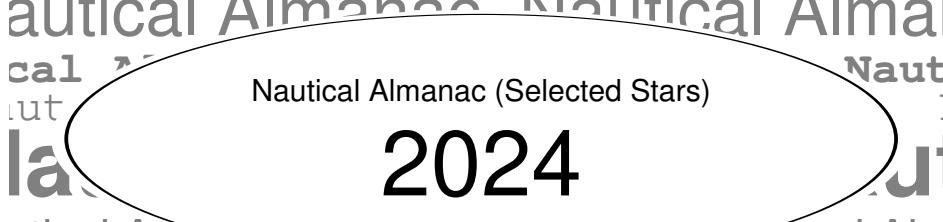


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Nautical Almanac (Selected Stars)

2024

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**Star Maps
The Nautical Almanac 2024 (Selected Stars)
Polaris Tables 2024**

Revision V0.6 - Nov 2018

Warning and Terms of Usage:

The following pages have been generated by a computer program. Complex computer programs usually 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 Wed Nov 8 14:17:33 2023

Introduction

This Nautical Almanac contains the Ephemerides of the "First Point of Aries" and sixty selected stars. 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 fundamental star data was originally obtained from the "Bright Star Catalogue" (5th revised edition of 1991). However, this data has recently been updated from other star catalogues. The complete star data as used in this Almanac is shown on the next page.

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 : 69.2 s	Apr : 69.2 s	Jul : 69.2 s	Oct : 69.1 s
Feb : 69.2 s	May : 69.2 s	Aug : 69.2 s	Nov : 69.1 s
Mar : 69.2 s	Jun : 69.2 s	Sep : 69.1 s	Dec : 69.1 s

Interpolation of the integral-hour GHA values

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

For more information please refer to the following web site: "<http://www.siranah.de/>"

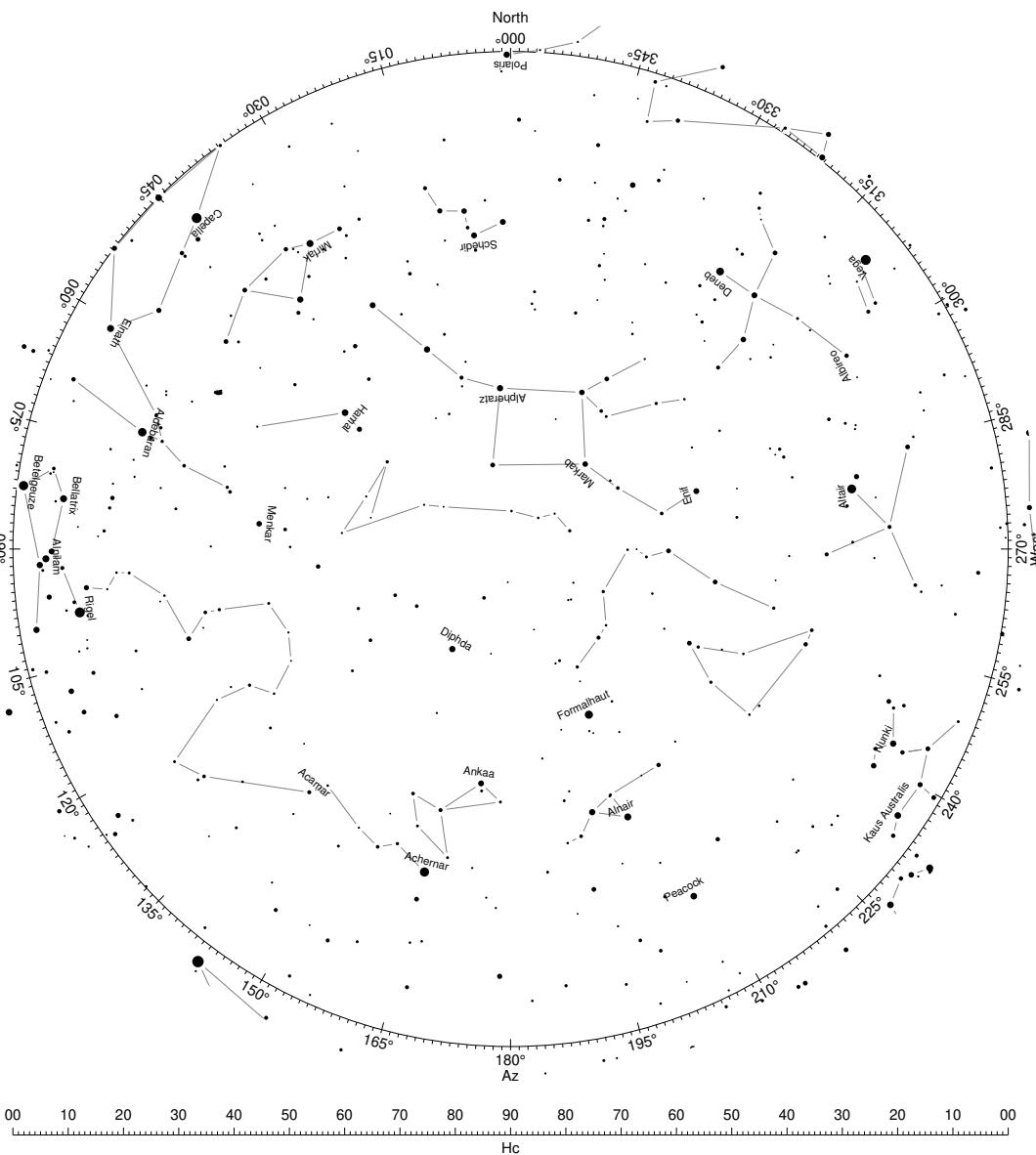
The following table shows the fundamental star data as used in this Almanac. The data refers to Equinox J2000 / Epoch J2000.0.

Star Name	RA	Dec	mu_RA	mu_Dec	prllx	rad.vel.
	h m s	° ' "	"/yr]	"/yr]	["]	[km/s]
Alpheratz	00 08 23.3	N 29 05.4	0.135680	-0.162950	0.034	-11
Ankaa	00 26 17.0	S 42 18.4	0.233050	-0.356300	0.039	75
Schedir	00 40 30.4	N 56 32.2	0.050360	-0.032170	0.014	-4
Diphda	00 43 35.4	S 17 59.2	0.232550	0.031990	0.034	13
Achernar	01 37 42.8	S 57 14.2	0.088020	-0.038240	0.023	16
Hamal	02 07 10.4	N 23 27.7	0.190730	-0.145770	0.049	-14
Polaris	02 31 49.1	N 89 15.8	0.044480	-0.011850	0.008	-17
Acamar	02 58 15.7	S 40 18.3	-0.044600	-0.019000	0.028	12
Menkar	03 02 16.8	N 04 05.4	-0.010410	-0.076850	0.013	-26
Mirfak	03 24 19.4	N 49 51.7	0.024110	-0.026010	0.005	-2
Aldebaran	04 35 55.2	N 16 30.6	0.063000	-0.190000	0.050	54
Capella	05 16 41.4	N 45 59.9	0.075520	-0.427110	0.077	29
Rigel	05 14 32.3	S 08 12.1	0.001870	-0.000560	0.004	21
Bellatrix	05 25 07.9	N 06 21.0	-0.008750	-0.013280	0.013	18
Elnath	05 26 17.5	N 28 36.5	0.023280	-0.174220	0.025	9
Alnilam	05 36 12.8	S 01 12.1	0.001490	-0.001060	0.002	26
Betelgeuze	05 55 10.3	N 07 24.4	0.024950	0.009560	0.005	22
Canopus	06 23 57.1	S 52 41.7	0.019990	0.023670	0.010	21
Sirius	06 45 08.9	S 16 43.0	-0.546050	-1.223140	0.379	-8
Adhara	06 58 37.6	S 28 58.3	0.002600	0.002290	0.008	27
Castor	07 34 36.0	N 31 53.3	-0.206330	-0.148180	0.066	5
Procyon	07 39 18.1	N 05 13.5	-0.716570	-1.034580	0.286	-3
Pollux	07 45 19.4	N 28 01.6	-0.625690	-0.045950	0.097	3
Avior	08 22 30.8	S 59 30.6	-0.025340	0.022720	0.005	2
Suhail	09 07 59.8	S 43 25.9	-0.023210	0.014280	0.006	18
Miaplacidus	09 13 12.0	S 69 43.0	-0.157660	0.108910	0.029	-5
Alphard	09 27 35.2	S 08 39.5	-0.014500	0.033250	0.018	-4
Regulus	10 08 22.3	N 11 58.0	0.249000	0.002000	0.042	6
Dubhe	11 03 43.7	N 61 45.0	-0.136460	-0.035250	0.026	-9
Denebola	11 49 03.6	N 14 34.3	-0.499020	-0.113780	0.090	0
Gienah	12 15 48.4	S 17 32.5	-0.161000	0.023000	0.020	-4
Acrux	12 26 35.9	S 63 05.9	-0.035370	-0.014730	0.010	-11
Gacrux	12 31 09.9	S 57 06.8	0.027940	-0.264330	0.037	21
Alioth	12 54 01.6	N 55 57.6	0.112000	-0.009000	0.040	-9
Spica	13 25 11.6	S 11 09.7	-0.042500	-0.031730	0.012	1
Alkaid	13 47 32.4	N 49 18.8	-0.122000	-0.015600	0.032	-11
Hadar	14 03 49.4	S 60 22.4	-0.033960	-0.025060	0.009	6
Menkent	14 06 41.3	S 36 22.1	-0.519290	-0.517870	0.053	1
Arcturus	14 15 39.7	N 19 10.9	-1.093450	-1.999400	0.089	5
Rigel Kentaurus	14 39 36.5	S 60 50.0	-3.678190	0.481840	0.747	-22
Zubenelgenubi	14 50 52.8	S 16 02.5	-0.106000	-0.067000	0.058	-10
Kocab	14 50 42.3	N 74 09.3	-0.032290	0.011910	0.026	17
Alphecca	15 34 41.3	N 26 42.9	0.120380	-0.089440	0.044	2
Antares	16 29 24.0	S 26 25.9	-0.010160	-0.023210	0.005	-3
Atria	16 48 39.9	S 69 01.7	0.017850	-0.032920	0.008	-3
Sabik	17 10 22.7	S 15 43.5	0.041160	0.097650	0.039	-2
Shaula	17 33 36.5	S 37 06.2	-0.008900	-0.029950	0.005	-3
Rasalhague	17 34 56.1	N 12 33.6	0.110080	-0.222610	0.070	13
Etamin	17 56 36.4	N 51 29.3	-0.008480	-0.022790	0.021	-28
Kaus Australis	18 24 10.3	S 34 23.1	-0.039420	-0.124200	0.023	-15
Vega	18 36 56.3	N 38 47.0	0.201030	0.287470	0.129	-14
Nunki	18 55 15.9	S 26 17.8	0.015140	-0.053430	0.014	-11
Albireo	19 30 43.3	N 27 57.6	0.005000	0.006000	0.009	-24
Altair	19 50 47.0	N 08 52.1	0.536870	0.385570	0.194	-26
Peacock	20 25 38.9	S 56 44.1	0.007710	-0.086150	0.018	2
Deneb	20 41 25.9	N 45 16.8	0.001990	0.001950	0.002	-5
Enif	21 44 11.2	N 09 52.5	0.030020	-0.001380	0.005	3
Alnair	22 08 14.0	S 46 57.7	0.128000	-0.148000	0.032	11
Formalhaut	22 57 39.0	S 29 37.3	0.329220	-0.164220	0.131	7
Markab	23 04 45.6	N 15 12.3	0.060400	-0.041300	0.024	-4

The following table lists the traditional star names as used in this Almanac with the corresponding scientific names (Bayer designation) as used in astronomical star constellation maps.

Star Name	Bayer designation	Apparent Magnitude
Alpheratz	Alpha Andromedae	2.06
Ankaa	Alpha Phoenicis	2.39
Schedir	Alpha Cassiopeiae	2.23
Diphda	Beta Ceti	2.04
Achernar	Alpha Eridani	0.46
Hamal	Alpha Arietis	2.00
Polaris	Alpha Ursae Minoris	2.02
Acamar	Theta Eridani	3.24
Menkar	Alpha Ceti	2.53
Mirfak	Alpha Persei	1.79
Aldebaran	Alpha Tauri	0.85
Capella	Alpha Aurigae	0.08
Rigel	Beta Orionis	0.12
Bellatrix	Gamma Orionis	1.64
Elnath	Beta Tauri	1.65
Alnilam	Epsilon Orionis	1.70
Betelgeuze	Alpha Orionis	0.50
Canopus	Alpha Carinae	-0.72
Sirius	Alpha Canis Majoris	-1.46
Adhara	Epsilon Canis Majoris	1.50
Castor	Alpha Geminorum	2.88
Procyon	Alpha Canis Minoris	0.38
Pollux	Beta Geminorum	1.14
Avior	Epsilon Carinae	1.86
Suhail	Lambda Velorum	2.21
Miaplacidus	Beta Carinae	1.68
Alphard	Alpha Hydrae	1.98
Regulus	Alpha Leonis	1.35
Dubhe	Alpha Ursae Majoris	1.79
Denebola	Beta Leonis	2.14
Gienah	Gamma Corvi	2.59
Acrux	Alpha Crucis	1.33
Gacrux	Gamma Crucis	1.63
Alioth	Epsilon Ursae Majoris	1.77
Spica	Alpha Virginis	0.98
Alkaid	Eta Ursae Majoris	1.86
Hadar	Beta Centauri	0.61
Menkent	Theta Centauri	2.06
Arcturus	Alpha Bootis	-0.04
Rigel Kentaurus	Alpha Centauri	-0.01
Zubenelgenubi	Alpha-2 Librae	2.75
Kocab	Beta Ursae Minoris	2.08
Alphecca	Alpha Coronae Borealis	2.23
Antares	Alpha Scorpii	0.96
Atria	Alpha Trianguli Australis	1.92
Sabik	Eta Ophiuchi	2.43
Shaula	Lambda Scorpii	1.63
Rasalhague	Alpha Ophiuchi	2.08
Etamin	Gamma Draconis	2.23
Kaus Australis	Epsilon Sagittarii	1.85
Vega	Alpha Lyrae	0.03
Nunki	Sigma Sagittarii	2.02
Albireo	Beta Cygni	3.08
Altair	Alpha Aquilae	0.77
Peacock	Alpha Pavonis	1.94
Deneb	Alpha Cygni	1.25
Enif	Epsilon Pegasi	2.39
Alnair	Alpha Gruis	1.74
Formalhaut	Alpha Piscis Austrini	1.16
Markab	Alpha Pegasi	2.49

Horizontal-Coordinate-System Map of bright Stars - Part I



The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth is the approximate compass direction in which the star is visible.

Each of these maps is valid for a location on the equator at a specific time of the day.

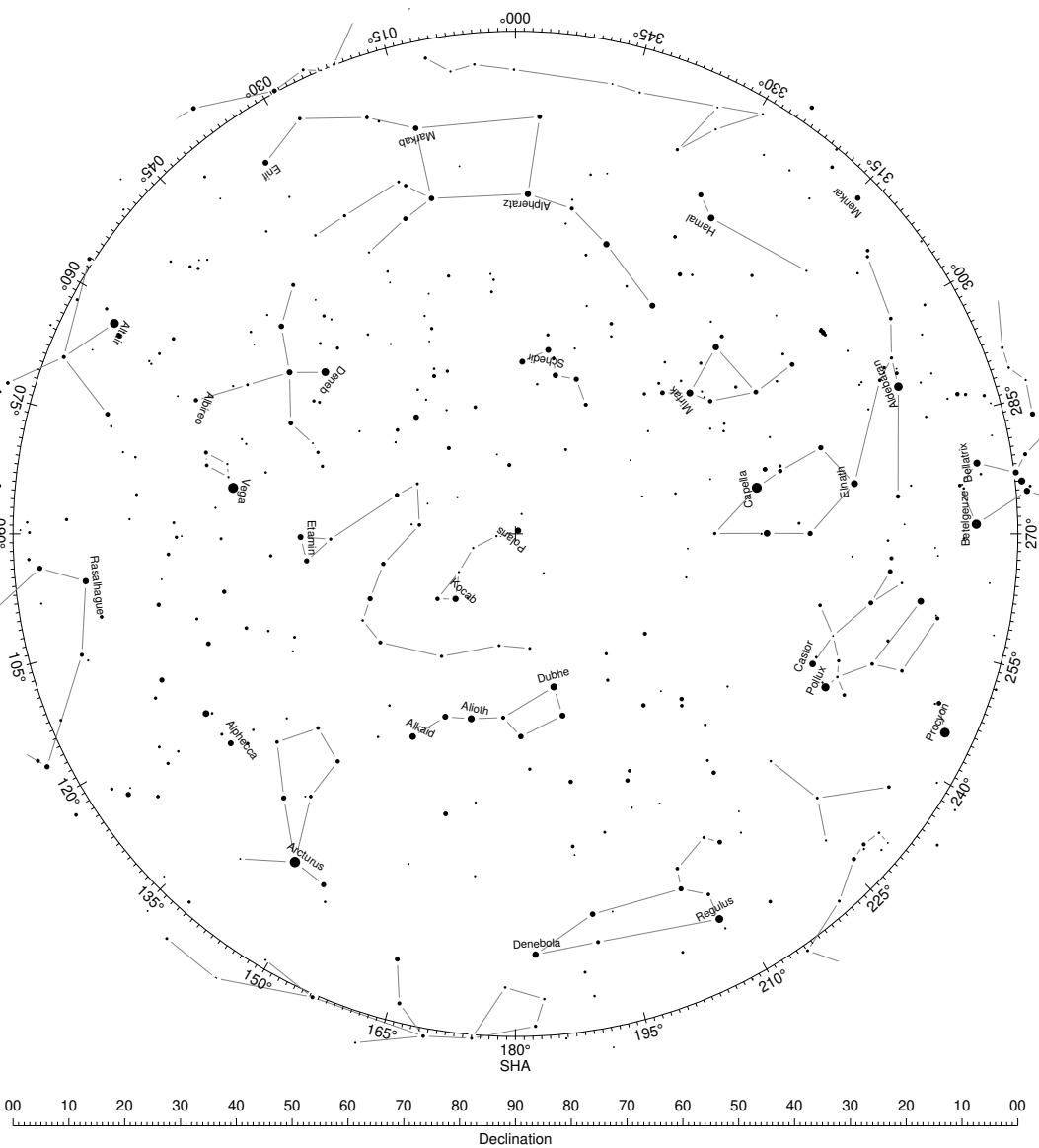
Position of the Stars on the local hemisphere

The following pages show different maps of the brightest stars on the night sky (down to magnitude 4.5) as well as some of the standard constellations. On each of the maps, the stars used in this Almanac are labeled with their traditional names.

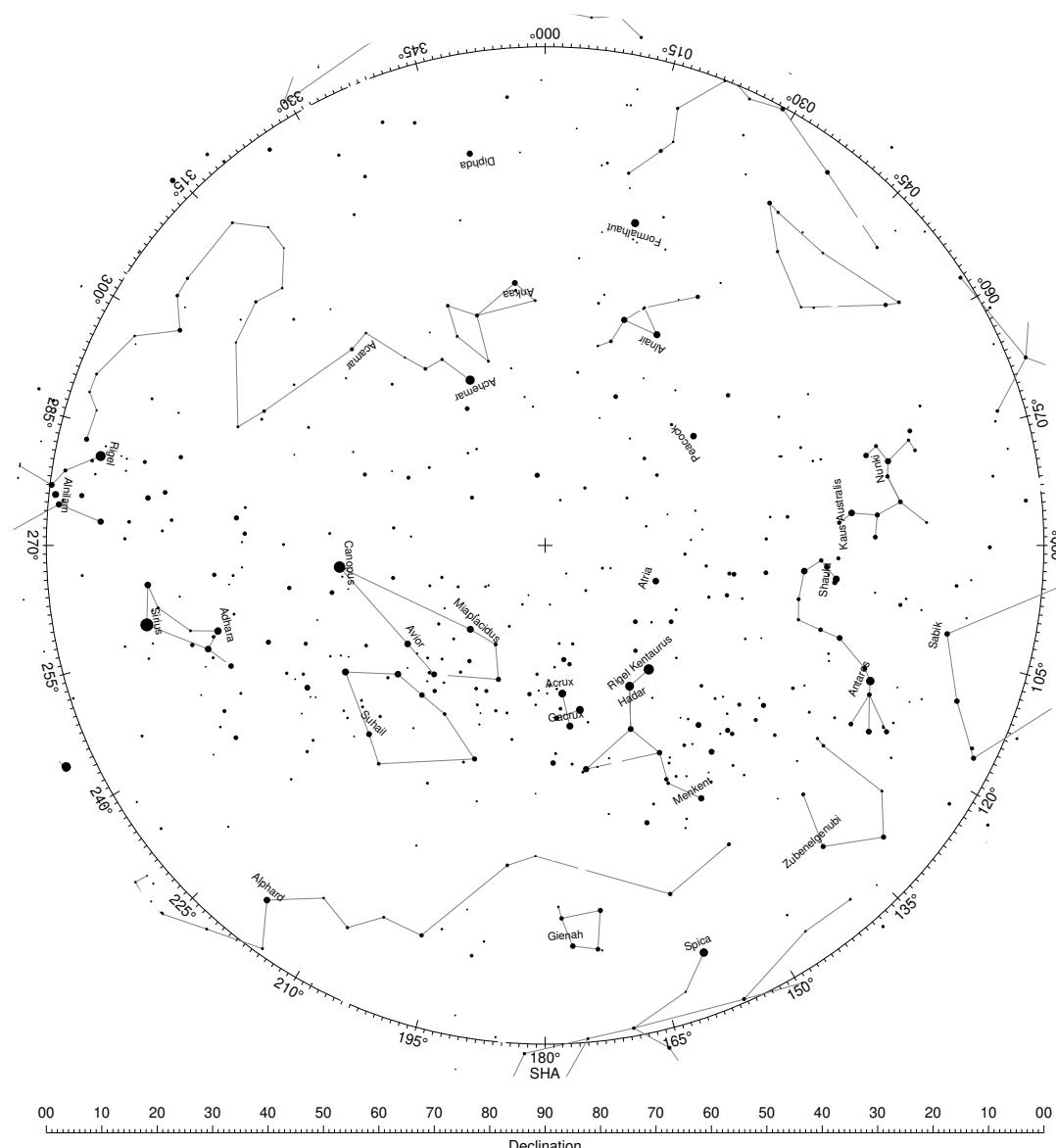
The first two maps are stereographic maps of the stars of the northern- and southern hemisphere, respectively. These maps are centered on the celestial poles and may be used for observations at locations in high northern- or southern latitudes.

The following eight maps show the star constellations on the local hemisphere for locations on the Equator. These maps can be used for observations at locations in lower latitudes.

Map of bright Stars of the Northern Celestial Sphere



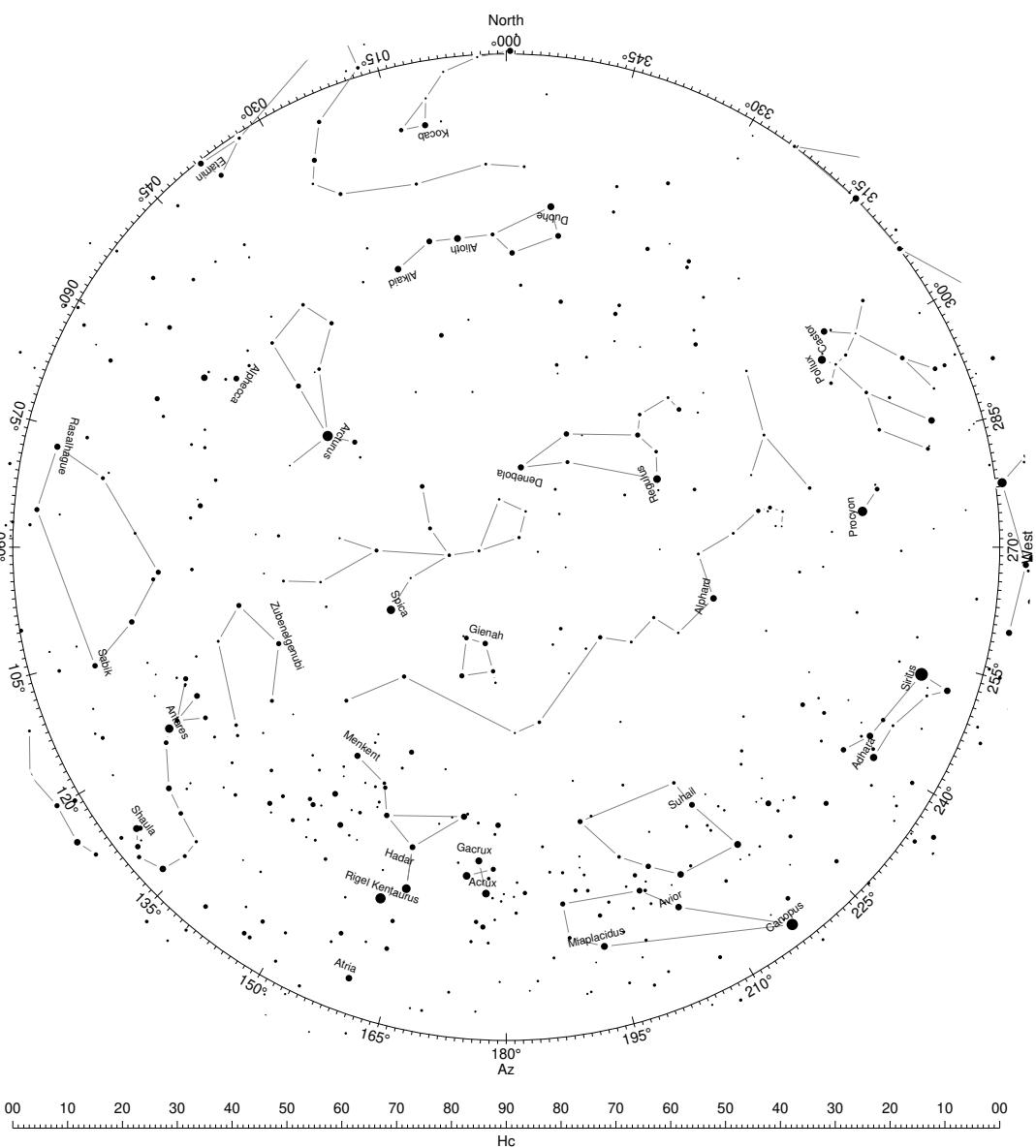
Map of bright Stars of the Southern Celestial Sphere



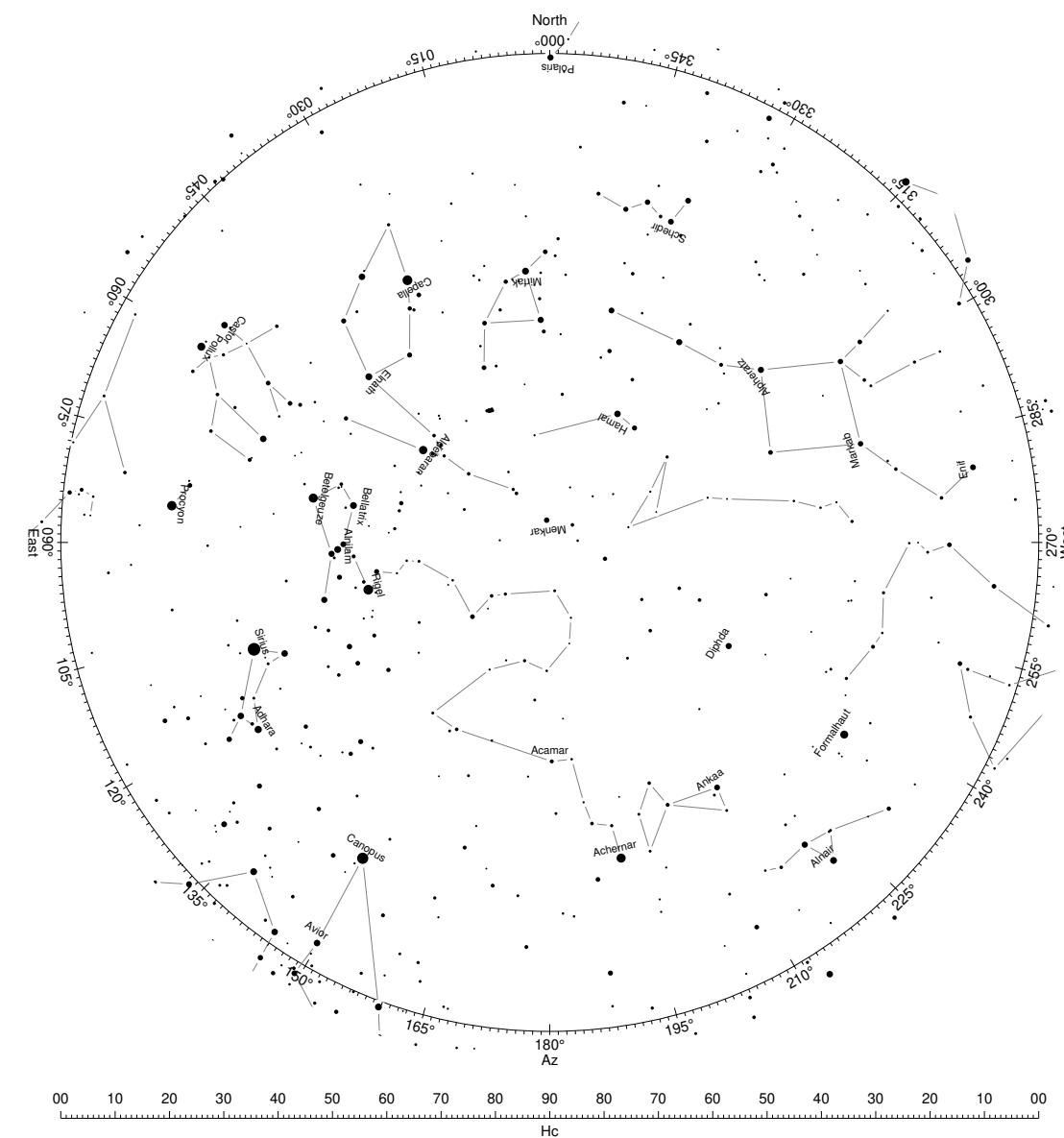
The map is centered on the celestial north pole and shows the brightest stars (up to magnitude 4.5) of the northern celestial hemisphere. The circle of constant declination is shown at 0° (Celestial Equator). The Sidereal Hour Angle of a specific star can be directly read from the SHA scale plotted on the Celestial Equator, while the Declination can be determined by transferring the distance from the star to the center of the map onto the separate Declination scale. The Sidereal Hour Angle is zero for the "First-Point-of-Aries" and increases westward.

The map is centered on the celestial south pole and shows the brightest stars (up to magnitude 4.5) of the southern celestial hemisphere. The circle of constant declination is shown at 0° (Celestial Equator). The Sidereal Hour Angle of a specific star can be directly read from the SHA scale plotted on the Celestial Equator, while the Declination can be determined by transferring the distance from the star to the center of the map onto the separate Declination scale. The Sidereal Hour Angle is zero for the "First-Point-of-Aries" and increases westward.

Horizontal-Coordinate-System Map of bright Stars - Part V



Horizontal-Coordinate-System Map of bright Stars - Part II



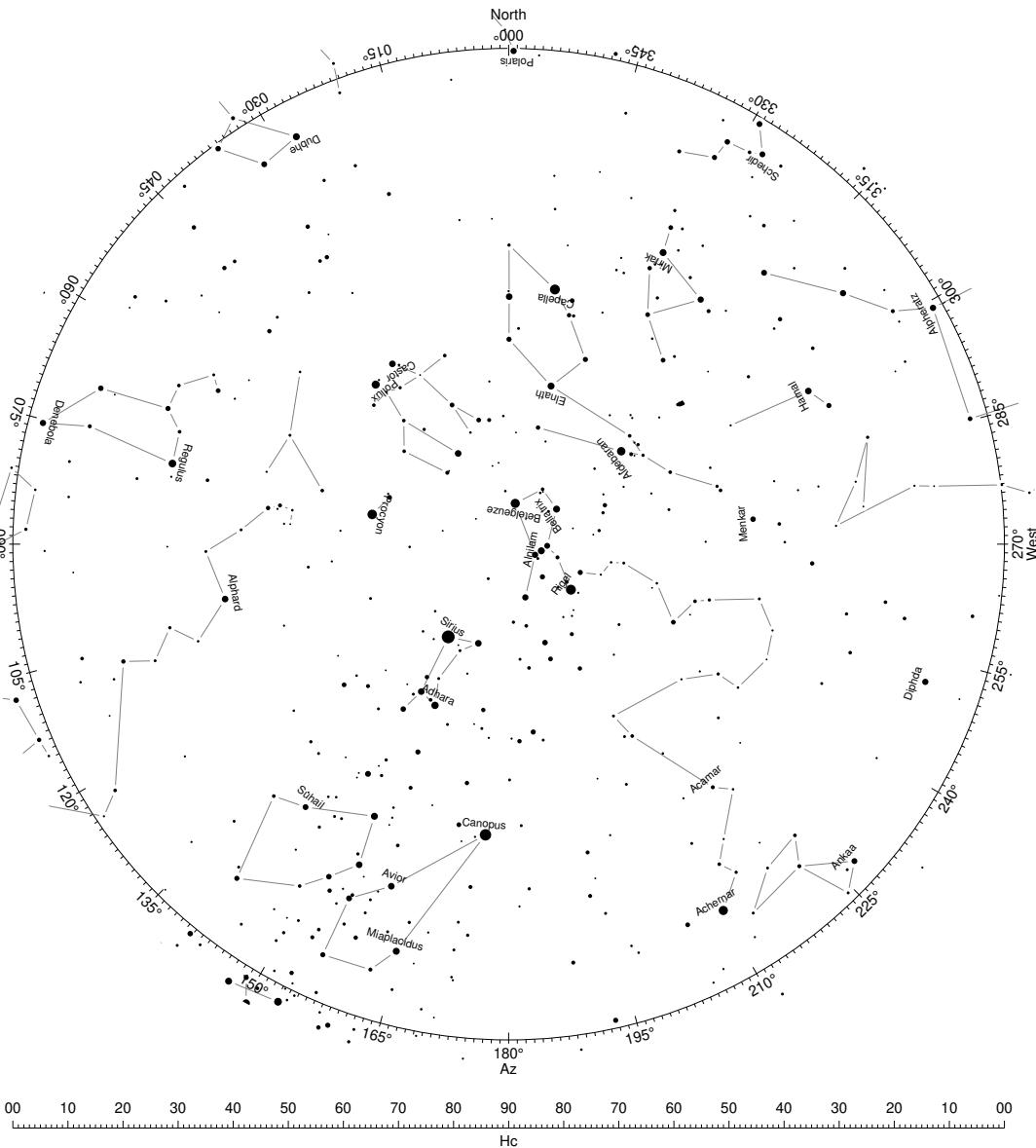
The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth is the approximate compass direction in which the star is visible.

Each of these maps is valid for a location on the equator at a specific time of the day.

The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth is the approximate compass direction in which the star is visible.

Each of these maps is valid for a location on the equator at a specific time of the day.

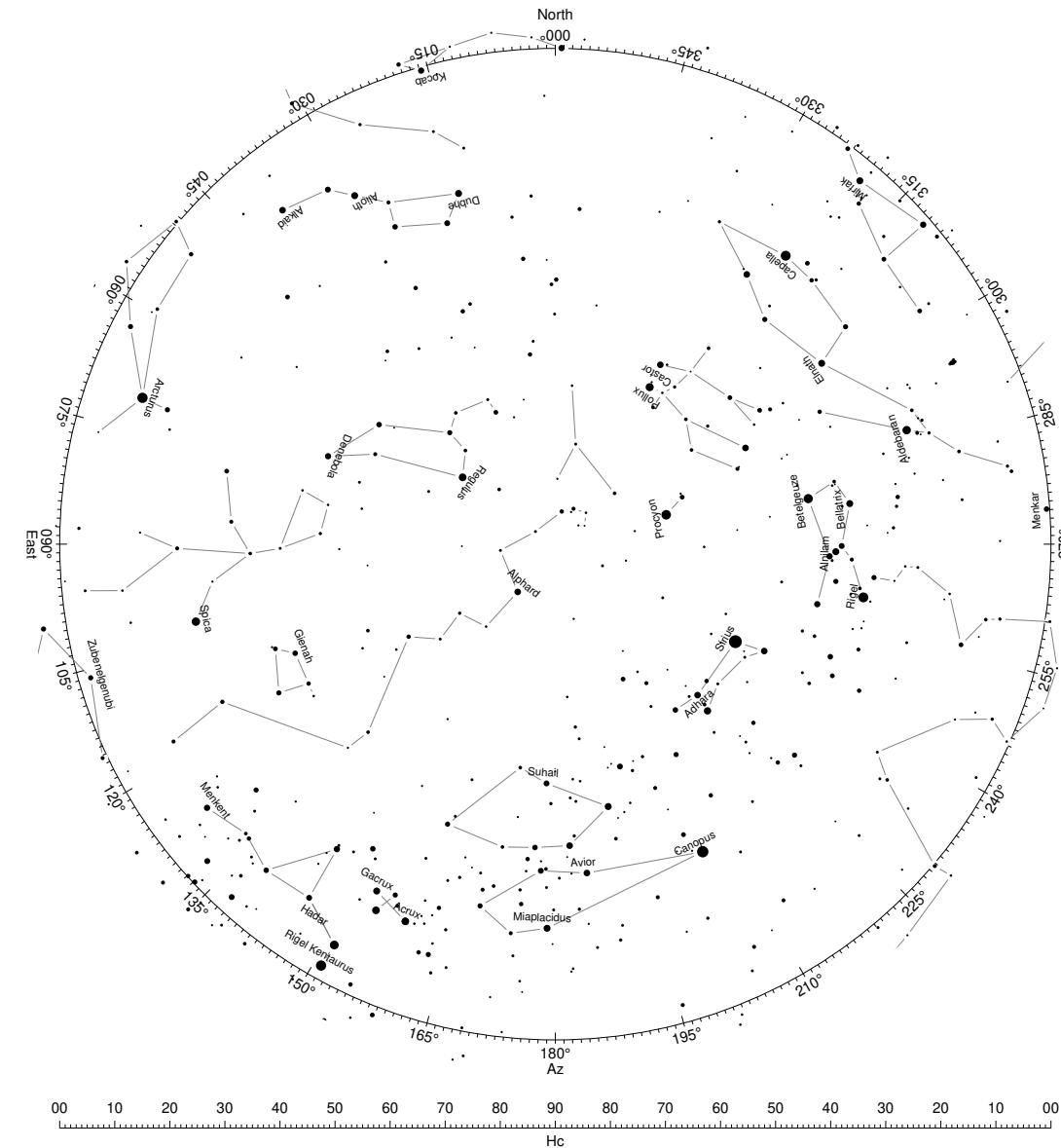
Horizontal-Coordinate-System Map of bright Stars - Part III



The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (H_c) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0° -Altitude (local horizon). The Azimuth is the approximate compass direction in which the star is visible.

Each of these maps is valid for a location on the equator at a specific time of the day.

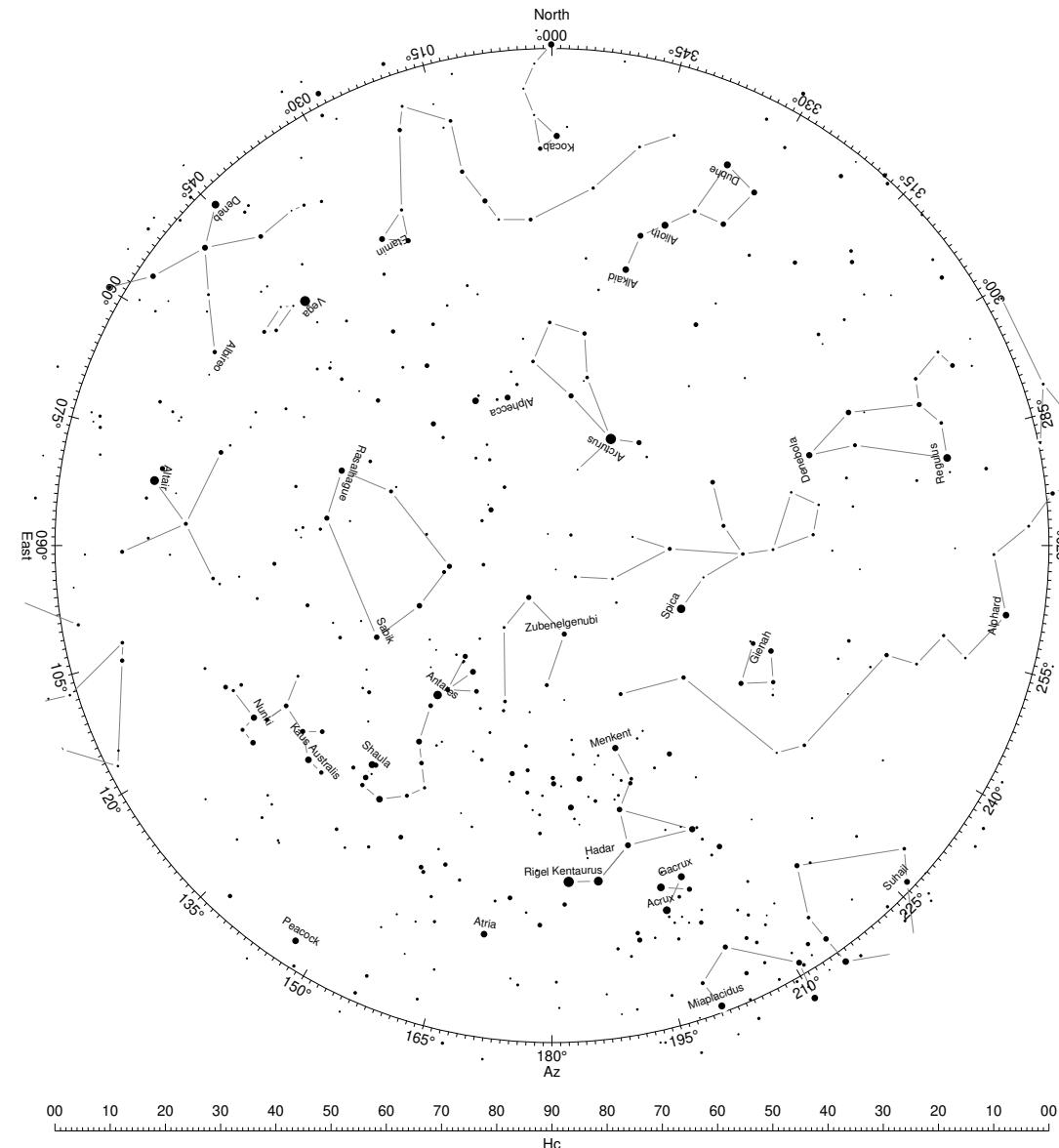
Horizontal-Coordinate-System Map of bright Stars - Part IV



The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (H_c) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0° -Altitude (local horizon). The Azimuth is the approximate compass direction in which the star is visible.

Each of these maps is valid for a location on the equator at a specific time of the day.

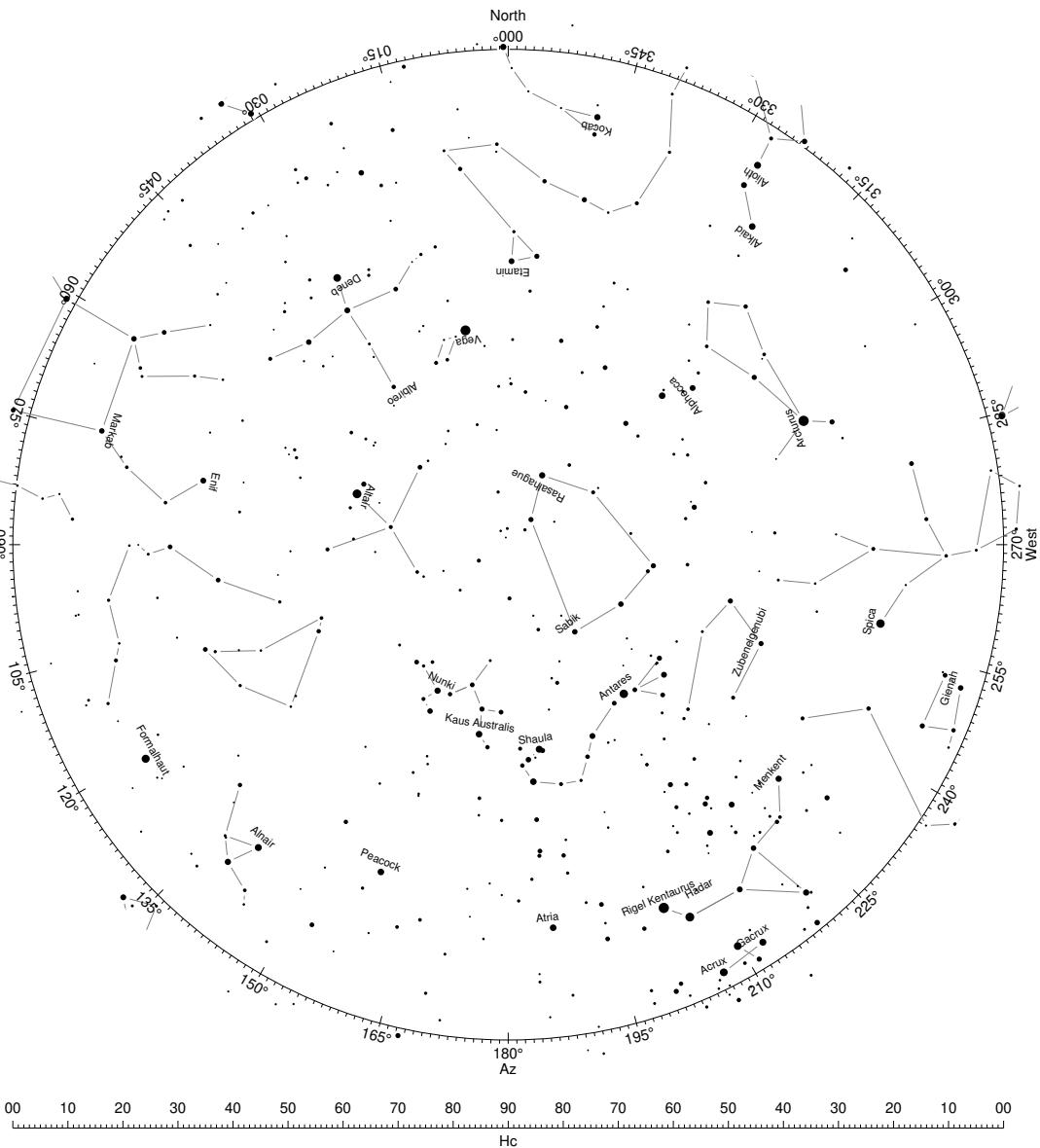
Horizontal-Coordinate-System Map of bright Stars - Part VI



The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth is the approximate compass direction in which the star is visible.

Each of these maps is valid for a location on the equator at a specific time of the day.

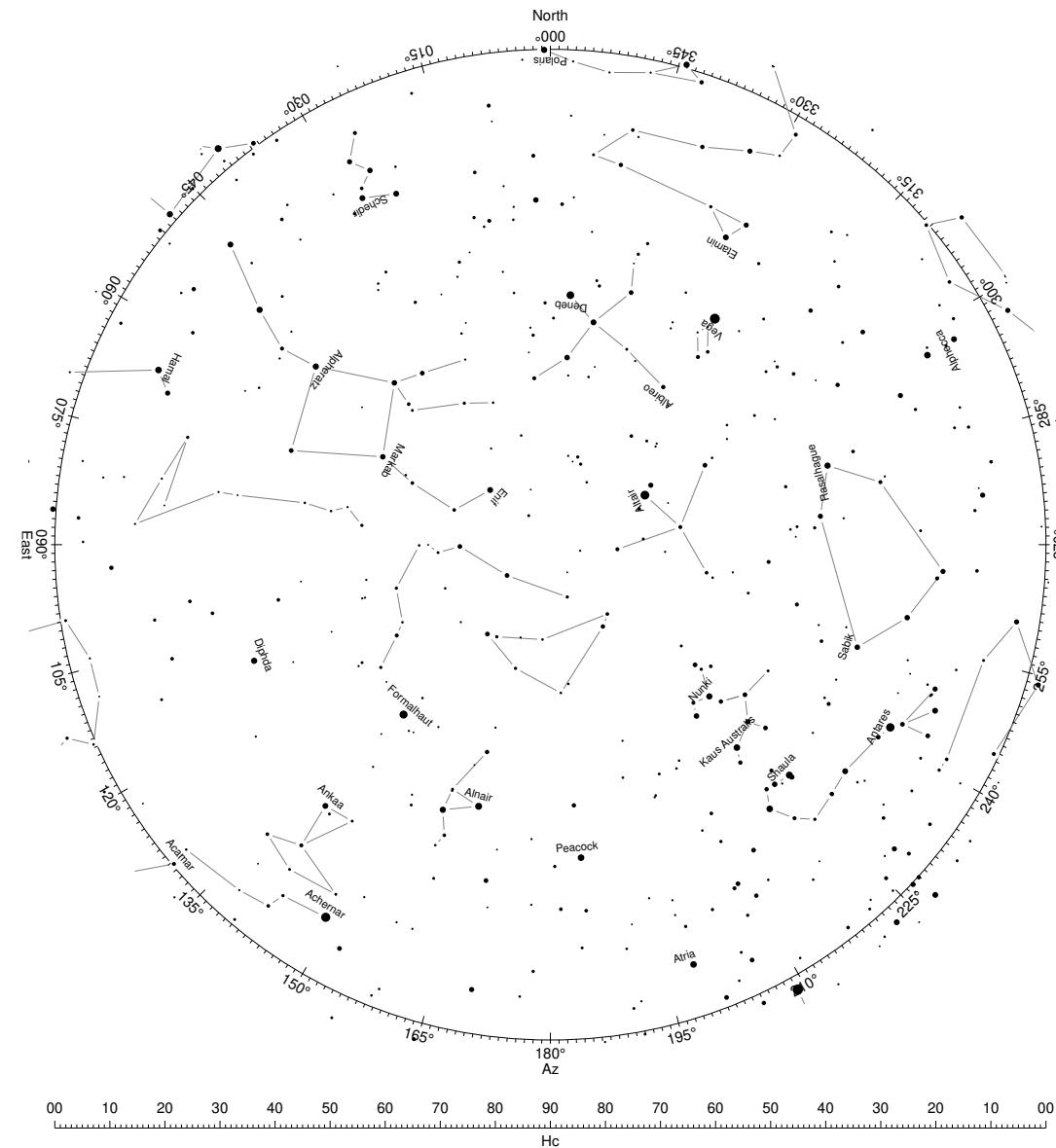
Horizontal-Coordinate-System Map of bright Stars - Part VII



The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (H_c) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0° -Altitude (local horizon). The Azimuth is the approximate compass direction in which the star is visible.

Each of these maps is valid for a location on the equator at a specific time of the day.

Horizontal-Coordinate-System Map of bright Stars - Part VIII



The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (H_c) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0° -Altitude (local horizon). The Azimuth is the approximate compass direction in which the star is visible.

Each of these maps is valid for a location on the equator at a specific time of the day.

2024 - First Point of Aries / Selected Stars

	day 11 of 366	day 12 of 366	day 13 of 366	day 14 of 366	day 15 of 366	
UT	January 11	January 12	January 13	January 14	January 15	
	GHA ° ,'	ddGHA ° ,'	GHA ° ,'	ddGHA ° ,'	GHA ° ,'	UT
00	110 00.5 +02.4	110 59.6 +02.5	111 58.8 +02.4	112 57.9 +02.5	113 57.0 +02.5	00
01	125 02.9 +02.5	126 02.1 +02.4	127 01.2 +02.5	128 00.4 +02.4	128 59.5 +02.5	01
02	140 05.4 +02.5	141 04.5 +02.5	142 03.7 +02.4	143 02.8 +02.5	144 02.0 +02.4	02
03	155 07.9 +02.4	156 07.0 +02.5	157 06.1 +02.5	158 05.3 +02.4	159 04.4 +02.5	03
04	170 10.3 +02.5	171 09.5 +02.4	172 08.6 +02.5	173 07.7 +02.5	174 06.9 +02.5	04
05	185 12.8 +02.5	186 11.9 +02.5	187 11.1 +02.4	188 10.2 +02.5	189 09.4 +02.4	05
06	200 15.3 +02.4	201 14.4 +02.5	202 13.5 +02.5	203 12.7 +02.4	204 11.8 +02.5	06
07	215 17.7 +02.5	216 16.9 +02.4	217 16.0 +02.5	218 15.1 +02.5	219 14.3 +02.4	07
08	230 20.2 +02.4	231 19.3 +02.5	232 18.5 +02.4	233 17.6 +02.5	234 16.7 +02.5	08
09	245 22.6 +02.5	246 21.8 +02.5	247 20.9 +02.5	248 20.1 +02.4	249 19.2 +02.5	09
10	260 25.1 +02.5	261 24.3 +02.4	262 23.4 +02.5	263 22.5 +02.5	264 21.7 +02.4	10
11	275 27.6 +02.4	276 26.7 +02.5	277 25.9 +02.4	278 25.0 +02.5	279 24.1 +02.5	11
12	290 30.0 +02.5	291 29.2 +02.4	292 28.3 +02.5	293 27.5 +02.4	294 26.6 +02.5	12
13	305 32.5 +02.5	306 31.6 +02.5	307 30.8 +02.5	308 29.9 +02.5	309 29.1 +02.4	13
14	320 35.0 +02.4	321 34.1 +02.5	322 33.3 +02.4	323 32.4 +02.5	324 31.5 +02.5	14
15	335 37.4 +02.5	336 36.6 +02.4	337 35.7 +02.5	338 34.9 +02.4	339 34.0 +02.5	15
16	350 39.9 +02.5	351 39.0 +02.5	352 38.2 +02.4	353 37.3 +02.5	354 36.5 +02.4	16
17	5 42.4 +02.4	6 41.5 +02.5	7 40.6 +02.5	8 39.8 +02.4	9 38.9 +02.5	17
18	20 44.8 +02.5	21 44.0 +02.4	22 43.1 +02.5	23 42.2 +02.5	24 41.4 +02.4	18
19	35 47.3 +02.5	36 46.4 +02.5	37 45.6 +02.4	38 44.7 +02.5	39 43.8 +02.5	19
20	50 49.8 +02.4	51 48.9 +02.5	52 48.0 +02.5	53 47.2 +02.4	54 46.3 +02.5	20
21	65 52.2 +02.5	66 51.4 +02.4	67 50.5 +02.5	68 49.6 +02.5	69 48.8 +02.4	21
22	80 54.7 +02.4	81 53.8 +02.5	82 53.0 +02.4	83 52.1 +02.5	84 51.2 +02.5	22
23	95 57.1 +02.5	96 56.3 +02.5	97 55.4 +02.5	98 54.6 +02.4	99 53.7 +02.5	23

	SHA ° ,'	Dec		SHA ° ,'	Dec
Alpheratz	357 35.8	N 29 13.5	Gienah	175 44.3	S 17 40.4
Ankaa	353 08.2	S 42 10.7	Acrux	173 00.9	S 63 13.6
Schedir	349 32.1	N 56 40.4	Gacrux	171 52.5	S 57 14.5
Diphda	348 48.2	S 17 51.5	Alioth	166 13.7	N 55 49.5
Achernar	335 20.8	S 57 07.2	Spica	158 23.2	S 11 17.1
Hamal	327 52.1	N 23 34.7	Alkaid	152 52.7	N 49 11.3
Polaris	314 13.2	N 89 22.2	Hadar	148 37.3	S 60 29.0
Acamar	315 12.2	S 40 12.7	Menkent	147 58.4	S 36 28.8
Menkar	314 06.8	N 04 11.0	Arcturus	145 48.4	N 19 04.1
Mirfak	308 29.2	N 49 57.0	Rigel Kentaurus	139 38.9	S 60 56.0
Aldebaran	290 40.3	N 16 33.5	Zubenelgenubi	136 57.0	S 16 08.4
Capella	280 22.7	N 46 01.6	Kocab	137 20.2	N 74 03.1
Rigel	281 04.4	S 08 10.5	Alphecca	126 04.7	N 26 37.9
Bellatrix	278 23.4	N 06 22.3	Antares	112 17.2	S 26 29.0
Elnath	278 02.6	N 28 37.8	Atria	107 12.6	S 69 04.0
Alnilam	275 38.3	S 01 11.2	Sabik	102 04.0	S 15 45.3
Betelgeuze	270 52.7	N 07 24.7	Shaula	96 11.9	S 37 07.2
Canopus	263 52.2	S 52 42.5	Rasalhague	95 59.7	N 12 32.5
Sirius	258 26.4	S 16 44.5	Etamin	90 43.1	N 51 29.0
Adhara	255 06.1	S 29 00.3	Kaus Australis	83 34.0	S 34 22.3
Castor	245 57.6	N 31 50.1	Vega	80 34.3	N 38 48.1
Procyon	244 51.1	N 05 10.2	Nunki	75 49.2	S 26 16.0
Pollux	243 17.6	N 27 58.1	Albireo	67 05.1	N 28 00.5
Avior	234 14.4	S 59 35.1	Altair	62 01.3	N 08 55.7
Suhail	222 46.5	S 43 31.6	Peacock	53 07.6	S 56 39.6
Miaplacidus	221 37.4	S 69 48.8	Deneb	49 26.8	N 45 22.0
Alphard	217 48.3	S 08 45.8	Enif	33 39.9	N 09 59.1
Regulus	207 35.0	N 11 50.9	Alnair	27 34.4	S 46 50.9
Dubhe	193 41.5	N 61 37.0	Formalhaut	15 15.8	S 29 29.8
Denebola	182 25.5	N 14 26.2	Markab	13 30.9	N 15 20.1

Nautical Almanac for selected Stars

The following pages contain the celestial coordinates of the "First Point of Aries" and a set of selected stars. Each page compiles the almanac data for five successive days of the year. For this time span, the recorded star data consisting of Siderial Hour Angle (SHA) and Declination (Dec) is valid. The time used in this Almanac is Universal Time (UT).

The GHA of a specific star is obtained from the GHA of the "First Point of Aries" and the star's SHA by the following relationship: $GHA_{star} = GHA_{Aries} + SHA_{star}$

NOTICE:

This Nautical Almanac uses a slightly different approach for the interpolation of the integral-hour values of Greenwich 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:

UT Universal Time

GHA	Greenwich Hour Angle	° [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]
SHA	Siderial Hour Angle	° [degrees]
Dec	Declination	° [degrees]

2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

UT	day 1 of 366		day 2 of 366		day 3 of 366		day 4 of 366		day 5 of 366		UT
	January 1	GHA ddGHA	January 2	GHA ddGHA	January 3	GHA ddGHA	January 4	GHA ddGHA	January 5	GHA ddGHA	
00	100 09.1	+02.4	101 08.2	+02.5	102 07.4	+02.4	103 06.5	+02.5	104 05.6	+02.5	00
01	115 11.5	+02.5	116 10.7	+02.4	117 09.8	+02.5	118 09.0	+02.4	119 08.1	+02.5	01
02	130 14.0	+02.5	131 13.1	+02.5	132 12.3	+02.4	133 11.4	+02.5	134 10.6	+02.4	02
03	145 16.5	+02.4	146 15.6	+02.5	147 14.7	+02.5	148 13.9	+02.4	149 13.0	+02.5	03
04	160 18.9	+02.5	161 18.1	+02.4	162 17.2	+02.5	163 16.3	+02.5	164 15.5	+02.4	04
05	175 21.4	+02.5	176 20.5	+02.5	177 19.7	+02.4	178 18.8	+02.5	179 17.9	+02.5	05
06	190 23.9	+02.4	191 23.0	+02.5	192 22.1	+02.5	193 21.3	+02.4	194 20.4	+02.5	06
07	205 26.3	+02.5	206 25.5	+02.4	207 24.6	+02.5	208 23.7	+02.5	209 22.9	+02.4	07
08	220 28.8	+02.5	221 27.9	+02.5	222 27.1	+02.4	223 26.2	+02.5	224 25.3	+02.5	08
09	235 31.3	+02.4	236 30.4	+02.5	237 29.5	+02.5	238 28.7	+02.4	239 27.8	+02.5	09
10	250 33.7	+02.5	251 32.9	+02.4	252 32.0	+02.5	253 31.1	+02.5	254 30.3	+02.4	10
11	265 36.2	+02.4	266 35.3	+02.5	267 34.5	+02.4	268 33.6	+02.5	269 32.7	+02.5	11
12	280 38.6	+02.5	281 37.8	+02.4	282 36.9	+02.5	283 36.1	+02.4	284 35.2	+02.5	12
13	295 41.1	+02.5	296 40.2	+02.5	297 39.4	+02.4	298 38.5	+02.5	299 37.7	+02.4	13
14	310 43.6	+02.4	311 42.7	+02.5	312 41.8	+02.5	313 41.0	+02.5	314 40.1	+02.5	14
15	325 46.0	+02.5	326 45.2	+02.4	327 44.3	+02.5	328 43.5	+02.4	329 42.6	+02.5	15
16	340 48.5	+02.5	341 47.6	+02.5	342 46.8	+02.4	343 45.9	+02.5	344 45.1	+02.4	16
17	355 51.0	+02.4	356 50.1	+02.5	357 49.2	+02.5	358 48.4	+02.4	359 47.5	+02.5	17
18	10 53.4	+02.5	11 52.6	+02.4	12 51.7	+02.5	13 50.8	+02.5	14 50.0	+02.4	18
19	25 55.9	+02.5	26 55.0	+02.5	27 54.2	+02.4	28 53.3	+02.5	29 52.4	+02.5	19
20	40 58.4	+02.4	41 57.5	+02.5	42 56.6	+02.5	43 55.8	+02.4	44 54.9	+02.5	20
21	56 00.8	+02.5	56 60.0	+02.4	57 59.1	+02.5	58 58.2	+02.5	59 57.4	+02.4	21
22	71 03.3	+02.5	72 02.4	+02.5	73 01.6	+02.4	74 00.7	+02.5	74 59.8	+02.5	22
23	86 05.8	+02.4	87 04.9	+02.5	88 04.0	+02.5	89 03.2	+02.4	90 02.3	+02.5	23

UT	day 6 of 366		day 7 of 366		day 8 of 366		day 9 of 366		day 10 of 366		UT
	January 6	GHA ddGHA	January 7	GHA ddGHA	January 8	GHA ddGHA	January 9	GHA ddGHA	January 10	GHA ddGHA	
00	105 04.8	+02.4	106 03.9	+02.5	107 03.0	+02.5	108 02.2	+02.5	109 01.3	+02.5	00
01	120 07.2	+02.5	121 06.4	+02.4	122 05.5	+02.5	123 04.7	+02.4	124 03.8	+02.5	01
02	135 09.7	+02.5	136 08.8	+02.5	137 08.0	+02.4	138 07.1	+02.5	139 06.3	+02.4	02
03	150 12.2	+02.4	151 11.3	+02.5	152 10.4	+02.5	153 09.6	+02.4	154 08.7	+02.5	03
04	165 14.6	+02.5	166 13.8	+02.4	167 12.9	+02.5	168 12.0	+02.5	169 11.2	+02.5	04
05	180 17.1	+02.5	181 16.2	+02.5	182 15.4	+02.4	183 14.5	+02.5	184 13.7	+02.4	05
06	195 19.6	+02.4	196 18.7	+02.5	197 17.8	+02.5	198 17.0	+02.4	199 16.1	+02.5	06
07	210 22.0	+02.5	211 21.2	+02.4	212 20.3	+02.5	213 19.4	+02.5	214 18.6	+02.4	07
08	225 24.5	+02.4	226 23.6	+02.5	227 22.8	+02.4	228 21.9	+02.5	229 21.0	+02.5	08
09	240 26.9	+02.5	241 26.1	+02.4	242 25.2	+02.5	243 24.4	+02.4	244 23.5	+02.5	09
10	255 29.4	+02.5	256 28.5	+02.5	257 27.7	+02.5	258 26.8	+02.5	259 26.0	+02.4	10
11	270 31.9	+02.4	271 31.0	+02.5	272 30.2	+02.4	273 29.3	+02.5	274 28.4	+02.5	11
12	285 34.3	+02.5	286 33.5	+02.4	287 32.6	+02.5	288 31.8	+02.4	289 30.9	+02.5	12
13	300 36.8	+02.5	301 35.9	+02.5	302 35.1	+02.4	303 34.2	+02.5	304 33.4	+02.4	13
14	315 39.3	+02.4	316 38.4	+02.5	317 37.5	+02.5	318 36.7	+02.5	319 35.8	+02.5	14
15	330 41.7	+02.5	331 40.9	+02.4	332 40.0	+02.5	333 39.2	+02.4	334 38.3	+02.5	15
16	345 44.2	+02.5	346 43.3	+02.5	347 42.5	+02.4	348 41.6	+02.5	349 40.8	+02.4	16
17	0 46.7	+02.4	1 45.8	+02.5	2 44.9	+02.5	3 44.1	+02.4	4 43.2	+02.5	17
18	15 49.1	+02.5	16 48.3	+02.4	17 47.4	+02.5	18 46.5	+02.5	19 45.7	+02.5	18
19	30 51.6	+02.4	31 50.7	+02.5	32 49.9	+02.4	33 49.0	+02.5	34 48.2	+02.4	19
20	45 54.0	+02.5	46 53.2	+02.5	47 52.3	+02.5	48 51.5	+02.4	49 50.6	+02.5	20
21	60 56.5	+02.5	61 55.7	+02.4	62 54.8	+02.5	63 53.9	+02.5	64 53.1	+02.4	21
22	75 59.0	+02.4	76 58.1	+02.5	77 57.3	+02.4	78 56.4	+02.5	79 55.5	+02.5	22
23	91 01.4	+02.5	92 00.6	+02.4	92 59.7	+02.5	93 58.9	+02.4	94 58.0	+02.5	23

	SHA	Dec		SHA	Dec	
	° ,	° ,		° ,	° ,	
Alpheratz	357 35.8	N 29 13.6	Gienah	175 44.4	S 17 40.4	
Ankaa	353 08.1	S 42 10.7	Acrux	173 01.0	S 63 13.6	
Schedir	349 32.0	N 56 40.4	Gacrux	171 52.6	S 57 14.4	
Diphda	348 48.2	S 17 51.5	Alioth	166 13.9	N 55 49.5	
Achernar	335 20.7	S 57 07.2	Spica	158 23.3	S 11 17.1	
Hamal	327 52.1	N 23 34.7	Alkaid	152 52.8	N 49 11.4	
Polaris	314 09.7	N 89 22.2	Hadar	148 37.5	S 60 29.0	
Acamar	315 12.1	S 40 12.7	Menket	147 58.5	S 36 28.8	
Menkar	314 06.8	N 04 11.0	Arcturus	145 48.4	N 19 04.1	
Mirfak	308 29.1	N 49 56.9	Rigel Kentaurus	139 39.0	S 60 56.0	
Aldebaran	290 40.3	N 16 33.5	Zubenelgenubi	136 57.1	S 16 08.4	
Capella	280 22.7	N 46 01.5	Kocab	137 20.4	N 74 03.1	
Rigel	281 04.4	S 08 10.5	Alphecca	126 04.8	N 26 37.9	
Bellatrix	278 23.4	N 06 22.3	Antares	112 17.3	S 26 29.0	
Elnath	278 02.6	N 28 37.8	Atria	107 12.8	S 69 04.0	
Alnilam	275 38.3	S 01 11.2	Sabik	102 04.1	S 15 45.3	
Betelgeuze	270 52.7	N 07 24.7	Shaula	96 11.9	S 37 07.2	
Canopus	263 52.2	S 52 42.5	Rasalhague	95 59.7	N 12 32.6	
Sirius	258 26.4	S 16 44.4	Etamin	90 43.1	N 51 29.0	
Adhara	255 06.1	S 29 00.3	Kaus Australis	83 34.0	S 34 22.3	
Castor	245 57.7	N 31 50.1	Vega	80 34.3	N 38 48.1	
Procyon	244 51.2	N 05 10.2	Nunki	75 49.2	S 26 16.0	
Pollux	243 17.6	N 27 58.1	Albireo	67 05.1	N 28 00.5	
Avior	234 14.5	S 59 35.0	Altair	62 01.3	N 08 55.7	
Suhail	222 46.6	S 43 31.6	Peacock	53 07.6	S 56 39.6	
Miplacidus	221 37.5	S 69 48.7	Deneb	49 26.8	N 45 22.0	
Alphard	217 48.3	S 08 45.7	Enif	33 39.9	N 09 59.1	
Regulus	207 35.0	N 11 51.0	Alnair	27 34.3	S 46 50.9	
Dubhe	193 41.6	N 61 37.0	Formalhaut	15 15.7	S 29 29.9	
Denebola	182 25.6	N 14 26.2	Markab	13 30.9	N 15 20.1	

	SHA	Dec		SHA	Dec	
	° ,	° ,		° ,	° ,	
Alpheratz	357 35.8	N 29 13.5	Gienah	175 44.3	S 17 40.4	
Ankaa	353 08.1	S 42 10.7	Acrux	173 01.0	S 63 13.6	
Schedir	349 32.1	N 56 40.4	Gacrux	171 52.6	S 57 14.5	
Diphda	348 48.2	S 17 51.5	Alioth	166 13.8	N 55 49.5	
Achernar	335 20.7	S 57 07.2	Spica	158 23.2	S 11 17.1	
Hamal	327 52.1	N 23 34.7	Alkaid	152 52.7	N 49 11.3	
Polaris	314 11.6	N 89 22.2	Hadar	148 37.4	S 60 29.0	
Acamar	315 12.1</					

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UT	day 31 of 366		day 32 of 366		day 33 of 366		day 34 of 366		day 35 of 366		UT	
	January 31	February 1	February 2	February 3	February 4	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	129 43.3 +02.4	130 42.4 +02.5	131 41.5 +02.5	132 40.7 +02.4	133 39.8 +02.5	00						
01	144 45.7 +02.5	145 44.9 +02.4	146 44.0 +02.5	147 43.1 +02.5	148 42.3 +02.4	01						
02	159 48.2 +02.4	160 47.3 +02.5	161 46.5 +02.4	162 45.6 +02.5	163 44.7 +02.5	02						
03	174 50.6 +02.5	175 49.8 +02.5	176 48.9 +02.5	177 48.1 +02.4	178 47.2 +02.5	03						
04	189 53.1 +02.5	190 52.3 +02.4	191 51.4 +02.5	192 50.5 +02.5	193 49.7 +02.4	04						
05	204 55.6 +02.4	205 54.7 +02.5	206 53.9 +02.4	207 53.0 +02.5	208 52.1 +02.5	05						
06	219 58.0 +02.5	220 57.2 +02.4	221 56.3 +02.5	222 55.5 +02.4	223 54.6 +02.5	06						
07	235 00.5 +02.5	235 59.6 +02.5	236 58.8 +02.4	237 57.9 +02.5	238 57.1 +02.4	07						
08	250 03.0 +02.4	251 02.1 +02.5	252 01.2 +02.5	253 00.4 +02.4	253 59.5 +02.5	08						
09	265 05.4 +02.5	266 04.6 +02.4	267 03.7 +02.5	268 02.8 +02.5	269 02.0 +02.5	09						
10	280 07.9 +02.5	281 07.0 +02.5	282 06.2 +02.4	283 05.3 +02.5	284 04.5 +02.4	10						
11	295 10.4 +02.4	296 09.5 +02.5	297 08.6 +02.5	298 07.8 +02.4	299 06.9 +02.5	11						
12	310 12.8 +02.5	311 12.0 +02.4	312 11.1 +02.5	313 10.2 +02.5	314 09.4 +02.4	12						
13	325 15.3 +02.5	326 14.4 +02.5	327 13.6 +02.4	328 12.7 +02.5	329 11.8 +02.5	13						
14	340 17.8 +02.4	341 16.9 +02.5	342 16.0 +02.5	343 15.2 +02.4	344 14.3 +02.5	14						
15	355 20.2 +02.5	356 19.4 +02.4	357 18.5 +02.5	358 17.6 +02.5	359 16.8 +02.4	15						
16	10 22.7 +02.4	11 21.8 +02.5	12 21.0 +02.4	13 20.1 +02.5	14 19.2 +02.5	16						
17	25 25.1 +02.5	26 24.3 +02.4	27 23.4 +02.5	28 22.6 +02.4	29 21.7 +02.5	17						
18	40 27.6 +02.5	41 26.7 +02.5	42 25.9 +02.5	43 25.0 +02.5	44 24.2 +02.4	18						
19	55 30.1 +02.4	56 29.2 +02.5	57 28.4 +02.4	58 27.5 +02.5	59 26.6 +02.5	19						
20	70 32.5 +02.5	71 31.7 +02.4	72 30.8 +02.5	73 30.0 +02.4	74 29.1 +02.5	20						
21	85 35.0 +02.5	86 34.1 +02.5	87 33.3 +02.4	88 32.4 +02.5	89 31.6 +02.4	21						
22	100 37.5 +02.4	101 36.6 +02.5	102 35.7 +02.5	103 34.9 +02.4	104 34.0 +02.5	22						
23	115 39.9 +02.5	116 39.1 +02.4	117 38.2 +02.5	118 37.3 +02.5	119 36.5 +02.5	23						

	SHA	Dec		SHA	Dec
	° ,	° ,		° ,	° ,
Alpheratz	357 35.9	N 29 13.5	Gienah	175 44.1	S 17 40.5
Ankaa	353 08.2	S 42 10.6	Acrux	173 00.6	S 63 13.7
Schedir	349 32.3	N 56 40.4	Gacrux	171 52.3	S 57 14.6
Diphda	348 48.3	S 17 51.5	Alioth	166 13.5	N 55 49.5
Achernar	335 20.9	S 57 07.2	Spica	158 23.0	S 11 17.2
Hamal	327 52.2	N 23 34.7	Alkaid	152 52.4	N 49 11.3
Polaris	314 22.4	N 89 22.3	Hadar	148 37.0	S 60 29.1
Acamar	315 12.3	S 40 12.8	Menkent	147 58.2	S 36 28.9
Menkar	314 06.9	N 04 11.0	Arcturus	145 48.2	N 19 04.0
Mirfak	308 29.3	N 49 57.0	Rigel Kentaurus	139 38.6	S 60 56.0
Aldebaran	290 40.3	N 16 33.5	Zubenelgenubi	136 56.9	S 16 08.5
Capella	280 22.8	N 46 01.6	Kocab	137 19.8	N 74 03.0
Rigel	281 04.4	S 08 10.5	Alphecca	126 04.5	N 26 37.8
Bellatrix	278 23.5	N 06 22.3	Antares	112 17.1	S 26 29.0
Elnath	278 02.6	N 28 37.8	Atria	107 12.3	S 69 04.0
Alnilam	275 38.3	S 01 11.3	Sabik	102 03.9	S 15 45.3
Betelgeuze	270 52.7	N 07 24.7	Shaula	96 11.7	S 37 07.2
Canopus	263 52.3	S 52 42.6	Rasalhague	95 59.5	N 12 32.5
Sirius	258 26.4	S 16 44.5	Etamin	90 43.0	N 51 28.9
Adhara	255 06.1	S 29 00.4	Kaus Australis	83 33.9	S 34 22.3
Castor	245 57.6	N 31 50.2	Vega	80 34.2	N 38 48.0
Procyon	244 51.1	N 05 10.1	Nunki	75 49.1	S 26 16.0
Pollux	243 17.5	N 27 58.1	Albireo	67 05.0	N 28 00.5
Avior	234 14.4	S 59 35.2	Altair	62 01.2	N 08 55.7
Suhail	222 46.4	S 43 31.8	Peacock	53 07.5	S 56 39.5
Miplacidus	221 37.4	S 69 48.9	Deneb	49 26.8	N 45 21.9
Alphard	217 48.2	S 08 45.8	Enif	33 39.9	N 09 59.0
Regulus	207 34.8	N 11 50.9	Alnair	27 34.4	S 46 50.8
Dubhe	193 41.3	N 61 37.1	Formalhaut	15 15.8	S 29 29.8
Denebola	182 25.3	N 14 26.2	Markab	13 31.0	N 15 20.0

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UT	day 16 of 366		day 17 of 366		day 18 of 366		day 19 of 366		day 20 of 366		UT	
	January 16	January 17	January 18	January 19	January 20	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	114 56.2 +02.4	115 55.3 +02.5	116 54.4 +02.5	117 53.6 +02.4	118 52.7 +02.5	00						
01	129 58.6 +02.5	130 57.8 +02.4	131 56.9 +02.5	132 56.0 +02.5	133 55.2 +02.5	01						
02	145 01.1 +02.5	146 00.2 +02.5	146 59.4 +02.5	147 58.5 +02.5	148 57.7 +02.4	02						
03	160 03.6 +02.4	161 02.7 +02.5	162 01.8 +02.5	163 01.0 +02.4	164 00.1 +02.5	03						
04	175 06.0 +02.5	176 05.2 +02.4	177 04.3 +02.5	178 03.4 +02.5	179 02.6 +02.4	04						
05	190 08.5 +02.5	191 07.6 +02.5	192 06.8 +02.4	193 05.9 +02.5	194 05.0 +02.5	05						
06	205 11.0 +02.4	206 10.1 +02.5	207 09.2 +02.5	208 08.4 +02.4	209 07.5 +02.5	06						
07	220 13.4 +02.5	221 12.6 +02.4	222 11.7 +02.5	223 10.8 +02.5	224 10.0 +02.4	07						
08	235 15.9 +02.4	236 15.0 +02.5	237 14.2 +02.4	238 13.3 +02.5	239 12.4 +02.5	08						
09	250 18.3 +02.5	251 17.5 +02.4	252 16.6 +02.5	253 15.8 +02.4	254 14.9 +02.5	09						
10	265 20.8 +02.5	266 19.9 +02.5	267 19.1 +02.5	268 18.2 +02.5	269 17.4 +02.4	10						
11	280 23.3 +02.4	281 22.4 +02.5	282 21.6 +02.4	283 20.7 +02.5	284 19.8 +02.5	11						
12	295 25.7 +02.5	296 24.9 +02.4	297 24.0 +02.5	298 23.2 +02.4	299 22.3 +02.5	12						
13	310 28.2 +02.5	311 27.3 +02.5	312 26.5 +02.4	313 25.6 +02.5	314 24.8 +02.4	13						
14	325 30.7 +02.4	326 29.8 +02.5	327 28.9 +02.5	328 28.1 +02.4	329 27.2 +02.5	14						
15	340 33.1 +02.5	341 32.3 +02.4	342 31.4 +02.5	343 30.5 +02.5	344 29.7 +02.5	15						
16	355 35.6 +02.5	356 34.7 +02.4	357 33.9 +02.4	358 33.0 +02.5	359 32.2 +02.4	16						
17	10 38.1 +02.4	11 37.2 +02.5	12 36.3 +02.5	13 35.5 +02.4	14 34.6 +02.5	17						
18	25 40.5 +02.5	26 39.7 +02.4	27 38.8 +02.5	28 37.9 +02.5	29 37.1 +02.4	18						
19	40 43.0 +02.5	41 42.1 +02.5	42 41.3 +02.4	43 40.4 +02.5	44 39.5 +02.5	19						
20	55 45.5 +02.4	56 44.6 +02.5	57 43.7 +02.5	58 42.9 +02.4	59 42.0 +02.5	20						
21	70 47.9 +02.5	71 47.1 +02.4	72 46.2 +02.5	73 45.3 +02.5	74 44.5 +02.4	21						
22	85 50.4 +02.4	86 49.5 +02.5	87 48.7 +02.4	88 47.8 +02.5	89 46.9 +02.5	22						
23	100 52.8 +02.5	101 52.0 +02.4	102 51.1 +02.5	103 50.3 +02.4	104 49.4 +02.5	23						

	SHA	Dec		SHA	Dec
	° ,	° ,		° ,	° ,
Alpheratz	357 35.8	N 29 13.5	Gienah	175 44.3	S 17 40.5
Ankaa	353 08.2	S 42 10.7	Acrux	173 00.8	S 63 13.6
Schedir	349 32.2	N 56 40.4	Gacrux	171 52.4	S 57 14.5
Diphda	348 48.3	S 17 51.5	Alioth	166 13.7	N 55 49.5
Achernar	335 20.8	S 57 07.2	Spica	158 23.1	S 11 17.2
Hamal	327 52.1	N 23 34.7	Alkaid	152 52.6	N 49 11.3
Polaris	314 15.6	N 89 22.2	H		

2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

	day 21 of 366	day 22 of 366	day 23 of 366	day 24 of 366	day 25 of 366						
UT	January 21	January 22	January 23	January 24	January 25	UT					
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	UT
00	119 51.9	+02.4	120 51.0	+02.5	121 50.1	+02.5	122 49.3	+02.5	123 48.4	+02.5	00
01	134 54.3	+02.5	135 53.5	+02.4	136 52.6	+02.5	137 51.8	+02.4	138 50.9	+02.5	01
02	149 56.8	+02.5	150 55.9	+02.5	151 55.1	+02.4	152 54.2	+02.5	153 53.4	+02.4	02
03	164 59.3	+02.4	165 58.4	+02.5	166 57.5	+02.5	167 56.7	+02.4	168 55.8	+02.5	03
04	180 01.7	+02.5	181 00.9	+02.4	182 00.0	+02.5	182 59.1	+02.5	183 58.3	+02.4	04
05	195 04.2	+02.4	196 03.3	+02.5	197 02.5	+02.4	198 01.6	+02.5	199 00.7	+02.5	05
06	210 06.6	+02.5	211 05.8	+02.5	212 04.9	+02.5	213 04.1	+02.4	214 03.2	+02.5	06
07	225 09.1	+02.5	226 08.3	+02.4	227 07.4	+02.5	228 06.5	+02.5	229 05.7	+02.4	07
08	240 11.6	+02.4	241 10.7	+02.5	242 09.9	+02.4	243 09.0	+02.5	244 08.1	+02.5	08
09	255 14.0	+02.5	256 13.2	+02.4	257 12.3	+02.5	258 11.5	+02.4	259 10.6	+02.5	09
10	270 16.5	+02.5	271 15.6	+02.5	272 14.8	+02.5	273 13.9	+02.5	274 13.1	+02.4	10
11	285 19.0	+02.4	286 18.1	+02.5	287 17.3	+02.4	288 16.4	+02.5	289 15.5	+02.5	11
12	300 21.4	+02.5	301 20.6	+02.4	302 19.7	+02.5	303 18.9	+02.4	304 18.0	+02.5	12
13	315 23.9	+02.5	316 23.0	+02.5	317 22.2	+02.4	318 21.3	+02.5	319 20.5	+02.4	13
14	330 26.4	+02.4	331 25.5	+02.5	332 24.6	+02.5	333 23.8	+02.4	334 22.9	+02.5	14
15	345 28.8	+02.5	346 28.0	+02.4	347 27.1	+02.5	348 26.2	+02.5	349 25.4	+02.5	15
16	0 31.3	+02.5	1 30.4	+02.5	2 29.6	+02.4	3 28.7	+02.5	4 27.9	+02.4	16
17	15 33.8	+02.4	16 32.9	+02.5	17 32.0	+02.5	18 31.2	+02.4	19 30.3	+02.5	17
18	30 36.2	+02.5	31 35.4	+02.4	32 34.5	+02.5	33 33.6	+02.5	34 32.8	+02.4	18
19	45 38.7	+02.4	46 37.8	+02.5	47 37.0	+02.4	48 36.1	+02.5	49 35.2	+02.5	19
20	60 41.1	+02.5	61 40.3	+02.5	62 39.4	+02.5	63 38.6	+02.4	64 37.7	+02.5	20
21	75 43.6	+02.5	76 42.8	+02.4	77 41.9	+02.5	78 41.0	+02.5	79 40.2	+02.4	21
22	90 46.1	+02.4	91 45.2	+02.5	92 44.4	+02.4	93 43.5	+02.5	94 42.6	+02.5	22
23	105 48.5	+02.5	106 47.7	+02.4	107 46.8	+02.5	108 46.0	+02.4	109 45.1	+02.5	23

	day 26 of 366	day 27 of 366	day 28 of 366	day 29 of 366	day 30 of 366						
UT	January 26	January 27	January 28	January 29	January 30	UT					
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	UT
00	124 47.6	+02.4	125 46.7	+02.5	126 45.8	+02.5	127 45.0	+02.4	128 44.1	+02.5	00
01	139 50.0	+02.5	140 49.2	+02.4	141 48.3	+02.5	142 47.4	+02.5	143 46.6	+02.4	01
02	154 52.5	+02.5	155 51.6	+02.5	156 50.8	+02.4	157 49.9	+02.5	158 49.0	+02.5	02
03	169 55.0	+02.4	170 54.1	+02.5	171 53.2	+02.5	172 52.4	+02.4	173 51.5	+02.5	03
04	184 57.4	+02.5	185 56.6	+02.4	186 55.7	+02.5	187 54.8	+02.5	188 54.0	+02.4	04
05	199 59.9	+02.5	200 59.0	+02.5	201 58.2	+02.4	202 57.3	+02.5	203 56.4	+02.5	05
06	215 02.4	+02.4	216 01.5	+02.5	217 00.6	+02.5	217 59.8	+02.4	218 58.9	+02.5	06
07	230 04.8	+02.5	231 04.0	+02.4	232 03.1	+02.5	233 02.2	+02.5	234 01.4	+02.4	07
08	245 07.3	+02.4	246 06.4	+02.5	247 05.6	+02.4	248 04.7	+02.5	249 03.8	+02.5	08
09	260 09.7	+02.5	261 08.9	+02.4	262 08.0	+02.5	263 07.2	+02.4	264 06.3	+02.5	09
10	275 12.2	+02.5	276 11.3	+02.5	277 10.5	+02.4	278 09.6	+02.5	279 08.8	+02.4	10
11	290 14.7	+02.4	291 13.8	+02.5	292 12.9	+02.5	293 12.1	+02.5	294 11.2	+02.5	11
12	305 17.1	+02.5	306 16.3	+02.4	307 15.4	+02.5	308 14.6	+02.4	309 13.7	+02.5	12
13	320 19.6	+02.5	321 18.7	+02.5	322 17.9	+02.4	323 17.0	+02.5	324 16.2	+02.4	13
14	335 22.1	+02.4	336 21.2	+02.5	337 20.3	+02.5	338 19.5	+02.4	339 18.6	+02.5	14
15	350 24.5	+02.5	351 23.7	+02.4	352 22.8	+02.5	353 21.9	+02.5	354 21.1	+02.4	15
16	5 27.0	+02.5	6 26.1	+02.5	7 25.3	+02.4	8 24.4	+02.5	9 23.5	+02.5	16
17	20 29.5	+02.4	21 28.6	+02.5	22 27.7	+02.5	23 26.9	+02.4	24 26.0	+02.5	17
18	35 31.9	+02.5	36 31.1	+02.4	37 30.2	+02.5	38 29.3	+02.5	39 28.5	+02.4	18
19	50 34.4	+02.4	51 33.5	+02.5	52 32.7	+02.4	53 31.8	+02.5	54 30.9	+02.5	19
20	65 36.8	+02.5	66 36.0	+02.5	67 35.1	+02.5	68 34.3	+02.4	69 33.4	+02.5	20
21	80 39.3	+02.5	81 38.5	+02.4	82 37.6	+02.5	83 36.7	+02.5	84 35.9	+02.4	21
22	95 41.8	+02.4	96 40.9	+02.5	97 40.1	+02.4	98 39.2	+02.5	99 38.3	+02.5	22
23	110 44.2	+02.5	111 43.4	+02.4	112 42.5	+02.5	113 41.7	+02.4	114 40.8	+02.5	23

	SHA	Dec		SHA	Dec	
	° ,'	° ,'		° ,'	° ,'	
Alpheratz	357 35.8	N 29 13.5	Gienah	175 44.2	S 17 40.5	
Ankaa	353 08.2	S 42 10.7	Acrux	173 00.7	S 63 13.7	
Schedir	349 32.2	N 56 40.4	Gacrux	171 52.4	S 57 14.5	
Diphda	348 48.3	S 17 51.5	Alioth	166 13.6	N 55 49.5	
Achernar	335 20.9	S 57 07.2	Spica	158 23.1	S 11 17.2	
Hamal	327 52.1	N 23 34.7	Alkaid	152 52.6	N 49 11.3	
Polaris	314 17.7	N 89 22.2	Hadar	148 37.2	S 60 29.0	
Acamar	315 12.2	S 40 12.8	Menkent	147 58.3	S 36 28.9	
Menkar	314 06.9	N 04 11.0	Arcturus	145 48.3	N 19 04.0	
Mirfak	308 29.2	N 49 57.0	Rigel Kentaurus	139 38.7	S 60 56.0	
Aldebaran	290 40.3	N 16 33.5	Zubenelgenubi	136 56.9	S 16 08.4	
Capella	280 22.7	N 46 01.6	Kocab	137 20.0	N 74 03.0	
Rigel	281 04.4	S 08 10.5	Alphecca	126 04.6	N 26 37.8	
Bellatrix	278 23.4	N 06 22.3	Antares	112 17.2	S 26 29.1	
Elnath	278 02.6	N 28 37.8	Atria	107 12.4	S 69 04.0	
Alnilam	275 38.3	S 01 11.2	Sabik	102 04.0	S 15 45.3	
Betelgeuze	270 52.7	N 07 24.7	Shaula	96 11.8	S 37 07.2	
Canopus	263 52.2	S 52 42.6	Rasalhague	95 59.6	N 12 32.5	
Sirius	258 26.4	S 16 44.5	Etamin	90 43.0	N 51 28.9	
Adhara	255 06.1	S 29 00.3	Kaus Australis	83 33.9	S 34 22.3	
Castor	245 57.6	N 31 50.1	Vega	80 34.2	N 38 48.0	
Procyon	244 51.1	N 05 10.2	Nunki	75 49.1	S 26 16.0	
Pollux	243 17.5	N 27 58.1	Albireo	67 05.1	N 28 00.5	
Avior	234 14.4	S 59 35.1	Altair	62 01.3	N 08 55.6	
Suhail	222 46.4	S 43 31.7	Peacock	53 07.6	S 56 39.5	
Miplacidus	221 37.4	S 69 48.8	Deneb	49 26.8	N 45 21.9	
Alphard	217 48.2	S 08 45.8	Enif	33 39.9	N 09 59.0	
Regulus	207 34.9	N 11 50.9	Alnair	27 34.4	S 46 50.8	
Dubhe	193 41.4	N 61 37.1	Formalhaut	15 15.8	S 29 29.8	
Denebola	182 25.4	N 14 26.2	Markab	13 30.9	N 15 20.1	

	SHA	Dec		SHA	Dec	
	° ,'	° ,'		° ,'	° ,'	
Alpheratz	357 35.8	N 29 13.5	Gienah	175 44.2	S 17 40.5	
Ankaa	353 08.2	S 42 10.6	Acrux	173 00.7	S 63 13.7	

2024 - First Point of Aries / Selected Stars

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UT	day 51 of 366		day 52 of 366		day 53 of 366		day 54 of 366		day 55 of 366		UT
	February 20		February 21		February 22		February 23		February 24		
	GHA	ddGHA									
00	149 26.0	+02.5	150 25.2	+02.4	151 24.3	+02.5	152 23.5	+02.4	153 22.6	+02.5	00
01	164 28.5	+02.5	165 27.6	+02.5	166 26.8	+02.4	167 25.9	+02.5	168 25.1	+02.4	01
02	179 31.0	+02.4	180 30.1	+02.5	181 29.2	+02.5	182 28.4	+02.5	183 27.5	+02.5	02
03	194 33.4	+02.5	195 32.6	+02.4	196 31.7	+02.5	197 30.9	+02.4	198 30.0	+02.5	03
04	209 35.9	+02.5	210 35.0	+02.5	211 34.2	+02.4	212 33.3	+02.5	213 32.5	+02.4	04
05	224 38.4	+02.4	225 37.5	+02.5	226 36.6	+02.5	227 35.8	+02.4	228 34.9	+02.5	05
06	239 40.8	+02.5	240 40.0	+02.4	241 39.1	+02.5	242 38.2	+02.5	243 37.4	+02.4	06
07	254 43.3	+02.5	255 42.4	+02.5	256 41.6	+02.4	257 40.7	+02.5	258 39.8	+02.5	07
08	269 45.8	+02.4	270 44.9	+02.5	271 44.0	+02.5	272 43.2	+02.4	273 42.3	+02.5	08
09	284 48.2	+02.5	285 47.4	+02.4	286 46.5	+02.5	287 45.6	+02.5	288 44.8	+02.4	09
10	299 50.7	+02.4	300 49.8	+02.5	301 49.0	+02.4	302 48.1	+02.5	303 47.2	+02.5	10
11	314 53.1	+02.5	315 52.3	+02.5	316 51.4	+02.5	317 50.6	+02.4	318 49.7	+02.5	11
12	329 55.6	+02.5	330 54.8	+02.4	331 53.9	+02.5	332 53.0	+02.5	333 52.2	+02.4	12
13	344 58.1	+02.4	345 57.2	+02.5	346 56.4	+02.4	347 55.5	+02.5	348 54.6	+02.5	13
14	0 00.5	+02.5	1 59.7	+02.4	2 58.8	+02.5	3 58.0	+02.4	3 57.1	+02.5	14
15	15 03.0	+02.5	16 02.1	+02.5	17 01.3	+02.4	18 00.4	+02.5	18 59.6	+02.4	15
16	30 05.5	+02.4	31 04.6	+02.5	32 03.7	+02.5	33 02.9	+02.4	34 02.0	+02.5	16
17	45 07.9	+02.5	46 07.1	+02.4	47 06.2	+02.5	48 05.3	+02.5	49 04.5	+02.4	17
18	60 10.4	+02.5	61 09.5	+02.5	62 08.7	+02.4	63 07.8	+02.5	64 06.9	+02.5	18
19	75 12.9	+02.4	76 12.0	+02.5	77 11.1	+02.5	78 10.3	+02.4	79 09.4	+02.5	19
20	90 15.3	+02.5	91 14.5	+02.4	92 13.6	+02.5	93 12.7	+02.5	94 11.9	+02.4	20
21	105 17.8	+02.5	106 16.9	+02.5	107 16.1	+02.4	108 15.2	+02.5	109 14.3	+02.5	21
22	120 20.3	+02.4	121 19.4	+02.5	122 18.5	+02.5	123 17.7	+02.4	124 16.8	+02.5	22
23	135 22.7	+02.5	136 21.9	+02.4	137 21.0	+02.5	138 20.1	+02.5	139 19.3	+02.4	23

UT	day 36 of 366		day 37 of 366		day 38 of 366		day 39 of 366		day 40 of 366		UT
	February 5		February 6		February 7		February 8		February 9		
	GHA	ddGHA									
00	134 39.0	+02.4	135 38.1	+02.5	136 37.2	+02.5	137 36.4	+02.4	138 35.5	+02.5	00
01	149 41.4	+02.5	150 40.6	+02.4	151 39.7	+02.5	152 38.8	+02.5	153 38.0	+02.4	01
02	164 43.9	+02.4	165 43.0	+02.5	166 42.2	+02.4	167 41.3	+02.5	168 40.4	+02.5	02
03	179 46.3	+02.5	180 45.5	+02.4	181 44.6	+02.5	182 43.8	+02.4	183 42.9	+02.5	03
04	194 48.8	+02.5	195 47.9	+02.5	196 47.1	+02.5	197 46.2	+02.5	198 45.4	+02.4	04
05	209 51.3	+02.4	210 50.4	+02.5	211 49.6	+02.4	212 48.7	+02.5	213 47.8	+02.5	05
06	224 53.7	+02.5	225 52.9	+02.4	226 52.0	+02.5	227 51.2	+02.4	228 50.3	+02.5	06
07	239 56.2	+02.5	240 55.3	+02.5	241 54.5	+02.4	242 53.6	+02.5	243 52.8	+02.4	07
08	254 58.7	+02.4	255 57.8	+02.5	256 56.9	+02.5	257 56.1	+02.5	258 55.2	+02.5	08
09	270 01.1	+02.5	271 00.3	+02.4	272 01.5	+02.5	273 00.7	+02.5	274 00.2	+02.4	09
10	285 03.6	+02.5	286 02.7	+02.5	287 01.9	+02.4	288 01.0	+02.5	289 00.2	+02.4	10
11	300 06.1	+02.4	301 05.2	+02.5	302 04.3	+02.5	303 03.5	+02.4	304 02.6	+02.5	11
12	315 08.5	+02.5	316 07.7	+02.4	317 06.8	+02.5	318 05.9	+02.5	319 05.1	+02.4	12
13	330 11.0	+02.4	331 10.1	+02.5	332 09.3	+02.4	333 08.4	+02.5	334 07.5	+02.5	13
14	345 13.4	+02.5	346 12.6	+02.5	347 11.7	+02.5	348 10.9	+02.4	349 10.0	+02.5	14
15	0 15.9	+02.5	1 15.1	+02.4	2 14.2	+02.5	3 13.3	+02.5	4 12.5	+02.4	15
16	15 18.4	+02.4	16 17.5	+02.5	17 16.7	+02.4	18 15.8	+02.5	19 14.9	+02.5	16
17	30 20.8	+02.5	31 20.0	+02.4	32 19.1	+02.5	33 18.3	+02.4	34 17.4	+02.5	17
18	45 23.3	+02.5	46 22.4	+02.5	47 21.6	+02.5	48 20.7	+02.5	49 19.9	+02.4	18
19	60 25.8	+02.4	61 24.9	+02.5	62 24.1	+02.4	63 23.2	+02.5	64 22.3	+02.5	19
20	75 28.2	+02.5	76 27.4	+02.4	77 26.5	+02.5	78 25.7	+02.4	79 24.8	+02.5	20
21	90 30.7	+02.5	91 29.8	+02.5	92 29.0	+02.4	93 28.1	+02.5	94 27.3	+02.4	21
22	105 33.2	+02.4	106 32.3	+02.5	107 31.4	+02.5	108 30.6	+02.5	109 29.7	+02.5	22
23	120 35.6	+02.5	121 34.8	+02.4	122 33.9	+02.5	123 33.1	+02.4	124 32.2	+02.5	23

	SHA	Dec		SHA	Dec
	° ,	° ,		° ,	° ,
Alpheratz	357 35.9	N 29 13.4	Gienah	175 44.0	S 17 40.6
Ankaa	353 08.3	S 42 10.6	Acrux	173 00.4	S 63 13.8
Schedir	349 32.4	N 56 40.3	Gacrux	171 52.1	S 57 14.7
Diphda	348 48.3	S 17 51.5	Alioth	166 13.3	N 55 49.5
Achernar	335 21.1	S 57 07.1	Spica	158 22.9	S 11 17.3
Hamal	327 52.2	N 23 34.6	Alkaid	152 52.2	N 49 11.3
Polaris	314 31.8	N 89 22.3	Hadar	148 36.8	S 60 29.1
Acamar	315 12.4	S 40 12.8	Menkent	147 58.0	S 36 28.9
Menkar	314 07.0	N 04 11.0	Arcturus	145 48.0	N 19 04.0
Mirfak	308 29.4	N 49 57.0	Rigel Kentaurus	139 38.3	S 60 56.0
Aldebaran	290 40.4	N 16 33.5	Zubenelgenubi	136 56.8	S 16 08.5
Capella	280 22.8	N 46 01.6	Kocab	137 19.7	N 74 03.0
Rigel	281 04.4	S 08 10.6	Alphecca	126 04.5	N 26 37.8
Bellatrix	278 23.5	N 06 22.2	Antares	112 17.0	S 26 29.1
Elnath	278 02.6	N 28 37.8	Atria	107 12.2	S 69 04.0
Alnilam	275 38.3	S 01 11.3	Sabik	102 03.9	S 15 45.4
Betelgeuze	270 52.7	N 07 24.6	Shaula	96 11.7	S 37 07.2
Canopus	263 52.4	S 52 42.7	Canopus	95 59.5	N 12 32.5
Sirius	258 26.6	S 16 44.6	Etamin	90 42.9	N 51 28.8
Adhara	255 06.2	S 29 00.4	Kaus Australis	83 33.8	S 34 22.3
Castor	245 57.6	N 31 50.2	Vega	80 34.2	N 38 48.0
Procyon	244 51.1	N 05 10.1	Nunki	75 49.0	S 26 16.0
Pollux	243 17.5	N 27 58.1	Albireo	67 05.0	N 28 00.4
Avior	234 14.5	S 59 35.3	Altair	62 01.2	N 08 55.6
Suhail	222 46.4	S 43 31.9	Peacock	53 07.5	S 56 39.5
Miplacidus	221 37.4	S 69 49.0	Deneb	49 26.8	N 45 21.8
Alphard	217 48.1	S 08 45.9	Enif	33 39.8	N 09 59.0
Regulus	207 34.8	N 11 50.9	Alnair	27 34.3	S 46 50.8
Dubhe	193 41.1	N 61 37.1	Formalhaut	15 15.8	S 29 29.8
Denebola	182 25.2	N 14 26.1	Markab	13 31.0	N 15 20.0

	SHA	Dec		SHA	Dec
	° ,	° ,		° ,	° ,
Alpheratz	357 35.9	N 29 13.5	Gienah	175 44.1	S 17 40.5
Ankaa	353 08.3	S 42 10.6	Acrux	173 00.5	S 63 13.7
Schedir	349 32.3	N 56 40.3	Gacrux	171 52.2	S 57 14.6
Diphda	348 48.3	S 17 51.5	Alioth	166 13.4	N 55 49.5
Achernar	335 21.0	S 57 07.2	Spica	158	

2024 - First Point of Aries / Selected Stars

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UT	day 41 of 366		day 42 of 366		day 43 of 366		day 44 of 366		day 45 of 366		UT
	February 10		February 11		February 12		February 13		February 14		
GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA		
00	139 34.7 +02.4	140 33.8 +02.5	141 32.9 +02.5	142 32.1 +02.4	143 31.2 +02.5	00					
01	154 37.1 +02.5	155 36.3 +02.4	156 35.4 +02.5	157 34.5 +02.5	158 33.7 +02.4	01					
02	169 39.6 +02.4	170 38.7 +02.5	171 37.9 +02.4	172 37.0 +02.5	173 36.1 +02.5	02					
03	184 42.0 +02.5	185 41.2 +02.4	186 40.3 +02.5	187 39.5 +02.4	188 38.6 +02.5	03					
04	199 44.5 +02.5	200 43.6 +02.5	201 42.8 +02.5	202 41.9 +02.5	203 41.1 +02.4	04					
05	214 47.0 +02.4	215 46.1 +02.5	216 45.3 +02.4	217 44.4 +02.5	218 43.5 +02.5	05					
06	229 49.4 +02.5	230 48.6 +02.4	231 47.7 +02.5	232 46.9 +02.4	233 46.0 +02.5	06					
07	244 51.9 +02.5	245 51.0 +02.5	246 50.2 +02.4	247 49.3 +02.5	248 48.5 +02.4	07					
08	259 54.4 +02.4	260 53.5 +02.5	261 52.6 +02.5	262 51.8 +02.4	263 50.9 +02.5	08					
09	274 56.8 +02.5	275 56.0 +02.4	276 55.1 +02.5	277 54.2 +02.5	278 53.4 +02.4	09					
10	289 59.3 +02.5	290 58.4 +02.5	291 57.6 +02.4	292 56.7 +02.5	293 55.8 +02.5	10					
11	305 01.8 +02.4	306 00.9 +02.5	307 00.0 +02.5	308 59.2 +02.4	308 58.3 +02.5	11					
12	320 04.2 +02.5	321 03.4 +02.4	322 02.5 +02.5	323 01.6 +02.5	324 00.8 +02.4	12					
13	335 06.7 +02.5	336 05.8 +02.5	337 05.0 +02.4	338 04.1 +02.5	339 03.2 +02.5	13					
14	350 09.2 +02.4	351 08.3 +02.5	352 07.4 +02.5	353 06.6 +02.4	354 05.7 +02.5	14					
15	5 11.6 +02.5	6 10.8 +02.4	7 09.9 +02.5	8 09.0 +02.5	9 08.2 +02.4	15					
16	20 14.1 +02.4	21 13.2 +02.5	22 12.4 +02.4	23 11.5 +02.5	24 10.6 +02.5	16					
17	35 16.5 +02.5	36 15.7 +02.4	37 14.8 +02.5	38 14.0 +02.4	39 13.1 +02.5	17					
18	50 19.0 +02.5	51 18.1 +02.5	52 17.3 +02.4	53 16.4 +02.5	54 15.6 +02.4	18					
19	65 21.5 +02.4	66 20.6 +02.5	67 19.7 +02.5	68 18.9 +02.4	69 18.0 +02.5	19					
20	80 23.9 +02.5	81 23.1 +02.4	82 22.2 +02.5	83 21.3 +02.5	84 20.5 +02.4	20					
21	95 26.4 +02.5	96 25.5 +02.5	97 24.7 +02.4	98 23.8 +02.5	99 22.9 +02.5	21					
22	110 28.9 +02.4	111 28.0 +02.5	112 27.1 +02.5	113 26.3 +02.4	114 25.4 +02.5	22					
23	125 31.3 +02.5	126 30.5 +02.4	127 29.6 +02.5	128 28.7 +02.5	129 27.9 +02.4	23					

UT	day 46 of 366		day 47 of 366		day 48 of 366		day 49 of 366		day 50 of 366		UT
	February 15		February 16		February 17		February 18		February 19		
GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA		
00	144 30.3 +02.5	145 29.5 +02.4	146 28.6 +02.5	147 27.8 +02.4	148 26.9 +02.5	00					
01	159 32.8 +02.5	160 31.9 +02.5	161 31.1 +02.4	162 30.2 +02.5	163 29.4 +02.4	01					
02	174 35.3 +02.4	175 34.4 +02.5	176 33.5 +02.5	177 32.7 +02.5	178 31.8 +02.5	02					
03	189 37.7 +02.5	190 36.9 +02.4	191 36.0 +02.5	192 35.2 +02.4	193 34.3 +02.5	03					
04	204 40.2 +02.5	205 39.3 +02.5	206 38.5 +02.4	207 37.6 +02.5	208 36.8 +02.4	04					
05	219 42.7 +02.4	220 41.8 +02.5	221 40.9 +02.5	222 40.1 +02.4	223 39.2 +02.5	05					
06	234 45.1 +02.5	235 44.3 +02.4	236 43.4 +02.5	237 42.5 +02.5	238 41.7 +02.4	06					
07	249 47.6 +02.5	250 46.7 +02.5	251 45.9 +02.4	252 45.0 +02.5	253 44.1 +02.5	07					
08	264 50.1 +02.4	265 49.2 +02.5	266 48.3 +02.5	267 47.5 +02.4	268 46.6 +02.5	08					
09	279 52.5 +02.5	280 51.7 +02.4	281 50.8 +02.5	282 49.9 +02.4	283 49.1 +02.4	09					
10	294 55.0 +02.4	295 54.1 +02.5	296 53.3 +02.4	297 52.4 +02.5	298 51.5 +02.5	10					
11	309 57.4 +02.5	310 56.6 +02.5	311 55.7 +02.5	312 54.9 +02.4	313 54.0 +02.5	11					
12	324 59.9 +02.5	325 59.1 +02.4	326 58.2 +02.5	327 57.3 +02.5	328 56.5 +02.4	12					
13	340 02.4 +02.4	341 01.5 +02.5	342 00.7 +02.4	343 59.8 +02.5	343 58.9 +02.5	13					
14	355 04.8 +02.5	356 04.0 +02.4	357 03.1 +02.5	358 02.3 +02.4	359 01.4 +02.5	14					
15	10 07.3 +02.5	11 06.4 +02.5	12 05.6 +02.4	13 04.7 +02.5	14 03.9 +02.4	15					
16	25 09.8 +02.4	26 08.9 +02.5	27 08.0 +02.5	28 07.2 +02.5	29 06.3 +02.5	16					
17	40 12.2 +02.5	41 11.4 +02.4	42 10.5 +02.5	43 09.7 +02.4	44 08.8 +02.5	17					
18	55 14.7 +02.5	56 13.8 +02.5	57 13.0 +02.4	58 12.1 +02.5	59 11.3 +02.4	18					
19	70 17.2 +02.4	71 16.3 +02.5	72 15.4 +02.5	73 14.6 +02.4	74 13.7 +02.5	19					
20	85 19.6 +02.5	86 18.8 +02.4	87 17.9 +02.5	88 17.0 +02.5	89 16.2 +02.4	20					
21	100 22.1 +02.5	101 21.2 +02.5	102 20.4 +02.4	103 19.5 +02.5	104 18.6 +02.5	21					
22	115 24.6 +02.4	116 23.7 +02.5	117 22.8 +02.5	118 22.0 +02.4	119 21.1 +02.5	22					
23	130 27.0 +02.5	131 26.2 +02.4	132 25.3 +02.5	133 24.4 +02.5	134 23.6 +02.4	23					

Alpheratz	357 35.9	N 29 13.5	Gienah	175 44.1	S 17 40.6
Ankaa	353 08.3	S 42 10.6	Acrux	173 00.5	S 63 13.8
Schedir	349 32.3	N 56 40.3	Gacrux	171 52.2	S 57 14.6
Diphda	348 48.3	S 17 51.5	Alioth	166 13.4	N 55 49.5
Achernar	335 21.0	S 57 07.2	Spica	158 22.9	S 11 17.3
Hamal	327 52.2	N 23 34.7	Alkaid	152 52.3	N 49 11.3
Polaris	314 27.0	N 89 22.3	Hadar	148 36.9	S 60 29.1
Acamar	315 12.3	S 40 12.8	Menket	147 58.1	S 36 28.9
Menkar	314 06.9	N 04 11.0	Arcturus	145 48.1	N 19 04.0
Mirfak	308 29.3	N 49 57.0	Rigel Kentaurus	139 38.4	S 60 56.1
Aldebaran	290 40.4	N 16 33.5	Zubenelgenubi	136 56.7	S 16 08.5
Capella	280 22.8	N 46 01.6	Kocab	137 19.5	N 74 03.0
Rigel	281 04.4	S 08 10.5	Alphecca	126 04.4	N 26 37.8
Bellatrix	278 23.5	N 06 22.2	Antares	112 17.0	S 26 29.1
Elnath	278 02.6	N 28 37.8	Atria	107 12.0	S 69 04.0
Alnilam	275 38.3	S 01 11.3	Sabik	102 03.8	S 15 45.4
Betelgeuze	270 52.7	N 07 24.6	Shaula	96 11.6	S 37 07.2
Canopus	263 52.3	S 52 42.7	Rasalhague	95 59.4	N 12 32.4
Sirius	258 26.4	S 16 44.6	Etamin	90 42.8	N 51 28.8
Adhara	255 06.1	S 29 00.4	Kaus Australis	83 33.7	S 34 22.3
Castor	245 57.6	N 31 50.2	Vega	80 34.1	N 38 47.9
Procyon	244 51.1	N 05 10.1	Nunki	75 49.0	S 26 16.0
Pollux	243 17.5	N 27 58.1	Albireo	67 05.0	N 28 00.4
Avior	234 14.4	S 59 35.3	Altair	62 01.2	N 08 55.6
Suhail	222 46.4	S 43 31.8	Peacock	53 07.4	S 56 39.4
Miplacidus	221 37.4	S 69 49.0	Deneb	49 26.8	N 45 21.8
Alphard	217 48.2	S 08 45.9	Enif	33 39.9	N 09 59.0
Regulus	207 34.8	N 11 50.9	Alnair	27 34.3	S 46 50.7
Dubhe	193 41.2	N 61 37.1	Formalhaut	15 15.8	S 29 29.8
Denebola	182 25.3	N 14 26.2	Markab	13 31.0	N 15 20.0

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2024 - First Point of Aries / Selected Stars

UT	day 71 of 366		day 72 of 366		day 73 of 366		day 74 of 366		day 75 of 366		UT
	March 11	GHA ddGHA	March 12	GHA ddGHA	March 13	GHA ddGHA	March 14	GHA ddGHA	March 15	GHA ddGHA	
00	169	08.8 +02.5	170	07.9 +02.5	171	07.1 +02.4	172	06.2 +02.5	173	05.4 +02.4	00
01	184	11.3 +02.4	185	10.4 +02.5	186	09.5 +02.5	187	08.7 +02.4	188	07.8 +02.5	01
02	199	13.7 +02.5	200	12.9 +02.4	201	12.0 +02.5	202	11.1 +02.5	203	10.3 +02.5	02
03	214	16.2 +02.5	215	15.3 +02.5	216	14.5 +02.4	217	13.6 +02.5	218	12.8 +02.4	03
04	229	18.7 +02.4	230	17.8 +02.5	231	16.9 +02.5	232	16.1 +02.4	233	15.2 +02.5	04
05	244	21.1 +02.5	245	20.3 +02.4	246	19.4 +02.5	247	18.5 +02.5	248	17.7 +02.4	05
06	259	23.6 +02.5	260	22.7 +02.5	261	21.9 +02.4	262	21.0 +02.5	263	20.1 +02.5	06
07	274	26.1 +02.4	275	25.2 +02.5	276	24.3 +02.5	277	23.5 +02.4	278	22.6 +02.5	07
08	289	28.5 +02.5	290	27.7 +02.4	291	26.8 +02.5	292	25.9 +02.5	293	25.1 +02.4	08
09	304	31.0 +02.5	305	30.1 +02.5	306	29.3 +02.4	307	28.4 +02.5	308	27.5 +02.5	09
10	319	33.5 +02.4	320	32.6 +02.5	321	31.7 +02.5	322	30.9 +02.4	323	30.0 +02.5	10
11	334	35.9 +02.5	335	35.1 +02.4	336	34.2 +02.5	337	33.3 +02.5	338	32.5 +02.4	11
12	349	38.4 +02.4	350	37.5 +02.5	351	36.7 +02.4	352	35.8 +02.5	353	34.9 +02.5	12
13	4	40.8 +02.5	5	40.0 +02.4	6	39.1 +02.5	7	38.3 +02.4	8	37.4 +02.5	13
14	19	43.3 +02.5	20	42.4 +02.5	21	41.6 +02.4	22	40.7 +02.5	23	39.9 +02.4	14
15	34	45.8 +02.4	35	44.9 +02.5	36	44.0 +02.5	37	43.2 +02.4	38	42.3 +02.5	15
16	49	48.2 +02.5	50	47.4 +02.4	51	46.5 +02.5	52	45.6 +02.5	53	44.8 +02.5	16
17	64	50.7 +02.5	65	49.8 +02.5	66	49.0 +02.4	67	48.1 +02.5	68	47.3 +02.4	17
18	79	53.2 +02.4	80	52.3 +02.5	81	51.4 +02.5	82	50.6 +02.4	83	49.7 +02.5	18
19	94	55.6 +02.5	95	54.8 +02.4	96	53.9 +02.5	97	53.0 +02.5	98	52.2 +02.4	19
20	109	58.1 +02.5	110	57.2 +02.5	111	56.4 +02.4	112	55.5 +02.5	113	54.6 +02.5	20
21	125	00.6 +02.4	125	59.7 +02.5	126	58.8 +02.5	127	58.0 +02.4	128	57.1 +02.5	21
22	140	03.0 +02.5	141	02.2 +02.4	142	01.3 +02.5	143	00.4 +02.5	143	59.6 +02.4	22
23	155	05.5 +02.4	156	04.6 +02.5	157	03.8 +02.4	158	02.9 +02.5	159	02.0 +02.5	23

UT	day 56 of 366		day 57 of 366		day 58 of 366		day 59 of 366		day 60 of 366		UT
	February 25	GHA ddGHA	February 26	GHA ddGHA	February 27	GHA ddGHA	February 28	GHA ddGHA	February 29	GHA ddGHA	
00	154	21.7 +02.5	155	20.9 +02.4	156	20.0 +02.5	157	19.1 +02.5	158	18.3 +02.4	00
01	169	24.2 +02.5	170	23.3 +02.5	171	22.5 +02.4	172	21.6 +02.5	173	20.7 +02.5	01
02	184	26.7 +02.4	185	25.8 +02.5	186	24.9 +02.5	187	24.1 +02.4	188	23.2 +02.5	02
03	199	29.1 +02.5	200	28.3 +02.4	201	27.4 +02.5	202	26.5 +02.5	203	25.7 +02.4	03
04	214	31.6 +02.5	215	30.7 +02.5	216	29.9 +02.4	217	29.0 +02.5	218	28.1 +02.5	04
05	229	34.1 +02.4	230	33.2 +02.5	231	32.3 +02.5	232	31.5 +02.4	233	30.6 +02.5	05
06	244	36.5 +02.5	245	35.7 +02.4	246	34.8 +02.5	247	33.9 +02.5	248	33.1 +02.4	06
07	259	39.0 +02.4	260	38.1 +02.5	261	37.3 +02.4	262	36.4 +02.5	263	35.5 +02.5	07
08	274	41.4 +02.5	275	40.6 +02.4	276	39.7 +02.5	277	38.9 +02.4	278	38.0 +02.5	08
09	289	43.9 +02.5	290	43.0 +02.5	291	42.2 +02.4	292	41.3 +02.5	293	40.5 +02.4	09
10	304	46.4 +02.4	305	45.5 +02.5	306	44.6 +02.5	307	43.8 +02.4	308	42.9 +02.5	10
11	319	48.8 +02.5	320	48.0 +02.4	321	47.1 +02.5	322	46.2 +02.5	323	45.4 +02.5	11
12	334	51.3 +02.5	335	50.4 +02.5	336	49.6 +02.4	337	48.7 +02.5	338	47.9 +02.4	12
13	349	53.8 +02.4	350	52.9 +02.5	351	52.0 +02.5	352	51.2 +02.4	353	50.3 +02.5	13
14	4	56.2 +02.5	5	55.4 +02.4	6	54.5 +02.5	7	53.6 +02.5	8	52.8 +02.4	14
15	19	58.7 +02.5	20	57.8 +02.5	21	57.0 +02.4	22	56.1 +02.5	23	55.2 +02.5	15
16	35	01.2 +02.4	36	00.3 +02.5	36	59.4 +02.5	37	58.6 +02.4	38	57.7 +02.5	16
17	50	03.6 +02.5	51	02.8 +02.4	52	01.9 +02.5	53	01.0 +02.5	54	00.2 +02.4	17
18	65	06.1 +02.5	66	05.2 +02.5	67	04.4 +02.4	68	03.5 +02.5	69	02.6 +02.5	18
19	80	08.6 +02.4	81	07.7 +02.5	82	06.8 +02.5	83	06.0 +02.4	84	05.1 +02.5	19
20	95	11.0 +02.5	96	10.2 +02.4	97	09.3 +02.5	98	08.4 +02.5	99	07.6 +02.4	20
21	110	13.5 +02.4	111	12.6 +02.5	112	11.8 +02.4	113	10.9 +02.5	114	10.0 +02.5	21
22	125	15.9 +02.5	126	15.1 +02.4	127	14.2 +02.5	128	13.4 +02.4	129	12.5 +02.5	22
23	140	18.4 +02.5	141	17.5 +02.5	142	16.7 +02.4	143	15.8 +02.5	144	15.0 +02.4	23

	SHA	Dec		SHA	Dec						
Alpheratz	357	35.9	N	29	13.4	Gienah	175	44.0	S	17	40.7
Ankaa	353	08.3	S	42	10.5	Acrux	173	00.3	S	63	13.8
Schedir	349	32.4	N	56	40.2	Gacrux	171	52.0	S	57	14.7
Diphda	348	48.4	S	17	51.4	Alioth	166	13.2	N	55	49.5
Achernar	335	21.2	S	57	07.0	Spica	158	22.8	S	11	17.3
Hamal	327	52.3	N	23	34.6	Alkaid	152	52.2	N	49	11.3
Polaris	314	40.9	N	89	22.2	Hadar	148	36.7	S	60	29.2
Acamar	315	12.5	S	40	12.7	Menket	147	58.0	S	36	29.0
Menkar	314	07.0	N	04	11.0	Arcturus	145	48.0	N	19	04.0
Mirfak	308	29.5	N	49	57.0	Rigel Kentaurus	139	38.2	S	60	56.1
Aldebaran	290	40.5	N	16	33.5	Zubenelgenubi	136	56.6	S	16	08.5
Capella	280	23.0	N	46	01.6	Kocab	137	19.3	N	74	03.0
Rigel	281	04.5	S	08	10.6	Alphecca	126	04.3	N	26	37.8
Bellatrix	278	23.6	N	06	22.2	Antares	112	16.9	S	26	29.1
Elnath	278	02.7	N	28	37.8	Atria	107	11.8	S	69	04.0
Alnilam	275	38.4	S	01	11.3	Sabik	102	03.7	S	15	45.4
Betelgeuze	270	52.8	N	07	24.6	Shaula	96	11.5	S	37	07.2
Canopus	263	52.6	S	52	42.8	Rasalhague	95	59.4	N	12	32.4
Sirius	258	26.5	S	16	44.6	Etamin	90	42.7	N	51	28.8
Adhara	255	06.2	S	29	00.5	Kaus Australis	83	33.6	S	34	22.3
Castor	245	57.7	N	31	50.2	Vega	80	34.0	N	38	47.9
Procyon	244	51.1	N	05	10.1	Nunki	75	48.9	S	26	16.0
Pollux	243	17.6	N	27	58.1	Albireo	67	04.9	N	28	00.3
Avior	234	14.6	S	59	35.4	Altair	62	01.1	N	08	55.6
Suhail	222	46.5	S	43	32.0	Peacock	53	07.3	S	56	39.4
Miaplacidus	221	37.5	S	69	49.1	Deneb	49	26.7	N	45	21.7
Alphard	217	48.2	S	08	45.9	Enif	33	39.8	N	09	59.0
Regulus	207	34.8	N	11	50.9	Alnair	27	34.3	S	46	50.7
Dubhe	193	41.0	N	61	37.2	Formalhaut	15	15.8	S	29	29.8
Denebola	182	25.1	N	14	26.1	Markab	13	31.0	N	15	20.0

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2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

UT	day 61 of 366		day 62 of 366		day 63 of 366		day 64 of 366		day 65 of 366		UT
	March 1	GHA ddGHA	March 2	GHA ddGHA	March 3	GHA ddGHA	March 4	GHA ddGHA	March 5	GHA ddGHA	
00	159 17.4	+02.5	160 16.6	+02.4	161 15.7	+02.5	162 14.8	+02.5	163 14.0	+02.4	00
01	174 19.9	+02.4	175 19.0	+02.5	176 18.2	+02.4	177 17.3	+02.5	178 16.4	+02.5	01
02	189 22.3	+02.5	190 21.5	+02.5	191 20.6	+02.5	192 19.8	+02.4	193 18.9	+02.5	02
03	204 24.8	+02.5	205 24.0	+02.4	206 23.1	+02.5	207 22.2	+02.5	208 21.4	+02.4	03
04	219 27.3	+02.4	220 26.4	+02.5	221 25.6	+02.4	222 24.7	+02.5	223 23.8	+02.5	04
05	234 29.7	+02.5	235 28.9	+02.4	236 28.0	+02.5	237 27.2	+02.4	238 26.3	+02.5	05
06	249 32.2	+02.5	250 31.3	+02.5	251 30.5	+02.4	252 29.6	+02.5	253 28.8	+02.4	06
07	264 34.7	+02.4	265 33.8	+02.5	266 32.9	+02.5	267 32.1	+02.5	268 31.2	+02.5	07
08	279 37.1	+02.5	280 36.3	+02.4	281 35.4	+02.5	282 34.6	+02.4	283 33.7	+02.5	08
09	294 39.6	+02.5	295 38.7	+02.5	296 37.9	+02.4	297 37.0	+02.5	298 36.2	+02.4	09
10	309 42.1	+02.4	310 41.2	+02.5	311 40.3	+02.5	312 39.5	+02.4	313 38.6	+02.5	10
11	324 44.5	+02.5	325 43.7	+02.4	326 42.8	+02.5	327 41.9	+02.5	328 41.1	+02.4	11
12	339 47.0	+02.5	340 46.1	+02.5	341 45.3	+02.4	342 44.4	+02.5	343 43.5	+02.5	12
13	354 49.5	+02.4	355 48.6	+02.5	356 47.7	+02.5	357 46.9	+02.4	358 46.0	+02.5	13
14	9 51.9	+02.5	10 51.1	+02.4	11 50.2	+02.5	12 49.3	+02.5	13 48.5	+02.4	14
15	24 54.4	+02.4	25 53.5	+02.5	26 52.7	+02.4	27 51.8	+02.5	28 50.9	+02.5	15
16	39 56.8	+02.5	40 56.0	+02.4	41 55.1	+02.5	42 54.3	+02.4	43 53.4	+02.5	16
17	54 59.3	+02.5	55 58.4	+02.5	56 57.6	+02.5	57 56.7	+02.5	58 55.9	+02.4	17
18	70 01.8	+02.4	71 00.9	+02.5	72 00.1	+02.4	72 59.2	+02.5	73 58.3	+02.5	18
19	85 04.2	+02.5	86 03.4	+02.4	87 02.5	+02.5	88 01.7	+02.4	89 00.8	+02.5	19
20	100 06.7	+02.5	101 05.8	+02.5	102 05.0	+02.4	103 04.1	+02.5	104 03.3	+02.4	20
21	115 09.2	+02.4	116 08.3	+02.5	117 07.4	+02.5	118 06.6	+02.4	119 05.7	+02.5	21
22	130 11.6	+02.5	131 10.8	+02.4	132 09.9	+02.5	133 09.0	+02.5	134 08.2	+02.5	22
23	145 14.1	+02.5	146 13.2	+02.5	147 12.4	+02.4	148 11.5	+02.5	149 10.7	+02.4	23

UT	day 66 of 366		day 67 of 366		day 68 of 366		day 69 of 366		day 70 of 366		UT
	March 6	GHA ddGHA	March 7	GHA ddGHA	March 8	GHA ddGHA	March 9	GHA ddGHA	March 10	GHA ddGHA	
00	164 13.1	+02.5	165 12.3	+02.4	166 11.4	+02.5	167 10.5	+02.5	168 09.7	+02.4	00
01	179 15.6	+02.4	180 14.7	+02.5	181 13.9	+02.4	182 13.0	+02.5	183 12.1	+02.5	01
02	194 18.0	+02.5	195 17.2	+02.5	196 16.3	+02.5	197 15.5	+02.4	198 14.6	+02.5	02
03	209 20.5	+02.5	210 19.7	+02.4	211 18.8	+02.5	212 17.9	+02.5	213 17.1	+02.4	03
04	224 23.0	+02.4	225 22.1	+02.5	226 21.3	+02.4	227 20.4	+02.5	228 19.5	+02.5	04
05	239 25.4	+02.5	240 24.6	+02.4	241 23.7	+02.5	242 22.9	+02.4	243 22.0	+02.5	05
06	254 27.9	+02.5	255 27.0	+02.5	256 26.2	+02.4	257 25.3	+02.5	258 24.5	+02.4	06
07	269 30.4	+02.4	270 29.5	+02.5	271 28.6	+02.5	272 27.8	+02.4	273 26.9	+02.5	07
08	284 32.8	+02.5	285 32.0	+02.4	286 31.1	+02.5	287 30.2	+02.5	288 29.4	+02.4	08
09	299 35.3	+02.5	300 34.4	+02.5	301 33.6	+02.4	302 32.7	+02.5	303 31.8	+02.5	09
10	314 37.8	+02.4	315 36.9	+02.5	316 36.0	+02.5	317 35.2	+02.4	318 34.3	+02.5	10
11	329 40.2	+02.5	330 39.4	+02.4	331 38.5	+02.5	332 37.6	+02.5	333 36.8	+02.4	11
12	344 42.7	+02.5	345 41.8	+02.5	346 41.0	+02.4	347 40.1	+02.5	348 39.2	+02.5	12
13	359 45.2	+02.4	0 44.3	+02.5	1 43.4	+02.5	2 42.6	+02.4	3 41.7	+02.5	13
14	14 47.6	+02.5	15 46.8	+02.4	16 45.9	+02.5	17 45.0	+02.5	18 44.2	+02.4	14
15	29 50.1	+02.4	30 49.2	+02.5	31 48.4	+02.4	32 47.5	+02.5	33 46.6	+02.5	15
16	44 52.5	+02.5	45 51.7	+02.4	46 50.8	+02.5	47 50.0	+02.4	48 49.1	+02.5	16
17	59 55.0	+02.5	60 54.1	+02.5	61 53.3	+02.5	62 52.4	+02.5	63 51.6	+02.4	17
18	74 57.5	+02.4	75 56.6	+02.5	76 55.8	+02.4	77 54.9	+02.5	78 54.0	+02.5	18
19	89 59.9	+02.5	90 59.1	+02.4	91 58.2	+02.5	92 57.4	+02.4	93 56.5	+02.5	19
20	105 02.4	+02.5	106 01.5	+02.5	107 00.7	+02.4	107 59.8	+02.5	108 59.0	+02.4	20
21	120 04.9	+02.4	121 04.0	+02.5	122 03.1	+02.5	123 02.3	+02.4	124 01.4	+02.5	21
22	135 07.3	+02.5	136 06.5	+02.4	137 05.6	+02.5	138 04.7	+02.5	139 03.9	+02.4	22
23	150 09.8	+02.5	151 08.9	+02.5	152 08.1	+02.4	153 07.2	+02.5	154 06.3	+02.5	23

	SHA °,	Dec °,		SHA °,	Dec °,	
Alpheratz	357 35.9	N 29 13.4	Gienah	175 44.0	S 17 40.6	
Ankaa	353 08.3	S 42 10.6	Acrux	173 00.3	S 63 13.9	
Schedir	349 32.4	N 56 40.2	Gacrux	171 52.0	S 57 14.7	
Diphda	348 48.4	S 17 51.5	Alioth	166 13.2	N 55 49.5	
Achernar	335 21.1	S 57 07.1	Spica	158 22.8	S 11 17.3	
Hamal	327 52.3	N 23 34.6	Alkaid	152 52.2	N 23 34.6	
Polaris	314 36.7	N 89 22.3	Hadar	148 36.6	S 60 29.2	
Acamar	315 12.4	S 40 12.7	Menket	147 57.9	S 36 29.0	
Menkar	314 07.0	N 04 11.0	Arcturus	145 48.0	N 19 04.0	
Mirfak	308 29.4	N 49 57.0	Rigel Kentaurus	139 38.2	S 60 56.1	
Aldebaran	290 40.5	N 16 33.5	Zubenelgenubi	136 56.6	S 16 08.5	
Capella	280 22.9	N 46 01.6	Kocab	137 19.2	N 74 03.0	
Rigel	281 04.5	S 08 10.6	Alphecca	126 04.3	N 26 37.8	
Bellatrix	278 23.6	N 06 22.2	Antares	112 16.8	S 26 29.1	
Elnath	278 02.7	N 28 37.8	Atria	107 11.7	S 69 04.0	
Alnilam	275 38.4	S 01 11.3	Sabik	102 03.7	S 15 45.4	
Betelgeuze	270 52.8	N 07 24.6	Shaula	96 11.4	S 37 07.2	
Canopus	263 52.5	S 52 42.7	Rasalhague	95 59.3	N 12 32.4	
Sirius	258 26.5	S 16 44.6	Etamin	90 42.7	N 51 28.7	
Adhara	255 06.2	S 29 00.5	Kaus Australis	83 33.6	S 34 22.3	
Castor	245 57.6	N 31 50.2	Vega	80 34.0	N 38 47.9	
Procyon	244 51.1	N 05 10.1	Nunki	75 48.8	S 26 16.0	
Pollux	243 17.6	N 27 58.1	Albireo	67 04.9	N 28 00.3	
Avior	234 14.5	S 59 35.4	Altair	62 01.1	N 08 55.6	
Suhail	222 46.4	S 43 31.9	Peacock	53 07.3	S 56 39.3	
Miplacidus	221 37.4	S 69 49.1	Deneb	49 26.7	N 45 21.7	
Alphard	217 48.1	S 08 45.9	Enif	33 39.8	N 09 59.0	
Regulus	207 34.8	N 11 50.9	Alnair	27 34.3	S 46 50.7	
Dubhe	193 41.1	N 61 37.2	Formalhaut	15 15.8	S 29 29.7	
Denebola	182 25.2	N 14 26.1	Markab	13 31.0	N 15 20.0	

	SHA °,	Dec °,		SHA °,	Dec °,	
Alpheratz	357 35.9	N 29 13.4	Gienah	175 43.9	S 17 40.6	
Ankaa	353 08.3	S 42 10.5	Acrux	173 00.3	S 63 13.9	
Schedir	349 32.4	N 56 40.2	Gacrux	171 52.0	S 57 14.8	
Diphda	348 48.4	S 17 51.4	Alioth	166 13.2	N 55 49.5	
Achernar	335 21.2	S 57 07.1	Spica	158 22.8	S 11 17.3	
Hamal	327 52.3	N 23 34.6	Alkaid	152 52.1	N 49 11.3	
Polaris	314 38.6	N 89 22.2	Hadar	148 36.6	S 60 29.2	
Acamar	315 12.5	S 40 12.7	Menket	147 57.9	S 36 29.0	
Menkar	314 07.0	N 04 11.0	Arcturus	145 47.9	N 19 04.0	

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UT	day 91 of 366		day 92 of 366		day 93 of 366		day 94 of 366		day 95 of 366		UT	
	March 31	April 1	April 2	April 3	April 4	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	188 51.6 +02.4	189 50.7 +02.5	190 49.9 +02.4	191 49.0 +02.5	192 48.1 +02.5	192	04.5 +02.5	174 04.5 +02.5	175 03.6 +02.5	176 02.8 +02.4	177 01.9 +02.5	00
01	203 54.0 +02.5	204 53.2 +02.4	205 52.3 +02.5	206 51.5 +02.4	207 50.6 +02.5	206	01.3 +02.5	189 07.0 +02.4	190 06.1 +02.5	191 05.2 +02.5	192 04.4 +02.4	01
02	218 56.5 +02.5	219 55.6 +02.5	220 54.8 +02.4	221 53.9 +02.5	222 53.1 +02.4	222	00.8 +02.5	204 09.4 +02.5	205 08.6 +02.4	206 07.7 +02.5	207 06.8 +02.5	02
03	233 59.0 +02.4	234 58.1 +02.5	235 57.2 +02.5	236 56.4 +02.5	237 55.5 +02.5	236	02.5 +02.5	219 11.9 +02.5	220 11.0 +02.5	221 10.2 +02.4	222 09.3 +02.5	03
04	249 01.4 +02.5	250 00.6 +02.4	250 59.7 +02.5	251 58.9 +02.4	252 58.0 +02.5	252	14.4 +02.4	234 14.4 +02.4	235 13.5 +02.5	236 12.6 +02.5	237 11.8 +02.4	04
05	264 03.9 +02.5	265 03.0 +02.5	266 02.2 +02.4	267 01.3 +02.5	268 00.5 +02.4	268	16.8 +02.5	249 16.8 +02.5	250 16.0 +02.4	251 15.1 +02.5	252 14.2 +02.5	05
06	279 06.4 +02.4	280 05.5 +02.5	281 04.6 +02.5	282 03.8 +02.4	283 02.9 +02.5	283	19.3 +02.4	264 19.3 +02.4	265 18.4 +02.5	266 17.6 +02.4	267 16.7 +02.5	06
07	294 08.8 +02.5	295 08.0 +02.4	296 07.1 +02.5	297 06.2 +02.5	298 05.4 +02.4	298	21.7 +02.5	279 21.7 +02.5	280 20.9 +02.5	281 20.0 +02.5	282 19.2 +02.4	07
08	309 11.3 +02.5	310 10.4 +02.5	311 09.6 +02.4	312 08.7 +02.5	313 07.8 +02.5	313	24.2 +02.5	294 24.2 +02.4	295 23.4 +02.4	296 22.5 +02.5	297 21.6 +02.5	08
09	324 13.8 +02.4	325 12.9 +02.5	326 12.0 +02.5	327 11.2 +02.4	328 10.3 +02.5	328	26.7 +02.4	309 26.7 +02.4	310 25.8 +02.5	311 25.0 +02.4	312 24.1 +02.5	09
10	339 16.2 +02.5	340 15.4 +02.4	341 14.5 +02.5	342 13.6 +02.5	343 12.8 +02.4	343	29.1 +02.5	324 29.1 +02.5	325 28.3 +02.4	326 27.4 +02.5	327 26.6 +02.4	10
11	354 18.7 +02.4	355 17.8 +02.5	356 17.0 +02.4	357 16.1 +02.5	358 15.2 +02.5	358	31.6 +02.5	339 31.6 +02.5	340 30.7 +02.5	341 29.9 +02.5	342 29.0 +02.5	11
12	9 21.1 +02.5	10 20.3 +02.4	11 19.4 +02.5	12 18.6 +02.4	13 17.7 +02.5	13	34.1 +02.4	354 34.1 +02.4	355 33.2 +02.5	356 32.4 +02.4	357 31.5 +02.5	12
13	24 23.6 +02.5	25 22.7 +02.5	26 21.9 +02.5	27 21.0 +02.5	28 20.2 +02.4	28	36.5 +02.5	9 36.5 +02.5	10 35.7 +02.4	11 34.8 +02.5	12 34.0 +02.4	13
14	39 26.1 +02.4	40 25.2 +02.5	41 24.4 +02.4	42 23.5 +02.5	43 22.6 +02.5	43	39.0 +02.5	24 39.0 +02.5	25 38.1 +02.5	26 37.3 +02.4	27 36.4 +02.5	14
15	54 28.5 +02.5	55 27.7 +02.4	56 26.8 +02.5	57 26.0 +02.4	58 25.1 +02.5	58	41.5 +02.4	40 40.6 +02.5	41 39.7 +02.5	42 38.9 +02.4	43 38.0 +02.5	15
16	69 31.0 +02.5	70 30.1 +02.5	71 29.3 +02.4	72 28.4 +02.5	73 27.6 +02.4	73	43.9 +02.5	54 43.1 +02.4	55 43.1 +02.4	56 42.2 +02.5	57 41.3 +02.5	16
17	84 33.5 +02.4	85 32.6 +02.5	86 31.7 +02.5	87 30.9 +02.4	88 30.0 +02.5	88	46.4 +02.5	70 45.5 +02.5	71 44.7 +02.4	72 43.8 +02.5	73 42.9 +02.5	17
18	99 35.9 +02.5	100 35.1 +02.4	101 34.2 +02.5	102 33.3 +02.5	103 32.5 +02.5	103	48.9 +02.4	84 48.9 +02.4	85 48.0 +02.5	86 47.1 +02.5	87 46.3 +02.4	18
19	114 38.4 +02.5	115 37.5 +02.5	116 36.7 +02.4	117 35.8 +02.5	118 35.0 +02.4	118	53.8 +02.4	99 51.3 +02.5	100 50.5 +02.4	101 49.6 +02.5	102 48.7 +02.5	19
20	129 40.9 +02.4	130 40.0 +02.5	131 39.1 +02.5	132 38.3 +02.4	133 37.4 +02.5	133	52.9 +02.5	114 53.8 +02.4	115 52.9 +02.5	116 52.1 +02.4	117 51.2 +02.5	20
21	144 43.3 +02.5	145 42.5 +02.4	146 41.6 +02.5	147 40.7 +02.5	148 39.9 +02.4	148	56.2 +02.5	129 56.2 +02.5	130 55.4 +02.5	131 54.5 +02.5	132 53.7 +02.4	21
22	159 45.8 +02.4	160 44.9 +02.5	161 44.1 +02.4	162 43.2 +02.5	163 42.3 +02.5	163	59.7 +02.5	144 58.7 +02.5	145 57.9 +02.4	146 57.0 +02.5	147 56.1 +02.5	22
23	174 48.2 +02.5	175 47.4 +02.5	176 46.5 +02.5	177 45.7 +02.4	178 44.8 +02.5	178	01.2 +02.4	160 01.2 +02.4	161 00.3 +02.5	161 59.5 +02.4	162 58.6 +02.5	23

UT	day 76 of 366		day 77 of 366		day 78 of 366		day 79 of 366		day 80 of 366		UT	
	March 16	March 17	March 18	March 19	March 20	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	174 04.5 +02.5	175 03.6 +02.5	176 02.8 +02.4	177 01.9 +02.5	178 01.1 +02.4	174	04.5 +02.5	174 04.5 +02.5	175 03.6 +02.5	176 02.8 +02.4	177 01.9 +02.5	00
01	189 07.0 +02.4	190 06.1 +02.5	191 05.2 +02.5	192 04.4 +02.4	193 03.5 +02.5	189	07.0 +02.4	189 07.0 +02.4	190 06.1 +02.5	191 05.2 +02.5	192 04.4 +02.4	01
02	204 09.4 +02.5	205 08.6 +02.4	206 07.7 +02.5	207 06.8 +02.5	208 06.0 +02.5	204	09.4 +02.5	204 09.4 +02.5	205 08.6 +02.4	206 07.7 +02.5	207 06.8 +02.5	02
03	219 11.9 +02.5	220 11.0 +02.5	221 10.2 +02.4	222 09.3 +02.5	223 08.5 +02.4	219	11.9 +02.5	219 11.9 +02.5	220 11.0 +02.5	221 10.2 +02.4	222 09.3 +02.5	03
04	234 14.4 +02.4	235 13.5 +02.5	236 12.6 +02.5	237 11.8 +02.4	238 10.9 +02.5	234	14.4 +02.4	234 14.4 +02.4	235 13.5 +02.5	236 12.6 +02.5	237 11.8 +02.4	04
05	249 16.8 +02.5	250 16.0 +02.4	251 15.1 +02.5	252 14.2 +02.5	253 13.4 +02.4	249	16.8 +02.5	249 16.8 +02.5	250 16.0 +02.4	251 15.1 +02.5	252 14.2 +02.5	05
06	264 19.3 +02.4	265 18.4 +02.5	266 17.6 +02.4	267 16.7 +02.5	268 15.8 +02.5	264	19.3 +02.4	264 19.3 +02.4	265 18.4 +02.5	266 17.6 +02.4	267 16.7 +02.5	06
07	279 21.7 +02.5	280 20.9 +02.5	281 20.0 +02.5	282 19.2 +02.4	283 18.3 +02.5	279	21.7 +02.5	279 21.7 +02.5	280 20.9 +02.5	281 20.0 +02.5	282 19.2 +02.4	07
08	294 23.4 +02.4	295 22.5 +02.5	296 21.6 +02.5	297 20.8 +02.4	298 20.8 +02.5	294	23.4 +02.4	294 23.4 +02.4	295 22.5 +02.5	296 21.6 +02.5	297 20.8 +02.4	08
09	309 25.6 +02.5	310 24.7 +02.4	311 23.8 +02.5	312 22.9 +02.5	313 22.0 +02.5	309	25.6 +02.5	309 25.6 +02.5	310 24.7 +02.4	311 23.8 +02.5	312 22.9 +02.5	09
10	324 28.1 +02.5	325 27.3 +02.4	326 26.4 +02.5	327 25.5 +02.5	328 24.6 +02.5	324	28.1 +02.5	324 28.1 +02.5	325 27.3 +02.4	326 26.4 +02.5	327 25.5 +02.5	10
11	339 31.6 +02.5	340 30.7 +02.5	341 29.9 +02.5	342 29.0 +02.5	343 28.2 +02.5	339	31.6 +02.5	339 31.6 +02.5	340 30.7 +02.5	341 29.9 +02.5	342 28.2 +02.5	11
12	354 33.2 +02.5	355 32.4 +02.4	356 31.6 +02.5	357 30.8 +02.5	358 30.0 +02.5	354	33.2 +02.5	354 33.2 +02.5	355 32.4 +02.4	356 31.6 +02.5	357 30.8 +02.5	12
13	365 35.7 +02.5	366 34.9 +02.4	367 34.1 +02.5	368 33.3 +02.5	369 32.5 +02.5	365	35.7 +02.5	365 35.7 +02.5	366 34.9 +02.4	367 34.1 +02.5	368 33.3 +02.5	13
14	384 38.0 +02.5	385 37.2 +02.4	386 36.4 +02.5	387 35.6 +02.5	388 34.8 +02.5	384	38.0 +02.5	384 38.0 +02.5	385 37.2 +02.4	386 36.4 +02.5	387 35.6 +02.5	14
15	402 41.4 +02.5	403 40.6 +02.4	404 39.8 +02.5	405 39.0 +02.5	406 38.2 +02.5	402	41.4 +02.5	402 41.4 +02.5	403 40.6 +02.4	404 39.8 +02.5	405 39.0 +02.5	15
16	421 44.0 +02.5	422 43.2 +02.4	423 42.4 +02.5	424 41.6 +02.5	425 40.8 +02.5	421	44.0 +02.5	421 44.0 +02.5	422 43.2 +02.4	423 42.4 +02.5	424 41.6 +02.5	16
17	440 46.6 +02.5	441 45.8 +02.4	442 45.0 +02.5	443 44.2 +02.5	444 43.4 +02.5	440	46.6 +02.5	440 46.6 +02.5	441 45.8 +02.4	442 45.0 +02.5	443 44.2 +02.5	17
18	459 50.0 +02.5	460 49.2 +02.4	461 48.4 +02.5	462 47.6 +02.5	463 46.8 +02.5	459	50.0 +02.5	459 50.0 +02.5	460 49.2 +02.4	461 48.4 +02.5	462 47.6 +02.5	18
19	488 53.4 +02.5	489 52.6 +02.4	490 51.8 +02.5	491 51.0 +02.5	492 50.2 +02.5	488	53.4 +02.5	488 53.4 +02.5	489 52.6 +02.4	490 51.8 +02.5	491 51.0 +02.5	19
20	517 56.8 +02.5	518 56.0 +02.4	519 55.2 +02.5	520 54.4 +02.5	521 53.6 +02.5	517	56.8 +02.5	517 56.8 +02.5	518 56.0 +02.4	519 55.2 +02.5	520 54.4 +02.5	20
21	546 59.8 +02.5	547 59.0 +02.4	548 58.2 +02.5	549 57.4 +02.5	550 56.6 +02.5	546	59.8 +02.5	546 59.8 +02.5	547 59.0 +02.4	548 58.2 +02.5	549 57.4 +02.5	21
22	575 63.2 +02.5	576 62.4 +02.4	577 61.6 +02.5	578 60.8 +02.5	579 60.0 +02.5	575	63.2 +02.5	575 63.2 +02.5	576 62.4 +02.4	577 61.6 +02.5	578 60.8 +02.5	22
23	604 66.8 +02.5	605 66.0 +02.4	606 65.2 +02.5	607 64.4 +02.5	608 63.6 +02.5	604	66.8 +02.5	604 66.8 +02.5	605 66.0 +02.4	606 65.2 +02.5	607	

2024 - First Point of Aries / Selected Stars

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UT	day 81 of 366		day 82 of 366		day 83 of 366		day 84 of 366		day 85 of 366		UT
	March 21	GHA ddGHA	March 22	GHA ddGHA	March 23	GHA ddGHA	March 24	GHA ddGHA	March 25	GHA ddGHA	
00	179 00.2	+02.5	179 59.3	+02.5	180 58.5	+02.4	181 57.6	+02.5	182 56.7	+02.5	00
01	194 02.7	+02.4	195 01.8	+02.5	196 00.9	+02.5	197 00.1	+02.4	197 59.2	+02.5	01
02	209 05.1	+02.5	210 04.3	+02.4	211 03.4	+02.5	212 02.5	+02.5	213 01.7	+02.4	02
03	224 07.6	+02.5	225 06.7	+02.5	226 05.9	+02.4	227 05.0	+02.5	228 04.1	+02.5	03
04	239 10.1	+02.4	240 09.2	+02.5	241 08.3	+02.5	242 07.5	+02.4	243 06.6	+02.5	04
05	254 12.5	+02.5	255 11.7	+02.4	256 10.8	+02.5	257 09.9	+02.5	258 09.1	+02.4	05
06	269 15.0	+02.4	270 14.1	+02.5	271 13.3	+02.4	272 12.4	+02.5	273 11.5	+02.5	06
07	284 17.4	+02.5	285 16.6	+02.4	286 15.7	+02.5	287 14.9	+02.4	288 14.0	+02.5	07
08	299 19.9	+02.5	300 19.0	+02.5	301 18.2	+02.4	302 17.3	+02.5	303 16.5	+02.4	08
09	314 22.4	+02.4	315 21.5	+02.5	316 20.6	+02.5	317 19.8	+02.5	318 18.9	+02.5	09
10	329 24.8	+02.5	330 24.0	+02.4	331 23.1	+02.5	332 22.3	+02.4	333 21.4	+02.5	10
11	344 27.3	+02.5	345 26.4	+02.5	346 25.5	+02.4	347 24.7	+02.5	348 23.9	+02.4	11
12	359 29.8	+02.4	0 28.9	+02.5	1 28.0	+02.5	2 27.2	+02.4	3 26.3	+02.5	12
13	14 32.2	+02.5	15 31.4	+02.4	16 30.5	+02.5	17 29.6	+02.5	18 28.8	+02.4	13
14	29 34.7	+02.5	30 33.8	+02.5	31 33.0	+02.4	32 32.1	+02.5	33 31.2	+02.5	14
15	44 37.2	+02.4	45 36.3	+02.5	46 35.4	+02.5	47 34.6	+02.4	48 33.7	+02.5	15
16	59 39.6	+02.5	60 38.8	+02.4	61 37.9	+02.5	62 37.0	+02.5	63 36.2	+02.4	16
17	74 42.1	+02.5	75 41.2	+02.5	76 40.4	+02.4	77 39.5	+02.5	78 38.6	+02.5	17
18	89 44.6	+02.4	90 43.7	+02.5	91 42.8	+02.5	92 42.0	+02.4	93 41.1	+02.5	18
19	104 47.0	+02.5	105 46.2	+02.4	106 45.3	+02.5	107 44.4	+02.5	108 43.6	+02.4	19
20	119 49.5	+02.4	120 48.6	+02.5	121 47.8	+02.4	122 46.9	+02.5	123 46.0	+02.5	20
21	134 51.9	+02.5	135 51.1	+02.4	136 50.2	+02.5	137 49.4	+02.4	138 48.5	+02.5	21
22	149 54.4	+02.5	150 53.5	+02.5	151 52.7	+02.4	152 51.8	+02.5	153 51.0	+02.4	22
23	164 56.9	+02.4	165 56.0	+02.5	166 55.1	+02.5	167 54.3	+02.4	168 53.4	+02.5	23

UT	day 86 of 366		day 87 of 366		day 88 of 366		day 89 of 366		day 90 of 366		UT
	March 26	GHA ddGHA	March 27	GHA ddGHA	March 28	GHA ddGHA	March 29	GHA ddGHA	March 30	GHA ddGHA	
00	183 55.9	+02.4	184 55.0	+02.5	185 54.2	+02.4	186 53.3	+02.5	187 52.4	+02.5	00
01	198 58.3	+02.5	199 57.5	+02.4	200 56.6	+02.5	201 55.8	+02.4	202 54.9	+02.5	01
02	214 00.8	+02.5	214 59.9	+02.5	215 59.1	+02.4	216 58.2	+02.5	217 57.4	+02.4	02
03	229 03.3	+02.4	230 02.4	+02.5	231 01.5	+02.5	232 00.7	+02.5	232 59.8	+02.5	03
04	244 05.7	+02.5	245 04.9	+02.4	246 04.0	+02.5	247 03.2	+02.4	248 02.3	+02.5	04
05	259 08.2	+02.5	260 07.3	+02.5	261 06.5	+02.4	262 05.6	+02.5	263 04.8	+02.4	05
06	274 10.7	+02.4	275 09.8	+02.5	276 08.9	+02.5	277 08.1	+02.4	278 07.2	+02.5	06
07	289 13.1	+02.5	290 12.3	+02.4	291 11.4	+02.5	292 10.5	+02.5	293 09.7	+02.4	07
08	304 15.6	+02.5	305 14.7	+02.5	306 13.9	+02.4	307 13.0	+02.5	308 12.1	+02.5	08
09	319 18.1	+02.4	320 17.2	+02.5	321 16.3	+02.5	322 15.5	+02.4	323 14.6	+02.5	09
10	334 20.5	+02.5	335 19.7	+02.4	336 18.8	+02.5	337 17.9	+02.5	338 17.1	+02.4	10
11	349 23.0	+02.5	350 22.1	+02.5	351 21.3	+02.4	352 20.4	+02.5	353 19.5	+02.5	11
12	4 25.5	+02.4	5 24.6	+02.5	6 23.7	+02.5	7 22.9	+02.4	8 22.0	+02.5	12
13	19 27.9	+02.5	20 27.1	+02.4	21 26.2	+02.5	22 25.3	+02.5	23 24.5	+02.4	13
14	34 30.4	+02.4	35 29.5	+02.5	36 28.7	+02.4	37 27.8	+02.5	38 26.9	+02.5	14
15	49 32.8	+02.5	50 32.0	+02.4	51 31.1	+02.5	52 30.3	+02.4	53 29.4	+02.5	15
16	64 35.3	+02.5	65 34.4	+02.5	66 33.6	+02.4	67 32.7	+02.5	68 31.9	+02.4	16
17	79 37.8	+02.4	80 36.9	+02.5	81 36.0	+02.5	82 35.2	+02.4	83 34.3	+02.5	17
18	94 40.2	+02.5	95 39.4	+02.4	96 38.5	+02.5	97 37.6	+02.5	98 36.8	+02.5	18
19	109 42.7	+02.5	110 41.8	+02.5	111 41.0	+02.4	112 40.1	+02.5	113 39.3	+02.4	19
20	124 45.2	+02.4	125 44.3	+02.5	126 43.4	+02.5	127 42.6	+02.4	128 41.7	+02.5	20
21	139 47.6	+02.5	140 46.8	+02.4	141 45.9	+02.5	142 45.0	+02.5	143 44.2	+02.4	21
22	154 50.1	+02.5	155 49.2	+02.5	156 48.4	+02.4	157 47.5	+02.5	158 46.6	+02.5	22
23	169 52.6	+02.4	170 51.7	+02.5	171 50.8	+02.5	172 50.0	+02.4	173 49.1	+02.5	23

	SHA °,	Dec °,		SHA °,	Dec °,		SHA °,	Dec °,		SHA °,	Dec °,	
Alpheratz	357 35.9	N 29 13.4	Gienah	175 43.9	S 17 40.7		Gienah	175 43.9	S 17 40.7	Ankaa	173 00.2	S 63 14.0
Ankaa	353 08.3	S 42 10.5	Acrux	173 00.2	S 63 14.0		Acrux	173 00.2	S 63 14.0	Schedir	349 32.5	N 56 40.1
Schedir	349 32.4	N 56 40.2	Gacrux	171 51.9	S 57 14.8		Gacrux	171 51.9	S 57 14.9	Diphda	348 48.4	S 17 51.4
Diphda	348 48.4	S 17 51.4	Alioth	166 13.1	N 55 49.6		Alioth	166 13.1	N 55 49.6	Achernar	335 21.2	S 57 07.0
Achernar	335 21.2	S 57 07.0	Spica	158 22.7	S 11 17.3		Spica	158 22.7	S 11 17.4	Hamal	327 52.3	N 23 34.6
Hamal	327 52.3	N 23 34.6	Alkaid	152 52.0	N 49 11.4		Alkaid	152 52.0	N 49 11.4	Polaris	314 46.2	N 89 22.2
Polaris	314 44.3	N 89 22.2	Hadar	148 36.4	S 60 29.3		Hadar	148 36.4	S 60 29.3	Acamar	315 12.5	S 40 12.7
Acamar	315 12.5	S 40 12.7	Menket	147 57.8	S 36 29.1		Menket	147 57.8	S 36 29.1	Menkar	314 07.1	N 04 11.0
Menkar	314 07.1	N 04 11.0	Arcturus	145 47.8	N 19 04.0		Arcturus	145 47.8	N 19 04.0	Rigel	281 04.6	S 08 10.6
Rigel	281 04.6	S 08 10.6	Alphecca	126 04.1	N 26 37.8		Alphecca	126 04.1	N 26 37.8	Bellatrix	278 23.7	N 06 22.2
Bellatrix	278 23.6	N 06 22.2	Antares	112 16.6	S 26 29.1		Antares	112 16.6	S 26 29.1	Elnath	278 02.8	N 28 37.8
Elnath	278 02.8	N 28 37.8	Atria	107 11.3	S 69 04.0		Atria	107 11.2	S 69 04.0	Alnilam	275 38.5	S 01 11.3
Alnilam	275 38.4	S 01 11.3	Sabik	102 03.5	S 15 45.4		Sabik	102 03.5	S 15 45.4	Betelgeuze	270 52.9	N 07 24.6
Betelgeuze	270 52.8	N 07 24.6	Shaula	96 11.2	S 37 07.2		Shaula	96 11.2	S 37 07.2	Canopus	263 52.7	S 52 42.8
Canopus	263 52.7	S 52 42.8	Rasalhague	95 59.2	N 12 32.4		Rasalhague	95 59.1	N 12 32.4	Sirius	258 26.6	S 16 44.6
Sirius	258 26.6	S 16 44.6	Etamin	90 42.5	N 51 28.7		Etamin	90 42.4	N 51 28.7	Adhara	255 06.3	S 29 00.5
Adhara	255 06.3	S 29 00.5	Kaus Australis	83 33.4	S 34 22.3		Kaus Australis	83 33.4	S 34 22.3	Castor	245 57.7	N 31 50.2
Castor	245 57.7	N 31 50.2	Vega	80 33.8	N 38 47.9		Vega	80 33.8	N 38 47.9	Procyon	244 51.2	N 05 10.1
Procyon	244 51.2	N 05 10.1	Nunki	75 48.7	S 26 16.0		Nunki	75 48.6	S 26 16.0	Pollux	243 17.6	N 27 58.1
Pollux	243 17.6	N 27 58.1	Albireo	67 04.7	N 28 00.3		Albireo	67 04.7	N 28 00.3	Avior	234 14.7	S 59 35.5
Avior	234 14.7	S 59 35.4	Altair	62 00.9	N 08 55.6		Altair	62 00.9	N 08 55.5	Suhail	222 46.5	S 43 32.0
Suhail	222 46.5	S 43 32.0	Peacock	53 07.1	S 56 39.3		Peacock	53 07.0	S 56 39.3	Miplacidus	221 37.6	S 69 49.2
Miplacidus	221 37.6	S 69 49.2	Deneb	4								

2024 - First Point of Aries / Selected Stars

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UT	day 111 of 366		day 112 of 366		day 113 of 366		day 114 of 366		day 115 of 366		UT
	April 20	GHA ddGHA	April 21	GHA ddGHA	April 22	GHA ddGHA	April 23	GHA ddGHA	April 24	GHA ddGHA	
00	208 34.4	+02.4	209 33.5	+02.5	210 32.6	+02.5	211 31.8	+02.4	212 30.9	+02.5	00
01	223 36.8	+02.5	224 36.0	+02.4	225 35.1	+02.5	226 34.2	+02.5	227 33.4	+02.4	01
02	238 39.3	+02.4	239 38.4	+02.5	240 37.6	+02.4	241 36.7	+02.5	242 35.8	+02.5	02
03	253 41.7	+02.5	254 40.9	+02.4	255 40.0	+02.5	256 39.2	+02.4	257 38.3	+02.5	03
04	268 44.2	+02.5	269 43.3	+02.5	270 42.5	+02.4	271 41.6	+02.5	272 40.8	+02.4	04
05	283 46.7	+02.4	284 45.8	+02.5	285 44.9	+02.5	286 44.1	+02.4	287 43.2	+02.5	05
06	298 49.1	+02.5	299 48.3	+02.4	300 47.4	+02.5	301 46.5	+02.5	302 45.7	+02.4	06
07	313 51.6	+02.5	314 50.7	+02.5	315 49.9	+02.4	316 49.0	+02.5	317 48.1	+02.5	07
08	328 54.1	+02.4	329 53.2	+02.5	330 52.3	+02.5	331 51.5	+02.4	332 50.6	+02.5	08
09	343 56.5	+02.5	344 55.7	+02.4	345 54.8	+02.5	346 53.9	+02.5	347 53.1	+02.4	09
10	358 59.0	+02.5	359 58.1	+02.5	0 57.3	+02.4	1 56.4	+02.5	2 55.5	+02.5	10
11	14 01.5	+02.4	15 00.6	+02.5	15 59.7	+02.5	16 58.9	+02.4	17 58.0	+02.5	11
12	29 03.9	+02.5	30 03.1	+02.4	31 02.2	+02.5	32 01.3	+02.5	33 00.5	+02.4	12
13	44 06.4	+02.4	45 05.5	+02.5	46 04.7	+02.4	47 03.8	+02.5	48 02.9	+02.5	13
14	59 08.8	+02.5	60 08.0	+02.4	61 07.1	+02.5	62 06.3	+02.4	63 05.4	+02.5	14
15	74 11.3	+02.5	75 10.4	+02.5	76 09.6	+02.4	77 08.7	+02.5	78 07.9	+02.4	15
16	89 13.8	+02.4	90 12.9	+02.5	91 12.0	+02.5	92 11.2	+02.5	93 10.3	+02.5	16
17	104 16.2	+02.5	105 15.4	+02.4	106 14.5	+02.5	107 13.7	+02.4	108 12.8	+02.5	17
18	119 18.7	+02.5	120 17.8	+02.5	121 17.0	+02.4	122 16.1	+02.5	123 15.3	+02.4	18
19	134 21.2	+02.4	135 20.3	+02.5	136 19.4	+02.5	137 18.6	+02.4	138 17.7	+02.5	19
20	149 23.6	+02.5	150 22.8	+02.4	151 21.9	+02.5	152 21.0	+02.5	153 20.2	+02.4	20
21	164 26.1	+02.5	165 25.2	+02.5	166 24.4	+02.4	167 23.5	+02.5	168 22.6	+02.5	21
22	179 28.6	+02.4	180 27.7	+02.5	181 26.8	+02.5	182 26.0	+02.4	183 25.1	+02.5	22
23	194 31.0	+02.5	195 30.2	+02.4	196 29.3	+02.5	197 28.4	+02.5	198 27.6	+02.4	23

UT	day 96 of 366		day 97 of 366		day 98 of 366		day 99 of 366		day 100 of 366		UT
	April 5	GHA ddGHA	April 6	GHA ddGHA	April 7	GHA ddGHA	April 8	GHA ddGHA	April 9	GHA ddGHA	
00	193 47.3	+02.4	194 46.4	+02.5	195 45.5	+02.5	196 44.7	+02.4	197 43.8	+02.5	00
01	208 49.7	+02.5	209 48.9	+02.4	210 48.0	+02.5	211 47.1	+02.5	212 46.3	+02.4	01
02	223 52.2	+02.5	224 51.3	+02.5	225 50.5	+02.4	226 49.6	+02.5	227 48.7	+02.5	02
03	238 54.7	+02.4	239 53.8	+02.5	240 52.9	+02.5	241 52.1	+02.4	242 51.2	+02.5	03
04	253 57.1	+02.5	254 56.3	+02.4	255 55.4	+02.5	256 54.5	+02.5	257 53.7	+02.4	04
05	268 59.6	+02.5	269 58.7	+02.5	270 57.9	+02.4	271 57.0	+02.5	272 56.1	+02.5	05
06	284 02.1	+02.4	285 01.2	+02.5	286 00.3	+02.5	286 59.5	+02.4	287 58.6	+02.5	06
07	299 04.5	+02.5	300 03.7	+02.4	301 02.8	+02.5	302 01.9	+02.5	303 01.1	+02.4	07
08	314 07.0	+02.4	315 06.1	+02.5	316 05.3	+02.4	317 04.4	+02.5	318 03.5	+02.5	08
09	329 09.4	+02.5	330 08.6	+02.5	331 07.7	+02.5	332 06.9	+02.4	333 06.0	+02.5	09
10	344 11.9	+02.5	345 11.1	+02.4	346 10.2	+02.5	347 09.3	+02.5	348 08.5	+02.4	10
11	359 14.4	+02.4	0 13.5	+02.5	1 12.7	+02.4	2 11.8	+02.5	3 10.9	+02.5	11
12	14 16.8	+02.5	15 16.0	+02.4	16 15.1	+02.5	17 14.3	+02.4	18 13.4	+02.5	12
13	29 19.3	+02.5	30 18.4	+02.5	31 17.6	+02.4	32 16.7	+02.5	33 15.9	+02.4	13
14	44 21.8	+02.4	45 20.9	+02.5	46 20.0	+02.5	47 19.2	+02.4	48 18.3	+02.5	14
15	59 24.2	+02.5	60 23.4	+02.4	61 22.5	+02.5	62 21.6	+02.5	63 20.8	+02.4	15
16	74 26.7	+02.5	75 25.8	+02.5	76 25.0	+02.4	77 24.1	+02.5	78 23.2	+02.5	16
17	89 29.2	+02.4	90 28.3	+02.5	91 27.4	+02.5	92 26.6	+02.4	93 25.7	+02.5	17
18	104 31.6	+02.5	105 30.8	+02.4	106 29.9	+02.5	107 29.0	+02.5	108 28.2	+02.4	18
19	119 34.1	+02.5	120 33.2	+02.5	121 32.4	+02.4	122 31.5	+02.5	123 30.6	+02.5	19
20	134 36.6	+02.4	135 35.7	+02.5	136 34.8	+02.5	137 34.0	+02.4	138 33.1	+02.5	20
21	149 39.0	+02.5	150 38.2	+02.4	151 37.3	+02.5	152 36.4	+02.5	153 35.6	+02.4	21
22	164 41.5	+02.4	165 40.6	+02.5	166 39.8	+02.4	167 38.9	+02.5	168 38.0	+02.5	22
23	179 43.9	+02.5	180 43.1	+02.4	181 42.2	+02.5	182 41.4	+02.4	183 40.5	+02.5	23

	SHA ° ,	Dec ° ,		SHA ° ,	Dec ° ,		SHA ° ,	Dec ° ,		SHA ° ,	Dec ° ,	
Alpheratz	357 35.8	N 29 13.3	Gienah	175 43.9	S 17 40.7		Gienah	175 43.9	S 17 40.7	Ankaa	353 08.2	S 42 10.3
Ankaa	353 08.2	S 42 10.3	Acrux	173 00.2	S 63 14.2		Acrux	173 00.2	S 63 14.1	Schedir	349 32.4	N 56 40.1
Schedir	349 32.4	N 56 40.1	Gacrux	171 51.9	S 57 15.0		Gacrux	171 51.9	S 57 14.9	Diphda	348 48.3	S 17 51.3
Diphda	348 48.3	S 17 51.3	Alioth	166 13.0	N 55 49.7		Alioth	166 13.0	N 55 49.6	Achernar	335 21.3	S 57 06.9
Achernar	335 21.3	S 57 06.9	Spica	158 22.6	S 11 17.4		Spica	158 22.7	S 11 17.4	Hamal	327 52.3	N 23 34.6
Hamal	327 52.3	N 23 34.6	Alkaid	152 51.9	N 49 11.5		Alkaid	152 52.0	N 49 11.4	Polaris	314 50.7	N 89 22.1
Polaris	314 50.7	N 89 22.1	Hadar	148 36.3	S 60 29.4		Hadar	148 36.3	S 60 29.4	Acamar	315 12.6	S 40 12.6
Acamar	315 12.6	S 40 12.6	Menkent	147 57.7	S 36 29.2		Menkent	147 57.7	S 36 29.1	Menkar	314 07.1	N 04 11.0
Menkar	314 07.1	N 04 11.0	Arcturus	145 47.7	N 19 04.0		Arcturus	145 47.8	N 19 04.0	Mirfak	308 29.6	N 49 56.8
Mirfak	308 29.6	N 49 56.8	Rigel Kentaurus	139 37.7	S 60 56.3		Rigel Kentaurus	139 37.8	S 60 56.3	Aldebaran	290 40.6	N 16 33.5
Aldebaran	290 40.6	N 16 33.5	Zubenelgenubi	136 56.3	S 16 08.6		Zubenelgenubi	136 56.4	S 16 08.6	Capella	280 23.1	N 46 01.6
Capella	280 23.1	N 46 01.6	Kocab	137 18.5	N 74 03.2		Kocab	137 18.6	N 74 03.1	Rigel	281 04.6	S 08 10.5
Rigel	281 04.6	S 08 10.5	Alphecca	126 04.0	N 26 37.8		Alphecca	126 04.0	N 26 37.8	Bellatrix	278 23.7	N 06 22.2
Bellatrix	278 23.7	N 06 22.2	Antares	112 16.4	S 26 29.2		Antares	112 16.5	S 26 29.2	Elnath	278 02.8	N 28 37.8
Elnath	278 02.8	N 28 37.8	Atria	107 10.7	S 69 04.1		Atria	107 11.0	S 69 04.0	Alnilam	275 38.5	S 01 11.3
Alnilam	275 38.5	S 01 11.3	Sabik	102 03.3	S 15 45.4		Sabik	102 03.4	S 15 45.4	Betelgeuze	270 52.9	N 07 24.6
Betelgeuze	270 52.9	N 07 24.6	Shaula	96 11.0	S 37 07.2		Shaula	96 11.1	S 37 07.2	Canopus	263 52.8	S 52 42.8
Canopus	263 52.8	S 52 42.7	Rasalhague	95 59.0	N 12 32.4		Rasalhague	95 59.1	N 12 32.4	Sirius	258 26.6	S 16 44.6
Sirius	258 26.6	S 16 44.6	Etamin	90 42.2	N 51 28.8		Etamin	90 42.3	N 51 28.8	Adhara	255 06.4	S 29 00.5
Adhara	255 06.4	S 29 00.5	Kaus Australis	83 33.1	S 34 22.3		Kaus Australis	83 33.3	S 34 22.3	Castor	245 57.8	N 31 50.2
Castor	245 57.8	N 31 50.2	Vega	80 33.6	N 38 47.9		Vega	80 33.7	N 38 47.9	Procyon	244 51.2	N 05 10.1
Procyon	244 51.2	N 05 10.1	Nunki	75 48.4	S 26 16.0		Nunki	75 48.5	S 26 16.0	Pollux	243 17.7	N 27 58.1
Pollux	243 17.7	N 27										

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UT	day 101 of 366		day 102 of 366		day 103 of 366		day 104 of 366		day 105 of 366		UT
	April 10	GHA ddGHA	April 11	GHA ddGHA	April 12	GHA ddGHA	April 13	GHA ddGHA	April 14	GHA ddGHA	
00	198	43.0 +02.4	199	42.1 +02.5	200	41.2 +02.5	201	40.4 +02.4	202	39.5 +02.5	00
01	213	45.4 +02.5	214	44.6 +02.4	215	43.7 +02.5	216	42.8 +02.5	217	42.0 +02.4	01
02	228	47.9 +02.5	229	47.0 +02.5	230	46.2 +02.4	231	45.3 +02.5	232	44.4 +02.5	02
03	243	50.4 +02.4	244	49.5 +02.5	245	48.6 +02.5	246	47.8 +02.4	247	46.9 +02.5	03
04	258	52.8 +02.5	259	52.0 +02.4	260	51.1 +02.5	261	50.2 +02.5	262	49.4 +02.4	04
05	273	55.3 +02.4	274	54.4 +02.5	275	53.6 +02.4	276	52.7 +02.5	277	51.8 +02.5	05
06	288	57.7 +02.5	289	56.9 +02.4	290	56.0 +02.5	291	55.2 +02.4	292	54.3 +02.5	06
07	304	00.2 +02.5	304	59.3 +02.5	305	58.5 +02.5	306	57.6 +02.5	307	56.8 +02.4	07
08	319	02.7 +02.4	320	01.8 +02.5	321	01.0 +02.4	322	00.1 +02.5	322	59.2 +02.5	08
09	334	05.1 +02.5	335	04.3 +02.4	336	03.4 +02.5	337	02.6 +02.4	338	01.7 +02.5	09
10	349	07.6 +02.5	350	06.7 +02.5	351	05.9 +02.4	352	05.0 +02.5	353	04.2 +02.4	10
11	4	10.1 +02.4	5	09.2 +02.5	6	08.3 +02.5	7	07.5 +02.4	8	06.6 +02.5	11
12	19	12.5 +02.5	20	11.7 +02.4	21	10.8 +02.5	22	09.9 +02.5	23	09.1 +02.5	12
13	34	15.0 +02.5	35	14.1 +02.5	36	13.3 +02.4	37	12.4 +02.5	38	11.6 +02.4	13
14	49	17.5 +02.4	50	16.6 +02.5	51	15.7 +02.5	52	14.9 +02.4	53	14.0 +02.5	14
15	64	19.9 +02.5	65	19.1 +02.4	66	18.2 +02.5	67	17.3 +02.5	68	16.5 +02.4	15
16	79	22.4 +02.4	80	21.5 +02.5	81	20.7 +02.4	82	19.8 +02.5	83	18.9 +02.5	16
17	94	24.8 +02.5	95	24.0 +02.5	96	23.1 +02.5	97	22.3 +02.4	98	21.4 +02.5	17
18	109	27.3 +02.4	110	26.5 +02.4	111	25.6 +02.5	112	24.7 +02.5	113	23.9 +02.4	18
19	124	29.8 +02.4	125	28.9 +02.5	126	28.1 +02.4	127	27.2 +02.5	128	26.3 +02.5	19
20	139	32.2 +02.5	140	31.4 +02.4	141	30.5 +02.5	142	29.7 +02.4	143	28.8 +02.5	20
21	154	34.7 +02.5	155	33.8 +02.5	156	33.0 +02.4	157	32.1 +02.5	158	31.3 +02.4	21
22	169	37.2 +02.4	170	36.3 +02.5	171	35.4 +02.5	172	34.6 +02.5	173	33.7 +02.5	22
23	184	39.6 +02.5	185	38.8 +02.4	186	37.9 +02.5	187	37.1 +02.4	188	36.2 +02.5	23

UT	day 106 of 366		day 107 of 366		day 108 of 366		day 109 of 366		day 110 of 366		UT
	April 15	GHA ddGHA	April 16	GHA ddGHA	April 17	GHA ddGHA	April 18	GHA ddGHA	April 19	GHA ddGHA	
00	203	38.7 +02.4	204	37.8 +02.5	205	36.9 +02.5	206	36.1 +02.4	207	35.2 +02.5	00
01	218	41.1 +02.5	219	40.3 +02.4	220	39.4 +02.5	221	38.5 +02.5	222	37.7 +02.4	01
02	233	43.6 +02.5	234	42.7 +02.5	235	41.9 +02.4	236	41.0 +02.5	237	40.1 +02.5	02
03	248	46.1 +02.4	249	45.2 +02.5	250	44.3 +02.5	251	43.5 +02.4	252	42.6 +02.5	03
04	263	48.5 +02.5	264	47.7 +02.4	265	46.8 +02.5	266	45.9 +02.5	267	45.1 +02.4	04
05	278	50.1 +02.4	279	50.1 +02.5	280	49.3 +02.4	281	48.4 +02.5	282	47.5 +02.5	05
06	293	53.4 +02.5	294	52.6 +02.4	295	51.7 +02.5	296	50.9 +02.4	297	50.0 +02.5	06
07	308	55.9 +02.5	309	55.0 +02.5	310	54.2 +02.5	311	53.3 +02.5	312	52.5 +02.4	07
08	323	58.4 +02.4	324	57.5 +02.5	325	56.7 +02.4	326	55.8 +02.5	327	54.9 +02.5	08
09	339	00.8 +02.5	339	60.0 +02.4	340	59.1 +02.5	341	58.3 +02.4	342	57.4 +02.5	09
10	354	03.3 +02.5	355	02.4 +02.5	356	01.6 +02.4	357	00.7 +02.5	357	59.9 +02.4	10
11	9	05.8 +02.4	10	04.9 +02.5	11	04.0 +02.5	12	03.2 +02.4	13	02.3 +02.5	11
12	24	08.2 +02.5	25	07.4 +02.4	26	06.5 +02.5	27	05.6 +02.5	28	04.8 +02.4	12
13	39	10.7 +02.5	40	09.8 +02.5	41	09.0 +02.4	42	08.1 +02.5	43	07.2 +02.5	13
14	54	13.2 +02.4	55	12.3 +02.5	56	11.4 +02.5	57	10.6 +02.4	58	09.7 +02.5	14
15	69	15.6 +02.5	70	14.8 +02.4	71	13.9 +02.5	72	13.0 +02.5	73	12.2 +02.4	15
16	84	18.1 +02.4	85	17.2 +02.5	86	16.4 +02.4	87	15.5 +02.5	88	14.6 +02.5	16
17	99	20.5 +02.5	100	19.7 +02.5	101	18.8 +02.5	102	18.0 +02.4	103	17.1 +02.5	17
18	114	23.0 +02.5	115	22.2 +02.4	116	21.3 +02.5	117	20.4 +02.5	118	19.6 +02.4	18
19	129	25.5 +02.4	130	24.6 +02.5	131	23.8 +02.4	132	22.9 +02.5	133	22.0 +02.5	19
20	144	27.9 +02.5	145	27.1 +02.4	146	26.2 +02.5	147	25.4 +02.4	148	24.5 +02.5	20
21	159	30.4 +02.5	160	29.5 +02.5	161	28.7 +02.4	162	27.8 +02.5	163	27.0 +02.4	21
22	174	32.9 +02.4	175	32.0 +02.5	176	31.1 +02.5	177	30.3 +02.4	178	29.4 +02.5	22
23	189	35.3 +02.5	190	34.5 +02.4	191	33.6 +02.5	192	32.7 +02.5	193	31.9 +02.5	23

	SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'
Alpheratz	357	35.9	N	29	13.3	Gienah	175	43.9	S	17	40.7
Ankaa	353	08.3	S	42	10.4	Acrux	173	00.2	S	63	14.1
Schedir	349	32.4	N	56	40.1	Gacrux	171	51.9	S	57	15.0
Diphda	348	48.3	S	17	51.3	Alioth	166	13.0	N	55	49.7
Achernar	335	21.3	S	57	06.9	Spica	158	22.7	S	11	17.4
Hamal	327	52.3	N	23	34.6	Alkaid	152	51.9	N	49	11.5
Polaris	314	49.6	N	89	22.1	Hadar	148	36.3	S	60	29.4
Acamar	315	12.6	S	40	12.6	Menkent	147	57.7	S	36	29.1
Menkar	314	07.1	N	04	11.0	Arcturus	145	47.7	N	19	04.0
Mirfak	308	29.6	N	49	56.9	Rigel Kentaurus	139	37.7	S	60	56.3
Aldebaran	290	40.6	N	16	33.5	Zubenelgenubi	136	56.3	S	16	08.6
Capella	280	23.1	N	46	01.6	Kocab	137	18.6	N	74	03.2
Rigel	281	04.7	S	08	10.5	Alphecca	126	04.0	N	26	37.8
Bellatrix	278	23.7	N	06	22.2	Antares	112	16.5	S	26	29.2
Elnath	278	02.9	N	28	37.8	Atria	107	10.8	S	69	04.1
Alnilam	275	38.5	S	01	11.3	Sabik	102	03.3	S	15	45.4
Betelgeuze	270	52.9	N	07	24.6	Shaula	96	11.0	S	37	07.2
Canopus	263	52.8	S	52	42.8	Rasalhague	95	59.0	N	12	32.4
Sirius	258	26.7	S	16	44.6	Etamin	90	42.2	N	51	28.8
Adhara	255	06.4	S	29	00.5	Kaus Australis	83	33.2	S	34	22.3
Castor	245	57.8	N	31	50.2	Vega	80	33.6	N	38	47.9
Procyon	244	51.3	N	05	10.1	Nunki	75	48.5	S	26	16.0
Pollux	243	17.7	N	27	58.2	Albireo	67	04.5	N	28	00.3
Avior	234	14.9	S	59	35.5	Altair	62	00.8	N	08	55.6
Suhail	222	46.6	S	43	32.0	Peacock	53	06.8	S	56	39.2
Miaplacidus	221	37.9	S	69	49.3	Deneb	49	26.4	N	45	21.6
Alphard	217	48.2	S	08	46.0	Enif	33	39.6	N	09	59.0
Regulus	207	34.8	N	11	50.9	Alnair	27	34.0	S	46	50.5
Dubhe	193	41.1	N	61	37.3	Formalhaut	15	15.6	S	29	26.6
Denebola	182	25.1	N	14	26.2	Markab	182	25.1	N	14	26.2

	SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'

<tbl_r cells="12" ix="4" maxcspan="1

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UT	day 131 of 366		day 132 of 366		day 133 of 366		day 134 of 366		day 135 of 366		UT	
	May 10	May 11	May 11	May 12	May 12	May 13	May 13	May 14	May 14	May 14		
	GHA	ddGHA										
00	228	17.1	+02.5	229	16.3	+02.4	230	15.4	+02.5	231	14.5	+02.5
01	243	19.6	+02.5	244	18.7	+02.5	245	17.9	+02.4	246	17.0	+02.5
02	258	22.1	+02.4	259	21.2	+02.5	260	20.3	+02.5	261	19.5	+02.4
03	273	24.5	+02.5	274	23.7	+02.4	275	22.8	+02.5	276	21.9	+02.5
04	288	27.0	+02.4	289	26.1	+02.5	290	25.3	+02.4	291	24.4	+02.5
05	303	29.4	+02.5	304	28.6	+02.5	305	27.7	+02.5	306	26.9	+02.4
06	318	31.9	+02.5	319	31.1	+02.4	320	30.2	+02.5	321	29.3	+02.5
07	333	34.4	+02.4	334	33.5	+02.5	335	32.7	+02.4	336	31.8	+02.5
08	348	36.8	+02.5	349	36.0	+02.4	350	35.1	+02.5	351	34.3	+02.4
09	3	39.3	+02.5	4	38.4	+02.5	5	37.6	+02.5	6	36.7	+02.5
10	18	41.8	+02.4	19	40.9	+02.5	20	40.1	+02.4	21	39.2	+02.5
11	33	44.2	+02.5	34	43.4	+02.4	35	42.5	+02.5	36	41.7	+02.4
12	48	46.7	+02.5	49	45.8	+02.5	50	45.0	+02.4	51	44.1	+02.5
13	63	49.2	+02.4	64	48.3	+02.5	65	47.4	+02.5	66	46.6	+02.4
14	78	51.6	+02.5	79	50.8	+02.4	80	49.9	+02.5	81	49.0	+02.5
15	93	54.1	+02.5	94	53.2	+02.5	95	52.4	+02.4	96	51.5	+02.5
16	108	56.6	+02.4	109	55.7	+02.5	110	54.8	+02.5	111	54.0	+02.4
17	123	59.0	+02.5	124	58.2	+02.4	125	57.3	+02.5	126	56.4	+02.5
18	139	01.5	+02.4	140	00.6	+02.5	140	59.8	+02.4	141	58.9	+02.5
19	154	03.9	+02.5	155	03.1	+02.5	156	02.2	+02.5	157	01.4	+02.4
20	169	06.4	+02.5	170	05.6	+02.4	171	04.7	+02.5	172	03.8	+02.5
21	184	08.9	+02.4	185	08.0	+02.5	186	07.2	+02.4	187	06.3	+02.5
22	199	11.3	+02.5	200	10.5	+02.4	201	09.6	+02.5	202	08.8	+02.4
23	214	13.8	+02.5	215	12.9	+02.5	216	12.1	+02.4	217	11.2	+02.5

UT	day 116 of 366		day 117 of 366		day 118 of 366		day 119 of 366		day 120 of 366		UT	
	April 25	April 26	April 27	April 28	April 29	April 29	April 30	April 31	April 30	April 30		
	GHA	ddGHA										
00	213	30.0	+02.5	214	29.2	+02.4	215	28.3	+02.5	216	27.5	+02.4
01	228	32.5	+02.5	229	31.6	+02.5	230	30.8	+02.4	231	29.9	+02.5
02	243	35.0	+02.4	244	34.1	+02.5	245	33.2	+02.5	246	32.4	+02.4
03	258	37.4	+02.5	259	36.6	+02.4	260	35.7	+02.5	261	34.8	+02.5
04	273	39.9	+02.5	274	39.0	+02.5	275	38.2	+02.4	276	37.3	+02.5
05	288	42.4	+02.4	289	41.5	+02.5	290	40.6	+02.5	291	39.8	+02.5
06	303	44.8	+02.5	304	44.0	+02.4	305	43.1	+02.5	306	42.2	+02.5
07	318	47.3	+02.5	319	46.4	+02.5	320	45.6	+02.4	321	44.7	+02.5
08	333	49.8	+02.4	334	48.9	+02.5	335	48.0	+02.5	336	47.2	+02.4
09	348	52.2	+02.5	349	51.4	+02.4	350	50.5	+02.5	351	49.6	+02.4
10	3	54.7	+02.4	4	53.8	+02.5	5	53.0	+02.4	6	52.1	+02.5
11	18	57.1	+02.5	19	56.3	+02.4	20	55.4	+02.5	21	54.6	+02.4
12	33	59.6	+02.5	34	58.7	+02.5	35	57.9	+02.5	36	57.0	+02.5
13	49	02.1	+02.4	50	01.2	+02.5	51	00.4	+02.4	51	59.5	+02.5
14	64	04.5	+02.5	65	03.7	+02.4	66	02.8	+02.5	67	02.0	+02.4
15	79	07.0	+02.5	80	06.1	+02.5	81	05.3	+02.4	82	04.4	+02.5
16	94	09.5	+02.4	95	08.6	+02.5	96	07.7	+02.5	97	06.9	+02.4
17	109	11.9	+02.5	110	11.1	+02.4	111	10.2	+02.5	112	09.3	+02.5
18	124	14.4	+02.5	125	13.5	+02.5	126	12.7	+02.4	127	11.8	+02.5
19	139	16.9	+02.4	140	16.0	+02.5	141	15.1	+02.4	142	14.3	+02.5
20	154	19.3	+02.5	155	18.5	+02.4	156	17.6	+02.5	157	16.7	+02.5
21	169	21.8	+02.4	170	20.9	+02.5	171	20.1	+02.4	172	19.2	+02.5
22	184	24.2	+02.5	185	23.4	+02.5	186	22.5	+02.5	187	21.7	+02.4
23	199	26.7	+02.5	200	25.9	+02.4	201	25.0	+02.5	202	24.1	+02.5

	SHA	Dec		SHA	Dec		
	° ,'	° ,'		° ,'	° ,'		
Alpheratz	357	35.7	N 29 13.3	Gienah	175	43.9	S 17 40.8
Ankaa	353	08.1	S 42 10.2	Acrux	173	00.3	S 63 14.3
Schedir	349	32.2	N 56 40.0	Gacrux	171	51.9	S 57 15.1
Diphda	348	48.2	S 17 51.2	Alioth	166	13.1	N 55 49.8
Achernar	335	21.2	S 57 06.7	Spica	158	22.6	S 11 17.4
Hamal	327	52.3	N 23 34.6	Alkaid	152	51.9	N 49 11.5
Polaris	314	50.3	N 89 22.0	Hadar	148	36.2	S 60 29.5
Acamar	315	12.6	S 40 12.5	Menkent	147	57.6	S 36 29.2
Menkar	314	07.1	N 04 11.1	Arcturus	145	47.7	N 19 04.0
Mirfak	308	29.6	N 49 56.8	Rigel Kentaurus	139	37.7	S 60 56.4
Aldebaran	290	40.6	N 16 33.5	Zubenelgenubi	136	56.3	S 16 08.6
Capella	280	23.2	N 46 01.6	Kocab	137	18.5	N 74 03.2
Rigel	281	04.7	S 08 10.5	Alphecca	126	04.0	N 26 37.8
Bellatrix	278	23.8	N 06 22.3	Antares	112	16.3	S 26 29.2
Elnath	278	02.9	N 28 37.8	Atria	107	10.7	S 69 04.1
Alnilam	275	38.6	S 01 11.2	Sabik	102	03.2	S 15 45.4
Betelgeuze	270	53.0	N 07 24.7	Shaula	96	10.9	S 37 07.2
Canopus	263	53.1	S 52 42.7	Canopus	95	58.9	N 12 32.4
Sirius	258	26.8	S 16 44.6	Etamin	90	42.1	N 51 28.8
Adhara	255	06.5	S 29 00.4	Kaus Australis	83	33.1	S 34 22.3
Castor	245	57.9	N 31 50.2	Vega	80	33.5	N 38 47.9
Procyon	244	51.4	N 05 10.1	Nunki	75	48.4	S 26 16.0
Pollux	243	17.8	N 27 58.2	Albireo	67	04.5	N 28 00.3
Avior	234	15.2	S 59 35.5	Altair	62	00.7	N 08 55.6
Suhail	222	46.6	S 43 32.1	Peacock	53	06.7	S 56 39.2
Miplacidus	221	38.3	S 69 49.3	Deneb	49	26.3	N 45 21.6
Alphard	217	48.3	S 08 46.0	Enif	33	39.5	N 09 59.0
Regulus	207	34.9	N 11 50.9	Alnair	27	33.9	S 46 50.4
Dubhe	193	41.3	N 61 37.4	Formalhaut	15	15.5	S 29 26.6
Denebola	182	25.2	N 14 26.2	Markab	13	30.8	N 15 20.0

	SHA	Dec		SHA	Dec		
	° ,'	° ,'		° ,'	° ,'		
Alpheratz	357	35.8	N 29 13.3	Gienah	175	43.9	S 17 40.7
Ankaa	353	08.2	S 42 10.3	Acrux	173	00.2	S 63 14.2
Schedir	349	32.3	N 56 40.0	Gacrux	171	51.9	S 57 15.0
Diphda	348	48.3	S 17 51.3	Alioth	166	13.1	N 55 49.7
Achernar	335	21.2	S 57 06.8	Spica	158	22.6	S 11 17.4
Hamal	327	52.3	N 23 34.6	Alkaid	152	51.9	N 49 11.5
Polaris	314	51.1	N 89 22.0	Hadar	148	36.3	S 60 29.5
Acamar	315	12.6	S 40 12.5	Menkent	147	57.6	S 36 29.2
Menkar	314	07.1	N 04 11.0				

2024 - First Point of Aries / Selected Stars

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UT	day 121 of 366		day 122 of 366		day 123 of 366		day 124 of 366		day 125 of 366		UT	
	April	30	May	1	May	2	May	3	May	4		
00	218	25.7	+02.5	219	24.9	+02.4	220	24.0	+02.5	221	23.2	+02.4
01	233	28.2	+02.5	234	27.3	+02.5	235	26.5	+02.4	236	25.6	+02.5
02	248	30.7	+02.4	249	29.8	+02.5	250	28.9	+02.5	251	28.1	+02.4
03	263	33.1	+02.5	264	32.3	+02.4	265	31.4	+02.5	266	30.5	+02.5
04	278	35.6	+02.5	279	34.7	+02.5	280	33.9	+02.4	281	33.0	+02.5
05	293	38.1	+02.4	294	37.2	+02.5	295	36.3	+02.5	296	35.5	+02.4
06	308	40.5	+02.5	309	39.7	+02.4	310	38.8	+02.5	311	37.9	+02.5
07	323	43.0	+02.5	324	42.1	+02.5	325	41.3	+02.4	326	40.4	+02.5
08	338	45.5	+02.4	339	44.6	+02.5	340	43.7	+02.5	341	42.9	+02.4
09	353	47.9	+02.5	354	47.1	+02.4	355	46.2	+02.5	356	45.3	+02.5
10	8	50.4	+02.4	9	49.5	+02.5	10	48.7	+02.4	11	47.8	+02.5
11	23	52.8	+02.5	24	52.0	+02.4	25	51.1	+02.5	26	50.3	+02.4
12	38	55.3	+02.5	39	54.4	+02.5	40	53.6	+02.5	41	52.7	+02.5
13	53	57.8	+02.4	54	56.9	+02.5	55	56.1	+02.4	56	55.2	+02.5
14	69	00.2	+02.5	69	59.4	+02.4	70	58.5	+02.5	71	57.7	+02.4
15	84	02.7	+02.5	85	01.8	+02.5	86	01.0	+02.4	87	00.1	+02.5
16	99	05.2	+02.4	100	04.3	+02.5	101	03.4	+02.5	102	02.6	+02.4
17	114	07.6	+02.5	115	06.8	+02.4	116	05.9	+02.5	117	05.0	+02.5
18	129	10.1	+02.5	130	09.2	+02.5	131	08.4	+02.4	132	07.5	+02.5
19	144	12.6	+02.4	145	11.7	+02.5	146	10.8	+02.5	147	10.0	+02.4
20	159	15.0	+02.5	160	14.2	+02.4	161	13.3	+02.5	162	12.4	+02.5
21	174	17.5	+02.5	175	16.6	+02.5	176	15.8	+02.4	177	14.9	+02.5
22	189	20.0	+02.4	190	19.1	+02.5	191	18.2	+02.5	192	17.4	+02.4
23	204	22.4	+02.5	205	21.6	+02.4	206	20.7	+02.5	207	19.8	+02.5

UT	day 126 of 366		day 127 of 366		day 128 of 366		day 129 of 366		day 130 of 366		UT	
	May	5	May	6	May	7	May	8	May	9		
00	223	21.4	+02.5	224	20.6	+02.4	225	19.7	+02.5	226	18.8	+02.5
01	238	23.9	+02.5	239	23.0	+02.5	240	22.2	+02.4	241	21.3	+02.5
02	253	26.4	+02.4	254	25.5	+02.5	255	24.6	+02.5	256	23.8	+02.4
03	268	28.8	+02.5	269	28.0	+02.4	270	27.1	+02.5	271	26.2	+02.5
04	283	31.3	+02.5	284	30.4	+02.5	285	29.6	+02.4	286	28.7	+02.5
05	298	33.8	+02.4	299	32.9	+02.5	300	32.0	+02.5	301	31.2	+02.4
06	313	36.2	+02.5	314	35.4	+02.4	315	34.5	+02.5	316	33.6	+02.5
07	328	38.7	+02.4	329	37.8	+02.5	330	37.0	+02.4	331	36.1	+02.5
08	343	41.1	+02.5	344	40.3	+02.4	345	39.4	+02.5	346	38.6	+02.4
09	358	43.6	+02.5	359	42.7	+02.5	360	41.9	+02.4	361	41.0	+02.5
10	13	46.1	+02.4	14	45.2	+02.5	15	44.3	+02.5	16	43.5	+02.5
11	28	48.5	+02.5	29	47.7	+02.4	30	46.8	+02.5	31	46.0	+02.4
12	43	51.0	+02.5	44	50.1	+02.5	45	49.3	+02.4	46	48.4	+02.5
13	58	53.5	+02.4	59	52.6	+02.5	60	51.7	+02.5	61	50.9	+02.4
14	73	55.9	+02.5	74	55.1	+02.4	75	54.2	+02.5	76	53.3	+02.5
15	88	58.4	+02.5	89	57.5	+02.5	90	56.7	+02.4	91	55.8	+02.5
16	104	00.9	+02.4	104	60.0	+02.5	105	59.1	+02.5	106	58.3	+02.4
17	119	03.3	+02.5	120	02.5	+02.4	121	01.6	+02.5	122	00.7	+02.4
18	134	05.8	+02.4	135	04.9	+02.5	136	04.1	+02.4	137	03.2	+02.5
19	149	08.2	+02.5	150	07.4	+02.5	151	06.5	+02.5	152	05.7	+02.5
20	164	10.7	+02.5	165	09.9	+02.4	166	09.0	+02.5	167	08.1	+02.5
21	179	13.2	+02.4	180	12.3	+02.5	181	11.5	+02.4	182	10.6	+02.5
22	194	15.6	+02.5	195	14.8	+02.4	196	13.9	+02.5	197	13.1	+02.4
23	209	18.1	+02.5	210	17.2	+02.5	211	16.4	+02.4	212	15.5	+02.5

	SHA	Dec		SHA	Dec						
Alpheratz	357	35.7	N	29	13.3	Gienah	175	43.9	S	17	40.8
Ankaa	353	08.2	S	42	10.3	Acrux	173	00.2	S	63	14.2
Schedir	349	32.3	N	56	40.0	Gacrux	171	51.9	S	57	15.0
Diphda	348	48.3	S	17	51.3	Alioth	166	13.1	N	55	49.8
Achernar	335	21.2	S	57	06.8	Spica	158	22.6	S	11	17.4
Hamal	327	52.3	N	23	34.6	Alkaid	152	51.9	N	49	11.5
Polaris	314	50.8	N	89	22.0	Hadar	148	36.2	S	60	29.5
Acamar	315	12.6	S	40	12.5	Menkent	147	57.6	S	36	29.2
Menkar	314	07.1	N	04	11.0	Arcturus	145	47.7	N	19	04.1
Mirfak	308	29.6	N	49	56.8	Rigel Kentaurus	139	37.6	S	60	56.4
Aldebaran	290	40.6	N	16	33.5	Zubenelgenubi	136	56.3	S	16	08.6
Capella	280	23.2	N	46	01.6	Kocab	137	18.5	N	74	03.3
Rigel	281	04.7	S	08	10.5	Alphecca	126	03.9	N	26	37.9
Bellatrix	278	23.8	N	06	22.3	Antares	112	16.3	S	26	29.2
Elnath	278	02.9	N	28	37.8	Atria	107	10.5	S	69	04.1
Alnilam	275	38.6	S	01	11.3	Sabik	102	03.2	S	15	45.4
Betelgeuze	270	53.0	N	07	24.6	Shaula	96	10.8	S	37	07.2
Canopus	263	53.0	S	52	42.7	Canopus	95	58.9	N	12	32.4
Sirius	258	26.7	S	16	44.6	Etamin	90	42.1	N	51	28.8
Adhara	255	06.5	S	29	00.5	Kaus Australis	83	33.0	S	34	22.3
Castor	245	57.9	N	31	50.2	Vega	80	33.5	N	38	48.0
Procyon	244	51.3	N	05	10.1	Nunki	75	48.3	S	26	16.0
Pollux	243	17.8	N	27	58.2	Albireo	67	04.4	N	28	00.4
Avior	234	15.1	S	59	35.5	Altair	62	00.6	N	08	55.6
Suhail	222	46.7	S	43	32.1	Peacock	53	06.5	S	56	39.2
Miplacidus	221	38.2	S	69	49.3	Deneb	49	26.2	N	45	21.7
Alphard	217	48.3	S	08	46.0	Alphard	33	39.4	N	09	59.0
Regulus	207	34.9	N	11	50.9	Alnair	27	33.8	S	46	50.4
Dubhe	193	41.2	N	61	37.4	Formalhaut	15	15.5	S	29	29.5
Denebola	182	25.1	N	14	26.2	Markab	13	30.7	N	15	20.0

	SHA	Dec		SHA	Dec						
Alpheratz	357	35.7	N	29	13.3	Gienah	175	43.9	S	17	40.8
Ankaa	353	08.2	S	42	10.2	Acrux	173	00.2	S	63	14.2
Schedir	349	32.3	N	56	40.0	Gacrux	171	51.9	S	57	15.1
Diphda	348	48.2	S	17	51.3	Alioth	166	13.1	N	55	49.8
Achernar	335	21.2	S	57	06.7	Spica	158	22.6	S	11	17.4
Hamal	327	52.3	N	23	34.6	Alkaid	152	51.9	N	49	11.5
Polaris	314	51.0	N	89	22.0	Hadar	148	36.2	S	60	29.5
Acamar	315										

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UT	day 151 of 366		day 152 of 366		day 153 of 366		day 154 of 366		day 155 of 366		UT
	May 30	GHA ddGHA	May 31	GHA ddGHA	June 1	GHA ddGHA	June 2	GHA ddGHA	June 3	GHA ddGHA	
00	247 59.9 +02.5		248 59.1 +02.4		249 58.2 +02.5		250 57.3 +02.5		251 56.5 +02.4		00
01	263 02.4 +02.4		264 01.5 +02.5		265 00.7 +02.4		265 59.8 +02.5		266 58.9 +02.5		01
02	278 04.8 +02.5		279 04.0 +02.4		280 03.1 +02.5		281 02.3 +02.4		282 01.4 +02.5		02
03	293 07.3 +02.5		294 06.4 +02.5		295 05.6 +02.5		296 04.7 +02.5		297 03.9 +02.4		03
04	308 09.8 +02.4		309 08.9 +02.5		310 08.1 +02.4		311 07.2 +02.5		312 06.3 +02.5		04
05	323 12.2 +02.5		324 11.4 +02.4		325 10.5 +02.5		326 09.7 +02.4		327 08.8 +02.5		05
06	338 14.7 +02.5		339 13.8 +02.5		340 13.0 +02.4		341 12.1 +02.5		342 11.3 +02.4		06
07	353 17.2 +02.4		354 16.3 +02.5		355 15.4 +02.5		356 14.6 +02.4		357 13.7 +02.5		07
08	8 19.6 +02.5		9 18.8 +02.4		10 17.9 +02.5		11 17.0 +02.5		12 16.2 +02.4		08
09	23 22.1 +02.5		24 21.2 +02.5		25 20.4 +02.4		26 19.5 +02.5		27 18.6 +02.5		09
10	38 24.6 +02.4		39 23.7 +02.5		40 22.8 +02.5		41 22.0 +02.4		42 21.1 +02.5		10
11	53 27.0 +02.5		54 26.2 +02.4		55 25.3 +02.5		56 24.4 +02.5		57 23.6 +02.4		11
12	68 29.5 +02.5		69 28.6 +02.5		70 27.8 +02.4		71 26.9 +02.5		72 26.0 +02.5		12
13	83 32.0 +02.4		84 31.1 +02.5		85 30.2 +02.5		86 29.4 +02.4		87 28.5 +02.5		13
14	98 34.4 +02.5		99 33.6 +02.4		100 32.7 +02.5		101 31.8 +02.5		102 31.0 +02.4		14
15	113 36.9 +02.4		114 36.0 +02.5		115 35.2 +02.4		116 34.3 +02.5		117 33.4 +02.5		15
16	128 39.3 +02.5		129 38.5 +02.4		130 37.6 +02.5		131 36.8 +02.4		132 35.9 +02.5		16
17	143 41.8 +02.5		144 40.9 +02.5		145 40.1 +02.4		146 39.2 +02.5		147 38.4 +02.4		17
18	158 44.3 +02.4		159 43.4 +02.5		160 42.5 +02.5		161 41.7 +02.4		162 40.8 +02.5		18
19	173 46.7 +02.5		174 45.9 +02.4		175 45.0 +02.5		176 44.1 +02.5		177 43.3 +02.5		19
20	188 49.2 +02.5		189 48.3 +02.5		190 47.5 +02.4		191 46.6 +02.5		192 45.8 +02.4		20
21	203 51.7 +02.4		204 50.8 +02.5		205 49.9 +02.5		206 49.1 +02.4		207 48.2 +02.5		21
22	218 54.1 +02.5		219 53.3 +02.4		220 52.4 +02.5		221 51.5 +02.5		222 50.7 +02.4		22
23	233 56.6 +02.5		234 55.7 +02.5		235 54.9 +02.4		236 54.0 +02.5		237 53.1 +02.5		23

UT	day 136 of 366		day 137 of 366		day 138 of 366		day 139 of 366		day 140 of 366		UT
	May 15	GHA ddGHA	May 16	GHA ddGHA	May 17	GHA ddGHA	May 18	GHA ddGHA	May 19	GHA ddGHA	
00	233 12.8 +02.5		234 12.0 +02.4		235 11.1 +02.5		236 10.2 +02.5		237 09.4 +02.4		00
01	248 15.3 +02.5		249 14.4 +02.5		250 13.6 +02.4		251 12.7 +02.5		252 11.8 +02.5		01
02	263 17.8 +02.4		264 16.9 +02.5		265 16.0 +02.5		266 15.2 +02.4		267 14.3 +02.5		02
03	278 20.2 +02.5		279 19.4 +02.4		280 18.5 +02.5		281 17.6 +02.5		282 16.8 +02.4		03
04	293 22.7 +02.4		294 21.8 +02.5		295 21.0 +02.4		296 20.1 +02.5		297 19.2 +02.5		04
05	308 25.1 +02.5		309 24.3 +02.5		310 23.4 +02.5		311 22.6 +02.4		312 21.7 +02.5		05
06	323 27.6 +02.5		324 26.8 +02.4		325 25.9 +02.5		326 25.0 +02.5		327 24.2 +02.4		06
07	338 30.1 +02.4		339 29.2 +02.5		340 28.4 +02.4		341 27.5 +02.5		342 26.6 +02.5		07
08	353 32.5 +02.5		354 31.7 +02.4		355 30.8 +02.5		356 30.0 +02.4		357 29.1 +02.5		08
09	8 35.0 +02.5		9 34.1 +02.5		10 33.3 +02.4		11 32.4 +02.5		12 31.6 +02.4		09
10	23 37.5 +02.4		24 36.6 +02.5		25 35.7 +02.5		26 34.9 +02.4		27 34.0 +02.5		10
11	38 39.9 +02.5		39 39.1 +02.4		40 38.2 +02.5		41 37.3 +02.5		42 36.5 +02.4		11
12	53 42.4 +02.5		54 41.5 +02.5		55 40.7 +02.4		56 39.8 +02.5		57 38.9 +02.5		12
13	68 44.9 +02.4		69 44.0 +02.5		70 43.1 +02.5		71 42.3 +02.4		72 41.4 +02.5		13
14	83 47.3 +02.5		84 46.5 +02.4		85 45.6 +02.5		86 44.7 +02.5		87 43.9 +02.4		14
15	98 49.8 +02.5		99 48.9 +02.5		100 48.1 +02.4		101 47.2 +02.5		102 46.3 +02.5		15
16	113 52.3 +02.4		114 51.4 +02.5		115 50.5 +02.5		116 49.7 +02.4		117 48.8 +02.5		16
17	128 54.7 +02.5		129 53.9 +02.4		130 53.0 +02.5		131 52.1 +02.5		132 51.3 +02.4		17
18	143 57.2 +02.4		144 56.3 +02.5		145 55.5 +02.4		146 54.6 +02.5		147 53.7 +02.5		18
19	158 59.6 +02.5		159 58.8 +02.4		160 57.9 +02.5		161 57.1 +02.4		162 56.2 +02.5		19
20	174 02.1 +02.5		175 01.2 +02.5		176 00.4 +02.5		176 59.5 +02.5		177 58.7 +02.4		20
21	189 04.6 +02.4		190 03.7 +02.5		191 02.9 +02.4		192 02.0 +02.5		193 01.1 +02.5		21
22	204 07.0 +02.5		205 06.2 +02.4		206 05.3 +02.5		207 04.5 +02.4		208 03.6 +02.5		22
23	219 09.5 +02.5		220 08.6 +02.5		221 07.8 +02.4		222 06.9 +02.5		223 06.1 +02.4		23

	SHA °, '	Dec °, '		SHA °, '	Dec °, '	
Alpheratz	357 35.5	N 29 13.4	Gienah	175 43.9	S 17 40.8	
Ankaa	353 08.0	S 42 10.1	Acrux	173 00.4	S 63 14.3	
Schedir	349 32.0	N 56 40.0	Gacrux	171 52.0	S 57 15.1	
Diphda	348 48.1	S 17 51.2	Alioth	166 13.2	N 55 49.9	
Achernar	335 21.0	S 57 06.6	Spica	158 22.6	S 11 17.4	
Hamal	327 52.2	N 23 34.6	Alkaid	152 52.0	N 49 11.6	
Polaris	314 46.5	N 89 21.9	Hadar	148 36.2	S 60 29.6	
Acamar	315 12.5	S 40 12.4	Menkent	147 57.6	S 36 29.2	
Menkar	314 07.0	N 04 11.1	Arcturus	145 47.7	N 19 04.1	
Mirfak	308 29.5	N 49 56.7	Rigel Kentaurus	139 37.6	S 60 56.5	
Aldebaran	290 40.6	N 16 33.5	Zubenelgenubi	136 56.2	S 16 08.6	
Capella	280 23.2	N 46 01.5	Kocab	137 18.6	N 74 03.3	
Rigel	281 04.7	S 08 10.4	Alphecca	126 03.9	N 26 37.9	
Bellatrix	278 23.8	N 06 22.3	Antares	112 16.2	S 26 29.2	
Elnath	278 02.9	N 28 37.8	Atria	107 10.3	S 69 04.2	
Alnilam	275 38.6	S 01 11.2	Sabik	102 03.1	S 15 45.4	
Betelgeuze	270 53.0	N 07 24.7	Shaula	96 10.7	S 37 07.2	
Canopus	263 53.1	S 52 42.6	Rasalhague	95 58.7	N 12 32.5	
Sirius	258 26.8	S 16 44.5	Etamin	90 41.9	N 51 28.9	
Adhara	255 06.6	S 29 00.4	Kaus Australis	83 32.9	S 34 22.3	
Castor	245 57.9	N 31 50.2	Vega	80 33.4	N 38 48.0	
Procyon	244 51.4	N 05 10.1	Nunki	75 48.2	S 26 15.9	
Pollux	243 17.9	N 27 58.2	Albireo	67 04.3	N 28 00.4	
Avior	234 15.3	S 59 35.5	Altair	62 00.4	N 08 55.6	
Suhail	222 46.9	S 43 32.1	Peacock	53 06.2	S 56 39.2	
Miaplacidus	221 38.6	S 69 49.3	Deneb	49 25.9	N 45 21.7	
Alphard	217 48.4	S 08 45.9	Enif	33 39.2	N 09 59.0	
Regulus	207 34.9	N 11 50.9	Alnair	27 33.5	S 46 50.4	
Dubhe	193 41.4	N 61 37.5	Formalhaut	15 15.2	S 29 29.5	
Denebola	182 45.2	N 14 26.2	Markab	13 30.5	N 15 20.0	

	SHA °, '	Dec °, '		SHA °, '	Dec °, '	
Alpheratz	357 35.6	N 29 13.3	Gienah	175 43.9	S 17 40.8	
Ankaa	353 08.1	S 42 10.2	Acrux	173 00.3	S 63 14.3	
Schedir	349 32.2	N 56 40.0	Gacrux	171 51.9	S 57 15.1	
Diphda	348 48.2	S 17 51.2	Alioth	166 13.1	N 55 49.8	
Achernar	335 21.2	S 57 06.7	Spica	158 22.6	S 11 17.4	
Hamal	327 52.2	N 23 34.6	Alkaid	152 51.9	N 49 11.6	
Polaris	314 49.6	N 89 21.9	Hadar	148 36.2	S 60 29.6	
Acamar	315 12.6	S 40 12.4	Menkent	147 57.6	S 36 29.2	
Menkar	314 07.1	N 04 11.1	Arcturus	145 47.7</		

2024 - First Point of Aries / Selected Stars

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day 141 of 366		day 142 of 366		day 143 of 366		day 144 of 366		day 145 of 366		
UT	May 20	May 21	May 22	May 23	May 24	GHA	ddGHA	GHA	ddGHA	UT
00	238 08.5 +02.5	239 07.7 +02.4	240 06.8 +02.5	241 05.9 +02.5	242 05.1 +02.4	242	05.1 +02.4	242	05.1 +02.4	00
01	253 11.0 +02.4	254 10.1 +02.5	255 09.3 +02.4	256 08.4 +02.5	257 07.5 +02.5	257	07.5 +02.5	257	07.5 +02.5	01
02	268 13.4 +02.5	269 12.6 +02.4	270 11.7 +02.5	271 10.9 +02.4	272 10.0 +02.5	272	10.0 +02.5	272	10.0 +02.5	02
03	283 15.9 +02.5	284 15.0 +02.5	285 14.2 +02.5	286 13.3 +02.5	287 12.5 +02.4	287	12.5 +02.4	287	12.5 +02.4	03
04	298 18.4 +02.4	299 17.5 +02.5	300 16.7 +02.4	301 15.8 +02.5	302 14.9 +02.5	302	14.9 +02.5	302	14.9 +02.5	04
05	313 20.8 +02.5	314 20.0 +02.4	315 19.1 +02.5	316 18.3 +02.4	317 17.4 +02.5	317	17.4 +02.5	317	17.4 +02.5	05
06	328 23.3 +02.5	329 22.4 +02.5	330 21.6 +02.4	331 20.7 +02.5	332 19.9 +02.4	332	19.9 +02.4	332	19.9 +02.4	06
07	343 25.8 +02.4	344 24.9 +02.5	345 24.0 +02.5	346 23.2 +02.4	347 22.3 +02.5	347	22.3 +02.5	347	22.3 +02.5	07
08	358 28.2 +02.5	359 27.4 +02.4	0 26.5 +02.5	1 25.6 +02.5	2 24.8 +02.5	2	24.8 +02.5	2	24.8 +02.5	08
09	13 30.7 +02.5	14 29.8 +02.5	15 29.0 +02.4	16 28.1 +02.5	17 27.3 +02.4	17	27.3 +02.4	17	27.3 +02.4	09
10	28 33.2 +02.4	29 32.3 +02.5	30 31.4 +02.5	31 30.6 +02.4	32 29.7 +02.5	32	29.7 +02.5	32	29.7 +02.5	10
11	43 35.6 +02.5	44 34.8 +02.4	45 33.9 +02.5	46 33.0 +02.5	47 32.2 +02.4	47	32.2 +02.4	47	32.2 +02.4	11
12	58 38.1 +02.5	59 37.2 +02.5	60 36.4 +02.4	61 35.5 +02.5	62 34.6 +02.5	62	34.6 +02.5	62	34.6 +02.5	12
13	73 40.6 +02.4	74 39.7 +02.5	75 38.8 +02.5	76 38.0 +02.4	77 37.1 +02.5	77	37.1 +02.5	77	37.1 +02.5	13
14	88 43.0 +02.5	89 42.2 +02.4	90 41.3 +02.5	91 40.4 +02.5	92 39.6 +02.4	92	39.6 +02.4	92	39.6 +02.4	14
15	103 45.5 +02.4	104 44.6 +02.5	105 43.8 +02.4	106 42.9 +02.5	107 42.0 +02.5	107	42.0 +02.5	107	42.0 +02.5	15
16	118 47.9 +02.5	119 47.1 +02.4	120 46.2 +02.5	121 45.4 +02.4	122 44.5 +02.5	122	44.5 +02.5	122	44.5 +02.5	16
17	133 50.4 +02.5	134 49.5 +02.5	135 48.7 +02.4	136 47.8 +02.5	137 47.0 +02.4	137	47.0 +02.4	137	47.0 +02.4	17
18	148 52.9 +02.4	149 52.0 +02.5	150 51.1 +02.5	151 50.3 +02.5	152 49.4 +02.5	152	49.4 +02.5	152	49.4 +02.5	18
19	163 55.3 +02.5	164 54.5 +02.4	165 53.6 +02.5	166 52.8 +02.4	167 51.9 +02.5	167	51.9 +02.5	167	51.9 +02.5	19
20	178 57.8 +02.5	179 56.9 +02.5	180 56.1 +02.4	181 55.2 +02.5	182 54.4 +02.4	182	54.4 +02.4	182	54.4 +02.4	20
21	194 00.3 +02.4	194 59.4 +02.5	195 58.5 +02.5	196 57.7 +02.4	197 56.8 +02.5	197	56.8 +02.5	197	56.8 +02.5	21
22	209 02.7 +02.5	210 01.9 +02.4	211 01.0 +02.5	212 00.1 +02.5	212 59.3 +02.5	212	59.3 +02.5	212	59.3 +02.5	22
23	224 05.2 +02.5	225 04.3 +02.5	226 03.5 +02.4	227 02.6 +02.5	228 01.8 +02.4	228	01.8 +02.4	228	01.8 +02.4	23

day 146 of 366		day 147 of 366		day 148 of 366		day 149 of 366		day 150 of 366		
UT	May 25	May 26	May 27	May 28	May 29	GHA	ddGHA	GHA	ddGHA	UT
00	243 04.2 +02.5	244 03.4 +02.4	245 02.5 +02.5	246 01.6 +02.5	247 00.8 +02.4	247	00.8 +02.4	247	00.8 +02.4	00
01	258 06.7 +02.4	259 05.8 +02.5	260 05.0 +02.4	261 04.1 +02.5	262 03.2 +02.5	262	03.2 +02.5	262	03.2 +02.5	01
02	273 09.1 +02.5	274 08.3 +02.4	275 07.4 +02.5	276 06.6 +02.4	277 05.7 +02.5	277	05.7 +02.5	277	05.7 +02.5	02
03	288 11.6 +02.5	289 10.7 +02.5	290 09.9 +02.5	291 09.0 +02.5	292 08.2 +02.4	292	08.2 +02.4	292	08.2 +02.4	03
04	303 14.1 +02.4	304 13.2 +02.5	305 12.4 +02.4	306 11.5 +02.5	307 10.6 +02.5	307	10.6 +02.5	307	10.6 +02.5	04
05	318 16.5 +02.5	319 15.7 +02.4	320 14.8 +02.5	321 14.0 +02.4	322 13.1 +02.5	322	13.1 +02.5	322	13.1 +02.5	05
06	333 19.0 +02.5	334 18.1 +02.5	335 17.3 +02.4	336 16.4 +02.5	337 15.6 +02.4	337	15.6 +02.4	337	15.6 +02.4	06
07	348 21.5 +02.4	349 20.6 +02.5	350 19.7 +02.5	351 18.9 +02.5	352 18.0 +02.5	352	18.0 +02.5	352	18.0 +02.5	07
08	3 23.9 +02.5	4 23.1 +02.4	5 22.2 +02.5	6 21.4 +02.4	7 20.5 +02.5	7	20.5 +02.5	7	20.5 +02.5	08
09	18 26.4 +02.5	19 25.5 +02.5	20 24.7 +02.4	21 23.8 +02.5	22 23.0 +02.4	22	23.0 +02.4	22	23.0 +02.4	09
10	33 28.9 +02.4	34 28.0 +02.5	35 27.1 +02.5	36 26.3 +02.4	37 25.4 +02.5	37	25.4 +02.5	37	25.4 +02.5	10
11	48 31.3 +02.5	49 30.5 +02.4	50 29.6 +02.5	51 28.7 +02.5	52 27.9 +02.4	52	27.9 +02.4	52	27.9 +02.4	11
12	63 33.8 +02.4	64 32.9 +02.5	65 32.1 +02.4	66 31.2 +02.5	67 30.3 +02.5	67	30.3 +02.5	67	30.3 +02.5	12
13	78 36.2 +02.5	79 35.4 +02.5	80 34.5 +02.5	81 33.7 +02.4	82 32.8 +02.5	82	32.8 +02.5	82	32.8 +02.5	13
14	93 38.7 +02.5	94 37.9 +02.4	95 37.0 +02.5	96 36.1 +02.5	97 35.3 +02.4	97	35.3 +02.4	97	35.3 +02.4	14
15	108 41.2 +02.4	109 40.3 +02.5	110 39.5 +02.4	111 38.6 +02.5	112 37.7 +02.5	112	37.7 +02.5	112	37.7 +02.5	15
16	123 43.6 +02.5	124 42.8 +02.4	125 41.9 +02.5	126 41.1 +02.4	127 40.2 +02.5	127	40.2 +02.5	127	40.2 +02.5	16
17	138 46.1 +02.5	139 45.2 +02.5	140 44.4 +02.5	141 43.5 +02.5	142 42.7 +02.4	142	42.7 +02.4	142	42.7 +02.4	17
18	153 48.6 +02.4	154 47.7 +02.5	155 46.9 +02.4	156 46.0 +02.5	157 45.1 +02.5	157	45.1 +02.5	157	45.1 +02.5	18
19	168 51.0 +02.5	169 50.2 +02.4	170 49.3 +02.5	171 48.5 +02.4	172 47.6 +02.5	172	47.6 +02.5	172	47.6 +02.5	19
20	183 53.5 +02.5	184 52.6 +02.5	185 51.8 +02.4	186 50.9 +02.5	187 50.1 +02.4	187	50.1 +02.4	187	50.1 +02.4	20
21	198 56.0 +02.4	199 55.1 +02.5	200 54.2 +02.5	201 53.4 +02.5	202 52.5 +02.5	202	52.5 +02.5	202	52.5 +02.5	21
22	213 58.4 +02.5	214 57.6 +02.4	215 56.7 +02.5	216 55.9 +02.4	217 55.0 +02.5	217	55.0 +02.5	217	55.0 +02.5	22
23	229 00.9 +02.5	230 00.0 +02.5	230 59.2 +02.4	231 58.3 +02.5	232 57.5 +02.4	232	57.5 +02.4	232	57.5 +02.4	23

SHA ° , ' , "		Dec ° , ' , "		SHA ° , ' , "		Dec ° , ' , "		SHA ° , ' , "		Dec ° , ' , "	
Alpheratz	357 35.6	N	29 13.3	Gienah	175 43.9	S	17 40.8	Alpheratz	357 35.6	N	29 13.3
Ankaa	353 08.0	S	42 10.2	Acrux	173 00.3	S	63 14.3	Ankaa	353 08.0	S	42 10.1
Schedir	349 32.1	N	56 40.0	Gacrux	171 52.0	S	57 15.1	Schedir	349 32.1	N	56 40.0
Diphda	348 48.2	S	17 51.2	Alioth	166 13.1	N	55 49.8	Diphda	348 48.1	S	17 51.2
Achernar	335 21.1	S	57 06.6	Spica	158 22.6	S	11 17.4	Achernar	335 21.1	S	57 06.6
Hamal	327 52.2	N	23 34.6	Alkaid	152 51.9	N	49 11.6	Hamal	327 52.2	N	23 34.6
Polaris	314 49.0	N	89 21.9	Hadar	148 36.2	S	60 29.6	Polaris	314 47.7	N	89 21.9
Acamar	315 12.6	S	40 12.4	Menkent	147 57.6	S	36 29.2	Acamar	315 12.6	S	40 12.4
Menkar	314 07.0	N	04 11.1	Arcturus	145 47.7	N	19 04.1	Menkar	314 07.0	N	04 11.1
Mirfak	308 29.6	N	49 56.8	Rigel Kentaurus	139 37.6	S	60 56.5	Mirfak	308 29.5	N	49 56.8
Aldebaran	290 40.6	N	16 33.5	Zubenelgenubi	136 56.2	S	16 08.6	Aldebaran	290 40.6	N	16 33.5
Capella	280 23.2	N	46 01.5	Kocab	137 18.6	N	74 03.4	Capella	280 23.2	N	46 01.5
Rigel	281 04.7	S	08 10.5	Alphecca	126 03.9	N	26 37.9	Rigel	281 04.7	S	08 10.5
Bellatrix	278 23.8	N	06 22.3	Antares	112 16.3	S	26 29.2	Bellatrix	278 23.8	N	06 22.3
Elnath	278 02.9	N	28 37.8	Atria	107 10.4	S	69 04.2	Elnath	278 02.9	N	28 37.8
Alnilam	275 38.6	S	01 11.2	Sabik	102 03.1	S	15 45.4	Alnilam	275 38.6	S	01 11.2
Betelgeuze	270 53.0	N	07 24.7	Shaula	96 10.7	S	37 07.3	Betelgeuze	270 53.0	N	07 24.7
Canopus	263 53.1	S	52 42.6	Rasalhague	95 58.8	N					

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UT	day 171 of 366		day 172 of 366		day 173 of 366		day 174 of 366		day 175 of 366		UT	
	June 19	GHA ddGHA	June 20	GHA ddGHA	June 21	GHA ddGHA	June 22	GHA ddGHA	June 23	GHA ddGHA		
00	267	42.7	+02.5	268	41.8	+02.5	269	41.0	+02.4	270	40.1	+02.5
01	282	45.2	+02.4	283	44.3	+02.5	284	43.4	+02.5	285	42.6	+02.5
02	297	47.6	+02.5	298	46.8	+02.4	299	45.9	+02.5	300	45.1	+02.4
03	312	50.1	+02.5	313	49.2	+02.5	314	48.4	+02.4	315	47.5	+02.5
04	327	52.6	+02.4	328	51.7	+02.5	329	50.8	+02.5	330	50.0	+02.4
05	342	55.0	+02.5	343	54.2	+02.4	344	53.3	+02.5	345	52.4	+02.5
06	357	57.5	+02.5	358	56.6	+02.5	359	55.8	+02.4	360	54.9	+02.5
07	12	60.0	+02.4	13	59.1	+02.5	14	58.2	+02.5	15	57.4	+02.4
08	28	02.4	+02.5	29	01.6	+02.4	30	00.7	+02.5	30	59.8	+02.5
09	43	04.9	+02.4	44	04.0	+02.5	45	03.2	+02.4	46	02.3	+02.5
10	58	07.3	+02.5	59	06.5	+02.4	60	05.6	+02.5	61	04.8	+02.4
11	73	09.8	+02.5	74	08.9	+02.5	75	08.1	+02.5	76	07.2	+02.5
12	88	12.3	+02.4	89	11.4	+02.5	90	10.6	+02.4	91	09.7	+02.5
13	103	14.7	+02.5	104	13.9	+02.4	105	13.0	+02.5	106	12.2	+02.4
14	118	17.2	+02.5	119	16.3	+02.5	120	15.5	+02.4	121	14.6	+02.5
15	133	19.7	+02.4	134	18.8	+02.5	135	17.9	+02.5	136	17.1	+02.5
16	148	22.1	+02.5	149	21.3	+02.4	150	20.4	+02.5	151	19.6	+02.4
17	163	24.6	+02.5	164	23.7	+02.5	165	22.9	+02.4	166	22.0	+02.5
18	178	27.1	+02.4	179	26.2	+02.5	180	25.3	+02.5	181	24.5	+02.4
19	193	29.5	+02.5	194	28.7	+02.4	195	27.8	+02.5	196	26.9	+02.5
20	208	32.0	+02.5	209	31.1	+02.5	210	30.3	+02.4	211	29.4	+02.5
21	223	34.5	+02.4	224	33.6	+02.5	225	32.7	+02.5	226	31.9	+02.4
22	238	36.9	+02.5	239	36.1	+02.4	240	35.2	+02.5	241	34.3	+02.5
23	253	39.4	+02.4	254	38.5	+02.5	255	37.7	+02.4	256	36.8	+02.5

UT	day 156 of 366		day 157 of 366		day 158 of 366		day 159 of 366		day 160 of 366		UT	
	June 4	GHA ddGHA	June 5	GHA ddGHA	June 6	GHA ddGHA	June 7	GHA ddGHA	June 8	GHA ddGHA		
00	252	55.6	+02.5	253	54.7	+02.5	254	53.9	+02.5	255	53.0	+02.5
01	267	58.1	+02.4	268	57.2	+02.5	269	56.4	+02.4	270	55.5	+02.5
02	283	00.5	+02.5	283	59.7	+02.4	284	58.8	+02.5	285	58.0	+02.4
03	298	03.0	+02.5	299	02.1	+02.5	300	01.3	+02.4	301	00.4	+02.4
04	313	05.5	+02.4	314	04.6	+02.5	315	03.7	+02.5	316	02.9	+02.5
05	328	07.9	+02.5	329	07.1	+02.4	330	06.2	+02.5	331	05.4	+02.5
06	343	10.4	+02.5	344	09.5	+02.5	345	08.7	+02.4	346	07.8	+02.5
07	358	12.9	+02.4	359	12.0	+02.5	360	11.1	+02.5	361	10.3	+02.4
08	13	15.3	+02.5	14	14.5	+02.4	15	13.6	+02.5	16	12.7	+02.5
09	28	17.8	+02.5	29	16.9	+02.5	30	16.1	+02.4	31	15.2	+02.5
10	43	20.3	+02.4	44	19.4	+02.5	45	18.5	+02.5	46	17.7	+02.4
11	58	22.7	+02.5	59	21.9	+02.4	60	21.0	+02.5	61	20.1	+02.5
12	73	25.2	+02.4	74	24.3	+02.5	75	23.5	+02.4	76	22.6	+02.5
13	88	27.6	+02.5	89	26.8	+02.4	90	25.9	+02.5	91	25.1	+02.4
14	103	30.1	+02.5	104	29.2	+02.5	105	28.4	+02.5	106	27.5	+02.5
15	118	32.6	+02.4	119	31.7	+02.5	120	30.9	+02.4	121	30.0	+02.5
16	133	35.0	+02.5	134	34.2	+02.4	135	33.3	+02.5	136	32.5	+02.4
17	148	37.5	+02.5	149	36.6	+02.5	150	35.8	+02.4	151	34.9	+02.5
18	163	40.0	+02.4	164	39.1	+02.5	165	38.2	+02.5	166	37.4	+02.5
19	178	42.4	+02.5	179	41.6	+02.4	180	40.7	+02.5	181	39.9	+02.4
20	193	44.9	+02.5	194	44.0	+02.5	195	43.2	+02.4	196	42.3	+02.5
21	208	47.4	+02.4	209	46.5	+02.5	210	45.6	+02.5	211	44.8	+02.4
22	223	49.8	+02.5	224	49.0	+02.4	225	48.1	+02.5	226	47.2	+02.5
23	238	52.3	+02.4	239	51.4	+02.5	240	50.6	+02.4	241	49.7	+02.5

	SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'	
Alpheratz	357 35.4	N 29 13.4	Gienah	175 44.0	S 17 40.8	
Ankaa	353 07.8	S 42 10.0	Acrux	173 00.5	S 63 14.4	
Schedir	349 31.8	N 56 40.0	Gacrux	171 52.1	S 57 15.2	
Diphda	348 47.9	S 17 51.1	Alioth	166 13.3	N 55 49.9	
Achernar	335 20.9	S 57 06.5	Spica	158 22.7	S 11 17.4	
Hamal	327 52.0	N 23 34.6	Alkaid	152 52.1	N 23 34.6	
Polaris	314 39.8	N 89 21.8	Hadar	148 36.3	S 60 29.7	
Acamar	315 12.4	S 40 12.2	Menkent	147 57.6	S 36 29.3	
Menkar	314 06.9	N 04 11.1	Arcturus	145 47.7	N 19 04.2	
Mirfak	308 29.4	N 49 56.7	Rigel Kentaurus	139 37.7	S 60 56.6	
Aldebaran	290 40.5	N 16 33.6	Zubenelgenubi	136 56.2	S 16 08.6	
Capella	280 23.1	N 46 01.5	Kocab	137 18.9	N 74 03.5	
Rigel	281 04.7	S 08 10.4	Alphecca	126 03.9	N 26 38.0	
Bellatrix	278 23.7	N 06 22.3	Antares	112 16.2	S 26 29.2	
Elnath	278 02.9	N 28 37.7	Atria	107 10.2	S 69 04.3	
Alnilam	275 38.6	S 01 11.2	Sabik	102 03.0	S 15 45.4	
Betelgeuze	270 53.0	N 07 24.7	Shaula	96 10.6	S 37 07.3	
Canopus	263 53.2	S 52 42.5	Rasalhague	95 58.7	N 12 32.5	
Sirius	258 26.8	S 16 44.5	Etamin	90 41.9	N 51 29.0	
Adhara	255 06.6	S 29 00.3	Kaus Australis	83 32.8	S 34 22.3	
Castor	245 58.0	N 31 50.2	Vega	80 33.3	N 38 48.1	
Procyon	244 51.4	N 05 10.2	Nunki	75 48.0	S 26 15.9	
Pollux	243 17.9	N 27 58.1	Albireo	67 04.1	N 28 00.5	
Avior	234 15.5	S 59 35.4	Altair	62 00.3	N 08 55.7	
Suhail	222 47.0	S 43 32.0	Peacock	53 06.0	S 56 39.2	
Miaplacidus	221 38.9	S 69 49.3	Deneb	49 25.8	N 45 21.8	
Alphard	217 48.4	S 08 45.9	Enif	33 39.1	N 09 59.1	
Regulus	207 35.0	N 11 50.9	Alnair	27 33.3	S 46 50.3	
Dubhe	193 41.6	N 61 37.5	Formalhaut	15 15.1	S 29 29.4	
Denebola	182 25.3	N 14 26.3	Markab	13 30.3	N 15 20.1	

	SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'	
Alpheratz	357 35.5	N 29 13.4	Gienah	175 44.0	S 17 40.8	
Ankaa	353 07.9	S 42 10.1	Acrux	173 00.4	S 63 14.3	
Schedir	349 32.0	N 56 40.0	Gacrux	171 52.0	S 57 15.1	
Diphda	348 48.1	S 17 51.1	Alioth	166 13.2	N 55 49.9	
Achernar	335 21.0	S 57 06.6	Spica	158 22.6	S 11 17.4	
Hamal	327 52.1	N 23 34.6	Alkaid	152 52.0	N 49 11.7	
Polaris	314 45.2	N 89 21.8	Hadar	148 36.2	S 60 29.6	
Acamar	315 12.5	S 40 12.3	Menkent	147 57.6	S 36 29.3	
Menkar	314 07.0	N 04 11.1	Arcturus	145 47.7	N 19 04.1	
Mirfak	308 29.5	N 49 56.7	Rigel Kentaurus	139 37.6	S 60 56.5	
Aldebaran	290 40.6	N 16 33.5	Zubenelgenubi	136 56.2	S 16 08.6	
Capella	280 23.2	N 46 01.5	Kocab	137 18.7	N 74 03.4	
Rigel	281 04.7	S 08 10.4	Alphecca	126 03.9	N 26 38.0	
Bellatrix	278 23.8	N 06 22.3	Antares	112 16.2	S 26 29.2	
Elnath	278 02.9	N 28 37.7	Atria	107 10.2	S 69 04.3	
Alnil						

2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

day 161 of 366		day 162 of 366		day 163 of 366		day 164 of 366		day 165 of 366		
UT	June 9	June 10	June 11	June 12	June 13	GHA	ddGHA	GHA	ddGHA	UT
00	257 51.3 +02.5	258 50.5 +02.4	259 49.6 +02.5	260 48.7 +02.5	261 47.9 +02.4	00				
01	272 53.8 +02.4	273 52.9 +02.5	274 52.1 +02.4	275 51.2 +02.5	276 50.3 +02.5	01				
02	287 56.2 +02.5	288 55.4 +02.4	289 54.5 +02.5	290 53.7 +02.4	291 52.8 +02.5	02				
03	302 58.7 +02.5	303 57.8 +02.5	304 57.0 +02.5	305 56.1 +02.5	306 55.3 +02.4	03				
04	318 01.2 +02.4	319 00.3 +02.5	319 59.5 +02.4	320 58.6 +02.5	321 57.7 +02.5	04				
05	333 03.6 +02.5	334 02.8 +02.4	335 01.9 +02.5	336 01.1 +02.4	337 00.2 +02.5	05				
06	348 06.1 +02.5	349 05.2 +02.5	350 04.4 +02.4	351 03.5 +02.5	352 02.7 +02.4	06				
07	3 08.6 +02.4	4 07.7 +02.5	5 06.8 +02.5	6 06.0 +02.4	7 05.1 +02.5	07				
08	18 11.0 +02.5	19 10.2 +02.4	20 09.3 +02.5	21 08.4 +02.5	22 07.6 +02.4	08				
09	33 13.5 +02.5	34 12.6 +02.5	35 11.8 +02.4	36 10.9 +02.5	37 10.0 +02.5	09				
10	48 16.0 +02.4	49 15.1 +02.5	50 14.2 +02.5	51 13.4 +02.4	52 12.5 +02.5	10				
11	63 18.4 +02.5	64 17.6 +02.4	65 16.7 +02.5	66 15.8 +02.5	67 15.0 +02.4	11				
12	78 20.9 +02.4	79 20.0 +02.5	80 19.2 +02.4	81 18.3 +02.5	82 17.4 +02.5	12				
13	93 23.3 +02.5	94 22.5 +02.5	95 21.6 +02.5	96 20.8 +02.4	97 19.9 +02.5	13				
14	108 25.8 +02.5	109 25.0 +02.4	110 24.1 +02.5	111 23.2 +02.5	112 22.4 +02.4	14				
15	123 28.3 +02.4	124 27.4 +02.5	125 26.6 +02.4	126 25.7 +02.5	127 24.8 +02.5	15				
16	138 30.7 +02.5	139 29.9 +02.4	140 29.0 +02.5	141 28.2 +02.4	142 27.3 +02.5	16				
17	153 33.2 +02.5	154 32.3 +02.5	155 31.5 +02.4	156 30.6 +02.5	157 29.8 +02.4	17				
18	168 35.7 +02.4	169 34.8 +02.5	170 33.9 +02.5	171 33.1 +02.5	172 32.2 +02.5	18				
19	183 38.1 +02.5	184 37.3 +02.4	185 36.4 +02.5	186 35.6 +02.4	187 34.7 +02.5	19				
20	198 40.6 +02.5	199 39.7 +02.5	200 38.9 +02.4	201 38.0 +02.5	202 37.2 +02.4	20				
21	213 43.1 +02.4	214 42.2 +02.5	215 41.3 +02.5	216 40.5 +02.4	217 39.6 +02.5	21				
22	228 45.5 +02.5	229 44.7 +02.4	230 43.8 +02.5	231 42.9 +02.5	232 42.1 +02.4	22				
23	243 48.0 +02.5	244 47.1 +02.5	245 46.3 +02.4	246 45.4 +02.5	247 44.5 +02.5	23				

day 166 of 366		day 167 of 366		day 168 of 366		day 169 of 366		day 170 of 366		
UT	June 14	June 15	June 16	June 17	June 18	GHA	ddGHA	GHA	ddGHA	UT
00	262 47.0 +02.5	263 46.1 +02.5	264 45.3 +02.5	265 44.4 +02.5	266 43.6 +02.4	00				
01	277 49.5 +02.4	278 48.6 +02.5	279 47.8 +02.4	280 46.9 +02.5	281 46.0 +02.5	01				
02	292 51.9 +02.5	293 51.1 +02.4	294 50.2 +02.5	295 49.4 +02.4	296 48.5 +02.5	02				
03	307 54.4 +02.5	308 53.5 +02.5	309 52.7 +02.4	310 51.8 +02.5	311 51.0 +02.4	03				
04	322 56.9 +02.4	323 56.0 +02.5	324 55.1 +02.5	325 54.3 +02.4	326 53.4 +02.5	04				
05	337 59.3 +02.5	338 58.5 +02.4	339 57.6 +02.5	340 56.7 +02.5	341 55.9 +02.4	05				
06	353 01.8 +02.5	354 00.9 +02.5	355 00.1 +02.4	355 59.2 +02.5	356 58.3 +02.5	06				
07	8 04.3 +02.4	9 03.4 +02.5	10 02.5 +02.5	11 01.7 +02.4	12 00.8 +02.5	07				
08	23 06.7 +02.5	24 05.9 +02.4	25 05.0 +02.5	26 04.1 +02.5	27 03.3 +02.4	08				
09	38 09.2 +02.5	39 08.3 +02.5	40 07.5 +02.4	41 06.6 +02.5	42 05.7 +02.5	09				
10	53 11.7 +02.4	54 10.8 +02.5	55 09.9 +02.5	56 09.1 +02.4	57 08.2 +02.5	10				
11	68 14.1 +02.5	69 13.3 +02.4	70 12.4 +02.5	71 11.5 +02.5	72 10.7 +02.4	11				
12	83 16.6 +02.4	84 15.7 +02.5	85 14.9 +02.4	86 14.0 +02.5	87 13.1 +02.5	12				
13	98 19.0 +02.5	99 18.2 +02.4	100 17.3 +02.5	101 16.5 +02.4	102 15.6 +02.5	13				
14	113 21.5 +02.5	114 20.6 +02.5	115 19.8 +02.4	116 18.9 +02.5	117 18.1 +02.4	14				
15	128 24.0 +02.4	129 23.1 +02.5	130 22.2 +02.5	131 21.4 +02.5	132 20.5 +02.5	15				
16	143 26.4 +02.5	144 25.6 +02.4	145 24.7 +02.5	146 23.9 +02.4	147 23.0 +02.5	16				
17	158 28.9 +02.5	159 28.0 +02.5	160 27.2 +02.4	161 26.3 +02.5	162 25.5 +02.4	17				
18	173 31.4 +02.4	174 30.5 +02.5	175 29.6 +02.5	176 28.8 +02.4	177 27.9 +02.5	18				
19	188 33.8 +02.5	189 33.0 +02.4	190 32.1 +02.5	191 31.2 +02.5	192 30.4 +02.4	19				
20	203 36.3 +02.5	204 35.4 +02.5	205 34.6 +02.4	206 33.7 +02.5	207 32.8 +02.5	20				
21	218 38.8 +02.4	219 37.9 +02.5	220 37.0 +02.5	221 36.2 +02.4	222 35.3 +02.5	21				
22	233 41.2 +02.5	234 40.4 +02.4	235 39.5 +02.5	236 38.6 +02.5	237 37.8 +02.4	22				
23	248 43.7 +02.4	249 42.8 +02.5	250 42.0 +02.4	251 41.1 +02.5	252 40.2 +02.5	23				

	SHA ° , ' , "	Dec ° , ' , "		SHA ° , ' , "	Dec ° , ' , "	
Alpheratz	357 35.4	N 29 13.4	Gienah	175 44.0	S 17 40.8	
Ankaa	353 07.9	S 42 10.1	Acrux	173 00.4	S 63 14.3	
Schedir	349 31.9	N 56 40.0	Gacrux	171 52.1	S 57 15.2	
Diphda	348 48.0	S 17 51.1	Alioth	166 13.3	N 55 49.9	
Achernar	335 21.0	S 57 06.5	Spica	158 22.6	S 11 17.4	
Hamal	327 52.1	N 23 34.6	Alkaid	152 52.0	N 49 11.7	
Polaris	314 43.3	N 89 21.8	Hadar	148 36.3	S 60 29.6	
Acamar	315 12.5	S 40 12.3	Menket	147 57.6	S 36 29.3	
Menkar	314 06.9	N 04 11.1	Arcturus	145 47.7	N 19 04.2	
Mirfak	308 29.4	N 49 56.7	Rigel Kentaurus	139 37.6	S 60 56.6	
Aldebaran	290 40.6	N 16 33.5	Zubenelgenubi	136 56.2	S 16 08.6	
Capella	280 23.2	N 46 01.5	Kocab	137 18.7	N 74 03.5	
Rigel	281 04.7	S 08 10.4	Alphecca	126 03.9	N 26 38.0	
Bellatrix	278 23.7	N 06 22.3	Antares	112 16.2	S 26 29.2	
Elnath	278 02.9	N 28 37.7	Atria	107 10.2	S 69 04.3	
Alnilam	275 38.6	S 01 11.2	Sabik	102 03.0	S 15 45.4	
Betelgeuze	270 53.0	N 07 24.7	Shaula	96 10.6	S 37 07.3	
Canopus	263 53.2	S 52 42.6	Rasalhague	95 58.7	N 12 32.6	
Sirius	258 26.8	S 16 44.5	Etamin	90 41.9	N 51 29.0	
Adhara	255 06.6	S 29 00.4	Kaus Australis	83 32.7	S 34 22.3	
Castor	245 57.9	N 31 50.2	Vega	80 33.2	N 38 48.1	
Procyon	244 51.4	N 05 10.2	Nunki	75 48.0	S 26 15.9	
Pollux	243 17.9	N 27 58.1	Albireo	67 04.1	N 28 00.5	
Avior	234 15.4	S 59 35.4	Altair	62 00.4	N 08 55.7	
Suhail	222 46.9	S 43 32.0	Peacock	53 06.1	S 56 39.2	
Miaplacidus	221 38.7	S 69 49.3	Deneb	49 25.9	N 45 21.8	
Alphard	217 48.4	S 08 45.9	Enif	33 39.2	N 09 59.1	
Regulus	207 35.0	N 11 50.9	Alnair	27 33.4	S 46 50.3	
Dubhe	193 41.5	N 61 37.5	Formalhaut	15 15.2	S 29 29.4	
Denebola	182 25.2	N 14 26.3	Markab	13 30.4	N 15 20.1	

	SHA ° , ' , "	Dec ° , ' , "		SHA ° , ' , "	Dec ° , ' , "	
Alpheratz	357 35.4	N 29 13.4	Gienah	175 44.0	S 17 40.8	
Ankaa	353 07.8	S 42 10.0	Acrux	173 00.5	S 63 14.3	
Schedir	349 31.8	N 56 40.0	Gacrux	171 52.1	S 57 15.2	
Diphda	348 48.0	S 17 51.1	Alioth	166 13.3	N 55 49.9	
Achernar	335 20.9	S 57 06.5	Spica	158 22.6	S 11 17.4	
Hamal	327 52.0	N 23 34.6	Alkaid	152 52.0	N 49 11.7	
Polaris	314 41.7	N 89 21.8	Hadar	148 36.3	S 60 29.7	
Acamar	315 12.4	S 40 12.3	Menket	147 57.6	S 36 29.3	
Menkar	314 06.9	N 04 11.1	Arcturus	145 47.7	N 19 04.2	
Mirfak	308 29.4	N 49 56.7	Rigel Kentaurus	139 37.6	S 60 56.6	
Aldebaran	290 40.5	N 16 33.5	Zubenelgenubi	136 56.2	S 16 08.6	
Capella	280 23.1	N 46 01.5	Kocab	137 18.8	N 74 03.5	
Rigel	281 04.7	S				

2024 - First Point of Aries / Selected Stars

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UT	day 191 of 366		day 192 of 366		day 193 of 366		day 194 of 366		day 195 of 366		UT
	July 9	GHA ddGHA	July 10	GHA ddGHA	July 11	GHA ddGHA	July 12	GHA ddGHA	July 13	GHA ddGHA	
00	287 25.5	+02.5	288 24.6	+02.5	289 23.8	+02.4	290 22.9	+02.5	291 22.1	+02.4	00
01	302 28.0	+02.4	303 27.1	+02.5	304 26.2	+02.5	305 25.4	+02.4	306 24.5	+02.5	01
02	317 30.4	+02.5	318 29.6	+02.4	319 28.7	+02.5	320 27.8	+02.5	321 27.0	+02.4	02
03	332 32.9	+02.5	333 32.0	+02.5	334 31.2	+02.4	335 30.3	+02.5	336 29.4	+02.5	03
04	347 35.4	+02.4	348 34.5	+02.5	349 33.6	+02.5	350 32.8	+02.4	351 31.9	+02.5	04
05	2 37.8	+02.5	3 37.0	+02.4	4 36.1	+02.5	5 35.2	+02.5	6 34.4	+02.4	05
06	17 40.3	+02.5	18 39.4	+02.5	19 38.6	+02.4	20 37.7	+02.5	21 36.8	+02.5	06
07	32 42.8	+02.4	33 41.9	+02.5	34 41.0	+02.5	35 40.2	+02.4	36 39.3	+02.5	07
08	47 45.2	+02.5	48 44.4	+02.4	49 43.5	+02.5	50 42.6	+02.5	51 41.8	+02.4	08
09	62 47.7	+02.4	63 46.8	+02.5	64 46.0	+02.4	65 45.1	+02.5	66 44.2	+02.5	09
10	77 50.1	+02.5	78 49.3	+02.4	79 48.4	+02.5	80 47.6	+02.4	81 46.7	+02.5	10
11	92 52.6	+02.5	93 51.7	+02.5	94 50.9	+02.5	95 50.0	+02.5	96 49.2	+02.4	11
12	107 55.1	+02.4	108 54.2	+02.5	109 53.4	+02.4	110 52.5	+02.5	111 51.6	+02.5	12
13	122 57.5	+02.5	123 56.7	+02.4	124 55.8	+02.5	125 55.0	+02.4	126 54.1	+02.5	13
14	138 0.0	+02.5	138 59.1	+02.5	139 58.3	+02.4	140 57.4	+02.5	141 56.6	+02.4	14
15	153 0.2	+02.4	154 0.1	+02.5	155 0.7	+02.5	155 59.9	+02.4	156 59.0	+02.5	15
16	168 04.9	+02.5	169 04.1	+02.4	170 03.2	+02.5	171 02.3	+02.5	172 01.5	+02.4	16
17	183 07.4	+02.5	184 06.5	+02.5	185 05.7	+02.4	186 04.8	+02.5	187 03.9	+02.5	17
18	198 09.9	+02.4	199 09.0	+02.5	200 08.1	+02.5	201 07.3	+02.4	202 06.4	+02.5	18
19	213 12.3	+02.5	214 11.5	+02.4	215 10.6	+02.5	216 09.7	+02.5	217 08.9	+02.4	19
20	228 14.8	+02.5	229 13.9	+02.5	230 13.1	+02.4	231 12.2	+02.5	232 11.3	+02.5	20
21	243 17.3	+02.4	244 16.4	+02.5	245 15.5	+02.5	246 14.7	+02.4	247 13.8	+02.5	21
22	258 19.7	+02.5	259 18.9	+02.4	260 18.0	+02.5	261 17.1	+02.5	262 16.3	+02.4	22
23	273 22.2	+02.4	274 21.3	+02.5	275 20.5	+02.4	276 19.6	+02.5	277 18.7	+02.5	23

UT	day 176 of 366		day 177 of 366		day 178 of 366		day 179 of 366		day 180 of 366		UT
	June 24	GHA ddGHA	June 25	GHA ddGHA	June 26	GHA ddGHA	June 27	GHA ddGHA	June 28	GHA ddGHA	
00	272 38.4	+02.5	273 37.5	+02.5	274 36.7	+02.5	275 35.8	+02.5	276 35.0	+02.4	00
01	287 40.9	+02.4	288 40.0	+02.5	289 39.2	+02.4	290 38.3	+02.5	291 37.4	+02.5	01
02	302 43.3	+02.5	303 42.5	+02.4	304 41.6	+02.5	305 40.8	+02.4	306 39.9	+02.5	02
03	317 45.8	+02.5	318 44.9	+02.5	319 44.1	+02.4	320 43.2	+02.5	321 42.4	+02.4	03
04	332 48.3	+02.4	333 47.4	+02.5	334 46.5	+02.5	335 45.7	+02.4	336 44.8	+02.5	04
05	347 50.7	+02.5	348 49.9	+02.4	349 49.0	+02.5	350 48.1	+02.5	351 47.3	+02.5	05
06	2 53.2	+02.5	3 52.3	+02.5	4 51.5	+02.4	5 50.6	+02.5	6 49.8	+02.4	06
07	17 55.7	+02.4	18 54.8	+02.5	19 53.9	+02.5	20 53.1	+02.4	21 52.2	+02.5	07
08	32 58.1	+02.5	33 57.3	+02.4	34 56.4	+02.5	35 55.5	+02.5	36 54.7	+02.4	08
09	48 00.6	+02.5	48 59.7	+02.5	49 58.9	+02.4	50 58.0	+02.5	51 57.1	+02.5	09
10	63 03.1	+02.4	64 02.2	+02.5	65 01.3	+02.5	66 00.5	+02.4	66 59.6	+02.5	10
11	78 05.5	+02.5	79 04.7	+02.4	80 03.8	+02.5	81 02.9	+02.5	82 02.1	+02.4	11
12	93 08.0	+02.4	94 07.1	+02.5	95 06.3	+02.4	96 05.4	+02.5	97 04.5	+02.5	12
13	108 10.4	+02.5	109 09.6	+02.4	110 08.7	+02.5	111 07.9	+02.4	112 07.0	+02.5	13
14	123 12.9	+02.5	124 12.0	+02.5	125 11.2	+02.5	126 10.3	+02.5	127 09.5	+02.4	14
15	138 15.4	+02.4	139 14.5	+02.5	140 13.7	+02.4	141 12.8	+02.5	142 11.9	+02.5	15
16	153 17.8	+02.5	154 17.0	+02.4	155 16.1	+02.5	156 15.3	+02.4	157 14.4	+02.5	16
17	168 20.3	+02.5	169 19.4	+02.5	170 18.6	+02.4	171 17.7	+02.5	172 16.9	+02.4	17
18	183 22.8	+02.4	184 21.9	+02.5	185 21.0	+02.5	186 20.2	+02.4	187 19.3	+02.5	18
19	198 25.2	+02.5	199 24.4	+02.4	200 23.5	+02.5	201 22.6	+02.5	202 21.8	+02.4	19
20	213 27.7	+02.5	214 26.8	+02.5	215 26.0	+02.4	216 25.1	+02.5	217 24.2	+02.5	20
21	228 30.2	+02.4	229 29.3	+02.5	230 28.4	+02.5	231 27.6	+02.4	232 26.7	+02.5	21
22	243 32.6	+02.5	244 31.8	+02.4	245 30.9	+02.5	246 30.0	+02.5	247 29.2	+02.4	22
23	258 35.1	+02.4	259 34.2	+02.5	260 33.4	+02.4	261 32.5	+02.5	262 31.6	+02.5	23

SHA ° ,		Dec ° ,		SHA ° ,		Dec ° ,	
Alpheratz	357 35.2	N 29 13.5	Gienah	175 44.0	S 17 40.7		
Ankaa	353 07.6	S 42 10.0	Acrux	173 00.7	S 63 14.4		
Schedir	349 31.5	N 56 40.1	Gacrux	171 52.3	S 57 15.2		
Diphda	348 47.8	S 17 51.0	Alioth	166 13.4	N 55 49.9		
Achernar	335 20.6	S 57 06.4	Spica	158 22.7	S 11 17.4		
Hamal	327 51.8	N 23 34.7	Alkaid	152 52.2	N 49 11.7		
Polaris	314 30.6	N 89 21.8	Hadar	148 36.4	S 60 29.7		
Acamar	315 12.3	S 40 12.2	Menkent	147 57.7	S 36 29.3		
Menkar	314 06.7	N 04 11.2	Arcturus	145 47.8	N 19 04.2		
Mirfak	308 29.2	N 49 56.7	Rigel Kentaurus	139 37.8	S 60 56.6		
Aldebaran	290 40.4	N 16 33.6	Zubenelgenubi	136 56.3	S 16 08.6		
Capella	280 23.0	N 46 01.4	Kocab	137 19.2	N 74 03.5		
Rigel	281 04.6	S 08 10.3	Alphecca	126 03.9	N 26 38.1		
Bellatrix	278 23.6	N 06 22.4	Antares	112 16.2	S 26 29.2		
Elnath	278 02.7	N 28 37.7	Atria	107 10.2	S 69 04.4		
Alnilam	275 38.5	S 01 11.1	Sabik	102 03.0	S 15 45.4		
Betelgeuze	270 52.9	N 07 24.7	Shaula	96 10.5	S 37 07.3		
Canopus	263 53.1	S 52 42.4	Rasalhague	95 58.6	N 12 32.6		
Sirius	258 26.8	S 16 44.4	Etamin	90 41.8	N 51 29.1		
Adhara	255 06.6	S 29 00.2	Kaus Australis	83 32.7	S 34 22.3		
Castor	245 57.9	N 31 50.2	Vega	80 33.2	N 38 48.2		
Procyon	244 51.4	N 05 10.2	Nunki	75 47.9	S 26 15.9		
Pollux	243 17.8	N 27 58.1	Albireo	67 04.0	N 28 00.6		
Avior	234 15.5	S 59 35.3	Altair	62 00.2	N 08 55.8		
Suhail	222 47.0	S 43 31.9	Peacock	53 05.8	S 56 39.2		
Miplacidus	221 39.0	S 69 49.2	Deneb	49 25.7	N 45 21.9		
Alphard	217 48.4	S 08 45.9	Enif	33 39.0	N 09 59.2		
Regulus	207 35.0	N 11 51.0	Alnair	27 33.1	S 46 50.3		
Dubhe	193 41.7	N 61 37.4	Formalhaut	15 14.9	S 29 29.3		
Denebola	182 25.3	N 14 26.3	Markab	13 30.2	N 15 20.2		

SHA ° ,		Dec ° ,		SHA ° ,		Dec ° ,	
Alpheratz	357 35.3	N 29 13.4	Gienah	175 44.0	S 17 40.8		
Ankaa	353 07.7	S 42 10.0	Acrux	173 00.6	S 63 14.4		
Schedir	349 31.7	N 56 40.0	Gacrux	171 52.2	S 57 15.2		
Diphda	348 47.9	S 17 51.1	Alioth	166 13.3	N 55 49.9		
Achernar	335 20.8	S 57 06.5	Spica	158 22.7	S 11 17.4		
Hamal	327						

2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

UT	day 181 of 366		day 182 of 366		day 183 of 366		day 184 of 366		day 185 of 366		UT	
	June	29	June	30	July	1	July	2	July	3		
00	277	34.1	+02.5	278	33.2	+02.5	279	32.4	+02.4	280	31.5	+02.5
01	292	36.6	+02.4	293	35.7	+02.5	294	34.8	+02.5	295	34.0	+02.4
02	307	39.0	+02.5	308	38.2	+02.4	309	37.3	+02.5	310	36.4	+02.5
03	322	41.5	+02.5	323	40.6	+02.5	324	39.8	+02.4	325	38.9	+02.5
04	337	44.0	+02.4	338	43.1	+02.5	339	42.2	+02.5	340	41.4	+02.4
05	352	46.4	+02.5	353	45.6	+02.4	354	44.7	+02.5	355	43.8	+02.5
06	7	48.9	+02.5	8	48.0	+02.5	9	47.2	+02.4	10	46.3	+02.5
07	22	51.4	+02.4	23	50.5	+02.5	24	49.6	+02.5	25	48.8	+02.4
08	37	53.8	+02.5	38	53.0	+02.4	39	52.1	+02.5	40	51.2	+02.5
09	52	56.3	+02.4	53	55.4	+02.5	54	54.6	+02.4	55	53.7	+02.5
10	67	58.7	+02.5	68	57.9	+02.4	69	57.0	+02.5	70	56.2	+02.4
11	83	01.2	+02.5	84	00.3	+02.5	84	59.5	+02.4	85	58.6	+02.5
12	98	03.7	+02.4	99	02.8	+02.5	100	01.9	+02.5	101	01.1	+02.5
13	113	06.1	+02.5	114	05.3	+02.4	115	04.4	+02.5	116	03.6	+02.4
14	128	08.6	+02.5	129	07.7	+02.5	130	06.9	+02.4	131	06.0	+02.5
15	143	11.1	+02.4	144	10.2	+02.5	145	09.3	+02.5	146	08.5	+02.4
16	158	13.5	+02.5	159	12.7	+02.4	160	11.8	+02.5	161	10.9	+02.5
17	173	16.0	+02.5	174	15.1	+02.5	175	14.3	+02.4	176	13.4	+02.5
18	188	18.5	+02.4	189	17.6	+02.5	190	16.7	+02.5	191	15.9	+02.4
19	203	20.9	+02.5	204	20.1	+02.4	205	19.2	+02.5	206	18.3	+02.5
20	218	23.4	+02.4	219	22.5	+02.5	220	21.7	+02.4	221	20.8	+02.5
21	233	25.8	+02.5	234	25.0	+02.5	235	24.1	+02.5	236	23.3	+02.4
22	248	28.3	+02.5	249	27.5	+02.4	250	26.6	+02.5	251	25.7	+02.5
23	263	30.8	+02.4	264	29.9	+02.5	265	29.1	+02.4	266	28.2	+02.5

UT	day 186 of 366		day 187 of 366		day 188 of 366		day 189 of 366		day 190 of 366		UT	
	July	4	July	5	July	6	July	7	July	8		
00	282	29.8	+02.5	283	28.9	+02.5	284	28.1	+02.4	285	27.2	+02.5
01	297	32.3	+02.4	298	31.4	+02.5	299	30.5	+02.5	300	29.7	+02.5
02	312	34.7	+02.5	313	33.9	+02.4	314	33.0	+02.5	315	32.2	+02.4
03	327	37.2	+02.5	328	36.3	+02.5	329	35.5	+02.4	330	34.6	+02.5
04	342	39.7	+02.4	343	38.8	+02.5	344	37.9	+02.5	345	37.1	+02.4
05	357	42.1	+02.5	358	41.3	+02.4	359	40.4	+02.5	360	39.5	+02.5
06	12	44.6	+02.5	13	43.7	+02.5	14	42.9	+02.4	15	42.0	+02.5
07	27	47.1	+02.4	28	46.2	+02.5	29	45.3	+02.5	30	44.5	+02.4
08	42	49.5	+02.5	43	48.7	+02.4	44	47.8	+02.5	45	46.9	+02.5
09	57	52.0	+02.4	58	51.1	+02.5	59	50.3	+02.4	60	49.4	+02.5
10	72	54.4	+02.5	73	53.6	+02.4	74	52.7	+02.5	75	51.9	+02.4
11	87	56.9	+02.5	88	56.0	+02.5	89	55.2	+02.5	90	54.3	+02.5
12	102	59.4	+02.4	103	58.5	+02.5	104	57.7	+02.4	105	56.8	+02.5
13	118	01.8	+02.5	119	01.0	+02.4	120	00.1	+02.5	121	58.4	+02.5
14	133	04.3	+02.5	134	03.4	+02.5	135	02.6	+02.4	136	01.7	+02.5
15	148	06.8	+02.4	149	05.9	+02.5	150	05.0	+02.5	151	04.2	+02.5
16	163	09.2	+02.5	164	08.4	+02.4	165	07.5	+02.5	166	06.7	+02.4
17	178	11.7	+02.5	179	10.8	+02.5	180	10.0	+02.4	181	09.1	+02.5
18	193	14.2	+02.4	194	13.3	+02.5	195	12.4	+02.5	196	11.6	+02.4
19	208	16.6	+02.5	209	15.8	+02.4	210	14.9	+02.5	211	14.0	+02.5
20	223	19.1	+02.5	224	18.2	+02.5	225	17.4	+02.4	226	16.5	+02.5
21	238	21.6	+02.4	239	20.7	+02.5	240	19.8	+02.5	241	19.0	+02.4
22	253	24.0	+02.5	254	23.2	+02.4	255	22.3	+02.5	256	21.4	+02.5
23	268	26.5	+02.4	269	25.6	+02.5	270	24.8	+02.4	271	23.9	+02.5

	SHA	Dec		SHA	Dec		SHA	Dec		SHA	Dec	
Alpheratz	357	35.3	N 29 13.4	Gienah	175	44.0	S 17 40.8			Gienah	175 44.0	S 17 40.7
Ankaa	353	07.7	S 42 10.0	Acrux	173	00.6	S 63 14.4			Acrux	173 00.6	S 63 14.4
Schedir	349	31.6	N 56 40.0	Gacrux	171	52.2	S 57 15.2			Gacrux	171 52.2	S 57 15.2
Diphda	348	47.8	S 17 51.0	Alioth	166	13.4	N 55 49.9			Alioth	166 13.4	N 55 49.9
Achernar	335	20.7	S 57 06.4	Spica	158	22.7	S 11 17.4			Spica	158 22.7	S 11 17.4
Hamal	327	51.9	N 23 34.6	Alkaid	152	52.1	N 49 11.7			Alkaid	152 52.1	N 49 11.7
Polaris	314	35.6	N 89 21.8	Hadar	148	36.4	S 60 29.7			Hadar	148 36.4	S 60 29.7
Acamar	315	12.3	S 40 12.2	Menkent	147	57.7	S 36 29.3			Menkent	147 57.7	S 36 29.3
Menkar	314	06.8	N 04 11.2	Arcturus	145	47.7	N 19 04.2			Arcturus	145 47.8	N 19 04.2
Mirfak	308	29.3	N 49 56.7	Rigel Kentaurus	139	37.7	S 60 56.6			Rigel Kentaurus	139 37.7	S 60 56.6
Aldebaran	290	40.5	N 16 33.6	Zubenelgenubi	136	56.3	S 16 08.6			Zubenelgenubi	136 56.3	S 16 08.6
Capella	280	23.0	N 46 01.5	Kocab	137	19.0	N 74 03.5			Kocab	137 19.1	N 74 03.5
Rigel	281	04.6	S 08 10.3	Alphecca	126	03.9	N 26 38.1			Alphecca	126 03.9	N 26 38.1
Bellatrix	278	23.7	N 06 22.3	Antares	112	16.2	S 26 29.2			Antares	112 16.2	S 26 29.2
Elnath	278	02.8	N 28 37.7	Atria	107	10.2	S 69 04.4			Atria	107 10.2	S 69 04.4
Alnilam	275	38.5	S 01 11.1	Sabik	102	03.0	S 15 45.4			Sabik	102 03.0	S 15 45.4
Betelgeuze	270	52.9	N 07 24.7	Shaula	96	10.6	S 37 07.3			Shaula	96 10.5	S 37 07.3
Canopus	263	53.2	S 52 42.4	Rasalhague	95	58.7	N 12 32.6			Rasalhague	95 58.6	N 12 32.6
Sirius	258	26.8	S 16 44.4	Etamin	90	41.8	N 51 29.2			Etamin	90 41.8	N 51 29.2
Adhara	255	06.6	S 29 00.3	Kaus Australis	83	32.7	S 34 22.3			Kaus Australis	83 32.7	S 34 22.3
Castor	245	57.9	N 31 50.2	Vega	80	33.2	N 38 48.2			Vega	80 33.2	N 38 48.2
Procyon	244	51.4	N 05 10.2	Nunki	75	47.9	S 26 15.9			Nunki	75 47.9	S 26 15.9
Pollux	243	17.8	N 27 58.1	Albireo	67	04.1	N 28 00.6			Albireo	67 04.0	N 28 00.6
Avior	234	15.5	S 59 35.4	Altair	62	00.3	N 08 55.8			Altair	62 00.2	N 08 55.8
Suhail	222	47.0	S 43 32.0	Peacock	53	05.9	S 56 39.2			Peacock	53 05.8	S 56 39.2
Miplacidus	221	39.0	S 69 49.2	Deneb	49	25.7	N 45 21.9			Deneb	49 25.7	N 45 21.9
Alphard	217	48.4	S 08 45.9	Enif	33	39.0	N 09 59.2			Enif	33 39.0	N 09 59.2
Regulus	207	35.0	N 11 51.0	Alnair	27	33.2	S 46 50.3			Alnair	27 33.2	S 46 50.3
Dubhe	193	41.7	N 61 37.4	Formalhaut	15	15.0	S 29 29.3			Formalhaut	15 14.9	S 29 29.3
Denebola	182	25.3	N 14 26.3	Markab	13	30.2	N 15 20.1			Markab	13 30.2	N 15 20.2

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2024 - First Point of Aries / Selected Stars

day 211 of 366		day 212 of 366		day 213 of 366		day 214 of 366		day 215 of 366								
UT	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	UT							
00	307	08.3	+02.4	308	07.4	+02.5	309	06.6	+02.4	310	05.7	+02.5	311	04.8	+02.5	00
01	322	10.7	+02.5	323	09.9	+02.5	324	09.0	+02.5	325	08.2	+02.4	326	07.3	+02.5	01
02	337	13.2	+02.5	338	12.4	+02.4	339	11.5	+02.5	340	10.6	+02.5	341	09.8	+02.4	02
03	352	15.7	+02.4	353	14.8	+02.5	354	14.0	+02.4	355	13.1	+02.5	356	12.2	+02.5	03
04	7	18.1	+02.5	8	17.3	+02.4	9	16.4	+02.5	10	15.6	+02.4	11	14.7	+02.5	04
05	22	20.6	+02.5	23	19.7	+02.5	24	18.9	+02.5	25	18.0	+02.5	26	17.2	+02.4	05
06	37	23.1	+02.4	38	22.2	+02.5	39	21.4	+02.4	40	20.5	+02.5	41	19.6	+02.5	06
07	52	25.5	+02.5	53	24.7	+02.4	54	23.8	+02.5	55	23.0	+02.4	56	22.1	+02.5	07
08	67	28.0	+02.5	68	27.1	+02.5	69	26.3	+02.4	70	25.4	+02.5	71	24.6	+02.4	08
09	82	30.5	+02.4	83	29.6	+02.5	84	28.7	+02.5	85	27.9	+02.4	86	27.0	+02.5	09
10	97	32.9	+02.5	98	32.1	+02.4	99	31.2	+02.5	100	30.3	+02.5	101	29.5	+02.5	10
11	112	35.4	+02.5	113	34.5	+02.5	114	33.7	+02.4	115	32.8	+02.5	116	32.0	+02.4	11
12	127	37.9	+02.4	128	37.0	+02.5	129	36.1	+02.5	130	35.3	+02.4	131	34.4	+02.5	12
13	142	40.3	+02.5	143	39.5	+02.4	144	38.6	+02.5	145	37.7	+02.5	146	36.9	+02.4	13
14	157	42.8	+02.4	158	41.9	+02.5	159	41.1	+02.4	160	40.2	+02.5	161	39.3	+02.5	14
15	172	45.2	+02.5	173	44.4	+02.5	174	43.5	+02.5	175	42.7	+02.4	176	41.8	+02.5	15
16	187	47.7	+02.5	188	46.9	+02.4	189	46.0	+02.5	190	45.1	+02.5	191	44.3	+02.4	16
17	202	50.2	+02.4	203	49.3	+02.5	204	48.5	+02.4	205	47.6	+02.5	206	46.7	+02.5	17
18	217	52.6	+02.5	218	51.8	+02.4	219	50.9	+02.5	220	50.1	+02.4	221	49.2	+02.5	18
19	232	55.1	+02.5	233	54.2	+02.5	234	53.4	+02.5	235	52.5	+02.5	236	51.7	+02.4	19
20	247	57.6	+02.4	248	56.7	+02.5	249	55.9	+02.4	250	55.0	+02.5	251	54.1	+02.5	20
21	263	00.0	+02.5	263	59.2	+02.4	264	58.3	+02.5	265	57.5	+02.4	266	56.6	+02.5	21
22	278	02.5	+02.5	279	01.6	+02.5	280	00.8	+02.4	280	59.9	+02.5	281	59.1	+02.4	22
23	293	05.0	+02.4	294	04.1	+02.5	295	03.2	+02.5	296	02.4	+02.4	297	01.5	+02.5	23

SHA			Dec			SHA			Dec		
°	,	°	°	,	°	°	,	°	°	,	°
Alpheratz	357	35.0	N	29	13.6	Gienah	175	44.1	S	17	40.7
Ankaa	353	07.4	S	42	10.0	Acrux	173	00.9	S	63	14.3
Schedir	349	31.3	N	56	40.1	Gacrux	171	52.4	S	57	15.1
Diphda	348	47.6	S	17	51.0	Alioth	166	13.6	N	55	49.9
Achernar	335	20.4	S	57	06.4	Spica	158	22.8	S	11	17.3
Hamal	327	51.7	N	23	34.7	Alkaid	152	52.3	N	49	11.7
Polaris	314	20.5	N	89	21.7	Hadar	148	36.6	S	60	29.7
Acamar	315	12.1	S	40	12.1	Menkent	147	57.8	S	36	29.3
Menkar	314	06.6	N	04	11.3	Arcturus	145	47.8	N	19	04.2
Mirfak	308	28.9	N	49	56.7	Rigel Kentaurus	139	37.9	S	60	56.6
Aldebaran	290	40.3	N	16	33.6	Zubenelgenubi	136	56.3	S	16	08.6
Capella	280	22.8	N	46	01.4	Kocab	137	19.5	N	74	03.5
Rigel	281	04.5	S	08	10.2	Alphecca	126	04.0	N	26	38.1
Bellatrix	278	23.5	N	06	22.4	Antares	112	16.2	S	26	29.2
Elnath	278	02.6	N	28	37.7	Atria	107	10.3	S	69	04.5
Alnilam	275	38.4	S	01	11.1	Sabik	102	03.0	S	15	45.4
Betelgeuze	270	52.8	N	07	24.8	Shaula	96	10.5	S	37	07.3
Canopus	263	53.1	S	52	42.3	Rasalhague	95	58.7	N	12	32.7
Sirius	258	26.7	S	16	44.3	Etamin	90	41.9	N	51	29.2
Adhara	255	06.5	S	29	00.1	Kaus Australis	83	32.6	S	34	22.3
Castor	245	57.8	N	31	50.2	Vega	80	33.2	N	38	48.3
Procyon	244	51.3	N	05	10.2	Nunki	75	47.9	S	26	15.9
Pollux	243	17.8	N	27	58.1	Albireo	67	04.0	N	28	00.7
Avior	234	15.6	S	59	35.2	Altair	62	00.2	N	08	55.8
Suhail	222	47.0	S	43	31.8	Peacock	53	05.7	S	56	39.2
Miplacidus	221	39.1	S	69	49.1	Deneb	49	25.6	N	45	22.0
Alphard	217	48.4	S	08	45.8	Enif	33	38.9	N	09	59.2
Regulus	207	35.0	N	11	51.0	Alnair	27	33.1	S	46	50.3
Dubhe	193	41.8	N	61	37.4	Formalhaut	15	14.9	S	29	29.3
Denebola	182	25.3	N	14	26.3	Markab	13	30.1	N	15	20.2

day 196 of 366		day 197 of 366		day 198 of 366		day 199 of 366		day 200 of 366								
UT	GHA	ddGHA	UT	GHA	ddGHA	UT	GHA	ddGHA	UT							
00	292	21.2	+02.5	293	20.3	+02.5	294	19.5	+02.4	295	18.6	+02.5	296	17.8	+02.4	00
01	307	23.7	+02.4	308	22.8	+02.5	309	21.9	+02.5	310	21.1	+02.4	311	20.2	+02.5	01
02	322	26.1	+02.5	323	25.3	+02.4	324	24.4	+02.5	325	23.5	+02.5	326	22.7	+02.4	02
03	337	28.6	+02.5	338	27.7	+02.5	339	26.9	+02.4	340	26.0	+02.5	341	25.1	+02.5	03
04	352	31.1	+02.4	353	30.2	+02.5	354	29.3	+02.5	355	28.5	+02.4	356	27.6	+02.5	04
05	7	33.5	+02.5	8	32.7	+02.4	9	31.8	+02.5	10	30.9	+02.5	11	30.1	+02.4	05
06	22	36.0	+02.4	23	35.1	+02.5	24	34.3	+02.4	25	33.4	+02.5	26	32.5	+02.5	06
07	37	38.4	+02.5	38	37.6	+02.4	39	36.7	+02.5	40	35.9	+02.4	41	35.0	+02.5	07
08	52	40.9	+02.5	53	40.0	+02.5	54	39.2	+02.4	55	38.3	+02.5	56	37.5	+02.4	08
09	67	43.4	+02.4	68	42.5	+02.5	69	41.6	+02.5	70	40.8	+02.5	71	39.9	+02.5	09
10	82	45.8	+02.5	83	45.0	+02.4	84	44.1	+02.5	85	43.3	+02.4	86	42.4	+02.5	10
11	97	48.3	+02.5	98	47.4	+02.5	99	46.6	+02.4	100	45.7	+02.5	101	44.9	+02.4	11
12	112	50.8	+02.4	113	49.9	+02.5	114	49.0	+02.5	115	48.2	+02.4	116	47.3	+02.5	12
13	127	53.2	+02.5	128	52.4	+02.4	129	51.5	+02.5	130	50.6	+02.5	131	49.8	+02.5	13
14	142	55.7	+02.5	143	54.8	+02.5	144	54.0	+02.4	145	53.1	+02.5	146	52.3	+02.4	14
15	157	58.2	+02.4	158	57.3	+02.5	159	56.4	+02.5	160	55.6	+02.4	161	54.7	+02.5	15
16	173	00.6	+02.5	173	59.8	+02.4	174	58.9	+02.5	175	58.0	+02.5	176	57.2	+02.4	16
17	188	03.1	+02.4	189	02.2	+02.5	190	01.4	+02.4	191	00.5	+02.5	191	59.6	+02.5	17
18	203	05.5	+02.5	204	04.7	+02.5	205	03.8	+02.5	206	03.0	+02.4	207	02.1	+02.5	18
19	218	08.0	+02.5	219	07.2	+02.4	220	06.3	+02.5	221	05.4	+02.5	222	04.6	+02.4	19
20	233	10.5	+02.4	23												

2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

UT	day 201 of 366		day 202 of 366		day 203 of 366		day 204 of 366		day 205 of 366		UT
	July 19	GHA ddGHA	July 20	GHA ddGHA	July 21	GHA ddGHA	July 22	GHA ddGHA	July 23	GHA ddGHA	
00	297 16.9	+02.5	298 16.0	+02.5	299 15.2	+02.4	300 14.3	+02.5	301 13.5	+02.4	00
01	312 19.4	+02.4	313 18.5	+02.5	314 17.6	+02.5	315 16.8	+02.4	316 15.9	+02.5	01
02	327 21.8	+02.5	328 21.0	+02.4	329 20.1	+02.5	330 19.2	+02.5	331 18.4	+02.4	02
03	342 24.3	+02.5	343 23.4	+02.5	344 22.6	+02.4	345 21.7	+02.5	346 20.8	+02.5	03
04	357 26.8	+02.4	358 25.9	+02.5	359 25.0	+02.5	0 24.2	+02.4	1 23.3	+02.5	04
05	12 29.2	+02.5	13 28.4	+02.4	14 27.5	+02.5	15 26.6	+02.5	16 25.8	+02.4	05
06	27 31.7	+02.4	28 30.8	+02.5	29 30.0	+02.4	30 29.1	+02.5	31 28.2	+02.5	06
07	42 34.1	+02.5	43 33.3	+02.4	44 32.4	+02.5	45 31.6	+02.4	46 30.7	+02.5	07
08	57 36.6	+02.5	58 35.7	+02.5	59 34.9	+02.5	60 34.0	+02.5	61 33.2	+02.4	08
09	72 39.1	+02.4	73 38.2	+02.5	74 37.4	+02.4	75 36.5	+02.5	76 35.6	+02.5	09
10	87 41.5	+02.5	88 40.7	+02.4	89 39.8	+02.5	90 39.0	+02.4	91 38.1	+02.5	10
11	102 44.0	+02.5	103 43.1	+02.5	104 42.3	+02.4	105 41.4	+02.5	106 40.6	+02.4	11
12	117 46.5	+02.4	118 45.6	+02.5	119 44.7	+02.5	120 43.9	+02.5	121 43.0	+02.5	12
13	132 48.9	+02.5	133 48.1	+02.4	134 47.2	+02.5	135 46.4	+02.4	136 45.5	+02.5	13
14	147 51.4	+02.5	148 50.5	+02.5	149 49.7	+02.4	150 48.8	+02.5	151 48.0	+02.4	14
15	162 53.9	+02.4	163 53.0	+02.5	164 52.1	+02.5	165 51.3	+02.4	166 50.4	+02.5	15
16	177 56.3	+02.5	178 55.5	+02.4	179 54.6	+02.5	180 53.7	+02.5	181 52.9	+02.4	16
17	192 58.8	+02.4	193 57.9	+02.5	194 57.1	+02.4	195 56.2	+02.5	196 55.3	+02.5	17
18	208 01.2	+02.5	209 00.4	+02.5	210 59.5	+02.5	211 58.7	+02.4	212 57.8	+02.5	18
19	223 03.7	+02.5	224 02.9	+02.4	225 02.0	+02.5	226 01.1	+02.5	227 00.3	+02.4	19
20	238 06.2	+02.4	239 05.3	+02.5	240 04.5	+02.4	241 03.6	+02.5	242 02.7	+02.5	20
21	253 08.6	+02.5	254 07.8	+02.4	255 06.9	+02.5	256 06.1	+02.4	257 05.2	+02.5	21
22	268 11.1	+02.5	269 10.2	+02.5	270 09.4	+02.5	271 08.5	+02.5	272 07.7	+02.4	22
23	283 13.6	+02.4	284 12.7	+02.5	285 11.9	+02.4	286 11.0	+02.5	287 10.1	+02.5	23

UT	day 206 of 366		day 207 of 366		day 208 of 366		day 209 of 366		day 210 of 366		UT
	July 24	GHA ddGHA	July 25	GHA ddGHA	July 26	GHA ddGHA	July 27	GHA ddGHA	July 28	GHA ddGHA	
00	302 12.6	+02.5	303 11.7	+02.5	304 10.9	+02.4	305 10.0	+02.5	306 09.1	+02.5	00
01	317 15.1	+02.4	318 14.2	+02.5	319 13.3	+02.5	320 12.5	+02.4	321 11.6	+02.5	01
02	332 17.5	+02.5	333 16.7	+02.4	334 15.8	+02.5	335 14.9	+02.5	336 14.1	+02.4	02
03	347 20.0	+02.5	348 19.1	+02.5	349 18.3	+02.4	350 17.4	+02.5	351 16.5	+02.5	03
04	2 22.5	+02.4	3 21.6	+02.5	4 20.7	+02.5	5 19.9	+02.4	6 19.0	+02.5	04
05	17 24.9	+02.5	18 24.1	+02.4	19 23.2	+02.5	20 22.3	+02.5	21 21.5	+02.4	05
06	32 27.4	+02.4	33 26.5	+02.5	34 25.7	+02.4	35 24.8	+02.5	36 23.9	+02.5	06
07	47 29.8	+02.5	48 29.0	+02.4	49 28.1	+02.5	50 27.3	+02.4	51 26.4	+02.5	07
08	62 32.3	+02.5	63 31.4	+02.5	64 30.6	+02.4	65 29.7	+02.5	66 28.9	+02.4	08
09	77 34.8	+02.4	78 33.9	+02.5	79 33.0	+02.5	80 32.2	+02.4	81 31.3	+02.5	09
10	92 37.2	+02.5	93 36.4	+02.4	94 35.5	+02.5	95 34.6	+02.5	96 33.8	+02.5	10
11	107 39.7	+02.5	108 38.8	+02.5	109 38.0	+02.4	110 37.1	+02.5	111 36.3	+02.4	11
12	122 42.2	+02.4	123 41.3	+02.5	124 40.4	+02.5	125 39.6	+02.4	126 38.7	+02.5	12
13	137 44.6	+02.5	138 43.8	+02.4	139 42.9	+02.5	140 42.0	+02.5	141 41.2	+02.4	13
14	152 47.1	+02.5	153 46.2	+02.5	154 45.4	+02.4	155 44.5	+02.5	156 43.6	+02.5	14
15	167 49.6	+02.4	168 48.7	+02.5	169 47.8	+02.5	170 47.0	+02.4	171 46.1	+02.5	15
16	182 52.0	+02.5	183 51.2	+02.4	184 50.3	+02.5	185 49.4	+02.5	186 48.6	+02.4	16
17	197 54.5	+02.4	198 53.6	+02.5	199 52.8	+02.4	200 51.9	+02.5	201 51.0	+02.5	17
18	212 56.9	+02.5	213 56.1	+02.5	214 55.2	+02.5	215 54.4	+02.4	216 53.5	+02.5	18
19	227 59.4	+02.5	228 58.6	+02.4	229 57.7	+02.5	230 56.8	+02.5	231 56.0	+02.4	19
20	243 01.9	+02.4	244 01.0	+02.5	245 00.2	+02.4	245 59.3	+02.5	246 58.4	+02.5	20
21	258 04.3	+02.5	259 03.5	+02.4	260 02.6	+02.5	261 01.8	+02.4	262 00.9	+02.5	21
22	273 06.8	+02.5	274 05.9	+02.5	275 05.1	+02.4	276 04.2	+02.5	277 03.4	+02.4	22
23	288 09.3	+02.4	289 08.4	+02.5	290 07.5	+02.5	291 06.7	+02.4	292 05.8	+02.5	23

	SHA °,	Dec °,		SHA °,	Dec °,	
Alpheratz	357 35.1	N 29 13.5	Gienah	175 44.1	S 17 40.7	
Ankaa	353 07.5	S 42 10.0	Acrux	173 00.8	S 63 14.3	
Schedir	349 31.4	N 56 40.1	Gacrux	171 52.3	S 57 15.2	
Diphda	348 47.7	S 17 51.0	Alioth	166 13.5	N 55 49.9	
Achernar	335 20.5	S 57 06.4	Spica	158 22.7	S 11 17.4	
Hamal	327 51.8	N 23 34.7	Alkaid	152 52.2	N 49 11.7	
Polaris	314 25.5	N 89 21.7	Hadar	148 36.5	S 60 29.7	
Acamar	315 12.2	S 40 12.1	Menkent	147 57.7	S 36 29.3	
Menkar	314 06.7	N 04 11.2	Arcturus	145 47.8	N 19 04.2	
Mirfak	308 29.1	N 49 56.7	Rigel Kentaurus	139 37.8	S 60 56.6	
Aldebaran	290 40.3	N 16 33.6	Zubenelgenubi	136 56.3	S 16 08.6	
Capella	280 22.9	N 46 01.4	Kocab	137 19.3	N 74 03.5	
Rigel	281 04.5	S 08 10.3	Alphecca	126 03.9	N 26 38.1	
Bellatrix	278 23.6	N 06 22.4	Antares	112 16.2	S 26 29.2	
Elnath	278 02.7	N 28 37.7	Atria	107 10.2	S 69 04.5	
Alnilam	275 38.4	S 01 11.1	Sabik	102 03.0	S 15 45.4	
Betelgeuze	270 52.8	N 07 24.8	Shaula	96 10.5	S 37 07.3	
Canopus	263 53.1	S 52 42.3	Rasalhague	95 58.6	N 12 32.7	
Sirius	258 26.7	S 16 44.4	Etamin	90 41.9	N 51 29.2	
Adhara	255 06.5	S 29 00.2	Kaus Australis	83 32.6	S 34 22.3	
Castor	245 57.9	N 31 50.2	Vega	80 33.2	N 38 48.3	
Procyon	244 51.3	N 05 10.2	Nunki	75 47.9	S 26 15.9	
Pollux	243 17.8	N 27 58.1	Albireo	67 04.0	N 28 00.7	
Avior	234 15.6	S 59 35.3	Altair	62 00.2	N 08 55.9	
Suhail	222 47.0	S 43 31.9	Peacock	53 05.7	S 56 39.3	
Miaplacidus	221 39.1	S 69 49.2	Deneb	49 25.6	N 45 22.0	
Alphard	217 48.4	S 08 45.8	Enif	33 38.9	N 09 59.3	
Regulus	207 35.0	N 11 51.0	Alnair	27 33.1	S 46 50.3	
Dubhe	193 41.8	N 61 37.4	Formalhaut	15 14.8	S 29 29.3	
Denebola	182 25.3	N 14 26.3	Markab	13 30.1	N 15 20.2	

	SHA °,	Dec °,		SHA °,	Dec °,	
Alpheratz	357 35.0	N 29 13.5	Gienah	175 44.1	S 17 40.7	
Ankaa	353 07.4	S 42 10.0	Acrux	173 00.8	S 63 14.3	
Schedir	349 31.3	N 56 40.1	Gacrux	171 52.4	S 57 15.2	
Diphda	348 47.6	S 17 51.0	Alioth	166 13.5	N 55 49.9	
Achernar	335 20.4	S 57 06.4	Spica	158 22.7	S 11 17.4	
Hamal	327 51.7	N 23 34.7	Alkaid	152 52.2	N 49 11.7	
Polaris	314 23.0	N 89 21.7	Hadar	148 36.5	S 60 29.7	
Acamar	315 12.1	S 40 12.1	Menkent	147 57.7	S 36 29.3	
Menkar	314 06.6	N 04 11.3	Arcturus</td			

2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

	day 231 of 366	day 232 of 366	day 233 of 366	day 234 of 366	day 235 of 366			
UT	August 18	August 19	August 20	August 21	August 22	UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	UT	
00	326 51.1	+02.4	327 50.2	+02.5	328 49.4	+02.4	329 48.5	+02.5
01	341 53.5	+02.5	342 52.7	+02.4	343 51.8	+02.5	344 51.0	+02.4
02	356 56.0	+02.5	357 55.1	+02.5	358 54.3	+02.4	359 53.4	+02.5
03	11 58.5	+02.4	12 57.6	+02.5	13 56.7	+02.5	14 55.9	+02.4
04	27 00.9	+02.5	28 00.1	+02.4	28 59.2	+02.5	29 58.3	+02.5
05	42 03.4	+02.5	43 02.5	+02.5	44 01.7	+02.4	45 00.8	+02.5
06	57 05.9	+02.4	58 05.0	+02.5	59 04.1	+02.5	60 03.3	+02.4
07	72 08.3	+02.5	73 07.5	+02.4	74 06.6	+02.5	75 05.7	+02.5
08	87 10.8	+02.4	88 09.9	+02.5	89 09.1	+02.4	90 08.2	+02.5
09	102 13.2	+02.5	103 12.4	+02.5	104 11.5	+02.5	105 10.7	+02.4
10	117 15.7	+02.5	118 14.9	+02.4	119 14.0	+02.5	120 13.1	+02.5
11	132 18.2	+02.4	133 17.3	+02.5	134 16.5	+02.4	135 15.6	+02.5
12	147 20.6	+02.5	148 19.8	+02.4	149 18.9	+02.5	150 18.1	+02.4
13	162 23.1	+02.5	163 22.2	+02.5	164 21.4	+02.4	165 20.5	+02.5
14	177 25.6	+02.4	178 24.7	+02.5	179 23.8	+02.5	180 23.0	+02.4
15	192 28.0	+02.5	193 27.2	+02.4	194 26.3	+02.5	195 25.4	+02.5
16	207 30.5	+02.5	208 29.6	+02.5	209 28.8	+02.4	210 27.9	+02.5
17	222 33.0	+02.4	223 32.1	+02.5	224 31.2	+02.5	225 30.4	+02.4
18	237 35.4	+02.5	238 34.6	+02.4	239 33.7	+02.5	240 32.8	+02.5
19	252 37.9	+02.5	253 37.0	+02.5	254 36.2	+02.4	255 35.3	+02.5
20	267 40.4	+02.4	268 39.5	+02.5	269 38.6	+02.5	270 37.8	+02.4
21	282 42.8	+02.5	283 42.0	+02.4	284 41.1	+02.5	285 40.2	+02.5
22	297 45.3	+02.4	298 44.4	+02.5	299 43.6	+02.4	300 42.7	+02.5
23	312 47.7	+02.5	313 46.9	+02.5	314 46.0	+02.5	315 45.2	+02.4

	day 216 of 366	day 217 of 366	day 218 of 366	day 219 of 366	day 220 of 366			
UT	August 3	August 4	August 5	August 6	August 7	UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	UT	
00	312 04.0	+02.5	313 03.1	+02.5	314 02.3	+02.4	315 01.4	+02.5
01	327 06.5	+02.4	328 05.6	+02.5	329 04.7	+02.5	330 03.9	+02.4
02	342 08.9	+02.5	343 08.1	+02.4	344 07.2	+02.5	345 06.3	+02.5
03	357 11.4	+02.4	358 10.5	+02.5	359 09.7	+02.4	360 08.8	+02.5
04	12 13.8	+02.5	13 13.0	+02.4	14 12.1	+02.5	15 11.3	+02.4
05	27 16.3	+02.5	28 15.4	+02.5	29 14.6	+02.5	30 13.7	+02.5
06	42 18.8	+02.4	43 17.9	+02.5	44 17.1	+02.4	45 16.2	+02.5
07	57 21.2	+02.5	58 20.4	+02.4	59 19.5	+02.5	60 18.7	+02.4
08	72 23.7	+02.5	73 22.8	+02.5	74 22.0	+02.4	75 21.1	+02.5
09	87 26.2	+02.4	88 25.3	+02.5	89 24.4	+02.5	90 23.6	+02.4
10	102 28.6	+02.5	103 27.8	+02.4	104 26.9	+02.5	105 26.0	+02.5
11	117 31.1	+02.5	118 30.2	+02.5	119 29.4	+02.4	120 28.5	+02.5
12	132 33.6	+02.4	133 32.7	+02.5	134 31.8	+02.5	135 31.0	+02.4
13	147 36.0	+02.5	148 35.2	+02.4	149 34.3	+02.5	150 33.4	+02.5
14	162 38.5	+02.5	163 37.6	+02.5	164 36.8	+02.4	165 35.9	+02.5
15	177 41.0	+02.4	178 40.1	+02.5	179 39.2	+02.5	180 38.4	+02.4
16	192 43.4	+02.5	193 42.6	+02.4	194 41.7	+02.5	195 40.8	+02.5
17	207 45.9	+02.4	208 45.0	+02.5	209 44.2	+02.4	210 43.3	+02.5
18	222 48.3	+02.5	223 47.5	+02.4	224 46.6	+02.5	225 45.8	+02.4
19	237 50.8	+02.5	238 49.9	+02.5	239 49.1	+02.4	240 48.2	+02.5
20	252 53.3	+02.4	253 52.4	+02.5	254 51.5	+02.5	255 50.7	+02.5
21	267 55.7	+02.5	268 54.9	+02.4	269 54.0	+02.5	270 53.2	+02.4
22	282 58.2	+02.5	283 57.3	+02.5	284 56.5	+02.4	285 55.6	+02.5
23	298 00.7	+02.4	298 59.8	+02.5	299 58.9	+02.5	300 58.1	+02.4

	SHA	Dec		SHA	Dec	
	° ,	° ,		° ,	° ,	
Alpheratz	357 34.9	N 29 13.6	Gienah	175 44.1	S 17 40.7	
Ankaa	353 07.2	S 42 10.0	Acrux	173 01.0	S 63 14.3	
Schedir	349 31.1	N 56 40.2	Gacrux	171 52.5	S 57 15.1	
Diphda	348 47.5	S 17 50.9	Alioth	166 13.7	N 55 49.8	
Achernar	335 20.2	S 57 06.4	Spica	158 22.8	S 11 17.3	
Hamal	327 51.5	N 23 34.8	Alkaid	152 52.4	N 49 11.7	
Polaris	314 09.5	N 89 21.8	Hadar	148 36.7	S 60 29.7	
Acamar	315 11.9	S 40 12.0	Menkent	147 57.8	S 36 29.3	
Menkar	314 06.4	N 04 11.3	Arcturus	145 47.9	N 19 04.2	
Mirfak	308 28.7	N 49 56.8	Rigel Kentauros	139 38.1	S 60 56.6	
Aldebaran	290 40.1	N 16 33.6	Zubenelgenubi	136 56.4	S 16 08.6	
Capella	280 22.6	N 46 01.4	Kocab	137 19.9	N 74 03.5	
Rigel	281 04.3	S 08 10.2	Alphecca	126 04.0	N 26 38.1	
Bellatrix	278 23.4	N 06 22.4	Antares	112 16.2	S 26 29.2	
Elnath	278 02.5	N 28 37.7	Atria	107 10.5	S 69 04.5	
Alnilam	275 38.2	S 01 11.0	Sabik	102 03.0	S 15 45.4	
Betelgeuze	270 52.6	N 07 24.8	Shaula	96 10.6	S 37 07.4	
Canopus	263 52.9	S 52 42.2	Rasalhague	95 58.7	N 12 32.7	
Sirius	258 26.6	S 16 44.3	Etamin	90 42.0	N 51 29.3	
Adhara	255 06.4	S 29 00.1	Kaus Australis	83 32.6	S 34 22.4	
Castor	245 57.7	N 31 50.1	Vega	80 33.2	N 38 48.4	
Procyon	244 51.2	N 05 10.2	Nunki	75 47.9	S 26 15.9	
Pollux	243 17.6	N 27 58.1	Albireo	67 04.0	N 28 00.7	
Avior	234 15.5	S 59 35.1	Altair	62 00.2	N 08 55.9	
Suhail	222 47.0	S 43 31.8	Peacock	53 05.6	S 56 39.3	
Miplacidus	221 39.1	S 69 49.0	Deneb	49 25.6	N 45 22.1	
Alphard	217 48.4	S 08 45.8	Enif	33 38.8	N 09 59.3	
Regulus	207 35.0	N 11 50.9	Alnair	27 32.9	S 46 50.3	
Dubhe	193 41.9	N 61 37.3	Formalhaut	15 14.6	S 29 29.3	
Denebola	182 25.4	N 14 26.3	Markab	13 29.9	N 15 20.3	

	SHA	Dec		SHA	Dec	
	° ,	° ,		° ,	° ,	
Alpheratz	357 35.0	N 29 13.6	Gienah	175 44.1	S 17 40.7	
Ankaa	353 07.3	S 42 09.9	Acrux	173 00.9	S 63 14.3	
Schedir	349 31.2	N 56 40.1	Gacrux	171 52.4	S 57 15.1	
Diphda	348 47.6	S 17 50.9	Alioth	166 13.6	N 55 49.9	
Achernar	335 20.3	S 57 06.4	Spica	158 22.8	S 11 17.3	
Hamal	327 51.6	N 23 34.7	Alkaid	152 52.3	N 49 11.7	
Polaris	314 17.5	N 89 21.7	Hadar	148 36.6	S 60 29.7	
Acamar	315 12.0	S 40 12.1	Menkent	147 57.8	S 36 29.3	
Menkar	314 06.5	N 04 11.3	Arcturus	145 47.8	N 19 04.2	
Mirfak	308 28.9	N 49 56.7	Rigel Kentauros	139 37.9	S 60 56.6	
Aldebaran	290 40.2	N 16 33.6	Zubenelgenubi	136 56.3	S 16 08.6	
Capella	280 22.7	N 46 01.4	Kocab	137 19.6	N 74 03.5	
Rigel	281 04.4	S 08 10.2	Alphecca	126 04.0	N 26 38.1	
Bellatrix	278 23.5	N 06 22.4	Antares	112 16.2	S 26 29.2	
Elnath	278 02.6	N 28 37.7	Atria	107 10.3	S 69 04.5	
Alnilam	275 38.3	S 01 11.0	Sabik	102 03.0	S 15 45.4	
Betelgeuze	270 52.7	N 07 24.8	Shaula	96 10.5	S 37 07.4	
Canopus	263 53.0	S 52 42.3	Rasalhague	95 58.7	N 12 32.7	
Sirius	258 26.6	S 16 44.3	Etamin	90 41.9	N 51 29.3	
Adhara	255 06.5	S 29 00.1	Kaus Australis	83 32.6	S 34 22.4	
Castor	245 57.8	N 31 50.1	Vega	80 33.2	N 38 48.4	
Procyon	244 51.3	N 05 10.2	Nunki	75 47.9	S 26 15.9	
Pollux	243 17.7	N 27 58.1	Albireo	67 04.0	N 28 00.7	
Avior	234 15.5	S 59 35.2	Altair	62 00.2	N 08 55.9	
Suhail	222 47.0	S 43 31.8	Peacock	53 05.7	S 56 39.3	
Miplacidus	221 39.2	S 69 49.1	Deneb	49 25.6	N 45 22.1	
Alphard	217 48.4	S 08 45.8	Enif	33 38.8	N 09 59.3	
Reg						

2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

	day 221 of 366		day 222 of 366		day 223 of 366		day 224 of 366		day 225 of 366			
UT	GHA	ddGHA	UT									
00	316	59.7	+02.4	317	58.8	+02.5	318	58.0	+02.4	319	57.1	+02.5
01	332	02.1	+02.5	333	01.3	+02.4	334	00.4	+02.5	335	59.6	+02.4
02	347	04.6	+02.5	348	03.7	+02.5	349	02.9	+02.4	350	02.0	+02.5
03	2	07.1	+02.4	3	06.2	+02.5	4	05.3	+02.5	5	04.5	+02.4
04	17	09.5	+02.5	18	08.7	+02.4	19	07.8	+02.5	20	06.9	+02.5
05	32	12.0	+02.5	33	11.1	+02.5	34	10.3	+02.4	35	09.4	+02.5
06	47	14.5	+02.4	48	13.6	+02.5	49	12.7	+02.5	50	11.9	+02.4
07	62	16.9	+02.5	63	16.1	+02.4	64	15.2	+02.5	65	14.3	+02.5
08	77	19.4	+02.5	78	18.5	+02.5	79	17.7	+02.4	80	16.8	+02.5
09	92	21.9	+02.4	93	21.0	+02.5	94	20.1	+02.5	95	19.3	+02.4
10	107	24.3	+02.5	108	23.5	+02.4	109	22.6	+02.5	110	21.7	+02.5
11	122	26.8	+02.4	123	25.9	+02.5	124	25.1	+02.4	125	24.2	+02.5
12	137	29.2	+02.5	138	28.4	+02.5	139	27.5	+02.5	140	26.7	+02.4
13	152	31.7	+02.5	153	30.9	+02.4	154	30.0	+02.5	155	29.1	+02.5
14	167	34.2	+02.4	168	33.3	+02.5	169	32.5	+02.4	170	31.6	+02.5
15	182	36.6	+02.5	183	35.8	+02.4	184	34.9	+02.5	185	34.1	+02.4
16	197	39.1	+02.5	198	38.2	+02.5	199	37.4	+02.4	200	36.5	+02.5
17	212	41.6	+02.4	213	40.7	+02.5	214	39.8	+02.5	215	39.0	+02.4
18	227	44.0	+02.5	228	43.2	+02.4	229	42.3	+02.5	230	41.4	+02.5
19	242	46.5	+02.5	243	45.6	+02.5	244	44.8	+02.4	245	43.9	+02.5
20	257	49.0	+02.4	258	48.1	+02.5	259	47.2	+02.5	260	46.4	+02.4
21	272	51.4	+02.5	273	50.6	+02.4	274	49.7	+02.5	275	48.8	+02.5
22	287	53.9	+02.5	288	53.0	+02.5	289	52.2	+02.4	290	51.3	+02.5
23	302	56.4	+02.4	303	55.5	+02.5	304	54.6	+02.5	305	53.8	+02.4

	day 226 of 366		day 227 of 366		day 228 of 366		day 229 of 366		day 230 of 366			
UT	GHA	ddGHA	UT									
00	321	55.4	+02.4	322	54.5	+02.5	323	53.7	+02.4	324	52.8	+02.5
01	336	57.8	+02.5	337	57.0	+02.4	338	56.1	+02.5	339	55.3	+02.4
02	352	00.3	+02.5	353	59.4	+02.5	354	58.6	+02.4	355	56.9	+02.4
03	7	02.8	+02.4	8	01.9	+02.5	9	01.0	+02.5	10	00.2	+02.5
04	22	05.2	+02.5	23	04.4	+02.4	24	03.5	+02.5	25	02.6	+02.5
05	37	07.7	+02.5	38	06.8	+02.5	39	06.0	+02.4	40	05.1	+02.4
06	52	10.2	+02.4	53	09.3	+02.5	54	08.4	+02.5	55	07.6	+02.5
07	67	12.6	+02.5	68	11.8	+02.4	69	10.9	+02.5	70	10.0	+02.5
08	82	15.1	+02.4	83	14.2	+02.5	84	13.4	+02.4	85	12.5	+02.5
09	97	17.5	+02.5	98	16.7	+02.5	99	15.8	+02.5	100	15.0	+02.4
10	112	20.0	+02.5	113	19.2	+02.4	114	18.3	+02.5	115	17.4	+02.5
11	127	22.5	+02.4	128	21.6	+02.5	129	20.8	+02.4	130	19.9	+02.5
12	142	24.9	+02.5	143	24.1	+02.4	144	23.2	+02.5	145	22.4	+02.4
13	157	27.4	+02.5	158	26.5	+02.5	159	25.7	+02.4	160	24.8	+02.5
14	172	29.9	+02.4	173	29.0	+02.5	174	28.1	+02.5	175	27.3	+02.5
15	187	32.3	+02.5	188	31.5	+02.4	189	30.6	+02.5	190	29.8	+02.4
16	202	34.8	+02.5	203	33.9	+02.5	204	33.1	+02.4	205	32.2	+02.5
17	217	37.3	+02.4	218	36.4	+02.5	219	35.5	+02.5	220	34.7	+02.4
18	232	39.7	+02.5	233	38.9	+02.4	234	38.0	+02.5	235	37.1	+02.5
19	247	42.2	+02.5	248	41.3	+02.5	249	40.5	+02.4	250	39.6	+02.5
20	262	44.7	+02.4	263	43.8	+02.5	264	42.9	+02.5	265	42.1	+02.4
21	277	47.1	+02.5	278	46.3	+02.4	279	45.4	+02.5	280	44.5	+02.5
22	292	49.6	+02.4	293	48.7	+02.5	294	47.9	+02.4	295	47.0	+02.5
23	307	52.0	+02.5	308	51.2	+02.5	309	50.3	+02.5	310	49.5	+02.4

	SHA		Dec			SHA		Dec			
	°	,	°	,		°	,	°	,		
Alpheratz	357	34.9	N	29	13.6	Gienah	175	44.1	S	17	40.7
Ankaa	353	07.3	S	42	09.9	Acrux	173	00.9	S	63	14.3
Schedir	349	31.2	N	56	40.2	Gacrux	171	52.5	S	57	15.1
Diphda	348	47.5	S	17	50.9	Alioth	166	13.6	N	55	49.9
Achernar	335	20.3	S	57	06.4	Spica	158	22.8	S	11	17.3
Hamal	327	51.6	N	23	34.8	Alkaid	152	52.4	N	49	11.7
Polaris	314	15.1	N	89	21.8	Hadar	148	36.6	S	60	29.7
Acamar	315	12.0	S	40	12.1	Menkent	147	57.8	S	36	29.3
Menkar	314	06.5	N	04	11.3	Arcturus	145	47.9	N	19	04.2
Mirfak	308	28.8	N	49	56.7	Rigel Kentaurus	139	38.0	S	60	56.6
Aldebaran	290	40.2	N	16	33.6	Zubenelgenubi	136	56.4	S	16	08.6
Capella	280	22.7	N	46	01.4	Kocab	137	19.8	N	74	03.5
Rigel	281	04.4	S	08	10.2	Alphecca	126	04.0	N	26	38.1
Bellatrix	278	23.4	N	06	22.4	Antares	112	16.2	S	26	29.2
Elnath	278	02.5	N	28	37.7	Atria	107	10.4	S	69	04.5
Alnilam	275	38.3	S	01	11.0	Sabik	102	03.0	S	15	45.4
Betelgeuze	270	52.7	N	07	24.8	Shaula	96	10.6	S	37	07.4
Canopus	263	53.0	S	52	42.2	Canopus	95	58.7	N	12	32.7
Sirius	258	26.6	S	16	44.3	Etamin	90	42.0	N	51	29.3
Adhara	255	06.5	S	29	00.1	Kaus Australis	83	32.6	S	34	22.4
Castor	245	57.8	N	31	50.1	Vega	80	33.2	N	38	48.4
Procyon	244	51.3	N	05	10.2	Nunki	75	47.9	S	26	15.9
Pollux	243	17.7	N	27	58.1	Albireo	67	04.0	N	28	00.8
Avior	234	15.5	S	59	35.2	Altair	62	02.2	N	08	55.9
Suhail	222	47.0	S	43	31.8	Peacock	53	05.7	S	56	39.3
Miplacidus	221	39.2	S	69	49.1	Deneb	49	25.6	N	45	22.1
Alphard	217	48.4	S	08	45.8	Alphard	33	38.8	N	09	59.3
Regulus	207	35.0	N	11	51.0	Alnair	27	32.9	S	46	50.3
Dubhe	193	41.8	N	61	37.3	Formalhaut	15	14.7	S	29	29.3
Denebola	182	25.4	N	14	26.3	Markab	13	30.0	N	15	20.3

	SHA		Dec			SHA		Dec			
	°	,	°	,		°	,	°	,		
Alpheratz	357	34.9	N	29	13.6	Gienah	175	44.1	S	17	40.7
Ankaa	353	07.3	S	42	10.0	Acrux	173	01.0	S	63	14.3
Schedir	349	31.1	N	56	40.2	Gacrux	171	52.5	S	57	15.1

2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

	day 251 of 366	day 252 of 366	day 253 of 366	day 254 of 366	day 255 of 366	
UT	GHA ddGHA	UT				
00	346 33.8 +02.5	347 33.0 +02.4	348 32.1 +02.5	349 31.3 +02.4	350 30.4 +02.5	00
01	1 36.3 +02.5	2 35.4 +02.5	3 34.6 +02.4	4 33.7 +02.5	5 32.9 +02.4	01
02	16 38.8 +02.4	17 37.9 +02.5	18 37.0 +02.5	19 36.2 +02.4	20 35.3 +02.5	02
03	31 41.2 +02.5	32 40.4 +02.4	33 39.5 +02.5	34 38.6 +02.5	35 37.8 +02.4	03
04	46 43.7 +02.5	47 42.8 +02.5	48 42.0 +02.4	49 41.1 +02.5	50 40.2 +02.5	04
05	61 46.2 +02.4	62 45.3 +02.5	63 44.4 +02.5	64 43.6 +02.4	65 42.7 +02.5	05
06	76 48.6 +02.5	77 47.8 +02.4	78 46.9 +02.5	79 46.0 +02.5	80 45.2 +02.4	06
07	91 51.1 +02.5	92 50.2 +02.5	93 49.4 +02.4	94 48.5 +02.5	95 47.6 +02.5	07
08	106 53.6 +02.4	107 52.7 +02.5	108 51.8 +02.5	109 51.0 +02.4	110 50.1 +02.5	08
09	121 56.0 +02.5	122 55.2 +02.4	123 54.3 +02.5	124 53.4 +02.5	125 52.6 +02.4	09
10	136 58.5 +02.4	137 57.6 +02.5	138 56.8 +02.4	139 55.9 +02.5	140 55.0 +02.5	10
11	152 00.9 +02.5	153 00.1 +02.4	153 59.2 +02.5	154 58.4 +02.4	155 57.5 +02.5	11
12	167 03.4 +02.5	168 02.5 +02.5	169 01.7 +02.4	170 00.8 +02.5	170 60.0 +02.4	12
13	182 05.9 +02.4	183 05.0 +02.5	184 04.1 +02.5	185 03.3 +02.5	186 02.4 +02.5	13
14	197 08.3 +02.5	198 07.5 +02.4	199 06.6 +02.5	200 05.8 +02.4	201 04.9 +02.5	14
15	212 10.8 +02.5	213 09.9 +02.5	214 09.1 +02.4	215 08.2 +02.5	216 07.4 +02.4	15
16	227 13.3 +02.4	228 12.4 +02.5	229 11.5 +02.5	230 10.7 +02.4	231 09.8 +02.5	16
17	242 15.7 +02.5	243 14.9 +02.4	244 14.0 +02.5	245 13.1 +02.5	246 12.3 +02.4	17
18	257 18.2 +02.5	258 17.3 +02.5	259 16.5 +02.4	260 15.6 +02.5	261 14.7 +02.5	18
19	272 20.7 +02.4	273 19.8 +02.5	274 18.9 +02.5	275 18.1 +02.4	276 17.2 +02.5	19
20	287 23.1 +02.5	288 22.3 +02.4	289 21.4 +02.5	290 20.5 +02.5	291 19.7 +02.4	20
21	302 25.6 +02.4	303 24.7 +02.5	304 23.9 +02.4	305 23.0 +02.5	306 22.1 +02.5	21
22	317 28.0 +02.5	318 27.2 +02.5	319 26.3 +02.5	320 25.5 +02.4	321 24.6 +02.5	22
23	332 30.5 +02.5	333 29.7 +02.4	334 28.8 +02.5	335 27.9 +02.5	336 27.1 +02.4	23

	day 236 of 366	day 237 of 366	day 238 of 366	day 239 of 366	day 240 of 366	
UT	GHA ddGHA	UT				
00	331 46.8 +02.4	332 45.9 +02.5	333 45.0 +02.5	334 44.2 +02.4	335 43.3 +02.5	00
01	346 49.2 +02.5	347 48.4 +02.4	348 47.5 +02.5	349 46.6 +02.5	350 45.8 +02.4	01
02	1 51.7 +02.5	2 50.8 +02.5	3 50.0 +02.4	4 49.1 +02.5	5 48.2 +02.5	02
03	16 54.2 +02.4	17 53.3 +02.5	18 52.4 +02.5	19 51.6 +02.4	20 50.7 +02.5	03
04	31 56.6 +02.5	32 55.8 +02.4	33 54.9 +02.5	34 54.0 +02.5	35 53.2 +02.4	04
05	46 59.1 +02.4	47 58.2 +02.5	48 57.4 +02.4	49 56.5 +02.5	50 55.6 +02.5	05
06	62 01.5 +02.5	63 00.7 +02.4	63 59.8 +02.5	64 59.0 +02.4	65 58.1 +02.5	06
07	77 04.0 +02.5	78 03.1 +02.5	79 02.3 +02.5	80 01.4 +02.5	81 00.6 +02.4	07
08	92 06.5 +02.4	93 05.6 +02.5	94 04.8 +02.4	95 03.9 +02.5	96 03.0 +02.5	08
09	107 08.9 +02.5	108 08.1 +02.4	109 07.2 +02.5	110 06.4 +02.4	111 05.5 +02.5	09
10	122 11.4 +02.5	123 10.5 +02.5	124 09.7 +02.4	125 08.8 +02.5	126 08.0 +02.4	10
11	137 13.9 +02.4	138 13.0 +02.5	139 12.1 +02.5	140 11.3 +02.4	141 10.4 +02.5	11
12	152 16.3 +02.5	153 15.5 +02.4	154 14.6 +02.5	155 13.7 +02.5	156 12.9 +02.5	12
13	167 18.8 +02.5	168 17.9 +02.5	169 17.1 +02.4	170 16.2 +02.5	171 15.4 +02.4	13
14	182 21.3 +02.4	183 20.4 +02.5	184 19.5 +02.5	185 18.7 +02.4	186 17.8 +02.5	14
15	197 23.7 +02.5	198 22.9 +02.4	199 22.0 +02.5	200 21.1 +02.5	201 20.3 +02.4	15
16	212 26.2 +02.5	213 25.3 +02.5	214 24.5 +02.4	215 23.6 +02.5	216 22.7 +02.5	16
17	227 28.7 +02.4	228 27.8 +02.5	229 26.9 +02.5	230 26.1 +02.4	231 25.2 +02.5	17
18	242 31.1 +02.5	243 30.3 +02.4	244 29.4 +02.5	245 28.5 +02.5	246 27.7 +02.4	18
19	257 33.6 +02.4	258 32.7 +02.5	259 31.9 +02.4	260 31.0 +02.5	261 30.1 +02.5	19
20	272 36.0 +02.5	273 35.2 +02.4	274 34.3 +02.5	275 33.5 +02.4	276 32.6 +02.5	20
21	287 38.5 +02.5	288 37.6 +02.5	289 36.8 +02.4	290 35.9 +02.5	291 35.1 +02.4	21
22	302 41.0 +02.4	303 40.1 +02.5	304 39.2 +02.5	305 38.4 +02.5	306 37.5 +02.5	22
23	317 43.4 +02.5	318 42.6 +02.4	319 41.7 +02.5	320 40.9 +02.4	321 40.0 +02.5	23

	SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'	
Alpheratz	357 34.8	N 29 13.7	Gienah	175 44.1	S 17 40.6	
Ankaa	353 07.1	S 42 10.0	Acrux	173 01.1	S 63 14.2	
Schedir	349 30.9	N 56 40.3	Gacrux	171 52.6	S 57 15.0	
Diphda	348 47.4	S 17 50.9	Alioth	166 13.8	N 55 49.8	
Achernar	335 20.0	S 57 06.4	Spica	158 22.8	S 11 17.3	
Hamal	327 51.4	N 23 34.8	Alkaid	152 52.5	N 49 11.6	
Polaris	313 59.5	N 89 21.8	Hadar	148 36.9	S 60 29.6	
Acamar	315 11.7	S 40 12.0	Menkent	147 57.9	S 36 29.2	
Menkar	314 06.3	N 04 11.4	Arcturus	145 48.0	N 19 04.2	
Mirfak	308 28.5	N 49 56.8	Rigel Kentaurus	139 38.2	S 60 56.6	
Aldebaran	290 39.9	N 16 33.7	Zubenelgenubi	136 56.5	S 16 08.6	
Capella	280 22.4	N 46 01.4	Kocab	137 20.3	N 74 03.5	
Rigel	281 04.2	S 08 10.2	Alphecca	126 04.1	N 26 38.1	
Bellatrix	278 23.2	N 06 22.5	Antares	112 16.3	S 26 29.2	
Elnath	278 02.3	N 28 37.8	Atria	107 10.7	S 69 04.5	
Alnilam	275 38.1	S 01 11.0	Sabik	102 03.1	S 15 45.4	
Betelgeuze	270 52.5	N 07 24.8	Shaula	96 10.7	S 37 07.4	
Canopus	263 52.7	S 52 42.1	Rasalhague	95 58.8	N 12 32.7	
Sirius	258 26.4	S 16 44.2	Etamin	90 42.2	N 51 29.4	
Adhara	255 06.3	S 29 00.0	Kaus Australis	83 32.7	S 34 22.4	
Castor	245 57.6	N 31 50.1	Vega	80 33.3	N 38 48.4	
Procyon	244 51.1	N 05 10.3	Nunki	75 47.9	S 26 16.0	
Pollux	243 17.5	N 27 58.1	Albireo	67 04.1	N 28 00.8	
Avior	234 15.4	S 59 35.0	Altair	62 00.2	N 08 55.9	
Suhail	222 46.9	S 43 31.7	Peacock	53 05.7	S 56 39.4	
Miaplacidus	221 39.1	S 69 48.9	Deneb	49 25.6	N 45 22.2	
Alphard	217 48.3	S 08 45.8	Enif	33 38.8	N 09 59.4	
Regulus	207 34.9	N 11 50.9	Alnair	27 32.9	S 46 50.4	
Dubhe	193 41.8	N 61 37.2	Formalhaut	15 14.6	S 29 29.3	
Denebola	182 25.4	N 14 26.3	Markab	13 29.9	N 15 20.4	

	SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'	
Alpheratz	357 34.9	N 29 13.7	Gienah	175 44.1	S 17 40.7	
Ankaa	353 07.2	S 42 10.0	Acrux	173 01.0	S 63 14.2	
Schedir	349 31.0	N 56 40.2	Gacrux	171 52.5	S 57 15.1	
Diphda	348 47.4	S 17 50.9	Alioth	166 13.7	N 55 49.8	
Achernar	335 20.1	S 57 06.4	Spica	158 22.8	S 11 17.3	
Hamal	327 51.5	N 23 34.8	Alkaid	152 52.4	N 49 11.7	
Polaris	314 07.2	N 89 21.8	Hadar	148 36.8	S 60 29.7	
Acamar	315 11.9	S 40 12.0	Menkent	147 57.9	S 36 29.3	
Menkar	314 06.4	N 04 11.3	Arcturus	145 47.9	N 19 04.2	
Mirfak	308 28.7	N 49 56.8	Rigel Kentaurus	139 38.1	S 60 56.6	
Aldebaran	290 40.1	N 16 33.7	Zubenelgenubi	136 56.4	S 16 08.6	
Capella	280 22.6	N 46 01.4	Kocab	137 20.0	N 74 03.5	
Rigel	281 04.3	S 08 10.2	Alphecca	126 04.1	N 26 38.1	
Bellatrix	278 23.3	N 06 22.4	Antares	112 16.3	S 26 29.2	
Elnath	278 02.4	N 28 37.8	Atria	107 10.5	S 69 04.5	
Alnilam	275 38.2	S 01 11.0	Sabik	102 03.0	S 15 45.4	
Betelgeuze	270 52.6	N 07 24.8	Shaula	96 10.6	S 37 07.4	
Canopus	263 52.9	S 52 42.2	Rasalhague	95 58.7	N 12 32.7	
Sirius	258 26.5	S 16 44.3	Etamin	90 42.1	N 51 29.4	
Adhara	255 06.4	S 29 00.1	Kaus Australis	83 32.7	S 34 22.4	
Castor	245 57.7	N 31 50.1	Vega	80 33.3	N 38 48.4	
Procyon	244 51.2	N 05 10.3	Nunki	75 47.9	S 26 16.0	
Pollux	243 17.6	N 27 58.1	Albireo	67 04.0	N 28 00.8	
Avior	234 15.5	S 59 35.1	Altair	62 00.2	N 08 55.9	
Suhail	222 47.0	S 43 31.7	Peacock	53 05.6	S 56 39.4	
Miaplacidus	221 39.1	S 69 49.0	Deneb	49 25.6	N 45 22.2	
Alphard	217 48.4	S 08 45.8	Enif	33 38.8	N 09 59.4	
Regulus	207 35.0	N 11 51.0	Aln			

2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

UT	day 241 of 366		day 242 of 366		day 243 of 366		day 244 of 366		day 245 of 366		UT
	August 28	GHA ddGHA	August 29	GHA ddGHA	August 30	GHA ddGHA	August 31	GHA ddGHA	September 1	GHA ddGHA	
00	336 42.5	+02.4	337 41.6	+02.5	338 40.7	+02.5	339 39.9	+02.4	340 39.0	+02.5	00
01	351 44.9	+02.5	352 44.1	+02.4	353 43.2	+02.5	354 42.3	+02.5	355 41.5	+02.4	01
02	6 47.4	+02.4	7 46.5	+02.5	8 45.7	+02.4	9 44.8	+02.5	10 43.9	+02.5	02
03	21 49.8	+02.5	22 49.0	+02.5	23 48.1	+02.5	24 47.3	+02.4	25 46.4	+02.5	03
04	36 52.3	+02.5	37 51.5	+02.4	38 50.6	+02.5	39 49.7	+02.5	40 48.9	+02.4	04
05	51 54.8	+02.4	52 53.9	+02.5	53 53.1	+02.4	54 52.2	+02.5	55 51.3	+02.5	05
06	66 57.2	+02.5	67 56.4	+02.4	68 55.5	+02.5	69 54.7	+02.4	70 53.8	+02.5	06
07	81 59.7	+02.5	82 58.8	+02.5	83 58.0	+02.5	84 57.1	+02.5	85 56.3	+02.4	07
08	97 02.2	+02.4	98 01.3	+02.5	99 00.5	+02.4	99 59.6	+02.5	100 58.7	+02.5	08
09	112 04.6	+02.5	113 03.8	+02.4	114 02.9	+02.5	115 02.1	+02.4	116 01.2	+02.5	09
10	127 07.1	+02.5	128 06.2	+02.5	129 05.4	+02.4	130 04.5	+02.5	131 03.7	+02.4	10
11	142 09.6	+02.4	143 08.7	+02.5	144 07.8	+02.5	145 07.0	+02.4	146 06.1	+02.5	11
12	157 12.0	+02.5	158 11.2	+02.4	159 10.3	+02.5	160 09.4	+02.5	161 08.6	+02.4	12
13	172 14.5	+02.5	173 13.6	+02.5	174 12.8	+02.4	175 11.9	+02.5	176 11.0	+02.5	13
14	187 17.0	+02.4	188 16.1	+02.5	189 15.2	+02.5	190 14.4	+02.4	191 13.5	+02.5	14
15	202 19.4	+02.5	203 18.6	+02.4	204 17.7	+02.5	205 16.8	+02.5	206 16.0	+02.4	15
16	217 21.9	+02.4	218 21.0	+02.5	219 20.2	+02.4	220 19.3	+02.5	221 18.4	+02.5	16
17	232 24.3	+02.5	233 23.5	+02.5	234 22.6	+02.5	235 21.8	+02.4	236 20.9	+02.5	17
18	247 26.8	+02.5	248 26.0	+02.4	249 25.1	+02.5	250 24.2	+02.5	251 23.4	+02.4	18
19	262 29.3	+02.4	263 28.4	+02.5	264 27.6	+02.4	265 26.7	+02.5	266 25.8	+02.5	19
20	277 31.7	+02.5	278 30.9	+02.4	279 30.0	+02.5	280 29.2	+02.4	281 28.3	+02.5	20
21	292 34.2	+02.5	293 33.3	+02.5	294 32.5	+02.4	295 31.6	+02.5	296 30.8	+02.4	21
22	307 36.7	+02.4	308 35.8	+02.5	309 34.9	+02.5	310 34.1	+02.5	311 33.2	+02.5	22
23	322 39.1	+02.5	323 38.3	+02.4	324 37.4	+02.5	325 36.6	+02.4	326 35.7	+02.5	23

UT	day 246 of 366		day 247 of 366		day 248 of 366		day 249 of 366		day 250 of 366		UT
	September 2	GHA ddGHA	September 3	GHA ddGHA	September 4	GHA ddGHA	September 5	GHA ddGHA	September 6	GHA ddGHA	
00	341 38.2	+02.4	342 37.3	+02.5	343 36.4	+02.5	344 35.6	+02.4	345 34.7	+02.5	00
01	356 40.6	+02.5	357 39.8	+02.4	358 38.9	+02.5	359 38.0	+02.5	360 37.2	+02.4	01
02	11 43.1	+02.4	12 42.2	+02.5	13 41.4	+02.4	14 40.5	+02.5	15 39.6	+02.5	02
03	26 45.5	+02.5	27 44.7	+02.4	28 43.8	+02.5	29 43.0	+02.4	30 42.1	+02.5	03
04	41 48.0	+02.5	42 47.1	+02.5	43 46.3	+02.4	44 45.4	+02.5	45 44.6	+02.4	04
05	56 50.5	+02.4	57 49.6	+02.5	58 48.7	+02.5	59 47.9	+02.4	60 47.0	+02.5	05
06	71 52.9	+02.5	72 52.1	+02.4	73 51.2	+02.5	74 50.3	+02.5	75 49.5	+02.4	06
07	86 55.4	+02.5	87 54.5	+02.5	88 53.7	+02.4	89 52.8	+02.5	90 51.9	+02.5	07
08	101 57.9	+02.4	102 57.0	+02.5	103 56.1	+02.5	104 55.3	+02.4	105 54.4	+02.5	08
09	117 00.3	+02.5	117 59.5	+02.4	118 58.6	+02.5	119 57.7	+02.5	120 56.9	+02.4	09
10	132 02.8	+02.5	133 01.9	+02.5	134 01.1	+02.4	135 00.2	+02.5	135 59.3	+02.5	10
11	147 05.3	+02.4	148 04.4	+02.5	149 03.5	+02.5	150 02.7	+02.4	151 01.8	+02.5	11
12	162 07.7	+02.5	163 06.9	+02.4	164 06.0	+02.5	165 05.1	+02.5	166 04.3	+02.4	12
13	177 10.2	+02.5	178 09.3	+02.5	179 08.5	+02.4	180 07.6	+02.5	181 06.7	+02.5	13
14	192 12.7	+02.4	193 11.8	+02.5	194 10.9	+02.5	195 10.1	+02.4	196 09.2	+02.5	14
15	207 15.1	+02.5	208 14.3	+02.4	209 13.4	+02.5	210 12.5	+02.5	211 11.7	+02.4	15
16	222 17.6	+02.4	223 16.7	+02.5	224 15.9	+02.4	225 15.0	+02.5	226 14.1	+02.5	16
17	237 20.0	+02.5	238 19.2	+02.4	239 18.3	+02.5	240 17.5	+02.4	241 16.6	+02.5	17
18	252 22.5	+02.5	253 21.6	+02.5	254 20.8	+02.4	255 19.9	+02.5	256 19.1	+02.4	18
19	267 25.0	+02.4	268 24.1	+02.5	269 23.2	+02.5	270 22.4	+02.4	271 21.5	+02.5	19
20	282 27.4	+02.5	283 26.6	+02.4	284 25.7	+02.5	285 24.8	+02.5	286 24.0	+02.4	20
21	297 29.9	+02.5	298 29.0	+02.5	299 28.2	+02.4	300 27.3	+02.5	301 26.4	+02.5	21
22	312 32.4	+02.4	313 31.5	+02.5	314 30.6	+02.5	315 29.8	+02.4	316 28.9	+02.5	22
23	327 34.8	+02.5	328 34.0	+02.4	329 33.1	+02.5	330 32.2	+02.5	331 31.4	+02.4	23

	SHA	Dec		SHA	Dec		SHA	Dec		SHA	Dec
	° ,	° ,		° ,	° ,		° ,	° ,		° ,	° ,
Alpheratz	357 34.8	N 29 13.7	Gienah	175 44.1	S 17 40.7		Gienah	175 44.1	S 17 40.7		
Ankaa	353 07.2	S 42 10.0	Acrux	173 01.1	S 63 14.2		Acrux	173 01.1	S 63 14.2		
Schedir	349 31.0	N 56 40.3	Gacrux	171 52.5	S 57 15.1		Gacrux	171 52.6	S 57 15.0		
Diphda	348 47.4	S 17 50.9	Alioth	166 13.7	N 55 49.8		Alioth	166 13.7	N 55 49.8		
Achernar	335 20.1	S 57 06.4	Spica	158 22.8	S 11 17.3		Spica	158 22.8	S 11 17.3		
Hamal	327 51.4	N 23 34.8	Alkaid	152 52.4	N 49 11.7		Alkaid	152 52.5	N 49 11.7		
Polaris	314 04.3	N 89 21.8	Hadar	148 36.8	S 60 29.7		Hadar	148 36.8	S 60 29.7		
Acamar	315 11.8	S 40 12.0	Menkent	147 57.9	S 36 29.3		Menkent	147 57.9	S 36 29.2		
Menkar	314 06.4	N 04 11.3	Arcturus	145 47.9	N 19 04.2		Arcturus	145 47.9	N 19 04.2		
Mirfak	308 28.6	N 49 56.8	Rigel Kentaurus	139 38.1	S 60 56.6		Rigel Kentaurus	139 38.2	S 60 56.6		
Aldebaran	290 40.0	N 16 33.7	Zubenelgenubi	136 56.4	S 16 08.6		Zubenelgenubi	136 56.4	S 16 08.6		
Capella	280 22.5	N 46 01.4	Kocab	137 20.1	N 74 03.5		Kocab	137 20.2	N 74 03.5		
Rigel	281 04.2	S 08 10.2	Alphecca	126 04.1	N 26 38.1		Alphecca	126 04.1	N 26 38.1		
Bellatrix	278 23.2	N 06 22.5	Antares	112 16.3	S 26 29.2		Antares	112 16.3	S 26 29.2		
Elnath	278 02.3	N 28 37.8	Atria	107 10.6	S 69 04.5		Atria	107 10.6	S 69 04.5		
Alnilam	275 38.1	S 01 11.0	Sabik	102 03.1	S 15 45.4		Sabik	102 03.1	S 15 45.4		
Betelgeuze	270 52.6	N 07 24.8	Shaula	96 10.6	S 37 07.4		Shaula	96 10.6	S 37 07.4		
Canopus	263 52.8	S 52 42.2	Rasalhague	95 58.7	N 12 32.8		Rasalhague	95 58.8	N 12 32.8		
Sirius	258 26.5	S 16 44.3	Etamin	90 42.1	N 51 29.4		Etamin	90 42.1	N 51 29.4		
Adhara	255 06.3	S 29 00.0	Kaus Australis	83 32.7	S 34 22.4		Kaus Australis	83 32.7	S 34 22.4		
Castor	245 57.6	N 31 50.1	Vega	80 33.3	N 38 48.5		Vega	80 33.3	N 38 48.5		
Procyon	244 51.1	N 05 10.2	Nunki	75 47.9	S 26 16.0		Nunki	75 47.9	S 26 16.0		
Pollux	243 17.6	N 27 58.1	Albireo	67 04.0	N 28 00.8		Albireo	67 04.0	N 28 00.8		
Avior	234 15.4	S 59 35.1	Altair	62 00.2	N 08 56.0		Altair	62 00.2	N 08 56.0		
Suhail	222 47.0	S 43 31.7	Peacock	53 05.7	S 56 39.4		Peacock	53 05.7	S 56 39.4		
Miaplacidus	221 39.1	S 69 49.0	Deneb	49 25.6	N 45 22.2		Deneb	49 25.6			

2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

	day 271 of 366	day 272 of 366	day 273 of 366	day 274 of 366	day 275 of 366	
UT	September 27	September 28	September 29	September 30	October 1	UT
00	6 16.6 +02.5	7 15.8 +02.4	8 14.9 +02.5	9 14.0 +02.5	10 13.2 +02.4	00
01	21 19.1 +02.4	22 18.2 +02.5	23 17.4 +02.4	24 16.5 +02.5	25 15.6 +02.5	01
02	36 21.5 +02.5	37 20.7 +02.4	38 19.8 +02.5	39 19.0 +02.4	40 18.1 +02.5	02
03	51 24.0 +02.5	52 23.1 +02.5	53 22.3 +02.4	54 21.4 +02.5	55 20.6 +02.4	03
04	66 26.5 +02.4	67 25.6 +02.5	68 24.7 +02.5	69 23.9 +02.4	70 23.0 +02.5	04
05	81 28.9 +02.5	82 28.1 +02.4	83 27.2 +02.5	84 26.3 +02.5	85 25.5 +02.5	05
06	96 31.4 +02.5	97 30.5 +02.5	98 29.7 +02.4	99 28.8 +02.5	100 28.0 +02.4	06
07	111 33.9 +02.4	112 33.0 +02.5	113 32.1 +02.5	114 31.3 +02.4	115 30.4 +02.5	07
08	126 36.3 +02.5	127 35.5 +02.4	128 34.6 +02.5	129 33.7 +02.5	130 32.9 +02.4	08
09	141 38.8 +02.5	142 37.9 +02.5	143 37.1 +02.4	144 36.2 +02.5	145 35.3 +02.5	09
10	156 41.3 +02.4	157 40.4 +02.5	158 39.5 +02.5	159 38.7 +02.4	160 37.8 +02.5	10
11	171 43.7 +02.5	172 42.9 +02.4	173 42.0 +02.5	174 41.1 +02.5	175 40.3 +02.4	11
12	186 46.2 +02.4	187 45.3 +02.5	188 44.5 +02.4	189 43.6 +02.5	190 42.7 +02.5	12
13	201 48.6 +02.5	202 47.8 +02.5	203 46.9 +02.5	204 46.1 +02.4	205 45.2 +02.5	13
14	216 51.1 +02.4	217 50.3 +02.4	218 49.4 +02.5	219 48.5 +02.5	220 47.7 +02.4	14
15	231 53.6 +02.4	232 52.7 +02.5	233 51.9 +02.4	234 51.0 +02.5	235 50.1 +02.5	15
16	246 56.0 +02.5	247 55.2 +02.4	248 54.3 +02.5	249 53.5 +02.4	250 52.6 +02.5	16
17	261 58.5 +02.5	262 57.6 +02.5	263 56.8 +02.4	264 55.9 +02.5	265 55.1 +02.4	17
18	277 01.0 +02.4	278 00.1 +02.5	279 59.2 +02.5	280 58.4 +02.4	280 57.5 +02.5	18
19	292 03.4 +02.5	293 02.6 +02.4	294 01.7 +02.5	295 00.8 +02.5	295 60.0 +02.4	19
20	307 05.9 +02.5	308 05.0 +02.5	309 04.2 +02.4	310 03.3 +02.5	311 02.4 +02.5	20
21	322 08.4 +02.4	323 07.5 +02.5	324 06.6 +02.5	325 05.8 +02.4	326 04.9 +02.5	21
22	337 10.8 +02.5	338 10.0 +02.4	339 09.1 +02.5	340 08.2 +02.5	341 07.4 +02.4	22
23	352 13.3 +02.5	353 12.4 +02.5	354 11.6 +02.4	355 10.7 +02.5	356 09.8 +02.5	23

	day 256 of 366	day 257 of 366	day 258 of 366	day 259 of 366	day 260 of 366	
UT	September 12	September 13	September 14	September 15	September 16	UT
00	351 29.5 +02.5	352 28.7 +02.4	353 27.8 +02.5	354 27.0 +02.4	355 26.1 +02.5	00
01	6 32.0 +02.5	7 31.1 +02.5	8 30.3 +02.4	9 29.4 +02.5	10 28.6 +02.4	01
02	21 34.5 +02.4	22 33.6 +02.5	23 32.7 +02.5	24 31.9 +02.4	25 31.0 +02.5	02
03	36 36.9 +02.5	37 36.1 +02.4	38 35.2 +02.5	39 34.3 +02.5	40 33.5 +02.4	03
04	51 39.4 +02.5	52 38.5 +02.5	53 37.7 +02.4	54 36.8 +02.5	55 35.9 +02.5	04
05	66 41.9 +02.4	67 41.0 +02.5	68 40.1 +02.5	69 39.3 +02.4	70 38.4 +02.5	05
06	81 44.3 +02.5	82 43.5 +02.4	83 42.6 +02.5	84 41.7 +02.5	85 40.9 +02.4	06
07	96 46.8 +02.4	97 45.9 +02.5	98 45.1 +02.4	99 44.2 +02.5	100 43.3 +02.5	07
08	111 49.2 +02.5	112 48.4 +02.5	113 47.5 +02.5	114 46.7 +02.4	115 45.8 +02.5	08
09	126 51.7 +02.5	127 50.9 +02.4	128 50.0 +02.5	129 49.1 +02.5	130 48.3 +02.4	09
10	141 54.2 +02.4	142 53.3 +02.5	143 52.5 +02.4	144 51.6 +02.5	145 50.7 +02.5	10
11	156 56.6 +02.5	157 55.8 +02.4	158 54.9 +02.5	159 54.1 +02.4	160 53.2 +02.5	11
12	171 59.1 +02.5	172 58.2 +02.5	173 57.4 +02.4	174 56.5 +02.5	175 55.7 +02.4	12
13	187 01.6 +02.4	188 00.7 +02.5	189 59.8 +02.5	190 58.1 +02.5	191 57.3 +02.5	13
14	202 04.0 +02.5	203 03.2 +02.4	204 02.3 +02.5	205 01.5 +02.4	206 0.6 +02.5	14
15	217 06.5 +02.5	218 05.6 +02.5	219 04.8 +02.4	220 03.9 +02.5	221 03.1 +02.4	15
16	232 09.0 +02.4	233 08.1 +02.5	234 07.2 +02.5	235 06.4 +02.4	236 05.5 +02.5	16
17	247 11.4 +02.5	248 10.6 +02.4	249 09.7 +02.5	250 08.8 +02.5	251 08.0 +02.4	17
18	262 13.9 +02.5	263 13.0 +02.5	264 12.2 +02.4	265 11.3 +02.5	266 10.4 +02.5	18
19	277 16.4 +02.4	278 15.5 +02.5	279 14.6 +02.5	280 13.8 +02.4	281 12.9 +02.5	19
20	292 18.8 +02.5	293 18.0 +02.4	294 17.1 +02.5	295 16.2 +02.5	296 15.4 +02.4	20
21	307 21.3 +02.4	308 20.4 +02.5	309 19.6 +02.4	310 18.7 +02.5	311 17.8 +02.5	21
22	322 23.7 +02.5	323 22.9 +02.4	324 22.0 +02.5	325 21.2 +02.4	326 20.3 +02.5	22
23	337 26.2 +02.5	338 25.3 +02.5	339 24.5 +02.5	340 23.6 +02.5	341 22.8 +02.4	23

	SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'	
Alpheratz	357 34.7	N 29 13.8	Gienah	175 44.1	S 17 40.6	
Ankaa	353 07.0	S 42 10.0	Acrux	173 01.1	S 63 14.1	
Schedir	349 30.8	N 56 40.4	Gacrux	171 52.6	S 57 14.9	
Diphda	348 47.3	S 17 50.9	Alioth	166 13.8	N 55 49.6	
Achernar	335 19.8	S 57 06.5	Spica	158 22.9	S 11 17.3	
Hamal	327 51.2	N 23 34.9	Alkaid	152 52.5	N 49 11.6	
Polaris	313 50.2	N 89 21.9	Hadar	148 36.9	S 60 29.6	
Acamar	315 11.6	S 40 12.1	Menkent	147 58.0	S 36 29.2	
Menkar	314 06.2	N 04 11.4	Arcturus	145 48.0	N 19 04.2	
Mirfak	308 28.3	N 49 56.9	Rigel Kentaurus	139 38.3	S 60 56.6	
Aldebaran	290 39.8	N 16 33.7	Zubenelgenubi	136 56.5	S 16 08.6	
Capella	280 22.2	N 46 01.4	Kocab	137 20.6	N 74 03.4	
Rigel	281 04.0	S 08 10.2	Alphecca	126 04.2	N 26 38.1	
Bellatrix	278 23.1	N 06 22.5	Antares	112 16.4	S 26 29.2	
Elnath	278 02.1	N 28 37.8	Atria	107 11.0	S 69 04.5	
Alnilam	275 37.9	S 01 11.0	Sabik	102 03.2	S 15 45.3	
Betelgeuze	270 52.3	N 07 24.8	Shaula	96 10.8	S 37 07.4	
Canopus	263 52.5	S 52 42.1	Rasalhague	95 58.9	N 12 32.8	
Sirius	258 26.3	S 16 44.2	Etamin	90 42.3	N 51 29.4	
Adhara	255 06.1	S 28 60.0	Kaus Australis	83 32.8	S 34 22.4	
Castor	245 57.4	N 31 50.1	Vega	80 33.5	N 38 48.5	
Procyon	244 50.9	N 05 10.2	Nunki	75 48.0	S 26 16.0	
Pollux	243 17.4	N 27 58.0	Albireo	67 04.2	N 28 00.9	
Avior	234 15.2	S 59 35.0	Altair	62 00.3	N 08 56.0	
Suhail	222 46.8	S 43 31.6	Peacock	53 05.8	S 56 39.4	
Miaplacidus	221 38.8	S 69 48.8	Deneb	49 25.7	N 45 22.3	
Alphard	217 48.2	S 08 45.8	Enif	33 38.8	N 09 59.4	
Regulus	207 34.8	N 11 50.9	Alnair	27 32.9	S 46 50.4	
Dubhe	193 41.8	N 61 37.1	Formalhaut	15 14.6	S 29 29.3	
Denebola	182 25.3	N 14 26.2	Markab	13 29.9	N 15 20.4	

	SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'	
Alpheratz	357 34.8	N 29 13.7	Gienah	175 44.1	S 17 40.6	
Ankaa	353 07.1	S 42 10.0	Acrux	173 01.1	S 63 14.2	
Schedir	349 30.9	N 56 40.4	Gacrux	171 52.6	S 57 15.0	
Diphda	348 47.3	S 17 50.9	Alioth	166 13.8	N 55 49.7	
Achernar	335 19.9	S 57 06.4	Spica	158 22.9	S 11 17.3	
Hamal	327 51.3	N 23 34.9	Alkaid	152 52.5	N 49 11.6	
Polaris	313 56.9	N 89 21.8	Hadar	148 36.9	S 60 29.6	
Acamar	315 11.7	S 40 12.0	Menkent	147 57.9	S 36 29.2	
Menkar	314 06.3	N 04 11.4	Arcturus	145 48.0	N 19 04.2	
Mirfak	308 28.4	N 49 56.8	Rigel Kentaurus	139 38.3	S 60 56.6	
Aldebaran	290 39.9	N 16 33.7	Zubenelgenubi	136 56.5	S 16 08.6	
Capella	280 22.3	N 46 01.4	Kocab	137 20.4	N 74 03.4	
Rigel	281 04.1	S 08 10.2	Alphecca	126 04.2	N 26 38.1	
Bellatrix	278 23.2	N 06 22.5	Antares	112 16.4	S 26 29.2	
Elnath	278 02.2	N 28 37.8	Atria	107 10.8	S 69 04.5	
Alnilam	275 38.0	S 01 11.0	Sabik	102 03.1	S 15 45.3	
Betelgeuze	270 52.4	N 07 24.8	Shaula	96 10.7	S 37 07.4	
Canopus	263 52.7	S 52 42.1	Rasalhague	95 58.8	N 12 32.8	
Sirius	258 26.4	S 16 44.2	Etamin	90 42.2	N 51 29.4	
Adhara	255 06.2	S 29 00.0	Kaus Australis	83 32.7	S 34 22.4	
Castor	245 57.5	N 31 50.1	Vega	80 33.4	N 38 48.5	
Procyon	244 51.1	N 05 10.3	Nunki	75 48.0	S 26 16.0	
Pollux	243 17.5	N 27 58.0	Albireo	67 04.1	N 28 00.9	
Avior	234 15.3	S 59 35.0	Altair	62 00.2	N 08 56.0	
Suhail	222 46.9	S 43 31.7	Peacock	53 05.7	S 56 39.4	
Miaplacidus	221 39.0	S 69 48.9	Deneb	49 25.7	N 45 22.3	
Alphard	217 48.3	S 08 45.8	Enif	33 38.8	N 09 59.4	
Regulus	207 34.9	N 11 50.9	Al			

2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

	day 261 of 366	day 262 of 366	day 263 of 366	day 264 of 366	day 265 of 366			
UT	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	UT	
00	356 25.2	+02.5	357 24.4	+02.4	358 23.5	+02.5	359 22.6	+02.5
01	11 27.7	+02.5	12 26.8	+02.5	13 26.0	+02.4	14 25.1	+02.5
02	26 30.2	+02.4	27 29.3	+02.5	28 28.4	+02.5	29 27.6	+02.4
03	41 32.6	+02.5	42 31.8	+02.4	43 30.9	+02.5	44 29.2	+02.4
04	56 35.1	+02.4	57 34.2	+02.5	58 33.4	+02.4	59 32.5	+02.5
05	71 37.5	+02.5	72 36.7	+02.4	73 35.8	+02.5	74 35.0	+02.4
06	86 40.0	+02.5	87 39.1	+02.5	88 38.3	+02.5	89 37.4	+02.5
07	101 42.5	+02.4	102 41.6	+02.5	103 40.8	+02.4	104 39.9	+02.5
08	116 44.9	+02.5	117 44.1	+02.4	118 43.2	+02.5	119 42.4	+02.4
09	131 47.4	+02.5	132 46.5	+02.5	133 45.7	+02.4	134 44.8	+02.5
10	146 49.9	+02.4	147 49.0	+02.5	148 48.1	+02.5	149 47.3	+02.4
11	161 52.3	+02.5	162 51.5	+02.4	163 50.6	+02.5	164 49.7	+02.5
12	176 54.8	+02.5	177 53.9	+02.5	178 53.1	+02.4	179 52.2	+02.5
13	191 57.3	+02.4	192 56.4	+02.5	193 55.5	+02.5	194 54.7	+02.4
14	206 59.7	+02.5	207 58.9	+02.4	208 58.0	+02.5	209 57.1	+02.5
15	222 02.2	+02.5	223 01.3	+02.5	224 00.5	+02.4	225 59.6	+02.5
16	237 04.7	+02.4	238 03.8	+02.5	239 02.9	+02.5	240 02.1	+02.4
17	252 07.1	+02.5	253 06.3	+02.4	254 05.4	+02.5	255 04.5	+02.5
18	267 09.6	+02.4	268 08.7	+02.5	269 07.9	+02.4	270 07.0	+02.5
19	282 12.0	+02.5	283 11.2	+02.4	284 10.3	+02.5	285 09.5	+02.4
20	297 14.5	+02.5	298 13.6	+02.5	299 12.8	+02.4	300 11.9	+02.5
21	312 17.0	+02.4	313 16.1	+02.5	314 15.2	+02.5	315 14.4	+02.4
22	327 19.4	+02.5	328 18.6	+02.4	329 17.7	+02.5	330 16.8	+02.5
23	342 21.9	+02.5	343 21.0	+02.5	344 20.2	+02.4	345 19.3	+02.5

	day 266 of 366	day 267 of 366	day 268 of 366	day 269 of 366	day 270 of 366			
UT	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	UT	
00	1 20.9	+02.5	2 20.1	+02.4	3 19.2	+02.5	4 18.3	+02.5
01	16 23.4	+02.4	17 22.5	+02.5	18 21.7	+02.4	19 20.8	+02.5
02	31 25.8	+02.5	32 25.0	+02.4	33 24.1	+02.5	34 23.3	+02.4
03	46 28.3	+02.5	47 27.4	+02.5	48 26.6	+02.5	49 25.7	+02.5
04	61 30.8	+02.4	62 29.9	+02.5	63 29.1	+02.4	64 28.2	+02.5
05	76 33.2	+02.5	77 32.4	+02.4	78 31.5	+02.5	79 30.7	+02.4
06	91 35.7	+02.5	92 34.8	+02.5	93 34.0	+02.4	94 33.1	+02.5
07	106 38.2	+02.4	107 37.3	+02.5	108 36.4	+02.5	109 35.6	+02.4
08	121 40.6	+02.5	122 39.8	+02.4	123 38.9	+02.5	124 38.0	+02.5
09	136 43.1	+02.5	137 42.2	+02.5	138 41.4	+02.4	139 40.5	+02.5
10	151 45.6	+02.4	152 44.7	+02.5	153 43.8	+02.5	154 43.0	+02.4
11	166 48.0	+02.5	167 47.2	+02.4	168 46.3	+02.5	169 45.4	+02.5
12	181 50.5	+02.4	182 49.6	+02.5	183 48.8	+02.4	184 47.9	+02.5
13	196 52.9	+02.5	197 52.1	+02.5	198 51.2	+02.5	199 50.4	+02.4
14	211 55.4	+02.5	212 54.6	+02.4	213 53.7	+02.5	214 52.8	+02.5
15	226 57.9	+02.4	227 57.0	+02.5	228 56.2	+02.4	229 55.3	+02.5
16	242 00.3	+02.5	242 59.5	+02.4	243 58.6	+02.5	244 57.8	+02.4
17	257 02.8	+02.5	258 01.9	+02.5	259 01.1	+02.5	260 00.2	+02.5
18	272 05.3	+02.4	273 04.4	+02.5	274 03.6	+02.4	275 02.7	+02.5
19	287 07.7	+02.5	288 06.9	+02.4	289 06.0	+02.5	290 05.2	+02.4
20	302 10.2	+02.5	303 09.3	+02.5	304 08.5	+02.4	305 07.6	+02.5
21	317 12.7	+02.4	318 11.8	+02.5	319 10.9	+02.5	320 10.1	+02.4
22	332 15.1	+02.5	333 14.3	+02.4	334 13.4	+02.5	335 12.5	+02.5
23	347 17.6	+02.5	348 16.7	+02.5	349 15.9	+02.4	350 15.0	+02.5

	SHA	Dec		SHA	Dec	
	° ,	° ,		° ,	° ,	
Alpheratz	357 34.8	N 29 13.8	Gienah	175 44.1	S 17 40.6	
Ankaa	353 07.1	S 42 10.0	Acrux	173 01.1	S 63 14.1	
Schedir	349 30.9	N 56 40.4	Gacrux	171 52.6	S 57 15.0	
Diphda	348 47.3	S 17 50.9	Alioth	166 13.8	N 55 49.7	
Achernar	335 19.9	S 57 06.4	Spica	158 22.9	S 11 17.3	
Hamal	327 51.3	N 23 34.9	Alkaid	152 52.5	N 49 11.6	
Polaris	313 54.7	N 89 21.9	Hadar	148 36.9	S 60 29.6	
Acamar	315 11.7	S 40 12.1	Menkent	147 57.9	S 36 29.2	
Menkar	314 06.2	N 04 11.4	Arcturus	145 48.0	N 19 04.2	
Mirfak	308 28.4	N 49 56.8	Rigel Kentaurus	139 38.3	S 60 56.6	
Aldebaran	290 39.9	N 16 33.7	Zubenelgenubi	136 56.5	S 16 08.6	
Capella	280 22.3	N 46 01.4	Kocab	137 20.4	N 74 03.4	
Rigel	281 04.1	S 08 10.2	Alphecca	126 04.2	N 26 38.1	
Bellatrix	278 23.1	N 06 22.5	Antares	112 16.4	S 26 29.2	
Elnath	278 02.2	N 28 37.8	Atria	107 10.8	S 69 04.5	
Alnilam	275 38.0	S 01 11.0	Sabik	102 03.1	S 15 45.4	
Betelgeuze	270 52.4	N 07 24.8	Shaula	96 10.7	S 37 07.4	
Canopus	263 52.6	S 52 42.1	Rasalhague	95 58.8	N 12 32.8	
Sirius	258 26.4	S 16 44.2	Etamin	90 42.3	N 51 29.4	
Adhara	255 06.2	S 29 00.0	Kaus Australis	83 32.8	S 34 22.4	
Castor	245 57.5	N 31 50.1	Vega	80 33.4	N 38 48.5	
Procyon	244 51.0	N 05 10.3	Nunki	75 48.0	S 26 16.0	
Pollux	243 17.4	N 27 58.0	Albireo	67 04.1	N 28 00.9	
Avior	234 15.3	S 59 35.0	Altair	62 00.2	N 08 56.0	
Suhail	222 46.9	S 43 31.6	Peacock	53 05.7	S 56 39.4	
Miaplacidus	221 39.0	S 69 48.9	Deneb	49 25.7	N 45 22.3	
Alphard	217 48.3	S 08 45.8	Enif	33 38.8	N 09 59.4	
Regulus	207 34.9	N 11 50.9	Alnair	27 32.8	S 46 50.4	
Dubhe	193 41.8	N 61 37.1	Formalhaut	15 14.6	S 29 24.4	
Denebola	182 25.4	N 14 26.2	Markab	13 29.9	N 15 20.4	

	SHA	Dec		SHA	Dec	
	° ,	° ,		° ,	° ,	
Alpheratz	357 34.8	N 29 13.8	Gienah	175 44.1	S 17 40.6	
Ankaa	353 07.1	S 42 10.0	Acrux	173 01.1	S 63 14.1	
Schedir	349 30.9	N 56 40.4	Gacrux	171 52.6	S 57 14.9	
Diphda	348 47.3	S 17 50.9	Alioth	166 13.8	N 55 49.7	
Achernar	335 19.9	S 57 06.5	Spica	158 22.9	S 11 17.3	
Hamal	327 51.3	N 23 34.9	Alkaid	152 52.5	N 49 11.6	
Polaris	313 52.5	N 89 21.9	Hadar	148 36.9	S 60 29.6	
Acamar	315 11.6	S 40 12.1	Menkent	147 58.0	S 36 29.2	
Menkar	314 06.2	N 04 11.4	Arcturus	145 48.0	N 19 04.2	
Mirfak	308 28.3	N 49 56.8	Rigel Kentaurus	139 38.3	S 60 56.5	
Aldebaran	290 39.8	N 16 33.7	Zubenelgenubi	136 56.5	S 16 08.6	
Capella	280 22.2	N 46 01.4	Kocab	137 20.5	N 74 03.4	
Rigel	281 04.1	S 08 10.2	Alphecca	126 04.2	N 26 38.1	
Bellatrix	278 23.1	N 06 22.5	Antares	112 16.4	S 26 29.2	
Elnath	278 02.2	N 28 37.8	Atria	107 10.9	S 69 04.5	
Alnilam	275 38.0	S 01 11.0	Sabik	102 03.2	S 15 45.3	
Betelgeuze	270 52.4	N 07 24.8	Shaula	96 10.8	S 37 07.4	
Canopus	263 52.6	S 52 42.1	Rasalhague	95 58.9	N 12 32.8	
Sirius	258 26.3	S 16 44.2	Etamin	90 42.3	N 51 29.4	
Adhara	255 06.2	S 29 00.0	Kaus Australis	83 32.8	S 34 22.4	
Castor	245 57.5	N 31 50.1	Vega	80 33.4	N 38 48.5	
Procyon	244 51.0	N 05 10.3	Nunki	75 48.0	S 26 16.0	
Pollux	243 17.4	N 27 58.0	Albireo	67 04.1	N 28 00.9	
Avior	234 15.2	S 59 35.0	Altair	62 00.3	N 08 56.0	
Suhail	222 46.8	S 43 31.6	Peacock	53 05.8	S 56 39.4	
Miaplacidus	221 38.9	S 69 48.8	Deneb	49 25.7	N 45 22.3	
Alphard	217 48.3	S 08 45.8	Enif	33 38.8	N 09 59.4	
Regulus	207 34.9	N 11 50.9	Alnair	27 32.8	S 46 50.5	
Dubhe	193 41.8	N 61 37.1	Formalhaut	15 14.6	S 29 24.4	
Denebola	182 25.3	N 14 26.2	Markab	13 29.9	N 15 20.4	

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2024 - First Point of Aries / Selected Stars

UT	day 291 of 366		day 292 of 366		day 293 of 366		day 294 of 366		day 295 of 366		UT	
	October 17		October 18		October 19		October 20		October 21			
	GHA	ddGHA										
00	25	59.4	+02.4	26	58.5	+02.5	27	57.7	+02.4	28	56.8	+02.5
01	41	01.8	+02.5	42	01.0	+02.4	43	00.1	+02.5	43	59.3	+02.4
02	56	04.3	+02.5	57	03.4	+02.5	58	02.6	+02.4	59	01.7	+02.5
03	71	06.8	+02.4	72	05.9	+02.5	73	05.0	+02.5	74	04.2	+02.5
04	86	09.2	+02.5	87	08.4	+02.4	88	07.5	+02.5	89	06.7	+02.4
05	101	11.7	+02.5	102	10.8	+02.5	103	10.0	+02.4	104	09.1	+02.5
06	116	14.2	+02.4	117	13.3	+02.5	118	12.4	+02.5	119	11.6	+02.4
07	131	16.6	+02.5	132	15.8	+02.4	133	14.9	+02.5	134	14.0	+02.5
08	146	19.1	+02.5	147	18.2	+02.5	148	17.4	+02.4	149	16.5	+02.5
09	161	21.6	+02.4	162	20.7	+02.5	163	19.8	+02.5	164	19.0	+02.4
10	176	24.0	+02.5	177	23.2	+02.4	178	22.3	+02.5	179	21.4	+02.5
11	191	26.5	+02.4	192	25.6	+02.5	193	24.8	+02.4	194	23.9	+02.5
12	206	28.9	+02.5	207	28.1	+02.4	208	27.2	+02.5	209	26.4	+02.4
13	221	31.4	+02.5	222	30.5	+02.5	223	29.7	+02.5	224	28.8	+02.5
14	236	33.9	+02.4	237	33.0	+02.5	238	32.2	+02.4	239	31.3	+02.5
15	251	36.3	+02.5	252	35.5	+02.4	253	34.6	+02.5	254	33.8	+02.5
16	266	38.8	+02.5	267	37.9	+02.5	268	37.1	+02.4	269	36.2	+02.5
17	281	41.3	+02.4	282	40.4	+02.5	283	39.5	+02.5	284	38.7	+02.4
18	296	43.7	+02.5	297	42.9	+02.4	298	42.0	+02.5	299	41.1	+02.5
19	311	46.2	+02.5	312	45.3	+02.5	313	44.5	+02.4	314	43.6	+02.5
20	326	48.7	+02.4	327	47.8	+02.5	328	46.9	+02.5	329	46.1	+02.4
21	341	51.1	+02.5	342	50.3	+02.4	343	49.4	+02.5	344	48.5	+02.5
22	356	53.6	+02.5	357	52.7	+02.5	358	51.9	+02.4	359	51.0	+02.5
23	11	56.1	+02.4	12	55.2	+02.5	13	54.3	+02.5	14	53.5	+02.4

UT	day 276 of 366		day 277 of 366		day 278 of 366		day 279 of 366		day 280 of 366		UT	
	October 2		October 3		October 4		October 5		October 6			
	GHA	ddGHA										
00	11	12.3	+02.5	12	11.4	+02.5	13	10.6	+02.4	14	09.7	+02.5
01	26	14.8	+02.4	27	13.9	+02.5	28	13.0	+02.5	29	12.2	+02.4
02	41	17.2	+02.5	42	16.4	+02.4	43	15.5	+02.5	44	14.6	+02.5
03	56	19.7	+02.5	57	18.8	+02.5	58	18.0	+02.4	59	17.1	+02.5
04	71	22.2	+02.4	72	21.3	+02.5	73	20.4	+02.5	74	19.6	+02.4
05	86	24.6	+02.5	87	23.8	+02.4	88	22.9	+02.5	89	22.0	+02.4
06	101	27.1	+02.5	102	26.2	+02.5	103	25.4	+02.4	104	24.5	+02.5
07	116	29.6	+02.4	117	28.7	+02.5	118	27.8	+02.5	119	27.0	+02.4
08	131	32.0	+02.5	132	31.2	+02.4	133	30.3	+02.5	134	29.4	+02.5
09	146	34.5	+02.4	147	33.6	+02.5	148	32.8	+02.4	149	31.9	+02.5
10	161	36.9	+02.5	162	36.1	+02.4	163	35.2	+02.5	164	34.4	+02.4
11	176	39.4	+02.5	177	38.5	+02.5	178	37.7	+02.4	179	36.8	+02.5
12	191	41.9	+02.4	192	41.0	+02.5	193	40.1	+02.5	194	39.3	+02.4
13	206	44.3	+02.5	207	43.5	+02.4	208	42.6	+02.5	209	41.7	+02.5
14	221	46.8	+02.5	222	45.9	+02.5	223	45.1	+02.4	224	44.2	+02.5
15	236	49.3	+02.4	237	48.4	+02.5	238	47.5	+02.5	239	46.7	+02.4
16	251	51.7	+02.5	252	50.9	+02.4	253	50.0	+02.5	254	49.1	+02.5
17	266	54.2	+02.5	267	53.3	+02.5	268	52.5	+02.4	269	51.6	+02.5
18	281	56.7	+02.4	282	55.8	+02.5	283	54.9	+02.5	284	54.1	+02.4
19	296	59.1	+02.5	297	58.3	+02.4	298	57.4	+02.5	299	56.5	+02.5
20	312	01.6	+02.4	313	00.7	+02.5	313	59.9	+02.4	314	59.0	+02.5
21	327	04.0	+02.5	328	03.2	+02.4	329	02.3	+02.5	330	01.5	+02.4
22	342	06.5	+02.5	343	05.6	+02.5	344	04.8	+02.4	345	03.9	+02.5
23	357	09.0	+02.4	358	08.1	+02.5	359	07.2	+02.5	0	06.4	+02.5
										1	05.5	+02.5

	SHA	Dec		SHA	Dec						
	° ,	° ,		° ,	° ,						
Alpheratz	357	34.7	N	29	13.9	Gienah	175	44.1	S	17	40.6
Ankaa	353	07.0	S	42	10.1	Acrux	173	01.1	S	63	14.1
Schedir	349	30.8	N	56	40.5	Gacrux	171	52.5	S	57	14.9
Diphda	348	47.3	S	17	51.0	Alioth	166	13.8	N	55	49.5
Achernar	335	19.8	S	57	06.6	Spica	158	22.9	S	11	17.3
Hamal	327	51.2	N	23	34.9	Alkaid	152	52.6	N	49	11.5
Polaris	313	43.6	N	89	22.0	Hadar	148	37.0	S	60	29.6
Acamar	315	11.5	S	40	12.1	Menkent	147	58.0	S	36	29.2
Menkar	314	06.1	N	04	11.4	Arcturus	145	48.0	N	19	04.2
Mirfak	308	28.1	N	49	56.9	Rigel Kentaurus	139	38.4	S	60	56.5
Aldebaran	290	39.6	N	16	33.7	Zubenelgenubi	136	56.5	S	16	08.6
Capella	280	22.0	N	46	01.5	Kocab	137	20.6	N	74	03.4
Rigel	281	03.9	S	08	10.2	Alphecca	126	04.2	N	26	38.1
Bellatrix	278	22.9	N	06	22.5	Antares	112	16.4	S	26	29.2
Elnath	278	01.9	N	28	37.8	Atria	107	11.0	S	69	04.5
Alnilam	275	37.8	S	01	11.0	Sabik	102	03.2	S	15	45.4
Betelgeuze	270	52.2	N	07	24.8	Shaula	96	10.8	S	37	07.4
Canopus	263	52.3	S	52	42.1	Rasalhague	95	58.9	N	12	32.8
Sirius	258	26.1	S	16	44.2	Etamin	90	42.4	N	51	29.4
Adhara	255	06.0	S	29	00.0	Kaus Australis	83	32.8	S	34	22.4
Castor	245	57.2	N	31	50.0	Vega	80	33.5	N	38	48.5
Procyon	244	50.8	N	05	10.2	Nunki	75	48.0	S	26	16.0
Pollux	243	17.2	N	27	58.0	Albireo	67	04.2	N	28	00.9
Avior	234	15.0	S	59	34.9	Altair	62	00.3	N	08	56.0
Suhail	222	46.6	S	43	31.6	Peacock	53	05.8	S	56	39.5
Miplacidus	221	38.6	S	69	48.8	Deneb	49	25.8	N	45	22.3
Alphard	217	48.1	S	08	45.8	Enif	33	38.8	N	09	59.4
Regulus	207	34.7	N	11	50.9	Alnair	27	32.9	S	46	50.5
Dubhe	193	41.6	N	61	36.9	Formalhaut	15	14.6	S	29	29.4
Denebola	182	25.3	N	14	26.2	Markab	13	29.9	N	15	20.5

	SHA	Dec</
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2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

UT	day 281 of 366		day 282 of 366		day 283 of 366		day 284 of 366		day 285 of 366		UT
	October 7		October 8		October 9		October 10		October 11		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	16 08.0	+02.5	17 07.1	+02.5	18 06.3	+02.4	19 05.4	+02.5	20 04.5	+02.5	00
01	31 10.5	+02.4	32 09.6	+02.5	33 08.7	+02.5	34 07.9	+02.4	35 07.0	+02.5	01
02	46 12.9	+02.5	47 12.1	+02.4	48 11.2	+02.5	49 10.3	+02.5	50 09.5	+02.4	02
03	61 15.4	+02.4	62 14.5	+02.5	63 13.7	+02.4	64 12.8	+02.5	65 11.9	+02.5	03
04	76 17.8	+02.5	77 17.0	+02.5	78 16.1	+02.5	79 15.3	+02.4	80 14.4	+02.5	04
05	91 20.3	+02.5	92 19.5	+02.4	93 18.6	+02.5	94 17.7	+02.5	95 16.9	+02.4	05
06	106 22.8	+02.4	107 21.9	+02.5	108 21.1	+02.4	109 20.2	+02.5	110 19.3	+02.5	06
07	121 25.2	+02.5	122 24.4	+02.4	123 23.5	+02.5	124 22.7	+02.4	125 21.8	+02.5	07
08	136 27.7	+02.5	137 26.8	+02.5	138 26.0	+02.4	139 25.1	+02.5	140 24.3	+02.4	08
09	151 30.2	+02.4	152 29.3	+02.5	153 28.4	+02.5	154 27.6	+02.5	155 26.7	+02.5	09
10	166 32.6	+02.5	167 31.8	+02.4	168 30.9	+02.5	169 30.1	+02.4	170 29.2	+02.5	10
11	181 35.1	+02.5	182 34.2	+02.5	183 33.4	+02.4	184 32.5	+02.5	185 31.7	+02.4	11
12	196 37.6	+02.4	197 36.7	+02.5	198 35.8	+02.5	199 35.0	+02.4	200 34.1	+02.5	12
13	211 40.0	+02.5	212 39.2	+02.4	213 38.3	+02.5	214 37.4	+02.5	215 36.6	+02.4	13
14	226 42.5	+02.5	227 41.6	+02.5	228 40.8	+02.4	229 39.9	+02.5	230 39.0	+02.5	14
15	241 45.0	+02.4	242 44.1	+02.5	243 43.2	+02.5	244 42.4	+02.4	245 41.5	+02.5	15
16	256 47.4	+02.5	257 46.6	+02.4	258 45.7	+02.5	259 44.8	+02.5	260 44.0	+02.4	16
17	271 49.9	+02.4	272 49.0	+02.5	273 48.2	+02.4	274 47.3	+02.5	275 46.4	+02.5	17
18	286 52.3	+02.5	287 51.5	+02.4	288 50.6	+02.5	289 49.8	+02.4	290 48.9	+02.5	18
19	301 54.8	+02.5	302 53.9	+02.5	303 53.1	+02.5	304 52.2	+02.5	305 51.4	+02.4	19
20	316 57.3	+02.4	317 56.4	+02.5	318 55.6	+02.4	319 54.7	+02.5	320 53.8	+02.5	20
21	331 59.7	+02.5	332 58.9	+02.4	333 58.0	+02.5	334 57.2	+02.4	335 56.3	+02.5	21
22	347 02.2	+02.5	348 01.3	+02.5	349 00.5	+02.4	349 59.6	+02.5	350 58.8	+02.4	22
23	2 04.7	+02.4	3 03.8	+02.5	4 02.9	+02.5	5 02.1	+02.4	6 01.2	+02.5	23

UT	day 286 of 366		day 287 of 366		day 288 of 366		day 289 of 366		day 290 of 366		UT
	October 12		October 13		October 14		October 15		October 16		
	GHA	ddGHA									
00	21 03.7	+02.5	22 02.8	+02.5	23 02.0	+02.4	24 01.1	+02.5	25 00.2	+02.5	00
01	36 06.2	+02.4	37 05.3	+02.5	38 04.4	+02.5	39 03.6	+02.4	40 02.7	+02.5	01
02	51 08.6	+02.5	52 07.8	+02.4	53 06.9	+02.5	54 06.0	+02.5	55 05.2	+02.4	02
03	66 11.1	+02.4	67 10.2	+02.5	68 09.4	+02.4	69 08.5	+02.5	70 07.6	+02.5	03
04	81 13.5	+02.5	82 12.7	+02.4	83 11.8	+02.5	84 11.0	+02.4	85 10.1	+02.5	04
05	96 16.0	+02.5	97 15.1	+02.5	98 14.3	+02.5	99 13.4	+02.5	100 12.6	+02.4	05
06	111 18.5	+02.4	112 17.6	+02.5	113 16.8	+02.4	114 15.9	+02.5	115 15.0	+02.5	06
07	126 20.9	+02.5	127 20.1	+02.4	128 19.2	+02.5	129 18.4	+02.4	130 17.5	+02.5	07
08	141 23.4	+02.5	142 22.5	+02.5	143 21.7	+02.4	144 20.8	+02.5	145 20.0	+02.4	08
09	156 25.9	+02.4	157 25.0	+02.5	158 24.1	+02.5	159 23.3	+02.4	160 22.4	+02.5	09
10	171 28.3	+02.5	172 27.5	+02.4	173 26.6	+02.5	174 25.7	+02.5	175 24.9	+02.4	10
11	186 30.8	+02.5	187 29.9	+02.5	188 29.1	+02.4	189 28.2	+02.5	190 27.3	+02.5	11
12	201 33.3	+02.4	202 32.4	+02.5	203 31.5	+02.5	204 30.7	+02.4	205 29.8	+02.5	12
13	216 35.7	+02.5	217 34.9	+02.4	218 34.0	+02.5	219 33.1	+02.5	220 32.3	+02.4	13
14	231 38.2	+02.5	232 37.3	+02.5	233 36.5	+02.4	234 35.6	+02.5	235 34.7	+02.5	14
15	246 40.7	+02.4	247 39.8	+02.5	248 38.9	+02.5	249 38.1	+02.4	250 37.2	+02.5	15
16	261 43.1	+02.5	262 42.3	+02.4	263 41.4	+02.5	264 40.5	+02.5	265 39.7	+02.4	16
17	276 45.6	+02.4	277 44.7	+02.5	278 43.9	+02.4	279 43.0	+02.5	280 42.1	+02.5	17
18	291 48.0	+02.5	292 47.2	+02.4	293 46.3	+02.5	294 45.5	+02.4	295 44.6	+02.5	18
19	306 50.5	+02.5	307 49.6	+02.5	308 48.8	+02.4	309 47.9	+02.5	310 47.1	+02.4	19
20	321 53.0	+02.4	322 52.1	+02.5	323 51.2	+02.5	324 50.4	+02.4	325 49.5	+02.5	20
21	336 55.4	+02.5	337 54.6	+02.4	338 53.7	+02.5	339 52.8	+02.5	340 52.0	+02.4	21
22	351 57.9	+02.5	352 57.0	+02.5	353 56.2	+02.4	354 55.3	+02.5	355 54.4	+02.5	22
23	7 00.4	+02.4	7 59.5	+02.5	8 58.6	+02.5	9 57.8	+02.4	10 56.9	+02.5	23

	SHA	Dec		SHA	Dec	
	° ,	° ,		° ,	° ,	
Alpheratz	357 34.7	N 29 13.8	Gienah	175 44.1	S 17 40.6	
Ankaa	353 07.0	S 42 10.1	Acrux	173 01.1	S 63 14.0	
Schedir	349 30.8	N 56 40.5	Gacrux	171 52.6	S 57 14.9	
Diphda	348 47.3	S 17 50.9	Alioth	166 13.8	N 55 49.6	
Achernar	335 19.8	S 57 06.5	Spica	158 22.9	S 11 17.3	
Hamal	327 51.2	N 23 34.9	Alkaid	152 52.6	N 49 11.5	
Polaris	313 46.7	N 89 22.0	Hadar	148 37.0	S 60 29.5	
Acamar	315 11.5	S 40 12.1	Menkent	147 58.0	S 36 29.2	
Menkar	314 06.1	N 04 11.4	Arcturus	145 48.0	N 19 04.2	
Mirfak	308 28.2	N 49 56.9	Rigel Kentaurus	139 38.4	S 60 56.5	
Aldebaran	290 39.7	N 16 33.7	Zubenelgenubi	136 56.5	S 16 08.6	
Capella	280 22.1	N 46 01.4	Kocab	137 20.8	N 74 03.3	
Rigel	281 03.9	S 08 10.2	Alphecca	126 04.3	N 26 38.1	
Bellatrix	278 23.0	N 06 22.5	Antares	112 16.5	S 26 29.2	
Elnath	278 02.0	N 28 37.8	Atria	107 11.1	S 69 04.5	
Alnilam	275 37.9	S 01 11.0	Sabik	102 03.2	N 15 45.3	
Betelgeuze	270 52.3	N 07 24.8	Shaula	96 10.8	S 37 07.4	
Canopus	263 52.4	S 52 42.1	Rasalhague	95 58.9	N 12 32.7	
Sirius	258 26.2	S 16 44.2	Etamin	90 42.5	N 51 29.4	
Adhara	255 06.0	S 29 00.0	Kaus Australis	83 32.9	S 34 22.4	
Castor	245 57.3	N 31 50.1	Vega	80 33.6	N 38 48.5	
Procyon	244 50.9	N 05 10.2	Nunki	75 48.1	S 26 16.0	
Pollux	243 17.3	N 27 58.0	Albireo	67 04.2	N 28 00.9	
Avior	234 15.1	S 59 34.9	Altair	62 00.3	N 08 56.0	
Suhail	222 46.7	S 43 31.6	Peacock	53 05.9	S 56 39.5	
Miplacidus	221 38.7	S 69 48.8	Deneb	49 25.8	N 45 22.4	
Alphard	217 48.2	S 08 45.8	Enif	33 38.8	N 09 59.4	
Regulus	207 34.8	N 11 50.9	Alnair	27 32.9	S 46 50.5	
Dubhe	193 41.7	N 61 37.0	Formalhaut	15 14.6	S 29 29.4	
Denebola	182 25.3	N 14 26.2	Markab	13 29.9	N 15 20.5	

	SHA	Dec		SHA	Dec	
	° ,	° ,		° ,	° ,	
Alpheratz	357 34.7	N 29 13.8	Gienah	1		

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2024 - First Point of Aries / Selected Stars

	day 311 of 366	day 312 of 366	day 313 of 366	day 314 of 366	day 315 of 366	
UT	November 6	November 7	November 8	November 9	November 10	
00	45 42.2 +02.4	46 41.3 +02.5	47 40.4 +02.5	48 39.6 +02.4	49 38.7 +02.5	00
01	60 44.6 +02.5	61 43.8 +02.4	62 42.9 +02.5	63 42.0 +02.5	64 41.2 +02.4	01
02	75 47.1 +02.4	76 46.2 +02.5	77 45.4 +02.4	78 44.5 +02.5	79 43.6 +02.5	02
03	90 49.5 +02.5	91 48.7 +02.5	92 47.8 +02.5	93 47.0 +02.4	94 46.1 +02.5	03
04	105 52.0 +02.5	106 51.2 +02.4	107 50.3 +02.5	108 49.4 +02.5	109 48.6 +02.4	04
05	120 54.5 +02.4	121 53.6 +02.5	122 52.8 +02.4	123 51.9 +02.5	124 51.0 +02.5	05
06	135 56.9 +02.5	136 56.1 +02.4	137 55.2 +02.5	138 54.4 +02.4	139 53.5 +02.5	06
07	150 59.4 +02.5	151 58.5 +02.5	152 57.7 +02.5	153 56.8 +02.5	154 56.0 +02.4	07
08	166 01.9 +02.4	167 01.0 +02.5	168 00.2 +02.4	168 59.3 +02.5	169 58.4 +02.5	08
09	181 04.3 +02.5	182 03.5 +02.4	183 02.6 +02.5	184 01.8 +02.4	185 00.9 +02.5	09
10	196 06.8 +02.5	197 05.9 +02.5	198 05.1 +02.4	199 04.2 +02.5	200 03.4 +02.4	10
11	211 09.3 +02.4	212 08.4 +02.5	213 07.5 +02.5	214 06.7 +02.4	215 05.8 +02.5	11
12	226 11.7 +02.5	227 10.9 +02.4	228 10.0 +02.5	229 09.1 +02.5	230 08.3 +02.4	12
13	241 14.2 +02.5	242 13.3 +02.5	243 12.5 +02.4	244 11.6 +02.5	245 10.7 +02.5	13
14	256 16.7 +02.4	257 15.8 +02.5	258 14.9 +02.5	259 14.1 +02.4	260 13.2 +02.5	14
15	271 19.1 +02.5	272 18.3 +02.4	273 17.4 +02.5	274 16.5 +02.5	275 15.7 +02.4	15
16	286 21.6 +02.4	287 20.7 +02.5	288 19.9 +02.4	289 19.0 +02.5	290 18.1 +02.5	16
17	301 24.0 +02.5	302 23.2 +02.5	303 22.3 +02.5	304 21.5 +02.4	305 20.6 +02.5	17
18	316 26.5 +02.5	317 25.7 +02.4	318 24.8 +02.5	319 23.9 +02.5	320 23.1 +02.4	18
19	331 29.0 +02.4	332 28.1 +02.5	333 27.3 +02.4	334 26.4 +02.5	335 25.5 +02.5	19
20	346 31.4 +02.5	347 30.6 +02.4	348 29.7 +02.5	349 28.9 +02.4	350 28.0 +02.5	20
21	1 33.9 +02.5	2 33.0 +02.5	3 32.2 +02.4	4 31.3 +02.5	5 30.5 +02.4	21
22	16 36.4 +02.4	17 35.5 +02.5	18 34.6 +02.5	19 33.8 +02.5	20 32.9 +02.5	22
23	31 38.8 +02.5	32 38.0 +02.4	33 37.1 +02.5	34 36.3 +02.4	35 35.4 +02.5	23

	day 296 of 366	day 297 of 366	day 298 of 366	day 299 of 366	day 300 of 366
UT	October 22	October 23	October 24	October 25	October 26
00	30 55.1 +02.4	31 54.2 +02.5	32 53.4 +02.4	33 52.5 +02.5	34 51.6 +02.5
01	45 57.5 +02.5	46 56.7 +02.4	47 55.8 +02.5	48 55.0 +02.4	49 54.1 +02.5
02	61 00.0 +02.5	61 59.1 +02.5	62 58.3 +02.4	63 57.4 +02.5	64 56.6 +02.4
03	76 02.5 +02.4	77 01.6 +02.5	78 00.7 +02.5	78 59.9 +02.5	79 59.0 +02.5
04	91 04.9 +02.5	92 04.1 +02.4	93 03.2 +02.5	94 02.4 +02.4	95 01.5 +02.5
05	106 07.4 +02.5	107 06.5 +02.5	108 05.7 +02.4	109 04.8 +02.5	110 04.0 +02.4
06	121 09.9 +02.4	122 09.0 +02.5	123 08.1 +02.5	124 07.3 +02.4	125 06.4 +02.5
07	136 12.3 +02.5	137 11.5 +02.4	138 10.6 +02.5	139 09.7 +02.5	140 08.9 +02.4
08	151 14.8 +02.5	152 13.9 +02.5	153 13.1 +02.4	154 12.2 +02.5	155 11.3 +02.5
09	166 17.3 +02.4	167 16.4 +02.5	168 15.5 +02.5	169 14.7 +02.4	170 13.8 +02.5
10	181 19.7 +02.5	182 18.9 +02.4	183 18.0 +02.5	184 17.1 +02.5	185 16.3 +02.4
11	196 22.2 +02.4	197 21.3 +02.5	198 20.5 +02.4	199 19.6 +02.5	200 18.7 +02.5
12	211 24.6 +02.5	212 23.8 +02.4	213 22.9 +02.5	214 22.1 +02.4	215 21.2 +02.5
13	226 27.1 +02.5	227 26.2 +02.5	228 25.4 +02.5	229 24.5 +02.5	230 23.7 +02.4
14	241 29.6 +02.4	242 28.7 +02.5	243 27.9 +02.4	244 27.0 +02.5	245 26.1 +02.5
15	256 32.0 +02.5	257 31.2 +02.4	258 30.3 +02.5	259 29.5 +02.4	260 28.6 +02.5
16	271 34.5 +02.5	272 33.6 +02.5	273 32.8 +02.4	274 31.9 +02.5	275 31.1 +02.4
17	286 37.0 +02.4	287 36.1 +02.5	288 35.2 +02.5	289 34.4 +02.4	290 33.5 +02.5
18	301 39.4 +02.5	302 38.6 +02.4	303 37.7 +02.5	304 36.8 +02.5	305 36.0 +02.5
19	316 41.9 +02.5	317 41.0 +02.5	318 40.2 +02.4	319 39.3 +02.5	320 38.5 +02.4
20	331 44.4 +02.4	332 43.5 +02.5	333 42.6 +02.5	334 41.8 +02.4	335 40.9 +02.5
21	346 46.8 +02.5	347 46.0 +02.4	348 45.1 +02.5	349 44.2 +02.5	350 43.4 +02.4
22	1 49.3 +02.5	2 48.4 +02.5	3 47.6 +02.4	4 46.7 +02.5	5 45.8 +02.5
23	16 51.8 +02.4	17 50.9 +02.5	18 50.0 +02.5	19 49.2 +02.4	20 48.3 +02.5

	SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'	
Alpheratz	357 34.8	N 29 13.9	Gienah	175 44.0	S 17 40.6	
Ankaa	353 07.1	S 42 10.2	Acrux	173 00.9	S 63 14.0	
Schedir	349 30.8	N 56 40.6	Gacrux	171 52.4	S 57 14.8	
Diphda	348 47.3	S 17 51.0	Alioth	166 13.7	N 55 49.4	
Achernar	335 19.8	S 57 06.7	Spica	158 22.8	S 11 17.3	
Hamal	327 51.1	N 23 35.0	Alkaid	152 52.5	N 49 11.3	
Polaris	313 39.1	N 89 22.1	Hadar	148 36.9	S 60 29.4	
Acamar	315 11.4	S 40 12.2	Menkent	147 57.9	S 36 29.1	
Menkar	314 06.0	N 04 11.4	Arcturus	145 48.0	N 19 04.0	
Mirfak	308 28.0	N 49 57.0	Rigel Kentaurus	139 38.3	S 60 56.4	
Aldebaran	290 39.5	N 16 33.7	Zubenelgenubi	136 56.5	S 16 08.6	
Capella	280 21.8	N 46 01.5	Kocab	137 20.9	N 74 03.1	
Rigel	281 03.8	S 08 10.2	Alphecca	126 04.3	N 26 38.0	
Bellatrix	278 22.8	N 06 22.4	Antares	112 16.5	S 26 29.2	
Elnath	278 01.8	N 28 37.8	Atria	107 11.3	S 28 37.8	
Alnilam	275 37.6	S 01 11.0	Sabik	102 03.3	S 15 45.3	
Betelgeuze	270 52.0	N 07 24.8	Shaula	96 10.9	S 37 07.4	
Canopus	263 52.1	S 52 42.2	Rasalhague	95 59.0	N 12 32.7	
Sirius	258 26.0	S 16 44.3	Etamin	90 42.6	N 51 29.4	
Adhara	255 05.8	S 29 00.1	Kaus Australis	83 33.0	S 34 22.4	
Castor	245 57.1	N 31 50.0	Vega	80 33.7	N 38 48.5	
Procyon	244 50.6	N 05 10.2	Nunki	75 48.2	S 26 16.0	
Pollux	243 17.0	N 27 58.0	Albireo	67 04.4	N 28 00.9	
Avior	234 14.7	S 59 35.0	Altair	62 00.4	N 08 56.0	
Suhail	222 46.4	S 43 31.6	Peacock	53 06.1	S 56 39.5	
Miaplacidus	221 38.2	S 69 48.8	Deneb	49 26.0	N 45 22.4	
Alphard	217 48.0	S 08 45.8	Enif	33 38.9	N 09 59.5	
Regulus	207 34.6	N 11 50.8	Alnair	27 33.0	S 46 50.5	
Dubhe	193 41.4	N 61 36.8	Formalhaut	15 14.7	S 29 24.4	
Denebola	182 25.2	N 14 26.1	Markab	13 29.9	N 15 20.5	

	SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'	
Alpheratz	357 34.7	N 29 13.9	Gienah	175 44.0	S 17 40.6	
Ankaa	353 07.0	S 42 10.1	Acrux	173 01.0	S 63 14.0	
Schedir	349 30.8	N 56 40.6	Gacrux	171 52.5	S 57 14.8	
Diphda	348 47.3	S 17 51.0	Alioth	166 13.8	N 55 49.5	
Achernar	335 19.8	S 57 06.6	Spica	158 22.8	S 11 17.3	
Hamal	327 51.2	N 23 34.9	Alkaid	152 52.6	N 49 11.4	
Polaris	313 41.9	N 89 22.0	Hadar	148 37.0	S 60 29.5	
Acamar	315 11.5	S 40 12.2	Menkent	147 58.0	S 36 29.1	
Menkar	314 06.0	N 04 11.4	Arcturus	145 48.0	N 19 04.1	
Mirfak	308 28.1	N 49 57.0	Rigel Kentaurus	139 38.4	S 60 56.4	
Aldebaran	290 39.6	N 16 33.7	Zubenelgenubi	136 56.5	S 16 08.6	
Capella	280 21.9	N 46 01.5	Kocab	137 20.8	N 74 03.2	
Rigel	281 03.8	S 08 10.2	Alphecca	126 04.3	N 26 38.0	
Bellatrix	278 22.9	N 06 22.5	Antares	112 16.5	S 26 29.2	
Elnath	278 01.9	N 28 37.8	Atria	107 11.2	S 69 04.5	
Alnilam	275 37.7	S 01 11.0	Sabik	102 03.3	S 15 45.3	
Betelgeuze	270 52.1	N 07 24.8	Shaula	96 10.9	S 37 07.4	
Canopus	263 52.3	S 52 42.2	Rasalhague	95 59.0	N 12 32.7	
Sirius	258 26.1	S 16 44.3	Etamin	90 42.5	N 51 29.4	
Adhara	255 05.9	S 29 00.0	Kaus Australis	83 32.9	S 34 22.4	
Castor	245 57.2	N 31 50.0	Vega	80 33.6	N 38 48.5	
Procyon	244 50.8	N 05 10.2	Nunki	75 48.1	S 26 16.0	
Pollux	243 17.2	N 27 58.0	Albireo	67 04.3	N 28 00.9	
Avior	234 14.9	S 59 34.9	Altair	62 00.4	N 08 56.0	
Suhail	222 46.6	S 43 31.6	Peacock	53 06.0	S 56 39.5	
Miaplacidus	221 38.5	S 69 48.8	Deneb	49 25.9	N 45 22.4	
Alphard	217 48.1	S 08 45.8	Enif	33 38.9	N 09 59.5	
Regulus	207 34.7	N 11 50.8	Alnair	27 33.0	S 46 50	

2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

UT	day 301 of 366		day 302 of 366		day 303 of 366		day 304 of 366		day 305 of 366		UT	
	October 27		October 28		October 29		October 30		October 31			
	GHA	ddGHA		GHA	ddGHA		GHA	ddGHA		GHA	ddGHA	
00	35 50.8	+02.4		36 49.9	+02.5		37 49.0	+02.5		38 48.2	+02.4	
01	50 53.2	+02.5		51 52.4	+02.4		52 51.5	+02.5		53 50.6	+02.5	
02	65 55.7	+02.5		66 54.8	+02.5		67 54.0	+02.4		68 53.1	+02.5	
03	80 58.2	+02.4		81 57.3	+02.5		82 56.4	+02.5		83 55.6	+02.4	
04	96 00.6	+02.5		96 59.8	+02.4		97 58.9	+02.5		98 58.0	+02.5	
05	111 03.1	+02.5		112 02.2	+02.5		113 01.4	+02.4		114 00.5	+02.5	
06	126 05.6	+02.4		127 04.7	+02.5		128 03.8	+02.5		129 03.0	+02.4	
07	141 08.0	+02.5		142 07.2	+02.4		143 06.3	+02.5		144 05.4	+02.5	
08	156 10.5	+02.4		157 09.6	+02.5		158 08.8	+02.4		159 07.9	+02.5	
09	171 12.9	+02.5		172 12.1	+02.4		173 11.2	+02.5		174 10.4	+02.4	
10	186 15.4	+02.5		187 14.5	+02.5		188 13.7	+02.5		189 12.8	+02.5	
11	201 17.9	+02.4		202 17.0	+02.5		203 16.2	+02.4		204 15.3	+02.5	
12	216 20.3	+02.5		217 19.5	+02.4		218 18.6	+02.5		219 17.8	+02.4	
13	231 22.8	+02.5		232 21.9	+02.5		233 21.1	+02.4		234 20.2	+02.5	
14	246 25.3	+02.4		247 24.4	+02.5		248 23.5	+02.5		249 22.7	+02.4	
15	261 27.7	+02.5		262 26.9	+02.4		263 26.0	+02.5		264 25.1	+02.4	
16	276 30.2	+02.5		277 29.3	+02.5		278 28.5	+02.4		279 27.6	+02.5	
17	291 32.7	+02.4		292 31.8	+02.5		293 30.9	+02.5		294 30.1	+02.4	
18	306 35.1	+02.5		307 34.3	+02.4		308 33.4	+02.5		309 32.5	+02.5	
19	321 37.6	+02.5		322 36.7	+02.5		323 35.9	+02.4		324 35.0	+02.5	
20	336 40.1	+02.4		337 39.2	+02.5		338 38.3	+02.5		339 37.5	+02.4	
21	351 42.5	+02.5		352 41.7	+02.4		353 40.8	+02.5		354 39.9	+02.5	
22	6 45.0	+02.4		7 44.1	+02.5		8 43.3	+02.4		9 42.4	+02.5	
23	21 47.4	+02.5		22 46.6	+02.4		23 45.7	+02.5		24 44.9	+02.4	

UT	day 306 of 366		day 307 of 366		day 308 of 366		day 309 of 366		day 310 of 366		UT	
	November 1		November 2		November 3		November 4		November 5			
	GHA	ddGHA		GHA	ddGHA		GHA	ddGHA		GHA	ddGHA	
00	40 46.5	+02.4		41 45.6	+02.5		42 44.7	+02.5		43 43.9	+02.4	
01	55 48.9	+02.5		56 48.1	+02.4		57 47.2	+02.5		58 46.3	+02.5	
02	70 51.4	+02.5		71 50.5	+02.5		72 49.7	+02.4		73 48.8	+02.5	
03	85 53.9	+02.4		86 53.0	+02.5		87 52.1	+02.5		88 51.3	+02.4	
04	100 56.3	+02.5		101 55.5	+02.4		102 54.6	+02.5		103 53.7	+02.5	
05	115 58.8	+02.4		116 57.9	+02.5		117 57.1	+02.4		118 56.2	+02.5	
06	131 01.2	+02.5		132 00.4	+02.4		132 59.5	+02.5		133 58.7	+02.4	
07	146 03.7	+02.5		147 02.8	+02.5		148 02.0	+02.4		149 01.1	+02.5	
08	161 06.2	+02.4		162 05.3	+02.5		163 04.4	+02.5		164 03.6	+02.5	
09	176 08.6	+02.5		177 07.8	+02.4		178 06.9	+02.5		179 06.1	+02.4	
10	191 11.1	+02.5		192 10.2	+02.5		193 09.4	+02.4		194 08.5	+02.5	
11	206 13.6	+02.4		207 12.7	+02.5		208 11.8	+02.5		209 11.0	+02.4	
12	221 16.0	+02.5		222 15.2	+02.4		223 14.3	+02.5		224 13.4	+02.5	
13	236 18.5	+02.5		237 17.6	+02.5		238 16.8	+02.4		239 15.9	+02.5	
14	251 21.0	+02.4		252 20.1	+02.5		253 19.2	+02.5		254 18.4	+02.4	
15	266 23.4	+02.5		267 22.6	+02.4		268 21.7	+02.5		269 20.8	+02.5	
16	281 25.9	+02.4		282 25.0	+02.5		283 24.2	+02.4		284 23.3	+02.5	
17	296 28.3	+02.5		297 27.5	+02.5		298 26.6	+02.5		299 25.8	+02.4	
18	311 30.8	+02.5		312 30.0	+02.4		313 29.1	+02.5		314 28.2	+02.5	
19	326 33.3	+02.4		327 32.4	+02.5		328 31.6	+02.4		329 30.7	+02.5	
20	341 35.7	+02.5		342 34.9	+02.4		343 34.0	+02.5		344 33.2	+02.4	
21	356 38.2	+02.5		357 37.3	+02.5		358 36.5	+02.4		359 35.6	+02.5	
22	11 40.7	+02.4		12 39.8	+02.5		13 38.9	+02.5		14 38.1	+02.5	
23	26 43.1	+02.5		27 42.3	+02.4		28 41.4	+02.5		29 40.6	+02.4	

	SHA	Dec		SHA	Dec	
	° ,	° ,		° ,	° ,	
Alpheratz	357 34.7	N 29 13.9	Gienah	175 44.0	S 17 40.6	
Ankaa	353 07.0	S 42 10.2	Acrux	173 01.0	S 63 14.0	
Schedir	349 30.8	N 56 40.6	Gacrux	171 52.5	S 57 14.8	
Diphda	348 47.3	S 17 51.0	Alioth	166 13.7	N 55 49.5	
Achernar	335 19.8	S 57 06.6	Spica	158 22.8	S 11 17.3	
Hamal	327 51.1	N 23 35.0	Alkaid	152 52.6	N 49 11.4	
Polaris	313 40.9	N 89 22.1	Hadar	148 37.0	S 60 29.5	
Acamar	315 11.4	S 40 12.2	Menkent	147 57.9	S 36 29.1	
Menkar	314 06.0	N 04 11.4	Arcturus	145 48.0	N 19 04.1	
Mirfak	308 28.1	N 49 57.0	Rigel Kentaurus	139 38.4	S 60 56.4	
Aldebaran	290 39.6	N 16 33.7	Zubenelgenubi	136 56.5	S 16 08.6	
Capella	280 21.9	N 46 01.5	Kocab	137 20.9	N 74 03.2	
Rigel	281 03.8	S 08 10.2	Alphecca	126 04.3	N 26 38.0	
Bellatrix	278 22.8	N 06 22.4	Antares	112 16.5	S 26 29.2	
Elnath	278 01.9	N 28 37.8	Atria	107 11.2	S 69 04.4	
Alnilam	275 37.7	S 01 11.0	Sabik	102 03.3	S 15 45.3	
Betelgeuze	270 52.1	N 07 24.8	Shaula	96 10.9	S 37 07.4	
Canopus	263 52.2	S 52 42.2	Rasalhague	95 59.0	N 12 32.7	
Sirius	258 26.1	S 16 44.3	Etamin	90 42.6	N 51 29.3	
Adhara	255 05.9	S 29 00.0	Kaus Australis	83 33.0	S 34 22.4	
Castor	245 57.1	N 31 50.0	Vega	80 33.7	N 38 48.5	
Procyon	244 50.7	N 05 10.2	Nunki	75 48.2	S 26 16.0	
Pollux	243 17.1	N 27 58.0	Albireo	67 04.3	N 28 00.9	
Avior	234 14.8	S 59 34.9	Altair	62 00.4	N 08 56.0	
Suhail	222 46.5	S 43 31.6	Peacock	53 06.0	S 56 39.5	
Miplacidus	221 38.4	S 69 48.8	Deneb	49 25.9	N 45 22.4	
Alphard	217 48.0	S 08 45.8	Enif	33 38.9	N 09 59.5	
Regulus	207 34.7	N 11 50.8	Alnair	27 33.0	S 46 50.5	
Dubhe	193 41.5	N 61 36.9	Formalhaut	15 14.6	S 29 29.4	
Denebola	182 25.2	N 14 26.1	Markab	13 29.9	N 15 20.5	

	SHA	Dec		SHA	Dec	
	° ,	° ,		° ,	° ,	
Alpheratz	357 34.7	N 29 13.9	Gienah	175 44.0	S 17 40.6	
Ankaa	353 07.1	S 42 10.2	Acrux	173 00.9	S 63 14.0	
Schedir	349 30.8	N 56 40.6	Gacrux	171 52.4	S 57 14.8	
Diphda	348 47.3	S 17 51.0	Alioth	166 13.7	N 55 49.4	
Achernar	335 19.8	S 57 06.6	Spica	158 22.8	S 11 17.3	
Hamal	327 51.1	N 23 35.0	Alkaid	152 52.5	N 49 11.4	
Polaris	313 40.1	N 89 22.1	Hadar	148 36.9	S 60 29.4	
Acamar	315 11.4	S 40 1				

2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

	day 331 of 366	day 332 of 366	day 333 of 366	day 334 of 366	day 335 of 366	
UT	GHA ddGHA	UT				
00	65 24.9 +02.5	66 24.1 +02.4	67 23.2 +02.5	68 22.4 +02.4	69 21.5 +02.5	00
01	80 27.4 +02.5	81 26.5 +02.5	82 25.7 +02.4	83 24.8 +02.5	84 24.0 +02.4	01
02	95 29.9 +02.4	96 29.0 +02.5	97 28.1 +02.5	98 27.3 +02.5	99 26.4 +02.5	02
03	110 32.3 +02.5	111 31.5 +02.4	112 30.6 +02.5	113 29.8 +02.4	114 28.9 +02.5	03
04	125 34.8 +02.5	126 33.9 +02.5	127 33.1 +02.4	128 32.2 +02.5	129 31.4 +02.4	04
05	140 37.3 +02.4	141 36.4 +02.5	142 35.5 +02.5	143 34.7 +02.4	144 33.8 +02.5	05
06	155 39.7 +02.5	156 38.9 +02.4	157 38.0 +02.5	158 37.1 +02.5	159 36.3 +02.4	06
07	170 42.2 +02.5	171 41.3 +02.5	172 40.5 +02.4	173 39.6 +02.5	174 38.7 +02.5	07
08	185 44.7 +02.4	186 43.8 +02.5	187 42.9 +02.5	188 42.1 +02.4	189 41.2 +02.5	08
09	200 47.1 +02.5	201 46.3 +02.4	202 45.4 +02.5	203 44.5 +02.5	204 43.7 +02.4	09
10	215 49.6 +02.4	216 48.7 +02.5	217 47.9 +02.4	218 47.0 +02.5	219 46.1 +02.5	10
11	230 52.0 +02.5	231 51.2 +02.5	232 50.3 +02.5	233 49.5 +02.4	234 48.6 +02.5	11
12	245 54.5 +02.5	246 53.7 +02.4	247 52.8 +02.5	248 51.9 +02.5	249 51.1 +02.4	12
13	260 57.0 +02.4	261 56.1 +02.5	262 55.3 +02.4	263 54.4 +02.5	264 53.5 +02.5	13
14	275 59.4 +02.5	276 58.6 +02.4	277 57.7 +02.5	278 56.9 +02.4	279 56.0 +02.5	14
15	291 01.9 +02.5	292 01.0 +02.5	293 00.2 +02.4	293 00.9 +02.5	294 08.5 +02.4	15
16	306 04.4 +02.4	307 03.5 +02.5	308 02.6 +02.5	309 01.8 +02.4	310 00.9 +02.5	16
17	321 06.8 +02.5	322 06.0 +02.4	323 05.1 +02.5	324 04.2 +02.5	325 03.4 +02.5	17
18	336 09.3 +02.5	337 08.4 +02.5	338 07.6 +02.4	339 06.7 +02.5	340 05.9 +02.4	18
19	351 11.8 +02.4	352 10.9 +02.5	353 10.0 +02.5	354 09.2 +02.4	355 08.3 +02.5	19
20	6 14.2 +02.5	7 13.4 +02.4	8 12.5 +02.5	9 11.6 +02.5	10 10.8 +02.4	20
21	21 16.7 +02.5	22 15.8 +02.5	23 15.0 +02.4	24 14.1 +02.5	25 13.2 +02.5	21
22	36 19.2 +02.4	37 18.3 +02.5	38 17.4 +02.5	39 16.6 +02.4	40 15.7 +02.5	22
23	51 21.6 +02.5	52 20.8 +02.4	53 19.9 +02.5	54 19.0 +02.5	55 18.2 +02.4	23

	day 316 of 366	day 317 of 366	day 318 of 366	day 319 of 366	day 320 of 366	
UT	GHA ddGHA	UT				
00	50 37.9 +02.4	51 37.0 +02.5	52 36.1 +02.5	53 35.3 +02.4	54 34.4 +02.5	00
01	65 40.3 +02.5	66 39.5 +02.4	67 38.6 +02.5	68 37.7 +02.5	69 36.9 +02.4	01
02	80 42.8 +02.4	81 41.9 +02.5	82 41.1 +02.4	83 40.2 +02.5	84 39.3 +02.5	02
03	95 45.2 +02.5	96 44.4 +02.4	97 43.5 +02.5	98 42.7 +02.4	99 41.8 +02.5	03
04	110 47.7 +02.5	111 46.8 +02.5	112 46.0 +02.4	113 45.1 +02.5	114 44.3 +02.4	04
05	125 50.2 +02.4	126 49.3 +02.5	127 48.4 +02.5	128 47.6 +02.5	129 46.7 +02.5	05
06	140 52.6 +02.5	141 51.8 +02.4	142 50.9 +02.5	143 50.1 +02.4	144 49.2 +02.5	06
07	155 55.1 +02.5	156 54.2 +02.5	157 53.4 +02.4	158 52.5 +02.5	159 51.7 +02.4	07
08	170 57.6 +02.4	171 56.7 +02.5	172 55.8 +02.5	173 55.0 +02.4	174 54.1 +02.5	08
09	186 00.0 +02.5	186 59.2 +02.4	187 58.3 +02.5	188 57.4 +02.5	189 56.6 +02.4	09
10	201 02.5 +02.5	202 01.6 +02.5	203 00.8 +02.4	203 00.9 +02.5	204 59.0 +02.5	10
11	216 05.0 +02.4	217 04.1 +02.5	218 03.2 +02.5	219 02.4 +02.4	220 01.5 +02.5	11
12	231 07.4 +02.5	232 06.6 +02.4	233 05.7 +02.5	234 04.8 +02.5	235 04.0 +02.4	12
13	246 09.9 +02.5	247 09.0 +02.5	248 08.2 +02.4	249 07.3 +02.5	250 06.4 +02.5	13
14	261 12.4 +02.4	262 11.5 +02.5	263 10.6 +02.5	264 09.8 +02.4	265 08.9 +02.5	14
15	276 14.8 +02.5	277 14.0 +02.4	278 13.1 +02.5	279 12.2 +02.5	280 11.4 +02.4	15
16	291 17.3 +02.4	292 16.4 +02.5	293 15.6 +02.4	294 14.7 +02.5	295 13.8 +02.5	16
17	306 19.7 +02.5	307 18.9 +02.4	308 18.0 +02.5	309 17.2 +02.4	310 16.3 +02.5	17
18	321 22.2 +02.5	322 21.3 +02.5	323 20.5 +02.4	324 19.6 +02.5	325 18.8 +02.4	18
19	336 24.7 +02.4	337 23.8 +02.5	338 22.9 +02.5	339 22.1 +02.4	340 21.2 +02.5	19
20	351 27.1 +02.5	352 26.3 +02.4	353 25.4 +02.5	354 24.5 +02.5	355 23.7 +02.5	20
21	6 29.6 +02.5	7 28.7 +02.5	8 27.9 +02.4	9 27.0 +02.5	10 26.2 +02.4	21
22	21 32.1 +02.4	22 31.2 +02.5	23 30.3 +02.5	24 29.5 +02.4	25 28.6 +02.5	22
23	36 34.5 +02.5	37 33.7 +02.4	38 32.8 +02.5	39 31.9 +02.5	40 31.1 +02.4	23

	SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'	
Alpheratz	357 34.8	N 29 13.9	Gienah	175 43.8	S 17 40.7	
Ankaa	353 07.1	S 42 10.3	Acrux	173 00.6	S 63 13.9	
Schedir	349 30.9	N 56 40.7	Gacrux	171 52.2	S 57 14.8	
Diphda	348 47.3	S 17 51.0	Alioth	166 13.5	N 55 49.3	
Achernar	335 19.8	S 57 06.7	Spica	158 22.7	S 11 17.4	
Hamal	327 51.1	N 23 35.0	Alkaid	152 52.4	N 49 11.2	
Polaris	313 38.4	N 89 22.3	Hadar	148 36.8	S 60 29.4	
Acamar	315 11.4	S 40 12.3	Menkent	147 57.8	S 36 29.1	
Menkar	314 06.0	N 04 11.4	Arcturus	145 47.9	N 19 04.0	
Mirfak	308 27.9	N 49 57.1	Rigel Kentaurus	139 38.2	S 60 56.3	
Aldebaran	290 39.4	N 16 33.7	Zubenelgenubi	136 56.4	S 16 08.6	
Capella	280 21.6	N 46 01.5	Kocab	137 20.8	N 74 03.0	
Rigel	281 03.7	S 08 10.3	Alphecca	126 04.3	N 26 37.9	
Bellatrix	278 22.7	N 06 22.4	Antares	112 16.5	S 26 29.2	
Elnath	278 01.7	N 28 37.8	Atria	107 11.3	S 69 04.3	
Alnilam	275 37.5	S 01 11.1	Sabik	102 03.3	S 15 45.4	
Betelgeuze	270 51.9	N 07 24.8	Shaula	96 10.9	S 37 07.3	
Canopus	263 52.0	S 52 42.3	Rasalhague	95 59.0	N 12 32.7	
Sirius	258 25.9	S 16 44.4	Etamin	90 42.7	N 51 29.3	
Adhara	255 05.7	S 29 00.1	Kaus Australis	83 33.0	S 34 22.4	
Castor	245 56.9	N 31 50.0	Vega	80 33.8	N 38 48.4	
Procyon	244 50.5	N 05 10.1	Nunki	75 48.2	S 26 16.0	
Pollux	243 16.8	N 27 57.9	Albireo	67 04.4	N 28 00.9	
Avior	234 14.5	S 59 35.0	Altair	62 00.5	N 08 56.0	
Suhail	222 46.2	S 43 31.7	Peacock	53 06.2	S 56 39.5	
Miaplacidus	221 37.9	S 69 48.8	Deneb	49 26.1	N 45 22.4	
Alphard	217 47.8	S 08 45.9	Enif	33 39.0	N 09 59.4	
Regulus	207 34.4	N 11 50.7	Alnair	27 33.1	S 46 50.6	
Dubhe	193 41.1	N 61 36.8	Formalhaut	15 14.7	S 29 29.5	
Denebola	182 25.0	N 14 26.0	Markab	13 30.0	N 15 20.5	

	SHA ° ,'	Dec ° ,'		SHA ° ,'	Dec ° ,'	
Alpheratz	357 34.8	N 29 13.9	Gienah	175 43.9	S 17 40.6	
Ankaa	353 07.1	S 42 10.2	Acrux	173 00.8	S 63 13.9	
Schedir	349 30.8	N 56 40.7	Gacrux	171 52.3	S 57 14.8	
Diphda	348 47.3	S 17 51.0	Alioth	166 13.7	N 55 49.4	
Achernar	335 19.8	S 57 06.7	Spica	158 22.8	S 11 17.3	
Hamal	327 51.1	N 23 35.0	Alkaid	152 52.5	N 49 11.3	
Polaris	313 38.7	N 89 22.2	Hadar	148 36.9	S 60 29.4	
Acamar	315 11.4	S 40 12.2	Menkent	147 57.9	S 36 29.1	
Menkar	314 06.0	N 04 11.4	Arcturus	145 48.0	N 19 04.0	
Mirfak	308 28.0	N 49 57.0	Rigel Kentaurus	139 38.3	S 60 56.4	
Aldebaran	290 39.5	N 16 33.7	Zubenelgenubi	136 56.5	S 16 08.6	
Capella	280 21.7	N 46 01.5	Kocab	137 20.9	N 74 03.1	
Rigel	281 03.7	S 08 10.2	Alphecca	126 04.3	N 26 37.9	
Bellatrix	278 22.7	N 06 22.4	Antares	112 16.5	S 26 29.2	
Elnath	278 01.8	N 28 37.8	Atria	107 11.3	S 69 04.4	
Alnilam	275 37.6	S 01 11.0	Sabik	102 03.3	S 15 45.4	
Betelgeuze	270 52.0	N 07 24.8	Shaula	96 10.9	S 37 07.3	
Canopus	263 52.1	S 52 42.2	Rasalhague	95 59.0	N 12 32.7	
Sirius	258 25.9	S 16 44.3	Etamin	90 42.7	N 51 29.3	
Adhara	255 05.8	S 29 00.1	Kaus Australis	83 33.0	S 34 22.4	
Castor	245 57.0	N 31 50.0	Vega	80 33.7	N 38 48.4	
Procyon	244 50.6	N 05 10.2	Nunki	75 48.2	S 26 16.0	
Pollux	243 17.0	N 27 58.0	Albireo	67 04.4	N 28 00.9	
Avior	234 14.6	S 59 35.0	Altair	62 00.4	N 08 56.0	
Suhail	222 46.4	S 43 31.6	Peacock	53 06.1	S 56 39.5	
Miaplacidus	221 38.1	S 69 48.8	Deneb	49 26.0	N 45 22.4	
Alphard	217 47.9	S 08 45.8	Enif	33 38.9	N 09 59.4	
Regulus	207 34.6	N 11 50.8				

2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

	day 321 of 366	day 322 of 366	day 323 of 366	day 324 of 366	day 325 of 366	
UT	November 16	November 17	November 18	November 19	November 20	UT
00	55 33.5 +02.5	56 32.7 +02.5	57 31.8 +02.5	58 31.0 +02.4	59 30.1 +02.5	00
01	70 36.0 +02.5	71 35.2 +02.4	72 34.3 +02.5	73 33.4 +02.5	74 32.6 +02.4	01
02	85 38.5 +02.4	86 37.6 +02.5	87 36.8 +02.4	88 35.9 +02.5	89 35.0 +02.5	02
03	100 40.9 +02.5	101 40.1 +02.4	102 39.2 +02.5	103 38.4 +02.4	104 37.5 +02.5	03
04	115 43.4 +02.5	116 42.5 +02.5	117 41.7 +02.4	118 40.8 +02.5	119 40.0 +02.4	04
05	130 45.9 +02.4	131 45.0 +02.5	132 44.1 +02.5	133 43.3 +02.5	134 42.4 +02.5	05
06	145 48.3 +02.5	146 47.5 +02.4	147 46.6 +02.5	148 45.8 +02.4	149 44.9 +02.5	06
07	160 50.8 +02.5	161 49.9 +02.5	162 49.1 +02.4	163 48.2 +02.5	164 47.4 +02.4	07
08	175 53.3 +02.4	176 52.4 +02.5	177 51.5 +02.5	178 50.7 +02.4	179 49.8 +02.5	08
09	190 55.7 +02.5	191 54.9 +02.4	192 54.0 +02.5	193 53.1 +02.5	194 52.3 +02.5	09
10	205 58.2 +02.5	206 57.3 +02.5	207 56.5 +02.4	208 55.6 +02.5	209 54.8 +02.4	10
11	221 00.7 +02.4	221 59.8 +02.5	222 58.9 +02.5	223 58.1 +02.4	224 57.2 +02.5	11
12	236 03.1 +02.5	237 02.3 +02.4	238 01.4 +02.5	239 00.5 +02.5	239 59.7 +02.4	12
13	251 05.6 +02.4	252 04.7 +02.5	253 03.9 +02.4	254 03.0 +02.5	255 02.1 +02.5	13
14	266 08.0 +02.5	267 07.2 +02.4	268 06.3 +02.5	269 05.5 +02.4	270 04.6 +02.5	14
15	281 10.5 +02.5	282 09.6 +02.5	283 08.8 +02.5	284 07.9 +02.5	285 07.1 +02.4	15
16	296 13.0 +02.4	297 12.1 +02.5	298 11.3 +02.4	299 10.4 +02.5	300 09.5 +02.5	16
17	311 15.4 +02.5	312 14.6 +02.4	313 13.7 +02.5	314 12.9 +02.4	315 12.0 +02.5	17
18	326 17.9 +02.5	327 17.0 +02.5	328 16.2 +02.4	329 15.3 +02.5	330 14.5 +02.4	18
19	341 20.4 +02.4	342 19.5 +02.5	343 18.6 +02.5	344 17.8 +02.5	345 16.9 +02.5	19
20	356 22.8 +02.5	357 22.0 +02.4	358 21.1 +02.5	359 20.3 +02.4	0 19.4 +02.5	20
21	11 25.3 +02.5	12 24.4 +02.5	13 23.6 +02.4	14 22.7 +02.5	15 21.9 +02.4	21
22	26 27.8 +02.4	27 26.9 +02.5	28 26.0 +02.5	29 25.2 +02.4	30 24.3 +02.5	22
23	41 30.2 +02.5	42 29.4 +02.4	43 28.5 +02.5	44 27.6 +02.5	45 26.8 +02.5	23

	day 326 of 366	day 327 of 366	day 328 of 366	day 329 of 366	day 330 of 366	
UT	November 21	November 22	November 23	November 24	November 25	UT
00	60 29.3 +02.4	61 28.4 +02.5	62 27.5 +02.5	63 26.7 +02.4	64 25.8 +02.5	00
01	75 31.7 +02.5	76 30.9 +02.4	77 30.0 +02.5	78 29.1 +02.5	79 28.3 +02.4	01
02	90 34.2 +02.4	91 33.3 +02.5	92 32.5 +02.4	93 31.6 +02.5	94 30.7 +02.5	02
03	105 36.6 +02.5	106 35.8 +02.4	107 34.9 +02.5	108 34.1 +02.4	109 33.2 +02.5	03
04	120 39.1 +02.5	121 38.2 +02.5	122 37.4 +02.4	123 36.5 +02.5	124 35.7 +02.4	04
05	135 41.6 +02.4	136 40.7 +02.5	137 39.8 +02.5	138 39.0 +02.5	139 38.1 +02.5	05
06	150 44.0 +02.5	151 43.2 +02.4	152 42.3 +02.5	153 41.5 +02.4	154 40.6 +02.5	06
07	165 46.5 +02.5	166 45.6 +02.5	167 44.8 +02.4	168 43.9 +02.5	169 43.1 +02.4	07
08	180 49.0 +02.4	181 48.1 +02.5	182 47.2 +02.5	183 46.4 +02.4	184 45.5 +02.5	08
09	195 51.4 +02.5	196 50.6 +02.4	197 49.7 +02.5	198 48.8 +02.5	199 48.0 +02.4	09
10	210 53.9 +02.5	211 53.0 +02.5	212 52.2 +02.4	213 51.3 +02.5	214 50.4 +02.5	10
11	225 56.4 +02.4	226 55.5 +02.5	227 54.6 +02.5	228 53.8 +02.4	229 52.9 +02.5	11
12	240 58.8 +02.5	241 58.0 +02.4	242 57.1 +02.5	243 56.2 +02.5	244 55.4 +02.4	12
13	256 01.3 +02.4	257 00.4 +02.5	257 59.6 +02.4	258 58.7 +02.5	259 57.8 +02.5	13
14	271 03.7 +02.5	272 02.9 +02.5	273 02.0 +02.5	274 01.2 +02.4	275 00.3 +02.5	14
15	286 06.2 +02.5	287 05.4 +02.4	288 04.5 +02.5	289 03.6 +02.5	290 02.8 +02.4	15
16	301 08.7 +02.4	302 07.8 +02.5	303 07.0 +02.4	304 06.1 +02.5	305 05.2 +02.5	16
17	316 11.1 +02.5	317 10.3 +02.4	318 09.4 +02.5	319 08.6 +02.4	320 07.7 +02.5	17
18	331 13.6 +02.5	332 12.7 +02.5	333 11.9 +02.4	334 11.0 +02.5	335 10.2 +02.4	18
19	346 16.1 +02.4	347 15.2 +02.5	348 14.3 +02.5	349 13.5 +02.4	350 12.6 +02.5	19
20	1 18.5 +02.5	2 17.7 +02.4	3 16.8 +02.5	4 15.9 +02.5	5 15.1 +02.5	20
21	16 21.0 +02.5	17 20.1 +02.5	18 19.3 +02.4	19 18.4 +02.5	20 17.6 +02.4	21
22	31 23.5 +02.4	32 22.6 +02.5	33 21.7 +02.5	34 20.9 +02.4	35 20.0 +02.5	22
23	46 25.9 +02.5	47 25.1 +02.4	48 24.2 +02.5	49 23.3 +02.5	50 22.5 +02.4	23

	SHA ° ,	Dec ° ,		SHA ° ,	Dec ° ,	
Alpheratz	357 34.8	N 29 13.9	Gienah	175 43.9	S 17 40.6	
Ankaa	353 07.1	S 42 10.2	Acrux	173 00.8	S 63 13.9	
Schedir	349 30.9	N 56 40.7	Gacrux	171 52.3	S 57 14.8	
Diphda	348 47.3	S 17 51.0	Alioth	166 13.6	N 55 49.4	
Achernar	335 19.8	S 57 06.7	Spica	158 22.7	S 11 17.3	
Hamal	327 51.1	N 23 35.0	Alkaid	152 52.5	N 49 11.3	
Polaris	313 38.4	N 89 22.2	Hadar	148 36.8	S 60 29.4	
Acamar	315 11.4	S 40 12.3	Menkent	147 57.9	S 36 29.1	
Menkar	314 06.0	N 04 11.4	Arcturus	145 48.0	N 19 04.0	
Mirfak	308 28.0	N 49 57.0	Rigel Kentaurus	139 38.3	S 60 56.3	
Aldebaran	290 39.5	N 16 33.7	Zubenelgenubi	136 56.5	S 16 08.6	
Capella	280 21.7	N 46 01.5	Kocab	137 20.9	N 74 03.1	
Rigel	281 03.7	S 08 10.2	Alphecca	126 04.3	N 26 37.9	
Bellatrix	278 22.7	N 06 22.4	Antares	112 16.5	S 26 29.2	
Elnath	278 01.7	N 28 37.8	Atria	107 11.3	S 69 04.3	
Alnilam	275 37.6	S 01 11.0	Sabik	102 03.3	S 15 45.4	
Betelgeuze	270 52.0	N 07 24.8	Shaula	96 10.9	S 37 07.3	
Canopus	263 52.1	S 52 42.3	Rasalhague	95 59.0	N 12 32.7	
Sirius	258 25.9	S 16 44.3	Etamin	90 42.7	N 51 29.2	
Adhara	255 05.7	S 29 00.1	Kaus Australis	83 33.0	S 34 22.4	
Castor	245 57.0	N 31 50.0	Vega	80 33.7	N 38 48.4	
Procyon	244 50.6	N 05 10.2	Nunki	75 48.2	S 26 16.0	
Pollux	243 16.9	N 27 57.9	Albireo	67 04.4	N 28 00.8	
Avior	234 14.6	S 59 35.0	Altair	62 00.5	N 08 56.0	
Suhail	222 46.3	S 43 31.6	Peacock	53 06.2	S 56 39.5	
Miaplacidus	221 38.0	S 69 48.8	Deneb	49 26.1	N 45 22.4	
Alphard	217 47.9	S 08 45.8	Enif	33 39.0	N 09 59.4	
Regulus	207 34.5	N 11 50.8	Alnair	27 33.1	S 46 50.6	
Dubhe	193 41.3	N 61 36.8	Formalhaut	15 14.7	S 29 29.5	
Denebola	182 25.1	N 14 26.1	Markab	13 30.0	N 15 20.5	

	SHA ° ,	Dec ° ,		SHA ° ,	Dec ° ,	
Alpheratz	357 34.8	N 29 13.9	Gienah	175 43.9	S 17 40.7	
Ankaa	353 07.1	S 42 10.2	Acrux	173 00.8	S 63 13.9	
Schedir	349 30.9	N 56 40.7	Gacrux	171 52.2	S 57 14.8	
Diphda	348 47.3	S 17 51.0	Alioth	166 13.6	N 55 49.3	
Achernar	335 19.8	S 57 06.7	Spica	158 22.7	S 11 17.3	
Hamal	327 51.1	N 23 35.0	Alkaid	152 52.5	N 49 11.2	
Polaris	313 38.0	N 89 22.2	Hadar	148 36.8	S 60 29.4	
Acamar	315 11.4	S 40 12.3	Menkent	147 57.8	S 36 29.1	
Menkar	314 06.0	N 04 11.4	Arcturus	145 47.9	N 19 04.0	
Mirfak	308 27.9	N 49 57.1	Rigel Kentaurus	139 38.2	S 60 56.3	
Aldebaran	290 39.4	N 16 33.7	Zubenelgenubi	136 56.4	S 16 08.6	
Capella	280 21.7	N 46 01.5	Kocab	137 20.9	N 74 03.0	
Rigel	281 03.7	S 08 10.3	Alphecca	126 04.3	N 26 37.9	
Bellatrix	278 22.7	N 06 22.4	Antares	112 16.5	S 26 29.2	
Elnath	278 01.7	N 28 37.8	Atria	107 11.3	S 69 04.3	
Alnilam	275 37.6	S 01 11.1	Sabik	102 03.3	S 15 45.4	
Betelgeuze	270 51.9	N 07 24.8	Shaula	96 10.9	S 37 07.3	
Canopus	263 52.0	S 52 42.3	Rasalhague	95 59.0	N 12 32.7	
Sirius	258 25.9	S 16 44.3	Etamin	90 42.7	N 51 29.2	
Adhara	255 05.7	S 29 00.1	Kaus Australis	83 33.0	S 34 22.4	
Castor	245 56.9	N 31 50.0	Vega	80 33.7	N 38 48.4	
Procyon	244 50.5	N 05 10.1	Nunki	75 48.2	S 26 16.0	
Pollux	243 16.9	N 27 57.9	Albireo	67 04.4	N 28 00.8	
Avior	234 14.5	S 59 35.0	Altair	62 00.5		

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2024 - First Point of Aries / Selected Stars

UT	day 351 of 366		day 352 of 366		day 353 of 366		day 354 of 366		day 355 of 366		UT	
	December 16		December 17		December 18		December 19		December 20			
	GHA	ddGHA		GHA	ddGHA		GHA	ddGHA		GHA	ddGHA	
00	85 07.7	+02.5		86 06.9	+02.4		87 06.0	+02.5		88 05.2	+02.4	00
01	100 10.2	+02.5		101 09.3	+02.5		102 08.5	+02.5		103 07.6	+02.5	01
02	115 12.7	+02.4		116 11.8	+02.5		117 11.0	+02.4		118 10.1	+02.5	02
03	130 15.1	+02.5		131 14.3	+02.4		132 13.4	+02.5		133 12.6	+02.4	03
04	145 17.6	+02.5		146 16.7	+02.5		147 15.9	+02.4		148 15.0	+02.5	04
05	160 20.1	+02.4		161 19.2	+02.5		162 18.3	+02.5		163 17.5	+02.4	05
06	175 22.5	+02.5		176 21.7	+02.4		177 20.8	+02.5		178 19.9	+02.5	06
07	190 25.0	+02.5		191 24.1	+02.5		192 23.3	+02.4		193 22.4	+02.5	07
08	205 27.5	+02.4		206 26.6	+02.5		207 25.7	+02.5		208 24.9	+02.4	08
09	220 29.9	+02.5		221 29.1	+02.4		222 28.2	+02.5		223 27.3	+02.5	09
10	235 32.4	+02.4		236 31.5	+02.5		237 30.7	+02.4		238 29.8	+02.5	10
11	250 34.8	+02.5		251 34.0	+02.5		252 33.1	+02.5		253 32.3	+02.4	11
12	265 37.3	+02.5		266 36.5	+02.4		267 35.6	+02.5		268 34.7	+02.5	12
13	280 39.8	+02.4		281 38.9	+02.5		282 38.1	+02.4		283 37.2	+02.5	13
14	295 42.2	+02.5		296 41.4	+02.4		297 40.5	+02.5		298 39.7	+02.4	14
15	310 44.7	+02.5		311 43.8	+02.5		312 43.0	+02.4		313 42.1	+02.5	15
16	325 47.2	+02.4		326 46.3	+02.5		327 45.4	+02.5		328 44.6	+02.5	16
17	340 49.6	+02.5		341 48.8	+02.4		342 47.9	+02.5		343 47.1	+02.4	17
18	355 52.1	+02.5		356 51.2	+02.5		357 50.4	+02.4		358 49.5	+02.5	18
19	10 54.6	+02.4		11 53.7	+02.5		12 52.8	+02.5		13 52.0	+02.4	19
20	25 57.0	+02.5		26 56.2	+02.4		27 55.3	+02.5		28 54.4	+02.5	20
21	40 59.5	+02.5		41 58.6	+02.5		42 57.8	+02.4		43 56.9	+02.5	21
22	56 02.0	+02.4		57 01.1	+02.5		58 00.2	+02.5		58 59.4	+02.4	22
23	71 04.4	+02.5		72 03.6	+02.4		73 02.7	+02.5		74 01.8	+02.5	23

UT	day 336 of 366		day 337 of 366		day 338 of 366		day 339 of 366		day 340 of 366		UT	
	December 1		December 2		December 3		December 4		December 5			
	GHA	ddGHA		GHA	ddGHA		GHA	ddGHA		GHA	ddGHA	
00	70 20.6	+02.5		71 19.8	+02.4		72 18.9	+02.5		73 18.1	+02.4	00
01	85 23.1	+02.5		86 22.2	+02.5		87 21.4	+02.4		88 20.5	+02.5	01
02	100 25.6	+02.4		101 24.7	+02.5		102 23.8	+02.5		103 23.0	+02.5	02
03	115 28.0	+02.5		116 27.2	+02.4		117 26.3	+02.5		118 25.5	+02.4	03
04	130 30.5	+02.5		131 29.6	+02.5		132 28.8	+02.4		133 27.9	+02.5	04
05	145 33.0	+02.4		146 32.1	+02.5		147 31.2	+02.5		148 30.4	+02.4	05
06	160 35.4	+02.5		161 34.6	+02.4		162 33.7	+02.5		163 32.8	+02.5	06
07	175 37.9	+02.5		176 37.0	+02.5		177 36.2	+02.4		178 35.3	+02.5	07
08	190 40.4	+02.4		191 39.5	+02.5		192 38.6	+02.5		193 37.8	+02.4	08
09	205 42.8	+02.5		206 42.0	+02.4		207 41.1	+02.5		208 40.2	+02.5	09
10	220 45.3	+02.4		221 44.4	+02.5		222 43.6	+02.4		223 42.7	+02.5	10
11	235 47.7	+02.5		236 46.9	+02.4		237 46.0	+02.5		238 45.2	+02.4	11
12	250 50.2	+02.5		251 49.3	+02.5		252 48.5	+02.5		253 47.6	+02.5	12
13	265 52.7	+02.4		266 51.8	+02.5		267 51.0	+02.4		268 50.1	+02.5	13
14	280 55.1	+02.5		281 54.3	+02.4		282 53.4	+02.5		283 52.6	+02.4	14
15	295 57.6	+02.5		296 56.7	+02.5		297 55.9	+02.4		298 55.0	+02.5	15
16	311 00.1	+02.4		311 59.2	+02.5		312 58.3	+02.5		313 57.5	+02.5	16
17	326 02.5	+02.5		327 01.7	+02.4		328 00.8	+02.5		329 00.0	+02.4	17
18	341 05.0	+02.5		342 04.1	+02.5		343 03.3	+02.4		344 02.4	+02.5	18
19	356 07.5	+02.4		357 06.6	+02.5		358 05.7	+02.5		359 04.9	+02.4	19
20	11 09.9	+02.5		12 09.1	+02.4		13 08.2	+02.5		14 07.3	+02.5	20
21	26 12.4	+02.5		27 11.5	+02.5		28 10.7	+02.4		29 09.8	+02.5	21
22	41 14.9	+02.4		42 14.0	+02.5		43 13.1	+02.5		44 12.3	+02.4	22
23	56 17.3	+02.5		57 16.5	+02.4		58 15.6	+02.5		59 14.7	+02.5	23

	SHA	Dec		SHA	Dec
	° ,	° ,		° ,	° ,
Alpheratz	357 34.9	N 29 13.9	Gienah	175 43.7	S 17 40.7
Ankaa	353 07.2	S 42 10.3	Acrux	173 00.3	S 63 13.9
Schedir	349 31.0	N 56 40.7	Gacrux	171 51.9	S 57 14.8
Diphda	348 47.3	S 17 51.1	Alioth	166 13.3	N 55 49.2
Achernar	335 20.0	S 57 06.8	Spica	158 22.5	S 11 17.4
Hamal	327 51.1	N 23 35.0	Alkaid	152 52.3	N 49 11.1
Polaris	313 40.7	N 89 22.4	Hadar	148 36.5	S 60 29.3
Acamar	315 11.4	S 40 12.4	Menket	147 57.6	S 36 29.1
Menkar	314 05.9	N 04 11.3	Arcturus	145 47.8	N 19 03.9
Mirfak	308 27.9	N 49 57.1	Rigel Kentaurus	139 38.0	S 60 56.3
Aldebaran	290 39.4	N 16 33.7	Zubenelgenubi	136 56.3	S 16 08.6
Capella	280 21.5	N 46 01.6	Kocab	137 20.6	N 74 03.0
Rigel	281 03.6	S 08 10.3	Alphecca	126 04.2	N 26 37.9
Bellatrix	278 22.6	N 06 22.4	Antares	112 16.4	S 26 29.2
Elnath	278 01.6	N 28 37.8	Atria	107 11.2	S 69 04.3
Alnilam	275 37.5	S 01 11.1	Sabik	102 03.2	S 15 45.4
Betelgeuze	270 51.8	N 07 24.7	Shaula	96 10.9	S 37 07.3
Canopus	263 51.9	S 52 42.4	Rasalhague	95 59.0	N 12 32.6
Sirius	258 25.7	S 16 44.4	Etamin	90 42.8	N 51 29.2
Adhara	255 05.5	S 29 00.2	Kaus Australis	83 33.0	S 34 22.4
Castor	245 56.7	N 31 50.0	Vega	80 33.8	N 38 48.4
Procyon	244 50.4	N 05 10.1	Nunki	75 48.2	S 26 16.0
Pollux	243 16.7	N 27 57.9	Albireo	67 04.5	N 28 00.8
Avior	234 14.3	S 59 35.1	Altair	62 00.5	N 08 55.9
Suhail	222 46.1	S 43 31.8	Peacock	53 06.3	S 56 39.5
Miplacidus	221 37.5	S 69 48.9	Deneb	49 26.2	N 45 22.3
Alphard	217 47.6	S 08 45.9	Enif	33 39.0	N 09 59.4
Regulus	207 34.3	N 11 50.7	Alnair	27 33.2	S 46 50.6
Dubhe	193 40.8	N 61 36.7	Formalhaut	15 14.8	S 29 29.5
Denebola	182 24.8	N 14 25.9	Markab	13 30.0	N 15 20.5

	SHA	Dec		SHA	Dec
	° ,	° ,		° ,	° ,
Alpheratz	357 34.8	N 29 13.9	Gienah	175 43.8	S 17 40.7
Ankaa	353 07.2	S 42 10.3	Acrux	173 00.6	S 63 13.9
Schedir	349 30.9	N 56 40.7	Gacrux	171 52.1	S 57 14.8
Diphda	348 47.3	S 17 51.1	Alioth	166 13.5	N 55 49.3
Achernar	335 19.9	S 57 06.8	Spica	158 22.6	S 11 17.4
Hamal	327 51.1	N 23 35.0	Alkaid	152 52.4	N 49 11.2
Polaris	313 38.6	N 89 22.3	Hadar	148 36.7	S 60 29.4
Acamar	315 11.4	S 40 12.3	Menket	147 57.8	S 36 29.1
Menkar	314 06.0	N 04 11.3	Arcturus	145 47.9	N 19 03.9
Mirfak	308 27.9	N 49 57.1	Rigel Kentaurus		

2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

UT	day 341 of 366		day 342 of 366		day 343 of 366		day 344 of 366		day 345 of 366		UT	
	GHA	ddGHA										
00	75	16.3	+02.5	76	15.5	+02.4	77	14.6	+02.5	78	13.8	+02.4
01	90	18.8	+02.5	91	17.9	+02.5	92	17.1	+02.4	93	16.2	+02.5
02	105	21.3	+02.4	106	20.4	+02.5	107	19.5	+02.5	108	18.7	+02.5
03	120	23.7	+02.5	121	22.9	+02.4	122	22.0	+02.5	123	21.2	+02.4
04	135	26.2	+02.5	136	25.3	+02.5	137	24.5	+02.4	138	23.6	+02.5
05	150	28.7	+02.4	151	27.8	+02.5	152	26.9	+02.5	153	26.1	+02.4
06	165	31.1	+02.5	166	30.3	+02.4	167	29.4	+02.5	168	28.5	+02.5
07	180	33.6	+02.5	181	32.7	+02.5	182	31.9	+02.4	183	31.0	+02.5
08	195	36.1	+02.4	196	35.2	+02.5	197	34.3	+02.5	198	33.5	+02.4
09	210	38.5	+02.5	211	37.7	+02.4	212	36.8	+02.5	213	35.9	+02.5
10	225	41.0	+02.4	226	40.1	+02.5	227	39.3	+02.4	228	38.4	+02.5
11	240	43.4	+02.5	241	42.6	+02.5	242	41.7	+02.5	243	40.9	+02.4
12	255	45.9	+02.5	256	45.1	+02.4	257	44.2	+02.5	258	43.3	+02.5
13	270	48.4	+02.4	271	47.5	+02.5	272	46.7	+02.4	273	45.8	+02.5
14	285	50.8	+02.5	286	50.0	+02.4	287	49.1	+02.5	288	48.3	+02.4
15	300	53.3	+02.5	301	52.4	+02.5	302	51.6	+02.4	303	50.7	+02.5
16	315	55.8	+02.4	316	54.9	+02.5	317	54.0	+02.5	318	53.2	+02.4
17	330	58.2	+02.5	331	57.4	+02.4	332	56.5	+02.5	333	55.6	+02.5
18	346	00.7	+02.5	346	59.8	+02.5	347	59.0	+02.4	348	58.1	+02.5
19	1	03.2	+02.4		2	02.3	+02.5		3	01.4	+02.5	
20	16	05.6	+02.5	17	04.8	+02.4	18	03.9	+02.5	19	03.0	+02.5
21	31	08.1	+02.5	32	07.2	+02.5	33	06.4	+02.4	34	05.5	+02.5
22	46	10.6	+02.4	47	09.7	+02.5	48	08.8	+02.5	49	08.0	+02.4
23	61	13.0	+02.5	62	12.2	+02.4	63	11.3	+02.5	64	10.4	+02.5

UT	day 346 of 366		day 347 of 366		day 348 of 366		day 349 of 366		day 350 of 366		UT	
	GHA	ddGHA										
00	80	12.0	+02.5	81	11.2	+02.4	82	10.3	+02.5	83	09.5	+02.4
01	95	14.5	+02.5	96	13.6	+02.5	97	12.8	+02.4	98	11.9	+02.5
02	110	17.0	+02.4	111	16.1	+02.5	112	15.2	+02.5	113	14.4	+02.4
03	125	19.4	+02.5	126	18.6	+02.4	127	17.7	+02.5	128	16.8	+02.5
04	140	21.9	+02.5	141	21.0	+02.5	142	20.2	+02.4	143	19.3	+02.5
05	155	24.4	+02.4	156	23.5	+02.5	157	22.6	+02.5	158	21.8	+02.4
06	170	26.8	+02.5	171	26.0	+02.4	172	25.1	+02.5	173	24.2	+02.4
07	185	29.3	+02.4	186	28.4	+02.5	187	27.6	+02.4	188	26.7	+02.5
08	200	31.7	+02.5	201	30.9	+02.5	202	30.0	+02.5	203	29.2	+02.4
09	215	34.2	+02.5	216	33.4	+02.4	217	32.5	+02.5	218	31.6	+02.4
10	230	36.7	+02.4	231	35.8	+02.5	232	35.0	+02.4	233	34.1	+02.5
11	245	39.1	+02.5	246	38.3	+02.4	247	37.4	+02.5	248	36.6	+02.4
12	260	41.6	+02.5	261	40.7	+02.5	262	39.9	+02.4	263	39.0	+02.5
13	275	44.1	+02.4	276	43.2	+02.5	277	42.3	+02.5	278	41.5	+02.5
14	290	46.5	+02.5	291	45.7	+02.4	292	44.8	+02.5	293	44.0	+02.4
15	305	49.0	+02.5	306	48.1	+02.5	307	47.3	+02.4	308	46.4	+02.5
16	320	51.5	+02.4	321	50.6	+02.5	322	49.7	+02.5	323	48.9	+02.4
17	335	53.9	+02.5	336	53.1	+02.4	337	52.2	+02.5	338	51.3	+02.5
18	350	56.4	+02.5	351	55.5	+02.5	352	54.7	+02.4	353	53.8	+02.5
19	5	58.9	+02.4	6	58.0	+02.5	7	57.1	+02.5	8	56.3	+02.4
20	21	01.3	+02.5	22	00.5	+02.4	22	59.6	+02.5	23	58.7	+02.5
21	36	03.8	+02.4	37	02.9	+02.5	38	02.1	+02.4	39	01.2	+02.5
22	51	06.2	+02.5	52	05.4	+02.5	53	04.5	+02.5	54	03.7	+02.4
23	66	08.7	+02.5	67	07.9	+02.4	68	07.0	+02.5	69	06.1	+02.5

	SHA	Dec		SHA	Dec						
	° ,	° ,		° ,	° ,						
Alpheratz	357	34.8	N	29	13.9	Gienah	175	43.7	S	17	40.7
Ankaa	353	07.2	S	42	10.3	Acrux	173	00.5	S	63	13.9
Schedir	349	30.9	N	56	40.7	Gacrux	171	52.1	S	57	14.8
Diphda	348	47.3	S	17	51.1	Alioth	166	13.4	N	55	49.2
Achernar	335	19.9	S	57	06.8	Spica	158	22.6	S	11	17.4
Hamal	327	51.1	N	23	35.0	Alkaid	152	52.3	N	49	11.1
Polaris	313	39.0	N	89	22.3	Hadar	148	36.6	S	60	29.3
Acamar	315	11.4	S	40	12.4	Menkent	147	57.7	S	36	29.1
Menkar	314	05.9	N	04	11.3	Arcturus	145	47.8	N	19	03.9
Mirfak	308	27.9	N	49	57.1	Rigel Kentaurus	139	38.0	S	60	56.3
Aldebaran	290	39.4	N	16	33.7	Zubenelgenubi	136	56.3	S	16	08.6
Capella	280	21.6	N	46	01.6	Kocab	137	20.7	N	74	02.9
Rigel	281	03.6	S	08	10.3	Alphecca	126	04.2	N	26	37.8
Bellatrix	278	22.6	N	06	22.4	Antares	112	16.4	S	26	29.2
Elnath	278	01.6	N	28	37.8	Atria	107	11.2	S	69	04.3
Alnilam	275	37.5	S	01	11.1	Sabik	102	03.2	S	15	45.4
Betelgeuze	270	51.9	N	07	24.7	Shaula	96	10.9	S	37	07.3
Canopus	263	51.9	S	52	42.4	Canopus	95	59.0	N	12	32.6
Sirius	258	25.8	S	16	44.4	Etamin	90	42.8	N	51	29.1
Adhara	255	05.6	S	29	00.2	Kaus Australis	83	33.0	S	34	22.3
Castor	245	56.8	N	31	50.0	Vega	80	33.8	N	38	48.3
Procyon	244	50.4	N	05	10.1	Nunki	75	48.2	S	26	16.0
Pollux	243	16.8	N	27	57.9	Albireo	67	04.5	N	28	00.8
Avior	234	14.4	S	59	35.1	Altair	62	00.5	N	08	55.9
Suhail	222	46.1	S	43	31.7	Peacock	53	06.3	S	56	39.4
Miaplacidus	221	37.7	S	69	48.9	Deneb	49	26.2	N	45	22.3
Alphard	217	47.7	S	08	45.9	Enif	33	39.0	N	09	59.4
Regulus	207	34.3	N	11	50.7	Alnair	27	33.2	S	46	50.6
Dubhe	193	41.0	N	61	36.7	Formalhaut	15	14.8	S	29	29.5
Denebola	182	24.9	N	14	26.0	Markab	13	30.0	N	15	20.5

	SHA	Dec		SHA	Dec						
	° ,	° ,		° ,	° ,						
Alpheratz	357	34.8	N	29	13.9	Gienah	175	43.7	S	17	40.7
Ankaa	353	07.2	S	42	10.3	Acrux	173	00.4	S	63	13.9
Schedir	349	31.0	N	56	40.7	Gacrux	171	52.0	S	57	14.8
Diphda	348	47.3	S	17	51.1	Alioth	166	13.4	N	55	49.2
Achernar	335	19.9	S	57	06.8	Spica	158	22.6	S	11	17.4
Hamal	327	51.1	N	23	35.0	Alkaid	152	52.3	N	49	11.1
Polaris	313										

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	day 356 of 366		day 357 of 366		day 358 of 366		day 359 of 366		day 360 of 366		
	December 21		December 22		December 23		December 24		December 25		
UT	GHA	ddGHA	UT								
00	90 03.4	+02.5	91 02.6	+02.4	92 01.7	+02.5	93 00.9	+02.4	93 60.0	+02.5	00
01	105 05.9	+02.5	106 05.0	+02.5	107 04.2	+02.4	108 03.3	+02.5	109 02.5	+02.4	01
02	120 08.4	+02.4	121 07.5	+02.5	122 06.6	+02.5	123 05.8	+02.4	124 04.9	+02.5	02
03	135 10.8	+02.5	136 10.0	+02.4	137 09.1	+02.5	138 08.2	+02.5	139 07.4	+02.4	03
04	150 13.3	+02.5	151 12.4	+02.5	152 11.6	+02.4	153 10.7	+02.5	154 09.8	+02.5	04
05	165 15.8	+02.4	166 14.9	+02.5	167 14.0	+02.5	168 13.2	+02.4	169 12.3	+02.5	05
06	180 18.2	+02.5	181 17.4	+02.4	182 16.5	+02.5	183 15.6	+02.5	184 14.8	+02.4	06
07	195 20.7	+02.5	196 19.8	+02.5	197 19.0	+02.4	198 18.1	+02.5	199 17.2	+02.5	07
08	210 23.2	+02.4	211 22.3	+02.5	212 21.4	+02.5	213 20.6	+02.4	214 19.7	+02.5	08
09	225 25.6	+02.5	226 24.8	+02.4	227 23.9	+02.5	228 23.0	+02.5	229 22.2	+02.4	09
10	240 28.1	+02.4	241 27.2	+02.5	242 26.4	+02.4	243 25.5	+02.5	244 24.6	+02.5	10
11	255 30.5	+02.5	256 29.7	+02.4	257 28.8	+02.5	258 28.0	+02.4	259 27.1	+02.5	11
12	270 33.0	+02.5	271 32.1	+02.5	272 31.3	+02.4	273 30.4	+02.5	274 29.6	+02.4	12
13	285 35.5	+02.4	286 34.6	+02.5	287 33.7	+02.5	288 32.9	+02.5	289 32.0	+02.5	13
14	300 37.9	+02.5	301 37.1	+02.4	302 36.2	+02.5	303 35.4	+02.4	304 34.5	+02.5	14
15	315 40.4	+02.5	316 39.5	+02.5	317 38.7	+02.4	318 37.8	+02.5	319 37.0	+02.4	15
16	330 42.9	+02.4	331 42.0	+02.5	332 41.1	+02.5	333 40.3	+02.4	334 39.4	+02.5	16
17	345 45.3	+02.5	346 44.5	+02.4	347 43.6	+02.5	348 42.7	+02.5	349 41.9	+02.4	17
18	0 47.8	+02.5	1 46.9	+02.5	2 46.1	+02.4	3 45.2	+02.5	4 44.3	+02.5	18
19	15 50.3	+02.4	16 49.4	+02.5	17 48.5	+02.5	18 47.7	+02.4	19 46.8	+02.5	19
20	30 52.7	+02.5	31 51.9	+02.4	32 51.0	+02.5	33 50.1	+02.5	34 49.3	+02.4	20
21	45 55.2	+02.5	46 54.3	+02.5	47 53.5	+02.4	48 52.6	+02.5	49 51.7	+02.5	21
22	60 57.7	+02.4	61 56.8	+02.5	62 55.9	+02.5	63 55.1	+02.4	64 54.2	+02.5	22
23	76 00.1	+02.5	76 59.3	+02.4	77 58.4	+02.5	78 57.5	+02.5	79 56.7	+02.4	23

	SHA	Dec		SHA	Dec
	° ,	° ,		° ,	° ,
Alpheratz	357 34.9	N 29 13.9	Gienah	175 43.6	S 17 40.7
Ankaa	353 07.2	S 42 10.3	Acrux	173 00.3	S 63 13.9
Schedir	349 31.0	N 56 40.8	Gacrux	171 51.9	S 57 14.8
Diphda	348 47.4	S 17 51.1	Alioth	166 13.2	N 55 49.2
Achernar	335 20.0	S 57 06.8	Spica	158 22.5	S 11 17.4
Hamal	327 51.1	N 23 35.0	Alkaid	152 52.2	N 49 11.1
Polaris	313 42.0	N 89 22.4	Hadar	148 36.4	S 60 29.3
Acamar	315 11.4	S 40 12.4	Menkent	147 57.6	S 36 29.1
Menkar	314 05.9	N 04 11.3	Arcturus	145 47.7	N 19 03.8
Mirfak	308 27.9	N 49 57.2	Rigel Kentaurus	139 37.9	S 60 56.3
Aldebaran	290 39.4	N 16 33.7	Zubenelgenubi	136 56.3	S 16 08.6
Capella	280 21.5	N 46 01.6	Kocab	137 20.6	N 74 02.9
Rigel	281 03.6	S 08 10.3	Alphecca	126 04.1	N 26 37.7
Bellatrix	278 22.6	N 06 22.4	Antares	112 16.4	S 26 29.2
Elnath	278 01.5	N 28 37.8	Atria	107 11.1	S 69 04.2
Alnilam	275 37.4	S 01 11.1	Sabik	102 03.2	S 15 45.4
Betelgeuze	270 51.8	N 07 24.7	Shaula	96 10.9	S 37 07.3
Canopus	263 51.9	S 52 42.4	Rasalhague	95 59.0	N 12 32.6
Sirius	258 25.7	S 16 44.5	Etamin	90 42.7	N 51 29.1
Adhara	255 05.5	S 29 00.3	Kaus Australis	83 33.0	S 34 22.3
Castor	245 56.7	N 31 50.0	Vega	80 33.8	N 38 48.3
Procyon	244 50.3	N 05 10.1	Nunki	75 48.2	S 26 16.0
Pollux	243 16.6	N 27 57.9	Albireo	67 04.5	N 28 00.7
Avior	234 14.2	S 59 35.2	Altair	62 00.5	N 08 55.9
Suhail	222 46.0	S 43 31.8	Peacock	53 06.3	S 56 39.4
Miplacidus	221 37.5	S 69 48.9	Deneb	49 26.2	N 45 22.3
Alphard	217 47.6	S 08 46.0	Enif	33 39.0	N 09 59.4
Regulus	207 34.2	N 11 50.7	Alnair	27 33.3	S 46 50.6
Dubhe	193 40.8	N 61 36.7	Formalhaut	15 14.8	S 29 29.5
Denebola	182 24.8	N 14 25.9	Markab	13 30.1	N 15 20.5

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2024 - First Point of Aries / Selected Stars

2024 - First Point of Aries / Selected Stars

	day 361 of 366	day 362 of 366	day 363 of 366	day 364 of 366	day 365 of 366			
UT	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	UT	
00	94 59.1	+02.5	95 58.3	+02.4	96 57.4	+02.5	97 56.6	+02.4
01	110 01.6	+02.5	111 00.7	+02.5	111 59.9	+02.4	112 59.0	+02.5
02	125 04.1	+02.4	126 03.2	+02.5	127 02.3	+02.5	128 01.5	+02.4
03	140 06.5	+02.5	141 05.7	+02.4	142 04.8	+02.5	143 03.9	+02.5
04	155 09.0	+02.5	156 08.1	+02.5	157 07.3	+02.4	158 06.4	+02.5
05	170 11.5	+02.4	171 10.6	+02.5	172 09.7	+02.5	173 08.9	+02.4
06	185 13.9	+02.5	186 13.1	+02.4	187 12.2	+02.5	188 11.3	+02.5
07	200 16.4	+02.4	201 15.5	+02.5	202 14.7	+02.4	203 13.8	+02.5
08	215 18.8	+02.5	216 18.0	+02.4	217 17.1	+02.5	218 16.3	+02.4
09	230 21.3	+02.5	231 20.4	+02.5	232 19.6	+02.5	233 18.7	+02.5
10	245 23.8	+02.4	246 22.9	+02.5	247 22.1	+02.4	248 21.2	+02.5
11	260 26.2	+02.5	261 25.4	+02.4	262 24.5	+02.5	263 23.7	+02.4
12	275 28.7	+02.5	276 27.8	+02.5	277 27.0	+02.4	278 26.1	+02.5
13	290 31.2	+02.4	291 30.3	+02.5	292 29.4	+02.5	293 28.6	+02.5
14	305 33.6	+02.5	306 32.8	+02.4	307 31.9	+02.5	308 31.1	+02.4
15	320 36.1	+02.5	321 35.2	+02.5	322 34.4	+02.4	323 33.5	+02.5
16	335 38.6	+02.4	336 37.7	+02.5	337 36.8	+02.5	338 36.0	+02.4
17	350 41.0	+02.5	351 40.2	+02.4	352 39.3	+02.5	353 38.4	+02.5
18	5 43.5	+02.5	6 42.6	+02.5	7 41.8	+02.4	8 40.9	+02.5
19	20 46.0	+02.4	21 45.1	+02.5	22 44.2	+02.5	23 43.4	+02.4
20	35 48.4	+02.5	36 47.6	+02.4	37 46.7	+02.5	38 45.8	+02.5
21	50 50.9	+02.4	51 50.0	+02.5	52 49.2	+02.4	53 48.3	+02.5
22	65 53.3	+02.5	66 52.5	+02.4	67 51.6	+02.5	68 50.8	+02.4
23	80 55.8	+02.5	81 54.9	+02.5	82 54.1	+02.5	83 53.2	+02.5

	SHA	Dec		SHA	Dec	
	° ,	° ,		° ,	° ,	
Alpheratz	357 34.9	N 29 13.9	Gienah	175 43.6	S 17 40.8	
Ankaa	353 07.3	S 42 10.3	Acrux	173 00.2	S 63 13.9	
Schedir	349 31.1	N 56 40.8	Gacrux	171 51.8	S 57 14.8	
Diphda	348 47.4	S 17 51.1	Alioth	166 13.2	N 55 49.2	
Achernar	335 20.0	S 57 06.8	Spica	158 22.4	S 11 17.4	
Hamal	327 51.1	N 23 35.0	Alkaid	152 52.2	N 49 11.1	
Polaris	313 43.6	N 89 22.4	Hadar	148 36.4	S 60 29.3	
Acamar	315 11.5	S 40 12.4	Menkent	147 57.5	S 36 29.1	
Menkar	314 06.0	N 04 11.3	Arcturus	145 47.7	N 19 03.8	
Mirfak	308 27.9	N 49 57.2	Rigel Kentaurus	139 37.8	S 60 56.3	
Aldebaran	290 39.4	N 16 33.7	Zubenelgenubi	136 56.2	S 16 08.6	
Capella	280 21.5	N 46 01.6	Kocab	137 20.5	N 74 02.8	
Rigel	281 03.6	S 08 10.4	Alphecca	126 04.1	N 26 37.7	
Bellatrix	278 22.6	N 06 22.4	Antares	112 16.3	S 26 29.2	
Elnath	278 01.5	N 28 37.8	Atria	107 11.1	S 69 04.2	
Alnilam	275 37.4	S 01 11.1	Sabik	102 03.2	S 15 45.4	
Betelgeuze	270 51.8	N 07 24.7	Shaula	96 10.8	S 37 07.3	
Canopus	263 51.9	S 52 42.5	Rasalhague	95 59.0	N 12 32.5	
Sirius	258 25.7	S 16 44.5	Etamin	90 42.7	N 51 29.0	
Adhara	255 05.5	S 29 00.3	Kaus Australis	83 33.0	S 34 22.3	
Castor	245 56.7	N 31 50.0	Vega	80 33.8	N 38 48.2	
Procyon	244 50.3	N 05 10.1	Nunki	75 48.2	S 26 16.0	
Pollux	243 16.6	N 27 57.9	Albireo	67 04.5	N 28 00.7	
Avior	234 14.2	S 59 35.2	Altair	62 00.5	N 08 55.9	
Suhail	222 46.0	S 43 31.8	Peacock	53 06.3	S 56 39.4	
Miplacidus	221 37.4	S 69 48.9	Deneb	49 26.2	N 45 22.2	
Alphard	217 47.6	S 08 46.0	Enif	33 39.1	N 09 59.4	
Regulus	207 34.2	N 11 50.6	Alnair	27 33.3	S 46 50.6	
Dubhe	193 40.7	N 61 36.7	Formalhaut	15 14.8	S 29 29.5	
Denebola	182 24.8	N 14 25.9	Markab	13 30.1	N 15 20.5	

	day 366 of 366							
	December 26	December 27	December 28					
UT	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	UT	
00	99 54.8	+02.5	95 58.3	+02.4	96 57.4	+02.5	97 56.6	+02.4
01	114 57.3	+02.5	111 00.7	+02.5	112 59.9	+02.4	113 58.2	+02.4
02	129 59.8	+02.4	126 03.2	+02.5	127 02.3	+02.5	128 01.5	+02.4
03	145 02.2	+02.5	141 05.7	+02.4	142 04.8	+02.5	143 03.9	+02.5
04	160 04.7	+02.5	155 09.0	+02.5	156 08.1	+02.5	157 07.3	+02.4
05	175 07.2	+02.4	170 11.5	+02.4	171 10.6	+02.5	172 09.7	+02.5
06	190 09.6	+02.5	185 13.9	+02.5	186 13.1	+02.4	187 12.2	+02.4
07	205 12.1	+02.4	200 16.4	+02.4	201 15.5	+02.5	202 14.7	+02.4
08	220 14.5	+02.5	215 18.8	+02.5	216 18.0	+02.4	217 17.1	+02.5
09	235 17.0	+02.5	230 21.3	+02.5	231 20.4	+02.5	232 19.6	+02.5
10	250 19.5	+02.4	245 23.8	+02.4	246 22.9	+02.5	247 22.1	+02.4
11	265 21.9	+02.5	260 26.2	+02.5	261 25.4	+02.4	262 24.5	+02.5
12	280 24.4	+02.5	275 28.7	+02.5	276 27.8	+02.5	277 27.0	+02.4
13	295 26.9	+02.4	290 31.2	+02.4	291 30.3	+02.5	292 29.4	+02.5
14	310 29.3	+02.5	305 33.6	+02.5	306 32.8	+02.4	307 31.9	+02.5
15	325 31.8	+02.5	320 36.1	+02.5	321 35.2	+02.5	322 34.4	+02.4
16	340 34.3	+02.4	335 38.6	+02.4	336 37.7	+02.5	337 36.8	+02.5
17	355 36.7	+02.5	350 41.0	+02.5	351 40.2	+02.4	352 39.3	+02.5
18	10 39.2	+02.5	9 43.5	+02.5	10 42.6	+02.5	11 41.8	+02.4
19	25 41.7	+02.4	24 46.0	+02.4	25 45.1	+02.5	26 44.2	+02.5
20	40 44.1	+02.5	35 48.4	+02.5	36 47.6	+02.4	37 46.7	+02.5
21	55 46.6	+02.4	50 50.9	+02.4	51 50.0	+02.5	52 49.2	+02.4
22	70 49.0	+02.5	65 53.3	+02.5	66 52.5	+02.4	67 51.6	+02.5
23	85 51.5	+02.5	80 55.8	+02.5	81 54.9	+02.5	82 54.1	+02.5

	SHA	Dec		SHA	Dec	
	° ,	° ,		° ,	° ,	
Alpheratz	357 34.9	N 29 13.9	Gienah	175 43.5	S 17 40.8	
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Schedir	349 31.1	N 56 40.8	Gacrux	171 51.7	S 57 14.8	
Diphda	348 47.4	S 17 51.1	Alioth	166 13.1	N 55 49.1	
Achernar	335 20.1	S 57 06.8	Spica	158 22.4	S 11 17.5	
Hamal	327 51.1	N 23 35.0	Alkaid	152 52.1	N 49 11.0	
Polaris	313 44.9	N 89 22.4	Hadar	148 36.3	S 60 29.3	
Acamar	315 11.5	S 40 12.4	Menkent	147 57.5	S 36 29.1	
Menkar	314 06.0	N 04 11.3	Arcturus	145 47.7	N 19 03.8	
Mirfak	308 27.9	N 49 57.2	Rigel Kentaurus	139 37.8	S 60 56.3	
Aldebaran	290 39.4	N 16 33.7	Zubenelgenubi	136 56.2	S 16 08.7	
Capella	280 21.5	N 46 01.6	Kocab	137 20.4	N 74 02.8	
Rigel	281 03.6	S 08 10.4	Alphecca	126 04.1	N 26 37.7	
Bellatrix	278 22.6	N 06 22.4	Antares	112 16.3	S 26 29.2	
Elnath	278 01.5	N 28 37.8	Atria	107 11.0	S 69 04.2	
Alnilam	275 37.4	S 01 11.2	Sabik	102 03.1	S 15 45.4	
Betelgeuze	270 51.8	N 07 24.7	Shaula	96 10.8	S 37 07.3	
Canopus	263 51.9	S 52 42.5	Rasalhague	95 58.9	N 12 32.5	
Sirius	258 25.7	S 16 44.5	Etamin	90 42.7	N 51 29.0	
Adhara	255 05.5	S 29 00.3	Kaus Australis	83 32.9	S 34 22.3	
Castor	245 56.6	N 31 50.0	Vega	80 33.8	N 38 48.2	
Procyon	244 50.3	N 05 10.0	Nunki	75 48.2	S 26 16.0	
Pollux	243 16.6	N 27 57.9	Albireo	67 04.5	N 28 00.7	
Avior	234 14.2	S 59 35.2	Altair	62 00.5	N 08 55.9	
Suhail	222 45.9	S 43 31.8	Peacock	53 06.3	S 56 39.4	
Miplacidus	221 37.4	S 69 49.0	Deneb	49 26.2	N 45 22.2	
Alphard	217 47.5	S 08 46.0	Enif	33 39.1	N 09 59.4	
Regulus	207 34.1	N 11 50.6	Alnair	27 33.3	S 46 50.6	
Dubhe	193 40.6	N 61 36.7	Formalhaut	15 14.8	S 29 29.5	
Denebola	182 24.7	N 14 25.9	Markab	13 30.1	N 15 20.5	

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Polaris (Pole Star) Tables, 2024

For determining Latitude from Sextant Altitude and for Azimuth

LHA ARIES	120° - 129°	130° - 139°	140° - 149°	150° - 159°	160° - 169°	170° - 179°	180° - 189°	190° - 199°	200° - 209°	210° - 219°	220° - 229°	230° - 239°
	a0 .											
0	0 48.7	0 55.2	1 01.8	1 08.4	1 14.6	1 20.4	1 25.5	1 29.8	1 33.2	1 35.5	1 36.8	1 36.9
1	0 49.4	0 55.9	1 02.5	1 09.0	1 15.2	1 20.9	1 26.0	1 30.2	1 33.5	1 35.7	1 36.8	1 36.8
2	0 50.0	0 56.5	1 03.2	1 09.6	1 15.8	1 21.5	1 26.4	1 30.6	1 33.8	1 35.9	1 36.9	1 36.7
3	0 50.6	0 57.2	1 03.8	1 10.3	1 16.4	1 22.0	1 26.9	1 30.9	1 34.0	1 36.0	1 36.9	1 36.7
4	0 51.3	0 57.9	1 04.5	1 10.9	1 17.0	1 22.5	1 27.3	1 31.3	1 34.3	1 36.2	1 36.9	1 36.6
5	0 51.9	0 58.5	1 05.1	1 11.5	1 17.6	1 23.0	1 27.8	1 31.6	1 34.5	1 36.3	1 37.0	1 36.5
6	0 52.6	0 59.2	1 05.8	1 12.2	1 18.1	1 23.5	1 28.2	1 32.0	1 34.7	1 36.4	1 37.0	1 36.4
7	0 53.2	0 59.9	1 06.4	1 12.8	1 18.7	1 24.0	1 28.6	1 32.3	1 35.0	1 36.5	1 37.0	1 36.2
8	0 53.9	1 00.5	1 07.1	1 13.4	1 19.3	1 24.5	1 29.0	1 32.6	1 35.2	1 36.6	1 36.9	1 36.1
9	0 54.6	1 01.2	1 07.7	1 14.0	1 19.8	1 25.0	1 29.4	1 32.9	1 35.4	1 36.7	1 36.9	1 35.9
Lat.	a1 ,											
10	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.6	0.6	0.5
20	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.5
30	0.9	1.0	1.0	0.9	0.9	0.9	0.8	0.7	0.7	0.6	0.6	0.5
40	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8	0.7	0.6	0.6	0.5
45	1.0	1.0	1.0	1.0	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.5
50	1.1	1.1	1.1	1.1	1.0	0.9	0.9	0.8	0.7	0.6	0.6	0.5
55	1.1	1.1	1.1	1.1	1.0	1.0	0.9	0.8	0.7	0.6	0.6	0.5
60	1.2	1.2	1.2	1.1	1.1	1.0	0.9	0.8	0.7	0.6	0.6	0.5
62	1.2	1.2	1.2	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.6	0.5
64	1.2	1.3	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.6	0.5
66	1.3	1.3	1.3	1.2	1.2	1.1	0.9	0.8	0.7	0.6	0.6	0.5
68	1.3	1.3	1.3	1.3	1.2	1.1	1.0	0.8	0.7	0.6	0.6	0.5
70	1.4	1.4	1.4	1.3	1.2	1.1	1.0	0.9	0.7	0.6	0.6	0.5
Month	a2 ,											
Jan	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5
Feb	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Mar	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3
Apr	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.3
May	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.5	0.4	0.4
Jun	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.5
Jul	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7
Aug	0.5	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8
Sep	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.7	0.8	0.8	0.8
Oct	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7
Nov	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.6
Dec	0.0	0.0	-0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.4
Lat.	Zo .											
10	359.4	359.4	359.4	359.4	359.4	359.5	359.6	359.7	359.8	359.9	360.0	0.1
20	359.3	359.3	359.3	359.4	359.4	359.5	359.6	359.7	359.8	359.9	360.0	0.1
30	359.3	359.3	359.3	359.3	359.4	359.4	359.5	359.6	359.7	359.9	360.0	0.1
40	359.2	359.2	359.2	359.3	359.4	359.5	359.6	359.7	359.8	360.0	0.1	
45	359.1	359.1	359.1	359.2	359.2	359.3	359.4	359.5	359.7	359.8	360.0	0.1
50	359.0	359.0	359.0	359.1	359.1	359.2	359.4	359.5	359.7	359.8	360.0	0.2
55	358.9	358.9	358.9	358.9	359.0	359.2	359.3	359.4	359.6	359.8	360.0	0.2
60	358.8	358.7	358.7	358.8	358.8	358.9	359.0	359.2	359.4	359.8	360.0	0.2
62	358.7	358.7	358.7	358.7	358.8	358.9	359.0	359.1	359.3	359.5	360.0	0.2
64	358.6	358.6	358.6	358.6	358.8	358.9	359.1	359.3	359.5	359.7	360.0	0.2
66	358.5	358.4	358.5	358.5	358.7	358.8	359.0	359.2	359.5	359.7	360.0	0.2
68	358.3	358.3	358.3	358.4	358.5	358.7	358.9	359.2	359.4	359.7	360.0	0.3
70	358.2	358.2	358.2	358.3	358.4	358.6	358.8	359.1	359.4	359.7	360.0	0.3

$$\text{Latitude} = \text{Apparent Altitude (corrected for refraction and dip)} - 1^\circ + a_0 + a_1 + a_2$$

To determine Latitude, the table is entered with LHA Aries, which is obtained by addition of the observer's Longitude and the GHA Aries from the daily pages of this Almanac. The value of LHA Aries determines which column of the Polaris Tables to be used. Each column refers to a range of 10° of LHA. The value a_0 is taken with mental interpolation (taking into account the fractional part of LHA Aries), from the upper table with the units of LHA Aries in degrees as argument. The values of a_1 and a_2 are taken, without interpolation, from the second and third table with arguments Latitude and Month respectively. The correction terms a_0 , a_1 and a_2 are always positive. The final table gives the Azimuth of Polaris.

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Polaris (Pole Star) Tables, 2024

For determining Latitude from Sextant Altitude and for Azimuth

LHA ARIES	000° - 009°	010° - 019°	020° - 029°	030° - 039°	040° - 049°	050° - 059°	060° - 069°	070° - 079°	080° - 089°	090° - 099°	100° - 109°	110° - 119°
	a0 ° ,											
0	0 32.5	0 28.2	0 24.8	0 22.5	0 21.2	0 21.1	0 22.2	0 24.4	0 27.6	0 31.8	0 36.8	0 42.5
1	0 32.0	0 27.8	0 24.5	0 22.3	0 21.2	0 21.2	0 22.4	0 24.7	0 28.0	0 32.3	0 37.4	0 43.1
2	0 31.6	0 27.4	0 24.2	0 22.1	0 21.1	0 21.3	0 22.6	0 25.0	0 28.4	0 32.8	0 37.9	0 43.7
3	0 31.1	0 27.1	0 24.0	0 22.0	0 21.1	0 21.3	0 22.8	0 25.3	0 28.8	0 33.2	0 38.5	0 44.3
4	0 30.7	0 26.7	0 23.7	0 21.8	0 21.1	0 21.4	0 23.0	0 25.6	0 29.2	0 33.7	0 39.0	0 45.0
5	0 30.2	0 26.4	0 23.5	0 21.7	0 21.0	0 21.5	0 23.2	0 25.9	0 29.6	0 34.2	0 39.6	0 45.6
6	0 29.8	0 26.0	0 23.3	0 21.6	0 21.0	0 21.6	0 23.4	0 26.2	0 30.0	0 34.7	0 40.2	0 46.2
7	0 29.4	0 25.7	0 23.0	0 21.5	0 21.0	0 21.8	0 23.6	0 26.6	0 30.5	0 35.3	0 40.8	0 46.8
8	0 29.0	0 25.4	0 22.8	0 21.4	0 21.1	0 21.9	0 23.9	0 26.9	0 30.9	0 35.8	0 41.3	0 47.4
9	0 28.6	0 25.1	0 22.6	0 21.3	0 21.1	0 22.1	0 24.1	0 27.3	0 31.4	0 36.3	0 41.9	0 48.1
Lat.	a1 ,											
10	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.8
20	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.8	0.8	0.9
30	0.3	0.3	0.4	0.4	0.4	0.5	0.6	0.6	0.7	0.8	0.8	0.9
40	0.3	0.3	0.4	0.4	0.4	0.5	0.6	0.7	0.7	0.8	0.9	0.9
45	0.3	0.3	0.4	0.4	0.4	0.5	0.6	0.7	0.8	0.8	0.9	1.0
50	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.8	0.9	0.9	1.0
55	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1
60	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1
62	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.8	0.9	1.1	1.1
64	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.8	1.0	1.1	1.2
66	0.5	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.9	1.0	1.1	1.2
68	0.5	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.9	1.0	1.1	1.3
70	0.5	0.4	0.4	0.4	0.4	0.5	0.6	0.8	0.9	1.1	1.2	1.3
Month	a2 ,											
Jan	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3
Feb	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.5
Mar	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6
Apr	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.7
May	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8
Jun	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8
Jul	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6
Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.5
Sep	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
Oct	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Nov	0.7	0.6	0.6	0.5	0.5	0.4	0.3	0.3	0.2	0.2	0.1	0.1
Dec	0.8	0.8	0.8	0.7	0.6	0.6	0.5	0.4	0.3	0.2	0.1	0.1
Lat.	Zo ° ,											
10	0.4	0.3	0.2	0.1	0.0	359.9	359.8	359.7	359.6	359.5	359.4	359.4
20	0.4	0.3	0.2	0.1	0.0	359.9	359.8	359.7	359.6	359.5	359.4	359.4
30	0.5	0.4	0.3	0.1	0.0	359.9	359.8	359.6	359.5	359.4	359.4	359.3
40	0.5	0.4	0.3	0.2	0.0	359.9	359.7	359.6	359.5	359.4	359.4	359.2
45	0.6	0.5	0.3	0.2	0.0	359.9	359.7	359.6	359.4	359.3	359.2	359.2
50	0.6	0.5	0.4	0.2	0.0	359.8	359.7	359.5	359.4	359.2	359.1	359.1
55	0.7	0.6	0.4	0.2	0.0	359.8	359.6	359.5	359.3	359.2	359.0	359.0
60	0.8	0.7	0.5	0.2	0.0	359.8	359.6	359.4	359.2	359.0	358.9	358.8
62	0.9	0.7	0.5	0.3	0.0	359.8	359.5	359.3	359.1	359.0	358.8	358.7
64	1.0	0.8	0.5	0.3	0.0	359.8	359.5	359.3	359.1	358.9	358.7	358.6
66	1.0	0.8	0.6	0.3	0.0	359.7	359.5	359.2	359.0	358.8	358.6	358.5
68	1.1	0.9	0.6	0.3	0.0	359.7	359.4	359.2	358.9	358.7	358.5	358.4
70	1.2	1.0	0.7	0.4	0.0	359.7	359.4	359.1	358.8	358.6	358.4	358.3

Latitude = Apparent Altitude (corrected for refraction and dip) - 1° + a0 + a1 + a2

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Polaris (Pole Star) Tables, 2024

For determining Latitude from Sextant Altitude and for Azimuth

LHA ARIES	240° - 249°	250° - 259°	260° - 269°	270° - 279°	280° - 289°	290° - 299°	300° - 309°	310° - 319°	320° - 329°	330° - 339°	340° - 349°	350° - 359°
	a0 ° ,											
0	1 35.8	1 33.6	1 30.4	1 26.2	1 21.2	1 15.5	1 09.3	1 02.8	0 56.2	0 49.6	0 43.4	0 37.6
1	1 35.6	1 33.3	1 30.0	1 25.7	1 20.6	1 14.9	1 08.6	1 02.1	0 55.5	0 49.0	0 42.8	0 37.1
2	1 35.4	1 33.0	1 29.6	1 25.2	1 20.1	1 14.3	1 08.0	1 01.5	0 54.8	0 48.4	0 42.2	0 36.5
3	1 35.2	1 32.7	1 29.2	1 24.8	1 19.5	1 13.7	1 07.4	1 00.8	0 54.2	0 47.7	0 41.6	0 36.0
4	1 35.0	1 32.4	1 28.8	1 24.3	1 19.0	1 13.0	1 06.7	1 00.1	0 53.5	0 47.1	0 41.0	0 35.5
5	1 34.8	1 32.1	1 28.4	1 23.8	1 18.4	1 12.4	1 06.1	0 59.5	0 52.9	0 46.5	0 40.4	0 35.0
6	1 34.6	1 31.8	1 28.0	1 23.3	1 17.8	1 11.8	1 05.4	0 58.8	0 52.2	0 45.8	0 39.9	0 34.5
7	1 34.4	1 31.4	1 27.5	1 22.7	1 17.2	1 11.2	1 04.8	0 58.1	0 51.6	0 45.2	0 39.3	0 34.0
8	1 34.1	1 31.1	1 27.1	1 22.2	1 16.7	1 10.6	1 04.1	0 57.5	0 50.9	0 44.6	0 38.7	0 33.5
9	1 33.9	1 30.7	1 26.6	1 21.7	1 16.1	1 09.9	1 03.4	0 56.8	0 50.3	0 44.0	0 38.2	0 33.0
Lat.	a1 ,											
10	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
20	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3
30	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
40	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3
45	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3
50	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
55	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4
60	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4
62	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.5
64	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5
66	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5
68	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.5
70	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6
Month	a2 ,											
Jan	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Feb	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6
Mar	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.5
Apr	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.4
May	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
Jun	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Jul	0.6	0.5	0.5	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1
Aug	0.7	0.7	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.2
Sep	0.8	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.4	0.4	0.3	0.3
Oct	0.7	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.5	0.5
Nov	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7
Dec	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	0.9	0.9	0.9
Lat.	Zo ° ,											
10	0.2	0.3	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5
20	0.2	0.3	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.5
30	0.2	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.6
40	0.3	0.4	0.5	0.6	0.7	0.8	0.8	0.8	0.8	0.8	0.7	0.6
45	0.3	0.4	0.6	0.7	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.7
50	0.3	0.5	0.6	0.7	0.8	0.9	1.0	1.0	1.0	1.0	0.9	0.8
55	0.4	0.5	0.7	0.8	0.9	1.0	1.1	1.1	1.1	1.1	1.0	0.9
60	0.4	0.6	0.8	0.9	1.1	1.2	1.2	1.3	1.3	1.2	1.1	1.0
62	0.4	0.6	0.8	1.0	1.1	1.3	1.3	1.3	1.3	1.2	1.1	1.1
64	0.5	0.7	0.9	1.1	1.2	1.3	1.4	1.4	1.4	1.4	1.3	1.1
66	0.5	0.7	1.0	1.2	1.3	1.4	1.5	1.6	1.5	1.5	1.4	1.2
68	0.5	0.8	1.0	1.3	1.4	1.6	1.7	1.7	1.7	1.6	1.5	1.3
70	0.6	0.9	1.1	1.4	1.6	1.7	1.8	1.8	1.8	1.8	1.6	1.5

Latitude = Apparent Altitude (corrected for refraction and dip) - 1° + a0 + a1 + a2

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