+02.7	N 00 00.4	−00.1
09	136 03.7	+02.8	N 00 00.3	−00.2
10	151 06.5	+02.8	N 00 00.1	−00.1
11	166 09.3	+02.7	S 00 00.0	−00.1
12	181 12.0	+02.8	S 00 00.1	+00.2
13	196 14.8	+02.8	S 00 00.3	+00.1
14	211 17.6	+02.8	S 00 00.4	+00.1
15	226 20.4	+02.7	S 00 00.5	+00.2
16	241 23.1	+02.8	S 00 00.7	+00.1
17	256 25.9	+02.8	S 00 00.8	+00.1
18	271 28.7	+02.7	S 00 00.9	+00.2
19	286 31.4	+02.8	S 00 01.1	+00.1
20	301 34.2	+02.8	S 00 01.2	+00.1
21	316 37.0	+02.8	S 00 01.3	+00.2
22	331 39.8	+02.7	S 00 01.5	+00.1
23	346 42.5	+02.8	S 00 01.6	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	356°	356°	356°	356°	356°

Greenwich Culmination Time: 23:53

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	42 44.2	+02.6	S 16 19.2	+00.0
01	57 46.8	+02.5	S 16 19.2	+00.1
02	72 49.3	+02.6	S 16 19.3	+00.0
03	87 51.9	+02.6	S 16 19.3	+00.0
04	102 54.5	+02.5	S 16 19.3	+00.1
05	117 57.0	+02.6	S 16 19.4	+00.0
06	132 59.6	+02.6	S 16 19.4	+00.0
07	148 02.2	+02.5	S 16 19.4	+00.1
08	163 04.7	+02.6	S 16 19.5	+00.0
09	178 07.3	+02.6	S 16 19.5	+00.0
10	193 09.9	+02.6	S 16 19.5	+00.1
11	208 12.5	+02.5	S 16 19.6	+00.0
12	223 15.0	+02.6	S 16 19.6	+00.0
13	238 17.6	+02.6	S 16 19.6	+00.1
14	253 20.2	+02.5	S 16 19.7	+00.0
15	268 22.7	+02.6	S 16 19.7	+00.0
16	283 25.3	+02.6	S 16 19.7	+00.1
17	298 27.9	+02.5	S 16 19.8	+00.0
18	313 30.4	+02.6	S 16 19.8	+00.0
19	328 33.0	+02.6	S 16 19.8	+00.1
20	343 35.6	+02.5	S 16 19.9	+00.0
21	358 38.1	+02.6	S 16 19.9	+00.0
22	13 40.7	+02.6	S 16 19.9	+00.1
23	28 43.3	+02.5	S 16 20.0	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 21:05

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2022 September 27 Tuesday (day 270 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	182 12.5	+00.2	S 01 32.4	+01.0
01	197 12.7	+00.3	S 01 33.4	+01.0
02	212 13.0	+00.2	S 01 34.4	+01.0
03	227 13.2	+00.2	S 01 35.4	+00.9
04	242 13.4	+00.2	S 01 36.3	+01.0
05	257 13.6	+00.2	S 01 37.3	+01.0
06	272 13.8	+00.2	S 01 38.3	+01.0
07	287 14.0	+00.2	S 01 39.3	+00.9
08	302 14.2	+00.2	S 01 40.2	+01.0
09	317 14.4	+00.3	S 01 41.2	+01.0
10	332 14.7	+00.2	S 01 42.2	+00.9
11	347 14.9	+00.2	S 01 43.1	+01.0
12	2 15.1	+00.2	S 01 44.1	+01.0
13	17 15.3	+00.2	S 01 45.1	+01.0
14	32 15.5	+00.2	S 01 46.1	+00.9
15	47 15.7	+00.2	S 01 47.0	+01.0
16	62 15.9	+00.2	S 01 48.0	+01.0
17	77 16.1	+00.2	S 01 49.0	+01.0
18	92 16.3	+00.3	S 01 50.0	+00.9
19	107 16.6	+00.2	S 01 50.9	+01.0
20	122 16.8	+00.2	S 01 51.9	+01.0
21	137 17.0	+00.2	S 01 52.9	+01.0
22	152 17.2	+00.2	S 01 53.9	+00.9
23	167 17.4	+00.2	S 01 54.8	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	176°	176°	176°	176°	176°	176°

Greenwich Culmination Time: 11:50

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	187 51.4	-00.4	N 02 28.0	-01.2
01	202 51.0	-00.4	N 02 26.8	-01.3
02	217 50.6	-00.4	N 02 25.5	-01.2
03	232 50.2	-00.4	N 02 24.3	-01.3
04	247 49.8	-00.4	N 02 23.0	-01.2
05	262 49.4	-00.4	N 02 21.8	-01.2
06	277 49.0	-00.4	N 02 20.6	-01.3
07	292 48.6	-00.4	N 02 19.3	-01.2
08	307 48.2	-00.3	N 02 18.1	-01.3
09	322 47.9	-00.4	N 02 16.8	-01.2
10	337 47.5	-00.4	N 02 15.6	-01.3
11	352 47.1	-00.4	N 02 14.3	-01.2
12	7 46.7	-00.4	N 02 13.1	-01.2
13	22 46.3	-00.4	N 02 11.9	-01.3
14	37 45.9	-00.4	N 02 10.6	-01.2
15	52 45.5	-00.4	N 02 09.4	-01.3
16	67 45.1	-00.4	N 02 08.1	-01.2
17	82 44.7	-00.4	N 02 06.9	-01.3
18	97 44.3	-00.4	N 02 05.6	-01.2
19	112 43.9	-00.4	N 02 04.4	-01.2
20	127 43.5	-00.4	N 02 03.2	-01.3
21	142 43.1	-00.4	N 02 01.9	-01.2
22	157 42.7	-00.4	N 02 00.7	-01.3
23	172 42.3	-00.4	N 01 59.4	-01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	182°	182°	182°	181°	181°	181°

Greenwich Culmination Time: 11:28

Moon

A: 05%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	169 07.8	-27.3	S 04 33.2	+15.1
01	183 40.5	-27.2	S 04 48.3	+15.1
02	198 13.3	-27.3	S 05 03.4	+15.0
03	212 46.0	-27.4	S 05 18.4	+15.1
04	227 18.6	-27.4	S 05 33.5	+15.0
05	241 51.2	-27.4	S 05 48.5	+15.0
06	256 23.8	-27.5	S 06 03.5	+15.0
07	270 56.3	-27.5	S 06 18.5	+15.0
08	285 28.8	-27.6	S 06 33.5	+15.0
09	300 01.2	-27.7	S 06 48.5	+14.9
10	314 33.5	-27.7	S 07 03.4	+14.9
11	329 05.8	-27.7	S 07 18.3	+14.9
12	343 38.1	-27.8	S 07 33.2	+14.9
13	358 10.3	-27.9	S 07 48.1	+14.8
14	12 42.4	-27.9	S 08 02.9	+14.9
15	27 14.5	-28.0	S 08 17.8	+14.7
16	41 46.5	-28.0	S 08 32.5	+14.8
17	56 18.5	-28.1	S 08 47.3	+14.7
18	70 50.4	-28.2	S 09 02.0	+14.7
19	85 22.2	-28.2	S 09 16.7	+14.7
20	99 54.0	-28.3	S 09 31.4	+14.6
21	114 25.7	-28.3	S 09 46.0	+14.6
22	128 57.4	-28.4	S 10 00.6	+14.6
23	143 29.0	-28.5	S 10 15.2	+14.5

UT	02	06	10	14	18	22
SD	15′6	15′6	15′6	15′6	15′7	15′7
HP	57′2	57′3	57′3	57′4	57′5	57′6
SHA	162°	160°	158°	156°	154°	152°

Greenwich Culmination Time: 13:07

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	288 03.1	+01.4	N 22 12.1	+00.1
01	303 04.5	+01.5	N 22 12.2	+00.2
02	318 06.0	+01.4	N 22 12.4	+00.1
03	333 07.4	+01.5	N 22 12.5	+00.1
04	348 08.9	+01.5	N 22 12.6	+00.2
05	3 10.4	+01.4	N 22 12.8	+00.1
06	18 11.8	+01.5	N 22 12.9	+00.2
07	33 13.3	+01.4	N 22 13.1	+00.1
08	48 14.7	+01.5	N 22 13.2	+00.2
09	63 16.2	+01.5	N 22 13.4	+00.1
10	78 17.7	+01.4	N 22 13.5	+00.2
11	93 19.1	+01.5	N 22 13.7	+00.1
12	108 20.6	+01.5	N 22 13.8	+00.1
13	123 22.1	+01.4	N 22 13.9	+00.2
14	138 23.5	+01.5	N 22 14.1	+00.1
15	153 25.0	+01.5	N 22 14.2	+00.2
16	168 26.5	+01.4	N 22 14.4	+00.1
17	183 27.9	+01.5	N 22 14.5	+00.2
18	198 29.4	+01.5	N 22 14.7	+00.1
19	213 30.9	+01.4	N 22 14.8	+00.2
20	228 32.3	+01.5	N 22 15.0	+00.1
21	243 33.8	+01.5	N 22 15.1	+00.1
22	258 35.3	+01.5	N 22 15.2	+00.2
23	273 36.8	+01.4	N 22 15.4	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	282°	282°	282°	282°	282°	282°

Greenwich Culmination Time: 04:47

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	1 45.3	+02.8	S 00 01.7	+00.2
01	16 48.1	+02.7	S 00 01.9	+00.1
02	31 50.8	+02.8	S 00 02.0	+00.1
03	46 53.6	+02.8	S 00 02.1	+00.2
04	61 56.4	+02.8	S 00 02.3	+00.1
05	76 59.2	+02.7	S 00 02.4	+00.1
06	92 01.9	+02.8	S 00 02.5	+00.2
07	107 04.7	+02.8	S 00 02.7	+00.1
08	122 07.5	+02.7	S 00 02.8	+00.1
09	137 10.2	+02.8	S 00 02.9	+00.2
10	152 13.0	+02.8	S 00 03.1	+00.1
11	167 15.8	+02.8	S 00 03.2	+00.1
12	182 18.6	+02.7	S 00 03.3	+00.2
13	197 21.3	+02.8	S 00 03.5	+00.1
14	212 24.1	+02.8	S 00 03.6	+00.1
15	227 26.9	+02.7	S 00 03.7	+00.2
16	242 29.6	+02.8	S 00 03.9	+00.1
17	257 32.4	+02.8	S 00 04.0	+00.1
18	272 35.2	+02.8	S 00 04.1	+00.2
19	287 38.0	+02.7	S 00 04.3	+00.1
20	302 40.7	+02.8	S 00 04.4	+00.1
21	317 43.5	+02.8	S 00 04.5	+00.2
22	332 46.3	+02.7	S 00 04.7	+00.1
23	347 49.0	+02.8	S 00 04.8	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	356°	356°	356°	356°	356°

Greenwich Culmination Time: 23:48

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	43 45.8	+02.6	S 16 20.0	+00.0
01	58 48.4	+02.6	S 16 20.0	+00.0
02	73 51.0	+02.5	S 16 20.0	+00.1
03	88 53.5	+02.6	S 16 20.1	+00.0
04	103 56.1	+02.6	S 16 20.1	+00.0
05	118 58.7	+02.6	S 16 20.1	+00.1
06	134 01.3	+02.5	S 16 20.2	+00.0
07	149 03.8	+02.6	S 16 20.2	+00.0
08	164 06.4	+02.5	S 16 20.2	+00.1
09	179 08.9	+02.6	S 16 20.3	+00.0
10	194 11.5	+02.6	S 16 20.3	+00.0
11	209 14.1	+02.5	S 16 20.3	+00.1
12	224 16.6	+02.6	S 16 20.4	+00.0
13	239 19.2	+02.6	S 16 20.4	+00.0
14	254 21.8	+02.5	S 16 20.4	+00.1
15	269 24.3	+02.6	S 16 20.5	+00.0
16	284 26.9	+02.6	S 16 20.5	+00.0
17	299 29.5	+02.5	S 16 20.5	+00.0
18	314 32.0	+02.6	S 16 20.5	+00.1
19	329 34.6	+02.6	S 16 20.6	+00.0
20	344 37.2	+02.5	S 16 20.6	+00.0
21	359 39.7	+02.6	S 16 20.6	+00.1
22	14 42.3	+02.6	S 16 20.7	+00.0
23	29 44.9	+02.5	S 16 20.7	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 21:01

2022 September 28 Wednesday (day 271 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	182 17.6	+00.2	S 01 55.8	+01.0
01	197 17.8	+00.2	S 01 56.8	+00.9
02	212 18.0	+00.2	S 01 57.7	+01.0
03	227 18.2	+00.2	S 01 58.7	+01.0
04	242 18.4	+00.3	S 01 59.7	+01.0
05	257 18.7	+00.2	S 02 00.7	+00.9
06	272 18.9	+00.2	S 02 01.6	+01.0
07	287 19.1	+00.2	S 02 02.6	+01.0
08	302 19.3	+00.2	S 02 03.6	+01.0
09	317 19.5	+00.2	S 02 04.6	+00.9
10	332 19.7	+00.2	S 02 05.5	+01.0
11	347 19.9	+00.2	S 02 06.5	+01.0
12	2 20.1	+00.2	S 02 07.5	+00.9
13	17 20.3	+00.2	S 02 08.4	+01.0
14	32 20.5	+00.2	S 02 09.4	+01.0
15	47 20.7	+00.3	S 02 10.4	+01.0
16	62 21.0	+00.2	S 02 11.4	+00.9
17	77 21.2	+00.2	S 02 12.3	+01.0
18	92 21.4	+00.2	S 02 13.3	+01.0
19	107 21.6	+00.2	S 02 14.3	+01.0
20	122 21.8	+00.2	S 02 15.3	+00.9
21	137 22.0	+00.2	S 02 16.2	+01.0
22	152 22.2	+00.2	S 02 17.2	+01.0
23	167 22.4	+00.2	S 02 18.2	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	175°	175°	175°	175°	175°	175°

Greenwich Culmination Time: 11:50

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	187 41.9	-00.3	N 01 58.2	-01.3
01	202 41.6	-00.4	N 01 56.9	-01.2
02	217 41.2	-00.4	N 01 55.7	-01.3
03	232 40.8	-00.4	N 01 54.4	-01.2
04	247 40.4	-00.4	N 01 53.2	-01.2
05	262 40.0	-00.4	N 01 52.0	-01.3
06	277 39.6	-00.4	N 01 50.7	-01.2
07	292 39.2	-00.4	N 01 49.5	-01.3
08	307 38.8	-00.4	N 01 48.2	-01.2
09	322 38.4	-00.4	N 01 47.0	-01.3
10	337 38.0	-00.4	N 01 45.7	-01.2
11	352 37.6	-00.4	N 01 44.5	-01.3
12	7 37.2	-00.4	N 01 43.2	-01.2
13	22 36.8	-00.4	N 01 42.0	-01.3
14	37 36.4	-00.3	N 01 40.7	-01.2
15	52 36.1	-00.4	N 01 39.5	-01.3
16	67 35.7	-00.4	N 01 38.2	-01.2
17	82 35.3	-00.4	N 01 37.0	-01.3
18	97 34.9	-00.4	N 01 35.7	-01.2
19	112 34.5	-00.4	N 01 34.5	-01.2
20	127 34.1	-00.4	N 01 33.3	-01.3
21	142 33.7	-00.4	N 01 32.0	-01.2
22	157 33.3	-00.4	N 01 30.8	-01.3
23	172 32.9	-00.4	N 01 29.5	-01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	181°	181°	180°	180°	180°	180°

Greenwich Culmination Time: 11:29

Moon

A: 08%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	158 00.5	-28.6	S 10 29.7	+14.5
01	172 31.9	-28.6	S 10 44.2	+14.4
02	187 03.3	-28.7	S 10 58.6	+14.4
03	201 34.6	-28.7	S 11 13.0	+14.3
04	216 05.9	-28.9	S 11 27.3	+14.3
05	230 37.0	-28.9	S 11 41.6	+14.3
06	245 08.1	-29.0	S 11 55.9	+14.2
07	259 39.1	-29.0	S 12 10.1	+14.1
08	274 10.1	-29.1	S 12 24.2	+14.1
09	288 41.0	-29.2	S 12 38.3	+14.1
10	303 11.8	-29.3	S 12 52.4	+14.0
11	317 42.5	-29.4	S 13 06.4	+13.9
12	332 13.1	-29.4	S 13 20.3	+13.9
13	346 43.7	-29.5	S 13 34.2	+13.8
14	1 14.2	-29.6	S 13 48.0	+13.7
15	15 44.6	-29.7	S 14 01.7	+13.7
16	30 14.9	-29.8	S 14 15.4	+13.7
17	44 45.1	-29.8	S 14 29.1	+13.5
18	59 15.3	-30.0	S 14 42.6	+13.5
19	73 45.3	-30.0	S 14 56.1	+13.5
20	88 15.3	-30.1	S 15 09.6	+13.3
21	102 45.2	-30.2	S 15 22.9	+13.3
22	117 15.0	-30.3	S 15 36.2	+13.2
23	131 44.7	-30.3	S 15 49.4	+13.1

UT	02	06	10	14	18	22
SD	15′7	15′7	15′8	15′8	15′8	15′8
HP	57′7	57′8	57′8	57′8	57′9	58′0
SHA	150°	148°	146°	144°	142°	140°

Greenwich Culmination Time: 13:54

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	288 38.2	+01.5	N 22 15.5	+00.2
01	303 39.7	+01.5	N 22 15.7	+00.1
02	318 41.2	+01.5	N 22 15.8	+00.2
03	333 42.7	+01.5	N 22 16.0	+00.1
04	348 44.2	+01.4	N 22 16.1	+00.1
05	3 45.6	+01.5	N 22 16.2	+00.2
06	18 47.1	+01.5	N 22 16.4	+00.1
07	33 48.6	+01.5	N 22 16.5	+00.2
08	48 50.1	+01.5	N 22 16.7	+00.1
09	63 51.6	+01.4	N 22 16.8	+00.2
10	78 53.0	+01.5	N 22 17.0	+00.1
11	93 54.5	+01.5	N 22 17.1	+00.1
12	108 56.0	+01.5	N 22 17.2	+00.2
13	123 57.5	+01.5	N 22 17.4	+00.1
14	138 59.0	+01.5	N 22 17.5	+00.2
15	154 00.5	+01.5	N 22 17.7	+00.1
16	169 02.0	+01.5	N 22 17.8	+00.1
17	184 03.5	+01.5	N 22 17.9	+00.2
18	199 05.0	+01.4	N 22 18.1	+00.1
19	214 06.4	+01.5	N 22 18.2	+00.2
20	229 07.9	+01.5	N 22 18.4	+00.1
21	244 09.4	+01.5	N 22 18.5	+00.1
22	259 10.9	+01.5	N 22 18.6	+00.2
23	274 12.4	+01.5	N 22 18.8	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	282°	282°	282°	282°	282°	282°

Greenwich Culmination Time: 04:44

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	2 51.8	+02.8	S 00 04.9	+00.2
01	17 54.6	+02.8	S 00 05.1	+00.1
02	32 57.4	+02.7	S 00 05.2	+00.1
03	48 00.1	+02.8	S 00 05.3	+00.2
04	63 02.9	+02.8	S 00 05.5	+00.1
05	78 05.7	+02.7	S 00 05.6	+00.1
06	93 08.4	+02.8	S 00 05.7	+00.2
07	108 11.2	+02.8	S 00 05.9	+00.1
08	123 14.0	+02.8	S 00 06.0	+00.1
09	138 16.8	+02.7	S 00 06.1	+00.2
10	153 19.5	+02.8	S 00 06.3	+00.1
11	168 22.3	+02.8	S 00 06.4	+00.1
12	183 25.1	+02.7	S 00 06.5	+00.2
13	198 27.8	+02.8	S 00 06.7	+00.1
14	213 30.6	+02.8	S 00 06.8	+00.1
15	228 33.4	+02.8	S 00 06.9	+00.2
16	243 36.2	+02.7	S 00 07.1	+00.1
17	258 38.9	+02.8	S 00 07.2	+00.1
18	273 41.7	+02.8	S 00 07.3	+00.2
19	288 44.5	+02.7	S 00 07.5	+00.1
20	303 47.2	+02.8	S 00 07.6	+00.1
21	318 50.0	+02.8	S 00 07.7	+00.2
22	333 52.8	+02.8	S 00 07.9	+00.1
23	348 55.6	+02.7	S 00 08.0	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	356°	356°	356°	356°	356°

Greenwich Culmination Time: 23:44

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	44 47.4	+02.6	S 16 20.7	+00.1
01	59 50.0	+02.6	S 16 20.8	+00.0
02	74 52.6	+02.5	S 16 20.8	+00.0
03	89 55.1	+02.6	S 16 20.8	+00.1
04	104 57.7	+02.5	S 16 20.9	+00.0
05	120 00.2	+02.6	S 16 20.9	+00.0
06	135 02.8	+02.6	S 16 20.9	+00.0
07	150 05.4	+02.5	S 16 20.9	+00.1
08	165 07.9	+02.6	S 16 21.0	+00.0
09	180 10.5	+02.6	S 16 21.0	+00.0
10	195 13.1	+02.5	S 16 21.0	+00.1
11	210 15.6	+02.6	S 16 21.1	+00.0
12	225 18.2	+02.6	S 16 21.1	+00.0
13	240 20.8	+02.5	S 16 21.1	+00.1
14	255 23.3	+02.6	S 16 21.2	+00.0
15	270 25.9	+02.5	S 16 21.2	+00.0
16	285 28.4	+02.6	S 16 21.2	+00.0
17	300 31.0	+02.6	S 16 21.2	+00.1
18	315 33.6	+02.5	S 16 21.3	+00.0
19	330 36.1	+02.6	S 16 21.3	+00.0
20	345 38.7	+02.5	S 16 21.3	+00.1
21	0 41.2	+02.6	S 16 21.4	+00.0
22	15 43.8	+02.6	S 16 21.4	+00.0
23	30 46.4	+02.5	S 16 21.4	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 20:57

2022 October 3 Monday (day 276 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	182 42.1	+00.2	S 03 52.2	+01.0
01	197 42.3	+00.2	S 03 53.2	+01.0
02	212 42.5	+00.2	S 03 54.2	+00.9
03	227 42.7	+00.2	S 03 55.1	+01.0
04	242 42.9	+00.2	S 03 56.1	+01.0
05	257 43.1	+00.2	S 03 57.1	+00.9
06	272 43.3	+00.2	S 03 58.0	+01.0
07	287 43.5	+00.2	S 03 59.0	+01.0
08	302 43.7	+00.1	S 03 60.0	+00.9
09	317 43.8	+00.2	S 04 00.9	+01.0
10	332 44.0	+00.2	S 04 01.9	+01.0
11	347 44.2	+00.2	S 04 02.9	+00.9
12	2 44.4	+00.2	S 04 03.8	+01.0
13	17 44.6	+00.2	S 04 04.8	+01.0
14	32 44.8	+00.2	S 04 05.8	+00.9
15	47 45.0	+00.2	S 04 06.7	+01.0
16	62 45.2	+00.2	S 04 07.7	+01.0
17	77 45.4	+00.2	S 04 08.7	+00.9
18	92 45.6	+00.2	S 04 09.6	+01.0
19	107 45.8	+00.2	S 04 10.6	+01.0
20	122 46.0	+00.2	S 04 11.6	+00.9
21	137 46.2	+00.2	S 04 12.5	+01.0
22	152 46.4	+00.2	S 04 13.5	+01.0
23	167 46.6	+00.2	S 04 14.5	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	171°	171°	171°	170°	170°	170°

Greenwich Culmination Time: 11:49

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	186 55.0	-00.4	S 00 31.9	+01.3
01	201 54.6	-00.4	S 00 33.2	+01.2
02	216 54.2	-00.4	S 00 34.4	+01.3
03	231 53.8	-00.4	S 00 35.7	+01.2
04	246 53.4	-00.4	S 00 36.9	+01.3
05	261 53.0	-00.4	S 00 38.2	+01.2
06	276 52.6	-00.4	S 00 39.4	+01.3
07	291 52.2	-00.4	S 00 40.7	+01.3
08	306 51.8	-00.4	S 00 42.0	+01.2
09	321 51.4	-00.3	S 00 43.2	+01.3
10	336 51.1	-00.4	S 00 44.5	+01.2
11	351 50.7	-00.4	S 00 45.7	+01.3
12	6 50.3	-00.4	S 00 47.0	+01.2
13	21 49.9	-00.4	S 00 48.2	+01.3
14	36 49.5	-00.4	S 00 49.5	+01.2
15	51 49.1	-00.4	S 00 50.7	+01.3
16	66 48.7	-00.4	S 00 52.0	+01.2
17	81 48.3	-00.4	S 00 53.2	+01.3
18	96 47.9	-00.4	S 00 54.5	+01.3
19	111 47.5	-00.4	S 00 55.8	+01.2
20	126 47.1	-00.4	S 00 57.0	+01.3
21	141 46.7	-00.3	S 00 58.3	+01.2
22	156 46.4	-00.4	S 00 59.5	+01.3
23	171 46.0	-00.4	S 01 00.8	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	175°	175°	175°	175°	174°	174°

Greenwich Culmination Time: 11:32

Moon

A: 27%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	90 50.3	-37.4	S 27 22.9	-01.0
01	105 12.9	-37.3	S 27 21.9	-01.1
02	119 35.6	-37.4	S 27 20.8	-01.3
03	133 58.2	-37.3	S 27 19.5	-01.6
04	148 20.9	-37.3	S 27 17.9	-01.7
05	162 43.6	-37.3	S 27 16.2	-01.8
06	177 06.3	-37.3	S 27 14.4	-02.1
07	191 29.0	-37.3	S 27 12.3	-02.3
08	205 51.7	-37.3	S 27 10.0	-02.4
09	220 14.4	-37.2	S 27 07.6	-02.7
10	234 37.2	-37.2	S 27 04.9	-02.8
11	248 60.0	-37.2	S 27 02.1	-03.0
12	263 22.8	-37.1	S 26 59.1	-03.2
13	277 45.7	-37.2	S 26 55.9	-03.4
14	292 08.5	-37.0	S 26 52.5	-03.5
15	306 31.5	-37.1	S 26 49.0	-03.8
16	320 54.4	-37.0	S 26 45.2	-03.9
17	335 17.4	-37.0	S 26 41.3	-04.1
18	349 40.4	-36.9	S 26 37.2	-04.3
19	4 03.5	-36.9	S 26 32.9	-04.5
20	18 26.6	-36.8	S 26 28.4	-04.6
21	32 49.8	-36.8	S 26 23.8	-04.9
22	47 13.0	-36.7	S 26 18.9	-05.0
23	61 36.3	-36.7	S 26 13.9	-05.2

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′2	16′2	16′2
HP	59′2	59′2	59′3	59′3	59′3	59′3
SHA	078°	075°	073°	070°	067°	065°

Greenwich Culmination Time: 18:43

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	291 42.0	+01.6	N 22 31.9	+00.1
01	306 43.6	+01.6	N 22 32.0	+00.1
02	321 45.2	+01.6	N 22 32.1	+00.2
03	336 46.8	+01.6	N 22 32.3	+00.1
04	351 48.4	+01.6	N 22 32.4	+00.1
05	6 50.0	+01.6	N 22 32.5	+00.2
06	21 51.6	+01.6	N 22 32.7	+00.1
07	36 53.2	+01.6	N 22 32.8	+00.1
08	51 54.8	+01.6	N 22 32.9	+00.1
09	66 56.4	+01.6	N 22 33.0	+00.2
10	81 58.0	+01.6	N 22 33.2	+00.1
11	96 59.6	+01.6	N 22 33.3	+00.1
12	112 01.2	+01.6	N 22 33.4	+00.2
13	127 02.8	+01.6	N 22 33.6	+00.1
14	142 04.4	+01.6	N 22 33.7	+00.1
15	157 06.0	+01.6	N 22 33.8	+00.1
16	172 07.6	+01.6	N 22 33.9	+00.2
17	187 09.2	+01.6	N 22 34.1	+00.1
18	202 10.8	+01.6	N 22 34.2	+00.1
19	217 12.4	+01.6	N 22 34.3	+00.2
20	232 14.0	+01.6	N 22 34.5	+00.1
21	247 15.6	+01.6	N 22 34.6	+00.1
22	262 17.2	+01.6	N 22 34.7	+00.1
23	277 18.8	+01.6	N 22 34.8	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	280°	280°	280°	280°	280°	280°

Greenwich Culmination Time: 04:32

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	8 24.2	+02.8	S 00 20.7	+00.2
01	23 27.0	+02.7	S 00 20.9	+00.1
02	38 29.7	+02.8	S 00 21.0	+00.1
03	53 32.5	+02.8	S 00 21.1	+00.2
04	68 35.3	+02.7	S 00 21.3	+00.1
05	83 38.0	+02.8	S 00 21.4	+00.1
06	98 40.8	+02.8	S 00 21.5	+00.1
07	113 43.6	+02.7	S 00 21.6	+00.2
08	128 46.3	+02.8	S 00 21.8	+00.1
09	143 49.1	+02.8	S 00 21.9	+00.1
10	158 51.9	+02.7	S 00 22.0	+00.2
11	173 54.6	+02.8	S 00 22.2	+00.1
12	188 57.4	+02.8	S 00 22.3	+00.1
13	204 00.2	+02.7	S 00 22.4	+00.1
14	219 02.9	+02.8	S 00 22.5	+00.2
15	234 05.7	+02.8	S 00 22.7	+00.1
16	249 08.5	+02.7	S 00 22.8	+00.1
17	264 11.2	+02.8	S 00 22.9	+00.2
18	279 14.0	+02.8	S 00 23.1	+00.1
19	294 16.8	+02.7	S 00 23.2	+00.1
20	309 19.5	+02.8	S 00 23.3	+00.1
21	324 22.3	+02.8	S 00 23.4	+00.2
22	339 25.1	+02.7	S 00 23.6	+00.1
23	354 27.8	+02.8	S 00 23.7	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	357°	357°	357°	357°	357°	357°

Greenwich Culmination Time: 23:22

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	49 54.0	+02.6	S 16 24.0	+00.0
01	64 56.6	+02.5	S 16 24.0	+00.1
02	79 59.1	+02.6	S 16 24.1	+00.0
03	95 01.7	+02.5	S 16 24.1	+00.0
04	110 04.2	+02.6	S 16 24.1	+00.0
05	125 06.8	+02.5	S 16 24.1	+00.1
06	140 09.3	+02.6	S 16 24.2	+00.0
07	155 11.9	+02.5	S 16 24.2	+00.0
08	170 14.4	+02.6	S 16 24.2	+00.0
09	185 17.0	+02.5	S 16 24.2	+00.1
10	200 19.5	+02.5	S 16 24.3	+00.0
11	215 22.0	+02.6	S 16 24.3	+00.0
12	230 24.6	+02.5	S 16 24.3	+00.0
13	245 27.1	+02.6	S 16 24.3	+00.0
14	260 29.7	+02.5	S 16 24.3	+00.1
15	275 32.2	+02.6	S 16 24.4	+00.0
16	290 34.8	+02.5	S 16 24.4	+00.0
17	305 37.3	+02.5	S 16 24.4	+00.0
18	320 39.8	+02.6	S 16 24.4	+00.1
19	335 42.4	+02.5	S 16 24.5	+00.0
20	350 44.9	+02.6	S 16 24.5	+00.0
21	5 47.5	+02.5	S 16 24.5	+00.0
22	20 50.0	+02.6	S 16 24.5	+00.1
23	35 52.6	+02.5	S 16 24.6	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 20:36

2022 September 30 Friday (day 273 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	182 27.6	+00.2	S 02 42.5	+00.9
01	197 27.8	+00.2	S 02 43.4	+01.0
02	212 28.0	+00.2	S 02 44.4	+01.0
03	227 28.2	+00.2	S 02 45.4	+01.0
04	242 28.4	+00.2	S 02 46.4	+00.9
05	257 28.6	+00.2	S 02 47.3	+01.0
06	272 28.8	+00.2	S 02 48.3	+01.0
07	287 29.0	+00.2	S 02 49.3	+00.9
08	302 29.2	+00.2	S 02 50.2	+01.0
09	317 29.4	+00.2	S 02 51.2	+01.0
10	332 29.6	+00.2	S 02 52.2	+00.9
11	347 29.8	+00.2	S 02 53.1	+01.0
12	2 30.0	+00.2	S 02 54.1	+01.0
13	17 30.2	+00.3	S 02 55.1	+01.0
14	32 30.5	+00.2	S 02 56.1	+00.9
15	47 30.7	+00.2	S 02 57.0	+01.0
16	62 30.9	+00.2	S 02 58.0	+01.0
17	77 31.1	+00.2	S 02 59.0	+00.9
18	92 31.3	+00.2	S 02 59.9	+01.0
19	107 31.5	+00.2	S 03 00.9	+01.0
20	122 31.7	+00.2	S 03 01.9	+01.0
21	137 31.9	+00.2	S 03 02.9	+00.9
22	152 32.1	+00.2	S 03 03.8	+01.0
23	167 32.3	+00.2	S 03 04.8	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	174°	174°	173°	173°	173°	173°

Greenwich Culmination Time: 11:49

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	187 23.1	-00.4	N 00 58.3	-01.3
01	202 22.7	-00.4	N 00 57.0	-01.2
02	217 22.3	-00.3	N 00 55.8	-01.3
03	232 22.0	-00.4	N 00 54.5	-01.2
04	247 21.6	-00.4	N 00 53.3	-01.3
05	262 21.2	-00.4	N 00 52.0	-01.2
06	277 20.8	-00.4	N 00 50.8	-01.3
07	292 20.4	-00.4	N 00 49.5	-01.2
08	307 20.0	-00.4	N 00 48.3	-01.3
09	322 19.6	-00.4	N 00 47.0	-01.2
10	337 19.2	-00.4	N 00 45.8	-01.3
11	352 18.8	-00.4	N 00 44.5	-01.2
12	7 18.4	-00.4	N 00 43.3	-01.3
13	22 18.0	-00.3	N 00 42.0	-01.2
14	37 17.7	-00.4	N 00 40.8	-01.3
15	52 17.3	-00.4	N 00 39.5	-01.2
16	67 16.9	-00.4	N 00 38.3	-01.3
17	82 16.5	-00.4	N 00 37.0	-01.2
18	97 16.1	-00.4	N 00 35.8	-01.3
19	112 15.7	-00.4	N 00 34.5	-01.2
20	127 15.3	-00.4	N 00 33.3	-01.3
21	142 14.9	-00.4	N 00 32.0	-01.2
22	157 14.5	-00.4	N 00 30.8	-01.3
23	172 14.1	-00.4	N 00 29.5	-01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	179°	178°	178°	178°	178°	178°

Greenwich Culmination Time: 11:30

Moon

A: 15%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	133 37.5	-32.7	S 20 51.2	+10.7
01	148 04.8	-32.9	S 21 01.9	+10.7
02	162 31.9	-32.9	S 21 12.6	+10.5
03	176 59.0	-33.1	S 21 23.1	+10.4
04	191 25.9	-33.1	S 21 33.5	+10.3
05	205 52.8	-33.3	S 21 43.8	+10.1
06	220 19.5	-33.3	S 21 53.9	+10.0
07	234 46.2	-33.4	S 22 03.9	+09.9
08	249 12.8	-33.6	S 22 13.8	+09.8
09	263 39.2	-33.6	S 22 23.6	+09.6
10	278 05.6	-33.8	S 22 33.2	+09.5
11	292 31.8	-33.8	S 22 42.7	+09.4
12	306 58.0	-33.9	S 22 52.1	+09.3
13	321 24.1	-34.1	S 23 01.4	+09.1
14	335 50.0	-34.1	S 23 10.5	+08.9
15	350 15.9	-34.2	S 23 19.4	+08.9
16	4 41.7	-34.3	S 23 28.3	+08.7
17	19 07.4	-34.4	S 23 37.0	+08.5
18	33 33.0	-34.5	S 23 45.5	+08.4
19	47 58.5	-34.6	S 23 53.9	+08.3
20	62 23.9	-34.7	S 24 02.2	+08.1
21	76 49.2	-34.8	S 24 10.3	+08.0
22	91 14.4	-34.8	S 24 18.3	+07.8
23	105 39.6	-35.0	S 24 26.1	+07.7

UT	02	06	10	14	18	22
SD	15′9	16′0	16′0	16′0	16′0	16′0
HP	58′5	58′5	58′6	58′7	58′7	58′8
SHA	124°	121°	119°	117°	114°	112°

Greenwich Culmination Time: 15:40

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	289 50.1	+01.6	N 22 22.3	+00.1
01	304 51.7	+01.5	N 22 22.4	+00.1
02	319 53.2	+01.5	N 22 22.5	+00.2
03	334 54.7	+01.5	N 22 22.7	+00.1
04	349 56.2	+01.5	N 22 22.8	+00.1
05	4 57.7	+01.6	N 22 22.9	+00.2
06	19 59.3	+01.5	N 22 23.1	+00.1
07	35 00.8	+01.5	N 22 23.2	+00.2
08	50 02.3	+01.6	N 22 23.4	+00.1
09	65 03.9	+01.5	N 22 23.5	+00.1
10	80 05.4	+01.5	N 22 23.6	+00.2
11	95 06.9	+01.5	N 22 23.8	+00.1
12	110 08.4	+01.6	N 22 23.9	+00.1
13	125 10.0	+01.5	N 22 24.0	+00.2
14	140 11.5	+01.5	N 22 24.2	+00.1
15	155 13.0	+01.6	N 22 24.3	+00.1
16	170 14.6	+01.5	N 22 24.4	+00.2
17	185 16.1	+01.5	N 22 24.6	+00.1
18	200 17.6	+01.6	N 22 24.7	+00.1
19	215 19.2	+01.5	N 22 24.8	+00.2
20	230 20.7	+01.6	N 22 25.0	+00.1
21	245 22.3	+01.5	N 22 25.1	+00.2
22	260 23.8	+01.5	N 22 25.3	+00.1
23	275 25.3	+01.6	N 22 25.4	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	281°	281°	281°	281°	281°	281°

Greenwich Culmination Time: 04:40

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	5 04.8	+02.8	S 00 11.3	+00.1
01	20 07.6	+02.8	S 00 11.4	+00.2
02	35 10.4	+02.7	S 00 11.6	+00.1
03	50 13.1	+02.8	S 00 11.7	+00.1
04	65 15.9	+02.8	S 00 11.8	+00.2
05	80 18.7	+02.7	S 00 12.0	+00.1
06	95 21.4	+02.8	S 00 12.1	+00.1
07	110 24.2	+02.8	S 00 12.2	+00.2
08	125 27.0	+02.8	S 00 12.4	+00.1
09	140 29.8	+02.7	S 00 12.5	+00.1
10	155 32.5	+02.8	S 00 12.6	+00.2
11	170 35.3	+02.8	S 00 12.8	+00.1
12	185 38.1	+02.7	S 00 12.9	+00.1
13	200 40.8	+02.8	S 00 13.0	+00.2
14	215 43.6	+02.8	S 00 13.2	+00.1
15	230 46.4	+02.7	S 00 13.3	+00.1
16	245 49.1	+02.8	S 00 13.4	+00.1
17	260 51.9	+02.8	S 00 13.5	+00.2
18	275 54.7	+02.8	S 00 13.7	+00.1
19	290 57.5	+02.7	S 00 13.8	+00.1
20	306 00.2	+02.8	S 00 13.9	+00.2
21	321 03.0	+02.8	S 00 14.1	+00.1
22	336 05.8	+02.7	S 00 14.2	+00.1
23	351 08.5	+02.8	S 00 14.3	+00.2

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	356°	356°	356°	356°	356°

Greenwich Culmination Time: 23:35

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	46 50.3	+02.6	S 16 22.1	+00.1
01	61 52.9	+02.6	S 16 22.2	+00.0
02	76 55.5	+02.5	S 16 22.2	+00.0
03	91 58.0	+02.6	S 16 22.2	+00.0
04	107 00.6	+02.5	S 16 22.2	+00.1
05	122 03.1	+02.6	S 16 22.3	+00.0
06	137 05.7	+02.5	S 16 22.3	+00.0
07	152 08.2	+02.6	S 16 22.3	+00.1
08	167 10.8	+02.5	S 16 22.4	+00.0
09	182 13.3	+02.6	S 16 22.4	+00.0
10	197 15.9	+02.6	S 16 22.4	+00.0
11	212 18.5	+02.5	S 16 22.4	+00.1
12	227 21.0	+02.6	S 16 22.5	+00.0
13	242 23.6	+02.5	S 16 22.5	+00.0
14	257 26.1	+02.6	S 16 22.5	+00.0
15	272 28.7	+02.5	S 16 22.5	+00.1
16	287 31.2	+02.6	S 16 22.6	+00.0
17	302 33.8	+02.5	S 16 22.6	+00.0
18	317 36.3	+02.6	S 16 22.6	+00.1
19	332 38.9	+02.5	S 16 22.7	+00.0
20	347 41.4	+02.6	S 16 22.7	+00.0
21	2 44.0	+02.6	S 16 22.7	+00.0
22	17 46.6	+02.5	S 16 22.7	+00.1
23	32 49.1	+02.6	S 16 22.8	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 20:49

2022 October 1 Saturday (day 274 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	182 32.5	+00.2	S 03 05.8	+00.9
01	197 32.7	+00.2	S 03 06.7	+01.0
02	212 32.9	+00.2	S 03 07.7	+01.0
03	227 33.1	+00.2	S 03 08.7	+00.9
04	242 33.3	+00.2	S 03 09.6	+01.0
05	257 33.5	+00.2	S 03 10.6	+01.0
06	272 33.7	+00.2	S 03 11.6	+01.0
07	287 33.9	+00.2	S 03 12.6	+00.9
08	302 34.1	+00.2	S 03 13.5	+01.0
09	317 34.3	+00.2	S 03 14.5	+01.0
10	332 34.5	+00.2	S 03 15.5	+00.9
11	347 34.7	+00.2	S 03 16.4	+01.0
12	2 34.9	+00.2	S 03 17.4	+01.0
13	17 35.1	+00.2	S 03 18.4	+00.9
14	32 35.3	+00.2	S 03 19.3	+01.0
15	47 35.5	+00.2	S 03 20.3	+01.0
16	62 35.7	+00.2	S 03 21.3	+00.9
17	77 35.9	+00.2	S 03 22.2	+01.0
18	92 36.1	+00.2	S 03 23.2	+01.0
19	107 36.3	+00.2	S 03 24.2	+01.0
20	122 36.5	+00.2	S 03 25.2	+00.9
21	137 36.7	+00.2	S 03 26.1	+01.0
22	152 36.9	+00.2	S 03 27.1	+01.0
23	167 37.1	+00.2	S 03 28.1	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	173°	173°	172°	172°	172°	172°

Greenwich Culmination Time: 11:49

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	187 13.7	−00.4	N 00 28.3	−01.3
01	202 13.3	−00.3	N 00 27.0	−01.3
02	217 13.0	−00.4	N 00 25.7	−01.2
03	232 12.6	−00.4	N 00 24.5	−01.3
04	247 12.2	−00.4	N 00 23.2	−01.2
05	262 11.8	−00.4	N 00 22.0	−01.3
06	277 11.4	−00.4	N 00 20.7	−01.2
07	292 11.0	−00.4	N 00 19.5	−01.3
08	307 10.6	−00.4	N 00 18.2	−01.2
09	322 10.2	−00.4	N 00 17.0	−01.3
10	337 09.8	−00.4	N 00 15.7	−01.2
11	352 09.4	−00.4	N 00 14.5	−01.3
12	7 09.0	−00.3	N 00 13.2	−01.2
13	22 08.7	−00.4	N 00 12.0	−01.3
14	37 08.3	−00.4	N 00 10.7	−01.2
15	52 07.9	−00.4	N 00 09.5	−01.3
16	67 07.5	−00.4	N 00 08.2	−01.2
17	82 07.1	−00.4	N 00 07.0	−01.3
18	97 06.7	−00.4	N 00 05.7	−01.3
19	112 06.3	−00.4	N 00 04.4	−01.2
20	127 05.9	−00.4	N 00 03.2	−01.3
21	142 05.5	−00.4	N 00 01.9	−01.2
22	157 05.1	−00.4	N 00 00.7	−01.3
23	172 04.7	−00.3	S 00 00.6	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	177°	177°	177°	177°	177°	176°

Greenwich Culmination Time: 11:31

Moon

A: 19%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	120 04.6	−35.0	S 24 33.8	+07.5
01	134 29.6	−35.2	S 24 41.3	+07.3
02	148 54.4	−35.2	S 24 48.6	+07.3
03	163 19.2	−35.3	S 24 55.9	+07.0
04	177 43.9	−35.4	S 25 02.9	+06.9
05	192 08.5	−35.4	S 25 09.8	+06.7
06	206 33.1	−35.6	S 25 16.5	+06.6
07	220 57.5	−35.6	S 25 23.1	+06.4
08	235 21.9	−35.7	S 25 29.5	+06.3
09	249 46.2	−35.8	S 25 35.8	+06.1
10	264 10.4	−35.9	S 25 41.9	+05.9
11	278 34.5	−35.9	S 25 47.8	+05.8
12	292 58.6	−36.0	S 25 53.6	+05.6
13	307 22.6	−36.1	S 25 59.2	+05.4
14	321 46.5	−36.2	S 26 04.6	+05.3
15	336 10.3	−36.2	S 26 09.9	+05.1
16	350 34.1	−36.3	S 26 15.0	+04.9
17	4 57.8	−36.3	S 26 19.9	+04.7
18	19 21.5	−36.5	S 26 24.6	+04.6
19	33 45.0	−36.4	S 26 29.2	+04.4
20	48 08.6	−36.6	S 26 33.6	+04.2
21	62 32.0	−36.6	S 26 37.8	+04.1
22	76 55.4	−36.6	S 26 41.9	+03.8
23	91 18.8	−36.8	S 26 45.7	+03.7

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′1	16′1	16′1
HP	58′8	58′8	58′9	58′9	59′0	59′0
SHA	109°	107°	104°	101°	099°	096°

Greenwich Culmination Time: 16:39

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	290 26.9	+01.5	N 22 25.5	+00.2
01	305 28.4	+01.6	N 22 25.7	+00.1
02	320 30.0	+01.5	N 22 25.8	+00.1
03	335 31.5	+01.6	N 22 25.9	+00.2
04	350 33.1	+01.5	N 22 26.1	+00.1
05	5 34.6	+01.5	N 22 26.2	+00.1
06	20 36.1	+01.6	N 22 26.3	+00.2
07	35 37.7	+01.5	N 22 26.5	+00.1
08	50 39.2	+01.6	N 22 26.6	+00.1
09	65 40.8	+01.5	N 22 26.7	+00.2
10	80 42.3	+01.6	N 22 26.9	+00.1
11	95 43.9	+01.6	N 22 27.0	+00.1
12	110 45.5	+01.5	N 22 27.1	+00.2
13	125 47.0	+01.6	N 22 27.3	+00.1
14	140 48.6	+01.5	N 22 27.4	+00.1
15	155 50.1	+01.6	N 22 27.5	+00.2
16	170 51.7	+01.5	N 22 27.7	+00.1
17	185 53.2	+01.6	N 22 27.8	+00.1
18	200 54.8	+01.6	N 22 27.9	+00.2
19	215 56.4	+01.5	N 22 28.1	+00.1
20	230 57.9	+01.6	N 22 28.2	+00.1
21	245 59.5	+01.5	N 22 28.3	+00.2
22	261 01.0	+01.6	N 22 28.5	+00.1
23	276 02.6	+01.6	N 22 28.6	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	281°	281°	281°	281°	280°	280°

Greenwich Culmination Time: 04:37

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	6 11.3	+02.8	S 00 14.5	+00.1
01	21 14.1	+02.7	S 00 14.6	+00.1
02	36 16.8	+02.8	S 00 14.7	+00.2
03	51 19.6	+02.8	S 00 14.9	+00.1
04	66 22.4	+02.8	S 00 15.0	+00.1
05	81 25.2	+02.7	S 00 15.1	+00.2
06	96 27.9	+02.8	S 00 15.3	+00.1
07	111 30.7	+02.8	S 00 15.4	+00.1
08	126 33.5	+02.7	S 00 15.5	+00.2
09	141 36.2	+02.8	S 00 15.7	+00.1
10	156 39.0	+02.8	S 00 15.8	+00.1
11	171 41.8	+02.7	S 00 15.9	+00.1
12	186 44.5	+02.8	S 00 16.0	+00.2
13	201 47.3	+02.8	S 00 16.2	+00.1
14	216 50.1	+02.7	S 00 16.3	+00.1
15	231 52.8	+02.8	S 00 16.4	+00.2
16	246 55.6	+02.8	S 00 16.6	+00.1
17	261 58.4	+02.8	S 00 16.7	+00.1
18	277 01.2	+02.7	S 00 16.8	+00.2
19	292 03.9	+02.8	S 00 17.0	+00.1
20	307 06.7	+02.8	S 00 17.1	+00.1
21	322 09.5	+02.7	S 00 17.2	+00.2
22	337 12.2	+02.8	S 00 17.4	+00.1
23	352 15.0	+02.8	S 00 17.5	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	356°	357°	357°	357°	357°	357°

Greenwich Culmination Time: 23:30

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	47 51.7	+02.5	S 16 22.8	+00.0
01	62 54.2	+02.6	S 16 22.8	+00.0
02	77 56.8	+02.5	S 16 22.8	+00.1
03	92 59.3	+02.6	S 16 22.9	+00.0
04	108 01.9	+02.5	S 16 22.9	+00.0
05	123 04.4	+02.6	S 16 22.9	+00.0
06	138 07.0	+02.5	S 16 22.9	+00.1
07	153 09.5	+02.6	S 16 23.0	+00.0
08	168 12.1	+02.5	S 16 23.0	+00.0
09	183 14.6	+02.6	S 16 23.0	+00.1
10	198 17.2	+02.5	S 16 23.1	+00.0
11	213 19.7	+02.6	S 16 23.1	+00.0
12	228 22.3	+02.5	S 16 23.1	+00.0
13	243 24.8	+02.6	S 16 23.1	+00.1
14	258 27.4	+02.5	S 16 23.2	+00.0
15	273 29.9	+02.6	S 16 23.2	+00.0
16	288 32.5	+02.5	S 16 23.2	+00.0
17	303 35.0	+02.6	S 16 23.2	+00.1
18	318 37.6	+02.5	S 16 23.3	+00.0
19	333 40.1	+02.6	S 16 23.3	+00.0
20	348 42.7	+02.6	S 16 23.3	+00.0
21	3 45.3	+02.5	S 16 23.3	+00.1
22	18 47.8	+02.6	S 16 23.4	+00.0
23	33 50.4	+02.5	S 16 23.4	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 20:45

2022 October 2 Sunday (day 275 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	182 37.3	+00.2	S 03 29.0	+01.0
01	197 37.5	+00.2	S 03 30.0	+01.0
02	212 37.7	+00.2	S 03 31.0	+00.9
03	227 37.9	+00.2	S 03 31.9	+01.0
04	242 38.1	+00.2	S 03 32.9	+01.0
05	257 38.3	+00.2	S 03 33.9	+00.9
06	272 38.5	+00.2	S 03 34.8	+01.0
07	287 38.7	+00.2	S 03 35.8	+01.0
08	302 38.9	+00.2	S 03 36.8	+00.9
09	317 39.1	+00.2	S 03 37.7	+01.0
10	332 39.3	+00.2	S 03 38.7	+01.0
11	347 39.5	+00.2	S 03 39.7	+00.9
12	2 39.7	+00.2	S 03 40.6	+01.0
13	17 39.9	+00.2	S 03 41.6	+01.0
14	32 40.1	+00.2	S 03 42.6	+00.9
15	47 40.3	+00.2	S 03 43.5	+01.0
16	62 40.5	+00.2	S 03 44.5	+01.0
17	77 40.7	+00.2	S 03 45.5	+00.9
18	92 40.9	+00.2	S 03 46.4	+01.0
19	107 41.1	+00.2	S 03 47.4	+01.0
20	122 41.3	+00.2	S 03 48.4	+00.9
21	137 41.5	+00.2	S 03 49.3	+01.0
22	152 41.7	+00.2	S 03 50.3	+01.0
23	167 41.9	+00.2	S 03 51.3	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	172°	172°	172°	171°	171°	171°

Greenwich Culmination Time: 11:49

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	187 04.4	−00.4	S 00 01.8	+01.3
01	202 04.0	−00.4	S 00 03.1	+01.2
02	217 03.6	−00.4	S 00 04.3	+01.3
03	232 03.2	−00.4	S 00 05.6	+01.2
04	247 02.8	−00.4	S 00 06.8	+01.3
05	262 02.4	−00.4	S 00 08.1	+01.2
06	277 02.0	−00.4	S 00 09.3	+01.3
07	292 01.6	−00.4	S 00 10.6	+01.2
08	307 01.2	−00.4	S 00 11.8	+01.3
09	322 00.8	−00.4	S 00 13.1	+01.3
10	337 00.4	−00.3	S 00 14.4	+01.2
11	352 00.1	−00.4	S 00 15.6	+01.3
12	6 59.7	−00.4	S 00 16.9	+01.2
13	21 59.3	−00.4	S 00 18.1	+01.3
14	36 58.9	−00.4	S 00 19.4	+01.2
15	51 58.5	−00.4	S 00 20.6	+01.3
16	66 58.1	−00.4	S 00 21.9	+01.2
17	81 57.7	−00.4	S 00 23.1	+01.3
18	96 57.3	−00.4	S 00 24.4	+01.2
19	111 56.9	−00.4	S 00 25.6	+01.3
20	126 56.5	−00.4	S 00 26.9	+01.3
21	141 56.1	−00.3	S 00 28.2	+01.2
22	156 55.8	−00.4	S 00 29.4	+01.3
23	171 55.4	−00.4	S 00 30.7	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	176°	176°	176°	176°	176°	175°

Greenwich Culmination Time: 11:32

Moon

A: 23%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	105 42.0	−36.7	S 26 49.4	+03.5
01	120 05.3	−36.8	S 26 52.9	+03.4
02	134 28.5	−36.9	S 26 56.3	+03.1
03	148 51.6	−36.9	S 26 59.4	+03.0
04	163 14.7	−37.0	S 27 02.4	+02.8
05	177 37.7	−36.9	S 27 05.2	+02.6
06	192 00.8	−37.1	S 27 07.8	+02.4
07	206 23.7	−37.0	S 27 10.2	+02.2
08	220 46.7	−37.2	S 27 12.4	+02.1
09	235 09.5	−37.1	S 27 14.5	+01.8
10	249 32.4	−37.2	S 27 16.3	+01.7
11	263 55.2	−37.2	S 27 18.0	+01.5
12	278 18.0	−37.2	S 27 19.5	+01.3
13	292 40.8	−37.2	S 27 20.8	+01.2
14	307 03.6	−37.3	S 27 22.0	+00.9
15	321 26.3	−37.3	S 27 22.9	+00.7
16	335 49.0	−37.3	S 27 23.6	+00.6
17	350 11.7	−37.3	S 27 24.2	+00.4
18	4 34.4	−37.3	S 27 24.6	+00.2
19	18 57.1	−37.4	S 27 24.8	+00.0
20	33 19.7	−37.3	S 27 24.8	−00.2
21	47 42.4	−37.4	S 27 24.6	−00.4
22	62 05.0	−37.4	S 27 24.2	−00.6
23	76 27.6	−37.3	S 27 23.6	−00.7

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	59′0	59′1	59′1	59′1	59′2	59′2
SHA	094°	091°	088°	086°	083°	080°

Greenwich Culmination Time: 17:40

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	291 04.2	+01.5	N 22 28.7	+00.2
01	306 05.7	+01.6	N 22 28.9	+00.1
02	321 07.3	+01.6	N 22 29.0	+00.1
03	336 08.9	+01.5	N 22 29.1	+00.2
04	351 10.4	+01.6	N 22 29.3	+00.1
05	6 12.0	+01.6	N 22 29.4	+00.1
06	21 13.6	+01.6	N 22 29.5	+00.2
07	36 15.2	+01.5	N 22 29.7	+00.1
08	51 16.7	+01.6	N 22 29.8	+00.1
09	66 18.3	+01.6	N 22 29.9	+00.1
10	81 19.9	+01.5	N 22 30.0	+00.2
11	96 21.4	+01.6	N 22 30.2	+00.1
12	111 23.0	+01.6	N 22 30.3	+00.1
13	126 24.6	+01.6	N 22 30.4	+00.2
14	141 26.2	+01.6	N 22 30.6	+00.1
15	156 27.8	+01.5	N 22 30.7	+00.1
16	171 29.3	+01.6	N 22 30.8	+00.2
17	186 30.9	+01.6	N 22 31.0	+00.1
18	201 32.5	+01.6	N 22 31.1	+00.1
19	216 34.1	+01.6	N 22 31.2	+00.2
20	231 35.7	+01.6	N 22 31.4	+00.1
21	246 37.3	+01.5	N 22 31.5	+00.1
22	261 38.8	+01.6	N 22 31.6	+00.1
23	276 40.4	+01.6	N 22 31.7	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	280°	280°	280°	280°	280°	280°

Greenwich Culmination Time: 04:35

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	7 17.8	+02.7	S 00 17.6	+00.1
01	22 20.5	+02.8	S 00 17.7	+00.2
02	37 23.3	+02.8	S 00 17.9	+00.1
03	52 26.1	+02.7	S 00 18.0	+00.1
04	67 28.8	+02.8	S 00 18.1	+00.2
05	82 31.6	+02.8	S 00 18.3	+00.1
06	97 34.4	+02.7	S 00 18.4	+00.1
07	112 37.1	+02.8	S 00 18.5	+00.2
08	127 39.9	+02.8	S 00 18.7	+00.1
09	142 42.7	+02.7	S 00 18.8	+00.1
10	157 45.4	+02.8	S 00 18.9	+00.1
11	172 48.2	+02.8	S 00 19.0	+00.2
12	187 51.0	+02.8	S 00 19.2	+00.1
13	202 53.8	+02.7	S 00 19.3	+00.1
14	217 56.5	+02.8	S 00 19.4	+00.2
15	232 59.3	+02.8	S 00 19.6	+00.1
16	248 02.1	+02.7	S 00 19.7	+00.1
17	263 04.8	+02.8	S 00 19.8	+00.2
18	278 07.6	+02.8	S 00 20.0	+00.1
19	293 10.4	+02.7	S 00 20.1	+00.1
20	308 13.1	+02.8	S 00 20.2	+00.1
21	323 15.9	+02.8	S 00 20.3	+00.2
22	338 18.7	+02.7	S 00 20.5	+00.1
23	353 21.4	+02.8	S 00 20.6	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	357°	357°	357°	357°	357°	357°

Greenwich Culmination Time: 23:26

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	48 52.9	+02.5	S 16 23.4	+00.0
01	63 55.4	+02.6	S 16 23.4	+00.1
02	78 58.0	+02.5	S 16 23.5	+00.0
03	94 00.5	+02.6	S 16 23.5	+00.0
04	109 03.1	+02.5	S 16 23.5	+00.0
05	124 05.6	+02.6	S 16 23.5	+00.1
06	139 08.2	+02.5	S 16 23.6	+00.0
07	154 10.7	+02.6	S 16 23.6	+00.0
08	169 13.3	+02.5	S 16 23.6	+00.0
09	184 15.8	+02.6	S 16 23.6	+00.1
10	199 18.4	+02.5	S 16 23.7	+00.0
11	214 20.9	+02.6	S 16 23.7	+00.0
12	229 23.5	+02.5	S 16 23.7	+00.0
13	244 26.0	+02.6	S 16 23.7	+00.1
14	259 28.6	+02.5	S 16 23.8	+00.0
15	274 31.1	+02.6	S 16 23.8	+00.0
16	289 33.7	+02.5	S 16 23.8	+00.0
17	304 36.2	+02.6	S 16 23.8	+00.1
18	319 38.8	+02.5	S 16 23.9	+00.0
19	334 41.3	+02.6	S 16 23.9	+00.0
20	349 43.9	+02.5	S 16 23.9	+00.0
21	4 46.4	+02.6	S 16 23.9	+00.1
22	19 49.0	+02.5	S 16 24.0	+00.0
23	34 51.5	+02.5	S 16 24.0	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 20:40

2022 October 7 Friday (day 280 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	183 00.3	+00.2	S 05 24.6	+00.9
01	198 00.5	+00.2	S 05 25.5	+01.0
02	213 00.7	+00.2	S 05 26.5	+01.0
03	228 00.9	+00.1	S 05 27.5	+00.9
04	243 01.0	+00.2	S 05 28.4	+01.0
05	258 01.2	+00.2	S 05 29.4	+00.9
06	273 01.4	+00.2	S 05 30.3	+01.0
07	288 01.6	+00.2	S 05 31.3	+00.9
08	303 01.8	+00.2	S 05 32.2	+01.0
09	318 02.0	+00.1	S 05 33.2	+01.0
10	333 02.1	+00.2	S 05 34.2	+00.9
11	348 02.3	+00.2	S 05 35.1	+01.0
12	3 02.5	+00.2	S 05 36.1	+00.9
13	18 02.7	+00.2	S 05 37.0	+01.0
14	33 02.9	+00.1	S 05 38.0	+00.9
15	48 03.0	+00.2	S 05 38.9	+01.0
16	63 03.2	+00.2	S 05 39.9	+00.9
17	78 03.4	+00.2	S 05 40.8	+01.0
18	93 03.6	+00.2	S 05 41.8	+00.9
19	108 03.8	+00.1	S 05 42.7	+01.0
20	123 03.9	+00.2	S 05 43.7	+01.0
21	138 04.1	+00.2	S 05 44.7	+00.9
22	153 04.3	+00.2	S 05 45.6	+01.0
23	168 04.5	+00.1	S 05 46.6	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	167°	167°	167°	167°	167°	167°

Greenwich Culmination Time: 11:47

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	186 17.2	-00.4	S 02 32.3	+01.3
01	201 16.8	-00.4	S 02 33.6	+01.3
02	216 16.4	-00.4	S 02 34.9	+01.2
03	231 16.0	-00.4	S 02 36.1	+01.3
04	246 15.6	-00.4	S 02 37.4	+01.2
05	261 15.2	-00.4	S 02 38.6	+01.3
06	276 14.8	-00.4	S 02 39.9	+01.2
07	291 14.4	-00.4	S 02 41.1	+01.3
08	306 14.0	-00.4	S 02 42.4	+01.2
09	321 13.6	-00.4	S 02 43.6	+01.3
10	336 13.2	-00.4	S 02 44.9	+01.2
11	351 12.8	-00.4	S 02 46.1	+01.3
12	6 12.4	-00.4	S 02 47.4	+01.2
13	21 12.0	-00.4	S 02 48.6	+01.3
14	36 11.6	-00.4	S 02 49.9	+01.2
15	51 11.2	-00.4	S 02 51.1	+01.3
16	66 10.8	-00.4	S 02 52.4	+01.2
17	81 10.4	-00.4	S 02 53.6	+01.3
18	96 10.0	-00.4	S 02 54.9	+01.2
19	111 09.6	-00.4	S 02 56.1	+01.3
20	126 09.2	-00.4	S 02 57.4	+01.2
21	141 08.8	-00.4	S 02 58.6	+01.3
22	156 08.4	-00.4	S 02 59.9	+01.2
23	171 08.0	-00.4	S 03 01.1	+01.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	171°	170°	170°	170°	170°	170°

Greenwich Culmination Time: 11:35

Moon

A: 42%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	35 25.2	-30.7	S 13 31.4	-14.5
01	49 54.5	-30.6	S 13 16.9	-14.5
02	64 23.9	-30.5	S 13 02.4	-14.6
03	78 53.4	-30.5	S 12 47.8	-14.6
04	93 22.9	-30.3	S 12 33.2	-14.8
05	107 52.6	-30.3	S 12 18.4	-14.7
06	122 22.3	-30.3	S 12 03.7	-14.9
07	136 52.0	-30.1	S 11 48.8	-14.9
08	151 21.9	-30.1	S 11 33.9	-14.9
09	165 51.8	-30.0	S 11 19.0	-15.0
10	180 21.8	-30.0	S 11 04.0	-15.0
11	194 51.8	-29.9	S 10 49.0	-15.1
12	209 21.9	-29.8	S 10 33.9	-15.2
13	223 52.1	-29.8	S 10 18.7	-15.2
14	238 22.3	-29.7	S 10 03.5	-15.2
15	252 52.6	-29.6	S 09 48.3	-15.3
16	267 23.0	-29.5	S 09 33.0	-15.3
17	281 53.5	-29.6	S 09 17.7	-15.4
18	296 23.9	-29.4	S 09 02.3	-15.4
19	310 54.5	-29.4	S 08 46.9	-15.5
20	325 25.1	-29.3	S 08 31.4	-15.4
21	339 55.8	-29.3	S 08 16.0	-15.6
22	354 26.5	-29.2	S 08 00.4	-15.5
23	8 57.3	-29.1	S 07 44.9	-15.6

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′0	16′0	16′0
HP	59′0	59′0	58′9	58′9	58′8	58′7
SHA	019°	017°	014°	012°	010°	008°

Greenwich Culmination Time: 22:22

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	294 19.2	+01.7	N 22 44.0	+00.1
01	309 20.9	+01.7	N 22 44.1	+00.1
02	324 22.6	+01.7	N 22 44.2	+00.2
03	339 24.3	+01.7	N 22 44.4	+00.1
04	354 26.0	+01.7	N 22 44.5	+00.1
05	9 27.7	+01.7	N 22 44.6	+00.1
06	24 29.4	+01.7	N 22 44.7	+00.1
07	39 31.1	+01.7	N 22 44.8	+00.2
08	54 32.8	+01.7	N 22 45.0	+00.1
09	69 34.5	+01.7	N 22 45.1	+00.1
10	84 36.2	+01.7	N 22 45.2	+00.1
11	99 37.9	+01.7	N 22 45.3	+00.2
12	114 39.6	+01.7	N 22 45.5	+00.1
13	129 41.3	+01.7	N 22 45.6	+00.1
14	144 43.0	+01.7	N 22 45.7	+00.1
15	159 44.7	+01.7	N 22 45.8	+00.1
16	174 46.4	+01.7	N 22 45.9	+00.2
17	189 48.1	+01.7	N 22 46.1	+00.1
18	204 49.8	+01.7	N 22 46.2	+00.1
19	219 51.5	+01.7	N 22 46.3	+00.1
20	234 53.2	+01.7	N 22 46.4	+00.1
21	249 54.9	+01.7	N 22 46.5	+00.2
22	264 56.6	+01.7	N 22 46.7	+00.1
23	279 58.3	+01.7	N 22 46.8	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	279°	279°	279°	279°	278°	278°

Greenwich Culmination Time: 04:22

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	12 49.5	+02.8	S 00 33.0	+00.1
01	27 52.3	+02.7	S 00 33.1	+00.1
02	42 55.0	+02.8	S 00 33.2	+00.1
03	57 57.8	+02.8	S 00 33.3	+00.2
04	73 00.6	+02.7	S 00 33.5	+00.1
05	88 03.3	+02.8	S 00 33.6	+00.1
06	103 06.1	+02.7	S 00 33.7	+00.1
07	118 08.8	+02.8	S 00 33.8	+00.2
08	133 11.6	+02.8	S 00 34.0	+00.1
09	148 14.4	+02.7	S 00 34.1	+00.1
10	163 17.1	+02.8	S 00 34.2	+00.1
11	178 19.9	+02.7	S 00 34.3	+00.2
12	193 22.6	+02.8	S 00 34.5	+00.1
13	208 25.4	+02.8	S 00 34.6	+00.1
14	223 28.2	+02.7	S 00 34.7	+00.1
15	238 30.9	+02.8	S 00 34.8	+00.2
16	253 33.7	+02.7	S 00 35.0	+00.1
17	268 36.4	+02.8	S 00 35.1	+00.1
18	283 39.2	+02.7	S 00 35.2	+00.1
19	298 41.9	+02.8	S 00 35.3	+00.2
20	313 44.7	+02.8	S 00 35.5	+00.1
21	328 47.5	+02.7	S 00 35.6	+00.1
22	343 50.2	+02.8	S 00 35.7	+00.1
23	358 53.0	+02.7	S 00 35.8	+00.2

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	357°	357°	357°	357°	357°	357°

Greenwich Culmination Time: 23:04

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	53 57.7	+02.6	S 16 26.1	+00.0
01	69 00.3	+02.5	S 16 26.1	+00.0
02	84 02.8	+02.5	S 16 26.1	+00.1
03	99 05.3	+02.6	S 16 26.2	+00.0
04	114 07.9	+02.5	S 16 26.2	+00.0
05	129 10.4	+02.5	S 16 26.2	+00.0
06	144 12.9	+02.5	S 16 26.2	+00.0
07	159 15.4	+02.6	S 16 26.2	+00.1
08	174 18.0	+02.5	S 16 26.3	+00.0
09	189 20.5	+02.5	S 16 26.3	+00.0
10	204 23.0	+02.6	S 16 26.3	+00.0
11	219 25.6	+02.5	S 16 26.3	+00.0
12	234 28.1	+02.5	S 16 26.3	+00.0
13	249 30.6	+02.5	S 16 26.3	+00.1
14	264 33.1	+02.6	S 16 26.4	+00.0
15	279 35.7	+02.5	S 16 26.4	+00.0
16	294 38.2	+02.5	S 16 26.4	+00.0
17	309 40.7	+02.6	S 16 26.4	+00.0
18	324 43.3	+02.5	S 16 26.4	+00.1
19	339 45.8	+02.5	S 16 26.5	+00.0
20	354 48.3	+02.5	S 16 26.5	+00.0
21	9 50.8	+02.6	S 16 26.5	+00.0
22	24 53.4	+02.5	S 16 26.5	+00.0
23	39 55.9	+02.5	S 16 26.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 20:20

2022 October 4 Tuesday (day 277 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	182 46.8	+00.2	S 04 15.4	+01.0
01	197 47.0	+00.2	S 04 16.4	+00.9
02	212 47.2	+00.1	S 04 17.3	+01.0
03	227 47.3	+00.2	S 04 18.3	+01.0
04	242 47.5	+00.2	S 04 19.3	+00.9
05	257 47.7	+00.2	S 04 20.2	+01.0
06	272 47.9	+00.2	S 04 21.2	+01.0
07	287 48.1	+00.2	S 04 22.2	+00.9
08	302 48.3	+00.2	S 04 23.1	+01.0
09	317 48.5	+00.2	S 04 24.1	+01.0
10	332 48.7	+00.2	S 04 25.1	+00.9
11	347 48.9	+00.2	S 04 26.0	+01.0
12	2 49.1	+00.2	S 04 27.0	+00.9
13	17 49.3	+00.2	S 04 27.9	+01.0
14	32 49.5	+00.2	S 04 28.9	+01.0
15	47 49.7	+00.1	S 04 29.9	+00.9
16	62 49.8	+00.2	S 04 30.8	+01.0
17	77 50.0	+00.2	S 04 31.8	+01.0
18	92 50.2	+00.2	S 04 32.8	+00.9
19	107 50.4	+00.2	S 04 33.7	+01.0
20	122 50.6	+00.2	S 04 34.7	+00.9
21	137 50.8	+00.2	S 04 35.6	+01.0
22	152 51.0	+00.2	S 04 36.6	+01.0
23	167 51.2	+00.2	S 04 37.6	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	170°	170°	170°	170°	169°	169°

Greenwich Culmination Time: 11:48

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	186 45.6	-00.4	S 01 02.0	+01.3
01	201 45.2	-00.4	S 01 03.3	+01.2
02	216 44.8	-00.4	S 01 04.5	+01.3
03	231 44.4	-00.4	S 01 05.8	+01.3
04	246 44.0	-00.4	S 01 07.1	+01.2
05	261 43.6	-00.4	S 01 08.3	+01.3
06	276 43.2	-00.4	S 01 09.6	+01.2
07	291 42.8	-00.4	S 01 10.8	+01.3
08	306 42.4	-00.4	S 01 12.1	+01.2
09	321 42.0	-00.4	S 01 13.3	+01.3
10	336 41.6	-00.3	S 01 14.6	+01.2
11	351 41.3	-00.4	S 01 15.8	+01.3
12	6 40.9	-00.4	S 01 17.1	+01.2
13	21 40.5	-00.4	S 01 18.3	+01.3
14	36 40.1	-00.4	S 01 19.6	+01.3
15	51 39.7	-00.4	S 01 20.9	+01.2
16	66 39.3	-00.4	S 01 22.1	+01.3
17	81 38.9	-00.4	S 01 23.4	+01.2
18	96 38.5	-00.4	S 01 24.6	+01.3
19	111 38.1	-00.4	S 01 25.9	+01.2
20	126 37.7	-00.4	S 01 27.1	+01.3
21	141 37.3	-00.4	S 01 28.4	+01.2
22	156 36.9	-00.4	S 01 29.6	+01.3
23	171 36.5	-00.4	S 01 30.9	+01.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	174°	174°	174°	173°	173°	173°

Greenwich Culmination Time: 11:33

Moon

A: 31%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	75 59.6	-36.6	S 26 08.7	-05.3
01	90 23.0	-36.6	S 26 03.4	-05.6
02	104 46.4	-36.5	S 25 57.8	-05.7
03	119 09.9	-36.5	S 25 52.1	-05.9
04	133 33.4	-36.4	S 25 46.2	-06.0
05	147 57.0	-36.3	S 25 40.2	-06.3
06	162 20.7	-36.3	S 25 33.9	-06.4
07	176 44.4	-36.2	S 25 27.5	-06.6
08	191 08.2	-36.1	S 25 20.9	-06.7
09	205 32.1	-36.1	S 25 14.2	-06.9
10	219 56.0	-36.0	S 25 07.3	-07.1
11	234 20.0	-35.9	S 25 00.2	-07.2
12	248 44.1	-35.9	S 24 53.0	-07.4
13	263 08.2	-35.7	S 24 45.6	-07.6
14	277 32.5	-35.7	S 24 38.0	-07.8
15	291 56.8	-35.7	S 24 30.2	-07.8
16	306 21.1	-35.5	S 24 22.4	-08.1
17	320 45.6	-35.5	S 24 14.3	-08.2
18	335 10.1	-35.4	S 24 06.1	-08.4
19	349 34.7	-35.3	S 23 57.7	-08.5
20	3 59.4	-35.2	S 23 49.2	-08.7
21	18 24.2	-35.1	S 23 40.5	-08.8
22	32 49.1	-35.1	S 23 31.7	-09.0
23	47 14.0	-35.0	S 23 22.7	-09.1

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	59′3	59′3	59′3	59′3	59′3	59′3
SHA	062°	059°	057°	054°	052°	049°

Greenwich Culmination Time: 19:43

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	292 20.4	+01.7	N 22 35.0	+00.1
01	307 22.1	+01.6	N 22 35.1	+00.1
02	322 23.7	+01.6	N 22 35.2	+00.2
03	337 25.3	+01.6	N 22 35.4	+00.1
04	352 26.9	+01.6	N 22 35.5	+00.1
05	7 28.5	+01.6	N 22 35.6	+00.1
06	22 30.1	+01.7	N 22 35.7	+00.2
07	37 31.8	+01.6	N 22 35.9	+00.1
08	52 33.4	+01.6	N 22 36.0	+00.1
09	67 35.0	+01.6	N 22 36.1	+00.2
10	82 36.6	+01.6	N 22 36.3	+00.1
11	97 38.2	+01.7	N 22 36.4	+00.1
12	112 39.9	+01.6	N 22 36.5	+00.1
13	127 41.5	+01.6	N 22 36.6	+00.2
14	142 43.1	+01.6	N 22 36.8	+00.1
15	157 44.7	+01.7	N 22 36.9	+00.1
16	172 46.4	+01.6	N 22 37.0	+00.1
17	187 48.0	+01.6	N 22 37.1	+00.2
18	202 49.6	+01.7	N 22 37.3	+00.1
19	217 51.3	+01.6	N 22 37.4	+00.1
20	232 52.9	+01.6	N 22 37.5	+00.1
21	247 54.5	+01.7	N 22 37.6	+00.2
22	262 56.2	+01.6	N 22 37.8	+00.1
23	277 57.8	+01.6	N 22 37.9	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	280°	280°	280°	279°	279°	279°

Greenwich Culmination Time: 04:30

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	9 30.6	+02.8	S 00 23.8	+00.2
01	24 33.4	+02.7	S 00 24.0	+00.1
02	39 36.1	+02.8	S 00 24.1	+00.1
03	54 38.9	+02.8	S 00 24.2	+00.1
04	69 41.7	+02.7	S 00 24.3	+00.2
05	84 44.4	+02.8	S 00 24.5	+00.1
06	99 47.2	+02.8	S 00 24.6	+00.1
07	114 50.0	+02.7	S 00 24.7	+00.2
08	129 52.7	+02.8	S 00 24.9	+00.1
09	144 55.5	+02.7	S 00 25.0	+00.1
10	159 58.2	+02.8	S 00 25.1	+00.1
11	175 01.0	+02.8	S 00 25.2	+00.2
12	190 03.8	+02.7	S 00 25.4	+00.1
13	205 06.5	+02.8	S 00 25.5	+00.1
14	220 09.3	+02.8	S 00 25.6	+00.2
15	235 12.1	+02.7	S 00 25.8	+00.1
16	250 14.8	+02.8	S 00 25.9	+00.1
17	265 17.6	+02.8	S 00 26.0	+00.1
18	280 20.4	+02.7	S 00 26.1	+00.2
19	295 23.1	+02.8	S 00 26.3	+00.1
20	310 25.9	+02.8	S 00 26.4	+00.1
21	325 28.7	+02.7	S 00 26.5	+00.2
22	340 31.4	+02.8	S 00 26.7	+00.1
23	355 34.2	+02.7	S 00 26.8	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	357°	357°	357°	357°	357°	357°

Greenwich Culmination Time: 23:17

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	50 55.1	+02.5	S 16 24.6	+00.0
01	65 57.6	+02.6	S 16 24.6	+00.0
02	81 00.2	+02.5	S 16 24.6	+00.0
03	96 02.7	+02.6	S 16 24.6	+00.1
04	111 05.3	+02.5	S 16 24.7	+00.0
05	126 07.8	+02.6	S 16 24.7	+00.0
06	141 10.4	+02.5	S 16 24.7	+00.0
07	156 12.9	+02.5	S 16 24.7	+00.1
08	171 15.4	+02.6	S 16 24.8	+00.0
09	186 18.0	+02.5	S 16 24.8	+00.0
10	201 20.5	+02.6	S 16 24.8	+00.0
11	216 23.1	+02.5	S 16 24.8	+00.1
12	231 25.6	+02.5	S 16 24.9	+00.0
13	246 28.1	+02.6	S 16 24.9	+00.0
14	261 30.7	+02.5	S 16 24.9	+00.0
15	276 33.2	+02.6	S 16 24.9	+00.0
16	291 35.8	+02.5	S 16 24.9	+00.1
17	306 38.3	+02.5	S 16 25.0	+00.0
18	321 40.8	+02.6	S 16 25.0	+00.0
19	336 43.4	+02.5	S 16 25.0	+00.0
20	351 45.9	+02.6	S 16 25.0	+00.1
21	6 48.5	+02.5	S 16 25.1	+00.0
22	21 51.0	+02.5	S 16 25.1	+00.0
23	36 53.5	+02.6	S 16 25.1	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′2
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 20:32

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2022 October 5 Wednesday (day 278 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	182 51.4	+00.2	S 04 38.5	+01.0
01	197 51.6	+00.2	S 04 39.5	+01.0
02	212 51.8	+00.1	S 04 40.5	+00.9
03	227 51.9	+00.2	S 04 41.4	+01.0
04	242 52.1	+00.2	S 04 42.4	+00.9
05	257 52.3	+00.2	S 04 43.3	+01.0
06	272 52.5	+00.2	S 04 44.3	+01.0
07	287 52.7	+00.2	S 04 45.3	+00.9
08	302 52.9	+00.2	S 04 46.2	+01.0
09	317 53.1	+00.2	S 04 47.2	+01.0
10	332 53.3	+00.2	S 04 48.2	+00.9
11	347 53.5	+00.1	S 04 49.1	+01.0
12	2 53.6	+00.2	S 04 50.1	+00.9
13	17 53.8	+00.2	S 04 51.0	+01.0
14	32 54.0	+00.2	S 04 52.0	+01.0
15	47 54.2	+00.2	S 04 53.0	+00.9
16	62 54.4	+00.2	S 04 53.9	+01.0
17	77 54.6	+00.2	S 04 54.9	+00.9
18	92 54.8	+00.2	S 04 55.8	+01.0
19	107 55.0	+00.1	S 04 56.8	+01.0
20	122 55.1	+00.2	S 04 57.8	+00.9
21	137 55.3	+00.2	S 04 58.7	+01.0
22	152 55.5	+00.2	S 04 59.7	+00.9
23	167 55.7	+00.2	S 05 00.6	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	169°	169°	169°	169°	169°	168°

Greenwich Culmination Time: 11:48

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	186 36.1	-00.4	S 01 32.2	+01.2
01	201 35.7	-00.3	S 01 33.4	+01.3
02	216 35.4	-00.4	S 01 34.7	+01.2
03	231 35.0	-00.4	S 01 35.9	+01.3
04	246 34.6	-00.4	S 01 37.2	+01.2
05	261 34.2	-00.4	S 01 38.4	+01.3
06	276 33.8	-00.4	S 01 39.7	+01.2
07	291 33.4	-00.4	S 01 40.9	+01.3
08	306 33.0	-00.4	S 01 42.2	+01.2
09	321 32.6	-00.4	S 01 43.4	+01.3
10	336 32.2	-00.4	S 01 44.7	+01.3
11	351 31.8	-00.4	S 01 46.0	+01.2
12	6 31.4	-00.4	S 01 47.2	+01.3
13	21 31.0	-00.4	S 01 48.5	+01.2
14	36 30.6	-00.4	S 01 49.7	+01.3
15	51 30.2	-00.4	S 01 51.0	+01.2
16	66 29.8	-00.4	S 01 52.2	+01.3
17	81 29.4	-00.4	S 01 53.5	+01.2
18	96 29.0	-00.4	S 01 54.7	+01.3
19	111 28.6	-00.3	S 01 56.0	+01.2
20	126 28.3	-00.4	S 01 57.2	+01.3
21	141 27.9	-00.4	S 01 58.5	+01.3
22	156 27.5	-00.4	S 01 59.8	+01.2
23	171 27.1	-00.4	S 02 01.0	+01.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	173°	173°	172°	172°	172°	172°

Greenwich Culmination Time: 11:33

Moon

A: 35%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	61 39.0	-34.9	S 23 13.6	-09.3
01	76 04.1	-34.8	S 23 04.3	-09.4
02	90 29.3	-34.7	S 22 54.9	-09.5
03	104 54.6	-34.6	S 22 45.4	-09.7
04	119 20.0	-34.5	S 22 35.7	-09.9
05	133 45.5	-34.5	S 22 25.8	-10.0
06	148 11.0	-34.4	S 22 15.8	-10.1
07	162 36.6	-34.2	S 22 05.7	-10.3
08	177 02.4	-34.2	S 21 55.4	-10.4
09	191 28.2	-34.1	S 21 45.0	-10.5
10	205 54.1	-34.0	S 21 34.5	-10.7
11	220 20.1	-33.9	S 21 23.8	-10.8
12	234 46.2	-33.8	S 21 13.0	-10.9
13	249 12.4	-33.8	S 21 02.1	-11.0
14	263 38.6	-33.6	S 20 51.1	-11.2
15	278 05.0	-33.6	S 20 39.9	-11.3
16	292 31.4	-33.4	S 20 28.6	-11.4
17	306 58.0	-33.4	S 20 17.2	-11.6
18	321 24.6	-33.2	S 20 05.6	-11.7
19	335 51.4	-33.2	S 19 53.9	-11.7
20	350 18.2	-33.1	S 19 42.2	-11.9
21	4 45.1	-33.0	S 19 30.3	-12.1
22	19 12.1	-32.9	S 19 18.2	-12.1
23	33 39.2	-32.8	S 19 06.1	-12.2

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′1
HP	59′3	59′3	59′3	59′3	59′3	59′3
SHA	047°	044°	042°	039°	037°	035°

Greenwich Culmination Time: 20:40

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	292 59.4	+01.7	N 22 38.0	+00.1
01	308 01.1	+01.6	N 22 38.1	+00.2
02	323 02.7	+01.7	N 22 38.3	+00.1
03	338 04.4	+01.6	N 22 38.4	+00.1
04	353 06.0	+01.6	N 22 38.5	+00.2
05	8 07.6	+01.7	N 22 38.7	+00.1
06	23 09.3	+01.6	N 22 38.8	+00.1
07	38 10.9	+01.7	N 22 38.9	+00.1
08	53 12.6	+01.6	N 22 39.0	+00.2
09	68 14.2	+01.7	N 22 39.2	+00.1
10	83 15.9	+01.6	N 22 39.3	+00.1
11	98 17.5	+01.7	N 22 39.4	+00.1
12	113 19.2	+01.6	N 22 39.5	+00.2
13	128 20.8	+01.7	N 22 39.7	+00.1
14	143 22.5	+01.6	N 22 39.8	+00.1
15	158 24.1	+01.7	N 22 39.9	+00.1
16	173 25.8	+01.6	N 22 40.0	+00.2
17	188 27.4	+01.7	N 22 40.2	+00.1
18	203 29.1	+01.6	N 22 40.3	+00.1
19	218 30.7	+01.7	N 22 40.4	+00.1
20	233 32.4	+01.7	N 22 40.5	+00.2
21	248 34.1	+01.6	N 22 40.7	+00.1
22	263 35.7	+01.7	N 22 40.8	+00.1
23	278 37.4	+01.6	N 22 40.9	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	279°	279°	279°	279°	279°	279°

Greenwich Culmination Time: 04:27

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	10 36.9	+02.8	S 00 26.9	+00.1
01	25 39.7	+02.8	S 00 27.0	+00.2
02	40 42.5	+02.7	S 00 27.2	+00.1
03	55 45.2	+02.8	S 00 27.3	+00.1
04	70 48.0	+02.8	S 00 27.4	+00.1
05	85 50.8	+02.7	S 00 27.5	+00.2
06	100 53.5	+02.8	S 00 27.7	+00.1
07	115 56.3	+02.8	S 00 27.8	+00.1
08	130 59.1	+02.7	S 00 27.9	+00.2
09	146 01.8	+02.8	S 00 28.1	+00.1
10	161 04.6	+02.7	S 00 28.2	+00.1
11	176 07.3	+02.8	S 00 28.3	+00.1
12	191 10.1	+02.8	S 00 28.4	+00.2
13	206 12.9	+02.7	S 00 28.6	+00.1
14	221 15.6	+02.8	S 00 28.7	+00.1
15	236 18.4	+02.8	S 00 28.8	+00.1
16	251 21.2	+02.7	S 00 28.9	+00.2
17	266 23.9	+02.8	S 00 29.1	+00.1
18	281 26.7	+02.8	S 00 29.2	+00.1
19	296 29.5	+02.7	S 00 29.3	+00.1
20	311 32.2	+02.8	S 00 29.4	+00.2
21	326 35.0	+02.7	S 00 29.6	+00.1
22	341 37.7	+02.8	S 00 29.7	+00.1
23	356 40.5	+02.8	S 00 29.8	+00.2

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	357°	357°	357°	357°	357°	357°

Greenwich Culmination Time: 23:13

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	51 56.1	+02.5	S 16 25.1	+00.0
01	66 58.6	+02.5	S 16 25.1	+00.1
02	82 01.1	+02.6	S 16 25.2	+00.0
03	97 03.7	+02.5	S 16 25.2	+00.0
04	112 06.2	+02.6	S 16 25.2	+00.0
05	127 08.8	+02.5	S 16 25.2	+00.0
06	142 11.3	+02.5	S 16 25.2	+00.1
07	157 13.8	+02.6	S 16 25.3	+00.0
08	172 16.4	+02.5	S 16 25.3	+00.0
09	187 18.9	+02.5	S 16 25.3	+00.0
10	202 21.4	+02.6	S 16 25.3	+00.1
11	217 24.0	+02.5	S 16 25.4	+00.0
12	232 26.5	+02.6	S 16 25.4	+00.0
13	247 29.1	+02.5	S 16 25.4	+00.0
14	262 31.6	+02.5	S 16 25.4	+00.0
15	277 34.1	+02.6	S 16 25.4	+00.1
16	292 36.7	+02.5	S 16 25.5	+00.0
17	307 39.2	+02.5	S 16 25.5	+00.0
18	322 41.7	+02.6	S 16 25.5	+00.0
19	337 44.3	+02.5	S 16 25.5	+00.0
20	352 46.8	+02.5	S 16 25.5	+00.1
21	7 49.3	+02.6	S 16 25.6	+00.0
22	22 51.9	+02.5	S 16 25.6	+00.0
23	37 54.4	+02.5	S 16 25.6	+00.0

UT	02	06	10	14	18	22
SD	00′2	00′2	00′2	00′2	00′2	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 20:28

2022 October 6 Thursday (day 279 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	182 55.9	+00.2	S 05 01.6	+01.0
01	197 56.1	+00.2	S 05 02.6	+00.9
02	212 56.3	+00.2	S 05 03.5	+01.0
03	227 56.5	+00.1	S 05 04.5	+00.9
04	242 56.6	+00.2	S 05 05.4	+01.0
05	257 56.8	+00.2	S 05 06.4	+01.0
06	272 57.0	+00.2	S 05 07.4	+00.9
07	287 57.2	+00.2	S 05 08.3	+01.0
08	302 57.4	+00.2	S 05 09.3	+00.9
09	317 57.6	+00.1	S 05 10.2	+01.0
10	332 57.7	+00.2	S 05 11.2	+00.9
11	347 57.9	+00.2	S 05 12.1	+01.0
12	2 58.1	+00.2	S 05 13.1	+01.0
13	17 58.3	+00.2	S 05 14.1	+00.9
14	32 58.5	+00.2	S 05 15.0	+01.0
15	47 58.7	+00.2	S 05 16.0	+00.9
16	62 58.9	+00.1	S 05 16.9	+01.0
17	77 59.0	+00.2	S 05 17.9	+00.9
18	92 59.2	+00.2	S 05 18.8	+01.0
19	107 59.4	+00.2	S 05 19.8	+01.0
20	122 59.6	+00.2	S 05 20.8	+00.9
21	137 59.8	+00.2	S 05 21.7	+01.0
22	152 60.0	+00.1	S 05 22.7	+00.9
23	168 00.1	+00.2	S 05 23.6	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	168°	168°	168°	168°	168°	167°

Greenwich Culmination Time: 11:48

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	186 26.7	-00.4	S 02 02.3	+01.2
01	201 26.3	-00.4	S 02 03.5	+01.3
02	216 25.9	-00.4	S 02 04.8	+01.2
03	231 25.5	-00.4	S 02 06.0	+01.3
04	246 25.1	-00.4	S 02 07.3	+01.2
05	261 24.7	-00.4	S 02 08.5	+01.3
06	276 24.3	-00.4	S 02 09.8	+01.2
07	291 23.9	-00.4	S 02 11.0	+01.3
08	306 23.5	-00.4	S 02 12.3	+01.2
09	321 23.1	-00.4	S 02 13.5	+01.3
10	336 22.7	-00.4	S 02 14.8	+01.3
11	351 22.3	-00.4	S 02 16.1	+01.2
12	6 21.9	-00.4	S 02 17.3	+01.3
13	21 21.5	-00.4	S 02 18.6	+01.2
14	36 21.1	-00.4	S 02 19.8	+01.3
15	51 20.7	-00.4	S 02 21.1	+01.2
16	66 20.3	-00.4	S 02 22.3	+01.3
17	81 19.9	-00.4	S 02 23.6	+01.2
18	96 19.5	-00.4	S 02 24.8	+01.3
19	111 19.1	-00.4	S 02 26.1	+01.2
20	126 18.7	-00.3	S 02 27.3	+01.3
21	141 18.4	-00.4	S 02 28.6	+01.2
22	156 18.0	-00.4	S 02 29.8	+01.3
23	171 17.6	-00.4	S 02 31.1	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	172°	172°	171°	171°	171°	171°

Greenwich Culmination Time: 11:34

Moon

A: 39%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	48 06.4	-32.7	S 18 53.9	-12.4
01	62 33.7	-32.7	S 18 41.5	-12.4
02	77 01.0	-32.5	S 18 29.1	-12.6
03	91 28.5	-32.5	S 18 16.5	-12.6
04	105 56.0	-32.3	S 18 03.9	-12.8
05	120 23.7	-32.3	S 17 51.1	-12.9
06	134 51.4	-32.2	S 17 38.2	-12.9
07	149 19.2	-32.1	S 17 25.3	-13.1
08	163 47.1	-32.0	S 17 12.2	-13.1
09	178 15.1	-31.9	S 16 59.1	-13.3
10	192 43.2	-31.8	S 16 45.8	-13.3
11	207 11.4	-31.8	S 16 32.5	-13.5
12	221 39.6	-31.6	S 16 19.0	-13.5
13	236 08.0	-31.6	S 16 05.5	-13.6
14	250 36.4	-31.5	S 15 51.9	-13.7
15	265 04.9	-31.4	S 15 38.2	-13.8
16	279 33.5	-31.3	S 15 24.4	-13.8
17	294 02.2	-31.3	S 15 10.6	-14.0
18	308 30.9	-31.1	S 14 56.6	-14.0
19	322 59.8	-31.1	S 14 42.6	-14.1
20	337 28.7	-31.0	S 14 28.5	-14.2
21	351 57.7	-30.9	S 14 14.3	-14.2
22	6 26.8	-30.8	S 14 00.1	-14.3
23	20 56.0	-30.8	S 13 45.8	-14.4

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	59′2	59′2	59′2	59′1	59′1	59′1
SHA	032°	030°	028°	025°	023°	021°

Greenwich Culmination Time: 21:33

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	293 39.0	+01.7	N 22 41.0	+00.1
01	308 40.7	+01.7	N 22 41.1	+00.2
02	323 42.4	+01.6	N 22 41.3	+00.1
03	338 44.0	+01.7	N 22 41.4	+00.1
04	353 45.7	+01.7	N 22 41.5	+00.1
05	8 47.4	+01.6	N 22 41.6	+00.2
06	23 49.0	+01.7	N 22 41.8	+00.1
07	38 50.7	+01.7	N 22 41.9	+00.1
08	53 52.4	+01.6	N 22 42.0	+00.1
09	68 54.0	+01.7	N 22 42.1	+00.2
10	83 55.7	+01.7	N 22 42.3	+00.1
11	98 57.4	+01.7	N 22 42.4	+00.1
12	113 59.1	+01.6	N 22 42.5	+00.1
13	129 00.7	+01.7	N 22 42.6	+00.2
14	144 02.4	+01.7	N 22 42.8	+00.1
15	159 04.1	+01.7	N 22 42.9	+00.1
16	174 05.8	+01.6	N 22 43.0	+00.1
17	189 07.4	+01.7	N 22 43.1	+00.1
18	204 09.1	+01.7	N 22 43.2	+00.2
19	219 10.8	+01.7	N 22 43.4	+00.1
20	234 12.5	+01.7	N 22 43.5	+00.1
21	249 14.2	+01.7	N 22 43.6	+00.1
22	264 15.9	+01.6	N 22 43.7	+00.2
23	279 17.5	+01.7	N 22 43.9	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	279°	279°	279°	279°	279°	279°

Greenwich Culmination Time: 04:24

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	11 43.3	+02.7	S 00 30.0	+00.1
01	26 46.0	+02.8	S 00 30.1	+00.1
02	41 48.8	+02.7	S 00 30.2	+00.1
03	56 51.5	+02.8	S 00 30.3	+00.2
04	71 54.3	+02.8	S 00 30.5	+00.1
05	86 57.1	+02.7	S 00 30.6	+00.1
06	101 59.8	+02.8	S 00 30.7	+00.1
07	117 02.6	+02.8	S 00 30.8	+00.2
08	132 05.4	+02.7	S 00 31.0	+00.1
09	147 08.1	+02.8	S 00 31.1	+00.1
10	162 10.9	+02.7	S 00 31.2	+00.1
11	177 13.6	+02.8	S 00 31.3	+00.2
12	192 16.4	+02.8	S 00 31.5	+00.1
13	207 19.2	+02.7	S 00 31.6	+00.1
14	222 21.9	+02.8	S 00 31.7	+00.1
15	237 24.7	+02.7	S 00 31.8	+00.2
16	252 27.4	+02.8	S 00 32.0	+00.1
17	267 30.2	+02.8	S 00 32.1	+00.1
18	282 33.0	+02.7	S 00 32.2	+00.1
19	297 35.7	+02.8	S 00 32.3	+00.2
20	312 38.5	+02.7	S 00 32.5	+00.1
21	327 41.2	+02.8	S 00 32.6	+00.1
22	342 44.0	+02.8	S 00 32.7	+00.1
23	357 46.8	+02.7	S 00 32.8	+00.2

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	357°	357°	357°	357°	357°	357°

Greenwich Culmination Time: 23:08

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	52 56.9	+02.6	S 16 25.6	+00.0
01	67 59.5	+02.5	S 16 25.6	+00.1
02	83 02.0	+02.6	S 16 25.7	+00.0
03	98 04.6	+02.5	S 16 25.7	+00.0
04	113 07.1	+02.5	S 16 25.7	+00.0
05	128 09.6	+02.6	S 16 25.7	+00.0
06	143 12.2	+02.5	S 16 25.7	+00.1
07	158 14.7	+02.5	S 16 25.8	+00.0
08	173 17.2	+02.6	S 16 25.8	+00.0
09	188 19.8	+02.5	S 16 25.8	+00.0
10	203 22.3	+02.5	S 16 25.8	+00.0
11	218 24.8	+02.6	S 16 25.8	+00.1
12	233 27.4	+02.5	S 16 25.9	+00.0
13	248 29.9	+02.5	S 16 25.9	+00.0
14	263 32.4	+02.5	S 16 25.9	+00.0
15	278 34.9	+02.6	S 16 25.9	+00.0
16	293 37.5	+02.5	S 16 25.9	+00.1
17	308 40.0	+02.5	S 16 26.0	+00.0
18	323 42.5	+02.6	S 16 26.0	+00.0
19	338 45.1	+02.5	S 16 26.0	+00.0
20	353 47.6	+02.5	S 16 26.0	+00.0
21	8 50.1	+02.6	S 16 26.0	+00.1
22	23 52.7	+02.5	S 16 26.1	+00.0
23	38 55.2	+02.5	S 16 26.1	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 20:24

2022 October 11 Tuesday

(day 284 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 17.0	+00.1	S 06 55.8	+00.9
01	198 17.1	+00.2	S 06 56.7	+01.0
02	213 17.3	+00.2	S 06 57.7	+00.9
03	228 17.5	+00.1	S 06 58.6	+01.0
04	243 17.6	+00.2	S 06 59.6	+00.9
05	258 17.8	+00.2	S 07 00.5	+01.0
06	273 18.0	+00.1	S 07 01.5	+00.9
07	288 18.1	+00.2	S 07 02.4	+00.9
08	303 18.3	+00.2	S 07 03.3	+01.0
09	318 18.5	+00.1	S 07 04.3	+00.9
10	333 18.6	+00.2	S 07 05.2	+01.0
11	348 18.8	+00.1	S 07 06.2	+00.9
12	3 18.9	+00.2	S 07 07.1	+01.0
13	18 19.1	+00.2	S 07 08.1	+00.9
14	33 19.3	+00.1	S 07 09.0	+00.9
15	48 19.4	+00.2	S 07 09.9	+01.0
16	63 19.6	+00.1	S 07 10.9	+00.9
17	78 19.7	+00.2	S 07 11.8	+01.0
18	93 19.9	+00.2	S 07 12.8	+00.9
19	108 20.1	+00.1	S 07 13.7	+00.9
20	123 20.2	+00.2	S 07 14.6	+01.0
21	138 20.4	+00.1	S 07 15.6	+00.9
22	153 20.5	+00.2	S 07 16.5	+01.0
23	168 20.7	+00.2	S 07 17.5	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	164°	163°	163°	163°	163°	163°

Greenwich Culmination Time: 11:46

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	185 38.4	−00.4	S 04 32.2	+01.3
01	200 38.0	−00.4	S 04 33.5	+01.2
02	215 37.6	−00.4	S 04 34.7	+01.3
03	230 37.2	−00.4	S 04 36.0	+01.2
04	245 36.8	−00.4	S 04 37.2	+01.2
05	260 36.4	−00.5	S 04 38.4	+01.3
06	275 35.9	−00.4	S 04 39.7	+01.2
07	290 35.5	−00.4	S 04 40.9	+01.3
08	305 35.1	−00.4	S 04 42.2	+01.2
09	320 34.7	−00.4	S 04 43.4	+01.3
10	335 34.3	−00.4	S 04 44.7	+01.2
11	350 33.9	−00.4	S 04 45.9	+01.2
12	5 33.5	−00.4	S 04 47.1	+01.3
13	20 33.1	−00.5	S 04 48.4	+01.2
14	35 32.6	−00.4	S 04 49.6	+01.3
15	50 32.2	−00.4	S 04 50.9	+01.2
16	65 31.8	−00.4	S 04 52.1	+01.2
17	80 31.4	−00.4	S 04 53.3	+01.3
18	95 31.0	−00.4	S 04 54.6	+01.2
19	110 30.6	−00.4	S 04 55.8	+01.3
20	125 30.2	−00.5	S 04 57.1	+01.2
21	140 29.7	−00.4	S 04 58.3	+01.2
22	155 29.3	−00.4	S 04 59.5	+01.3
23	170 28.9	−00.4	S 05 00.8	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	166°	166°	166°	165°	165°	165°

Greenwich Culmination Time: 11:37

Moon

A: 55%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	349 43.6	−28.0	N 11 01.5	+14.1
01	4 15.6	−28.0	N 11 15.6	+14.1
02	18 47.6	−28.0	N 11 29.7	+13.9
03	33 19.6	−28.1	N 11 43.6	+13.9
04	47 51.5	−28.1	N 11 57.5	+13.9
05	62 23.4	−28.1	N 12 11.4	+13.7
06	76 55.3	−28.1	N 12 25.1	+13.7
07	91 27.2	−28.1	N 12 38.8	+13.6
08	105 59.1	−28.2	N 12 52.4	+13.6
09	120 30.9	−28.2	N 13 06.0	+13.5
10	135 02.7	−28.2	N 13 19.5	+13.4
11	149 34.5	−28.3	N 13 32.9	+13.3
12	164 06.2	−28.2	N 13 46.2	+13.2
13	178 38.0	−28.3	N 13 59.4	+13.2
14	193 09.7	−28.4	N 14 12.6	+13.1
15	207 41.3	−28.3	N 14 25.7	+13.0
16	222 13.0	−28.4	N 14 38.7	+12.9
17	236 44.6	−28.4	N 14 51.6	+12.9
18	251 16.2	−28.5	N 15 04.5	+12.7
19	265 47.7	−28.5	N 15 17.2	+12.7
20	280 19.2	−28.5	N 15 29.9	+12.6
21	294 50.7	−28.5	N 15 42.5	+12.5
22	309 22.2	−28.6	N 15 55.0	+12.4
23	323 53.6	−28.6	N 16 07.4	+12.3

UT	02	06	10	14	18	22
SD	15′5	15′5	15′5	15′4	15′4	15′4
HP	57′0	56′9	56′8	56′7	56′5	56′4
SHA	329°	327°	325°	323°	321°	319°

Greenwich Culmination Time: 00:42

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	297 06.4	+01.7	N 22 55.5	+00.1
01	312 08.1	+01.8	N 22 55.6	+00.1
02	327 09.9	+01.8	N 22 55.7	+00.1
03	342 11.7	+01.8	N 22 55.8	+00.1
04	357 13.5	+01.8	N 22 55.9	+00.2
05	12 15.3	+01.8	N 22 56.1	+00.1
06	27 17.1	+01.9	N 22 56.2	+00.1
07	42 19.0	+01.8	N 22 56.3	+00.1
08	57 20.8	+01.8	N 22 56.4	+00.1
09	72 22.6	+01.8	N 22 56.5	+00.1
10	87 24.4	+01.8	N 22 56.6	+00.2
11	102 26.2	+01.8	N 22 56.8	+00.1
12	117 28.0	+01.8	N 22 56.9	+00.1
13	132 29.8	+01.8	N 22 57.0	+00.1
14	147 31.6	+01.8	N 22 57.1	+00.1
15	162 33.4	+01.8	N 22 57.2	+00.1
16	177 35.2	+01.8	N 22 57.3	+00.2
17	192 37.0	+01.9	N 22 57.5	+00.1
18	207 38.9	+01.8	N 22 57.6	+00.1
19	222 40.7	+01.8	N 22 57.7	+00.1
20	237 42.5	+01.8	N 22 57.8	+00.1
21	252 44.3	+01.8	N 22 57.9	+00.1
22	267 46.1	+01.9	N 22 58.0	+00.1
23	282 48.0	+01.8	N 22 58.1	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	278°	277°	277°	277°	277°	277°

Greenwich Culmination Time: 04:11

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	17 14.0	+02.7	S 00 44.7	+00.1
01	32 16.7	+02.8	S 00 44.8	+00.1
02	47 19.5	+02.7	S 00 44.9	+00.2
03	62 22.2	+02.8	S 00 45.1	+00.1
04	77 25.0	+02.7	S 00 45.2	+00.1
05	92 27.7	+02.8	S 00 45.3	+00.1
06	107 30.5	+02.7	S 00 45.4	+00.1
07	122 33.2	+02.8	S 00 45.5	+00.2
08	137 36.0	+02.7	S 00 45.7	+00.1
09	152 38.7	+02.7	S 00 45.8	+00.1
10	167 41.4	+02.8	S 00 45.9	+00.1
11	182 44.2	+02.7	S 00 46.0	+00.1
12	197 46.9	+02.8	S 00 46.1	+00.1
13	212 49.7	+02.7	S 00 46.2	+00.2
14	227 52.4	+02.8	S 00 46.4	+00.1
15	242 55.2	+02.7	S 00 46.5	+00.1
16	257 57.9	+02.8	S 00 46.6	+00.1
17	273 00.7	+02.7	S 00 46.7	+00.1
18	288 03.4	+02.8	S 00 46.8	+00.2
19	303 06.2	+02.7	S 00 47.0	+00.1
20	318 08.9	+02.8	S 00 47.1	+00.1
21	333 11.7	+02.7	S 00 47.2	+00.1
22	348 14.4	+02.8	S 00 47.3	+00.1
23	3 17.2	+02.7	S 00 47.4	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 22:46

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	57 59.9	+02.5	S 16 27.7	+00.0
01	73 02.4	+02.6	S 16 27.7	+00.0
02	88 05.0	+02.5	S 16 27.7	+00.0
03	103 07.5	+02.5	S 16 27.7	+00.0
04	118 10.0	+02.5	S 16 27.7	+00.1
05	133 12.5	+02.5	S 16 27.8	+00.0
06	148 15.0	+02.5	S 16 27.8	+00.0
07	163 17.5	+02.5	S 16 27.8	+00.0
08	178 20.0	+02.6	S 16 27.8	+00.0
09	193 22.6	+02.5	S 16 27.8	+00.0
10	208 25.1	+02.5	S 16 27.8	+00.0
11	223 27.6	+02.5	S 16 27.8	+00.1
12	238 30.1	+02.5	S 16 27.9	+00.0
13	253 32.6	+02.5	S 16 27.9	+00.0
14	268 35.1	+02.5	S 16 27.9	+00.0
15	283 37.6	+02.6	S 16 27.9	+00.0
16	298 40.2	+02.5	S 16 27.9	+00.0
17	313 42.7	+02.5	S 16 27.9	+00.0
18	328 45.2	+02.5	S 16 27.9	+00.0
19	343 47.7	+02.5	S 16 27.9	+00.1
20	358 50.2	+02.5	S 16 28.0	+00.0
21	13 52.7	+02.5	S 16 28.0	+00.0
22	28 55.2	+02.5	S 16 28.0	+00.0
23	43 57.7	+02.5	S 16 28.0	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 20:04

2022 October 8 Saturday

(day 281 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 04.6	+00.2	S 05 47.5	+01.0
01	198 04.8	+00.2	S 05 48.5	+00.9
02	213 05.0	+00.2	S 05 49.4	+01.0
03	228 05.2	+00.2	S 05 50.4	+00.9
04	243 05.4	+00.1	S 05 51.3	+01.0
05	258 05.5	+00.2	S 05 52.3	+00.9
06	273 05.7	+00.2	S 05 53.2	+01.0
07	288 05.9	+00.2	S 05 54.2	+00.9
08	303 06.1	+00.1	S 05 55.1	+01.0
09	318 06.2	+00.2	S 05 56.1	+00.9
10	333 06.4	+00.2	S 05 57.0	+01.0
11	348 06.6	+00.2	S 05 58.0	+00.9
12	3 06.8	+00.1	S 05 58.9	+01.0
13	18 06.9	+00.2	S 05 59.9	+01.0
14	33 07.1	+00.2	S 06 00.9	+00.9
15	48 07.3	+00.2	S 06 01.8	+01.0
16	63 07.5	+00.1	S 06 02.8	+00.9
17	78 07.6	+00.2	S 06 03.7	+01.0
18	93 07.8	+00.2	S 06 04.7	+00.9
19	108 08.0	+00.2	S 06 05.6	+01.0
20	123 08.2	+00.1	S 06 06.6	+00.9
21	138 08.3	+00.2	S 06 07.5	+01.0
22	153 08.5	+00.2	S 06 08.5	+00.9
23	168 08.7	+00.2	S 06 09.4	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	166°	166°	166°	166°	166°	166°

Greenwich Culmination Time: 11:47

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	186 07.6	−00.4	S 03 02.4	+01.3
01	201 07.2	−00.4	S 03 03.7	+01.2
02	216 06.8	−00.4	S 03 04.9	+01.3
03	231 06.4	−00.4	S 03 06.2	+01.2
04	246 06.0	−00.4	S 03 07.4	+01.3
05	261 05.6	−00.4	S 03 08.7	+01.2
06	276 05.2	−00.4	S 03 09.9	+01.3
07	291 04.8	−00.4	S 03 11.2	+01.2
08	306 04.4	−00.4	S 03 12.4	+01.3
09	321 04.0	−00.4	S 03 13.7	+01.2
10	336 03.6	−00.4	S 03 14.9	+01.3
11	351 03.2	−00.4	S 03 16.2	+01.2
12	6 02.8	−00.4	S 03 17.4	+01.3
13	21 02.4	−00.4	S 03 18.7	+01.2
14	36 02.0	−00.4	S 03 19.9	+01.3
15	51 01.6	−00.4	S 03 21.2	+01.2
16	66 01.2	−00.4	S 03 22.4	+01.3
17	81 00.8	−00.4	S 03 23.7	+01.2
18	96 00.4	−00.4	S 03 24.9	+01.3
19	110 60.0	−00.4	S 03 26.2	+01.2
20	125 59.6	−00.4	S 03 27.4	+01.3
21	140 59.2	−00.4	S 03 28.7	+01.2
22	155 58.8	−00.5	S 03 29.9	+01.3
23	170 58.3	−00.4	S 03 31.2	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	169°	169°	169°	169°	169°	168°

Greenwich Culmination Time: 11:35

Moon

A: 45%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	23 28.2	−29.1	S 07 29.3	−15.6
01	37 59.1	−29.1	S 07 13.7	−15.6
02	52 30.0	−29.0	S 06 58.1	−15.7
03	67 01.0	−28.9	S 06 42.4	−15.7
04	81 32.1	−28.9	S 06 26.7	−15.7
05	96 03.2	−28.9	S 06 11.0	−15.7
06	110 34.3	−28.8	S 05 55.3	−15.8
07	125 05.5	−28.7	S 05 39.5	−15.8
08	139 36.8	−28.8	S 05 23.7	−15.7
09	154 08.0	−28.6	S 05 08.0	−15.8
10	168 39.4	−28.6	S 04 52.2	−15.9
11	183 10.8	−28.6	S 04 36.3	−15.8
12	197 42.2	−28.6	S 04 20.5	−15.9
13	212 13.6	−28.5	S 04 04.6	−15.8
14	226 45.1	−28.4	S 03 48.8	−15.9
15	241 16.7	−28.4	S 03 32.9	−15.8
16	255 48.3	−28.4	S 03 17.1	−15.9
17	270 19.9	−28.4	S 03 01.2	−15.9
18	284 51.5	−28.3	S 02 45.3	−15.9
19	299 23.2	−28.3	S 02 29.4	−15.9
20	313 54.9	−28.2	S 02 13.5	−15.9
21	328 26.7	−28.3	S 01 57.6	−15.9
22	342 58.4	−28.2	S 01 41.7	−15.8
23	357 30.2	−28.1	S 01 25.9	−15.9

UT	02	06	10	14	18	22
SD	16′0	16′0	15′9	15′9	15′9	15′9
HP	58′7	58′6	58′5	58′4	58′4	58′3
SHA	006°	004°	002°	360°	358°	355°

Greenwich Culmination Time: 23:10

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	295 00.0	+01.8	N 22 46.9	+00.1
01	310 01.8	+01.7	N 22 47.0	+00.1
02	325 03.5	+01.7	N 22 47.1	+00.2
03	340 05.2	+01.7	N 22 47.3	+00.1
04	355 06.9	+01.7	N 22 47.4	+00.1
05	10 08.6	+01.8	N 22 47.5	+00.1
06	25 10.4	+01.7	N 22 47.6	+00.2
07	40 12.1	+01.7	N 22 47.8	+00.1
08	55 13.8	+01.7	N 22 47.9	+00.1
09	70 15.5	+01.7	N 22 48.0	+00.1
10	85 17.2	+01.8	N 22 48.1	+00.1
11	100 19.0	+01.7	N 22 48.2	+00.2
12	115 20.7	+01.7	N 22 48.4	+00.1
13	130 22.4	+01.8	N 22 48.5	+00.1
14	145 24.2	+01.7	N 22 48.6	+00.1
15	160 25.9	+01.7	N 22 48.7	+00.1
16	175 27.6	+01.7	N 22 48.8	+00.2
17	190 29.3	+01.8	N 22 49.0	+00.1
18	205 31.1	+01.7	N 22 49.1	+00.1
19	220 32.8	+01.7	N 22 49.2	+00.1
20	235 34.5	+01.8	N 22 49.3	+00.1
21	250 36.3	+01.7	N 22 49.4	+00.2
22	265 38.0	+01.8	N 22 49.6	+00.1
23	280 39.8	+01.7	N 22 49.7	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	278°	278°	278°	278°	278°	278°

Greenwich Culmination Time: 04:19

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	13 55.7	+02.8	S 00 36.0	+00.1
01	28 58.5	+02.7	S 00 36.1	+00.1
02	44 01.2	+02.8	S 00 36.2	+00.1
03	59 04.0	+02.8	S 00 36.3	+00.2
04	74 06.8	+02.7	S 00 36.5	+00.1
05	89 09.5	+02.8	S 00 36.6	+00.1
06	104 12.3	+02.7	S 00 36.7	+00.1
07	119 15.0	+02.8	S 00 36.8	+00.1
08	134 17.8	+02.7	S 00 36.9	+00.2
09	149 20.5	+02.8	S 00 37.1	+00.1
10	164 23.3	+02.8	S 00 37.2	+00.1
11	179 26.1	+02.7	S 00 37.3	+00.1
12	194 28.8	+02.8	S 00 37.4	+00.2
13	209 31.6	+02.7	S 00 37.6	+00.1
14	224 34.3	+02.8	S 00 37.7	+00.1
15	239 37.1	+02.7	S 00 37.8	+00.1
16	254 39.8	+02.8	S 00 37.9	+00.2
17	269 42.6	+02.7	S 00 38.1	+00.1
18	284 45.3	+02.8	S 00 38.2	+00.1
19	299 48.1	+02.8	S 00 38.3	+00.1
20	314 50.9	+02.7	S 00 38.4	+00.1
21	329 53.6	+02.8	S 00 38.5	+00.2
22	344 56.4	+02.7	S 00 38.7	+00.1
23	359 59.1	+02.8	S 00 38.8	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	357°	357°	357°	357°	357°	357°

Greenwich Culmination Time: 23:00

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	54 58.4	+02.6	S 16 26.5	+00.1
01	70 01.0	+02.5	S 16 26.6	+00.0
02	85 03.5	+02.5	S 16 26.6	+00.0
03	100 06.0	+02.5	S 16 26.6	+00.0
04	115 08.5	+02.6	S 16 26.6	+00.0
05	130 11.1	+02.5	S 16 26.6	+00.1
06	145 13.6	+02.5	S 16 26.7	+00.0
07	160 16.1	+02.5	S 16 26.7	+00.0
08	175 18.6	+02.6	S 16 26.7	+00.0
09	190 21.2	+02.5	S 16 26.7	+00.0
10	205 23.7	+02.5	S 16 26.7	+00.0
11	220 26.2	+02.5	S 16 26.7	+00.1
12	235 28.7	+02.6	S 16 26.8	+00.0
13	250 31.3	+02.5	S 16 26.8	+00.0
14	265 33.8	+02.5	S 16 26.8	+00.0
15	280 36.3	+02.5	S 16 26.8	+00.0
16	295 38.8	+02.6	S 16 26.8	+00.0
17	310 41.4	+02.5	S 16 26.8	+00.1
18	325 43.9	+02.5	S 16 26.9	+00.0
19	340 46.4	+02.5	S 16 26.9	+00.0
20	355 48.9	+02.6	S 16 26.9	+00.0
21	10 51.5	+02.5	S 16 26.9	+00.0
22	25 54.0	+02.5	S 16 26.9	+00.0
23	40 56.5	+02.5	S 16 26.9	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 20:16

2022 October 9 Sunday (day 282 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 08.9	+00.1	S 06 10.4	+00.9
01	198 09.0	+00.2	S 06 11.3	+01.0
02	213 09.2	+00.2	S 06 12.3	+00.9
03	228 09.4	+00.2	S 06 13.2	+01.0
04	243 09.6	+00.1	S 06 14.2	+00.9
05	258 09.7	+00.2	S 06 15.1	+01.0
06	273 09.9	+00.2	S 06 16.1	+00.9
07	288 10.1	+00.2	S 06 17.0	+01.0
08	303 10.3	+00.1	S 06 18.0	+00.9
09	318 10.4	+00.2	S 06 18.9	+01.0
10	333 10.6	+00.2	S 06 19.9	+00.9
11	348 10.8	+00.1	S 06 20.8	+01.0
12	3 10.9	+00.2	S 06 21.8	+00.9
13	18 11.1	+00.2	S 06 22.7	+01.0
14	33 11.3	+00.2	S 06 23.7	+00.9
15	48 11.5	+00.1	S 06 24.6	+00.9
16	63 11.6	+00.2	S 06 25.5	+01.0
17	78 11.8	+00.2	S 06 26.5	+00.9
18	93 12.0	+00.1	S 06 27.4	+01.0
19	108 12.1	+00.2	S 06 28.4	+00.9
20	123 12.3	+00.2	S 06 29.3	+01.0
21	138 12.5	+00.1	S 06 30.3	+00.9
22	153 12.6	+00.2	S 06 31.2	+01.0
23	168 12.8	+00.2	S 06 32.2	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	165°	165°	165°	165°	165°	165°

Greenwich Culmination Time: 11:47

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	185 57.9	-00.4	S 03 32.4	+01.3
01	200 57.5	-00.4	S 03 33.7	+01.2
02	215 57.1	-00.4	S 03 34.9	+01.3
03	230 56.7	-00.4	S 03 36.2	+01.2
04	245 56.3	-00.4	S 03 37.4	+01.2
05	260 55.9	-00.4	S 03 38.6	+01.3
06	275 55.5	-00.4	S 03 39.9	+01.2
07	290 55.1	-00.4	S 03 41.1	+01.3
08	305 54.7	-00.4	S 03 42.4	+01.2
09	320 54.3	-00.4	S 03 43.6	+01.3
10	335 53.9	-00.4	S 03 44.9	+01.2
11	350 53.5	-00.4	S 03 46.1	+01.3
12	5 53.1	-00.4	S 03 47.4	+01.2
13	20 52.7	-00.4	S 03 48.6	+01.3
14	35 52.3	-00.4	S 03 49.9	+01.2
15	50 51.9	-00.4	S 03 51.1	+01.3
16	65 51.5	-00.4	S 03 52.4	+01.2
17	80 51.1	-00.4	S 03 53.6	+01.3
18	95 50.7	-00.4	S 03 54.9	+01.2
19	110 50.3	-00.5	S 03 56.1	+01.3
20	125 49.8	-00.4	S 03 57.4	+01.2
21	140 49.4	-00.4	S 03 58.6	+01.3
22	155 49.0	-00.4	S 03 59.9	+01.2
23	170 48.6	-00.4	S 04 01.1	+01.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	168°	168°	168°	168°	168°	167°

Greenwich Culmination Time: 11:36

Moon

A: 49%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	12 02.1	-28.1	S 01 10.0	-15.9
01	26 34.0	-28.2	S 00 54.1	-15.8
02	41 05.8	-28.0	S 00 38.3	-15.9
03	55 37.8	-28.1	S 00 22.4	-15.9
04	70 09.7	-28.0	S 00 06.5	-15.8
05	84 41.7	-28.0	N 00 09.3	+15.8
06	99 13.7	-28.0	N 00 25.1	+15.8
07	113 45.7	-28.0	N 00 40.9	+15.8
08	128 17.7	-28.0	N 00 56.7	+15.8
09	142 49.7	-27.9	N 01 12.5	+15.8
10	157 21.8	-27.9	N 01 28.3	+15.7
11	171 53.9	-27.9	N 01 44.0	+15.7
12	186 26.0	-27.9	N 01 59.7	+15.7
13	200 58.1	-27.9	N 02 15.4	+15.7
14	215 30.2	-27.8	N 02 31.1	+15.7
15	230 02.4	-27.9	N 02 46.8	+15.6
16	244 34.5	-27.8	N 03 02.4	+15.6
17	259 06.7	-27.9	N 03 18.0	+15.6
18	273 38.8	-27.8	N 03 33.6	+15.5
19	288 11.0	-27.8	N 03 49.1	+15.5
20	302 43.2	-27.8	N 04 04.6	+15.5
21	317 15.4	-27.8	N 04 20.1	+15.4
22	331 47.6	-27.8	N 04 35.5	+15.4
23	346 19.8	-27.8	N 04 50.9	+15.4

UT	02	06	10	14	18	22
SD	15′9	15′8	15′8	15′8	15′8	15′7
HP	58′2	58′1	58′0	57′9	57′8	57′7
SHA	353°	351°	349°	347°	345°	343°

Greenwich Culmination Time: 23:56

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	295 41.5	+01.7	N 22 49.8	+00.1
01	310 43.2	+01.8	N 22 49.9	+00.1
02	325 45.0	+01.7	N 22 50.0	+00.2
03	340 46.7	+01.8	N 22 50.2	+00.1
04	355 48.5	+01.7	N 22 50.3	+00.1
05	10 50.2	+01.8	N 22 50.4	+00.1
06	25 52.0	+01.7	N 22 50.5	+00.1
07	40 53.7	+01.8	N 22 50.6	+00.1
08	55 55.5	+01.7	N 22 50.7	+00.2
09	70 57.2	+01.8	N 22 50.9	+00.1
10	85 59.0	+01.7	N 22 51.0	+00.1
11	101 00.7	+01.8	N 22 51.1	+00.1
12	116 02.5	+01.7	N 22 51.2	+00.1
13	131 04.2	+01.8	N 22 51.3	+00.2
14	146 06.0	+01.7	N 22 51.5	+00.1
15	161 07.7	+01.8	N 22 51.6	+00.1
16	176 09.5	+01.8	N 22 51.7	+00.1
17	191 11.3	+01.7	N 22 51.8	+00.1
18	206 13.0	+01.8	N 22 51.9	+00.2
19	221 14.8	+01.7	N 22 52.1	+00.1
20	236 16.5	+01.8	N 22 52.2	+00.1
21	251 18.3	+01.8	N 22 52.3	+00.1
22	266 20.1	+01.7	N 22 52.4	+00.1
23	281 21.8	+01.8	N 22 52.5	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	278°	278°	278°	278°	278°	278°

Greenwich Culmination Time: 04:16

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	15 01.9	+02.7	S 00 38.9	+00.1
01	30 04.6	+02.8	S 00 39.0	+00.2
02	45 07.4	+02.7	S 00 39.2	+00.1
03	60 10.1	+02.8	S 00 39.3	+00.1
04	75 12.9	+02.7	S 00 39.4	+00.1
05	90 15.6	+02.8	S 00 39.5	+00.1
06	105 18.4	+02.8	S 00 39.6	+00.2
07	120 21.2	+02.7	S 00 39.8	+00.1
08	135 23.9	+02.8	S 00 39.9	+00.1
09	150 26.7	+02.7	S 00 40.0	+00.1
10	165 29.4	+02.8	S 00 40.1	+00.2
11	180 32.2	+02.7	S 00 40.3	+00.1
12	195 34.9	+02.8	S 00 40.4	+00.1
13	210 37.7	+02.7	S 00 40.5	+00.1
14	225 40.4	+02.8	S 00 40.6	+00.1
15	240 43.2	+02.7	S 00 40.7	+00.2
16	255 45.9	+02.8	S 00 40.9	+00.1
17	270 48.7	+02.7	S 00 41.0	+00.1
18	285 51.4	+02.8	S 00 41.1	+00.1
19	300 54.2	+02.7	S 00 41.2	+00.1
20	315 56.9	+02.8	S 00 41.3	+00.2
21	330 59.7	+02.8	S 00 41.5	+00.1
22	346 02.5	+02.7	S 00 41.6	+00.1
23	1 05.2	+02.8	S 00 41.7	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	357°	357°	357°	358°	358°	358°

Greenwich Culmination Time: 22:55

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	55 59.0	+02.5	S 16 27.0	+00.0
01	71 01.5	+02.6	S 16 27.0	+00.0
02	86 04.1	+02.5	S 16 27.0	+00.0
03	101 06.6	+02.5	S 16 27.0	+00.0
04	116 09.1	+02.5	S 16 27.0	+00.0
05	131 11.6	+02.6	S 16 27.0	+00.1
06	146 14.2	+02.5	S 16 27.1	+00.0
07	161 16.7	+02.5	S 16 27.1	+00.0
08	176 19.2	+02.5	S 16 27.1	+00.0
09	191 21.7	+02.5	S 16 27.1	+00.0
10	206 24.2	+02.6	S 16 27.1	+00.0
11	221 26.8	+02.5	S 16 27.1	+00.1
12	236 29.3	+02.5	S 16 27.2	+00.0
13	251 31.8	+02.5	S 16 27.2	+00.0
14	266 34.3	+02.5	S 16 27.2	+00.0
15	281 36.8	+02.6	S 16 27.2	+00.0
16	296 39.4	+02.5	S 16 27.2	+00.0
17	311 41.9	+02.5	S 16 27.2	+00.0
18	326 44.4	+02.5	S 16 27.2	+00.1
19	341 46.9	+02.5	S 16 27.3	+00.0
20	356 49.4	+02.6	S 16 27.3	+00.0
21	11 52.0	+02.5	S 16 27.3	+00.0
22	26 54.5	+02.5	S 16 27.3	+00.0
23	41 57.0	+02.5	S 16 27.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 20:12

2022 October 10 Monday (day 283 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 13.0	+00.2	S 06 33.1	+01.0
01	198 13.2	+00.1	S 06 34.1	+00.9
02	213 13.3	+00.2	S 06 35.0	+01.0
03	228 13.5	+00.2	S 06 36.0	+00.9
04	243 13.7	+00.1	S 06 36.9	+01.0
05	258 13.8	+00.2	S 06 37.9	+00.9
06	273 14.0	+00.2	S 06 38.8	+01.0
07	288 14.2	+00.1	S 06 39.8	+00.9
08	303 14.3	+00.2	S 06 40.7	+00.9
09	318 14.5	+00.2	S 06 41.6	+01.0
10	333 14.7	+00.1	S 06 42.6	+00.9
11	348 14.8	+00.2	S 06 43.5	+01.0
12	3 15.0	+00.2	S 06 44.5	+00.9
13	18 15.2	+00.1	S 06 45.4	+01.0
14	33 15.3	+00.2	S 06 46.4	+00.9
15	48 15.5	+00.2	S 06 47.3	+01.0
16	63 15.7	+00.1	S 06 48.3	+00.9
17	78 15.8	+00.2	S 06 49.2	+00.9
18	93 16.0	+00.2	S 06 50.1	+01.0
19	108 16.2	+00.1	S 06 51.1	+00.9
20	123 16.3	+00.2	S 06 52.0	+01.0
21	138 16.5	+00.2	S 06 53.0	+00.9
22	153 16.7	+00.1	S 06 53.9	+01.0
23	168 16.8	+00.2	S 06 54.9	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	165°	164°	164°	164°	164°	164°

Greenwich Culmination Time: 11:47

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	185 48.2	-00.4	S 04 02.4	+01.2
01	200 47.8	-00.4	S 04 03.6	+01.2
02	215 47.4	-00.4	S 04 04.8	+01.3
03	230 47.0	-00.4	S 04 06.1	+01.2
04	245 46.6	-00.4	S 04 07.3	+01.3
05	260 46.2	-00.4	S 04 08.6	+01.2
06	275 45.8	-00.4	S 04 09.8	+01.3
07	290 45.4	-00.4	S 04 11.1	+01.2
08	305 45.0	-00.4	S 04 12.3	+01.3
09	320 44.6	-00.5	S 04 13.6	+01.2
10	335 44.1	-00.4	S 04 14.8	+01.3
11	350 43.7	-00.4	S 04 16.1	+01.2
12	5 43.3	-00.4	S 04 17.3	+01.2
13	20 42.9	-00.4	S 04 18.5	+01.3
14	35 42.5	-00.4	S 04 19.8	+01.2
15	50 42.1	-00.4	S 04 21.0	+01.3
16	65 41.7	-00.4	S 04 22.3	+01.2
17	80 41.3	-00.4	S 04 23.5	+01.3
18	95 40.9	-00.4	S 04 24.8	+01.2
19	110 40.5	-00.4	S 04 26.0	+01.3
20	125 40.1	-00.5	S 04 27.3	+01.2
21	140 39.6	-00.4	S 04 28.5	+01.2
22	155 39.2	-00.4	S 04 29.7	+01.3
23	170 38.8	-00.4	S 04 31.0	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	167°	167°	167°	167°	166°	166°

Greenwich Culmination Time: 11:37

Moon

A: 52%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	0 52.0	-27.8	N 05 06.3	+15.4
01	15 24.2	-27.8	N 05 21.7	+15.3
02	29 56.4	-27.8	N 05 37.0	+15.2
03	44 28.6	-27.7	N 05 52.2	+15.2
04	59 00.9	-27.8	N 06 07.4	+15.2
05	73 33.1	-27.8	N 06 22.6	+15.2
06	88 05.3	-27.8	N 06 37.8	+15.1
07	102 37.5	-27.8	N 06 52.9	+15.0
08	117 09.7	-27.8	N 07 07.9	+15.0
09	131 41.9	-27.8	N 07 22.9	+15.0
10	146 14.1	-27.8	N 07 37.9	+14.9
11	160 46.3	-27.9	N 07 52.8	+14.8
12	175 18.4	-27.8	N 08 07.6	+14.8
13	189 50.6	-27.8	N 08 22.4	+14.8
14	204 22.8	-27.9	N 08 37.2	+14.7
15	218 54.9	-27.9	N 08 51.9	+14.6
16	233 27.0	-27.8	N 09 06.5	+14.6
17	247 59.2	-27.9	N 09 21.1	+14.5
18	262 31.3	-27.9	N 09 35.6	+14.5
19	277 03.4	-27.9	N 09 50.1	+14.4
20	291 35.5	-28.0	N 10 04.5	+14.4
21	306 07.5	-27.9	N 10 18.9	+14.2
22	320 39.6	-28.0	N 10 33.1	+14.3
23	335 11.6	-28.0	N 10 47.4	+14.1

UT	02	06	10	14	18	22
SD	15′7	15′7	15′6	15′6	15′6	15′6
HP	57′6	57′5	57′4	57′3	57′2	57′1
SHA	341°	339°	337°	335°	333°	331°

Greenwich Culmination Time: -1:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	296 23.6	+01.8	N 22 52.6	+00.2
01	311 25.4	+01.7	N 22 52.8	+00.1
02	326 27.1	+01.8	N 22 52.9	+00.1
03	341 28.9	+01.8	N 22 53.0	+00.1
04	356 30.7	+01.7	N 22 53.1	+00.1
05	11 32.4	+01.8	N 22 53.2	+00.2
06	26 34.2	+01.8	N 22 53.4	+00.1
07	41 36.0	+01.8	N 22 53.5	+00.1
08	56 37.8	+01.8	N 22 53.6	+00.1
09	71 39.6	+01.7	N 22 53.7	+00.1
10	86 41.3	+01.8	N 22 53.8	+00.1
11	101 43.1	+01.8	N 22 53.9	+00.2
12	116 44.9	+01.8	N 22 54.1	+00.1
13	131 46.7	+01.8	N 22 54.2	+00.1
14	146 48.5	+01.7	N 22 54.3	+00.1
15	161 50.2	+01.8	N 22 54.4	+00.1
16	176 52.0	+01.8	N 22 54.5	+00.1
17	191 53.8	+01.8	N 22 54.6	+00.2
18	206 55.6	+01.8	N 22 54.8	+00.1
19	221 57.4	+01.8	N 22 54.9	+00.1
20	236 59.2	+01.8	N 22 55.0	+00.1
21	252 01.0	+01.8	N 22 55.1	+00.1
22	267 02.8	+01.8	N 22 55.2	+00.2
23	282 04.6	+01.8	N 22 55.4	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	278°	278°	278°	278°	278°	278°

Greenwich Culmination Time: 04:13

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	16 08.0	+02.7	S 00 41.8	+00.1
01	31 10.7	+02.8	S 00 41.9	+00.2
02	46 13.5	+02.7	S 00 42.1	+00.1
03	61 16.2	+02.8	S 00 42.2	+00.1
04	76 19.0	+02.7	S 00 42.3	+00.1
05	91 21.7	+02.8	S 00 42.4	+00.2
06	106 24.5	+02.7	S 00 42.6	+00.1
07	121 27.2	+02.8	S 00 42.7	+00.1
08	136 30.0	+02.7	S 00 42.8	+00.1
09	151 32.7	+02.8	S 00 42.9	+00.1
10	166 35.5	+02.7	S 00 43.0	+00.2
11	181 38.2	+02.8	S 00 43.2	+00.1
12	196 41.0	+02.7	S 00 43.3	+00.1
13	211 43.7	+02.8	S 00 43.4	+00.1
14	226 46.5	+02.7	S 00 43.5	+00.1
15	241 49.2	+02.8	S 00 43.6	+00.2
16	256 52.0	+02.7	S 00 43.8	+00.1
17	271 54.7	+02.8	S 00 43.9	+00.1
18	286 57.5	+02.7	S 00 44.0	+00.1
19	302 00.2	+02.8	S 00 44.1	+00.1
20	317 03.0	+02.7	S 00 44.2	+00.1
21	332 05.7	+02.8	S 00 44.3	+00.2
22	347 08.5	+02.7	S 00 44.5	+00.1
23	2 11.2	+02.8	S 00 44.6	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 22:51

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	56 59.5	+02.5	S 16 27.3	+00.1
01	72 02.0	+02.6	S 16 27.4	+00.0
02	87 04.6	+02.5	S 16 27.4	+00.0
03	102 07.1	+02.5	S 16 27.4	+00.0
04	117 09.6	+02.5	S 16 27.4	+00.0
05	132 12.1	+02.5	S 16 27.4	+00.0
06	147 14.6	+02.6	S 16 27.4	+00.0
07	162 17.2	+02.5	S 16 27.4	+00.1
08	177 19.7	+02.5	S 16 27.5	+00.0
09	192 22.2	+02.5	S 16 27.5	+00.0
10	207 24.7	+02.5	S 16 27.5	+00.0
11	222 27.2	+02.5	S 16 27.5	+00.0
12	237 29.7	+02.6	S 16 27.5	+00.0
13	252 32.3	+02.5	S 16 27.5	+00.0
14	267 34.8	+02.5	S 16 27.5	+00.1
15	282 37.3	+02.5	S 16 27.6	+00.0
16	297 39.8	+02.5	S 16 27.6	+00.0
17	312 42.3	+02.5	S 16 27.6	+00.0
18	327 44.8	+02.6	S 16 27.6	+00.0
19	342 47.4	+02.5	S 16 27.6	+00.0
20	357 49.9	+02.5	S 16 27.6	+00.0
21	12 52.4	+02.5	S 16 27.6	+00.1
22	27 54.9	+02.5	S 16 27.7	+00.0
23	42 57.4	+02.5	S 16 27.7	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 20:08

2022 October 15 Saturday (day 288 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 31.7	+00.2	S 08 25.5	+01.0
01	198 31.9	+00.1	S 08 26.5	+00.9
02	213 32.0	+00.1	S 08 27.4	+00.9
03	228 32.1	+00.2	S 08 28.3	+00.9
04	243 32.3	+00.1	S 08 29.2	+01.0
05	258 32.4	+00.2	S 08 30.2	+00.9
06	273 32.6	+00.1	S 08 31.1	+00.9
07	288 32.7	+00.1	S 08 32.0	+00.9
08	303 32.8	+00.2	S 08 32.9	+01.0
09	318 33.0	+00.1	S 08 33.9	+00.9
10	333 33.1	+00.2	S 08 34.8	+00.9
11	348 33.3	+00.1	S 08 35.7	+00.9
12	3 33.4	+00.1	S 08 36.6	+01.0
13	18 33.5	+00.2	S 08 37.6	+00.9
14	33 33.7	+00.1	S 08 38.5	+00.9
15	48 33.8	+00.2	S 08 39.4	+00.9
16	63 34.0	+00.1	S 08 40.3	+00.9
17	78 34.1	+00.1	S 08 41.2	+01.0
18	93 34.2	+00.2	S 08 42.2	+00.9
19	108 34.4	+00.1	S 08 43.1	+00.9
20	123 34.5	+00.1	S 08 44.0	+00.9
21	138 34.6	+00.2	S 08 44.9	+01.0
22	153 34.8	+00.1	S 08 45.9	+00.9
23	168 34.9	+00.2	S 08 46.8	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	160°	160°	160°	159°	159°	159°

Greenwich Culmination Time: 11:45

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	184 58.0	−00.4	S 06 30.8	+01.2
01	199 57.6	−00.4	S 06 32.0	+01.2
02	214 57.2	−00.5	S 06 33.2	+01.3
03	229 56.7	−00.4	S 06 34.5	+01.2
04	244 56.3	−00.4	S 06 35.7	+01.2
05	259 55.9	−00.4	S 06 36.9	+01.2
06	274 55.5	−00.5	S 06 38.1	+01.3
07	289 55.0	−00.4	S 06 39.4	+01.2
08	304 54.6	−00.4	S 06 40.6	+01.2
09	319 54.2	−00.5	S 06 41.8	+01.2
10	334 53.7	−00.4	S 06 43.0	+01.3
11	349 53.3	−00.5	S 06 44.3	+01.2
12	4 52.8	−00.4	S 06 45.5	+01.2
13	19 52.4	−00.4	S 06 46.7	+01.2
14	34 52.0	−00.5	S 06 47.9	+01.2
15	49 51.5	−00.4	S 06 49.1	+01.3
16	64 51.1	−00.4	S 06 50.4	+01.2
17	79 50.7	−00.5	S 06 51.6	+01.2
18	94 50.2	−00.4	S 06 52.8	+01.2
19	109 49.8	−00.4	S 06 54.0	+01.3
20	124 49.4	−00.5	S 06 55.3	+01.2
21	139 48.9	−00.4	S 06 56.5	+01.2
22	154 48.5	−00.4	S 06 57.7	+01.2
23	169 48.1	−00.5	S 06 58.9	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	161°	161°	161°	161°	161°	160°

Greenwich Culmination Time: 11:40

Moon

A: 68%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	302 32.8	−30.9	N 26 27.1	+04.0
01	317 01.9	−31.0	N 26 31.1	+03.9
02	331 30.9	−31.0	N 26 35.0	+03.7
03	345 59.9	−31.0	N 26 38.7	+03.6
04	0 28.9	−31.1	N 26 42.3	+03.4
05	14 57.8	−31.0	N 26 45.7	+03.3
06	29 26.8	−31.1	N 26 49.0	+03.2
07	43 55.7	−31.0	N 26 52.2	+03.1
08	58 24.7	−31.1	N 26 55.3	+02.9
09	72 53.6	−31.1	N 26 58.2	+02.8
10	87 22.5	−31.1	N 27 01.0	+02.6
11	101 51.4	−31.1	N 27 03.6	+02.5
12	116 20.3	−31.1	N 27 06.1	+02.4
13	130 49.2	−31.1	N 27 08.5	+02.3
14	145 18.1	−31.1	N 27 10.8	+02.1
15	159 47.0	−31.1	N 27 12.9	+01.9
16	174 15.9	−31.1	N 27 14.8	+01.9
17	188 44.8	−31.1	N 27 16.7	+01.7
18	203 13.7	−31.1	N 27 18.4	+01.6
19	217 42.6	−31.1	N 27 20.0	+01.4
20	232 11.5	−31.1	N 27 21.4	+01.3
21	246 40.4	−31.1	N 27 22.7	+01.2
22	261 09.3	−31.1	N 27 23.9	+01.0
23	275 38.2	−31.1	N 27 24.9	+00.9

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′8	14′8	14′8
HP	54′7	54′6	54′6	54′5	54′4	54′4
SHA	278°	276°	273°	271°	269°	267°

Greenwich Culmination Time: 03:58

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	300 04.3	+01.9	N 23 06.5	+00.1
01	315 06.2	+01.9	N 23 06.6	+00.2
02	330 08.1	+02.0	N 23 06.8	+00.1
03	345 10.1	+01.9	N 23 06.9	+00.1
04	0 12.0	+01.9	N 23 07.0	+00.1
05	15 13.9	+01.9	N 23 07.1	+00.1
06	30 15.8	+01.9	N 23 07.2	+00.1
07	45 17.7	+02.0	N 23 07.3	+00.1
08	60 19.7	+01.9	N 23 07.4	+00.1
09	75 21.6	+01.9	N 23 07.5	+00.2
10	90 23.5	+01.9	N 23 07.7	+00.1
11	105 25.4	+02.0	N 23 07.8	+00.1
12	120 27.4	+01.9	N 23 07.9	+00.1
13	135 29.3	+01.9	N 23 08.0	+00.1
14	150 31.2	+02.0	N 23 08.1	+00.1
15	165 33.2	+01.9	N 23 08.2	+00.1
16	180 35.1	+01.9	N 23 08.3	+00.2
17	195 37.0	+02.0	N 23 08.5	+00.1
18	210 39.0	+01.9	N 23 08.6	+00.1
19	225 40.9	+01.9	N 23 08.7	+00.1
20	240 42.8	+02.0	N 23 08.8	+00.1
21	255 44.8	+01.9	N 23 08.9	+00.1
22	270 46.7	+02.0	N 23 09.0	+00.1
23	285 48.7	+01.9	N 23 09.1	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	277°	277°	276°	276°	276°	276°

Greenwich Culmination Time: 03:59

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	21 37.2	+02.7	S 00 55.8	+00.1
01	36 39.9	+02.8	S 00 55.9	+00.1
02	51 42.7	+02.7	S 00 56.0	+00.1
03	66 45.4	+02.7	S 00 56.1	+00.1
04	81 48.1	+02.8	S 00 56.2	+00.2
05	96 50.9	+02.7	S 00 56.4	+00.1
06	111 53.6	+02.7	S 00 56.5	+00.1
07	126 56.3	+02.8	S 00 56.6	+00.1
08	141 59.1	+02.7	S 00 56.7	+00.1
09	157 01.8	+02.7	S 00 56.8	+00.1
10	172 04.5	+02.8	S 00 56.9	+00.1
11	187 07.3	+02.7	S 00 57.0	+00.1
12	202 10.0	+02.7	S 00 57.1	+00.1
13	217 12.7	+02.8	S 00 57.2	+00.2
14	232 15.5	+02.7	S 00 57.4	+00.1
15	247 18.2	+02.7	S 00 57.5	+00.1
16	262 20.9	+02.8	S 00 57.6	+00.1
17	277 23.7	+02.7	S 00 57.7	+00.1
18	292 26.4	+02.7	S 00 57.8	+00.1
19	307 29.1	+02.8	S 00 57.9	+00.1
20	322 31.9	+02.7	S 00 58.0	+00.1
21	337 34.6	+02.7	S 00 58.1	+00.1
22	352 37.3	+02.8	S 00 58.2	+00.1
23	7 40.1	+02.7	S 00 58.3	+00.2

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 22:29

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	62 00.6	+02.5	S 16 28.8	+00.0
01	77 03.1	+02.5	S 16 28.8	+00.0
02	92 05.6	+02.5	S 16 28.8	+00.0
03	107 08.1	+02.5	S 16 28.8	+00.0
04	122 10.6	+02.5	S 16 28.8	+00.0
05	137 13.1	+02.5	S 16 28.8	+00.0
06	152 15.6	+02.5	S 16 28.8	+00.0
07	167 18.1	+02.5	S 16 28.8	+00.0
08	182 20.6	+02.5	S 16 28.8	+00.1
09	197 23.1	+02.5	S 16 28.9	+00.0
10	212 25.6	+02.5	S 16 28.9	+00.0
11	227 28.1	+02.5	S 16 28.9	+00.0
12	242 30.6	+02.5	S 16 28.9	+00.0
13	257 33.1	+02.5	S 16 28.9	+00.0
14	272 35.6	+02.5	S 16 28.9	+00.0
15	287 38.1	+02.5	S 16 28.9	+00.0
16	302 40.6	+02.5	S 16 28.9	+00.0
17	317 43.1	+02.5	S 16 28.9	+00.0
18	332 45.6	+02.5	S 16 28.9	+00.0
19	347 48.1	+02.4	S 16 28.9	+00.0
20	2 50.5	+02.5	S 16 28.9	+00.0
21	17 53.0	+02.5	S 16 28.9	+00.1
22	32 55.5	+02.5	S 16 29.0	+00.0
23	47 58.0	+02.5	S 16 29.0	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 19:48

2022 October 12 Wednesday (day 285 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 20.9	+00.1	S 07 18.4	+00.9
01	198 21.0	+00.2	S 07 19.3	+01.0
02	213 21.2	+00.1	S 07 20.3	+00.9
03	228 21.3	+00.2	S 07 21.2	+00.9
04	243 21.5	+00.2	S 07 22.1	+01.0
05	258 21.7	+00.1	S 07 23.1	+00.9
06	273 21.8	+00.2	S 07 24.0	+01.0
07	288 22.0	+00.1	S 07 25.0	+00.9
08	303 22.1	+00.2	S 07 25.9	+00.9
09	318 22.3	+00.1	S 07 26.8	+01.0
10	333 22.4	+00.2	S 07 27.8	+00.9
11	348 22.6	+00.2	S 07 28.7	+00.9
12	3 22.8	+00.1	S 07 29.6	+01.0
13	18 22.9	+00.2	S 07 30.6	+00.9
14	33 23.1	+00.1	S 07 31.5	+01.0
15	48 23.2	+00.2	S 07 32.5	+00.9
16	63 23.4	+00.1	S 07 33.4	+00.9
17	78 23.5	+00.2	S 07 34.3	+01.0
18	93 23.7	+00.1	S 07 35.3	+00.9
19	108 23.8	+00.2	S 07 36.2	+00.9
20	123 24.0	+00.2	S 07 37.1	+01.0
21	138 24.2	+00.1	S 07 38.1	+00.9
22	153 24.3	+00.2	S 07 39.0	+00.9
23	168 24.5	+00.1	S 07 39.9	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	163°	163°	162°	162°	162°	162°

Greenwich Culmination Time: 11:46

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	185 28.5	−00.4	S 05 02.0	+01.3
01	200 28.1	−00.4	S 05 03.3	+01.2
02	215 27.7	−00.5	S 05 04.5	+01.2
03	230 27.2	−00.4	S 05 05.7	+01.3
04	245 26.8	−00.4	S 05 07.0	+01.2
05	260 26.4	−00.4	S 05 08.2	+01.3
06	275 26.0	−00.4	S 05 09.5	+01.2
07	290 25.6	−00.4	S 05 10.7	+01.2
08	305 25.2	−00.4	S 05 11.9	+01.3
09	320 24.8	−00.5	S 05 13.2	+01.2
10	335 24.3	−00.4	S 05 14.4	+01.3
11	350 23.9	−00.4	S 05 15.7	+01.2
12	5 23.5	−00.4	S 05 16.9	+01.2
13	20 23.1	−00.4	S 05 18.1	+01.3
14	35 22.7	−00.5	S 05 19.4	+01.2
15	50 22.2	−00.4	S 05 20.6	+01.2
16	65 21.8	−00.4	S 05 21.8	+01.3
17	80 21.4	−00.4	S 05 23.1	+01.2
18	95 21.0	−00.4	S 05 24.3	+01.2
19	110 20.6	−00.4	S 05 25.5	+01.3
20	125 20.2	−00.5	S 05 26.8	+01.2
21	140 19.7	−00.4	S 05 28.0	+01.3
22	155 19.3	−00.4	S 05 29.3	+01.2
23	170 18.9	−00.4	S 05 30.5	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	165°	165°	164°	164°	164°	164°

Greenwich Culmination Time: 11:38

Moon

A: 58%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	338 25.0	−28.6	N 16 19.7	+12.3
01	352 56.4	−28.7	N 16 32.0	+12.1
02	7 27.7	−28.7	N 16 44.1	+12.1
03	21 59.0	−28.7	N 16 56.2	+12.0
04	36 30.3	−28.8	N 17 08.2	+11.9
05	51 01.5	−28.8	N 17 20.1	+11.8
06	65 32.7	−28.8	N 17 31.9	+11.7
07	80 03.9	−28.9	N 17 43.6	+11.6
08	94 35.0	−28.9	N 17 55.2	+11.5
09	109 06.1	−29.0	N 18 06.7	+11.4
10	123 37.1	−29.0	N 18 18.1	+11.3
11	138 08.1	−29.0	N 18 29.4	+11.2
12	152 39.1	−29.0	N 18 40.6	+11.1
13	167 10.1	−29.1	N 18 51.7	+11.0
14	181 41.0	−29.2	N 19 02.7	+10.9
15	196 11.8	−29.1	N 19 13.6	+10.9
16	210 42.7	−29.2	N 19 24.5	+10.7
17	225 13.5	−29.3	N 19 35.2	+10.6
18	239 44.2	−29.3	N 19 45.8	+10.5
19	254 14.9	−29.3	N 19 56.3	+10.4
20	268 45.6	−29.3	N 20 06.7	+10.3
21	283 16.3	−29.4	N 20 17.0	+10.2
22	297 46.9	−29.5	N 20 27.2	+10.0
23	312 17.4	−29.4	N 20 37.2	+10.0

UT	02	06	10	14	18	22
SD	15′3	15′3	15′3	15′3	15′2	15′2
HP	56′3	56′2	56′1	56′0	55′9	55′8
SHA	317°	315°	313°	311°	308°	306°

Greenwich Culmination Time: 01:29

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	297 49.8	+01.8	N 22 58.3	+00.1
01	312 51.6	+01.8	N 22 58.4	+00.1
02	327 53.4	+01.9	N 22 58.5	+00.1
03	342 55.3	+01.8	N 22 58.6	+00.1
04	357 57.1	+01.8	N 22 58.7	+00.1
05	12 58.9	+01.9	N 22 58.8	+00.2
06	28 00.8	+01.8	N 22 59.0	+00.1
07	43 02.6	+01.8	N 22 59.1	+00.1
08	58 04.4	+01.9	N 22 59.2	+00.1
09	73 06.3	+01.8	N 22 59.3	+00.1
10	88 08.1	+01.8	N 22 59.4	+00.1
11	103 09.9	+01.9	N 22 59.5	+00.2
12	118 11.8	+01.8	N 22 59.7	+00.1
13	133 13.6	+01.8	N 22 59.8	+00.1
14	148 15.4	+01.9	N 22 59.9	+00.1
15	163 17.3	+01.8	N 23 00.0	+00.1
16	178 19.1	+01.9	N 23 00.1	+00.1
17	193 21.0	+01.8	N 23 00.2	+00.1
18	208 22.8	+01.9	N 23 00.3	+00.2
19	223 24.7	+01.8	N 23 00.5	+00.1
20	238 26.5	+01.9	N 23 00.6	+00.1
21	253 28.4	+01.8	N 23 00.7	+00.1
22	268 30.2	+01.9	N 23 00.8	+00.1
23	283 32.1	+01.8	N 23 00.9	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	277°	277°	277°	277°	277°	277°

Greenwich Culmination Time: 04:08

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	18 19.9	+02.7	S 00 47.5	+00.2
01	33 22.6	+02.8	S 00 47.7	+00.1
02	48 25.4	+02.7	S 00 47.8	+00.1
03	63 28.1	+02.8	S 00 47.9	+00.1
04	78 30.9	+02.7	S 00 48.0	+00.1
05	93 33.6	+02.8	S 00 48.1	+00.1
06	108 36.4	+02.7	S 00 48.2	+00.2
07	123 39.1	+02.8	S 00 48.4	+00.1
08	138 41.9	+02.7	S 00 48.5	+00.1
09	153 44.6	+02.7	S 00 48.6	+00.1
10	168 47.3	+02.8	S 00 48.7	+00.1
11	183 50.1	+02.7	S 00 48.8	+00.1
12	198 52.8	+02.8	S 00 48.9	+00.2
13	213 55.6	+02.7	S 00 49.1	+00.1
14	228 58.3	+02.8	S 00 49.2	+00.1
15	244 01.1	+02.7	S 00 49.3	+00.1
16	259 03.8	+02.8	S 00 49.4	+00.1
17	274 06.6	+02.7	S 00 49.5	+00.1
18	289 09.3	+02.7	S 00 49.6	+00.2
19	304 12.0	+02.8	S 00 49.8	+00.1
20	319 14.8	+02.7	S 00 49.9	+00.1
21	334 17.5	+02.8	S 00 50.0	+00.1
22	349 20.3	+02.7	S 00 50.1	+00.1
23	4 23.0	+02.8	S 00 50.2	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 22:42

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	59 00.2	+02.6	S 16 28.0	+00.0
01	74 02.8	+02.5	S 16 28.0	+00.0
02	89 05.3	+02.5	S 16 28.0	+00.0
03	104 07.8	+02.5	S 16 28.0	+00.1
04	119 10.3	+02.5	S 16 28.1	+00.0
05	134 12.8	+02.5	S 16 28.1	+00.0
06	149 15.3	+02.5	S 16 28.1	+00.0
07	164 17.8	+02.5	S 16 28.1	+00.0
08	179 20.3	+02.5	S 16 28.1	+00.0
09	194 22.8	+02.5	S 16 28.1	+00.0
10	209 25.3	+02.6	S 16 28.1	+00.0
11	224 27.9	+02.5	S 16 28.1	+00.1
12	239 30.4	+02.5	S 16 28.2	+00.0
13	254 32.9	+02.5	S 16 28.2	+00.0
14	269 35.4	+02.5	S 16 28.2	+00.0
15	284 37.9	+02.5	S 16 28.2	+00.0
16	299 40.4	+02.5	S 16 28.2	+00.0
17	314 42.9	+02.5	S 16 28.2	+00.0
18	329 45.4	+02.5	S 16 28.2	+00.0
19	344 47.9	+02.5	S 16 28.2	+00.1
20	359 50.4	+02.5	S 16 28.3	+00.0
21	14 52.9	+02.5	S 16 28.3	+00.0
22	29 55.4	+02.6	S 16 28.3	+00.0
23	44 58.0	+02.5	S 16 28.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 20:00

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Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 24.6	+00.2	S 07 40.9	+00.9
01	198 24.8	+00.1	S 07 41.8	+00.9
02	213 24.9	+00.2	S 07 42.7	+01.0
03	228 25.1	+00.1	S 07 43.7	+00.9
04	243 25.2	+00.2	S 07 44.6	+01.0
05	258 25.4	+00.1	S 07 45.6	+00.9
06	273 25.5	+00.2	S 07 46.5	+00.9
07	288 25.7	+00.1	S 07 47.4	+01.0
08	303 25.8	+00.2	S 07 48.4	+00.9
09	318 26.0	+00.1	S 07 49.3	+00.9
10	333 26.1	+00.2	S 07 50.2	+01.0
11	348 26.3	+00.1	S 07 51.2	+00.9
12	3 26.4	+00.2	S 07 52.1	+00.9
13	18 26.6	+00.1	S 07 53.0	+01.0
14	33 26.7	+00.2	S 07 54.0	+00.9
15	48 26.9	+00.1	S 07 54.9	+00.9
16	63 27.0	+00.2	S 07 55.8	+00.9
17	78 27.2	+00.1	S 07 56.7	+01.0
18	93 27.3	+00.2	S 07 57.7	+00.9
19	108 27.5	+00.1	S 07 58.6	+00.9
20	123 27.6	+00.2	S 07 59.5	+01.0
21	138 27.8	+00.1	S 08 00.5	+00.9
22	153 27.9	+00.2	S 08 01.4	+00.9
23	168 28.1	+00.1	S 08 02.3	+01.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	162°	162°	161°	161°	161°	161°

Greenwich Culmination Time: 11:46

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	185 18.5	−00.4	S 05 31.7	+01.3
01	200 18.1	−00.5	S 05 33.0	+01.2
02	215 17.6	−00.4	S 05 34.2	+01.2
03	230 17.2	−00.4	S 05 35.4	+01.3
04	245 16.8	−00.4	S 05 36.7	+01.2
05	260 16.4	−00.5	S 05 37.9	+01.2
06	275 15.9	−00.4	S 05 39.1	+01.3
07	290 15.5	−00.4	S 05 40.4	+01.2
08	305 15.1	−00.4	S 05 41.6	+01.2
09	320 14.7	−00.4	S 05 42.8	+01.3
10	335 14.3	−00.5	S 05 44.1	+01.2
11	350 13.8	−00.4	S 05 45.3	+01.2
12	5 13.4	−00.4	S 05 46.5	+01.3
13	20 13.0	−00.4	S 05 47.8	+01.2
14	35 12.6	−00.5	S 05 49.0	+01.2
15	50 12.1	−00.4	S 05 50.2	+01.3
16	65 11.7	−00.4	S 05 51.5	+01.2
17	80 11.3	−00.4	S 05 52.7	+01.2
18	95 10.9	−00.5	S 05 53.9	+01.3
19	110 10.4	−00.4	S 05 55.2	+01.2
20	125 10.0	−00.4	S 05 56.4	+01.2
21	140 09.6	−00.4	S 05 57.6	+01.3
22	155 09.2	−00.5	S 05 58.9	+01.2
23	170 08.7	−00.4	S 06 00.1	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	164°	163°	163°	163°	163°	163°

Greenwich Culmination Time: 11:39

Moon

A: 61%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	326 48.0	−29.6	N 20 47.2	+09.9
01	341 18.4	−29.5	N 20 57.1	+09.7
02	355 48.9	−29.6	N 21 06.8	+09.7
03	10 19.3	−29.6	N 21 16.5	+09.5
04	24 49.7	−29.7	N 21 26.0	+09.5
05	39 20.0	−29.7	N 21 35.5	+09.3
06	53 50.3	−29.7	N 21 44.8	+09.2
07	68 20.6	−29.8	N 21 54.0	+09.1
08	82 50.8	−29.8	N 22 03.1	+08.9
09	97 21.0	−29.8	N 22 12.0	+08.9
10	111 51.2	−29.9	N 22 20.9	+08.7
11	126 21.3	−30.0	N 22 29.6	+08.7
12	140 51.3	−29.9	N 22 38.3	+08.5
13	155 21.4	−30.0	N 22 46.8	+08.4
14	169 51.4	−30.0	N 22 55.2	+08.2
15	184 21.4	−30.1	N 23 03.4	+08.2
16	198 51.3	−30.1	N 23 11.6	+08.0
17	213 21.2	−30.2	N 23 19.6	+08.0
18	227 51.0	−30.1	N 23 27.6	+07.8
19	242 20.9	−30.2	N 23 35.4	+07.6
20	256 50.7	−30.3	N 23 43.0	+07.6
21	271 20.4	−30.3	N 23 50.6	+07.4
22	285 50.1	−30.3	N 23 58.0	+07.4
23	300 19.8	−30.3	N 24 05.4	+07.1

UT	02	06	10	14	18	22
SD	15′2	15′1	15′1	15′1	15′1	15′0
HP	55′7	55′6	55′5	55′4	55′3	55′2
SHA	304°	302°	300°	298°	296°	293°

Greenwich Culmination Time: 02:17

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	298 33.9	+01.9	N 23 01.0	+00.2
01	313 35.8	+01.8	N 23 01.2	+00.1
02	328 37.6	+01.9	N 23 01.3	+00.1
03	343 39.5	+01.8	N 23 01.4	+00.1
04	358 41.3	+01.9	N 23 01.5	+00.1
05	13 43.2	+01.9	N 23 01.6	+00.1
06	28 45.1	+01.8	N 23 01.7	+00.1
07	43 46.9	+01.9	N 23 01.8	+00.2
08	58 48.8	+01.8	N 23 02.0	+00.1
09	73 50.6	+01.9	N 23 02.1	+00.1
10	88 52.5	+01.9	N 23 02.2	+00.1
11	103 54.4	+01.8	N 23 02.3	+00.1
12	118 56.2	+01.9	N 23 02.4	+00.1
13	133 58.1	+01.9	N 23 02.5	+00.1
14	148 60.0	+01.9	N 23 02.6	+00.2
15	164 01.9	+01.8	N 23 02.8	+00.1
16	179 03.7	+01.9	N 23 02.9	+00.1
17	194 05.6	+01.9	N 23 03.0	+00.1
18	209 07.5	+01.8	N 23 03.1	+00.1
19	224 09.3	+01.9	N 23 03.2	+00.1
20	239 11.2	+01.9	N 23 03.3	+00.1
21	254 13.1	+01.9	N 23 03.4	+00.2
22	269 15.0	+01.9	N 23 03.6	+00.1
23	284 16.9	+01.8	N 23 03.7	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	277°	277°	277°	277°	277°	277°

Greenwich Culmination Time: 04:05

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	19 25.8	+02.7	S 00 50.3	+00.2
01	34 28.5	+02.7	S 00 50.5	+00.1
02	49 31.2	+02.8	S 00 50.6	+00.1
03	64 34.0	+02.7	S 00 50.7	+00.1
04	79 36.7	+02.8	S 00 50.8	+00.1
05	94 39.5	+02.7	S 00 50.9	+00.1
06	109 42.2	+02.7	S 00 51.0	+00.1
07	124 44.9	+02.8	S 00 51.1	+00.2
08	139 47.7	+02.7	S 00 51.3	+00.1
09	154 50.4	+02.8	S 00 51.4	+00.1
10	169 53.2	+02.7	S 00 51.5	+00.1
11	184 55.9	+02.8	S 00 51.6	+00.1
12	199 58.7	+02.7	S 00 51.7	+00.1
13	215 01.4	+02.7	S 00 51.8	+00.2
14	230 04.1	+02.8	S 00 52.0	+00.1
15	245 06.9	+02.7	S 00 52.1	+00.1
16	260 09.6	+02.8	S 00 52.2	+00.1
17	275 12.4	+02.7	S 00 52.3	+00.1
18	290 15.1	+02.7	S 00 52.4	+00.1
19	305 17.8	+02.8	S 00 52.5	+00.1
20	320 20.6	+02.7	S 00 52.6	+00.2
21	335 23.3	+02.7	S 00 52.8	+00.1
22	350 26.0	+02.8	S 00 52.9	+00.1
23	5 28.8	+02.7	S 00 53.0	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 22:38

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	60 00.5	+02.5	S 16 28.3	+00.0
01	75 03.0	+02.5	S 16 28.3	+00.0
02	90 05.5	+02.5	S 16 28.3	+00.0
03	105 08.0	+02.5	S 16 28.3	+00.0
04	120 10.5	+02.5	S 16 28.3	+00.1
05	135 13.0	+02.5	S 16 28.4	+00.0
06	150 15.5	+02.5	S 16 28.4	+00.0
07	165 18.0	+02.5	S 16 28.4	+00.0
08	180 20.5	+02.5	S 16 28.4	+00.0
09	195 23.0	+02.5	S 16 28.4	+00.0
10	210 25.5	+02.5	S 16 28.4	+00.0
11	225 28.0	+02.5	S 16 28.4	+00.0
12	240 30.5	+02.5	S 16 28.4	+00.0
13	255 33.0	+02.5	S 16 28.4	+00.0
14	270 35.5	+02.5	S 16 28.4	+00.1
15	285 38.0	+02.6	S 16 28.5	+00.0
16	300 40.6	+02.5	S 16 28.5	+00.0
17	315 43.1	+02.5	S 16 28.5	+00.0
18	330 45.6	+02.5	S 16 28.5	+00.0
19	345 48.1	+02.5	S 16 28.5	+00.0
20	0 50.6	+02.5	S 16 28.5	+00.0
21	15 53.1	+02.5	S 16 28.5	+00.0
22	30 55.6	+02.5	S 16 28.5	+00.0
23	45 58.1	+02.5	S 16 28.5	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 19:56

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 28.2	+00.2	S 08 03.3	+00.9
01	198 28.4	+00.1	S 08 04.2	+00.9
02	213 28.5	+00.2	S 08 05.1	+01.0
03	228 28.7	+00.1	S 08 06.1	+00.9
04	243 28.8	+00.2	S 08 07.0	+00.9
05	258 29.0	+00.1	S 08 07.9	+00.9
06	273 29.1	+00.2	S 08 08.8	+01.0
07	288 29.3	+00.1	S 08 09.8	+00.9
08	303 29.4	+00.2	S 08 10.7	+00.9
09	318 29.6	+00.1	S 08 11.6	+01.0
10	333 29.7	+00.1	S 08 12.6	+00.9
11	348 29.8	+00.2	S 08 13.5	+00.9
12	3 30.0	+00.1	S 08 14.4	+00.9
13	18 30.1	+00.2	S 08 15.3	+01.0
14	33 30.3	+00.1	S 08 16.3	+00.9
15	48 30.4	+00.2	S 08 17.2	+00.9
16	63 30.6	+00.1	S 08 18.1	+01.0
17	78 30.7	+00.2	S 08 19.1	+00.9
18	93 30.9	+00.1	S 08 20.0	+00.9
19	108 31.0	+00.1	S 08 20.9	+00.9
20	123 31.1	+00.2	S 08 21.8	+01.0
21	138 31.3	+00.1	S 08 22.8	+00.9
22	153 31.4	+00.2	S 08 23.7	+00.9
23	168 31.6	+00.1	S 08 24.6	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	161°	161°	161°	160°	160°	160°

Greenwich Culmination Time: 11:46

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	185 08.3	−00.4	S 06 01.3	+01.3
01	200 07.9	−00.4	S 06 02.6	+01.2
02	215 07.5	−00.5	S 06 03.8	+01.2
03	230 07.0	−00.4	S 06 05.0	+01.2
04	245 06.6	−00.4	S 06 06.2	+01.3
05	260 06.2	−00.4	S 06 07.5	+01.2
06	275 05.8	−00.5	S 06 08.7	+01.2
07	290 05.3	−00.4	S 06 09.9	+01.3
08	305 04.9	−00.4	S 06 11.2	+01.2
09	320 04.5	−00.4	S 06 12.4	+01.2
10	335 04.1	−00.5	S 06 13.6	+01.2
11	350 03.6	−00.4	S 06 14.8	+01.3
12	5 03.2	−00.4	S 06 16.1	+01.2
13	20 02.8	−00.5	S 06 17.3	+01.2
14	35 02.3	−00.4	S 06 18.5	+01.3
15	50 01.9	−00.4	S 06 19.8	+01.2
16	65 01.5	−00.4	S 06 21.0	+01.2
17	80 01.1	−00.5	S 06 22.2	+01.2
18	95 00.6	−00.4	S 06 23.4	+01.3
19	110 00.2	−00.4	S 06 24.7	+01.2
20	124 59.8	−00.5	S 06 25.9	+01.2
21	139 59.3	−00.4	S 06 27.1	+01.2
22	154 58.9	−00.4	S 06 28.3	+01.3
23	169 58.5	−00.5	S 06 29.6	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	163°	162°	162°	162°	162°	162°

Greenwich Culmination Time: 11:39

Moon

A: 65%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	314 49.5	−30.4	N 24 12.5	+07.1
01	329 19.1	−30.4	N 24 19.6	+07.0
02	343 48.7	−30.4	N 24 26.6	+06.8
03	358 18.3	−30.5	N 24 33.4	+06.7
04	12 47.8	−30.5	N 24 40.1	+06.5
05	27 17.3	−30.5	N 24 46.6	+06.5
06	41 46.8	−30.6	N 24 53.1	+06.3
07	56 16.2	−30.6	N 24 59.4	+06.2
08	70 45.6	−30.6	N 25 05.6	+06.1
09	85 15.0	−30.6	N 25 11.7	+05.9
10	99 44.4	−30.7	N 25 17.6	+05.8
11	114 13.7	−30.7	N 25 23.4	+05.7
12	128 43.0	−30.7	N 25 29.1	+05.5
13	143 12.3	−30.8	N 25 34.6	+05.5
14	157 41.5	−30.8	N 25 40.1	+05.3
15	172 10.7	−30.7	N 25 45.4	+05.1
16	186 40.0	−30.9	N 25 50.5	+05.1
17	201 09.1	−30.8	N 25 55.6	+04.9
18	215 38.3	−30.9	N 26 00.5	+04.7
19	230 07.4	−30.8	N 26 05.2	+04.7
20	244 36.6	−30.9	N 26 09.9	+04.5
21	259 05.7	−31.0	N 26 14.4	+04.4
22	273 34.7	−30.9	N 26 18.8	+04.2
23	288 03.8	−31.0	N 26 23.0	+04.1

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	15′0	14′9	14′9
HP	55′1	55′0	55′0	54′9	54′8	54′7
SHA	291°	289°	287°	285°	282°	280°

Greenwich Culmination Time: 03:07

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	299 18.7	+01.9	N 23 03.8	+00.1
01	314 20.6	+01.9	N 23 03.9	+00.1
02	329 22.5	+01.9	N 23 04.0	+00.1
03	344 24.4	+01.9	N 23 04.1	+00.1
04	359 26.3	+01.9	N 23 04.2	+00.2
05	14 28.2	+01.9	N 23 04.4	+00.1
06	29 30.1	+01.9	N 23 04.5	+00.1
07	44 32.0	+01.9	N 23 04.6	+00.1
08	59 33.9	+01.8	N 23 04.7	+00.1
09	74 35.7	+01.9	N 23 04.8	+00.1
10	89 37.6	+01.9	N 23 04.9	+00.1
11	104 39.5	+01.9	N 23 05.0	+00.2
12	119 41.4	+01.9	N 23 05.2	+00.1
13	134 43.3	+01.9	N 23 05.3	+00.1
14	149 45.2	+01.9	N 23 05.4	+00.1
15	164 47.1	+01.9	N 23 05.5	+00.1
16	179 49.0	+01.9	N 23 05.6	+00.1
17	194 50.9	+01.9	N 23 05.7	+00.1
18	209 52.8	+02.0	N 23 05.8	+00.2
19	224 54.8	+01.9	N 23 06.0	+00.1
20	239 56.7	+01.9	N 23 06.1	+00.1
21	254 58.6	+01.9	N 23 06.2	+00.1
22	270 00.5	+01.9	N 23 06.3	+00.1
23	285 02.4	+01.9	N 23 06.4	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	277°	277°	277°	277°	277°	277°

Greenwich Culmination Time: 04:02

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	20 31.5	+02.8	S 00 53.1	+00.1
01	35 34.3	+02.7	S 00 53.2	+00.1
02	50 37.0	+02.7	S 00 53.3	+00.1
03	65 39.7	+02.8	S 00 53.4	+00.1
04	80 42.5	+02.7	S 00 53.5	+00.2
05	95 45.2	+02.8	S 00 53.7	+00.1
06	110 48.0	+02.7	S 00 53.8	+00.1
07	125 50.7	+02.7	S 00 53.9	+00.1
08	140 53.4	+02.8	S 00 54.0	+00.1
09	155 56.2	+02.7	S 00 54.1	+00.1
10	170 58.9	+02.7	S 00 54.2	+00.1
11	186 01.6	+02.8	S 00 54.3	+00.2
12	201 04.4	+02.7	S 00 54.5	+00.1
13	216 07.1	+02.7	S 00 54.6	+00.1
14	231 09.8	+02.8	S 00 54.7	+00.1
15	246 12.6	+02.7	S 00 54.8	+00.1
16	261 15.3	+02.8	S 00 54.9	+00.1
17	276 18.1	+02.7	S 00 55.0	+00.1
18	291 20.8	+02.7	S 00 55.1	+00.1
19	306 23.5	+02.8	S 00 55.2	+00.1
20	321 26.3	+02.7	S 00 55.3	+00.2
21	336 29.0	+02.7	S 00 55.5	+00.1
22	351 31.7	+02.8	S 00 55.6	+00.1
23	6 34.5	+02.7	S 00 55.7	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 22:33

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	61 00.6	+02.5	S 16 28.6	+00.0
01	76 03.1	+02.5	S 16 28.6	+00.0
02	91 05.6	+02.5	S 16 28.6	+00.0
03	106 08.1	+02.5	S 16 28.6	+00.0
04	121 10.6	+02.5	S 16 28.6	+00.0
05	136 13.1	+02.5	S 16 28.6	+00.0
06	151 15.6	+02.5	S 16 28.6	+00.0
07	166 18.1	+02.5	S 16 28.6	+00.0
08	181 20.6	+02.5	S 16 28.6	+00.0
09	196 23.1	+02.5	S 16 28.6	+00.0
10	211 25.6	+02.5	S 16 28.6	+00.1
11	226 28.1	+02.5	S 16 28.7	+00.0
12	241 30.6	+02.5	S 16 28.7	+00.0
13	256 33.1	+02.5	S 16 28.7	+00.0
14	271 35.6	+02.5	S 16 28.7	+00.0
15	286 38.1	+02.5	S 16 28.7	+00.0
16	301 40.6	+02.5	S 16 28.7	+00.0
17	316 43.1	+02.5	S 16 28.7	+00.0
18	331 45.6	+02.5	S 16 28.7	+00.0
19	346 48.1	+02.5	S 16 28.7	+00.0
20	1 50.6	+02.5	S 16 28.7	+00.0
21	16 53.1	+02.5	S 16 28.7	+00.1
22	31 55.6	+02.5	S 16 28.8	+00.0
23	46 58.1	+02.5	S 16 28.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	039°

Greenwich Culmination Time: 19:52

2022 October 19 Wednesday (day 292 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 44.2	+00.1	S 09 53.4	+00.9
01	198 44.3	+00.1	S 09 54.3	+00.9
02	213 44.4	+00.1	S 09 55.2	+00.9
03	228 44.5	+00.1	S 09 56.1	+00.9
04	243 44.6	+00.2	S 09 57.0	+00.9
05	258 44.8	+00.1	S 09 57.9	+00.9
06	273 44.9	+00.1	S 09 58.8	+00.9
07	288 45.0	+00.1	S 09 59.7	+00.9
08	303 45.1	+00.1	S 10 00.6	+00.9
09	318 45.2	+00.1	S 10 01.5	+00.9
10	333 45.3	+00.1	S 10 02.4	+00.9
11	348 45.4	+00.2	S 10 03.3	+00.9
12	3 45.6	+00.1	S 10 04.2	+00.9
13	18 45.7	+00.1	S 10 05.1	+00.9
14	33 45.8	+00.1	S 10 06.0	+00.9
15	48 45.9	+00.1	S 10 06.9	+00.9
16	63 46.0	+00.1	S 10 07.8	+00.9
17	78 46.1	+00.1	S 10 08.7	+00.9
18	93 46.2	+00.2	S 10 09.6	+00.9
19	108 46.4	+00.1	S 10 10.5	+00.9
20	123 46.5	+00.1	S 10 11.4	+00.9
21	138 46.6	+00.1	S 10 12.3	+00.9
22	153 46.7	+00.1	S 10 13.2	+00.9
23	168 46.8	+00.1	S 10 14.1	+00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	156°	156°	156°	156°	156°	155°

Greenwich Culmination Time: 11:44

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	184 15.4	−00.5	S 08 27.2	+01.2
01	199 14.9	−00.4	S 08 28.4	+01.2
02	214 14.5	−00.5	S 08 29.6	+01.2
03	229 14.0	−00.4	S 08 30.8	+01.2
04	244 13.6	−00.5	S 08 32.0	+01.2
05	259 13.1	−00.5	S 08 33.2	+01.2
06	274 12.6	−00.4	S 08 34.4	+01.2
07	289 12.2	−00.5	S 08 35.6	+01.2
08	304 11.7	−00.4	S 08 36.8	+01.2
09	319 11.3	−00.5	S 08 38.0	+01.2
10	334 10.8	−00.5	S 08 39.2	+01.2
11	349 10.3	−00.4	S 08 40.4	+01.2
12	4 09.9	−00.5	S 08 41.6	+01.2
13	19 09.4	−00.4	S 08 42.8	+01.2
14	34 09.0	−00.5	S 08 44.0	+01.2
15	49 08.5	−00.5	S 08 45.2	+01.2
16	64 08.0	−00.4	S 08 46.4	+01.2
17	79 07.6	−00.5	S 08 47.6	+01.2
18	94 07.1	−00.5	S 08 48.8	+01.1
19	109 06.6	−00.4	S 08 49.9	+01.2
20	124 06.2	−00.5	S 08 51.1	+01.2
21	139 05.7	−00.5	S 08 52.3	+01.2
22	154 05.2	−00.4	S 08 53.5	+01.2
23	169 04.8	−00.5	S 08 54.7	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	157°	157°	156°	156°	156°	156°

Greenwich Culmination Time: 11:43

Moon

A: 82%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	253 55.3	−28.7	N 22 54.2	−08.1
01	268 26.6	−28.7	N 22 46.1	−08.2
02	282 57.9	−28.6	N 22 37.9	−08.3
03	297 29.3	−28.5	N 22 29.6	−08.4
04	312 00.8	−28.5	N 22 21.2	−08.5
05	326 32.3	−28.5	N 22 12.7	−08.5
06	341 03.8	−28.4	N 22 04.2	−08.7
07	355 35.4	−28.4	N 21 55.5	−08.8
08	10 07.0	−28.3	N 21 46.7	−08.9
09	24 38.7	−28.3	N 21 37.8	−09.0
10	39 10.4	−28.2	N 21 28.8	−09.1
11	53 42.2	−28.2	N 21 19.7	−09.2
12	68 14.0	−28.1	N 21 10.5	−09.3
13	82 45.9	−28.1	N 21 01.2	−09.4
14	97 17.8	−28.0	N 20 51.8	−09.4
15	111 49.8	−28.0	N 20 42.4	−09.6
16	126 21.8	−28.0	N 20 32.8	−09.7
17	140 53.8	−27.9	N 20 23.1	−09.8
18	155 25.9	−27.9	N 20 13.3	−09.8
19	169 58.0	−27.8	N 20 03.5	−10.0
20	184 30.2	−27.8	N 19 53.5	−10.0
21	199 02.4	−27.7	N 19 43.5	−10.1
22	213 34.7	−27.7	N 19 33.4	−10.3
23	228 07.0	−27.7	N 19 23.1	−10.3

UT	02	06	10	14	18	22
SD	14′8	14′8	14′9	14′9	14′9	14′9
HP	54′4	54′5	54′5	54′6	54′7	54′7
SHA	225°	223°	221°	219°	217°	215°

Greenwich Culmination Time: 07:18

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	303 14.1	+02.1	N 23 17.3	+00.2
01	318 16.2	+02.0	N 23 17.5	+00.1
02	333 18.2	+02.1	N 23 17.6	+00.1
03	348 20.3	+02.0	N 23 17.7	+00.1
04	3 22.3	+02.0	N 23 17.8	+00.1
05	18 24.3	+02.1	N 23 17.9	+00.1
06	33 26.4	+02.0	N 23 18.0	+00.1
07	48 28.4	+02.1	N 23 18.1	+00.1
08	63 30.5	+02.1	N 23 18.2	+00.2
09	78 32.6	+02.0	N 23 18.4	+00.1
10	93 34.6	+02.1	N 23 18.5	+00.1
11	108 36.7	+02.0	N 23 18.6	+00.1
12	123 38.7	+02.1	N 23 18.7	+00.1
13	138 40.8	+02.1	N 23 18.8	+00.1
14	153 42.9	+02.0	N 23 18.9	+00.1
15	168 44.9	+02.1	N 23 19.0	+00.1
16	183 47.0	+02.0	N 23 19.1	+00.1
17	198 49.0	+02.1	N 23 19.2	+00.2
18	213 51.1	+02.1	N 23 19.4	+00.1
19	228 53.2	+02.1	N 23 19.5	+00.1
20	243 55.3	+02.0	N 23 19.6	+00.1
21	258 57.3	+02.1	N 23 19.7	+00.1
22	273 59.4	+02.1	N 23 19.8	+00.1
23	289 01.5	+02.0	N 23 19.9	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	276°	276°	276°	276°	276°	276°

Greenwich Culmination Time: 03:46

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	25 58.9	+02.7	S 01 06.1	+00.1
01	41 01.6	+02.8	S 01 06.2	+00.1
02	56 04.4	+02.7	S 01 06.3	+00.1
03	71 07.1	+02.7	S 01 06.4	+00.1
04	86 09.8	+02.7	S 01 06.5	+00.1
05	101 12.5	+02.7	S 01 06.6	+00.1
06	116 15.2	+02.7	S 01 06.7	+00.1
07	131 17.9	+02.8	S 01 06.8	+00.1
08	146 20.7	+02.7	S 01 06.9	+00.1
09	161 23.4	+02.7	S 01 07.0	+00.1
10	176 26.1	+02.7	S 01 07.1	+00.1
11	191 28.8	+02.7	S 01 07.2	+00.1
12	206 31.5	+02.7	S 01 07.3	+00.1
13	221 34.2	+02.8	S 01 07.4	+00.2
14	236 37.0	+02.7	S 01 07.6	+00.1
15	251 39.7	+02.7	S 01 07.7	+00.1
16	266 42.4	+02.7	S 01 07.8	+00.1
17	281 45.1	+02.7	S 01 07.9	+00.1
18	296 47.8	+02.7	S 01 08.0	+00.1
19	311 50.5	+02.7	S 01 08.1	+00.1
20	326 53.2	+02.8	S 01 08.2	+00.1
21	341 56.0	+02.7	S 01 08.3	+00.1
22	356 58.7	+02.7	S 01 08.4	+00.1
23	12 01.4	+02.7	S 01 08.5	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 22:12

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	65 59.7	+02.5	S 16 29.4	+00.0
01	81 02.2	+02.5	S 16 29.4	+00.0
02	96 04.7	+02.5	S 16 29.4	+00.0
03	111 07.2	+02.4	S 16 29.4	+00.0
04	126 09.6	+02.5	S 16 29.4	+00.0
05	141 12.1	+02.5	S 16 29.4	+00.0
06	156 14.6	+02.5	S 16 29.4	+00.0
07	171 17.1	+02.5	S 16 29.4	+00.0
08	186 19.6	+02.4	S 16 29.4	+00.0
09	201 22.0	+02.5	S 16 29.4	+00.0
10	216 24.5	+02.5	S 16 29.4	+00.0
11	231 27.0	+02.5	S 16 29.4	+00.0
12	246 29.5	+02.5	S 16 29.4	+00.0
13	261 32.0	+02.4	S 16 29.4	+00.0
14	276 34.4	+02.5	S 16 29.4	+00.0
15	291 36.9	+02.5	S 16 29.4	+00.0
16	306 39.4	+02.5	S 16 29.4	+00.0
17	321 41.9	+02.5	S 16 29.4	+00.0
18	336 44.4	+02.4	S 16 29.4	+00.0
19	351 46.8	+02.5	S 16 29.4	+00.0
20	6 49.3	+02.5	S 16 29.4	+00.0
21	21 51.8	+02.5	S 16 29.4	+00.0
22	36 54.3	+02.5	S 16 29.4	+00.0
23	51 56.8	+02.4	S 16 29.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 19:32

2022 October 16 Sunday (day 289 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 35.1	+00.1	S 08 47.7	+00.9
01	198 35.2	+00.1	S 08 48.6	+00.9
02	213 35.3	+00.2	S 08 49.5	+01.0
03	228 35.5	+00.1	S 08 50.5	+00.9
04	243 35.6	+00.1	S 08 51.4	+00.9
05	258 35.7	+00.2	S 08 52.3	+00.9
06	273 35.9	+00.1	S 08 53.2	+00.9
07	288 36.0	+00.1	S 08 54.1	+01.0
08	303 36.1	+00.2	S 08 55.1	+00.9
09	318 36.3	+00.1	S 08 56.0	+00.9
10	333 36.4	+00.1	S 08 56.9	+00.9
11	348 36.5	+00.2	S 08 57.8	+00.9
12	3 36.7	+00.1	S 08 58.7	+00.9
13	18 36.8	+00.1	S 08 59.6	+01.0
14	33 36.9	+00.2	S 09 00.6	+00.9
15	48 37.1	+00.1	S 09 01.5	+00.9
16	63 37.2	+00.1	S 09 02.4	+00.9
17	78 37.3	+00.2	S 09 03.3	+00.9
18	93 37.5	+00.1	S 09 04.2	+00.9
19	108 37.6	+00.1	S 09 05.1	+01.0
20	123 37.7	+00.2	S 09 06.1	+00.9
21	138 37.9	+00.1	S 09 07.0	+00.9
22	153 38.0	+00.1	S 09 07.9	+00.9
23	168 38.1	+00.1	S 09 08.8	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	159°	159°	159°	159°	158°	158°

Greenwich Culmination Time: 11:45

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	184 47.6	−00.4	S 07 00.1	+01.3
01	199 47.2	−00.5	S 07 01.4	+01.2
02	214 46.7	−00.4	S 07 02.6	+01.2
03	229 46.3	−00.4	S 07 03.8	+01.2
04	244 45.9	−00.5	S 07 05.0	+01.2
05	259 45.4	−00.4	S 07 06.2	+01.2
06	274 45.0	−00.4	S 07 07.4	+01.3
07	289 44.6	−00.5	S 07 08.7	+01.2
08	304 44.1	−00.4	S 07 09.9	+01.2
09	319 43.7	−00.5	S 07 11.1	+01.2
10	334 43.2	−00.4	S 07 12.3	+01.2
11	349 42.8	−00.4	S 07 13.5	+01.2
12	4 42.4	−00.5	S 07 14.7	+01.3
13	19 41.9	−00.4	S 07 16.0	+01.2
14	34 41.5	−00.5	S 07 17.2	+01.2
15	49 41.0	−00.4	S 07 18.4	+01.2
16	64 40.6	−00.5	S 07 19.6	+01.2
17	79 40.1	−00.4	S 07 20.8	+01.2
18	94 39.7	−00.4	S 07 22.0	+01.3
19	109 39.3	−00.5	S 07 23.3	+01.2
20	124 38.8	−00.4	S 07 24.5	+01.2
21	139 38.4	−00.5	S 07 25.7	+01.2
22	154 37.9	−00.4	S 07 26.9	+01.2
23	169 37.5	−00.5	S 07 28.1	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	160°	160°	160°	160°	159°	159°

Greenwich Culmination Time: 11:41

Moon

A: 72%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	290 07.1	−31.1	N 27 25.8	+00.8
01	304 36.0	−31.1	N 27 26.6	+00.6
02	319 04.9	−31.1	N 27 27.2	+00.5
03	333 33.8	−31.1	N 27 27.7	+00.4
04	348 02.7	−31.0	N 27 28.1	+00.2
05	2 31.7	−31.1	N 27 28.3	+00.1
06	17 00.6	−31.0	N 27 28.4	+00.0
07	31 29.6	−31.0	N 27 28.4	−00.2
08	45 58.6	−31.0	N 27 28.2	−00.3
09	60 27.6	−31.0	N 27 27.9	−00.4
10	74 56.6	−31.0	N 27 27.5	−00.6
11	89 25.6	−31.0	N 27 26.9	−00.7
12	103 54.6	−30.9	N 27 26.2	−00.8
13	118 23.7	−30.9	N 27 25.4	−01.0
14	132 52.8	−31.0	N 27 24.4	−01.1
15	147 21.8	−30.8	N 27 23.3	−01.2
16	161 51.0	−30.9	N 27 22.1	−01.4
17	176 20.1	−30.9	N 27 20.7	−01.5
18	190 49.2	−30.8	N 27 19.2	−01.6
19	205 18.4	−30.8	N 27 17.6	−01.7
20	219 47.6	−30.8	N 27 15.9	−01.9
21	234 16.8	−30.7	N 27 14.0	−02.0
22	248 46.1	−30.7	N 27 12.0	−02.2
23	263 15.4	−30.7	N 27 09.8	−02.3

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′4	54′3	54′3	54′3	54′2	54′2
SHA	265°	262°	260°	258°	256°	253°

Greenwich Culmination Time: 04:49

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	300 50.6	+02.0	N 23 09.2	+00.2
01	315 52.6	+01.9	N 23 09.4	+00.1
02	330 54.5	+01.9	N 23 09.5	+00.1
03	345 56.4	+02.0	N 23 09.6	+00.1
04	0 58.4	+01.9	N 23 09.7	+00.1
05	16 00.3	+02.0	N 23 09.8	+00.1
06	31 02.3	+02.0	N 23 09.9	+00.1
07	46 04.3	+01.9	N 23 10.0	+00.2
08	61 06.2	+02.0	N 23 10.2	+00.1
09	76 08.2	+01.9	N 23 10.3	+00.1
10	91 10.1	+02.0	N 23 10.4	+00.1
11	106 12.1	+01.9	N 23 10.5	+00.1
12	121 14.0	+02.0	N 23 10.6	+00.1
13	136 16.0	+02.0	N 23 10.7	+00.1
14	151 18.0	+01.9	N 23 10.8	+00.1
15	166 19.9	+02.0	N 23 10.9	+00.2
16	181 21.9	+02.0	N 23 11.1	+00.1
17	196 23.9	+01.9	N 23 11.2	+00.1
18	211 25.8	+02.0	N 23 11.3	+00.1
19	226 27.8	+02.0	N 23 11.4	+00.1
20	241 29.8	+01.9	N 23 11.5	+00.1
21	256 31.7	+02.0	N 23 11.6	+00.1
22	271 33.7	+02.0	N 23 11.7	+00.1
23	286 35.7	+02.0	N 23 11.8	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	276°	276°	276°	276°	276°	276°

Greenwich Culmination Time: 03:56

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	22 42.8	+02.7	S 00 58.5	+00.1
01	37 45.5	+02.8	S 00 58.6	+00.1
02	52 48.3	+02.7	S 00 58.7	+00.1
03	67 51.0	+02.7	S 00 58.8	+00.1
04	82 53.7	+02.7	S 00 58.9	+00.1
05	97 56.4	+02.8	S 00 59.0	+00.1
06	112 59.2	+02.7	S 00 59.1	+00.1
07	128 01.9	+02.7	S 00 59.2	+00.1
08	143 04.6	+02.8	S 00 59.3	+00.1
09	158 07.4	+02.7	S 00 59.4	+00.1
10	173 10.1	+02.7	S 00 59.5	+00.2
11	188 12.8	+02.7	S 00 59.7	+00.1
12	203 15.5	+02.8	S 00 59.8	+00.1
13	218 18.3	+02.7	S 00 59.9	+00.1
14	233 21.0	+02.7	S 00 60.0	+00.1
15	248 23.7	+02.8	S 01 00.1	+00.1
16	263 26.5	+02.7	S 01 00.2	+00.1
17	278 29.2	+02.7	S 01 00.3	+00.1
18	293 31.9	+02.7	S 01 00.4	+00.1
19	308 34.6	+02.8	S 01 00.5	+00.1
20	323 37.4	+02.7	S 01 00.6	+00.1
21	338 40.1	+02.7	S 01 00.7	+00.1
22	353 42.8	+02.7	S 01 00.8	+00.2
23	8 45.5	+02.8	S 01 01.0	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 22:25

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	63 00.5	+02.5	S 16 29.0	+00.0
01	78 03.0	+02.5	S 16 29.0	+00.0
02	93 05.5	+02.5	S 16 29.0	+00.0
03	108 08.0	+02.5	S 16 29.0	+00.0
04	123 10.5	+02.5	S 16 29.0	+00.0
05	138 13.0	+02.5	S 16 29.0	+00.0
06	153 15.5	+02.5	S 16 29.0	+00.0
07	168 18.0	+02.5	S 16 29.0	+00.0
08	183 20.5	+02.5	S 16 29.0	+00.0
09	198 23.0	+02.5	S 16 29.0	+00.0
10	213 25.5	+02.5	S 16 29.0	+00.0
11	228 28.0	+02.5	S 16 29.0	+00.1
12	243 30.5	+02.4	S 16 29.1	+00.0
13	258 32.9	+02.5	S 16 29.1	+00.0
14	273 35.4	+02.5	S 16 29.1	+00.0
15	288 37.9	+02.5	S 16 29.1	+00.0
16	303 40.4	+02.5	S 16 29.1	+00.0
17	318 42.9	+02.5	S 16 29.1	+00.0
18	333 45.4	+02.5	S 16 29.1	+00.0
19	348 47.9	+02.5	S 16 29.1	+00.0
20	3 50.4	+02.5	S 16 29.1	+00.0
21	18 52.9	+02.5	S 16 29.1	+00.0
22	33 55.4	+02.5	S 16 29.1	+00.0
23	48 57.9	+02.5	S 16 29.1	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 19:44

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 38.2	+00.2	S 09 09.7	+00.9
01	198 38.4	+00.1	S 09 10.6	+01.0
02	213 38.5	+00.1	S 09 11.6	+00.9
03	228 38.6	+00.2	S 09 12.5	+00.9
04	243 38.8	+00.1	S 09 13.4	+00.9
05	258 38.9	+00.1	S 09 14.3	+00.9
06	273 39.0	+00.2	S 09 15.2	+00.9
07	288 39.2	+00.1	S 09 16.1	+00.9
08	303 39.3	+00.1	S 09 17.0	+01.0
09	318 39.4	+00.1	S 09 18.0	+00.9
10	333 39.5	+00.2	S 09 18.9	+00.9
11	348 39.7	+00.1	S 09 19.8	+00.9
12	3 39.8	+00.1	S 09 20.7	+00.9
13	18 39.9	+00.1	S 09 21.6	+00.9
14	33 40.0	+00.2	S 09 22.5	+00.9
15	48 40.2	+00.1	S 09 23.4	+00.9
16	63 40.3	+00.1	S 09 24.3	+01.0
17	78 40.4	+00.1	S 09 25.3	+00.9
18	93 40.5	+00.2	S 09 26.2	+00.9
19	108 40.7	+00.1	S 09 27.1	+00.9
20	123 40.8	+00.1	S 09 28.0	+00.9
21	138 40.9	+00.1	S 09 28.9	+00.9
22	153 41.0	+00.2	S 09 29.8	+00.9
23	168 41.2	+00.1	S 09 30.7	+00.9

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	158°	158°	158°	158°	157°	157°

Greenwich Culmination Time: 11:45

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	184 37.0	−00.4	S 07 29.3	+01.2
01	199 36.6	−00.4	S 07 30.5	+01.3
02	214 36.2	−00.5	S 07 31.8	+01.2
03	229 35.7	−00.4	S 07 33.0	+01.2
04	244 35.3	−00.5	S 07 34.2	+01.2
05	259 34.8	−00.4	S 07 35.4	+01.2
06	274 34.4	−00.5	S 07 36.6	+01.2
07	289 33.9	−00.4	S 07 37.8	+01.2
08	304 33.5	−00.5	S 07 39.0	+01.2
09	319 33.0	−00.4	S 07 40.2	+01.2
10	334 32.6	−00.5	S 07 41.4	+01.3
11	349 32.1	−00.4	S 07 42.7	+01.2
12	4 31.7	−00.5	S 07 43.9	+01.2
13	19 31.2	−00.4	S 07 45.1	+01.2
14	34 30.8	−00.4	S 07 46.3	+01.2
15	49 30.4	−00.5	S 07 47.5	+01.2
16	64 29.9	−00.4	S 07 48.7	+01.2
17	79 29.5	−00.5	S 07 49.9	+01.2
18	94 29.0	−00.4	S 07 51.1	+01.2
19	109 28.6	−00.5	S 07 52.3	+01.2
20	124 28.1	−00.4	S 07 53.5	+01.2
21	139 27.7	−00.5	S 07 54.7	+01.2
22	154 27.2	−00.4	S 07 55.9	+01.3
23	169 26.8	−00.5	S 07 57.2	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	159°	159°	159°	158°	158°	158°

Greenwich Culmination Time: 11:41

Moon

A: 75%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	277 44.7	−30.7	N 27 07.5	−02.4
01	292 14.0	−30.6	N 27 05.1	−02.5
02	306 43.4	−30.6	N 27 02.6	−02.7
03	321 12.8	−30.6	N 26 59.9	−02.7
04	335 42.2	−30.6	N 26 57.2	−03.0
05	350 11.6	−30.5	N 26 54.2	−03.0
06	4 41.1	−30.5	N 26 51.2	−03.2
07	19 10.6	−30.4	N 26 48.0	−03.3
08	33 40.2	−30.4	N 26 44.7	−03.4
09	48 09.8	−30.4	N 26 41.3	−03.6
10	62 39.4	−30.4	N 26 37.7	−03.6
11	77 09.0	−30.3	N 26 34.1	−03.8
12	91 38.7	−30.3	N 26 30.3	−04.0
13	106 08.4	−30.2	N 26 26.3	−04.0
14	120 38.2	−30.2	N 26 22.3	−04.2
15	135 08.0	−30.2	N 26 18.1	−04.3
16	149 37.8	−30.1	N 26 13.8	−04.4
17	164 07.7	−30.1	N 26 09.4	−04.6
18	178 37.6	−30.0	N 26 04.8	−04.6
19	193 07.6	−30.0	N 26 00.2	−04.8
20	207 37.6	−30.0	N 25 55.4	−04.9
21	222 07.6	−29.9	N 25 50.5	−05.1
22	236 37.7	−29.9	N 25 45.4	−05.1
23	251 07.8	−29.8	N 25 40.3	−05.3

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′2	54′2	54′2	54′2	54′2	54′2
SHA	251°	249°	247°	245°	242°	240°

Greenwich Culmination Time: 05:40

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	301 37.7	+01.9	N 23 12.0	+00.1
01	316 39.6	+02.0	N 23 12.1	+00.1
02	331 41.6	+02.0	N 23 12.2	+00.1
03	346 43.6	+02.0	N 23 12.3	+00.1
04	1 45.6	+02.0	N 23 12.4	+00.1
05	16 47.6	+01.9	N 23 12.5	+00.1
06	31 49.5	+02.0	N 23 12.6	+00.1
07	46 51.5	+02.0	N 23 12.7	+00.2
08	61 53.5	+02.0	N 23 12.9	+00.1
09	76 55.5	+02.0	N 23 13.0	+00.1
10	91 57.5	+02.0	N 23 13.1	+00.1
11	106 59.5	+02.0	N 23 13.2	+00.1
12	122 01.5	+02.0	N 23 13.3	+00.1
13	137 03.5	+02.0	N 23 13.4	+00.1
14	152 05.5	+02.0	N 23 13.5	+00.1
15	167 07.5	+02.0	N 23 13.6	+00.2
16	182 09.5	+02.0	N 23 13.8	+00.1
17	197 11.5	+02.0	N 23 13.9	+00.1
18	212 13.5	+02.0	N 23 14.0	+00.1
19	227 15.5	+02.0	N 23 14.1	+00.1
20	242 17.5	+02.0	N 23 14.2	+00.1
21	257 19.5	+02.0	N 23 14.3	+00.1
22	272 21.5	+02.0	N 23 14.4	+00.1
23	287 23.5	+02.0	N 23 14.5	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	276°	276°	276°	276°	276°	276°

Greenwich Culmination Time: 03:52

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	23 48.3	+02.7	S 01 01.1	+00.1
01	38 51.0	+02.7	S 01 01.2	+00.1
02	53 53.7	+02.8	S 01 01.3	+00.1
03	68 56.5	+02.7	S 01 01.4	+00.1
04	83 59.2	+02.7	S 01 01.5	+00.1
05	99 01.9	+02.7	S 01 01.6	+00.1
06	114 04.6	+02.8	S 01 01.7	+00.1
07	129 07.4	+02.7	S 01 01.8	+00.1
08	144 10.1	+02.7	S 01 01.9	+00.1
09	159 12.8	+02.7	S 01 02.0	+00.1
10	174 15.5	+02.8	S 01 02.1	+00.1
11	189 18.3	+02.7	S 01 02.2	+00.1
12	204 21.0	+02.7	S 01 02.3	+00.2
13	219 23.7	+02.7	S 01 02.5	+00.1
14	234 26.4	+02.8	S 01 02.6	+00.1
15	249 29.2	+02.7	S 01 02.7	+00.1
16	264 31.9	+02.7	S 01 02.8	+00.1
17	279 34.6	+02.7	S 01 02.9	+00.1
18	294 37.3	+02.7	S 01 03.0	+00.1
19	309 40.0	+02.8	S 01 03.1	+00.1
20	324 42.8	+02.7	S 01 03.2	+00.1
21	339 45.5	+02.7	S 01 03.3	+00.1
22	354 48.2	+02.7	S 01 03.4	+00.1
23	9 50.9	+02.8	S 01 03.5	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 22:20

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	64 00.4	+02.4	S 16 29.1	+00.0
01	79 02.8	+02.5	S 16 29.1	+00.0
02	94 05.3	+02.5	S 16 29.1	+00.0
03	109 07.8	+02.5	S 16 29.1	+00.0
04	124 10.3	+02.5	S 16 29.1	+00.1
05	139 12.8	+02.5	S 16 29.2	+00.0
06	154 15.3	+02.5	S 16 29.2	+00.0
07	169 17.8	+02.5	S 16 29.2	+00.0
08	184 20.3	+02.5	S 16 29.2	+00.0
09	199 22.8	+02.4	S 16 29.2	+00.0
10	214 25.2	+02.5	S 16 29.2	+00.0
11	229 27.7	+02.5	S 16 29.2	+00.0
12	244 30.2	+02.5	S 16 29.2	+00.0
13	259 32.7	+02.5	S 16 29.2	+00.0
14	274 35.2	+02.5	S 16 29.2	+00.0
15	289 37.7	+02.5	S 16 29.2	+00.0
16	304 40.2	+02.5	S 16 29.2	+00.0
17	319 42.7	+02.5	S 16 29.2	+00.0
18	334 45.2	+02.4	S 16 29.2	+00.0
19	349 47.6	+02.5	S 16 29.2	+00.0
20	4 50.1	+02.5	S 16 29.2	+00.0
21	19 52.6	+02.5	S 16 29.2	+00.0
22	34 55.1	+02.5	S 16 29.2	+00.0
23	49 57.6	+02.5	S 16 29.2	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 19:40

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 41.3	+00.1	S 09 31.6	+00.9
01	198 41.4	+00.1	S 09 32.5	+01.0
02	213 41.5	+00.2	S 09 33.5	+00.9
03	228 41.7	+00.1	S 09 34.4	+00.9
04	243 41.8	+00.1	S 09 35.3	+00.9
05	258 41.9	+00.1	S 09 36.2	+00.9
06	273 42.0	+00.1	S 09 37.1	+00.9
07	288 42.1	+00.2	S 09 38.0	+00.9
08	303 42.3	+00.1	S 09 38.9	+00.9
09	318 42.4	+00.1	S 09 39.8	+00.9
10	333 42.5	+00.1	S 09 40.7	+00.9
11	348 42.6	+00.2	S 09 41.6	+00.9
12	3 42.8	+00.1	S 09 42.5	+00.9
13	18 42.9	+00.1	S 09 43.4	+00.9
14	33 43.0	+00.1	S 09 44.3	+01.0
15	48 43.1	+00.1	S 09 45.3	+00.9
16	63 43.2	+00.2	S 09 46.2	+00.9
17	78 43.4	+00.1	S 09 47.1	+00.9
18	93 43.5	+00.1	S 09 48.0	+00.9
19	108 43.6	+00.1	S 09 48.9	+00.9
20	123 43.7	+00.1	S 09 49.8	+00.9
21	138 43.8	+00.1	S 09 50.7	+00.9
22	153 43.9	+00.2	S 09 51.6	+00.9
23	168 44.1	+00.1	S 09 52.5	+00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	157°	157°	157°	157°	157°	156°

Greenwich Culmination Time: 11:45

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	184 26.3	−00.4	S 07 58.4	+01.2
01	199 25.9	−00.5	S 07 59.6	+01.2
02	214 25.4	−00.4	S 08 00.8	+01.2
03	229 25.0	−00.5	S 08 02.0	+01.2
04	244 24.5	−00.5	S 08 03.2	+01.2
05	259 24.0	−00.4	S 08 04.4	+01.2
06	274 23.6	−00.5	S 08 05.6	+01.2
07	289 23.1	−00.4	S 08 06.8	+01.2
08	304 22.7	−00.5	S 08 08.0	+01.2
09	319 22.2	−00.4	S 08 09.2	+01.2
10	334 21.8	−00.5	S 08 10.4	+01.2
11	349 21.3	−00.4	S 08 11.6	+01.2
12	4 20.9	−00.5	S 08 12.8	+01.2
13	19 20.4	−00.4	S 08 14.0	+01.2
14	34 20.0	−00.5	S 08 15.2	+01.2
15	49 19.5	−00.4	S 08 16.4	+01.2
16	64 19.1	−00.5	S 08 17.6	+01.2
17	79 18.6	−00.5	S 08 18.8	+01.2
18	94 18.1	−00.4	S 08 20.0	+01.2
19	109 17.7	−00.5	S 08 21.2	+01.2
20	124 17.2	−00.4	S 08 22.4	+01.2
21	139 16.8	−00.5	S 08 23.6	+01.2
22	154 16.3	−00.4	S 08 24.8	+01.2
23	169 15.9	−00.5	S 08 26.0	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	158°	158°	157°	157°	157°	157°

Greenwich Culmination Time: 11:42

Moon

A: 78%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	265 38.0	−29.8	N 25 35.0	−05.4
01	280 08.2	−29.8	N 25 29.6	−05.5
02	294 38.4	−29.7	N 25 24.1	−05.6
03	309 08.7	−29.7	N 25 18.5	−05.7
04	323 39.0	−29.6	N 25 12.8	−05.9
05	338 09.4	−29.6	N 25 06.9	−06.0
06	352 39.8	−29.5	N 25 00.9	−06.1
07	7 10.3	−29.5	N 24 54.8	−06.2
08	21 40.8	−29.4	N 24 48.6	−06.3
09	36 11.4	−29.4	N 24 42.3	−06.4
10	50 42.0	−29.4	N 24 35.9	−06.6
11	65 12.6	−29.3	N 24 29.3	−06.6
12	79 43.3	−29.3	N 24 22.7	−06.8
13	94 14.0	−29.2	N 24 15.9	−06.9
14	108 44.8	−29.1	N 24 09.0	−07.0
15	123 15.7	−29.2	N 24 02.0	−07.1
16	137 46.5	−29.0	N 23 54.9	−07.2
17	152 17.5	−29.1	N 23 47.7	−07.3
18	166 48.4	−28.9	N 23 40.4	−07.5
19	181 19.5	−29.0	N 23 32.9	−07.5
20	195 50.5	−28.8	N 23 25.4	−07.7
21	210 21.7	−28.9	N 23 17.7	−07.7
22	224 52.8	−28.8	N 23 10.0	−07.9
23	239 24.0	−28.7	N 23 02.1	−07.9

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′2	54′3	54′3	54′3	54′4	54′4
SHA	238°	236°	234°	232°	230°	228°

Greenwich Culmination Time: 06:30

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	302 25.5	+02.0	N 23 14.7	+00.1
01	317 27.5	+02.0	N 23 14.8	+00.1
02	332 29.5	+02.0	N 23 14.9	+00.1
03	347 31.5	+02.0	N 23 15.0	+00.1
04	2 33.5	+02.1	N 23 15.1	+00.1
05	17 35.6	+02.0	N 23 15.2	+00.1
06	32 37.6	+02.0	N 23 15.3	+00.1
07	47 39.6	+02.0	N 23 15.4	+00.2
08	62 41.6	+02.0	N 23 15.6	+00.1
09	77 43.6	+02.1	N 23 15.7	+00.1
10	92 45.7	+02.0	N 23 15.8	+00.1
11	107 47.7	+02.0	N 23 15.9	+00.1
12	122 49.7	+02.0	N 23 16.0	+00.1
13	137 51.7	+02.1	N 23 16.1	+00.1
14	152 53.8	+02.0	N 23 16.2	+00.1
15	167 55.8	+02.0	N 23 16.3	+00.1
16	182 57.8	+02.1	N 23 16.4	+00.2
17	197 59.9	+02.0	N 23 16.6	+00.1
18	213 01.9	+02.0	N 23 16.7	+00.1
19	228 03.9	+02.1	N 23 16.8	+00.1
20	243 06.0	+02.0	N 23 16.9	+00.1
21	258 08.0	+02.0	N 23 17.0	+00.1
22	273 10.0	+02.1	N 23 17.1	+00.1
23	288 12.1	+02.0	N 23 17.2	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	276°	276°	276°	276°	276°	276°

Greenwich Culmination Time: 03:49

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	24 53.7	+02.7	S 01 03.6	+00.1
01	39 56.4	+02.7	S 01 03.7	+00.1
02	54 59.1	+02.7	S 01 03.8	+00.1
03	70 01.8	+02.7	S 01 03.9	+00.1
04	85 04.5	+02.8	S 01 04.0	+00.1
05	100 07.3	+02.7	S 01 04.1	+00.1
06	115 10.0	+02.7	S 01 04.2	+00.2
07	130 12.7	+02.7	S 01 04.4	+00.1
08	145 15.4	+02.7	S 01 04.5	+00.1
09	160 18.1	+02.8	S 01 04.6	+00.1
10	175 20.9	+02.7	S 01 04.7	+00.1
11	190 23.6	+02.7	S 01 04.8	+00.1
12	205 26.3	+02.7	S 01 04.9	+00.1
13	220 29.0	+02.7	S 01 05.0	+00.1
14	235 31.7	+02.8	S 01 05.1	+00.1
15	250 34.5	+02.7	S 01 05.2	+00.1
16	265 37.2	+02.7	S 01 05.3	+00.1
17	280 39.9	+02.7	S 01 05.4	+00.1
18	295 42.6	+02.7	S 01 05.5	+00.1
19	310 45.3	+02.8	S 01 05.6	+00.1
20	325 48.1	+02.7	S 01 05.7	+00.1
21	340 50.8	+02.7	S 01 05.8	+00.1
22	355 53.5	+02.7	S 01 05.9	+00.1
23	10 56.2	+02.7	S 01 06.0	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	359°	359°

Greenwich Culmination Time: 22:16

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	65 00.1	+02.5	S 16 29.3	+00.0
01	80 02.6	+02.5	S 16 29.3	+00.0
02	95 05.1	+02.4	S 16 29.3	+00.0
03	110 07.5	+02.5	S 16 29.3	+00.0
04	125 10.0	+02.5	S 16 29.3	+00.0
05	140 12.5	+02.5	S 16 29.3	+00.0
06	155 15.0	+02.5	S 16 29.3	+00.0
07	170 17.5	+02.5	S 16 29.3	+00.0
08	185 20.0	+02.4	S 16 29.3	+00.0
09	200 22.4	+02.5	S 16 29.3	+00.0
10	215 24.9	+02.5	S 16 29.3	+00.0
11	230 27.4	+02.5	S 16 29.3	+00.0
12	245 29.9	+02.5	S 16 29.3	+00.0
13	260 32.4	+02.5	S 16 29.3	+00.0
14	275 34.9	+02.5	S 16 29.3	+00.0
15	290 37.4	+02.4	S 16 29.3	+00.0
16	305 39.8	+02.5	S 16 29.3	+00.0
17	320 42.3	+02.5	S 16 29.3	+00.0
18	335 44.8	+02.5	S 16 29.3	+00.0
19	350 47.3	+02.5	S 16 29.3	+00.0
20	5 49.8	+02.5	S 16 29.3	+00.0
21	20 52.3	+02.4	S 16 29.3	+00.0
22	35 54.7	+02.5	S 16 29.3	+00.0
23	50 57.2	+02.5	S 16 29.3	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 19:36

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2022 October 23 Sunday (day 296 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 54.1	+00.1	S 11 19.0	+00.9
01	198 54.2	+00.1	S 11 19.9	+00.8
02	213 54.3	+00.1	S 11 20.7	+00.9
03	228 54.4	+00.0	S 11 21.6	+00.9
04	243 54.4	+00.1	S 11 22.5	+00.9
05	258 54.5	+00.1	S 11 23.4	+00.9
06	273 54.6	+00.1	S 11 24.3	+00.8
07	288 54.7	+00.1	S 11 25.1	+00.9
08	303 54.8	+00.1	S 11 26.0	+00.9
09	318 54.9	+00.1	S 11 26.9	+00.9
10	333 55.0	+00.1	S 11 27.8	+00.8
11	348 55.1	+00.0	S 11 28.6	+00.9
12	3 55.1	+00.1	S 11 29.5	+00.9
13	18 55.2	+00.1	S 11 30.4	+00.9
14	33 55.3	+00.1	S 11 31.3	+00.8
15	48 55.4	+00.1	S 11 32.1	+00.9
16	63 55.5	+00.1	S 11 33.0	+00.9
17	78 55.6	+00.0	S 11 33.9	+00.9
18	93 55.6	+00.1	S 11 34.8	+00.8
19	108 55.7	+00.1	S 11 35.6	+00.9
20	123 55.8	+00.1	S 11 36.5	+00.9
21	138 55.9	+00.1	S 11 37.4	+00.8
22	153 56.0	+00.1	S 11 38.2	+00.9
23	168 56.1	+00.0	S 11 39.1	+00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	152°	152°	152°	152°	152°	152°

Greenwich Culmination Time: 11:44

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 29.9	−00.5	S 10 20.7	+01.2
01	198 29.4	−00.5	S 10 21.9	+01.1
02	213 28.9	−00.5	S 10 23.0	+01.2
03	228 28.4	−00.5	S 10 24.2	+01.2
04	243 27.9	−00.5	S 10 25.4	+01.1
05	258 27.4	−00.5	S 10 26.5	+01.2
06	273 26.9	−00.5	S 10 27.7	+01.1
07	288 26.4	−00.5	S 10 28.8	+01.2
08	303 25.9	−00.5	S 10 30.0	+01.2
09	318 25.4	−00.5	S 10 31.2	+01.1
10	333 24.9	−00.5	S 10 32.3	+01.2
11	348 24.4	−00.5	S 10 33.5	+01.1
12	3 23.9	−00.5	S 10 34.6	+01.2
13	18 23.4	−00.5	S 10 35.8	+01.2
14	33 22.9	−00.4	S 10 37.0	+01.1
15	48 22.5	−00.5	S 10 38.1	+01.2
16	63 22.0	−00.5	S 10 39.3	+01.1
17	78 21.5	−00.5	S 10 40.4	+01.2
18	93 21.0	−00.5	S 10 41.6	+01.1
19	108 20.5	−00.5	S 10 42.7	+01.2
20	123 20.0	−00.5	S 10 43.9	+01.2
21	138 19.5	−00.5	S 10 45.1	+01.1
22	153 19.0	−00.5	S 10 46.2	+01.2
23	168 18.5	−00.5	S 10 47.4	+01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	152°	152°	152°	151°	151°	151°

Greenwich Culmination Time: 11:46

Moon

A: 94%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	210 37.5	−26.4	N 03 40.2	−14.9
01	225 11.1	−26.5	N 03 25.3	−14.9
02	239 44.6	−26.5	N 03 10.4	−14.9
03	254 18.1	−26.5	N 02 55.5	−15.0
04	268 51.6	−26.5	N 02 40.5	−15.0
05	283 25.1	−26.6	N 02 25.5	−15.0
06	297 58.5	−26.6	N 02 10.5	−15.1
07	312 31.9	−26.6	N 01 55.4	−15.0
08	327 05.3	−26.6	N 01 40.4	−15.1
09	341 38.7	−26.6	N 01 25.3	−15.2
10	356 12.1	−26.7	N 01 10.1	−15.1
11	10 45.4	−26.7	N 00 55.0	−15.2
12	25 18.7	−26.8	N 00 39.8	−15.2
13	39 51.9	−26.7	N 00 24.6	−15.2
14	54 25.2	−26.8	N 00 09.4	−15.2
15	68 58.4	−26.8	S 00 05.8	+15.2
16	83 31.6	−26.9	S 00 21.0	+15.3
17	98 04.7	−26.9	S 00 36.3	+15.3
18	112 37.8	−26.9	S 00 51.6	+15.2
19	127 10.9	−27.0	S 01 06.8	+15.3
20	141 43.9	−27.0	S 01 22.1	+15.3
21	156 16.9	−27.0	S 01 37.4	+15.4
22	170 49.9	−27.1	S 01 52.8	+15.3
23	185 22.8	−27.1	S 02 08.1	+15.3

UT	02	06	10	14	18	22
SD	15′4	15′5	15′5	15′5	15′6	15′6
HP	56′6	56′7	56′9	57′0	57′1	57′2
SHA	178°	176°	174°	172°	170°	169°

Greenwich Culmination Time: 10:15

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	306 36.8	+02.2	N 23 28.1	+00.1
01	321 39.0	+02.2	N 23 28.2	+00.1
02	336 41.2	+02.2	N 23 28.3	+00.1
03	351 43.4	+02.2	N 23 28.4	+00.1
04	6 45.6	+02.1	N 23 28.5	+00.1
05	21 47.7	+02.2	N 23 28.6	+00.2
06	36 49.9	+02.2	N 23 28.8	+00.1
07	51 52.1	+02.2	N 23 28.9	+00.1
08	66 54.3	+02.2	N 23 29.0	+00.1
09	81 56.5	+02.2	N 23 29.1	+00.1
10	96 58.7	+02.2	N 23 29.2	+00.1
11	112 00.9	+02.2	N 23 29.3	+00.1
12	127 03.1	+02.2	N 23 29.4	+00.1
13	142 05.3	+02.2	N 23 29.5	+00.1
14	157 07.5	+02.2	N 23 29.6	+00.2
15	172 09.7	+02.2	N 23 29.8	+00.1
16	187 11.9	+02.2	N 23 29.9	+00.1
17	202 14.1	+02.2	N 23 30.0	+00.1
18	217 16.3	+02.2	N 23 30.1	+00.1
19	232 18.5	+02.3	N 23 30.2	+00.1
20	247 20.8	+02.2	N 23 30.3	+00.1
21	262 23.0	+02.2	N 23 30.4	+00.1
22	277 25.2	+02.2	N 23 30.5	+00.2
23	292 27.4	+02.2	N 23 30.7	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 03:33

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	30 18.8	+02.7	S 01 15.6	+00.0
01	45 21.5	+02.7	S 01 15.6	+00.1
02	60 24.2	+02.7	S 01 15.7	+00.1
03	75 26.9	+02.7	S 01 15.8	+00.1
04	90 29.6	+02.7	S 01 15.9	+00.1
05	105 32.3	+02.7	S 01 16.0	+00.1
06	120 35.0	+02.7	S 01 16.1	+00.1
07	135 37.7	+02.7	S 01 16.2	+00.1
08	150 40.4	+02.7	S 01 16.3	+00.1
09	165 43.1	+02.7	S 01 16.4	+00.1
10	180 45.8	+02.7	S 01 16.5	+00.1
11	195 48.5	+02.7	S 01 16.6	+00.1
12	210 51.2	+02.7	S 01 16.7	+00.1
13	225 53.9	+02.7	S 01 16.8	+00.0
14	240 56.6	+02.7	S 01 16.8	+00.1
15	255 59.3	+02.7	S 01 16.9	+00.1
16	271 02.0	+02.7	S 01 17.0	+00.1
17	286 04.7	+02.7	S 01 17.1	+00.1
18	301 07.4	+02.6	S 01 17.2	+00.1
19	316 10.0	+02.7	S 01 17.3	+00.1
20	331 12.7	+02.7	S 01 17.4	+00.1
21	346 15.4	+02.7	S 01 17.5	+00.1
22	1 18.1	+02.7	S 01 17.6	+00.1
23	16 20.8	+02.7	S 01 17.7	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 21:54

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	69 57.2	+02.5	S 16 29.4	+00.0
01	84 59.7	+02.4	S 16 29.4	+00.0
02	100 02.1	+02.5	S 16 29.4	+00.0
03	115 04.6	+02.5	S 16 29.4	+00.0
04	130 07.1	+02.4	S 16 29.4	+00.0
05	145 09.5	+02.5	S 16 29.4	+00.0
06	160 12.0	+02.5	S 16 29.4	+00.0
07	175 14.5	+02.4	S 16 29.4	+00.0
08	190 16.9	+02.5	S 16 29.4	+00.0
09	205 19.4	+02.5	S 16 29.4	+00.0
10	220 21.9	+02.4	S 16 29.4	+00.0
11	235 24.3	+02.5	S 16 29.4	+00.0
12	250 26.8	+02.4	S 16 29.4	+00.0
13	265 29.2	+02.5	S 16 29.4	+00.0
14	280 31.7	+02.5	S 16 29.4	+00.0
15	295 34.2	+02.4	S 16 29.4	+00.0
16	310 36.6	+02.5	S 16 29.4	+00.0
17	325 39.1	+02.5	S 16 29.4	+00.0
18	340 41.6	+02.4	S 16 29.4	+00.0
19	355 44.0	+02.5	S 16 29.4	+00.0
20	10 46.5	+02.4	S 16 29.4	+00.0
21	25 48.9	+02.5	S 16 29.4	+00.0
22	40 51.4	+02.5	S 16 29.4	+00.0
23	55 53.9	+02.4	S 16 29.4	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 19:17

2022 October 20 Thursday (day 293 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 46.9	+00.1	S 10 15.0	+00.9
01	198 47.0	+00.1	S 10 15.9	+00.9
02	213 47.1	+00.1	S 10 16.8	+00.9
03	228 47.2	+00.1	S 10 17.7	+00.9
04	243 47.3	+00.2	S 10 18.6	+00.9
05	258 47.5	+00.1	S 10 19.5	+00.9
06	273 47.6	+00.1	S 10 20.4	+00.9
07	288 47.7	+00.1	S 10 21.3	+00.9
08	303 47.8	+00.1	S 10 22.2	+00.9
09	318 47.9	+00.1	S 10 23.1	+00.9
10	333 48.0	+00.1	S 10 24.0	+00.9
11	348 48.1	+00.1	S 10 24.9	+00.9
12	3 48.2	+00.1	S 10 25.8	+00.9
13	18 48.3	+00.1	S 10 26.7	+00.9
14	33 48.4	+00.1	S 10 27.6	+00.9
15	48 48.5	+00.1	S 10 28.5	+00.9
16	63 48.6	+00.1	S 10 29.4	+00.9
17	78 48.7	+00.1	S 10 30.3	+00.9
18	93 48.8	+00.1	S 10 31.2	+00.8
19	108 48.9	+00.2	S 10 32.0	+00.9
20	123 49.1	+00.1	S 10 32.9	+00.9
21	138 49.2	+00.1	S 10 33.8	+00.9
22	153 49.3	+00.1	S 10 34.7	+00.9
23	168 49.4	+00.1	S 10 35.6	+00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	155°	155°	155°	155°	155°	154°

Greenwich Culmination Time: 11:44

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	184 04.3	−00.5	S 08 55.9	+01.2
01	199 03.8	−00.4	S 08 57.1	+01.2
02	214 03.4	−00.5	S 08 58.3	+01.2
03	229 02.9	−00.5	S 08 59.5	+01.2
04	244 02.4	−00.4	S 09 00.7	+01.2
05	259 02.0	−00.5	S 09 01.9	+01.1
06	274 01.5	−00.5	S 09 03.0	+01.2
07	289 01.0	−00.4	S 09 04.2	+01.2
08	304 00.6	−00.5	S 09 05.4	+01.2
09	319 00.1	−00.5	S 09 06.6	+01.2
10	333 59.6	−00.4	S 09 07.8	+01.2
11	348 59.2	−00.5	S 09 09.0	+01.2
12	3 58.7	−00.5	S 09 10.2	+01.2
13	18 58.2	−00.4	S 09 11.4	+01.1
14	33 57.8	−00.5	S 09 12.5	+01.2
15	48 57.3	−00.5	S 09 13.7	+01.2
16	63 56.8	−00.5	S 09 14.9	+01.2
17	78 56.3	−00.4	S 09 16.1	+01.2
18	93 55.9	−00.5	S 09 17.3	+01.2
19	108 55.4	−00.5	S 09 18.5	+01.2
20	123 54.9	−00.4	S 09 19.7	+01.1
21	138 54.5	−00.5	S 09 20.8	+01.2
22	153 54.0	−00.5	S 09 22.0	+01.2
23	168 53.5	−00.5	S 09 23.2	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	156°	155°	155°	155°	155°	155°

Greenwich Culmination Time: 11:44

Moon

A: 85%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	242 39.3	−27.6	N 19 12.8	−10.4
01	257 11.7	−27.6	N 19 02.4	−10.5
02	271 44.1	−27.5	N 18 51.9	−10.6
03	286 16.6	−27.5	N 18 41.3	−10.6
04	300 49.1	−27.5	N 18 30.7	−10.8
05	315 21.6	−27.4	N 18 19.9	−10.8
06	329 54.2	−27.4	N 18 09.1	−10.9
07	344 26.8	−27.3	N 17 58.2	−11.1
08	358 59.5	−27.3	N 17 47.1	−11.1
09	13 32.2	−27.3	N 17 36.0	−11.1
10	28 04.9	−27.2	N 17 24.9	−11.3
11	42 37.7	−27.2	N 17 13.6	−11.3
12	57 10.5	−27.1	N 17 02.3	−11.5
13	71 43.4	−27.1	N 16 50.8	−11.5
14	86 16.3	−27.1	N 16 39.3	−11.5
15	100 49.2	−27.1	N 16 27.8	−11.7
16	115 22.1	−27.0	N 16 16.1	−11.7
17	129 55.1	−27.0	N 16 04.4	−11.9
18	144 28.1	−26.9	N 15 52.5	−11.9
19	159 01.2	−27.0	N 15 40.6	−11.9
20	173 34.2	−26.9	N 15 28.7	−12.1
21	188 07.3	−26.8	N 15 16.6	−12.1
22	202 40.5	−26.9	N 15 04.5	−12.2
23	217 13.6	−26.8	N 14 52.3	−12.3

UT	02	06	10	14	18	22
SD	14′9	15′0	15′0	15′0	15′0	15′0
HP	54′8	54′9	55′0	55′0	55′1	55′2
SHA	213°	211°	209°	207°	205°	203°

Greenwich Culmination Time: 08:04

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	304 03.5	+02.1	N 23 20.0	+00.1
01	319 05.6	+02.1	N 23 20.1	+00.2
02	334 07.7	+02.1	N 23 20.3	+00.1
03	349 09.8	+02.1	N 23 20.4	+00.1
04	4 11.9	+02.0	N 23 20.5	+00.1
05	19 13.9	+02.1	N 23 20.6	+00.1
06	34 16.0	+02.1	N 23 20.7	+00.1
07	49 18.1	+02.1	N 23 20.8	+00.1
08	64 20.2	+02.1	N 23 20.9	+00.1
09	79 22.3	+02.1	N 23 21.0	+00.2
10	94 24.4	+02.1	N 23 21.2	+00.1
11	109 26.5	+02.1	N 23 21.3	+00.1
12	124 28.6	+02.1	N 23 21.4	+00.1
13	139 30.7	+02.1	N 23 21.5	+00.1
14	154 32.8	+02.1	N 23 21.6	+00.1
15	169 34.9	+02.1	N 23 21.7	+00.1
16	184 37.0	+02.1	N 23 21.8	+00.1
17	199 39.1	+02.1	N 23 21.9	+00.1
18	214 41.2	+02.1	N 23 22.0	+00.2
19	229 43.3	+02.1	N 23 22.2	+00.1
20	244 45.4	+02.1	N 23 22.3	+00.1
21	259 47.5	+02.1	N 23 22.4	+00.1
22	274 49.6	+02.1	N 23 22.5	+00.1
23	289 51.7	+02.1	N 23 22.6	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	276°	276°	276°	276°	276°	275°

Greenwich Culmination Time: 03:43

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	27 04.1	+02.7	S 01 08.6	+00.1
01	42 06.8	+02.7	S 01 08.7	+00.1
02	57 09.5	+02.7	S 01 08.8	+00.1
03	72 12.2	+02.7	S 01 08.9	+00.1
04	87 14.9	+02.8	S 01 09.0	+00.1
05	102 17.7	+02.7	S 01 09.1	+00.1
06	117 20.4	+02.7	S 01 09.2	+00.1
07	132 23.1	+02.7	S 01 09.3	+00.1
08	147 25.8	+02.7	S 01 09.4	+00.1
09	162 28.5	+02.7	S 01 09.5	+00.1
10	177 31.2	+02.7	S 01 09.6	+00.1
11	192 33.9	+02.7	S 01 09.7	+00.1
12	207 36.6	+02.7	S 01 09.8	+00.1
13	222 39.3	+02.7	S 01 09.9	+00.1
14	237 42.0	+02.8	S 01 10.0	+00.1
15	252 44.8	+02.7	S 01 10.1	+00.1
16	267 47.5	+02.7	S 01 10.2	+00.1
17	282 50.2	+02.7	S 01 10.3	+00.1
18	297 52.9	+02.7	S 01 10.4	+00.1
19	312 55.6	+02.7	S 01 10.5	+00.1
20	327 58.3	+02.7	S 01 10.6	+00.1
21	343 01.0	+02.7	S 01 10.7	+00.1
22	358 03.7	+02.7	S 01 10.8	+00.1
23	13 06.4	+02.7	S 01 10.9	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 22:07

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	66 59.2	+02.5	S 16 29.4	+00.0
01	82 01.7	+02.5	S 16 29.4	+00.0
02	97 04.2	+02.5	S 16 29.4	+00.0
03	112 06.7	+02.4	S 16 29.4	+00.0
04	127 09.1	+02.5	S 16 29.4	+00.0
05	142 11.6	+02.5	S 16 29.4	+00.0
06	157 14.1	+02.5	S 16 29.4	+00.0
07	172 16.6	+02.4	S 16 29.4	+00.0
08	187 19.0	+02.5	S 16 29.4	+00.0
09	202 21.5	+02.5	S 16 29.4	+00.0
10	217 24.0	+02.5	S 16 29.4	+00.0
11	232 26.5	+02.5	S 16 29.4	+00.0
12	247 29.0	+02.4	S 16 29.4	+00.0
13	262 31.4	+02.5	S 16 29.4	+00.0
14	277 33.9	+02.5	S 16 29.4	+00.0
15	292 36.4	+02.5	S 16 29.4	+00.0
16	307 38.9	+02.4	S 16 29.4	+00.0
17	322 41.3	+02.5	S 16 29.4	+00.0
18	337 43.8	+02.5	S 16 29.4	+00.0
19	352 46.3	+02.5	S 16 29.4	+00.0
20	7 48.8	+02.4	S 16 29.4	+00.0
21	22 51.2	+02.5	S 16 29.4	+00.0
22	37 53.7	+02.5	S 16 29.4	+00.0
23	52 56.2	+02.5	S 16 29.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 19:28

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2022 October 21 Friday (day 294 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	183 49.5	+00.1	S 10 36.5	+00.9
01	198 49.6	+00.1	S 10 37.4	+00.9
02	213 49.7	+00.1	S 10 38.3	+00.9
03	228 49.8	+00.1	S 10 39.2	+00.9
04	243 49.9	+00.1	S 10 40.1	+00.9
05	258 50.0	+00.1	S 10 41.0	+00.9
06	273 50.1	+00.1	S 10 41.9	+00.8
07	288 50.2	+00.1	S 10 42.7	+00.9
08	303 50.3	+00.1	S 10 43.6	+00.9
09	318 50.4	+00.1	S 10 44.5	+00.9
10	333 50.5	+00.1	S 10 45.4	+00.9
11	348 50.6	+00.1	S 10 46.3	+00.9
12	3 50.7	+00.1	S 10 47.2	+00.9
13	18 50.8	+00.1	S 10 48.1	+00.9
14	33 50.9	+00.1	S 10 49.0	+00.9
15	48 51.0	+00.1	S 10 49.9	+00.8
16	63 51.1	+00.1	S 10 50.7	+00.9
17	78 51.2	+00.1	S 10 51.6	+00.9
18	93 51.3	+00.1	S 10 52.5	+00.9
19	108 51.4	+00.1	S 10 53.4	+00.9
20	123 51.5	+00.1	S 10 54.3	+00.9
21	138 51.6	+00.1	S 10 55.2	+00.9
22	153 51.7	+00.1	S 10 56.1	+00.8
23	168 51.8	+00.1	S 10 56.9	+00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	154°	154°	154°	154°	154°	154°

Greenwich Culmination Time: 11:44

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	183 53.0	-00.4	S 09 24.4	+01.2
01	198 52.6	-00.5	S 09 25.6	+01.2
02	213 52.1	-00.5	S 09 26.8	+01.1
03	228 51.6	-00.5	S 09 27.9	+01.2
04	243 51.1	-00.4	S 09 29.1	+01.2
05	258 50.7	-00.5	S 09 30.3	+01.2
06	273 50.2	-00.5	S 09 31.5	+01.2
07	288 49.7	-00.5	S 09 32.7	+01.1
08	303 49.2	-00.5	S 09 33.8	+01.2
09	318 48.7	-00.4	S 09 35.0	+01.2
10	333 48.3	-00.5	S 09 36.2	+01.2
11	348 47.8	-00.5	S 09 37.4	+01.2
12	3 47.3	-00.5	S 09 38.6	+01.1
13	18 46.8	-00.4	S 09 39.7	+01.2
14	33 46.4	-00.5	S 09 40.9	+01.2
15	48 45.9	-00.5	S 09 42.1	+01.2
16	63 45.4	-00.5	S 09 43.3	+01.1
17	78 44.9	-00.5	S 09 44.4	+01.2
18	93 44.4	-00.4	S 09 45.6	+01.2
19	108 44.0	-00.5	S 09 46.8	+01.2
20	123 43.5	-00.5	S 09 48.0	+01.1
21	138 43.0	-00.5	S 09 49.1	+01.2
22	153 42.5	-00.5	S 09 50.3	+01.2
23	168 42.0	-00.4	S 09 51.5	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	154°	154°	154°	154°	154°	153°

Greenwich Culmination Time: 11:44

Moon

A: 88%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	231 46.8	-26.7	N 14 40.0	-12.3
01	246 20.1	-26.8	N 14 27.7	-12.4
02	260 53.3	-26.7	N 14 15.3	-12.5
03	275 26.6	-26.7	N 14 02.8	-12.6
04	289 59.9	-26.7	N 13 50.2	-12.6
05	304 33.2	-26.6	N 13 37.6	-12.7
06	319 06.6	-26.7	N 13 24.9	-12.7
07	333 39.9	-26.6	N 13 12.2	-12.9
08	348 13.3	-26.6	N 12 59.3	-12.9
09	2 46.7	-26.5	N 12 46.4	-12.9
10	17 20.2	-26.6	N 12 33.5	-13.0
11	31 53.6	-26.5	N 12 20.5	-13.1
12	46 27.1	-26.5	N 12 07.4	-13.2
13	61 00.6	-26.5	N 11 54.2	-13.2
14	75 34.1	-26.5	N 11 41.0	-13.3
15	90 07.6	-26.4	N 11 27.7	-13.3
16	104 41.2	-26.4	N 11 14.4	-13.4
17	119 14.8	-26.5	N 11 01.0	-13.5
18	133 48.3	-26.4	N 10 47.5	-13.5
19	148 21.9	-26.4	N 10 34.0	-13.6
20	162 55.5	-26.4	N 10 20.4	-13.6
21	177 29.1	-26.4	N 10 06.8	-13.7
22	192 02.7	-26.3	N 09 53.1	-13.7
23	206 36.4	-26.4	N 09 39.4	-13.8

UT	02	06	10	14	18	22
SD	15′1	15′1	15′1	15′2	15′2	15′2
HP	55′3	55′4	55′5	55′6	55′7	55′8
SHA	201°	199°	198°	196°	194°	192°

Greenwich Culmination Time: 08:48

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	304 53.8	+02.1	N 23 22.7	+00.1
01	319 55.9	+02.1	N 23 22.8	+00.1
02	334 58.0	+02.1	N 23 22.9	+00.2
03	350 00.1	+02.1	N 23 23.1	+00.1
04	5 02.2	+02.2	N 23 23.2	+00.1
05	20 04.4	+02.1	N 23 23.3	+00.1
06	35 06.5	+02.1	N 23 23.4	+00.1
07	50 08.6	+02.1	N 23 23.5	+00.1
08	65 10.7	+02.2	N 23 23.6	+00.1
09	80 12.9	+02.1	N 23 23.7	+00.1
10	95 15.0	+02.1	N 23 23.8	+00.1
11	110 17.1	+02.1	N 23 23.9	+00.2
12	125 19.2	+02.2	N 23 24.1	+00.1
13	140 21.4	+02.1	N 23 24.2	+00.1
14	155 23.5	+02.1	N 23 24.3	+00.1
15	170 25.6	+02.2	N 23 24.4	+00.1
16	185 27.8	+02.1	N 23 24.5	+00.1
17	200 29.9	+02.1	N 23 24.6	+00.1
18	215 32.0	+02.2	N 23 24.7	+00.1
19	230 34.2	+02.1	N 23 24.8	+00.2
20	245 36.3	+02.1	N 23 25.0	+00.1
21	260 38.4	+02.2	N 23 25.1	+00.1
22	275 40.6	+02.1	N 23 25.2	+00.1
23	290 42.7	+02.2	N 23 25.3	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 03:39

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	28 09.1	+02.7	S 01 11.0	+00.1
01	43 11.8	+02.7	S 01 11.1	+00.0
02	58 14.5	+02.8	S 01 11.1	+00.1
03	73 17.3	+02.7	S 01 11.2	+00.1
04	88 20.0	+02.7	S 01 11.3	+00.1
05	103 22.7	+02.7	S 01 11.4	+00.1
06	118 25.4	+02.7	S 01 11.5	+00.1
07	133 28.1	+02.7	S 01 11.6	+00.1
08	148 30.8	+02.7	S 01 11.7	+00.1
09	163 33.5	+02.7	S 01 11.8	+00.1
10	178 36.2	+02.7	S 01 11.9	+00.1
11	193 38.9	+02.7	S 01 12.0	+00.1
12	208 41.6	+02.7	S 01 12.1	+00.1
13	223 44.3	+02.7	S 01 12.2	+00.1
14	238 47.0	+02.7	S 01 12.3	+00.1
15	253 49.7	+02.7	S 01 12.4	+00.1
16	268 52.4	+02.7	S 01 12.5	+00.1
17	283 55.1	+02.7	S 01 12.6	+00.1
18	298 57.8	+02.7	S 01 12.7	+00.1
19	314 00.5	+02.7	S 01 12.8	+00.1
20	329 03.2	+02.7	S 01 12.9	+00.1
21	344 05.9	+02.7	S 01 13.0	+00.1
22	359 08.6	+02.7	S 01 13.1	+00.1
23	14 11.3	+02.8	S 01 13.2	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 22:03

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	67 58.7	+02.4	S 16 29.4	+00.0
01	83 01.1	+02.5	S 16 29.4	+00.0
02	98 03.6	+02.5	S 16 29.4	+00.0
03	113 06.1	+02.5	S 16 29.4	+00.0
04	128 08.6	+02.4	S 16 29.4	+00.0
05	143 11.0	+02.5	S 16 29.4	+00.0
06	158 13.5	+02.5	S 16 29.4	+00.0
07	173 16.0	+02.4	S 16 29.4	+00.0
08	188 18.4	+02.5	S 16 29.4	+00.1
09	203 20.9	+02.5	S 16 29.5	+00.0
10	218 23.4	+02.5	S 16 29.5	+00.0
11	233 25.9	+02.4	S 16 29.5	+00.0
12	248 28.3	+02.5	S 16 29.5	+00.0
13	263 30.8	+02.5	S 16 29.5	+00.0
14	278 33.3	+02.4	S 16 29.5	+00.0
15	293 35.7	+02.5	S 16 29.5	-00.1
16	308 38.2	+02.5	S 16 29.4	+00.0
17	323 40.7	+02.5	S 16 29.4	+00.0
18	338 43.2	+02.4	S 16 29.4	+00.0
19	353 45.6	+02.5	S 16 29.4	+00.0
20	8 48.1	+02.5	S 16 29.4	+00.0
21	23 50.6	+02.4	S 16 29.4	+00.0
22	38 53.0	+02.5	S 16 29.4	+00.0
23	53 55.5	+02.5	S 16 29.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 19:24

2022 October 22 Saturday (day 295 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	183 51.9	+00.1	S 10 57.8	+00.9
01	198 52.0	+00.1	S 10 58.7	+00.9
02	213 52.1	+00.1	S 10 59.6	+00.9
03	228 52.2	+00.0	S 11 00.5	+00.9
04	243 52.2	+00.1	S 11 01.4	+00.9
05	258 52.3	+00.1	S 11 02.3	+00.8
06	273 52.4	+00.1	S 11 03.1	+00.9
07	288 52.5	+00.1	S 11 04.0	+00.9
08	303 52.6	+00.1	S 11 04.9	+00.9
09	318 52.7	+00.1	S 11 05.8	+00.9
10	333 52.8	+00.1	S 11 06.7	+00.9
11	348 52.9	+00.1	S 11 07.6	+00.8
12	3 53.0	+00.1	S 11 08.4	+00.9
13	18 53.1	+00.1	S 11 09.3	+00.9
14	33 53.2	+00.1	S 11 10.2	+00.9
15	48 53.3	+00.1	S 11 11.1	+00.9
16	63 53.4	+00.1	S 11 12.0	+00.8
17	78 53.5	+00.1	S 11 12.8	+00.9
18	93 53.6	+00.0	S 11 13.7	+00.9
19	108 53.6	+00.1	S 11 14.6	+00.9
20	123 53.7	+00.1	S 11 15.5	+00.9
21	138 53.8	+00.1	S 11 16.4	+00.8
22	153 53.9	+00.1	S 11 17.2	+00.9
23	168 54.0	+00.1	S 11 18.1	+00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	153°	153°	153°	153°	153°	153°

Greenwich Culmination Time: 11:44

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	183 41.6	-00.5	S 09 52.7	+01.1
01	198 41.1	-00.5	S 09 53.8	+01.2
02	213 40.6	-00.5	S 09 55.0	+01.2
03	228 40.1	-00.5	S 09 56.2	+01.2
04	243 39.6	-00.5	S 09 57.4	+01.1
05	258 39.1	-00.5	S 09 58.5	+01.2
06	273 38.6	-00.4	S 09 59.7	+01.2
07	288 38.2	-00.5	S 10 00.9	+01.1
08	303 37.7	-00.5	S 10 02.0	+01.2
09	318 37.2	-00.5	S 10 03.2	+01.2
10	333 36.7	-00.5	S 10 04.4	+01.1
11	348 36.2	-00.5	S 10 05.5	+01.2
12	3 35.7	-00.5	S 10 06.7	+01.2
13	18 35.2	-00.4	S 10 07.9	+01.1
14	33 34.8	-00.5	S 10 09.0	+01.2
15	48 34.3	-00.5	S 10 10.2	+01.2
16	63 33.8	-00.5	S 10 11.4	+01.2
17	78 33.3	-00.5	S 10 12.6	+01.1
18	93 32.8	-00.5	S 10 13.7	+01.2
19	108 32.3	-00.5	S 10 14.9	+01.1
20	123 31.8	-00.5	S 10 16.0	+01.2
21	138 31.3	-00.5	S 10 17.2	+01.2
22	153 30.8	-00.4	S 10 18.4	+01.1
23	168 30.4	-00.5	S 10 19.5	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	153°	153°	153°	153°	152°	152°

Greenwich Culmination Time: 11:45

Moon

A: 91%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	221 10.0	-26.3	N 09 25.6	-13.9
01	235 43.7	-26.4	N 09 11.7	-13.9
02	250 17.3	-26.3	N 08 57.8	-14.0
03	264 51.0	-26.4	N 08 43.8	-14.0
04	279 24.6	-26.3	N 08 29.8	-14.0
05	293 58.3	-26.3	N 08 15.8	-14.1
06	308 32.0	-26.3	N 08 01.7	-14.2
07	323 05.7	-26.4	N 07 47.5	-14.2
08	337 39.3	-26.3	N 07 33.3	-14.2
09	352 13.0	-26.3	N 07 19.1	-14.3
10	6 46.7	-26.3	N 07 04.8	-14.4
11	21 20.4	-26.4	N 06 50.4	-14.4
12	35 54.0	-26.3	N 06 36.0	-14.4
13	50 27.7	-26.3	N 06 21.6	-14.5
14	65 01.4	-26.4	N 06 07.1	-14.5
15	79 35.0	-26.3	N 05 52.6	-14.6
16	94 08.7	-26.4	N 05 38.0	-14.6
17	108 42.3	-26.3	N 05 23.4	-14.6
18	123 16.0	-26.4	N 05 08.8	-14.7
19	137 49.6	-26.4	N 04 54.1	-14.7
20	152 23.2	-26.4	N 04 39.4	-14.7
21	166 56.8	-26.4	N 04 24.7	-14.8
22	181 30.4	-26.4	N 04 09.9	-14.8
23	196 04.0	-26.5	N 03 55.1	-14.9

UT	02	06	10	14	18	22
SD	15′2	15′3	15′3	15′3	15′4	15′4
HP	55′9	56′1	56′2	56′3	56′4	56′5
SHA	190°	188°	186°	184°	182°	180°

Greenwich Culmination Time: 09:32

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	305 44.9	+02.1	N 23 25.4	+00.1
01	320 47.0	+02.2	N 23 25.5	+00.1
02	335 49.2	+02.1	N 23 25.6	+00.1
03	350 51.3	+02.2	N 23 25.7	+00.1
04	5 53.5	+02.1	N 23 25.8	+00.2
05	20 55.6	+02.2	N 23 26.0	+00.1
06	35 57.8	+02.1	N 23 26.1	+00.1
07	50 59.9	+02.2	N 23 26.2	+00.1
08	66 02.1	+02.2	N 23 26.3	+00.1
09	81 04.3	+02.1	N 23 26.4	+00.1
10	96 06.4	+02.2	N 23 26.5	+00.1
11	111 08.6	+02.1	N 23 26.6	+00.1
12	126 10.7	+02.2	N 23 26.7	+00.2
13	141 12.9	+02.2	N 23 26.9	+00.1
14	156 15.1	+02.1	N 23 27.0	+00.1
15	171 17.2	+02.2	N 23 27.1	+00.1
16	186 19.4	+02.2	N 23 27.2	+00.1
17	201 21.6	+02.2	N 23 27.3	+00.1
18	216 23.8	+02.1	N 23 27.4	+00.1
19	231 25.9	+02.2	N 23 27.5	+00.1
20	246 28.1	+02.2	N 23 27.6	+00.1
21	261 30.3	+02.2	N 23 27.7	+00.2
22	276 32.5	+02.1	N 23 27.9	+00.1
23	291 34.6	+02.2	N 23 28.0	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 03:36

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	29 14.1	+02.7	S 01 13.3	+00.1
01	44 16.8	+02.7	S 01 13.4	+00.1
02	59 19.5	+02.7	S 01 13.5	+00.1
03	74 22.2	+02.7	S 01 13.6	+00.1
04	89 24.9	+02.7	S 01 13.7	+00.1
05	104 27.6	+02.7	S 01 13.8	+00.1
06	119 30.3	+02.7	S 01 13.9	+00.0
07	134 33.0	+02.7	S 01 13.9	+00.1
08	149 35.7	+02.7	S 01 14.0	+00.1
09	164 38.4	+02.7	S 01 14.1	+00.1
10	179 41.1	+02.7	S 01 14.2	+00.1
11	194 43.8	+02.7	S 01 14.3	+00.1
12	209 46.5	+02.7	S 01 14.4	+00.1
13	224 49.2	+02.7	S 01 14.5	+00.1
14	239 51.9	+02.7	S 01 14.6	+00.1
15	254 54.6	+02.7	S 01 14.7	+00.1
16	269 57.3	+02.7	S 01 14.8	+00.1
17	284 60.0	+02.7	S 01 14.9	+00.1
18	300 02.7	+02.7	S 01 15.0	+00.1
19	315 05.4	+02.7	S 01 15.1	+00.1
20	330 08.1	+02.7	S 01 15.2	+00.1
21	345 10.8	+02.7	S 01 15.3	+00.1
22	0 13.5	+02.6	S 01 15.4	+00.1
23	15 16.1	+02.7	S 01 15.5	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 21:59

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	68 58.0	+02.5	S 16 29.4	+00.0
01	84 00.5	+02.4	S 16 29.4	+00.0
02	99 02.9	+02.5	S 16 29.4	+00.0
03	114 05.4	+02.5	S 16 29.4	+00.0
04	129 07.9	+02.4	S 16 29.4	+00.0
05	144 10.3	+02.5	S 16 29.4	+00.0
06	159 12.8	+02.5	S 16 29.4	+00.0
07	174 15.3	+02.4	S 16 29.4	+00.0
08	189 17.7	+02.5	S 16 29.4	+00.0
09	204 20.2	+02.5	S 16 29.4	+00.0
10	219 22.7	+02.4	S 16 29.4	+00.0
11	234 25.1	+02.5	S 16 29.4	+00.0
12	249 27.6	+02.5	S 16 29.4	+00.0
13	264 30.1	+02.4	S 16 29.4	+00.0
14	279 32.5	+02.5	S 16 29.4	+00.0
15	294 35.0	+02.5	S 16 29.4	+00.0
16	309 37.5	+02.4	S 16 29.4	+00.0
17	324 39.9	+02.5	S 16 29.4	+00.0
18	339 42.4	+02.5	S 16 29.4	+00.0
19	354 44.9	+02.4	S 16 29.4	+00.0
20	9 47.3	+02.5	S 16 29.4	+00.0
21	24 49.8	+02.5	S 16 29.4	+00.0
22	39 52.3	+02.4	S 16 29.4	+00.0
23	54 54.7	+02.5	S 16 29.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 19:20

2022 October 27 Thursday (day 300 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	184 01.2	+00.1	S 12 41.9	+00.8
01	199 01.3	+00.1	S 12 42.7	+00.9
02	214 01.4	+00.0	S 12 43.6	+00.8
03	229 01.4	+00.1	S 12 44.4	+00.9
04	244 01.5	+00.0	S 12 45.3	+00.8
05	259 01.5	+00.1	S 12 46.1	+00.9
06	274 01.6	+00.0	S 12 47.0	+00.8
07	289 01.6	+00.1	S 12 47.8	+00.8
08	304 01.7	+00.1	S 12 48.6	+00.9
09	319 01.8	+00.0	S 12 49.5	+00.8
10	334 01.8	+00.1	S 12 50.3	+00.9
11	349 01.9	+00.0	S 12 51.2	+00.8
12	4 01.9	+00.1	S 12 52.0	+00.9
13	19 02.0	+00.0	S 12 52.9	+00.8
14	34 02.0	+00.1	S 12 53.7	+00.9
15	49 02.1	+00.0	S 12 54.6	+00.8
16	64 02.1	+00.1	S 12 55.4	+00.8
17	79 02.2	+00.1	S 12 56.2	+00.9
18	94 02.3	+00.0	S 12 57.1	+00.8
19	109 02.3	+00.1	S 12 57.9	+00.9
20	124 02.4	+00.0	S 12 58.8	+00.8
21	139 02.4	+00.1	S 12 59.6	+00.8
22	154 02.5	+00.0	S 13 00.4	+00.9
23	169 02.5	+00.1	S 13 01.3	+00.8

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	149°	148°	148°	148°	148°	148°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	182 40.9	−00.5	S 12 10.4	+01.1
01	197 40.4	−00.6	S 12 11.5	+01.1
02	212 39.8	−00.5	S 12 12.6	+01.1
03	227 39.3	−00.5	S 12 13.7	+01.2
04	242 38.8	−00.6	S 12 14.9	+01.1
05	257 38.2	−00.5	S 12 16.0	+01.1
06	272 37.7	−00.5	S 12 17.1	+01.1
07	287 37.2	−00.6	S 12 18.2	+01.1
08	302 36.6	−00.5	S 12 19.3	+01.1
09	317 36.1	−00.5	S 12 20.4	+01.2
10	332 35.6	−00.6	S 12 21.6	+01.1
11	347 35.0	−00.5	S 12 22.7	+01.1
12	2 34.5	−00.5	S 12 23.8	+01.1
13	17 34.0	−00.6	S 12 24.9	+01.1
14	32 33.4	−00.5	S 12 26.0	+01.1
15	47 32.9	−00.5	S 12 27.1	+01.1
16	62 32.4	−00.6	S 12 28.2	+01.1
17	77 31.8	−00.5	S 12 29.3	+01.2
18	92 31.3	−00.5	S 12 30.5	+01.1
19	107 30.8	−00.6	S 12 31.6	+01.1
20	122 30.2	−00.5	S 12 32.7	+01.1
21	137 29.7	−00.6	S 12 33.8	+01.1
22	152 29.1	−00.5	S 12 34.9	+01.1
23	167 28.6	−00.5	S 12 36.0	+01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	147°	147°	147°	147°	146°	146°

Greenwich Culmination Time: 11:49

Moon

A: 07%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	164 23.4	−32.9	S 19 34.5	+11.9
01	178 50.5	−33.0	S 19 46.4	+11.7
02	193 17.5	−33.2	S 19 58.1	+11.7
03	207 44.3	−33.2	S 20 09.8	+11.5
04	222 11.1	−33.3	S 20 21.3	+11.4
05	236 37.8	−33.5	S 20 32.7	+11.3
06	251 04.3	−33.5	S 20 44.0	+11.2
07	265 30.8	−33.7	S 20 55.2	+11.1
08	279 57.1	−33.8	S 21 06.3	+10.9
09	294 23.3	−33.8	S 21 17.2	+10.8
10	308 49.5	−34.0	S 21 28.0	+10.7
11	323 15.5	−34.1	S 21 38.7	+10.6
12	337 41.4	−34.2	S 21 49.3	+10.4
13	352 07.2	−34.3	S 21 59.7	+10.3
14	6 32.9	−34.3	S 22 10.0	+10.2
15	20 58.6	−34.5	S 22 20.2	+10.0
16	35 24.1	−34.6	S 22 30.2	+09.9
17	49 49.5	−34.7	S 22 40.1	+09.7
18	64 14.8	−34.8	S 22 49.8	+09.6
19	78 40.0	−34.9	S 22 59.4	+09.5
20	93 05.1	−35.0	S 23 08.9	+09.3
21	107 30.1	−35.1	S 23 18.2	+09.2
22	121 55.0	−35.1	S 23 27.4	+09.0
23	136 19.9	−35.3	S 23 36.4	+08.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′2
HP	59′0	59′1	59′2	59′2	59′3	59′3
SHA	128°	125°	123°	121°	118°	116°

Greenwich Culmination Time: 13:32

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	310 13.4	+02.3	N 23 38.8	+00.2
01	325 15.7	+02.3	N 23 39.0	+00.1
02	340 18.0	+02.4	N 23 39.1	+00.1
03	355 20.4	+02.3	N 23 39.2	+00.1
04	10 22.7	+02.3	N 23 39.3	+00.1
05	25 25.0	+02.4	N 23 39.4	+00.1
06	40 27.4	+02.3	N 23 39.5	+00.1
07	55 29.7	+02.4	N 23 39.6	+00.1
08	70 32.1	+02.3	N 23 39.7	+00.2
09	85 34.4	+02.3	N 23 39.9	+00.1
10	100 36.7	+02.4	N 23 40.0	+00.1
11	115 39.1	+02.3	N 23 40.1	+00.1
12	130 41.4	+02.4	N 23 40.2	+00.1
13	145 43.8	+02.3	N 23 40.3	+00.1
14	160 46.1	+02.4	N 23 40.4	+00.1
15	175 48.5	+02.4	N 23 40.5	+00.1
16	190 50.9	+02.3	N 23 40.6	+00.2
17	205 53.2	+02.4	N 23 40.8	+00.1
18	220 55.6	+02.3	N 23 40.9	+00.1
19	235 57.9	+02.4	N 23 41.0	+00.1
20	251 00.3	+02.4	N 23 41.1	+00.1
21	266 02.7	+02.3	N 23 41.2	+00.1
22	281 05.0	+02.4	N 23 41.3	+00.1
23	296 07.4	+02.4	N 23 41.4	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 03:18

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	34 36.7	+02.6	S 01 24.0	+00.1
01	49 39.3	+02.7	S 01 24.1	+00.0
02	64 42.0	+02.7	S 01 24.1	+00.1
03	79 44.7	+02.7	S 01 24.2	+00.1
04	94 47.4	+02.6	S 01 24.3	+00.1
05	109 50.0	+02.7	S 01 24.4	+00.1
06	124 52.7	+02.7	S 01 24.5	+00.1
07	139 55.4	+02.7	S 01 24.6	+00.0
08	154 58.1	+02.6	S 01 24.6	+00.1
09	170 00.7	+02.7	S 01 24.7	+00.1
10	185 03.4	+02.7	S 01 24.8	+00.1
11	200 06.1	+02.6	S 01 24.9	+00.1
12	215 08.7	+02.7	S 01 25.0	+00.0
13	230 11.4	+02.7	S 01 25.0	+00.1
14	245 14.1	+02.7	S 01 25.1	+00.1
15	260 16.8	+02.6	S 01 25.2	+00.1
16	275 19.4	+02.7	S 01 25.3	+00.1
17	290 22.1	+02.7	S 01 25.4	+00.0
18	305 24.8	+02.6	S 01 25.4	+00.1
19	320 27.4	+02.7	S 01 25.5	+00.1
20	335 30.1	+02.7	S 01 25.6	+00.1
21	350 32.8	+02.6	S 01 25.7	+00.1
22	5 35.4	+02.7	S 01 25.8	+00.0
23	20 38.1	+02.7	S 01 25.8	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 21:37

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	73 53.1	+02.4	S 16 29.0	−00.1
01	88 55.5	+02.5	S 16 28.9	+00.0
02	103 58.0	+02.4	S 16 28.9	+00.0
03	119 00.4	+02.5	S 16 28.9	+00.0
04	134 02.9	+02.4	S 16 28.9	+00.0
05	149 05.3	+02.5	S 16 28.9	+00.0
06	164 07.8	+02.4	S 16 28.9	+00.0
07	179 10.2	+02.5	S 16 28.9	+00.0
08	194 12.7	+02.4	S 16 28.9	+00.0
09	209 15.1	+02.5	S 16 28.9	+00.0
10	224 17.6	+02.4	S 16 28.9	+00.0
11	239 20.0	+02.5	S 16 28.9	+00.0
12	254 22.5	+02.4	S 16 28.9	+00.0
13	269 24.9	+02.4	S 16 28.9	−00.1
14	284 27.3	+02.5	S 16 28.8	+00.0
15	299 29.8	+02.4	S 16 28.8	+00.0
16	314 32.2	+02.5	S 16 28.8	+00.0
17	329 34.7	+02.4	S 16 28.8	+00.0
18	344 37.1	+02.5	S 16 28.8	+00.0
19	359 39.6	+02.4	S 16 28.8	+00.0
20	14 42.0	+02.5	S 16 28.8	+00.0
21	29 44.5	+02.4	S 16 28.8	+00.0
22	44 46.9	+02.5	S 16 28.8	+00.0
23	59 49.4	+02.4	S 16 28.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 19:01

2022 October 24 Monday (day 297 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 56.1	+00.1	S 11 40.0	+00.9
01	198 56.2	+00.1	S 11 40.9	+00.8
02	213 56.3	+00.1	S 11 41.7	+00.9
03	228 56.4	+00.1	S 11 42.6	+00.9
04	243 56.5	+00.1	S 11 43.5	+00.8
05	258 56.6	+00.0	S 11 44.3	+00.9
06	273 56.6	+00.1	S 11 45.2	+00.9
07	288 56.7	+00.1	S 11 46.1	+00.8
08	303 56.8	+00.1	S 11 46.9	+00.9
09	318 56.9	+00.0	S 11 47.8	+00.9
10	333 56.9	+00.1	S 11 48.7	+00.8
11	348 57.0	+00.1	S 11 49.5	+00.9
12	3 57.1	+00.1	S 11 50.4	+00.9
13	18 57.2	+00.1	S 11 51.3	+00.9
14	33 57.3	+00.0	S 11 52.2	+00.8
15	48 57.3	+00.1	S 11 53.0	+00.9
16	63 57.4	+00.1	S 11 53.9	+00.8
17	78 57.5	+00.1	S 11 54.7	+00.9
18	93 57.6	+00.0	S 11 55.6	+00.9
19	108 57.6	+00.1	S 11 56.5	+00.8
20	123 57.7	+00.1	S 11 57.3	+00.9
21	138 57.8	+00.1	S 11 58.2	+00.9
22	153 57.9	+00.0	S 11 59.1	+00.8
23	168 57.9	+00.1	S 11 59.9	+00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	151°	151°	151°	151°	151°	151°

Greenwich Culmination Time: 11:44

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 18.0	−00.5	S 10 48.5	+01.2
01	198 17.5	−00.5	S 10 49.7	+01.1
02	213 17.0	−00.5	S 10 50.8	+01.2
03	228 16.5	−00.5	S 10 52.0	+01.1
04	243 16.0	−00.5	S 10 53.1	+01.2
05	258 15.5	−00.5	S 10 54.3	+01.1
06	273 15.0	−00.5	S 10 55.4	+01.2
07	288 14.5	−00.6	S 10 56.6	+01.1
08	303 13.9	−00.5	S 10 57.7	+01.2
09	318 13.4	−00.5	S 10 58.9	+01.1
10	333 12.9	−00.5	S 11 00.0	+01.2
11	348 12.4	−00.5	S 11 01.2	+01.1
12	3 11.9	−00.5	S 11 02.3	+01.2
13	18 11.4	−00.5	S 11 03.5	+01.1
14	33 10.9	−00.5	S 11 04.6	+01.2
15	48 10.4	−00.5	S 11 05.8	+01.1
16	63 09.9	−00.5	S 11 06.9	+01.2
17	78 09.4	−00.5	S 11 08.1	+01.1
18	93 08.9	−00.5	S 11 09.2	+01.2
19	108 08.4	−00.5	S 11 10.4	+01.1
20	123 07.9	−00.5	S 11 11.5	+01.1
21	138 07.4	−00.5	S 11 12.6	+01.2
22	153 06.9	−00.6	S 11 13.8	+01.1
23	168 06.3	−00.5	S 11 14.9	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	151°	151°	150°	150°	150°	150°

Greenwich Culmination Time: 11:47

Moon

A: 97%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	199 55.7	−27.2	S 02 23.4	+15.3
01	214 28.5	−27.2	S 02 38.7	+15.4
02	229 01.3	−27.3	S 02 54.1	+15.3
03	243 34.0	−27.3	S 03 09.4	+15.4
04	258 06.7	−27.3	S 03 24.8	+15.3
05	272 39.4	−27.4	S 03 40.1	+15.4
06	287 12.0	−27.5	S 03 55.5	+15.3
07	301 44.5	−27.5	S 04 10.8	+15.3
08	316 17.0	−27.5	S 04 26.1	+15.4
09	330 49.5	−27.6	S 04 41.5	+15.3
10	345 21.9	−27.7	S 04 56.8	+15.3
11	359 54.2	−27.7	S 05 12.1	+15.3
12	14 26.5	−27.8	S 05 27.4	+15.4
13	28 58.7	−27.8	S 05 42.8	+15.2
14	43 30.9	−27.9	S 05 58.0	+15.3
15	58 03.0	−27.9	S 06 13.3	+15.3
16	72 35.1	−28.0	S 06 28.6	+15.3
17	87 07.1	−28.1	S 06 43.9	+15.2
18	101 39.0	−28.1	S 06 59.1	+15.2
19	116 10.9	−28.2	S 07 14.3	+15.2
20	130 42.7	−28.3	S 07 29.5	+15.2
21	145 14.4	−28.3	S 07 44.7	+15.2
22	159 46.1	−28.4	S 07 59.9	+15.1
23	174 17.7	−28.5	S 08 15.0	+15.1

UT	02	06	10	14	18	22
SD	15′6	15′7	15′7	15′7	15′7	15′8
HP	57′3	57′5	57′6	57′7	57′8	57′9
SHA	167°	165°	163°	161°	159°	156°

Greenwich Culmination Time: 11:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	307 29.6	+02.2	N 23 30.8	+00.1
01	322 31.8	+02.3	N 23 30.9	+00.1
02	337 34.1	+02.2	N 23 31.0	+00.1
03	352 36.3	+02.2	N 23 31.1	+00.1
04	7 38.5	+02.2	N 23 31.2	+00.1
05	22 40.7	+02.3	N 23 31.3	+00.1
06	37 43.0	+02.2	N 23 31.4	+00.1
07	52 45.2	+02.2	N 23 31.5	+00.2
08	67 47.4	+02.2	N 23 31.7	+00.1
09	82 49.6	+02.3	N 23 31.8	+00.1
10	97 51.9	+02.2	N 23 31.9	+00.1
11	112 54.1	+02.3	N 23 32.0	+00.1
12	127 56.4	+02.2	N 23 32.1	+00.1
13	142 58.6	+02.2	N 23 32.2	+00.1
14	158 00.8	+02.3	N 23 32.3	+00.1
15	173 03.1	+02.2	N 23 32.4	+00.2
16	188 05.3	+02.3	N 23 32.6	+00.1
17	203 07.6	+02.2	N 23 32.7	+00.1
18	218 09.8	+02.2	N 23 32.8	+00.1
19	233 12.0	+02.3	N 23 32.9	+00.1
20	248 14.3	+02.2	N 23 33.0	+00.1
21	263 16.5	+02.3	N 23 33.1	+00.1
22	278 18.8	+02.3	N 23 33.2	+00.1
23	293 21.1	+02.2	N 23 33.3	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 03:29

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	31 23.5	+02.7	S 01 17.8	+00.0
01	46 26.2	+02.7	S 01 17.8	+00.1
02	61 28.9	+02.7	S 01 17.9	+00.1
03	76 31.6	+02.7	S 01 18.0	+00.1
04	91 34.3	+02.7	S 01 18.1	+00.1
05	106 37.0	+02.7	S 01 18.2	+00.1
06	121 39.7	+02.6	S 01 18.3	+00.1
07	136 42.3	+02.7	S 01 18.4	+00.1
08	151 45.0	+02.7	S 01 18.5	+00.1
09	166 47.7	+02.7	S 01 18.6	+00.1
10	181 50.4	+02.7	S 01 18.7	+00.0
11	196 53.1	+02.7	S 01 18.7	+00.1
12	211 55.8	+02.7	S 01 18.8	+00.1
13	226 58.5	+02.7	S 01 18.9	+00.1
14	242 01.2	+02.7	S 01 19.0	+00.1
15	257 03.9	+02.6	S 01 19.1	+00.1
16	272 06.5	+02.7	S 01 19.2	+00.1
17	287 09.2	+02.7	S 01 19.3	+00.1
18	302 11.9	+02.7	S 01 19.4	+00.1
19	317 14.6	+02.7	S 01 19.5	+00.0
20	332 17.3	+02.7	S 01 19.5	+00.1
21	347 20.0	+02.7	S 01 19.6	+00.1
22	2 22.7	+02.6	S 01 19.7	+00.1
23	17 25.3	+02.7	S 01 19.8	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 21:50

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	70 56.3	+02.5	S 16 29.3	+00.0
01	85 58.8	+02.4	S 16 29.3	+00.0
02	101 01.2	+02.5	S 16 29.3	+00.0
03	116 03.7	+02.5	S 16 29.3	+00.0
04	131 06.2	+02.4	S 16 29.3	+00.0
05	146 08.6	+02.5	S 16 29.3	+00.0
06	161 11.1	+02.5	S 16 29.3	+00.0
07	176 13.6	+02.4	S 16 29.3	+00.0
08	191 16.0	+02.5	S 16 29.3	+00.0
09	206 18.5	+02.4	S 16 29.3	+00.0
10	221 20.9	+02.5	S 16 29.3	+00.0
11	236 23.4	+02.4	S 16 29.3	+00.0
12	251 25.8	+02.5	S 16 29.3	+00.0
13	266 28.3	+02.5	S 16 29.3	+00.0
14	281 30.8	+02.4	S 16 29.3	+00.0
15	296 33.2	+02.5	S 16 29.3	+00.0
16	311 35.7	+02.4	S 16 29.3	+00.0
17	326 38.1	+02.5	S 16 29.3	+00.0
18	341 40.6	+02.5	S 16 29.3	+00.0
19	356 43.1	+02.4	S 16 29.3	+00.0
20	11 45.5	+02.5	S 16 29.3	+00.0
21	26 48.0	+02.4	S 16 29.3	+00.0
22	41 50.4	+02.5	S 16 29.3	+00.0
23	56 52.9	+02.4	S 16 29.3	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 19:13

2022 October 25 Tuesday (day 298 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	183 58.0	+00.1	S 12 00.8	+00.9
01	198 58.1	+00.1	S 12 01.7	+00.8
02	213 58.2	+00.0	S 12 02.5	+00.9
03	228 58.2	+00.1	S 12 03.4	+00.9
04	243 58.3	+00.1	S 12 04.3	+00.8
05	258 58.4	+00.1	S 12 05.1	+00.9
06	273 58.5	+00.0	S 12 06.0	+00.8
07	288 58.5	+00.1	S 12 06.8	+00.9
08	303 58.6	+00.1	S 12 07.7	+00.9
09	318 58.7	+00.1	S 12 08.6	+00.8
10	333 58.8	+00.0	S 12 09.4	+00.9
11	348 58.8	+00.1	S 12 10.3	+00.8
12	3 58.9	+00.1	S 12 11.1	+00.9
13	18 59.0	+00.0	S 12 12.0	+00.9
14	33 59.0	+00.1	S 12 12.9	+00.8
15	48 59.1	+00.1	S 12 13.7	+00.9
16	63 59.2	+00.0	S 12 14.6	+00.8
17	78 59.2	+00.1	S 12 15.4	+00.9
18	93 59.3	+00.1	S 12 16.3	+00.9
19	108 59.4	+00.0	S 12 17.2	+00.8
20	123 59.4	+00.1	S 12 18.0	+00.9
21	138 59.5	+00.1	S 12 18.9	+00.8
22	153 59.6	+00.1	S 12 19.7	+00.9
23	168 59.7	+00.0	S 12 20.6	+00.8

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	151°	150°	150°	150°	150°	150°

Greenwich Culmination Time: 11:44

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	183 05.8	−00.5	S 11 16.1	+01.1
01	198 05.3	−00.5	S 11 17.2	+01.2
02	213 04.8	−00.5	S 11 18.4	+01.1
03	228 04.3	−00.5	S 11 19.5	+01.1
04	243 03.8	−00.5	S 11 20.6	+01.2
05	258 03.3	−00.5	S 11 21.8	+01.1
06	273 02.8	−00.5	S 11 22.9	+01.2
07	288 02.3	−00.6	S 11 24.1	+01.1
08	303 01.7	−00.5	S 11 25.2	+01.1
09	318 01.2	−00.5	S 11 26.3	+01.2
10	333 00.7	−00.5	S 11 27.5	+01.1
11	348 00.2	−00.5	S 11 28.6	+01.2
12	2 59.7	−00.5	S 11 29.8	+01.1
13	17 59.2	−00.5	S 11 30.9	+01.1
14	32 58.7	−00.6	S 11 32.0	+01.2
15	47 58.1	−00.5	S 11 33.2	+01.1
16	62 57.6	−00.5	S 11 34.3	+01.1
17	77 57.1	−00.5	S 11 35.4	+01.2
18	92 56.6	−00.5	S 11 36.6	+01.1
19	107 56.1	−00.5	S 11 37.7	+01.1
20	122 55.6	−00.6	S 11 38.8	+01.2
21	137 55.0	−00.5	S 11 40.0	+01.1
22	152 54.5	−00.5	S 11 41.1	+01.1
23	167 54.0	−00.5	S 11 42.2	+01.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	150°	149°	149°	149°	149°	149°

Greenwich Culmination Time: 11:48

Moon

A: 00%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	188 49.2	−28.5	S 08 30.1	+15.1
01	203 20.7	−28.6	S 08 45.2	+15.0
02	217 52.1	−28.7	S 09 00.2	+15.1
03	232 23.4	−28.7	S 09 15.3	+15.0
04	246 54.7	−28.9	S 09 30.3	+14.9
05	261 25.8	−28.8	S 09 45.2	+14.9
06	275 57.0	−29.0	S 10 00.1	+14.9
07	290 28.0	−29.1	S 10 15.0	+14.9
08	304 58.9	−29.1	S 10 29.9	+14.8
09	319 29.8	−29.2	S 10 44.7	+14.8
10	334 00.6	−29.3	S 10 59.5	+14.7
11	348 31.3	−29.4	S 11 14.2	+14.7
12	3 01.9	−29.4	S 11 28.9	+14.7
13	17 32.5	−29.5	S 11 43.6	+14.6
14	32 03.0	−29.7	S 11 58.2	+14.5
15	46 33.3	−29.7	S 12 12.7	+14.5
16	61 03.6	−29.7	S 12 27.2	+14.5
17	75 33.9	−29.9	S 12 41.7	+14.4
18	90 04.0	−30.0	S 12 56.1	+14.3
19	104 34.0	−30.0	S 13 10.4	+14.3
20	119 04.0	−30.2	S 13 24.7	+14.2
21	133 33.8	−30.2	S 13 38.9	+14.2
22	148 03.6	−30.3	S 13 53.1	+14.1
23	162 33.3	−30.5	S 14 07.2	+14.0

UT	02	06	10	14	18	22
SD	15′8	15′8	15′9	15′9	15′9	15′9
HP	58′0	58′1	58′2	58′3	58′4	58′5
SHA	154°	152°	150°	148°	146°	144°

Greenwich Culmination Time: 11:47

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	308 23.3	+02.3	N 23 33.5	+00.1
01	323 25.6	+02.2	N 23 33.6	+00.1
02	338 27.8	+02.3	N 23 33.7	+00.1
03	353 30.1	+02.2	N 23 33.8	+00.1
04	8 32.3	+02.3	N 23 33.9	+00.1
05	23 34.6	+02.3	N 23 34.0	+00.1
06	38 36.9	+02.2	N 23 34.1	+00.1
07	53 39.1	+02.3	N 23 34.2	+00.1
08	68 41.4	+02.3	N 23 34.3	+00.2
09	83 43.7	+02.2	N 23 34.5	+00.1
10	98 45.9	+02.3	N 23 34.6	+00.1
11	113 48.2	+02.3	N 23 34.7	+00.1
12	128 50.5	+02.3	N 23 34.8	+00.1
13	143 52.8	+02.2	N 23 34.9	+00.1
14	158 55.0	+02.3	N 23 35.0	+00.1
15	173 57.3	+02.3	N 23 35.1	+00.1
16	188 59.6	+02.3	N 23 35.2	+00.2
17	204 01.9	+02.3	N 23 35.4	+00.1
18	219 04.2	+02.2	N 23 35.5	+00.1
19	234 06.4	+02.3	N 23 35.6	+00.1
20	249 08.7	+02.3	N 23 35.7	+00.1
21	264 11.0	+02.3	N 23 35.8	+00.1
22	279 13.3	+02.3	N 23 35.9	+00.1
23	294 15.6	+02.3	N 23 36.0	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 03:25

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	32 28.0	+02.7	S 01 19.9	+00.1
01	47 30.7	+02.7	S 01 20.0	+00.1
02	62 33.4	+02.7	S 01 20.1	+00.1
03	77 36.1	+02.7	S 01 20.2	+00.0
04	92 38.8	+02.7	S 01 20.2	+00.1
05	107 41.5	+02.6	S 01 20.3	+00.1
06	122 44.1	+02.7	S 01 20.4	+00.1
07	137 46.8	+02.7	S 01 20.5	+00.1
08	152 49.5	+02.7	S 01 20.6	+00.1
09	167 52.2	+02.7	S 01 20.7	+00.1
10	182 54.9	+02.7	S 01 20.8	+00.1
11	197 57.6	+02.6	S 01 20.9	+00.0
12	213 00.2	+02.7	S 01 20.9	+00.1
13	228 02.9	+02.7	S 01 21.0	+00.1
14	243 05.6	+02.7	S 01 21.1	+00.1
15	258 08.3	+02.7	S 01 21.2	+00.1
16	273 11.0	+02.7	S 01 21.3	+00.1
17	288 13.7	+02.6	S 01 21.4	+00.1
18	303 16.3	+02.7	S 01 21.5	+00.0
19	318 19.0	+02.7	S 01 21.5	+00.1
20	333 21.7	+02.7	S 01 21.6	+00.1
21	348 24.4	+02.7	S 01 21.7	+00.1
22	3 27.1	+02.6	S 01 21.8	+00.1
23	18 29.7	+02.7	S 01 21.9	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 21:46

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	71 55.3	+02.5	S 16 29.2	+00.0
01	86 57.8	+02.5	S 16 29.2	+00.0
02	102 00.3	+02.4	S 16 29.2	+00.0
03	117 02.7	+02.5	S 16 29.2	+00.0
04	132 05.2	+02.4	S 16 29.2	+00.0
05	147 07.6	+02.5	S 16 29.2	+00.0
06	162 10.1	+02.4	S 16 29.2	+00.0
07	177 12.5	+02.5	S 16 29.2	+00.0
08	192 15.0	+02.5	S 16 29.2	+00.0
09	207 17.5	+02.4	S 16 29.2	+00.0
10	222 19.9	+02.5	S 16 29.2	+00.0
11	237 22.4	+02.4	S 16 29.2	+00.0
12	252 24.8	+02.5	S 16 29.2	+00.0
13	267 27.3	+02.4	S 16 29.2	+00.0
14	282 29.7	+02.5	S 16 29.2	+00.0
15	297 32.2	+02.4	S 16 29.2	+00.0
16	312 34.6	+02.5	S 16 29.2	+00.0
17	327 37.1	+02.4	S 16 29.2	+00.0
18	342 39.5	+02.5	S 16 29.2	−00.1
19	357 42.0	+02.5	S 16 29.1	+00.0
20	12 44.5	+02.4	S 16 29.1	+00.0
21	27 46.9	+02.5	S 16 29.1	+00.0
22	42 49.4	+02.4	S 16 29.1	+00.0
23	57 51.8	+02.5	S 16 29.1	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 19:09

2022 October 26 Wednesday (day 299 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	183 59.7	+00.1	S 12 21.4	+00.9
01	198 59.8	+00.1	S 12 22.3	+00.8
02	213 59.9	+00.0	S 12 23.1	+00.9
03	228 59.9	+00.1	S 12 24.0	+00.9
04	243 60.0	+00.0	S 12 24.9	+00.8
05	259 00.0	+00.1	S 12 25.7	+00.9
06	274 00.1	+00.1	S 12 26.6	+00.8
07	289 00.2	+00.0	S 12 27.4	+00.9
08	304 00.2	+00.1	S 12 28.3	+00.8
09	319 00.3	+00.1	S 12 29.1	+00.9
10	334 00.4	+00.0	S 12 30.0	+00.8
11	349 00.4	+00.1	S 12 30.8	+00.9
12	4 00.5	+00.1	S 12 31.7	+00.8
13	19 00.6	+00.0	S 12 32.5	+00.9
14	34 00.6	+00.1	S 12 33.4	+00.8
15	49 00.7	+00.0	S 12 34.2	+00.9
16	64 00.7	+00.1	S 12 35.1	+00.8
17	79 00.8	+00.1	S 12 35.9	+00.9
18	94 00.9	+00.0	S 12 36.8	+00.8
19	109 00.9	+00.1	S 12 37.6	+00.9
20	124 01.0	+00.1	S 12 38.5	+00.8
21	139 01.1	+00.0	S 12 39.3	+00.9
22	154 01.1	+00.1	S 12 40.2	+00.8
23	169 01.2	+00.0	S 12 41.0	+00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	150°	149°	149°	149°	149°	149°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	182 53.5	−00.5	S 11 43.4	+01.1
01	197 53.0	−00.6	S 11 44.5	+01.1
02	212 52.4	−00.5	S 11 45.6	+01.2
03	227 51.9	−00.5	S 11 46.8	+01.1
04	242 51.4	−00.5	S 11 47.9	+01.1
05	257 50.9	−00.5	S 11 49.0	+01.2
06	272 50.4	−00.6	S 11 50.2	+01.1
07	287 49.8	−00.5	S 11 51.3	+01.1
08	302 49.3	−00.5	S 11 52.4	+01.1
09	317 48.8	−00.5	S 11 53.5	+01.2
10	332 48.3	−00.6	S 11 54.7	+01.1
11	347 47.7	−00.5	S 11 55.8	+01.1
12	2 47.2	−00.5	S 11 56.9	+01.1
13	17 46.7	−00.5	S 11 58.0	+01.2
14	32 46.2	−00.6	S 11 59.2	+01.1
15	47 45.6	−00.5	S 12 00.3	+01.1
16	62 45.1	−00.5	S 12 01.4	+01.1
17	77 44.6	−00.5	S 12 02.5	+01.2
18	92 44.1	−00.6	S 12 03.7	+01.1
19	107 43.5	−00.5	S 12 04.8	+01.1
20	122 43.0	−00.5	S 12 05.9	+01.1
21	137 42.5	−00.5	S 12 07.0	+01.1
22	152 42.0	−00.6	S 12 08.1	+01.2
23	167 41.4	−00.5	S 12 09.3	+01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	148°	148°	148°	148°	148°	147°

Greenwich Culmination Time: 11:48

Moon

A: 03%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	177 02.8	−30.5	S 14 21.2	+14.0
01	191 32.3	−30.6	S 14 35.2	+13.9
02	206 01.7	−30.7	S 14 49.1	+13.8
03	220 31.0	−30.8	S 15 02.9	+13.8
04	235 00.2	−30.8	S 15 16.7	+13.7
05	249 29.4	−31.0	S 15 30.4	+13.6
06	263 58.4	−31.1	S 15 44.0	+13.6
07	278 27.3	−31.2	S 15 57.6	+13.4
08	292 56.1	−31.3	S 16 11.0	+13.4
09	307 24.8	−31.3	S 16 24.4	+13.3
10	321 53.5	−31.5	S 16 37.7	+13.3
11	336 22.0	−31.6	S 16 51.0	+13.1
12	350 50.4	−31.7	S 17 04.1	+13.0
13	5 18.7	−31.8	S 17 17.1	+13.0
14	19 46.9	−31.9	S 17 30.1	+12.9
15	34 15.0	−31.9	S 17 43.0	+12.8
16	48 43.1	−32.1	S 17 55.8	+12.7
17	63 11.0	−32.2	S 18 08.5	+12.5
18	77 38.8	−32.3	S 18 21.0	+12.5
19	92 06.5	−32.4	S 18 33.5	+12.4
20	106 34.1	−32.5	S 18 45.9	+12.3
21	121 01.6	−32.6	S 18 58.2	+12.2
22	135 29.0	−32.8	S 19 10.4	+12.1
23	149 56.2	−32.8	S 19 22.5	+12.0

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′1
HP	58′6	58′7	58′8	58′8	58′9	59′0
SHA	142°	139°	137°	135°	133°	130°

Greenwich Culmination Time: 12:37

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	309 17.9	+02.3	N 23 36.1	+00.2
01	324 20.2	+02.3	N 23 36.3	+00.1
02	339 22.5	+02.3	N 23 36.4	+00.1
03	354 24.8	+02.3	N 23 36.5	+00.1
04	9 27.1	+02.3	N 23 36.6	+00.1
05	24 29.4	+02.3	N 23 36.7	+00.1
06	39 31.7	+02.3	N 23 36.8	+00.1
07	54 34.0	+02.3	N 23 36.9	+00.1
08	69 36.3	+02.3	N 23 37.0	+00.2
09	84 38.6	+02.3	N 23 37.2	+00.1
10	99 40.9	+02.3	N 23 37.3	+00.1
11	114 43.2	+02.3	N 23 37.4	+00.1
12	129 45.5	+02.3	N 23 37.5	+00.1
13	144 47.8	+02.3	N 23 37.6	+00.1
14	159 50.1	+02.3	N 23 37.7	+00.1
15	174 52.4	+02.4	N 23 37.8	+00.1
16	189 54.8	+02.3	N 23 37.9	+00.2
17	204 57.1	+02.3	N 23 38.1	+00.1
18	219 59.4	+02.3	N 23 38.2	+00.1
19	235 01.7	+02.3	N 23 38.3	+00.1
20	250 04.0	+02.4	N 23 38.4	+00.1
21	265 06.4	+02.3	N 23 38.5	+00.1
22	280 08.7	+02.3	N 23 38.6	+00.1
23	295 11.0	+02.4	N 23 38.7	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 03:22

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	33 32.4	+02.7	S 01 22.0	+00.1
01	48 35.1	+02.7	S 01 22.1	+00.0
02	63 37.8	+02.7	S 01 22.1	+00.1
03	78 40.5	+02.6	S 01 22.2	+00.1
04	93 43.1	+02.7	S 01 22.3	+00.1
05	108 45.8	+02.7	S 01 22.4	+00.1
06	123 48.5	+02.7	S 01 22.5	+00.1
07	138 51.2	+02.7	S 01 22.6	+00.0
08	153 53.9	+02.6	S 01 22.6	+00.1
09	168 56.5	+02.7	S 01 22.7	+00.1
10	183 59.2	+02.7	S 01 22.8	+00.1
11	199 01.9	+02.7	S 01 22.9	+00.1
12	214 04.6	+02.6	S 01 23.0	+00.1
13	229 07.2	+02.7	S 01 23.1	+00.1
14	244 09.9	+02.7	S 01 23.2	+00.0
15	259 12.6	+02.7	S 01 23.2	+00.1
16	274 15.3	+02.6	S 01 23.3	+00.1
17	289 17.9	+02.7	S 01 23.4	+00.1
18	304 20.6	+02.7	S 01 23.5	+00.1
19	319 23.3	+02.7	S 01 23.6	+00.1
20	334 26.0	+02.6	S 01 23.7	+00.0
21	349 28.6	+02.7	S 01 23.7	+00.1
22	4 31.3	+02.7	S 01 23.8	+00.1
23	19 34.0	+02.7	S 01 23.9	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 21:41

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	72 54.3	+02.4	S 16 29.1	+00.0
01	87 56.7	+02.5	S 16 29.1	+00.0
02	102 59.2	+02.4	S 16 29.1	+00.0
03	118 01.6	+02.5	S 16 29.1	+00.0
04	133 04.1	+02.4	S 16 29.1	+00.0
05	148 06.5	+02.5	S 16 29.1	+00.0
06	163 09.0	+02.4	S 16 29.1	+00.0
07	178 11.4	+02.5	S 16 29.1	+00.0
08	193 13.9	+02.4	S 16 29.1	+00.0
09	208 16.3	+02.5	S 16 29.1	+00.0
10	223 18.8	+02.4	S 16 29.1	−00.1
11	238 21.2	+02.5	S 16 29.0	+00.0
12	253 23.7	+02.4	S 16 29.0	+00.0
13	268 26.1	+02.5	S 16 29.0	+00.0
14	283 28.6	+02.4	S 16 29.0	+00.0
15	298 31.0	+02.5	S 16 29.0	+00.0
16	313 33.5	+02.4	S 16 29.0	+00.0
17	328 35.9	+02.5	S 16 29.0	+00.0
18	343 38.4	+02.4	S 16 29.0	+00.0
19	358 40.8	+02.5	S 16 29.0	+00.0
20	13 43.3	+02.4	S 16 29.0	+00.0
21	28 45.7	+02.5	S 16 29.0	+00.0
22	43 48.2	+02.4	S 16 29.0	+00.0
23	58 50.6	+02.5	S 16 29.0	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 19:05

2022 October 31 Monday (day 304 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	184 05.4	+00.1	S 14 01.6	+00.8
01	199 05.5	+00.0	S 14 02.4	+00.8
02	214 05.5	+00.0	S 14 03.2	+00.8
03	229 05.5	+00.1	S 14 04.0	+00.9
04	244 05.6	+00.0	S 14 04.9	+00.8
05	259 05.6	+00.0	S 14 05.7	+00.8
06	274 05.6	+00.0	S 14 06.5	+00.8
07	289 05.6	+00.1	S 14 07.3	+00.8
08	304 05.7	+00.0	S 14 08.1	+00.8
09	319 05.7	+00.0	S 14 08.9	+00.8
10	334 05.7	+00.0	S 14 09.7	+00.8
11	349 05.7	+00.1	S 14 10.5	+00.8
12	4 05.8	+00.0	S 14 11.3	+00.8
13	19 05.8	+00.0	S 14 12.1	+00.8
14	34 05.8	+00.0	S 14 12.9	+00.8
15	49 05.8	+00.0	S 14 13.7	+00.9
16	64 05.8	+00.1	S 14 14.6	+00.8
17	79 05.9	+00.0	S 14 15.4	+00.8
18	94 05.9	+00.0	S 14 16.2	+00.8
19	109 05.9	+00.0	S 14 17.0	+00.8
20	124 05.9	+00.1	S 14 17.8	+00.8
21	139 06.0	+00.0	S 14 18.6	+00.8
22	154 06.0	+00.0	S 14 19.4	+00.8
23	169 06.0	+00.0	S 14 20.2	+00.8

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	145°	145°	144°	144°	144°	144°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	181 48.0	-00.6	S 13 55.4	+01.1
01	196 47.4	-00.5	S 13 56.5	+01.0
02	211 46.9	-00.6	S 13 57.5	+01.1
03	226 46.3	-00.6	S 13 58.6	+01.1
04	241 45.7	-00.6	S 13 59.7	+01.0
05	256 45.1	-00.5	S 14 00.7	+01.1
06	271 44.6	-00.6	S 14 01.8	+01.1
07	286 44.0	-00.6	S 14 02.9	+01.0
08	301 43.4	-00.6	S 14 03.9	+01.1
09	316 42.8	-00.5	S 14 05.0	+01.0
10	331 42.3	-00.6	S 14 06.0	+01.1
11	346 41.7	-00.6	S 14 07.1	+01.1
12	1 41.1	-00.6	S 14 08.2	+01.0
13	16 40.5	-00.6	S 14 09.2	+01.1
14	31 39.9	-00.5	S 14 10.3	+01.0
15	46 39.4	-00.6	S 14 11.3	+01.1
16	61 38.8	-00.6	S 14 12.4	+01.1
17	76 38.2	-00.6	S 14 13.5	+01.0
18	91 37.6	-00.6	S 14 14.5	+01.1
19	106 37.0	-00.5	S 14 15.6	+01.0
20	121 36.5	-00.6	S 14 16.6	+01.1
21	136 35.9	-00.6	S 14 17.7	+01.0
22	151 35.3	-00.6	S 14 18.7	+01.1
23	166 34.7	-00.6	S 14 19.8	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	142°	142°	142°	142°	142°	141°

Greenwich Culmination Time: 11:53

Moon

A: 23%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	106 06.4	-37.1	S 26 39.9	-04.4
01	120 29.3	-36.9	S 26 35.5	-04.6
02	134 52.4	-37.0	S 26 30.9	-04.8
03	149 15.4	-36.8	S 26 26.1	-05.0
04	163 38.6	-36.8	S 26 21.1	-05.1
05	178 01.8	-36.7	S 26 16.0	-05.4
06	192 25.1	-36.7	S 26 10.6	-05.4
07	206 48.4	-36.5	S 26 05.2	-05.7
08	221 11.9	-36.5	S 25 59.5	-05.9
09	235 35.4	-36.5	S 25 53.6	-06.0
10	249 58.9	-36.3	S 25 47.6	-06.1
11	264 22.6	-36.3	S 25 41.5	-06.4
12	278 46.3	-36.1	S 25 35.1	-06.5
13	293 10.2	-36.1	S 25 28.6	-06.7
14	307 34.1	-36.1	S 25 21.9	-06.9
15	321 58.0	-35.9	S 25 15.0	-07.0
16	336 22.1	-35.8	S 25 08.0	-07.1
17	350 46.3	-35.8	S 25 00.9	-07.4
18	5 10.5	-35.7	S 24 53.5	-07.5
19	19 34.8	-35.5	S 24 46.0	-07.6
20	33 59.3	-35.5	S 24 38.4	-07.8
21	48 23.8	-35.4	S 24 30.6	-08.0
22	62 48.4	-35.3	S 24 22.6	-08.1
23	77 13.1	-35.2	S 24 14.5	-08.3

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′1	16′1
HP	59′4	59′4	59′3	59′3	59′3	59′2
SHA	066°	063°	060°	058°	055°	053°

Greenwich Culmination Time: 17:38

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	314 04.5	+02.5	N 23 49.7	+00.1
01	329 07.0	+02.5	N 23 49.8	+00.1
02	344 09.5	+02.5	N 23 49.9	+00.1
03	359 12.0	+02.5	N 23 50.0	+00.1
04	14 14.5	+02.4	N 23 50.1	+00.2
05	29 16.9	+02.5	N 23 50.3	+00.1
06	44 19.4	+02.5	N 23 50.4	+00.1
07	59 21.9	+02.5	N 23 50.5	+00.1
08	74 24.4	+02.5	N 23 50.6	+00.1
09	89 26.9	+02.5	N 23 50.7	+00.1
10	104 29.4	+02.5	N 23 50.8	+00.1
11	119 31.9	+02.5	N 23 50.9	+00.2
12	134 34.4	+02.5	N 23 51.1	+00.1
13	149 36.9	+02.6	N 23 51.2	+00.1
14	164 39.5	+02.5	N 23 51.3	+00.1
15	179 42.0	+02.5	N 23 51.4	+00.1
16	194 44.5	+02.5	N 23 51.5	+00.1
17	209 47.0	+02.5	N 23 51.6	+00.1
18	224 49.5	+02.5	N 23 51.7	+00.2
19	239 52.0	+02.5	N 23 51.9	+00.1
20	254 54.5	+02.6	N 23 52.0	+00.1
21	269 57.1	+02.5	N 23 52.1	+00.1
22	284 59.6	+02.5	N 23 52.2	+00.1
23	300 02.1	+02.5	N 23 52.3	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 03:03

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	38 52.2	+02.6	S 01 31.3	+00.1
01	53 54.8	+02.7	S 01 31.4	+00.0
02	68 57.5	+02.6	S 01 31.4	+00.1
03	84 00.1	+02.6	S 01 31.5	+00.1
04	99 02.7	+02.7	S 01 31.6	+00.0
05	114 05.4	+02.6	S 01 31.6	+00.1
06	129 08.0	+02.7	S 01 31.7	+00.1
07	144 10.7	+02.6	S 01 31.8	+00.1
08	159 13.3	+02.7	S 01 31.9	+00.0
09	174 16.0	+02.6	S 01 31.9	+00.1
10	189 18.6	+02.7	S 01 32.0	+00.1
11	204 21.3	+02.6	S 01 32.1	+00.0
12	219 23.9	+02.7	S 01 32.1	+00.1
13	234 26.6	+02.6	S 01 32.2	+00.1
14	249 29.2	+02.7	S 01 32.3	+00.0
15	264 31.9	+02.6	S 01 32.3	+00.1
16	279 34.5	+02.6	S 01 32.4	+00.1
17	294 37.1	+02.7	S 01 32.5	+00.0
18	309 39.8	+02.6	S 01 32.5	+00.1
19	324 42.4	+02.7	S 01 32.6	+00.1
20	339 45.1	+02.6	S 01 32.7	+00.0
21	354 47.7	+02.7	S 01 32.7	+00.1
22	9 50.4	+02.6	S 01 32.8	+00.1
23	24 53.0	+02.6	S 01 32.9	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 21:20

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	77 47.3	+02.5	S 16 28.0	+00.0
01	92 49.8	+02.4	S 16 28.0	-00.1
02	107 52.2	+02.4	S 16 27.9	+00.0
03	122 54.6	+02.4	S 16 27.9	+00.0
04	137 57.0	+02.5	S 16 27.9	+00.0
05	152 59.5	+02.4	S 16 27.9	+00.0
06	168 01.9	+02.4	S 16 27.9	+00.0
07	183 04.3	+02.5	S 16 27.9	+00.0
08	198 06.8	+02.4	S 16 27.9	+00.0
09	213 09.2	+02.4	S 16 27.9	-00.1
10	228 11.6	+02.5	S 16 27.8	+00.0
11	243 14.1	+02.4	S 16 27.8	+00.0
12	258 16.5	+02.4	S 16 27.8	+00.0
13	273 18.9	+02.4	S 16 27.8	+00.0
14	288 21.3	+02.5	S 16 27.8	+00.0
15	303 23.8	+02.4	S 16 27.8	+00.0
16	318 26.2	+02.4	S 16 27.8	-00.1
17	333 28.6	+02.5	S 16 27.7	+00.0
18	348 31.1	+02.4	S 16 27.7	+00.0
19	3 33.5	+02.4	S 16 27.7	+00.0
20	18 35.9	+02.4	S 16 27.7	+00.0
21	33 38.3	+02.5	S 16 27.7	+00.0
22	48 40.8	+02.4	S 16 27.7	+00.0
23	63 43.2	+02.4	S 16 27.7	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	038°

Greenwich Culmination Time: 18:45

2022 October 28 Friday (day 301 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	184 02.6	+00.0	S 13 02.1	+00.9
01	199 02.6	+00.1	S 13 03.0	+00.8
02	214 02.7	+00.0	S 13 03.8	+00.8
03	229 02.7	+00.1	S 13 04.6	+00.9
04	244 02.8	+00.0	S 13 05.5	+00.8
05	259 02.8	+00.1	S 13 06.3	+00.9
06	274 02.9	+00.0	S 13 07.2	+00.8
07	289 02.9	+00.1	S 13 08.0	+00.8
08	304 03.0	+00.0	S 13 08.8	+00.9
09	319 03.0	+00.1	S 13 09.7	+00.8
10	334 03.1	+00.0	S 13 10.5	+00.8
11	349 03.1	+00.1	S 13 11.3	+00.9
12	4 03.2	+00.0	S 13 12.2	+00.8
13	19 03.2	+00.1	S 13 13.0	+00.8
14	34 03.3	+00.0	S 13 13.8	+00.9
15	49 03.3	+00.1	S 13 14.7	+00.8
16	64 03.4	+00.0	S 13 15.5	+00.8
17	79 03.4	+00.0	S 13 16.3	+00.9
18	94 03.4	+00.1	S 13 17.2	+00.8
19	109 03.5	+00.0	S 13 18.0	+00.8
20	124 03.5	+00.1	S 13 18.8	+00.9
21	139 03.6	+00.0	S 13 19.7	+00.8
22	154 03.6	+00.1	S 13 20.5	+00.8
23	169 03.7	+00.0	S 13 21.3	+00.9

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	148°	147°	147°	147°	147°	147°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	182 28.1	-00.6	S 12 37.1	+01.1
01	197 27.5	-00.5	S 12 38.2	+01.1
02	212 27.0	-00.6	S 12 39.3	+01.1
03	227 26.4	-00.5	S 12 40.4	+01.1
04	242 25.9	-00.6	S 12 41.5	+01.1
05	257 25.3	-00.5	S 12 42.6	+01.1
06	272 24.8	-00.5	S 12 43.7	+01.2
07	287 24.3	-00.6	S 12 44.9	+01.1
08	302 23.7	-00.5	S 12 46.0	+01.1
09	317 23.2	-00.6	S 12 47.1	+01.1
10	332 22.6	-00.5	S 12 48.2	+01.1
11	347 22.1	-00.6	S 12 49.3	+01.1
12	2 21.5	-00.5	S 12 50.4	+01.1
13	17 21.0	-00.5	S 12 51.5	+01.1
14	32 20.5	-00.6	S 12 52.6	+01.1
15	47 19.9	-00.5	S 12 53.7	+01.1
16	62 19.4	-00.6	S 12 54.8	+01.1
17	77 18.8	-00.5	S 12 55.9	+01.1
18	92 18.3	-00.6	S 12 57.0	+01.1
19	107 17.7	-00.5	S 12 58.1	+01.1
20	122 17.2	-00.6	S 12 59.2	+01.0
21	137 16.6	-00.5	S 13 00.2	+01.1
22	152 16.1	-00.6	S 13 01.3	+01.1
23	167 15.5	-00.5	S 13 02.4	+01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	146°	146°	146°	145°	145°	145°

Greenwich Culmination Time: 11:50

Moon

A: 11%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	150 44.6	-35.4	S 23 45.3	+08.7
01	165 09.2	-35.5	S 23 54.0	+08.6
02	179 33.7	-35.5	S 24 02.6	+08.4
03	193 58.2	-35.7	S 24 11.0	+08.3
04	208 22.5	-35.7	S 24 19.3	+08.1
05	222 46.8	-35.9	S 24 27.4	+07.9
06	237 10.9	-35.9	S 24 35.3	+07.8
07	251 35.0	-36.0	S 24 43.1	+07.7
08	265 59.0	-36.1	S 24 50.8	+07.4
09	280 22.9	-36.2	S 24 58.2	+07.3
10	294 46.7	-36.2	S 25 05.5	+07.2
11	309 10.5	-36.4	S 25 12.7	+06.9
12	323 34.1	-36.4	S 25 19.6	+06.8
13	337 57.7	-36.5	S 25 26.4	+06.7
14	352 21.2	-36.6	S 25 33.1	+06.4
15	6 44.6	-36.6	S 25 39.5	+06.3
16	21 08.0	-36.7	S 25 45.8	+06.1
17	35 31.3	-36.8	S 25 51.9	+06.0
18	49 54.5	-36.9	S 25 57.9	+05.7
19	64 17.6	-36.9	S 26 03.6	+05.6
20	78 40.7	-37.0	S 26 09.2	+05.4
21	93 03.7	-37.1	S 26 14.6	+05.2
22	107 26.6	-37.1	S 26 19.8	+05.1
23	121 49.5	-37.2	S 26 24.9	+04.8

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	59′3	59′4	59′4	59′4	59′5	59′5
SHA	113°	111°	108°	105°	103°	100°

Greenwich Culmination Time: 14:31

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	311 09.8	+02.3	N 23 41.5	+00.2
01	326 12.1	+02.4	N 23 41.7	+00.1
02	341 14.5	+02.4	N 23 41.8	+00.1
03	356 16.9	+02.3	N 23 41.9	+00.1
04	11 19.2	+02.4	N 23 42.0	+00.1
05	26 21.6	+02.4	N 23 42.1	+00.1
06	41 24.0	+02.4	N 23 42.2	+00.1
07	56 26.4	+02.4	N 23 42.3	+00.1
08	71 28.8	+02.3	N 23 42.4	+00.2
09	86 31.1	+02.4	N 23 42.6	+00.1
10	101 33.5	+02.4	N 23 42.7	+00.1
11	116 35.9	+02.4	N 23 42.8	+00.1
12	131 38.3	+02.4	N 23 42.9	+00.1
13	146 40.7	+02.4	N 23 43.0	+00.1
14	161 43.1	+02.4	N 23 43.1	+00.1
15	176 45.5	+02.4	N 23 43.2	+00.1
16	191 47.9	+02.4	N 23 43.3	+00.2
17	206 50.3	+02.3	N 23 43.5	+00.1
18	221 52.6	+02.4	N 23 43.6	+00.1
19	236 55.0	+02.4	N 23 43.7	+00.1
20	251 57.4	+02.5	N 23 43.8	+00.1
21	266 59.9	+02.4	N 23 43.9	+00.1
22	282 02.3	+02.4	N 23 44.0	+00.1
23	297 04.7	+02.4	N 23 44.1	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 03:14

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	35 40.8	+02.6	S 01 25.9	+00.1
01	50 43.4	+02.7	S 01 26.0	+00.1
02	65 46.1	+02.7	S 01 26.1	+00.1
03	80 48.8	+02.6	S 01 26.2	+00.0
04	95 51.4	+02.7	S 01 26.2	+00.1
05	110 54.1	+02.7	S 01 26.3	+00.1
06	125 56.8	+02.6	S 01 26.4	+00.1
07	140 59.4	+02.7	S 01 26.5	+00.0
08	156 02.1	+02.7	S 01 26.5	+00.1
09	171 04.8	+02.6	S 01 26.6	+00.1
10	186 07.4	+02.7	S 01 26.7	+00.1
11	201 10.1	+02.7	S 01 26.8	+00.1
12	216 12.8	+02.6	S 01 26.9	+00.0
13	231 15.4	+02.7	S 01 26.9	+00.1
14	246 18.1	+02.7	S 01 27.0	+00.1
15	261 20.8	+02.6	S 01 27.1	+00.1
16	276 23.4	+02.7	S 01 27.2	+00.0
17	291 26.1	+02.6	S 01 27.2	+00.1
18	306 28.7	+02.7	S 01 27.3	+00.1
19	321 31.4	+02.7	S 01 27.4	+00.1
20	336 34.1	+02.6	S 01 27.5	+00.1
21	351 36.7	+02.7	S 01 27.6	+00.0
22	6 39.4	+02.7	S 01 27.6	+00.1
23	21 42.1	+02.6	S 01 27.7	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 21:33

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	74 51.8	+02.4	S 16 28.8	-00.1
01	89 54.2	+02.5	S 16 28.7	+00.0
02	104 56.7	+02.4	S 16 28.7	+00.0
03	119 59.1	+02.5	S 16 28.7	+00.0
04	135 01.6	+02.4	S 16 28.7	+00.0
05	150 04.0	+02.5	S 16 28.7	+00.0
06	165 06.5	+02.4	S 16 28.7	+00.0
07	180 08.9	+02.4	S 16 28.7	+00.0
08	195 11.3	+02.5	S 16 28.7	+00.0
09	210 13.8	+02.4	S 16 28.7	+00.0
10	225 16.2	+02.5	S 16 28.7	+00.0
11	240 18.7	+02.4	S 16 28.7	-00.1
12	255 21.1	+02.5	S 16 28.6	+00.0
13	270 23.6	+02.4	S 16 28.6	+00.0
14	285 26.0	+02.4	S 16 28.6	+00.0
15	300 28.4	+02.5	S 16 28.6	+00.0
16	315 30.9	+02.4	S 16 28.6	+00.0
17	330 33.3	+02.5	S 16 28.6	+00.0
18	345 35.8	+02.4	S 16 28.6	+00.0
19	0 38.2	+02.4	S 16 28.6	+00.0
20	15 40.6	+02.5	S 16 28.6	+00.0
21	30 43.1	+02.4	S 16 28.6	-00.1
22	45 45.5	+02.5	S 16 28.5	+00.0
23	60 48.0	+02.4	S 16 28.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 18:57

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2022 October 29 Saturday (day 302 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	184 03.7	+00.1	S 13 22.2	+00.8
01	199 03.8	+00.0	S 13 23.0	+00.8
02	214 03.8	+00.0	S 13 23.8	+00.9
03	229 03.8	+00.1	S 13 24.7	+00.8
04	244 03.9	+00.0	S 13 25.5	+00.8
05	259 03.9	+00.1	S 13 26.3	+00.8
06	274 04.0	+00.0	S 13 27.1	+00.9
07	289 04.0	+00.1	S 13 28.0	+00.8
08	304 04.1	+00.0	S 13 28.8	+00.8
09	319 04.1	+00.0	S 13 29.6	+00.9
10	334 04.1	+00.1	S 13 30.5	+00.8
11	349 04.2	+00.0	S 13 31.3	+00.8
12	4 04.2	+00.1	S 13 32.1	+00.8
13	19 04.3	+00.0	S 13 32.9	+00.9
14	34 04.3	+00.0	S 13 33.8	+00.8
15	49 04.3	+00.1	S 13 34.6	+00.8
16	64 04.4	+00.0	S 13 35.4	+00.8
17	79 04.4	+00.0	S 13 36.2	+00.9
18	94 04.4	+00.1	S 13 37.1	+00.8
19	109 04.5	+00.0	S 13 37.9	+00.8
20	124 04.5	+00.1	S 13 38.7	+00.8
21	139 04.6	+00.0	S 13 39.5	+00.8
22	154 04.6	+00.0	S 13 40.3	+00.9
23	169 04.6	+00.1	S 13 41.2	+00.8

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	147°	147°	146°	146°	146°	146°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	182 15.0	-00.6	S 13 03.5	+01.1
01	197 14.4	-00.5	S 13 04.6	+01.1
02	212 13.9	-00.6	S 13 05.7	+01.1
03	227 13.3	-00.5	S 13 06.8	+01.1
04	242 12.8	-00.6	S 13 07.9	+01.1
05	257 12.2	-00.5	S 13 09.0	+01.1
06	272 11.7	-00.6	S 13 10.1	+01.1
07	287 11.1	-00.6	S 13 11.2	+01.1
08	302 10.5	-00.5	S 13 12.3	+01.1
09	317 10.0	-00.6	S 13 13.4	+01.0
10	332 09.4	-00.5	S 13 14.4	+01.1
11	347 08.9	-00.6	S 13 15.5	+01.1
12	2 08.3	-00.5	S 13 16.6	+01.1
13	17 07.8	-00.6	S 13 17.7	+01.1
14	32 07.2	-00.5	S 13 18.8	+01.1
15	47 06.7	-00.6	S 13 19.9	+01.1
16	62 06.1	-00.6	S 13 21.0	+01.1
17	77 05.5	-00.5	S 13 22.1	+01.0
18	92 05.0	-00.6	S 13 23.1	+01.1
19	107 04.4	-00.5	S 13 24.2	+01.1
20	122 03.9	-00.6	S 13 25.3	+01.1
21	137 03.3	-00.6	S 13 26.4	+01.1
22	152 02.7	-00.5	S 13 27.5	+01.1
23	167 02.2	-00.6	S 13 28.6	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	145°	145°	144°	144°	144°	144°

Greenwich Culmination Time: 11:51

Moon

A: 15%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	136 12.3	-37.2	S 26 29.7	+04.7
01	150 35.1	-37.3	S 26 34.4	+04.5
02	164 57.8	-37.3	S 26 38.9	+04.3
03	179 20.5	-37.4	S 26 43.2	+04.2
04	193 43.1	-37.4	S 26 47.4	+03.9
05	208 05.7	-37.5	S 26 51.3	+03.8
06	222 28.2	-37.5	S 26 55.1	+03.5
07	236 50.7	-37.6	S 26 58.6	+03.4
08	251 13.1	-37.6	S 27 02.0	+03.2
09	265 35.5	-37.6	S 27 05.2	+03.0
10	279 57.9	-37.7	S 27 08.2	+02.8
11	294 20.2	-37.7	S 27 11.0	+02.6
12	308 42.5	-37.7	S 27 13.6	+02.5
13	323 04.8	-37.8	S 27 16.1	+02.2
14	337 27.0	-37.8	S 27 18.3	+02.0
15	351 49.2	-37.8	S 27 20.3	+01.9
16	6 11.4	-37.8	S 27 22.2	+01.7
17	20 33.6	-37.8	S 27 23.9	+01.4
18	34 55.8	-37.9	S 27 25.3	+01.3
19	49 17.9	-37.8	S 27 26.6	+01.1
20	63 40.1	-37.9	S 27 27.7	+00.9
21	78 02.2	-37.9	S 27 28.6	+00.7
22	92 24.3	-37.8	S 27 29.3	+00.5
23	106 46.5	-37.9	S 27 29.8	+00.3

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	59′5	59′5	59′5	59′5	59′5	59′5
SHA	098°	095°	092°	090°	087°	084°

Greenwich Culmination Time: 15:34

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	312 07.1	+02.4	N 23 44.3	+00.1
01	327 09.5	+02.4	N 23 44.4	+00.1
02	342 11.9	+02.4	N 23 44.5	+00.1
03	357 14.3	+02.4	N 23 44.6	+00.1
04	12 16.7	+02.4	N 23 44.7	+00.1
05	27 19.1	+02.4	N 23 44.8	+00.1
06	42 21.5	+02.5	N 23 44.9	+00.1
07	57 24.0	+02.4	N 23 45.0	+00.2
08	72 26.4	+02.4	N 23 45.2	+00.1
09	87 28.8	+02.4	N 23 45.3	+00.1
10	102 31.2	+02.4	N 23 45.4	+00.1
11	117 33.6	+02.5	N 23 45.5	+00.1
12	132 36.1	+02.4	N 23 45.6	+00.1
13	147 38.5	+02.4	N 23 45.7	+00.1
14	162 40.9	+02.5	N 23 45.8	+00.2
15	177 43.4	+02.4	N 23 46.0	+00.1
16	192 45.8	+02.4	N 23 46.1	+00.1
17	207 48.2	+02.5	N 23 46.2	+00.1
18	222 50.7	+02.4	N 23 46.3	+00.1
19	237 53.1	+02.4	N 23 46.4	+00.1
20	252 55.5	+02.5	N 23 46.5	+00.1
21	267 58.0	+02.4	N 23 46.6	+00.1
22	283 00.4	+02.5	N 23 46.7	+00.2
23	298 02.9	+02.4	N 23 46.9	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 03:11

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	36 44.7	+02.7	S 01 27.8	+00.1
01	51 47.4	+02.6	S 01 27.9	+00.0
02	66 50.0	+02.7	S 01 27.9	+00.1
03	81 52.7	+02.7	S 01 28.0	+00.1
04	96 55.4	+02.6	S 01 28.1	+00.1
05	111 58.0	+02.7	S 01 28.2	+00.0
06	127 00.7	+02.6	S 01 28.2	+00.1
07	142 03.3	+02.7	S 01 28.3	+00.1
08	157 06.0	+02.7	S 01 28.4	+00.1
09	172 08.7	+02.6	S 01 28.5	+00.0
10	187 11.3	+02.7	S 01 28.5	+00.1
11	202 14.0	+02.6	S 01 28.6	+00.1
12	217 16.6	+02.7	S 01 28.7	+00.1
13	232 19.3	+02.7	S 01 28.8	+00.0
14	247 22.0	+02.6	S 01 28.8	+00.1
15	262 24.6	+02.7	S 01 28.9	+00.1
16	277 27.3	+02.6	S 01 29.0	+00.1
17	292 29.9	+02.7	S 01 29.1	+00.0
18	307 32.6	+02.6	S 01 29.1	+00.1
19	322 35.2	+02.7	S 01 29.2	+00.1
20	337 37.9	+02.7	S 01 29.3	+00.1
21	352 40.6	+02.6	S 01 29.4	+00.0
22	7 43.2	+02.7	S 01 29.4	+00.1
23	22 45.9	+02.6	S 01 29.5	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	360°

Greenwich Culmination Time: 21:29

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	75 50.4	+02.4	S 16 28.5	+00.0
01	90 52.8	+02.5	S 16 28.5	+00.0
02	105 55.3	+02.4	S 16 28.5	+00.0
03	120 57.7	+02.5	S 16 28.5	+00.0
04	136 00.2	+02.4	S 16 28.5	+00.0
05	151 02.6	+02.4	S 16 28.5	+00.0
06	166 05.0	+02.5	S 16 28.5	+00.0
07	181 07.5	+02.4	S 16 28.5	-00.1
08	196 09.9	+02.5	S 16 28.4	+00.0
09	211 12.4	+02.4	S 16 28.4	+00.0
10	226 14.8	+02.4	S 16 28.4	+00.0
11	241 17.2	+02.5	S 16 28.4	+00.0
12	256 19.7	+02.4	S 16 28.4	+00.0
13	271 22.1	+02.4	S 16 28.4	+00.0
14	286 24.5	+02.5	S 16 28.4	+00.0
15	301 27.0	+02.4	S 16 28.4	+00.0
16	316 29.4	+02.5	S 16 28.4	-00.1
17	331 31.9	+02.4	S 16 28.3	+00.0
18	346 34.3	+02.4	S 16 28.3	+00.0
19	1 36.7	+02.5	S 16 28.3	+00.0
20	16 39.2	+02.4	S 16 28.3	+00.0
21	31 41.6	+02.4	S 16 28.3	+00.0
22	46 44.0	+02.5	S 16 28.3	+00.0
23	61 46.5	+02.4	S 16 28.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 18:53

2022 October 30 Sunday (day 303 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	184 04.7	+00.0	S 13 42.0	+00.8
01	199 04.7	+00.0	S 13 42.8	+00.8
02	214 04.7	+00.1	S 13 43.6	+00.9
03	229 04.8	+00.0	S 13 44.5	+00.8
04	244 04.8	+00.0	S 13 45.3	+00.8
05	259 04.8	+00.1	S 13 46.1	+00.8
06	274 04.9	+00.0	S 13 46.9	+00.8
07	289 04.9	+00.0	S 13 47.7	+00.9
08	304 04.9	+00.1	S 13 48.6	+00.8
09	319 05.0	+00.0	S 13 49.4	+00.8
10	334 05.0	+00.0	S 13 50.2	+00.8
11	349 05.0	+00.1	S 13 51.0	+00.8
12	4 05.1	+00.0	S 13 51.8	+00.8
13	19 05.1	+00.0	S 13 52.6	+00.9
14	34 05.1	+00.1	S 13 53.5	+00.8
15	49 05.2	+00.0	S 13 54.3	+00.8
16	64 05.2	+00.0	S 13 55.1	+00.8
17	79 05.2	+00.1	S 13 55.9	+00.8
18	94 05.3	+00.0	S 13 56.7	+00.8
19	109 05.3	+00.0	S 13 57.5	+00.9
20	124 05.3	+00.1	S 13 58.4	+00.8
21	139 05.4	+00.0	S 13 59.2	+00.8
22	154 05.4	+00.0	S 13 60.0	+00.8
23	169 05.4	+00.0	S 14 00.8	+00.8

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	146°	146°	145°	145°	145°	145°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	182 01.6	-00.5	S 13 29.6	+01.1
01	197 01.1	-00.6	S 13 30.7	+01.1
02	212 00.5	-00.6	S 13 31.8	+01.1
03	226 59.9	-00.5	S 13 32.9	+01.1
04	241 59.4	-00.6	S 13 34.0	+01.0
05	256 58.8	-00.6	S 13 35.0	+01.1
06	271 58.2	-00.5	S 13 36.1	+01.1
07	286 57.7	-00.6	S 13 37.2	+01.1
08	301 57.1	-00.6	S 13 38.3	+01.0
09	316 56.5	-00.5	S 13 39.3	+01.1
10	331 56.0	-00.6	S 13 40.4	+01.1
11	346 55.4	-00.5	S 13 41.5	+01.1
12	1 54.9	-00.6	S 13 42.6	+01.0
13	16 54.3	-00.6	S 13 43.6	+01.1
14	31 53.7	-00.6	S 13 44.7	+01.1
15	46 53.1	-00.5	S 13 45.8	+01.1
16	61 52.6	-00.6	S 13 46.9	+01.0
17	76 52.0	-00.6	S 13 47.9	+01.1
18	91 51.4	-00.5	S 13 49.0	+01.1
19	106 50.9	-00.6	S 13 50.1	+01.0
20	121 50.3	-00.6	S 13 51.1	+01.1
21	136 49.7	-00.5	S 13 52.2	+01.1
22	151 49.2	-00.6	S 13 53.3	+01.0
23	166 48.6	-00.6	S 13 54.3	+01.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	144°	143°	143°	143°	143°	143°

Greenwich Culmination Time: 11:52

Moon

A: 19%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	121 08.6	-37.9	S 27 30.1	+00.1
01	135 30.7	-37.9	S 27 30.2	-00.1
02	149 52.8	-37.8	S 27 30.1	-00.3
03	164 15.0	-37.8	S 27 29.8	-00.5
04	178 37.2	-37.9	S 27 29.3	-00.6
05	192 59.3	-37.8	S 27 28.7	-00.9
06	207 21.5	-37.8	S 27 27.8	-01.0
07	221 43.7	-37.8	S 27 26.8	-01.3
08	236 05.9	-37.7	S 27 25.5	-01.4
09	250 28.2	-37.7	S 27 24.1	-01.6
10	264 50.5	-37.7	S 27 22.5	-01.8
11	279 12.8	-37.7	S 27 20.7	-02.0
12	293 35.1	-37.6	S 27 18.7	-02.2
13	307 57.5	-37.6	S 27 16.5	-02.4
14	322 19.9	-37.6	S 27 14.1	-02.6
15	336 42.3	-37.5	S 27 11.5	-02.8
16	351 04.8	-37.5	S 27 08.7	-02.9
17	5 27.3	-37.4	S 27 05.8	-03.2
18	19 49.9	-37.4	S 27 02.6	-03.3
19	34 12.5	-37.3	S 26 59.3	-03.5
20	48 35.2	-37.3	S 26 55.8	-03.7
21	62 57.9	-37.2	S 26 52.1	-03.9
22	77 20.7	-37.2	S 26 48.2	-04.1
23	91 43.5	-37.1	S 26 44.1	-04.2

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	59′5	59′5	59′5	59′5	59′4	59′4
SHA	082°	079°	076°	073°	071°	068°

Greenwich Culmination Time: 16:37

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	313 05.3	+02.5	N 23 47.0	+00.1
01	328 07.8	+02.4	N 23 47.1	+00.1
02	343 10.2	+02.5	N 23 47.2	+00.1
03	358 12.7	+02.4	N 23 47.3	+00.1
04	13 15.1	+02.5	N 23 47.4	+00.1
05	28 17.6	+02.4	N 23 47.5	+00.2
06	43 20.0	+02.5	N 23 47.7	+00.1
07	58 22.5	+02.4	N 23 47.8	+00.1
08	73 24.9	+02.5	N 23 47.9	+00.1
09	88 27.4	+02.5	N 23 48.0	+00.1
10	103 29.9	+02.4	N 23 48.1	+00.1
11	118 32.3	+02.5	N 23 48.2	+00.1
12	133 34.8	+02.5	N 23 48.3	+00.1
13	148 37.3	+02.4	N 23 48.4	+00.2
14	163 39.7	+02.5	N 23 48.6	+00.1
15	178 42.2	+02.5	N 23 48.7	+00.1
16	193 44.7	+02.4	N 23 48.8	+00.1
17	208 47.1	+02.5	N 23 48.9	+00.1
18	223 49.6	+02.5	N 23 49.0	+00.1
19	238 52.1	+02.5	N 23 49.1	+00.1
20	253 54.6	+02.4	N 23 49.2	+00.2
21	268 57.0	+02.5	N 23 49.4	+00.1
22	283 59.5	+02.5	N 23 49.5	+00.1
23	299 02.0	+02.5	N 23 49.6	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 03:07

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	37 48.5	+02.7	S 01 29.6	+00.1
01	52 51.2	+02.6	S 01 29.7	+00.0
02	67 53.8	+02.7	S 01 29.7	+00.1
03	82 56.5	+02.6	S 01 29.8	+00.1
04	97 59.1	+02.7	S 01 29.9	+00.0
05	113 01.8	+02.6	S 01 29.9	+00.1
06	128 04.4	+02.7	S 01 30.0	+00.1
07	143 07.1	+02.6	S 01 30.1	+00.1
08	158 09.7	+02.7	S 01 30.2	+00.0
09	173 12.4	+02.7	S 01 30.2	+00.1
10	188 15.1	+02.6	S 01 30.3	+00.1
11	203 17.7	+02.7	S 01 30.4	+00.0
12	218 20.4	+02.6	S 01 30.4	+00.1
13	233 23.0	+02.7	S 01 30.5	+00.1
14	248 25.7	+02.6	S 01 30.6	+00.1
15	263 28.3	+02.7	S 01 30.7	+00.0
16	278 31.0	+02.6	S 01 30.7	+00.1
17	293 33.6	+02.7	S 01 30.8	+00.1
18	308 36.3	+02.6	S 01 30.9	+00.0
19	323 38.9	+02.7	S 01 30.9	+00.1
20	338 41.6	+02.6	S 01 31.0	+00.1
21	353 44.2	+02.7	S 01 31.1	+00.1
22	8 46.9	+02.6	S 01 31.2	+00.0
23	23 49.5	+02.7	S 01 31.2	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 21:24

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	76 48.9	+02.5	S 16 28.3	+00.0
01	91 51.4	+02.4	S 16 28.3	-00.1
02	106 53.8	+02.4	S 16 28.2	+00.0
03	121 56.2	+02.5	S 16 28.2	+00.0
04	136 58.7	+02.4	S 16 28.2	+00.0
05	152 01.1	+02.4	S 16 28.2	+00.0
06	167 03.5	+02.5	S 16 28.2	+00.0
07	182 06.0	+02.4	S 16 28.2	+00.0
08	197 08.4	+02.4	S 16 28.2	+00.0
09	212 10.8	+02.5	S 16 28.2	-00.1
10	227 13.3	+02.4	S 16 28.1	+00.0
11	242 15.7	+02.4	S 16 28.1	+00.0
12	257 18.1	+02.5	S 16 28.1	+00.0
13	272 20.6	+02.4	S 16 28.1	+00.0
14	287 23.0	+02.4	S 16 28.1	+00.0
15	302 25.4	+02.5	S 16 28.1	+00.0
16	317 27.9	+02.4	S 16 28.1	+00.0
17	332 30.3	+02.4	S 16 28.1	-00.1
18	347 32.7	+02.5	S 16 28.0	+00.0
19	2 35.2	+02.4	S 16 28.0	+00.0
20	17 37.6	+02.4	S 16 28.0	+00.0
21	32 40.0	+02.5	S 16 28.0	+00.0
22	47 42.5	+02.4	S 16 28.0	+00.0
23	62 44.9	+02.4	S 16 28.0	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	039°	039°	039°	039°	039°	039°

Greenwich Culmination Time: 18:49

2022 November 4 Friday (day 308 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	184 06.6	+00.0	S 15 17.7	+00.8
01	199 06.6	+00.0	S 15 18.5	+00.8
02	214 06.6	+00.0	S 15 19.3	+00.7
03	229 06.6	+00.0	S 15 20.0	+00.8
04	244 06.6	+00.0	S 15 20.8	+00.8
05	259 06.6	−00.1	S 15 21.6	+00.8
06	274 06.5	+00.0	S 15 22.4	+00.7
07	289 06.5	+00.0	S 15 23.1	+00.8
08	304 06.5	+00.0	S 15 23.9	+00.8
09	319 06.5	+00.0	S 15 24.7	+00.7
10	334 06.5	+00.0	S 15 25.4	+00.8
11	349 06.5	+00.0	S 15 26.2	+00.8
12	4 06.5	+00.0	S 15 27.0	+00.7
13	19 06.5	+00.0	S 15 27.7	+00.8
14	34 06.5	+00.0	S 15 28.5	+00.8
15	49 06.5	+00.0	S 15 29.3	+00.7
16	64 06.5	+00.0	S 15 30.0	+00.8
17	79 06.5	−00.1	S 15 30.8	+00.8
18	94 06.4	+00.0	S 15 31.6	+00.7
19	109 06.4	+00.0	S 15 32.3	+00.8
20	124 06.4	+00.0	S 15 33.1	+00.8
21	139 06.4	+00.0	S 15 33.9	+00.7
22	154 06.4	+00.0	S 15 34.6	+00.8
23	169 06.4	+00.0	S 15 35.4	+00.7

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	141°	141°	140°	140°	140°	140°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 50.8	−00.6	S 15 34.9	+01.0
01	195 50.2	−00.6	S 15 35.9	+01.0
02	210 49.6	−00.6	S 15 36.9	+01.0
03	225 49.0	−00.7	S 15 37.9	+01.0
04	240 48.3	−00.6	S 15 38.9	+01.0
05	255 47.7	−00.6	S 15 39.9	+01.0
06	270 47.1	−00.6	S 15 40.9	+01.0
07	285 46.5	−00.6	S 15 41.9	+01.0
08	300 45.9	−00.7	S 15 42.9	+01.0
09	315 45.2	−00.6	S 15 43.9	+01.0
10	330 44.6	−00.6	S 15 44.9	+01.0
11	345 44.0	−00.6	S 15 45.9	+01.0
12	0 43.4	−00.7	S 15 46.9	+01.0
13	15 42.7	−00.6	S 15 47.9	+01.0
14	30 42.1	−00.6	S 15 48.9	+01.0
15	45 41.5	−00.6	S 15 49.9	+01.0
16	60 40.9	−00.7	S 15 50.9	+01.0
17	75 40.2	−00.6	S 15 51.9	+01.0
18	90 39.6	−00.6	S 15 52.9	+01.0
19	105 39.0	−00.7	S 15 53.9	+00.9
20	120 38.3	−00.6	S 15 54.8	+01.0
21	135 37.7	−00.6	S 15 55.8	+01.0
22	150 37.1	−00.6	S 15 56.8	+01.0
23	165 36.5	−00.7	S 15 57.8	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	138°	137°	137°	137°	137°	136°

Greenwich Culmination Time: 11:57

Moon

A: 37%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	53 34.4	−28.8	S 09 14.9	−15.0
01	68 05.6	−28.6	S 08 59.9	−15.1
02	82 37.0	−28.6	S 08 44.8	−15.1
03	97 08.4	−28.6	S 08 29.7	−15.2
04	111 39.8	−28.5	S 08 14.5	−15.2
05	126 11.3	−28.4	S 07 59.3	−15.2
06	140 42.9	−28.4	S 07 44.1	−15.3
07	155 14.5	−28.3	S 07 28.8	−15.3
08	169 46.2	−28.3	S 07 13.5	−15.3
09	184 17.9	−28.2	S 06 58.2	−15.3
10	198 49.7	−28.2	S 06 42.9	−15.3
11	213 21.5	−28.2	S 06 27.6	−15.4
12	227 53.3	−28.1	S 06 12.2	−15.4
13	242 25.2	−28.0	S 05 56.8	−15.4
14	256 57.2	−28.0	S 05 41.4	−15.5
15	271 29.2	−28.0	S 05 25.9	−15.4
16	286 01.2	−27.9	S 05 10.5	−15.5
17	300 33.3	−27.9	S 04 55.0	−15.5
18	315 05.4	−27.8	S 04 39.5	−15.5
19	329 37.6	−27.8	S 04 24.0	−15.5
20	344 09.8	−27.8	S 04 08.5	−15.5
21	358 42.0	−27.7	S 03 53.0	−15.6
22	13 14.3	−27.7	S 03 37.4	−15.5
23	27 46.6	−27.7	S 03 21.9	−15.5

UT	02	06	10	14	18	22
SD	15′9	15′8	15′8	15′8	15′8	15′8
HP	58′2	58′1	58′0	58′0	57′9	57′8
SHA	009°	007°	005°	003°	001°	359°

Greenwich Culmination Time: 21:05

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	318 10.7	+02.7	N 24 00.6	+00.1
01	333 13.4	+02.6	N 24 00.7	+00.2
02	348 16.0	+02.7	N 24 00.9	+00.1
03	3 18.7	+02.6	N 24 01.0	+00.1
04	18 21.3	+02.7	N 24 01.1	+00.1
05	33 24.0	+02.6	N 24 01.2	+00.1
06	48 26.6	+02.7	N 24 01.3	+00.1
07	63 29.3	+02.6	N 24 01.4	+00.1
08	78 31.9	+02.7	N 24 01.5	+00.2
09	93 34.6	+02.7	N 24 01.7	+00.1
10	108 37.3	+02.6	N 24 01.8	+00.1
11	123 39.9	+02.7	N 24 01.9	+00.1
12	138 42.6	+02.7	N 24 02.0	+00.1
13	153 45.3	+02.6	N 24 02.1	+00.1
14	168 47.9	+02.7	N 24 02.2	+00.1
15	183 50.6	+02.7	N 24 02.3	+00.2
16	198 53.3	+02.6	N 24 02.5	+00.1
17	213 55.9	+02.7	N 24 02.6	+00.1
18	228 58.6	+02.7	N 24 02.7	+00.1
19	244 01.3	+02.7	N 24 02.8	+00.1
20	259 04.0	+02.6	N 24 02.9	+00.1
21	274 06.6	+02.7	N 24 03.0	+00.1
22	289 09.3	+02.7	N 24 03.1	+00.1
23	304 12.0	+02.7	N 24 03.2	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 02:46

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	43 05.1	+02.6	S 01 37.4	+00.1
01	58 07.7	+02.6	S 01 37.5	+00.1
02	73 10.3	+02.7	S 01 37.6	+00.0
03	88 13.0	+02.6	S 01 37.6	+00.1
04	103 15.6	+02.6	S 01 37.7	+00.0
05	118 18.2	+02.6	S 01 37.7	+00.1
06	133 20.8	+02.6	S 01 37.8	+00.0
07	148 23.4	+02.7	S 01 37.8	+00.1
08	163 26.1	+02.6	S 01 37.9	+00.1
09	178 28.7	+02.6	S 01 38.0	+00.0
10	193 31.3	+02.6	S 01 38.0	+00.1
11	208 33.9	+02.6	S 01 38.1	+00.0
12	223 36.5	+02.6	S 01 38.1	+00.1
13	238 39.1	+02.7	S 01 38.2	+00.0
14	253 41.8	+02.6	S 01 38.2	+00.1
15	268 44.4	+02.6	S 01 38.3	+00.0
16	283 47.0	+02.6	S 01 38.3	+00.1
17	298 49.6	+02.6	S 01 38.4	+00.1
18	313 52.2	+02.6	S 01 38.5	+00.0
19	328 54.8	+02.7	S 01 38.5	+00.1
20	343 57.5	+02.6	S 01 38.6	+00.0
21	359 00.1	+02.6	S 01 38.6	+00.1
22	14 02.7	+02.6	S 01 38.7	+00.0
23	29 05.3	+02.6	S 01 38.7	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 21:03

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	81 39.9	+02.5	S 16 26.5	+00.0
01	96 42.4	+02.4	S 16 26.5	−00.1
02	111 44.8	+02.4	S 16 26.4	+00.0
03	126 47.2	+02.4	S 16 26.4	+00.0
04	141 49.6	+02.4	S 16 26.4	+00.0
05	156 52.0	+02.4	S 16 26.4	+00.0
06	171 54.4	+02.4	S 16 26.4	−00.1
07	186 56.8	+02.5	S 16 26.3	+00.0
08	201 59.3	+02.4	S 16 26.3	+00.0
09	217 01.7	+02.4	S 16 26.3	+00.0
10	232 04.1	+02.4	S 16 26.3	+00.0
11	247 06.5	+02.4	S 16 26.3	+00.0
12	262 08.9	+02.4	S 16 26.3	−00.1
13	277 11.3	+02.4	S 16 26.2	+00.0
14	292 13.7	+02.4	S 16 26.2	+00.0
15	307 16.1	+02.5	S 16 26.2	+00.0
16	322 18.6	+02.4	S 16 26.2	+00.0
17	337 21.0	+02.4	S 16 26.2	−00.1
18	352 23.4	+02.4	S 16 26.1	+00.0
19	7 25.8	+02.4	S 16 26.1	+00.0
20	22 28.2	+02.4	S 16 26.1	+00.0
21	37 30.6	+02.4	S 16 26.1	+00.0
22	52 33.0	+02.4	S 16 26.1	−00.1
23	67 35.4	+02.4	S 16 26.0	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 18:30

2022 November 1 Tuesday (day 305 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	184 06.0	+00.0	S 14 21.0	+00.8
01	199 06.0	+00.1	S 14 21.8	+00.8
02	214 06.1	+00.0	S 14 22.6	+00.8
03	229 06.1	+00.0	S 14 23.4	+00.8
04	244 06.1	+00.0	S 14 24.2	+00.8
05	259 06.1	+00.0	S 14 25.0	+00.8
06	274 06.1	+00.1	S 14 25.8	+00.8
07	289 06.2	+00.0	S 14 26.6	+00.8
08	304 06.2	+00.0	S 14 27.4	+00.8
09	319 06.2	+00.0	S 14 28.2	+00.8
10	334 06.2	+00.0	S 14 29.0	+00.8
11	349 06.2	+00.0	S 14 29.8	+00.8
12	4 06.2	+00.1	S 14 30.6	+00.8
13	19 06.3	+00.0	S 14 31.4	+00.8
14	34 06.3	+00.0	S 14 32.2	+00.8
15	49 06.3	+00.0	S 14 33.0	+00.8
16	64 06.3	+00.0	S 14 33.8	+00.8
17	79 06.3	+00.0	S 14 34.6	+00.8
18	94 06.3	+00.0	S 14 35.4	+00.8
19	109 06.3	+00.1	S 14 36.2	+00.8
20	124 06.4	+00.0	S 14 37.0	+00.8
21	139 06.4	+00.0	S 14 37.8	+00.8
22	154 06.4	+00.0	S 14 38.6	+00.8
23	169 06.4	+00.0	S 14 39.4	+00.7

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	144°	144°	143°	143°	143°	143°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	181 34.1	−00.6	S 14 20.8	+01.1
01	196 33.5	−00.5	S 14 21.9	+01.0
02	211 33.0	−00.6	S 14 22.9	+01.1
03	226 32.4	−00.6	S 14 24.0	+01.0
04	241 31.8	−00.6	S 14 25.0	+01.1
05	256 31.2	−00.6	S 14 26.1	+01.0
06	271 30.6	−00.6	S 14 27.1	+01.1
07	286 30.0	−00.6	S 14 28.2	+01.0
08	301 29.4	−00.5	S 14 29.2	+01.1
09	316 28.9	−00.6	S 14 30.3	+01.0
10	331 28.3	−00.6	S 14 31.3	+01.1
11	346 27.7	−00.6	S 14 32.4	+01.0
12	1 27.1	−00.6	S 14 33.4	+01.1
13	16 26.5	−00.6	S 14 34.5	+01.0
14	31 25.9	−00.6	S 14 35.5	+01.0
15	46 25.3	−00.6	S 14 36.5	+01.1
16	61 24.7	−00.6	S 14 37.6	+01.0
17	76 24.1	−00.6	S 14 38.6	+01.1
18	91 23.5	−00.5	S 14 39.7	+01.0
19	106 23.0	−00.6	S 14 40.7	+01.0
20	121 22.4	−00.6	S 14 41.7	+01.1
21	136 21.8	−00.6	S 14 42.8	+01.0
22	151 21.2	−00.6	S 14 43.8	+01.1
23	166 20.6	−00.6	S 14 44.9	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	141°	141°	141°	141°	140°	140°

Greenwich Culmination Time: 11:54

Moon

A: 27%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	91 37.9	−35.1	S 24 06.2	−08.4
01	106 02.8	−35.0	S 23 57.8	−08.6
02	120 27.8	−34.9	S 23 49.2	−08.7
03	134 52.9	−34.9	S 23 40.5	−08.9
04	149 18.0	−34.7	S 23 31.6	−09.0
05	163 43.3	−34.6	S 23 22.6	−09.1
06	178 08.7	−34.5	S 23 13.5	−09.3
07	192 34.2	−34.5	S 23 04.2	−09.4
08	206 59.7	−34.3	S 22 54.8	−09.6
09	221 25.4	−34.2	S 22 45.2	−09.7
10	235 51.2	−34.2	S 22 35.5	−09.9
11	250 17.0	−34.0	S 22 25.6	−09.9
12	264 43.0	−33.9	S 22 15.7	−10.1
13	279 09.1	−33.8	S 22 05.6	−10.3
14	293 35.3	−33.8	S 21 55.3	−10.3
15	308 01.5	−33.6	S 21 45.0	−10.5
16	322 27.9	−33.5	S 21 34.5	−10.7
17	336 54.4	−33.4	S 21 23.8	−10.7
18	351 21.0	−33.3	S 21 13.1	−10.9
19	5 47.7	−33.3	S 21 02.2	−10.9
20	20 14.4	−33.1	S 20 51.3	−11.1
21	34 41.3	−33.0	S 20 40.2	−11.3
22	49 08.3	−32.9	S 20 28.9	−11.3
23	63 35.4	−32.8	S 20 17.6	−11.4

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	59′2	59′1	59′1	59′0	59′0	58′9
SHA	050°	048°	045°	043°	040°	038°

Greenwich Culmination Time: 18:35

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	315 04.6	+02.6	N 23 52.4	+00.1
01	330 07.2	+02.5	N 23 52.5	+00.2
02	345 09.7	+02.5	N 23 52.7	+00.1
03	0 12.2	+02.5	N 23 52.8	+00.1
04	15 14.7	+02.6	N 23 52.9	+00.1
05	30 17.3	+02.5	N 23 53.0	+00.1
06	45 19.8	+02.5	N 23 53.1	+00.1
07	60 22.3	+02.6	N 23 53.2	+00.1
08	75 24.9	+02.5	N 23 53.3	+00.1
09	90 27.4	+02.6	N 23 53.4	+00.2
10	105 30.0	+02.5	N 23 53.6	+00.1
11	120 32.5	+02.5	N 23 53.7	+00.1
12	135 35.0	+02.6	N 23 53.8	+00.1
13	150 37.6	+02.5	N 23 53.9	+00.1
14	165 40.1	+02.6	N 23 54.0	+00.1
15	180 42.7	+02.5	N 23 54.1	+00.1
16	195 45.2	+02.6	N 23 54.2	+00.2
17	210 47.8	+02.5	N 23 54.4	+00.1
18	225 50.3	+02.6	N 23 54.5	+00.1
19	240 52.9	+02.6	N 23 54.6	+00.1
20	255 55.5	+02.5	N 23 54.7	+00.1
21	270 58.0	+02.6	N 23 54.8	+00.1
22	286 00.6	+02.5	N 23 54.9	+00.1
23	301 03.1	+02.6	N 23 55.0	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 02:59

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	39 55.6	+02.7	S 01 32.9	+00.1
01	54 58.3	+02.6	S 01 33.0	+00.1
02	70 00.9	+02.7	S 01 33.1	+00.0
03	85 03.6	+02.6	S 01 33.1	+00.1
04	100 06.2	+02.6	S 01 33.2	+00.1
05	115 08.8	+02.7	S 01 33.3	+00.0
06	130 11.5	+02.6	S 01 33.3	+00.1
07	145 14.1	+02.7	S 01 33.4	+00.1
08	160 16.8	+02.6	S 01 33.5	+00.0
09	175 19.4	+02.6	S 01 33.5	+00.1
10	190 22.0	+02.7	S 01 33.6	+00.1
11	205 24.7	+02.6	S 01 33.7	+00.0
12	220 27.3	+02.7	S 01 33.7	+00.1
13	235 30.0	+02.6	S 01 33.8	+00.1
14	250 32.6	+02.6	S 01 33.9	+00.0
15	265 35.2	+02.7	S 01 33.9	+00.1
16	280 37.9	+02.6	S 01 34.0	+00.1
17	295 40.5	+02.6	S 01 34.1	+00.0
18	310 43.1	+02.7	S 01 34.1	+00.1
19	325 45.8	+02.6	S 01 34.2	+00.1
20	340 48.4	+02.7	S 01 34.3	+00.0
21	355 51.1	+02.6	S 01 34.3	+00.1
22	10 53.7	+02.6	S 01 34.4	+00.1
23	25 56.3	+02.7	S 01 34.5	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 21:16

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	78 45.6	+02.5	S 16 27.6	+00.0
01	93 48.1	+02.4	S 16 27.6	+00.0
02	108 50.5	+02.4	S 16 27.6	+00.0
03	123 52.9	+02.4	S 16 27.6	+00.0
04	138 55.3	+02.5	S 16 27.6	+00.0
05	153 57.8	+02.4	S 16 27.6	+00.0
06	169 00.2	+02.4	S 16 27.6	−00.1
07	184 02.6	+02.4	S 16 27.5	+00.0
08	199 05.0	+02.5	S 16 27.5	+00.0
09	214 07.5	+02.4	S 16 27.5	+00.0
10	229 09.9	+02.4	S 16 27.5	+00.0
11	244 12.3	+02.4	S 16 27.5	+00.0
12	259 14.7	+02.5	S 16 27.5	+00.0
13	274 17.2	+02.4	S 16 27.5	−00.1
14	289 19.6	+02.4	S 16 27.4	+00.0
15	304 22.0	+02.4	S 16 27.4	+00.0
16	319 24.4	+02.5	S 16 27.4	+00.0
17	334 26.9	+02.4	S 16 27.4	+00.0
18	349 29.3	+02.4	S 16 27.4	+00.0
19	4 31.7	+02.4	S 16 27.4	−00.1
20	19 34.1	+02.5	S 16 27.3	+00.0
21	34 36.6	+02.4	S 16 27.3	+00.0
22	49 39.0	+02.4	S 16 27.3	+00.0
23	64 41.4	+02.4	S 16 27.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 18:41

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2022 November 2 Wednesday (day 306 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	184 06.4	+00.0	S 14 40.1	+00.8
01	199 06.4	+00.0	S 14 40.9	+00.8
02	214 06.4	+00.0	S 14 41.7	+00.8
03	229 06.4	+00.0	S 14 42.5	+00.8
04	244 06.4	+00.1	S 14 43.3	+00.8
05	259 06.5	+00.0	S 14 44.1	+00.8
06	274 06.5	+00.0	S 14 44.9	+00.8
07	289 06.5	+00.0	S 14 45.7	+00.8
08	304 06.5	+00.0	S 14 46.5	+00.8
09	319 06.5	+00.0	S 14 47.3	+00.8
10	334 06.5	+00.0	S 14 48.1	+00.7
11	349 06.5	+00.0	S 14 48.8	+00.8
12	4 06.5	+00.0	S 14 49.6	+00.8
13	19 06.5	+00.0	S 14 50.4	+00.8
14	34 06.5	+00.0	S 14 51.2	+00.8
15	49 06.5	+00.1	S 14 52.0	+00.8
16	64 06.6	+00.0	S 14 52.8	+00.8
17	79 06.6	+00.0	S 14 53.6	+00.8
18	94 06.6	+00.0	S 14 54.4	+00.7
19	109 06.6	+00.0	S 14 55.1	+00.8
20	124 06.6	+00.0	S 14 55.9	+00.8
21	139 06.6	+00.0	S 14 56.7	+00.8
22	154 06.6	+00.0	S 14 57.5	+00.8
23	169 06.6	+00.0	S 14 58.3	+00.8

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	143°	143°	142°	142°	142°	142°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	181 20.0	-00.6	S 14 45.9	+01.0
01	196 19.4	-00.6	S 14 46.9	+01.1
02	211 18.8	-00.6	S 14 48.0	+01.0
03	226 18.2	-00.6	S 14 49.0	+01.0
04	241 17.6	-00.6	S 14 50.0	+01.1
05	256 17.0	-00.6	S 14 51.1	+01.0
06	271 16.4	-00.6	S 14 52.1	+01.0
07	286 15.8	-00.6	S 14 53.1	+01.1
08	301 15.2	-00.6	S 14 54.2	+01.0
09	316 14.6	-00.6	S 14 55.2	+01.0
10	331 14.0	-00.6	S 14 56.2	+01.1
11	346 13.4	-00.6	S 14 57.3	+01.0
12	1 12.8	-00.6	S 14 58.3	+01.0
13	16 12.2	-00.6	S 14 59.3	+01.0
14	31 11.6	-00.6	S 15 00.3	+01.1
15	46 11.0	-00.6	S 15 01.4	+01.0
16	61 10.4	-00.6	S 15 02.4	+01.0
17	76 09.8	-00.6	S 15 03.4	+01.0
18	91 09.2	-00.6	S 15 04.4	+01.1
19	106 08.6	-00.6	S 15 05.5	+01.0
20	121 08.0	-00.6	S 15 06.5	+01.0
21	136 07.4	-00.6	S 15 07.5	+01.0
22	151 06.8	-00.6	S 15 08.5	+01.1
23	166 06.2	-00.7	S 15 09.6	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	140°	140°	140°	139°	139°	139°

Greenwich Culmination Time: 11:55

Moon

A: 31%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	78 02.6	-32.7	S 20 06.2	-11.6
01	92 29.9	-32.6	S 19 54.6	-11.7
02	106 57.3	-32.5	S 19 42.9	-11.7
03	121 24.8	-32.5	S 19 31.2	-11.9
04	135 52.3	-32.3	S 19 19.3	-12.0
05	150 20.0	-32.2	S 19 07.3	-12.1
06	164 47.8	-32.1	S 18 55.2	-12.2
07	179 15.7	-32.0	S 18 43.0	-12.3
08	193 43.7	-31.9	S 18 30.7	-12.4
09	208 11.8	-31.9	S 18 18.3	-12.5
10	222 39.9	-31.7	S 18 05.8	-12.6
11	237 08.2	-31.6	S 17 53.2	-12.6
12	251 36.6	-31.6	S 17 40.6	-12.8
13	266 05.0	-31.4	S 17 27.8	-12.9
14	280 33.6	-31.4	S 17 14.9	-12.9
15	295 02.2	-31.2	S 17 02.0	-13.1
16	309 31.0	-31.2	S 16 48.9	-13.1
17	323 59.8	-31.1	S 16 35.8	-13.2
18	338 28.7	-31.0	S 16 22.6	-13.3
19	352 57.7	-30.9	S 16 09.3	-13.4
20	7 26.8	-30.8	S 15 55.9	-13.4
21	21 56.0	-30.7	S 15 42.5	-13.5
22	36 25.3	-30.6	S 15 29.0	-13.6
23	50 54.7	-30.6	S 15 15.4	-13.7

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′0	16′0	16′0
HP	58′9	58′8	58′8	58′7	58′7	58′6
SHA	036°	033°	031°	029°	026°	024°

Greenwich Culmination Time: 19:29

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	316 05.7	+02.6	N 23 55.2	+00.1
01	331 08.3	+02.5	N 23 55.3	+00.1
02	346 10.8	+02.6	N 23 55.4	+00.1
03	1 13.4	+02.6	N 23 55.5	+00.1
04	16 16.0	+02.5	N 23 55.6	+00.1
05	31 18.5	+02.6	N 23 55.7	+00.1
06	46 21.1	+02.6	N 23 55.8	+00.2
07	61 23.7	+02.6	N 23 56.0	+00.1
08	76 26.3	+02.6	N 23 56.1	+00.1
09	91 28.9	+02.5	N 23 56.2	+00.1
10	106 31.4	+02.6	N 23 56.3	+00.1
11	121 34.0	+02.6	N 23 56.4	+00.1
12	136 36.6	+02.6	N 23 56.5	+00.1
13	151 39.2	+02.6	N 23 56.6	+00.2
14	166 41.8	+02.6	N 23 56.8	+00.1
15	181 44.4	+02.6	N 23 56.9	+00.1
16	196 47.0	+02.5	N 23 57.0	+00.1
17	211 49.5	+02.6	N 23 57.1	+00.1
18	226 52.1	+02.6	N 23 57.2	+00.1
19	241 54.7	+02.6	N 23 57.3	+00.1
20	256 57.3	+02.6	N 23 57.4	+00.2
21	271 59.9	+02.6	N 23 57.6	+00.1
22	287 02.5	+02.6	N 23 57.7	+00.1
23	302 05.1	+02.6	N 23 57.8	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 02:55

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	40 59.0	+02.6	S 01 34.5	+00.1
01	56 01.6	+02.6	S 01 34.6	+00.0
02	71 04.2	+02.7	S 01 34.6	+00.1
03	86 06.9	+02.6	S 01 34.7	+00.1
04	101 09.5	+02.6	S 01 34.8	+00.0
05	116 12.1	+02.7	S 01 34.8	+00.1
06	131 14.8	+02.6	S 01 34.9	+00.1
07	146 17.4	+02.6	S 01 35.0	+00.0
08	161 20.0	+02.7	S 01 35.0	+00.1
09	176 22.7	+02.6	S 01 35.1	+00.1
10	191 25.3	+02.6	S 01 35.2	+00.0
11	206 27.9	+02.7	S 01 35.2	+00.1
12	221 30.6	+02.6	S 01 35.3	+00.0
13	236 33.2	+02.6	S 01 35.3	+00.1
14	251 35.8	+02.6	S 01 35.4	+00.1
15	266 38.4	+02.7	S 01 35.5	+00.0
16	281 41.1	+02.6	S 01 35.5	+00.1
17	296 43.7	+02.6	S 01 35.6	+00.1
18	311 46.3	+02.7	S 01 35.7	+00.0
19	326 49.0	+02.6	S 01 35.7	+00.1
20	341 51.6	+02.6	S 01 35.8	+00.0
21	356 54.2	+02.7	S 01 35.8	+00.1
22	11 56.9	+02.6	S 01 35.9	+00.1
23	26 59.5	+02.6	S 01 36.0	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 21:12

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	79 43.8	+02.5	S 16 27.3	+00.0
01	94 46.3	+02.4	S 16 27.3	+00.0
02	109 48.7	+02.4	S 16 27.3	-00.1
03	124 51.1	+02.4	S 16 27.2	+00.0
04	139 53.5	+02.4	S 16 27.2	+00.0
05	154 55.9	+02.5	S 16 27.2	+00.0
06	169 58.4	+02.4	S 16 27.2	+00.0
07	185 00.8	+02.4	S 16 27.2	+00.0
08	200 03.2	+02.4	S 16 27.2	-00.1
09	215 05.6	+02.5	S 16 27.1	+00.0
10	230 08.1	+02.4	S 16 27.1	+00.0
11	245 10.5	+02.4	S 16 27.1	+00.0
12	260 12.9	+02.4	S 16 27.1	+00.0
13	275 15.3	+02.4	S 16 27.1	+00.0
14	290 17.7	+02.5	S 16 27.1	-00.1
15	305 20.2	+02.4	S 16 27.0	+00.0
16	320 22.6	+02.4	S 16 27.0	+00.0
17	335 25.0	+02.4	S 16 27.0	+00.0
18	350 27.4	+02.4	S 16 27.0	+00.0
19	5 29.8	+02.5	S 16 27.0	+00.0
20	20 32.3	+02.4	S 16 27.0	-00.1
21	35 34.7	+02.4	S 16 26.9	+00.0
22	50 37.1	+02.4	S 16 26.9	+00.0
23	65 39.5	+02.4	S 16 26.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 18:38

2022 November 3 Thursday (day 307 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	184 06.6	+00.0	S 14 59.1	+00.7
01	199 06.6	+00.0	S 14 59.8	+00.8
02	214 06.6	+00.0	S 15 00.6	+00.8
03	229 06.6	+00.0	S 15 01.4	+00.8
04	244 06.6	+00.0	S 15 02.2	+00.8
05	259 06.6	+00.0	S 15 03.0	+00.7
06	274 06.6	+00.0	S 15 03.7	+00.8
07	289 06.6	+00.0	S 15 04.5	+00.8
08	304 06.6	+00.0	S 15 05.3	+00.8
09	319 06.6	+00.0	S 15 06.1	+00.8
10	334 06.6	+00.0	S 15 06.9	+00.7
11	349 06.6	+00.0	S 15 07.6	+00.8
12	4 06.6	+00.0	S 15 08.4	+00.8
13	19 06.6	+00.0	S 15 09.2	+00.8
14	34 06.6	+00.0	S 15 10.0	+00.8
15	49 06.6	+00.0	S 15 10.8	+00.7
16	64 06.6	+00.0	S 15 11.5	+00.8
17	79 06.6	+00.0	S 15 12.3	+00.8
18	94 06.6	+00.0	S 15 13.1	+00.8
19	109 06.6	+00.0	S 15 13.9	+00.7
20	124 06.6	+00.0	S 15 14.6	+00.8
21	139 06.6	+00.0	S 15 15.4	+00.8
22	154 06.6	+00.0	S 15 16.2	+00.8
23	169 06.6	+00.0	S 15 17.0	+00.7

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	142°	142°	141°	141°	141°	141°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	181 05.5	-00.6	S 15 10.6	+01.0
01	196 04.9	-00.6	S 15 11.6	+01.0
02	211 04.3	-00.6	S 15 12.6	+01.0
03	226 03.7	-00.6	S 15 13.6	+01.1
04	241 03.1	-00.6	S 15 14.7	+01.0
05	256 02.5	-00.6	S 15 15.7	+01.0
06	271 01.9	-00.6	S 15 16.7	+01.0
07	286 01.3	-00.6	S 15 17.7	+01.0
08	301 00.7	-00.6	S 15 18.7	+01.0
09	316 00.1	-00.7	S 15 19.7	+01.1
10	330 59.4	-00.6	S 15 20.8	+01.0
11	345 58.8	-00.6	S 15 21.8	+01.0
12	0 58.2	-00.6	S 15 22.8	+01.0
13	15 57.6	-00.6	S 15 23.8	+01.0
14	30 57.0	-00.6	S 15 24.8	+01.0
15	45 56.4	-00.6	S 15 25.8	+01.0
16	60 55.8	-00.6	S 15 26.8	+01.0
17	75 55.2	-00.7	S 15 27.8	+01.1
18	90 54.5	-00.6	S 15 28.9	+01.0
19	105 53.9	-00.6	S 15 29.9	+01.0
20	120 53.3	-00.6	S 15 30.9	+01.0
21	135 52.7	-00.6	S 15 31.9	+01.0
22	150 52.1	-00.7	S 15 32.9	+01.0
23	165 51.4	-00.6	S 15 33.9	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	139°	139°	138°	138°	138°	138°

Greenwich Culmination Time: 11:56

Moon

A: 34%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	65 24.1	-30.4	S 15 01.7	-13.8
01	79 53.7	-30.4	S 14 47.9	-13.8
02	94 23.3	-30.3	S 14 34.1	-13.9
03	108 53.0	-30.2	S 14 20.2	-14.0
04	123 22.8	-30.1	S 14 06.2	-14.0
05	137 52.7	-30.1	S 13 52.2	-14.1
06	152 22.6	-29.9	S 13 38.1	-14.1
07	166 52.7	-29.9	S 13 24.0	-14.3
08	181 22.8	-29.8	S 13 09.7	-14.3
09	195 53.0	-29.8	S 12 55.4	-14.3
10	210 23.2	-29.6	S 12 41.1	-14.4
11	224 53.6	-29.6	S 12 26.7	-14.4
12	239 24.0	-29.5	S 12 12.3	-14.6
13	253 54.5	-29.5	S 11 57.7	-14.5
14	268 25.0	-29.3	S 11 43.2	-14.6
15	282 55.7	-29.3	S 11 28.6	-14.7
16	297 26.4	-29.3	S 11 13.9	-14.7
17	311 57.1	-29.1	S 10 59.2	-14.8
18	326 28.0	-29.1	S 10 44.4	-14.8
19	340 58.9	-29.1	S 10 29.6	-14.8
20	355 29.8	-28.9	S 10 14.8	-14.9
21	10 00.9	-28.9	S 09 59.9	-15.0
22	24 32.0	-28.9	S 09 44.9	-15.0
23	39 03.1	-28.7	S 09 29.9	-15.0

UT	02	06	10	14	18	22
SD	16′0	15′9	15′9	15′9	15′9	15′9
HP	58′6	58′5	58′4	58′4	58′3	58′3
SHA	022°	020°	018°	016°	013°	011°

Greenwich Culmination Time: 20:18

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	317 07.7	+02.6	N 23 57.9	+00.1
01	332 10.3	+02.7	N 23 58.0	+00.1
02	347 13.0	+02.6	N 23 58.1	+00.1
03	2 15.6	+02.6	N 23 58.2	+00.1
04	17 18.2	+02.6	N 23 58.3	+00.2
05	32 20.8	+02.6	N 23 58.5	+00.1
06	47 23.4	+02.6	N 23 58.6	+00.1
07	62 26.0	+02.6	N 23 58.7	+00.1
08	77 28.6	+02.6	N 23 58.8	+00.1
09	92 31.2	+02.7	N 23 58.9	+00.1
10	107 33.9	+02.6	N 23 59.0	+00.1
11	122 36.5	+02.6	N 23 59.1	+00.2
12	137 39.1	+02.6	N 23 59.3	+00.1
13	152 41.7	+02.7	N 23 59.4	+00.1
14	167 44.4	+02.6	N 23 59.5	+00.1
15	182 47.0	+02.6	N 23 59.6	+00.1
16	197 49.6	+02.7	N 23 59.7	+00.1
17	212 52.3	+02.6	N 23 59.8	+00.1
18	227 54.9	+02.6	N 23 59.9	+00.2
19	242 57.5	+02.7	N 24 00.1	+00.1
20	258 00.2	+02.6	N 24 00.2	+00.1
21	273 02.8	+02.6	N 24 00.3	+00.1
22	288 05.4	+02.7	N 24 00.4	+00.1
23	303 08.1	+02.6	N 24 00.5	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 02:50

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	42 02.1	+02.6	S 01 36.0	+00.1
01	57 04.7	+02.7	S 01 36.1	+00.0
02	72 07.4	+02.6	S 01 36.1	+00.1
03	87 10.0	+02.6	S 01 36.2	+00.1
04	102 12.6	+02.6	S 01 36.3	+00.0
05	117 15.2	+02.7	S 01 36.3	+00.1
06	132 17.9	+02.6	S 01 36.4	+00.0
07	147 20.5	+02.6	S 01 36.4	+00.1
08	162 23.1	+02.7	S 01 36.5	+00.1
09	177 25.8	+02.6	S 01 36.6	+00.0
10	192 28.4	+02.6	S 01 36.6	+00.1
11	207 31.0	+02.6	S 01 36.7	+00.0
12	222 33.6	+02.7	S 01 36.7	+00.1
13	237 36.3	+02.6	S 01 36.8	+00.1
14	252 38.9	+02.6	S 01 36.9	+00.0
15	267 41.5	+02.6	S 01 36.9	+00.1
16	282 44.1	+02.6	S 01 37.0	+00.0
17	297 46.7	+02.7	S 01 37.0	+00.1
18	312 49.4	+02.6	S 01 37.1	+00.1
19	327 52.0	+02.6	S 01 37.2	+00.0
20	342 54.6	+02.6	S 01 37.2	+00.1
21	357 57.2	+02.7	S 01 37.3	+00.0
22	12 59.9	+02.6	S 01 37.3	+00.1
23	28 02.5	+02.6	S 01 37.4	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 21:08

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	80 41.9	+02.5	S 16 26.9	+00.0
01	95 44.4	+02.4	S 16 26.9	+00.0
02	110 46.8	+02.4	S 16 26.9	-00.1
03	125 49.2	+02.4	S 16 26.8	+00.0
04	140 51.6	+02.4	S 16 26.8	+00.0
05	155 54.0	+02.4	S 16 26.8	+00.0
06	170 56.4	+02.5	S 16 26.8	+00.0
07	185 58.9	+02.4	S 16 26.8	+00.0
08	201 01.3	+02.4	S 16 26.8	-00.1
09	216 03.7	+02.4	S 16 26.7	+00.0
10	231 06.1	+02.4	S 16 26.7	+00.0
11	246 08.5	+02.5	S 16 26.7	+00.0
12	261 11.0	+02.4	S 16 26.7	+00.0
13	276 13.4	+02.4	S 16 26.7	+00.0
14	291 15.8	+02.4	S 16 26.7	-00.1
15	306 18.2	+02.4	S 16 26.6	+00.0
16	321 20.6	+02.4	S 16 26.6	+00.0
17	336 23.0	+02.4	S 16 26.6	+00.0
18	351 25.4	+02.5	S 16 26.6	+00.0
19	6 27.9	+02.4	S 16 26.6	-00.1
20	21 30.3	+02.4	S 16 26.5	+00.0
21	36 32.7	+02.4	S 16 26.5	+00.0
22	51 35.1	+02.4	S 16 26.5	+00.0
23	66 37.5	+02.4	S 16 26.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 18:34

2022 November 8 Tuesday (day 312 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	184 04.5	+00.0	S 16 29.8	+00.7
01	199 04.5	−00.1	S 16 30.5	+00.8
02	214 04.4	+00.0	S 16 31.3	+00.7
03	229 04.4	−00.1	S 16 32.0	+00.7
04	244 04.3	+00.0	S 16 32.7	+00.7
05	259 04.3	+00.0	S 16 33.4	+00.8
06	274 04.3	−00.1	S 16 34.2	+00.7
07	289 04.2	+00.0	S 16 34.9	+00.7
08	304 04.2	−00.1	S 16 35.6	+00.7
09	319 04.1	+00.0	S 16 36.3	+00.8
10	334 04.1	+00.0	S 16 37.1	+00.7
11	349 04.1	−00.1	S 16 37.8	+00.7
12	4 04.0	+00.0	S 16 38.5	+00.7
13	19 04.0	−00.1	S 16 39.2	+00.8
14	34 03.9	+00.0	S 16 40.0	+00.7
15	49 03.9	−00.1	S 16 40.7	+00.7
16	64 03.8	+00.0	S 16 41.4	+00.7
17	79 03.8	−00.1	S 16 42.1	+00.7
18	94 03.7	+00.0	S 16 42.8	+00.8
19	109 03.7	+00.0	S 16 43.6	+00.7
20	124 03.7	−00.1	S 16 44.3	+00.7
21	139 03.6	+00.0	S 16 45.0	+00.7
22	154 03.6	−00.1	S 16 45.7	+00.7
23	169 03.5	+00.0	S 16 46.4	+00.8

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	137°	137°	136°	136°	136°	136°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	179 49.0	−00.7	S 17 08.0	+00.9
01	194 48.3	−00.6	S 17 08.9	+01.0
02	209 47.7	−00.7	S 17 09.9	+00.9
03	224 47.0	−00.7	S 17 10.8	+00.9
04	239 46.3	−00.6	S 17 11.7	+01.0
05	254 45.7	−00.7	S 17 12.7	+00.9
06	269 45.0	−00.7	S 17 13.6	+00.9
07	284 44.3	−00.6	S 17 14.5	+00.9
08	299 43.7	−00.7	S 17 15.4	+01.0
09	314 43.0	−00.7	S 17 16.4	+00.9
10	329 42.3	−00.7	S 17 17.3	+00.9
11	344 41.6	−00.6	S 17 18.2	+00.9
12	359 41.0	−00.7	S 17 19.1	+01.0
13	14 40.3	−00.7	S 17 20.1	+00.9
14	29 39.6	−00.7	S 17 21.0	+00.9
15	44 38.9	−00.7	S 17 21.9	+00.9
16	59 38.2	−00.6	S 17 22.8	+01.0
17	74 37.6	−00.7	S 17 23.8	+00.9
18	89 36.9	−00.7	S 17 24.7	+00.9
19	104 36.2	−00.7	S 17 25.6	+00.9
20	119 35.5	−00.6	S 17 26.5	+00.9
21	134 34.9	−00.7	S 17 27.4	+00.9
22	149 34.2	−00.7	S 17 28.3	+01.0
23	164 33.5	−00.7	S 17 29.3	+00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	133°	132°	132°	132°	132°	132°

Greenwich Culmination Time: 12:01

Moon

A: 50%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	9 21.1	−28.2	N 14 33.9	+12.9
01	23 52.9	−28.2	N 14 46.8	+12.8
02	38 24.7	−28.2	N 14 59.6	+12.8
03	52 56.5	−28.2	N 15 12.4	+12.6
04	67 28.3	−28.3	N 15 25.0	+12.6
05	82 00.0	−28.3	N 15 37.6	+12.5
06	96 31.7	−28.4	N 15 50.1	+12.4
07	111 03.3	−28.4	N 16 02.5	+12.3
08	125 34.9	−28.4	N 16 14.8	+12.2
09	140 06.5	−28.5	N 16 27.0	+12.2
10	154 38.0	−28.6	N 16 39.2	+12.1
11	169 09.4	−28.5	N 16 51.3	+12.0
12	183 40.9	−28.6	N 17 03.3	+11.8
13	198 12.3	−28.7	N 17 15.1	+11.9
14	212 43.6	−28.7	N 17 27.0	+11.7
15	227 14.9	−28.7	N 17 38.7	+11.6
16	241 46.2	−28.8	N 17 50.3	+11.5
17	256 17.4	−28.8	N 18 01.8	+11.5
18	270 48.6	−28.9	N 18 13.3	+11.3
19	285 19.7	−28.9	N 18 24.6	+11.3
20	299 50.8	−29.0	N 18 35.9	+11.1
21	314 21.8	−29.0	N 18 47.0	+11.1
22	328 52.8	−29.1	N 18 58.1	+11.0
23	343 23.7	−29.0	N 19 09.1	+10.8

UT	02	06	10	14	18	22
SD	15′3	15′3	15′3	15′3	15′2	15′2
HP	56′3	56′2	56′1	56′0	56′0	55′9
SHA	321°	319°	317°	315°	313°	311°

Greenwich Culmination Time: −1:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	322 32.4	+02.8	N 24 11.5	+00.1
01	337 35.2	+02.8	N 24 11.6	+00.1
02	352 38.0	+02.8	N 24 11.7	+00.2
03	7 40.8	+02.8	N 24 11.9	+00.1
04	22 43.6	+02.8	N 24 12.0	+00.1
05	37 46.4	+02.8	N 24 12.1	+00.1
06	52 49.2	+02.8	N 24 12.2	+00.1
07	67 52.0	+02.9	N 24 12.3	+00.1
08	82 54.9	+02.8	N 24 12.4	+00.1
09	97 57.7	+02.8	N 24 12.5	+00.1
10	113 00.5	+02.8	N 24 12.6	+00.2
11	128 03.3	+02.8	N 24 12.8	+00.1
12	143 06.1	+02.9	N 24 12.9	+00.1
13	158 09.0	+02.8	N 24 13.0	+00.1
14	173 11.8	+02.8	N 24 13.1	+00.1
15	188 14.6	+02.9	N 24 13.2	+00.1
16	203 17.5	+02.8	N 24 13.3	+00.1
17	218 20.3	+02.8	N 24 13.4	+00.1
18	233 23.1	+02.9	N 24 13.5	+00.1
19	248 26.0	+02.8	N 24 13.6	+00.2
20	263 28.8	+02.8	N 24 13.8	+00.1
21	278 31.6	+02.9	N 24 13.9	+00.1
22	293 34.5	+02.8	N 24 14.0	+00.1
23	308 37.3	+02.9	N 24 14.1	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	276°

Greenwich Culmination Time: 02:29

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	47 15.3	+02.6	S 01 42.3	+00.1
01	62 17.9	+02.6	S 01 42.4	+00.0
02	77 20.5	+02.6	S 01 42.4	+00.1
03	92 23.1	+02.6	S 01 42.5	+00.0
04	107 25.7	+02.6	S 01 42.5	+00.1
05	122 28.3	+02.6	S 01 42.6	+00.0
06	137 30.9	+02.6	S 01 42.6	+00.1
07	152 33.5	+02.6	S 01 42.7	+00.0
08	167 36.1	+02.6	S 01 42.7	+00.0
09	182 38.7	+02.6	S 01 42.7	+00.1
10	197 41.3	+02.5	S 01 42.8	+00.0
11	212 43.8	+02.6	S 01 42.8	+00.1
12	227 46.4	+02.6	S 01 42.9	+00.0
13	242 49.0	+02.6	S 01 42.9	+00.1
14	257 51.6	+02.6	S 01 43.0	+00.0
15	272 54.2	+02.6	S 01 43.0	+00.0
16	287 56.8	+02.6	S 01 43.0	+00.1
17	302 59.4	+02.6	S 01 43.1	+00.0
18	318 02.0	+02.5	S 01 43.1	+00.1
19	333 04.5	+02.6	S 01 43.2	+00.0
20	348 07.1	+02.6	S 01 43.2	+00.0
21	3 09.7	+02.6	S 01 43.2	+00.1
22	18 12.3	+02.6	S 01 43.3	+00.0
23	33 14.9	+02.6	S 01 43.3	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 20:47

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	85 30.9	+02.4	S 16 24.5	−00.1
01	100 33.3	+02.4	S 16 24.4	+00.0
02	115 35.7	+02.4	S 16 24.4	+00.0
03	130 38.1	+02.4	S 16 24.4	+00.0
04	145 40.5	+02.4	S 16 24.4	+00.0
05	160 42.9	+02.4	S 16 24.4	−00.1
06	175 45.3	+02.4	S 16 24.3	+00.0
07	190 47.7	+02.4	S 16 24.3	+00.0
08	205 50.1	+02.4	S 16 24.3	+00.0
09	220 52.5	+02.4	S 16 24.3	−00.1
10	235 54.9	+02.4	S 16 24.2	+00.0
11	250 57.3	+02.4	S 16 24.2	+00.0
12	265 59.7	+02.4	S 16 24.2	+00.0
13	281 02.1	+02.4	S 16 24.2	−00.1
14	296 04.5	+02.4	S 16 24.1	+00.0
15	311 06.9	+02.4	S 16 24.1	+00.0
16	326 09.3	+02.4	S 16 24.1	+00.0
17	341 11.7	+02.4	S 16 24.1	−00.1
18	356 14.1	+02.4	S 16 24.0	+00.0
19	11 16.5	+02.4	S 16 24.0	+00.0
20	26 18.9	+02.4	S 16 24.0	+00.0
21	41 21.3	+02.4	S 16 24.0	−00.1
22	56 23.7	+02.4	S 16 23.9	+00.0
23	71 26.1	+02.4	S 16 23.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 18:15

2022 November 5 Saturday (day 309 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	184 06.4	+00.0	S 15 36.1	+00.8
01	199 06.4	−00.1	S 15 36.9	+00.8
02	214 06.3	+00.0	S 15 37.7	+00.7
03	229 06.3	+00.0	S 15 38.4	+00.8
04	244 06.3	+00.0	S 15 39.2	+00.7
05	259 06.3	+00.0	S 15 39.9	+00.8
06	274 06.3	+00.0	S 15 40.7	+00.8
07	289 06.3	+00.0	S 15 41.5	+00.7
08	304 06.3	−00.1	S 15 42.2	+00.8
09	319 06.2	+00.0	S 15 43.0	+00.7
10	334 06.2	+00.0	S 15 43.7	+00.8
11	349 06.2	+00.0	S 15 44.5	+00.8
12	4 06.2	+00.0	S 15 45.3	+00.7
13	19 06.2	+00.0	S 15 46.0	+00.8
14	34 06.2	−00.1	S 15 46.8	+00.7
15	49 06.1	+00.0	S 15 47.5	+00.8
16	64 06.1	+00.0	S 15 48.3	+00.7
17	79 06.1	+00.0	S 15 49.0	+00.8
18	94 06.1	+00.0	S 15 49.8	+00.7
19	109 06.1	−00.1	S 15 50.5	+00.8
20	124 06.0	+00.0	S 15 51.3	+00.7
21	139 06.0	+00.0	S 15 52.0	+00.8
22	154 06.0	+00.0	S 15 52.8	+00.7
23	169 06.0	+00.0	S 15 53.5	+00.8

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	140°	140°	139°	139°	139°	139°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 35.8	−00.6	S 15 58.8	+01.0
01	195 35.2	−00.6	S 15 59.8	+01.0
02	210 34.6	−00.7	S 16 00.8	+01.0
03	225 33.9	−00.6	S 16 01.8	+00.9
04	240 33.3	−00.6	S 16 02.7	+01.0
05	255 32.7	−00.7	S 16 03.7	+01.0
06	270 32.0	−00.6	S 16 04.7	+01.0
07	285 31.4	−00.6	S 16 05.7	+01.0
08	300 30.8	−00.7	S 16 06.7	+01.0
09	315 30.1	−00.6	S 16 07.7	+00.9
10	330 29.5	−00.7	S 16 08.6	+01.0
11	345 28.8	−00.6	S 16 09.6	+01.0
12	0 28.2	−00.6	S 16 10.6	+01.0
13	15 27.6	−00.7	S 16 11.6	+01.0
14	30 26.9	−00.6	S 16 12.6	+00.9
15	45 26.3	−00.6	S 16 13.5	+01.0
16	60 25.7	−00.7	S 16 14.5	+01.0
17	75 25.0	−00.6	S 16 15.5	+01.0
18	90 24.4	−00.7	S 16 16.5	+00.9
19	105 23.7	−00.6	S 16 17.4	+01.0
20	120 23.1	−00.7	S 16 18.4	+01.0
21	135 22.4	−00.6	S 16 19.4	+01.0
22	150 21.8	−00.6	S 16 20.4	+00.9
23	165 21.2	−00.7	S 16 21.3	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	136°	136°	136°	136°	135°	135°

Greenwich Culmination Time: 11:58

Moon

A: 40%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	42 18.9	−27.7	S 03 06.4	−15.6
01	56 51.2	−27.6	S 02 50.8	−15.6
02	71 23.6	−27.5	S 02 35.2	−15.5
03	85 56.1	−27.6	S 02 19.7	−15.6
04	100 28.5	−27.5	S 02 04.1	−15.5
05	115 01.0	−27.5	S 01 48.6	−15.6
06	129 33.5	−27.5	S 01 33.0	−15.6
07	144 06.0	−27.4	S 01 17.4	−15.5
08	158 38.6	−27.5	S 01 01.9	−15.6
09	173 11.1	−27.4	S 00 46.3	−15.5
10	187 43.7	−27.4	S 00 30.8	−15.6
11	202 16.3	−27.3	S 00 15.2	−15.5
12	216 49.0	−27.4	N 00 00.3	+15.5
13	231 21.6	−27.3	N 00 15.8	+15.5
14	245 54.3	−27.4	N 00 31.3	+15.5
15	260 26.9	−27.3	N 00 46.8	+15.5
16	274 59.6	−27.3	N 01 02.3	+15.5
17	289 32.3	−27.2	N 01 17.8	+15.5
18	304 05.1	−27.3	N 01 33.3	+15.4
19	318 37.8	−27.3	N 01 48.7	+15.4
20	333 10.5	−27.2	N 02 04.1	+15.4
21	347 43.3	−27.3	N 02 19.5	+15.4
22	2 16.0	−27.2	N 02 34.9	+15.4
23	16 48.8	−27.3	N 02 50.3	+15.3

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′7	15′7	15′6
HP	57′8	57′7	57′6	57′5	57′5	57′4
SHA	357°	355°	353°	351°	349°	347°

Greenwich Culmination Time: 21:50

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	319 14.7	+02.7	N 24 03.4	+00.1
01	334 17.4	+02.7	N 24 03.5	+00.1
02	349 20.1	+02.7	N 24 03.6	+00.1
03	4 22.8	+02.6	N 24 03.7	+00.1
04	19 25.4	+02.7	N 24 03.8	+00.1
05	34 28.1	+02.7	N 24 03.9	+00.1
06	49 30.8	+02.7	N 24 04.0	+00.2
07	64 33.5	+02.7	N 24 04.2	+00.1
08	79 36.2	+02.7	N 24 04.3	+00.1
09	94 38.9	+02.7	N 24 04.4	+00.1
10	109 41.6	+02.7	N 24 04.5	+00.1
11	124 44.3	+02.7	N 24 04.6	+00.1
12	139 47.0	+02.7	N 24 04.7	+00.1
13	154 49.7	+02.7	N 24 04.8	+00.2
14	169 52.4	+02.8	N 24 05.0	+00.1
15	184 55.2	+02.7	N 24 05.1	+00.1
16	199 57.9	+02.7	N 24 05.2	+00.1
17	215 00.6	+02.7	N 24 05.3	+00.1
18	230 03.3	+02.7	N 24 05.4	+00.1
19	245 06.0	+02.7	N 24 05.5	+00.1
20	260 08.7	+02.7	N 24 05.6	+00.2
21	275 11.4	+02.8	N 24 05.8	+00.1
22	290 14.2	+02.7	N 24 05.9	+00.1
23	305 16.9	+02.7	N 24 06.0	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 02:42

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	44 07.9	+02.6	S 01 38.8	+00.0
01	59 10.5	+02.6	S 01 38.8	+00.1
02	74 13.1	+02.7	S 01 38.9	+00.0
03	89 15.8	+02.6	S 01 38.9	+00.1
04	104 18.4	+02.6	S 01 39.0	+00.1
05	119 21.0	+02.6	S 01 39.1	+00.0
06	134 23.6	+02.6	S 01 39.1	+00.1
07	149 26.2	+02.6	S 01 39.2	+00.0
08	164 28.8	+02.6	S 01 39.2	+00.1
09	179 31.4	+02.6	S 01 39.3	+00.0
10	194 34.0	+02.7	S 01 39.3	+00.1
11	209 36.7	+02.6	S 01 39.4	+00.0
12	224 39.3	+02.6	S 01 39.4	+00.1
13	239 41.9	+02.6	S 01 39.5	+00.0
14	254 44.5	+02.6	S 01 39.5	+00.1
15	269 47.1	+02.6	S 01 39.6	+00.0
16	284 49.7	+02.6	S 01 39.6	+00.1
17	299 52.3	+02.6	S 01 39.7	+00.0
18	314 54.9	+02.6	S 01 39.7	+00.1
19	329 57.5	+02.6	S 01 39.8	+00.0
20	345 00.1	+02.6	S 01 39.8	+00.1
21	0 02.7	+02.7	S 01 39.9	+00.0
22	15 05.4	+02.6	S 01 39.9	+00.1
23	30 08.0	+02.6	S 01 40.0	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 20:59

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	82 37.8	+02.5	S 16 26.0	+00.0
01	97 40.3	+02.4	S 16 26.0	+00.0
02	112 42.7	+02.4	S 16 26.0	+00.0
03	127 45.1	+02.4	S 16 26.0	−00.1
04	142 47.5	+02.4	S 16 25.9	+00.0
05	157 49.9	+02.4	S 16 25.9	+00.0
06	172 52.3	+02.4	S 16 25.9	+00.0
07	187 54.7	+02.4	S 16 25.9	+00.0
08	202 57.1	+02.4	S 16 25.9	−00.1
09	217 59.5	+02.4	S 16 25.8	+00.0
10	233 01.9	+02.4	S 16 25.8	+00.0
11	248 04.3	+02.5	S 16 25.8	+00.0
12	263 06.8	+02.4	S 16 25.8	+00.0
13	278 09.2	+02.4	S 16 25.8	−00.1
14	293 11.6	+02.4	S 16 25.7	+00.0
15	308 14.0	+02.4	S 16 25.7	+00.0
16	323 16.4	+02.4	S 16 25.7	+00.0
17	338 18.8	+02.4	S 16 25.7	+00.0
18	353 21.2	+02.4	S 16 25.7	−00.1
19	8 23.6	+02.4	S 16 25.6	+00.0
20	23 26.0	+02.4	S 16 25.6	+00.0
21	38 28.4	+02.4	S 16 25.6	+00.0
22	53 30.8	+02.4	S 16 25.6	+00.0
23	68 33.2	+02.4	S 16 25.6	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 18:26

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Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	184 06.0	−00.1	S 15 54.3	+00.7
01	199 05.9	+00.0	S 15 55.0	+00.8
02	214 05.9	+00.0	S 15 55.8	+00.7
03	229 05.9	+00.0	S 15 56.5	+00.8
04	244 05.9	−00.1	S 15 57.3	+00.7
05	259 05.8	+00.0	S 15 58.0	+00.8
06	274 05.8	+00.0	S 15 58.8	+00.7
07	289 05.8	+00.0	S 15 59.5	+00.8
08	304 05.8	−00.1	S 16 00.3	+00.7
09	319 05.7	+00.0	S 16 01.0	+00.8
10	334 05.7	+00.0	S 16 01.8	+00.7
11	349 05.7	+00.0	S 16 02.5	+00.8
12	4 05.7	−00.1	S 16 03.3	+00.7
13	19 05.6	+00.0	S 16 04.0	+00.8
14	34 05.6	+00.0	S 16 04.8	+00.7
15	49 05.6	+00.0	S 16 05.5	+00.8
16	64 05.6	−00.1	S 16 06.3	+00.7
17	79 05.5	+00.0	S 16 07.0	+00.7
18	94 05.5	+00.0	S 16 07.7	+00.8
19	109 05.5	+00.0	S 16 08.5	+00.7
20	124 05.5	−00.1	S 16 09.2	+00.8
21	139 05.4	+00.0	S 16 10.0	+00.7
22	154 05.4	+00.0	S 16 10.7	+00.7
23	169 05.4	−00.1	S 16 11.4	+00.8

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	139°	139°	138°	138°	138°	138°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 20.5	−00.6	S 16 22.3	+01.0
01	195 19.9	−00.7	S 16 23.3	+00.9
02	210 19.2	−00.6	S 16 24.2	+01.0
03	225 18.6	−00.7	S 16 25.2	+01.0
04	240 17.9	−00.6	S 16 26.2	+00.9
05	255 17.3	−00.7	S 16 27.1	+01.0
06	270 16.6	−00.6	S 16 28.1	+01.0
07	285 16.0	−00.6	S 16 29.1	+00.9
08	300 15.4	−00.7	S 16 30.0	+01.0
09	315 14.7	−00.6	S 16 31.0	+01.0
10	330 14.1	−00.7	S 16 32.0	+00.9
11	345 13.4	−00.6	S 16 32.9	+01.0
12	0 12.8	−00.7	S 16 33.9	+00.9
13	15 12.1	−00.6	S 16 34.8	+01.0
14	30 11.5	−00.7	S 16 35.8	+01.0
15	45 10.8	−00.6	S 16 36.8	+00.9
16	60 10.2	−00.7	S 16 37.7	+01.0
17	75 09.5	−00.7	S 16 38.7	+00.9
18	90 08.8	−00.6	S 16 39.6	+01.0
19	105 08.2	−00.7	S 16 40.6	+00.9
20	120 07.5	−00.6	S 16 41.5	+01.0
21	135 06.9	−00.7	S 16 42.5	+01.0
22	150 06.2	−00.6	S 16 43.5	+00.9
23	165 05.6	−00.7	S 16 44.4	+01.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	135°	135°	135°	134°	134°	134°

Greenwich Culmination Time: 11:59

Moon

A: 43%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	31 21.5	−27.2	N 03 05.6	+15.4
01	45 54.3	−27.2	N 03 21.0	+15.3
02	60 27.1	−27.2	N 03 36.3	+15.2
03	74 59.9	−27.3	N 03 51.5	+15.3
04	89 32.6	−27.2	N 04 06.8	+15.2
05	104 05.4	−27.2	N 04 22.0	+15.2
06	118 38.2	−27.3	N 04 37.2	+15.1
07	133 10.9	−27.2	N 04 52.3	+15.2
08	147 43.7	−27.2	N 05 07.5	+15.1
09	162 16.5	−27.3	N 05 22.6	+15.0
10	176 49.2	−27.2	N 05 37.6	+15.0
11	191 22.0	−27.3	N 05 52.6	+15.0
12	205 54.7	−27.2	N 06 07.6	+15.0
13	220 27.5	−27.3	N 06 22.6	+14.9
14	235 00.2	−27.3	N 06 37.5	+14.9
15	249 32.9	−27.3	N 06 52.4	+14.8
16	264 05.6	−27.3	N 07 07.2	+14.8
17	278 38.3	−27.3	N 07 22.0	+14.7
18	293 11.0	−27.3	N 07 36.7	+14.8
19	307 43.7	−27.4	N 07 51.5	+14.6
20	322 16.3	−27.4	N 08 06.1	+14.6
21	336 48.9	−27.3	N 08 20.7	+14.6
22	351 21.6	−27.4	N 08 35.3	+14.5
23	5 54.2	−27.5	N 08 49.8	+14.5

UT	02	06	10	14	18	22
SD	15′6	15′6	15′6	15′5	15′5	15′5
HP	57′3	57′2	57′1	57′1	57′0	56′9
SHA	345°	343°	341°	339°	337°	335°

Greenwich Culmination Time: 22:35

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	320 19.6	+02.7	N 24 06.1	+00.1
01	335 22.3	+02.8	N 24 06.2	+00.1
02	350 25.1	+02.7	N 24 06.3	+00.1
03	5 27.8	+02.7	N 24 06.4	+00.1
04	20 30.5	+02.8	N 24 06.5	+00.2
05	35 33.3	+02.7	N 24 06.7	+00.1
06	50 36.0	+02.7	N 24 06.8	+00.1
07	65 38.7	+02.8	N 24 06.9	+00.1
08	80 41.5	+02.7	N 24 07.0	+00.1
09	95 44.2	+02.7	N 24 07.1	+00.1
10	110 46.9	+02.8	N 24 07.2	+00.1
11	125 49.7	+02.7	N 24 07.3	+00.2
12	140 52.4	+02.8	N 24 07.5	+00.1
13	155 55.2	+02.7	N 24 07.6	+00.1
14	170 57.9	+02.8	N 24 07.7	+00.1
15	186 00.7	+02.7	N 24 07.8	+00.1
16	201 03.4	+02.8	N 24 07.9	+00.1
17	216 06.2	+02.7	N 24 08.0	+00.1
18	231 08.9	+02.8	N 24 08.1	+00.1
19	246 11.7	+02.7	N 24 08.2	+00.2
20	261 14.4	+02.8	N 24 08.4	+00.1
21	276 17.2	+02.8	N 24 08.5	+00.1
22	291 20.0	+02.7	N 24 08.6	+00.1
23	306 22.7	+02.8	N 24 08.7	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 02:38

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	45 10.6	+02.6	S 01 40.1	+00.0
01	60 13.2	+02.6	S 01 40.1	+00.1
02	75 15.8	+02.6	S 01 40.2	+00.0
03	90 18.4	+02.6	S 01 40.2	+00.1
04	105 21.0	+02.6	S 01 40.3	+00.0
05	120 23.6	+02.6	S 01 40.3	+00.1
06	135 26.2	+02.6	S 01 40.4	+00.0
07	150 28.8	+02.6	S 01 40.4	+00.1
08	165 31.4	+02.6	S 01 40.5	+00.0
09	180 34.0	+02.6	S 01 40.5	+00.1
10	195 36.6	+02.6	S 01 40.6	+00.0
11	210 39.2	+02.6	S 01 40.6	+00.1
12	225 41.8	+02.6	S 01 40.7	+00.0
13	240 44.4	+02.6	S 01 40.7	+00.1
14	255 47.0	+02.6	S 01 40.8	+00.0
15	270 49.6	+02.6	S 01 40.8	+00.1
16	285 52.2	+02.6	S 01 40.9	+00.0
17	300 54.8	+02.6	S 01 40.9	+00.0
18	315 57.4	+02.6	S 01 40.9	+00.1
19	331 00.0	+02.6	S 01 41.0	+00.0
20	346 02.6	+02.6	S 01 41.0	+00.1
21	1 05.2	+02.6	S 01 41.1	+00.0
22	16 07.8	+02.6	S 01 41.1	+00.1
23	31 10.4	+02.6	S 01 41.2	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	000°	000°	000°	000°

Greenwich Culmination Time: 20:55

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	83 35.6	+02.4	S 16 25.5	+00.0
01	98 38.0	+02.5	S 16 25.5	+00.0
02	113 40.5	+02.4	S 16 25.5	+00.0
03	128 42.9	+02.4	S 16 25.5	+00.0
04	143 45.3	+02.4	S 16 25.5	−00.1
05	158 47.7	+02.4	S 16 25.4	+00.0
06	173 50.1	+02.4	S 16 25.4	+00.0
07	188 52.5	+02.4	S 16 25.4	+00.0
08	203 54.9	+02.4	S 16 25.4	−00.1
09	218 57.3	+02.4	S 16 25.3	+00.0
10	233 59.7	+02.4	S 16 25.3	+00.0
11	249 02.1	+02.4	S 16 25.3	+00.0
12	264 04.5	+02.4	S 16 25.3	+00.0
13	279 06.9	+02.4	S 16 25.3	−00.1
14	294 09.3	+02.4	S 16 25.2	+00.0
15	309 11.7	+02.4	S 16 25.2	+00.0
16	324 14.1	+02.4	S 16 25.2	+00.0
17	339 16.5	+02.4	S 16 25.2	+00.0
18	354 18.9	+02.4	S 16 25.2	−00.1
19	9 21.3	+02.4	S 16 25.1	+00.0
20	24 23.7	+02.4	S 16 25.1	+00.0
21	39 26.1	+02.4	S 16 25.1	+00.0
22	54 28.5	+02.4	S 16 25.1	−00.1
23	69 30.9	+02.4	S 16 25.0	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 18:22

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	184 05.3	+00.0	S 16 12.2	+00.7
01	199 05.3	+00.0	S 16 12.9	+00.8
02	214 05.3	−00.1	S 16 13.7	+00.7
03	229 05.2	+00.0	S 16 14.4	+00.7
04	244 05.2	+00.0	S 16 15.1	+00.8
05	259 05.2	−00.1	S 16 15.9	+00.7
06	274 05.1	+00.0	S 16 16.6	+00.8
07	289 05.1	+00.0	S 16 17.4	+00.7
08	304 05.1	−00.1	S 16 18.1	+00.7
09	319 05.0	+00.0	S 16 18.8	+00.8
10	334 05.0	+00.0	S 16 19.6	+00.7
11	349 05.0	−00.1	S 16 20.3	+00.7
12	4 04.9	+00.0	S 16 21.0	+00.8
13	19 04.9	+00.0	S 16 21.8	+00.7
14	34 04.9	−00.1	S 16 22.5	+00.7
15	49 04.8	+00.0	S 16 23.2	+00.8
16	64 04.8	+00.0	S 16 24.0	+00.7
17	79 04.8	−00.1	S 16 24.7	+00.7
18	94 04.7	+00.0	S 16 25.4	+00.8
19	109 04.7	+00.0	S 16 26.2	+00.7
20	124 04.7	−00.1	S 16 26.9	+00.7
21	139 04.6	+00.0	S 16 27.6	+00.8
22	154 04.6	−00.1	S 16 28.4	+00.7
23	169 04.5	+00.0	S 16 29.1	+00.7

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	138°	138°	137°	137°	137°	137°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 04.9	−00.6	S 16 45.4	+00.9
01	195 04.3	−00.7	S 16 46.3	+01.0
02	210 03.6	−00.7	S 16 47.3	+00.9
03	225 02.9	−00.6	S 16 48.2	+01.0
04	240 02.3	−00.7	S 16 49.2	+00.9
05	255 01.6	−00.6	S 16 50.1	+01.0
06	270 01.0	−00.7	S 16 51.1	+00.9
07	285 00.3	−00.6	S 16 52.0	+01.0
08	299 59.7	−00.7	S 16 53.0	+00.9
09	314 59.0	−00.7	S 16 53.9	+00.9
10	329 58.3	−00.6	S 16 54.8	+01.0
11	344 57.7	−00.7	S 16 55.8	+00.9
12	359 57.0	−00.7	S 16 56.7	+01.0
13	14 56.3	−00.6	S 16 57.7	+00.9
14	29 55.7	−00.7	S 16 58.6	+01.0
15	44 55.0	−00.6	S 16 59.6	+00.9
16	59 54.4	−00.7	S 17 00.5	+00.9
17	74 53.7	−00.7	S 17 01.4	+01.0
18	89 53.0	−00.6	S 17 02.4	+00.9
19	104 52.4	−00.7	S 17 03.3	+01.0
20	119 51.7	−00.7	S 17 04.3	+00.9
21	134 51.0	−00.6	S 17 05.2	+00.9
22	149 50.4	−00.7	S 17 06.1	+01.0
23	164 49.7	−00.7	S 17 07.1	+00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	134°	134°	133°	133°	133°	133°

Greenwich Culmination Time: 12:00

Moon

A: 46%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	20 26.7	−27.4	N 09 04.3	+14.4
01	34 59.3	−27.5	N 09 18.7	+14.4
02	49 31.8	−27.4	N 09 33.1	+14.3
03	64 04.4	−27.5	N 09 47.4	+14.2
04	78 36.9	−27.6	N 10 01.6	+14.3
05	93 09.3	−27.5	N 10 15.9	+14.1
06	107 41.8	−27.6	N 10 30.0	+14.1
07	122 14.2	−27.6	N 10 44.1	+14.0
08	136 46.6	−27.6	N 10 58.1	+14.0
09	151 19.0	−27.6	N 11 12.1	+13.9
10	165 51.4	−27.7	N 11 26.0	+13.9
11	180 23.7	−27.7	N 11 39.9	+13.8
12	194 56.0	−27.8	N 11 53.7	+13.7
13	209 28.2	−27.7	N 12 07.4	+13.7
14	224 00.5	−27.8	N 12 21.1	+13.6
15	238 32.7	−27.8	N 12 34.7	+13.5
16	253 04.9	−27.9	N 12 48.2	+13.5
17	267 37.0	−27.9	N 13 01.7	+13.4
18	282 09.1	−27.9	N 13 15.1	+13.3
19	296 41.2	−28.0	N 13 28.4	+13.2
20	311 13.2	−28.0	N 13 41.6	+13.2
21	325 45.2	−28.0	N 13 54.8	+13.1
22	340 17.2	−28.0	N 14 07.9	+13.1
23	354 49.2	−28.1	N 14 21.0	+12.9

UT	02	06	10	14	18	22
SD	15′5	15′5	15′4	15′4	15′4	15′4
HP	56′8	56′7	56′6	56′6	56′5	56′4
SHA	333°	331°	329°	327°	325°	323°

Greenwich Culmination Time: 23:21

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	321 25.5	+02.8	N 24 08.8	+00.1
01	336 28.3	+02.7	N 24 08.9	+00.1
02	351 31.0	+02.8	N 24 09.0	+00.1
03	6 33.8	+02.8	N 24 09.1	+00.2
04	21 36.6	+02.7	N 24 09.3	+00.1
05	36 39.3	+02.8	N 24 09.4	+00.1
06	51 42.1	+02.8	N 24 09.5	+00.1
07	66 44.9	+02.8	N 24 09.6	+00.1
08	81 47.7	+02.8	N 24 09.7	+00.1
09	96 50.5	+02.7	N 24 09.8	+00.1
10	111 53.2	+02.8	N 24 09.9	+00.2
11	126 56.0	+02.8	N 24 10.1	+00.1
12	141 58.8	+02.8	N 24 10.2	+00.1
13	157 01.6	+02.8	N 24 10.3	+00.1
14	172 04.4	+02.8	N 24 10.4	+00.1
15	187 07.2	+02.8	N 24 10.5	+00.1
16	202 10.0	+02.8	N 24 10.6	+00.1
17	217 12.8	+02.7	N 24 10.7	+00.1
18	232 15.5	+02.8	N 24 10.8	+00.2
19	247 18.3	+02.8	N 24 11.0	+00.1
20	262 21.1	+02.8	N 24 11.1	+00.1
21	277 23.9	+02.8	N 24 11.2	+00.1
22	292 26.7	+02.8	N 24 11.3	+00.1
23	307 29.5	+02.9	N 24 11.4	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	275°	275°	275°	275°	275°	275°

Greenwich Culmination Time: 02:33

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	46 13.0	+02.6	S 01 41.2	+00.1
01	61 15.6	+02.6	S 01 41.3	+00.0
02	76 18.2	+02.6	S 01 41.3	+00.1
03	91 20.8	+02.6	S 01 41.4	+00.0
04	106 23.4	+02.6	S 01 41.4	+00.1
05	121 26.0	+02.6	S 01 41.5	+00.0
06	136 28.6	+02.6	S 01 41.5	+00.1
07	151 31.2	+02.6	S 01 41.6	+00.0
08	166 33.8	+02.6	S 01 41.6	+00.1
09	181 36.4	+02.6	S 01 41.7	+00.0
10	196 39.0	+02.6	S 01 41.7	+00.1
11	211 41.6	+02.6	S 01 41.8	+00.0
12	226 44.2	+02.6	S 01 41.8	+00.0
13	241 46.8	+02.6	S 01 41.8	+00.1
14	256 49.4	+02.6	S 01 41.9	+00.0
15	271 52.0	+02.6	S 01 41.9	+00.1
16	286 54.6	+02.6	S 01 42.0	+00.0
17	301 57.2	+02.6	S 01 42.0	+00.1
18	316 59.8	+02.6	S 01 42.1	+00.0
19	332 02.4	+02.6	S 01 42.1	+00.1
20	347 05.0	+02.6	S 01 42.2	+00.0
21	2 07.6	+02.6	S 01 42.2	+00.1
22	17 10.2	+02.6	S 01 42.3	+00.0
23	32 12.8	+02.5	S 01 42.3	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 20:51

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	84 33.3	+02.4	S 16 25.0	+00.0
01	99 35.7	+02.5	S 16 25.0	+00.0
02	114 38.2	+02.4	S 16 25.0	+00.0
03	129 40.6	+02.4	S 16 25.0	−00.1
04	144 43.0	+02.4	S 16 24.9	+00.0
05	159 45.4	+02.4	S 16 24.9	+00.0
06	174 47.8	+02.4	S 16 24.9	+00.0
07	189 50.2	+02.4	S 16 24.9	−00.1
08	204 52.6	+02.4	S 16 24.8	+00.0
09	219 55.0	+02.4	S 16 24.8	+00.0
10	234 57.4	+02.4	S 16 24.8	+00.0
11	249 59.8	+02.4	S 16 24.8	−00.1
12	265 02.2	+02.4	S 16 24.7	+00.0
13	280 04.6	+02.4	S 16 24.7	+00.0
14	295 07.0	+02.4	S 16 24.7	+00.0
15	310 09.4	+02.4	S 16 24.7	+00.0
16	325 11.8	+02.4	S 16 24.7	−00.1
17	340 14.2	+02.4	S 16 24.6	+00.0
18	355 16.6	+02.4	S 16 24.6	+00.0
19	10 19.0	+02.4	S 16 24.6	+00.0
20	25 21.4	+02.4	S 16 24.6	−00.1
21	40 23.8	+02.4	S 16 24.5	+00.0
22	55 26.2	+02.4	S 16 24.5	+00.0
23	70 28.6	+02.3	S 16 24.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 18:18

2022 November 12 Saturday (day 316 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	183 59.1	−00.1	S 17 37.5	+00.6
01	198 59.0	−00.1	S 17 38.1	+00.7
02	213 58.9	−00.1	S 17 38.8	+00.7
03	228 58.8	+00.0	S 17 39.5	+00.7
04	243 58.8	−00.1	S 17 40.2	+00.6
05	258 58.7	−00.1	S 17 40.8	+00.7
06	273 58.6	−00.1	S 17 41.5	+00.7
07	288 58.5	+00.0	S 17 42.2	+00.7
08	303 58.5	−00.1	S 17 42.9	+00.7
09	318 58.4	−00.1	S 17 43.6	+00.6
10	333 58.3	−00.1	S 17 44.2	+00.7
11	348 58.2	+00.0	S 17 44.9	+00.7
12	3 58.2	−00.1	S 17 45.6	+00.7
13	18 58.1	−00.1	S 17 46.3	+00.6
14	33 58.0	−00.1	S 17 46.9	+00.7
15	48 57.9	−00.1	S 17 47.6	+00.7
16	63 57.8	+00.0	S 17 48.3	+00.6
17	78 57.8	−00.1	S 17 48.9	+00.7
18	93 57.7	−00.1	S 17 49.6	+00.7
19	108 57.6	−00.1	S 17 50.3	+00.7
20	123 57.5	−00.1	S 17 51.0	+00.6
21	138 57.4	−00.1	S 17 51.6	+00.7
22	153 57.3	+00.0	S 17 52.3	+00.7
23	168 57.3	−00.1	S 17 53.0	+00.6

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	133°	133°	132°	132°	132°	132°

Greenwich Culmination Time: 11:44

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 42.4	−00.8	S 18 33.9	+00.8
01	193 41.6	−00.7	S 18 34.7	+00.9
02	208 40.9	−00.7	S 18 35.6	+00.8
03	223 40.2	−00.7	S 18 36.4	+00.9
04	238 39.5	−00.8	S 18 37.3	+00.8
05	253 38.7	−00.7	S 18 38.1	+00.9
06	268 38.0	−00.7	S 18 39.0	+00.8
07	283 37.3	−00.7	S 18 39.8	+00.9
08	298 36.6	−00.7	S 18 40.7	+00.8
09	313 35.9	−00.8	S 18 41.5	+00.9
10	328 35.1	−00.7	S 18 42.4	+00.8
11	343 34.4	−00.7	S 18 43.2	+00.9
12	358 33.7	−00.8	S 18 44.1	+00.8
13	13 32.9	−00.7	S 18 44.9	+00.9
14	28 32.2	−00.7	S 18 45.8	+00.8
15	43 31.5	−00.7	S 18 46.6	+00.8
16	58 30.8	−00.8	S 18 47.4	+00.9
17	73 30.0	−00.7	S 18 48.3	+00.8
18	88 29.3	−00.7	S 18 49.1	+00.9
19	103 28.6	−00.8	S 18 50.0	+00.8
20	118 27.8	−00.7	S 18 50.8	+00.8
21	133 27.1	−00.7	S 18 51.6	+00.9
22	148 26.4	−00.8	S 18 52.5	+00.8
23	163 25.6	−00.7	S 18 53.3	+00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	127°	127°	127°	127°	127°	126°

Greenwich Culmination Time: 12:05

Moon

A: 63%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	321 18.9	−31.4	N 27 16.0	+01.9
01	335 47.5	−31.3	N 27 17.9	+01.8
02	350 16.2	−31.3	N 27 19.7	+01.6
03	4 44.9	−31.3	N 27 21.3	+01.4
04	19 13.6	−31.3	N 27 22.7	+01.4
05	33 42.3	−31.3	N 27 24.1	+01.2
06	48 11.0	−31.3	N 27 25.3	+01.0
07	62 39.7	−31.3	N 27 26.3	+01.0
08	77 08.4	−31.3	N 27 27.3	+00.8
09	91 37.1	−31.3	N 27 28.1	+00.6
10	106 05.8	−31.3	N 27 28.7	+00.5
11	120 34.5	−31.2	N 27 29.2	+00.4
12	135 03.3	−31.3	N 27 29.6	+00.3
13	149 32.0	−31.2	N 27 29.9	+00.1
14	164 00.8	−31.2	N 27 30.0	+00.0
15	178 29.6	−31.2	N 27 30.0	−00.2
16	192 58.4	−31.2	N 27 29.8	−00.3
17	207 27.2	−31.1	N 27 29.5	−00.4
18	221 56.1	−31.2	N 27 29.1	−00.6
19	236 24.9	−31.1	N 27 28.5	−00.7
20	250 53.8	−31.1	N 27 27.8	−00.8
21	265 22.7	−31.0	N 27 27.0	−00.9
22	279 51.7	−31.1	N 27 26.1	−01.1
23	294 20.6	−31.0	N 27 25.0	−01.3

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′5	54′4	54′4	54′3	54′3	54′3
SHA	269°	267°	265°	262°	260°	258°

Greenwich Culmination Time: 02:40

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	327 09.4	+03.0	N 24 22.1	+00.1
01	342 12.4	+03.0	N 24 22.2	+00.1
02	357 15.4	+02.9	N 24 22.3	+00.2
03	12 18.3	+03.0	N 24 22.5	+00.1
04	27 21.3	+03.0	N 24 22.6	+00.1
05	42 24.3	+02.9	N 24 22.7	+00.1
06	57 27.2	+03.0	N 24 22.8	+00.1
07	72 30.2	+03.0	N 24 22.9	+00.1
08	87 33.2	+03.0	N 24 23.0	+00.1
09	102 36.2	+03.0	N 24 23.1	+00.1
10	117 39.2	+02.9	N 24 23.2	+00.1
11	132 42.1	+03.0	N 24 23.3	+00.1
12	147 45.1	+03.0	N 24 23.4	+00.1
13	162 48.1	+03.0	N 24 23.5	+00.1
14	177 51.1	+03.0	N 24 23.6	+00.1
15	192 54.1	+03.0	N 24 23.7	+00.1
16	207 57.1	+03.0	N 24 23.8	+00.2
17	223 00.1	+03.0	N 24 24.0	+00.1
18	238 03.1	+03.0	N 24 24.1	+00.1
19	253 06.1	+03.0	N 24 24.2	+00.1
20	268 09.1	+03.0	N 24 24.3	+00.1
21	283 12.1	+03.0	N 24 24.4	+00.1
22	298 15.1	+03.0	N 24 24.5	+00.1
23	313 18.1	+03.0	N 24 24.6	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	276°	276°	276°	276°	276°	276°

Greenwich Culmination Time: 02:10

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	51 22.8	+02.5	S 01 46.0	+00.0
01	66 25.3	+02.6	S 01 46.0	+00.0
02	81 27.9	+02.6	S 01 46.0	+00.1
03	96 30.5	+02.5	S 01 46.1	+00.0
04	111 33.0	+02.6	S 01 46.1	+00.0
05	126 35.6	+02.6	S 01 46.1	+00.1
06	141 38.2	+02.5	S 01 46.2	+00.0
07	156 40.7	+02.6	S 01 46.2	+00.0
08	171 43.3	+02.5	S 01 46.2	+00.0
09	186 45.8	+02.6	S 01 46.2	+00.1
10	201 48.4	+02.5	S 01 46.3	+00.0
11	216 50.9	+02.6	S 01 46.3	+00.0
12	231 53.5	+02.6	S 01 46.3	+00.1
13	246 56.1	+02.5	S 01 46.4	+00.0
14	261 58.6	+02.6	S 01 46.4	+00.0
15	277 01.2	+02.5	S 01 46.4	+00.0
16	292 03.7	+02.6	S 01 46.4	+00.1
17	307 06.3	+02.6	S 01 46.5	+00.0
18	322 08.9	+02.5	S 01 46.5	+00.0
19	337 11.4	+02.6	S 01 46.5	+00.1
20	352 14.0	+02.5	S 01 46.6	+00.0
21	7 16.5	+02.6	S 01 46.6	+00.0
22	22 19.1	+02.5	S 01 46.6	+00.0
23	37 21.6	+02.6	S 01 46.6	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 20:30

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	89 20.4	+02.4	S 16 22.0	−00.1
01	104 22.8	+02.3	S 16 21.9	+00.0
02	119 25.1	+02.4	S 16 21.9	+00.0
03	134 27.5	+02.4	S 16 21.9	−00.1
04	149 29.9	+02.4	S 16 21.8	+00.0
05	164 32.3	+02.4	S 16 21.8	+00.0
06	179 34.7	+02.3	S 16 21.8	+00.0
07	194 37.0	+02.4	S 16 21.8	−00.1
08	209 39.4	+02.4	S 16 21.7	+00.0
09	224 41.8	+02.4	S 16 21.7	+00.0
10	239 44.2	+02.4	S 16 21.7	−00.1
11	254 46.6	+02.3	S 16 21.6	+00.0
12	269 48.9	+02.4	S 16 21.6	+00.0
13	284 51.3	+02.4	S 16 21.6	+00.0
14	299 53.7	+02.4	S 16 21.6	−00.1
15	314 56.1	+02.4	S 16 21.5	+00.0
16	329 58.5	+02.3	S 16 21.5	+00.0
17	345 00.8	+02.4	S 16 21.5	−00.1
18	0 03.2	+02.4	S 16 21.4	+00.0
19	15 05.6	+02.4	S 16 21.4	+00.0
20	30 08.0	+02.4	S 16 21.4	−00.1
21	45 10.4	+02.3	S 16 21.3	+00.0
22	60 12.7	+02.4	S 16 21.3	+00.0
23	75 15.1	+02.4	S 16 21.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:59

2022 November 9 Wednesday (day 313 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	184 03.5	−00.1	S 16 47.2	+00.7
01	199 03.4	+00.0	S 16 47.9	+00.7
02	214 03.4	−00.1	S 16 48.6	+00.7
03	229 03.3	+00.0	S 16 49.3	+00.7
04	244 03.3	−00.1	S 16 50.0	+00.7
05	259 03.2	+00.0	S 16 50.7	+00.7
06	274 03.2	−00.1	S 16 51.4	+00.8
07	289 03.1	+00.0	S 16 52.2	+00.7
08	304 03.1	−00.1	S 16 52.9	+00.7
09	319 03.0	+00.0	S 16 53.6	+00.7
10	334 03.0	−00.1	S 16 54.3	+00.7
11	349 02.9	+00.0	S 16 55.0	+00.7
12	4 02.9	−00.1	S 16 55.7	+00.7
13	19 02.8	+00.0	S 16 56.4	+00.7
14	34 02.8	−00.1	S 16 57.1	+00.7
15	49 02.7	+00.0	S 16 57.8	+00.8
16	64 02.7	−00.1	S 16 58.6	+00.7
17	79 02.6	−00.1	S 16 59.3	+00.7
18	94 02.5	+00.0	S 16 60.0	+00.7
19	109 02.5	−00.1	S 17 00.7	+00.7
20	124 02.4	+00.0	S 17 01.4	+00.7
21	139 02.4	−00.1	S 17 02.1	+00.7
22	154 02.3	+00.0	S 17 02.8	+00.7
23	169 02.3	−00.1	S 17 03.5	+00.7

UT	02	06	10	14	18	22
SD	16′1	16′1	16′1	16′1	16′1	16′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	136°	136°	135°	135°	135°	135°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 32.8	−00.7	S 17 30.2	+00.9
01	194 32.1	−00.7	S 17 31.1	+00.9
02	209 31.4	−00.6	S 17 32.0	+00.9
03	224 30.8	−00.7	S 17 32.9	+00.9
04	239 30.1	−00.7	S 17 33.8	+00.9
05	254 29.4	−00.7	S 17 34.7	+00.9
06	269 28.7	−00.7	S 17 35.6	+01.0
07	284 28.0	−00.7	S 17 36.6	+00.9
08	299 27.3	−00.6	S 17 37.5	+00.9
09	314 26.7	−00.7	S 17 38.4	+00.9
10	329 26.0	−00.7	S 17 39.3	+00.9
11	344 25.3	−00.7	S 17 40.2	+00.9
12	359 24.6	−00.7	S 17 41.1	+00.9
13	14 23.9	−00.7	S 17 42.0	+00.9
14	29 23.2	−00.7	S 17 42.9	+00.9
15	44 22.5	−00.7	S 17 43.8	+00.9
16	59 21.8	−00.7	S 17 44.7	+00.9
17	74 21.1	−00.6	S 17 45.6	+00.9
18	89 20.5	−00.7	S 17 46.5	+00.9
19	104 19.8	−00.7	S 17 47.4	+00.9
20	119 19.1	−00.7	S 17 48.3	+00.9
21	134 18.4	−00.7	S 17 49.2	+00.9
22	149 17.7	−00.7	S 17 50.1	+00.9
23	164 17.0	−00.7	S 17 51.0	+00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	131°	131°	131°	131°	130°	130°

Greenwich Culmination Time: 12:02

Moon

A: 53%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	357 54.7	−29.2	N 19 19.9	+10.8
01	12 25.5	−29.2	N 19 30.7	+10.7
02	26 56.3	−29.2	N 19 41.4	+10.5
03	41 27.1	−29.3	N 19 51.9	+10.5
04	55 57.8	−29.3	N 20 02.4	+10.4
05	70 28.5	−29.4	N 20 12.8	+10.2
06	84 59.1	−29.4	N 20 23.0	+10.2
07	99 29.7	−29.4	N 20 33.2	+10.0
08	114 00.3	−29.5	N 20 43.2	+10.0
09	128 30.8	−29.6	N 20 53.2	+09.8
10	143 01.2	−29.6	N 21 03.0	+09.7
11	157 31.6	−29.6	N 21 12.7	+09.6
12	172 02.0	−29.7	N 21 22.3	+09.5
13	186 32.3	−29.7	N 21 31.8	+09.4
14	201 02.6	−29.8	N 21 41.2	+09.3
15	215 32.8	−29.8	N 21 50.5	+09.2
16	230 03.0	−29.9	N 21 59.7	+09.1
17	244 33.1	−29.9	N 22 08.8	+08.9
18	259 03.2	−29.9	N 22 17.7	+08.9
19	273 33.3	−30.0	N 22 26.6	+08.7
20	288 03.3	−30.0	N 22 35.3	+08.6
21	302 33.3	−30.1	N 22 43.9	+08.5
22	317 03.2	−30.1	N 22 52.4	+08.4
23	331 33.1	−30.2	N 23 00.8	+08.2

UT	02	06	10	14	18	22
SD	15′2	15′2	15′2	15′1	15′1	15′1
HP	55′8	55′7	55′6	55′5	55′4	55′4
SHA	309°	307°	304°	302°	300°	298°

Greenwich Culmination Time: 00:08

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	323 40.2	+02.8	N 24 14.2	+00.1
01	338 43.0	+02.9	N 24 14.3	+00.1
02	353 45.9	+02.8	N 24 14.4	+00.1
03	8 48.7	+02.9	N 24 14.5	+00.2
04	23 51.6	+02.8	N 24 14.7	+00.1
05	38 54.4	+02.9	N 24 14.8	+00.1
06	53 57.3	+02.8	N 24 14.9	+00.1
07	69 00.1	+02.9	N 24 15.0	+00.1
08	84 03.0	+02.9	N 24 15.1	+00.1
09	99 05.9	+02.8	N 24 15.2	+00.1
10	114 08.7	+02.9	N 24 15.3	+00.1
11	129 11.6	+02.9	N 24 15.4	+00.1
12	144 14.5	+02.8	N 24 15.5	+00.2
13	159 17.3	+02.9	N 24 15.7	+00.1
14	174 20.2	+02.9	N 24 15.8	+00.1
15	189 23.1	+02.8	N 24 15.9	+00.1
16	204 25.9	+02.9	N 24 16.0	+00.1
17	219 28.8	+02.9	N 24 16.1	+00.1
18	234 31.7	+02.9	N 24 16.2	+00.1
19	249 34.6	+02.8	N 24 16.3	+00.1
20	264 37.4	+02.9	N 24 16.4	+00.1
21	279 40.3	+02.9	N 24 16.5	+00.2
22	294 43.2	+02.9	N 24 16.7	+00.1
23	309 46.1	+02.9	N 24 16.8	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′3	00′3	00′3
SHA	276°	276°	276°	276°	276°	276°

Greenwich Culmination Time: 02:24

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	48 17.5	+02.6	S 01 43.4	+00.0
01	63 20.1	+02.5	S 01 43.4	+00.1
02	78 22.6	+02.6	S 01 43.5	+00.0
03	93 25.2	+02.6	S 01 43.5	+00.0
04	108 27.8	+02.6	S 01 43.5	+00.1
05	123 30.4	+02.6	S 01 43.6	+00.0
06	138 33.0	+02.6	S 01 43.6	+00.1
07	153 35.6	+02.5	S 01 43.7	+00.0
08	168 38.1	+02.6	S 01 43.7	+00.0
09	183 40.7	+02.6	S 01 43.7	+00.1
10	198 43.3	+02.6	S 01 43.8	+00.0
11	213 45.9	+02.6	S 01 43.8	+00.1
12	228 48.5	+02.6	S 01 43.9	+00.0
13	243 51.1	+02.5	S 01 43.9	+00.0
14	258 53.6	+02.6	S 01 43.9	+00.1
15	273 56.2	+02.6	S 01 44.0	+00.0
16	288 58.8	+02.6	S 01 44.0	+00.1
17	304 01.4	+02.6	S 01 44.1	+00.0
18	319 04.0	+02.5	S 01 44.1	+00.0
19	334 06.5	+02.6	S 01 44.1	+00.1
20	349 09.1	+02.6	S 01 44.2	+00.0
21	4 11.7	+02.6	S 01 44.2	+00.0
22	19 14.3	+02.5	S 01 44.2	+00.1
23	34 16.8	+02.6	S 01 44.3	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 20:43

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	86 28.5	+02.3	S 16 23.9	+00.0
01	101 30.8	+02.4	S 16 23.9	−00.1
02	116 33.2	+02.4	S 16 23.8	+00.0
03	131 35.6	+02.4	S 16 23.8	+00.0
04	146 38.0	+02.4	S 16 23.8	+00.0
05	161 40.4	+02.4	S 16 23.8	−00.1
06	176 42.8	+02.4	S 16 23.7	+00.0
07	191 45.2	+02.4	S 16 23.7	+00.0
08	206 47.6	+02.4	S 16 23.7	+00.0
09	221 50.0	+02.4	S 16 23.7	−00.1
10	236 52.4	+02.4	S 16 23.6	+00.0
11	251 54.8	+02.4	S 16 23.6	+00.0
12	266 57.2	+02.4	S 16 23.6	+00.0
13	281 59.6	+02.4	S 16 23.6	−00.1
14	297 02.0	+02.3	S 16 23.5	+00.0
15	312 04.3	+02.4	S 16 23.5	+00.0
16	327 06.7	+02.4	S 16 23.5	+00.0
17	342 09.1	+02.4	S 16 23.5	−00.1
18	357 11.5	+02.4	S 16 23.4	+00.0
19	12 13.9	+02.4	S 16 23.4	+00.0
20	27 16.3	+02.4	S 16 23.4	+00.0
21	42 18.7	+02.4	S 16 23.4	−00.1
22	57 21.1	+02.4	S 16 23.3	+00.0
23	72 23.5	+02.4	S 16 23.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 18:11

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2022 November 10 Thursday (day 314 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	184 02.2	+00.0	S 17 04.2	+00.7
01	199 02.2	−00.1	S 17 04.9	+00.7
02	214 02.1	−00.1	S 17 05.6	+00.7
03	229 02.0	+00.0	S 17 06.3	+00.7
04	244 02.0	−00.1	S 17 07.0	+00.7
05	259 01.9	+00.0	S 17 07.7	+00.7
06	274 01.9	−00.1	S 17 08.4	+00.7
07	289 01.8	+00.0	S 17 09.1	+00.7
08	304 01.8	−00.1	S 17 09.8	+00.7
09	319 01.7	−00.1	S 17 10.5	+00.7
10	334 01.6	+00.0	S 17 11.2	+00.7
11	349 01.6	−00.1	S 17 11.9	+00.7
12	4 01.5	−00.1	S 17 12.6	+00.7
13	19 01.4	+00.0	S 17 13.3	+00.7
14	34 01.4	−00.1	S 17 14.0	+00.7
15	49 01.3	+00.0	S 17 14.7	+00.7
16	64 01.3	−00.1	S 17 15.4	+00.7
17	79 01.2	−00.1	S 17 16.1	+00.7
18	94 01.1	+00.0	S 17 16.8	+00.7
19	109 01.1	−00.1	S 17 17.5	+00.7
20	124 01.0	−00.1	S 17 18.2	+00.7
21	139 00.9	+00.0	S 17 18.9	+00.7
22	154 00.9	−00.1	S 17 19.6	+00.7
23	169 00.8	+00.0	S 17 20.3	+00.7

UT	02	06	10	14	18	22
SD	16′1	16′1	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	135°	135°	134°	134°	134°	134°

Greenwich Culmination Time: 11:43

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 16.3	−00.7	S 17 51.9	+00.9
01	194 15.6	−00.7	S 17 52.8	+00.9
02	209 14.9	−00.7	S 17 53.7	+00.9
03	224 14.2	−00.7	S 17 54.6	+00.9
04	239 13.5	−00.7	S 17 55.5	+00.9
05	254 12.8	−00.7	S 17 56.4	+00.8
06	269 12.1	−00.7	S 17 57.2	+00.9
07	284 11.4	−00.7	S 17 58.1	+00.9
08	299 10.7	−00.7	S 17 59.0	+00.9
09	314 10.0	−00.7	S 17 59.9	+00.9
10	329 09.3	−00.7	S 18 00.8	+00.9
11	344 08.6	−00.7	S 18 01.7	+00.9
12	359 07.9	−00.7	S 18 02.6	+00.9
13	14 07.2	−00.7	S 18 03.5	+00.8
14	29 06.5	−00.7	S 18 04.3	+00.9
15	44 05.8	−00.7	S 18 05.2	+00.9
16	59 05.1	−00.7	S 18 06.1	+00.9
17	74 04.4	−00.7	S 18 07.0	+00.9
18	89 03.7	−00.7	S 18 07.9	+00.8
19	104 03.0	−00.7	S 18 08.7	+00.9
20	119 02.3	−00.7	S 18 09.6	+00.9
21	134 01.6	−00.7	S 18 10.5	+00.9
22	149 00.9	−00.7	S 18 11.4	+00.9
23	164 00.2	−00.7	S 18 12.3	+00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	130°	130°	130°	129°	129°	129°

Greenwich Culmination Time: 12:03

Moon

A: 56%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	346 02.9	−30.2	N 23 09.0	+08.1
01	0 32.7	−30.2	N 23 17.1	+08.1
02	15 02.5	−30.3	N 23 25.2	+07.9
03	29 32.2	−30.3	N 23 33.1	+07.7
04	44 01.9	−30.4	N 23 40.8	+07.7
05	58 31.5	−30.4	N 23 48.5	+07.5
06	73 01.1	−30.4	N 23 56.0	+07.4
07	87 30.7	−30.5	N 24 03.4	+07.3
08	102 00.2	−30.5	N 24 10.7	+07.2
09	116 29.7	−30.6	N 24 17.9	+07.0
10	130 59.1	−30.5	N 24 24.9	+07.0
11	145 28.6	−30.7	N 24 31.9	+06.7
12	159 57.9	−30.6	N 24 38.6	+06.7
13	174 27.3	−30.7	N 24 45.3	+06.6
14	188 56.6	−30.7	N 24 51.9	+06.4
15	203 25.9	−30.8	N 24 58.3	+06.3
16	217 55.1	−30.8	N 25 04.6	+06.1
17	232 24.3	−30.8	N 25 10.7	+06.0
18	246 53.5	−30.8	N 25 16.7	+05.9
19	261 22.7	−30.9	N 25 22.6	+05.8
20	275 51.8	−30.9	N 25 28.4	+05.6
21	290 20.9	−31.0	N 25 34.0	+05.6
22	304 49.9	−30.9	N 25 39.6	+05.3
23	319 19.0	−31.0	N 25 44.9	+05.3

UT	02	06	10	14	18	22
SD	15′1	15′0	15′0	15′0	15′0	15′0
HP	55′3	55′2	55′1	55′1	55′0	54′9
SHA	296°	294°	291°	289°	287°	285°

Greenwich Culmination Time: 00:57

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	324 49.0	+02.9	N 24 16.9	+00.1
01	339 51.9	+02.8	N 24 17.0	+00.1
02	354 54.7	+02.9	N 24 17.1	+00.1
03	9 57.6	+02.9	N 24 17.2	+00.1
04	25 00.5	+02.9	N 24 17.3	+00.1
05	40 03.4	+02.9	N 24 17.4	+00.1
06	55 06.3	+02.9	N 24 17.5	+00.1
07	70 09.2	+02.9	N 24 17.6	+00.2
08	85 12.1	+02.9	N 24 17.8	+00.1
09	100 15.0	+02.9	N 24 17.9	+00.1
10	115 17.9	+02.9	N 24 18.0	+00.1
11	130 20.8	+02.9	N 24 18.1	+00.1
12	145 23.7	+02.9	N 24 18.2	+00.1
13	160 26.6	+02.9	N 24 18.3	+00.1
14	175 29.5	+02.9	N 24 18.4	+00.1
15	190 32.4	+03.0	N 24 18.5	+00.1
16	205 35.4	+02.9	N 24 18.6	+00.1
17	220 38.3	+02.9	N 24 18.7	+00.2
18	235 41.2	+02.9	N 24 18.9	+00.1
19	250 44.1	+02.9	N 24 19.0	+00.1
20	265 47.0	+02.9	N 24 19.1	+00.1
21	280 49.9	+03.0	N 24 19.2	+00.1
22	295 52.9	+02.9	N 24 19.3	+00.1
23	310 55.8	+02.9	N 24 19.4	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	276°	276°	276°	276°	276°	276°

Greenwich Culmination Time: 02:20

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	49 19.4	+02.6	S 01 44.3	+00.1
01	64 22.0	+02.6	S 01 44.4	+00.0
02	79 24.6	+02.6	S 01 44.4	+00.0
03	94 27.2	+02.5	S 01 44.4	+00.1
04	109 29.7	+02.6	S 01 44.5	+00.0
05	124 32.3	+02.6	S 01 44.5	+00.0
06	139 34.9	+02.6	S 01 44.5	+00.1
07	154 37.5	+02.5	S 01 44.6	+00.0
08	169 40.0	+02.6	S 01 44.6	+00.1
09	184 42.6	+02.6	S 01 44.7	+00.0
10	199 45.2	+02.6	S 01 44.7	+00.0
11	214 47.8	+02.5	S 01 44.7	+00.1
12	229 50.3	+02.6	S 01 44.8	+00.0
13	244 52.9	+02.6	S 01 44.8	+00.0
14	259 55.5	+02.5	S 01 44.8	+00.1
15	274 58.0	+02.6	S 01 44.9	+00.0
16	290 00.6	+02.6	S 01 44.9	+00.0
17	305 03.2	+02.6	S 01 44.9	+00.1
18	320 05.8	+02.5	S 01 45.0	+00.0
19	335 08.3	+02.6	S 01 45.0	+00.0
20	350 10.9	+02.6	S 01 45.0	+00.1
21	5 13.5	+02.6	S 01 45.1	+00.0
22	20 16.1	+02.5	S 01 45.1	+00.1
23	35 18.6	+02.6	S 01 45.2	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 20:39

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	87 25.9	+02.4	S 16 23.3	−00.1
01	102 28.3	+02.3	S 16 23.2	+00.0
02	117 30.6	+02.4	S 16 23.2	+00.0
03	132 33.0	+02.4	S 16 23.2	+00.0
04	147 35.4	+02.4	S 16 23.2	−00.1
05	162 37.8	+02.4	S 16 23.1	+00.0
06	177 40.2	+02.4	S 16 23.1	+00.0
07	192 42.6	+02.4	S 16 23.1	+00.0
08	207 45.0	+02.4	S 16 23.1	−00.1
09	222 47.4	+02.4	S 16 23.0	+00.0
10	237 49.8	+02.3	S 16 23.0	+00.0
11	252 52.1	+02.4	S 16 23.0	+00.0
12	267 54.5	+02.4	S 16 23.0	−00.1
13	282 56.9	+02.4	S 16 22.9	+00.0
14	297 59.3	+02.4	S 16 22.9	+00.0
15	313 01.7	+02.4	S 16 22.9	+00.0
16	328 04.1	+02.4	S 16 22.9	−00.1
17	343 06.5	+02.4	S 16 22.8	+00.0
18	358 08.9	+02.3	S 16 22.8	+00.0
19	13 11.2	+02.4	S 16 22.8	−00.1
20	28 13.6	+02.4	S 16 22.7	+00.0
21	43 16.0	+02.4	S 16 22.7	+00.0
22	58 18.4	+02.4	S 16 22.7	+00.0
23	73 20.8	+02.4	S 16 22.7	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 18:07

2022 November 11 Friday (day 315 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	184 00.8	−00.1	S 17 21.0	+00.7
01	199 00.7	−00.1	S 17 21.7	+00.7
02	214 00.6	+00.0	S 17 22.4	+00.7
03	229 00.6	−00.1	S 17 23.1	+00.6
04	244 00.5	−00.1	S 17 23.7	+00.7
05	259 00.4	+00.0	S 17 24.4	+00.7
06	274 00.4	−00.1	S 17 25.1	+00.7
07	289 00.3	−00.1	S 17 25.8	+00.7
08	304 00.2	−00.1	S 17 26.5	+00.7
09	319 00.1	+00.0	S 17 27.2	+00.7
10	334 00.1	−00.1	S 17 27.9	+00.7
11	349 00.0	−00.1	S 17 28.6	+00.7
12	3 59.9	+00.0	S 17 29.3	+00.6
13	18 59.9	−00.1	S 17 29.9	+00.7
14	33 59.8	−00.1	S 17 30.6	+00.7
15	48 59.7	+00.0	S 17 31.3	+00.7
16	63 59.7	−00.1	S 17 32.0	+00.7
17	78 59.6	−00.1	S 17 32.7	+00.7
18	93 59.5	−00.1	S 17 33.4	+00.6
19	108 59.4	+00.0	S 17 34.0	+00.7
20	123 59.4	−00.1	S 17 34.7	+00.7
21	138 59.3	−00.1	S 17 35.4	+00.7
22	153 59.2	−00.1	S 17 36.1	+00.7
23	168 59.1	+00.0	S 17 36.8	+00.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	134°	134°	133°	133°	133°	133°

Greenwich Culmination Time: 11:44

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	178 59.5	−00.7	S 18 13.1	+00.9
01	193 58.8	−00.7	S 18 14.0	+00.9
02	208 58.1	−00.7	S 18 14.9	+00.9
03	223 57.4	−00.8	S 18 15.8	+00.8
04	238 56.6	−00.7	S 18 16.6	+00.9
05	253 55.9	−00.7	S 18 17.5	+00.9
06	268 55.2	−00.7	S 18 18.4	+00.8
07	283 54.5	−00.7	S 18 19.2	+00.9
08	298 53.8	−00.7	S 18 20.1	+00.9
09	313 53.1	−00.7	S 18 21.0	+00.8
10	328 52.4	−00.7	S 18 21.8	+00.9
11	343 51.7	−00.7	S 18 22.7	+00.9
12	358 51.0	−00.8	S 18 23.6	+00.8
13	13 50.2	−00.7	S 18 24.4	+00.9
14	28 49.5	−00.7	S 18 25.3	+00.9
15	43 48.8	−00.7	S 18 26.2	+00.8
16	58 48.1	−00.7	S 18 27.0	+00.9
17	73 47.4	−00.7	S 18 27.9	+00.8
18	88 46.7	−00.8	S 18 28.7	+00.9
19	103 45.9	−00.7	S 18 29.6	+00.9
20	118 45.2	−00.7	S 18 30.5	+00.8
21	133 44.5	−00.7	S 18 31.3	+00.9
22	148 43.8	−00.7	S 18 32.2	+00.8
23	163 43.1	−00.7	S 18 33.0	+00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	129°	129°	128°	128°	128°	128°

Greenwich Culmination Time: 12:04

Moon

A: 60%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	333 48.0	−31.0	N 25 50.2	+05.1
01	348 17.0	−31.1	N 25 55.3	+05.0
02	2 45.9	−31.0	N 26 00.3	+04.8
03	17 14.9	−31.1	N 26 05.1	+04.8
04	31 43.8	−31.1	N 26 09.9	+04.6
05	46 12.7	−31.2	N 26 14.5	+04.4
06	60 41.5	−31.1	N 26 18.9	+04.3
07	75 10.4	−31.2	N 26 23.2	+04.2
08	89 39.2	−31.2	N 26 27.4	+04.1
09	104 08.0	−31.2	N 26 31.5	+03.9
10	118 36.8	−31.2	N 26 35.4	+03.8
11	133 05.6	−31.2	N 26 39.2	+03.6
12	147 34.4	−31.3	N 26 42.8	+03.5
13	162 03.1	−31.2	N 26 46.3	+03.4
14	176 31.9	−31.3	N 26 49.7	+03.3
15	191 00.6	−31.3	N 26 53.0	+03.1
16	205 29.3	−31.3	N 26 56.1	+02.9
17	219 58.0	−31.2	N 26 59.0	+02.9
18	234 26.8	−31.4	N 27 01.9	+02.7
19	248 55.4	−31.3	N 27 04.6	+02.5
20	263 24.1	−31.3	N 27 07.1	+02.5
21	277 52.8	−31.3	N 27 09.6	+02.3
22	292 21.5	−31.3	N 27 11.9	+02.1
23	306 50.2	−31.3	N 27 14.0	+02.0

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	14′9	14′9
HP	54′8	54′8	54′7	54′6	54′6	54′5
SHA	283°	280°	278°	276°	274°	271°

Greenwich Culmination Time: 01:48

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	325 58.7	+02.9	N 24 19.5	+00.1
01	341 01.6	+03.0	N 24 19.6	+00.1
02	356 04.6	+02.9	N 24 19.7	+00.1
03	11 07.5	+02.9	N 24 19.8	+00.2
04	26 10.4	+03.0	N 24 20.0	+00.1
05	41 13.4	+02.9	N 24 20.1	+00.1
06	56 16.3	+02.9	N 24 20.2	+00.1
07	71 19.2	+03.0	N 24 20.3	+00.1
08	86 22.2	+02.9	N 24 20.4	+00.1
09	101 25.1	+03.0	N 24 20.5	+00.1
10	116 28.1	+02.9	N 24 20.6	+00.1
11	131 31.0	+02.9	N 24 20.7	+00.1
12	146 33.9	+03.0	N 24 20.8	+00.1
13	161 36.9	+02.9	N 24 20.9	+00.1
14	176 39.8	+03.0	N 24 21.0	+00.2
15	191 42.8	+02.9	N 24 21.2	+00.1
16	206 45.7	+03.0	N 24 21.3	+00.1
17	221 48.7	+03.0	N 24 21.4	+00.1
18	236 51.7	+02.9	N 24 21.5	+00.1
19	251 54.6	+03.0	N 24 21.6	+00.1
20	266 57.6	+02.9	N 24 21.7	+00.1
21	282 00.5	+03.0	N 24 21.8	+00.1
22	297 03.5	+03.0	N 24 21.9	+00.1
23	312 06.5	+02.9	N 24 22.0	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	276°	276°	276°	276°	276°	276°

Greenwich Culmination Time: 02:15

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	50 21.2	+02.6	S 01 45.2	+00.0
01	65 23.8	+02.5	S 01 45.2	+00.1
02	80 26.3	+02.6	S 01 45.3	+00.0
03	95 28.9	+02.6	S 01 45.3	+00.0
04	110 31.5	+02.5	S 01 45.3	+00.1
05	125 34.0	+02.6	S 01 45.4	+00.0
06	140 36.6	+02.6	S 01 45.4	+00.0
07	155 39.2	+02.5	S 01 45.4	+00.1
08	170 41.7	+02.6	S 01 45.5	+00.0
09	185 44.3	+02.6	S 01 45.5	+00.0
10	200 46.9	+02.5	S 01 45.5	+00.1
11	215 49.4	+02.6	S 01 45.6	+00.0
12	230 52.0	+02.6	S 01 45.6	+00.0
13	245 54.6	+02.5	S 01 45.6	+00.1
14	260 57.1	+02.6	S 01 45.7	+00.0
15	275 59.7	+02.6	S 01 45.7	+00.0
16	291 02.3	+02.5	S 01 45.7	+00.1
17	306 04.8	+02.6	S 01 45.8	+00.0
18	321 07.4	+02.6	S 01 45.8	+00.0
19	336 10.0	+02.5	S 01 45.8	+00.0
20	351 12.5	+02.6	S 01 45.8	+00.1
21	6 15.1	+02.6	S 01 45.9	+00.0
22	21 17.7	+02.5	S 01 45.9	+00.0
23	36 20.2	+02.6	S 01 45.9	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 20:35

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	88 23.2	+02.4	S 16 22.6	+00.0
01	103 25.6	+02.3	S 16 22.6	+00.0
02	118 27.9	+02.4	S 16 22.6	−00.1
03	133 30.3	+02.4	S 16 22.5	+00.0
04	148 32.7	+02.4	S 16 22.5	+00.0
05	163 35.1	+02.4	S 16 22.5	+00.0
06	178 37.5	+02.4	S 16 22.5	−00.1
07	193 39.9	+02.3	S 16 22.4	+00.0
08	208 42.2	+02.4	S 16 22.4	+00.0
09	223 44.6	+02.4	S 16 22.4	+00.0
10	238 47.0	+02.4	S 16 22.4	−00.1
11	253 49.4	+02.4	S 16 22.3	+00.0
12	268 51.8	+02.4	S 16 22.3	+00.0
13	283 54.2	+02.4	S 16 22.3	−00.1
14	298 56.6	+02.3	S 16 22.2	+00.0
15	313 58.9	+02.4	S 16 22.2	+00.0
16	329 01.3	+02.4	S 16 22.2	+00.0
17	344 03.7	+02.4	S 16 22.2	−00.1
18	359 06.1	+02.4	S 16 22.1	+00.0
19	14 08.5	+02.3	S 16 22.1	+00.0
20	29 10.8	+02.4	S 16 22.1	−00.1
21	44 13.2	+02.4	S 16 22.0	+00.0
22	59 15.6	+02.4	S 16 22.0	+00.0
23	74 18.0	+02.4	S 16 22.0	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 18:03

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 November 16 Wednesday (day 320 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	183 50.2	−00.1	S 18 40.3	+00.6
01	198 50.1	−00.1	S 18 40.9	+00.6
02	213 50.0	−00.1	S 18 41.5	+00.6
03	228 49.9	−00.1	S 18 42.1	+00.7
04	243 49.8	−00.1	S 18 42.8	+00.6
05	258 49.7	−00.2	S 18 43.4	+00.6
06	273 49.5	−00.1	S 18 44.0	+00.6
07	288 49.4	−00.1	S 18 44.6	+00.7
08	303 49.3	−00.1	S 18 45.3	+00.6
09	318 49.2	−00.1	S 18 45.9	+00.6
10	333 49.1	−00.1	S 18 46.5	+00.6
11	348 49.0	−00.1	S 18 47.1	+00.6
12	3 48.9	−00.2	S 18 47.7	+00.7
13	18 48.7	−00.1	S 18 48.4	+00.6
14	33 48.6	−00.1	S 18 49.0	+00.6
15	48 48.5	−00.1	S 18 49.6	+00.6
16	63 48.4	−00.1	S 18 50.2	+00.6
17	78 48.3	−00.1	S 18 50.8	+00.7
18	93 48.2	−00.2	S 18 51.5	+00.6
19	108 48.0	−00.1	S 18 52.1	+00.6
20	123 47.9	−00.1	S 18 52.7	+00.6
21	138 47.8	−00.1	S 18 53.3	+00.6
22	153 47.7	−00.1	S 18 53.9	+00.6
23	168 47.6	−00.1	S 18 54.5	+00.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	129°	129°	128°	128°	128°	128°

Greenwich Culmination Time: 11:44

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	177 30.8	−00.8	S 19 51.7	+00.8
01	192 30.0	−00.8	S 19 52.5	+00.8
02	207 29.2	−00.8	S 19 53.3	+00.7
03	222 28.4	−00.7	S 19 54.0	+00.8
04	237 27.7	−00.8	S 19 54.8	+00.7
05	252 26.9	−00.8	S 19 55.5	+00.8
06	267 26.1	−00.8	S 19 56.3	+00.8
07	282 25.3	−00.7	S 19 57.1	+00.7
08	297 24.6	−00.8	S 19 57.8	+00.8
09	312 23.8	−00.8	S 19 58.6	+00.7
10	327 23.0	−00.8	S 19 59.3	+00.8
11	342 22.2	−00.7	S 20 00.1	+00.8
12	357 21.5	−00.8	S 20 00.9	+00.7
13	12 20.7	−00.8	S 20 01.6	+00.8
14	27 19.9	−00.8	S 20 02.4	+00.7
15	42 19.1	−00.8	S 20 03.1	+00.8
16	57 18.3	−00.7	S 20 03.9	+00.7
17	72 17.6	−00.8	S 20 04.6	+00.8
18	87 16.8	−00.8	S 20 05.4	+00.7
19	102 16.0	−00.8	S 20 06.1	+00.8
20	117 15.2	−00.8	S 20 06.9	+00.7
21	132 14.4	−00.7	S 20 07.6	+00.8
22	147 13.7	−00.8	S 20 08.4	+00.7
23	162 12.9	−00.8	S 20 09.1	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	122°	122°	122°	122°	121°	121°

Greenwich Culmination Time: 12:10

Moon

A: 76%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	273 27.2	−27.6	N 20 36.7	−09.6
01	287 59.6	−27.6	N 20 27.1	−09.6
02	302 32.0	−27.6	N 20 17.5	−09.7
03	317 04.4	−27.4	N 20 07.8	−09.9
04	331 37.0	−27.5	N 19 57.9	−09.9
05	346 09.5	−27.4	N 19 48.0	−10.0
06	0 42.1	−27.3	N 19 38.0	−10.0
07	15 14.8	−27.3	N 19 28.0	−10.2
08	29 47.5	−27.3	N 19 17.8	−10.2
09	44 20.2	−27.2	N 19 07.6	−10.4
10	58 53.0	−27.1	N 18 57.2	−10.4
11	73 25.9	−27.2	N 18 46.8	−10.5
12	87 58.7	−27.0	N 18 36.3	−10.6
13	102 31.7	−27.1	N 18 25.7	−10.6
14	117 04.6	−26.9	N 18 15.1	−10.8
15	131 37.7	−27.0	N 18 04.3	−10.8
16	146 10.7	−26.9	N 17 53.5	−10.9
17	160 43.8	−26.9	N 17 42.6	−11.0
18	175 16.9	−26.8	N 17 31.6	−11.1
19	189 50.1	−26.8	N 17 20.5	−11.1
20	204 23.3	−26.7	N 17 09.4	−11.3
21	218 56.6	−26.7	N 16 58.1	−11.3
22	233 29.9	−26.7	N 16 46.8	−11.3
23	248 03.2	−26.6	N 16 35.5	−11.5

UT	02	06	10	14	18	22
SD	14′8	14′8	14′9	14′9	14′9	14′9
HP	54′4	54′5	54′5	54′6	54′6	54′7
SHA	217°	215°	213°	211°	209°	208°

Greenwich Culmination Time: 05:57

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	332 01.6	+03.1	N 24 32.1	+00.1
01	347 04.7	+03.1	N 24 32.2	+00.1
02	2 07.8	+03.1	N 24 32.3	+00.1
03	17 10.9	+03.2	N 24 32.4	+00.1
04	32 14.1	+03.1	N 24 32.5	+00.1
05	47 17.2	+03.1	N 24 32.6	+00.1
06	62 20.3	+03.2	N 24 32.7	+00.1
07	77 23.5	+03.1	N 24 32.8	+00.1
08	92 26.6	+03.1	N 24 32.9	+00.1
09	107 29.7	+03.2	N 24 33.0	+00.1
10	122 32.9	+03.1	N 24 33.1	+00.1
11	137 36.0	+03.1	N 24 33.2	+00.1
12	152 39.1	+03.2	N 24 33.3	+00.1
13	167 42.3	+03.1	N 24 33.4	+00.1
14	182 45.4	+03.1	N 24 33.5	+00.1
15	197 48.5	+03.2	N 24 33.6	+00.1
16	212 51.7	+03.1	N 24 33.7	+00.1
17	227 54.8	+03.2	N 24 33.8	+00.1
18	242 58.0	+03.1	N 24 33.9	+00.1
19	258 01.1	+03.2	N 24 34.0	+00.1
20	273 04.3	+03.1	N 24 34.1	+00.1
21	288 07.4	+03.2	N 24 34.2	+00.1
22	303 10.6	+03.1	N 24 34.3	+00.1
23	318 13.7	+03.2	N 24 34.4	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	277°	277°	277°	277°	277°	277°

Greenwich Culmination Time: 01:51

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	55 27.3	+02.5	S 01 48.3	+00.0
01	70 29.8	+02.6	S 01 48.3	+00.0
02	85 32.4	+02.5	S 01 48.3	+00.0
03	100 34.9	+02.5	S 01 48.3	+00.1
04	115 37.4	+02.6	S 01 48.4	+00.0
05	130 40.0	+02.5	S 01 48.4	+00.0
06	145 42.5	+02.5	S 01 48.4	+00.0
07	160 45.0	+02.6	S 01 48.4	+00.0
08	175 47.6	+02.5	S 01 48.4	+00.0
09	190 50.1	+02.5	S 01 48.4	+00.1
10	205 52.6	+02.5	S 01 48.5	+00.0
11	220 55.1	+02.6	S 01 48.5	+00.0
12	235 57.7	+02.5	S 01 48.5	+00.0
13	251 00.2	+02.5	S 01 48.5	+00.0
14	266 02.7	+02.5	S 01 48.5	+00.0
15	281 05.2	+02.6	S 01 48.5	+00.0
16	296 07.8	+02.5	S 01 48.5	+00.1
17	311 10.3	+02.5	S 01 48.6	+00.0
18	326 12.8	+02.6	S 01 48.6	+00.0
19	341 15.4	+02.5	S 01 48.6	+00.0
20	356 17.9	+02.5	S 01 48.6	+00.0
21	11 20.4	+02.5	S 01 48.6	+00.0
22	26 22.9	+02.6	S 01 48.6	+00.1
23	41 25.5	+02.5	S 01 48.7	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 20:14

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	93 08.2	+02.4	S 16 19.0	−00.1
01	108 10.6	+02.4	S 16 18.9	+00.0
02	123 13.0	+02.3	S 16 18.9	+00.0
03	138 15.3	+02.4	S 16 18.9	−00.1
04	153 17.7	+02.4	S 16 18.8	+00.0
05	168 20.1	+02.3	S 16 18.8	+00.0
06	183 22.4	+02.4	S 16 18.8	−00.1
07	198 24.8	+02.4	S 16 18.7	+00.0
08	213 27.2	+02.3	S 16 18.7	−00.1
09	228 29.5	+02.4	S 16 18.6	+00.0
10	243 31.9	+02.4	S 16 18.6	+00.0
11	258 34.3	+02.3	S 16 18.6	−00.1
12	273 36.6	+02.4	S 16 18.5	+00.0
13	288 39.0	+02.4	S 16 18.5	+00.0
14	303 41.4	+02.3	S 16 18.5	−00.1
15	318 43.7	+02.4	S 16 18.4	+00.0
16	333 46.1	+02.3	S 16 18.4	+00.0
17	348 48.4	+02.4	S 16 18.4	−00.1
18	3 50.8	+02.4	S 16 18.3	+00.0
19	18 53.2	+02.3	S 16 18.3	+00.0
20	33 55.5	+02.4	S 16 18.3	−00.1
21	48 57.9	+02.4	S 16 18.2	+00.0
22	64 00.3	+02.3	S 16 18.2	+00.0
23	79 02.6	+02.4	S 16 18.2	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:44

2022 November 13 Sunday (day 317 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	183 57.2	−00.1	S 17 53.6	+00.7
01	198 57.1	−00.1	S 17 54.3	+00.7
02	213 57.0	−00.1	S 17 55.0	+00.6
03	228 56.9	−00.1	S 17 55.6	+00.7
04	243 56.8	+00.0	S 17 56.3	+00.7
05	258 56.8	−00.1	S 17 57.0	+00.6
06	273 56.7	−00.1	S 17 57.6	+00.7
07	288 56.6	−00.1	S 17 58.3	+00.6
08	303 56.5	−00.1	S 17 58.9	+00.7
09	318 56.4	−00.1	S 17 59.6	+00.7
10	333 56.3	−00.1	S 18 00.3	+00.6
11	348 56.2	+00.0	S 18 00.9	+00.7
12	3 56.2	−00.1	S 18 01.6	+00.7
13	18 56.1	−00.1	S 18 02.3	+00.6
14	33 56.0	−00.1	S 18 02.9	+00.7
15	48 55.9	−00.1	S 18 03.6	+00.6
16	63 55.8	−00.1	S 18 04.2	+00.7
17	78 55.7	−00.1	S 18 04.9	+00.7
18	93 55.6	−00.1	S 18 05.6	+00.6
19	108 55.5	−00.1	S 18 06.2	+00.7
20	123 55.4	−00.1	S 18 06.9	+00.6
21	138 55.3	+00.0	S 18 07.5	+00.7
22	153 55.3	−00.1	S 18 08.2	+00.6
23	168 55.2	−00.1	S 18 08.8	+00.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	132°	132°	131°	131°	131°	131°

Greenwich Culmination Time: 11:44

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	178 24.9	−00.7	S 18 54.1	+00.9
01	193 24.2	−00.8	S 18 55.0	+00.8
02	208 23.4	−00.7	S 18 55.8	+00.8
03	223 22.7	−00.7	S 18 56.6	+00.9
04	238 22.0	−00.8	S 18 57.5	+00.8
05	253 21.2	−00.7	S 18 58.3	+00.8
06	268 20.5	−00.7	S 18 59.1	+00.8
07	283 19.8	−00.8	S 18 59.9	+00.9
08	298 19.0	−00.7	S 19 00.8	+00.8
09	313 18.3	−00.7	S 19 01.6	+00.8
10	328 17.6	−00.8	S 19 02.4	+00.8
11	343 16.8	−00.7	S 19 03.2	+00.9
12	358 16.1	−00.8	S 19 04.1	+00.8
13	13 15.3	−00.7	S 19 04.9	+00.8
14	28 14.6	−00.7	S 19 05.7	+00.8
15	43 13.9	−00.8	S 19 06.5	+00.8
16	58 13.1	−00.7	S 19 07.3	+00.9
17	73 12.4	−00.8	S 19 08.2	+00.8
18	88 11.6	−00.7	S 19 09.0	+00.8
19	103 10.9	−00.8	S 19 09.8	+00.8
20	118 10.1	−00.7	S 19 10.6	+00.8
21	133 09.4	−00.7	S 19 11.4	+00.8
22	148 08.7	−00.8	S 19 12.2	+00.8
23	163 07.9	−00.7	S 19 13.0	+00.9

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	126°	126°	126°	126°	125°	125°

Greenwich Culmination Time: 12:06

Moon

A: 67%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	308 49.6	−31.0	N 27 23.7	−01.3
01	323 18.6	−31.0	N 27 22.4	−01.5
02	337 47.6	−30.9	N 27 20.9	−01.6
03	352 16.7	−30.9	N 27 19.3	−01.8
04	6 45.8	−30.9	N 27 17.5	−01.9
05	21 14.9	−30.9	N 27 15.6	−02.0
06	35 44.0	−30.8	N 27 13.6	−02.2
07	50 13.2	−30.8	N 27 11.4	−02.2
08	64 42.4	−30.7	N 27 09.2	−02.4
09	79 11.7	−30.8	N 27 06.8	−02.6
10	93 40.9	−30.6	N 27 04.2	−02.7
11	108 10.3	−30.7	N 27 01.5	−02.7
12	122 39.6	−30.6	N 26 58.8	−03.0
13	137 09.0	−30.6	N 26 55.8	−03.0
14	151 38.4	−30.5	N 26 52.8	−03.2
15	166 07.9	−30.5	N 26 49.6	−03.3
16	180 37.4	−30.5	N 26 46.3	−03.4
17	195 06.9	−30.4	N 26 42.9	−03.6
18	209 36.5	−30.3	N 26 39.3	−03.7
19	224 06.2	−30.4	N 26 35.6	−03.8
20	238 35.8	−30.3	N 26 31.8	−03.9
21	253 05.5	−30.2	N 26 27.9	−04.1
22	267 35.3	−30.2	N 26 23.8	−04.2
23	282 05.1	−30.2	N 26 19.6	−04.3

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′7
HP	54′2	54′2	54′2	54′2	54′2	54′1
SHA	256°	253°	251°	249°	247°	245°

Greenwich Culmination Time: 03:31

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	328 21.1	+03.0	N 24 24.7	+00.1
01	343 24.1	+03.0	N 24 24.8	+00.1
02	358 27.1	+03.0	N 24 24.9	+00.1
03	13 30.1	+03.0	N 24 25.0	+00.1
04	28 33.1	+03.0	N 24 25.1	+00.1
05	43 36.1	+03.0	N 24 25.2	+00.1
06	58 39.1	+03.0	N 24 25.3	+00.1
07	73 42.1	+03.1	N 24 25.4	+00.1
08	88 45.2	+03.0	N 24 25.5	+00.2
09	103 48.2	+03.0	N 24 25.7	+00.1
10	118 51.2	+03.0	N 24 25.8	+00.1
11	133 54.2	+03.0	N 24 25.9	+00.1
12	148 57.2	+03.1	N 24 26.0	+00.1
13	164 00.3	+03.0	N 24 26.1	+00.1
14	179 03.3	+03.0	N 24 26.2	+00.1
15	194 06.3	+03.1	N 24 26.3	+00.1
16	209 09.4	+03.0	N 24 26.4	+00.1
17	224 12.4	+03.0	N 24 26.5	+00.1
18	239 15.4	+03.1	N 24 26.6	+00.1
19	254 18.5	+03.0	N 24 26.7	+00.1
20	269 21.5	+03.0	N 24 26.8	+00.1
21	284 24.5	+03.1	N 24 26.9	+00.1
22	299 27.6	+03.0	N 24 27.0	+00.1
23	314 30.6	+03.1	N 24 27.1	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	276°	276°	276°	276°	276°	276°

Greenwich Culmination Time: 02:06

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	52 24.2	+02.5	S 01 46.7	+00.0
01	67 26.7	+02.6	S 01 46.7	+00.0
02	82 29.3	+02.6	S 01 46.7	+00.1
03	97 31.9	+02.5	S 01 46.8	+00.0
04	112 34.4	+02.6	S 01 46.8	+00.0
05	127 37.0	+02.5	S 01 46.8	+00.0
06	142 39.5	+02.6	S 01 46.8	+00.1
07	157 42.1	+02.5	S 01 46.9	+00.0
08	172 44.6	+02.6	S 01 46.9	+00.0
09	187 47.2	+02.5	S 01 46.9	+00.0
10	202 49.7	+02.6	S 01 46.9	+00.1
11	217 52.3	+02.5	S 01 47.0	+00.0
12	232 54.8	+02.6	S 01 47.0	+00.0
13	247 57.4	+02.5	S 01 47.0	+00.0
14	262 59.9	+02.6	S 01 47.0	+00.1
15	278 02.5	+02.5	S 01 47.1	+00.0
16	293 05.0	+02.6	S 01 47.1	+00.0
17	308 07.6	+02.5	S 01 47.1	+00.0
18	323 10.1	+02.6	S 01 47.1	+00.1
19	338 12.7	+02.5	S 01 47.2	+00.0
20	353 15.2	+02.6	S 01 47.2	+00.0
21	8 17.8	+02.5	S 01 47.2	+00.0
22	23 20.3	+02.6	S 01 47.2	+00.1
23	38 22.9	+02.5	S 01 47.3	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 20:26

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	90 17.5	+02.4	S 16 21.3	−00.1
01	105 19.9	+02.3	S 16 21.2	+00.0
02	120 22.2	+02.4	S 16 21.2	+00.0
03	135 24.6	+02.4	S 16 21.2	−00.1
04	150 27.0	+02.4	S 16 21.1	+00.0
05	165 29.4	+02.4	S 16 21.1	+00.0
06	180 31.8	+02.3	S 16 21.1	−00.1
07	195 34.1	+02.4	S 16 21.0	+00.0
08	210 36.5	+02.4	S 16 21.0	+00.0
09	225 38.9	+02.4	S 16 21.0	+00.0
10	240 41.3	+02.3	S 16 21.0	−00.1
11	255 43.6	+02.4	S 16 20.9	+00.0
12	270 46.0	+02.4	S 16 20.9	+00.0
13	285 48.4	+02.4	S 16 20.9	−00.1
14	300 50.8	+02.3	S 16 20.8	+00.0
15	315 53.1	+02.4	S 16 20.8	+00.0
16	330 55.5	+02.4	S 16 20.8	−00.1
17	345 57.9	+02.4	S 16 20.7	+00.0
18	1 00.3	+02.3	S 16 20.7	+00.0
19	16 02.6	+02.4	S 16 20.7	−00.1
20	31 05.0	+02.4	S 16 20.6	+00.0
21	46 07.4	+02.4	S 16 20.6	+00.0
22	61 09.8	+02.3	S 16 20.6	−00.1
23	76 12.1	+02.4	S 16 20.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:55

2022 November 14 Monday (day 318 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 55.1	−00.1	S 18 09.5	+00.6
01	198 55.0	−00.1	S 18 10.1	+00.7
02	213 54.9	−00.1	S 18 10.8	+00.6
03	228 54.8	−00.1	S 18 11.4	+00.7
04	243 54.7	−00.1	S 18 12.1	+00.7
05	258 54.6	−00.1	S 18 12.8	+00.6
06	273 54.5	−00.1	S 18 13.4	+00.7
07	288 54.4	−00.1	S 18 14.1	+00.6
08	303 54.3	−00.1	S 18 14.7	+00.7
09	318 54.2	−00.1	S 18 15.4	+00.6
10	333 54.1	−00.1	S 18 16.0	+00.7
11	348 54.0	−00.1	S 18 16.7	+00.6
12	3 53.9	−00.1	S 18 17.3	+00.6
13	18 53.8	−00.1	S 18 17.9	+00.7
14	33 53.7	−00.1	S 18 18.6	+00.6
15	48 53.6	−00.1	S 18 19.2	+00.7
16	63 53.5	−00.1	S 18 19.9	+00.6
17	78 53.4	−00.1	S 18 20.5	+00.7
18	93 53.3	−00.1	S 18 21.2	+00.6
19	108 53.2	−00.1	S 18 21.8	+00.7
20	123 53.1	−00.1	S 18 22.5	+00.6
21	138 53.0	−00.1	S 18 23.1	+00.7
22	153 52.9	−00.1	S 18 23.8	+00.6
23	168 52.8	−00.1	S 18 24.4	+00.6

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	131°	131°	130°	130°	130°	130°

Greenwich Culmination Time: 11:44

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	178 07.2	−00.8	S 19 13.9	+00.8
01	193 06.4	−00.7	S 19 14.7	+00.8
02	208 05.7	−00.8	S 19 15.5	+00.8
03	223 04.9	−00.7	S 19 16.3	+00.8
04	238 04.2	−00.8	S 19 17.1	+00.8
05	253 03.4	−00.7	S 19 17.9	+00.8
06	268 02.7	−00.8	S 19 18.7	+00.8
07	283 01.9	−00.7	S 19 19.5	+00.8
08	298 01.2	−00.8	S 19 20.3	+00.8
09	313 00.4	−00.7	S 19 21.1	+00.8
10	327 59.7	−00.8	S 19 21.9	+00.8
11	342 58.9	−00.7	S 19 22.7	+00.8
12	357 58.2	−00.8	S 19 23.5	+00.8
13	12 57.4	−00.7	S 19 24.3	+00.8
14	27 56.7	−00.8	S 19 25.1	+00.8
15	42 55.9	−00.7	S 19 25.9	+00.8
16	57 55.2	−00.8	S 19 26.7	+00.8
17	72 54.4	−00.7	S 19 27.5	+00.8
18	87 53.7	−00.8	S 19 28.3	+00.8
19	102 52.9	−00.8	S 19 29.1	+00.8
20	117 52.1	−00.7	S 19 29.9	+00.8
21	132 51.4	−00.8	S 19 30.7	+00.8
22	147 50.6	−00.7	S 19 31.5	+00.8
23	162 49.9	−00.8	S 19 32.3	+00.8

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	125°	125°	125°	124°	124°	124°

Greenwich Culmination Time: 12:08

Moon

A: 70%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	296 34.9	−30.1	N 26 15.3	−04.4
01	311 04.8	−30.0	N 26 10.9	−04.5
02	325 34.8	−30.1	N 26 06.4	−04.7
03	340 04.7	−29.9	N 26 01.7	−04.8
04	354 34.8	−29.9	N 25 56.9	−04.9
05	9 04.9	−29.9	N 25 52.0	−05.0
06	23 35.0	−29.8	N 25 47.0	−05.2
07	38 05.2	−29.8	N 25 41.8	−05.2
08	52 35.4	−29.7	N 25 36.6	−05.4
09	67 05.7	−29.7	N 25 31.2	−05.5
10	81 36.0	−29.7	N 25 25.7	−05.6
11	96 06.3	−29.5	N 25 20.1	−05.7
12	110 36.8	−29.5	N 25 14.4	−05.9
13	125 07.3	−29.5	N 25 08.5	−05.9
14	139 37.8	−29.4	N 25 02.6	−06.1
15	154 08.4	−29.4	N 24 56.5	−06.2
16	168 39.0	−29.3	N 24 50.3	−06.3
17	183 09.7	−29.3	N 24 44.0	−06.4
18	197 40.4	−29.2	N 24 37.6	−06.5
19	212 11.2	−29.2	N 24 31.1	−06.6
20	226 42.0	−29.1	N 24 24.5	−06.8
21	241 12.9	−29.0	N 24 17.7	−06.8
22	255 43.9	−29.0	N 24 10.9	−07.0
23	270 14.9	−29.0	N 24 03.9	−07.0

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′8	14′8
HP	54′1	54′1	54′1	54′1	54′1	54′2
SHA	242°	240°	238°	236°	234°	232°

Greenwich Culmination Time: 04:22

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	329 33.7	+03.0	N 24 27.2	+00.1
01	344 36.7	+03.0	N 24 27.3	+00.1
02	359 39.7	+03.1	N 24 27.4	+00.1
03	14 42.8	+03.0	N 24 27.5	+00.1
04	29 45.8	+03.1	N 24 27.6	+00.2
05	44 48.9	+03.0	N 24 27.8	+00.1
06	59 51.9	+03.1	N 24 27.9	+00.1
07	74 55.0	+03.1	N 24 28.0	+00.1
08	89 58.1	+03.0	N 24 28.1	+00.1
09	105 01.1	+03.1	N 24 28.2	+00.1
10	120 04.2	+03.0	N 24 28.3	+00.1
11	135 07.2	+03.1	N 24 28.4	+00.1
12	150 10.3	+03.1	N 24 28.5	+00.1
13	165 13.4	+03.0	N 24 28.6	+00.1
14	180 16.4	+03.1	N 24 28.7	+00.1
15	195 19.5	+03.1	N 24 28.8	+00.1
16	210 22.6	+03.0	N 24 28.9	+00.1
17	225 25.6	+03.1	N 24 29.0	+00.1
18	240 28.7	+03.1	N 24 29.1	+00.1
19	255 31.8	+03.0	N 24 29.2	+00.1
20	270 34.8	+03.1	N 24 29.3	+00.1
21	285 37.9	+03.1	N 24 29.4	+00.1
22	300 41.0	+03.1	N 24 29.5	+00.1
23	315 44.1	+03.1	N 24 29.6	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	277°	277°	277°	277°	277°	277°

Greenwich Culmination Time: 02:01

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	53 25.4	+02.6	S 01 47.3	+00.0
01	68 28.0	+02.5	S 01 47.3	+00.0
02	83 30.5	+02.6	S 01 47.3	+00.1
03	98 33.1	+02.5	S 01 47.4	+00.0
04	113 35.6	+02.5	S 01 47.4	+00.0
05	128 38.1	+02.6	S 01 47.4	+00.0
06	143 40.7	+02.5	S 01 47.4	+00.1
07	158 43.2	+02.6	S 01 47.5	+00.0
08	173 45.8	+02.5	S 01 47.5	+00.0
09	188 48.3	+02.6	S 01 47.5	+00.0
10	203 50.9	+02.5	S 01 47.5	+00.1
11	218 53.4	+02.6	S 01 47.6	+00.0
12	233 56.0	+02.5	S 01 47.6	+00.0
13	248 58.5	+02.5	S 01 47.6	+00.0
14	264 01.0	+02.6	S 01 47.6	+00.0
15	279 03.6	+02.5	S 01 47.6	+00.1
16	294 06.1	+02.6	S 01 47.7	+00.0
17	309 08.7	+02.5	S 01 47.7	+00.0
18	324 11.2	+02.6	S 01 47.7	+00.0
19	339 13.8	+02.5	S 01 47.7	+00.1
20	354 16.3	+02.5	S 01 47.8	+00.0
21	9 18.8	+02.6	S 01 47.8	+00.0
22	24 21.4	+02.5	S 01 47.8	+00.0
23	39 23.9	+02.6	S 01 47.8	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 20:22

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	91 14.5	+02.4	S 16 20.5	+00.0
01	106 16.9	+02.4	S 16 20.5	+00.0
02	121 19.3	+02.3	S 16 20.5	−00.1
03	136 21.6	+02.4	S 16 20.4	+00.0
04	151 24.0	+02.4	S 16 20.4	+00.0
05	166 26.4	+02.3	S 16 20.4	−00.1
06	181 28.7	+02.4	S 16 20.3	+00.0
07	196 31.1	+02.4	S 16 20.3	+00.0
08	211 33.5	+02.4	S 16 20.3	−00.1
09	226 35.9	+02.3	S 16 20.2	+00.0
10	241 38.2	+02.4	S 16 20.2	+00.0
11	256 40.6	+02.4	S 16 20.2	−00.1
12	271 43.0	+02.3	S 16 20.1	+00.0
13	286 45.3	+02.4	S 16 20.1	+00.0
14	301 47.7	+02.4	S 16 20.1	−00.1
15	316 50.1	+02.4	S 16 20.0	+00.0
16	331 52.5	+02.3	S 16 20.0	+00.0
17	346 54.8	+02.4	S 16 20.0	−00.1
18	1 57.2	+02.4	S 16 19.9	+00.0
19	16 59.6	+02.3	S 16 19.9	+00.0
20	32 01.9	+02.4	S 16 19.9	−00.1
21	47 04.3	+02.4	S 16 19.8	+00.0
22	62 06.7	+02.4	S 16 19.8	+00.0
23	77 09.1	+02.3	S 16 19.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:52

2022 November 15 Tuesday (day 319 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 52.7	−00.1	S 18 25.0	+00.7
01	198 52.6	−00.1	S 18 25.7	+00.6
02	213 52.5	−00.1	S 18 26.3	+00.7
03	228 52.4	−00.1	S 18 27.0	+00.6
04	243 52.3	−00.1	S 18 27.6	+00.6
05	258 52.2	−00.1	S 18 28.2	+00.7
06	273 52.1	−00.1	S 18 28.9	+00.6
07	288 52.0	−00.1	S 18 29.5	+00.6
08	303 51.9	−00.1	S 18 30.1	+00.7
09	318 51.8	−00.1	S 18 30.8	+00.6
10	333 51.7	−00.1	S 18 31.4	+00.7
11	348 51.6	−00.1	S 18 32.1	+00.6
12	3 51.5	−00.1	S 18 32.7	+00.6
13	18 51.4	−00.1	S 18 33.3	+00.7
14	33 51.3	−00.1	S 18 34.0	+00.6
15	48 51.2	−00.1	S 18 34.6	+00.6
16	63 51.1	−00.1	S 18 35.2	+00.7
17	78 51.0	−00.1	S 18 35.9	+00.6
18	93 50.9	−00.1	S 18 36.5	+00.6
19	108 50.8	−00.2	S 18 37.1	+00.6
20	123 50.6	−00.1	S 18 37.7	+00.7
21	138 50.5	−00.1	S 18 38.4	+00.6
22	153 50.4	−00.1	S 18 39.0	+00.6
23	168 50.3	−00.1	S 18 39.6	+00.7

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	130°	130°	129°	129°	129°	129°

Greenwich Culmination Time: 11:44

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	177 49.1	−00.7	S 19 33.1	+00.8
01	192 48.4	−00.8	S 19 33.9	+00.7
02	207 47.6	−00.8	S 19 34.6	+00.8
03	222 46.8	−00.7	S 19 35.4	+00.8
04	237 46.1	−00.8	S 19 36.2	+00.8
05	252 45.3	−00.7	S 19 37.0	+00.8
06	267 44.6	−00.8	S 19 37.8	+00.8
07	282 43.8	−00.8	S 19 38.6	+00.7
08	297 43.0	−00.7	S 19 39.3	+00.8
09	312 42.3	−00.8	S 19 40.1	+00.8
10	327 41.5	−00.8	S 19 40.9	+00.8
11	342 40.7	−00.7	S 19 41.7	+00.8
12	357 40.0	−00.8	S 19 42.5	+00.7
13	12 39.2	−00.8	S 19 43.2	+00.8
14	27 38.4	−00.7	S 19 44.0	+00.8
15	42 37.7	−00.8	S 19 44.8	+00.8
16	57 36.9	−00.8	S 19 45.6	+00.7
17	72 36.1	−00.7	S 19 46.3	+00.8
18	87 35.4	−00.8	S 19 47.1	+00.8
19	102 34.6	−00.8	S 19 47.9	+00.8
20	117 33.8	−00.7	S 19 48.7	+00.7
21	132 33.1	−00.8	S 19 49.4	+00.8
22	147 32.3	−00.8	S 19 50.2	+00.8
23	162 31.5	−00.7	S 19 51.0	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	124°	123°	123°	123°	123°	123°

Greenwich Culmination Time: 12:09

Moon

A: 73%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	284 45.9	−28.9	N 23 56.9	−07.2
01	299 17.0	−28.8	N 23 49.7	−07.3
02	313 48.2	−28.8	N 23 42.4	−07.4
03	328 19.4	−28.7	N 23 35.0	−07.5
04	342 50.7	−28.7	N 23 27.5	−07.6
05	357 22.0	−28.6	N 23 19.9	−07.7
06	11 53.4	−28.6	N 23 12.2	−07.8
07	26 24.8	−28.5	N 23 04.4	−07.9
08	40 56.3	−28.5	N 22 56.5	−08.0
09	55 27.8	−28.4	N 22 48.5	−08.1
10	69 59.4	−28.3	N 22 40.4	−08.2
11	84 31.1	−28.3	N 22 32.2	−08.3
12	99 02.8	−28.3	N 22 23.9	−08.4
13	113 34.5	−28.2	N 22 15.5	−08.5
14	128 06.3	−28.1	N 22 07.0	−08.6
15	142 38.2	−28.1	N 21 58.4	−08.7
16	157 10.1	−28.1	N 21 49.7	−08.8
17	171 42.0	−27.9	N 21 40.9	−08.9
18	186 14.1	−28.0	N 21 32.0	−09.0
19	200 46.1	−27.9	N 21 23.0	−09.1
20	215 18.2	−27.8	N 21 13.9	−09.2
21	229 50.4	−27.8	N 21 04.7	−09.2
22	244 22.6	−27.7	N 20 55.5	−09.4
23	258 54.9	−27.7	N 20 46.1	−09.4

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′2	54′2	54′2	54′2	54′3	54′4
SHA	230°	228°	226°	223°	221°	219°

Greenwich Culmination Time: 05:10

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	330 47.2	+03.0	N 24 29.7	+00.1
01	345 50.2	+03.1	N 24 29.8	+00.1
02	0 53.3	+03.1	N 24 29.9	+00.1
03	15 56.4	+03.1	N 24 30.0	+00.1
04	30 59.5	+03.1	N 24 30.1	+00.1
05	46 02.6	+03.1	N 24 30.2	+00.1
06	61 05.7	+03.1	N 24 30.3	+00.1
07	76 08.8	+03.1	N 24 30.4	+00.1
08	91 11.9	+03.1	N 24 30.5	+00.1
09	106 15.0	+03.1	N 24 30.6	+00.1
10	121 18.1	+03.1	N 24 30.7	+00.1
11	136 21.2	+03.1	N 24 30.8	+00.1
12	151 24.3	+03.1	N 24 30.9	+00.1
13	166 27.4	+03.1	N 24 31.0	+00.1
14	181 30.5	+03.1	N 24 31.1	+00.1
15	196 33.6	+03.1	N 24 31.2	+00.1
16	211 36.7	+03.1	N 24 31.3	+00.1
17	226 39.8	+03.1	N 24 31.4	+00.1
18	241 42.9	+03.1	N 24 31.5	+00.1
19	256 46.0	+03.1	N 24 31.6	+00.1
20	271 49.1	+03.1	N 24 31.7	+00.1
21	286 52.2	+03.1	N 24 31.8	+00.1
22	301 55.3	+03.2	N 24 31.9	+00.1
23	316 58.5	+03.1	N 24 32.0	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	277°	277°	277°	277°	277°	277°

Greenwich Culmination Time: 01:56

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	54 26.5	+02.5	S 01 47.8	+00.1
01	69 29.0	+02.5	S 01 47.9	+00.0
02	84 31.5	+02.6	S 01 47.9	+00.0
03	99 34.1	+02.5	S 01 47.9	+00.0
04	114 36.6	+02.5	S 01 47.9	+00.0
05	129 39.1	+02.6	S 01 47.9	+00.1
06	144 41.7	+02.5	S 01 48.0	+00.0
07	159 44.2	+02.6	S 01 48.0	+00.0
08	174 46.8	+02.5	S 01 48.0	+00.0
09	189 49.3	+02.5	S 01 48.0	+00.0
10	204 51.8	+02.6	S 01 48.0	+00.1
11	219 54.4	+02.5	S 01 48.1	+00.0
12	234 56.9	+02.5	S 01 48.1	+00.0
13	249 59.4	+02.6	S 01 48.1	+00.0
14	265 02.0	+02.5	S 01 48.1	+00.0
15	280 04.5	+02.5	S 01 48.1	+00.0
16	295 07.0	+02.6	S 01 48.1	+00.1
17	310 09.6	+02.5	S 01 48.2	+00.0
18	325 12.1	+02.5	S 01 48.2	+00.0
19	340 14.6	+02.6	S 01 48.2	+00.0
20	355 17.2	+02.5	S 01 48.2	+00.0
21	10 19.7	+02.5	S 01 48.2	+00.1
22	25 22.2	+02.6	S 01 48.3	+00.0
23	40 24.8	+02.5	S 01 48.3	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 20:18

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	92 11.4	+02.4	S 16 19.8	−00.1
01	107 13.8	+02.4	S 16 19.7	+00.0
02	122 16.2	+02.3	S 16 19.7	+00.0
03	137 18.5	+02.4	S 16 19.7	−00.1
04	152 20.9	+02.4	S 16 19.6	+00.0
05	167 23.3	+02.3	S 16 19.6	+00.0
06	182 25.6	+02.4	S 16 19.6	−00.1
07	197 28.0	+02.4	S 16 19.5	+00.0
08	212 30.4	+02.3	S 16 19.5	+00.0
09	227 32.7	+02.4	S 16 19.5	−00.1
10	242 35.1	+02.4	S 16 19.4	+00.0
11	257 37.5	+02.3	S 16 19.4	+00.0
12	272 39.8	+02.4	S 16 19.4	−00.1
13	287 42.2	+02.4	S 16 19.3	+00.0
14	302 44.6	+02.4	S 16 19.3	+00.0
15	317 47.0	+02.3	S 16 19.3	−00.1
16	332 49.3	+02.4	S 16 19.2	+00.0
17	347 51.7	+02.4	S 16 19.2	+00.0
18	2 54.1	+02.3	S 16 19.2	−00.1
19	17 56.4	+02.4	S 16 19.1	+00.0
20	32 58.8	+02.4	S 16 19.1	+00.0
21	48 01.2	+02.3	S 16 19.1	−00.1
22	63 03.5	+02.4	S 16 19.0	+00.0
23	78 05.9	+02.3	S 16 19.0	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:48

2022 November 20 Sunday (day 324 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	183 37.9	-00.1	S 19 37.8	+00.6
01	198 37.8	-00.2	S 19 38.4	+00.5
02	213 37.6	-00.1	S 19 38.9	+00.6
03	228 37.5	-00.2	S 19 39.5	+00.6
04	243 37.3	-00.1	S 19 40.1	+00.5
05	258 37.2	-00.2	S 19 40.6	+00.6
06	273 37.0	-00.1	S 19 41.2	+00.6
07	288 36.9	-00.2	S 19 41.8	+00.5
08	303 36.7	-00.1	S 19 42.3	+00.6
09	318 36.6	-00.2	S 19 42.9	+00.6
10	333 36.4	-00.1	S 19 43.5	+00.5
11	348 36.3	-00.2	S 19 44.0	+00.6
12	3 36.1	-00.1	S 19 44.6	+00.6
13	18 36.0	-00.2	S 19 45.2	+00.5
14	33 35.8	-00.1	S 19 45.7	+00.6
15	48 35.7	-00.2	S 19 46.3	+00.6
16	63 35.5	-00.1	S 19 46.9	+00.5
17	78 35.4	-00.2	S 19 47.4	+00.6
18	93 35.2	-00.1	S 19 48.0	+00.5
19	108 35.1	-00.2	S 19 48.5	+00.6
20	123 34.9	-00.1	S 19 49.1	+00.6
21	138 34.8	-00.2	S 19 49.7	+00.5
22	153 34.6	-00.1	S 19 50.2	+00.6
23	168 34.5	-00.2	S 19 50.8	+00.5

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	125°	124°	124°	124°	124°	124°

Greenwich Culmination Time: 11:45

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	176 14.3	-00.8	S 21 00.7	+00.7
01	191 13.5	-00.8	S 21 01.4	+00.7
02	206 12.7	-00.9	S 21 02.1	+00.6
03	221 11.8	-00.8	S 21 02.7	+00.7
04	236 11.0	-00.8	S 21 03.4	+00.7
05	251 10.2	-00.8	S 21 04.1	+00.6
06	266 09.4	-00.9	S 21 04.7	+00.7
07	281 08.5	-00.8	S 21 05.4	+00.7
08	296 07.7	-00.8	S 21 06.1	+00.6
09	311 06.9	-00.8	S 21 06.7	+00.7
10	326 06.1	-00.9	S 21 07.4	+00.6
11	341 05.2	-00.8	S 21 08.0	+00.7
12	356 04.4	-00.8	S 21 08.7	+00.7
13	11 03.6	-00.8	S 21 09.4	+00.6
14	26 02.8	-00.9	S 21 10.0	+00.7
15	41 01.9	-00.8	S 21 10.7	+00.6
16	56 01.1	-00.8	S 21 11.3	+00.7
17	71 00.3	-00.9	S 21 12.0	+00.6
18	85 59.4	-00.8	S 21 12.6	+00.7
19	100 58.6	-00.8	S 21 13.3	+00.6
20	115 57.8	-00.8	S 21 13.9	+00.7
21	130 57.0	-00.9	S 21 14.6	+00.6
22	145 56.1	-00.8	S 21 15.2	+00.7
23	160 55.3	-00.8	S 21 15.9	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	117°	117°	117°	116°	116°	116°

Greenwich Culmination Time: 12:15

Moon

A: 88%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	231 18.6	-26.5	N 00 05.4	-15.1
01	245 52.1	-26.5	S 00 09.7	+15.1
02	260 25.6	-26.5	S 00 24.8	+15.1
03	274 59.1	-26.6	S 00 39.9	+15.1
04	289 32.5	-26.7	S 00 55.0	+15.1
05	304 05.8	-26.6	S 01 10.1	+15.1
06	318 39.2	-26.7	S 01 25.2	+15.2
07	333 12.5	-26.8	S 01 40.4	+15.2
08	347 45.7	-26.8	S 01 55.6	+15.2
09	2 18.9	-26.9	S 02 10.8	+15.1
10	16 52.0	-26.9	S 02 25.9	+15.2
11	31 25.1	-27.0	S 02 41.1	+15.3
12	45 58.1	-27.0	S 02 56.4	+15.2
13	60 31.1	-27.1	S 03 11.6	+15.2
14	75 04.0	-27.1	S 03 26.8	+15.2
15	89 36.9	-27.2	S 03 42.0	+15.3
16	104 09.7	-27.2	S 03 57.3	+15.2
17	118 42.5	-27.3	S 04 12.5	+15.2
18	133 15.2	-27.4	S 04 27.7	+15.3
19	147 47.8	-27.4	S 04 43.0	+15.2
20	162 20.4	-27.5	S 04 58.2	+15.2
21	176 52.9	-27.5	S 05 13.4	+15.3
22	191 25.4	-27.6	S 05 28.7	+15.2
23	205 57.8	-27.7	S 05 43.9	+15.2

UT	02	06	10	14	18	22
SD	15′5	15′5	15′6	15′6	15′7	15′7
HP	56′9	57′0	57′2	57′3	57′4	57′6
SHA	171°	169°	167°	166°	164°	162°

Greenwich Culmination Time: 08:50

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	337 07.9	+03.3	N 24 41.2	+00.0
01	352 11.2	+03.2	N 24 41.2	+00.1
02	7 14.4	+03.3	N 24 41.3	+00.1
03	22 17.7	+03.3	N 24 41.4	+00.1
04	37 21.0	+03.2	N 24 41.5	+00.1
05	52 24.2	+03.3	N 24 41.6	+00.1
06	67 27.5	+03.3	N 24 41.7	+00.1
07	82 30.8	+03.2	N 24 41.8	+00.0
08	97 34.0	+03.3	N 24 41.8	+00.1
09	112 37.3	+03.3	N 24 41.9	+00.1
10	127 40.6	+03.2	N 24 42.0	+00.1
11	142 43.8	+03.3	N 24 42.1	+00.1
12	157 47.1	+03.3	N 24 42.2	+00.1
13	172 50.4	+03.3	N 24 42.3	+00.1
14	187 53.7	+03.3	N 24 42.4	+00.0
15	202 57.0	+03.2	N 24 42.4	+00.1
16	218 00.2	+03.3	N 24 42.5	+00.1
17	233 03.5	+03.3	N 24 42.6	+00.1
18	248 06.8	+03.3	N 24 42.7	+00.1
19	263 10.1	+03.3	N 24 42.8	+00.1
20	278 13.4	+03.3	N 24 42.9	+00.0
21	293 16.7	+03.2	N 24 42.9	+00.1
22	308 19.9	+03.3	N 24 43.0	+00.1
23	323 23.2	+03.3	N 24 43.1	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	278°	278°	278°	278°	278°	278°

Greenwich Culmination Time: 01:31

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	59 28.8	+02.5	S 01 49.3	+00.0
01	74 31.3	+02.5	S 01 49.3	+00.0
02	89 33.8	+02.5	S 01 49.3	+00.0
03	104 36.3	+02.5	S 01 49.3	+00.0
04	119 38.8	+02.5	S 01 49.3	+00.0
05	134 41.3	+02.5	S 01 49.3	+00.0
06	149 43.8	+02.5	S 01 49.3	+00.0
07	164 46.3	+02.5	S 01 49.3	+00.0
08	179 48.8	+02.5	S 01 49.3	+00.0
09	194 51.3	+02.5	S 01 49.3	+00.0
10	209 53.8	+02.5	S 01 49.3	+00.0
11	224 56.3	+02.5	S 01 49.3	+00.0
12	239 58.8	+02.5	S 01 49.3	+00.0
13	255 01.3	+02.5	S 01 49.3	+00.0
14	270 03.8	+02.5	S 01 49.3	+00.0
15	285 06.3	+02.5	S 01 49.3	+00.0
16	300 08.8	+02.5	S 01 49.3	+00.0
17	315 11.3	+02.5	S 01 49.3	+00.0
18	330 13.8	+02.5	S 01 49.3	+00.0
19	345 16.3	+02.5	S 01 49.3	+00.0
20	0 18.8	+02.5	S 01 49.3	+00.0
21	15 21.3	+02.5	S 01 49.3	+00.0
22	30 23.8	+02.5	S 01 49.3	+00.0
23	45 26.3	+02.5	S 01 49.3	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	001°

Greenwich Culmination Time: 19:58

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	96 54.6	+02.3	S 16 15.5	-00.1
01	111 56.9	+02.4	S 16 15.4	+00.0
02	126 59.3	+02.3	S 16 15.4	+00.0
03	142 01.6	+02.4	S 16 15.4	-00.1
04	157 04.0	+02.3	S 16 15.3	+00.0
05	172 06.3	+02.4	S 16 15.3	-00.1
06	187 08.7	+02.3	S 16 15.2	+00.0
07	202 11.0	+02.4	S 16 15.2	+00.0
08	217 13.4	+02.3	S 16 15.2	-00.1
09	232 15.7	+02.4	S 16 15.1	+00.0
10	247 18.1	+02.3	S 16 15.1	-00.1
11	262 20.4	+02.4	S 16 15.0	+00.0
12	277 22.8	+02.3	S 16 15.0	+00.0
13	292 25.1	+02.4	S 16 15.0	-00.1
14	307 27.5	+02.3	S 16 14.9	+00.0
15	322 29.8	+02.4	S 16 14.9	-00.1
16	337 32.2	+02.3	S 16 14.8	+00.0
17	352 34.5	+02.4	S 16 14.8	+00.0
18	7 36.9	+02.3	S 16 14.8	-00.1
19	22 39.2	+02.4	S 16 14.7	+00.0
20	37 41.6	+02.3	S 16 14.7	-00.1
21	52 43.9	+02.3	S 16 14.6	+00.0
22	67 46.2	+02.4	S 16 14.6	+00.0
23	82 48.6	+02.3	S 16 14.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:29

2022 November 17 Thursday (day 321 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	183 47.5	-00.2	S 18 55.2	+00.6
01	198 47.3	-00.1	S 18 55.8	+00.6
02	213 47.2	-00.1	S 18 56.4	+00.6
03	228 47.1	-00.1	S 18 57.0	+00.6
04	243 47.0	-00.1	S 18 57.6	+00.6
05	258 46.9	-00.2	S 18 58.2	+00.6
06	273 46.7	-00.1	S 18 58.8	+00.6
07	288 46.6	-00.1	S 18 59.4	+00.6
08	303 46.5	-00.1	S 19 00.0	+00.7
09	318 46.4	-00.2	S 19 00.7	+00.6
10	333 46.2	-00.1	S 19 01.3	+00.6
11	348 46.1	-00.1	S 19 01.9	+00.6
12	3 46.0	-00.1	S 19 02.5	+00.6
13	18 45.9	-00.2	S 19 03.1	+00.6
14	33 45.7	-00.1	S 19 03.7	+00.6
15	48 45.6	-00.1	S 19 04.3	+00.6
16	63 45.5	-00.1	S 19 04.9	+00.6
17	78 45.4	-00.2	S 19 05.5	+00.6
18	93 45.2	-00.1	S 19 06.1	+00.6
19	108 45.1	-00.1	S 19 06.7	+00.6
20	123 45.0	-00.1	S 19 07.3	+00.6
21	138 44.9	-00.2	S 19 07.9	+00.6
22	153 44.7	-00.1	S 19 08.5	+00.6
23	168 44.6	-00.1	S 19 09.1	+00.6

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	128°	127°	127°	127°	127°	127°

Greenwich Culmination Time: 11:44

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	177 12.1	-00.8	S 20 09.8	+00.8
01	192 11.3	-00.8	S 20 10.6	+00.7
02	207 10.5	-00.8	S 20 11.3	+00.8
03	222 09.7	-00.8	S 20 12.1	+00.7
04	237 08.9	-00.7	S 20 12.8	+00.7
05	252 08.2	-00.8	S 20 13.5	+00.8
06	267 07.4	-00.8	S 20 14.3	+00.7
07	282 06.6	-00.8	S 20 15.0	+00.8
08	297 05.8	-00.8	S 20 15.8	+00.7
09	312 05.0	-00.8	S 20 16.5	+00.7
10	327 04.2	-00.8	S 20 17.2	+00.8
11	342 03.4	-00.8	S 20 18.0	+00.7
12	357 02.6	-00.7	S 20 18.7	+00.7
13	12 01.9	-00.8	S 20 19.4	+00.7
14	27 01.1	-00.8	S 20 20.1	+00.8
15	42 00.3	-00.8	S 20 20.9	+00.7
16	56 59.5	-00.8	S 20 21.6	+00.7
17	71 58.7	-00.8	S 20 22.3	+00.8
18	86 57.9	-00.8	S 20 23.1	+00.7
19	101 57.1	-00.8	S 20 23.8	+00.7
20	116 56.3	-00.8	S 20 24.5	+00.7
21	131 55.5	-00.8	S 20 25.2	+00.7
22	146 54.7	-00.8	S 20 25.9	+00.8
23	161 53.9	-00.8	S 20 26.7	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	121°	121°	121°	120°	120°	120°

Greenwich Culmination Time: 12:11

Moon

A: 79%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	262 36.6	-26.6	N 16 24.0	-11.5
01	277 10.0	-26.6	N 16 12.5	-11.6
02	291 43.4	-26.5	N 16 00.9	-11.7
03	306 16.9	-26.5	N 15 49.2	-11.8
04	320 50.4	-26.4	N 15 37.4	-11.8
05	335 24.0	-26.5	N 15 25.6	-11.9
06	349 57.5	-26.4	N 15 13.7	-11.9
07	4 31.1	-26.3	N 15 01.8	-12.1
08	19 04.8	-26.4	N 14 49.7	-12.1
09	33 38.4	-26.3	N 14 37.6	-12.1
10	48 12.1	-26.2	N 14 25.5	-12.3
11	62 45.9	-26.3	N 14 13.2	-12.3
12	77 19.6	-26.2	N 14 00.9	-12.4
13	91 53.4	-26.2	N 13 48.5	-12.4
14	106 27.2	-26.2	N 13 36.1	-12.5
15	121 01.0	-26.1	N 13 23.6	-12.6
16	135 34.9	-26.1	N 13 11.0	-12.6
17	150 08.8	-26.1	N 12 58.4	-12.7
18	164 42.7	-26.1	N 12 45.7	-12.8
19	179 16.6	-26.1	N 12 32.9	-12.8
20	193 50.5	-26.0	N 12 20.1	-12.9
21	208 24.5	-26.0	N 12 07.2	-12.9
22	222 58.5	-26.0	N 11 54.3	-13.0
23	237 32.5	-26.0	N 11 41.3	-13.1

UT	02	06	10	14	18	22
SD	14′9	15′0	15′0	15′0	15′0	15′1
HP	54′8	54′9	55′0	55′1	55′2	55′3
SHA	206°	204°	202°	200°	198°	196°

Greenwich Culmination Time: 06:41

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	333 16.9	+03.1	N 24 34.5	+00.1
01	348 20.0	+03.2	N 24 34.6	+00.1
02	3 23.2	+03.2	N 24 34.7	+00.1
03	18 26.4	+03.1	N 24 34.8	+00.1
04	33 29.5	+03.2	N 24 34.9	+00.1
05	48 32.7	+03.1	N 24 35.0	+00.1
06	63 35.8	+03.2	N 24 35.1	+00.1
07	78 39.0	+03.2	N 24 35.2	+00.1
08	93 42.2	+03.2	N 24 35.3	+00.1
09	108 45.4	+03.1	N 24 35.4	+00.1
10	123 48.5	+03.2	N 24 35.5	+00.1
11	138 51.7	+03.2	N 24 35.6	+00.1
12	153 54.9	+03.1	N 24 35.7	+00.1
13	168 58.0	+03.2	N 24 35.8	+00.1
14	184 01.2	+03.2	N 24 35.9	+00.0
15	199 04.4	+03.2	N 24 35.9	+00.1
16	214 07.6	+03.2	N 24 36.0	+00.1
17	229 10.8	+03.1	N 24 36.1	+00.1
18	244 13.9	+03.2	N 24 36.2	+00.1
19	259 17.1	+03.2	N 24 36.3	+00.1
20	274 20.3	+03.2	N 24 36.4	+00.1
21	289 23.5	+03.2	N 24 36.5	+00.1
22	304 26.7	+03.2	N 24 36.6	+00.1
23	319 29.9	+03.2	N 24 36.7	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	277°	277°	277°	277°	277°	278°

Greenwich Culmination Time: 01:46

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	56 28.0	+02.5	S 01 48.7	+00.0
01	71 30.5	+02.5	S 01 48.7	+00.0
02	86 33.0	+02.5	S 01 48.7	+00.0
03	101 35.5	+02.6	S 01 48.7	+00.0
04	116 38.1	+02.5	S 01 48.7	+00.0
05	131 40.6	+02.5	S 01 48.7	+00.0
06	146 43.1	+02.5	S 01 48.7	+00.1
07	161 45.6	+02.6	S 01 48.8	+00.0
08	176 48.2	+02.5	S 01 48.8	+00.0
09	191 50.7	+02.5	S 01 48.8	+00.0
10	206 53.2	+02.5	S 01 48.8	+00.0
11	221 55.7	+02.5	S 01 48.8	+00.0
12	236 58.2	+02.6	S 01 48.8	+00.0
13	252 00.8	+02.5	S 01 48.8	+00.0
14	267 03.3	+02.5	S 01 48.8	+00.1
15	282 05.8	+02.5	S 01 48.9	+00.0
16	297 08.3	+02.5	S 01 48.9	+00.0
17	312 10.8	+02.6	S 01 48.9	+00.0
18	327 13.4	+02.5	S 01 48.9	+00.0
19	342 15.9	+02.5	S 01 48.9	+00.0
20	357 18.4	+02.5	S 01 48.9	+00.0
21	12 20.9	+02.5	S 01 48.9	+00.0
22	27 23.4	+02.5	S 01 48.9	+00.0
23	42 25.9	+02.6	S 01 48.9	+00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 20:10

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	94 05.0	+02.3	S 16 18.1	+00.0
01	109 07.3	+02.4	S 16 18.1	+00.0
02	124 09.7	+02.4	S 16 18.1	-00.1
03	139 12.1	+02.3	S 16 18.0	+00.0
04	154 14.4	+02.4	S 16 18.0	+00.0
05	169 16.8	+02.3	S 16 18.0	-00.1
06	184 19.1	+02.4	S 16 17.9	+00.0
07	199 21.5	+02.4	S 16 17.9	-00.1
08	214 23.9	+02.3	S 16 17.8	+00.0
09	229 26.2	+02.4	S 16 17.8	+00.0
10	244 28.6	+02.3	S 16 17.8	-00.1
11	259 30.9	+02.4	S 16 17.7	+00.0
12	274 33.3	+02.4	S 16 17.7	+00.0
13	289 35.7	+02.3	S 16 17.7	-00.1
14	304 38.0	+02.4	S 16 17.6	+00.0
15	319 40.4	+02.3	S 16 17.6	+00.0
16	334 42.7	+02.4	S 16 17.6	-00.1
17	349 45.1	+02.4	S 16 17.5	+00.0
18	4 47.5	+02.3	S 16 17.5	+00.0
19	19 49.8	+02.4	S 16 17.5	-00.1
20	34 52.2	+02.3	S 16 17.4	+00.0
21	49 54.5	+02.4	S 16 17.4	-00.1
22	64 56.9	+02.4	S 16 17.3	+00.0
23	79 59.3	+02.3	S 16 17.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:40

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 November 18 Friday (day 322 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 44.5	−00.1	S 19 09.7	+00.6
01	198 44.4	−00.2	S 19 10.3	+00.6
02	213 44.2	−00.1	S 19 10.9	+00.6
03	228 44.1	−00.1	S 19 11.5	+00.6
04	243 44.0	−00.2	S 19 12.1	+00.6
05	258 43.8	−00.1	S 19 12.7	+00.6
06	273 43.7	−00.1	S 19 13.3	+00.6
07	288 43.6	−00.2	S 19 13.9	+00.6
08	303 43.4	−00.1	S 19 14.5	+00.6
09	318 43.3	−00.1	S 19 15.1	+00.6
10	333 43.2	−00.1	S 19 15.7	+00.6
11	348 43.1	−00.2	S 19 16.3	+00.6
12	3 42.9	−00.1	S 19 16.9	+00.6
13	18 42.8	−00.1	S 19 17.5	+00.6
14	33 42.7	−00.2	S 19 18.1	+00.5
15	48 42.5	−00.1	S 19 18.6	+00.6
16	63 42.4	−00.1	S 19 19.2	+00.6
17	78 42.3	−00.2	S 19 19.8	+00.6
18	93 42.1	−00.1	S 19 20.4	+00.6
19	108 42.0	−00.2	S 19 21.0	+00.6
20	123 41.8	−00.1	S 19 21.6	+00.6
21	138 41.7	−00.1	S 19 22.2	+00.6
22	153 41.6	−00.2	S 19 22.8	+00.5
23	168 41.4	−00.1	S 19 23.3	+00.6

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	127°	126°	126°	126°	126°	126°

Greenwich Culmination Time: 11:45

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 53.1	−00.8	S 20 27.4	+00.7
01	191 52.3	−00.8	S 20 28.1	+00.7
02	206 51.5	−00.8	S 20 28.8	+00.7
03	221 50.7	−00.8	S 20 29.5	+00.8
04	236 49.9	−00.8	S 20 30.3	+00.7
05	251 49.1	−00.8	S 20 31.0	+00.7
06	266 48.3	−00.8	S 20 31.7	+00.7
07	281 47.5	−00.8	S 20 32.4	+00.7
08	296 46.7	−00.8	S 20 33.1	+00.7
09	311 45.9	−00.8	S 20 33.8	+00.7
10	326 45.1	−00.8	S 20 34.5	+00.7
11	341 44.3	−00.8	S 20 35.2	+00.7
12	356 43.5	−00.8	S 20 35.9	+00.8
13	11 42.7	−00.8	S 20 36.7	+00.7
14	26 41.9	−00.8	S 20 37.4	+00.7
15	41 41.1	−00.8	S 20 38.1	+00.7
16	56 40.3	−00.8	S 20 38.8	+00.7
17	71 39.5	−00.8	S 20 39.5	+00.7
18	86 38.7	−00.8	S 20 40.2	+00.7
19	101 37.9	−00.8	S 20 40.9	+00.7
20	116 37.1	−00.8	S 20 41.6	+00.7
21	131 36.3	−00.8	S 20 42.3	+00.7
22	146 35.5	−00.8	S 20 43.0	+00.7
23	161 34.7	−00.8	S 20 43.7	+00.7

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	120°	120°	119°	119°	119°	119°

Greenwich Culmination Time: 12:13

Moon

A: 82%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	252 06.5	−26.0	N 11 28.2	−13.1
01	266 40.5	−25.9	N 11 15.1	−13.2
02	281 14.6	−26.0	N 11 01.9	−13.3
03	295 48.6	−25.9	N 10 48.6	−13.3
04	310 22.7	−25.9	N 10 35.3	−13.3
05	324 56.8	−25.9	N 10 22.0	−13.4
06	339 30.9	−25.9	N 10 08.6	−13.5
07	354 05.0	−25.9	N 09 55.1	−13.5
08	8 39.1	−25.9	N 09 41.6	−13.6
09	23 13.2	−25.9	N 09 28.0	−13.6
10	37 47.3	−25.8	N 09 14.4	−13.7
11	52 21.5	−25.9	N 09 00.7	−13.7
12	66 55.6	−25.9	N 08 47.0	−13.8
13	81 29.7	−25.8	N 08 33.2	−13.8
14	96 03.9	−25.9	N 08 19.4	−13.9
15	110 38.0	−25.8	N 08 05.5	−13.9
16	125 12.2	−25.9	N 07 51.6	−14.0
17	139 46.3	−25.8	N 07 37.6	−14.0
18	154 20.5	−25.9	N 07 23.6	−14.1
19	168 54.6	−25.8	N 07 09.5	−14.1
20	183 28.8	−25.9	N 06 55.4	−14.1
21	198 02.9	−25.9	N 06 41.3	−14.2
22	212 37.0	−25.8	N 06 27.1	−14.2
23	227 11.2	−25.9	N 06 12.9	−14.3

UT	02	06	10	14	18	22
SD	15′1	15′1	15′1	15′2	15′2	15′2
HP	55′4	55′5	55′6	55′7	55′8	55′9
SHA	194°	192°	190°	188°	187°	185°

Greenwich Culmination Time: 07:24

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	334 33.1	+03.2	N 24 36.8	+00.1
01	349 36.3	+03.1	N 24 36.9	+00.1
02	4 39.4	+03.2	N 24 37.0	+00.1
03	19 42.6	+03.2	N 24 37.1	+00.1
04	34 45.8	+03.2	N 24 37.2	+00.1
05	49 49.0	+03.2	N 24 37.3	+00.1
06	64 52.2	+03.2	N 24 37.4	+00.1
07	79 55.4	+03.2	N 24 37.5	+00.0
08	94 58.6	+03.2	N 24 37.5	+00.1
09	110 01.8	+03.2	N 24 37.6	+00.1
10	125 05.0	+03.3	N 24 37.7	+00.1
11	140 08.3	+03.2	N 24 37.8	+00.1
12	155 11.5	+03.2	N 24 37.9	+00.1
13	170 14.7	+03.2	N 24 38.0	+00.1
14	185 17.9	+03.2	N 24 38.1	+00.1
15	200 21.1	+03.2	N 24 38.2	+00.1
16	215 24.3	+03.2	N 24 38.3	+00.1
17	230 27.5	+03.2	N 24 38.4	+00.1
18	245 30.7	+03.3	N 24 38.5	+00.1
19	260 34.0	+03.2	N 24 38.6	+00.1
20	275 37.2	+03.2	N 24 38.7	+00.0
21	290 40.4	+03.2	N 24 38.7	+00.1
22	305 43.6	+03.3	N 24 38.8	+00.1
23	320 46.9	+03.2	N 24 38.9	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	278°	278°	278°	278°	278°	278°

Greenwich Culmination Time: 01:41

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	57 28.5	+02.5	S 01 49.0	+00.0
01	72 31.0	+02.5	S 01 49.0	+00.0
02	87 33.5	+02.5	S 01 49.0	+00.0
03	102 36.0	+02.5	S 01 49.0	+00.0
04	117 38.5	+02.5	S 01 49.0	+00.0
05	132 41.0	+02.5	S 01 49.0	+00.0
06	147 43.5	+02.6	S 01 49.0	+00.0
07	162 46.1	+02.5	S 01 49.0	+00.0
08	177 48.6	+02.5	S 01 49.0	+00.0
09	192 51.1	+02.5	S 01 49.0	+00.1
10	207 53.6	+02.5	S 01 49.1	+00.0
11	222 56.1	+02.5	S 01 49.1	+00.0
12	237 58.6	+02.5	S 01 49.1	+00.0
13	253 01.1	+02.5	S 01 49.1	+00.0
14	268 03.6	+02.6	S 01 49.1	+00.0
15	283 06.2	+02.5	S 01 49.1	+00.0
16	298 08.7	+02.5	S 01 49.1	+00.0
17	313 11.2	+02.5	S 01 49.1	+00.0
18	328 13.7	+02.5	S 01 49.1	+00.0
19	343 16.2	+02.5	S 01 49.1	+00.0
20	358 18.7	+02.5	S 01 49.1	+00.0
21	13 21.2	+02.5	S 01 49.1	+00.0
22	28 23.7	+02.5	S 01 49.1	+00.1
23	43 26.2	+02.5	S 01 49.2	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 20:06

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	95 01.6	+02.4	S 16 17.3	−00.1
01	110 04.0	+02.3	S 16 17.2	+00.0
02	125 06.3	+02.4	S 16 17.2	+00.0
03	140 08.7	+02.3	S 16 17.2	−00.1
04	155 11.0	+02.4	S 16 17.1	+00.0
05	170 13.4	+02.4	S 16 17.1	+00.0
06	185 15.8	+02.3	S 16 17.1	−00.1
07	200 18.1	+02.4	S 16 17.0	+00.0
08	215 20.5	+02.3	S 16 17.0	−00.1
09	230 22.8	+02.4	S 16 16.9	+00.0
10	245 25.2	+02.3	S 16 16.9	+00.0
11	260 27.5	+02.4	S 16 16.9	−00.1
12	275 29.9	+02.3	S 16 16.8	+00.0
13	290 32.2	+02.4	S 16 16.8	+00.0
14	305 34.6	+02.4	S 16 16.8	−00.1
15	320 37.0	+02.3	S 16 16.7	+00.0
16	335 39.3	+02.4	S 16 16.7	−00.1
17	350 41.7	+02.3	S 16 16.6	+00.0
18	5 44.0	+02.4	S 16 16.6	+00.0
19	20 46.4	+02.3	S 16 16.6	−00.1
20	35 48.7	+02.4	S 16 16.5	+00.0
21	50 51.1	+02.3	S 16 16.5	+00.0
22	65 53.4	+02.4	S 16 16.5	−00.1
23	80 55.8	+02.3	S 16 16.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:37

2022 November 19 Saturday (day 323 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 41.3	−00.1	S 19 23.9	+00.6
01	198 41.2	−00.2	S 19 24.5	+00.6
02	213 41.0	−00.1	S 19 25.1	+00.6
03	228 40.9	−00.1	S 19 25.7	+00.6
04	243 40.8	−00.2	S 19 26.3	+00.6
05	258 40.6	−00.1	S 19 26.9	+00.5
06	273 40.5	−00.2	S 19 27.4	+00.6
07	288 40.3	−00.1	S 19 28.0	+00.6
08	303 40.2	−00.1	S 19 28.6	+00.6
09	318 40.1	−00.2	S 19 29.2	+00.6
10	333 39.9	−00.1	S 19 29.8	+00.5
11	348 39.8	−00.2	S 19 30.3	+00.6
12	3 39.6	−00.1	S 19 30.9	+00.6
13	18 39.5	−00.1	S 19 31.5	+00.6
14	33 39.4	−00.2	S 19 32.1	+00.5
15	48 39.2	−00.1	S 19 32.6	+00.6
16	63 39.1	−00.2	S 19 33.2	+00.6
17	78 38.9	−00.1	S 19 33.8	+00.6
18	93 38.8	−00.2	S 19 34.4	+00.5
19	108 38.6	−00.1	S 19 34.9	+00.6
20	123 38.5	−00.2	S 19 35.5	+00.6
21	138 38.3	−00.1	S 19 36.1	+00.6
22	153 38.2	−00.1	S 19 36.7	+00.5
23	168 38.1	−00.2	S 19 37.2	+00.6

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	126°	125°	125°	125°	125°	125°

Greenwich Culmination Time: 11:45

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	176 33.9	−00.9	S 20 44.4	+00.7
01	191 33.0	−00.8	S 20 45.1	+00.6
02	206 32.2	−00.8	S 20 45.7	+00.7
03	221 31.4	−00.8	S 20 46.4	+00.7
04	236 30.6	−00.8	S 20 47.1	+00.7
05	251 29.8	−00.8	S 20 47.8	+00.7
06	266 29.0	−00.8	S 20 48.5	+00.7
07	281 28.2	−00.8	S 20 49.2	+00.7
08	296 27.4	−00.8	S 20 49.9	+00.7
09	311 26.6	−00.9	S 20 50.6	+00.7
10	326 25.7	−00.8	S 20 51.3	+00.6
11	341 24.9	−00.8	S 20 51.9	+00.7
12	356 24.1	−00.8	S 20 52.6	+00.7
13	11 23.3	−00.8	S 20 53.3	+00.7
14	26 22.5	−00.8	S 20 54.0	+00.7
15	41 21.7	−00.8	S 20 54.7	+00.6
16	56 20.9	−00.9	S 20 55.3	+00.7
17	71 20.0	−00.8	S 20 56.0	+00.7
18	86 19.2	−00.8	S 20 56.7	+00.7
19	101 18.4	−00.8	S 20 57.4	+00.7
20	116 17.6	−00.8	S 20 58.1	+00.6
21	131 16.8	−00.9	S 20 58.7	+00.7
22	146 15.9	−00.8	S 20 59.4	+00.7
23	161 15.1	−00.8	S 21 00.1	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	118°	118°	118°	118°	118°	117°

Greenwich Culmination Time: 12:14

Moon

A: 85%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	241 45.3	−25.9	N 05 58.6	−14.3
01	256 19.4	−25.9	N 05 44.3	−14.4
02	270 53.5	−25.9	N 05 29.9	−14.4
03	285 27.6	−26.0	N 05 15.5	−14.5
04	300 01.6	−25.9	N 05 01.0	−14.4
05	314 35.7	−26.0	N 04 46.6	−14.5
06	329 09.7	−26.0	N 04 32.1	−14.6
07	343 43.7	−25.9	N 04 17.5	−14.6
08	358 17.8	−26.1	N 04 02.9	−14.6
09	12 51.7	−26.0	N 03 48.3	−14.7
10	27 25.7	−26.0	N 03 33.6	−14.7
11	41 59.7	−26.1	N 03 18.9	−14.7
12	56 33.6	−26.1	N 03 04.2	−14.7
13	71 07.5	−26.1	N 02 49.5	−14.8
14	85 41.4	−26.2	N 02 34.7	−14.8
15	100 15.2	−26.1	N 02 19.9	−14.9
16	114 49.1	−26.2	N 02 05.0	−14.8
17	129 22.9	−26.3	N 01 50.2	−14.9
18	143 56.6	−26.2	N 01 35.3	−15.0
19	158 30.4	−26.3	N 01 20.3	−14.9
20	173 04.1	−26.3	N 01 05.4	−15.0
21	187 37.8	−26.4	N 00 50.4	−15.0
22	202 11.4	−26.4	N 00 35.4	−15.0
23	216 45.0	−26.4	N 00 20.4	−15.0

UT	02	06	10	14	18	22
SD	15′3	15′3	15′3	15′4	15′4	15′5
HP	56′1	56′2	56′3	56′5	56′6	56′7
SHA	183°	181°	179°	177°	175°	173°

Greenwich Culmination Time: 08:07

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	335 50.1	+03.2	N 24 39.0	+00.1
01	350 53.3	+03.2	N 24 39.1	+00.1
02	5 56.5	+03.3	N 24 39.2	+00.1
03	20 59.8	+03.2	N 24 39.3	+00.1
04	36 03.0	+03.2	N 24 39.4	+00.1
05	51 06.2	+03.3	N 24 39.5	+00.1
06	66 09.5	+03.2	N 24 39.6	+00.0
07	81 12.7	+03.2	N 24 39.6	+00.1
08	96 15.9	+03.3	N 24 39.7	+00.1
09	111 19.2	+03.2	N 24 39.8	+00.1
10	126 22.4	+03.3	N 24 39.9	+00.1
11	141 25.7	+03.2	N 24 40.0	+00.1
12	156 28.9	+03.2	N 24 40.1	+00.1
13	171 32.1	+03.3	N 24 40.2	+00.1
14	186 35.4	+03.2	N 24 40.3	+00.1
15	201 38.6	+03.3	N 24 40.4	+00.0
16	216 41.9	+03.2	N 24 40.4	+00.1
17	231 45.1	+03.3	N 24 40.5	+00.1
18	246 48.4	+03.2	N 24 40.6	+00.1
19	261 51.6	+03.3	N 24 40.7	+00.1
20	276 54.9	+03.2	N 24 40.8	+00.1
21	291 58.1	+03.3	N 24 40.9	+00.1
22	307 01.4	+03.3	N 24 41.0	+00.1
23	322 04.7	+03.2	N 24 41.1	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	278°	278°	278°	278°	278°	278°

Greenwich Culmination Time: 01:36

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	58 28.7	+02.6	S 01 49.2	+00.0
01	73 31.3	+02.5	S 01 49.2	+00.0
02	88 33.8	+02.5	S 01 49.2	+00.0
03	103 36.3	+02.5	S 01 49.2	+00.0
04	118 38.8	+02.5	S 01 49.2	+00.0
05	133 41.3	+02.5	S 01 49.2	+00.0
06	148 43.8	+02.5	S 01 49.2	+00.0
07	163 46.3	+02.5	S 01 49.2	+00.0
08	178 48.8	+02.5	S 01 49.2	+00.0
09	193 51.3	+02.5	S 01 49.2	+00.0
10	208 53.8	+02.5	S 01 49.2	+00.0
11	223 56.3	+02.5	S 01 49.2	+00.0
12	238 58.8	+02.5	S 01 49.2	+00.0
13	254 01.3	+02.5	S 01 49.2	+00.0
14	269 03.8	+02.5	S 01 49.2	+00.0
15	284 06.3	+02.5	S 01 49.2	+00.1
16	299 08.8	+02.5	S 01 49.3	+00.0
17	314 11.3	+02.5	S 01 49.3	+00.0
18	329 13.8	+02.5	S 01 49.3	+00.0
19	344 16.3	+02.5	S 01 49.3	+00.0
20	359 18.8	+02.5	S 01 49.3	+00.0
21	14 21.3	+02.5	S 01 49.3	+00.0
22	29 23.8	+02.5	S 01 49.3	+00.0
23	44 26.3	+02.5	S 01 49.3	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 20:02

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	95 58.1	+02.4	S 16 16.4	+00.0
01	111 00.5	+02.4	S 16 16.4	−00.1
02	126 02.9	+02.3	S 16 16.3	+00.0
03	141 05.2	+02.4	S 16 16.3	−00.1
04	156 07.6	+02.3	S 16 16.2	+00.0
05	171 09.9	+02.4	S 16 16.2	+00.0
06	186 12.3	+02.3	S 16 16.2	−00.1
07	201 14.6	+02.4	S 16 16.1	+00.0
08	216 17.0	+02.3	S 16 16.1	−00.1
09	231 19.3	+02.4	S 16 16.0	+00.0
10	246 21.7	+02.3	S 16 16.0	+00.0
11	261 24.0	+02.4	S 16 16.0	−00.1
12	276 26.4	+02.3	S 16 15.9	+00.0
13	291 28.7	+02.4	S 16 15.9	+00.0
14	306 31.1	+02.3	S 16 15.9	−00.1
15	321 33.4	+02.4	S 16 15.8	+00.0
16	336 35.8	+02.3	S 16 15.8	−00.1
17	351 38.1	+02.4	S 16 15.7	+00.0
18	6 40.5	+02.3	S 16 15.7	+00.0
19	21 42.8	+02.4	S 16 15.7	−00.1
20	36 45.2	+02.3	S 16 15.6	+00.0
21	51 47.5	+02.4	S 16 15.6	−00.1
22	66 49.9	+02.3	S 16 15.5	+00.0
23	81 52.2	+02.4	S 16 15.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:33

2022 November 24 Thursday (day 328 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	183 22.3	-00.2	S 20 29.7	+00.5
01	198 22.1	-00.2	S 20 30.2	+00.5
02	213 21.9	-00.1	S 20 30.7	+00.5
03	228 21.8	-00.2	S 20 31.2	+00.5
04	243 21.6	-00.2	S 20 31.7	+00.5
05	258 21.4	-00.2	S 20 32.2	+00.5
06	273 21.2	-00.2	S 20 32.7	+00.5
07	288 21.0	-00.1	S 20 33.2	+00.5
08	303 20.9	-00.2	S 20 33.7	+00.5
09	318 20.7	-00.2	S 20 34.2	+00.5
10	333 20.5	-00.2	S 20 34.7	+00.5
11	348 20.3	-00.2	S 20 35.2	+00.5
12	3 20.1	-00.2	S 20 35.7	+00.5
13	18 19.9	-00.1	S 20 36.2	+00.5
14	33 19.8	-00.2	S 20 36.7	+00.5
15	48 19.6	-00.2	S 20 37.2	+00.5
16	63 19.4	-00.2	S 20 37.7	+00.5
17	78 19.2	-00.2	S 20 38.2	+00.5
18	93 19.0	-00.2	S 20 38.7	+00.5
19	108 18.8	-00.1	S 20 39.2	+00.5
20	123 18.7	-00.2	S 20 39.7	+00.5
21	138 18.5	-00.2	S 20 40.2	+00.5
22	153 18.3	-00.2	S 20 40.7	+00.5
23	168 18.1	-00.2	S 20 41.2	+00.5

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	120°	120°	120°	120°	120°	119°

Greenwich Culmination Time: 11:46

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	174 53.3	-00.9	S 22 00.2	+00.5
01	189 52.4	-00.9	S 22 00.7	+00.6
02	204 51.5	-00.8	S 22 01.3	+00.6
03	219 50.7	-00.9	S 22 01.9	+00.5
04	234 49.8	-00.9	S 22 02.4	+00.6
05	249 48.9	-00.8	S 22 03.0	+00.5
06	264 48.1	-00.9	S 22 03.5	+00.6
07	279 47.2	-00.9	S 22 04.1	+00.6
08	294 46.3	-00.8	S 22 04.7	+00.5
09	309 45.5	-00.9	S 22 05.2	+00.6
10	324 44.6	-00.9	S 22 05.8	+00.5
11	339 43.7	-00.8	S 22 06.3	+00.6
12	354 42.9	-00.9	S 22 06.9	+00.5
13	9 42.0	-00.9	S 22 07.4	+00.6
14	24 41.1	-00.9	S 22 08.0	+00.5
15	39 40.2	-00.8	S 22 08.5	+00.6
16	54 39.4	-00.9	S 22 09.1	+00.5
17	69 38.5	-00.9	S 22 09.6	+00.6
18	84 37.6	-00.9	S 22 10.2	+00.5
19	99 36.7	-00.8	S 22 10.7	+00.6
20	114 35.9	-00.9	S 22 11.3	+00.5
21	129 35.0	-00.9	S 22 11.8	+00.6
22	144 34.1	-00.9	S 22 12.4	+00.5
23	159 33.2	-00.8	S 22 12.9	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	112°	112°	111°	111°	111°	111°

Greenwich Culmination Time: 12:21

Moon

A: 02%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	183 07.2	-35.3	S 22 16.9	+10.3
01	197 31.9	-35.5	S 22 27.2	+10.1
02	211 56.4	-35.5	S 22 37.3	+10.0
03	226 20.9	-35.7	S 22 47.3	+09.8
04	240 45.2	-35.8	S 22 57.1	+09.7
05	255 09.4	-35.9	S 23 06.8	+09.6
06	269 33.5	-36.0	S 23 16.4	+09.4
07	283 57.5	-36.2	S 23 25.8	+09.3
08	298 21.3	-36.2	S 23 35.1	+09.1
09	312 45.1	-36.4	S 23 44.2	+08.9
10	327 08.7	-36.5	S 23 53.1	+08.8
11	341 32.2	-36.5	S 24 01.9	+08.6
12	355 55.7	-36.7	S 24 10.5	+08.5
13	10 19.0	-36.8	S 24 19.0	+08.3
14	24 42.2	-36.9	S 24 27.3	+08.1
15	39 05.3	-37.0	S 24 35.4	+08.0
16	53 28.3	-37.1	S 24 43.4	+07.8
17	67 51.2	-37.2	S 24 51.2	+07.6
18	82 14.0	-37.3	S 24 58.8	+07.5
19	96 36.7	-37.4	S 25 06.3	+07.3
20	110 59.3	-37.5	S 25 13.6	+07.1
21	125 21.8	-37.6	S 25 20.7	+06.9
22	139 44.2	-37.7	S 25 27.6	+06.7
23	154 06.5	-37.8	S 25 34.3	+06.6

UT	02	06	10	14	18	22
SD	16′3	16′3	16′4	16′4	16′4	16′4
HP	59′9	60′0	60′1	60′1	60′2	60′2
SHA	119°	116°	114°	111°	109°	106°

Greenwich Culmination Time: 12:16

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	342 26.7	+03.4	N 24 48.7	+00.1
01	357 30.1	+03.4	N 24 48.8	+00.1
02	12 33.5	+03.4	N 24 48.9	+00.0
03	27 36.9	+03.4	N 24 48.9	+00.1
04	42 40.3	+03.3	N 24 49.0	+00.1
05	57 43.6	+03.4	N 24 49.1	+00.1
06	72 47.0	+03.4	N 24 49.2	+00.0
07	87 50.4	+03.4	N 24 49.2	+00.1
08	102 53.8	+03.4	N 24 49.3	+00.1
09	117 57.2	+03.4	N 24 49.4	+00.0
10	133 00.6	+03.4	N 24 49.4	+00.1
11	148 04.0	+03.3	N 24 49.5	+00.1
12	163 07.3	+03.4	N 24 49.6	+00.0
13	178 10.7	+03.4	N 24 49.6	+00.1
14	193 14.1	+03.4	N 24 49.7	+00.1
15	208 17.5	+03.4	N 24 49.8	+00.0
16	223 20.9	+03.4	N 24 49.8	+00.1
17	238 24.3	+03.4	N 24 49.9	+00.1
18	253 27.7	+03.4	N 24 50.0	+00.0
19	268 31.1	+03.4	N 24 50.0	+00.1
20	283 34.5	+03.4	N 24 50.1	+00.1
21	298 37.9	+03.4	N 24 50.2	+00.0
22	313 41.3	+03.4	N 24 50.2	+00.1
23	328 44.7	+03.4	N 24 50.3	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	280°	280°	280°	280°	280°	280°

Greenwich Culmination Time: 01:09

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	63 27.4	+02.4	S 01 48.9	+00.0
01	78 29.8	+02.5	S 01 48.9	+00.0
02	93 32.3	+02.5	S 01 48.9	+00.0
03	108 34.8	+02.4	S 01 48.9	+00.0
04	123 37.2	+02.5	S 01 48.9	+00.0
05	138 39.7	+02.5	S 01 48.9	+00.0
06	153 42.2	+02.4	S 01 48.9	+00.0
07	168 44.6	+02.5	S 01 48.9	-00.1
08	183 47.1	+02.5	S 01 48.8	+00.0
09	198 49.6	+02.4	S 01 48.8	+00.0
10	213 52.0	+02.5	S 01 48.8	+00.0
11	228 54.5	+02.4	S 01 48.8	+00.0
12	243 56.9	+02.5	S 01 48.8	+00.0
13	258 59.4	+02.5	S 01 48.8	+00.0
14	274 01.9	+02.4	S 01 48.8	+00.0
15	289 04.3	+02.5	S 01 48.8	-00.1
16	304 06.8	+02.5	S 01 48.7	+00.0
17	319 09.3	+02.4	S 01 48.7	+00.0
18	334 11.7	+02.5	S 01 48.7	+00.0
19	349 14.2	+02.5	S 01 48.7	+00.0
20	4 16.7	+02.4	S 01 48.7	+00.0
21	19 19.1	+02.5	S 01 48.7	+00.0
22	34 21.6	+02.4	S 01 48.7	+00.0
23	49 24.0	+02.5	S 01 48.7	-00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	001°	001°	001°	001°	001°	001°

Greenwich Culmination Time: 19:42

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	100 39.4	+02.4	S 16 11.5	+00.0
01	115 41.8	+02.3	S 16 11.5	-00.1
02	130 44.1	+02.3	S 16 11.4	+00.0
03	145 46.4	+02.4	S 16 11.4	-00.1
04	160 48.8	+02.3	S 16 11.3	+00.0
05	175 51.1	+02.3	S 16 11.3	-00.1
06	190 53.4	+02.4	S 16 11.2	+00.0
07	205 55.8	+02.3	S 16 11.2	+00.0
08	220 58.1	+02.3	S 16 11.2	-00.1
09	236 00.4	+02.4	S 16 11.1	+00.0
10	251 02.8	+02.3	S 16 11.1	-00.1
11	266 05.1	+02.3	S 16 11.0	+00.0
12	281 07.4	+02.4	S 16 11.0	-00.1
13	296 09.8	+02.3	S 16 10.9	+00.0
14	311 12.1	+02.3	S 16 10.9	-00.1
15	326 14.4	+02.4	S 16 10.8	+00.0
16	341 16.8	+02.3	S 16 10.8	+00.0
17	356 19.1	+02.3	S 16 10.8	-00.1
18	11 21.4	+02.4	S 16 10.7	+00.0
19	26 23.8	+02.3	S 16 10.7	-00.1
20	41 26.1	+02.3	S 16 10.6	+00.0
21	56 28.4	+02.4	S 16 10.6	-00.1
22	71 30.8	+02.3	S 16 10.5	+00.0
23	86 33.1	+02.3	S 16 10.5	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:14

2022 November 21 Monday (day 325 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	183 34.3	-00.1	S 19 51.3	+00.6
01	198 34.2	-00.2	S 19 51.9	+00.5
02	213 34.0	-00.1	S 19 52.4	+00.6
03	228 33.9	-00.2	S 19 53.0	+00.5
04	243 33.7	-00.2	S 19 53.5	+00.6
05	258 33.5	-00.1	S 19 54.1	+00.5
06	273 33.4	-00.2	S 19 54.6	+00.6
07	288 33.2	-00.1	S 19 55.2	+00.5
08	303 33.1	-00.2	S 19 55.7	+00.6
09	318 32.9	-00.1	S 19 56.3	+00.5
10	333 32.8	-00.2	S 19 56.8	+00.6
11	348 32.6	-00.2	S 19 57.4	+00.5
12	3 32.4	-00.1	S 19 57.9	+00.6
13	18 32.3	-00.2	S 19 58.5	+00.5
14	33 32.1	-00.1	S 19 59.0	+00.6
15	48 32.0	-00.2	S 19 59.6	+00.5
16	63 31.8	-00.2	S 20 00.1	+00.6
17	78 31.6	-00.1	S 20 00.7	+00.5
18	93 31.5	-00.2	S 20 01.2	+00.6
19	108 31.3	-00.1	S 20 01.8	+00.5
20	123 31.2	-00.2	S 20 02.3	+00.6
21	138 31.0	-00.2	S 20 02.9	+00.5
22	153 30.8	-00.1	S 20 03.4	+00.5
23	168 30.7	-00.2	S 20 03.9	+00.6

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	124°	123°	123°	123°	123°	123°

Greenwich Culmination Time: 11:45

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	175 54.5	-00.9	S 21 16.5	+00.7
01	190 53.6	-00.8	S 21 17.2	+00.6
02	205 52.8	-00.8	S 21 17.8	+00.7
03	220 52.0	-00.9	S 21 18.5	+00.6
04	235 51.1	-00.8	S 21 19.1	+00.6
05	250 50.3	-00.8	S 21 19.7	+00.7
06	265 49.5	-00.9	S 21 20.4	+00.6
07	280 48.6	-00.8	S 21 21.0	+00.6
08	295 47.8	-00.9	S 21 21.6	+00.7
09	310 46.9	-00.8	S 21 22.3	+00.6
10	325 46.1	-00.8	S 21 22.9	+00.7
11	340 45.3	-00.9	S 21 23.6	+00.6
12	355 44.4	-00.8	S 21 24.2	+00.6
13	10 43.6	-00.8	S 21 24.8	+00.6
14	25 42.8	-00.9	S 21 25.4	+00.7
15	40 41.9	-00.8	S 21 26.1	+00.6
16	55 41.1	-00.9	S 21 26.7	+00.6
17	70 40.2	-00.8	S 21 27.3	+00.7
18	85 39.4	-00.8	S 21 28.0	+00.6
19	100 38.6	-00.9	S 21 28.6	+00.6
20	115 37.7	-00.8	S 21 29.2	+00.6
21	130 36.9	-00.9	S 21 29.8	+00.7
22	145 36.0	-00.8	S 21 30.5	+00.6
23	160 35.2	-00.9	S 21 31.1	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	116°	116°	115°	115°	115°	115°

Greenwich Culmination Time: 12:17

Moon

A: 91%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	220 30.1	-27.8	S 05 59.1	+15.2
01	235 02.3	-27.8	S 06 14.3	+15.2
02	249 34.5	-27.9	S 06 29.5	+15.2
03	264 06.6	-28.0	S 06 44.7	+15.2
04	278 38.6	-28.0	S 06 59.9	+15.2
05	293 10.6	-28.1	S 07 15.1	+15.1
06	307 42.5	-28.2	S 07 30.2	+15.2
07	322 14.3	-28.3	S 07 45.4	+15.1
08	336 46.0	-28.3	S 08 00.5	+15.1
09	351 17.7	-28.4	S 08 15.6	+15.1
10	5 49.3	-28.5	S 08 30.7	+15.1
11	20 20.8	-28.6	S 08 45.8	+15.0
12	34 52.2	-28.7	S 09 00.8	+15.0
13	49 23.5	-28.8	S 09 15.8	+15.0
14	63 54.7	-28.8	S 09 30.8	+15.0
15	78 25.9	-28.9	S 09 45.8	+14.9
16	92 57.0	-29.1	S 10 00.7	+14.9
17	107 27.9	-29.1	S 10 15.6	+14.9
18	121 58.8	-29.2	S 10 30.5	+14.9
19	136 29.6	-29.2	S 10 45.4	+14.8
20	151 00.4	-29.4	S 11 00.2	+14.7
21	165 31.0	-29.5	S 11 14.9	+14.8
22	180 01.5	-29.6	S 11 29.7	+14.7
23	194 31.9	-29.6	S 11 44.4	+14.6

UT	02	06	10	14	18	22
SD	15′7	15′8	15′8	15′8	15′9	15′9
HP	57′7	57′9	58′0	58′2	58′3	58′4
SHA	160°	157°	155°	153°	151°	149°

Greenwich Culmination Time: 09:35

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	338 26.5	+03.3	N 24 43.2	+00.1
01	353 29.8	+03.3	N 24 43.3	+00.1
02	8 33.1	+03.3	N 24 43.4	+00.0
03	23 36.4	+03.3	N 24 43.4	+00.1
04	38 39.7	+03.3	N 24 43.5	+00.1
05	53 43.0	+03.3	N 24 43.6	+00.1
06	68 46.3	+03.3	N 24 43.7	+00.1
07	83 49.6	+03.3	N 24 43.8	+00.1
08	98 52.9	+03.3	N 24 43.9	+00.0
09	113 56.2	+03.3	N 24 43.9	+00.1
10	128 59.5	+03.3	N 24 44.0	+00.1
11	144 02.8	+03.3	N 24 44.1	+00.1
12	159 06.1	+03.3	N 24 44.2	+00.1
13	174 09.4	+03.3	N 24 44.3	+00.0
14	189 12.7	+03.3	N 24 44.3	+00.1
15	204 16.0	+03.4	N 24 44.4	+00.1
16	219 19.4	+03.3	N 24 44.5	+00.1
17	234 22.7	+03.3	N 24 44.6	+00.1
18	249 26.0	+03.3	N 24 44.7	+00.0
19	264 29.3	+03.3	N 24 44.7	+00.1
20	279 32.6	+03.3	N 24 44.8	+00.1
21	294 35.9	+03.4	N 24 44.9	+00.1
22	309 39.3	+03.3	N 24 45.0	+00.1
23	324 42.6	+03.3	N 24 45.1	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	278°	279°	279°	279°	279°	279°

Greenwich Culmination Time: 01:25

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	60 28.8	+02.5	S 01 49.3	+00.0
01	75 31.3	+02.4	S 01 49.3	+00.0
02	90 33.7	+02.5	S 01 49.3	+00.0
03	105 36.2	+02.5	S 01 49.3	+00.0
04	120 38.7	+02.5	S 01 49.3	+00.0
05	135 41.2	+02.5	S 01 49.3	+00.0
06	150 43.7	+02.5	S 01 49.3	+00.0
07	165 46.2	+02.5	S 01 49.3	+00.0
08	180 48.7	+02.5	S 01 49.3	+00.0
09	195 51.2	+02.5	S 01 49.3	+00.0
10	210 53.7	+02.5	S 01 49.3	+00.0
11	225 56.2	+02.4	S 01 49.3	+00.0
12	240 58.6	+02.5	S 01 49.3	+00.0
13	256 01.1	+02.5	S 01 49.3	+00.0
14	271 03.6	+02.5	S 01 49.3	+00.0
15	286 06.1	+02.5	S 01 49.3	+00.0
16	301 08.6	+02.5	S 01 49.3	+00.0
17	316 11.1	+02.5	S 01 49.3	+00.0
18	331 13.6	+02.5	S 01 49.3	+00.0
19	346 16.1	+02.4	S 01 49.3	+00.0
20	1 18.5	+02.5	S 01 49.3	+00.0
21	16 21.0	+02.5	S 01 49.3	+00.0
22	31 23.5	+02.5	S 01 49.3	+00.0
23	46 26.0	+02.5	S 01 49.3	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	001°	001°	001°	001°	001°	001°

Greenwich Culmination Time: 19:54

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	97 50.9	+02.4	S 16 14.5	+00.0
01	112 53.3	+02.3	S 16 14.5	-00.1
02	127 55.6	+02.4	S 16 14.4	+00.0
03	142 58.0	+02.3	S 16 14.4	+00.0
04	158 00.3	+02.4	S 16 14.4	-00.1
05	173 02.7	+02.3	S 16 14.3	+00.0
06	188 05.0	+02.4	S 16 14.3	-00.1
07	203 07.4	+02.3	S 16 14.2	+00.0
08	218 09.7	+02.3	S 16 14.2	+00.0
09	233 12.0	+02.4	S 16 14.2	-00.1
10	248 14.4	+02.3	S 16 14.1	+00.0
11	263 16.7	+02.4	S 16 14.1	-00.1
12	278 19.1	+02.3	S 16 14.0	+00.0
13	293 21.4	+02.4	S 16 14.0	+00.0
14	308 23.8	+02.3	S 16 14.0	-00.1
15	323 26.1	+02.4	S 16 13.9	+00.0
16	338 28.5	+02.3	S 16 13.9	-00.1
17	353 30.8	+02.3	S 16 13.8	+00.0
18	8 33.1	+02.4	S 16 13.8	+00.0
19	23 35.5	+02.3	S 16 13.8	-00.1
20	38 37.8	+02.4	S 16 13.7	+00.0
21	53 40.2	+02.3	S 16 13.7	-00.1
22	68 42.5	+02.4	S 16 13.6	+00.0
23	83 44.9	+02.3	S 16 13.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:25

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2022 November 22 Tuesday (day 326 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	183 30.5	-00.1	S 20 04.5	+00.5
01	198 30.4	-00.2	S 20 05.0	+00.6
02	213 30.2	-00.2	S 20 05.6	+00.5
03	228 30.0	-00.1	S 20 06.1	+00.5
04	243 29.9	-00.2	S 20 06.6	+00.6
05	258 29.7	-00.2	S 20 07.2	+00.5
06	273 29.5	-00.1	S 20 07.7	+00.5
07	288 29.4	-00.2	S 20 08.2	+00.6
08	303 29.2	-00.2	S 20 08.8	+00.5
09	318 29.0	-00.1	S 20 09.3	+00.5
10	333 28.9	-00.2	S 20 09.8	+00.6
11	348 28.7	-00.2	S 20 10.4	+00.5
12	3 28.5	-00.1	S 20 10.9	+00.5
13	18 28.4	-00.2	S 20 11.4	+00.6
14	33 28.2	-00.2	S 20 12.0	+00.5
15	48 28.0	-00.1	S 20 12.5	+00.5
16	63 27.9	-00.2	S 20 13.0	+00.6
17	78 27.7	-00.2	S 20 13.6	+00.5
18	93 27.5	-00.1	S 20 14.1	+00.5
19	108 27.4	-00.2	S 20 14.6	+00.6
20	123 27.2	-00.2	S 20 15.2	+00.5
21	138 27.0	-00.2	S 20 15.7	+00.5
22	153 26.8	-00.1	S 20 16.2	+00.5
23	168 26.7	-00.2	S 20 16.7	+00.6

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	122°	122°	122°	122°	122°	122°

Greenwich Culmination Time: 11:46

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	175 34.3	-00.8	S 21 31.7	+00.6
01	190 33.5	-00.9	S 21 32.3	+00.6
02	205 32.6	-00.8	S 21 32.9	+00.6
03	220 31.8	-00.8	S 21 33.5	+00.7
04	235 31.0	-00.9	S 21 34.2	+00.6
05	250 30.1	-00.8	S 21 34.8	+00.6
06	265 29.3	-00.9	S 21 35.4	+00.6
07	280 28.4	-00.8	S 21 36.0	+00.6
08	295 27.6	-00.9	S 21 36.6	+00.6
09	310 26.7	-00.8	S 21 37.2	+00.6
10	325 25.9	-00.9	S 21 37.8	+00.6
11	340 25.0	-00.8	S 21 38.4	+00.6
12	355 24.2	-00.9	S 21 39.0	+00.7
13	10 23.3	-00.8	S 21 39.7	+00.6
14	25 22.5	-00.9	S 21 40.3	+00.6
15	40 21.6	-00.8	S 21 40.9	+00.6
16	55 20.8	-00.9	S 21 41.5	+00.6
17	70 19.9	-00.8	S 21 42.1	+00.6
18	85 19.1	-00.9	S 21 42.7	+00.6
19	100 18.2	-00.8	S 21 43.3	+00.6
20	115 17.4	-00.9	S 21 43.9	+00.6
21	130 16.5	-00.8	S 21 44.5	+00.6
22	145 15.7	-00.9	S 21 45.1	+00.6
23	160 14.8	-00.9	S 21 45.7	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	114°	114°	114°	114°	114°	113°

Greenwich Culmination Time: 12:18

Moon

A: 94%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	209 02.3	-29.8	S 11 59.0	+14.6
01	223 32.5	-29.9	S 12 13.6	+14.6
02	238 02.6	-29.9	S 12 28.2	+14.5
03	252 32.7	-30.1	S 12 42.7	+14.5
04	267 02.6	-30.2	S 12 57.2	+14.4
05	281 32.4	-30.3	S 13 11.6	+14.3
06	296 02.1	-30.3	S 13 25.9	+14.3
07	310 31.8	-30.5	S 13 40.2	+14.3
08	325 01.3	-30.6	S 13 54.5	+14.2
09	339 30.7	-30.7	S 14 08.7	+14.1
10	353 60.0	-30.8	S 14 22.8	+14.1
11	8 29.2	-30.9	S 14 36.9	+14.0
12	22 58.3	-31.0	S 14 50.9	+14.0
13	37 27.3	-31.2	S 15 04.9	+13.9
14	51 56.1	-31.2	S 15 18.8	+13.8
15	66 24.9	-31.4	S 15 32.6	+13.7
16	80 53.5	-31.5	S 15 46.3	+13.7
17	95 22.0	-31.5	S 15 60.0	+13.6
18	109 50.5	-31.7	S 16 13.6	+13.5
19	124 18.8	-31.9	S 16 27.1	+13.5
20	138 46.9	-31.9	S 16 40.6	+13.3
21	153 15.0	-32.0	S 16 53.9	+13.3
22	167 43.0	-32.2	S 17 07.2	+13.2
23	182 10.8	-32.3	S 17 20.4	+13.1

UT	02	06	10	14	18	22
SD	16′0	16′0	16′0	16′1	16′1	16′1
HP	58′6	58′7	58′8	59′0	59′1	59′2
SHA	147°	145°	143°	140°	138°	136°

Greenwich Culmination Time: 10:24

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	339 45.9	+03.3	N 24 45.1	+00.1
01	354 49.2	+03.3	N 24 45.2	+00.1
02	9 52.5	+03.4	N 24 45.3	+00.1
03	24 55.9	+03.3	N 24 45.4	+00.1
04	39 59.2	+03.3	N 24 45.5	+00.0
05	55 02.5	+03.4	N 24 45.5	+00.1
06	70 05.9	+03.3	N 24 45.6	+00.1
07	85 09.2	+03.3	N 24 45.7	+00.1
08	100 12.5	+03.3	N 24 45.8	+00.1
09	115 15.8	+03.4	N 24 45.9	+00.0
10	130 19.2	+03.3	N 24 45.9	+00.1
11	145 22.5	+03.4	N 24 46.0	+00.1
12	160 25.9	+03.3	N 24 46.1	+00.1
13	175 29.2	+03.3	N 24 46.2	+00.0
14	190 32.5	+03.4	N 24 46.2	+00.1
15	205 35.9	+03.3	N 24 46.3	+00.1
16	220 39.2	+03.3	N 24 46.4	+00.1
17	235 42.5	+03.4	N 24 46.5	+00.0
18	250 45.9	+03.3	N 24 46.5	+00.1
19	265 49.2	+03.4	N 24 46.6	+00.1
20	280 52.6	+03.3	N 24 46.7	+00.1
21	295 55.9	+03.4	N 24 46.8	+00.0
22	310 59.3	+03.3	N 24 46.8	+00.1
23	326 02.6	+03.4	N 24 46.9	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	279°	279°	279°	279°	279°	279°

Greenwich Culmination Time: 01:20

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	61 28.5	+02.5	S 01 49.3	+00.0
01	76 31.0	+02.4	S 01 49.3	+00.0
02	91 33.4	+02.5	S 01 49.3	+00.0
03	106 35.9	+02.5	S 01 49.3	+00.0
04	121 38.4	+02.5	S 01 49.3	+00.0
05	136 40.9	+02.5	S 01 49.3	+00.0
06	151 43.4	+02.5	S 01 49.3	+00.0
07	166 45.9	+02.4	S 01 49.3	-00.1
08	181 48.3	+02.5	S 01 49.2	+00.0
09	196 50.8	+02.5	S 01 49.2	+00.0
10	211 53.3	+02.5	S 01 49.2	+00.0
11	226 55.8	+02.5	S 01 49.2	+00.0
12	241 58.3	+02.5	S 01 49.2	+00.0
13	257 00.8	+02.4	S 01 49.2	+00.0
14	272 03.2	+02.5	S 01 49.2	+00.0
15	287 05.7	+02.5	S 01 49.2	+00.0
16	302 08.2	+02.5	S 01 49.2	+00.0
17	317 10.7	+02.4	S 01 49.2	+00.0
18	332 13.1	+02.5	S 01 49.2	+00.0
19	347 15.6	+02.5	S 01 49.2	+00.0
20	2 18.1	+02.5	S 01 49.2	+00.0
21	17 20.6	+02.5	S 01 49.2	+00.0
22	32 23.1	+02.4	S 01 49.2	+00.0
23	47 25.5	+02.5	S 01 49.2	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	001°	001°	001°	001°	001°	001°

Greenwich Culmination Time: 19:50

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	98 47.2	+02.3	S 16 13.5	+00.0
01	113 49.5	+02.4	S 16 13.5	+00.0
02	128 51.9	+02.3	S 16 13.5	-00.1
03	143 54.2	+02.4	S 16 13.4	+00.0
04	158 56.6	+02.3	S 16 13.4	-00.1
05	173 58.9	+02.3	S 16 13.3	+00.0
06	189 01.2	+02.4	S 16 13.3	+00.0
07	204 03.6	+02.3	S 16 13.3	-00.1
08	219 05.9	+02.4	S 16 13.2	+00.0
09	234 08.3	+02.3	S 16 13.2	-00.1
10	249 10.6	+02.4	S 16 13.1	+00.0
11	264 13.0	+02.3	S 16 13.1	-00.1
12	279 15.3	+02.3	S 16 13.0	+00.0
13	294 17.6	+02.4	S 16 13.0	+00.0
14	309 20.0	+02.3	S 16 13.0	-00.1
15	324 22.3	+02.4	S 16 12.9	+00.0
16	339 24.7	+02.3	S 16 12.9	-00.1
17	354 27.0	+02.3	S 16 12.8	+00.0
18	9 29.3	+02.4	S 16 12.8	+00.0
19	24 31.7	+02.3	S 16 12.8	-00.1
20	39 34.0	+02.3	S 16 12.7	+00.0
21	54 36.3	+02.4	S 16 12.7	-00.1
22	69 38.7	+02.3	S 16 12.6	+00.0
23	84 41.0	+02.4	S 16 12.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:22

2022 November 23 Wednesday (day 327 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	183 26.5	-00.2	S 20 17.3	+00.5
01	198 26.3	-00.1	S 20 17.8	+00.5
02	213 26.2	-00.2	S 20 18.3	+00.5
03	228 26.0	-00.2	S 20 18.8	+00.6
04	243 25.8	-00.2	S 20 19.4	+00.5
05	258 25.6	-00.1	S 20 19.9	+00.5
06	273 25.5	-00.2	S 20 20.4	+00.5
07	288 25.3	-00.2	S 20 20.9	+00.5
08	303 25.1	-00.1	S 20 21.4	+00.6
09	318 25.0	-00.2	S 20 22.0	+00.5
10	333 24.8	-00.2	S 20 22.5	+00.5
11	348 24.6	-00.2	S 20 23.0	+00.5
12	3 24.4	-00.1	S 20 23.5	+00.5
13	18 24.3	-00.2	S 20 24.0	+00.6
14	33 24.1	-00.2	S 20 24.6	+00.5
15	48 23.9	-00.2	S 20 25.1	+00.5
16	63 23.7	-00.1	S 20 25.6	+00.5
17	78 23.6	-00.2	S 20 26.1	+00.5
18	93 23.4	-00.2	S 20 26.6	+00.5
19	108 23.2	-00.2	S 20 27.1	+00.5
20	123 23.0	-00.2	S 20 27.6	+00.5
21	138 22.8	-00.1	S 20 28.1	+00.6
22	153 22.7	-00.2	S 20 28.7	+00.5
23	168 22.5	-00.2	S 20 29.2	+00.5

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	121°	121°	121°	121°	121°	121°

Greenwich Culmination Time: 11:46

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	175 13.9	-00.8	S 21 46.2	+00.6
01	190 13.1	-00.9	S 21 46.8	+00.6
02	205 12.2	-00.8	S 21 47.4	+00.6
03	220 11.4	-00.9	S 21 48.0	+00.6
04	235 10.5	-00.8	S 21 48.6	+00.6
05	250 09.7	-00.9	S 21 49.2	+00.6
06	265 08.8	-00.9	S 21 49.8	+00.6
07	280 07.9	-00.8	S 21 50.4	+00.6
08	295 07.1	-00.9	S 21 51.0	+00.5
09	310 06.2	-00.8	S 21 51.5	+00.6
10	325 05.4	-00.9	S 21 52.1	+00.6
11	340 04.5	-00.9	S 21 52.7	+00.6
12	355 03.6	-00.8	S 21 53.3	+00.6
13	10 02.8	-00.9	S 21 53.9	+00.5
14	25 01.9	-00.8	S 21 54.4	+00.6
15	40 01.1	-00.9	S 21 55.0	+00.6
16	55 00.2	-00.9	S 21 55.6	+00.6
17	69 59.3	-00.8	S 21 56.2	+00.5
18	84 58.5	-00.9	S 21 56.7	+00.6
19	99 57.6	-00.9	S 21 57.3	+00.6
20	114 56.7	-00.8	S 21 57.9	+00.6
21	129 55.9	-00.9	S 21 58.5	+00.5
22	144 55.0	-00.9	S 21 59.0	+00.6
23	159 54.1	-00.8	S 21 59.6	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	113°	113°	113°	113°	112°	112°

Greenwich Culmination Time: 12:19

Moon

A: 98%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	196 38.5	-32.4	S 17 33.5	+13.0
01	211 06.1	-32.5	S 17 46.5	+13.0
02	225 33.6	-32.7	S 17 59.5	+12.8
03	240 00.9	-32.7	S 18 12.3	+12.7
04	254 28.2	-32.9	S 18 25.0	+12.7
05	268 55.3	-33.0	S 18 37.7	+12.5
06	283 22.3	-33.2	S 18 50.2	+12.5
07	297 49.1	-33.2	S 19 02.7	+12.3
08	312 15.9	-33.4	S 19 15.0	+12.3
09	326 42.5	-33.5	S 19 27.3	+12.1
10	341 09.0	-33.6	S 19 39.4	+12.0
11	355 35.4	-33.8	S 19 51.4	+11.9
12	10 01.6	-33.8	S 20 03.3	+11.8
13	24 27.8	-34.0	S 20 15.1	+11.7
14	38 53.8	-34.1	S 20 26.8	+11.6
15	53 19.7	-34.3	S 20 38.4	+11.4
16	67 45.4	-34.3	S 20 49.8	+11.4
17	82 11.1	-34.5	S 21 01.2	+11.2
18	96 36.6	-34.6	S 21 12.4	+11.0
19	111 02.0	-34.7	S 21 23.4	+11.0
20	125 27.3	-34.8	S 21 34.4	+10.8
21	139 52.5	-35.0	S 21 45.2	+10.7
22	154 17.5	-35.1	S 21 55.9	+10.6
23	168 42.4	-35.2	S 22 06.5	+10.4

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′3	16′3	16′3
HP	59′3	59′4	59′5	59′6	59′7	59′8
SHA	134°	131°	129°	126°	124°	121°

Greenwich Culmination Time: 11:18

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	341 06.0	+03.3	N 24 47.0	+00.1
01	356 09.3	+03.4	N 24 47.1	+00.0
02	11 12.7	+03.3	N 24 47.1	+00.1
03	26 16.0	+03.4	N 24 47.2	+00.1
04	41 19.4	+03.3	N 24 47.3	+00.1
05	56 22.7	+03.4	N 24 47.4	+00.0
06	71 26.1	+03.4	N 24 47.4	+00.1
07	86 29.5	+03.3	N 24 47.5	+00.1
08	101 32.8	+03.4	N 24 47.6	+00.1
09	116 36.2	+03.3	N 24 47.7	+00.0
10	131 39.5	+03.4	N 24 47.7	+00.1
11	146 42.9	+03.4	N 24 47.8	+00.1
12	161 46.3	+03.3	N 24 47.9	+00.0
13	176 49.6	+03.4	N 24 47.9	+00.1
14	191 53.0	+03.4	N 24 48.0	+00.1
15	206 56.4	+03.3	N 24 48.1	+00.1
16	221 59.7	+03.4	N 24 48.2	+00.0
17	237 03.1	+03.4	N 24 48.2	+00.1
18	252 06.5	+03.4	N 24 48.3	+00.1
19	267 09.9	+03.3	N 24 48.4	+00.1
20	282 13.2	+03.4	N 24 48.5	+00.0
21	297 16.6	+03.4	N 24 48.5	+00.1
22	312 20.0	+03.4	N 24 48.6	+00.1
23	327 23.4	+03.3	N 24 48.7	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	279°	279°	279°	279°	279°	279°

Greenwich Culmination Time: 01:15

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	62 28.0	+02.5	S 01 49.2	-00.1
01	77 30.5	+02.5	S 01 49.1	+00.0
02	92 33.0	+02.4	S 01 49.1	+00.0
03	107 35.4	+02.5	S 01 49.1	+00.0
04	122 37.9	+02.5	S 01 49.1	+00.0
05	137 40.4	+02.5	S 01 49.1	+00.0
06	152 42.9	+02.4	S 01 49.1	+00.0
07	167 45.3	+02.5	S 01 49.1	+00.0
08	182 47.8	+02.5	S 01 49.1	+00.0
09	197 50.3	+02.5	S 01 49.1	+00.0
10	212 52.8	+02.4	S 01 49.1	+00.0
11	227 55.2	+02.5	S 01 49.1	+00.0
12	242 57.7	+02.5	S 01 49.1	-00.1
13	258 00.2	+02.4	S 01 49.0	+00.0
14	273 02.6	+02.5	S 01 49.0	+00.0
15	288 05.1	+02.5	S 01 49.0	+00.0
16	303 07.6	+02.5	S 01 49.0	+00.0
17	318 10.1	+02.4	S 01 49.0	+00.0
18	333 12.5	+02.5	S 01 49.0	+00.0
19	348 15.0	+02.5	S 01 49.0	+00.0
20	3 17.5	+02.4	S 01 49.0	+00.0
21	18 19.9	+02.5	S 01 49.0	+00.0
22	33 22.4	+02.5	S 01 49.0	-00.1
23	48 24.9	+02.5	S 01 48.9	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	001°	001°	001°	001°	001°	001°

Greenwich Culmination Time: 19:46

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	99 43.4	+02.3	S 16 12.5	+00.0
01	114 45.7	+02.3	S 16 12.5	+00.0
02	129 48.0	+02.4	S 16 12.5	-00.1
03	144 50.4	+02.3	S 16 12.4	+00.0
04	159 52.7	+02.4	S 16 12.4	-00.1
05	174 55.1	+02.3	S 16 12.3	+00.0
06	189 57.4	+02.3	S 16 12.3	-00.1
07	204 59.7	+02.4	S 16 12.2	+00.0
08	220 02.1	+02.3	S 16 12.2	+00.0
09	235 04.4	+02.3	S 16 12.2	-00.1
10	250 06.7	+02.4	S 16 12.1	+00.0
11	265 09.1	+02.3	S 16 12.1	-00.1
12	280 11.4	+02.3	S 16 12.0	+00.0
13	295 13.7	+02.4	S 16 12.0	-00.1
14	310 16.1	+02.3	S 16 11.9	+00.0
15	325 18.4	+02.4	S 16 11.9	+00.0
16	340 20.8	+02.3	S 16 11.9	-00.1
17	355 23.1	+02.3	S 16 11.8	+00.0
18	10 25.4	+02.4	S 16 11.8	-00.1
19	25 27.8	+02.3	S 16 11.7	+00.0
20	40 30.1	+02.3	S 16 11.7	-00.1
21	55 32.4	+02.4	S 16 11.6	+00.0
22	70 34.8	+02.3	S 16 11.6	+00.0
23	85 37.1	+02.3	S 16 11.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:18

2022 November 28 Monday (day 332 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	183 03.6	−00.2	S 21 15.5	+00.4
01	198 03.4	−00.2	S 21 15.9	+00.5
02	213 03.2	−00.2	S 21 16.4	+00.4
03	228 03.0	−00.2	S 21 16.8	+00.5
04	243 02.8	−00.2	S 21 17.3	+00.4
05	258 02.6	−00.3	S 21 17.7	+00.4
06	273 02.3	−00.2	S 21 18.1	+00.5
07	288 02.1	−00.2	S 21 18.6	+00.4
08	303 01.9	−00.2	S 21 19.0	+00.5
09	318 01.7	−00.2	S 21 19.5	+00.4
10	333 01.5	−00.2	S 21 19.9	+00.4
11	348 01.3	−00.2	S 21 20.3	+00.5
12	3 01.1	−00.2	S 21 20.8	+00.4
13	18 00.9	−00.3	S 21 21.2	+00.4
14	33 00.6	−00.2	S 21 21.6	+00.5
15	48 00.4	−00.2	S 21 22.1	+00.4
16	63 00.2	−00.2	S 21 22.5	+00.4
17	78 00.0	−00.2	S 21 22.9	+00.5
18	92 59.8	−00.2	S 21 23.4	+00.4
19	107 59.6	−00.2	S 21 23.8	+00.4
20	122 59.4	−00.3	S 21 24.2	+00.5
21	137 59.1	−00.2	S 21 24.7	+00.4
22	152 58.9	−00.2	S 21 25.1	+00.4
23	167 58.7	−00.2	S 21 25.5	+00.5

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	116°	116°	116°	116°	115°	115°

Greenwich Culmination Time: 11:47

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	173 28.2	−00.9	S 22 49.3	+00.5
01	188 27.3	−00.9	S 22 49.8	+00.4
02	203 26.4	−00.9	S 22 50.2	+00.5
03	218 25.5	−01.0	S 22 50.7	+00.4
04	233 24.5	−00.9	S 22 51.1	+00.5
05	248 23.6	−00.9	S 22 51.6	+00.4
06	263 22.7	−00.9	S 22 52.0	+00.5
07	278 21.8	−00.9	S 22 52.5	+00.4
08	293 20.9	−00.9	S 22 52.9	+00.5
09	308 20.0	−00.9	S 22 53.4	+00.4
10	323 19.1	−00.9	S 22 53.8	+00.5
11	338 18.2	−00.9	S 22 54.3	+00.4
12	353 17.3	−00.9	S 22 54.7	+00.4
13	8 16.4	−00.9	S 22 55.1	+00.5
14	23 15.5	−01.0	S 22 55.6	+00.4
15	38 14.5	−00.9	S 22 56.0	+00.5
16	53 13.6	−00.9	S 22 56.5	+00.4
17	68 12.7	−00.9	S 22 56.9	+00.4
18	83 11.8	−00.9	S 22 57.3	+00.5
19	98 10.9	−00.9	S 22 57.8	+00.4
20	113 10.0	−00.9	S 22 58.2	+00.4
21	128 09.1	−00.9	S 22 58.6	+00.5
22	143 08.2	−01.0	S 22 59.1	+00.4
23	158 07.2	−00.9	S 22 59.5	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	106°	106°	106°	106°	106°	105°

Greenwich Culmination Time: 12:26

Moon

A: 18%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	122 16.2	−36.7	S 24 53.8	−07.7
01	136 39.5	−36.6	S 24 46.1	−07.8
02	151 02.9	−36.5	S 24 38.3	−07.9
03	165 26.4	−36.4	S 24 30.4	−08.2
04	179 50.0	−36.3	S 24 22.2	−08.3
05	194 13.7	−36.1	S 24 13.9	−08.5
06	208 37.6	−36.1	S 24 05.4	−08.6
07	223 01.5	−35.9	S 23 56.8	−08.7
08	237 25.6	−35.8	S 23 48.1	−09.0
09	251 49.8	−35.7	S 23 39.1	−09.0
10	266 14.1	−35.6	S 23 30.1	−09.2
11	280 38.5	−35.5	S 23 20.9	−09.4
12	295 03.0	−35.3	S 23 11.5	−09.5
13	309 27.7	−35.3	S 23 02.0	−09.7
14	323 52.4	−35.1	S 22 52.3	−09.8
15	338 17.3	−35.0	S 22 42.5	−09.9
16	352 42.3	−34.9	S 22 32.6	−10.1
17	7 07.4	−34.8	S 22 22.5	−10.2
18	21 32.6	−34.6	S 22 12.3	−10.3
19	35 58.0	−34.6	S 22 02.0	−10.5
20	50 23.4	−34.4	S 21 51.5	−10.6
21	64 49.0	−34.3	S 21 40.9	−10.7
22	79 14.7	−34.1	S 21 30.2	−10.8
23	93 40.6	−34.1	S 21 19.4	−11.0

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′2
HP	60′0	59′9	59′8	59′7	59′7	59′6
SHA	054°	052°	049°	046°	044°	041°

Greenwich Culmination Time: 16:30

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	347 55.5	+03.5	N 24 54.5	+00.1
01	2 59.0	+03.5	N 24 54.6	+00.0
02	18 02.5	+03.4	N 24 54.6	+00.1
03	33 05.9	+03.5	N 24 54.7	+00.0
04	48 09.4	+03.5	N 24 54.7	+00.1
05	63 12.9	+03.5	N 24 54.8	+00.0
06	78 16.4	+03.4	N 24 54.8	+00.1
07	93 19.8	+03.5	N 24 54.9	+00.0
08	108 23.3	+03.5	N 24 54.9	+00.1
09	123 26.8	+03.4	N 24 55.0	+00.0
10	138 30.2	+03.5	N 24 55.0	+00.1
11	153 33.7	+03.5	N 24 55.1	+00.0
12	168 37.2	+03.5	N 24 55.1	+00.1
13	183 40.7	+03.4	N 24 55.2	+00.0
14	198 44.1	+03.5	N 24 55.2	+00.0
15	213 47.6	+03.5	N 24 55.2	+00.1
16	228 51.1	+03.5	N 24 55.3	+00.0
17	243 54.6	+03.5	N 24 55.3	+00.1
18	258 58.1	+03.4	N 24 55.4	+00.0
19	274 01.5	+03.5	N 24 55.4	+00.1
20	289 05.0	+03.5	N 24 55.5	+00.0
21	304 08.5	+03.5	N 24 55.5	+00.1
22	319 12.0	+03.5	N 24 55.6	+00.0
23	334 15.5	+03.4	N 24 55.6	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	281°	281°	281°	281°	281°	281°

Greenwich Culmination Time: 00:48

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	67 22.8	+02.4	S 01 47.2	+00.0
01	82 25.2	+02.5	S 01 47.2	+00.0
02	97 27.7	+02.4	S 01 47.2	+00.0
03	112 30.1	+02.4	S 01 47.2	−00.1
04	127 32.5	+02.5	S 01 47.1	+00.0
05	142 35.0	+02.4	S 01 47.1	+00.0
06	157 37.4	+02.4	S 01 47.1	+00.0
07	172 39.8	+02.5	S 01 47.1	−00.1
08	187 42.3	+02.4	S 01 47.0	+00.0
09	202 44.7	+02.4	S 01 47.0	+00.0
10	217 47.1	+02.5	S 01 47.0	+00.0
11	232 49.6	+02.4	S 01 47.0	−00.1
12	247 52.0	+02.4	S 01 46.9	+00.0
13	262 54.4	+02.5	S 01 46.9	+00.0
14	277 56.9	+02.4	S 01 46.9	+00.0
15	292 59.3	+02.4	S 01 46.9	−00.1
16	308 01.7	+02.5	S 01 46.8	+00.0
17	323 04.2	+02.4	S 01 46.8	+00.0
18	338 06.6	+02.4	S 01 46.8	−00.1
19	353 09.0	+02.5	S 01 46.7	+00.0
20	8 11.5	+02.4	S 01 46.7	+00.0
21	23 13.9	+02.4	S 01 46.7	+00.0
22	38 16.3	+02.4	S 01 46.7	−00.1
23	53 18.7	+02.5	S 01 46.6	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	001°	001°	000°	000°	000°	000°

Greenwich Culmination Time: 19:27

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	104 22.8	+02.4	S 16 07.1	−00.1
01	119 25.2	+02.3	S 16 07.0	+00.0
02	134 27.5	+02.3	S 16 07.0	−00.1
03	149 29.8	+02.3	S 16 06.9	+00.0
04	164 32.1	+02.3	S 16 06.9	−00.1
05	179 34.4	+02.3	S 16 06.8	+00.0
06	194 36.7	+02.4	S 16 06.8	−00.1
07	209 39.1	+02.3	S 16 06.7	+00.0
08	224 41.4	+02.3	S 16 06.7	−00.1
09	239 43.7	+02.3	S 16 06.6	+00.0
10	254 46.0	+02.3	S 16 06.6	−00.1
11	269 48.3	+02.4	S 16 06.5	+00.0
12	284 50.7	+02.3	S 16 06.5	−00.1
13	299 53.0	+02.3	S 16 06.4	+00.0
14	314 55.3	+02.3	S 16 06.4	−00.1
15	329 57.6	+02.3	S 16 06.3	+00.0
16	344 59.9	+02.3	S 16 06.3	−00.1
17	0 02.2	+02.4	S 16 06.2	+00.0
18	15 04.6	+02.3	S 16 06.2	−00.1
19	30 06.9	+02.3	S 16 06.1	+00.0
20	45 09.2	+02.3	S 16 06.1	−00.1
21	60 11.5	+02.3	S 16 06.0	+00.0
22	75 13.8	+02.3	S 16 06.0	−00.1
23	90 16.1	+02.4	S 16 05.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 16:59

2022 November 25 Friday (day 329 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	183 17.9	−00.2	S 20 41.7	+00.5
01	198 17.7	−00.2	S 20 42.2	+00.5
02	213 17.5	−00.2	S 20 42.7	+00.5
03	228 17.3	−00.1	S 20 43.2	+00.5
04	243 17.2	−00.2	S 20 43.7	+00.5
05	258 17.0	−00.2	S 20 44.2	+00.5
06	273 16.8	−00.2	S 20 44.7	+00.5
07	288 16.6	−00.2	S 20 45.2	+00.4
08	303 16.4	−00.2	S 20 45.6	+00.5
09	318 16.2	−00.2	S 20 46.1	+00.5
10	333 16.0	−00.2	S 20 46.6	+00.5
11	348 15.8	−00.2	S 20 47.1	+00.5
12	3 15.6	−00.2	S 20 47.6	+00.5
13	18 15.4	−00.1	S 20 48.1	+00.5
14	33 15.3	−00.2	S 20 48.6	+00.4
15	48 15.1	−00.2	S 20 49.0	+00.5
16	63 14.9	−00.2	S 20 49.5	+00.5
17	78 14.7	−00.2	S 20 50.0	+00.5
18	93 14.5	−00.2	S 20 50.5	+00.5
19	108 14.3	−00.2	S 20 51.0	+00.5
20	123 14.1	−00.2	S 20 51.5	+00.4
21	138 13.9	−00.2	S 20 51.9	+00.5
22	153 13.7	−00.2	S 20 52.4	+00.5
23	168 13.5	−00.2	S 20 52.9	+00.5

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	119°	119°	119°	119°	119°	118°

Greenwich Culmination Time: 11:46

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	174 32.4	−00.9	S 22 13.4	+00.6
01	189 31.5	−00.9	S 22 14.0	+00.5
02	204 30.6	−00.9	S 22 14.5	+00.6
03	219 29.7	−00.8	S 22 15.1	+00.5
04	234 28.9	−00.9	S 22 15.6	+00.5
05	249 28.0	−00.9	S 22 16.1	+00.6
06	264 27.1	−00.9	S 22 16.7	+00.5
07	279 26.2	−00.9	S 22 17.2	+00.5
08	294 25.3	−00.8	S 22 17.7	+00.5
09	309 24.5	−00.9	S 22 18.2	+00.6
10	324 23.6	−00.9	S 22 18.8	+00.5
11	339 22.7	−00.9	S 22 19.3	+00.5
12	354 21.8	−00.9	S 22 19.8	+00.6
13	9 20.9	−00.9	S 22 20.4	+00.5
14	24 20.0	−00.8	S 22 20.9	+00.5
15	39 19.2	−00.9	S 22 21.4	+00.5
16	54 18.3	−00.9	S 22 21.9	+00.5
17	69 17.4	−00.9	S 22 22.4	+00.6
18	84 16.5	−00.9	S 22 23.0	+00.5
19	99 15.6	−00.9	S 22 23.5	+00.5
20	114 14.7	−00.8	S 22 24.0	+00.5
21	129 13.9	−00.9	S 22 24.5	+00.5
22	144 13.0	−00.9	S 22 25.0	+00.5
23	159 12.1	−00.9	S 22 25.5	+00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	111°	110°	110°	110°	110°	109°

Greenwich Culmination Time: 12:22

Moon

A: 06%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	168 28.7	−37.8	S 25 40.9	+06.4
01	182 50.9	−38.0	S 25 47.3	+06.2
02	197 12.9	−38.0	S 25 53.5	+06.0
03	211 34.9	−38.1	S 25 59.5	+05.8
04	225 56.8	−38.1	S 26 05.3	+05.7
05	240 18.7	−38.3	S 26 11.0	+05.4
06	254 40.4	−38.3	S 26 16.4	+05.3
07	269 02.1	−38.4	S 26 21.7	+05.1
08	283 23.7	−38.5	S 26 26.8	+04.8
09	297 45.2	−38.5	S 26 31.6	+04.7
10	312 06.7	−38.6	S 26 36.3	+04.5
11	326 28.1	−38.6	S 26 40.8	+04.3
12	340 49.5	−38.7	S 26 45.1	+04.1
13	355 10.8	−38.8	S 26 49.2	+03.9
14	9 32.0	−38.8	S 26 53.1	+03.7
15	23 53.2	−38.8	S 26 56.8	+03.5
16	38 14.4	−38.9	S 27 00.3	+03.3
17	52 35.5	−39.0	S 27 03.6	+03.1
18	66 56.5	−39.0	S 27 06.7	+02.9
19	81 17.5	−39.0	S 27 09.6	+02.7
20	95 38.5	−39.0	S 27 12.3	+02.4
21	109 59.5	−39.1	S 27 14.7	+02.3
22	124 20.4	−39.1	S 27 17.0	+02.1
23	138 41.3	−39.1	S 27 19.1	+01.9

UT	02	06	10	14	18	22
SD	16′4	16′4	16′4	16′5	16′5	16′5
HP	60′3	60′3	60′4	60′4	60′4	60′4
SHA	103°	101°	098°	095°	092°	090°

Greenwich Culmination Time: 13:20

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	343 48.1	+03.4	N 24 50.4	+00.0
01	358 51.5	+03.4	N 24 50.4	+00.1
02	13 54.9	+03.4	N 24 50.5	+00.1
03	28 58.3	+03.4	N 24 50.6	+00.0
04	44 01.7	+03.4	N 24 50.6	+00.1
05	59 05.1	+03.4	N 24 50.7	+00.0
06	74 08.5	+03.5	N 24 50.7	+00.1
07	89 12.0	+03.4	N 24 50.8	+00.1
08	104 15.4	+03.4	N 24 50.9	+00.0
09	119 18.8	+03.4	N 24 50.9	+00.1
10	134 22.2	+03.4	N 24 51.0	+00.1
11	149 25.6	+03.4	N 24 51.1	+00.0
12	164 29.0	+03.4	N 24 51.1	+00.1
13	179 32.4	+03.5	N 24 51.2	+00.1
14	194 35.9	+03.4	N 24 51.3	+00.0
15	209 39.3	+03.4	N 24 51.3	+00.1
16	224 42.7	+03.4	N 24 51.4	+00.0
17	239 46.1	+03.4	N 24 51.4	+00.1
18	254 49.5	+03.5	N 24 51.5	+00.1
19	269 53.0	+03.4	N 24 51.6	+00.0
20	284 56.4	+03.4	N 24 51.6	+00.1
21	299 59.8	+03.4	N 24 51.7	+00.0
22	315 03.2	+03.4	N 24 51.7	+00.1
23	330 06.6	+03.5	N 24 51.8	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	280°	280°	280°	280°	280°	280°

Greenwich Culmination Time: 01:04

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	64 26.5	+02.5	S 01 48.6	+00.0
01	79 29.0	+02.4	S 01 48.6	+00.0
02	94 31.4	+02.5	S 01 48.6	+00.0
03	109 33.9	+02.4	S 01 48.6	+00.0
04	124 36.3	+02.5	S 01 48.6	+00.0
05	139 38.8	+02.5	S 01 48.6	+00.0
06	154 41.3	+02.4	S 01 48.6	−00.1
07	169 43.7	+02.5	S 01 48.5	+00.0
08	184 46.2	+02.4	S 01 48.5	+00.0
09	199 48.6	+02.5	S 01 48.5	+00.0
10	214 51.1	+02.4	S 01 48.5	+00.0
11	229 53.5	+02.5	S 01 48.5	+00.0
12	244 56.0	+02.5	S 01 48.5	−00.1
13	259 58.5	+02.4	S 01 48.4	+00.0
14	275 00.9	+02.5	S 01 48.4	+00.0
15	290 03.4	+02.4	S 01 48.4	+00.0
16	305 05.8	+02.5	S 01 48.4	+00.0
17	320 08.3	+02.4	S 01 48.4	+00.0
18	335 10.7	+02.5	S 01 48.4	−00.1
19	350 13.2	+02.4	S 01 48.3	+00.0
20	5 15.6	+02.5	S 01 48.3	+00.0
21	20 18.1	+02.4	S 01 48.3	+00.0
22	35 20.5	+02.5	S 01 48.3	+00.0
23	50 23.0	+02.5	S 01 48.3	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	001°	001°	001°	001°	001°	001°

Greenwich Culmination Time: 19:39

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	101 35.4	+02.4	S 16 10.4	+00.0
01	116 37.8	+02.3	S 16 10.4	+00.0
02	131 40.1	+02.3	S 16 10.4	−00.1
03	146 42.4	+02.3	S 16 10.3	+00.0
04	161 44.7	+02.4	S 16 10.3	−00.1
05	176 47.1	+02.3	S 16 10.2	+00.0
06	191 49.4	+02.3	S 16 10.2	−00.1
07	206 51.7	+02.4	S 16 10.1	+00.0
08	221 54.1	+02.3	S 16 10.1	−00.1
09	236 56.4	+02.3	S 16 10.0	+00.0
10	251 58.7	+02.4	S 16 10.0	−00.1
11	267 01.1	+02.3	S 16 09.9	+00.0
12	282 03.4	+02.3	S 16 09.9	+00.0
13	297 05.7	+02.3	S 16 09.9	−00.1
14	312 08.0	+02.4	S 16 09.8	+00.0
15	327 10.4	+02.3	S 16 09.8	−00.1
16	342 12.7	+02.3	S 16 09.7	+00.0
17	357 15.0	+02.3	S 16 09.7	−00.1
18	12 17.3	+02.4	S 16 09.6	+00.0
19	27 19.7	+02.3	S 16 09.6	−00.1
20	42 22.0	+02.3	S 16 09.5	+00.0
21	57 24.3	+02.4	S 16 09.5	−00.1
22	72 26.7	+02.3	S 16 09.4	+00.0
23	87 29.0	+02.3	S 16 09.4	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:10

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2022 November 26 Saturday (day 330 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 13.3	−00.2	S 20 53.4	+00.4
01	198 13.1	−00.2	S 20 53.8	+00.5
02	213 12.9	−00.2	S 20 54.3	+00.5
03	228 12.7	−00.2	S 20 54.8	+00.5
04	243 12.5	−00.2	S 20 55.3	+00.4
05	258 12.3	−00.1	S 20 55.7	+00.5
06	273 12.2	−00.2	S 20 56.2	+00.5
07	288 12.0	−00.2	S 20 56.7	+00.5
08	303 11.8	−00.2	S 20 57.2	+00.4
09	318 11.6	−00.2	S 20 57.6	+00.5
10	333 11.4	−00.2	S 20 58.1	+00.5
11	348 11.2	−00.2	S 20 58.6	+00.4
12	3 11.0	−00.2	S 20 59.0	+00.5
13	18 10.8	−00.2	S 20 59.5	+00.5
14	33 10.6	−00.2	S 20 60.0	+00.5
15	48 10.4	−00.2	S 21 00.5	+00.4
16	63 10.2	−00.2	S 21 00.9	+00.5
17	78 10.0	−00.2	S 21 01.4	+00.4
18	93 09.8	−00.2	S 21 01.8	+00.5
19	108 09.6	−00.2	S 21 02.3	+00.5
20	123 09.4	−00.2	S 21 02.8	+00.4
21	138 09.2	−00.2	S 21 03.2	+00.5
22	153 09.0	−00.2	S 21 03.7	+00.5
23	168 08.8	−00.2	S 21 04.2	+00.4

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	118°	118°	118°	118°	118°	117°

Greenwich Culmination Time: 11:47

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	174 11.2	−00.9	S 22 26.1	+00.5
01	189 10.3	−00.9	S 22 26.6	+00.5
02	204 09.4	−00.9	S 22 27.1	+00.5
03	219 08.5	−00.9	S 22 27.6	+00.5
04	234 07.6	−00.8	S 22 28.1	+00.5
05	249 06.8	−00.9	S 22 28.6	+00.5
06	264 05.9	−00.9	S 22 29.1	+00.5
07	279 05.0	−00.9	S 22 29.6	+00.5
08	294 04.1	−00.9	S 22 30.1	+00.5
09	309 03.2	−00.9	S 22 30.6	+00.5
10	324 02.3	−00.9	S 22 31.1	+00.5
11	339 01.4	−00.9	S 22 31.6	+00.5
12	354 00.5	−00.9	S 22 32.1	+00.5
13	8 59.6	−00.9	S 22 32.6	+00.5
14	23 58.7	−00.8	S 22 33.1	+00.5
15	38 57.9	−00.9	S 22 33.6	+00.5
16	53 57.0	−00.9	S 22 34.1	+00.5
17	68 56.1	−00.9	S 22 34.6	+00.5
18	83 55.2	−00.9	S 22 35.1	+00.5
19	98 54.3	−00.9	S 22 35.6	+00.5
20	113 53.4	−00.9	S 22 36.1	+00.5
21	128 52.5	−00.9	S 22 36.6	+00.4
22	143 51.6	−00.9	S 22 37.0	+00.5
23	158 50.7	−00.9	S 22 37.5	+00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	109°	109°	109°	108°	108°	108°

Greenwich Culmination Time: 12:23

Moon

A: 10%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	153 02.2	−39.2	S 27 21.0	+01.6
01	167 23.0	−39.2	S 27 22.6	+01.5
02	181 43.8	−39.1	S 27 24.1	+01.2
03	196 04.7	−39.2	S 27 25.3	+01.1
04	210 25.5	−39.2	S 27 26.4	+00.8
05	224 46.3	−39.2	S 27 27.2	+00.6
06	239 07.1	−39.2	S 27 27.8	+00.5
07	253 27.9	−39.2	S 27 28.3	+00.2
08	267 48.7	−39.2	S 27 28.5	+00.0
09	282 09.5	−39.2	S 27 28.5	−00.2
10	296 30.3	−39.2	S 27 28.3	−00.4
11	310 51.1	−39.2	S 27 27.9	−00.6
12	325 11.9	−39.1	S 27 27.3	−00.8
13	339 32.8	−39.1	S 27 26.5	−01.0
14	353 53.7	−39.1	S 27 25.5	−01.3
15	8 14.6	−39.1	S 27 24.2	−01.4
16	22 35.5	−39.0	S 27 22.8	−01.6
17	36 56.5	−39.1	S 27 21.2	−01.9
18	51 17.4	−38.9	S 27 19.3	−02.0
19	65 38.5	−39.0	S 27 17.3	−02.3
20	79 59.5	−38.9	S 27 15.0	−02.4
21	94 20.6	−38.8	S 27 12.6	−02.7
22	108 41.8	−38.8	S 27 09.9	−02.8
23	123 03.0	−38.7	S 27 07.1	−03.1

UT	02	06	10	14	18	22
SD	16′5	16′5	16′5	16′4	16′4	16′4
HP	60′4	60′4	60′4	60′4	60′3	60′3
SHA	087°	084°	081°	078°	076°	073°

Greenwich Culmination Time: 14:25

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	345 10.1	+03.4	N 24 51.9	+00.0
01	0 13.5	+03.4	N 24 51.9	+00.1
02	15 16.9	+03.5	N 24 52.0	+00.1
03	30 20.4	+03.4	N 24 52.1	+00.0
04	45 23.8	+03.4	N 24 52.1	+00.1
05	60 27.2	+03.4	N 24 52.2	+00.0
06	75 30.6	+03.5	N 24 52.2	+00.1
07	90 34.1	+03.4	N 24 52.3	+00.0
08	105 37.5	+03.4	N 24 52.3	+00.1
09	120 40.9	+03.5	N 24 52.4	+00.1
10	135 44.4	+03.4	N 24 52.5	+00.0
11	150 47.8	+03.5	N 24 52.5	+00.1
12	165 51.3	+03.4	N 24 52.6	+00.0
13	180 54.7	+03.4	N 24 52.6	+00.1
14	195 58.1	+03.5	N 24 52.7	+00.1
15	211 01.6	+03.4	N 24 52.8	+00.0
16	226 05.0	+03.5	N 24 52.8	+00.1
17	241 08.5	+03.4	N 24 52.9	+00.0
18	256 11.9	+03.4	N 24 52.9	+00.1
19	271 15.3	+03.5	N 24 53.0	+00.0
20	286 18.8	+03.4	N 24 53.0	+00.1
21	301 22.2	+03.5	N 24 53.1	+00.0
22	316 25.7	+03.4	N 24 53.1	+00.1
23	331 29.1	+03.5	N 24 53.2	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	280°	280°	280°	280°	281°	281°

Greenwich Culmination Time: 00:59

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	65 25.5	+02.4	S 01 48.3	−00.1
01	80 27.9	+02.5	S 01 48.2	+00.0
02	95 30.4	+02.4	S 01 48.2	+00.0
03	110 32.8	+02.5	S 01 48.2	+00.0
04	125 35.3	+02.4	S 01 48.2	+00.0
05	140 37.7	+02.5	S 01 48.2	−00.1
06	155 40.2	+02.4	S 01 48.1	+00.0
07	170 42.6	+02.5	S 01 48.1	+00.0
08	185 45.1	+02.4	S 01 48.1	+00.0
09	200 47.5	+02.5	S 01 48.1	+00.0
10	215 50.0	+02.4	S 01 48.1	+00.0
11	230 52.4	+02.5	S 01 48.1	−00.1
12	245 54.9	+02.4	S 01 48.0	+00.0
13	260 57.3	+02.5	S 01 48.0	+00.0
14	275 59.8	+02.4	S 01 48.0	+00.0
15	291 02.2	+02.4	S 01 48.0	+00.0
16	306 04.6	+02.5	S 01 48.0	−00.1
17	321 07.1	+02.4	S 01 47.9	+00.0
18	336 09.5	+02.5	S 01 47.9	+00.0
19	351 12.0	+02.4	S 01 47.9	+00.0
20	6 14.4	+02.5	S 01 47.9	+00.0
21	21 16.9	+02.4	S 01 47.9	−00.1
22	36 19.3	+02.5	S 01 47.8	+00.0
23	51 21.8	+02.4	S 01 47.8	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	001°	001°	001°	001°	001°	001°

Greenwich Culmination Time: 19:35

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	102 31.3	+02.3	S 16 09.3	+00.0
01	117 33.6	+02.4	S 16 09.3	+00.0
02	132 36.0	+02.3	S 16 09.3	−00.1
03	147 38.3	+02.3	S 16 09.2	+00.0
04	162 40.6	+02.3	S 16 09.2	−00.1
05	177 42.9	+02.4	S 16 09.1	+00.0
06	192 45.3	+02.3	S 16 09.1	−00.1
07	207 47.6	+02.3	S 16 09.0	+00.0
08	222 49.9	+02.4	S 16 09.0	−00.1
09	237 52.3	+02.3	S 16 08.9	+00.0
10	252 54.6	+02.3	S 16 08.9	−00.1
11	267 56.9	+02.3	S 16 08.8	+00.0
12	282 59.2	+02.4	S 16 08.8	−00.1
13	298 01.6	+02.3	S 16 08.7	+00.0
14	313 03.9	+02.3	S 16 08.7	−00.1
15	328 06.2	+02.3	S 16 08.6	+00.0
16	343 08.5	+02.4	S 16 08.6	+00.0
17	358 10.9	+02.3	S 16 08.6	−00.1
18	13 13.2	+02.3	S 16 08.5	+00.0
19	28 15.5	+02.3	S 16 08.5	−00.1
20	43 17.8	+02.3	S 16 08.4	+00.0
21	58 20.1	+02.4	S 16 08.4	−00.1
22	73 22.5	+02.3	S 16 08.3	+00.0
23	88 24.8	+02.3	S 16 08.3	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:07

2022 November 27 Sunday (day 331 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	183 08.6	−00.2	S 21 04.6	+00.5
01	198 08.4	−00.2	S 21 05.1	+00.4
02	213 08.2	−00.3	S 21 05.5	+00.5
03	228 07.9	−00.2	S 21 06.0	+00.5
04	243 07.7	−00.2	S 21 06.5	+00.4
05	258 07.5	−00.2	S 21 06.9	+00.5
06	273 07.3	−00.2	S 21 07.4	+00.4
07	288 07.1	−00.2	S 21 07.8	+00.5
08	303 06.9	−00.2	S 21 08.3	+00.4
09	318 06.7	−00.2	S 21 08.7	+00.5
10	333 06.5	−00.2	S 21 09.2	+00.5
11	348 06.3	−00.2	S 21 09.7	+00.4
12	3 06.1	−00.2	S 21 10.1	+00.5
13	18 05.9	−00.2	S 21 10.6	+00.4
14	33 05.7	−00.2	S 21 11.0	+00.5
15	48 05.5	−00.2	S 21 11.5	+00.4
16	63 05.3	−00.2	S 21 11.9	+00.5
17	78 05.1	−00.2	S 21 12.4	+00.4
18	93 04.9	−00.2	S 21 12.8	+00.5
19	108 04.7	−00.3	S 21 13.3	+00.4
20	123 04.4	−00.2	S 21 13.7	+00.5
21	138 04.2	−00.2	S 21 14.2	+00.4
22	153 04.0	−00.2	S 21 14.6	+00.4
23	168 03.8	−00.2	S 21 15.0	+00.5

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	117°	117°	117°	117°	116°	116°

Greenwich Culmination Time: 11:47

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	173 49.8	−00.9	S 22 38.0	+00.5
01	188 48.9	−00.9	S 22 38.5	+00.5
02	203 48.0	−00.9	S 22 39.0	+00.5
03	218 47.1	−00.9	S 22 39.5	+00.4
04	233 46.2	−00.9	S 22 39.9	+00.5
05	248 45.3	−00.9	S 22 40.4	+00.5
06	263 44.4	−00.9	S 22 40.9	+00.5
07	278 43.5	−00.9	S 22 41.4	+00.5
08	293 42.6	−00.9	S 22 41.9	+00.4
09	308 41.7	−00.9	S 22 42.3	+00.5
10	323 40.8	−00.9	S 22 42.8	+00.5
11	338 39.9	−00.9	S 22 43.3	+00.4
12	353 39.0	−00.9	S 22 43.7	+00.5
13	8 38.1	−00.9	S 22 44.2	+00.5
14	23 37.2	−00.9	S 22 44.7	+00.5
15	38 36.3	−00.9	S 22 45.2	+00.4
16	53 35.4	−00.9	S 22 45.6	+00.5
17	68 34.5	−00.9	S 22 46.1	+00.5
18	83 33.6	−00.9	S 22 46.6	+00.4
19	98 32.7	−00.9	S 22 47.0	+00.5
20	113 31.8	−00.9	S 22 47.5	+00.4
21	128 30.9	−00.9	S 22 47.9	+00.5
22	143 30.0	−00.9	S 22 48.4	+00.5
23	158 29.1	−00.9	S 22 48.9	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	108°	108°	107°	107°	107°	107°

Greenwich Culmination Time: 12:25

Moon

A: 14%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	137 24.3	−38.7	S 27 04.0	−03.2
01	151 45.6	−38.7	S 27 00.8	−03.5
02	166 06.9	−38.6	S 26 57.3	−03.6
03	180 28.3	−38.5	S 26 53.7	−03.9
04	194 49.8	−38.4	S 26 49.8	−04.0
05	209 11.4	−38.4	S 26 45.8	−04.2
06	223 33.0	−38.3	S 26 41.6	−04.4
07	237 54.7	−38.3	S 26 37.2	−04.6
08	252 16.4	−38.1	S 26 32.6	−04.9
09	266 38.3	−38.1	S 26 27.7	−04.9
10	281 00.2	−38.0	S 26 22.8	−05.2
11	295 22.2	−38.0	S 26 17.6	−05.4
12	309 44.2	−37.8	S 26 12.2	−05.5
13	324 06.4	−37.8	S 26 06.7	−05.8
14	338 28.6	−37.6	S 26 00.9	−05.9
15	352 51.0	−37.6	S 25 55.0	−06.1
16	7 13.4	−37.5	S 25 48.9	−06.3
17	21 35.9	−37.4	S 25 42.6	−06.4
18	35 58.5	−37.3	S 25 36.2	−06.7
19	50 21.2	−37.2	S 25 29.5	−06.8
20	64 44.0	−37.1	S 25 22.7	−06.9
21	79 06.9	−37.0	S 25 15.8	−07.2
22	93 29.9	−36.9	S 25 08.6	−07.3
23	107 53.0	−36.8	S 25 01.3	−07.5

UT	02	06	10	14	18	22
SD	16′4	16′4	16′4	16′4	16′4	16′4
HP	60′3	60′2	60′2	60′2	60′1	60′0
SHA	070°	067°	065°	062°	059°	057°

Greenwich Culmination Time: 15:29

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	346 32.6	+03.4	N 24 53.3	+00.0
01	1 36.0	+03.5	N 24 53.3	+00.1
02	16 39.5	+03.4	N 24 53.4	+00.0
03	31 42.9	+03.5	N 24 53.4	+00.1
04	46 46.4	+03.4	N 24 53.5	+00.0
05	61 49.8	+03.5	N 24 53.5	+00.1
06	76 53.3	+03.4	N 24 53.6	+00.0
07	91 56.7	+03.5	N 24 53.6	+00.1
08	107 00.2	+03.4	N 24 53.7	+00.0
09	122 03.6	+03.5	N 24 53.7	+00.1
10	137 07.1	+03.4	N 24 53.8	+00.1
11	152 10.5	+03.5	N 24 53.9	+00.0
12	167 14.0	+03.5	N 24 53.9	+00.1
13	182 17.5	+03.4	N 24 54.0	+00.0
14	197 20.9	+03.5	N 24 54.0	+00.1
15	212 24.4	+03.4	N 24 54.1	+00.0
16	227 27.8	+03.5	N 24 54.1	+00.1
17	242 31.3	+03.5	N 24 54.2	+00.0
18	257 34.8	+03.4	N 24 54.2	+00.1
19	272 38.2	+03.5	N 24 54.3	+00.0
20	287 41.7	+03.4	N 24 54.3	+00.1
21	302 45.1	+03.5	N 24 54.4	+00.0
22	317 48.6	+03.5	N 24 54.4	+00.1
23	332 52.1	+03.4	N 24 54.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	281°	281°	281°	281°	281°	281°

Greenwich Culmination Time: 00:53

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	66 24.2	+02.5	S 01 47.8	+00.0
01	81 26.7	+02.4	S 01 47.8	−00.1
02	96 29.1	+02.4	S 01 47.7	+00.0
03	111 31.5	+02.5	S 01 47.7	+00.0
04	126 34.0	+02.4	S 01 47.7	+00.0
05	141 36.4	+02.5	S 01 47.7	+00.0
06	156 38.9	+02.4	S 01 47.7	−00.1
07	171 41.3	+02.5	S 01 47.6	+00.0
08	186 43.8	+02.4	S 01 47.6	+00.0
09	201 46.2	+02.4	S 01 47.6	+00.0
10	216 48.6	+02.5	S 01 47.6	−00.1
11	231 51.1	+02.4	S 01 47.5	+00.0
12	246 53.5	+02.5	S 01 47.5	+00.0
13	261 56.0	+02.4	S 01 47.5	+00.0
14	276 58.4	+02.4	S 01 47.5	+00.0
15	292 00.8	+02.5	S 01 47.5	−00.1
16	307 03.3	+02.4	S 01 47.4	+00.0
17	322 05.7	+02.5	S 01 47.4	+00.0
18	337 08.2	+02.4	S 01 47.4	+00.0
19	352 10.6	+02.4	S 01 47.4	−00.1
20	7 13.0	+02.5	S 01 47.3	+00.0
21	22 15.5	+02.4	S 01 47.3	+00.0
22	37 17.9	+02.5	S 01 47.3	+00.0
23	52 20.4	+02.4	S 01 47.3	−00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	001°	001°	001°	001°	001°	001°

Greenwich Culmination Time: 19:31

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	103 27.1	+02.3	S 16 08.2	+00.0
01	118 29.4	+02.4	S 16 08.2	−00.1
02	133 31.8	+02.3	S 16 08.1	+00.0
03	148 34.1	+02.3	S 16 08.1	−00.1
04	163 36.4	+02.3	S 16 08.0	+00.0
05	178 38.7	+02.4	S 16 08.0	−00.1
06	193 41.1	+02.3	S 16 07.9	+00.0
07	208 43.4	+02.3	S 16 07.9	−00.1
08	223 45.7	+02.3	S 16 07.8	+00.0
09	238 48.0	+02.3	S 16 07.8	−00.1
10	253 50.3	+02.4	S 16 07.7	+00.0
11	268 52.7	+02.3	S 16 07.7	+00.0
12	283 55.0	+02.3	S 16 07.7	−00.1
13	298 57.3	+02.3	S 16 07.6	+00.0
14	313 59.6	+02.4	S 16 07.6	−00.1
15	329 02.0	+02.3	S 16 07.5	+00.0
16	344 04.3	+02.3	S 16 07.5	−00.1
17	359 06.6	+02.3	S 16 07.4	+00.0
18	14 08.9	+02.3	S 16 07.4	−00.1
19	29 11.2	+02.4	S 16 07.3	+00.0
20	44 13.6	+02.3	S 16 07.3	−00.1
21	59 15.9	+02.3	S 16 07.2	+00.0
22	74 18.2	+02.3	S 16 07.2	−00.1
23	89 20.5	+02.3	S 16 07.1	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	038°	038°	038°	038°	038°	038°

Greenwich Culmination Time: 17:03

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2022 December 2 Friday (day 336 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	182 42.2	−00.3	S 21 54.9	+00.3
01	197 41.9	−00.2	S 21 55.2	+00.4
02	212 41.7	−00.3	S 21 55.6	+00.4
03	227 41.4	−00.2	S 21 56.0	+00.4
04	242 41.2	−00.2	S 21 56.4	+00.3
05	257 41.0	−00.3	S 21 56.7	+00.4
06	272 40.7	−00.2	S 21 57.1	+00.4
07	287 40.5	−00.3	S 21 57.5	+00.4
08	302 40.2	−00.2	S 21 57.9	+00.3
09	317 40.0	−00.2	S 21 58.2	+00.4
10	332 39.8	−00.3	S 21 58.6	+00.4
11	347 39.5	−00.2	S 21 59.0	+00.3
12	2 39.3	−00.2	S 21 59.3	+00.4
13	17 39.1	−00.3	S 21 59.7	+00.4
14	32 38.8	−00.2	S 22 00.1	+00.3
15	47 38.6	−00.3	S 22 00.4	+00.4
16	62 38.3	−00.2	S 22 00.8	+00.4
17	77 38.1	−00.3	S 22 01.2	+00.3
18	92 37.8	−00.2	S 22 01.5	+00.4
19	107 37.6	−00.2	S 22 01.9	+00.3
20	122 37.4	−00.3	S 22 02.2	+00.4
21	137 37.1	−00.2	S 22 02.6	+00.4
22	152 36.9	−00.3	S 22 03.0	+00.3
23	167 36.6	−00.2	S 22 03.3	+00.4

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	112°	112°	111°	111°	111°	111°

Greenwich Culmination Time: 11:49

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	171 59.6	−00.9	S 23 27.6	+00.3
01	186 58.7	−00.9	S 23 27.9	+00.4
02	201 57.8	−01.0	S 23 28.3	+00.3
03	216 56.8	−00.9	S 23 28.6	+00.3
04	231 55.9	−00.9	S 23 28.9	+00.4
05	246 55.0	−01.0	S 23 29.3	+00.3
06	261 54.0	−00.9	S 23 29.6	+00.3
07	276 53.1	−01.0	S 23 29.9	+00.4
08	291 52.1	−00.9	S 23 30.3	+00.3
09	306 51.2	−00.9	S 23 30.6	+00.3
10	321 50.3	−01.0	S 23 30.9	+00.4
11	336 49.3	−00.9	S 23 31.3	+00.3
12	351 48.4	−01.0	S 23 31.6	+00.3
13	6 47.4	−00.9	S 23 31.9	+00.3
14	21 46.5	−00.9	S 23 32.2	+00.4
15	36 45.6	−01.0	S 23 32.6	+00.3
16	51 44.6	−00.9	S 23 32.9	+00.3
17	66 43.7	−01.0	S 23 33.2	+00.3
18	81 42.7	−00.9	S 23 33.5	+00.3
19	96 41.8	−01.0	S 23 33.8	+00.3
20	111 40.8	−00.9	S 23 34.1	+00.4
21	126 39.9	−00.9	S 23 34.5	+00.3
22	141 39.0	−01.0	S 23 34.8	+00.3
23	156 38.0	−00.9	S 23 35.1	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	101°	101°	101°	100°	100°	100°

Greenwich Culmination Time: 12:32

Moon

A: 32%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	71 43.6	−27.6	S 04 29.5	−15.4
01	86 16.0	−27.5	S 04 14.1	−15.4
02	100 48.5	−27.5	S 03 58.7	−15.3
03	115 21.0	−27.4	S 03 43.4	−15.4
04	129 53.6	−27.4	S 03 28.0	−15.4
05	144 26.2	−27.3	S 03 12.6	−15.3
06	158 58.9	−27.3	S 02 57.3	−15.4
07	173 31.6	−27.3	S 02 41.9	−15.4
08	188 04.3	−27.2	S 02 26.5	−15.4
09	202 37.1	−27.2	S 02 11.1	−15.3
10	217 09.9	−27.2	S 01 55.8	−15.4
11	231 42.7	−27.1	S 01 40.4	−15.4
12	246 15.6	−27.1	S 01 25.0	−15.3
13	260 48.5	−27.1	S 01 09.7	−15.4
14	275 21.4	−27.0	S 00 54.3	−15.3
15	289 54.4	−27.1	S 00 39.0	−15.3
16	304 27.3	−27.0	S 00 23.7	−15.4
17	319 00.3	−26.9	S 00 08.3	−15.3
18	333 33.4	−27.0	N 00 07.0	+15.3
19	348 06.4	−26.9	N 00 22.3	+15.2
20	2 39.5	−26.9	N 00 37.5	+15.3
21	17 12.6	−26.9	N 00 52.8	+15.3
22	31 45.7	−26.9	N 01 08.1	+15.2
23	46 18.8	−26.9	N 01 23.3	+15.2

UT	02	06	10	14	18	22
SD	15′7	15′7	15′7	15′6	15′6	15′6
HP	57′7	57′6	57′5	57′4	57′3	57′2
SHA	360°	358°	356°	354°	352°	350°

Greenwich Culmination Time: 19:49

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	353 31.1	+03.6	N 24 58.2	+00.1
01	8 34.7	+03.5	N 24 58.3	+00.0
02	23 38.2	+03.5	N 24 58.3	+00.0
03	38 41.7	+03.5	N 24 58.3	+00.0
04	53 45.2	+03.5	N 24 58.3	+00.1
05	68 48.7	+03.6	N 24 58.4	+00.0
06	83 52.3	+03.5	N 24 58.4	+00.0
07	98 55.8	+03.5	N 24 58.4	+00.1
08	113 59.3	+03.5	N 24 58.5	+00.0
09	129 02.8	+03.6	N 24 58.5	+00.0
10	144 06.4	+03.5	N 24 58.5	+00.0
11	159 09.9	+03.5	N 24 58.5	+00.1
12	174 13.4	+03.5	N 24 58.6	+00.0
13	189 16.9	+03.5	N 24 58.6	+00.0
14	204 20.4	+03.6	N 24 58.6	+00.0
15	219 24.0	+03.5	N 24 58.6	+00.0
16	234 27.5	+03.5	N 24 58.6	+00.1
17	249 31.0	+03.5	N 24 58.7	+00.0
18	264 34.5	+03.6	N 24 58.7	+00.0
19	279 38.1	+03.5	N 24 58.7	+00.0
20	294 41.6	+03.5	N 24 58.7	+00.1
21	309 45.1	+03.5	N 24 58.8	+00.0
22	324 48.6	+03.6	N 24 58.8	+00.0
23	339 52.2	+03.5	N 24 58.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	283°	283°	283°	283°	283°	283°

Greenwich Culmination Time: 00:25

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	71 15.2	+02.4	S 01 44.2	+00.0
01	86 17.6	+02.4	S 01 44.2	−00.1
02	101 20.0	+02.4	S 01 44.1	+00.0
03	116 22.4	+02.4	S 01 44.1	+00.0
04	131 24.8	+02.4	S 01 44.1	−00.1
05	146 27.2	+02.4	S 01 44.0	+00.0
06	161 29.6	+02.4	S 01 44.0	−00.1
07	176 32.0	+02.4	S 01 43.9	+00.0
08	191 34.4	+02.4	S 01 43.9	+00.0
09	206 36.8	+02.4	S 01 43.9	−00.1
10	221 39.2	+02.4	S 01 43.8	+00.0
11	236 41.6	+02.4	S 01 43.8	−00.1
12	251 44.0	+02.4	S 01 43.7	+00.0
13	266 46.4	+02.4	S 01 43.7	+00.0
14	281 48.8	+02.4	S 01 43.7	−00.1
15	296 51.2	+02.4	S 01 43.6	+00.0
16	311 53.6	+02.4	S 01 43.6	−00.1
17	326 56.0	+02.4	S 01 43.5	+00.0
18	341 58.4	+02.4	S 01 43.5	+00.0
19	357 00.8	+02.4	S 01 43.5	−00.1
20	12 03.2	+02.4	S 01 43.4	+00.0
21	27 05.6	+02.4	S 01 43.4	−00.1
22	42 08.0	+02.4	S 01 43.3	+00.0
23	57 10.4	+02.4	S 01 43.3	−00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 19:11

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	108 04.8	+02.3	S 16 02.2	−00.1
01	123 07.1	+02.3	S 16 02.1	+00.0
02	138 09.4	+02.4	S 16 02.1	−00.1
03	153 11.8	+02.3	S 16 02.0	+00.0
04	168 14.1	+02.3	S 16 02.0	−00.1
05	183 16.4	+02.3	S 16 01.9	+00.0
06	198 18.7	+02.3	S 16 01.9	−00.1
07	213 21.0	+02.3	S 16 01.8	+00.0
08	228 23.3	+02.3	S 16 01.8	−00.1
09	243 25.6	+02.3	S 16 01.7	+00.0
10	258 27.9	+02.3	S 16 01.7	−00.1
11	273 30.2	+02.3	S 16 01.6	+00.0
12	288 32.5	+02.3	S 16 01.6	−00.1
13	303 34.8	+02.3	S 16 01.5	−00.1
14	318 37.1	+02.3	S 16 01.4	+00.0
15	333 39.4	+02.3	S 16 01.4	−00.1
16	348 41.7	+02.3	S 16 01.3	+00.0
17	3 44.0	+02.3	S 16 01.3	−00.1
18	18 46.3	+02.3	S 16 01.2	+00.0
19	33 48.6	+02.3	S 16 01.2	−00.1
20	48 50.9	+02.3	S 16 01.1	+00.0
21	63 53.2	+02.3	S 16 01.1	−00.1
22	78 55.5	+02.3	S 16 01.0	+00.0
23	93 57.8	+02.3	S 16 01.0	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 16:45

2022 November 29 Tuesday (day 333 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	182 58.5	−00.2	S 21 26.0	+00.4
01	197 58.3	−00.2	S 21 26.4	+00.4
02	212 58.1	−00.3	S 21 26.8	+00.4
03	227 57.8	−00.2	S 21 27.2	+00.5
04	242 57.6	−00.2	S 21 27.7	+00.4
05	257 57.4	−00.2	S 21 28.1	+00.4
06	272 57.2	−00.2	S 21 28.5	+00.4
07	287 57.0	−00.3	S 21 28.9	+00.4
08	302 56.7	−00.2	S 21 29.3	+00.5
09	317 56.5	−00.2	S 21 29.8	+00.4
10	332 56.3	−00.2	S 21 30.2	+00.4
11	347 56.1	−00.2	S 21 30.6	+00.4
12	2 55.9	−00.3	S 21 31.0	+00.4
13	17 55.6	−00.2	S 21 31.4	+00.5
14	32 55.4	−00.2	S 21 31.9	+00.4
15	47 55.2	−00.2	S 21 32.3	+00.4
16	62 55.0	−00.2	S 21 32.7	+00.4
17	77 54.8	−00.3	S 21 33.1	+00.4
18	92 54.5	−00.2	S 21 33.5	+00.4
19	107 54.3	−00.2	S 21 33.9	+00.5
20	122 54.1	−00.2	S 21 34.4	+00.4
21	137 53.9	−00.2	S 21 34.8	+00.4
22	152 53.7	−00.3	S 21 35.2	+00.4
23	167 53.4	−00.2	S 21 35.6	+00.4

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	115°	115°	115°	114°	114°	114°

Greenwich Culmination Time: 11:48

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	173 06.3	−00.9	S 22 59.9	+00.4
01	188 05.4	−00.9	S 23 00.3	+00.5
02	203 04.5	−00.9	S 23 00.8	+00.4
03	218 03.6	−00.9	S 23 01.2	+00.4
04	233 02.7	−00.9	S 23 01.6	+00.4
05	248 01.8	−01.0	S 23 02.0	+00.5
06	263 00.8	−00.9	S 23 02.5	+00.4
07	277 59.9	−00.9	S 23 02.9	+00.4
08	292 59.0	−00.9	S 23 03.3	+00.4
09	307 58.1	−00.9	S 23 03.7	+00.4
10	322 57.2	−00.9	S 23 04.1	+00.5
11	337 56.3	−01.0	S 23 04.6	+00.4
12	352 55.3	−00.9	S 23 05.0	+00.4
13	7 54.4	−00.9	S 23 05.4	+00.4
14	22 53.5	−00.9	S 23 05.8	+00.4
15	37 52.6	−00.9	S 23 06.2	+00.4
16	52 51.7	−01.0	S 23 06.6	+00.4
17	67 50.7	−00.9	S 23 07.0	+00.4
18	82 49.8	−00.9	S 23 07.4	+00.4
19	97 48.9	−00.9	S 23 07.8	+00.4
20	112 48.0	−00.9	S 23 08.2	+00.4
21	127 47.1	−01.0	S 23 08.6	+00.4
22	142 46.1	−00.9	S 23 09.0	+00.4
23	157 45.2	−00.9	S 23 09.4	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	105°	105°	105°	104°	104°	104°

Greenwich Culmination Time: 12:28

Moon

A: 22%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	108 06.5	−33.9	S 21 08.4	−11.1
01	122 32.6	−33.9	S 20 57.3	−11.2
02	136 58.7	−33.7	S 20 46.1	−11.3
03	151 25.0	−33.5	S 20 34.8	−11.5
04	165 51.5	−33.5	S 20 23.3	−11.5
05	180 18.0	−33.4	S 20 11.8	−11.7
06	194 44.6	−33.2	S 20 00.1	−11.8
07	209 11.4	−33.1	S 19 48.3	−11.9
08	223 38.3	−33.0	S 19 36.4	−12.0
09	238 05.3	−32.9	S 19 24.4	−12.1
10	252 32.4	−32.7	S 19 12.3	−12.2
11	266 59.7	−32.7	S 19 00.1	−12.3
12	281 27.0	−32.5	S 18 47.8	−12.4
13	295 54.5	−32.4	S 18 35.4	−12.5
14	310 22.1	−32.3	S 18 22.9	−12.6
15	324 49.8	−32.2	S 18 10.3	−12.7
16	339 17.6	−32.1	S 17 57.6	−12.8
17	353 45.5	−32.0	S 17 44.8	−12.8
18	8 13.5	−31.8	S 17 32.0	−13.0
19	22 41.7	−31.8	S 17 19.0	−13.0
20	37 09.9	−31.6	S 17 06.0	−13.2
21	51 38.3	−31.5	S 16 52.8	−13.2
22	66 06.8	−31.5	S 16 39.6	−13.3
23	80 35.3	−31.3	S 16 26.3	−13.3

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′1	16′1	16′1
HP	59′5	59′4	59′3	59′2	59′1	59′0
SHA	039°	037°	034°	032°	030°	027°

Greenwich Culmination Time: 17:25

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	349 18.9	+03.5	N 24 55.7	+00.0
01	4 22.4	+03.5	N 24 55.7	+00.0
02	19 25.9	+03.5	N 24 55.7	+00.1
03	34 29.4	+03.5	N 24 55.8	+00.0
04	49 32.9	+03.5	N 24 55.8	+00.1
05	64 36.4	+03.4	N 24 55.9	+00.0
06	79 39.8	+03.5	N 24 55.9	+00.1
07	94 43.3	+03.5	N 24 56.0	+00.0
08	109 46.8	+03.5	N 24 56.0	+00.0
09	124 50.3	+03.5	N 24 56.0	+00.1
10	139 53.8	+03.5	N 24 56.1	+00.0
11	154 57.3	+03.5	N 24 56.1	+00.1
12	170 00.8	+03.5	N 24 56.2	+00.0
13	185 04.3	+03.5	N 24 56.2	+00.1
14	200 07.8	+03.5	N 24 56.3	+00.0
15	215 11.3	+03.4	N 24 56.3	+00.0
16	230 14.7	+03.5	N 24 56.3	+00.1
17	245 18.2	+03.5	N 24 56.4	+00.0
18	260 21.7	+03.5	N 24 56.4	+00.1
19	275 25.2	+03.5	N 24 56.5	+00.0
20	290 28.7	+03.5	N 24 56.5	+00.0
21	305 32.2	+03.5	N 24 56.5	+00.1
22	320 35.7	+03.5	N 24 56.6	+00.0
23	335 39.2	+03.5	N 24 56.6	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	281°	282°	282°	282°	282°	282°

Greenwich Culmination Time: 00:42

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	68 21.2	+02.4	S 01 46.6	+00.0
01	83 23.6	+02.4	S 01 46.6	−00.1
02	98 26.0	+02.5	S 01 46.5	+00.0
03	113 28.5	+02.4	S 01 46.5	+00.0
04	128 30.9	+02.4	S 01 46.5	+00.0
05	143 33.3	+02.4	S 01 46.5	−00.1
06	158 35.7	+02.5	S 01 46.4	+00.0
07	173 38.2	+02.4	S 01 46.4	+00.0
08	188 40.6	+02.4	S 01 46.4	−00.1
09	203 43.0	+02.4	S 01 46.3	+00.0
10	218 45.4	+02.5	S 01 46.3	+00.0
11	233 47.9	+02.4	S 01 46.3	+00.0
12	248 50.3	+02.4	S 01 46.3	−00.1
13	263 52.7	+02.4	S 01 46.2	+00.0
14	278 55.1	+02.5	S 01 46.2	+00.0
15	293 57.6	+02.4	S 01 46.2	−00.1
16	308 60.0	+02.4	S 01 46.1	+00.0
17	324 02.4	+02.4	S 01 46.1	+00.0
18	339 04.8	+02.5	S 01 46.1	−00.1
19	354 07.3	+02.4	S 01 46.0	+00.0
20	9 09.7	+02.4	S 01 46.0	+00.0
21	24 12.1	+02.4	S 01 46.0	−00.1
22	39 14.5	+02.4	S 01 45.9	+00.0
23	54 16.9	+02.5	S 01 45.9	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 19:23

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	105 18.5	+02.3	S 16 05.9	−00.1
01	120 20.8	+02.3	S 16 05.8	+00.0
02	135 23.1	+02.3	S 16 05.8	−00.1
03	150 25.4	+02.3	S 16 05.7	+00.0
04	165 27.7	+02.3	S 16 05.7	−00.1
05	180 30.0	+02.4	S 16 05.6	+00.0
06	195 32.4	+02.3	S 16 05.6	−00.1
07	210 34.7	+02.3	S 16 05.5	+00.0
08	225 37.0	+02.3	S 16 05.5	−00.1
09	240 39.3	+02.3	S 16 05.4	+00.0
10	255 41.6	+02.3	S 16 05.4	−00.1
11	270 43.9	+02.3	S 16 05.3	+00.0
12	285 46.2	+02.4	S 16 05.3	−00.1
13	300 48.6	+02.3	S 16 05.2	+00.0
14	315 50.9	+02.3	S 16 05.2	−00.1
15	330 53.2	+02.3	S 16 05.1	+00.0
16	345 55.5	+02.3	S 16 05.1	−00.1
17	0 57.8	+02.3	S 16 05.0	+00.0
18	16 00.1	+02.3	S 16 05.0	−00.1
19	31 02.4	+02.4	S 16 04.9	+00.0
20	46 04.8	+02.3	S 16 04.9	−00.1
21	61 07.1	+02.3	S 16 04.8	+00.0
22	76 09.4	+02.3	S 16 04.8	−00.1
23	91 11.7	+02.3	S 16 04.7	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 16:56

2022 November 30 Wednesday (day 334 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	182 53.2	−00.2	S 21 36.0	+00.4
01	197 53.0	−00.2	S 21 36.4	+00.4
02	212 52.8	−00.3	S 21 36.8	+00.4
03	227 52.5	−00.2	S 21 37.2	+00.4
04	242 52.3	−00.2	S 21 37.6	+00.4
05	257 52.1	−00.2	S 21 38.0	+00.5
06	272 51.9	−00.3	S 21 38.5	+00.4
07	287 51.6	−00.2	S 21 38.9	+00.4
08	302 51.4	−00.2	S 21 39.3	+00.4
09	317 51.2	−00.2	S 21 39.7	+00.4
10	332 51.0	−00.3	S 21 40.1	+00.4
11	347 50.7	−00.2	S 21 40.5	+00.4
12	2 50.5	−00.2	S 21 40.9	+00.4
13	17 50.3	−00.3	S 21 41.3	+00.4
14	32 50.0	−00.2	S 21 41.7	+00.4
15	47 49.8	−00.2	S 21 42.1	+00.4
16	62 49.6	−00.2	S 21 42.5	+00.4
17	77 49.4	−00.3	S 21 42.9	+00.4
18	92 49.1	−00.2	S 21 43.3	+00.4
19	107 48.9	−00.2	S 21 43.7	+00.4
20	122 48.7	−00.3	S 21 44.1	+00.4
21	137 48.4	−00.2	S 21 44.5	+00.4
22	152 48.2	−00.2	S 21 44.9	+00.4
23	167 48.0	−00.2	S 21 45.3	+00.3

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	114°	114°	114°	113°	113°	113°

Greenwich Culmination Time: 11:48

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	172 44.3	−00.9	S 23 09.8	+00.4
01	187 43.4	−01.0	S 23 10.2	+00.4
02	202 42.4	−00.9	S 23 10.6	+00.4
03	217 41.5	−00.9	S 23 11.0	+00.4
04	232 40.6	−00.9	S 23 11.4	+00.4
05	247 39.7	−01.0	S 23 11.8	+00.4
06	262 38.7	−00.9	S 23 12.2	+00.4
07	277 37.8	−00.9	S 23 12.6	+00.4
08	292 36.9	−00.9	S 23 13.0	+00.4
09	307 36.0	−01.0	S 23 13.4	+00.4
10	322 35.0	−00.9	S 23 13.8	+00.4
11	337 34.1	−00.9	S 23 14.2	+00.3
12	352 33.2	−00.9	S 23 14.5	+00.4
13	7 32.3	−01.0	S 23 14.9	+00.4
14	22 31.3	−00.9	S 23 15.3	+00.4
15	37 30.4	−00.9	S 23 15.7	+00.4
16	52 29.5	−00.9	S 23 16.1	+00.3
17	67 28.6	−01.0	S 23 16.4	+00.4
18	82 27.6	−00.9	S 23 16.8	+00.4
19	97 26.7	−00.9	S 23 17.2	+00.4
20	112 25.8	−01.0	S 23 17.6	+00.4
21	127 24.8	−00.9	S 23 18.0	+00.3
22	142 23.9	−00.9	S 23 18.3	+00.4
23	157 23.0	−00.9	S 23 18.7	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	104°	104°	103°	103°	103°	103°

Greenwich Culmination Time: 12:29

Moon

A: 26%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	95 04.0	−31.2	S 16 13.0	−13.5
01	109 32.8	−31.1	S 15 59.5	−13.5
02	124 01.7	−31.0	S 15 46.0	−13.6
03	138 30.7	−30.9	S 15 32.4	−13.7
04	152 59.8	−30.8	S 15 18.7	−13.7
05	167 29.0	−30.7	S 15 05.0	−13.8
06	181 58.3	−30.6	S 14 51.2	−13.9
07	196 27.7	−30.5	S 14 37.3	−13.9
08	210 57.2	−30.4	S 14 23.4	−14.0
09	225 26.8	−30.3	S 14 09.4	−14.1
10	239 56.5	−30.2	S 13 55.3	−14.1
11	254 26.3	−30.2	S 13 41.2	−14.2
12	268 56.1	−30.0	S 13 27.0	−14.3
13	283 26.1	−29.9	S 13 12.7	−14.3
14	297 56.2	−29.9	S 12 58.4	−14.3
15	312 26.3	−29.7	S 12 44.1	−14.4
16	326 56.6	−29.7	S 12 29.7	−14.5
17	341 26.9	−29.6	S 12 15.2	−14.5
18	355 57.3	−29.5	S 12 00.7	−14.6
19	10 27.8	−29.4	S 11 46.1	−14.6
20	24 58.4	−29.3	S 11 31.5	−14.6
21	39 29.1	−29.3	S 11 16.9	−14.7
22	53 59.8	−29.2	S 11 02.2	−14.7
23	68 30.6	−29.0	S 10 47.5	−14.8

UT	02	06	10	14	18	22
SD	16′1	16′0	16′0	16′0	15′9	15′9
HP	58′9	58′8	58′7	58′6	58′5	58′4
SHA	025°	023°	021°	019°	016°	014°

Greenwich Culmination Time: 18:16

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	350 42.7	+03.5	N 24 56.7	+00.0
01	5 46.2	+03.5	N 24 56.7	+00.0
02	20 49.7	+03.5	N 24 56.7	+00.1
03	35 53.2	+03.5	N 24 56.8	+00.0
04	50 56.7	+03.5	N 24 56.8	+00.0
05	66 00.2	+03.5	N 24 56.8	+00.1
06	81 03.7	+03.5	N 24 56.9	+00.0
07	96 07.2	+03.5	N 24 56.9	+00.1
08	111 10.7	+03.5	N 24 57.0	+00.0
09	126 14.2	+03.5	N 24 57.0	+00.0
10	141 17.7	+03.5	N 24 57.0	+00.1
11	156 21.2	+03.5	N 24 57.1	+00.0
12	171 24.7	+03.5	N 24 57.1	+00.0
13	186 28.2	+03.5	N 24 57.1	+00.1
14	201 31.7	+03.5	N 24 57.2	+00.0
15	216 35.2	+03.5	N 24 57.2	+00.0
16	231 38.7	+03.5	N 24 57.2	+00.1
17	246 42.2	+03.5	N 24 57.3	+00.0
18	261 45.7	+03.6	N 24 57.3	+00.0
19	276 49.3	+03.5	N 24 57.3	+00.1
20	291 52.8	+03.5	N 24 57.4	+00.0
21	306 56.3	+03.5	N 24 57.4	+00.0
22	321 59.8	+03.5	N 24 57.4	+00.1
23	337 03.3	+03.5	N 24 57.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	282°	282°	282°	282°	282°	282°

Greenwich Culmination Time: 00:37

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	69 19.4	+02.4	S 01 45.9	+00.0
01	84 21.8	+02.4	S 01 45.9	−00.1
02	99 24.2	+02.4	S 01 45.8	+00.0
03	114 26.6	+02.4	S 01 45.8	+00.0
04	129 29.0	+02.5	S 01 45.8	−00.1
05	144 31.5	+02.4	S 01 45.7	+00.0
06	159 33.9	+02.4	S 01 45.7	+00.0
07	174 36.3	+02.4	S 01 45.7	−00.1
08	189 38.7	+02.4	S 01 45.6	+00.0
09	204 41.1	+02.4	S 01 45.6	+00.0
10	219 43.5	+02.5	S 01 45.6	−00.1
11	234 46.0	+02.4	S 01 45.5	+00.0
12	249 48.4	+02.4	S 01 45.5	+00.0
13	264 50.8	+02.4	S 01 45.5	−00.1
14	279 53.2	+02.4	S 01 45.4	+00.0
15	294 55.6	+02.4	S 01 45.4	+00.0
16	309 58.0	+02.5	S 01 45.4	−00.1
17	325 00.5	+02.4	S 01 45.3	+00.0
18	340 02.9	+02.4	S 01 45.3	+00.0
19	355 05.3	+02.4	S 01 45.3	−00.1
20	10 07.7	+02.4	S 01 45.2	+00.0
21	25 10.1	+02.4	S 01 45.2	+00.0
22	40 12.5	+02.4	S 01 45.2	−00.1
23	55 14.9	+02.5	S 01 45.1	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 19:19

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	106 14.0	+02.3	S 16 04.7	−00.1
01	121 16.3	+02.3	S 16 04.6	+00.0
02	136 18.6	+02.3	S 16 04.6	−00.1
03	151 20.9	+02.4	S 16 04.5	+00.0
04	166 23.3	+02.3	S 16 04.5	−00.1
05	181 25.6	+02.3	S 16 04.4	+00.0
06	196 27.9	+02.3	S 16 04.4	−00.1
07	211 30.2	+02.3	S 16 04.3	+00.0
08	226 32.5	+02.3	S 16 04.3	−00.1
09	241 34.8	+02.3	S 16 04.2	+00.0
10	256 37.1	+02.3	S 16 04.2	−00.1
11	271 39.4	+02.3	S 16 04.1	+00.0
12	286 41.7	+02.4	S 16 04.1	−00.1
13	301 44.1	+02.3	S 16 04.0	+00.0
14	316 46.4	+02.3	S 16 04.0	−00.1
15	331 48.7	+02.3	S 16 03.9	+00.0
16	346 51.0	+02.3	S 16 03.9	−00.1
17	1 53.3	+02.3	S 16 03.8	+00.0
18	16 55.6	+02.3	S 16 03.8	−00.1
19	31 57.9	+02.3	S 16 03.7	+00.0
20	47 00.2	+02.3	S 16 03.7	−00.1
21	62 02.5	+02.3	S 16 03.6	+00.0
22	77 04.8	+02.4	S 16 03.6	−00.1
23	92 07.2	+02.3	S 16 03.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 16:52

2022 December 1 Thursday (day 335 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	182 47.8	−00.3	S 21 45.6	+00.4
01	197 47.5	−00.2	S 21 46.0	+00.4
02	212 47.3	−00.2	S 21 46.4	+00.4
03	227 47.1	−00.3	S 21 46.8	+00.4
04	242 46.8	−00.2	S 21 47.2	+00.4
05	257 46.6	−00.2	S 21 47.6	+00.4
06	272 46.4	−00.3	S 21 48.0	+00.4
07	287 46.1	−00.2	S 21 48.4	+00.4
08	302 45.9	−00.2	S 21 48.8	+00.4
09	317 45.7	−00.3	S 21 49.2	+00.3
10	332 45.4	−00.2	S 21 49.5	+00.4
11	347 45.2	−00.2	S 21 49.9	+00.4
12	2 45.0	−00.3	S 21 50.3	+00.4
13	17 44.7	−00.2	S 21 50.7	+00.4
14	32 44.5	−00.2	S 21 51.1	+00.4
15	47 44.3	−00.3	S 21 51.5	+00.3
16	62 44.0	−00.2	S 21 51.8	+00.4
17	77 43.8	−00.2	S 21 52.2	+00.4
18	92 43.6	−00.3	S 21 52.6	+00.4
19	107 43.3	−00.2	S 21 53.0	+00.4
20	122 43.1	−00.2	S 21 53.4	+00.3
21	137 42.9	−00.3	S 21 53.7	+00.4
22	152 42.6	−00.2	S 21 54.1	+00.4
23	167 42.4	−00.2	S 21 54.5	+00.4

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	113°	113°	113°	112°	112°	112°

Greenwich Culmination Time: 11:48

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	172 22.1	−01.0	S 23 19.1	+00.3
01	187 21.1	−00.9	S 23 19.4	+00.4
02	202 20.2	−00.9	S 23 19.8	+00.4
03	217 19.3	−01.0	S 23 20.2	+00.3
04	232 18.3	−00.9	S 23 20.5	+00.4
05	247 17.4	−00.9	S 23 20.9	+00.4
06	262 16.5	−01.0	S 23 21.3	+00.3
07	277 15.5	−00.9	S 23 21.6	+00.4
08	292 14.6	−00.9	S 23 22.0	+00.3
09	307 13.7	−01.0	S 23 22.3	+00.4
10	322 12.7	−00.9	S 23 22.7	+00.4
11	337 11.8	−00.9	S 23 23.1	+00.3
12	352 10.9	−01.0	S 23 23.4	+00.4
13	7 09.9	−00.9	S 23 23.8	+00.3
14	22 09.0	−00.9	S 23 24.1	+00.4
15	37 08.1	−01.0	S 23 24.5	+00.3
16	52 07.1	−00.9	S 23 24.8	+00.4
17	67 06.2	−00.9	S 23 25.2	+00.3
18	82 05.3	−01.0	S 23 25.5	+00.4
19	97 04.3	−00.9	S 23 25.9	+00.3
20	112 03.4	−00.9	S 23 26.2	+00.4
21	127 02.5	−01.0	S 23 26.6	+00.3
22	142 01.5	−00.9	S 23 26.9	+00.3
23	157 00.6	−01.0	S 23 27.2	+00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	102°	102°	102°	102°	102°	101°

Greenwich Culmination Time: 12:31

Moon

A: 29%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	83 01.6	−29.1	S 10 32.7	−14.8
01	97 32.5	−28.9	S 10 17.9	−14.9
02	112 03.6	−28.9	S 10 03.0	−14.9
03	126 34.7	−28.8	S 09 48.1	−14.9
04	141 05.9	−28.7	S 09 33.2	−15.0
05	155 37.2	−28.6	S 09 18.2	−14.9
06	170 08.6	−28.6	S 09 03.3	−15.1
07	184 40.0	−28.5	S 08 48.2	−15.0
08	199 11.5	−28.4	S 08 33.2	−15.1
09	213 43.1	−28.4	S 08 18.1	−15.1
10	228 14.7	−28.3	S 08 03.0	−15.1
11	242 46.4	−28.3	S 07 47.9	−15.2
12	257 18.1	−28.2	S 07 32.7	−15.2
13	271 49.9	−28.1	S 07 17.5	−15.2
14	286 21.8	−28.1	S 07 02.3	−15.2
15	300 53.7	−28.0	S 06 47.1	−15.2
16	315 25.7	−27.9	S 06 31.9	−15.3
17	329 57.8	−27.9	S 06 16.6	−15.2
18	344 29.9	−27.9	S 06 01.4	−15.3
19	359 02.0	−27.8	S 05 46.1	−15.3
20	13 34.2	−27.7	S 05 30.8	−15.3
21	28 06.5	−27.7	S 05 15.5	−15.4
22	42 38.8	−27.6	S 05 00.1	−15.3
23	57 11.2	−27.6	S 04 44.8	−15.3

UT	02	06	10	14	18	22
SD	15′9	15′9	15′8	15′8	15′8	15′8
HP	58′3	58′2	58′1	58′0	57′9	57′8
SHA	012°	010°	008°	006°	004°	002°

Greenwich Culmination Time: 19:03

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	352 06.8	+03.5	N 24 57.5	+00.0
01	7 10.3	+03.5	N 24 57.5	+00.1
02	22 13.8	+03.5	N 24 57.6	+00.0
03	37 17.3	+03.5	N 24 57.6	+00.0
04	52 20.8	+03.5	N 24 57.6	+00.1
05	67 24.3	+03.6	N 24 57.7	+00.0
06	82 27.9	+03.5	N 24 57.7	+00.0
07	97 31.4	+03.5	N 24 57.7	+00.1
08	112 34.9	+03.5	N 24 57.8	+00.0
09	127 38.4	+03.5	N 24 57.8	+00.0
10	142 41.9	+03.5	N 24 57.8	+00.1
11	157 45.4	+03.5	N 24 57.9	+00.0
12	172 48.9	+03.6	N 24 57.9	+00.0
13	187 52.5	+03.5	N 24 57.9	+00.1
14	202 56.0	+03.5	N 24 58.0	+00.0
15	217 59.5	+03.5	N 24 58.0	+00.0
16	233 03.0	+03.5	N 24 58.0	+00.0
17	248 06.5	+03.5	N 24 58.0	+00.1
18	263 10.0	+03.6	N 24 58.1	+00.0
19	278 13.6	+03.5	N 24 58.1	+00.0
20	293 17.1	+03.5	N 24 58.1	+00.1
21	308 20.6	+03.5	N 24 58.2	+00.0
22	323 24.1	+03.5	N 24 58.2	+00.0
23	338 27.6	+03.5	N 24 58.2	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	282°	282°	282°	283°	283°	283°

Greenwich Culmination Time: 00:31

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	70 17.4	+02.4	S 01 45.1	+00.0
01	85 19.8	+02.4	S 01 45.1	−00.1
02	100 22.2	+02.4	S 01 45.0	+00.0
03	115 24.6	+02.4	S 01 45.0	−00.1
04	130 27.0	+02.4	S 01 44.9	+00.0
05	145 29.4	+02.4	S 01 44.9	+00.0
06	160 31.8	+02.4	S 01 44.9	−00.1
07	175 34.2	+02.4	S 01 44.8	+00.0
08	190 36.6	+02.5	S 01 44.8	+00.0
09	205 39.1	+02.4	S 01 44.8	−00.1
10	220 41.5	+02.4	S 01 44.7	+00.0
11	235 43.9	+02.4	S 01 44.7	+00.0
12	250 46.3	+02.4	S 01 44.7	−00.1
13	265 48.7	+02.4	S 01 44.6	+00.0
14	280 51.1	+02.4	S 01 44.6	−00.1
15	295 53.5	+02.4	S 01 44.5	+00.0
16	310 55.9	+02.4	S 01 44.5	+00.0
17	325 58.3	+02.4	S 01 44.5	−00.1
18	341 00.7	+02.4	S 01 44.4	+00.0
19	356 03.1	+02.4	S 01 44.4	+00.0
20	11 05.5	+02.5	S 01 44.4	−00.1
21	26 08.0	+02.4	S 01 44.3	+00.0
22	41 10.4	+02.4	S 01 44.3	−00.1
23	56 12.8	+02.4	S 01 44.2	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 19:15

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	107 09.5	+02.3	S 16 03.5	−00.1
01	122 11.8	+02.3	S 16 03.4	+00.0
02	137 14.1	+02.3	S 16 03.4	−00.1
03	152 16.4	+02.3	S 16 03.3	−00.1
04	167 18.7	+02.3	S 16 03.2	+00.0
05	182 21.0	+02.3	S 16 03.2	−00.1
06	197 23.3	+02.3	S 16 03.1	+00.0
07	212 25.6	+02.3	S 16 03.1	−00.1
08	227 27.9	+02.3	S 16 03.0	+00.0
09	242 30.2	+02.3	S 16 03.0	−00.1
10	257 32.5	+02.4	S 16 02.9	+00.0
11	272 34.9	+02.3	S 16 02.9	−00.1
12	287 37.2	+02.3	S 16 02.8	+00.0
13	302 39.5	+02.3	S 16 02.8	−00.1
14	317 41.8	+02.3	S 16 02.7	+00.0
15	332 44.1	+02.3	S 16 02.7	−00.1
16	347 46.4	+02.3	S 16 02.6	+00.0
17	2 48.7	+02.3	S 16 02.6	−00.1
18	17 51.0	+02.3	S 16 02.5	+00.0
19	32 53.3	+02.3	S 16 02.5	−00.1
20	47 55.6	+02.3	S 16 02.4	+00.0
21	62 57.9	+02.3	S 16 02.4	−00.1
22	78 00.2	+02.3	S 16 02.3	−00.1
23	93 02.5	+02.3	S 16 02.2	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 16:48

2022 December 6 Tuesday (day 340 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	182 18.3	−00.3	S 22 27.5	+00.3
01	197 18.0	−00.3	S 22 27.8	+00.3
02	212 17.7	−00.2	S 22 28.1	+00.3
03	227 17.5	−00.3	S 22 28.4	+00.3
04	242 17.2	−00.3	S 22 28.7	+00.3
05	257 16.9	−00.2	S 22 29.0	+00.3
06	272 16.7	−00.3	S 22 29.3	+00.3
07	287 16.4	−00.2	S 22 29.6	+00.3
08	302 16.2	−00.3	S 22 29.9	+00.3
09	317 15.9	−00.3	S 22 30.2	+00.3
10	332 15.6	−00.2	S 22 30.5	+00.3
11	347 15.4	−00.3	S 22 30.8	+00.3
12	2 15.1	−00.3	S 22 31.1	+00.3
13	17 14.8	−00.2	S 22 31.4	+00.3
14	32 14.6	−00.3	S 22 31.7	+00.3
15	47 14.3	−00.2	S 22 32.0	+00.3
16	62 14.1	−00.3	S 22 32.3	+00.3
17	77 13.8	−00.3	S 22 32.6	+00.3
18	92 13.5	−00.2	S 22 32.9	+00.2
19	107 13.3	−00.3	S 22 33.1	+00.3
20	122 13.0	−00.3	S 22 33.4	+00.3
21	137 12.7	−00.2	S 22 33.7	+00.3
22	152 12.5	−00.3	S 22 34.0	+00.3
23	167 12.2	−00.3	S 22 34.3	+00.3

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	107°	107°	107°	107°	107°	107°

Greenwich Culmination Time: 11:50

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	170 28.5	−00.9	S 23 54.5	+00.2
01	185 27.6	−01.0	S 23 54.7	+00.2
02	200 26.6	−01.0	S 23 54.9	+00.3
03	215 25.6	−00.9	S 23 55.2	+00.2
04	230 24.7	−01.0	S 23 55.4	+00.2
05	245 23.7	−00.9	S 23 55.6	+00.2
06	260 22.8	−01.0	S 23 55.8	+00.2
07	275 21.8	−01.0	S 23 56.0	+00.2
08	290 20.8	−00.9	S 23 56.2	+00.2
09	305 19.9	−01.0	S 23 56.4	+00.2
10	320 18.9	−01.0	S 23 56.6	+00.2
11	335 17.9	−00.9	S 23 56.8	+00.3
12	350 17.0	−01.0	S 23 57.1	+00.2
13	5 16.0	−00.9	S 23 57.3	+00.2
14	20 15.1	−01.0	S 23 57.5	+00.2
15	35 14.1	−01.0	S 23 57.7	+00.2
16	50 13.1	−00.9	S 23 57.9	+00.2
17	65 12.2	−01.0	S 23 58.1	+00.2
18	80 11.2	−01.0	S 23 58.3	+00.2
19	95 10.2	−00.9	S 23 58.5	+00.2
20	110 09.3	−01.0	S 23 58.7	+00.1
21	125 08.3	−00.9	S 23 58.8	+00.2
22	140 07.4	−01.0	S 23 59.0	+00.2
23	155 06.4	−01.0	S 23 59.2	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	096°	095°	095°	095°	095°	094°

Greenwich Culmination Time: 12:38

Moon

A: 44%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	28 10.0	−28.4	N 18 02.8	+11.2
01	42 41.6	−28.5	N 18 14.0	+11.2
02	57 13.1	−28.5	N 18 25.2	+11.0
03	71 44.6	−28.6	N 18 36.2	+11.0
04	86 16.0	−28.6	N 18 47.2	+10.9
05	100 47.4	−28.6	N 18 58.1	+10.8
06	115 18.8	−28.8	N 19 08.9	+10.7
07	129 50.0	−28.7	N 19 19.6	+10.6
08	144 21.3	−28.8	N 19 30.2	+10.5
09	158 52.5	−28.9	N 19 40.7	+10.4
10	173 23.6	−28.9	N 19 51.1	+10.3
11	187 54.7	−29.0	N 20 01.4	+10.2
12	202 25.7	−29.0	N 20 11.6	+10.1
13	216 56.7	−29.1	N 20 21.7	+10.1
14	231 27.6	−29.1	N 20 31.8	+09.9
15	245 58.5	−29.1	N 20 41.7	+09.8
16	260 29.4	−29.2	N 20 51.5	+09.7
17	275 00.2	−29.3	N 21 01.2	+09.6
18	289 30.9	−29.3	N 21 10.8	+09.5
19	304 01.6	−29.4	N 21 20.3	+09.4
20	318 32.2	−29.4	N 21 29.7	+09.3
21	333 02.8	−29.5	N 21 39.0	+09.1
22	347 33.3	−29.5	N 21 48.1	+09.1
23	2 03.8	−29.5	N 21 57.2	+09.0

UT	02	06	10	14	18	22
SD	15′1	15′1	15′1	15′1	15′1	15′1
HP	55′6	55′5	55′4	55′4	55′3	55′2
SHA	312°	310°	308°	306°	304°	302°

Greenwich Culmination Time: 22:51

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	359 10.0	+03.6	N 24 59.8	+00.0
01	14 13.6	+03.5	N 24 59.8	+00.0
02	29 17.1	+03.5	N 24 59.8	+00.0
03	44 20.6	+03.6	N 24 59.8	+00.0
04	59 24.2	+03.5	N 24 59.8	+00.0
05	74 27.7	+03.5	N 24 59.8	+00.0
06	89 31.2	+03.6	N 24 59.8	+00.0
07	104 34.8	+03.5	N 24 59.8	+00.0
08	119 38.3	+03.5	N 24 59.8	+00.0
09	134 41.8	+03.6	N 24 59.8	+00.0
10	149 45.4	+03.5	N 24 59.8	+00.0
11	164 48.9	+03.5	N 24 59.8	+00.0
12	179 52.4	+03.6	N 24 59.8	+00.0
13	194 56.0	+03.5	N 24 59.8	+00.0
14	209 59.5	+03.6	N 24 59.8	+00.0
15	225 03.1	+03.5	N 24 59.8	+00.0
16	240 06.6	+03.5	N 24 59.8	+00.0
17	255 10.1	+03.6	N 24 59.8	+00.0
18	270 13.7	+03.5	N 24 59.8	+00.0
19	285 17.2	+03.5	N 24 59.8	+00.0
20	300 20.7	+03.6	N 24 59.8	+00.0
21	315 24.3	+03.5	N 24 59.8	+00.0
22	330 27.8	+03.5	N 24 59.8	+00.0
23	345 31.3	+03.6	N 24 59.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	284°	285°	285°	285°	285°	285°

Greenwich Culmination Time: 00:03

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	75 04.5	+02.4	S 01 39.9	−00.1
01	90 06.9	+02.4	S 01 39.8	+00.0
02	105 09.3	+02.4	S 01 39.8	−00.1
03	120 11.7	+02.3	S 01 39.7	+00.0
04	135 14.0	+02.4	S 01 39.7	−00.1
05	150 16.4	+02.4	S 01 39.6	+00.0
06	165 18.8	+02.4	S 01 39.6	−00.1
07	180 21.2	+02.3	S 01 39.5	+00.0
08	195 23.5	+02.4	S 01 39.5	−00.1
09	210 25.9	+02.4	S 01 39.4	−00.1
10	225 28.3	+02.3	S 01 39.3	+00.0
11	240 30.6	+02.4	S 01 39.3	−00.1
12	255 33.0	+02.4	S 01 39.2	+00.0
13	270 35.4	+02.3	S 01 39.2	−00.1
14	285 37.7	+02.4	S 01 39.1	+00.0
15	300 40.1	+02.4	S 01 39.1	−00.1
16	315 42.5	+02.4	S 01 39.0	+00.0
17	330 44.9	+02.3	S 01 39.0	−00.1
18	345 47.2	+02.4	S 01 38.9	+00.0
19	0 49.6	+02.4	S 01 38.9	−00.1
20	15 52.0	+02.3	S 01 38.8	+00.0
21	30 54.3	+02.4	S 01 38.8	−00.1
22	45 56.7	+02.4	S 01 38.7	−00.1
23	60 59.1	+02.3	S 01 38.6	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 18:56

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	111 45.5	+02.3	S 15 56.9	−00.1
01	126 47.8	+02.3	S 15 56.8	+00.0
02	141 50.1	+02.3	S 15 56.8	−00.1
03	156 52.4	+02.3	S 15 56.7	−00.1
04	171 54.7	+02.3	S 15 56.6	+00.0
05	186 57.0	+02.3	S 15 56.6	−00.1
06	201 59.3	+02.2	S 15 56.5	+00.0
07	217 01.5	+02.3	S 15 56.5	−00.1
08	232 03.8	+02.3	S 15 56.4	+00.0
09	247 06.1	+02.3	S 15 56.4	−00.1
10	262 08.4	+02.3	S 15 56.3	−00.1
11	277 10.7	+02.3	S 15 56.2	+00.0
12	292 13.0	+02.3	S 15 56.2	−00.1
13	307 15.3	+02.3	S 15 56.1	+00.0
14	322 17.6	+02.3	S 15 56.1	−00.1
15	337 19.9	+02.3	S 15 56.0	+00.0
16	352 22.2	+02.3	S 15 56.0	−00.1
17	7 24.5	+02.2	S 15 55.9	−00.1
18	22 26.7	+02.3	S 15 55.8	+00.0
19	37 29.0	+02.3	S 15 55.8	−00.1
20	52 31.3	+02.3	S 15 55.7	+00.0
21	67 33.6	+02.3	S 15 55.7	−00.1
22	82 35.9	+02.3	S 15 55.6	−00.1
23	97 38.2	+02.3	S 15 55.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 16:30

2022 December 3 Saturday (day 337 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	182 36.4	−00.3	S 22 03.7	+00.3
01	197 36.1	−00.2	S 22 04.0	+00.4
02	212 35.9	−00.2	S 22 04.4	+00.3
03	227 35.7	−00.3	S 22 04.7	+00.4
04	242 35.4	−00.2	S 22 05.1	+00.4
05	257 35.2	−00.3	S 22 05.5	+00.3
06	272 34.9	−00.2	S 22 05.8	+00.4
07	287 34.7	−00.3	S 22 06.2	+00.3
08	302 34.4	−00.2	S 22 06.5	+00.4
09	317 34.2	−00.3	S 22 06.9	+00.3
10	332 33.9	−00.2	S 22 07.2	+00.4
11	347 33.7	−00.2	S 22 07.6	+00.3
12	2 33.5	−00.3	S 22 07.9	+00.4
13	17 33.2	−00.2	S 22 08.3	+00.3
14	32 33.0	−00.3	S 22 08.6	+00.4
15	47 32.7	−00.2	S 22 09.0	+00.3
16	62 32.5	−00.3	S 22 09.3	+00.4
17	77 32.2	−00.2	S 22 09.7	+00.3
18	92 32.0	−00.3	S 22 10.0	+00.3
19	107 31.7	−00.2	S 22 10.3	+00.4
20	122 31.5	−00.3	S 22 10.7	+00.3
21	137 31.2	−00.2	S 22 11.0	+00.4
22	152 31.0	−00.3	S 22 11.4	+00.3
23	167 30.7	−00.2	S 22 11.7	+00.4

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	111°	111°	110°	110°	110°	110°

Greenwich Culmination Time: 11:49

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	171 37.1	−01.0	S 23 35.4	+00.3
01	186 36.1	−00.9	S 23 35.7	+00.3
02	201 35.2	−01.0	S 23 36.0	+00.3
03	216 34.2	−00.9	S 23 36.3	+00.3
04	231 33.3	−00.9	S 23 36.6	+00.3
05	246 32.4	−01.0	S 23 36.9	+00.3
06	261 31.4	−00.9	S 23 37.2	+00.3
07	276 30.5	−01.0	S 23 37.5	+00.3
08	291 29.5	−00.9	S 23 37.8	+00.3
09	306 28.6	−01.0	S 23 38.1	+00.3
10	321 27.6	−00.9	S 23 38.4	+00.3
11	336 26.7	−01.0	S 23 38.7	+00.3
12	351 25.7	−00.9	S 23 39.0	+00.3
13	6 24.8	−01.0	S 23 39.3	+00.3
14	21 23.8	−00.9	S 23 39.6	+00.3
15	36 22.9	−01.0	S 23 39.9	+00.3
16	51 21.9	−00.9	S 23 40.2	+00.3
17	66 21.0	−01.0	S 23 40.5	+00.3
18	81 20.0	−00.9	S 23 40.8	+00.3
19	96 19.1	−00.9	S 23 41.1	+00.3
20	111 18.2	−01.0	S 23 41.4	+00.2
21	126 17.2	−00.9	S 23 41.6	+00.3
22	141 16.3	−01.0	S 23 41.9	+00.3
23	156 15.3	−00.9	S 23 42.2	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	100°	099°	099°	099°	099°	099°

Greenwich Culmination Time: 12:34

Moon

A: 35%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	60 51.9	−26.8	N 01 38.5	+15.2
01	75 25.1	−26.9	N 01 53.7	+15.2
02	89 58.2	−26.8	N 02 08.9	+15.2
03	104 31.4	−26.8	N 02 24.1	+15.1
04	119 04.6	−26.8	N 02 39.2	+15.1
05	133 37.8	−26.8	N 02 54.3	+15.1
06	148 11.0	−26.8	N 03 09.4	+15.1
07	162 44.2	−26.7	N 03 24.5	+15.0
08	177 17.5	−26.8	N 03 39.5	+15.0
09	191 50.7	−26.8	N 03 54.5	+15.0
10	206 23.9	−26.8	N 04 09.5	+15.0
11	220 57.1	−26.7	N 04 24.5	+14.9
12	235 30.4	−26.8	N 04 39.4	+14.9
13	250 03.6	−26.7	N 04 54.3	+14.8
14	264 36.9	−26.8	N 05 09.1	+14.9
15	279 10.1	−26.8	N 05 24.0	+14.8
16	293 43.3	−26.7	N 05 38.8	+14.7
17	308 16.6	−26.8	N 05 53.5	+14.8
18	322 49.8	−26.8	N 06 08.3	+14.6
19	337 23.0	−26.8	N 06 22.9	+14.7
20	351 56.2	−26.8	N 06 37.6	+14.6
21	6 29.4	−26.8	N 06 52.2	+14.6
22	21 02.6	−26.8	N 07 06.8	+14.5
23	35 35.8	−26.8	N 07 21.3	+14.5

UT	02	06	10	14	18	22
SD	15′6	15′5	15′5	15′5	15′5	15′4
HP	57′1	57′0	56′9	56′8	56′8	56′7
SHA	348°	346°	344°	342°	340°	338°

Greenwich Culmination Time: 20:33

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	354 55.7	+03.5	N 24 58.8	+00.1
01	9 59.2	+03.6	N 24 58.9	+00.0
02	25 02.8	+03.5	N 24 58.9	+00.0
03	40 06.3	+03.5	N 24 58.9	+00.0
04	55 09.8	+03.5	N 24 58.9	+00.0
05	70 13.3	+03.6	N 24 58.9	+00.1
06	85 16.9	+03.5	N 24 59.0	+00.0
07	100 20.4	+03.5	N 24 59.0	+00.0
08	115 23.9	+03.5	N 24 59.0	+00.0
09	130 27.4	+03.6	N 24 59.0	+00.0
10	145 31.0	+03.5	N 24 59.0	+00.1
11	160 34.5	+03.5	N 24 59.1	+00.0
12	175 38.0	+03.6	N 24 59.1	+00.0
13	190 41.6	+03.5	N 24 59.1	+00.0
14	205 45.1	+03.5	N 24 59.1	+00.0
15	220 48.6	+03.6	N 24 59.1	+00.0
16	235 52.2	+03.5	N 24 59.1	+00.1
17	250 55.7	+03.5	N 24 59.2	+00.0
18	265 59.2	+03.5	N 24 59.2	+00.0
19	281 02.7	+03.6	N 24 59.2	+00.0
20	296 06.3	+03.5	N 24 59.2	+00.0
21	311 09.8	+03.5	N 24 59.2	+00.0
22	326 13.3	+03.6	N 24 59.2	+00.1
23	341 16.9	+03.5	N 24 59.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	283°	283°	283°	283°	283°	284°

Greenwich Culmination Time: 00:20

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	72 12.8	+02.4	S 01 43.2	+00.0
01	87 15.2	+02.4	S 01 43.2	+00.0
02	102 17.6	+02.4	S 01 43.2	−00.1
03	117 20.0	+02.4	S 01 43.1	+00.0
04	132 22.4	+02.4	S 01 43.1	−00.1
05	147 24.8	+02.4	S 01 43.0	+00.0
06	162 27.2	+02.4	S 01 43.0	−00.1
07	177 29.6	+02.4	S 01 42.9	+00.0
08	192 32.0	+02.4	S 01 42.9	+00.0
09	207 34.4	+02.3	S 01 42.9	−00.1
10	222 36.7	+02.4	S 01 42.8	+00.0
11	237 39.1	+02.4	S 01 42.8	−00.1
12	252 41.5	+02.4	S 01 42.7	+00.0
13	267 43.9	+02.4	S 01 42.7	−00.1
14	282 46.3	+02.4	S 01 42.6	+00.0
15	297 48.7	+02.4	S 01 42.6	+00.0
16	312 51.1	+02.4	S 01 42.6	−00.1
17	327 53.5	+02.4	S 01 42.5	+00.0
18	342 55.9	+02.4	S 01 42.5	−00.1
19	357 58.3	+02.4	S 01 42.4	+00.0
20	13 00.7	+02.4	S 01 42.4	−00.1
21	28 03.1	+02.3	S 01 42.3	+00.0
22	43 05.4	+02.4	S 01 42.3	−00.1
23	58 07.8	+02.4	S 01 42.2	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 19:08

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	109 00.1	+02.3	S 16 00.9	+00.0
01	124 02.4	+02.3	S 16 00.9	−00.1
02	139 04.7	+02.3	S 16 00.8	−00.1
03	154 07.0	+02.3	S 16 00.7	+00.0
04	169 09.3	+02.3	S 16 00.7	−00.1
05	184 11.6	+02.3	S 16 00.6	+00.0
06	199 13.9	+02.3	S 16 00.6	−00.1
07	214 16.2	+02.3	S 16 00.5	+00.0
08	229 18.5	+02.3	S 16 00.5	−00.1
09	244 20.8	+02.3	S 16 00.4	+00.0
10	259 23.1	+02.3	S 16 00.4	−00.1
11	274 25.4	+02.3	S 16 00.3	+00.0
12	289 27.7	+02.3	S 16 00.3	−00.1
13	304 30.0	+02.3	S 16 00.2	−00.1
14	319 32.3	+02.3	S 16 00.1	+00.0
15	334 34.6	+02.3	S 16 00.1	−00.1
16	349 36.9	+02.3	S 16 00.0	+00.0
17	4 39.2	+02.3	S 15 60.0	−00.1
18	19 41.5	+02.3	S 15 59.9	+00.0
19	34 43.8	+02.3	S 15 59.9	−00.1
20	49 46.1	+02.3	S 15 59.8	+00.0
21	64 48.4	+02.3	S 15 59.8	−00.1
22	79 50.7	+02.3	S 15 59.7	−00.1
23	94 53.0	+02.3	S 15 59.6	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 16:41

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2022 December 4 Sunday (day 338 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	182 30.5	−00.3	S 22 12.1	+00.3
01	197 30.2	−00.2	S 22 12.4	+00.3
02	212 30.0	−00.3	S 22 12.7	+00.4
03	227 29.7	−00.2	S 22 13.1	+00.3
04	242 29.5	−00.3	S 22 13.4	+00.3
05	257 29.2	−00.2	S 22 13.7	+00.4
06	272 29.0	−00.3	S 22 14.1	+00.3
07	287 28.7	−00.2	S 22 14.4	+00.3
08	302 28.5	−00.3	S 22 14.7	+00.4
09	317 28.2	−00.2	S 22 15.1	+00.3
10	332 28.0	−00.3	S 22 15.4	+00.3
11	347 27.7	−00.2	S 22 15.7	+00.4
12	2 27.5	−00.3	S 22 16.1	+00.3
13	17 27.2	−00.2	S 22 16.4	+00.3
14	32 27.0	−00.3	S 22 16.7	+00.4
15	47 26.7	−00.2	S 22 17.1	+00.3
16	62 26.5	−00.3	S 22 17.4	+00.3
17	77 26.2	−00.2	S 22 17.7	+00.4
18	92 26.0	−00.3	S 22 18.1	+00.3
19	107 25.7	−00.2	S 22 18.4	+00.3
20	122 25.5	−00.3	S 22 18.7	+00.3
21	137 25.2	−00.3	S 22 19.0	+00.4
22	152 24.9	−00.2	S 22 19.4	+00.3
23	167 24.7	−00.3	S 22 19.7	+00.3

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	110°	109°	109°	109°	109°	109°

Greenwich Culmination Time: 11:50

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	171 14.4	−01.0	S 23 42.5	+00.3
01	186 13.4	−00.9	S 23 42.8	+00.2
02	201 12.5	−01.0	S 23 43.0	+00.3
03	216 11.5	−00.9	S 23 43.3	+00.3
04	231 10.6	−01.0	S 23 43.6	+00.3
05	246 09.6	−00.9	S 23 43.9	+00.3
06	261 08.7	−01.0	S 23 44.2	+00.2
07	276 07.7	−01.0	S 23 44.4	+00.3
08	291 06.7	−00.9	S 23 44.7	+00.3
09	306 05.8	−01.0	S 23 45.0	+00.2
10	321 04.8	−00.9	S 23 45.2	+00.3
11	336 03.9	−01.0	S 23 45.5	+00.3
12	351 02.9	−00.9	S 23 45.8	+00.2
13	6 02.0	−01.0	S 23 46.0	+00.3
14	21 01.0	−00.9	S 23 46.3	+00.3
15	36 00.1	−01.0	S 23 46.6	+00.2
16	50 59.1	−00.9	S 23 46.8	+00.3
17	65 58.2	−01.0	S 23 47.1	+00.2
18	80 57.2	−00.9	S 23 47.3	+00.3
19	95 56.3	−01.0	S 23 47.6	+00.3
20	110 55.3	−00.9	S 23 47.9	+00.2
21	125 54.4	−01.0	S 23 48.1	+00.3
22	140 53.4	−00.9	S 23 48.4	+00.2
23	155 52.5	−01.0	S 23 48.6	+00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	098°	098°	098°	098°	097°	097°

Greenwich Culmination Time: 12:35

Moon

A: 38%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	50 09.0	−26.9	N 07 35.8	+14.4
01	64 42.1	−26.8	N 07 50.2	+14.4
02	79 15.3	−26.9	N 08 04.6	+14.4
03	93 48.4	−26.9	N 08 19.0	+14.3
04	108 21.5	−26.9	N 08 33.3	+14.3
05	122 54.6	−26.9	N 08 47.6	+14.2
06	137 27.7	−27.0	N 09 01.8	+14.1
07	152 00.7	−26.9	N 09 15.9	+14.1
08	166 33.8	−27.0	N 09 30.0	+14.1
09	181 06.8	−27.0	N 09 44.1	+14.0
10	195 39.8	−27.0	N 09 58.1	+14.0
11	210 12.8	−27.1	N 10 12.1	+13.9
12	224 45.7	−27.0	N 10 26.0	+13.8
13	239 18.7	−27.1	N 10 39.8	+13.8
14	253 51.6	−27.1	N 10 53.6	+13.8
15	268 24.5	−27.2	N 11 07.4	+13.7
16	282 57.3	−27.1	N 11 21.1	+13.6
17	297 30.2	−27.3	N 11 34.7	+13.5
18	312 02.9	−27.2	N 11 48.2	+13.5
19	326 35.7	−27.2	N 12 01.7	+13.5
20	341 08.5	−27.3	N 12 15.2	+13.4
21	355 41.2	−27.4	N 12 28.6	+13.3
22	10 13.8	−27.3	N 12 41.9	+13.2
23	24 46.5	−27.4	N 12 55.1	+13.2

UT	02	06	10	14	18	22
SD	15′4	15′4	15′4	15′3	15′3	15′3
HP	56′6	56′5	56′4	56′3	56′2	56′1
SHA	336°	334°	332°	330°	329°	327°

Greenwich Culmination Time: 21:17

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	356 20.4	+03.5	N 24 59.3	+00.0
01	11 23.9	+03.6	N 24 59.3	+00.0
02	26 27.5	+03.5	N 24 59.3	+00.0
03	41 31.0	+03.5	N 24 59.3	+00.0
04	56 34.5	+03.6	N 24 59.3	+00.1
05	71 38.1	+03.5	N 24 59.4	+00.0
06	86 41.6	+03.5	N 24 59.4	+00.0
07	101 45.1	+03.6	N 24 59.4	+00.0
08	116 48.7	+03.5	N 24 59.4	+00.0
09	131 52.2	+03.5	N 24 59.4	+00.0
10	146 55.7	+03.6	N 24 59.4	+00.0
11	161 59.3	+03.5	N 24 59.4	+00.1
12	177 02.8	+03.5	N 24 59.5	+00.0
13	192 06.3	+03.6	N 24 59.5	+00.0
14	207 09.9	+03.5	N 24 59.5	+00.0
15	222 13.4	+03.5	N 24 59.5	+00.0
16	237 16.9	+03.6	N 24 59.5	+00.0
17	252 20.5	+03.5	N 24 59.5	+00.0
18	267 24.0	+03.5	N 24 59.5	+00.0
19	282 27.5	+03.6	N 24 59.5	+00.0
20	297 31.1	+03.5	N 24 59.5	+00.1
21	312 34.6	+03.5	N 24 59.6	+00.0
22	327 38.1	+03.6	N 24 59.6	+00.0
23	342 41.7	+03.5	N 24 59.6	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	284°	284°	284°	284°	284°	284°

Greenwich Culmination Time: 00:14

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	73 10.2	+02.4	S 01 42.2	+00.0
01	88 12.6	+02.4	S 01 42.2	−00.1
02	103 15.0	+02.4	S 01 42.1	+00.0
03	118 17.4	+02.4	S 01 42.1	−00.1
04	133 19.8	+02.4	S 01 42.0	+00.0
05	148 22.2	+02.4	S 01 42.0	−00.1
06	163 24.6	+02.3	S 01 41.9	+00.0
07	178 26.9	+02.4	S 01 41.9	−00.1
08	193 29.3	+02.4	S 01 41.8	+00.0
09	208 31.7	+02.4	S 01 41.8	−00.1
10	223 34.1	+02.4	S 01 41.7	+00.0
11	238 36.5	+02.4	S 01 41.7	−00.1
12	253 38.9	+02.4	S 01 41.6	+00.0
13	268 41.3	+02.3	S 01 41.6	+00.0
14	283 43.6	+02.4	S 01 41.6	−00.1
15	298 46.0	+02.4	S 01 41.5	+00.0
16	313 48.4	+02.4	S 01 41.5	−00.1
17	328 50.8	+02.4	S 01 41.4	+00.0
18	343 53.2	+02.4	S 01 41.4	−00.1
19	358 55.6	+02.4	S 01 41.3	+00.0
20	13 58.0	+02.3	S 01 41.3	−00.1
21	29 00.3	+02.4	S 01 41.2	+00.0
22	44 02.7	+02.4	S 01 41.2	−00.1
23	59 05.1	+02.4	S 01 41.1	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 19:04

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	109 55.3	+02.3	S 15 59.6	−00.1
01	124 57.6	+02.3	S 15 59.5	+00.0
02	139 59.9	+02.3	S 15 59.5	−00.1
03	155 02.2	+02.3	S 15 59.4	+00.0
04	170 04.5	+02.3	S 15 59.4	−00.1
05	185 06.8	+02.3	S 15 59.3	+00.0
06	200 09.1	+02.3	S 15 59.3	−00.1
07	215 11.4	+02.3	S 15 59.2	−00.1
08	230 13.7	+02.3	S 15 59.1	+00.0
09	245 16.0	+02.3	S 15 59.1	−00.1
10	260 18.3	+02.3	S 15 59.0	+00.0
11	275 20.6	+02.3	S 15 59.0	−00.1
12	290 22.9	+02.3	S 15 58.9	+00.0
13	305 25.2	+02.3	S 15 58.9	−00.1
14	320 27.5	+02.3	S 15 58.8	+00.0
15	335 29.8	+02.3	S 15 58.8	−00.1
16	350 32.1	+02.3	S 15 58.7	−00.1
17	5 34.4	+02.3	S 15 58.6	+00.0
18	20 36.7	+02.3	S 15 58.6	−00.1
19	35 39.0	+02.3	S 15 58.5	+00.0
20	50 41.3	+02.3	S 15 58.5	−00.1
21	65 43.6	+02.3	S 15 58.4	+00.0
22	80 45.9	+02.3	S 15 58.4	−00.1
23	95 48.2	+02.3	S 15 58.3	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 16:37

2022 December 5 Monday (day 339 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	182 24.4	−00.2	S 22 20.0	+00.3
01	197 24.2	−00.3	S 22 20.3	+00.3
02	212 23.9	−00.2	S 22 20.6	+00.4
03	227 23.7	−00.3	S 22 21.0	+00.3
04	242 23.4	−00.2	S 22 21.3	+00.3
05	257 23.2	−00.3	S 22 21.6	+00.3
06	272 22.9	−00.3	S 22 21.9	+00.3
07	287 22.6	−00.2	S 22 22.2	+00.3
08	302 22.4	−00.3	S 22 22.5	+00.4
09	317 22.1	−00.2	S 22 22.9	+00.3
10	332 21.9	−00.3	S 22 23.2	+00.3
11	347 21.6	−00.2	S 22 23.5	+00.3
12	2 21.4	−00.3	S 22 23.8	+00.3
13	17 21.1	−00.3	S 22 24.1	+00.3
14	32 20.8	−00.2	S 22 24.4	+00.3
15	47 20.6	−00.3	S 22 24.7	+00.4
16	62 20.3	−00.2	S 22 25.1	+00.3
17	77 20.1	−00.3	S 22 25.4	+00.3
18	92 19.8	−00.2	S 22 25.7	+00.3
19	107 19.6	−00.3	S 22 26.0	+00.3
20	122 19.3	−00.3	S 22 26.3	+00.3
21	137 19.0	−00.2	S 22 26.6	+00.3
22	152 18.8	−00.3	S 22 26.9	+00.3
23	167 18.5	−00.2	S 22 27.2	+00.3

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	109°	108°	108°	108°	108°	108°

Greenwich Culmination Time: 11:50

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	170 51.5	−01.0	S 23 48.9	+00.2
01	185 50.5	−00.9	S 23 49.1	+00.3
02	200 49.6	−01.0	S 23 49.4	+00.2
03	215 48.6	−00.9	S 23 49.6	+00.3
04	230 47.7	−01.0	S 23 49.9	+00.2
05	245 46.7	−00.9	S 23 50.1	+00.2
06	260 45.8	−01.0	S 23 50.3	+00.3
07	275 44.8	−01.0	S 23 50.6	+00.2
08	290 43.8	−00.9	S 23 50.8	+00.3
09	305 42.9	−01.0	S 23 51.1	+00.2
10	320 41.9	−00.9	S 23 51.3	+00.2
11	335 41.0	−01.0	S 23 51.5	+00.3
12	350 40.0	−00.9	S 23 51.8	+00.2
13	5 39.1	−01.0	S 23 52.0	+00.2
14	20 38.1	−01.0	S 23 52.2	+00.3
15	35 37.1	−00.9	S 23 52.5	+00.2
16	50 36.2	−01.0	S 23 52.7	+00.2
17	65 35.2	−00.9	S 23 52.9	+00.3
18	80 34.3	−01.0	S 23 53.2	+00.2
19	95 33.3	−00.9	S 23 53.4	+00.2
20	110 32.4	−01.0	S 23 53.6	+00.2
21	125 31.4	−01.0	S 23 53.8	+00.3
22	140 30.4	−00.9	S 23 54.1	+00.2
23	155 29.5	−01.0	S 23 54.3	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	097°	097°	097°	096°	096°	096°

Greenwich Culmination Time: 12:37

Moon

A: 41%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	39 19.1	−27.4	N 13 08.3	+13.1
01	53 51.7	−27.5	N 13 21.4	+13.1
02	68 24.2	−27.5	N 13 34.5	+13.0
03	82 56.7	−27.5	N 13 47.5	+12.9
04	97 29.2	−27.6	N 14 00.4	+12.8
05	112 01.6	−27.6	N 14 13.2	+12.8
06	126 34.0	−27.6	N 14 26.0	+12.7
07	141 06.4	−27.7	N 14 38.7	+12.7
08	155 38.7	−27.7	N 14 51.4	+12.5
09	170 11.0	−27.8	N 15 03.9	+12.5
10	184 43.2	−27.8	N 15 16.4	+12.4
11	199 15.4	−27.8	N 15 28.8	+12.3
12	213 47.6	−27.9	N 15 41.1	+12.3
13	228 19.7	−27.9	N 15 53.4	+12.2
14	242 51.8	−28.0	N 16 05.6	+12.1
15	257 23.8	−28.0	N 16 17.7	+12.0
16	271 55.8	−28.1	N 16 29.7	+11.9
17	286 27.7	−28.1	N 16 41.6	+11.8
18	300 59.6	−28.1	N 16 53.4	+11.8
19	315 31.5	−28.2	N 17 05.2	+11.7
20	330 03.3	−28.3	N 17 16.9	+11.6
21	344 35.0	−28.3	N 17 28.5	+11.5
22	359 06.7	−28.3	N 17 40.0	+11.4
23	13 38.4	−28.4	N 17 51.4	+11.4

UT	02	06	10	14	18	22
SD	15′3	15′3	15′2	15′2	15′2	15′2
HP	56′1	56′0	55′9	55′8	55′7	55′7
SHA	325°	323°	321°	319°	316°	314°

Greenwich Culmination Time: 22:03

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	357 45.2	+03.5	N 24 59.6	+00.0
01	12 48.7	+03.6	N 24 59.6	+00.0
02	27 52.3	+03.5	N 24 59.6	+00.0
03	42 55.8	+03.5	N 24 59.6	+00.0
04	57 59.3	+03.6	N 24 59.6	+00.0
05	73 02.9	+03.5	N 24 59.6	+00.0
06	88 06.4	+03.5	N 24 59.6	+00.1
07	103 09.9	+03.6	N 24 59.7	+00.0
08	118 13.5	+03.5	N 24 59.7	+00.0
09	133 17.0	+03.5	N 24 59.7	+00.0
10	148 20.5	+03.6	N 24 59.7	+00.0
11	163 24.1	+03.5	N 24 59.7	+00.0
12	178 27.6	+03.6	N 24 59.7	+00.0
13	193 31.2	+03.5	N 24 59.7	+00.0
14	208 34.7	+03.5	N 24 59.7	+00.0
15	223 38.2	+03.6	N 24 59.7	+00.0
16	238 41.8	+03.5	N 24 59.7	+00.0
17	253 45.3	+03.5	N 24 59.7	+00.0
18	268 48.8	+03.6	N 24 59.7	+00.0
19	283 52.4	+03.5	N 24 59.7	+00.0
20	298 55.9	+03.5	N 24 59.7	+00.1
21	313 59.4	+03.6	N 24 59.8	+00.0
22	329 03.0	+03.5	N 24 59.8	+00.0
23	344 06.5	+03.5	N 24 59.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	284°	284°	284°	284°	284°	284°

Greenwich Culmination Time: 00:08

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	74 07.5	+02.4	S 01 41.1	−00.1
01	89 09.9	+02.3	S 01 41.0	+00.0
02	104 12.2	+02.4	S 01 41.0	−00.1
03	119 14.6	+02.4	S 01 40.9	+00.0
04	134 17.0	+02.4	S 01 40.9	−00.1
05	149 19.4	+02.4	S 01 40.8	+00.0
06	164 21.8	+02.3	S 01 40.8	−00.1
07	179 24.1	+02.4	S 01 40.7	+00.0
08	194 26.5	+02.4	S 01 40.7	−00.1
09	209 28.9	+02.4	S 01 40.6	+00.0
10	224 31.3	+02.4	S 01 40.6	−00.1
11	239 33.7	+02.3	S 01 40.5	+00.0
12	254 36.0	+02.4	S 01 40.5	−00.1
13	269 38.4	+02.4	S 01 40.4	+00.0
14	284 40.8	+02.4	S 01 40.4	−00.1
15	299 43.2	+02.3	S 01 40.3	+00.0
16	314 45.5	+02.4	S 01 40.3	−00.1
17	329 47.9	+02.4	S 01 40.2	+00.0
18	344 50.3	+02.4	S 01 40.2	−00.1
19	359 52.7	+02.3	S 01 40.1	+00.0
20	14 55.0	+02.4	S 01 40.1	−00.1
21	29 57.4	+02.4	S 01 40.0	+00.0
22	44 59.8	+02.4	S 01 40.0	−00.1
23	60 02.2	+02.3	S 01 39.9	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 19:00

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	110 50.5	+02.3	S 15 58.2	+00.0
01	125 52.8	+02.3	S 15 58.2	−00.1
02	140 55.1	+02.2	S 15 58.1	+00.0
03	155 57.3	+02.3	S 15 58.1	−00.1
04	170 59.6	+02.3	S 15 58.0	+00.0
05	186 01.9	+02.3	S 15 58.0	−00.1
06	201 04.2	+02.3	S 15 57.9	+00.0
07	216 06.5	+02.3	S 15 57.9	−00.1
08	231 08.8	+02.3	S 15 57.8	−00.1
09	246 11.1	+02.3	S 15 57.7	+00.0
10	261 13.4	+02.3	S 15 57.7	−00.1
11	276 15.7	+02.3	S 15 57.6	+00.0
12	291 18.0	+02.3	S 15 57.6	−00.1
13	306 20.3	+02.3	S 15 57.5	+00.0
14	321 22.6	+02.3	S 15 57.5	−00.1
15	336 24.9	+02.3	S 15 57.4	−00.1
16	351 27.2	+02.3	S 15 57.3	+00.0
17	6 29.5	+02.3	S 15 57.3	−00.1
18	21 31.8	+02.2	S 15 57.2	+00.0
19	36 34.0	+02.3	S 15 57.2	−00.1
20	51 36.3	+02.3	S 15 57.1	+00.0
21	66 38.6	+02.3	S 15 57.1	−00.1
22	81 40.9	+02.3	S 15 57.0	−00.1
23	96 43.2	+02.3	S 15 56.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 16:34

2022 December 10 Saturday (day 344 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	181 52.2	−00.2	S 22 53.2	+00.2
01	196 52.0	−00.3	S 22 53.4	+00.2
02	211 51.7	−00.3	S 22 53.6	+00.2
03	226 51.4	−00.3	S 22 53.8	+00.3
04	241 51.1	−00.3	S 22 54.1	+00.2
05	256 50.8	−00.2	S 22 54.3	+00.2
06	271 50.6	−00.3	S 22 54.5	+00.2
07	286 50.3	−00.3	S 22 54.7	+00.3
08	301 50.0	−00.3	S 22 55.0	+00.2
09	316 49.7	−00.3	S 22 55.2	+00.2
10	331 49.4	−00.2	S 22 55.4	+00.2
11	346 49.2	−00.3	S 22 55.6	+00.3
12	1 48.9	−00.3	S 22 55.9	+00.2
13	16 48.6	−00.3	S 22 56.1	+00.2
14	31 48.3	−00.3	S 22 56.3	+00.2
15	46 48.0	−00.3	S 22 56.5	+00.2
16	61 47.7	−00.2	S 22 56.7	+00.3
17	76 47.5	−00.3	S 22 57.0	+00.2
18	91 47.2	−00.3	S 22 57.2	+00.2
19	106 46.9	−00.3	S 22 57.4	+00.2
20	121 46.6	−00.3	S 22 57.6	+00.2
21	136 46.3	−00.3	S 22 57.8	+00.2
22	151 46.0	−00.3	S 22 58.0	+00.2
23	166 45.7	−00.2	S 22 58.2	+00.3

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	103°	103°	103°	103°	102°	102°

Greenwich Culmination Time: 11:52

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	168 55.7	−01.0	S 24 09.7	+00.1
01	183 54.7	−01.0	S 24 09.8	+00.1
02	198 53.7	−01.0	S 24 09.9	+00.1
03	213 52.7	−00.9	S 24 10.0	+00.1
04	228 51.8	−01.0	S 24 10.1	+00.1
05	243 50.8	−01.0	S 24 10.2	+00.1
06	258 49.8	−01.0	S 24 10.3	+00.1
07	273 48.8	−00.9	S 24 10.4	+00.1
08	288 47.9	−01.0	S 24 10.5	+00.0
09	303 46.9	−01.0	S 24 10.5	+00.1
10	318 45.9	−00.9	S 24 10.6	+00.1
11	333 45.0	−01.0	S 24 10.7	+00.1
12	348 44.0	−01.0	S 24 10.8	+00.1
13	3 43.0	−01.0	S 24 10.9	+00.1
14	18 42.0	−00.9	S 24 11.0	+00.0
15	33 41.1	−01.0	S 24 11.0	+00.1
16	48 40.1	−01.0	S 24 11.1	+00.1
17	63 39.1	−01.0	S 24 11.2	+00.1
18	78 38.1	−00.9	S 24 11.3	+00.0
19	93 37.2	−01.0	S 24 11.3	+00.1
20	108 36.2	−01.0	S 24 11.4	+00.1
21	123 35.2	−01.0	S 24 11.5	+00.0
22	138 34.2	−00.9	S 24 11.5	+00.1
23	153 33.3	−01.0	S 24 11.6	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	090°	090°	090°	089°	089°	089°

Greenwich Culmination Time: 12:45

Moon

A: 57%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	339 35.7	−31.2	N 27 25.8	−00.4
01	354 04.5	−31.2	N 27 25.4	−00.6
02	8 33.3	−31.1	N 27 24.8	−00.7
03	23 02.2	−31.2	N 27 24.1	−00.8
04	37 31.0	−31.1	N 27 23.3	−00.9
05	51 59.9	−31.1	N 27 22.4	−01.1
06	66 28.8	−31.1	N 27 21.3	−01.2
07	80 57.7	−31.0	N 27 20.1	−01.4
08	95 26.7	−31.1	N 27 18.7	−01.5
09	109 55.6	−31.0	N 27 17.2	−01.6
10	124 24.6	−31.0	N 27 15.6	−01.8
11	138 53.6	−30.9	N 27 13.8	−01.8
12	153 22.7	−30.9	N 27 12.0	−02.1
13	167 51.8	−30.9	N 27 09.9	−02.1
14	182 20.9	−30.8	N 27 07.8	−02.3
15	196 50.1	−30.9	N 27 05.5	−02.4
16	211 19.2	−30.7	N 27 03.1	−02.5
17	225 48.5	−30.8	N 27 00.6	−02.7
18	240 17.7	−30.7	N 26 57.9	−02.8
19	254 47.0	−30.7	N 26 55.1	−02.9
20	269 16.3	−30.6	N 26 52.2	−03.0
21	283 45.7	−30.6	N 26 49.2	−03.2
22	298 15.1	−30.5	N 26 46.0	−03.3
23	312 44.6	−30.5	N 26 42.7	−03.5

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′7	14′7	14′7
HP	54′2	54′2	54′2	54′1	54′1	54′1
SHA	260°	258°	255°	253°	251°	249°

Greenwich Culmination Time: 01:24

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	4 48.6	+03.6	N 24 59.2	−00.1
01	19 52.2	+03.5	N 24 59.1	+00.0
02	34 55.7	+03.5	N 24 59.1	+00.0
03	49 59.2	+03.5	N 24 59.1	+00.0
04	65 02.7	+03.5	N 24 59.1	+00.0
05	80 06.2	+03.5	N 24 59.1	−00.1
06	95 09.7	+03.5	N 24 59.0	+00.0
07	110 13.2	+03.5	N 24 59.0	+00.0
08	125 16.7	+03.5	N 24 59.0	+00.0
09	140 20.2	+03.6	N 24 59.0	+00.0
10	155 23.8	+03.5	N 24 59.0	+00.0
11	170 27.3	+03.5	N 24 59.0	−00.1
12	185 30.8	+03.5	N 24 58.9	+00.0
13	200 34.3	+03.5	N 24 58.9	+00.0
14	215 37.8	+03.5	N 24 58.9	+00.0
15	230 41.3	+03.5	N 24 58.9	+00.0
16	245 44.8	+03.5	N 24 58.9	−00.1
17	260 48.3	+03.5	N 24 58.8	+00.0
18	275 51.8	+03.5	N 24 58.8	+00.0
19	290 55.3	+03.5	N 24 58.8	+00.0
20	305 58.8	+03.5	N 24 58.8	+00.0
21	321 02.3	+03.5	N 24 58.8	−00.1
22	336 05.8	+03.5	N 24 58.7	+00.0
23	351 09.3	+03.5	N 24 58.7	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	286°	286°	286°	286°	286°	286°

Greenwich Culmination Time: 23:35

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	78 51.0	+02.3	S 01 34.3	−00.1
01	93 53.3	+02.4	S 01 34.2	−00.1
02	108 55.7	+02.3	S 01 34.1	+00.0
03	123 58.0	+02.3	S 01 34.1	−00.1
04	139 00.3	+02.4	S 01 34.0	−00.1
05	154 02.7	+02.3	S 01 33.9	+00.0
06	169 05.0	+02.4	S 01 33.9	−00.1
07	184 07.4	+02.3	S 01 33.8	−00.1
08	199 09.7	+02.4	S 01 33.7	+00.0
09	214 12.1	+02.3	S 01 33.7	−00.1
10	229 14.4	+02.3	S 01 33.6	−00.1
11	244 16.7	+02.4	S 01 33.5	+00.0
12	259 19.1	+02.3	S 01 33.5	−00.1
13	274 21.4	+02.4	S 01 33.4	−00.1
14	289 23.8	+02.3	S 01 33.3	+00.0
15	304 26.1	+02.3	S 01 33.3	−00.1
16	319 28.4	+02.4	S 01 33.2	−00.1
17	334 30.8	+02.3	S 01 33.1	+00.0
18	349 33.1	+02.3	S 01 33.1	−00.1
19	4 35.4	+02.4	S 01 33.0	−00.1
20	19 37.8	+02.3	S 01 32.9	+00.0
21	34 40.1	+02.4	S 01 32.9	−00.1
22	49 42.5	+02.3	S 01 32.8	−00.1
23	64 44.8	+02.3	S 01 32.7	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 18:41

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	115 24.9	+02.3	S 15 51.1	+00.0
01	130 27.2	+02.3	S 15 51.1	−00.1
02	145 29.5	+02.2	S 15 51.0	+00.0
03	160 31.7	+02.3	S 15 51.0	−00.1
04	175 34.0	+02.3	S 15 50.9	−00.1
05	190 36.3	+02.3	S 15 50.8	+00.0
06	205 38.6	+02.3	S 15 50.8	−00.1
07	220 40.9	+02.2	S 15 50.7	−00.1
08	235 43.1	+02.3	S 15 50.6	+00.0
09	250 45.4	+02.3	S 15 50.6	−00.1
10	265 47.7	+02.3	S 15 50.5	+00.0
11	280 50.0	+02.3	S 15 50.5	−00.1
12	295 52.3	+02.2	S 15 50.4	−00.1
13	310 54.5	+02.3	S 15 50.3	+00.0
14	325 56.8	+02.3	S 15 50.3	−00.1
15	340 59.1	+02.3	S 15 50.2	+00.0
16	356 01.4	+02.2	S 15 50.2	−00.1
17	11 03.6	+02.3	S 15 50.1	−00.1
18	26 05.9	+02.3	S 15 50.0	+00.0
19	41 08.2	+02.3	S 15 50.0	−00.1
20	56 10.5	+02.2	S 15 49.9	−00.1
21	71 12.7	+02.3	S 15 49.8	+00.0
22	86 15.0	+02.3	S 15 49.8	−00.1
23	101 17.3	+02.3	S 15 49.7	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 16:15

2022 December 7 Wednesday (day 341 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	182 11.9	−00.2	S 22 34.6	+00.3
01	197 11.7	−00.3	S 22 34.9	+00.3
02	212 11.4	−00.3	S 22 35.2	+00.2
03	227 11.1	−00.2	S 22 35.4	+00.3
04	242 10.9	−00.3	S 22 35.7	+00.3
05	257 10.6	−00.3	S 22 36.0	+00.3
06	272 10.3	−00.2	S 22 36.3	+00.3
07	287 10.1	−00.3	S 22 36.6	+00.2
08	302 09.8	−00.3	S 22 36.8	+00.3
09	317 09.5	−00.2	S 22 37.1	+00.3
10	332 09.3	−00.3	S 22 37.4	+00.3
11	347 09.0	−00.3	S 22 37.7	+00.3
12	2 08.7	−00.2	S 22 38.0	+00.2
13	17 08.5	−00.3	S 22 38.2	+00.3
14	32 08.2	−00.3	S 22 38.5	+00.3
15	47 07.9	−00.2	S 22 38.8	+00.3
16	62 07.7	−00.3	S 22 39.1	+00.2
17	77 07.4	−00.3	S 22 39.3	+00.3
18	92 07.1	−00.3	S 22 39.6	+00.3
19	107 06.8	−00.2	S 22 39.9	+00.2
20	122 06.6	−00.3	S 22 40.1	+00.3
21	137 06.3	−00.3	S 22 40.4	+00.3
22	152 06.0	−00.2	S 22 40.7	+00.3
23	167 05.8	−00.3	S 22 41.0	+00.2

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	106°	106°	106°	106°	106°	105°

Greenwich Culmination Time: 11:51

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	170 05.4	−00.9	S 23 59.4	+00.2
01	185 04.5	−01.0	S 23 59.6	+00.2
02	200 03.5	−01.0	S 23 59.8	+00.2
03	215 02.5	−00.9	S 23 60.0	+00.2
04	230 01.6	−01.0	S 24 00.2	+00.1
05	245 00.6	−01.0	S 24 00.3	+00.2
06	259 59.6	−00.9	S 24 00.5	+00.2
07	274 58.7	−01.0	S 24 00.7	+00.2
08	289 57.7	−01.0	S 24 00.9	+00.2
09	304 56.7	−00.9	S 24 01.1	+00.1
10	319 55.8	−01.0	S 24 01.2	+00.2
11	334 54.8	−01.0	S 24 01.4	+00.2
12	349 53.8	−00.9	S 24 01.6	+00.2
13	4 52.9	−01.0	S 24 01.8	+00.1
14	19 51.9	−01.0	S 24 01.9	+00.2
15	34 50.9	−00.9	S 24 02.1	+00.2
16	49 50.0	−01.0	S 24 02.3	+00.2
17	64 49.0	−01.0	S 24 02.5	+00.1
18	79 48.0	−00.9	S 24 02.6	+00.2
19	94 47.1	−01.0	S 24 02.8	+00.2
20	109 46.1	−01.0	S 24 03.0	+00.1
21	124 45.1	−00.9	S 24 03.1	+00.2
22	139 44.2	−01.0	S 24 03.3	+00.1
23	154 43.2	−01.0	S 24 03.4	+00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	094°	094°	094°	094°	093°	093°

Greenwich Culmination Time: 12:40

Moon

A: 47%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	16 34.3	−29.6	N 22 06.2	+08.8
01	31 04.7	−29.7	N 22 15.0	+08.8
02	45 35.0	−29.7	N 22 23.8	+08.6
03	60 05.3	−29.7	N 22 32.4	+08.5
04	74 35.6	−29.9	N 22 40.9	+08.4
05	89 05.7	−29.8	N 22 49.3	+08.3
06	103 35.9	−29.9	N 22 57.6	+08.2
07	118 06.0	−29.9	N 23 05.8	+08.1
08	132 36.1	−30.0	N 23 13.9	+07.9
09	147 06.1	−30.1	N 23 21.8	+07.9
10	161 36.0	−30.1	N 23 29.7	+07.7
11	176 05.9	−30.1	N 23 37.4	+07.6
12	190 35.8	−30.2	N 23 45.0	+07.4
13	205 05.6	−30.2	N 23 52.4	+07.4
14	219 35.4	−30.2	N 23 59.8	+07.2
15	234 05.2	−30.3	N 24 07.0	+07.2
16	248 34.9	−30.4	N 24 14.2	+07.0
17	263 04.5	−30.4	N 24 21.2	+06.8
18	277 34.1	−30.4	N 24 28.0	+06.8
19	292 03.7	−30.5	N 24 34.8	+06.6
20	306 33.2	−30.5	N 24 41.4	+06.5
21	321 02.7	−30.5	N 24 47.9	+06.4
22	335 32.2	−30.6	N 24 54.3	+06.3
23	350 01.6	−30.6	N 25 00.6	+06.1

UT	02	06	10	14	18	22
SD	15′0	15′0	15′0	15′0	15′0	14′9
HP	55′2	55′1	55′0	55′0	54′9	54′8
SHA	300°	298°	295°	293°	291°	289°

Greenwich Culmination Time: 23:41

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	0 34.9	+03.5	N 24 59.8	+00.0
01	15 38.4	+03.5	N 24 59.8	+00.0
02	30 41.9	+03.5	N 24 59.8	+00.0
03	45 45.4	+03.6	N 24 59.8	+00.0
04	60 49.0	+03.5	N 24 59.8	+00.0
05	75 52.5	+03.5	N 24 59.8	+00.0
06	90 56.0	+03.6	N 24 59.8	+00.0
07	105 59.6	+03.5	N 24 59.8	+00.0
08	121 03.1	+03.5	N 24 59.8	+00.0
09	136 06.6	+03.6	N 24 59.8	+00.0
10	151 10.2	+03.5	N 24 59.8	+00.0
11	166 13.7	+03.5	N 24 59.8	+00.0
12	181 17.2	+03.6	N 24 59.8	+00.0
13	196 20.8	+03.5	N 24 59.8	+00.0
14	211 24.3	+03.5	N 24 59.8	+00.0
15	226 27.8	+03.6	N 24 59.8	+00.0
16	241 31.4	+03.5	N 24 59.8	+00.0
17	256 34.9	+03.5	N 24 59.8	+00.0
18	271 38.4	+03.5	N 24 59.8	−00.1
19	286 41.9	+03.6	N 24 59.7	+00.0
20	301 45.5	+03.5	N 24 59.7	+00.0
21	316 49.0	+03.5	N 24 59.7	+00.0
22	331 52.5	+03.6	N 24 59.7	+00.0
23	346 56.1	+03.5	N 24 59.7	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	285°	285°	285°	285°	285°	285°

Greenwich Culmination Time: 23:52

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	76 01.4	+02.4	S 01 38.6	−00.1
01	91 03.8	+02.4	S 01 38.5	+00.0
02	106 06.2	+02.3	S 01 38.5	−00.1
03	121 08.5	+02.4	S 01 38.4	+00.0
04	136 10.9	+02.4	S 01 38.4	−00.1
05	151 13.3	+02.3	S 01 38.3	+00.0
06	166 15.6	+02.4	S 01 38.3	−00.1
07	181 18.0	+02.3	S 01 38.2	−00.1
08	196 20.3	+02.4	S 01 38.1	+00.0
09	211 22.7	+02.4	S 01 38.1	−00.1
10	226 25.1	+02.3	S 01 38.0	+00.0
11	241 27.4	+02.4	S 01 38.0	−00.1
12	256 29.8	+02.4	S 01 37.9	+00.0
13	271 32.2	+02.3	S 01 37.9	−00.1
14	286 34.5	+02.4	S 01 37.8	−00.1
15	301 36.9	+02.3	S 01 37.7	+00.0
16	316 39.2	+02.4	S 01 37.7	−00.1
17	331 41.6	+02.4	S 01 37.6	+00.0
18	346 44.0	+02.3	S 01 37.6	−00.1
19	1 46.3	+02.4	S 01 37.5	+00.0
20	16 48.7	+02.3	S 01 37.5	−00.1
21	31 51.0	+02.4	S 01 37.4	−00.1
22	46 53.4	+02.4	S 01 37.3	+00.0
23	61 55.8	+02.3	S 01 37.3	−00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 18:52

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	112 40.5	+02.3	S 15 55.5	−00.1
01	127 42.8	+02.3	S 15 55.4	+00.0
02	142 45.1	+02.2	S 15 55.4	−00.1
03	157 47.3	+02.3	S 15 55.3	+00.0
04	172 49.6	+02.3	S 15 55.3	−00.1
05	187 51.9	+02.3	S 15 55.2	−00.1
06	202 54.2	+02.3	S 15 55.1	+00.0
07	217 56.5	+02.3	S 15 55.1	−00.1
08	232 58.8	+02.3	S 15 55.0	+00.0
09	248 01.1	+02.3	S 15 55.0	−00.1
10	263 03.4	+02.2	S 15 54.9	−00.1
11	278 05.6	+02.3	S 15 54.8	+00.0
12	293 07.9	+02.3	S 15 54.8	−00.1
13	308 10.2	+02.3	S 15 54.7	+00.0
14	323 12.5	+02.3	S 15 54.7	−00.1
15	338 14.8	+02.3	S 15 54.6	−00.1
16	353 17.1	+02.3	S 15 54.5	+00.0
17	8 19.4	+02.3	S 15 54.5	−00.1
18	23 21.7	+02.2	S 15 54.4	+00.0
19	38 23.9	+02.3	S 15 54.4	−00.1
20	53 26.2	+02.3	S 15 54.3	−00.1
21	68 28.5	+02.3	S 15 54.2	+00.0
22	83 30.8	+02.3	S 15 54.2	−00.1
23	98 33.1	+02.3	S 15 54.1	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 16:26

2022 December 8 Thursday (day 342 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	182 05.5	−00.3	S 22 41.2	+00.3
01	197 05.2	−00.3	S 22 41.5	+00.3
02	212 04.9	−00.2	S 22 41.8	+00.2
03	227 04.7	−00.3	S 22 42.0	+00.3
04	242 04.4	−00.3	S 22 42.3	+00.2
05	257 04.1	−00.2	S 22 42.5	+00.3
06	272 03.9	−00.3	S 22 42.8	+00.3
07	287 03.6	−00.3	S 22 43.1	+00.2
08	302 03.3	−00.3	S 22 43.3	+00.3
09	317 03.0	−00.2	S 22 43.6	+00.3
10	332 02.8	−00.3	S 22 43.9	+00.2
11	347 02.5	−00.3	S 22 44.1	+00.3
12	2 02.2	−00.3	S 22 44.4	+00.2
13	17 01.9	−00.2	S 22 44.6	+00.3
14	32 01.7	−00.3	S 22 44.9	+00.2
15	47 01.4	−00.3	S 22 45.1	+00.3
16	62 01.1	−00.2	S 22 45.4	+00.3
17	77 00.9	−00.3	S 22 45.7	+00.2
18	92 00.6	−00.3	S 22 45.9	+00.3
19	107 00.3	−00.3	S 22 46.2	+00.2
20	122 00.0	−00.2	S 22 46.4	+00.3
21	136 59.8	−00.3	S 22 46.7	+00.2
22	151 59.5	−00.3	S 22 46.9	+00.3
23	166 59.2	−00.3	S 22 47.2	+00.2

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	105°	105°	105°	105°	105°	104°

Greenwich Culmination Time: 11:51

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	169 42.2	−00.9	S 24 03.6	+00.2
01	184 41.3	−01.0	S 24 03.8	+00.1
02	199 40.3	−01.0	S 24 03.9	+00.2
03	214 39.3	−00.9	S 24 04.1	+00.1
04	229 38.4	−01.0	S 24 04.2	+00.2
05	244 37.4	−01.0	S 24 04.4	+00.1
06	259 36.4	−00.9	S 24 04.5	+00.2
07	274 35.5	−01.0	S 24 04.7	+00.1
08	289 34.5	−01.0	S 24 04.8	+00.2
09	304 33.5	−00.9	S 24 05.0	+00.1
10	319 32.6	−01.0	S 24 05.1	+00.2
11	334 31.6	−01.0	S 24 05.3	+00.1
12	349 30.6	−00.9	S 24 05.4	+00.2
13	4 29.7	−01.0	S 24 05.6	+00.1
14	19 28.7	−01.0	S 24 05.7	+00.1
15	34 27.7	−01.0	S 24 05.8	+00.2
16	49 26.7	−00.9	S 24 06.0	+00.1
17	64 25.8	−01.0	S 24 06.1	+00.1
18	79 24.8	−01.0	S 24 06.2	+00.2
19	94 23.8	−00.9	S 24 06.4	+00.1
20	109 22.9	−01.0	S 24 06.5	+00.1
21	124 21.9	−01.0	S 24 06.6	+00.2
22	139 20.9	−00.9	S 24 06.8	+00.1
23	154 20.0	−01.0	S 24 06.9	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	093°	093°	092°	092°	092°	092°

Greenwich Culmination Time: 12:42

Moon

A: 51%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	4 31.0	−30.7	N 25 06.7	+06.0
01	19 00.3	−30.7	N 25 12.7	+05.9
02	33 29.6	−30.7	N 25 18.6	+05.7
03	47 58.9	−30.8	N 25 24.3	+05.7
04	62 28.1	−30.8	N 25 30.0	+05.5
05	76 57.3	−30.9	N 25 35.5	+05.3
06	91 26.4	−30.8	N 25 40.8	+05.3
07	105 55.6	−30.9	N 25 46.1	+05.1
08	120 24.7	−30.9	N 25 51.2	+04.9
09	134 53.8	−31.0	N 25 56.1	+04.9
10	149 22.8	−31.0	N 26 01.0	+04.7
11	163 51.8	−31.0	N 26 05.7	+04.6
12	178 20.8	−31.0	N 26 10.3	+04.5
13	192 49.8	−31.1	N 26 14.8	+04.3
14	207 18.7	−31.1	N 26 19.1	+04.2
15	221 47.6	−31.1	N 26 23.3	+04.0
16	236 16.5	−31.1	N 26 27.3	+03.9
17	250 45.4	−31.2	N 26 31.2	+03.8
18	265 14.2	−31.2	N 26 35.0	+03.7
19	279 43.0	−31.2	N 26 38.7	+03.5
20	294 11.8	−31.2	N 26 42.2	+03.4
21	308 40.6	−31.2	N 26 45.6	+03.3
22	323 09.4	−31.2	N 26 48.9	+03.1
23	337 38.2	−31.3	N 26 52.0	+03.0

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	14′9	14′9	14′9
HP	54′8	54′7	54′7	54′6	54′6	54′5
SHA	287°	284°	282°	280°	278°	276°

Greenwich Culmination Time: −1:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	1 59.6	+03.5	N 24 59.7	+00.0
01	17 03.1	+03.6	N 24 59.7	+00.0
02	32 06.7	+03.5	N 24 59.7	+00.0
03	47 10.2	+03.5	N 24 59.7	+00.0
04	62 13.7	+03.5	N 24 59.7	+00.0
05	77 17.2	+03.6	N 24 59.7	+00.0
06	92 20.8	+03.5	N 24 59.7	+00.0
07	107 24.3	+03.5	N 24 59.7	+00.0
08	122 27.8	+03.5	N 24 59.7	−00.1
09	137 31.3	+03.6	N 24 59.6	+00.0
10	152 34.9	+03.5	N 24 59.6	+00.0
11	167 38.4	+03.5	N 24 59.6	+00.0
12	182 41.9	+03.5	N 24 59.6	+00.0
13	197 45.4	+03.6	N 24 59.6	+00.0
14	212 49.0	+03.5	N 24 59.6	+00.0
15	227 52.5	+03.5	N 24 59.6	+00.0
16	242 56.0	+03.5	N 24 59.6	+00.0
17	257 59.5	+03.6	N 24 59.6	+00.0
18	273 03.1	+03.5	N 24 59.6	+00.0
19	288 06.6	+03.5	N 24 59.6	−00.1
20	303 10.1	+03.5	N 24 59.5	+00.0
21	318 13.6	+03.6	N 24 59.5	+00.0
22	333 17.2	+03.5	N 24 59.5	+00.0
23	348 20.7	+03.5	N 24 59.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	285°	285°	285°	286°	286°	286°

Greenwich Culmination Time: 23:46

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	76 58.1	+02.4	S 01 37.2	+00.0
01	92 00.5	+02.3	S 01 37.2	−00.1
02	107 02.8	+02.4	S 01 37.1	+00.0
03	122 05.2	+02.4	S 01 37.1	−00.1
04	137 07.6	+02.3	S 01 37.0	−00.1
05	152 09.9	+02.4	S 01 36.9	+00.0
06	167 12.3	+02.3	S 01 36.9	−00.1
07	182 14.6	+02.4	S 01 36.8	+00.0
08	197 17.0	+02.3	S 01 36.8	−00.1
09	212 19.3	+02.4	S 01 36.7	−00.1
10	227 21.7	+02.3	S 01 36.6	+00.0
11	242 24.0	+02.4	S 01 36.6	−00.1
12	257 26.4	+02.4	S 01 36.5	+00.0
13	272 28.8	+02.3	S 01 36.5	−00.1
14	287 31.1	+02.4	S 01 36.4	−00.1
15	302 33.5	+02.3	S 01 36.3	+00.0
16	317 35.8	+02.4	S 01 36.3	−00.1
17	332 38.2	+02.3	S 01 36.2	+00.0
18	347 40.5	+02.4	S 01 36.2	−00.1
19	2 42.9	+02.3	S 01 36.1	−00.1
20	17 45.2	+02.4	S 01 36.0	+00.0
21	32 47.6	+02.3	S 01 36.0	−00.1
22	47 49.9	+02.4	S 01 35.9	−00.1
23	62 52.3	+02.3	S 01 35.8	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 18:49

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	113 35.4	+02.3	S 15 54.1	−00.1
01	128 37.7	+02.2	S 15 54.0	−00.1
02	143 39.9	+02.3	S 15 53.9	+00.0
03	158 42.2	+02.3	S 15 53.9	−00.1
04	173 44.5	+02.3	S 15 53.8	+00.0
05	188 46.8	+02.3	S 15 53.8	−00.1
06	203 49.1	+02.3	S 15 53.7	−00.1
07	218 51.4	+02.2	S 15 53.6	+00.0
08	233 53.6	+02.3	S 15 53.6	−00.1
09	248 55.9	+02.3	S 15 53.5	+00.0
10	263 58.2	+02.3	S 15 53.5	−00.1
11	279 00.5	+02.3	S 15 53.4	−00.1
12	294 02.8	+02.3	S 15 53.3	+00.0
13	309 05.1	+02.2	S 15 53.3	−00.1
14	324 07.3	+02.3	S 15 53.2	+00.0
15	339 09.6	+02.3	S 15 53.2	−00.1
16	354 11.9	+02.3	S 15 53.1	−00.1
17	9 14.2	+02.3	S 15 53.0	+00.0
18	24 16.5	+02.3	S 15 53.0	−00.1
19	39 18.8	+02.2	S 15 52.9	+00.0
20	54 21.0	+02.3	S 15 52.9	−00.1
21	69 23.3	+02.3	S 15 52.8	−00.1
22	84 25.6	+02.3	S 15 52.7	+00.0
23	99 27.9	+02.3	S 15 52.7	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 16:23

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2022 December 9 Friday (day 343 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	181 58.9	−00.2	S 22 47.4	+00.3
01	196 58.7	−00.3	S 22 47.7	+00.2
02	211 58.4	−00.3	S 22 47.9	+00.3
03	226 58.1	−00.3	S 22 48.2	+00.2
04	241 57.8	−00.3	S 22 48.4	+00.2
05	256 57.5	−00.2	S 22 48.6	+00.3
06	271 57.3	−00.3	S 22 48.9	+00.2
07	286 57.0	−00.3	S 22 49.1	+00.3
08	301 56.7	−00.3	S 22 49.4	+00.2
09	316 56.4	−00.2	S 22 49.6	+00.3
10	331 56.2	−00.3	S 22 49.9	+00.2
11	346 55.9	−00.3	S 22 50.1	+00.2
12	1 55.6	−00.3	S 22 50.3	+00.3
13	16 55.3	−00.3	S 22 50.6	+00.2
14	31 55.0	−00.2	S 22 50.8	+00.3
15	46 54.8	−00.3	S 22 51.1	+00.2
16	61 54.5	−00.3	S 22 51.3	+00.2
17	76 54.2	−00.3	S 22 51.5	+00.3
18	91 53.9	−00.3	S 22 51.8	+00.2
19	106 53.6	−00.2	S 22 52.0	+00.2
20	121 53.4	−00.3	S 22 52.2	+00.3
21	136 53.1	−00.3	S 22 52.5	+00.2
22	151 52.8	−00.3	S 22 52.7	+00.2
23	166 52.5	−00.3	S 22 52.9	+00.3

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	104°	104°	104°	104°	103°	103°

Greenwich Culmination Time: 11:52

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	169 19.0	−01.0	S 24 07.0	+00.2
01	184 18.0	−01.0	S 24 07.2	+00.1
02	199 17.0	−00.9	S 24 07.3	+00.1
03	214 16.1	−01.0	S 24 07.4	+00.1
04	229 15.1	−01.0	S 24 07.5	+00.2
05	244 14.1	−00.9	S 24 07.7	+00.1
06	259 13.2	−01.0	S 24 07.8	+00.1
07	274 12.2	−01.0	S 24 07.9	+00.1
08	289 11.2	−01.0	S 24 08.0	+00.1
09	304 10.2	−00.9	S 24 08.1	+00.1
10	319 09.3	−01.0	S 24 08.2	+00.2
11	334 08.3	−01.0	S 24 08.4	+00.1
12	349 07.3	−00.9	S 24 08.5	+00.1
13	4 06.4	−01.0	S 24 08.6	+00.1
14	19 05.4	−01.0	S 24 08.7	+00.1
15	34 04.4	−01.0	S 24 08.8	+00.1
16	49 03.4	−00.9	S 24 08.9	+00.1
17	64 02.5	−01.0	S 24 09.0	+00.1
18	79 01.5	−01.0	S 24 09.1	+00.1
19	94 00.5	−00.9	S 24 09.2	+00.1
20	108 59.6	−01.0	S 24 09.3	+00.1
21	123 58.6	−01.0	S 24 09.4	+00.1
22	138 57.6	−01.0	S 24 09.5	+00.1
23	153 56.6	−00.9	S 24 09.6	+00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	091°	091°	091°	091°	091°	090°

Greenwich Culmination Time: 12:43

Moon

A: 54%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	352 06.9	−31.3	N 26 55.0	+02.8
01	6 35.6	−31.2	N 26 57.8	+02.7
02	21 04.4	−31.3	N 27 00.5	+02.6
03	35 33.1	−31.3	N 27 03.1	+02.4
04	50 01.8	−31.3	N 27 05.5	+02.3
05	64 30.5	−31.4	N 27 07.8	+02.2
06	78 59.1	−31.3	N 27 10.0	+02.0
07	93 27.8	−31.3	N 27 12.0	+01.9
08	107 56.5	−31.3	N 27 13.9	+01.8
09	122 25.2	−31.4	N 27 15.7	+01.6
10	136 53.8	−31.3	N 27 17.3	+01.5
11	151 22.5	−31.3	N 27 18.8	+01.4
12	165 51.2	−31.3	N 27 20.2	+01.2
13	180 19.9	−31.4	N 27 21.4	+01.1
14	194 48.5	−31.3	N 27 22.5	+00.9
15	209 17.2	−31.3	N 27 23.4	+00.8
16	223 45.9	−31.3	N 27 24.2	+00.7
17	238 14.6	−31.3	N 27 24.9	+00.5
18	252 43.3	−31.3	N 27 25.4	+00.4
19	267 12.0	−31.3	N 27 25.8	+00.3
20	281 40.7	−31.2	N 27 26.1	+00.1
21	296 09.5	−31.3	N 27 26.2	+00.0
22	310 38.2	−31.2	N 27 26.2	−00.1
23	325 07.0	−31.3	N 27 26.1	−00.3

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′8	14′8
HP	54′5	54′4	54′4	54′4	54′3	54′3
SHA	273°	271°	269°	267°	264°	262°

Greenwich Culmination Time: 00:32

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	3 24.2	+03.5	N 24 59.5	+00.0
01	18 27.7	+03.6	N 24 59.5	+00.0
02	33 31.3	+03.5	N 24 59.5	+00.0
03	48 34.8	+03.5	N 24 59.5	−00.1
04	63 38.3	+03.5	N 24 59.4	+00.0
05	78 41.8	+03.5	N 24 59.4	+00.0
06	93 45.3	+03.6	N 24 59.4	+00.0
07	108 48.9	+03.5	N 24 59.4	+00.0
08	123 52.4	+03.5	N 24 59.4	+00.0
09	138 55.9	+03.5	N 24 59.4	+00.0
10	153 59.4	+03.5	N 24 59.4	+00.0
11	169 02.9	+03.6	N 24 59.4	−00.1
12	184 06.5	+03.5	N 24 59.3	+00.0
13	199 10.0	+03.5	N 24 59.3	+00.0
14	214 13.5	+03.5	N 24 59.3	+00.0
15	229 17.0	+03.5	N 24 59.3	+00.0
16	244 20.5	+03.5	N 24 59.3	+00.0
17	259 24.0	+03.6	N 24 59.3	+00.0
18	274 27.6	+03.5	N 24 59.3	−00.1
19	289 31.1	+03.5	N 24 59.2	+00.0
20	304 34.6	+03.5	N 24 59.2	+00.0
21	319 38.1	+03.5	N 24 59.2	+00.0
22	334 41.6	+03.5	N 24 59.2	+00.0
23	349 45.1	+03.5	N 24 59.2	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	286°	286°	286°	286°	286°	286°

Greenwich Culmination Time: 23:40

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	77 54.6	+02.4	S 01 35.8	−00.1
01	92 57.0	+02.3	S 01 35.7	+00.0
02	107 59.3	+02.4	S 01 35.7	−00.1
03	123 01.7	+02.3	S 01 35.6	−00.1
04	138 04.0	+02.4	S 01 35.5	+00.0
05	153 06.4	+02.3	S 01 35.5	−00.1
06	168 08.7	+02.4	S 01 35.4	−00.1
07	183 11.1	+02.3	S 01 35.3	+00.0
08	198 13.4	+02.4	S 01 35.3	−00.1
09	213 15.8	+02.3	S 01 35.2	+00.0
10	228 18.1	+02.4	S 01 35.2	−00.1
11	243 20.5	+02.3	S 01 35.1	−00.1
12	258 22.8	+02.4	S 01 35.0	+00.0
13	273 25.2	+02.3	S 01 35.0	−00.1
14	288 27.5	+02.4	S 01 34.9	−00.1
15	303 29.9	+02.3	S 01 34.8	+00.0
16	318 32.2	+02.4	S 01 34.8	−00.1
17	333 34.6	+02.3	S 01 34.7	+00.0
18	348 36.9	+02.4	S 01 34.7	−00.1
19	3 39.3	+02.3	S 01 34.6	−00.1
20	18 41.6	+02.3	S 01 34.5	+00.0
21	33 43.9	+02.4	S 01 34.5	−00.1
22	48 46.3	+02.3	S 01 34.4	−00.1
23	63 48.6	+02.4	S 01 34.3	+00.0

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 18:45

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	114 30.2	+02.3	S 15 52.6	+00.0
01	129 32.5	+02.2	S 15 52.6	−00.1
02	144 34.7	+02.3	S 15 52.5	−00.1
03	159 37.0	+02.3	S 15 52.4	+00.0
04	174 39.3	+02.3	S 15 52.4	−00.1
05	189 41.6	+02.3	S 15 52.3	+00.0
06	204 43.9	+02.2	S 15 52.3	−00.1
07	219 46.1	+02.3	S 15 52.2	−00.1
08	234 48.4	+02.3	S 15 52.1	+00.0
09	249 50.7	+02.3	S 15 52.1	−00.1
10	264 53.0	+02.3	S 15 52.0	−00.1
11	279 55.3	+02.3	S 15 51.9	+00.0
12	294 57.6	+02.2	S 15 51.9	−00.1
13	309 59.8	+02.3	S 15 51.8	+00.0
14	325 02.1	+02.3	S 15 51.8	−00.1
15	340 04.4	+02.3	S 15 51.7	−00.1
16	355 06.7	+02.3	S 15 51.6	+00.0
17	10 09.0	+02.2	S 15 51.6	−00.1
18	25 11.2	+02.3	S 15 51.5	+00.0
19	40 13.5	+02.3	S 15 51.5	−00.1
20	55 15.8	+02.3	S 15 51.4	−00.1
21	70 18.1	+02.3	S 15 51.3	+00.0
22	85 20.4	+02.2	S 15 51.3	−00.1
23	100 22.6	+02.3	S 15 51.2	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 16:19

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2022 December 14 Wednesday (day 348 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	181 24.5	−00.3	S 23 11.6	+00.2
01	196 24.2	−00.3	S 23 11.8	+00.1
02	211 23.9	−00.3	S 23 11.9	+00.2
03	226 23.6	−00.3	S 23 12.1	+00.1
04	241 23.3	−00.2	S 23 12.2	+00.2
05	256 23.1	−00.3	S 23 12.4	+00.1
06	271 22.8	−00.3	S 23 12.5	+00.2
07	286 22.5	−00.3	S 23 12.7	+00.1
08	301 22.2	−00.3	S 23 12.8	+00.2
09	316 21.9	−00.3	S 23 13.0	+00.1
10	331 21.6	−00.3	S 23 13.1	+00.2
11	346 21.3	−00.3	S 23 13.3	+00.1
12	1 21.0	−00.3	S 23 13.4	+00.1
13	16 20.7	−00.3	S 23 13.5	+00.2
14	31 20.4	−00.3	S 23 13.7	+00.1
15	46 20.1	−00.3	S 23 13.8	+00.2
16	61 19.8	−00.3	S 23 14.0	+00.1
17	76 19.5	−00.3	S 23 14.1	+00.2
18	91 19.2	−00.3	S 23 14.3	+00.1
19	106 18.9	−00.3	S 23 14.4	+00.1
20	121 18.6	−00.3	S 23 14.5	+00.2
21	136 18.3	−00.3	S 23 14.7	+00.1
22	151 18.0	−00.3	S 23 14.8	+00.1
23	166 17.7	−00.3	S 23 14.9	+00.2

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	099°	098°	098°	098°	098°	098°

Greenwich Culmination Time: 11:54

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	167 22.1	−01.0	S 24 13.0	+00.0
01	182 21.1	−01.0	S 24 13.0	+00.0
02	197 20.1	−01.0	S 24 13.0	+00.0
03	212 19.1	−00.9	S 24 13.0	−00.1
04	227 18.2	−01.0	S 24 12.9	+00.0
05	242 17.2	−01.0	S 24 12.9	+00.0
06	257 16.2	−01.0	S 24 12.9	−00.1
07	272 15.2	−00.9	S 24 12.8	+00.0
08	287 14.3	−01.0	S 24 12.8	−00.1
09	302 13.3	−01.0	S 24 12.7	+00.0
10	317 12.3	−01.0	S 24 12.7	+00.0
11	332 11.3	−00.9	S 24 12.7	−00.1
12	347 10.4	−01.0	S 24 12.6	+00.0
13	2 09.4	−01.0	S 24 12.6	−00.1
14	17 08.4	−01.0	S 24 12.5	+00.0
15	32 07.4	−00.9	S 24 12.5	−00.1
16	47 06.5	−01.0	S 24 12.4	+00.0
17	62 05.5	−01.0	S 24 12.4	−00.1
18	77 04.5	−01.0	S 24 12.3	+00.0
19	92 03.5	−00.9	S 24 12.3	−00.1
20	107 02.6	−01.0	S 24 12.2	+00.0
21	122 01.6	−01.0	S 24 12.2	−00.1
22	137 00.6	−00.9	S 24 12.1	+00.0
23	151 59.7	−01.0	S 24 12.1	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	085°	084°	084°	084°	084°	083°

Greenwich Culmination Time: 12:51

Moon

A: 70%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	292 57.9	−26.5	N 17 42.1	−10.8
01	307 31.4	−26.5	N 17 31.3	−11.0
02	322 04.9	−26.5	N 17 20.3	−10.9
03	336 38.4	−26.4	N 17 09.4	−11.1
04	351 12.0	−26.4	N 16 58.3	−11.1
05	5 45.6	−26.3	N 16 47.2	−11.2
06	20 19.3	−26.3	N 16 36.0	−11.3
07	34 53.0	−26.2	N 16 24.7	−11.4
08	49 26.8	−26.2	N 16 13.3	−11.4
09	64 00.6	−26.1	N 16 01.9	−11.5
10	78 34.5	−26.2	N 15 50.4	−11.5
11	93 08.3	−26.0	N 15 38.9	−11.6
12	107 42.3	−26.1	N 15 27.3	−11.7
13	122 16.2	−26.0	N 15 15.6	−11.8
14	136 50.2	−25.9	N 15 03.8	−11.8
15	151 24.3	−25.9	N 14 52.0	−11.9
16	165 58.4	−25.9	N 14 40.1	−11.9
17	180 32.5	−25.9	N 14 28.2	−12.0
18	195 06.6	−25.8	N 14 16.2	−12.1
19	209 40.8	−25.8	N 14 04.1	−12.1
20	224 15.0	−25.7	N 13 52.0	−12.2
21	238 49.3	−25.7	N 13 39.8	−12.3
22	253 23.6	−25.7	N 13 27.5	−12.3
23	267 57.9	−25.7	N 13 15.2	−12.4

UT	02	06	10	14	18	22
SD	14′8	14′8	14′8	14′8	14′9	14′9
HP	54′3	54′4	54′4	54′5	54′5	54′6
SHA	209°	207°	206°	204°	202°	200°

Greenwich Culmination Time: 04:36

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	10 23.5	+03.5	N 24 56.7	−00.1
01	25 27.0	+03.4	N 24 56.6	+00.0
02	40 30.4	+03.5	N 24 56.6	−00.1
03	55 33.9	+03.4	N 24 56.5	+00.0
04	70 37.3	+03.5	N 24 56.5	+00.0
05	85 40.8	+03.4	N 24 56.5	−00.1
06	100 44.2	+03.5	N 24 56.4	+00.0
07	115 47.7	+03.5	N 24 56.4	+00.0
08	130 51.2	+03.4	N 24 56.4	−00.1
09	145 54.6	+03.5	N 24 56.3	+00.0
10	160 58.1	+03.4	N 24 56.3	+00.0
11	176 01.5	+03.4	N 24 56.3	−00.1
12	191 04.9	+03.5	N 24 56.2	+00.0
13	206 08.4	+03.4	N 24 56.2	+00.0
14	221 11.8	+03.5	N 24 56.2	−00.1
15	236 15.3	+03.4	N 24 56.1	+00.0
16	251 18.7	+03.5	N 24 56.1	−00.1
17	266 22.2	+03.4	N 24 56.0	+00.0
18	281 25.6	+03.5	N 24 56.0	+00.0
19	296 29.1	+03.4	N 24 56.0	−00.1
20	311 32.5	+03.4	N 24 55.9	+00.0
21	326 35.9	+03.5	N 24 55.9	+00.0
22	341 39.4	+03.4	N 24 55.9	−00.1
23	356 42.8	+03.5	N 24 55.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	288°	288°	288°	288°	288°	288°

Greenwich Culmination Time: 23:13

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	82 34.5	+02.3	S 01 27.4	−00.1
01	97 36.8	+02.3	S 01 27.3	+00.0
02	112 39.1	+02.4	S 01 27.3	−00.1
03	127 41.5	+02.3	S 01 27.2	−00.1
04	142 43.8	+02.3	S 01 27.1	−00.1
05	157 46.1	+02.3	S 01 27.0	+00.0
06	172 48.4	+02.3	S 01 27.0	−00.1
07	187 50.7	+02.3	S 01 26.9	−00.1
08	202 53.0	+02.3	S 01 26.8	−00.1
09	217 55.3	+02.3	S 01 26.7	−00.1
10	232 57.6	+02.4	S 01 26.6	+00.0
11	247 60.0	+02.3	S 01 26.6	−00.1
12	263 02.3	+02.3	S 01 26.5	−00.1
13	278 04.6	+02.3	S 01 26.4	−00.1
14	293 06.9	+02.3	S 01 26.3	−00.1
15	308 09.2	+02.3	S 01 26.2	+00.0
16	323 11.5	+02.3	S 01 26.2	−00.1
17	338 13.8	+02.3	S 01 26.1	−00.1
18	353 16.1	+02.3	S 01 26.0	−00.1
19	8 18.4	+02.3	S 01 25.9	−00.1
20	23 20.7	+02.3	S 01 25.8	+00.0
21	38 23.0	+02.4	S 01 25.8	−00.1
22	53 25.4	+02.3	S 01 25.7	−00.1
23	68 27.7	+02.3	S 01 25.6	−00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 18:26

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	119 03.1	+02.3	S 15 45.0	−00.1
01	134 05.4	+02.2	S 15 44.9	+00.0
02	149 07.6	+02.3	S 15 44.9	−00.1
03	164 09.9	+02.3	S 15 44.8	−00.1
04	179 12.2	+02.2	S 15 44.7	+00.0
05	194 14.4	+02.3	S 15 44.7	−00.1
06	209 16.7	+02.3	S 15 44.6	+00.0
07	224 19.0	+02.2	S 15 44.6	−00.1
08	239 21.2	+02.3	S 15 44.5	−00.1
09	254 23.5	+02.3	S 15 44.4	+00.0
10	269 25.8	+02.2	S 15 44.4	−00.1
11	284 28.0	+02.3	S 15 44.3	−00.1
12	299 30.3	+02.3	S 15 44.2	+00.0
13	314 32.6	+02.2	S 15 44.2	−00.1
14	329 34.8	+02.3	S 15 44.1	−00.1
15	344 37.1	+02.3	S 15 44.0	+00.0
16	359 39.4	+02.2	S 15 44.0	−00.1
17	14 41.6	+02.3	S 15 43.9	−00.1
18	29 43.9	+02.3	S 15 43.8	+00.0
19	44 46.2	+02.2	S 15 43.8	−00.1
20	59 48.4	+02.3	S 15 43.7	−00.1
21	74 50.7	+02.2	S 15 43.6	+00.0
22	89 52.9	+02.3	S 15 43.6	−00.1
23	104 55.2	+02.3	S 15 43.5	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 16:01

2022 December 11 Sunday (day 345 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	181 45.5	−00.3	S 22 58.5	+00.2
01	196 45.2	−00.3	S 22 58.7	+00.2
02	211 44.9	−00.3	S 22 58.9	+00.2
03	226 44.6	−00.3	S 22 59.1	+00.2
04	241 44.3	−00.3	S 22 59.3	+00.2
05	256 44.0	−00.2	S 22 59.5	+00.2
06	271 43.8	−00.3	S 22 59.7	+00.2
07	286 43.5	−00.3	S 22 59.9	+00.2
08	301 43.2	−00.3	S 23 00.1	+00.2
09	316 42.9	−00.3	S 23 00.3	+00.2
10	331 42.6	−00.3	S 23 00.5	+00.2
11	346 42.3	−00.3	S 23 00.7	+00.2
12	1 42.0	−00.3	S 23 00.9	+00.2
13	16 41.7	−00.2	S 23 01.1	+00.2
14	31 41.5	−00.3	S 23 01.3	+00.2
15	46 41.2	−00.3	S 23 01.5	+00.2
16	61 40.9	−00.3	S 23 01.7	+00.2
17	76 40.6	−00.3	S 23 01.9	+00.2
18	91 40.3	−00.3	S 23 02.1	+00.2
19	106 40.0	−00.3	S 23 02.3	+00.2
20	121 39.7	−00.3	S 23 02.5	+00.2
21	136 39.4	−00.2	S 23 02.7	+00.2
22	151 39.2	−00.3	S 23 02.9	+00.2
23	166 38.9	−00.3	S 23 03.1	+00.2

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	102°	102°	102°	101°	101°	101°

Greenwich Culmination Time: 11:53

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	168 32.3	−01.0	S 24 11.7	+00.0
01	183 31.3	−01.0	S 24 11.7	+00.1
02	198 30.3	−00.9	S 24 11.8	+00.1
03	213 29.4	−01.0	S 24 11.9	+00.0
04	228 28.4	−01.0	S 24 11.9	+00.1
05	243 27.4	−01.0	S 24 12.0	+00.1
06	258 26.4	−00.9	S 24 12.1	+00.0
07	273 25.5	−01.0	S 24 12.1	+00.1
08	288 24.5	−01.0	S 24 12.2	+00.0
09	303 23.5	−01.0	S 24 12.2	+00.1
10	318 22.5	−00.9	S 24 12.3	+00.0
11	333 21.6	−01.0	S 24 12.3	+00.1
12	348 20.6	−01.0	S 24 12.4	+00.0
13	3 19.6	−01.0	S 24 12.4	+00.1
14	18 18.6	−00.9	S 24 12.5	+00.0
15	33 17.7	−01.0	S 24 12.5	+00.1
16	48 16.7	−01.0	S 24 12.6	+00.0
17	63 15.7	−01.0	S 24 12.6	+00.1
18	78 14.7	−00.9	S 24 12.7	+00.0
19	93 13.8	−01.0	S 24 12.7	+00.0
20	108 12.8	−01.0	S 24 12.7	+00.1
21	123 11.8	−01.0	S 24 12.8	+00.0
22	138 10.8	−00.9	S 24 12.8	+00.1
23	153 09.9	−01.0	S 24 12.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	089°	089°	088°	088°	088°	088°

Greenwich Culmination Time: 12:46

Moon

A: 61%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	327 14.1	−30.5	N 26 39.2	−03.5
01	341 43.6	−30.4	N 26 35.7	−03.7
02	356 13.2	−30.4	N 26 32.0	−03.8
03	10 42.8	−30.3	N 26 28.2	−03.9
04	25 12.5	−30.3	N 26 24.3	−04.1
05	39 42.2	−30.3	N 26 20.2	−04.2
06	54 11.9	−30.1	N 26 16.0	−04.3
07	68 41.8	−30.2	N 26 11.7	−04.4
08	83 11.6	−30.1	N 26 07.3	−04.5
09	97 41.5	−30.0	N 26 02.8	−04.7
10	112 11.5	−30.0	N 25 58.1	−04.8
11	126 41.5	−30.0	N 25 53.3	−04.9
12	141 11.5	−29.9	N 25 48.4	−05.0
13	155 41.6	−29.8	N 25 43.4	−05.2
14	170 11.8	−29.8	N 25 38.2	−05.2
15	184 42.0	−29.7	N 25 33.0	−05.4
16	199 12.3	−29.7	N 25 27.6	−05.5
17	213 42.6	−29.7	N 25 22.1	−05.6
18	228 12.9	−29.5	N 25 16.5	−05.7
19	242 43.4	−29.6	N 25 10.8	−05.9
20	257 13.8	−29.4	N 25 04.9	−05.9
21	271 44.4	−29.4	N 24 59.0	−06.1
22	286 15.0	−29.4	N 24 52.9	−06.1
23	300 45.6	−29.3	N 24 46.8	−06.3

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	54′1	54′0	54′0	54′0	54′0	54′0
SHA	246°	244°	242°	240°	238°	236°

Greenwich Culmination Time: 02:15

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	6 12.8	+03.5	N 24 58.7	+00.0
01	21 16.3	+03.5	N 24 58.7	−00.1
02	36 19.8	+03.5	N 24 58.6	+00.0
03	51 23.3	+03.5	N 24 58.6	+00.0
04	66 26.8	+03.5	N 24 58.6	+00.0
05	81 30.3	+03.5	N 24 58.6	+00.0
06	96 33.8	+03.5	N 24 58.6	−00.1
07	111 37.3	+03.5	N 24 58.5	+00.0
08	126 40.8	+03.5	N 24 58.5	+00.0
09	141 44.3	+03.5	N 24 58.5	+00.0
10	156 47.8	+03.5	N 24 58.5	−00.1
11	171 51.3	+03.5	N 24 58.4	+00.0
12	186 54.8	+03.5	N 24 58.4	+00.0
13	201 58.3	+03.5	N 24 58.4	+00.0
14	217 01.8	+03.5	N 24 58.4	−00.1
15	232 05.3	+03.5	N 24 58.3	+00.0
16	247 08.8	+03.5	N 24 58.3	+00.0
17	262 12.3	+03.5	N 24 58.3	+00.0
18	277 15.8	+03.5	N 24 58.3	−00.1
19	292 19.3	+03.5	N 24 58.2	+00.0
20	307 22.8	+03.5	N 24 58.2	+00.0
21	322 26.3	+03.5	N 24 58.2	+00.0
22	337 29.8	+03.5	N 24 58.2	−00.1
23	352 33.3	+03.5	N 24 58.1	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	287°	287°	287°	287°	287°	287°

Greenwich Culmination Time: 23:29

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	79 47.1	+02.4	S 01 32.7	−00.1
01	94 49.5	+02.3	S 01 32.6	−00.1
02	109 51.8	+02.3	S 01 32.5	+00.0
03	124 54.1	+02.4	S 01 32.5	−00.1
04	139 56.5	+02.3	S 01 32.4	−00.1
05	154 58.8	+02.3	S 01 32.3	+00.0
06	170 01.1	+02.4	S 01 32.3	−00.1
07	185 03.5	+02.3	S 01 32.2	−00.1
08	200 05.8	+02.3	S 01 32.1	−00.1
09	215 08.1	+02.4	S 01 32.0	+00.0
10	230 10.5	+02.3	S 01 32.0	−00.1
11	245 12.8	+02.3	S 01 31.9	−00.1
12	260 15.1	+02.4	S 01 31.8	+00.0
13	275 17.5	+02.3	S 01 31.8	−00.1
14	290 19.8	+02.3	S 01 31.7	−00.1
15	305 22.1	+02.4	S 01 31.6	+00.0
16	320 24.5	+02.3	S 01 31.6	−00.1
17	335 26.8	+02.3	S 01 31.5	−00.1
18	350 29.1	+02.4	S 01 31.4	+00.0
19	5 31.5	+02.3	S 01 31.4	−00.1
20	20 33.8	+02.3	S 01 31.3	−00.1
21	35 36.1	+02.3	S 01 31.2	−00.1
22	50 38.4	+02.4	S 01 31.1	+00.0
23	65 40.8	+02.3	S 01 31.1	−00.1

UT	02	06	10	14	18	22
SD	00′4	00′4	00′4	00′4	00′4	00′4
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	000°

Greenwich Culmination Time: 18:37

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	116 19.6	+02.2	S 15 49.6	+00.0
01	131 21.8	+02.3	S 15 49.6	−00.1
02	146 24.1	+02.3	S 15 49.5	+00.0
03	161 26.4	+02.3	S 15 49.5	−00.1
04	176 28.7	+02.2	S 15 49.4	−00.1
05	191 30.9	+02.3	S 15 49.3	+00.0
06	206 33.2	+02.3	S 15 49.3	−00.1
07	221 35.5	+02.3	S 15 49.2	−00.1
08	236 37.8	+02.2	S 15 49.1	+00.0
09	251 40.0	+02.3	S 15 49.1	−00.1
10	266 42.3	+02.3	S 15 49.0	+00.0
11	281 44.6	+02.3	S 15 49.0	−00.1
12	296 46.9	+02.2	S 15 48.9	−00.1
13	311 49.1	+02.3	S 15 48.8	+00.0
14	326 51.4	+02.3	S 15 48.8	−00.1
15	341 53.7	+02.3	S 15 48.7	−00.1
16	356 56.0	+02.2	S 15 48.6	+00.0
17	11 58.2	+02.3	S 15 48.6	−00.1
18	27 00.5	+02.3	S 15 48.5	−00.1
19	42 02.8	+02.3	S 15 48.4	+00.0
20	57 05.1	+02.2	S 15 48.4	−00.1
21	72 07.3	+02.3	S 15 48.3	+00.0
22	87 09.6	+02.3	S 15 48.3	−00.1
23	102 11.9	+02.3	S 15 48.2	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	037°

Greenwich Culmination Time: 16:12

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2022 December 12 Monday (day 346 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	181 38.6	-00.3	S 23 03.3	+00.2
01	196 38.3	-00.3	S 23 03.5	+00.2
02	211 38.0	-00.3	S 23 03.7	+00.2
03	226 37.7	-00.3	S 23 03.9	+00.2
04	241 37.4	-00.3	S 23 04.1	+00.1
05	256 37.1	-00.3	S 23 04.2	+00.2
06	271 36.8	-00.2	S 23 04.4	+00.2
07	286 36.6	-00.3	S 23 04.6	+00.2
08	301 36.3	-00.3	S 23 04.8	+00.2
09	316 36.0	-00.3	S 23 05.0	+00.2
10	331 35.7	-00.3	S 23 05.2	+00.2
11	346 35.4	-00.3	S 23 05.4	+00.1
12	1 35.1	-00.3	S 23 05.5	+00.2
13	16 34.8	-00.3	S 23 05.7	+00.2
14	31 34.5	-00.3	S 23 05.9	+00.2
15	46 34.2	-00.3	S 23 06.1	+00.2
16	61 33.9	-00.3	S 23 06.3	+00.1
17	76 33.6	-00.2	S 23 06.4	+00.2
18	91 33.4	-00.3	S 23 06.6	+00.2
19	106 33.1	-00.3	S 23 06.8	+00.2
20	121 32.8	-00.3	S 23 07.0	+00.2
21	136 32.5	-00.3	S 23 07.2	+00.1
22	151 32.2	-00.3	S 23 07.3	+00.2
23	166 31.9	-00.3	S 23 07.5	+00.2

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	101°	101°	101°	100°	100°	100°

Greenwich Culmination Time: 11:53

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	168 08.9	-01.0	S 24 12.9	+00.0
01	183 07.9	-01.0	S 24 12.9	+00.1
02	198 06.9	-00.9	S 24 13.0	+00.0
03	213 06.0	-01.0	S 24 13.0	+00.0
04	228 05.0	-01.0	S 24 13.0	+00.0
05	243 04.0	-01.0	S 24 13.0	+00.1
06	258 03.0	-00.9	S 24 13.1	+00.0
07	273 02.1	-01.0	S 24 13.1	+00.0
08	288 01.1	-01.0	S 24 13.1	+00.0
09	303 00.1	-01.0	S 24 13.1	+00.1
10	317 59.1	-00.9	S 24 13.2	+00.0
11	332 58.2	-01.0	S 24 13.2	+00.0
12	347 57.2	-01.0	S 24 13.2	+00.0
13	2 56.2	-01.0	S 24 13.2	+00.0
14	17 55.2	-00.9	S 24 13.2	+00.1
15	32 54.3	-01.0	S 24 13.3	+00.0
16	47 53.3	-01.0	S 24 13.3	+00.0
17	62 52.3	-01.0	S 24 13.3	+00.0
18	77 51.3	-00.9	S 24 13.3	+00.0
19	92 50.4	-01.0	S 24 13.3	+00.0
20	107 49.4	-01.0	S 24 13.3	+00.0
21	122 48.4	-01.0	S 24 13.3	+00.0
22	137 47.4	-00.9	S 24 13.3	+00.0
23	152 46.5	-01.0	S 24 13.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	087°	087°	087°	087°	086°	086°

Greenwich Culmination Time: 12:48

Moon

A: 64%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	315 16.3	-29.2	N 24 40.5	-06.4
01	329 47.1	-29.2	N 24 34.1	-06.5
02	344 17.9	-29.1	N 24 27.6	-06.7
03	358 48.8	-29.1	N 24 20.9	-06.7
04	13 19.7	-29.0	N 24 14.2	-06.8
05	27 50.7	-28.9	N 24 07.4	-07.0
06	42 21.8	-28.9	N 24 00.4	-07.0
07	56 52.9	-28.9	N 23 53.4	-07.2
08	71 24.0	-28.7	N 23 46.2	-07.2
09	85 55.3	-28.8	N 23 39.0	-07.4
10	100 26.5	-28.6	N 23 31.6	-07.4
11	114 57.9	-28.6	N 23 24.2	-07.6
12	129 29.3	-28.6	N 23 16.6	-07.7
13	144 00.7	-28.4	N 23 08.9	-07.7
14	158 32.3	-28.5	N 23 01.2	-07.9
15	173 03.8	-28.3	N 22 53.3	-08.0
16	187 35.5	-28.3	N 22 45.3	-08.1
17	202 07.2	-28.3	N 22 37.2	-08.1
18	216 38.9	-28.1	N 22 29.1	-08.3
19	231 10.8	-28.2	N 22 20.8	-08.4
20	245 42.6	-28.0	N 22 12.4	-08.4
21	260 14.6	-28.0	N 22 04.0	-08.6
22	274 46.6	-28.0	N 21 55.4	-08.6
23	289 18.6	-27.9	N 21 46.8	-08.8

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′7	14′7	14′7
HP	54′0	54′0	54′0	54′0	54′0	54′1
SHA	234°	231°	229°	227°	225°	223°

Greenwich Culmination Time: 03:04

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	7 36.8	+03.4	N 24 58.1	+00.0
01	22 40.2	+03.5	N 24 58.1	+00.0
02	37 43.7	+03.5	N 24 58.1	-00.1
03	52 47.2	+03.5	N 24 58.0	+00.0
04	67 50.7	+03.5	N 24 58.0	+00.0
05	82 54.2	+03.5	N 24 58.0	+00.0
06	97 57.7	+03.5	N 24 58.0	-00.1
07	113 01.2	+03.5	N 24 57.9	+00.0
08	128 04.7	+03.4	N 24 57.9	+00.0
09	143 08.1	+03.5	N 24 57.9	-00.1
10	158 11.6	+03.5	N 24 57.8	+00.0
11	173 15.1	+03.5	N 24 57.8	+00.0
12	188 18.6	+03.5	N 24 57.8	+00.0
13	203 22.1	+03.5	N 24 57.8	-00.1
14	218 25.6	+03.4	N 24 57.7	+00.0
15	233 29.0	+03.5	N 24 57.7	+00.0
16	248 32.5	+03.5	N 24 57.7	-00.1
17	263 36.0	+03.5	N 24 57.6	+00.0
18	278 39.5	+03.4	N 24 57.6	+00.0
19	293 42.9	+03.5	N 24 57.6	+00.0
20	308 46.4	+03.5	N 24 57.6	-00.1
21	323 49.9	+03.5	N 24 57.5	+00.0
22	338 53.4	+03.5	N 24 57.5	+00.0
23	353 56.9	+03.4	N 24 57.5	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	287°	287°	287°	287°	287°	287°

Greenwich Culmination Time: 23:24

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	80 43.1	+02.3	S 01 31.0	-00.1
01	95 45.4	+02.4	S 01 30.9	+00.0
02	110 47.8	+02.3	S 01 30.9	-00.1
03	125 50.1	+02.3	S 01 30.8	-00.1
04	140 52.4	+02.3	S 01 30.7	-00.1
05	155 54.7	+02.4	S 01 30.6	+00.0
06	170 57.1	+02.3	S 01 30.6	-00.1
07	185 59.4	+02.3	S 01 30.5	-00.1
08	201 01.7	+02.3	S 01 30.4	-00.1
09	216 04.0	+02.4	S 01 30.3	+00.0
10	231 06.4	+02.3	S 01 30.3	-00.1
11	246 08.7	+02.3	S 01 30.2	-00.1
12	261 11.0	+02.3	S 01 30.1	+00.0
13	276 13.3	+02.4	S 01 30.1	-00.1
14	291 15.7	+02.3	S 01 30.0	-00.1
15	306 18.0	+02.3	S 01 29.9	-00.1
16	321 20.3	+02.3	S 01 29.8	+00.0
17	336 22.6	+02.4	S 01 29.8	-00.1
18	351 25.0	+02.3	S 01 29.7	-00.1
19	6 27.3	+02.3	S 01 29.6	-00.1
20	21 29.6	+02.3	S 01 29.5	+00.0
21	36 31.9	+02.4	S 01 29.5	-00.1
22	51 34.3	+02.3	S 01 29.4	-00.1
23	66 36.6	+02.3	S 01 29.3	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	000°	000°	000°	000°	000°	360°

Greenwich Culmination Time: 18:34

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	117 14.2	+02.2	S 15 48.1	+00.0
01	132 16.4	+02.3	S 15 48.1	-00.1
02	147 18.7	+02.3	S 15 48.0	-00.1
03	162 21.0	+02.2	S 15 47.9	+00.0
04	177 23.2	+02.3	S 15 47.9	-00.1
05	192 25.5	+02.3	S 15 47.8	-00.1
06	207 27.8	+02.3	S 15 47.7	+00.0
07	222 30.1	+02.2	S 15 47.7	-00.1
08	237 32.3	+02.3	S 15 47.6	+00.0
09	252 34.6	+02.3	S 15 47.6	-00.1
10	267 36.9	+02.2	S 15 47.5	-00.1
11	282 39.1	+02.3	S 15 47.4	+00.0
12	297 41.4	+02.3	S 15 47.4	-00.1
13	312 43.7	+02.3	S 15 47.3	-00.1
14	327 46.0	+02.2	S 15 47.2	+00.0
15	342 48.2	+02.3	S 15 47.2	-00.1
16	357 50.5	+02.3	S 15 47.1	-00.1
17	12 52.8	+02.2	S 15 47.0	+00.0
18	27 55.0	+02.3	S 15 47.0	-00.1
19	42 57.3	+02.3	S 15 46.9	-00.1
20	57 59.6	+02.3	S 15 46.8	+00.0
21	73 01.9	+02.2	S 15 46.8	-00.1
22	88 04.1	+02.3	S 15 46.7	-00.1
23	103 06.4	+02.3	S 15 46.6	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	037°	037°	037°	037°	037°	036°

Greenwich Culmination Time: 16:08

2022 December 13 Tuesday (day 347 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	181 31.6	-00.3	S 23 07.7	+00.2
01	196 31.3	-00.3	S 23 07.9	+00.1
02	211 31.0	-00.3	S 23 08.0	+00.2
03	226 30.7	-00.3	S 23 08.2	+00.2
04	241 30.4	-00.3	S 23 08.4	+00.1
05	256 30.1	-00.3	S 23 08.5	+00.2
06	271 29.8	-00.3	S 23 08.7	+00.2
07	286 29.5	-00.2	S 23 08.9	+00.1
08	301 29.3	-00.3	S 23 09.0	+00.2
09	316 29.0	-00.3	S 23 09.2	+00.2
10	331 28.7	-00.3	S 23 09.4	+00.1
11	346 28.4	-00.3	S 23 09.5	+00.2
12	1 28.1	-00.3	S 23 09.7	+00.2
13	16 27.8	-00.3	S 23 09.9	+00.1
14	31 27.5	-00.3	S 23 10.0	+00.2
15	46 27.2	-00.3	S 23 10.2	+00.1
16	61 26.9	-00.3	S 23 10.3	+00.2
17	76 26.6	-00.3	S 23 10.5	+00.2
18	91 26.3	-00.3	S 23 10.7	+00.1
19	106 26.0	-00.3	S 23 10.8	+00.2
20	121 25.7	-00.3	S 23 11.0	+00.1
21	136 25.4	-00.3	S 23 11.1	+00.2
22	151 25.1	-00.3	S 23 11.3	+00.2
23	166 24.8	-00.3	S 23 11.5	+00.1

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	100°	100°	099°	099°	099°	099°

Greenwich Culmination Time: 11:54

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	167 45.5	-01.0	S 24 13.3	+00.0
01	182 44.5	-01.0	S 24 13.3	+00.0
02	197 43.5	-00.9	S 24 13.3	+00.0
03	212 42.6	-01.0	S 24 13.3	+00.0
04	227 41.6	-01.0	S 24 13.3	+00.0
05	242 40.6	-01.0	S 24 13.3	+00.0
06	257 39.6	-00.9	S 24 13.3	+00.0
07	272 38.7	-01.0	S 24 13.3	+00.0
08	287 37.7	-01.0	S 24 13.3	+00.0
09	302 36.7	-01.0	S 24 13.3	+00.0
10	317 35.7	-01.0	S 24 13.3	+00.0
11	332 34.7	-00.9	S 24 13.3	+00.0
12	347 33.8	-01.0	S 24 13.3	+00.0
13	2 32.8	-01.0	S 24 13.3	+00.0
14	17 31.8	-01.0	S 24 13.3	-00.1
15	32 30.8	-00.9	S 24 13.2	+00.0
16	47 29.9	-01.0	S 24 13.2	+00.0
17	62 28.9	-01.0	S 24 13.2	+00.0
18	77 27.9	-01.0	S 24 13.2	+00.0
19	92 26.9	-00.9	S 24 13.2	+00.0
20	107 26.0	-01.0	S 24 13.2	-00.1
21	122 25.0	-01.0	S 24 13.1	+00.0
22	137 24.0	-01.0	S 24 13.1	+00.0
23	152 23.0	-00.9	S 24 13.1	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	086°	086°	086°	085°	085°	085°

Greenwich Culmination Time: 12:49

Moon

A: 67%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	303 50.7	-27.8	N 21 38.0	-08.8
01	318 22.9	-27.8	N 21 29.2	-08.9
02	332 55.1	-27.7	N 21 20.3	-09.0
03	347 27.4	-27.7	N 21 11.3	-09.1
04	1 59.7	-27.6	N 21 02.2	-09.2
05	16 32.1	-27.5	N 20 53.0	-09.3
06	31 04.6	-27.5	N 20 43.7	-09.4
07	45 37.1	-27.5	N 20 34.3	-09.5
08	60 09.6	-27.3	N 20 24.8	-09.5
09	74 42.3	-27.4	N 20 15.3	-09.7
10	89 14.9	-27.2	N 20 05.6	-09.7
11	103 47.7	-27.2	N 19 55.9	-09.8
12	118 20.5	-27.2	N 19 46.1	-09.9
13	132 53.3	-27.1	N 19 36.2	-09.9
14	147 26.2	-27.1	N 19 26.3	-10.1
15	161 59.1	-27.0	N 19 16.2	-10.1
16	176 32.1	-26.9	N 19 06.1	-10.3
17	191 05.2	-26.9	N 18 55.8	-10.3
18	205 38.3	-26.9	N 18 45.5	-10.3
19	220 11.4	-26.8	N 18 35.2	-10.5
20	234 44.6	-26.7	N 18 24.7	-10.5
21	249 17.9	-26.7	N 18 14.2	-10.6
22	263 51.2	-26.7	N 18 03.6	-10.7
23	278 24.5	-26.6	N 17 52.9	-10.8

UT	02	06	10	14	18	22
SD	14′7	14′7	14′7	14′8	14′8	14′8
HP	54′1	54′1	54′1	54′2	54′2	54′3
SHA	221°	219°	217°	215°	213°	211°

Greenwich Culmination Time: 03:51

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	9 00.3	+03.5	N 24 57.4	+00.0
01	24 03.8	+03.5	N 24 57.4	+00.0
02	39 07.3	+03.4	N 24 57.4	-00.1
03	54 10.7	+03.5	N 24 57.3	+00.0
04	69 14.2	+03.5	N 24 57.3	+00.0
05	84 17.7	+03.5	N 24 57.3	-00.1
06	99 21.2	+03.4	N 24 57.2	+00.0
07	114 24.6	+03.5	N 24 57.2	+00.0
08	129 28.1	+03.5	N 24 57.2	+00.0
09	144 31.6	+03.4	N 24 57.2	-00.1
10	159 35.0	+03.5	N 24 57.1	+00.0
11	174 38.5	+03.5	N 24 57.1	+00.0
12	189 42.0	+03.4	N 24 57.1	-00.1
13	204 45.4	+03.5	N 24 57.0	+00.0
14	219 48.9	+03.5	N 24 57.0	+00.0
15	234 52.4	+03.4	N 24 57.0	-00.1
16	249 55.8	+03.5	N 24 56.9	+00.0
17	264 59.3	+03.5	N 24 56.9	+00.0
18	280 02.8	+03.4	N 24 56.9	-00.1
19	295 06.2	+03.5	N 24 56.8	+00.0
20	310 09.7	+03.4	N 24 56.8	+00.0
21	325 13.1	+03.5	N 24 56.8	-00.1
22	340 16.6	+03.5	N 24 56.7	+00.0
23	355 20.1	+03.4	N 24 56.7	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	287°	287°	288°	288°	288°	288°

Greenwich Culmination Time: 23:18

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	81 38.9	+02.3	S 01 29.2	+00.0
01	96 41.2	+02.3	S 01 29.2	-00.1
02	111 43.5	+02.4	S 01 29.1	-00.1
03	126 45.9	+02.3	S 01 29.0	-00.1
04	141 48.2	+02.3	S 01 28.9	+00.0
05	156 50.5	+02.3	S 01 28.9	-00.1
06	171 52.8	+02.3	S 01 28.8	-00.1
07	186 55.1	+02.4	S 01 28.7	-00.1
08	201 57.5	+02.3	S 01 28.6	+00.0
09	216 59.8	+02.3	S 01 28.6	-00.1
10	232 02.1	+02.3	S 01 28.5	-00.1
11	247 04.4	+02.3	S 01 28.4	-00.1
12	262 06.7	+02.3	S 01 28.3	+00.0
13	277 09.0	+02.4	S 01 28.3	-00.1
14	292 11.4	+02.3	S 01 28.2	-00.1
15	307 13.7	+02.3	S 01 28.1	-00.1
16	322 16.0	+02.3	S 01 28.0	+00.0
17	337 18.3	+02.3	S 01 28.0	-00.1
18	352 20.6	+02.3	S 01 27.9	-00.1
19	7 22.9	+02.4	S 01 27.8	-00.1
20	22 25.3	+02.3	S 01 27.7	+00.0
21	37 27.6	+02.3	S 01 27.7	-00.1
22	52 29.9	+02.3	S 01 27.6	-00.1
23	67 32.2	+02.3	S 01 27.5	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 18:30

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	118 08.7	+02.2	S 15 46.6	-00.1
01	133 10.9	+02.3	S 15 46.5	+00.0
02	148 13.2	+02.3	S 15 46.5	-00.1
03	163 15.5	+02.2	S 15 46.4	-00.1
04	178 17.7	+02.3	S 15 46.3	+00.0
05	193 20.0	+02.3	S 15 46.3	-00.1
06	208 22.3	+02.3	S 15 46.2	-00.1
07	223 24.6	+02.2	S 15 46.1	+00.0
08	238 26.8	+02.3	S 15 46.1	-00.1
09	253 29.1	+02.3	S 15 46.0	-00.1
10	268 31.4	+02.2	S 15 45.9	+00.0
11	283 33.6	+02.3	S 15 45.9	-00.1
12	298 35.9	+02.3	S 15 45.8	-00.1
13	313 38.2	+02.2	S 15 45.7	+00.0
14	328 40.4	+02.3	S 15 45.7	-00.1
15	343 42.7	+02.3	S 15 45.6	-00.1
16	358 45.0	+02.2	S 15 45.5	+00.0
17	13 47.2	+02.3	S 15 45.5	-00.1
18	28 49.5	+02.3	S 15 45.4	-00.1
19	43 51.8	+02.2	S 15 45.3	+00.0
20	58 54.0	+02.3	S 15 45.3	-00.1
21	73 56.3	+02.3	S 15 45.2	-00.1
22	88 58.6	+02.2	S 15 45.1	+00.0
23	104 00.8	+02.3	S 15 45.1	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 16:04

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2022 December 18 Sunday (day 352 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	180 55.6	-00.4	S 23 22.7	+00.1
01	195 55.2	-00.3	S 23 22.8	+00.0
02	210 54.9	-00.3	S 23 22.8	+00.1
03	225 54.6	-00.3	S 23 22.9	+00.1
04	240 54.3	-00.3	S 23 23.0	+00.1
05	255 54.0	-00.3	S 23 23.1	+00.0
06	270 53.7	-00.3	S 23 23.1	+00.1
07	285 53.4	-00.3	S 23 23.2	+00.1
08	300 53.1	-00.3	S 23 23.3	+00.0
09	315 52.8	-00.3	S 23 23.3	+00.1
10	330 52.5	-00.3	S 23 23.4	+00.1
11	345 52.2	-00.3	S 23 23.5	+00.0
12	0 51.9	-00.3	S 23 23.5	+00.1
13	15 51.6	-00.3	S 23 23.6	+00.1
14	30 51.3	-00.4	S 23 23.7	+00.0
15	45 50.9	-00.3	S 23 23.7	+00.1
16	60 50.6	-00.3	S 23 23.8	+00.1
17	75 50.3	-00.3	S 23 23.9	+00.0
18	90 50.0	-00.3	S 23 23.9	+00.1
19	105 49.7	-00.3	S 23 24.0	+00.1
20	120 49.4	-00.3	S 23 24.1	+00.0
21	135 49.1	-00.3	S 23 24.1	+00.1
22	150 48.8	-00.3	S 23 24.2	+00.0
23	165 48.5	-00.3	S 23 24.2	+00.1

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	094°	094°	094°	094°	094°	093°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	165 48.8	-01.0	S 24 04.4	-00.2
01	180 47.8	-01.0	S 24 04.2	-00.1
02	195 46.8	-00.9	S 24 04.1	-00.2
03	210 45.9	-01.0	S 24 03.9	-00.1
04	225 44.9	-01.0	S 24 03.8	-00.2
05	240 43.9	-00.9	S 24 03.6	-00.1
06	255 43.0	-01.0	S 24 03.5	-00.2
07	270 42.0	-01.0	S 24 03.3	-00.2
08	285 41.0	-00.9	S 24 03.1	-00.1
09	300 40.1	-01.0	S 24 03.0	-00.2
10	315 39.1	-01.0	S 24 02.8	-00.2
11	330 38.1	-00.9	S 24 02.6	-00.1
12	345 37.2	-01.0	S 24 02.5	-00.2
13	0 36.2	-01.0	S 24 02.3	-00.2
14	15 35.2	-00.9	S 24 02.1	-00.1
15	30 34.3	-01.0	S 24 02.0	-00.2
16	45 33.3	-00.9	S 24 01.8	-00.2
17	60 32.4	-01.0	S 24 01.6	-00.2
18	75 31.4	-01.0	S 24 01.4	-00.1
19	90 30.4	-00.9	S 24 01.3	-00.2
20	105 29.5	-01.0	S 24 01.1	-00.2
21	120 28.5	-01.0	S 24 00.9	-00.2
22	135 27.5	-00.9	S 24 00.7	-00.2
23	150 26.6	-01.0	S 24 00.5	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	079°	079°	079°	078°	078°	078°

Greenwich Culmination Time: 12:57

Moon

A: 81%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	251 55.9	-26.4	S 03 39.8	+14.8
01	266 29.5	-26.5	S 03 54.6	+14.9
02	281 03.0	-26.5	S 04 09.5	+14.8
03	295 36.5	-26.6	S 04 24.3	+14.8
04	310 09.9	-26.6	S 04 39.1	+14.8
05	324 43.3	-26.8	S 04 53.9	+14.8
06	339 16.5	-26.7	S 05 08.7	+14.9
07	353 49.8	-26.9	S 05 23.6	+14.8
08	8 22.9	-26.9	S 05 38.4	+14.8
09	22 56.0	-26.9	S 05 53.2	+14.8
10	37 29.1	-27.1	S 06 08.0	+14.8
11	52 02.0	-27.1	S 06 22.8	+14.8
12	66 34.9	-27.1	S 06 37.6	+14.8
13	81 07.8	-27.3	S 06 52.4	+14.8
14	95 40.5	-27.3	S 07 07.2	+14.7
15	110 13.2	-27.4	S 07 21.9	+14.8
16	124 45.8	-27.5	S 07 36.7	+14.7
17	139 18.3	-27.6	S 07 51.4	+14.8
18	153 50.7	-27.6	S 08 06.2	+14.7
19	168 23.1	-27.7	S 08 20.9	+14.7
20	182 55.4	-27.8	S 08 35.6	+14.6
21	197 27.6	-27.9	S 08 50.2	+14.7
22	211 59.7	-28.0	S 09 04.9	+14.6
23	226 31.7	-28.0	S 09 19.5	+14.7

UT	02	06	10	14	18	22
SD	15′5	15′5	15′6	15′6	15′6	15′7
HP	56′8	56′9	57′1	57′2	57′4	57′5
SHA	164°	162°	160°	159°	157°	155°

Greenwich Culmination Time: 07:25

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	15 51.5	+03.3	N 24 52.7	-00.1
01	30 54.8	+03.4	N 24 52.6	+00.0
02	45 58.2	+03.4	N 24 52.6	-00.1
03	61 01.6	+03.3	N 24 52.5	+00.0
04	76 04.9	+03.4	N 24 52.5	-00.1
05	91 08.3	+03.4	N 24 52.4	+00.0
06	106 11.7	+03.3	N 24 52.4	-00.1
07	121 15.0	+03.4	N 24 52.3	+00.0
08	136 18.4	+03.3	N 24 52.3	-00.1
09	151 21.7	+03.4	N 24 52.2	+00.0
10	166 25.1	+03.4	N 24 52.2	-00.1
11	181 28.5	+03.3	N 24 52.1	+00.0
12	196 31.8	+03.4	N 24 52.1	-00.1
13	211 35.2	+03.3	N 24 52.0	+00.0
14	226 38.5	+03.4	N 24 52.0	-00.1
15	241 41.9	+03.3	N 24 51.9	+00.0
16	256 45.2	+03.4	N 24 51.9	+00.0
17	271 48.6	+03.3	N 24 51.9	-00.1
18	286 51.9	+03.4	N 24 51.8	+00.0
19	301 55.3	+03.3	N 24 51.8	-00.1
20	316 58.6	+03.4	N 24 51.7	+00.0
21	332 02.0	+03.3	N 24 51.7	-00.1
22	347 05.3	+03.4	N 24 51.6	+00.0
23	2 08.7	+03.3	N 24 51.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	289°	289°	289°	289°	290°	290°

Greenwich Culmination Time: 22:51

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	86 15.3	+02.2	S 01 19.4	-00.1
01	101 17.5	+02.3	S 01 19.3	-00.1
02	116 19.8	+02.3	S 01 19.2	-00.1
03	131 22.1	+02.3	S 01 19.1	-00.1
04	146 24.4	+02.3	S 01 19.0	-00.1
05	161 26.7	+02.3	S 01 18.9	-00.1
06	176 29.0	+02.2	S 01 18.8	+00.0
07	191 31.2	+02.3	S 01 18.8	-00.1
08	206 33.5	+02.3	S 01 18.7	-00.1
09	221 35.8	+02.3	S 01 18.6	-00.1
10	236 38.1	+02.3	S 01 18.5	-00.1
11	251 40.4	+02.3	S 01 18.4	-00.1
12	266 42.7	+02.2	S 01 18.3	-00.1
13	281 44.9	+02.3	S 01 18.2	-00.1
14	296 47.2	+02.3	S 01 18.1	-00.1
15	311 49.5	+02.3	S 01 18.0	-00.1
16	326 51.8	+02.3	S 01 17.9	-00.1
17	341 54.1	+02.2	S 01 17.8	-00.1
18	356 56.3	+02.3	S 01 17.7	+00.0
19	11 58.6	+02.3	S 01 17.7	-00.1
20	27 00.9	+02.3	S 01 17.6	-00.1
21	42 03.2	+02.3	S 01 17.5	-00.1
22	57 05.5	+02.2	S 01 17.4	-00.1
23	72 07.7	+02.3	S 01 17.3	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 18:12

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	122 40.2	+02.2	S 15 38.5	-00.1
01	137 42.4	+02.3	S 15 38.4	+00.0
02	152 44.7	+02.2	S 15 38.4	-00.1
03	167 46.9	+02.3	S 15 38.3	-00.1
04	182 49.2	+02.2	S 15 38.2	-00.1
05	197 51.4	+02.3	S 15 38.1	+00.0
06	212 53.7	+02.2	S 15 38.1	-00.1
07	227 55.9	+02.3	S 15 38.0	-00.1
08	242 58.2	+02.2	S 15 37.9	+00.0
09	258 00.4	+02.3	S 15 37.9	-00.1
10	273 02.7	+02.2	S 15 37.8	-00.1
11	288 04.9	+02.3	S 15 37.7	+00.0
12	303 07.2	+02.3	S 15 37.7	-00.1
13	318 09.5	+02.2	S 15 37.6	-00.1
14	333 11.7	+02.3	S 15 37.5	-00.1
15	348 14.0	+02.2	S 15 37.4	+00.0
16	3 16.2	+02.3	S 15 37.4	-00.1
17	18 18.5	+02.2	S 15 37.3	-00.1
18	33 20.7	+02.3	S 15 37.2	+00.0
19	48 23.0	+02.2	S 15 37.2	-00.1
20	63 25.2	+02.3	S 15 37.1	-00.1
21	78 27.5	+02.2	S 15 37.0	+00.0
22	93 29.7	+02.3	S 15 37.0	-00.1
23	108 32.0	+02.2	S 15 36.9	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 15:46

2022 December 15 Thursday (day 349 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	181 17.4	-00.3	S 23 15.1	+00.1
01	196 17.1	-00.3	S 23 15.2	+00.1
02	211 16.8	-00.3	S 23 15.3	+00.2
03	226 16.5	-00.3	S 23 15.5	+00.1
04	241 16.2	-00.3	S 23 15.6	+00.1
05	256 15.9	-00.3	S 23 15.7	+00.2
06	271 15.6	-00.3	S 23 15.9	+00.1
07	286 15.3	-00.3	S 23 16.0	+00.1
08	301 15.0	-00.3	S 23 16.1	+00.2
09	316 14.7	-00.3	S 23 16.3	+00.1
10	331 14.4	-00.3	S 23 16.4	+00.1
11	346 14.1	-00.3	S 23 16.5	+00.1
12	1 13.8	-00.3	S 23 16.6	+00.2
13	16 13.5	-00.3	S 23 16.8	+00.1
14	31 13.2	-00.3	S 23 16.9	+00.1
15	46 12.9	-00.3	S 23 17.0	+00.1
16	61 12.6	-00.3	S 23 17.1	+00.1
17	76 12.3	-00.3	S 23 17.2	+00.2
18	91 12.0	-00.3	S 23 17.4	+00.1
19	106 11.7	-00.3	S 23 17.5	+00.1
20	121 11.4	-00.3	S 23 17.6	+00.1
21	136 11.1	-00.3	S 23 17.7	+00.1
22	151 10.8	-00.3	S 23 17.8	+00.2
23	166 10.5	-00.3	S 23 18.0	+00.1

UT	02	06	10	14	18	22
SD	16′2	16′2	16′2	16′2	16′2	16′2
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	098°	097°	097°	097°	097°	097°

Greenwich Culmination Time: 11:55

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	166 58.7	-01.0	S 24 12.0	-00.1
01	181 57.7	-01.0	S 24 11.9	+00.0
02	196 56.7	-00.9	S 24 11.9	-00.1
03	211 55.8	-01.0	S 24 11.8	+00.0
04	226 54.8	-01.0	S 24 11.8	-00.1
05	241 53.8	-01.0	S 24 11.7	-00.1
06	256 52.8	-00.9	S 24 11.6	+00.0
07	271 51.9	-01.0	S 24 11.6	-00.1
08	286 50.9	-01.0	S 24 11.5	-00.1
09	301 49.9	-01.0	S 24 11.4	+00.0
10	316 48.9	-00.9	S 24 11.4	-00.1
11	331 48.0	-01.0	S 24 11.3	-00.1
12	346 47.0	-01.0	S 24 11.2	-00.1
13	1 46.0	-01.0	S 24 11.1	+00.0
14	16 45.0	-00.9	S 24 11.1	-00.1
15	31 44.1	-01.0	S 24 11.0	-00.1
16	46 43.1	-01.0	S 24 10.9	-00.1
17	61 42.1	-00.9	S 24 10.8	-00.1
18	76 41.2	-01.0	S 24 10.7	+00.0
19	91 40.2	-01.0	S 24 10.7	-00.1
20	106 39.2	-01.0	S 24 10.6	-00.1
21	121 38.2	-00.9	S 24 10.5	-00.1
22	136 37.3	-01.0	S 24 10.4	-00.1
23	151 36.3	-01.0	S 24 10.3	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	083°	083°	083°	083°	082°	082°

Greenwich Culmination Time: 12:52

Moon

A: 73%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	282 32.2	-25.6	N 13 02.8	-12.4
01	297 06.6	-25.6	N 12 50.4	-12.5
02	311 41.0	-25.6	N 12 37.9	-12.6
03	326 15.4	-25.5	N 12 25.3	-12.6
04	340 49.9	-25.6	N 12 12.7	-12.6
05	355 24.3	-25.5	N 12 00.1	-12.8
06	9 58.8	-25.4	N 11 47.3	-12.7
07	24 33.4	-25.5	N 11 34.6	-12.9
08	39 07.9	-25.4	N 11 21.7	-12.8
09	53 42.5	-25.4	N 11 08.9	-13.0
10	68 17.1	-25.4	N 10 55.9	-12.9
11	82 51.7	-25.4	N 10 43.0	-13.1
12	97 26.3	-25.3	N 10 29.9	-13.1
13	112 01.0	-25.4	N 10 16.8	-13.1
14	126 35.6	-25.3	N 10 03.7	-13.2
15	141 10.3	-25.3	N 09 50.5	-13.2
16	155 45.0	-25.3	N 09 37.3	-13.3
17	170 19.7	-25.3	N 09 24.0	-13.3
18	184 54.4	-25.3	N 09 10.7	-13.4
19	199 29.1	-25.2	N 08 57.3	-13.4
20	214 03.9	-25.3	N 08 43.9	-13.5
21	228 38.6	-25.2	N 08 30.4	-13.5
22	243 13.4	-25.2	N 08 16.9	-13.6
23	257 48.2	-25.3	N 08 03.3	-13.6

UT	02	06	10	14	18	22
SD	14′9	14′9	14′9	15′0	15′0	15′0
HP	54′7	54′8	54′8	54′9	55′0	55′1
SHA	198°	196°	194°	192°	191°	189°

Greenwich Culmination Time: 05:18

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	11 46.3	+03.4	N 24 55.8	-00.1
01	26 49.7	+03.4	N 24 55.7	+00.0
02	41 53.1	+03.5	N 24 55.7	+00.0
03	56 56.6	+03.4	N 24 55.7	-00.1
04	72 00.0	+03.4	N 24 55.6	+00.0
05	87 03.4	+03.5	N 24 55.6	-00.1
06	102 06.9	+03.4	N 24 55.5	+00.0
07	117 10.3	+03.4	N 24 55.5	+00.0
08	132 13.7	+03.5	N 24 55.5	-00.1
09	147 17.2	+03.4	N 24 55.4	+00.0
10	162 20.6	+03.4	N 24 55.4	-00.1
11	177 24.0	+03.5	N 24 55.3	+00.0
12	192 27.5	+03.4	N 24 55.3	+00.0
13	207 30.9	+03.4	N 24 55.3	-00.1
14	222 34.3	+03.4	N 24 55.2	+00.0
15	237 37.7	+03.5	N 24 55.2	-00.1
16	252 41.2	+03.4	N 24 55.1	+00.0
17	267 44.6	+03.4	N 24 55.1	+00.0
18	282 48.0	+03.4	N 24 55.1	-00.1
19	297 51.4	+03.5	N 24 55.0	+00.0
20	312 54.9	+03.4	N 24 55.0	-00.1
21	327 58.3	+03.4	N 24 54.9	+00.0
22	343 01.7	+03.4	N 24 54.9	+00.0
23	358 05.1	+03.4	N 24 54.9	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	288°	288°	288°	288°	288°	288°

Greenwich Culmination Time: 23:07

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	83 30.0	+02.3	S 01 25.5	-00.1
01	98 32.3	+02.3	S 01 25.4	+00.0
02	113 34.6	+02.3	S 01 25.4	-00.1
03	128 36.9	+02.3	S 01 25.3	-00.1
04	143 39.2	+02.3	S 01 25.2	-00.1
05	158 41.5	+02.3	S 01 25.1	-00.1
06	173 43.8	+02.3	S 01 25.0	+00.0
07	188 46.1	+02.3	S 01 25.0	-00.1
08	203 48.4	+02.3	S 01 24.9	-00.1
09	218 50.7	+02.3	S 01 24.8	-00.1
10	233 53.0	+02.3	S 01 24.7	-00.1
11	248 55.3	+02.3	S 01 24.6	-00.1
12	263 57.6	+02.3	S 01 24.5	+00.0
13	278 59.9	+02.3	S 01 24.5	-00.1
14	294 02.2	+02.3	S 01 24.4	-00.1
15	309 04.5	+02.3	S 01 24.3	-00.1
16	324 06.8	+02.3	S 01 24.2	-00.1
17	339 09.1	+02.3	S 01 24.1	+00.0
18	354 11.4	+02.3	S 01 24.1	-00.1
19	9 13.7	+02.3	S 01 24.0	-00.1
20	24 16.0	+02.3	S 01 23.9	-00.1
21	39 18.3	+02.3	S 01 23.8	-00.1
22	54 20.6	+02.3	S 01 23.7	-00.1
23	69 22.9	+02.3	S 01 23.6	+00.0

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 18:23

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″	″	° ′ ″	″
00	119 57.5	+02.2	S 15 43.4	+00.0
01	134 59.7	+02.3	S 15 43.4	-00.1
02	150 02.0	+02.3	S 15 43.3	-00.1
03	165 04.3	+02.2	S 15 43.2	+00.0
04	180 06.5	+02.3	S 15 43.2	-00.1
05	195 08.8	+02.3	S 15 43.1	-00.1
06	210 11.1	+02.2	S 15 43.0	+00.0
07	225 13.3	+02.3	S 15 43.0	-00.1
08	240 15.6	+02.2	S 15 42.9	-00.1
09	255 17.8	+02.3	S 15 42.8	-00.1
10	270 20.1	+02.3	S 15 42.7	+00.0
11	285 22.4	+02.2	S 15 42.7	-00.1
12	300 24.6	+02.3	S 15 42.6	-00.1
13	315 26.9	+02.3	S 15 42.5	+00.0
14	330 29.2	+02.2	S 15 42.5	-00.1
15	345 31.4	+02.3	S 15 42.4	-00.1
16	0 33.7	+02.2	S 15 42.3	+00.0
17	15 35.9	+02.3	S 15 42.3	-00.1
18	30 38.2	+02.3	S 15 42.2	-00.1
19	45 40.5	+02.2	S 15 42.1	+00.0
20	60 42.7	+02.3	S 15 42.1	-00.1
21	75 45.0	+02.2	S 15 42.0	-00.1
22	90 47.2	+02.3	S 15 41.9	+00.0
23	105 49.5	+02.3	S 15 41.9	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 15:57

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 December 16 Friday (day 350 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	181 10.2	−00.3	S 23 18.1	+00.1
01	196 09.9	−00.3	S 23 18.2	+00.1
02	211 09.6	−00.3	S 23 18.3	+00.1
03	226 09.3	−00.3	S 23 18.4	+00.1
04	241 09.0	−00.3	S 23 18.5	+00.1
05	256 08.7	−00.3	S 23 18.6	+00.2
06	271 08.4	−00.3	S 23 18.8	+00.1
07	286 08.1	−00.3	S 23 18.9	+00.1
08	301 07.8	−00.4	S 23 19.0	+00.1
09	316 07.4	−00.3	S 23 19.1	+00.1
10	331 07.1	−00.3	S 23 19.2	+00.1
11	346 06.8	−00.3	S 23 19.3	+00.1
12	1 06.5	−00.3	S 23 19.4	+00.1
13	16 06.2	−00.3	S 23 19.5	+00.1
14	31 05.9	−00.3	S 23 19.6	+00.1
15	46 05.6	−00.3	S 23 19.7	+00.1
16	61 05.3	−00.3	S 23 19.8	+00.1
17	76 05.0	−00.3	S 23 19.9	+00.1
18	91 04.7	−00.3	S 23 20.0	+00.1
19	106 04.4	−00.3	S 23 20.1	+00.1
20	121 04.1	−00.3	S 23 20.2	+00.1
21	136 03.8	−00.3	S 23 20.3	+00.1
22	151 03.5	−00.3	S 23 20.4	+00.1
23	166 03.2	−00.3	S 23 20.5	+00.1

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	096°	096°	096°	096°	096°	096°

Greenwich Culmination Time: 11:55

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	166 35.3	−01.0	S 24 10.2	−00.1
01	181 34.3	−00.9	S 24 10.1	−00.1
02	196 33.4	−01.0	S 24 10.0	−00.1
03	211 32.4	−01.0	S 24 09.9	−00.1
04	226 31.4	−00.9	S 24 09.8	−00.1
05	241 30.5	−01.0	S 24 09.7	+00.0
06	256 29.5	−01.0	S 24 09.7	−00.1
07	271 28.5	−01.0	S 24 09.6	−00.1
08	286 27.5	−00.9	S 24 09.5	−00.1
09	301 26.6	−01.0	S 24 09.4	−00.1
10	316 25.6	−01.0	S 24 09.3	−00.2
11	331 24.6	−00.9	S 24 09.1	−00.1
12	346 23.7	−01.0	S 24 09.0	−00.1
13	1 22.7	−01.0	S 24 08.9	−00.1
14	16 21.7	−01.0	S 24 08.8	−00.1
15	31 20.7	−00.9	S 24 08.7	−00.1
16	46 19.8	−01.0	S 24 08.6	−00.1
17	61 18.8	−01.0	S 24 08.5	−00.1
18	76 17.8	−00.9	S 24 08.4	−00.1
19	91 16.9	−01.0	S 24 08.3	−00.1
20	106 15.9	−01.0	S 24 08.2	−00.2
21	121 14.9	−01.0	S 24 08.0	−00.1
22	136 13.9	−00.9	S 24 07.9	−00.1
23	151 13.0	−01.0	S 24 07.8	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	082°	082°	081°	081°	081°	081°

Greenwich Culmination Time: 12:54

Moon

A: 76%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	272 22.9	−25.2	N 07 49.7	−13.6
01	286 57.7	−25.2	N 07 36.1	−13.7
02	301 32.5	−25.2	N 07 22.4	−13.7
03	316 07.3	−25.3	N 07 08.7	−13.8
04	330 42.0	−25.2	N 06 54.9	−13.8
05	345 16.8	−25.2	N 06 41.1	−13.8
06	359 51.6	−25.2	N 06 27.3	−13.9
07	14 26.4	−25.2	N 06 13.4	−13.9
08	29 01.2	−25.3	N 05 59.5	−14.0
09	43 35.9	−25.2	N 05 45.5	−14.0
10	58 10.7	−25.2	N 05 31.5	−14.0
11	72 45.5	−25.3	N 05 17.5	−14.1
12	87 20.2	−25.2	N 05 03.4	−14.1
13	101 55.0	−25.3	N 04 49.3	−14.1
14	116 29.7	−25.3	N 04 35.2	−14.2
15	131 04.4	−25.3	N 04 21.0	−14.2
16	145 39.1	−25.3	N 04 06.8	−14.2
17	160 13.8	−25.3	N 03 52.6	−14.2
18	174 48.5	−25.3	N 03 38.4	−14.3
19	189 23.2	−25.4	N 03 24.1	−14.3
20	203 57.8	−25.3	N 03 09.8	−14.4
21	218 32.5	−25.4	N 02 55.4	−14.4
22	233 07.1	−25.4	N 02 41.0	−14.4
23	247 41.7	−25.5	N 02 26.6	−14.4

UT	02	06	10	14	18	22
SD	15′0	15′1	15′1	15′1	15′2	15′2
HP	55′2	55′3	55′4	55′6	55′7	55′8
SHA	187°	185°	183°	181°	179°	178°

Greenwich Culmination Time: 06:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	13 08.5	+03.5	N 24 54.8	+00.0
01	28 12.0	+03.4	N 24 54.8	−00.1
02	43 15.4	+03.4	N 24 54.7	+00.0
03	58 18.8	+03.4	N 24 54.7	−00.1
04	73 22.2	+03.4	N 24 54.6	+00.0
05	88 25.6	+03.4	N 24 54.6	+00.0
06	103 29.0	+03.4	N 24 54.6	−00.1
07	118 32.4	+03.4	N 24 54.5	+00.0
08	133 35.8	+03.5	N 24 54.5	−00.1
09	148 39.3	+03.4	N 24 54.4	+00.0
10	163 42.7	+03.4	N 24 54.4	−00.1
11	178 46.1	+03.4	N 24 54.3	+00.0
12	193 49.5	+03.4	N 24 54.3	+00.0
13	208 52.9	+03.4	N 24 54.3	−00.1
14	223 56.3	+03.4	N 24 54.2	+00.0
15	238 59.7	+03.4	N 24 54.2	−00.1
16	254 03.1	+03.4	N 24 54.1	+00.0
17	269 06.5	+03.4	N 24 54.1	−00.1
18	284 09.9	+03.4	N 24 54.0	+00.0
19	299 13.3	+03.4	N 24 54.0	+00.0
20	314 16.7	+03.4	N 24 54.0	−00.1
21	329 20.1	+03.4	N 24 53.9	+00.0
22	344 23.5	+03.4	N 24 53.9	−00.1
23	359 26.9	+03.4	N 24 53.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	289°	289°	289°	289°	289°	289°

Greenwich Culmination Time: 23:02

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	84 25.2	+02.3	S 01 23.6	−00.1
01	99 27.5	+02.3	S 01 23.5	−00.1
02	114 29.8	+02.3	S 01 23.4	−00.1
03	129 32.1	+02.3	S 01 23.3	−00.1
04	144 34.4	+02.3	S 01 23.2	−00.1
05	159 36.7	+02.3	S 01 23.1	−00.1
06	174 39.0	+02.3	S 01 23.0	+00.0
07	189 41.3	+02.3	S 01 23.0	−00.1
08	204 43.6	+02.3	S 01 22.9	−00.1
09	219 45.9	+02.3	S 01 22.8	−00.1
10	234 48.2	+02.3	S 01 22.7	−00.1
11	249 50.5	+02.3	S 01 22.6	−00.1
12	264 52.8	+02.3	S 01 22.5	+00.0
13	279 55.1	+02.3	S 01 22.5	−00.1
14	294 57.4	+02.3	S 01 22.4	−00.1
15	309 59.7	+02.3	S 01 22.3	−00.1
16	325 02.0	+02.3	S 01 22.2	−00.1
17	340 04.3	+02.3	S 01 22.1	−00.1
18	355 06.6	+02.3	S 01 22.0	−00.1
19	10 08.9	+02.3	S 01 21.9	+00.0
20	25 11.2	+02.3	S 01 21.9	−00.1
21	40 13.5	+02.2	S 01 21.8	−00.1
22	55 15.7	+02.3	S 01 21.7	−00.1
23	70 18.0	+02.3	S 01 21.6	−00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 18:19

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	120 51.8	+02.2	S 15 41.8	−00.1
01	135 54.0	+02.3	S 15 41.7	+00.0
02	150 56.3	+02.2	S 15 41.7	−00.1
03	165 58.5	+02.3	S 15 41.6	−00.1
04	181 00.8	+02.3	S 15 41.5	+00.0
05	196 03.1	+02.2	S 15 41.5	−00.1
06	211 05.3	+02.3	S 15 41.4	−00.1
07	226 07.6	+02.3	S 15 41.3	+00.0
08	241 09.9	+02.2	S 15 41.3	−00.1
09	256 12.1	+02.3	S 15 41.2	−00.1
10	271 14.4	+02.2	S 15 41.1	+00.0
11	286 16.6	+02.3	S 15 41.1	−00.1
12	301 18.9	+02.2	S 15 41.0	−00.1
13	316 21.1	+02.3	S 15 40.9	−00.1
14	331 23.4	+02.3	S 15 40.8	+00.0
15	346 25.7	+02.2	S 15 40.8	−00.1
16	1 27.9	+02.3	S 15 40.7	−00.1
17	16 30.2	+02.2	S 15 40.6	+00.0
18	31 32.4	+02.3	S 15 40.6	−00.1
19	46 34.7	+02.3	S 15 40.5	−00.1
20	61 37.0	+02.2	S 15 40.4	+00.0
21	76 39.2	+02.3	S 15 40.4	−00.1
22	91 41.5	+02.2	S 15 40.3	−00.1
23	106 43.7	+02.3	S 15 40.2	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 15:54

2022 December 17 Saturday (day 351 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	181 02.9	−00.3	S 23 20.6	+00.1
01	196 02.6	−00.3	S 23 20.7	+00.1
02	211 02.3	−00.3	S 23 20.8	+00.1
03	226 02.0	−00.3	S 23 20.9	+00.1
04	241 01.7	−00.3	S 23 21.0	+00.1
05	256 01.4	−00.3	S 23 21.1	+00.1
06	271 01.1	−00.3	S 23 21.2	+00.1
07	286 00.8	−00.3	S 23 21.3	+00.1
08	301 00.5	−00.4	S 23 21.4	+00.0
09	316 00.1	−00.3	S 23 21.4	+00.1
10	330 59.8	−00.3	S 23 21.5	+00.1
11	345 59.5	−00.3	S 23 21.6	+00.1
12	0 59.2	−00.3	S 23 21.7	+00.1
13	15 58.9	−00.3	S 23 21.8	+00.1
14	30 58.6	−00.3	S 23 21.9	+00.1
15	45 58.3	−00.3	S 23 22.0	+00.1
16	60 58.0	−00.3	S 23 22.1	+00.0
17	75 57.7	−00.3	S 23 22.1	+00.1
18	90 57.4	−00.3	S 23 22.2	+00.1
19	105 57.1	−00.3	S 23 22.3	+00.1
20	120 56.8	−00.3	S 23 22.4	+00.1
21	135 56.5	−00.3	S 23 22.5	+00.0
22	150 56.2	−00.3	S 23 22.5	+00.1
23	165 55.9	−00.3	S 23 22.6	+00.1

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	095°	095°	095°	095°	095°	094°

Greenwich Culmination Time: 11:56

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	166 12.0	−01.0	S 24 07.7	−00.1
01	181 11.0	−00.9	S 24 07.6	−00.2
02	196 10.1	−01.0	S 24 07.4	−00.1
03	211 09.1	−01.0	S 24 07.3	−00.1
04	226 08.1	−00.9	S 24 07.2	−00.1
05	241 07.2	−01.0	S 24 07.1	−00.2
06	256 06.2	−01.0	S 24 06.9	−00.1
07	271 05.2	−00.9	S 24 06.8	−00.1
08	286 04.3	−01.0	S 24 06.7	−00.2
09	301 03.3	−01.0	S 24 06.5	−00.1
10	316 02.3	−01.0	S 24 06.4	−00.1
11	331 01.3	−00.9	S 24 06.3	−00.2
12	346 00.4	−01.0	S 24 06.1	−00.1
13	0 59.4	−01.0	S 24 06.0	−00.1
14	15 58.4	−00.9	S 24 05.9	−00.2
15	30 57.5	−01.0	S 24 05.7	−00.1
16	45 56.5	−01.0	S 24 05.6	−00.2
17	60 55.5	−00.9	S 24 05.4	−00.1
18	75 54.6	−01.0	S 24 05.3	−00.2
19	90 53.6	−01.0	S 24 05.1	−00.1
20	105 52.6	−00.9	S 24 05.0	−00.2
21	120 51.7	−01.0	S 24 04.8	−00.1
22	135 50.7	−01.0	S 24 04.7	−00.2
23	150 49.7	−00.9	S 24 04.5	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	080°	080°	080°	080°	080°	079°

Greenwich Culmination Time: 12:56

Moon

A: 78%

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	262 16.2	−25.4	N 02 12.2	−14.5
01	276 50.8	−25.5	N 01 57.7	−14.4
02	291 25.3	−25.5	N 01 43.3	−14.5
03	305 59.8	−25.5	N 01 28.8	−14.6
04	320 34.3	−25.6	N 01 14.2	−14.5
05	335 08.7	−25.6	N 00 59.7	−14.6
06	349 43.1	−25.6	N 00 45.1	−14.6
07	4 17.5	−25.7	N 00 30.5	−14.6
08	18 51.8	−25.7	N 00 15.9	−14.6
09	33 26.1	−25.7	N 00 01.3	−14.6
10	48 00.4	−25.7	S 00 13.3	+14.7
11	62 34.7	−25.8	S 00 28.0	+14.7
12	77 08.9	−25.9	S 00 42.7	+14.7
13	91 43.0	−25.8	S 00 57.4	+14.7
14	106 17.2	−26.0	S 01 12.1	+14.7
15	120 51.2	−25.9	S 01 26.8	+14.8
16	135 25.3	−26.0	S 01 41.6	+14.7
17	149 59.3	−26.1	S 01 56.3	+14.8
18	164 33.2	−26.1	S 02 11.1	+14.7
19	179 07.1	−26.1	S 02 25.8	+14.8
20	193 41.0	−26.2	S 02 40.6	+14.8
21	208 14.8	−26.3	S 02 55.4	+14.8
22	222 48.5	−26.3	S 03 10.2	+14.8
23	237 22.2	−26.3	S 03 25.0	+14.8

UT	02	06	10	14	18	22
SD	15′2	15′3	15′3	15′3	15′4	15′4
HP	55′9	56′1	56′2	56′3	56′5	56′6
SHA	176°	174°	172°	170°	168°	166°

Greenwich Culmination Time: 06:42

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	14 30.3	+03.4	N 24 53.8	−00.1
01	29 33.7	+03.4	N 24 53.7	+00.0
02	44 37.1	+03.4	N 24 53.7	−00.1
03	59 40.5	+03.4	N 24 53.6	+00.0
04	74 43.9	+03.3	N 24 53.6	+00.0
05	89 47.2	+03.4	N 24 53.6	−00.1
06	104 50.6	+03.4	N 24 53.5	+00.0
07	119 54.0	+03.4	N 24 53.5	−00.1
08	134 57.4	+03.4	N 24 53.4	+00.0
09	150 00.8	+03.4	N 24 53.4	−00.1
10	165 04.2	+03.4	N 24 53.3	+00.0
11	180 07.6	+03.3	N 24 53.3	−00.1
12	195 10.9	+03.4	N 24 53.2	+00.0
13	210 14.3	+03.4	N 24 53.2	−00.1
14	225 17.7	+03.4	N 24 53.1	+00.0
15	240 21.1	+03.4	N 24 53.1	−00.1
16	255 24.5	+03.3	N 24 53.0	+00.0
17	270 27.8	+03.4	N 24 53.0	+00.0
18	285 31.2	+03.4	N 24 53.0	−00.1
19	300 34.6	+03.4	N 24 52.9	+00.0
20	315 38.0	+03.3	N 24 52.9	−00.1
21	330 41.3	+03.4	N 24 52.8	+00.0
22	345 44.7	+03.4	N 24 52.8	−00.1
23	0 48.1	+03.4	N 24 52.7	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	289°	289°	289°	289°	289°	289°

Greenwich Culmination Time: 22:56

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	85 20.3	+02.3	S 01 21.5	−00.1
01	100 22.6	+02.3	S 01 21.4	−00.1
02	115 24.9	+02.3	S 01 21.3	−00.1
03	130 27.2	+02.3	S 01 21.2	+00.0
04	145 29.5	+02.3	S 01 21.2	−00.1
05	160 31.8	+02.3	S 01 21.1	−00.1
06	175 34.1	+02.3	S 01 21.0	−00.1
07	190 36.4	+02.3	S 01 20.9	−00.1
08	205 38.7	+02.3	S 01 20.8	−00.1
09	220 41.0	+02.2	S 01 20.7	−00.1
10	235 43.2	+02.3	S 01 20.6	−00.1
11	250 45.5	+02.3	S 01 20.5	+00.0
12	265 47.8	+02.3	S 01 20.5	−00.1
13	280 50.1	+02.3	S 01 20.4	−00.1
14	295 52.4	+02.3	S 01 20.3	−00.1
15	310 54.7	+02.3	S 01 20.2	−00.1
16	325 57.0	+02.3	S 01 20.1	−00.1
17	340 59.3	+02.2	S 01 20.0	−00.1
18	356 01.5	+02.3	S 01 19.9	−00.1
19	11 03.8	+02.3	S 01 19.8	−00.1
20	26 06.1	+02.3	S 01 19.7	+00.0
21	41 08.4	+02.3	S 01 19.7	−00.1
22	56 10.7	+02.3	S 01 19.6	−00.1
23	71 13.0	+02.3	S 01 19.5	−00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 18:15

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′ ″		° ′ ″	
00	121 46.0	+02.3	S 15 40.2	−00.1
01	136 48.3	+02.2	S 15 40.1	−00.1
02	151 50.5	+02.3	S 15 40.0	+00.0
03	166 52.8	+02.2	S 15 40.0	−00.1
04	181 55.0	+02.3	S 15 39.9	−00.1
05	196 57.3	+02.2	S 15 39.8	−00.1
06	211 59.5	+02.3	S 15 39.7	+00.0
07	227 01.8	+02.3	S 15 39.7	−00.1
08	242 04.1	+02.2	S 15 39.6	−00.1
09	257 06.3	+02.3	S 15 39.5	+00.0
10	272 08.6	+02.2	S 15 39.5	−00.1
11	287 10.8	+02.3	S 15 39.4	−00.1
12	302 13.1	+02.2	S 15 39.3	+00.0
13	317 15.3	+02.3	S 15 39.3	−00.1
14	332 17.6	+02.2	S 15 39.2	−00.1
15	347 19.8	+02.3	S 15 39.1	+00.0
16	2 22.1	+02.3	S 15 39.1	−00.1
17	17 24.4	+02.2	S 15 39.0	−00.1
18	32 26.6	+02.3	S 15 38.9	−00.1
19	47 28.9	+02.2	S 15 38.8	+00.0
20	62 31.1	+02.3	S 15 38.8	−00.1
21	77 33.4	+02.2	S 15 38.7	−00.1
22	92 35.6	+02.3	S 15 38.6	+00.0
23	107 37.9	+02.3	S 15 38.6	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 15:50

2022 December 22 Thursday (day 356 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 25.8	−00.3	S 23 26.3	+00.0
01	195 25.5	−00.3	S 23 26.3	+00.0
02	210 25.2	−00.3	S 23 26.3	+00.0
03	225 24.9	−00.3	S 23 26.3	+00.0
04	240 24.6	−00.3	S 23 26.3	+00.0
05	255 24.3	−00.3	S 23 26.3	+00.0
06	270 24.0	−00.4	S 23 26.3	+00.0
07	285 23.6	−00.3	S 23 26.3	−00.1
08	300 23.3	−00.3	S 23 26.2	+00.0
09	315 23.0	−00.3	S 23 26.2	+00.0
10	330 22.7	−00.3	S 23 26.2	+00.0
11	345 22.4	−00.3	S 23 26.2	+00.0
12	0 22.1	−00.3	S 23 26.2	+00.0
13	15 21.8	−00.3	S 23 26.2	+00.0
14	30 21.5	−00.4	S 23 26.2	+00.0
15	45 21.1	−00.3	S 23 26.2	+00.0
16	60 20.8	−00.3	S 23 26.2	−00.1
17	75 20.5	−00.3	S 23 26.1	+00.0
18	90 20.2	−00.3	S 23 26.1	+00.0
19	105 19.9	−00.3	S 23 26.1	+00.0
20	120 19.6	−00.3	S 23 26.1	+00.0
21	135 19.3	−00.3	S 23 26.1	+00.0
22	150 19.0	−00.4	S 23 26.1	−00.1
23	165 18.6	−00.3	S 23 26.0	+00.0

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	090°	090°	089°	089°	089°	089°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	164 16.8	−01.0	S 23 43.8	−00.2
01	179 15.8	−00.9	S 23 43.6	−00.3
02	194 14.9	−01.0	S 23 43.3	−00.3
03	209 13.9	−00.9	S 23 43.0	−00.3
04	224 13.0	−01.0	S 23 42.7	−00.3
05	239 12.0	−00.9	S 23 42.4	−00.2
06	254 11.1	−00.9	S 23 42.2	−00.3
07	269 10.2	−01.0	S 23 41.9	−00.3
08	284 09.2	−00.9	S 23 41.6	−00.3
09	299 08.3	−01.0	S 23 41.3	−00.3
10	314 07.3	−00.9	S 23 41.0	−00.3
11	329 06.4	−01.0	S 23 40.7	−00.3
12	344 05.4	−00.9	S 23 40.4	−00.3
13	359 04.5	−01.0	S 23 40.1	−00.2
14	14 03.5	−00.9	S 23 39.9	−00.3
15	29 02.6	−00.9	S 23 39.6	−00.3
16	44 01.7	−01.0	S 23 39.3	−00.3
17	59 00.7	−00.9	S 23 39.0	−00.3
18	73 59.8	−01.0	S 23 38.7	−00.3
19	88 58.8	−00.9	S 23 38.4	−00.3
20	103 57.9	−01.0	S 23 38.1	−00.3
21	118 56.9	−00.9	S 23 37.8	−00.3
22	133 56.0	−00.9	S 23 37.5	−00.3
23	148 55.1	−01.0	S 23 37.2	−00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	074°	073°	073°	073°	073°	072°

Greenwich Culmination Time: 13:03

Moon

A: 95%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	202 20.4	−37.0	S 24 20.5	+08.2
01	216 43.4	−37.2	S 24 28.7	+08.1
02	231 06.2	−37.3	S 24 36.8	+07.9
03	245 28.9	−37.4	S 24 44.7	+07.8
04	259 51.5	−37.5	S 24 52.5	+07.5
05	274 14.0	−37.6	S 25 00.0	+07.4
06	288 36.4	−37.8	S 25 07.4	+07.3
07	302 58.6	−37.9	S 25 14.7	+07.0
08	317 20.7	−37.9	S 25 21.7	+06.9
09	331 42.8	−38.1	S 25 28.6	+06.7
10	346 04.7	−38.2	S 25 35.3	+06.5
11	0 26.5	−38.3	S 25 41.8	+06.3
12	14 48.2	−38.5	S 25 48.1	+06.2
13	29 09.7	−38.5	S 25 54.3	+05.9
14	43 31.2	−38.6	S 26 00.2	+05.8
15	57 52.6	−38.7	S 26 06.0	+05.6
16	72 13.9	−38.8	S 26 11.6	+05.4
17	86 35.1	−38.9	S 26 17.0	+05.1
18	100 56.2	−39.0	S 26 22.1	+05.0
19	115 17.2	−39.1	S 26 27.1	+04.8
20	129 38.1	−39.2	S 26 31.9	+04.6
21	143 58.9	−39.3	S 26 36.5	+04.4
22	158 19.6	−39.3	S 26 40.9	+04.2
23	172 40.3	−39.4	S 26 45.1	+04.0

UT	02	06	10	14	18	22
SD	16′4	16′5	16′5	16′5	16′6	16′6
HP	60′4	60′5	60′6	60′7	60′8	60′8
SHA	110°	108°	105°	102°	100°	097°

Greenwich Culmination Time: 10:58

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	21 09.7	+03.3	N 24 47.8	−00.1
01	36 13.0	+03.2	N 24 47.7	−00.1
02	51 16.2	+03.3	N 24 47.6	+00.0
03	66 19.5	+03.2	N 24 47.6	−00.1
04	81 22.7	+03.3	N 24 47.5	+00.0
05	96 26.0	+03.2	N 24 47.5	−00.1
06	111 29.2	+03.3	N 24 47.4	+00.0
07	126 32.5	+03.2	N 24 47.4	−00.1
08	141 35.7	+03.2	N 24 47.3	+00.0
09	156 38.9	+03.3	N 24 47.3	−00.1
10	171 42.2	+03.2	N 24 47.2	+00.0
11	186 45.4	+03.3	N 24 47.2	−00.1
12	201 48.7	+03.2	N 24 47.1	+00.0
13	216 51.9	+03.3	N 24 47.1	−00.1
14	231 55.2	+03.2	N 24 47.0	−00.1
15	246 58.4	+03.2	N 24 46.9	+00.0
16	262 01.6	+03.3	N 24 46.9	−00.1
17	277 04.9	+03.2	N 24 46.8	+00.0
18	292 08.1	+03.2	N 24 46.8	−00.1
19	307 11.3	+03.3	N 24 46.7	+00.0
20	322 14.6	+03.2	N 24 46.7	−00.1
21	337 17.8	+03.2	N 24 46.6	+00.0
22	352 21.0	+03.2	N 24 46.6	−00.1
23	7 24.2	+03.3	N 24 46.5	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	291°	291°	291°	291°	291°	291°

Greenwich Culmination Time: 22:30

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	89 53.3	+02.2	S 01 10.2	−00.1
01	104 55.5	+02.3	S 01 10.1	−00.1
02	119 57.8	+02.2	S 01 10.0	−00.1
03	135 00.0	+02.3	S 01 09.9	−00.1
04	150 02.3	+02.2	S 01 09.8	−00.1
05	165 04.5	+02.3	S 01 09.7	−00.1
06	180 06.8	+02.3	S 01 09.6	−00.1
07	195 09.1	+02.2	S 01 09.5	−00.1
08	210 11.3	+02.3	S 01 09.4	−00.1
09	225 13.6	+02.2	S 01 09.3	−00.1
10	240 15.8	+02.3	S 01 09.2	−00.1
11	255 18.1	+02.2	S 01 09.1	−00.1
12	270 20.3	+02.3	S 01 09.0	−00.2
13	285 22.6	+02.2	S 01 08.8	−00.1
14	300 24.8	+02.3	S 01 08.7	−00.1
15	315 27.1	+02.2	S 01 08.6	−00.1
16	330 29.3	+02.3	S 01 08.5	−00.1
17	345 31.6	+02.2	S 01 08.4	−00.1
18	0 33.8	+02.3	S 01 08.3	−00.1
19	15 36.1	+02.2	S 01 08.2	−00.1
20	30 38.3	+02.3	S 01 08.1	−00.1
21	45 40.6	+02.3	S 01 08.0	−00.1
22	60 42.9	+02.2	S 01 07.9	−00.1
23	75 45.1	+02.3	S 01 07.8	−00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 17:57

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	126 16.1	+02.3	S 15 31.6	−00.1
01	141 18.4	+02.2	S 15 31.5	+00.0
02	156 20.6	+02.2	S 15 31.5	−00.1
03	171 22.8	+02.3	S 15 31.4	−00.1
04	186 25.1	+02.2	S 15 31.3	−00.1
05	201 27.3	+02.3	S 15 31.2	+00.0
06	216 29.6	+02.2	S 15 31.2	−00.1
07	231 31.8	+02.3	S 15 31.1	−00.1
08	246 34.1	+02.2	S 15 31.0	−00.1
09	261 36.3	+02.2	S 15 30.9	+00.0
10	276 38.5	+02.3	S 15 30.9	−00.1
11	291 40.8	+02.2	S 15 30.8	−00.1
12	306 43.0	+02.3	S 15 30.7	−00.1
13	321 45.3	+02.2	S 15 30.6	+00.0
14	336 47.5	+02.3	S 15 30.6	−00.1
15	351 49.8	+02.2	S 15 30.5	−00.1
16	6 52.0	+02.2	S 15 30.4	−00.1
17	21 54.2	+02.3	S 15 30.3	+00.0
18	36 56.5	+02.2	S 15 30.3	−00.1
19	51 58.7	+02.3	S 15 30.2	−00.1
20	67 01.0	+02.2	S 15 30.1	+00.0
21	82 03.2	+02.3	S 15 30.1	−00.1
22	97 05.5	+02.2	S 15 30.0	−00.1
23	112 07.7	+02.2	S 15 29.9	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 15:32

2022 December 19 Monday (day 353 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 48.2	−00.3	S 23 24.3	+00.0
01	195 47.9	−00.3	S 23 24.3	+00.1
02	210 47.6	−00.4	S 23 24.4	+00.1
03	225 47.2	−00.3	S 23 24.5	+00.0
04	240 46.9	−00.3	S 23 24.5	+00.1
05	255 46.6	−00.3	S 23 24.6	+00.0
06	270 46.3	−00.3	S 23 24.6	+00.1
07	285 46.0	−00.3	S 23 24.7	+00.0
08	300 45.7	−00.3	S 23 24.7	+00.1
09	315 45.4	−00.3	S 23 24.8	+00.0
10	330 45.1	−00.3	S 23 24.8	+00.1
11	345 44.8	−00.3	S 23 24.9	+00.0
12	0 44.5	−00.3	S 23 24.9	+00.1
13	15 44.2	−00.4	S 23 25.0	+00.0
14	30 43.8	−00.3	S 23 25.0	+00.1
15	45 43.5	−00.3	S 23 25.1	+00.0
16	60 43.2	−00.3	S 23 25.1	+00.0
17	75 42.9	−00.3	S 23 25.1	+00.1
18	90 42.6	−00.3	S 23 25.2	+00.0
19	105 42.3	−00.3	S 23 25.2	+00.1
20	120 42.0	−00.3	S 23 25.3	+00.0
21	135 41.7	−00.3	S 23 25.3	+00.1
22	150 41.4	−00.3	S 23 25.4	+00.0
23	165 41.1	−00.4	S 23 25.4	+00.0

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	093°	093°	093°	093°	092°	092°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	165 25.6	−01.0	S 24 00.4	−00.2
01	180 24.6	−00.9	S 24 00.2	−00.2
02	195 23.7	−01.0	S 23 60.0	−00.2
03	210 22.7	−00.9	S 23 59.8	−00.2
04	225 21.8	−01.0	S 23 59.6	−00.2
05	240 20.8	−01.0	S 23 59.4	−00.2
06	255 19.8	−00.9	S 23 59.2	−00.2
07	270 18.9	−01.0	S 23 59.0	−00.1
08	285 17.9	−01.0	S 23 58.9	−00.2
09	300 16.9	−00.9	S 23 58.7	−00.2
10	315 16.0	−01.0	S 23 58.5	−00.2
11	330 15.0	−00.9	S 23 58.3	−00.2
12	345 14.1	−01.0	S 23 58.1	−00.2
13	0 13.1	−01.0	S 23 57.9	−00.2
14	15 12.1	−00.9	S 23 57.7	−00.2
15	30 11.2	−01.0	S 23 57.5	−00.2
16	45 10.2	−00.9	S 23 57.3	−00.2
17	60 09.3	−01.0	S 23 57.1	−00.2
18	75 08.3	−01.0	S 23 56.9	−00.3
19	90 07.3	−00.9	S 23 56.6	−00.2
20	105 06.4	−01.0	S 23 56.4	−00.2
21	120 05.4	−00.9	S 23 56.2	−00.2
22	135 04.5	−01.0	S 23 56.0	−00.2
23	150 03.5	−01.0	S 23 55.8	−00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	078°	078°	077°	077°	077°	077°

Greenwich Culmination Time: 12:59

Moon

A: 84%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	241 03.7	−28.2	S 09 34.2	+14.5
01	255 35.5	−28.2	S 09 48.7	+14.6
02	270 07.3	−28.4	S 10 03.3	+14.6
03	284 38.9	−28.4	S 10 17.9	+14.5
04	299 10.5	−28.5	S 10 32.4	+14.5
05	313 42.0	−28.6	S 10 46.9	+14.4
06	328 13.4	−28.7	S 11 01.3	+14.4
07	342 44.7	−28.8	S 11 15.7	+14.4
08	357 15.9	−28.9	S 11 30.1	+14.4
09	11 47.0	−29.0	S 11 44.5	+14.3
10	26 18.0	−29.1	S 11 58.8	+14.3
11	40 48.9	−29.3	S 12 13.1	+14.2
12	55 19.6	−29.3	S 12 27.3	+14.2
13	69 50.3	−29.4	S 12 41.5	+14.2
14	84 20.9	−29.5	S 12 55.7	+14.1
15	98 51.4	−29.7	S 13 09.8	+14.0
16	113 21.7	−29.7	S 13 23.8	+14.1
17	127 52.0	−29.9	S 13 37.9	+13.9
18	142 22.1	−29.9	S 13 51.8	+14.0
19	156 52.2	−30.1	S 14 05.8	+13.8
20	171 22.1	−30.2	S 14 19.6	+13.8
21	185 51.9	−30.3	S 14 33.4	+13.8
22	200 21.6	−30.5	S 14 47.2	+13.7
23	214 51.1	−30.5	S 15 00.9	+13.6

UT	02	06	10	14	18	22
SD	15′7	15′8	15′8	15′9	15′9	15′9
HP	57′7	57′9	58′0	58′2	58′4	58′5
SHA	152°	150°	148°	146°	144°	142°

Greenwich Culmination Time: 08:11

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	17 12.0	+03.4	N 24 51.5	+00.0
01	32 15.4	+03.3	N 24 51.5	−00.1
02	47 18.7	+03.4	N 24 51.4	+00.0
03	62 22.1	+03.3	N 24 51.4	−00.1
04	77 25.4	+03.3	N 24 51.3	+00.0
05	92 28.7	+03.4	N 24 51.3	−00.1
06	107 32.1	+03.3	N 24 51.2	+00.0
07	122 35.4	+03.3	N 24 51.2	−00.1
08	137 38.7	+03.4	N 24 51.1	+00.0
09	152 42.1	+03.3	N 24 51.1	−00.1
10	167 45.4	+03.3	N 24 51.0	+00.0
11	182 48.7	+03.4	N 24 51.0	−00.1
12	197 52.1	+03.3	N 24 50.9	+00.0
13	212 55.4	+03.3	N 24 50.9	−00.1
14	227 58.7	+03.4	N 24 50.8	+00.0
15	243 02.1	+03.3	N 24 50.8	−00.1
16	258 05.4	+03.3	N 24 50.7	+00.0
17	273 08.7	+03.3	N 24 50.7	−00.1
18	288 12.0	+03.4	N 24 50.6	−00.1
19	303 15.4	+03.3	N 24 50.5	+00.0
20	318 18.7	+03.3	N 24 50.5	−00.1
21	333 22.0	+03.3	N 24 50.4	+00.0
22	348 25.3	+03.3	N 24 50.4	−00.1
23	3 28.6	+03.3	N 24 50.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	290°	290°	290°	290°	290°	290°

Greenwich Culmination Time: 22:46

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	87 10.0	+02.3	S 01 17.2	−00.1
01	102 12.3	+02.3	S 01 17.1	−00.1
02	117 14.6	+02.2	S 01 17.0	−00.1
03	132 16.8	+02.3	S 01 16.9	−00.1
04	147 19.1	+02.3	S 01 16.8	−00.1
05	162 21.4	+02.3	S 01 16.7	−00.1
06	177 23.7	+02.3	S 01 16.6	−00.1
07	192 26.0	+02.2	S 01 16.5	−00.1
08	207 28.2	+02.3	S 01 16.4	+00.0
09	222 30.5	+02.3	S 01 16.4	−00.1
10	237 32.8	+02.3	S 01 16.3	−00.1
11	252 35.1	+02.2	S 01 16.2	−00.1
12	267 37.3	+02.3	S 01 16.1	−00.1
13	282 39.6	+02.3	S 01 16.0	−00.1
14	297 41.9	+02.3	S 01 15.9	−00.1
15	312 44.2	+02.2	S 01 15.8	−00.1
16	327 46.4	+02.3	S 01 15.7	−00.1
17	342 48.7	+02.3	S 01 15.6	−00.1
18	357 51.0	+02.2	S 01 15.5	−00.1
19	12 53.2	+02.3	S 01 15.4	−00.1
20	27 55.5	+02.3	S 01 15.3	−00.1
21	42 57.8	+02.3	S 01 15.2	−00.1
22	58 00.1	+02.2	S 01 15.1	−00.1
23	73 02.3	+02.3	S 01 15.0	−00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	360°	360°	360°	360°	360°

Greenwich Culmination Time: 18:08

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	123 34.2	+02.3	S 15 36.8	−00.1
01	138 36.5	+02.2	S 15 36.7	+00.0
02	153 38.7	+02.3	S 15 36.7	−00.1
03	168 41.0	+02.2	S 15 36.6	−00.1
04	183 43.2	+02.3	S 15 36.5	+00.0
05	198 45.5	+02.3	S 15 36.5	−00.1
06	213 47.8	+02.2	S 15 36.4	−00.1
07	228 50.0	+02.3	S 15 36.3	−00.1
08	243 52.3	+02.2	S 15 36.2	+00.0
09	258 54.5	+02.3	S 15 36.2	−00.1
10	273 56.8	+02.2	S 15 36.1	−00.1
11	288 59.0	+02.3	S 15 36.0	+00.0
12	304 01.3	+02.2	S 15 36.0	−00.1
13	319 03.5	+02.3	S 15 35.9	−00.1
14	334 05.8	+02.2	S 15 35.8	−00.1
15	349 08.0	+02.3	S 15 35.7	+00.0
16	4 10.3	+02.2	S 15 35.7	−00.1
17	19 12.5	+02.3	S 15 35.6	−00.1
18	34 14.8	+02.2	S 15 35.5	+00.0
19	49 17.0	+02.3	S 15 35.5	−00.1
20	64 19.3	+02.2	S 15 35.4	−00.1
21	79 21.5	+02.3	S 15 35.3	−00.1
22	94 23.8	+02.2	S 15 35.2	+00.0
23	109 26.0	+02.3	S 15 35.2	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 15:43

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 December 20 Tuesday (day 354 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 40.7	−00.3	S 23 25.4	+00.1
01	195 40.4	−00.3	S 23 25.5	+00.0
02	210 40.1	−00.3	S 23 25.5	+00.0
03	225 39.8	−00.3	S 23 25.5	+00.1
04	240 39.5	−00.3	S 23 25.6	+00.0
05	255 39.2	−00.3	S 23 25.6	+00.0
06	270 38.9	−00.3	S 23 25.6	+00.1
07	285 38.6	−00.3	S 23 25.7	+00.0
08	300 38.3	−00.3	S 23 25.7	+00.0
09	315 38.0	−00.4	S 23 25.7	+00.1
10	330 37.6	−00.3	S 23 25.8	+00.0
11	345 37.3	−00.3	S 23 25.8	+00.0
12	0 37.0	−00.3	S 23 25.8	+00.0
13	15 36.7	−00.3	S 23 25.8	+00.1
14	30 36.4	−00.3	S 23 25.9	+00.0
15	45 36.1	−00.3	S 23 25.9	+00.0
16	60 35.8	−00.3	S 23 25.9	+00.0
17	75 35.5	−00.3	S 23 25.9	+00.1
18	90 35.2	−00.4	S 23 26.0	+00.0
19	105 34.8	−00.3	S 23 26.0	+00.0
20	120 34.5	−00.3	S 23 26.0	+00.0
21	135 34.2	−00.3	S 23 26.0	+00.1
22	150 33.9	−00.3	S 23 26.1	+00.0
23	165 33.6	−00.3	S 23 26.1	+00.0

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	092°	092°	092°	091°	091°	091°

Greenwich Culmination Time: 11:57

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	165 02.5	−00.9	S 23 55.6	−00.2
01	180 01.6	−01.0	S 23 55.4	−00.2
02	195 00.6	−00.9	S 23 55.2	−00.3
03	209 59.7	−01.0	S 23 54.9	−00.2
04	224 58.7	−00.9	S 23 54.7	−00.2
05	239 57.8	−01.0	S 23 54.5	−00.2
06	254 56.8	−01.0	S 23 54.3	−00.2
07	269 55.8	−00.9	S 23 54.1	−00.3
08	284 54.9	−01.0	S 23 53.8	−00.2
09	299 53.9	−00.9	S 23 53.6	−00.2
10	314 53.0	−01.0	S 23 53.4	−00.2
11	329 52.0	−00.9	S 23 53.2	−00.3
12	344 51.1	−01.0	S 23 52.9	−00.2
13	359 50.1	−01.0	S 23 52.7	−00.2
14	14 49.1	−00.9	S 23 52.5	−00.3
15	29 48.2	−01.0	S 23 52.2	−00.2
16	44 47.2	−00.9	S 23 52.0	−00.2
17	59 46.3	−01.0	S 23 51.8	−00.3
18	74 45.3	−00.9	S 23 51.5	−00.2
19	89 44.4	−01.0	S 23 51.3	−00.3
20	104 43.4	−00.9	S 23 51.0	−00.2
21	119 42.5	−01.0	S 23 50.8	−00.2
22	134 41.5	−00.9	S 23 50.6	−00.3
23	149 40.6	−01.0	S 23 50.3	−00.2

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	076°	076°	076°	076°	075°	075°

Greenwich Culmination Time: 13:00

Moon

A: 88%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	229 20.6	−30.7	S 15 14.5	+13.6
01	243 49.9	−30.8	S 15 28.1	+13.5
02	258 19.1	−30.9	S 15 41.6	+13.5
03	272 48.2	−31.0	S 15 55.1	+13.4
04	287 17.2	−31.2	S 16 08.5	+13.3
05	301 46.0	−31.3	S 16 21.8	+13.2
06	316 14.7	−31.4	S 16 35.0	+13.2
07	330 43.3	−31.5	S 16 48.2	+13.1
08	345 11.8	−31.7	S 17 01.3	+13.0
09	359 40.1	−31.8	S 17 14.3	+13.0
10	14 08.3	−31.9	S 17 27.3	+12.8
11	28 36.4	−32.1	S 17 40.1	+12.8
12	43 04.3	−32.1	S 17 52.9	+12.7
13	57 32.2	−32.4	S 18 05.6	+12.6
14	71 59.8	−32.4	S 18 18.2	+12.5
15	86 27.4	−32.6	S 18 30.7	+12.5
16	100 54.8	−32.7	S 18 43.2	+12.3
17	115 22.1	−32.8	S 18 55.5	+12.3
18	129 49.3	−33.0	S 19 07.8	+12.1
19	144 16.3	−33.1	S 19 19.9	+12.1
20	158 43.2	−33.3	S 19 32.0	+11.9
21	173 09.9	−33.4	S 19 43.9	+11.9
22	187 36.5	−33.5	S 19 55.8	+11.7
23	202 03.0	−33.7	S 20 07.5	+11.6

UT	02	06	10	14	18	22
SD	16′0	16′0	16′1	16′1	16′2	16′2
HP	58′7	58′8	59′0	59′1	59′3	59′4
SHA	140°	137°	135°	133°	131°	128°

Greenwich Culmination Time: 09:01

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	18 31.9	+03.4	N 24 50.3	−00.1
01	33 35.3	+03.3	N 24 50.2	+00.0
02	48 38.6	+03.3	N 24 50.2	−00.1
03	63 41.9	+03.3	N 24 50.1	+00.0
04	78 45.2	+03.3	N 24 50.1	−00.1
05	93 48.5	+03.3	N 24 50.0	+00.0
06	108 51.8	+03.3	N 24 50.0	−00.1
07	123 55.1	+03.3	N 24 49.9	+00.0
08	138 58.4	+03.3	N 24 49.9	−00.1
09	154 01.7	+03.3	N 24 49.8	+00.0
10	169 05.0	+03.3	N 24 49.8	−00.1
11	184 08.3	+03.4	N 24 49.7	+00.0
12	199 11.7	+03.3	N 24 49.7	−00.1
13	214 15.0	+03.3	N 24 49.6	+00.0
14	229 18.3	+03.2	N 24 49.6	−00.1
15	244 21.5	+03.3	N 24 49.5	+00.0
16	259 24.8	+03.3	N 24 49.5	−00.1
17	274 28.1	+03.3	N 24 49.4	+00.0
18	289 31.4	+03.3	N 24 49.4	−00.1
19	304 34.7	+03.3	N 24 49.3	+00.0
20	319 38.0	+03.3	N 24 49.3	−00.1
21	334 41.3	+03.3	N 24 49.2	−00.1
22	349 44.6	+03.3	N 24 49.1	+00.0
23	4 47.9	+03.3	N 24 49.1	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′3	00′3	00′3
SHA	290°	290°	290°	290°	290°	290°

Greenwich Culmination Time: 22:40

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	88 04.6	+02.3	S 01 14.9	−00.1
01	103 06.9	+02.2	S 01 14.8	−00.1
02	118 09.1	+02.3	S 01 14.7	−00.1
03	133 11.4	+02.3	S 01 14.6	−00.1
04	148 13.7	+02.3	S 01 14.5	−00.1
05	163 16.0	+02.2	S 01 14.4	−00.1
06	178 18.2	+02.3	S 01 14.3	+00.0
07	193 20.5	+02.3	S 01 14.3	−00.1
08	208 22.8	+02.2	S 01 14.2	−00.1
09	223 25.0	+02.3	S 01 14.1	−00.1
10	238 27.3	+02.3	S 01 14.0	−00.1
11	253 29.6	+02.2	S 01 13.9	−00.1
12	268 31.8	+02.3	S 01 13.8	−00.1
13	283 34.1	+02.3	S 01 13.7	−00.1
14	298 36.4	+02.2	S 01 13.6	−00.1
15	313 38.6	+02.3	S 01 13.5	−00.1
16	328 40.9	+02.3	S 01 13.4	−00.1
17	343 43.2	+02.2	S 01 13.3	−00.1
18	358 45.4	+02.3	S 01 13.2	−00.1
19	13 47.7	+02.3	S 01 13.1	−00.1
20	28 50.0	+02.2	S 01 13.0	−00.1
21	43 52.2	+02.3	S 01 12.9	−00.1
22	58 54.5	+02.3	S 01 12.8	−00.1
23	73 56.8	+02.2	S 01 12.7	−00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	360°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 18:04

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	124 28.3	+02.2	S 15 35.1	−00.1
01	139 30.5	+02.3	S 15 35.0	+00.0
02	154 32.8	+02.2	S 15 35.0	−00.1
03	169 35.0	+02.3	S 15 34.9	−00.1
04	184 37.3	+02.2	S 15 34.8	−00.1
05	199 39.5	+02.3	S 15 34.7	+00.0
06	214 41.8	+02.2	S 15 34.7	−00.1
07	229 44.0	+02.3	S 15 34.6	−00.1
08	244 46.3	+02.2	S 15 34.5	−00.1
09	259 48.5	+02.3	S 15 34.4	+00.0
10	274 50.8	+02.2	S 15 34.4	−00.1
11	289 53.0	+02.2	S 15 34.3	−00.1
12	304 55.2	+02.3	S 15 34.2	+00.0
13	319 57.5	+02.2	S 15 34.2	−00.1
14	334 59.7	+02.3	S 15 34.1	−00.1
15	350 02.0	+02.2	S 15 34.0	−00.1
16	5 04.2	+02.3	S 15 33.9	+00.0
17	20 06.5	+02.2	S 15 33.9	−00.1
18	35 08.7	+02.3	S 15 33.8	−00.1
19	50 11.0	+02.2	S 15 33.7	+00.0
20	65 13.2	+02.3	S 15 33.7	−00.1
21	80 15.5	+02.2	S 15 33.6	−00.1
22	95 17.7	+02.3	S 15 33.5	−00.1
23	110 20.0	+02.2	S 15 33.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 15:39

2022 December 21 Wednesday (day 355 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 33.3	−00.3	S 23 26.1	+00.0
01	195 33.0	−00.3	S 23 26.1	+00.0
02	210 32.7	−00.3	S 23 26.1	+00.0
03	225 32.4	−00.3	S 23 26.1	+00.1
04	240 32.1	−00.4	S 23 26.2	+00.0
05	255 31.7	−00.3	S 23 26.2	+00.0
06	270 31.4	−00.3	S 23 26.2	+00.0
07	285 31.1	−00.3	S 23 26.2	+00.0
08	300 30.8	−00.3	S 23 26.2	+00.0
09	315 30.5	−00.3	S 23 26.2	+00.0
10	330 30.2	−00.3	S 23 26.2	+00.0
11	345 29.9	−00.3	S 23 26.2	+00.0
12	0 29.6	−00.4	S 23 26.2	+00.1
13	15 29.2	−00.3	S 23 26.3	+00.0
14	30 28.9	−00.3	S 23 26.3	+00.0
15	45 28.6	−00.3	S 23 26.3	+00.0
16	60 28.3	−00.3	S 23 26.3	+00.0
17	75 28.0	−00.3	S 23 26.3	+00.0
18	90 27.7	−00.3	S 23 26.3	+00.0
19	105 27.4	−00.3	S 23 26.3	+00.0
20	120 27.1	−00.3	S 23 26.3	+00.0
21	135 26.8	−00.4	S 23 26.3	+00.0
22	150 26.4	−00.3	S 23 26.3	+00.0
23	165 26.1	−00.3	S 23 26.3	+00.0

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	091°	091°	091°	090°	090°	090°

Greenwich Culmination Time: 11:58

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	164 39.6	−01.0	S 23 50.1	−00.3
01	179 38.6	−00.9	S 23 49.8	−00.2
02	194 37.7	−01.0	S 23 49.6	−00.3
03	209 36.7	−00.9	S 23 49.3	−00.2
04	224 35.8	−01.0	S 23 49.1	−00.3
05	239 34.8	−00.9	S 23 48.8	−00.2
06	254 33.9	−01.0	S 23 48.6	−00.3
07	269 32.9	−00.9	S 23 48.3	−00.2
08	284 32.0	−01.0	S 23 48.1	−00.3
09	299 31.0	−00.9	S 23 47.8	−00.2
10	314 30.1	−01.0	S 23 47.6	−00.3
11	329 29.1	−00.9	S 23 47.3	−00.3
12	344 28.2	−01.0	S 23 47.0	−00.2
13	359 27.2	−00.9	S 23 46.8	−00.3
14	14 26.3	−01.0	S 23 46.5	−00.2
15	29 25.3	−00.9	S 23 46.3	−00.3
16	44 24.4	−01.0	S 23 46.0	−00.3
17	59 23.4	−00.9	S 23 45.7	−00.2
18	74 22.5	−01.0	S 23 45.5	−00.3
19	89 21.5	−00.9	S 23 45.2	−00.3
20	104 20.6	−01.0	S 23 44.9	−00.2
21	119 19.6	−00.9	S 23 44.7	−00.3
22	134 18.7	−01.0	S 23 44.4	−00.3
23	149 17.7	−00.9	S 23 44.1	−00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	075°	075°	075°	074°	074°	074°

Greenwich Culmination Time: 13:02

Moon

A: 91%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	216 29.3	−33.8	S 20 19.1	+11.6
01	230 55.5	−33.9	S 20 30.7	+11.4
02	245 21.6	−34.1	S 20 42.1	+11.3
03	259 47.5	−34.2	S 20 53.4	+11.2
04	274 13.3	−34.4	S 21 04.6	+11.0
05	288 38.9	−34.4	S 21 15.6	+11.0
06	303 04.5	−34.7	S 21 26.6	+10.8
07	317 29.8	−34.7	S 21 37.4	+10.7
08	331 55.1	−34.9	S 21 48.1	+10.6
09	346 20.2	−35.1	S 21 58.7	+10.4
10	0 45.1	−35.2	S 22 09.1	+10.3
11	15 09.9	−35.3	S 22 19.4	+10.2
12	29 34.6	−35.4	S 22 29.6	+10.0
13	43 59.2	−35.6	S 22 39.6	+09.9
14	58 23.6	−35.7	S 22 49.5	+09.8
15	72 47.9	−35.9	S 22 59.3	+09.6
16	87 12.0	−36.0	S 23 08.9	+09.5
17	101 36.0	−36.1	S 23 18.4	+09.3
18	115 59.9	−36.3	S 23 27.7	+09.2
19	130 23.6	−36.3	S 23 36.9	+09.0
20	144 47.3	−36.6	S 23 45.9	+08.9
21	159 10.7	−36.6	S 23 54.8	+08.7
22	173 34.1	−36.8	S 24 03.5	+08.6
23	187 57.3	−36.9	S 24 12.1	+08.4

UT	02	06	10	14	18	22
SD	16′2	16′3	16′3	16′3	16′4	16′4
HP	59′6	59′7	59′9	60′0	60′1	60′3
SHA	126°	123°	121°	118°	116°	113°

Greenwich Culmination Time: 09:56

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	19 51.2	+03.3	N 24 49.0	+00.0
01	34 54.5	+03.3	N 24 49.0	−00.1
02	49 57.8	+03.2	N 24 48.9	+00.0
03	65 01.0	+03.3	N 24 48.9	−00.1
04	80 04.3	+03.3	N 24 48.8	+00.0
05	95 07.6	+03.3	N 24 48.8	−00.1
06	110 10.9	+03.3	N 24 48.7	+00.0
07	125 14.2	+03.2	N 24 48.7	−00.1
08	140 17.4	+03.3	N 24 48.6	+00.0
09	155 20.7	+03.3	N 24 48.6	−00.1
10	170 24.0	+03.3	N 24 48.5	+00.0
11	185 27.3	+03.2	N 24 48.5	−00.1
12	200 30.5	+03.3	N 24 48.4	−00.1
13	215 33.8	+03.3	N 24 48.3	+00.0
14	230 37.1	+03.2	N 24 48.3	−00.1
15	245 40.3	+03.3	N 24 48.2	+00.0
16	260 43.6	+03.3	N 24 48.2	−00.1
17	275 46.9	+03.2	N 24 48.1	+00.0
18	290 50.1	+03.3	N 24 48.1	−00.1
19	305 53.4	+03.3	N 24 48.0	+00.0
20	320 56.7	+03.2	N 24 48.0	−00.1
21	335 59.9	+03.3	N 24 47.9	+00.0
22	351 03.2	+03.2	N 24 47.9	−00.1
23	6 06.4	+03.3	N 24 47.8	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′3	00′3	00′3	00′2	00′2	00′2
SHA	290°	290°	290°	290°	291°	291°

Greenwich Culmination Time: 22:35

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	88 59.0	+02.3	S 01 12.6	−00.1
01	104 01.3	+02.2	S 01 12.5	−00.1
02	119 03.5	+02.3	S 01 12.4	−00.1
03	134 05.8	+02.3	S 01 12.3	−00.1
04	149 08.1	+02.2	S 01 12.2	−00.1
05	164 10.3	+02.3	S 01 12.1	−00.1
06	179 12.6	+02.3	S 01 12.0	−00.1
07	194 14.9	+02.2	S 01 11.9	−00.1
08	209 17.1	+02.3	S 01 11.8	−00.1
09	224 19.4	+02.2	S 01 11.7	−00.1
10	239 21.6	+02.3	S 01 11.6	−00.1
11	254 23.9	+02.3	S 01 11.5	−00.1
12	269 26.2	+02.2	S 01 11.4	−00.1
13	284 28.4	+02.3	S 01 11.3	−00.1
14	299 30.7	+02.2	S 01 11.2	−00.1
15	314 32.9	+02.3	S 01 11.1	−00.1
16	329 35.2	+02.3	S 01 11.0	−00.1
17	344 37.5	+02.2	S 01 10.9	−00.1
18	359 39.7	+02.3	S 01 10.8	−00.1
19	14 42.0	+02.2	S 01 10.7	−00.1
20	29 44.2	+02.3	S 01 10.6	−00.1
21	44 46.5	+02.3	S 01 10.5	−00.1
22	59 48.8	+02.2	S 01 10.4	−00.1
23	74 51.0	+02.3	S 01 10.3	−00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 18:01

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	125 22.2	+02.3	S 15 33.4	−00.1
01	140 24.5	+02.2	S 15 33.3	−00.1
02	155 26.7	+02.3	S 15 33.2	−00.1
03	170 29.0	+02.2	S 15 33.1	+00.0
04	185 31.2	+02.2	S 15 33.1	−00.1
05	200 33.4	+02.3	S 15 33.0	−00.1
06	215 35.7	+02.2	S 15 32.9	+00.0
07	230 37.9	+02.3	S 15 32.9	−00.1
08	245 40.2	+02.2	S 15 32.8	−00.1
09	260 42.4	+02.3	S 15 32.7	−00.1
10	275 44.7	+02.2	S 15 32.6	+00.0
11	290 46.9	+02.3	S 15 32.6	−00.1
12	305 49.2	+02.2	S 15 32.5	−00.1
13	320 51.4	+02.3	S 15 32.4	−00.1
14	335 53.7	+02.2	S 15 32.3	+00.0
15	350 55.9	+02.3	S 15 32.3	−00.1
16	5 58.2	+02.2	S 15 32.2	−00.1
17	21 00.4	+02.2	S 15 32.1	−00.1
18	36 02.6	+02.3	S 15 32.0	+00.0
19	51 04.9	+02.2	S 15 32.0	−00.1
20	66 07.1	+02.3	S 15 31.9	−00.1
21	81 09.4	+02.2	S 15 31.8	+00.0
22	96 11.6	+02.3	S 15 31.8	−00.1
23	111 13.9	+02.2	S 15 31.7	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 15:36

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 December 26 Monday (day 360 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 55.9	-00.3	S 23 22.4	-00.1
01	194 55.6	-00.3	S 23 22.3	-00.1
02	209 55.3	-00.3	S 23 22.2	-00.1
03	224 55.0	-00.3	S 23 22.1	-00.1
04	239 54.7	-00.3	S 23 22.0	-00.1
05	254 54.4	-00.3	S 23 21.9	+00.0
06	269 54.1	-00.3	S 23 21.9	-00.1
07	284 53.8	-00.4	S 23 21.8	-00.1
08	299 53.4	-00.3	S 23 21.7	-00.1
09	314 53.1	-00.3	S 23 21.6	-00.1
10	329 52.8	-00.3	S 23 21.5	-00.1
11	344 52.5	-00.3	S 23 21.4	-00.1
12	359 52.2	-00.3	S 23 21.3	-00.1
13	14 51.9	-00.3	S 23 21.2	-00.1
14	29 51.6	-00.3	S 23 21.1	+00.0
15	44 51.3	-00.3	S 23 21.1	-00.1
16	59 51.0	-00.3	S 23 21.0	-00.1
17	74 50.7	-00.3	S 23 20.9	-00.1
18	89 50.4	-00.4	S 23 20.8	-00.1
19	104 50.0	-00.3	S 23 20.7	-00.1
20	119 49.7	-00.3	S 23 20.6	-00.1
21	134 49.4	-00.3	S 23 20.5	-00.1
22	149 49.1	-00.3	S 23 20.4	-00.1
23	164 48.8	-00.3	S 23 20.3	-00.1

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	085°	085°	085°	085°	085°	084°

Greenwich Culmination Time: 12:00

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	162 47.1	-00.9	S 23 11.6	-00.4
01	177 46.2	-00.9	S 23 11.2	-00.4
02	192 45.3	-00.9	S 23 10.8	-00.4
03	207 44.4	-00.9	S 23 10.4	-00.4
04	222 43.5	-01.0	S 23 10.0	-00.4
05	237 42.5	-00.9	S 23 09.6	-00.4
06	252 41.6	-00.9	S 23 09.2	-00.4
07	267 40.7	-00.9	S 23 08.8	-00.4
08	282 39.8	-00.9	S 23 08.4	-00.4
09	297 38.9	-00.9	S 23 08.0	-00.4
10	312 38.0	-01.0	S 23 07.6	-00.4
11	327 37.0	-00.9	S 23 07.2	-00.4
12	342 36.1	-00.9	S 23 06.8	-00.4
13	357 35.2	-00.9	S 23 06.4	-00.5
14	12 34.3	-00.9	S 23 05.9	-00.4
15	27 33.4	-00.9	S 23 05.5	-00.4
16	42 32.5	-00.9	S 23 05.1	-00.4
17	57 31.6	-00.9	S 23 04.7	-00.4
18	72 30.7	-01.0	S 23 04.3	-00.4
19	87 29.7	-00.9	S 23 03.9	-00.5
20	102 28.8	-00.9	S 23 03.4	-00.4
21	117 27.9	-00.9	S 23 03.0	-00.4
22	132 27.0	-00.9	S 23 02.6	-00.4
23	147 26.1	-00.9	S 23 02.2	-00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	068°	068°	068°	068°	067°	067°

Greenwich Culmination Time: 13:09

Moon

A: 13%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	139 59.3	-36.3	S 22 29.8	-10.5
01	154 23.0	-36.2	S 22 19.3	-10.6
02	168 46.8	-36.1	S 22 08.7	-10.7
03	183 10.7	-35.9	S 21 58.0	-10.9
04	197 34.8	-35.8	S 21 47.1	-11.0
05	211 59.0	-35.7	S 21 36.1	-11.2
06	226 23.3	-35.6	S 21 24.9	-11.3
07	240 47.7	-35.4	S 21 13.6	-11.4
08	255 12.3	-35.3	S 21 02.2	-11.5
09	269 37.0	-35.2	S 20 50.7	-11.7
10	284 01.8	-35.0	S 20 39.0	-11.8
11	298 26.8	-34.9	S 20 27.2	-11.9
12	312 51.9	-34.8	S 20 15.3	-12.1
13	327 17.1	-34.6	S 20 03.2	-12.1
14	341 42.5	-34.6	S 19 51.1	-12.3
15	356 07.9	-34.3	S 19 38.8	-12.4
16	10 33.6	-34.3	S 19 26.4	-12.5
17	24 59.3	-34.1	S 19 13.9	-12.7
18	39 25.2	-34.1	S 19 01.2	-12.7
19	53 51.1	-33.8	S 18 48.5	-12.8
20	68 17.3	-33.8	S 18 35.7	-13.0
21	82 43.5	-33.6	S 18 22.7	-13.0
22	97 09.9	-33.5	S 18 09.7	-13.1
23	111 36.4	-33.4	S 17 56.6	-13.3

UT	02	06	10	14	18	22
SD	16′5	16′5	16′5	16′5	16′4	16′4
HP	60′7	60′6	60′5	60′4	60′3	60′2
SHA	044°	042°	039°	037°	034°	032°

Greenwich Culmination Time: 15:16

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	26 16.0	+03.1	N 24 42.5	+00.0
01	41 19.1	+03.1	N 24 42.5	-00.1
02	56 22.2	+03.1	N 24 42.4	+00.0
03	71 25.3	+03.2	N 24 42.4	-00.1
04	86 28.5	+03.1	N 24 42.3	-00.1
05	101 31.6	+03.1	N 24 42.2	+00.0
06	116 34.7	+03.1	N 24 42.2	-00.1
07	131 37.8	+03.1	N 24 42.1	+00.0
08	146 40.9	+03.1	N 24 42.1	-00.1
09	161 44.0	+03.1	N 24 42.0	+00.0
10	176 47.1	+03.1	N 24 42.0	-00.1
11	191 50.2	+03.1	N 24 41.9	+00.0
12	206 53.3	+03.1	N 24 41.9	-00.1
13	221 56.4	+03.1	N 24 41.8	+00.0
14	236 59.5	+03.1	N 24 41.8	-00.1
15	252 02.6	+03.1	N 24 41.7	+00.0
16	267 05.7	+03.1	N 24 41.7	-00.1
17	282 08.8	+03.1	N 24 41.6	+00.0
18	297 11.9	+03.1	N 24 41.6	-00.1
19	312 15.0	+03.1	N 24 41.5	-00.1
20	327 18.1	+03.1	N 24 41.4	+00.0
21	342 21.2	+03.1	N 24 41.4	-00.1
22	357 24.3	+03.1	N 24 41.3	+00.0
23	12 27.4	+03.1	N 24 41.3	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	292°	292°	292°	292°	292°	292°

Greenwich Culmination Time: 22:10

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	93 28.6	+02.3	S 00 59.9	-00.2
01	108 30.9	+02.2	S 00 59.7	-00.1
02	123 33.1	+02.2	S 00 59.6	-00.1
03	138 35.3	+02.2	S 00 59.5	-00.1
04	153 37.5	+02.3	S 00 59.4	-00.1
05	168 39.8	+02.2	S 00 59.3	-00.1
06	183 42.0	+02.2	S 00 59.2	-00.1
07	198 44.2	+02.3	S 00 59.1	-00.2
08	213 46.5	+02.2	S 00 58.9	-00.1
09	228 48.7	+02.2	S 00 58.8	-00.1
10	243 50.9	+02.2	S 00 58.7	-00.1
11	258 53.1	+02.3	S 00 58.6	-00.1
12	273 55.4	+02.2	S 00 58.5	-00.1
13	288 57.6	+02.2	S 00 58.4	-00.1
14	303 59.8	+02.2	S 00 58.3	-00.2
15	319 02.0	+02.3	S 00 58.1	-00.1
16	334 04.3	+02.2	S 00 58.0	-00.1
17	349 06.5	+02.2	S 00 57.9	-00.1
18	4 08.7	+02.2	S 00 57.8	-00.1
19	19 10.9	+02.3	S 00 57.7	-00.1
20	34 13.2	+02.2	S 00 57.6	-00.2
21	49 15.4	+02.2	S 00 57.4	-00.1
22	64 17.6	+02.2	S 00 57.3	-00.1
23	79 19.8	+02.3	S 00 57.2	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 17:43

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	129 51.0	+02.3	S 15 24.4	-00.1
01	144 53.3	+02.2	S 15 24.3	-00.1
02	159 55.5	+02.2	S 15 24.2	-00.1
03	174 57.7	+02.3	S 15 24.1	+00.0
04	189 60.0	+02.2	S 15 24.1	-00.1
05	205 02.2	+02.2	S 15 24.0	-00.1
06	220 04.4	+02.3	S 15 23.9	-00.1
07	235 06.7	+02.2	S 15 23.8	-00.1
08	250 08.9	+02.2	S 15 23.7	+00.0
09	265 11.1	+02.3	S 15 23.7	-00.1
10	280 13.4	+02.2	S 15 23.6	-00.1
11	295 15.6	+02.2	S 15 23.5	-00.1
12	310 17.8	+02.3	S 15 23.4	+00.0
13	325 20.1	+02.2	S 15 23.4	-00.1
14	340 22.3	+02.2	S 15 23.3	-00.1
15	355 24.5	+02.3	S 15 23.2	-00.1
16	10 26.8	+02.2	S 15 23.1	-00.1
17	25 29.0	+02.2	S 15 23.0	+00.0
18	40 31.2	+02.3	S 15 23.0	-00.1
19	55 33.5	+02.2	S 15 22.9	-00.1
20	70 35.7	+02.2	S 15 22.8	-00.1
21	85 37.9	+02.3	S 15 22.7	+00.0
22	100 40.2	+02.2	S 15 22.7	-00.1
23	115 42.4	+02.2	S 15 22.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 15:18

2022 December 23 Friday (day 357 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 18.3	-00.3	S 23 26.0	+00.0
01	195 18.0	-00.3	S 23 26.0	+00.0
02	210 17.7	-00.3	S 23 26.0	-00.1
03	225 17.4	-00.3	S 23 25.9	+00.0
04	240 17.1	-00.3	S 23 25.9	+00.0
05	255 16.8	-00.3	S 23 25.9	+00.0
06	270 16.5	-00.3	S 23 25.9	-00.1
07	285 16.2	-00.4	S 23 25.8	+00.0
08	300 15.8	-00.3	S 23 25.8	+00.0
09	315 15.5	-00.3	S 23 25.8	+00.0
10	330 15.2	-00.3	S 23 25.8	-00.1
11	345 14.9	-00.3	S 23 25.7	+00.0
12	0 14.6	-00.3	S 23 25.7	+00.0
13	15 14.3	-00.3	S 23 25.7	-00.1
14	30 14.0	-00.3	S 23 25.6	+00.0
15	45 13.7	-00.4	S 23 25.6	+00.0
16	60 13.3	-00.3	S 23 25.6	-00.1
17	75 13.0	-00.3	S 23 25.5	+00.0
18	90 12.7	-00.3	S 23 25.5	+00.0
19	105 12.4	-00.3	S 23 25.5	-00.1
20	120 12.1	-00.3	S 23 25.4	+00.0
21	135 11.8	-00.3	S 23 25.4	-00.1
22	150 11.5	-00.3	S 23 25.3	+00.0
23	165 11.2	-00.3	S 23 25.3	+00.0

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	089°	089°	088°	088°	088°	088°

Greenwich Culmination Time: 11:59

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	163 54.1	-00.9	S 23 36.9	-00.4
01	178 53.2	-01.0	S 23 36.5	-00.3
02	193 52.2	-00.9	S 23 36.2	-00.3
03	208 51.3	-00.9	S 23 35.9	-00.3
04	223 50.4	-01.0	S 23 35.6	-00.3
05	238 49.4	-00.9	S 23 35.3	-00.3
06	253 48.5	-01.0	S 23 35.0	-00.3
07	268 47.5	-00.9	S 23 34.7	-00.3
08	283 46.6	-00.9	S 23 34.4	-00.3
09	298 45.7	-01.0	S 23 34.1	-00.4
10	313 44.7	-00.9	S 23 33.7	-00.3
11	328 43.8	-01.0	S 23 33.4	-00.3
12	343 42.8	-00.9	S 23 33.1	-00.3
13	358 41.9	-00.9	S 23 32.8	-00.3
14	13 41.0	-01.0	S 23 32.5	-00.4
15	28 40.0	-00.9	S 23 32.1	-00.3
16	43 39.1	-00.9	S 23 31.8	-00.3
17	58 38.2	-01.0	S 23 31.5	-00.4
18	73 37.2	-00.9	S 23 31.1	-00.3
19	88 36.3	-01.0	S 23 30.8	-00.3
20	103 35.3	-00.9	S 23 30.5	-00.3
21	118 34.4	-00.9	S 23 30.2	-00.4
22	133 33.5	-01.0	S 23 29.8	-00.3
23	148 32.5	-00.9	S 23 29.5	-00.3

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	072°	072°	072°	072°	071°	071°

Greenwich Culmination Time: 13:05

Moon

A: 00%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	187 00.9	-39.5	S 26 49.1	+03.8
01	201 21.4	-39.5	S 26 52.9	+03.6
02	215 41.9	-39.6	S 26 56.5	+03.4
03	230 02.3	-39.7	S 26 59.9	+03.2
04	244 22.6	-39.8	S 27 03.1	+02.9
05	258 42.8	-39.8	S 27 06.0	+02.8
06	273 03.0	-39.8	S 27 08.8	+02.5
07	287 23.2	-39.9	S 27 11.3	+02.4
08	301 43.3	-40.0	S 27 13.7	+02.1
09	316 03.3	-40.0	S 27 15.8	+01.9
10	330 23.3	-40.0	S 27 17.7	+01.7
11	344 43.3	-40.1	S 27 19.4	+01.5
12	359 03.2	-40.1	S 27 20.9	+01.3
13	13 23.1	-40.1	S 27 22.2	+01.0
14	27 43.0	-40.2	S 27 23.2	+00.9
15	42 02.8	-40.2	S 27 24.1	+00.6
16	56 22.6	-40.2	S 27 24.7	+00.4
17	70 42.4	-40.2	S 27 25.1	+00.2
18	85 02.2	-40.2	S 27 25.3	-00.1
19	99 22.0	-40.3	S 27 25.2	-00.2
20	113 41.7	-40.2	S 27 25.0	-00.5
21	128 01.5	-40.3	S 27 24.5	-00.7
22	142 21.2	-40.2	S 27 23.8	-00.9
23	156 41.0	-40.3	S 27 22.9	-01.1

UT	02	06	10	14	18	22
SD	16′6	16′6	16′6	16′6	16′7	16′7
HP	60′9	61′0	61′0	61′1	61′1	61′1
SHA	094°	091°	088°	086°	083°	080°

Greenwich Culmination Time: 12:03

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	22 27.5	+03.2	N 24 46.5	-00.1
01	37 30.7	+03.2	N 24 46.4	-00.1
02	52 33.9	+03.2	N 24 46.3	+00.0
03	67 37.1	+03.2	N 24 46.3	-00.1
04	82 40.3	+03.3	N 24 46.2	+00.0
05	97 43.6	+03.2	N 24 46.2	-00.1
06	112 46.8	+03.2	N 24 46.1	+00.0
07	127 50.0	+03.2	N 24 46.1	-00.1
08	142 53.2	+03.2	N 24 46.0	+00.0
09	157 56.4	+03.2	N 24 46.0	-00.1
10	172 59.6	+03.2	N 24 45.9	+00.0
11	188 02.8	+03.3	N 24 45.9	-00.1
12	203 06.1	+03.2	N 24 45.8	-00.1
13	218 09.3	+03.2	N 24 45.7	+00.0
14	233 12.5	+03.2	N 24 45.7	-00.1
15	248 15.7	+03.2	N 24 45.6	+00.0
16	263 18.9	+03.2	N 24 45.6	-00.1
17	278 22.1	+03.2	N 24 45.5	+00.0
18	293 25.3	+03.2	N 24 45.5	-00.1
19	308 28.5	+03.2	N 24 45.4	+00.0
20	323 31.7	+03.2	N 24 45.4	-00.1
21	338 34.9	+03.2	N 24 45.3	-00.1
22	353 38.1	+03.2	N 24 45.2	+00.0
23	8 41.3	+03.1	N 24 45.2	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	291°	291°	291°	291°	291°	291°

Greenwich Culmination Time: 22:25

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	90 47.4	+02.2	S 01 07.7	-00.1
01	105 49.6	+02.3	S 01 07.6	-00.1
02	120 51.9	+02.2	S 01 07.5	-00.1
03	135 54.1	+02.2	S 01 07.4	-00.1
04	150 56.3	+02.3	S 01 07.3	-00.1
05	165 58.6	+02.2	S 01 07.2	-00.1
06	181 00.8	+02.3	S 01 07.1	-00.1
07	196 03.1	+02.2	S 01 07.0	-00.1
08	211 05.3	+02.3	S 01 06.9	-00.1
09	226 07.6	+02.2	S 01 06.8	-00.2
10	241 09.8	+02.3	S 01 06.6	-00.1
11	256 12.1	+02.2	S 01 06.5	-00.1
12	271 14.3	+02.3	S 01 06.4	-00.1
13	286 16.6	+02.2	S 01 06.3	-00.1
14	301 18.8	+02.3	S 01 06.2	-00.1
15	316 21.1	+02.2	S 01 06.1	-00.1
16	331 23.3	+02.3	S 01 06.0	-00.1
17	346 25.6	+02.2	S 01 05.9	-00.1
18	1 27.8	+02.3	S 01 05.8	-00.1
19	16 30.1	+02.2	S 01 05.7	-00.1
20	31 32.3	+02.2	S 01 05.6	-00.1
21	46 34.5	+02.3	S 01 05.5	-00.1
22	61 36.8	+02.2	S 01 05.4	-00.1
23	76 39.0	+02.3	S 01 05.3	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 17:54

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	127 09.9	+02.3	S 15 29.8	+00.0
01	142 12.2	+02.2	S 15 29.8	-00.1
02	157 14.4	+02.3	S 15 29.7	-00.1
03	172 16.7	+02.2	S 15 29.6	-00.1
04	187 18.9	+02.2	S 15 29.5	+00.0
05	202 21.1	+02.3	S 15 29.5	-00.1
06	217 23.4	+02.2	S 15 29.4	-00.1
07	232 25.6	+02.3	S 15 29.3	-00.1
08	247 27.9	+02.2	S 15 29.2	+00.0
09	262 30.1	+02.2	S 15 29.2	-00.1
10	277 32.3	+02.3	S 15 29.1	-00.1
11	292 34.6	+02.2	S 15 29.0	-00.1
12	307 36.8	+02.3	S 15 28.9	+00.0
13	322 39.1	+02.2	S 15 28.9	-00.1
14	337 41.3	+02.2	S 15 28.8	-00.1
15	352 43.5	+02.3	S 15 28.7	-00.1
16	7 45.8	+02.2	S 15 28.6	+00.0
17	22 48.0	+02.3	S 15 28.6	-00.1
18	37 50.3	+02.2	S 15 28.5	-00.1
19	52 52.5	+02.2	S 15 28.4	-00.1
20	67 54.7	+02.3	S 15 28.3	+00.0
21	82 57.0	+02.2	S 15 28.3	-00.1
22	97 59.2	+02.3	S 15 28.2	-00.1
23	113 01.5	+02.2	S 15 28.1	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	036°	036°

Greenwich Culmination Time: 15:29

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 December 24 Saturday (day 358 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 10.9	-00.4	S 23 25.3	-00.1
01	195 10.5	-00.3	S 23 25.2	+00.0
02	210 10.2	-00.3	S 23 25.2	-00.1
03	225 09.9	-00.3	S 23 25.1	+00.0
04	240 09.6	-00.3	S 23 25.1	-00.1
05	255 09.3	-00.3	S 23 25.0	+00.0
06	270 09.0	-00.3	S 23 25.0	+00.0
07	285 08.7	-00.3	S 23 25.0	-00.1
08	300 08.4	-00.4	S 23 24.9	+00.0
09	315 08.0	-00.3	S 23 24.9	-00.1
10	330 07.7	-00.3	S 23 24.8	+00.0
11	345 07.4	-00.3	S 23 24.8	-00.1
12	0 07.1	-00.3	S 23 24.7	+00.0
13	15 06.8	-00.3	S 23 24.7	-00.1
14	30 06.5	-00.3	S 23 24.6	+00.0
15	45 06.2	-00.3	S 23 24.6	-00.1
16	60 05.9	-00.3	S 23 24.5	-00.1
17	75 05.6	-00.4	S 23 24.4	+00.0
18	90 05.2	-00.3	S 23 24.4	-00.1
19	105 04.9	-00.3	S 23 24.3	+00.0
20	120 04.6	-00.3	S 23 24.3	-00.1
21	135 04.3	-00.3	S 23 24.2	+00.0
22	150 04.0	-00.3	S 23 24.2	-00.1
23	165 03.7	-00.3	S 23 24.1	-00.1

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	088°	087°	087°	087°	087°	087°

Greenwich Culmination Time: 11:59

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	163 31.6	-00.9	S 23 29.2	-00.4
01	178 30.7	-01.0	S 23 28.8	-00.3
02	193 29.7	-00.9	S 23 28.5	-00.4
03	208 28.8	-00.9	S 23 28.1	-00.3
04	223 27.9	-01.0	S 23 27.8	-00.3
05	238 26.9	-00.9	S 23 27.5	-00.4
06	253 26.0	-00.9	S 23 27.1	-00.3
07	268 25.1	-01.0	S 23 26.8	-00.4
08	283 24.1	-00.9	S 23 26.4	-00.3
09	298 23.2	-00.9	S 23 26.1	-00.4
10	313 22.3	-01.0	S 23 25.7	-00.3
11	328 21.3	-00.9	S 23 25.4	-00.4
12	343 20.4	-00.9	S 23 25.0	-00.3
13	358 19.5	-00.9	S 23 24.7	-00.4
14	13 18.6	-01.0	S 23 24.3	-00.3
15	28 17.6	-00.9	S 23 24.0	-00.4
16	43 16.7	-00.9	S 23 23.6	-00.3
17	58 15.8	-01.0	S 23 23.3	-00.4
18	73 14.8	-00.9	S 23 22.9	-00.4
19	88 13.9	-00.9	S 23 22.5	-00.3
20	103 13.0	-00.9	S 23 22.2	-00.4
21	118 12.1	-01.0	S 23 21.8	-00.3
22	133 11.1	-00.9	S 23 21.5	-00.4
23	148 10.2	-00.9	S 23 21.1	-00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	071°	071°	070°	070°	070°	070°

Greenwich Culmination Time: 13:06

Moon

A: 04%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	171 00.7	-40.2	S 27 21.8	-01.3
01	185 20.5	-40.2	S 27 20.5	-01.6
02	199 40.3	-40.2	S 27 18.9	-01.7
03	214 00.1	-40.2	S 27 17.2	-02.0
04	228 19.9	-40.1	S 27 15.2	-02.2
05	242 39.8	-40.1	S 27 13.0	-02.4
06	256 59.7	-40.1	S 27 10.6	-02.6
07	271 19.6	-40.1	S 27 08.0	-02.9
08	285 39.5	-40.0	S 27 05.1	-03.0
09	299 59.5	-40.0	S 27 02.1	-03.3
10	314 19.5	-39.9	S 26 58.8	-03.5
11	328 39.6	-39.9	S 26 55.3	-03.7
12	342 59.7	-39.8	S 26 51.6	-03.9
13	357 19.9	-39.8	S 26 47.7	-04.1
14	11 40.1	-39.7	S 26 43.6	-04.3
15	26 00.4	-39.7	S 26 39.3	-04.5
16	40 20.7	-39.6	S 26 34.8	-04.8
17	54 41.1	-39.5	S 26 30.0	-04.9
18	69 01.6	-39.5	S 26 25.1	-05.1
19	83 22.1	-39.3	S 26 20.0	-05.4
20	97 42.8	-39.3	S 26 14.6	-05.5
21	112 03.5	-39.3	S 26 09.1	-05.7
22	126 24.2	-39.1	S 26 03.4	-06.0
23	140 45.1	-39.1	S 25 57.4	-06.1

UT	02	06	10	14	18	22
SD	16′7	16′7	16′7	16′7	16′7	16′7
HP	61′2	61′2	61′2	61′2	61′1	61′1
SHA	077°	074°	071°	069°	066°	063°

Greenwich Culmination Time: 13:11

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	23 44.4	+03.2	N 24 45.1	+00.0
01	38 47.6	+03.2	N 24 45.1	-00.1
02	53 50.8	+03.2	N 24 45.0	+00.0
03	68 54.0	+03.2	N 24 45.0	-00.1
04	83 57.2	+03.2	N 24 44.9	+00.0
05	99 00.4	+03.2	N 24 44.9	-00.1
06	114 03.6	+03.1	N 24 44.8	+00.0
07	129 06.7	+03.2	N 24 44.8	-00.1
08	144 09.9	+03.2	N 24 44.7	-00.1
09	159 13.1	+03.2	N 24 44.6	+00.0
10	174 16.3	+03.2	N 24 44.6	-00.1
11	189 19.5	+03.1	N 24 44.5	+00.0
12	204 22.6	+03.2	N 24 44.5	-00.1
13	219 25.8	+03.2	N 24 44.4	+00.0
14	234 29.0	+03.2	N 24 44.4	-00.1
15	249 32.2	+03.1	N 24 44.3	+00.0
16	264 35.3	+03.2	N 24 44.3	-00.1
17	279 38.5	+03.2	N 24 44.2	+00.0
18	294 41.7	+03.1	N 24 44.2	-00.1
19	309 44.8	+03.2	N 24 44.1	-00.1
20	324 48.0	+03.1	N 24 44.0	+00.0
21	339 51.1	+03.2	N 24 44.0	-00.1
22	354 54.3	+03.2	N 24 43.9	+00.0
23	9 57.5	+03.1	N 24 43.9	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	291°	291°	291°	291°	291°	291°

Greenwich Culmination Time: 22:20

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	91 41.3	+02.2	S 01 05.2	-00.2
01	106 43.5	+02.3	S 01 05.0	-00.1
02	121 45.8	+02.2	S 01 04.9	-00.1
03	136 48.0	+02.2	S 01 04.8	-00.1
04	151 50.2	+02.3	S 01 04.7	-00.1
05	166 52.5	+02.2	S 01 04.6	-00.1
06	181 54.7	+02.3	S 01 04.5	-00.1
07	196 57.0	+02.2	S 01 04.4	-00.1
08	211 59.2	+02.2	S 01 04.3	-00.1
09	227 01.4	+02.3	S 01 04.2	-00.1
10	242 03.7	+02.2	S 01 04.1	-00.1
11	257 05.9	+02.3	S 01 04.0	-00.1
12	272 08.2	+02.2	S 01 03.9	-00.2
13	287 10.4	+02.2	S 01 03.7	-00.1
14	302 12.6	+02.3	S 01 03.6	-00.1
15	317 14.9	+02.2	S 01 03.5	-00.1
16	332 17.1	+02.3	S 01 03.4	-00.1
17	347 19.4	+02.2	S 01 03.3	-00.1
18	2 21.6	+02.2	S 01 03.2	-00.1
19	17 23.8	+02.3	S 01 03.1	-00.1
20	32 26.1	+02.2	S 01 03.0	-00.1
21	47 28.3	+02.3	S 01 02.9	-00.1
22	62 30.6	+02.2	S 01 02.8	-00.2
23	77 32.8	+02.2	S 01 02.6	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 17:50

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	128 03.7	+02.2	S 15 28.0	+00.0
01	143 05.9	+02.3	S 15 28.0	-00.1
02	158 08.2	+02.2	S 15 27.9	-00.1
03	173 10.4	+02.3	S 15 27.8	-00.1
04	188 12.7	+02.2	S 15 27.7	-00.1
05	203 14.9	+02.2	S 15 27.6	+00.0
06	218 17.1	+02.3	S 15 27.6	-00.1
07	233 19.4	+02.2	S 15 27.5	-00.1
08	248 21.6	+02.2	S 15 27.4	-00.1
09	263 23.8	+02.3	S 15 27.3	+00.0
10	278 26.1	+02.2	S 15 27.3	-00.1
11	293 28.3	+02.3	S 15 27.2	-00.1
12	308 30.6	+02.2	S 15 27.1	-00.1
13	323 32.8	+02.2	S 15 27.0	+00.0
14	338 35.0	+02.3	S 15 27.0	-00.1
15	353 37.3	+02.2	S 15 26.9	-00.1
16	8 39.5	+02.2	S 15 26.8	-00.1
17	23 41.7	+02.3	S 15 26.7	+00.0
18	38 44.0	+02.2	S 15 26.7	-00.1
19	53 46.2	+02.3	S 15 26.6	-00.1
20	68 48.5	+02.2	S 15 26.5	-00.1
21	83 50.7	+02.2	S 15 26.4	+00.0
22	98 52.9	+02.3	S 15 26.4	-00.1
23	113 55.2	+02.2	S 15 26.3	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	036°	036°	036°	036°	035°	035°

Greenwich Culmination Time: 15:25

2022 December 25 Sunday (day 359 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	180 03.4	-00.3	S 23 24.0	+00.0
01	195 03.1	-00.3	S 23 24.0	-00.1
02	210 02.8	-00.4	S 23 23.9	+00.0
03	225 02.4	-00.3	S 23 23.9	-00.1
04	240 02.1	-00.3	S 23 23.8	-00.1
05	255 01.8	-00.3	S 23 23.7	+00.0
06	270 01.5	-00.3	S 23 23.7	-00.1
07	285 01.2	-00.3	S 23 23.6	-00.1
08	300 00.9	-00.3	S 23 23.5	+00.0
09	315 00.6	-00.3	S 23 23.5	-00.1
10	330 00.3	-00.3	S 23 23.4	-00.1
11	344 60.0	-00.4	S 23 23.3	+00.0
12	359 59.6	-00.3	S 23 23.3	-00.1
13	14 59.3	-00.3	S 23 23.2	-00.1
14	29 59.0	-00.3	S 23 23.1	-00.1
15	44 58.7	-00.3	S 23 23.0	+00.0
16	59 58.4	-00.3	S 23 23.0	-00.1
17	74 58.1	-00.3	S 23 22.9	-00.1
18	89 57.8	-00.3	S 23 22.8	-00.1
19	104 57.5	-00.3	S 23 22.7	+00.0
20	119 57.2	-00.3	S 23 22.7	-00.1
21	134 56.9	-00.4	S 23 22.6	-00.1
22	149 56.5	-00.3	S 23 22.5	-00.1
23	164 56.2	-00.3	S 23 22.4	+00.0

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	086°	086°	086°	086°	086°	086°

Greenwich Culmination Time: 12:00

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	163 09.3	-01.0	S 23 20.7	-00.3
01	178 08.3	-00.9	S 23 20.4	-00.4
02	193 07.4	-00.9	S 23 20.0	-00.4
03	208 06.5	-00.9	S 23 19.6	-00.3
04	223 05.6	-01.0	S 23 19.3	-00.4
05	238 04.6	-00.9	S 23 18.9	-00.4
06	253 03.7	-00.9	S 23 18.5	-00.4
07	268 02.8	-00.9	S 23 18.1	-00.3
08	283 01.9	-01.0	S 23 17.8	-00.4
09	298 00.9	-00.9	S 23 17.4	-00.4
10	313 00.0	-00.9	S 23 17.0	-00.4
11	327 59.1	-00.9	S 23 16.6	-00.3
12	342 58.2	-00.9	S 23 16.3	-00.4
13	357 57.3	-01.0	S 23 15.9	-00.4
14	12 56.3	-00.9	S 23 15.5	-00.4
15	27 55.4	-00.9	S 23 15.1	-00.4
16	42 54.5	-00.9	S 23 14.7	-00.4
17	57 53.6	-01.0	S 23 14.3	-00.3
18	72 52.6	-00.9	S 23 14.0	-00.4
19	87 51.7	-00.9	S 23 13.6	-00.4
20	102 50.8	-00.9	S 23 13.2	-00.4
21	117 49.9	-00.9	S 23 12.8	-00.4
22	132 49.0	-01.0	S 23 12.4	-00.4
23	147 48.0	-00.9	S 23 12.0	-00.4

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	070°	069°	069°	069°	069°	068°

Greenwich Culmination Time: 13:08

Moon

A: 09%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	155 06.0	-39.0	S 25 51.3	-06.3
01	169 27.0	-38.8	S 25 45.0	-06.6
02	183 48.2	-38.8	S 25 38.4	-06.7
03	198 09.4	-38.7	S 25 31.7	-06.9
04	212 30.7	-38.6	S 25 24.8	-07.1
05	226 52.1	-38.6	S 25 17.7	-07.3
06	241 13.5	-38.4	S 25 10.4	-07.4
07	255 35.1	-38.3	S 25 03.0	-07.7
08	269 56.8	-38.2	S 24 55.3	-07.8
09	284 18.6	-38.1	S 24 47.5	-08.0
10	298 40.5	-37.9	S 24 39.5	-08.2
11	313 02.6	-37.9	S 24 31.3	-08.3
12	327 24.7	-37.8	S 24 23.0	-08.6
13	341 46.9	-37.6	S 24 14.4	-08.7
14	356 09.3	-37.6	S 24 05.7	-08.8
15	10 31.7	-37.4	S 23 56.9	-09.1
16	24 54.3	-37.3	S 23 47.8	-09.2
17	39 17.0	-37.2	S 23 38.6	-09.3
18	53 39.8	-37.0	S 23 29.3	-09.6
19	68 02.8	-37.0	S 23 19.7	-09.7
20	82 25.8	-36.8	S 23 10.0	-09.8
21	96 49.0	-36.7	S 23 00.2	-10.0
22	111 12.3	-36.5	S 22 50.2	-10.1
23	125 35.8	-36.5	S 22 40.1	-10.3

UT	02	06	10	14	18	22
SD	16′6	16′6	16′6	16′6	16′6	16′6
HP	61′1	61′0	61′0	60′9	60′9	60′8
SHA	060°	057°	055°	052°	049°	047°

Greenwich Culmination Time: 14:16

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	25 00.6	+03.2	N 24 43.8	+00.0
01	40 03.8	+03.1	N 24 43.8	-00.1
02	55 06.9	+03.2	N 24 43.7	+00.0
03	70 10.1	+03.1	N 24 43.7	-00.1
04	85 13.2	+03.2	N 24 43.6	+00.0
05	100 16.4	+03.1	N 24 43.6	-00.1
06	115 19.5	+03.2	N 24 43.5	-00.1
07	130 22.7	+03.1	N 24 43.4	+00.0
08	145 25.8	+03.2	N 24 43.4	-00.1
09	160 29.0	+03.1	N 24 43.3	+00.0
10	175 32.1	+03.2	N 24 43.3	-00.1
11	190 35.3	+03.1	N 24 43.2	+00.0
12	205 38.4	+03.1	N 24 43.2	-00.1
13	220 41.5	+03.2	N 24 43.1	+00.0
14	235 44.7	+03.1	N 24 43.1	-00.1
15	250 47.8	+03.2	N 24 43.0	+00.0
16	265 51.0	+03.1	N 24 43.0	-00.1
17	280 54.1	+03.1	N 24 42.9	-00.1
18	295 57.2	+03.1	N 24 42.8	+00.0
19	311 00.3	+03.2	N 24 42.8	-00.1
20	326 03.5	+03.1	N 24 42.7	+00.0
21	341 06.6	+03.1	N 24 42.7	-00.1
22	356 09.7	+03.2	N 24 42.6	+00.0
23	11 12.9	+03.1	N 24 42.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	292°	292°	292°	292°	292°	292°

Greenwich Culmination Time: 22:15

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	92 35.0	+02.3	S 01 02.5	-00.1
01	107 37.3	+02.2	S 01 02.4	-00.1
02	122 39.5	+02.2	S 01 02.3	-00.1
03	137 41.7	+02.3	S 01 02.2	-00.1
04	152 44.0	+02.2	S 01 02.1	-00.1
05	167 46.2	+02.2	S 01 02.0	-00.1
06	182 48.4	+02.3	S 01 01.9	-00.1
07	197 50.7	+02.2	S 01 01.8	-00.2
08	212 52.9	+02.2	S 01 01.6	-00.1
09	227 55.1	+02.3	S 01 01.5	-00.1
10	242 57.4	+02.2	S 01 01.4	-00.1
11	257 59.6	+02.2	S 01 01.3	-00.1
12	273 01.8	+02.3	S 01 01.2	-00.1
13	288 04.1	+02.2	S 01 01.1	-00.1
14	303 06.3	+02.2	S 01 01.0	-00.1
15	318 08.5	+02.3	S 01 00.9	-00.1
16	333 10.8	+02.2	S 01 00.8	-00.2
17	348 13.0	+02.2	S 01 00.6	-00.1
18	3 15.2	+02.3	S 01 00.5	-00.1
19	18 17.5	+02.2	S 01 00.4	-00.1
20	33 19.7	+02.2	S 01 00.3	-00.1
21	48 21.9	+02.3	S 01 00.2	-00.1
22	63 24.2	+02.2	S 01 00.1	-00.1
23	78 26.4	+02.2	S 00 60.0	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 17:47

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	128 57.4	+02.2	S 15 26.2	-00.1
01	143 59.6	+02.3	S 15 26.1	+00.0
02	159 01.9	+02.2	S 15 26.1	-00.1
03	174 04.1	+02.2	S 15 26.0	-00.1
04	189 06.3	+02.3	S 15 25.9	-00.1
05	204 08.6	+02.2	S 15 25.8	-00.1
06	219 10.8	+02.3	S 15 25.7	+00.0
07	234 13.1	+02.2	S 15 25.7	-00.1
08	249 15.3	+02.2	S 15 25.6	-00.1
09	264 17.5	+02.3	S 15 25.5	-00.1
10	279 19.8	+02.2	S 15 25.4	+00.0
11	294 22.0	+02.2	S 15 25.4	-00.1
12	309 24.2	+02.3	S 15 25.3	-00.1
13	324 26.5	+02.2	S 15 25.2	-00.1
14	339 28.7	+02.2	S 15 25.1	+00.0
15	354 30.9	+02.3	S 15 25.1	-00.1
16	9 33.2	+02.2	S 15 25.0	-00.1
17	24 35.4	+02.2	S 15 24.9	-00.1
18	39 37.6	+02.3	S 15 24.8	-00.1
19	54 39.9	+02.2	S 15 24.7	+00.0
20	69 42.1	+02.2	S 15 24.7	-00.1
21	84 44.3	+02.3	S 15 24.6	-00.1
22	99 46.6	+02.2	S 15 24.5	-00.1
23	114 48.8	+02.2	S 15 24.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 15:21

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

2022 December 30 Friday (day 364 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 26.5	-00.3	S 23 10.9	-00.2
01	194 26.2	-00.3	S 23 10.7	-00.1
02	209 25.9	-00.3	S 23 10.6	-00.2
03	224 25.6	-00.3	S 23 10.4	-00.1
04	239 25.3	-00.3	S 23 10.3	-00.2
05	254 25.0	-00.3	S 23 10.1	-00.2
06	269 24.7	-00.3	S 23 09.9	-00.1
07	284 24.4	-00.3	S 23 09.8	-00.2
08	299 24.1	-00.3	S 23 09.6	-00.2
09	314 23.8	-00.3	S 23 09.4	-00.1
10	329 23.5	-00.3	S 23 09.3	-00.2
11	344 23.2	-00.3	S 23 09.1	-00.2
12	359 22.9	-00.3	S 23 08.9	-00.1
13	14 22.6	-00.3	S 23 08.8	-00.2
14	29 22.3	-00.3	S 23 08.6	-00.2
15	44 22.0	-00.3	S 23 08.4	-00.1
16	59 21.7	-00.3	S 23 08.3	-00.2
17	74 21.4	-00.3	S 23 08.1	-00.2
18	89 21.1	-00.3	S 23 07.9	-00.1
19	104 20.8	-00.3	S 23 07.8	-00.2
20	119 20.5	-00.3	S 23 07.6	-00.2
21	134 20.2	-00.3	S 23 07.4	-00.2
22	149 19.9	-00.3	S 23 07.2	-00.1
23	164 19.6	-00.3	S 23 07.1	-00.2

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	081°	081°	081°	080°	080°	080°

Greenwich Culmination Time: 12:02

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	161 20.7	-00.8	S 22 28.1	-00.5
01	176 19.9	-00.9	S 22 27.6	-00.6
02	191 19.0	-00.9	S 22 27.0	-00.5
03	206 18.1	-00.9	S 22 26.5	-00.5
04	221 17.2	-00.8	S 22 26.0	-00.5
05	236 16.4	-00.9	S 22 25.5	-00.5
06	251 15.5	-00.9	S 22 25.0	-00.5
07	266 14.6	-00.9	S 22 24.5	-00.6
08	281 13.7	-00.9	S 22 23.9	-00.5
09	296 12.8	-00.8	S 22 23.4	-00.5
10	311 12.0	-00.9	S 22 22.9	-00.5
11	326 11.1	-00.9	S 22 22.4	-00.5
12	341 10.2	-00.9	S 22 21.9	-00.6
13	356 09.3	-00.8	S 22 21.3	-00.5
14	11 08.5	-00.9	S 22 20.8	-00.5
15	26 07.6	-00.9	S 22 20.3	-00.6
16	41 06.7	-00.8	S 22 19.7	-00.5
17	56 05.9	-00.9	S 22 19.2	-00.5
18	71 05.0	-00.9	S 22 18.7	-00.5
19	86 04.1	-00.9	S 22 18.2	-00.6
20	101 03.2	-00.8	S 22 17.6	-00.5
21	116 02.4	-00.9	S 22 17.1	-00.5
22	131 01.5	-00.9	S 22 16.6	-00.6
23	146 00.6	-00.8	S 22 16.0	-00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	063°	063°	062°	062°	062°	062°

Greenwich Culmination Time: 13:15

Moon

A: 26%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	90 20.8	-27.3	N 00 21.3	+15.5
01	104 53.5	-27.3	N 00 36.8	+15.4
02	119 26.2	-27.3	N 00 52.2	+15.4
03	133 58.9	-27.2	N 01 07.6	+15.5
04	148 31.7	-27.2	N 01 23.1	+15.3
05	163 04.5	-27.2	N 01 38.4	+15.4
06	177 37.3	-27.2	N 01 53.8	+15.3
07	192 10.1	-27.1	N 02 09.1	+15.3
08	206 43.0	-27.1	N 02 24.4	+15.3
09	221 15.9	-27.1	N 02 39.7	+15.2
10	235 48.8	-27.0	N 02 54.9	+15.3
11	250 21.8	-27.1	N 03 10.2	+15.1
12	264 54.7	-27.0	N 03 25.3	+15.2
13	279 27.7	-27.0	N 03 40.5	+15.1
14	294 00.7	-27.0	N 03 55.6	+15.1
15	308 33.7	-27.0	N 04 10.7	+15.0
16	323 06.7	-27.0	N 04 25.7	+15.0
17	337 39.7	-26.9	N 04 40.7	+15.0
18	352 12.8	-27.0	N 04 55.7	+15.0
19	6 45.8	-26.9	N 05 10.7	+14.9
20	21 18.9	-26.9	N 05 25.6	+14.8
21	35 52.0	-27.0	N 05 40.4	+14.8
22	50 25.0	-26.9	N 05 55.2	+14.8
23	64 58.1	-26.9	N 06 10.0	+14.7

UT	02	06	10	14	18	22
SD	15′7	15′7	15′6	15′6	15′6	15′5
HP	57′7	57′6	57′4	57′3	57′2	57′0
SHA	351°	349°	347°	345°	343°	341°

Greenwich Culmination Time: 18:32

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	31 08.7	+03.0	N 24 37.5	+00.0
01	46 11.7	+03.0	N 24 37.5	-00.1
02	61 14.7	+02.9	N 24 37.4	+00.0
03	76 17.6	+03.0	N 24 37.4	-00.1
04	91 20.6	+03.0	N 24 37.3	+00.0
05	106 23.6	+02.9	N 24 37.3	+00.0
06	121 26.5	+03.0	N 24 37.3	-00.1
07	136 29.5	+03.0	N 24 37.2	+00.0
08	151 32.5	+02.9	N 24 37.2	-00.1
09	166 35.4	+03.0	N 24 37.1	+00.0
10	181 38.4	+03.0	N 24 37.1	-00.1
11	196 41.4	+02.9	N 24 37.0	+00.0
12	211 44.3	+03.0	N 24 37.0	-00.1
13	226 47.3	+02.9	N 24 36.9	+00.0
14	241 50.2	+03.0	N 24 36.9	-00.1
15	256 53.2	+02.9	N 24 36.8	+00.0
16	271 56.1	+03.0	N 24 36.8	-00.1
17	286 59.1	+02.9	N 24 36.7	+00.0
18	302 02.0	+03.0	N 24 36.7	-00.1
19	317 05.0	+02.9	N 24 36.6	+00.0
20	332 07.9	+03.0	N 24 36.6	-00.1
21	347 10.9	+02.9	N 24 36.5	+00.0
22	2 13.8	+02.9	N 24 36.5	-00.1
23	17 16.7	+03.0	N 24 36.4	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	293°	293°	293°	293°	293°	293°

Greenwich Culmination Time: 21:51

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	97 01.4	+02.2	S 00 48.5	-00.2
01	112 03.6	+02.3	S 00 48.3	-00.1
02	127 05.9	+02.2	S 00 48.2	-00.1
03	142 08.1	+02.2	S 00 48.1	-00.1
04	157 10.3	+02.2	S 00 48.0	-00.2
05	172 12.5	+02.2	S 00 47.8	-00.1
06	187 14.7	+02.2	S 00 47.7	-00.1
07	202 16.9	+02.2	S 00 47.6	-00.1
08	217 19.1	+02.2	S 00 47.5	-00.2
09	232 21.3	+02.2	S 00 47.3	-00.1
10	247 23.5	+02.2	S 00 47.2	-00.1
11	262 25.7	+02.2	S 00 47.1	-00.1
12	277 27.9	+02.2	S 00 47.0	-00.2
13	292 30.1	+02.2	S 00 46.8	-00.1
14	307 32.3	+02.2	S 00 46.7	-00.1
15	322 34.5	+02.2	S 00 46.6	-00.1
16	337 36.7	+02.2	S 00 46.5	-00.2
17	352 38.9	+02.2	S 00 46.3	-00.1
18	7 41.1	+02.2	S 00 46.2	-00.1
19	22 43.3	+02.2	S 00 46.1	-00.1
20	37 45.5	+02.2	S 00 46.0	-00.2
21	52 47.7	+02.2	S 00 45.8	-00.1
22	67 49.9	+02.2	S 00 45.7	-00.1
23	82 52.1	+02.2	S 00 45.6	-00.2

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 17:29

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	133 25.0	+02.3	S 15 16.8	-00.1
01	148 27.3	+02.2	S 15 16.7	-00.1
02	163 29.5	+02.2	S 15 16.6	+00.0
03	178 31.7	+02.2	S 15 16.6	-00.1
04	193 33.9	+02.3	S 15 16.5	-00.1
05	208 36.2	+02.2	S 15 16.4	-00.1
06	223 38.4	+02.2	S 15 16.3	-00.1
07	238 40.6	+02.2	S 15 16.2	-00.1
08	253 42.8	+02.3	S 15 16.1	+00.0
09	268 45.1	+02.2	S 15 16.1	-00.1
10	283 47.3	+02.2	S 15 16.0	-00.1
11	298 49.5	+02.2	S 15 15.9	-00.1
12	313 51.7	+02.3	S 15 15.8	-00.1
13	328 54.0	+02.2	S 15 15.7	+00.0
14	343 56.2	+02.2	S 15 15.7	-00.1
15	358 58.4	+02.2	S 15 15.6	-00.1
16	14 00.6	+02.2	S 15 15.5	-00.1
17	29 02.8	+02.3	S 15 15.4	-00.1
18	44 05.1	+02.2	S 15 15.3	+00.0
19	59 07.3	+02.2	S 15 15.3	-00.1
20	74 09.5	+02.2	S 15 15.2	-00.1
21	89 11.7	+02.3	S 15 15.1	-00.1
22	104 14.0	+02.2	S 15 15.0	-00.1
23	119 16.2	+02.2	S 15 14.9	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 15:04

2022 December 27 Tuesday (day 361 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 48.5	-00.3	S 23 20.2	-00.1
01	194 48.2	-00.3	S 23 20.1	-00.1
02	209 47.9	-00.3	S 23 20.0	-00.1
03	224 47.6	-00.3	S 23 19.9	-00.1
04	239 47.3	-00.3	S 23 19.8	-00.1
05	254 47.0	-00.4	S 23 19.7	-00.1
06	269 46.6	-00.3	S 23 19.6	-00.1
07	284 46.3	-00.3	S 23 19.5	-00.1
08	299 46.0	-00.3	S 23 19.4	-00.1
09	314 45.7	-00.3	S 23 19.3	-00.1
10	329 45.4	-00.3	S 23 19.2	-00.2
11	344 45.1	-00.3	S 23 19.0	-00.1
12	359 44.8	-00.3	S 23 18.9	-00.1
13	14 44.5	-00.3	S 23 18.8	-00.1
14	29 44.2	-00.3	S 23 18.7	-00.1
15	44 43.9	-00.3	S 23 18.6	-00.1
16	59 43.6	-00.3	S 23 18.5	-00.1
17	74 43.3	-00.3	S 23 18.4	-00.1
18	89 43.0	-00.4	S 23 18.3	-00.2
19	104 42.6	-00.3	S 23 18.1	-00.1
20	119 42.3	-00.3	S 23 18.0	-00.1
21	134 42.0	-00.3	S 23 17.9	-00.1
22	149 41.7	-00.3	S 23 17.8	-00.1
23	164 41.4	-00.3	S 23 17.7	-00.1

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	084°	084°	084°	084°	084°	083°

Greenwich Culmination Time: 12:01

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	162 25.2	-00.9	S 23 01.8	-00.5
01	177 24.3	-00.9	S 23 01.3	-00.4
02	192 23.4	-00.9	S 23 00.9	-00.4
03	207 22.5	-00.9	S 23 00.5	-00.4
04	222 21.6	-00.9	S 23 00.1	-00.5
05	237 20.7	-01.0	S 22 59.6	-00.4
06	252 19.7	-00.9	S 22 59.2	-00.4
07	267 18.8	-00.9	S 22 58.8	-00.5
08	282 17.9	-00.9	S 22 58.3	-00.4
09	297 17.0	-00.9	S 22 57.9	-00.4
10	312 16.1	-00.9	S 22 57.5	-00.5
11	327 15.2	-00.9	S 22 57.0	-00.4
12	342 14.3	-00.9	S 22 56.6	-00.5
13	357 13.4	-00.9	S 22 56.1	-00.4
14	12 12.5	-00.9	S 22 55.7	-00.4
15	27 11.6	-00.9	S 22 55.3	-00.5
16	42 10.7	-00.9	S 22 54.8	-00.4
17	57 09.8	-00.9	S 22 54.4	-00.5
18	72 08.9	-00.9	S 22 53.9	-00.4
19	87 08.0	-00.9	S 22 53.5	-00.5
20	102 07.1	-00.9	S 22 53.0	-00.4
21	117 06.2	-00.9	S 22 52.6	-00.5
22	132 05.3	-00.9	S 22 52.1	-00.4
23	147 04.4	-00.9	S 22 51.7	-00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	067°	067°	066°	066°	066°	066°

Greenwich Culmination Time: 13:11

Moon

A: 16%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	126 03.0	-33.2	S 17 43.3	-13.3
01	140 29.8	-33.1	S 17 30.0	-13.4
02	154 56.7	-33.0	S 17 16.6	-13.5
03	169 23.7	-32.9	S 17 03.1	-13.6
04	183 50.8	-32.8	S 16 49.5	-13.7
05	198 18.0	-32.6	S 16 35.8	-13.8
06	212 45.4	-32.5	S 16 22.0	-13.8
07	227 12.9	-32.4	S 16 08.2	-13.9
08	241 40.5	-32.3	S 15 54.3	-14.1
09	256 08.2	-32.1	S 15 40.2	-14.0
10	270 36.1	-32.1	S 15 26.2	-14.2
11	285 04.0	-31.9	S 15 12.0	-14.2
12	299 32.1	-31.8	S 14 57.8	-14.3
13	314 00.3	-31.7	S 14 43.5	-14.4
14	328 28.6	-31.6	S 14 29.1	-14.4
15	342 57.0	-31.5	S 14 14.7	-14.5
16	357 25.5	-31.3	S 14 00.2	-14.6
17	11 54.2	-31.3	S 13 45.6	-14.6
18	26 22.9	-31.1	S 13 31.0	-14.7
19	40 51.8	-31.1	S 13 16.3	-14.7
20	55 20.7	-30.9	S 13 01.6	-14.8
21	69 49.8	-30.8	S 12 46.8	-14.8
22	84 19.0	-30.7	S 12 32.0	-14.9
23	98 48.3	-30.7	S 12 17.1	-15.0

UT	02	06	10	14	18	22
SD	16′4	16′3	16′3	16′3	16′2	16′2
HP	60′1	60′0	59′9	59′7	59′6	59′5
SHA	029°	027°	025°	022°	020°	018°

Greenwich Culmination Time: 16:10

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	27 30.5	+03.1	N 24 41.2	+00.0
01	42 33.6	+03.0	N 24 41.2	-00.1
02	57 36.6	+03.1	N 24 41.1	+00.0
03	72 39.7	+03.1	N 24 41.1	-00.1
04	87 42.8	+03.1	N 24 41.0	+00.0
05	102 45.9	+03.1	N 24 41.0	-00.1
06	117 49.0	+03.0	N 24 40.9	+00.0
07	132 52.0	+03.1	N 24 40.9	-00.1
08	147 55.1	+03.1	N 24 40.8	+00.0
09	162 58.2	+03.1	N 24 40.8	-00.1
10	178 01.3	+03.0	N 24 40.7	-00.1
11	193 04.3	+03.1	N 24 40.6	+00.0
12	208 07.4	+03.1	N 24 40.6	-00.1
13	223 10.5	+03.0	N 24 40.5	+00.0
14	238 13.5	+03.1	N 24 40.5	-00.1
15	253 16.6	+03.1	N 24 40.4	+00.0
16	268 19.7	+03.0	N 24 40.4	-00.1
17	283 22.7	+03.1	N 24 40.3	+00.0
18	298 25.8	+03.0	N 24 40.3	-00.1
19	313 28.8	+03.1	N 24 40.2	+00.0
20	328 31.9	+03.1	N 24 40.2	-00.1
21	343 35.0	+03.0	N 24 40.1	+00.0
22	358 38.0	+03.1	N 24 40.1	-00.1
23	13 41.1	+03.0	N 24 40.0	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	292°	292°	292°	292°	292°	292°

Greenwich Culmination Time: 22:05

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	94 22.1	+02.2	S 00 57.1	-00.1
01	109 24.3	+02.2	S 00 57.0	-00.1
02	124 26.5	+02.2	S 00 56.9	-00.1
03	139 28.7	+02.3	S 00 56.8	-00.2
04	154 31.0	+02.2	S 00 56.6	-00.1
05	169 33.2	+02.2	S 00 56.5	-00.1
06	184 35.4	+02.2	S 00 56.4	-00.1
07	199 37.6	+02.2	S 00 56.3	-00.1
08	214 39.8	+02.3	S 00 56.2	-00.1
09	229 42.1	+02.2	S 00 56.1	-00.2
10	244 44.3	+02.2	S 00 55.9	-00.1
11	259 46.5	+02.2	S 00 55.8	-00.1
12	274 48.7	+02.2	S 00 55.7	-00.1
13	289 50.9	+02.3	S 00 55.6	-00.1
14	304 53.2	+02.2	S 00 55.5	-00.2
15	319 55.4	+02.2	S 00 55.3	-00.1
16	334 57.6	+02.2	S 00 55.2	-00.1
17	349 59.8	+02.2	S 00 55.1	-00.1
18	5 02.0	+02.3	S 00 55.0	-00.1
19	20 04.3	+02.2	S 00 54.9	-00.1
20	35 06.5	+02.2	S 00 54.8	-00.2
21	50 08.7	+02.2	S 00 54.6	-00.1
22	65 10.9	+02.2	S 00 54.5	-00.1
23	80 13.1	+02.2	S 00 54.4	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 17:39

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	130 44.6	+02.3	S 15 22.5	-00.1
01	145 46.9	+02.2	S 15 22.4	-00.1
02	160 49.1	+02.2	S 15 22.3	+00.0
03	175 51.3	+02.3	S 15 22.3	-00.1
04	190 53.6	+02.2	S 15 22.2	-00.1
05	205 55.8	+02.2	S 15 22.1	-00.1
06	220 58.0	+02.2	S 15 22.0	+00.0
07	236 00.2	+02.3	S 15 22.0	-00.1
08	251 02.5	+02.2	S 15 21.9	-00.1
09	266 04.7	+02.2	S 15 21.8	-00.1
10	281 06.9	+02.3	S 15 21.7	-00.1
11	296 09.2	+02.2	S 15 21.6	+00.0
12	311 11.4	+02.2	S 15 21.6	-00.1
13	326 13.6	+02.3	S 15 21.5	-00.1
14	341 15.9	+02.2	S 15 21.4	-00.1
15	356 18.1	+02.2	S 15 21.3	-00.1
16	11 20.3	+02.2	S 15 21.2	+00.0
17	26 22.5	+02.3	S 15 21.2	-00.1
18	41 24.8	+02.2	S 15 21.1	-00.1
19	56 27.0	+02.2	S 15 21.0	-00.1
20	71 29.2	+02.3	S 15 20.9	+00.0
21	86 31.5	+02.2	S 15 20.9	-00.1
22	101 33.7	+02.2	S 15 20.8	-00.1
23	116 35.9	+02.3	S 15 20.7	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 15:14

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2022 December 28 Wednesday (day 362 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 41.1	-00.3	S 23 17.6	-00.2
01	194 40.8	-00.3	S 23 17.4	-00.1
02	209 40.5	-00.3	S 23 17.3	-00.1
03	224 40.2	-00.3	S 23 17.2	-00.1
04	239 39.9	-00.3	S 23 17.1	-00.1
05	254 39.6	-00.3	S 23 17.0	-00.2
06	269 39.3	-00.3	S 23 16.8	-00.1
07	284 39.0	-00.3	S 23 16.7	-00.1
08	299 38.7	-00.3	S 23 16.6	-00.1
09	314 38.4	-00.3	S 23 16.5	-00.2
10	329 38.1	-00.4	S 23 16.3	-00.1
11	344 37.7	-00.3	S 23 16.2	-00.1
12	359 37.4	-00.3	S 23 16.1	-00.2
13	14 37.1	-00.3	S 23 15.9	-00.1
14	29 36.8	-00.3	S 23 15.8	-00.1
15	44 36.5	-00.3	S 23 15.7	-00.2
16	59 36.2	-00.3	S 23 15.5	-00.1
17	74 35.9	-00.3	S 23 15.4	-00.1
18	89 35.6	-00.3	S 23 15.3	-00.2
19	104 35.3	-00.3	S 23 15.1	-00.1
20	119 35.0	-00.3	S 23 15.0	-00.1
21	134 34.7	-00.3	S 23 14.9	-00.2
22	149 34.4	-00.3	S 23 14.7	-00.1
23	164 34.1	-00.3	S 23 14.6	-00.1

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	083°	083°	083°	083°	082°	082°

Greenwich Culmination Time: 12:01

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	162 03.5	-00.9	S 22 51.2	-00.4
01	177 02.6	-00.9	S 22 50.8	-00.5
02	192 01.7	-00.9	S 22 50.3	-00.4
03	207 00.8	-00.9	S 22 49.9	-00.5
04	221 59.9	-00.9	S 22 49.4	-00.5
05	236 59.0	-00.9	S 22 48.9	-00.4
06	251 58.1	-00.9	S 22 48.5	-00.5
07	266 57.2	-00.9	S 22 48.0	-00.4
08	281 56.3	-00.9	S 22 47.6	-00.5
09	296 55.4	-00.9	S 22 47.1	-00.5
10	311 54.5	-00.9	S 22 46.6	-00.4
11	326 53.6	-00.9	S 22 46.2	-00.5
12	341 52.7	-00.9	S 22 45.7	-00.5
13	356 51.8	-00.9	S 22 45.2	-00.4
14	11 50.9	-00.9	S 22 44.8	-00.5
15	26 50.0	-00.9	S 22 44.3	-00.5
16	41 49.1	-00.9	S 22 43.8	-00.5
17	56 48.2	-00.9	S 22 43.3	-00.4
18	71 47.3	-00.9	S 22 42.9	-00.5
19	86 46.4	-00.8	S 22 42.4	-00.5
20	101 45.6	-00.9	S 22 41.9	-00.5
21	116 44.7	-00.9	S 22 41.4	-00.5
22	131 43.8	-00.9	S 22 40.9	-00.4
23	146 42.9	-00.9	S 22 40.5	-00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	065°	065°	065°	065°	065°	064°

Greenwich Culmination Time: 13:12

Moon

A: 20%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	113 17.6	-30.5	S 12 02.1	-14.9
01	127 47.1	-30.4	S 11 47.2	-15.1
02	142 16.7	-30.3	S 11 32.1	-15.0
03	156 46.4	-30.3	S 11 17.1	-15.2
04	171 16.1	-30.1	S 11 01.9	-15.1
05	185 46.0	-30.0	S 10 46.8	-15.2
06	200 16.0	-30.0	S 10 31.6	-15.2
07	214 46.0	-29.8	S 10 16.4	-15.3
08	229 16.2	-29.8	S 10 01.1	-15.3
09	243 46.4	-29.7	S 09 45.8	-15.3
10	258 16.7	-29.5	S 09 30.5	-15.4
11	272 47.2	-29.5	S 09 15.1	-15.4
12	287 17.7	-29.5	S 08 59.7	-15.4
13	301 48.2	-29.3	S 08 44.3	-15.5
14	316 18.9	-29.3	S 08 28.8	-15.4
15	330 49.6	-29.1	S 08 13.4	-15.5
16	345 20.5	-29.1	S 07 57.9	-15.5
17	359 51.4	-29.0	S 07 42.4	-15.6
18	14 22.4	-29.0	S 07 26.8	-15.5
19	28 53.4	-28.8	S 07 11.3	-15.6
20	43 24.6	-28.8	S 06 55.7	-15.6
21	57 55.8	-28.8	S 06 40.1	-15.6
22	72 27.0	-28.6	S 06 24.5	-15.6
23	86 58.4	-28.6	S 06 08.9	-15.6

UT	02	06	10	14	18	22
SD	16′2	16′1	16′1	16′1	16′0	16′0
HP	59′3	59′2	59′1	58′9	58′8	58′7
SHA	016°	014°	011°	009°	007°	005°

Greenwich Culmination Time: 17:00

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	28 44.1	+03.1	N 24 40.0	-00.1
01	43 47.2	+03.0	N 24 39.9	+00.0
02	58 50.2	+03.0	N 24 39.9	-00.1
03	73 53.2	+03.1	N 24 39.8	+00.0
04	88 56.3	+03.0	N 24 39.8	-00.1
05	103 59.3	+03.1	N 24 39.7	+00.0
06	119 02.4	+03.0	N 24 39.7	-00.1
07	134 05.4	+03.1	N 24 39.6	+00.0
08	149 08.5	+03.0	N 24 39.6	-00.1
09	164 11.5	+03.0	N 24 39.5	-00.1
10	179 14.5	+03.1	N 24 39.4	+00.0
11	194 17.6	+03.0	N 24 39.4	-00.1
12	209 20.6	+03.0	N 24 39.3	+00.0
13	224 23.6	+03.1	N 24 39.3	-00.1
14	239 26.7	+03.0	N 24 39.2	+00.0
15	254 29.7	+03.0	N 24 39.2	-00.1
16	269 32.7	+03.0	N 24 39.1	+00.0
17	284 35.7	+03.1	N 24 39.1	-00.1
18	299 38.8	+03.0	N 24 39.0	+00.0
19	314 41.8	+03.0	N 24 39.0	-00.1
20	329 44.8	+03.0	N 24 38.9	+00.0
21	344 47.8	+03.0	N 24 38.9	-00.1
22	359 50.8	+03.0	N 24 38.8	+00.0
23	14 53.8	+03.1	N 24 38.8	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	292°	292°	292°	292°	292°	292°

Greenwich Culmination Time: 22:00

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	95 15.3	+02.3	S 00 54.3	-00.1
01	110 17.6	+02.2	S 00 54.2	-00.2
02	125 19.8	+02.2	S 00 54.0	-00.1
03	140 22.0	+02.2	S 00 53.9	-00.1
04	155 24.2	+02.2	S 00 53.8	-00.1
05	170 26.4	+02.2	S 00 53.7	-00.1
06	185 28.6	+02.3	S 00 53.6	-00.1
07	200 30.9	+02.2	S 00 53.5	-00.2
08	215 33.1	+02.2	S 00 53.3	-00.1
09	230 35.3	+02.2	S 00 53.2	-00.1
10	245 37.5	+02.2	S 00 53.1	-00.1
11	260 39.7	+02.2	S 00 53.0	-00.1
12	275 41.9	+02.2	S 00 52.9	-00.2
13	290 44.1	+02.3	S 00 52.7	-00.1
14	305 46.4	+02.2	S 00 52.6	-00.1
15	320 48.6	+02.2	S 00 52.5	-00.1
16	335 50.8	+02.2	S 00 52.4	-00.2
17	350 53.0	+02.2	S 00 52.2	-00.1
18	5 55.2	+02.2	S 00 52.1	-00.1
19	20 57.4	+02.2	S 00 52.0	-00.1
20	35 59.6	+02.2	S 00 51.9	-00.1
21	51 01.8	+02.2	S 00 51.8	-00.2
22	66 04.0	+02.3	S 00 51.6	-00.1
23	81 06.3	+02.2	S 00 51.5	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 17:36

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	131 38.2	+02.2	S 15 20.6	-00.1
01	146 40.4	+02.2	S 15 20.5	+00.0
02	161 42.6	+02.2	S 15 20.5	-00.1
03	176 44.8	+02.3	S 15 20.4	-00.1
04	191 47.1	+02.2	S 15 20.3	-00.1
05	206 49.3	+02.2	S 15 20.2	-00.1
06	221 51.5	+02.3	S 15 20.1	+00.0
07	236 53.8	+02.2	S 15 20.1	-00.1
08	251 56.0	+02.2	S 15 20.0	-00.1
09	266 58.2	+02.2	S 15 19.9	-00.1
10	282 00.4	+02.3	S 15 19.8	-00.1
11	297 02.7	+02.2	S 15 19.7	+00.0
12	312 04.9	+02.2	S 15 19.7	-00.1
13	327 07.1	+02.3	S 15 19.6	-00.1
14	342 09.4	+02.2	S 15 19.5	-00.1
15	357 11.6	+02.2	S 15 19.4	+00.0
16	12 13.8	+02.2	S 15 19.4	-00.1
17	27 16.0	+02.3	S 15 19.3	-00.1
18	42 18.3	+02.2	S 15 19.2	-00.1
19	57 20.5	+02.2	S 15 19.1	-00.1
20	72 22.7	+02.2	S 15 19.0	+00.0
21	87 24.9	+02.3	S 15 19.0	-00.1
22	102 27.2	+02.2	S 15 18.9	-00.1
23	117 29.4	+02.2	S 15 18.8	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 15:11

2022 December 29 Thursday (day 363 of 365)

Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 33.8	-00.3	S 23 14.5	-00.2
01	194 33.5	-00.3	S 23 14.3	-00.1
02	209 33.2	-00.3	S 23 14.2	-00.2
03	224 32.9	-00.3	S 23 14.0	-00.1
04	239 32.6	-00.3	S 23 13.9	-00.1
05	254 32.3	-00.3	S 23 13.8	-00.2
06	269 32.0	-00.4	S 23 13.6	-00.1
07	284 31.6	-00.3	S 23 13.5	-00.2
08	299 31.3	-00.3	S 23 13.3	-00.1
09	314 31.0	-00.3	S 23 13.2	-00.2
10	329 30.7	-00.3	S 23 13.0	-00.1
11	344 30.4	-00.3	S 23 12.9	-00.2
12	359 30.1	-00.3	S 23 12.7	-00.1
13	14 29.8	-00.3	S 23 12.6	-00.2
14	29 29.5	-00.3	S 23 12.4	-00.1
15	44 29.2	-00.3	S 23 12.3	-00.2
16	59 28.9	-00.3	S 23 12.1	-00.1
17	74 28.6	-00.3	S 23 12.0	-00.2
18	89 28.3	-00.3	S 23 11.8	-00.1
19	104 28.0	-00.3	S 23 11.7	-00.2
20	119 27.7	-00.3	S 23 11.5	-00.1
21	134 27.4	-00.3	S 23 11.4	-00.2
22	149 27.1	-00.3	S 23 11.2	-00.1
23	164 26.8	-00.3	S 23 11.1	-00.2

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	082°	082°	082°	081°	081°	081°

Greenwich Culmination Time: 12:01

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	161 42.0	-00.9	S 22 40.0	-00.5
01	176 41.1	-00.9	S 22 39.5	-00.5
02	191 40.2	-00.9	S 22 39.0	-00.5
03	206 39.3	-00.9	S 22 38.5	-00.5
04	221 38.4	-00.9	S 22 38.0	-00.4
05	236 37.5	-00.8	S 22 37.6	-00.5
06	251 36.7	-00.9	S 22 37.1	-00.5
07	266 35.8	-00.9	S 22 36.6	-00.5
08	281 34.9	-00.9	S 22 36.1	-00.5
09	296 34.0	-00.9	S 22 35.6	-00.5
10	311 33.1	-00.9	S 22 35.1	-00.5
11	326 32.2	-00.9	S 22 34.6	-00.5
12	341 31.3	-00.8	S 22 34.1	-00.5
13	356 30.5	-00.9	S 22 33.6	-00.5
14	11 29.6	-00.9	S 22 33.1	-00.5
15	26 28.7	-00.9	S 22 32.6	-00.5
16	41 27.8	-00.9	S 22 32.1	-00.5
17	56 26.9	-00.9	S 22 31.6	-00.5
18	71 26.0	-00.8	S 22 31.1	-00.5
19	86 25.2	-00.9	S 22 30.6	-00.5
20	101 24.3	-00.9	S 22 30.1	-00.5
21	116 23.4	-00.9	S 22 29.6	-00.5
22	131 22.5	-00.9	S 22 29.1	-00.5
23	146 21.6	-00.9	S 22 28.6	-00.5

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	064°	064°	064°	063°	063°	063°

Greenwich Culmination Time: 13:13

Moon

A: 23%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	101 29.8	-28.5	S 05 53.3	-15.6
01	116 01.3	-28.4	S 05 37.7	-15.6
02	130 32.9	-28.4	S 05 22.1	-15.7
03	145 04.5	-28.3	S 05 06.4	-15.6
04	159 36.2	-28.3	S 04 50.8	-15.7
05	174 07.9	-28.2	S 04 35.1	-15.6
06	188 39.7	-28.1	S 04 19.5	-15.7
07	203 11.6	-28.1	S 04 03.8	-15.6
08	217 43.5	-28.1	S 03 48.2	-15.7
09	232 15.4	-27.9	S 03 32.5	-15.6
10	246 47.5	-28.0	S 03 16.9	-15.7
11	261 19.5	-27.8	S 03 01.2	-15.6
12	275 51.7	-27.8	S 02 45.6	-15.7
13	290 23.9	-27.8	S 02 29.9	-15.6
14	304 56.1	-27.7	S 02 14.3	-15.6
15	319 28.4	-27.7	S 01 58.7	-15.6
16	334 00.7	-27.6	S 01 43.1	-15.6
17	348 33.1	-27.6	S 01 27.5	-15.6
18	3 05.5	-27.6	S 01 11.9	-15.6
19	17 37.9	-27.5	S 00 56.3	-15.5
20	32 10.4	-27.4	S 00 40.8	-15.6
21	46 43.0	-27.5	S 00 25.2	-15.5
22	61 15.5	-27.4	S 00 09.7	-15.5
23	75 48.1	-27.3	N 00 05.8	+15.5

UT	02	06	10	14	18	22
SD	15′9	15′9	15′9	15′8	15′8	15′8
HP	58′5	58′4	58′2	58′1	58′0	57′8
SHA	003°	001°	359°	357°	355°	353°

Greenwich Culmination Time: 17:47

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	29 56.9	+03.0	N 24 38.7	+00.0
01	44 59.9	+03.0	N 24 38.7	-00.1
02	60 02.9	+03.0	N 24 38.6	+00.0
03	75 05.9	+03.0	N 24 38.6	-00.1
04	90 08.9	+03.0	N 24 38.5	+00.0
05	105 11.9	+03.0	N 24 38.5	-00.1
06	120 14.9	+03.0	N 24 38.4	+00.0
07	135 17.9	+03.0	N 24 38.4	-00.1
08	150 20.9	+03.0	N 24 38.3	+00.0
09	165 23.9	+03.0	N 24 38.3	-00.1
10	180 26.9	+03.0	N 24 38.2	+00.0
11	195 29.9	+03.0	N 24 38.2	-00.1
12	210 32.9	+03.0	N 24 38.1	+00.0
13	225 35.9	+03.0	N 24 38.1	-00.1
14	240 38.9	+03.0	N 24 38.0	+00.0
15	255 41.9	+03.0	N 24 38.0	-00.1
16	270 44.9	+03.0	N 24 37.9	+00.0
17	285 47.9	+02.9	N 24 37.9	-00.1
18	300 50.8	+03.0	N 24 37.8	+00.0
19	315 53.8	+03.0	N 24 37.8	-00.1
20	330 56.8	+03.0	N 24 37.7	+00.0
21	345 59.8	+03.0	N 24 37.7	-00.1
22	1 02.8	+02.9	N 24 37.6	+00.0
23	16 05.7	+03.0	N 24 37.6	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	293°	293°	293°	293°	293°	293°

Greenwich Culmination Time: 21:55

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	96 08.5	+02.2	S 00 51.4	-00.1
01	111 10.7	+02.2	S 00 51.3	-00.1
02	126 12.9	+02.2	S 00 51.2	-00.2
03	141 15.1	+02.2	S 00 51.0	-00.1
04	156 17.3	+02.2	S 00 50.9	-00.1
05	171 19.5	+02.2	S 00 50.8	-00.1
06	186 21.7	+02.2	S 00 50.7	-00.2
07	201 23.9	+02.2	S 00 50.5	-00.1
08	216 26.1	+02.3	S 00 50.4	-00.1
09	231 28.4	+02.2	S 00 50.3	-00.1
10	246 30.6	+02.2	S 00 50.2	-00.1
11	261 32.8	+02.2	S 00 50.1	-00.2
12	276 35.0	+02.2	S 00 49.9	-00.1
13	291 37.2	+02.2	S 00 49.8	-00.1
14	306 39.4	+02.2	S 00 49.7	-00.1
15	321 41.6	+02.2	S 00 49.6	-00.2
16	336 43.8	+02.2	S 00 49.4	-00.1
17	351 46.0	+02.2	S 00 49.3	-00.1
18	6 48.2	+02.2	S 00 49.2	-00.1
19	21 50.4	+02.2	S 00 49.1	-00.1
20	36 52.6	+02.2	S 00 49.0	-00.2
21	51 54.8	+02.2	S 00 48.8	-00.1
22	66 57.0	+02.2	S 00 48.7	-00.1
23	81 59.2	+02.2	S 00 48.6	-00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	359°	359°	359°	359°	359°	359°

Greenwich Culmination Time: 17:32

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	132 31.6	+02.3	S 15 18.7	-00.1
01	147 33.9	+02.2	S 15 18.6	+00.0
02	162 36.1	+02.2	S 15 18.6	-00.1
03	177 38.3	+02.2	S 15 18.5	-00.1
04	192 40.5	+02.3	S 15 18.4	-00.1
05	207 42.8	+02.2	S 15 18.3	-00.1
06	222 45.0	+02.2	S 15 18.2	+00.0
07	237 47.2	+02.2	S 15 18.2	-00.1
08	252 49.4	+02.3	S 15 18.1	-00.1
09	267 51.7	+02.2	S 15 18.0	-00.1
10	282 53.9	+02.2	S 15 17.9	-00.1
11	297 56.1	+02.2	S 15 17.8	+00.0
12	312 58.3	+02.3	S 15 17.8	-00.1
13	328 00.6	+02.2	S 15 17.7	-00.1
14	343 02.8	+02.2	S 15 17.6	-00.1
15	358 05.0	+02.2	S 15 17.5	-00.1
16	13 07.2	+02.3	S 15 17.4	+00.0
17	28 09.5	+02.2	S 15 17.4	-00.1
18	43 11.7	+02.2	S 15 17.3	-00.1
19	58 13.9	+02.2	S 15 17.2	-00.1
20	73 16.1	+02.3	S 15 17.1	-00.1
21	88 18.4	+02.2	S 15 17.0	+00.0
22	103 20.6	+02.2	S 15 17.0	-00.1
23	118 22.8	+02.2	S 15 16.9	-00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 15:07

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Sun

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	179 19.3	−00.3	S 23 06.9	−00.2
01	194 19.0	−00.3	S 23 06.7	−00.2
02	209 18.7	−00.3	S 23 06.5	−00.2
03	224 18.4	−00.3	S 23 06.3	−00.1
04	239 18.1	−00.3	S 23 06.2	−00.2
05	254 17.8	−00.3	S 23 06.0	−00.2
06	269 17.5	−00.3	S 23 05.8	−00.2
07	284 17.2	−00.3	S 23 05.6	−00.2
08	299 16.9	−00.3	S 23 05.4	−00.2
09	314 16.6	−00.3	S 23 05.2	−00.1
10	329 16.3	−00.3	S 23 05.1	−00.2
11	344 16.0	−00.3	S 23 04.9	−00.2
12	359 15.7	−00.3	S 23 04.7	−00.2
13	14 15.4	−00.3	S 23 04.5	−00.2
14	29 15.1	−00.3	S 23 04.3	−00.2
15	44 14.8	−00.3	S 23 04.1	−00.2
16	59 14.5	−00.3	S 23 03.9	−00.2
17	74 14.2	−00.3	S 23 03.7	−00.2
18	89 13.9	−00.3	S 23 03.5	−00.1
19	104 13.6	−00.3	S 23 03.4	−00.2
20	119 13.3	−00.3	S 23 03.2	−00.2
21	134 13.0	−00.3	S 23 03.0	−00.2
22	149 12.7	−00.3	S 23 02.8	−00.2
23	164 12.4	−00.3	S 23 02.6	−00.2

UT	02	06	10	14	18	22
SD	16′3	16′3	16′3	16′3	16′3	16′3
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	080°	080°	079°	079°	079°	079°

Greenwich Culmination Time: 12:02

Venus

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	160 59.8	−00.9	S 22 15.5	−00.6
01	175 58.9	−00.9	S 22 14.9	−00.5
02	190 58.0	−00.8	S 22 14.4	−00.5
03	205 57.2	−00.9	S 22 13.9	−00.6
04	220 56.3	−00.9	S 22 13.3	−00.5
05	235 55.4	−00.8	S 22 12.8	−00.6
06	250 54.6	−00.9	S 22 12.2	−00.5
07	265 53.7	−00.9	S 22 11.7	−00.6
08	280 52.8	−00.8	S 22 11.1	−00.5
09	295 52.0	−00.9	S 22 10.6	−00.6
10	310 51.1	−00.9	S 22 10.0	−00.5
11	325 50.2	−00.8	S 22 09.5	−00.6
12	340 49.4	−00.9	S 22 08.9	−00.5
13	355 48.5	−00.9	S 22 08.4	−00.6
14	10 47.6	−00.8	S 22 07.8	−00.5
15	25 46.8	−00.9	S 22 07.3	−00.6
16	40 45.9	−00.9	S 22 06.7	−00.5
17	55 45.0	−00.8	S 22 06.2	−00.6
18	70 44.2	−00.9	S 22 05.6	−00.6
19	85 43.3	−00.8	S 22 05.0	−00.5
20	100 42.5	−00.9	S 22 04.5	−00.6
21	115 41.6	−00.9	S 22 03.9	−00.6
22	130 40.7	−00.8	S 22 03.3	−00.5
23	145 39.9	−00.9	S 22 02.8	−00.6

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′1	00′1	00′1	00′1	00′1	00′1
SHA	061°	061°	061°	061°	061°	060°

Greenwich Culmination Time: 13:16

Moon

A: 29%

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	79 31.2	−26.9	N 06 24.7	+14.7
01	94 04.3	−26.9	N 06 39.4	+14.7
02	108 37.4	−26.9	N 06 54.1	+14.6
03	123 10.5	−26.9	N 07 08.7	+14.5
04	137 43.6	−26.9	N 07 23.2	+14.5
05	152 16.7	−27.0	N 07 37.7	+14.5
06	166 49.7	−26.9	N 07 52.2	+14.4
07	181 22.8	−26.9	N 08 06.6	+14.4
08	195 55.9	−26.9	N 08 21.0	+14.3
09	210 29.0	−27.0	N 08 35.3	+14.2
10	225 02.0	−26.9	N 08 49.5	+14.2
11	239 35.1	−27.0	N 09 03.7	+14.2
12	254 08.1	−26.9	N 09 17.9	+14.1
13	268 41.2	−27.0	N 09 32.0	+14.0
14	283 14.2	−27.0	N 09 46.0	+14.0
15	297 47.2	−27.0	N 10 00.0	+13.9
16	312 20.2	−27.0	N 10 13.9	+13.9
17	326 53.2	−27.0	N 10 27.8	+13.8
18	341 26.2	−27.1	N 10 41.6	+13.8
19	355 59.1	−27.1	N 10 55.4	+13.7
20	10 32.0	−27.0	N 11 09.1	+13.6
21	25 05.0	−27.1	N 11 22.7	+13.6
22	39 37.9	−27.2	N 11 36.3	+13.5
23	54 10.7	−27.1	N 11 49.8	+13.4

UT	02	06	10	14	18	22
SD	15′5	15′5	15′4	15′4	15′4	15′3
HP	56′9	56′8	56′7	56′5	56′4	56′3
SHA	339°	337°	335°	333°	331°	329°

Greenwich Culmination Time: 19:16

Mars

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	32 19.7	+02.9	N 24 36.4	−00.1
01	47 22.6	+03.0	N 24 36.3	+00.0
02	62 25.6	+02.9	N 24 36.3	+00.0
03	77 28.5	+02.9	N 24 36.3	−00.1
04	92 31.4	+03.0	N 24 36.2	+00.0
05	107 34.4	+02.9	N 24 36.2	−00.1
06	122 37.3	+02.9	N 24 36.1	+00.0
07	137 40.2	+02.9	N 24 36.1	−00.1
08	152 43.1	+03.0	N 24 36.0	+00.0
09	167 46.1	+02.9	N 24 36.0	−00.1
10	182 49.0	+02.9	N 24 35.9	+00.0
11	197 51.9	+02.9	N 24 35.9	−00.1
12	212 54.8	+02.9	N 24 35.8	+00.0
13	227 57.7	+03.0	N 24 35.8	−00.1
14	243 00.7	+02.9	N 24 35.7	+00.0
15	258 03.6	+02.9	N 24 35.7	+00.0
16	273 06.5	+02.9	N 24 35.7	−00.1
17	288 09.4	+02.9	N 24 35.6	+00.0
18	303 12.3	+02.9	N 24 35.6	−00.1
19	318 15.2	+02.9	N 24 35.5	+00.0
20	333 18.1	+02.9	N 24 35.5	−00.1
21	348 21.0	+02.9	N 24 35.4	+00.0
22	3 23.9	+02.9	N 24 35.4	−00.1
23	18 26.8	+02.9	N 24 35.3	+00.0

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′2	00′2	00′2	00′2	00′2	00′2
SHA	293°	293°	293°	293°	293°	293°

Greenwich Culmination Time: 21:46

Jupiter

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	97 54.3	+02.2	S 00 45.4	−00.1
01	112 56.5	+02.2	S 00 45.3	−00.1
02	127 58.7	+02.2	S 00 45.2	−00.1
03	143 00.9	+02.2	S 00 45.1	−00.2
04	158 03.1	+02.2	S 00 44.9	−00.1
05	173 05.3	+02.1	S 00 44.8	−00.1
06	188 07.4	+02.2	S 00 44.7	−00.1
07	203 09.6	+02.2	S 00 44.6	−00.2
08	218 11.8	+02.2	S 00 44.4	−00.1
09	233 14.0	+02.2	S 00 44.3	−00.1
10	248 16.2	+02.2	S 00 44.2	−00.2
11	263 18.4	+02.2	S 00 44.0	−00.1
12	278 20.6	+02.2	S 00 43.9	−00.1
13	293 22.8	+02.2	S 00 43.8	−00.1
14	308 25.0	+02.2	S 00 43.7	−00.2
15	323 27.2	+02.2	S 00 43.5	−00.1
16	338 29.4	+02.2	S 00 43.4	−00.1
17	353 31.6	+02.2	S 00 43.3	−00.2
18	8 33.8	+02.2	S 00 43.1	−00.1
19	23 36.0	+02.2	S 00 43.0	−00.1
20	38 38.2	+02.2	S 00 42.9	−00.1
21	53 40.4	+02.2	S 00 42.8	−00.2
22	68 42.6	+02.1	S 00 42.6	−00.1
23	83 44.7	+02.2	S 00 42.5	−00.1

UT	02	06	10	14	18	22
SD	00′3	00′3	00′3	00′3	00′3	00′3
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	358°	358°	358°	358°	358°	358°

Greenwich Culmination Time: 17:25

Saturn

UT	GHA	ddGHA	Dec	dDec
	° ′	′	° ′	′
00	134 18.4	+02.2	S 15 14.9	−00.1
01	149 20.6	+02.2	S 15 14.8	−00.1
02	164 22.8	+02.3	S 15 14.7	−00.1
03	179 25.1	+02.2	S 15 14.6	−00.1
04	194 27.3	+02.2	S 15 14.5	−00.1
05	209 29.5	+02.2	S 15 14.4	+00.0
06	224 31.7	+02.3	S 15 14.4	−00.1
07	239 34.0	+02.2	S 15 14.3	−00.1
08	254 36.2	+02.2	S 15 14.2	−00.1
09	269 38.4	+02.2	S 15 14.1	−00.1
10	284 40.6	+02.2	S 15 14.0	+00.0
11	299 42.8	+02.3	S 15 14.0	−00.1
12	314 45.1	+02.2	S 15 13.9	−00.1
13	329 47.3	+02.2	S 15 13.8	−00.1
14	344 49.5	+02.2	S 15 13.7	−00.1
15	359 51.7	+02.2	S 15 13.6	−00.1
16	14 53.9	+02.3	S 15 13.5	+00.0
17	29 56.2	+02.2	S 15 13.5	−00.1
18	44 58.4	+02.2	S 15 13.4	−00.1
19	60 00.6	+02.2	S 15 13.3	−00.1
20	75 02.8	+02.3	S 15 13.2	−00.1
21	90 05.1	+02.2	S 15 13.1	+00.0
22	105 07.3	+02.2	S 15 13.1	−00.1
23	120 09.5	+02.2	S 15 13.0	−00.1

UT	02	06	10	14	18	22
SD	00′1	00′1	00′1	00′1	00′1	00′1
HP	00′0	00′0	00′0	00′0	00′0	00′0
SHA	035°	035°	035°	035°	035°	035°

Greenwich Culmination Time: 15:00

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