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Nautical Almanac (Selected Stars)

2021

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Star Maps
The Nautical Almanac 2021 (Selected Stars)
Polaris Tables 2021

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 Sep 2 17:54:02 2020

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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 : 69.4 s	Apr : 69.4 s	Jul : 69.4 s	Oct : 69.4 s
Feb : 69.4 s	May : 69.4 s	Aug : 69.4 s	Nov : 69.4 s
Mar : 69.4 s	Jun : 69.4 s	Sep : 69.4 s	Dec : 69.4 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 Greenwhich 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/"*

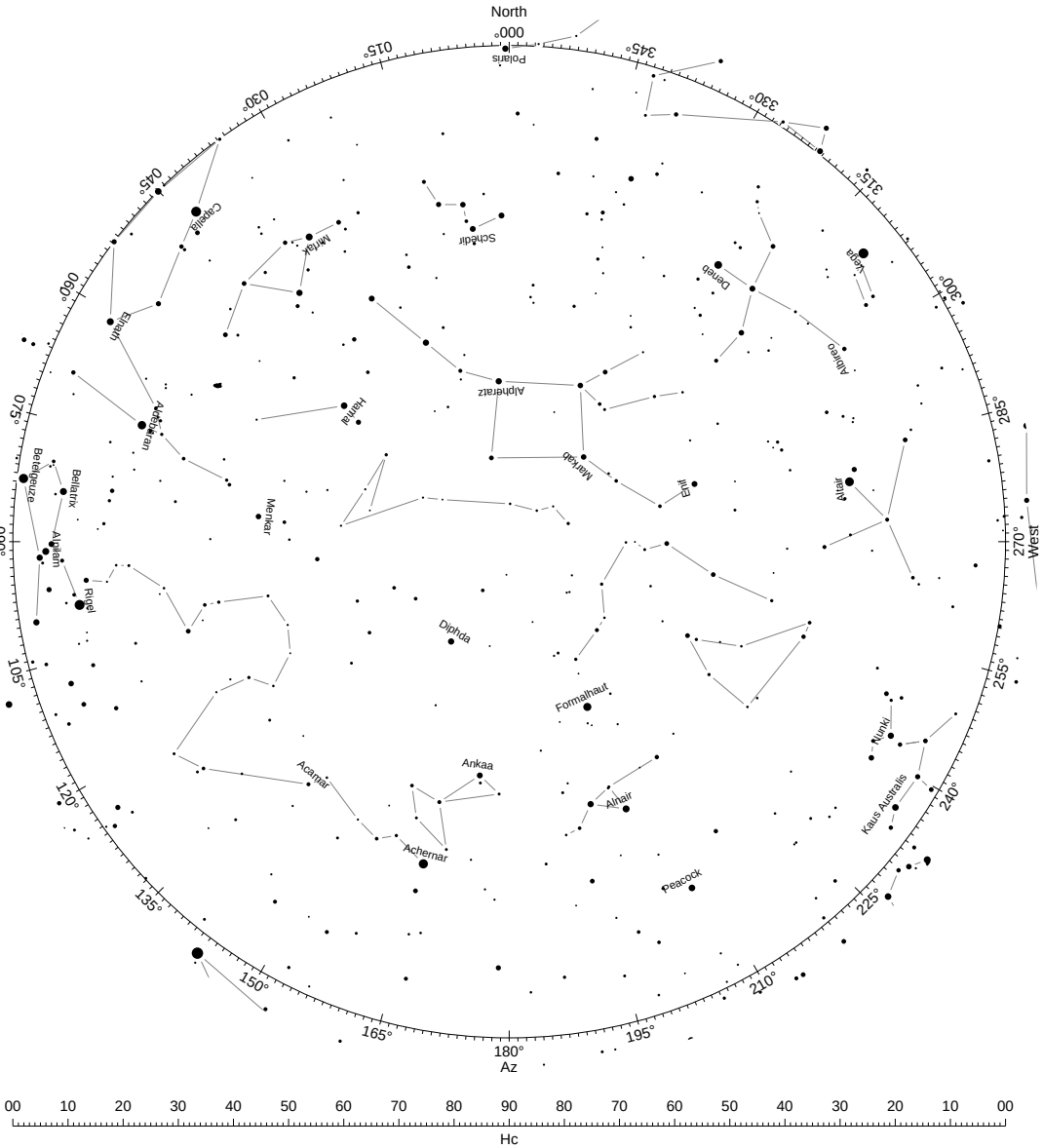
The following table shows the fundamental star data as used in this Almanac. The data refers to Equinox J2000 / Epoch J2000.0.

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

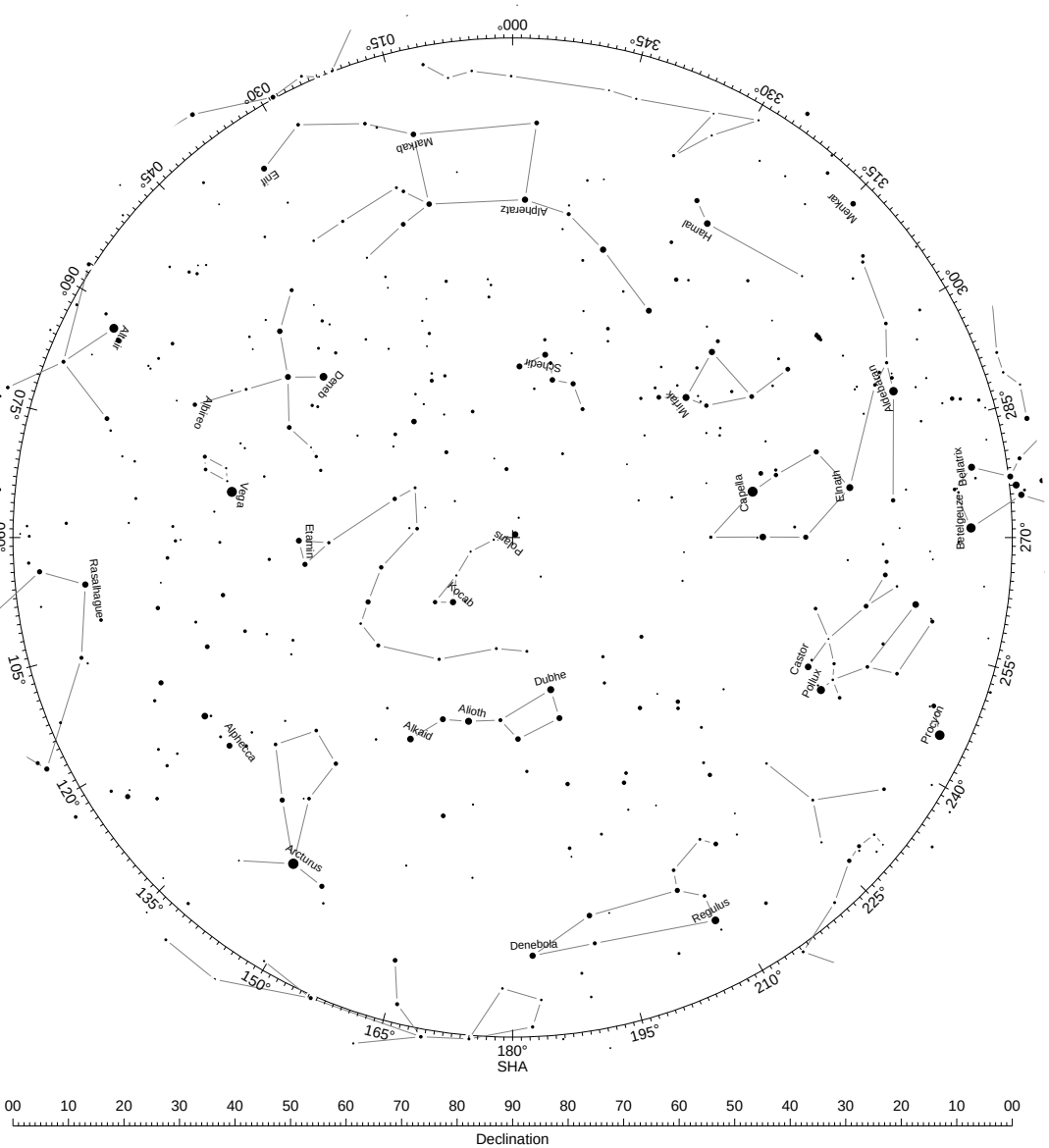


The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth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

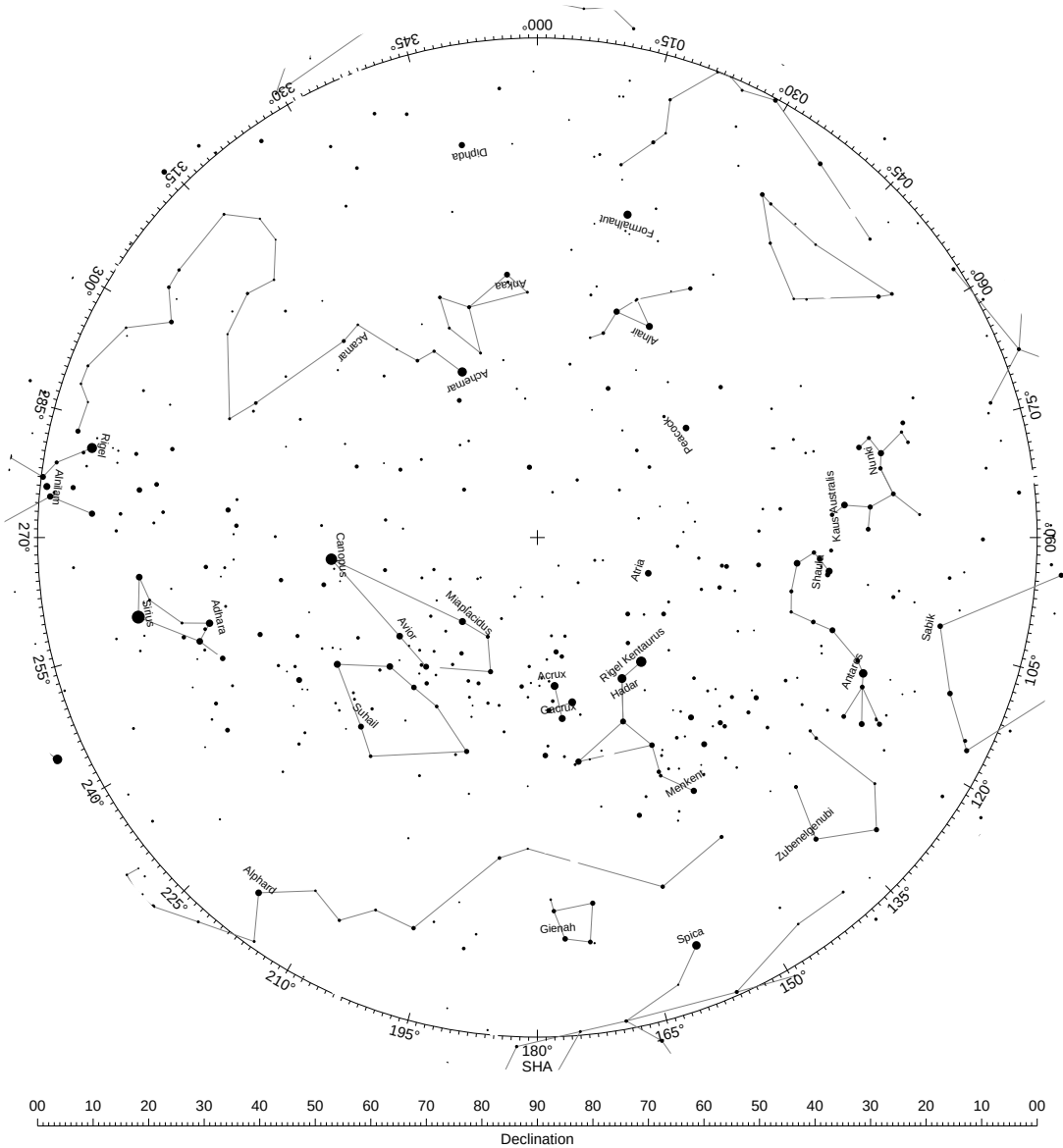
The following pages show different maps of the brightest stars on the night sky (down to magnitude 4.5) as well as some of the standard constellations. On each of the maps, the stars used in this Almanac are labeled with their traditional names.
The first two maps are stereographic maps of the stars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



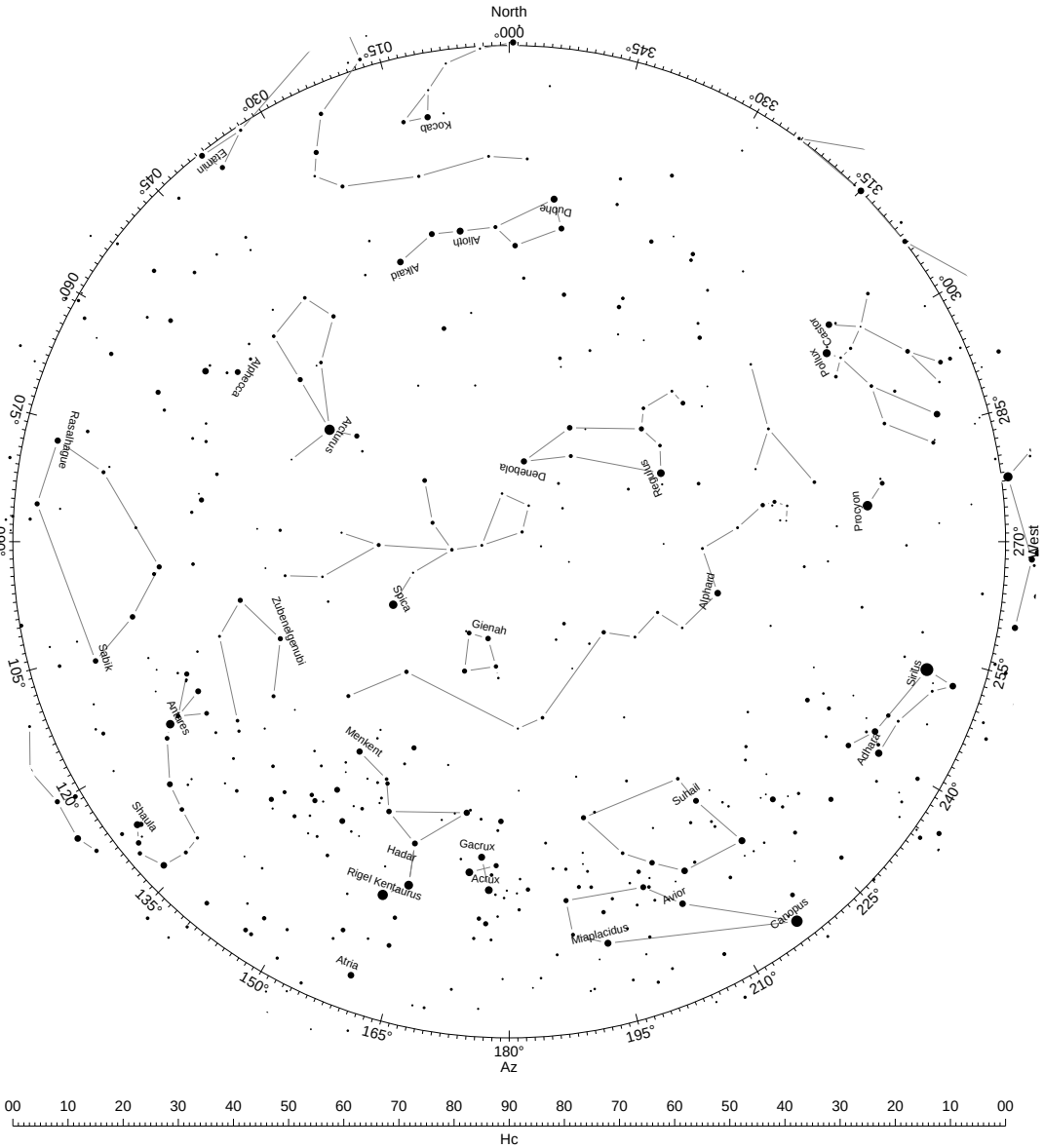
The map is centered on the celestial north pole and shows the brightest stars (up to magnitude 4.5) of the northern celestial hemisphere. The circle of constant declination is shown at 00° (Celestial Equator).
The Sidereal Hour Angle of a specific star can be directly read from the SHA scale plotted 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.

Map of bright Stars of the Southern Celestial Sphere



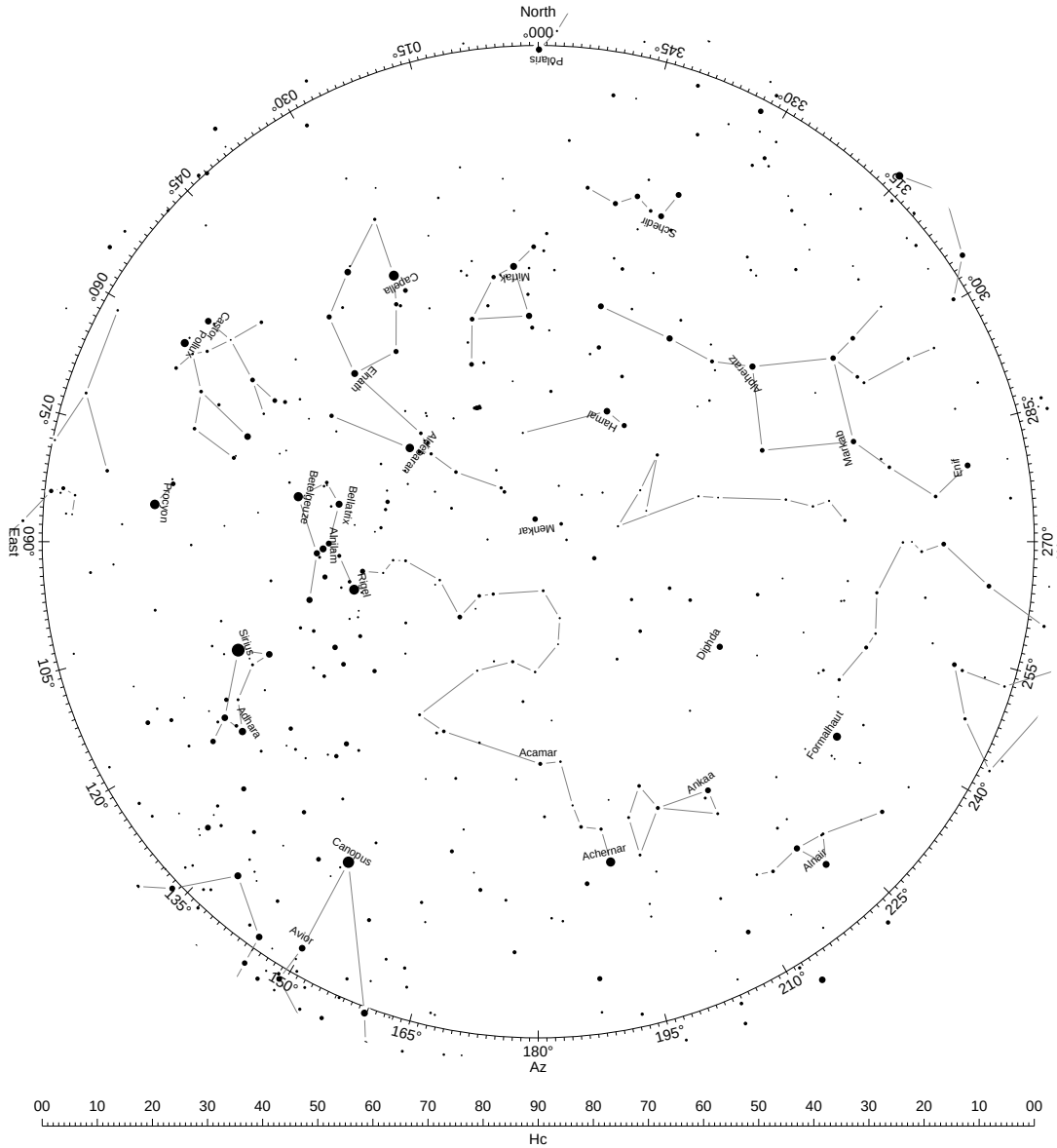
The map is centered on the celestial south pole and shows the brightest stars (up to magnitude 4.5) of the southern celestial hemisphere. The circle of constant declination is shown at 00° (Celestial Equator).
The Sidereal Hour Angle of a specific star can be directly read from the SHA scale plotted 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



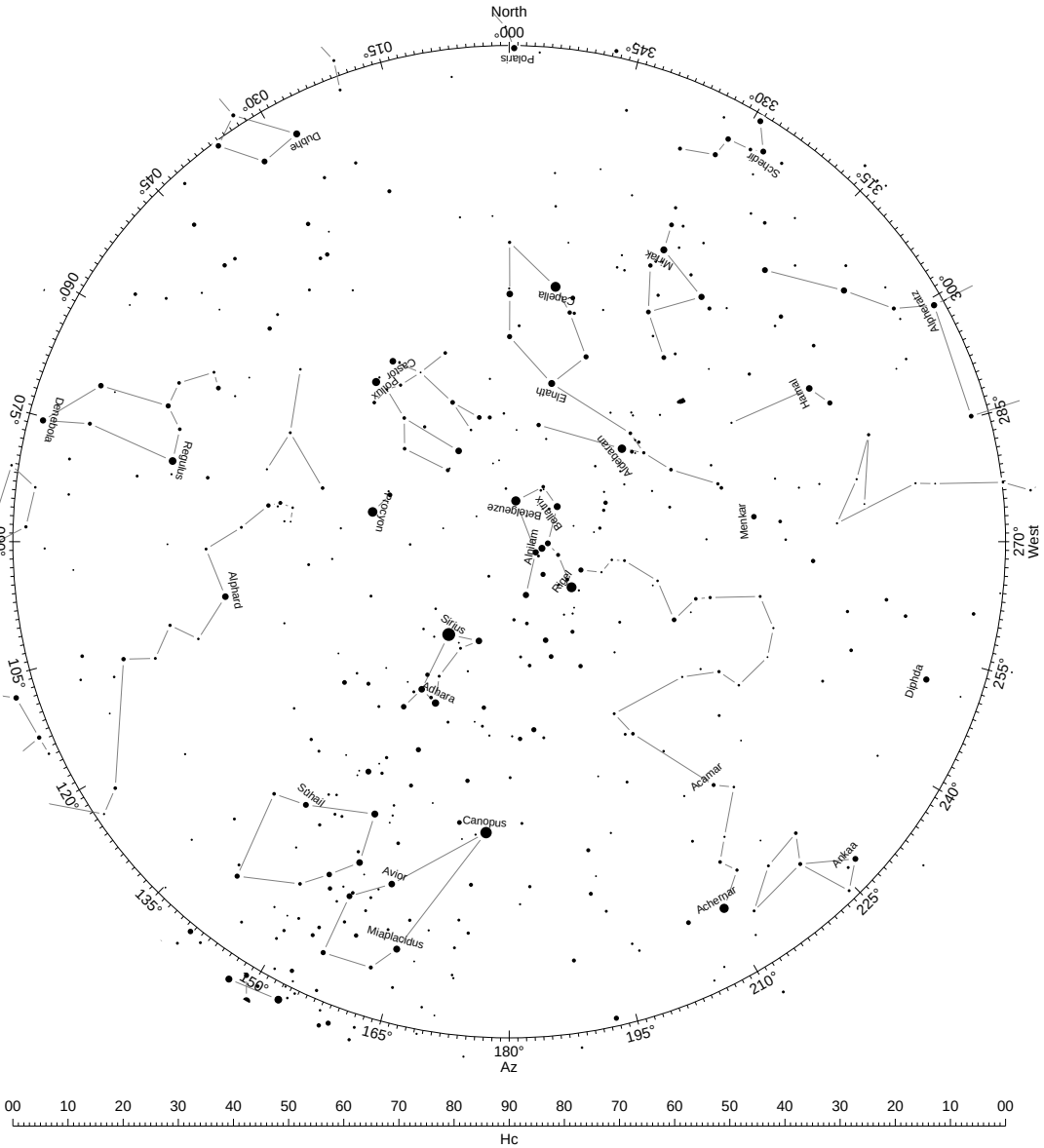
The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth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



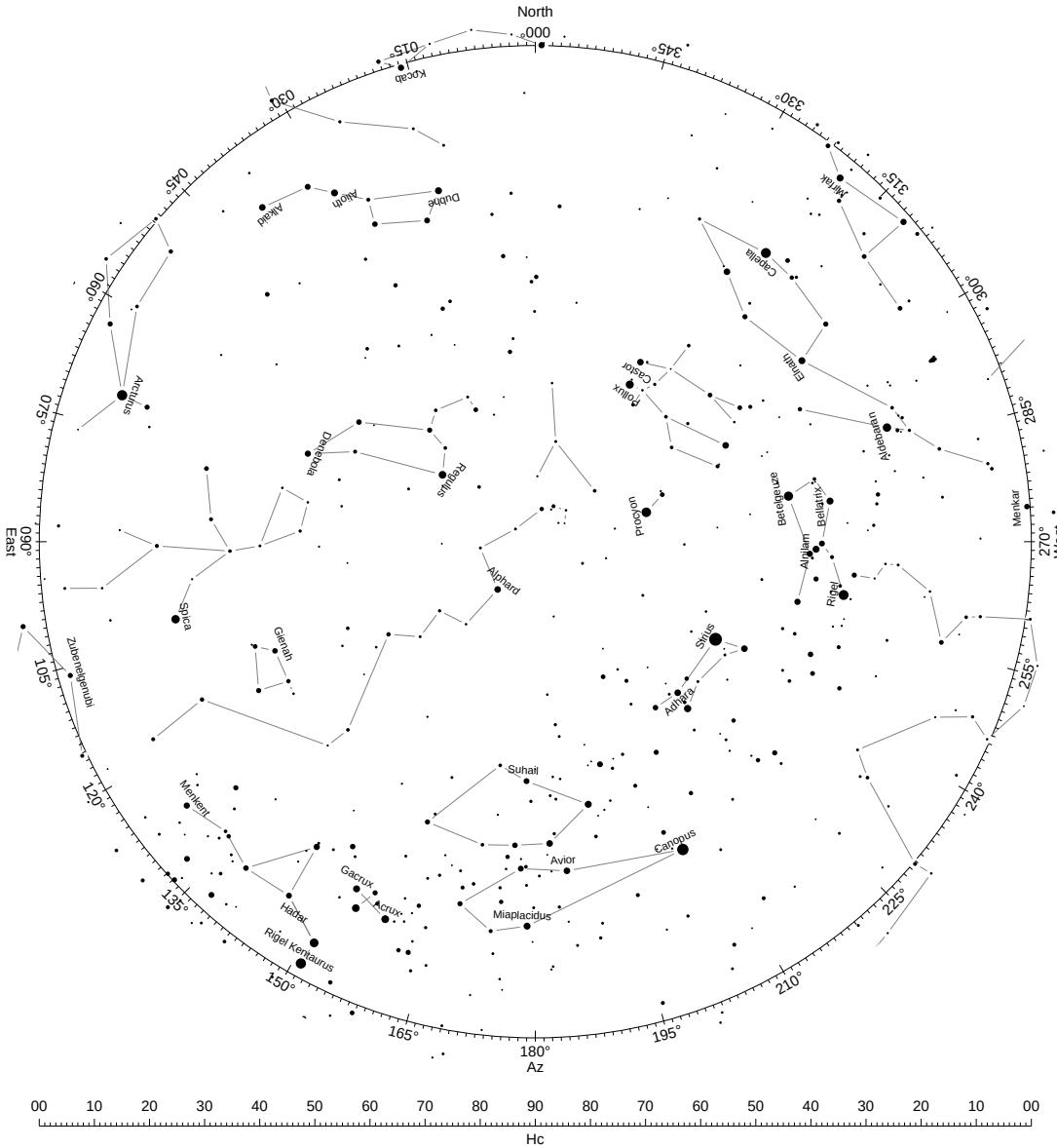
The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth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

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



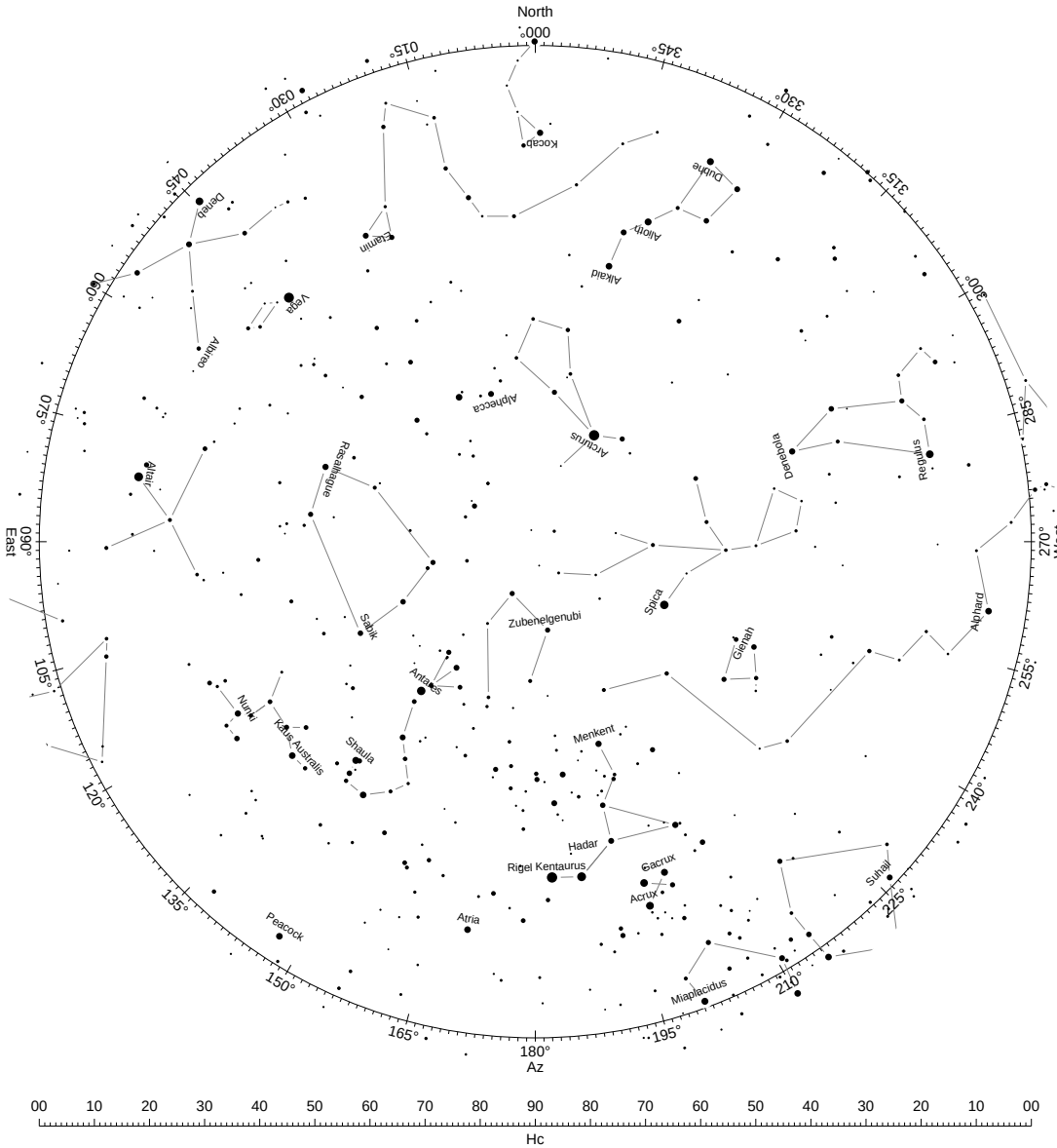
The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth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



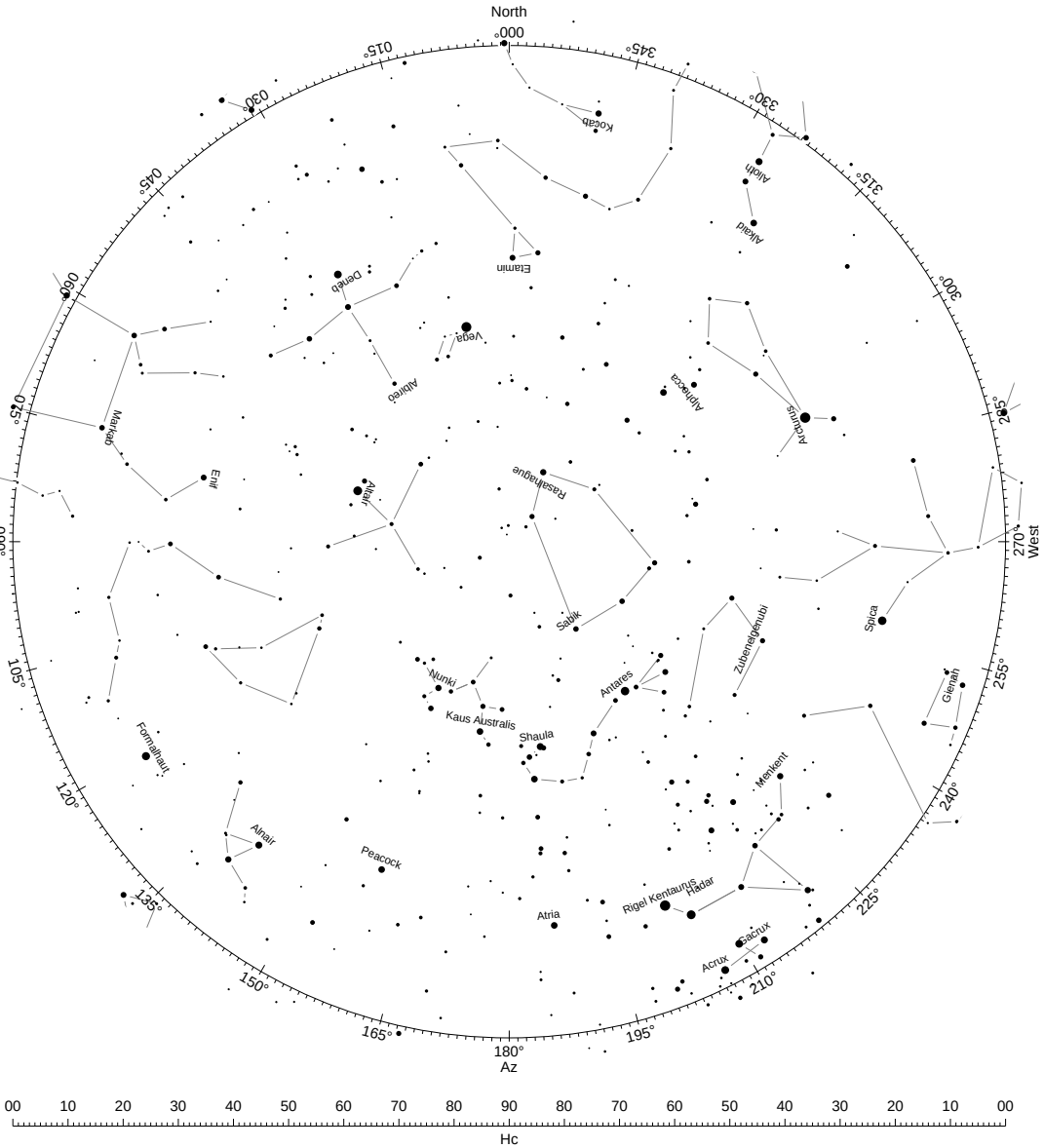
The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth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



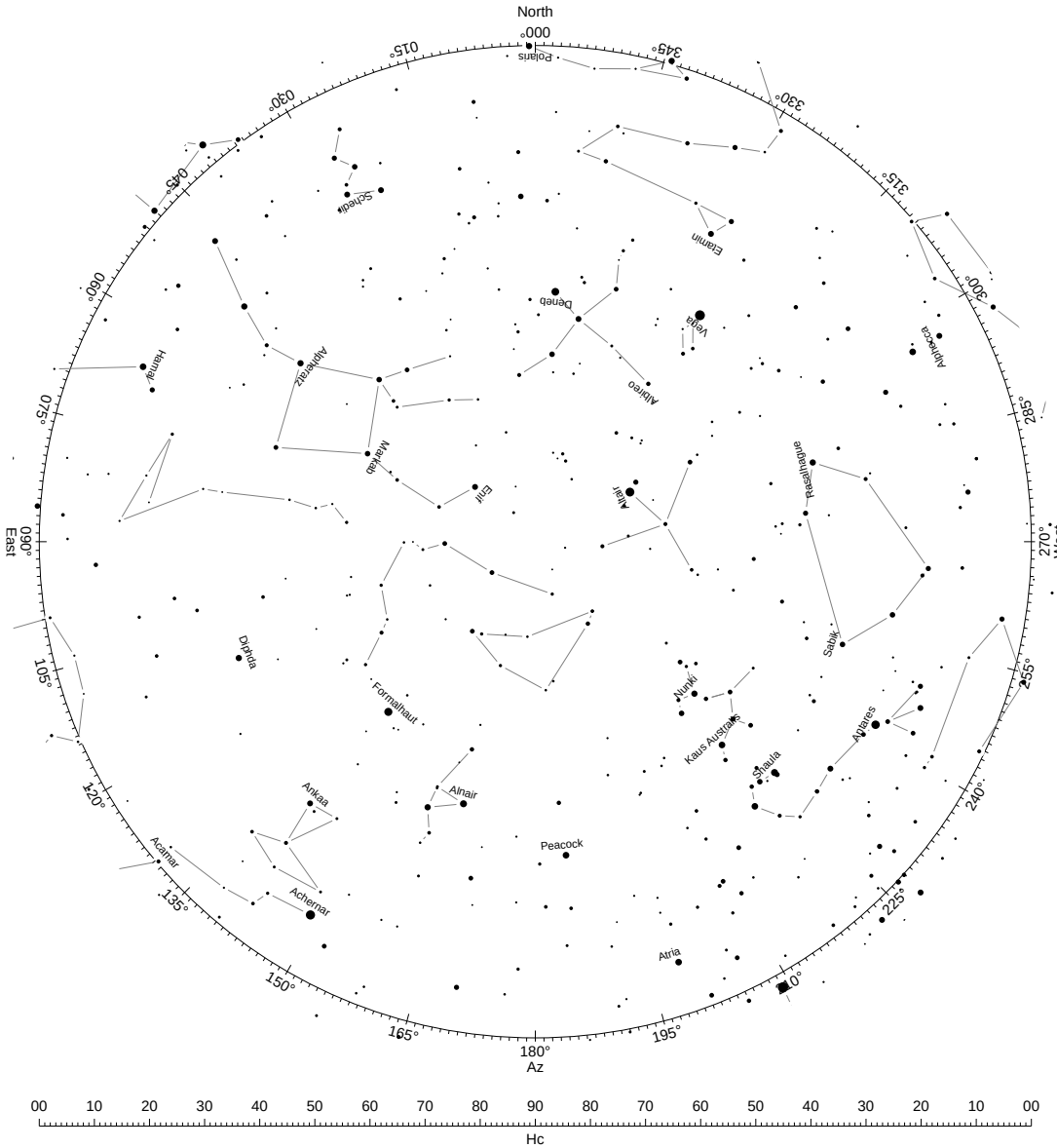
The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth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

2021 - First Point of Aries / Selected Stars

UT	day 11 of 365 January 11 GHA ° ′	ddGHA ′	day 12 of 365 January 12 GHA ° ′	ddGHA ′	day 13 of 365 January 13 GHA ° ′	ddGHA ′	day 14 of 365 January 14 GHA ° ′	ddGHA ′	day 15 of 365 January 15 GHA ° ′	ddGHA ′	UT
00	110 43.3	+02.4	111 42.4	+02.5	112 41.6	+02.4	113 40.7	+02.5	114 39.8	+02.5	00
01	125 45.7	+02.5	126 44.9	+02.4	127 44.0	+02.5	128 43.2	+02.4	129 42.3	+02.5	01
02	140 48.2	+02.5	141 47.3	+02.5	142 46.5	+02.4	143 45.6	+02.4	144 44.8	+02.4	02
03	155 50.7	+02.4	156 49.8	+02.5	157 48.9	+02.5	158 48.1	+02.5	159 47.2	+02.5	03
04	170 53.1	+02.5	171 52.3	+02.4	172 51.4	+02.5	173 50.6	+02.4	174 49.7	+02.5	04
05	185 55.6	+02.5	186 54.7	+02.5	187 53.9	+02.4	188 53.0	+02.5	189 52.2	+02.4	05
06	200 58.1	+02.4	201 57.2	+02.5	202 56.3	+02.5	203 55.5	+02.4	204 54.6	+02.5	06
07	216 00.5	+02.5	216 59.7	+02.4	217 58.8	+02.5	218 57.9	+02.5	219 57.1	+02.4	07
08	231 03.0	+02.4	232 02.1	+02.5	233 01.3	+02.4	234 00.4	+02.5	234 59.5	+02.5	08
09	246 05.4	+02.5	247 04.6	+02.5	248 03.7	+02.5	249 02.9	+02.4	250 02.0	+02.5	09
10	261 07.9	+02.5	262 07.1	+02.4	263 06.2	+02.5	264 05.3	+02.5	265 04.5	+02.4	10
11	276 10.4	+02.4	277 09.5	+02.5	278 08.7	+02.4	279 07.8	+02.5	280 06.9	+02.5	11
12	291 12.8	+02.5	292 12.0	+02.4	293 11.1	+02.5	294 10.3	+02.4	295 09.4	+02.5	12
13	306 15.3	+02.5	307 14.4	+02.5	308 13.6	+02.5	309 12.7	+02.5	310 11.9	+02.4	13
14	321 17.8	+02.4	322 16.9	+02.5	323 16.1	+02.4	324 15.2	+02.5	325 14.3	+02.5	14
15	336 20.2	+02.5	337 19.4	+02.4	338 18.5	+02.5	339 17.7	+02.4	340 16.8	+02.5	15
16	351 22.7	+02.5	352 21.8	+02.5	353 21.0	+02.4	354 20.1	+02.5	355 19.3	+02.4	16
17	6 25.2	+02.4	7 24.3	+02.5	8 23.4	+02.5	9 22.6	+02.4	10 21.7	+02.5	17
18	21 27.6	+02.5	22 26.8	+02.4	23 25.9	+02.5	24 25.0	+02.5	25 24.2	+02.5	18
19	36 30.1	+02.5	37 29.2	+02.5	38 28.4	+02.4	39 27.5	+02.5	40 26.7	+02.4	19
20	51 32.6	+02.4	52 31.7	+02.5	53 30.8	+02.5	54 30.0	+02.4	55 29.1	+02.5	20
21	66 35.0	+02.5	67 34.2	+02.4	68 33.3	+02.5	69 32.4	+02.5	70 31.6	+02.4	21
22	81 37.5	+02.4	82 36.6	+02.5	83 35.8	+02.4	84 34.9	+02.5	85 34.0	+02.5	22
23	96 39.9	+02.5	97 39.1	+02.5	98 38.2	+02.5	99 37.4	+02.4	100 36.5	+02.5	23

	SHA ° ′	Dec ° ′
Alpheratz	357 38.2	N 29 12.5
Ankaa	353 10.6	S 42 11.7
Schedir	349 34.7	N 56 39.3
Diphda	348 50.7	S 17 52.6
Achernar	335 22.7	S 57 08.2
Hamal	327 54.8	N 23 33.7
Polaris	315 17.8	N 89 21.4
Acamar	315 14.1	S 40 13.6
Menkar	314 09.4	N 04 10.2
Mirfak	308 32.6	N 49 56.2
Aldebaran	290 43.1	N 16 33.1
Capella	280 26.3	N 46 01.3
Rigel	281 06.7	S 08 10.8
Bellatrix	278 26.0	N 06 22.0
Elnath	278 05.6	N 28 37.5
Alnilam	275 40.7	S 01 11.4
Betelgeuze	270 55.3	N 07 24.5
Canopus	263 53.3	S 52 42.5
Sirius	258 28.6	S 16 44.4
Adhara	255 08.0	S 29 00.1
Castor	246 00.7	N 31 50.5
Procyon	244 53.7	N 05 10.5
Pollux	243 20.6	N 27 58.5
Avior	234 15.3	S 59 34.5
Suhail	222 48.2	S 43 30.9
Miaplacidus	221 37.7	S 69 48.0
Alphard	217 50.6	S 08 45.0
Regulus	207 37.5	N 11 51.8
Dubhe	193 44.6	N 61 38.1
Denebola	182 28.0	N 14 27.3

	SHA ° ′	Dec ° ′
Gienah	175 46.8	S 17 39.4
Acrux	173 03.4	S 63 12.5
Gacrux	171 55.0	S 57 13.4
Alioth	166 16.0	N 55 50.5
Spica	158 25.7	S 11 16.1
Alkaid	152 54.7	N 49 12.3
Hadar	148 40.6	S 60 28.0
Menkent	148 01.2	S 36 27.9
Arcturus	145 50.6	N 19 05.0
Rigel Kentaurus	139 42.4	S 60 55.1
Zubenelgenubi	136 59.7	S 16 07.5
Kocab	137 20.4	N 74 03.9
Alphecca	126 06.8	N 26 38.6
Antares	112 20.2	S 26 28.5
Atria	107 17.7	S 69 03.6
Sabik	102 06.8	S 15 45.0
Shaula	96 15.1	S 37 07.0
Rasalhague	96 01.9	N 12 32.8
Etamin	90 44.2	N 51 29.1
Kaus Australis	83 37.2	S 34 22.3
Vega	80 35.9	N 38 48.0
Nunki	75 52.2	S 26 16.2
Albireo	67 07.0	N 28 00.2
Altair	62 03.6	N 08 55.3
Peacock	53 11.5	S 56 40.1
Deneb	49 28.4	N 45 21.3
Enif	33 42.2	N 09 58.2
Alnair	27 37.5	S 46 51.8
Formalhaut	15 18.5	S 29 30.9
Markab	13 33.3	N 15 19.1

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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 Greenwhich Hour Angle and Declination, compared to the techniques used in most commercially available Almanacs.
For more information please refer to the following web site: *"http://www.siranah.de/"*

Abbreviations used in the Almanac tables:

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]

2021 - First Point of Aries / Selected Stars

UT	day 1 of 365 January 1 GHA	ddGHA	day 2 of 365 January 2 GHA	ddGHA	day 3 of 365 January 3 GHA	ddGHA	day 4 of 365 January 4 GHA	ddGHA	day 5 of 365 January 5 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	100 51.9	+02.4	101 51.0	+02.5	102 50.2	+02.4	103 49.3	+02.5	104 48.4	+02.5	00
01	115 54.3	+02.5	116 53.5	+02.4	117 52.6	+02.5	118 51.8	+02.4	119 50.9	+02.5	01
02	130 56.8	+02.5	131 55.9	+02.5	132 55.1	+02.5	133 54.2	+02.5	134 53.4	+02.4	02
03	145 59.3	+02.4	146 58.4	+02.5	147 57.6	+02.4	148 56.7	+02.5	149 55.8	+02.5	03
04	161 01.7	+02.5	162 00.9	+02.4	163 00.0	+02.5	163 59.2	+02.4	164 58.3	+02.5	04
05	176 04.2	+02.5	177 03.3	+02.5	178 02.5	+02.4	179 01.6	+02.5	180 00.8	+02.4	05
06	191 06.7	+02.4	192 05.8	+02.5	193 04.9	+02.5	194 04.1	+02.4	195 03.2	+02.5	06
07	206 09.1	+02.5	207 08.3	+02.4	208 07.4	+02.5	209 06.5	+02.5	210 05.7	+02.4	07
08	221 11.6	+02.5	222 10.7	+02.5	223 09.9	+02.4	224 09.0	+02.5	225 08.1	+02.5	08
09	236 14.1	+02.4	237 13.2	+02.5	238 12.3	+02.5	239 11.5	+02.4	240 10.6	+02.5	09
10	251 16.5	+02.5	252 15.7	+02.4	253 14.8	+02.5	254 13.9	+02.5	255 13.1	+02.4	10
11	266 19.0	+02.4	267 18.1	+02.5	268 17.3	+02.4	269 16.4	+02.5	270 15.5	+02.5	11
12	281 21.4	+02.5	282 20.6	+02.5	283 19.7	+02.5	284 18.9	+02.4	285 18.0	+02.5	12
13	296 23.9	+02.5	297 23.1	+02.4	298 22.2	+02.5	299 21.3	+02.5	300 20.5	+02.4	13
14	311 26.4	+02.4	312 25.5	+02.5	313 24.7	+02.4	314 23.8	+02.5	315 22.9	+02.5	14
15	326 28.8	+02.5	327 28.0	+02.4	328 27.1	+02.5	329 26.3	+02.4	330 25.4	+02.5	15
16	341 31.3	+02.5	342 30.4	+02.5	343 29.6	+02.4	344 28.7	+02.5	345 27.9	+02.4	16
17	356 33.8	+02.4	357 32.9	+02.5	358 32.0	+02.5	359 31.2	+02.5	0 30.3	+02.5	17
18	11 36.2	+02.5	12 35.4	+02.4	13 34.5	+02.5	14 33.7	+02.4	15 32.8	+02.5	18
19	26 38.7	+02.5	27 37.8	+02.5	28 37.0	+02.4	29 36.1	+02.5	30 35.3	+02.4	19
20	41 41.2	+02.4	42 40.3	+02.5	43 39.4	+02.5	44 38.6	+02.4	45 37.7	+02.5	20
21	56 43.6	+02.5	57 42.8	+02.4	58 41.9	+02.5	59 41.0	+02.5	60 40.2	+02.4	21
22	71 46.1	+02.5	72 45.2	+02.5	73 44.4	+02.4	74 43.5	+02.5	75 42.6	+02.5	22
23	86 48.6	+02.4	87 47.7	+02.5	88 46.8	+02.5	89 46.0	+02.4	90 45.1	+02.5	23

	SHA ° ′	Dec ° ′
Alpheratz	357 38.2	N 29 12.5
Ankaa	353 10.6	S 42 11.7
Schedir	349 34.6	N 56 39.3
Diphda	348 50.7	S 17 52.5
Achernar	335 22.6	S 57 08.2
Hamal	327 54.8	N 23 33.7
Polaris	315 13.9	N 89 21.3
Acamar	315 14.0	S 40 13.6
Menkar	314 09.4	N 04 10.2
Mirfak	308 32.5	N 49 56.2
Aldebaran	290 43.1	N 16 33.1
Capella	280 26.3	N 46 01.2
Rigel	281 06.7	S 08 10.8
Bellatrix	278 26.0	N 06 22.0
Elnath	278 05.6	N 28 37.5
Alnilam	275 40.7	S 01 11.4
Betelgeuze	270 55.3	N 07 24.6
Canopus	263 53.3	S 52 42.5
Sirius	258 28.6	S 16 44.3
Adhara	255 08.0	S 29 00.1
Castor	246 00.8	N 31 50.5
Procyon	244 53.7	N 05 10.5
Pollux	243 20.6	N 27 58.5
Avior	234 15.4	S 59 34.5
Suhail	222 48.2	S 43 30.9
Miaplacidus	221 37.8	S 69 48.0
Alphard	217 50.7	S 08 44.9
Regulus	207 37.6	N 11 51.8
Dubhe	193 44.8	N 61 38.1
Denebola	182 28.1	N 14 27.3

	SHA ° ′	Dec ° ′
Gienah	175 46.8	S 17 39.3
Acrux	173 03.5	S 63 12.5
Gacrux	171 55.2	S 57 13.4
Alioth	166 16.1	N 55 50.6
Spica	158 25.8	S 11 16.1
Alkaid	152 54.8	N 49 12.4
Hadar	148 40.7	S 60 28.0
Menkent	148 01.3	S 36 27.8
Arcturus	145 50.7	N 19 05.1
Rigel Kentaurus	139 42.6	S 60 55.1
Zubenelgenubi	136 59.8	S 16 07.5
Kocab	137 20.6	N 74 04.0
Alphecca	126 06.8	N 26 38.6
Antares	112 20.3	S 26 28.5
Atria	107 17.8	S 69 03.6
Sabik	102 06.9	S 15 45.0
Shaula	96 15.2	S 37 07.0
Rasalhague	96 01.9	N 12 32.8
Etamin	90 44.2	N 51 29.2
Kaus Australis	83 37.2	S 34 22.4
Vega	80 35.9	N 38 48.1
Nunki	75 52.2	S 26 16.2
Albireo	67 07.0	N 28 00.2
Altair	62 03.6	N 08 55.3
Peacock	53 11.5	S 56 40.1
Deneb	49 28.4	N 45 21.4
Enif	33 42.2	N 09 58.2
Alnair	27 37.4	S 46 51.8
Formalhaut	15 18.4	S 29 30.9
Markab	13 33.3	N 15 19.1

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2021 - First Point of Aries / Selected Stars

UT	day 6 of 365 January 6 GHA	ddGHA	day 7 of 365 January 7 GHA	ddGHA	day 8 of 365 January 8 GHA	ddGHA	day 9 of 365 January 9 GHA	ddGHA	day 10 of 365 January 10 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	105 47.6	+02.4	106 46.7	+02.5	107 45.8	+02.5	108 45.0	+02.5	109 44.1	+02.5	00
01	120 50.0	+02.5	121 49.2	+02.4	122 48.3	+02.5	123 47.5	+02.4	124 46.6	+02.5	01
02	135 52.5	+02.5	136 51.6	+02.5	137 50.8	+02.4	138 49.9	+02.5	139 49.1	+02.4	02
03	150 55.0	+02.4	151 54.1	+02.5	152 53.2	+02.5	153 52.4	+02.4	154 51.5	+02.5	03
04	165 57.4	+02.5	166 56.6	+02.4	167 55.7	+02.5	168 54.8	+02.5	169 54.0	+02.5	04
05	180 59.9	+02.5	181 59.0	+02.5	182 58.2	+02.4	183 57.3	+02.5	184 56.5	+02.4	05
06	196 02.4	+02.4	197 01.5	+02.5	198 00.6	+02.5	198 59.8	+02.4	199 58.9	+02.5	06
07	211 04.8	+02.5	212 04.0	+02.4	213 03.1	+02.5	214 02.2	+02.5	215 01.4	+02.4	07
08	226 07.3	+02.4	227 06.4	+02.5	228 05.6	+02.4	229 04.7	+02.5	230 03.8	+02.5	08
09	241 09.7	+02.5	242 08.9	+02.5	243 08.0	+02.5	244 07.2	+02.4	245 06.3	+02.5	09
10	256 12.2	+02.5	257 11.4	+02.4	258 10.5	+02.5	259 09.6	+02.5	260 08.8	+02.4	10
11	271 14.7	+02.4	272 13.8	+02.5	273 13.0	+02.4	274 12.1	+02.5	275 11.2	+02.5	11
12	286 17.1	+02.5	287 16.3	+02.4	288 15.4	+02.5	289 14.6	+02.4	290 13.7	+02.5	12
13	301 19.6	+02.5	302 18.7	+02.5	303 17.9	+02.4	304 17.0	+02.5	305 16.2	+02.4	13
14	316 22.1	+02.4	317 21.2	+02.5	318 20.3	+02.5	319 19.5	+02.5	320 18.6	+02.5	14
15	331 24.5	+02.5	332 23.7	+02.4	333 22.8	+02.5	334 22.0	+02.4	335 21.1	+02.5	15
16	346 27.0	+02.5	347 26.1	+02.5	348 25.3	+02.4	349 24.4	+02.5	350 23.6	+02.4	16
17	1 29.5	+02.4	2 28.6	+02.5	3 27.7	+02.5	4 26.9	+02.4	5 26.0	+02.5	17
18	16 31.9	+02.5	17 31.1	+02.4	18 30.2	+02.5	19 29.3	+02.5	20 28.5	+02.4	18
19	31 34.4	+02.5	32 33.5	+02.5	33 32.7	+02.4	34 31.8	+02.5	35 30.9	+02.5	19
20	46 36.9	+02.4	47 36.0	+02.5	48 35.1	+02.5	49 34.3	+02.4	50 33.4	+02.5	20
21	61 39.3	+02.5	62 38.5	+02.4	63 37.6	+02.5	64 36.7	+02.5	65 35.9	+02.4	21
22	76 41.8	+02.4	77 40.9	+02.5	78 40.1	+02.4	79 39.2	+02.5	80 38.3	+02.5	22
23	91 44.2	+02.5	92 43.4	+02.4	93 42.5	+02.5	94 41.7	+02.4	95 40.8	+02.5	23

	SHA ° ′	Dec ° ′
Alpheratz	357 38.2	N 29 12.5
Ankaa	353 10.6	S 42 11.8
Schedir	349 34.7	N 56 39.3
Diphda	348 50.7	S 17 52.5
Achernar	335 22.7	S 57 08.2
Hamal	327 54.8	N 23 33.7
Polaris	315 16.0	N 89 21.4
Acamar	315 14.0	S 40 13.6
Menkar	314 09.4	N 04 10.2
Mirfak	308 32.5	N 49 56.2
Aldebaran	290 43.1	N 16 33.1
Capella	280 26.3	N 46 01.3
Rigel	281 06.7	S 08 10.8
Bellatrix	278 26.0	N 06 22.0
Elnath	278 05.6	N 28 37.5
Alnilam	275 40.7	S 01 11.4
Betelgeuze	270 55.3	N 07 24.6
Canopus	263 53.3	S 52 42.5
Sirius	258 28.6	S 16 44.4
Adhara	255 08.0	S 29 00.1
Castor	246 00.8	N 31 50.5
Procyon	244 53.7	N 05 10.5
Pollux	243 20.6	N 27 58.5
Avior	234 15.3	S 59 34.5
Suhail	222 48.2	S 43 30.9
Miaplacidus	221 37.8	S 69 48.0
Alphard	217 50.7	S 08 45.0
Regulus	207 37.6	N 11 51.8
Dubhe	193 44.7	N 61 38.1
Denebola	182 28.0	N 14 27.3

	SHA ° ′	Dec ° ′
Gienah	175 46.8	S 17 39.3
Acrux	173 03.5	S 63 12.5
Gacrux	171 55.1	S 57 13.4
Alioth	166 16.0	N 55 50.6
Spica	158 25.7	S 11 16.1
Alkaid	152 54.7	N 49 12.3
Hadar	148 40.7	S 60 28.0
Menkent	148 01.2	S 36 27.8
Arcturus	145 50.7	N 19 05.0
Rigel Kentaurus	139 42.5	S 60 55.1
Zubenelgenubi	136 59.7	S 16 07.5
Kocab	137 20.5	N 74 03.9
Alphecca	126 06.8	N 26 38.6
Antares	112 20.2	S 26 28.5
Atria	107 17.7	S 69 03.6
Sabik	102 06.8	S 15 45.0
Shaula	96 15.2	S 37 07.0
Rasalhague	96 01.9	N 12 32.8
Etamin	90 44.2	N 51 29.1
Kaus Australis	83 37.2	S 34 22.4
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Albireo	67 07.0	N 28 00.2
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Peacock	53 11.5	S 56 40.1
Deneb	49 28.4	N 45 21.4
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2021 - First Point of Aries / Selected Stars

UT	day 31 of 365 *January 31* GHA ° ′	ddGHA ′	day 32 of 365 *February 1* GHA ° ′	ddGHA ′	day 33 of 365 *February 2* GHA ° ′	ddGHA ′	day 34 of 365 *February 3* GHA ° ′	ddGHA ′	day 35 of 365 *February 4* GHA ° ′	ddGHA ′	UT
00	130 26.1	+02.4	131 25.2	+02.5	132 24.3	+02.5	133 23.5	+02.4	134 22.6	+02.5	00
01	145 28.5	+02.5	146 27.7	+02.4	147 26.8	+02.5	148 25.9	+02.5	149 25.1	+02.4	01
02	160 31.0	+02.5	161 30.1	+02.5	162 29.3	+02.4	163 28.4	+02.5	164 27.5	+02.5	02
03	175 33.5	+02.4	176 32.6	+02.5	177 31.7	+02.5	178 30.9	+02.4	179 30.0	+02.5	03
04	190 35.9	+02.5	191 35.1	+02.4	192 34.2	+02.5	193 33.3	+02.5	194 32.5	+02.4	04
05	205 38.4	+02.4	206 37.5	+02.5	207 36.7	+02.4	208 35.8	+02.5	209 34.9	+02.5	05
06	220 40.8	+02.5	221 40.0	+02.4	222 39.1	+02.5	223 38.3	+02.4	224 37.4	+02.5	06
07	235 43.3	+02.5	236 42.4	+02.5	237 41.6	+02.4	238 40.7	+02.5	239 39.9	+02.4	07
08	250 45.8	+02.4	251 44.9	+02.5	252 44.0	+02.5	253 43.2	+02.4	254 42.3	+02.5	08
09	265 48.2	+02.5	266 47.4	+02.4	267 46.5	+02.5	268 45.6	+02.5	269 44.8	+02.5	09
10	280 50.7	+02.5	281 49.8	+02.5	282 49.0	+02.4	283 48.1	+02.5	284 47.3	+02.4	10
11	295 53.2	+02.4	296 52.3	+02.5	297 51.4	+02.5	298 50.6	+02.4	299 49.7	+02.5	11
12	310 55.6	+02.5	311 54.8	+02.4	312 53.9	+02.5	313 53.0	+02.5	314 52.2	+02.4	12
13	325 58.1	+02.5	326 57.2	+02.5	327 56.4	+02.4	328 55.5	+02.5	329 54.6	+02.5	13
14	341 00.6	+02.4	341 59.7	+02.5	342 58.8	+02.5	343 58.0	+02.4	344 57.1	+02.5	14
15	356 03.0	+02.5	357 02.2	+02.4	358 01.3	+02.5	359 00.4	+02.5	359 59.6	+02.4	15
16	11 05.5	+02.4	12 04.6	+02.5	13 03.8	+02.4	14 02.9	+02.5	15 02.0	+02.5	16
17	26 07.9	+02.5	27 07.1	+02.4	28 06.2	+02.5	29 05.4	+02.4	30 04.5	+02.5	17
18	41 10.4	+02.5	42 09.5	+02.5	43 08.7	+02.5	44 07.8	+02.5	45 07.0	+02.4	18
19	56 12.9	+02.4	57 12.0	+02.5	58 11.2	+02.4	59 10.3	+02.5	60 09.4	+02.5	19
20	71 15.3	+02.5	72 14.5	+02.4	73 13.6	+02.5	74 12.8	+02.4	75 11.9	+02.5	20
21	86 17.8	+02.5	87 16.9	+02.5	88 16.1	+02.4	89 15.2	+02.5	90 14.4	+02.4	21
22	101 20.3	+02.4	102 19.4	+02.5	103 18.5	+02.5	104 17.7	+02.4	105 16.8	+02.5	22
23	116 22.7	+02.5	117 21.9	+02.4	118 21.0	+02.5	119 20.1	+02.5	120 19.3	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.3	N 29 12.4	Gienah	175 46.6	S 17 39.4
Ankaa	353 10.7	S 42 11.7	*Acrux*	173 03.1	S 63 12.6
Schedir	349 34.9	N 56 39.3	*Gacrux*	171 54.8	S 57 13.5
Diphda	348 50.7	S 17 52.6	*Alioth*	166 15.7	N 55 50.5
Achernar	335 22.9	S 57 08.2	Spica	158 25.5	S 11 16.2
Hamal	327 54.9	N 23 33.7	*Alkaid*	152 54.4	N 49 12.3
Polaris	315 26.9	N 89 21.4	*Hadar*	148 40.3	S 60 28.1
Acamar	315 14.2	S 40 13.6	*Menkent*	148 01.0	S 36 27.9
Menkar	314 09.4	N 04 10.2	Arcturus	145 50.5	N 19 05.0
Mirfak	308 32.7	N 49 56.2	*Rigel Kentaurus*	139 42.1	S 60 55.1
Aldebaran	290 43.1	N 16 33.1	Zubenelgenubi	136 59.5	S 16 07.6
Capella	280 26.3	N 46 01.3	*Kocab*	137 20.0	N 74 03.9
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Bellatrix	278 26.1	N 06 22.0	Antares	112 20.0	S 26 28.6
Elnath	278 05.6	N 28 37.5	*Atria*	107 17.3	S 69 03.6
Alnilam	275 40.7	S 01 11.5	Sabik	102 06.7	S 15 45.0
Betelgeuze	270 55.3	N 07 24.5	*Shaula*	96 15.0	S 37 07.0
Canopus	263 53.3	S 52 42.6	Rasalhague	96 01.8	N 12 32.7
Sirius	258 28.6	S 16 44.4	*Etamin*	90 44.1	N 51 29.0
Adhara	255 08.0	S 29 00.2	*Kaus Australis*	83 37.1	S 34 22.3
Castor	246 00.7	N 31 50.5	*Vega*	80 35.8	N 38 47.9
Procyon	244 53.6	N 05 10.5	Nunki	75 52.0	S 26 16.2
Pollux	243 20.5	N 27 58.5	Albireo	67 07.0	N 28 00.1
Avior	234 15.3	S 59 34.7	Altair	62 03.5	N 08 55.2
Suhail	222 48.1	S 43 31.0	*Peacock*	53 11.4	S 56 40.0
Miaplacidus	221 37.7	S 69 48.2	*Deneb*	49 28.4	N 45 21.2
Alphard	217 50.5	S 08 45.0	Enif	33 42.2	N 09 58.2
Regulus	207 37.4	N 11 51.8	*Alnair*	27 37.5	S 46 51.7
Dubhe	193 44.4	N 61 38.1	Formalhaut	15 18.5	S 29 30.8
Denebola	182 27.8	N 14 27.2	Markab	13 33.3	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 16 of 365 *January 16* GHA ° ′	ddGHA ′	day 17 of 365 *January 17* GHA ° ′	ddGHA ′	day 18 of 365 *January 18* GHA ° ′	ddGHA ′	day 19 of 365 *January 19* GHA ° ′	ddGHA ′	day 20 of 365 *January 20* GHA ° ′	ddGHA ′	UT
00	115 39.0	+02.4	116 38.1	+02.5	117 37.2	+02.5	118 36.4	+02.5	119 35.5	+02.5	00
01	130 41.4	+02.5	131 40.6	+02.4	132 39.7	+02.5	133 38.9	+02.4	134 38.0	+02.5	01
02	145 43.9	+02.5	146 43.0	+02.5	147 42.2	+02.4	148 41.3	+02.5	149 40.5	+02.4	02
03	160 46.4	+02.4	161 45.5	+02.5	162 44.6	+02.5	163 43.8	+02.4	164 42.9	+02.5	03
04	175 48.8	+02.5	176 48.0	+02.4	177 47.1	+02.5	178 46.2	+02.5	179 45.4	+02.4	04
05	190 51.3	+02.5	191 50.4	+02.5	192 49.6	+02.4	193 48.7	+02.5	194 47.8	+02.5	05
06	205 53.8	+02.4	206 52.9	+02.5	207 52.0	+02.5	208 51.2	+02.4	209 50.3	+02.5	06
07	220 56.2	+02.5	221 55.4	+02.4	222 54.5	+02.5	223 53.6	+02.5	224 52.8	+02.4	07
08	235 58.7	+02.5	236 57.8	+02.5	237 57.0	+02.4	238 56.1	+02.5	239 55.2	+02.5	08
09	251 01.2	+02.4	252 00.3	+02.5	252 59.4	+02.5	253 58.6	+02.4	254 57.7	+02.5	09
10	266 03.6	+02.5	267 02.8	+02.4	268 01.9	+02.5	269 01.0	+02.5	270 00.2	+02.4	10
11	281 06.1	+02.4	282 05.2	+02.5	283 04.4	+02.4	284 03.5	+02.5	285 02.6	+02.5	11
12	296 08.5	+02.5	297 07.7	+02.4	298 06.8	+02.5	299 06.0	+02.4	300 05.1	+02.5	12
13	311 11.0	+02.5	312 10.1	+02.5	313 09.3	+02.4	314 08.4	+02.5	315 07.6	+02.4	13
14	326 13.5	+02.4	327 12.6	+02.5	328 11.7	+02.5	329 10.9	+02.4	330 10.0	+02.5	14
15	341 15.9	+02.5	342 15.1	+02.4	343 14.2	+02.5	344 13.3	+02.5	345 12.5	+02.5	15
16	356 18.4	+02.5	357 17.5	+02.5	358 16.7	+02.4	359 15.8	+02.5	0 15.0	+02.4	16
17	11 20.9	+02.4	12 20.0	+02.5	13 19.1	+02.5	14 18.3	+02.4	15 17.4	+02.5	17
18	26 23.3	+02.5	27 22.5	+02.4	28 21.6	+02.5	29 20.7	+02.5	30 19.9	+02.4	18
19	41 25.8	+02.5	42 24.9	+02.5	43 24.1	+02.4	44 23.2	+02.5	45 22.3	+02.5	19
20	56 28.3	+02.4	57 27.4	+02.5	58 26.5	+02.5	59 25.7	+02.4	60 24.8	+02.5	20
21	71 30.7	+02.5	72 29.9	+02.4	73 29.0	+02.5	74 28.1	+02.5	75 27.3	+02.4	21
22	86 33.2	+02.4	87 32.3	+02.5	88 31.5	+02.4	89 30.6	+02.5	90 29.7	+02.5	22
23	101 35.6	+02.5	102 34.8	+02.4	103 33.9	+02.5	104 33.1	+02.4	105 32.2	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.2	N 29 12.5	Gienah	175 46.7	S 17 39.4
Ankaa	353 10.6	S 42 11.7	*Acrux*	173 03.3	S 63 12.6
Schedir	349 34.8	N 56 39.3	*Gacrux*	171 55.0	S 57 13.4
Diphda	348 50.7	S 17 52.6	*Alioth*	166 15.9	N 55 50.5
Achernar	335 22.8	S 57 08.2	Spica	158 25.7	S 11 16.1
Hamal	327 54.8	N 23 33.7	*Alkaid*	152 54.6	N 49 12.3
Polaris	315 19.9	N 89 21.4	*Hadar*	148 40.5	S 60 28.1
Acamar	315 14.1	S 40 13.6	*Menkent*	148 01.1	S 36 27.9
Menkar	314 09.4	N 04 10.2	Arcturus	145 50.6	N 19 05.0
Mirfak	308 32.6	N 49 56.2	*Rigel Kentaurus*	139 42.3	S 60 55.1
Aldebaran	290 43.1	N 16 33.1	Zubenelgenubi	136 59.6	S 16 07.6
Capella	280 26.3	N 46 01.3	*Kocab*	137 20.3	N 74 03.9
Rigel	281 06.7	S 08 10.8	Alphecca	126 06.7	N 26 38.6
Bellatrix	278 26.0	N 06 22.0	Antares	112 20.1	S 26 28.5
Elnath	278 05.6	N 28 37.5	*Atria*	107 17.6	S 69 03.6
Alnilam	275 40.7	S 01 11.4	Sabik	102 06.8	S 15 45.0
Betelgeuze	270 55.3	N 07 24.5	*Shaula*	96 15.1	S 37 07.0
Canopus	263 53.3	S 52 42.6	Rasalhague	96 01.9	N 12 32.7
Sirius	258 28.6	S 16 44.4	*Etamin*	90 44.2	N 51 29.1
Adhara	255 08.0	S 29 00.1	*Kaus Australis*	83 37.2	S 34 22.3
Castor	246 00.7	N 31 50.5	*Vega*	80 35.9	N 38 48.0
Procyon	244 53.7	N 05 10.5	Nunki	75 52.1	S 26 16.2
Pollux	243 20.6	N 27 58.5	Albireo	67 07.0	N 28 00.2
Avior	234 15.3	S 59 34.6	Altair	62 03.6	N 08 55.3
Suhail	222 48.2	S 43 31.0	*Peacock*	53 11.5	S 56 40.1
Miaplacidus	221 37.7	S 69 48.1	*Deneb*	49 28.4	N 45 21.3
Alphard	217 50.6	S 08 45.0	Enif	33 42.2	N 09 58.2
Regulus	207 37.5	N 11 51.8	*Alnair*	27 37.5	S 46 51.7
Dubhe	193 44.6	N 61 38.1	Formalhaut	15 18.5	S 29 30.8
Denebola	182 27.9	N 14 27.3	Markab	13 33.3	N 15 19.1

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2021 - First Point of Aries / Selected Stars

UT	day 21 of 365 January 21 GHA	ddGHA	day 22 of 365 January 22 GHA	ddGHA	day 23 of 365 January 23 GHA	ddGHA	day 24 of 365 January 24 GHA	ddGHA	day 25 of 365 January 25 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	120 34.7	+02.4	121 33.8	+02.5	122 32.9	+02.5	123 32.1	+02.4	124 31.2	+02.5	00
01	135 37.1	+02.5	136 36.3	+02.4	137 35.4	+02.5	138 34.5	+02.5	139 33.7	+02.4	01
02	150 39.6	+02.5	151 38.7	+02.5	152 37.9	+02.4	153 37.0	+02.5	154 36.1	+02.5	02
03	165 42.1	+02.4	166 41.2	+02.5	167 40.3	+02.5	168 39.5	+02.4	169 38.6	+02.5	03
04	180 44.5	+02.5	181 43.7	+02.4	182 42.8	+02.5	183 41.9	+02.5	184 41.1	+02.4	04
05	195 47.0	+02.4	196 46.1	+02.5	197 45.3	+02.4	198 44.4	+02.5	199 43.5	+02.5	05
06	210 49.4	+02.5	211 48.6	+02.5	212 47.7	+02.5	213 46.9	+02.4	214 46.0	+02.5	06
07	225 51.9	+02.5	226 51.1	+02.4	227 50.2	+02.5	228 49.3	+02.5	229 48.5	+02.4	07
08	240 54.4	+02.4	241 53.5	+02.5	242 52.7	+02.4	243 51.8	+02.5	244 50.9	+02.5	08
09	255 56.8	+02.5	256 56.0	+02.4	257 55.1	+02.5	258 54.3	+02.4	259 53.4	+02.5	09
10	270 59.3	+02.5	271 58.4	+02.5	272 57.6	+02.4	273 56.7	+02.5	274 55.9	+02.4	10
11	286 01.8	+02.4	287 00.9	+02.5	288 00.0	+02.5	288 59.2	+02.5	289 58.3	+02.5	11
12	301 04.2	+02.5	302 03.4	+02.4	303 02.5	+02.5	304 01.7	+02.4	305 00.8	+02.5	12
13	316 06.7	+02.5	317 05.8	+02.5	318 05.0	+02.4	319 04.1	+02.5	320 03.3	+02.4	13
14	331 09.2	+02.4	332 08.3	+02.5	333 07.4	+02.5	334 06.6	+02.4	335 05.7	+02.5	14
15	346 11.6	+02.5	347 10.8	+02.4	348 09.9	+02.5	349 09.0	+02.5	350 08.2	+02.4	15
16	1 14.1	+02.5	2 13.2	+02.5	3 12.4	+02.4	4 11.5	+02.5	5 10.6	+02.5	16
17	16 16.6	+02.4	17 15.7	+02.5	18 14.8	+02.5	19 14.0	+02.4	20 13.1	+02.5	17
18	31 19.0	+02.5	32 18.2	+02.4	33 17.3	+02.5	34 16.4	+02.5	35 15.6	+02.4	18
19	46 21.5	+02.4	47 20.6	+02.5	48 19.8	+02.4	49 18.9	+02.5	50 18.0	+02.5	19
20	61 23.9	+02.5	62 23.1	+02.4	63 22.2	+02.5	64 21.4	+02.4	65 20.5	+02.5	20
21	76 26.4	+02.5	77 25.5	+02.5	78 24.7	+02.5	79 23.8	+02.5	80 23.0	+02.4	21
22	91 28.9	+02.4	92 28.0	+02.5	93 27.2	+02.4	94 26.3	+02.5	95 25.4	+02.5	22
23	106 31.3	+02.5	107 30.5	+02.4	108 29.6	+02.5	109 28.8	+02.4	110 27.9	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.3	N 29 12.4	Gienah	175 46.7	S 17 39.4
Ankaa	353 10.7	S 42 11.7	*Acrux*	173 03.2	S 63 12.6
Schedir	349 34.8	N 56 39.3	*Gacrux*	171 54.9	S 57 13.4
Diphda	348 50.7	S 17 52.6	*Alioth*	166 15.9	N 55 50.5
Achernar	335 22.8	S 57 08.2	Spica	158 25.6	S 11 16.1
Hamal	327 54.8	N 23 33.7	*Alkaid*	152 54.6	N 49 12.3
Polaris	315 22.3	N 89 21.4	*Hadar*	148 40.5	S 60 28.1
Acamar	315 14.1	S 40 13.6	*Menkent*	148 01.1	S 36 27.9
Menkar	314 09.4	N 04 10.2	Arcturus	145 50.6	N 19 05.0
Mirfak	308 32.6	N 49 56.2	*Rigel Kentaurus*	139 42.3	S 60 55.1
Aldebaran	290 43.1	N 16 33.1	Zubenelgenubi	136 59.6	S 16 07.6
Capella	280 26.3	N 46 01.3	*Kocab*	137 20.2	N 74 03.9
Rigel	281 06.7	S 08 10.8	Alphecca	126 06.7	N 26 38.6
Bellatrix	278 26.0	N 06 22.0	Antares	112 20.1	S 26 28.5
Elnath	278 05.6	N 28 37.5	*Atria*	107 17.5	S 69 03.6
Alnilam	275 40.7	S 01 11.5	Sabik	102 06.7	S 15 45.0
Betelgeuze	270 55.3	N 07 24.5	*Shaula*	96 15.1	S 37 07.0
Canopus	263 53.3	S 52 42.6	Rasalhague	96 01.8	N 12 32.7
Sirius	258 28.6	S 16 44.4	*Etamin*	90 44.1	N 51 29.0
Adhara	255 08.0	S 29 00.2	*Kaus Australis*	83 37.1	S 34 22.3
Castor	246 00.7	N 31 50.5	*Vega*	80 35.9	N 38 48.0
Procyon	244 53.7	N 05 10.5	Nunki	75 52.1	S 26 16.2
Pollux	243 20.5	N 27 58.5	Albireo	67 07.0	N 28 00.2
Avior	234 15.3	S 59 34.6	Altair	62 03.6	N 08 55.2
Suhail	222 48.2	S 43 31.0	*Peacock*	53 11.5	S 56 40.1
Miaplacidus	221 37.7	S 69 48.1	*Deneb*	49 28.4	N 45 21.3
Alphard	217 50.6	S 08 45.0	Enif	33 42.2	N 09 58.2
Regulus	207 37.5	N 11 51.8	*Alnair*	27 37.5	S 46 51.7
Dubhe	193 44.5	N 61 38.1	Formalhaut	15 18.5	S 29 30.8
Denebola	182 27.9	N 14 27.3	Markab	13 33.3	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 26 of 365 January 26 GHA	ddGHA	day 27 of 365 January 27 GHA	ddGHA	day 28 of 365 January 28 GHA	ddGHA	day 29 of 365 January 29 GHA	ddGHA	day 30 of 365 January 30 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	125 30.4	+02.4	126 29.5	+02.5	127 28.6	+02.5	128 27.8	+02.4	129 26.9	+02.5	00
01	140 32.8	+02.5	141 32.0	+02.4	142 31.1	+02.5	143 30.2	+02.5	144 29.4	+02.4	01
02	155 35.3	+02.5	156 34.4	+02.5	157 33.6	+02.4	158 32.7	+02.5	159 31.8	+02.5	02
03	170 37.8	+02.4	171 36.9	+02.5	172 36.0	+02.5	173 35.2	+02.4	174 34.3	+02.5	03
04	185 40.2	+02.5	186 39.4	+02.4	187 38.5	+02.5	188 37.6	+02.5	189 36.8	+02.4	04
05	200 42.7	+02.4	201 41.8	+02.5	202 41.0	+02.4	203 40.1	+02.5	204 39.2	+02.5	05
06	215 45.1	+02.5	216 44.3	+02.5	217 43.4	+02.5	218 42.6	+02.4	219 41.7	+02.5	06
07	230 47.6	+02.5	231 46.8	+02.4	232 45.9	+02.5	233 45.0	+02.5	234 44.2	+02.4	07
08	245 50.1	+02.4	246 49.2	+02.5	247 48.4	+02.4	248 47.5	+02.5	249 46.6	+02.5	08
09	260 52.5	+02.5	261 51.7	+02.4	262 50.8	+02.5	263 50.0	+02.4	264 49.1	+02.5	09
10	275 55.0	+02.5	276 54.1	+02.5	277 53.3	+02.4	278 52.4	+02.5	279 51.6	+02.4	10
11	290 57.5	+02.4	291 56.6	+02.5	292 55.7	+02.5	293 54.9	+02.5	294 54.0	+02.5	11
12	305 59.9	+02.5	306 59.1	+02.4	307 58.2	+02.5	308 57.4	+02.4	309 56.5	+02.5	12
13	321 02.4	+02.5	322 01.5	+02.5	323 00.7	+02.4	323 59.8	+02.5	324 59.0	+02.4	13
14	336 04.9	+02.4	337 04.0	+02.5	338 03.1	+02.5	339 02.3	+02.4	340 01.4	+02.5	14
15	351 07.3	+02.5	352 06.5	+02.4	353 05.6	+02.5	354 04.7	+02.5	355 03.9	+02.4	15
16	6 09.8	+02.5	7 08.9	+02.5	8 08.1	+02.4	9 07.2	+02.5	10 06.3	+02.5	16
17	21 12.3	+02.4	22 11.4	+02.5	23 10.5	+02.5	24 09.7	+02.4	25 08.8	+02.5	17
18	36 14.7	+02.5	37 13.9	+02.4	38 13.0	+02.5	39 12.1	+02.5	40 11.3	+02.4	18
19	51 17.2	+02.4	52 16.3	+02.5	53 15.5	+02.4	54 14.6	+02.5	55 13.7	+02.5	19
20	66 19.6	+02.5	67 18.8	+02.4	68 17.9	+02.5	69 17.1	+02.4	70 16.2	+02.5	20
21	81 22.1	+02.5	82 21.2	+02.5	83 20.4	+02.5	84 19.5	+02.5	85 18.7	+02.4	21
22	96 24.6	+02.4	97 23.7	+02.5	98 22.9	+02.4	99 22.0	+02.5	100 21.1	+02.5	22
23	111 27.0	+02.5	112 26.2	+02.4	113 25.3	+02.5	114 24.5	+02.4	115 23.6	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.3	N 29 12.4	Gienah	175 46.6	S 17 39.4
Ankaa	353 10.7	S 42 11.7	*Acrux*	173 03.2	S 63 12.6
Schedir	349 34.8	N 56 39.3	*Gacrux*	171 54.9	S 57 13.5
Diphda	348 50.7	S 17 52.6	*Alioth*	166 15.8	N 55 50.5
Achernar	335 22.8	S 57 08.2	Spica	158 25.6	S 11 16.2
Hamal	327 54.9	N 23 33.7	*Alkaid*	152 54.5	N 49 12.3
Polaris	315 24.4	N 89 21.4	*Hadar*	148 40.4	S 60 28.1
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Mirfak	308 32.6	N 49 56.2	*Rigel Kentaurus*	139 42.2	S 60 55.1
Aldebaran	290 43.1	N 16 33.1	Zubenelgenubi	136 59.6	S 16 07.6
Capella	280 26.3	N 46 01.3	*Kocab*	137 20.1	N 74 03.9
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Alnilam	275 40.7	S 01 11.5	Sabik	102 06.7	S 15 45.0
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Canopus	263 53.3	S 52 42.6	Rasalhague	96 01.8	N 12 32.7
Sirius	258 28.6	S 16 44.4	*Etamin*	90 44.1	N 51 29.0
Adhara	255 08.0	S 29 00.2	*Kaus Australis*	83 37.1	S 34 22.3
Castor	246 00.7	N 31 50.5	*Vega*	80 35.8	N 38 48.0
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Pollux	243 20.5	N 27 58.5	Albireo	67 07.0	N 28 00.1
Avior	234 15.3	S 59 34.6	Altair	62 03.6	N 08 55.2
Suhail	222 48.1	S 43 31.0	*Peacock*	53 11.4	S 56 40.1
Miaplacidus	221 37.7	S 69 48.1	*Deneb*	49 28.4	N 45 21.3
Alphard	217 50.6	S 08 45.0	Enif	33 42.2	N 09 58.2
Regulus	207 37.5	N 11 51.8	*Alnair*	27 37.5	S 46 51.7
Dubhe	193 44.4	N 61 38.1	Formalhaut	15 18.5	S 29 30.8
Denebola	182 27.9	N 14 27.2	Markab	13 33.3	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 51 of 365 February 20 GHA ° ′	ddGHA ′	day 52 of 365 February 21 GHA ° ′	ddGHA ′	day 53 of 365 February 22 GHA ° ′	ddGHA ′	day 54 of 365 February 23 GHA ° ′	ddGHA ′	day 55 of 365 February 24 GHA ° ′	ddGHA ′	UT
00	150 08.8	+02.5	151 08.0	+02.4	152 07.1	+02.5	153 06.2	+02.5	154 05.4	+02.5	00
01	165 11.3	+02.5	166 10.4	+02.5	167 09.6	+02.4	168 08.7	+02.5	169 07.9	+02.4	01
02	180 13.8	+02.4	181 12.9	+02.5	182 12.0	+02.5	183 11.2	+02.4	184 10.3	+02.5	02
03	195 16.2	+02.5	196 15.4	+02.4	197 14.5	+02.5	198 13.6	+02.5	199 12.8	+02.4	03
04	210 18.7	+02.4	211 17.8	+02.5	212 17.0	+02.4	213 16.1	+02.5	214 15.2	+02.5	04
05	225 21.1	+02.5	226 20.3	+02.5	227 19.4	+02.5	228 18.6	+02.4	229 17.7	+02.5	05
06	240 23.6	+02.5	241 22.8	+02.4	242 21.9	+02.5	243 21.0	+02.5	244 20.2	+02.4	06
07	255 26.1	+02.4	256 25.2	+02.5	257 24.4	+02.4	258 23.5	+02.5	259 22.6	+02.5	07
08	270 28.5	+02.5	271 27.7	+02.4	272 26.8	+02.5	273 26.0	+02.4	274 25.1	+02.5	08
09	285 31.0	+02.5	286 30.1	+02.5	287 29.3	+02.4	288 28.4	+02.5	289 27.6	+02.4	09
10	300 33.5	+02.4	301 32.6	+02.5	302 31.7	+02.5	303 30.9	+02.5	304 30.0	+02.5	10
11	315 35.9	+02.5	316 35.1	+02.4	317 34.2	+02.5	318 33.4	+02.4	319 32.5	+02.5	11
12	330 38.4	+02.5	331 37.5	+02.5	332 36.7	+02.4	333 35.8	+02.5	334 35.0	+02.4	12
13	345 40.9	+02.4	346 40.0	+02.5	347 39.1	+02.5	348 38.3	+02.4	349 37.4	+02.5	13
14	0 43.3	+02.5	1 42.5	+02.4	2 41.6	+02.5	3 40.7	+02.5	4 39.9	+02.4	14
15	15 45.8	+02.5	16 44.9	+02.5	17 44.1	+02.4	18 43.2	+02.5	19 42.3	+02.5	15
16	30 48.3	+02.4	31 47.4	+02.5	32 46.5	+02.5	33 45.7	+02.4	34 44.8	+02.5	16
17	45 50.7	+02.5	46 49.9	+02.4	47 49.0	+02.5	48 48.1	+02.5	49 47.3	+02.4	17
18	60 53.2	+02.4	61 52.3	+02.5	62 51.5	+02.4	63 50.6	+02.5	64 49.7	+02.5	18
19	75 55.6	+02.5	76 54.8	+02.5	77 53.9	+02.5	78 53.1	+02.4	79 52.2	+02.5	19
20	90 58.1	+02.5	91 57.3	+02.4	92 56.4	+02.5	93 55.5	+02.5	94 54.7	+02.4	20
21	106 00.6	+02.4	106 59.7	+02.5	107 58.9	+02.4	108 58.0	+02.5	109 57.1	+02.5	21
22	121 03.0	+02.5	122 02.2	+02.4	123 01.3	+02.5	124 00.5	+02.4	124 59.6	+02.5	22
23	136 05.5	+02.5	137 04.6	+02.5	138 03.8	+02.4	139 02.9	+02.5	140 02.1	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.3	N 29 12.4	Gienah	175 46.5	S 17 39.5
Ankaa	353 10.8	S 42 11.7	*Acrux*	173 02.9	S 63 12.7
Schedir	349 35.0	N 56 39.2	*Gacrux*	171 54.6	S 57 13.6
Diphda	348 50.8	S 17 52.5	*Alioth*	166 15.5	N 55 50.6
Achernar	335 23.0	S 57 08.1	Spica	158 25.4	S 11 16.2
Hamal	327 54.9	N 23 33.7	*Alkaid*	152 54.3	N 49 12.3
Polaris	315 36.6	N 89 21.4	*Hadar*	148 40.1	S 60 28.2
Acamar	315 14.3	S 40 13.6	*Menkent*	148 00.8	S 36 28.0
Menkar	314 09.5	N 04 10.2	Arcturus	145 50.3	N 19 04.9
Mirfak	308 32.8	N 49 56.2	*Rigel Kentaurus*	139 41.8	S 60 55.2
Aldebaran	290 43.2	N 16 33.1	Zubenelgenubi	136 59.4	S 16 07.7
Capella	280 26.4	N 46 01.3	*Kocab*	137 19.5	N 74 03.9
Rigel	281 06.8	S 08 10.9	Alphecca	126 06.4	N 26 38.5
Bellatrix	278 26.1	N 06 22.0	Antares	112 19.9	S 26 28.6
Elnath	278 05.7	N 28 37.5	*Atria*	107 16.9	S 69 03.6
Alnilam	275 40.8	S 01 11.5	Sabik	102 06.5	S 15 45.0
Betelgeuze	270 55.3	N 07 24.5	*Shaula*	96 14.8	S 37 07.0
Canopus	263 53.5	S 52 42.7	Rasalhague	96 01.6	N 12 32.6
Sirius	258 28.6	S 16 44.5	*Etamin*	90 43.9	N 51 28.9
Adhara	255 08.1	S 29 00.3	*Kaus Australis*	83 36.9	S 34 22.3
Castor	246 00.7	N 31 50.5	*Vega*	80 35.7	N 38 47.9
Procyon	244 53.7	N 05 10.5	Nunki	75 51.9	S 26 16.2
Pollux	243 20.5	N 27 58.5	Albireo	67 06.9	N 28 00.0
Avior	234 15.4	S 59 34.8	Altair	62 03.5	N 08 55.2
Suhail	222 48.1	S 43 31.1	*Peacock*	53 11.3	S 56 40.0
Miaplacidus	221 37.7	S 69 48.3	*Deneb*	49 28.3	N 45 21.1
Alphard	217 50.5	S 08 45.1	Enif	33 42.2	N 09 58.1
Regulus	207 37.4	N 11 51.8	*Alnair*	27 37.4	S 46 51.6
Dubhe	193 44.2	N 61 38.2	Formalhaut	15 18.5	S 29 30.8
Denebola	182 27.7	N 14 27.2	Markab	13 33.4	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 36 of 365 February 5 GHA ° ′	ddGHA ′	day 37 of 365 February 6 GHA ° ′	ddGHA ′	day 38 of 365 February 7 GHA ° ′	ddGHA ′	day 39 of 365 February 8 GHA ° ′	ddGHA ′	day 40 of 365 February 9 GHA ° ′	ddGHA ′	UT
00	135 21.7	+02.5	136 20.9	+02.5	137 20.0	+02.5	138 19.2	+02.4	139 18.3	+02.5	00
01	150 24.2	+02.5	151 23.4	+02.4	152 22.5	+02.5	153 21.6	+02.5	154 20.8	+02.4	01
02	165 26.7	+02.4	166 25.8	+02.5	167 25.0	+02.4	168 24.1	+02.5	169 23.2	+02.5	02
03	180 29.1	+02.5	181 28.3	+02.4	182 27.4	+02.5	183 26.6	+02.4	184 25.7	+02.5	03
04	195 31.6	+02.5	196 30.7	+02.5	197 29.9	+02.4	198 29.0	+02.5	199 28.2	+02.4	04
05	210 34.1	+02.4	211 33.2	+02.5	212 32.3	+02.5	213 31.5	+02.5	214 30.6	+02.5	05
06	225 36.5	+02.5	226 35.7	+02.4	227 34.8	+02.5	228 34.0	+02.4	229 33.1	+02.5	06
07	240 39.0	+02.5	241 38.1	+02.5	242 37.3	+02.4	243 36.4	+02.5	244 35.6	+02.4	07
08	255 41.5	+02.4	256 40.6	+02.5	257 39.7	+02.5	258 38.9	+02.4	259 38.0	+02.5	08
09	270 43.9	+02.5	271 43.1	+02.4	272 42.2	+02.5	273 41.3	+02.5	274 40.5	+02.5	09
10	285 46.4	+02.5	286 45.5	+02.5	287 44.7	+02.4	288 43.8	+02.5	289 43.0	+02.4	10
11	300 48.9	+02.4	301 48.0	+02.5	302 47.1	+02.5	303 46.3	+02.4	304 45.4	+02.5	11
12	315 51.3	+02.5	316 50.5	+02.4	317 49.6	+02.5	318 48.7	+02.5	319 47.9	+02.4	12
13	330 53.8	+02.4	331 52.9	+02.5	332 52.1	+02.4	333 51.2	+02.5	334 50.3	+02.5	13
14	345 56.2	+02.5	346 55.4	+02.5	347 54.5	+02.5	348 53.7	+02.4	349 52.8	+02.5	14
15	0 58.7	+02.5	1 57.9	+02.4	2 57.0	+02.5	3 56.1	+02.5	4 55.3	+02.4	15
16	16 01.2	+02.4	17 00.3	+02.5	17 59.5	+02.4	18 58.6	+02.5	19 57.7	+02.5	16
17	31 03.6	+02.5	32 02.8	+02.4	33 01.9	+02.5	34 01.1	+02.4	35 00.2	+02.5	17
18	46 06.1	+02.5	47 05.2	+02.5	48 04.4	+02.4	49 03.5	+02.5	50 02.7	+02.4	18
19	61 08.6	+02.4	62 07.7	+02.5	63 06.8	+02.5	64 06.0	+02.5	65 05.1	+02.5	19
20	76 11.0	+02.5	77 10.2	+02.4	78 09.3	+02.5	79 08.5	+02.4	80 07.6	+02.5	20
21	91 13.5	+02.5	92 12.6	+02.5	93 11.8	+02.4	94 10.9	+02.5	95 10.1	+02.4	21
22	106 16.0	+02.4	107 15.1	+02.5	108 14.2	+02.5	109 13.4	+02.4	110 12.5	+02.5	22
23	121 18.4	+02.5	122 17.6	+02.4	123 16.7	+02.5	124 15.8	+02.5	125 15.0	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.3	N 29 12.4	Gienah	175 46.6	S 17 39.5
Ankaa	353 10.7	S 42 11.7	*Acrux*	173 03.1	S 63 12.7
Schedir	349 34.9	N 56 39.3	*Gacrux*	171 54.8	S 57 13.5
Diphda	348 50.8	S 17 52.6	*Alioth*	166 15.7	N 55 50.5
Achernar	335 22.9	S 57 08.2	Spica	158 25.5	S 11 16.2
Hamal	327 54.9	N 23 33.7	*Alkaid*	152 54.4	N 49 12.3
Polaris	315 29.4	N 89 21.4	*Hadar*	148 40.3	S 60 28.1
Acamar	315 14.2	S 40 13.6	*Menkent*	148 01.0	S 36 27.9
Menkar	314 09.5	N 04 10.2	Arcturus	145 50.4	N 19 05.0
Mirfak	308 32.7	N 49 56.2	*Rigel Kentaurus*	139 42.0	S 60 55.1
Aldebaran	290 43.1	N 16 33.1	Zubenelgenubi	136 59.5	S 16 07.6
Capella	280 26.3	N 46 01.3	*Kocab*	137 19.9	N 74 03.9
Rigel	281 06.7	S 08 10.8	Alphecca	126 06.6	N 26 38.5
Bellatrix	278 26.1	N 06 22.0	Antares	112 20.0	S 26 28.6
Elnath	278 05.7	N 28 37.5	*Atria*	107 17.2	S 69 03.6
Alnilam	275 40.7	S 01 11.5	Sabik	102 06.6	S 15 45.0
Betelgeuze	270 55.3	N 07 24.5	*Shaula*	96 14.9	S 37 07.0
Canopus	263 53.4	S 52 42.7	Rasalhague	96 01.7	N 12 32.7
Sirius	258 28.6	S 16 44.5	*Etamin*	90 44.0	N 51 29.0
Adhara	255 08.0	S 29 00.2	*Kaus Australis*	83 37.0	S 34 22.3
Castor	246 00.7	N 31 50.5	*Vega*	80 35.8	N 38 47.9
Procyon	244 53.6	N 05 10.5	Nunki	75 52.0	S 26 16.2
Pollux	243 20.5	N 27 58.5	Albireo	67 07.0	N 28 00.1
Avior	234 15.3	S 59 34.7	Altair	62 03.5	N 08 55.2
Suhail	222 48.1	S 43 31.1	*Peacock*	53 11.4	S 56 40.0
Miaplacidus	221 37.7	S 69 48.2	*Deneb*	49 28.4	N 45 21.2
Alphard	217 50.5	S 08 45.1	Enif	33 42.2	N 09 58.2
Regulus	207 37.4	N 11 51.8	*Alnair*	27 37.5	S 46 51.7
Dubhe	193 44.3	N 61 38.1	Formalhaut	15 18.5	S 29 30.8
Denebola	182 27.8	N 14 27.2	Markab	13 33.3	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 41 of 365 **February 10** GHA ° ′	ddGHA ′	day 42 of 365 **February 11** GHA ° ′	ddGHA ′	day 43 of 365 **February 12** GHA ° ′	ddGHA ′	day 44 of 365 **February 13** GHA ° ′	ddGHA ′	day 45 of 365 **February 14** GHA ° ′	ddGHA ′	UT
00	140 17.4	+02.5	141 16.6	+02.5	142 15.7	+02.5	143 14.9	+02.4	144 14.0	+02.5	00
01	155 19.9	+02.5	156 19.1	+02.4	157 18.2	+02.5	158 17.3	+02.5	159 16.5	+02.4	01
02	170 22.4	+02.4	171 21.5	+02.5	172 20.7	+02.4	173 19.8	+02.5	174 18.9	+02.5	02
03	185 24.8	+02.5	186 24.0	+02.4	187 23.1	+02.5	188 22.3	+02.4	189 21.4	+02.5	03
04	200 27.3	+02.5	201 26.4	+02.5	202 25.6	+02.4	203 24.7	+02.5	204 23.9	+02.4	04
05	215 29.8	+02.4	216 28.9	+02.5	217 28.0	+02.5	218 27.2	+02.5	219 26.3	+02.5	05
06	230 32.2	+02.5	231 31.4	+02.4	232 30.5	+02.5	233 29.7	+02.4	234 28.8	+02.5	06
07	245 34.7	+02.5	246 33.8	+02.5	247 33.0	+02.4	248 32.1	+02.5	249 31.3	+02.4	07
08	260 37.2	+02.4	261 36.3	+02.5	262 35.4	+02.5	263 34.6	+02.4	264 33.7	+02.5	08
09	275 39.6	+02.5	276 38.8	+02.4	277 37.9	+02.5	278 37.0	+02.5	279 36.2	+02.4	09
10	290 42.1	+02.5	291 41.2	+02.5	292 40.4	+02.4	293 39.5	+02.5	294 38.6	+02.5	10
11	305 44.6	+02.4	306 43.7	+02.5	307 42.8	+02.5	308 42.0	+02.4	309 41.1	+02.5	11
12	320 47.0	+02.5	321 46.2	+02.4	322 45.3	+02.5	323 44.4	+02.5	324 43.6	+02.4	12
13	335 49.5	+02.4	336 48.6	+02.5	337 47.8	+02.4	338 46.9	+02.5	339 46.0	+02.5	13
14	350 51.9	+02.5	351 51.1	+02.5	352 50.2	+02.5	353 49.4	+02.4	354 48.5	+02.5	14
15	5 54.4	+02.5	6 53.6	+02.4	7 52.7	+02.5	8 51.8	+02.5	9 51.0	+02.4	15
16	20 56.9	+02.4	21 56.0	+02.5	22 55.2	+02.4	23 54.3	+02.5	24 53.4	+02.5	16
17	35 59.3	+02.5	36 58.5	+02.4	37 57.6	+02.5	38 56.8	+02.4	39 55.9	+02.5	17
18	51 01.8	+02.5	52 00.9	+02.5	53 00.1	+02.4	53 59.2	+02.5	54 58.4	+02.4	18
19	66 04.3	+02.4	67 03.4	+02.5	68 02.5	+02.5	69 01.7	+02.4	70 00.8	+02.5	19
20	81 06.7	+02.5	82 05.9	+02.4	83 05.0	+02.5	84 04.1	+02.5	85 03.3	+02.4	20
21	96 09.2	+02.5	97 08.3	+02.5	98 07.5	+02.4	99 06.6	+02.5	100 05.7	+02.5	21
22	111 11.7	+02.4	112 10.8	+02.5	113 09.9	+02.5	114 09.1	+02.4	115 08.2	+02.5	22
23	126 14.1	+02.5	127 13.3	+02.4	128 12.4	+02.5	129 11.5	+02.5	130 10.7	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.3	N 29 12.4	Gienah	175 46.5	S 17 39.5
Ankaa	353 10.7	S 42 11.7	*Acrux*	173 03.0	S 63 12.7
Schedir	349 34.9	N 56 39.2	*Gacrux*	171 54.7	S 57 13.5
Diphda	348 50.8	S 17 52.5	*Alioth*	166 15.6	N 55 50.5
Achernar	335 23.0	S 57 08.2	Spica	158 25.5	S 11 16.2
Hamal	327 54.9	N 23 33.7	*Alkaid*	152 54.3	N 49 12.3
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Acamar	315 14.2	S 40 13.6	*Menkent*	148 00.9	S 36 27.9
Menkar	314 09.5	N 04 10.2	Arcturus	145 50.4	N 19 04.9
Mirfak	308 32.7	N 49 56.2	*Rigel Kentaurus*	139 42.0	S 60 55.1
Aldebaran	290 43.1	N 16 33.1	Zubenelgenubi	136 59.4	S 16 07.6
Capella	280 26.3	N 46 01.3	*Kocab*	137 19.8	N 74 03.9
Rigel	281 06.7	S 08 10.9	Alphecca	126 06.5	N 26 38.5
Bellatrix	278 26.1	N 06 22.0	Antares	112 19.9	S 26 28.6
Elnath	278 05.7	N 28 37.5	*Atria*	107 17.1	S 69 03.6
Alnilam	275 40.8	S 01 11.5	Sabik	102 06.6	S 15 45.0
Betelgeuze	270 55.3	N 07 24.5	*Shaula*	96 14.9	S 37 07.0
Canopus	263 53.4	S 52 42.7	Rasalhague	96 01.7	N 12 32.7
Sirius	258 28.6	S 16 44.5	*Etamin*	90 44.0	N 51 28.9
Adhara	255 08.0	S 29 00.2	*Kaus Australis*	83 37.0	S 34 22.3
Castor	246 00.7	N 31 50.5	*Vega*	80 35.8	N 38 47.9
Procyon	244 53.6	N 05 10.5	Nunki	75 52.0	S 26 16.2
Pollux	243 20.5	N 27 58.5	Albireo	67 06.9	N 28 00.1
Avior	234 15.3	S 59 34.7	Altair	62 03.5	N 08 55.2
Suhail	222 48.1	S 43 31.1	*Peacock*	53 11.3	S 56 40.0
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Alphard	217 50.5	S 08 45.1	Enif	33 42.2	N 09 58.2
Regulus	207 37.4	N 11 51.8	*Alnair*	27 37.5	S 46 51.7
Dubhe	193 44.3	N 61 38.1	Formalhaut	15 18.5	S 29 30.8
Denebola	182 27.8	N 14 27.2	Markab	13 33.3	N 15 19.0

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UT	day 46 of 365 **February 15** GHA ° ′	ddGHA ′	day 47 of 365 **February 16** GHA ° ′	ddGHA ′	day 48 of 365 **February 17** GHA ° ′	ddGHA ′	day 49 of 365 **February 18** GHA ° ′	ddGHA ′	day 50 of 365 **February 19** GHA ° ′	ddGHA ′	UT
00	145 13.1	+02.5	146 12.3	+02.4	147 11.4	+02.5	148 10.6	+02.4	149 09.7	+02.5	00
01	160 15.6	+02.5	161 14.7	+02.5	162 13.9	+02.4	163 13.0	+02.5	164 12.2	+02.4	01
02	175 18.1	+02.4	176 17.2	+02.5	177 16.3	+02.5	178 15.5	+02.4	179 14.6	+02.5	02
03	190 20.5	+02.5	191 19.7	+02.4	192 18.8	+02.5	193 17.9	+02.5	194 17.1	+02.4	03
04	205 23.0	+02.5	206 22.1	+02.5	207 21.3	+02.4	208 20.4	+02.5	209 19.5	+02.5	04
05	220 25.5	+02.4	221 24.6	+02.5	222 23.7	+02.5	223 22.9	+02.4	224 22.0	+02.5	05
06	235 27.9	+02.5	236 27.1	+02.4	237 26.2	+02.5	238 25.3	+02.5	239 24.5	+02.4	06
07	250 30.4	+02.5	251 29.5	+02.5	252 28.7	+02.4	253 27.8	+02.5	254 26.9	+02.5	07
08	265 32.9	+02.4	266 32.0	+02.5	267 31.1	+02.5	268 30.3	+02.4	269 29.4	+02.5	08
09	280 35.3	+02.5	281 34.5	+02.4	282 33.6	+02.5	283 32.7	+02.5	284 31.9	+02.4	09
10	295 37.8	+02.4	296 36.9	+02.5	297 36.1	+02.4	298 35.2	+02.5	299 34.3	+02.5	10
11	310 40.2	+02.5	311 39.4	+02.4	312 38.5	+02.5	313 37.7	+02.4	314 36.8	+02.5	11
12	325 42.7	+02.5	326 41.8	+02.5	327 41.0	+02.4	328 40.1	+02.5	329 39.3	+02.4	12
13	340 45.2	+02.4	341 44.3	+02.5	342 43.4	+02.5	343 42.6	+02.4	344 41.7	+02.5	13
14	355 47.6	+02.5	356 46.8	+02.4	357 45.9	+02.5	358 45.0	+02.5	359 44.2	+02.5	14
15	10 50.1	+02.5	11 49.2	+02.5	12 48.4	+02.4	13 47.5	+02.5	14 46.7	+02.4	15
16	25 52.6	+02.4	26 51.7	+02.5	27 50.8	+02.5	28 50.0	+02.4	29 49.1	+02.5	16
17	40 55.0	+02.5	41 54.2	+02.4	42 53.3	+02.5	43 52.4	+02.5	44 51.6	+02.4	17
18	55 57.5	+02.5	56 56.6	+02.5	57 55.8	+02.4	58 54.9	+02.5	59 54.0	+02.5	18
19	70 60.0	+02.4	71 59.1	+02.5	72 58.2	+02.5	73 57.4	+02.4	74 56.5	+02.5	19
20	86 02.4	+02.5	87 01.6	+02.4	88 00.7	+02.5	88 59.8	+02.5	89 59.0	+02.4	20
21	101 04.9	+02.4	102 04.0	+02.5	103 03.2	+02.4	104 02.3	+02.5	105 01.4	+02.5	21
22	116 07.3	+02.5	117 06.5	+02.5	118 05.6	+02.5	119 04.8	+02.4	120 03.9	+02.5	22
23	131 09.8	+02.5	132 09.0	+02.4	133 08.1	+02.5	134 07.2	+02.5	135 06.4	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.3	N 29 12.4	Gienah	175 46.5	S 17 39.5
Ankaa	353 10.7	S 42 11.7	*Acrux*	173 03.0	S 63 12.7
Schedir	349 35.0	N 56 39.2	*Gacrux*	171 54.7	S 57 13.6
Diphda	348 50.8	S 17 52.5	*Alioth*	166 15.6	N 55 50.5
Achernar	335 23.0	S 57 08.2	Spica	158 25.4	S 11 16.2
Hamal	327 54.9	N 23 33.7	*Alkaid*	152 54.3	N 49 12.3
Polaris	315 34.3	N 89 21.4	*Hadar*	148 40.1	S 60 28.2
Acamar	315 14.3	S 40 13.6	*Menkent*	148 00.9	S 36 28.0
Menkar	314 09.5	N 04 10.2	Arcturus	145 50.3	N 19 04.9
Mirfak	308 32.8	N 49 56.2	*Rigel Kentaurus*	139 41.9	S 60 55.2
Aldebaran	290 43.2	N 16 33.1	Zubenelgenubi	136 59.4	S 16 07.6
Capella	280 26.4	N 46 01.3	*Kocab*	137 19.6	N 74 03.9
Rigel	281 06.8	S 08 10.9	Alphecca	126 06.5	N 26 38.5
Bellatrix	278 26.1	N 06 22.0	Antares	112 19.9	S 26 28.6
Elnath	278 05.7	N 28 37.5	*Atria*	107 17.0	S 69 03.6
Alnilam	275 40.8	S 01 11.5	Sabik	102 06.5	S 15 45.0
Betelgeuze	270 55.3	N 07 24.5	*Shaula*	96 14.8	S 37 07.0
Canopus	263 53.4	S 52 42.7	Rasalhague	96 01.7	N 12 32.6
Sirius	258 28.6	S 16 44.5	*Etamin*	90 43.9	N 51 28.9
Adhara	255 08.0	S 29 00.2	*Kaus Australis*	83 37.0	S 34 22.3
Castor	246 00.7	N 31 50.5	*Vega*	80 35.7	N 38 47.9
Procyon	244 53.6	N 05 10.5	Nunki	75 52.0	S 26 16.2
Pollux	243 20.5	N 27 58.5	Albireo	67 06.9	N 28 00.1
Avior	234 15.3	S 59 34.7	Altair	62 03.5	N 08 55.2
Suhail	222 48.1	S 43 31.1	*Peacock*	53 11.3	S 56 40.0
Miaplacidus	221 37.7	S 69 48.3	*Deneb*	49 28.4	N 45 21.2
Alphard	217 50.5	S 08 45.1	Enif	33 42.2	N 09 58.1
Regulus	207 37.4	N 11 51.8	*Alnair*	27 37.5	S 46 51.6
Dubhe	193 44.3	N 61 38.1	Formalhaut	15 18.5	S 29 30.8
Denebola	182 27.8	N 14 27.2	Markab	13 33.4	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 71 of 365 March 12 GHA	ddGHA	day 72 of 365 March 13 GHA	ddGHA	day 73 of 365 March 14 GHA	ddGHA	day 74 of 365 March 15 GHA	ddGHA	day 75 of 365 March 16 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	169 51.6	+02.5	170 50.7	+02.5	171 49.9	+02.4	172 49.0	+02.5	173 48.2	+02.4	00
01	184 54.1	+02.4	185 53.2	+02.5	186 52.3	+02.5	187 51.5	+02.4	188 50.6	+02.5	01
02	199 56.5	+02.5	200 55.7	+02.4	201 54.8	+02.5	202 53.9	+02.5	203 53.1	+02.4	02
03	214 59.0	+02.5	215 58.1	+02.5	216 57.3	+02.4	217 56.4	+02.5	218 55.5	+02.5	03
04	230 01.5	+02.4	231 00.6	+02.5	231 59.7	+02.5	232 58.9	+02.4	233 58.0	+02.5	04
05	245 03.9	+02.5	246 03.1	+02.4	247 02.2	+02.5	248 01.3	+02.5	249 00.5	+02.4	05
06	260 06.4	+02.5	261 05.5	+02.5	262 04.7	+02.4	263 03.8	+02.5	264 02.9	+02.5	06
07	275 08.9	+02.4	276 08.0	+02.5	277 07.1	+02.5	278 06.3	+02.4	279 05.4	+02.5	07
08	290 11.3	+02.5	291 10.5	+02.4	292 09.6	+02.5	293 08.7	+02.5	294 07.9	+02.4	08
09	305 13.8	+02.4	306 12.9	+02.5	307 12.1	+02.4	308 11.2	+02.5	309 10.3	+02.5	09
10	320 16.2	+02.5	321 15.4	+02.4	322 14.5	+02.5	323 13.7	+02.4	324 12.8	+02.5	10
11	335 18.7	+02.5	336 17.8	+02.5	337 17.0	+02.4	338 16.1	+02.5	339 15.3	+02.4	11
12	350 21.2	+02.4	351 20.3	+02.5	352 19.4	+02.5	353 18.6	+02.4	354 17.7	+02.5	12
13	5 23.6	+02.5	6 22.8	+02.4	7 21.9	+02.5	8 21.0	+02.5	9 20.2	+02.4	13
14	20 26.1	+02.5	21 25.2	+02.5	22 24.4	+02.4	23 23.5	+02.5	24 22.6	+02.5	14
15	35 28.6	+02.4	36 27.7	+02.5	37 26.8	+02.5	38 26.0	+02.4	39 25.1	+02.5	15
16	50 31.0	+02.5	51 30.2	+02.4	52 29.3	+02.5	53 28.4	+02.5	54 27.6	+02.4	16
17	65 33.5	+02.5	66 32.6	+02.5	67 31.8	+02.4	68 30.9	+02.5	69 30.0	+02.5	17
18	80 36.0	+02.4	81 35.1	+02.5	82 34.2	+02.5	83 33.4	+02.4	84 32.5	+02.5	18
19	95 38.4	+02.5	96 37.6	+02.4	97 36.7	+02.5	98 35.8	+02.5	99 35.0	+02.4	19
20	110 40.9	+02.4	111 40.0	+02.5	112 39.2	+02.4	113 38.3	+02.5	114 37.4	+02.5	20
21	125 43.3	+02.5	126 42.5	+02.4	127 41.6	+02.5	128 40.8	+02.4	129 39.9	+02.5	21
22	140 45.8	+02.5	141 44.9	+02.5	142 44.1	+02.4	143 43.2	+02.5	144 42.4	+02.4	22
23	155 48.3	+02.4	156 47.4	+02.5	157 46.5	+02.5	158 45.7	+02.5	159 44.8	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.4	N 29 12.3	Gienah	175 46.4	S 17 39.6
Ankaa	353 10.8	S 42 11.6	*Acrux*	173 02.8	S 63 12.9
Schedir	349 35.1	N 56 39.1	*Gacrux*	171 54.5	S 57 13.7
Diphda	348 50.8	S 17 52.5	*Alioth*	166 15.4	N 55 50.6
Achernar	335 23.1	S 57 08.1	Spica	158 25.3	S 11 16.3
Hamal	327 55.0	N 23 33.7	*Alkaid*	152 54.1	N 49 12.3
Polaris	315 45.2	N 89 21.4	*Hadar*	148 39.8	S 60 28.3
Acamar	315 14.4	S 40 13.6	*Menkent*	148 00.7	S 36 28.1
Menkar	314 09.6	N 04 10.2	Arcturus	145 50.2	N 19 04.9
Mirfak	308 32.9	N 49 56.2	*Rigel Kentaurus*	139 41.6	S 60 55.3
Aldebaran	290 43.3	N 16 33.0	Zubenelgenubi	136 59.2	S 16 07.7
Capella	280 26.5	N 46 01.3	*Kocab*	137 19.2	N 74 03.9
Rigel	281 06.9	S 08 10.9	Alphecca	126 06.3	N 26 38.5
Bellatrix	278 26.2	N 06 22.0	Antares	112 19.7	S 26 28.6
Elnath	278 05.8	N 28 37.5	*Atria*	107 16.5	S 69 03.6
Alnilam	275 40.9	S 01 11.5	Sabik	102 06.3	S 15 45.1
Betelgeuze	270 55.4	N 07 24.5	*Shaula*	96 14.6	S 37 07.0
Canopus	263 53.6	S 52 42.7	Rasalhague	96 01.5	N 12 32.6
Sirius	258 28.7	S 16 44.5	*Etamin*	90 43.7	N 51 28.9
Adhara	255 08.1	S 29 00.3	*Kaus Australis*	83 36.7	S 34 22.3
Castor	246 00.8	N 31 50.6	*Vega*	80 35.5	N 38 47.8
Procyon	244 53.7	N 05 10.5	Nunki	75 51.8	S 26 16.2
Pollux	243 20.6	N 27 58.5	Albireo	67 06.7	N 27 60.0
Avior	234 15.5	S 59 34.9	Altair	62 03.3	N 08 55.1
Suhail	222 48.2	S 43 31.2	*Peacock*	53 11.1	S 56 39.9
Miaplacidus	221 37.9	S 69 48.4	*Deneb*	49 28.2	N 45 21.1
Alphard	217 50.5	S 08 45.1	Enif	33 42.1	N 09 58.1
Regulus	207 37.4	N 11 51.8	*Alnair*	27 37.4	S 46 51.5
Dubhe	193 44.2	N 61 38.2	Formalhaut	15 18.5	S 29 30.7
Denebola	182 27.7	N 14 27.2	Markab	13 33.3	N 15 18.9

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2021 - First Point of Aries / Selected Stars

UT	day 56 of 365 February 25 GHA	ddGHA	day 57 of 365 February 26 GHA	ddGHA	day 58 of 365 February 27 GHA	ddGHA	day 59 of 365 February 28 GHA	ddGHA	day 60 of 365 March 1 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	155 04.5	+02.5	156 03.7	+02.4	157 02.8	+02.5	158 01.9	+02.5	159 01.1	+02.4	00
01	170 07.0	+02.5	171 06.1	+02.5	172 05.3	+02.4	173 04.4	+02.5	174 03.5	+02.5	01
02	185 09.5	+02.4	186 08.6	+02.5	187 07.7	+02.5	188 06.9	+02.4	189 06.0	+02.5	02
03	200 11.9	+02.5	201 11.1	+02.4	202 10.2	+02.5	203 09.3	+02.5	204 08.5	+02.4	03
04	215 14.4	+02.4	216 13.5	+02.5	217 12.7	+02.4	218 11.8	+02.5	219 10.9	+02.5	04
05	230 16.8	+02.5	231 16.0	+02.5	232 15.1	+02.5	233 14.3	+02.4	234 13.4	+02.5	05
06	245 19.3	+02.5	246 18.5	+02.4	247 17.6	+02.5	248 16.7	+02.5	249 15.9	+02.4	06
07	260 21.8	+02.4	261 20.9	+02.5	262 20.1	+02.4	263 19.2	+02.5	264 18.3	+02.5	07
08	275 24.2	+02.5	276 23.4	+02.4	277 22.5	+02.5	278 21.7	+02.4	279 20.8	+02.5	08
09	290 26.7	+02.5	291 25.8	+02.5	292 25.0	+02.4	293 24.1	+02.5	294 23.3	+02.4	09
10	305 29.2	+02.4	306 28.3	+02.5	307 27.4	+02.5	308 26.6	+02.4	309 25.7	+02.5	10
11	320 31.6	+02.5	321 30.8	+02.4	322 29.9	+02.5	323 29.0	+02.5	324 28.2	+02.4	11
12	335 34.1	+02.5	336 33.2	+02.5	337 32.4	+02.4	338 31.5	+02.5	339 30.6	+02.5	12
13	350 36.6	+02.4	351 35.7	+02.5	352 34.8	+02.5	353 34.0	+02.4	354 33.1	+02.5	13
14	5 39.0	+02.5	6 38.2	+02.4	7 37.3	+02.5	8 36.4	+02.5	9 35.6	+02.4	14
15	20 41.5	+02.5	21 40.6	+02.5	22 39.8	+02.4	23 38.9	+02.5	24 38.0	+02.5	15
16	35 44.0	+02.4	36 43.1	+02.5	37 42.2	+02.5	38 41.4	+02.4	39 40.5	+02.5	16
17	50 46.4	+02.5	51 45.6	+02.4	52 44.7	+02.5	53 43.8	+02.5	54 43.0	+02.4	17
18	65 48.9	+02.4	66 48.0	+02.5	67 47.2	+02.4	68 46.3	+02.5	69 45.4	+02.5	18
19	80 51.3	+02.5	81 50.5	+02.4	82 49.6	+02.5	83 48.8	+02.4	84 47.9	+02.5	19
20	95 53.8	+02.5	96 52.9	+02.5	97 52.1	+02.4	98 51.2	+02.5	99 50.4	+02.4	20
21	110 56.3	+02.4	111 55.4	+02.5	112 54.5	+02.5	113 53.7	+02.4	114 52.8	+02.5	21
22	125 58.7	+02.5	126 57.9	+02.4	127 57.0	+02.5	128 56.1	+02.5	129 55.3	+02.5	22
23	141 01.2	+02.5	142 00.3	+02.5	142 59.5	+02.4	143 58.6	+02.5	144 57.8	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.3	N 29 12.4	Gienah	175 46.5	S 17 39.5
Ankaa	353 10.8	S 42 11.6	*Acrux*	173 02.9	S 63 12.8
Schedir	349 35.0	N 56 39.2	*Gacrux*	171 54.6	S 57 13.6
Diphda	348 50.8	S 17 52.5	*Alioth*	166 15.5	N 55 50.6
Achernar	335 23.1	S 57 08.1	Spica	158 25.4	S 11 16.3
Hamal	327 55.0	N 23 33.7	*Alkaid*	152 54.2	N 49 12.3
Polaris	315 38.8	N 89 21.4	*Hadar*	148 40.0	S 60 28.2
Acamar	315 14.3	S 40 13.6	*Menkent*	148 00.8	S 36 28.0
Menkar	314 09.5	N 04 10.2	Arcturus	145 50.3	N 19 04.9
Mirfak	308 32.8	N 49 56.2	*Rigel Kentaurus*	139 41.8	S 60 55.2
Aldebaran	290 43.2	N 16 33.1	Zubenelgenubi	136 59.3	S 16 07.7
Capella	280 26.4	N 46 01.3	*Kocab*	137 19.4	N 74 03.9
Rigel	281 06.8	S 08 10.9	Alphecca	126 06.4	N 26 38.5
Bellatrix	278 26.1	N 06 22.0	Antares	112 19.8	S 26 28.6
Elnath	278 05.7	N 28 37.5	*Atria*	107 16.8	S 69 03.6
Alnilam	275 40.8	S 01 11.5	Sabik	102 06.5	S 15 45.1
Betelgeuze	270 55.4	N 07 24.5	*Shaula*	96 14.7	S 37 07.0
Canopus	263 53.5	S 52 42.7	Rasalhague	96 01.6	N 12 32.6
Sirius	258 28.6	S 16 44.5	*Etamin*	90 43.9	N 51 28.9
Adhara	255 08.1	S 29 00.3	*Kaus Australis*	83 36.9	S 34 22.3
Castor	246 00.7	N 31 50.5	*Vega*	80 35.6	N 38 47.8
Procyon	244 53.7	N 05 10.5	Nunki	75 51.9	S 26 16.2
Pollux	243 20.5	N 27 58.5	Albireo	67 06.8	N 28 00.0
Avior	234 15.4	S 59 34.8	Altair	62 03.4	N 08 55.2
Suhail	222 48.1	S 43 31.2	*Peacock*	53 11.2	S 56 39.9
Miaplacidus	221 37.7	S 69 48.3	*Deneb*	49 28.3	N 45 21.1
Alphard	217 50.5	S 08 45.1	Enif	33 42.2	N 09 58.1
Regulus	207 37.4	N 11 51.8	*Alnair*	27 37.4	S 46 51.6
Dubhe	193 44.2	N 61 38.2	Formalhaut	15 18.5	S 29 30.8
Denebola	182 27.7	N 14 27.2	Markab	13 33.3	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 61 of 365 March 2 GHA	ddGHA	day 62 of 365 March 3 GHA	ddGHA	day 63 of 365 March 4 GHA	ddGHA	day 64 of 365 March 5 GHA	ddGHA	day 65 of 365 March 6 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	160 00.2	+02.5	160 59.4	+02.4	161 58.5	+02.5	162 57.6	+02.5	163 56.8	+02.4	00
01	175 02.7	+02.5	176 01.8	+02.5	177 01.0	+02.4	178 00.1	+02.5	178 59.2	+02.5	01
02	190 05.1	+02.5	191 04.3	+02.4	192 03.4	+02.5	193 02.6	+02.4	194 01.7	+02.5	02
03	205 07.6	+02.5	206 06.7	+02.5	207 05.9	+02.4	208 05.0	+02.5	209 04.2	+02.4	03
04	220 10.1	+02.4	221 09.2	+02.5	222 08.3	+02.5	223 07.5	+02.4	224 06.6	+02.5	04
05	235 12.5	+02.5	236 11.7	+02.4	237 10.8	+02.5	238 09.9	+02.5	239 09.1	+02.5	05
06	250 15.0	+02.5	251 14.1	+02.5	252 13.3	+02.4	253 12.4	+02.5	254 11.6	+02.4	06
07	265 17.5	+02.4	266 16.6	+02.5	267 15.7	+02.5	268 14.9	+02.4	269 14.0	+02.5	07
08	280 19.9	+02.5	281 19.1	+02.4	282 18.2	+02.5	283 17.3	+02.5	284 16.5	+02.4	08
09	295 22.4	+02.5	296 21.5	+02.5	297 20.7	+02.4	298 19.8	+02.5	299 18.9	+02.5	09
10	310 24.9	+02.4	311 24.0	+02.5	312 23.1	+02.5	313 22.3	+02.4	314 21.4	+02.5	10
11	325 27.3	+02.5	326 26.5	+02.4	327 25.6	+02.5	328 24.7	+02.5	329 23.9	+02.4	11
12	340 29.8	+02.4	341 28.9	+02.5	342 28.1	+02.4	343 27.2	+02.5	344 26.3	+02.5	12
13	355 32.2	+02.5	356 31.4	+02.4	357 30.5	+02.5	358 29.7	+02.4	359 28.8	+02.5	13
14	10 34.7	+02.5	11 33.8	+02.5	12 33.0	+02.5	13 32.1	+02.5	14 31.3	+02.4	14
15	25 37.2	+02.4	26 36.3	+02.5	27 35.5	+02.4	28 34.6	+02.5	29 33.7	+02.5	15
16	40 39.6	+02.5	41 38.8	+02.4	42 37.9	+02.5	43 37.1	+02.4	44 36.2	+02.5	16
17	55 42.1	+02.5	56 41.2	+02.5	57 40.4	+02.4	58 39.5	+02.5	59 38.7	+02.4	17
18	70 44.6	+02.4	71 43.7	+02.5	72 42.8	+02.5	73 42.0	+02.4	74 41.1	+02.5	18
19	85 47.0	+02.5	86 46.2	+02.4	87 45.3	+02.5	88 44.4	+02.5	89 43.6	+02.5	19
20	100 49.5	+02.5	101 48.6	+02.5	102 47.8	+02.4	103 46.9	+02.5	104 46.1	+02.4	20
21	115 52.0	+02.4	116 51.1	+02.5	117 50.2	+02.5	118 49.4	+02.4	119 48.5	+02.5	21
22	130 54.4	+02.5	131 53.6	+02.4	132 52.7	+02.5	133 51.8	+02.5	134 51.0	+02.4	22
23	145 56.9	+02.5	146 56.0	+02.5	147 55.2	+02.4	148 54.3	+02.5	149 53.4	+02.5	23

	SHA ° ′	Dec ° ′
Alpheratz	357 38.4	N 29 12.3
Ankaa	353 10.8	S 42 11.6
Schedir	349 35.0	N 56 39.2
Diphda	348 50.8	S 17 52.5
Achernar	335 23.1	S 57 08.1
Hamal	327 55.0	N 23 33.7
Polaris	315 41.3	N 89 21.4
Acamar	315 14.3	S 40 13.6
Menkar	314 09.5	N 04 10.2
Mirfak	308 32.9	N 49 56.2
Aldebaran	290 43.2	N 16 33.1
Capella	280 26.5	N 46 01.3
Rigel	281 06.8	S 08 10.9
Bellatrix	278 26.2	N 06 22.0
Elnath	278 05.8	N 28 37.5
Alnilam	275 40.8	S 01 11.5
Betelgeuze	270 55.4	N 07 24.5
Canopus	263 53.6	S 52 42.7
Sirius	258 28.7	S 16 44.5
Adhara	255 08.1	S 29 00.3
Castor	246 00.7	N 31 50.5
Procyon	244 53.7	N 05 10.5
Pollux	243 20.6	N 27 58.5
Avior	234 15.4	S 59 34.8
Suhail	222 48.1	S 43 31.2
Miaplacidus	221 37.8	S 69 48.4
Alphard	217 50.5	S 08 45.1
Regulus	207 37.4	N 11 51.8
Dubhe	193 44.2	N 61 38.2
Denebola	182 27.7	N 14 27.2

	SHA ° ′	Dec ° ′
Gienah	175 46.4	S 17 39.5
Acrux	173 02.8	S 63 12.8
Gacrux	171 54.6	S 57 13.6
Alioth	166 15.4	N 55 50.6
Spica	158 25.3	S 11 16.3
Alkaid	152 54.2	N 49 12.3
Hadar	148 40.0	S 60 28.2
Menkent	148 00.8	S 36 28.0
Arcturus	145 50.2	N 19 04.9
Rigel Kentaurus	139 41.7	S 60 55.2
Zubenelgenubi	136 59.3	S 16 07.7
Kocab	137 19.3	N 74 03.9
Alphecca	126 06.4	N 26 38.5
Antares	112 19.8	S 26 28.6
Atria	107 16.7	S 69 03.6
Sabik	102 06.4	S 15 45.1
Shaula	96 14.7	S 37 07.0
Rasalhague	96 01.6	N 12 32.6
Etamin	90 43.8	N 51 28.9
Kaus Australis	83 36.8	S 34 22.3
Vega	80 35.6	N 38 47.8
Nunki	75 51.8	S 26 16.2
Albireo	67 06.8	N 28 00.0
Altair	62 03.4	N 08 55.1
Peacock	53 11.2	S 56 39.9
Deneb	49 28.3	N 45 21.1
Enif	33 42.2	N 09 58.1
Alnair	27 37.4	S 46 51.6
Formalhaut	15 18.5	S 29 30.8
Markab	13 33.3	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 66 of 365 March 7 GHA	ddGHA	day 67 of 365 March 8 GHA	ddGHA	day 68 of 365 March 9 GHA	ddGHA	day 69 of 365 March 10 GHA	ddGHA	day 70 of 365 March 11 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	164 55.9	+02.5	165 55.0	+02.5	166 54.2	+02.5	167 53.3	+02.5	168 52.5	+02.4	00
01	179 58.4	+02.4	180 57.5	+02.5	181 56.7	+02.4	182 55.8	+02.5	183 54.9	+02.5	01
02	195 00.8	+02.5	195 60.0	+02.4	196 59.1	+02.5	197 58.3	+02.4	198 57.4	+02.5	02
03	210 03.3	+02.5	211 02.4	+02.5	212 01.6	+02.4	213 00.7	+02.5	213 59.9	+02.4	03
04	225 05.8	+02.4	226 04.9	+02.5	227 04.0	+02.5	228 03.2	+02.4	229 02.3	+02.5	04
05	240 08.2	+02.5	241 07.4	+02.4	242 06.5	+02.5	243 05.6	+02.5	244 04.8	+02.5	05
06	255 10.7	+02.5	256 09.8	+02.5	257 09.0	+02.4	258 08.1	+02.5	259 07.3	+02.4	06
07	270 13.2	+02.4	271 12.3	+02.5	272 11.4	+02.5	273 10.6	+02.4	274 09.7	+02.5	07
08	285 15.6	+02.5	286 14.8	+02.4	287 13.9	+02.5	288 13.0	+02.5	289 12.2	+02.4	08
09	300 18.1	+02.5	301 17.2	+02.5	302 16.4	+02.4	303 15.5	+02.5	304 14.6	+02.5	09
10	315 20.6	+02.4	316 19.7	+02.5	317 18.8	+02.5	318 18.0	+02.4	319 17.1	+02.5	10
11	330 23.0	+02.5	331 22.2	+02.4	332 21.3	+02.5	333 20.4	+02.5	334 19.6	+02.4	11
12	345 25.5	+02.4	346 24.6	+02.5	347 23.8	+02.4	348 22.9	+02.5	349 22.0	+02.5	12
13	0 27.9	+02.5	1 27.1	+02.4	2 26.2	+02.5	3 25.4	+02.4	4 24.5	+02.5	13
14	15 30.4	+02.5	16 29.5	+02.5	17 28.7	+02.5	18 27.8	+02.5	19 27.0	+02.4	14
15	30 32.9	+02.4	31 32.0	+02.5	32 31.2	+02.4	33 30.3	+02.5	34 29.4	+02.5	15
16	45 35.3	+02.5	46 34.5	+02.4	47 33.6	+02.5	48 32.8	+02.4	49 31.9	+02.5	16
17	60 37.8	+02.5	61 36.9	+02.5	62 36.1	+02.4	63 35.2	+02.5	64 34.4	+02.4	17
18	75 40.3	+02.4	76 39.4	+02.5	77 38.5	+02.5	78 37.7	+02.4	79 36.8	+02.5	18
19	90 42.7	+02.5	91 41.9	+02.4	92 41.0	+02.5	93 40.1	+02.5	94 39.3	+02.4	19
20	105 45.2	+02.5	106 44.3	+02.5	107 43.5	+02.4	108 42.6	+02.5	109 41.7	+02.5	20
21	120 47.7	+02.4	121 46.8	+02.5	122 45.9	+02.5	123 45.1	+02.4	124 44.2	+02.5	21
22	135 50.1	+02.5	136 49.3	+02.4	137 48.4	+02.5	138 47.5	+02.5	139 46.7	+02.4	22
23	150 52.6	+02.4	151 51.7	+02.5	152 50.9	+02.4	153 50.0	+02.5	154 49.1	+02.5	23

	SHA ° ′	Dec ° ′
Alpheratz	357 38.4	N 29 12.3
Ankaa	353 10.8	S 42 11.6
Schedir	349 35.1	N 56 39.1
Diphda	348 50.8	S 17 52.5
Achernar	335 23.1	S 57 08.1
Hamal	327 55.0	N 23 33.7
Polaris	315 43.2	N 89 21.4
Acamar	315 14.4	S 40 13.6
Menkar	314 09.6	N 04 10.2
Mirfak	308 32.9	N 49 56.2
Aldebaran	290 43.2	N 16 33.0
Capella	280 26.5	N 46 01.3
Rigel	281 06.9	S 08 10.9
Bellatrix	278 26.2	N 06 22.0
Elnath	278 05.8	N 28 37.5
Alnilam	275 40.9	S 01 11.5
Betelgeuze	270 55.4	N 07 24.5
Canopus	263 53.6	S 52 42.7
Sirius	258 28.7	S 16 44.5
Adhara	255 08.1	S 29 00.3
Castor	246 00.8	N 31 50.5
Procyon	244 53.7	N 05 10.5
Pollux	243 20.6	N 27 58.5
Avior	234 15.4	S 59 34.8
Suhail	222 48.2	S 43 31.2
Miaplacidus	221 37.8	S 69 48.4
Alphard	217 50.5	S 08 45.1
Regulus	207 37.4	N 11 51.8
Dubhe	193 44.2	N 61 38.2
Denebola	182 27.7	N 14 27.2

	SHA ° ′	Dec ° ′
Gienah	175 46.4	S 17 39.6
Acrux	173 02.8	S 63 12.8
Gacrux	171 54.5	S 57 13.7
Alioth	166 15.4	N 55 50.6
Spica	158 25.3	S 11 16.3
Alkaid	152 54.1	N 49 12.3
Hadar	148 39.9	S 60 28.2
Menkent	148 00.7	S 36 28.0
Arcturus	145 50.2	N 19 04.9
Rigel Kentaurus	139 41.6	S 60 55.2
Zubenelgenubi	136 59.2	S 16 07.7
Kocab	137 19.3	N 74 03.9
Alphecca	126 06.3	N 26 38.5
Antares	112 19.7	S 26 28.6
Atria	107 16.6	S 69 03.6
Sabik	102 06.4	S 15 45.1
Shaula	96 14.7	S 37 07.0
Rasalhague	96 01.5	N 12 32.6
Etamin	90 43.8	N 51 28.9
Kaus Australis	83 36.8	S 34 22.3
Vega	80 35.6	N 38 47.8
Nunki	75 51.8	S 26 16.2
Albireo	67 06.8	N 27 60.0
Altair	62 03.4	N 08 55.1
Peacock	53 11.1	S 56 39.9
Deneb	49 28.3	N 45 21.1
Enif	33 42.2	N 09 58.1
Alnair	27 37.4	S 46 51.6
Formalhaut	15 18.5	S 29 30.7
Markab	13 33.3	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 91 of 365 April 1 GHA	ddGHA	day 92 of 365 April 2 GHA	ddGHA	day 93 of 365 April 3 GHA	ddGHA	day 94 of 365 April 4 GHA	ddGHA	day 95 of 365 April 5 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	189 34.4	+02.4	190 33.5	+02.5	191 32.6	+02.5	192 31.8	+02.4	193 30.9	+02.5	00
01	204 36.8	+02.5	205 36.0	+02.4	206 35.1	+02.5	207 34.2	+02.5	208 33.4	+02.4	01
02	219 39.3	+02.5	220 38.4	+02.5	221 37.6	+02.4	222 36.7	+02.5	223 35.8	+02.5	02
03	234 41.8	+02.4	235 40.9	+02.5	236 40.0	+02.5	237 39.2	+02.4	238 38.3	+02.5	03
04	249 44.2	+02.5	250 43.4	+02.4	251 42.5	+02.5	252 41.6	+02.5	253 40.8	+02.4	04
05	264 46.7	+02.5	265 45.8	+02.5	266 45.0	+02.4	267 44.1	+02.5	268 43.2	+02.5	05
06	279 49.1	+02.5	280 48.3	+02.4	281 47.4	+02.5	282 46.6	+02.4	283 45.7	+02.5	06
07	294 51.6	+02.5	295 50.7	+02.5	296 49.9	+02.5	297 49.0	+02.5	298 48.2	+02.4	07
08	309 54.1	+02.4	310 53.2	+02.5	311 52.4	+02.4	312 51.5	+02.5	313 50.6	+02.5	08
09	324 56.5	+02.5	325 55.7	+02.4	326 54.8	+02.5	327 54.0	+02.4	328 53.1	+02.5	09
10	339 59.0	+02.5	340 58.1	+02.5	341 57.3	+02.4	342 56.4	+02.5	343 55.6	+02.4	10
11	355 01.5	+02.4	356 00.6	+02.5	356 59.7	+02.5	357 58.9	+02.5	358 58.0	+02.5	11
12	10 03.9	+02.5	11 03.1	+02.4	12 02.2	+02.5	13 01.4	+02.4	14 00.5	+02.5	12
13	25 06.4	+02.5	26 05.5	+02.5	27 04.7	+02.4	28 03.8	+02.5	29 03.0	+02.4	13
14	40 08.9	+02.4	41 08.0	+02.5	42 07.1	+02.5	43 06.3	+02.4	44 05.4	+02.5	14
15	55 11.3	+02.5	56 10.5	+02.4	57 09.6	+02.5	58 08.7	+02.5	59 07.9	+02.4	15
16	70 13.8	+02.5	71 12.9	+02.5	72 12.1	+02.4	73 11.2	+02.5	74 10.3	+02.5	16
17	85 16.3	+02.4	86 15.4	+02.5	87 14.5	+02.5	88 13.7	+02.4	89 12.8	+02.5	17
18	100 18.7	+02.5	101 17.9	+02.4	102 17.0	+02.5	103 16.1	+02.5	104 15.3	+02.4	18
19	115 21.2	+02.4	116 20.3	+02.5	117 19.5	+02.4	118 18.6	+02.5	119 17.7	+02.5	19
20	130 23.6	+02.5	131 22.8	+02.4	132 21.9	+02.5	133 21.1	+02.4	134 20.2	+02.5	20
21	145 26.1	+02.5	146 25.2	+02.5	147 24.4	+02.5	148 23.5	+02.5	149 22.7	+02.4	21
22	160 28.6	+02.4	161 27.7	+02.5	162 26.9	+02.4	163 26.0	+02.5	164 25.1	+02.5	22
23	175 31.0	+02.5	176 30.2	+02.4	177 29.3	+02.5	178 28.5	+02.4	179 27.6	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.3	N 29 12.3	Gienah	175 46.4	S 17 39.6
Ankaa	353 10.8	S 42 11.5	*Acrux*	173 02.7	S 63 13.0
Schedir	349 35.1	N 56 39.0	*Gacrux*	171 54.5	S 57 13.8
Diphda	348 50.8	S 17 52.5	*Alioth*	166 15.3	N 55 50.7
Achernar	335 23.2	S 57 08.0	Spica	158 25.2	S 11 16.3
Hamal	327 55.0	N 23 33.6	*Alkaid*	152 54.0	N 49 12.4
Polaris	315 51.8	N 89 21.3	*Hadar*	148 39.7	S 60 28.4
Acamar	315 14.5	S 40 13.5	*Menkent*	148 00.6	S 36 28.1
Menkar	314 09.6	N 04 10.2	Arcturus	145 50.1	N 19 04.9
Mirfak	308 33.0	N 49 56.1	*Rigel Kentaurus*	139 41.4	S 60 55.4
Aldebaran	290 43.4	N 16 33.0	Zubenelgenubi	136 59.1	S 16 07.7
Capella	280 26.7	N 46 01.3	*Kocab*	137 18.9	N 74 04.0
Rigel	281 07.0	S 08 10.9	Alphecca	126 06.2	N 26 38.5
Bellatrix	278 26.3	N 06 22.0	Antares	112 19.5	S 26 28.6
Elnath	278 05.9	N 28 37.5	*Atria*	107 16.2	S 69 03.6
Alnilam	275 41.0	S 01 11.5	Sabik	102 06.2	S 15 45.1
Betelgeuze	270 55.5	N 07 24.5	*Shaula*	96 14.4	S 37 07.0
Canopus	263 53.8	S 52 42.8	Rasalhague	96 01.3	N 12 32.6
Sirius	258 28.8	S 16 44.5	*Etamin*	90 43.5	N 51 28.9
Adhara	255 08.3	S 29 00.3	*Kaus Australis*	83 36.6	S 34 22.3
Castor	246 00.9	N 31 50.6	*Vega*	80 35.4	N 38 47.8
Procyon	244 53.8	N 05 10.5	Nunki	75 51.6	S 26 16.1
Pollux	243 20.7	N 27 58.5	Albireo	67 06.6	N 27 60.0
Avior	234 15.7	S 59 34.9	Altair	62 03.2	N 08 55.1
Suhail	222 48.3	S 43 31.3	*Peacock*	53 10.9	S 56 39.8
Miaplacidus	221 38.1	S 69 48.5	*Deneb*	49 28.1	N 45 21.0
Alphard	217 50.6	S 08 45.2	Enif	33 42.0	N 09 58.1
Regulus	207 37.4	N 11 51.8	*Alnair*	27 37.2	S 46 51.4
Dubhe	193 44.2	N 61 38.3	Formalhaut	15 18.4	S 29 30.7
Denebola	182 27.6	N 14 27.2	Markab	13 33.3	N 15 18.9

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2021 - First Point of Aries / Selected Stars

UT	day 76 of 365 March 17 GHA	ddGHA	day 77 of 365 March 18 GHA	ddGHA	day 78 of 365 March 19 GHA	ddGHA	day 79 of 365 March 20 GHA	ddGHA	day 80 of 365 March 21 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	174 47.3	+02.5	175 46.4	+02.5	176 45.6	+02.4	177 44.7	+02.5	178 43.8	+02.5	00
01	189 49.8	+02.4	190 48.9	+02.5	191 48.0	+02.5	192 47.2	+02.4	193 46.3	+02.5	01
02	204 52.2	+02.5	205 51.4	+02.4	206 50.5	+02.5	207 49.6	+02.5	208 48.8	+02.4	02
03	219 54.7	+02.4	220 53.8	+02.5	221 53.0	+02.4	222 52.1	+02.5	223 51.2	+02.5	03
04	234 57.1	+02.5	235 56.3	+02.4	236 55.4	+02.5	237 54.6	+02.4	238 53.7	+02.5	04
05	249 59.6	+02.5	250 58.7	+02.5	251 57.9	+02.4	252 57.0	+02.5	253 56.2	+02.4	05
06	265 02.1	+02.4	266 01.2	+02.5	267 00.3	+02.5	267 59.5	+02.5	268 58.6	+02.5	06
07	280 04.5	+02.5	281 03.7	+02.4	282 02.8	+02.5	283 02.0	+02.4	284 01.1	+02.5	07
08	295 07.0	+02.5	296 06.1	+02.5	297 05.3	+02.4	298 04.4	+02.5	299 03.6	+02.4	08
09	310 09.5	+02.4	311 08.6	+02.5	312 07.7	+02.5	313 06.9	+02.4	314 06.0	+02.5	09
10	325 11.9	+02.5	326 11.1	+02.4	327 10.2	+02.5	328 09.3	+02.5	329 08.5	+02.4	10
11	340 14.4	+02.5	341 13.5	+02.5	342 12.7	+02.4	343 11.8	+02.5	344 10.9	+02.5	11
12	355 16.9	+02.4	356 16.0	+02.5	357 15.1	+02.5	358 14.3	+02.4	359 13.4	+02.5	12
13	10 19.3	+02.5	11 18.5	+02.4	12 17.6	+02.5	13 16.7	+02.5	14 15.9	+02.4	13
14	25 21.8	+02.4	26 20.9	+02.5	27 20.1	+02.4	28 19.2	+02.5	29 18.3	+02.5	14
15	40 24.2	+02.5	41 23.4	+02.5	42 22.5	+02.5	43 21.7	+02.4	44 20.8	+02.5	15
16	55 26.7	+02.5	56 25.9	+02.4	57 25.0	+02.5	58 24.1	+02.5	59 23.3	+02.4	16
17	70 29.2	+02.4	71 28.3	+02.5	72 27.5	+02.4	73 26.6	+02.5	74 25.7	+02.5	17
18	85 31.6	+02.5	86 30.8	+02.4	87 29.9	+02.5	88 29.1	+02.4	89 28.2	+02.5	18
19	100 34.1	+02.5	101 33.2	+02.5	102 32.4	+02.4	103 31.5	+02.5	104 30.7	+02.4	19
20	115 36.6	+02.4	116 35.7	+02.5	117 34.8	+02.5	118 34.0	+02.4	119 33.1	+02.5	20
21	130 39.0	+02.5	131 38.2	+02.4	132 37.3	+02.5	133 36.4	+02.5	134 35.6	+02.5	21
22	145 41.5	+02.5	146 40.6	+02.5	147 39.8	+02.4	148 38.9	+02.5	149 38.1	+02.4	22
23	160 44.0	+02.4	161 43.1	+02.5	162 42.2	+02.5	163 41.4	+02.4	164 40.5	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.4	N 29 12.3	Gienah	175 46.4	S 17 39.6
Ankaa	353 10.8	S 42 11.6	*Acrux*	173 02.8	S 63 12.9
Schedir	349 35.1	N 56 39.1	*Gacrux*	171 54.5	S 57 13.7
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Polaris	315 47.3	N 89 21.4	*Hadar*	148 39.8	S 60 28.3
Acamar	315 14.4	S 40 13.5	*Menkent*	148 00.7	S 36 28.1
Menkar	314 09.6	N 04 10.2	Arcturus	145 50.2	N 19 04.9
Mirfak	308 32.9	N 49 56.2	*Rigel Kentaurus*	139 41.5	S 60 55.3
Aldebaran	290 43.3	N 16 33.0	Zubenelgenubi	136 59.2	S 16 07.7
Capella	280 26.6	N 46 01.3	*Kocab*	137 19.1	N 74 03.9
Rigel	281 06.9	S 08 10.9	Alphecca	126 06.3	N 26 38.5
Bellatrix	278 26.2	N 06 22.0	Antares	112 19.6	S 26 28.6
Elnath	278 05.8	N 28 37.5	*Atria*	107 16.5	S 69 03.6
Alnilam	275 40.9	S 01 11.5	Sabik	102 06.3	S 15 45.1
Betelgeuze	270 55.4	N 07 24.5	*Shaula*	96 14.6	S 37 07.0
Canopus	263 53.7	S 52 42.8	Rasalhague	96 01.5	N 12 32.6
Sirius	258 28.7	S 16 44.5	*Etamin*	90 43.7	N 51 28.9
Adhara	255 08.2	S 29 00.3	*Kaus Australis*	83 36.7	S 34 22.3
Castor	246 00.8	N 31 50.6	*Vega*	80 35.5	N 38 47.8
Procyon	244 53.7	N 05 10.5	Nunki	75 51.7	S 26 16.2
Pollux	243 20.6	N 27 58.5	Albireo	67 06.7	N 27 60.0
Avior	234 15.5	S 59 34.9	Altair	62 03.3	N 08 55.1
Suhail	222 48.2	S 43 31.3	*Peacock*	53 11.0	S 56 39.9
Miaplacidus	221 37.9	S 69 48.4	*Deneb*	49 28.2	N 45 21.0
Alphard	217 50.5	S 08 45.1	Enif	33 42.1	N 09 58.1
Regulus	207 37.4	N 11 51.8	*Alnair*	27 37.3	S 46 51.5
Dubhe	193 44.2	N 61 38.3	Formalhaut	15 18.4	S 29 30.7
Denebola	182 27.7	N 14 27.2	Markab	13 33.3	N 15 18.9

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2021 - First Point of Aries / Selected Stars

UT	day 81 of 365 March 22 GHA	ddGHA	day 82 of 365 March 23 GHA	ddGHA	day 83 of 365 March 24 GHA	ddGHA	day 84 of 365 March 25 GHA	ddGHA	day 85 of 365 March 26 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	179 43.0	+02.4	180 42.1	+02.5	181 41.3	+02.4	182 40.4	+02.5	183 39.5	+02.5	00
01	194 45.4	+02.5	195 44.6	+02.4	196 43.7	+02.5	197 42.9	+02.4	198 42.0	+02.5	01
02	209 47.9	+02.5	210 47.0	+02.5	211 46.2	+02.5	212 45.3	+02.5	213 44.5	+02.4	02
03	224 50.4	+02.4	225 49.5	+02.5	226 48.7	+02.4	227 47.8	+02.5	228 46.9	+02.5	03
04	239 52.8	+02.5	240 52.0	+02.4	241 51.1	+02.5	242 50.3	+02.4	243 49.4	+02.5	04
05	254 55.3	+02.5	255 54.4	+02.5	256 53.6	+02.4	257 52.7	+02.5	258 51.9	+02.4	05
06	269 57.8	+02.4	270 56.9	+02.5	271 56.0	+02.5	272 55.2	+02.4	273 54.3	+02.5	06
07	285 00.2	+02.5	285 59.4	+02.4	286 58.5	+02.5	287 57.6	+02.5	288 56.8	+02.4	07
08	300 02.7	+02.5	301 01.8	+02.5	302 01.0	+02.4	303 00.1	+02.5	303 59.2	+02.5	08
09	315 05.2	+02.4	316 04.3	+02.5	317 03.4	+02.5	318 02.6	+02.4	319 01.7	+02.5	09
10	330 07.6	+02.5	331 06.8	+02.4	332 05.9	+02.5	333 05.0	+02.5	334 04.2	+02.4	10
11	345 10.1	+02.5	346 09.2	+02.5	347 08.4	+02.4	348 07.5	+02.5	349 06.6	+02.5	11
12	0 12.6	+02.4	1 11.7	+02.5	2 10.8	+02.5	3 10.0	+02.4	4 09.1	+02.5	12
13	15 15.0	+02.5	16 14.2	+02.4	17 13.3	+02.5	18 12.4	+02.5	19 11.6	+02.4	13
14	30 17.5	+02.4	31 16.6	+02.5	32 15.8	+02.4	33 14.9	+02.5	34 14.0	+02.5	14
15	45 19.9	+02.5	46 19.1	+02.4	47 18.2	+02.5	48 17.4	+02.4	49 16.5	+02.5	15
16	60 22.4	+02.5	61 21.5	+02.5	62 20.7	+02.5	63 19.8	+02.5	64 19.0	+02.4	16
17	75 24.9	+02.4	76 24.0	+02.5	77 23.2	+02.4	78 22.3	+02.5	79 21.4	+02.5	17
18	90 27.3	+02.5	91 26.5	+02.4	92 25.6	+02.5	93 24.8	+02.4	94 23.9	+02.5	18
19	105 29.8	+02.5	106 28.9	+02.5	107 28.1	+02.4	108 27.2	+02.5	109 26.4	+02.4	19
20	120 32.3	+02.4	121 31.4	+02.5	122 30.5	+02.5	123 29.7	+02.4	124 28.8	+02.5	20
21	135 34.7	+02.5	136 33.9	+02.4	137 33.0	+02.5	138 32.1	+02.5	139 31.3	+02.4	21
22	150 37.2	+02.5	151 36.3	+02.5	152 35.5	+02.4	153 34.6	+02.5	154 33.7	+02.5	22
23	165 39.7	+02.4	166 38.8	+02.5	167 37.9	+02.5	168 37.1	+02.4	169 36.2	+02.5	23

	SHA ° ′	Dec ° ′
Alpheratz	357 38.4	N 29 12.3
Ankaa	353 10.8	S 42 11.5
Schedir	349 35.1	N 56 39.1
Diphda	348 50.8	S 17 52.5
Achernar	335 23.2	S 57 08.0
Hamal	327 55.0	N 23 33.6
Polaris	315 48.8	N 89 21.4
Acamar	315 14.4	S 40 13.5
Menkar	314 09.6	N 04 10.2
Mirfak	308 33.0	N 49 56.2
Aldebaran	290 43.3	N 16 33.0
Capella	280 26.6	N 46 01.3
Rigel	281 06.9	S 08 10.9
Bellatrix	278 26.2	N 06 22.0
Elnath	278 05.9	N 28 37.5
Alnilam	275 40.9	S 01 11.5
Betelgeuze	270 55.5	N 07 24.5
Canopus	263 53.7	S 52 42.8
Sirius	258 28.7	S 16 44.5
Adhara	255 08.2	S 29 00.3
Castor	246 00.8	N 31 50.6
Procyon	244 53.7	N 05 10.5
Pollux	243 20.6	N 27 58.5
Avior	234 15.6	S 59 34.9
Suhail	222 48.2	S 43 31.3
Miaplacidus	221 38.0	S 69 48.5
Alphard	217 50.5	S 08 45.2
Regulus	207 37.4	N 11 51.8
Dubhe	193 44.2	N 61 38.3
Denebola	182 27.7	N 14 27.2

	SHA ° ′	Dec ° ′
Gienah	175 46.4	S 17 39.6
Acrux	173 02.7	S 63 12.9
Gacrux	171 54.5	S 57 13.8
Alioth	166 15.3	N 55 50.7
Spica	158 25.2	S 11 16.3
Alkaid	152 54.0	N 49 12.4
Hadar	148 39.8	S 60 28.3
Menkent	148 00.6	S 36 28.1
Arcturus	145 50.1	N 19 04.9
Rigel Kentaurus	139 41.5	S 60 55.3
Zubenelgenubi	136 59.1	S 16 07.7
Kocab	137 19.0	N 74 03.9
Alphecca	126 06.2	N 26 38.5
Antares	112 19.6	S 26 28.6
Atria	107 16.4	S 69 03.6
Sabik	102 06.3	S 15 45.1
Shaula	96 14.5	S 37 07.0
Rasalhague	96 01.4	N 12 32.6
Etamin	90 43.6	N 51 28.9
Kaus Australis	83 36.6	S 34 22.3
Vega	80 35.4	N 38 47.8
Nunki	75 51.7	S 26 16.2
Albireo	67 06.7	N 27 60.0
Altair	62 03.3	N 08 55.1
Peacock	53 11.0	S 56 39.8
Deneb	49 28.2	N 45 21.0
Enif	33 42.1	N 09 58.1
Alnair	27 37.3	S 46 51.5
Formalhaut	15 18.4	S 29 30.7
Markab	13 33.3	N 15 18.9

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2021 - First Point of Aries / Selected Stars

UT	day 86 of 365 March 27 GHA	ddGHA	day 87 of 365 March 28 GHA	ddGHA	day 88 of 365 March 29 GHA	ddGHA	day 89 of 365 March 30 GHA	ddGHA	day 90 of 365 March 31 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	184 38.7	+02.4	185 37.8	+02.5	186 36.9	+02.5	187 36.1	+02.4	188 35.2	+02.5	00
01	199 41.1	+02.5	200 40.3	+02.4	201 39.4	+02.5	202 38.5	+02.5	203 37.7	+02.5	01
02	214 43.6	+02.5	215 42.7	+02.5	216 41.9	+02.4	217 41.0	+02.5	218 40.2	+02.4	02
03	229 46.1	+02.4	230 45.2	+02.5	231 44.3	+02.5	232 43.5	+02.4	233 42.6	+02.5	03
04	244 48.5	+02.5	245 47.7	+02.4	246 46.8	+02.5	247 45.9	+02.5	248 45.1	+02.4	04
05	259 51.0	+02.5	260 50.1	+02.5	261 49.3	+02.4	262 48.4	+02.5	263 47.5	+02.5	05
06	274 53.5	+02.4	275 52.6	+02.5	276 51.7	+02.5	277 50.9	+02.4	278 50.0	+02.5	06
07	289 55.9	+02.5	290 55.1	+02.4	291 54.2	+02.5	292 53.3	+02.5	293 52.5	+02.4	07
08	304 58.4	+02.5	305 57.5	+02.5	306 56.7	+02.4	307 55.8	+02.5	308 54.9	+02.5	08
09	320 00.9	+02.4	320 60.0	+02.5	321 59.1	+02.5	322 58.3	+02.4	323 57.4	+02.5	09
10	335 03.3	+02.5	336 02.5	+02.4	337 01.6	+02.5	338 00.7	+02.5	338 59.9	+02.4	10
11	350 05.8	+02.4	351 04.9	+02.5	352 04.1	+02.4	353 03.2	+02.5	354 02.3	+02.5	11
12	5 08.2	+02.5	6 07.4	+02.4	7 06.5	+02.5	8 05.7	+02.4	9 04.8	+02.5	12
13	20 10.7	+02.5	21 09.8	+02.5	22 09.0	+02.4	23 08.1	+02.5	24 07.3	+02.4	13
14	35 13.2	+02.4	36 12.3	+02.5	37 11.4	+02.5	38 10.6	+02.4	39 09.7	+02.5	14
15	50 15.6	+02.5	51 14.8	+02.4	52 13.9	+02.5	53 13.0	+02.5	54 12.2	+02.4	15
16	65 18.1	+02.5	66 17.2	+02.5	67 16.4	+02.4	68 15.5	+02.5	69 14.6	+02.5	16
17	80 20.6	+02.4	81 19.7	+02.5	82 18.8	+02.5	83 18.0	+02.4	84 17.1	+02.5	17
18	95 23.0	+02.5	96 22.2	+02.4	97 21.3	+02.5	98 20.4	+02.5	99 19.6	+02.4	18
19	110 25.5	+02.5	111 24.6	+02.5	112 23.8	+02.4	113 22.9	+02.5	114 22.0	+02.5	19
20	125 28.0	+02.4	126 27.1	+02.5	127 26.2	+02.5	128 25.4	+02.4	129 24.5	+02.5	20
21	140 30.4	+02.5	141 29.6	+02.4	142 28.7	+02.5	143 27.8	+02.5	144 27.0	+02.4	21
22	155 32.9	+02.4	156 32.0	+02.5	157 31.2	+02.4	158 30.3	+02.5	159 29.4	+02.5	22
23	170 35.3	+02.5	171 34.5	+02.4	172 33.6	+02.5	173 32.8	+02.4	174 31.9	+02.5	23

	SHA ° ′	Dec ° ′
Alpheratz	357 38.3	N 29 12.3
Ankaa	353 10.8	S 42 11.5
Schedir	349 35.1	N 56 39.1
Diphda	348 50.8	S 17 52.5
Achernar	335 23.2	S 57 08.0
Hamal	327 55.0	N 23 33.6
Polaris	315 50.4	N 89 21.3
Acamar	315 14.5	S 40 13.5
Menkar	314 09.6	N 04 10.2
Mirfak	308 33.0	N 49 56.2
Aldebaran	290 43.3	N 16 33.0
Capella	280 26.6	N 46 01.3
Rigel	281 06.9	S 08 10.9
Bellatrix	278 26.3	N 06 22.0
Elnath	278 05.9	N 28 37.5
Alnilam	275 40.9	S 01 11.5
Betelgeuze	270 55.5	N 07 24.5
Canopus	263 53.8	S 52 42.8
Sirius	258 28.8	S 16 44.5
Adhara	255 08.2	S 29 00.3
Castor	246 00.8	N 31 50.6
Procyon	244 53.8	N 05 10.5
Pollux	243 20.7	N 27 58.5
Avior	234 15.6	S 59 34.9
Suhail	222 48.2	S 43 31.3
Miaplacidus	221 38.0	S 69 48.5
Alphard	217 50.6	S 08 45.2
Regulus	207 37.4	N 11 51.8
Dubhe	193 44.2	N 61 38.3
Denebola	182 27.6	N 14 27.2

	SHA ° ′	Dec ° ′
Gienah	175 46.4	S 17 39.6
Acrux	173 02.7	S 63 12.9
Gacrux	171 54.5	S 57 13.8
Alioth	166 15.3	N 55 50.7
Spica	158 25.2	S 11 16.3
Alkaid	152 54.0	N 49 12.4
Hadar	148 39.7	S 60 28.3
Menkent	148 00.6	S 36 28.1
Arcturus	145 50.1	N 19 04.9
Rigel Kentaurus	139 41.4	S 60 55.3
Zubenelgenubi	136 59.1	S 16 07.7
Kocab	137 18.9	N 74 03.9
Alphecca	126 06.2	N 26 38.5
Antares	112 19.6	S 26 28.6
Atria	107 16.3	S 69 03.6
Sabik	102 06.2	S 15 45.1
Shaula	96 14.5	S 37 07.0
Rasalhague	96 01.4	N 12 32.6
Etamin	90 43.5	N 51 28.9
Kaus Australis	83 36.6	S 34 22.3
Vega	80 35.4	N 38 47.8
Nunki	75 51.6	S 26 16.2
Albireo	67 06.6	N 27 60.0
Altair	62 03.2	N 08 55.1
Peacock	53 10.9	S 56 39.8
Deneb	49 28.1	N 45 21.0
Enif	33 42.1	N 09 58.1
Alnair	27 37.3	S 46 51.5
Formalhaut	15 18.4	S 29 30.7
Markab	13 33.3	N 15 18.9

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2021 - First Point of Aries / Selected Stars

UT	day 111 of 365 April 21 GHA	ddGHA	day 112 of 365 April 22 GHA	ddGHA	day 113 of 365 April 23 GHA	ddGHA	day 114 of 365 April 24 GHA	ddGHA	day 115 of 365 April 25 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	209 17.1	+02.5	210 16.3	+02.4	211 15.4	+02.5	212 14.5	+02.5	213 13.7	+02.5	00
01	224 19.6	+02.5	225 18.7	+02.5	226 17.9	+02.4	227 17.0	+02.5	228 16.2	+02.4	01
02	239 22.1	+02.4	240 21.2	+02.5	241 20.3	+02.5	242 19.5	+02.4	243 18.6	+02.5	02
03	254 24.5	+02.5	255 23.7	+02.4	256 22.8	+02.5	257 21.9	+02.5	258 21.1	+02.4	03
04	269 27.0	+02.5	270 26.1	+02.5	271 25.3	+02.4	272 24.4	+02.5	273 23.5	+02.5	04
05	284 29.5	+02.4	285 28.6	+02.5	286 27.7	+02.5	287 26.9	+02.4	288 26.0	+02.5	05
06	299 31.9	+02.5	300 31.1	+02.4	301 30.2	+02.5	302 29.3	+02.5	303 28.5	+02.4	06
07	314 34.4	+02.4	315 33.5	+02.5	316 32.7	+02.4	317 31.8	+02.5	318 30.9	+02.5	07
08	329 36.8	+02.5	330 36.0	+02.5	331 35.1	+02.5	332 34.3	+02.4	333 33.4	+02.5	08
09	344 39.3	+02.5	345 38.5	+02.4	346 37.6	+02.5	347 36.7	+02.5	348 35.9	+02.4	09
10	359 41.8	+02.4	0 40.9	+02.5	1 40.1	+02.4	2 39.2	+02.5	3 38.3	+02.5	10
11	14 44.2	+02.5	15 43.4	+02.4	16 42.5	+02.5	17 41.7	+02.4	18 40.8	+02.5	11
12	29 46.7	+02.5	30 45.8	+02.5	31 45.0	+02.4	32 44.1	+02.5	33 43.3	+02.4	12
13	44 49.2	+02.4	45 48.3	+02.5	46 47.4	+02.5	47 46.6	+02.4	48 45.7	+02.5	13
14	59 51.6	+02.5	60 50.8	+02.4	61 49.9	+02.5	62 49.0	+02.5	63 48.2	+02.4	14
15	74 54.1	+02.5	75 53.2	+02.5	76 52.4	+02.4	77 51.5	+02.5	78 50.6	+02.5	15
16	89 56.6	+02.4	90 55.7	+02.5	91 54.8	+02.5	92 54.0	+02.4	93 53.1	+02.5	16
17	104 59.0	+02.5	105 58.2	+02.4	106 57.3	+02.5	107 56.4	+02.5	108 55.6	+02.4	17
18	120 01.5	+02.5	121 00.6	+02.5	121 59.8	+02.4	122 58.9	+02.5	123 58.0	+02.5	18
19	135 04.0	+02.4	136 03.1	+02.5	137 02.2	+02.5	138 01.4	+02.4	139 00.5	+02.5	19
20	150 06.4	+02.5	151 05.6	+02.4	152 04.7	+02.5	153 03.8	+02.5	154 03.0	+02.4	20
21	165 08.9	+02.4	166 08.0	+02.5	167 07.2	+02.4	168 06.3	+02.5	169 05.4	+02.5	21
22	180 11.3	+02.5	181 10.5	+02.4	182 09.6	+02.5	183 08.8	+02.4	184 07.9	+02.5	22
23	195 13.8	+02.5	196 12.9	+02.5	197 12.1	+02.4	198 11.2	+02.5	199 10.4	+02.4	23

	SHA ° ′	Dec ° ′
Alpheratz	357 38.3	N 29 12.2
Ankaa	353 10.7	S 42 11.4
Schedir	349 35.0	N 56 39.0
Diphda	348 50.8	S 17 52.4
Achernar	335 23.2	S 57 07.8
Hamal	327 55.0	N 23 33.6
Polaris	315 54.8	N 89 21.2
Acamar	315 14.5	S 40 13.4
Menkar	314 09.6	N 04 10.2
Mirfak	308 33.1	N 49 56.1
Aldebaran	290 43.4	N 16 33.0
Capella	280 26.7	N 46 01.3
Rigel	281 07.0	S 08 10.8
Bellatrix	278 26.4	N 06 22.0
Elnath	278 06.0	N 28 37.5
Alnilam	275 41.0	S 01 11.5
Betelgeuze	270 55.6	N 07 24.5
Canopus	263 54.0	S 52 42.7
Sirius	258 28.9	S 16 44.5
Adhara	255 08.4	S 29 00.3
Castor	246 01.0	N 31 50.6
Procyon	244 53.9	N 05 10.5
Pollux	243 20.8	N 27 58.6
Avior	234 15.9	S 59 35.0
Suhail	222 48.4	S 43 31.3
Miaplacidus	221 38.4	S 69 48.6
Alphard	217 50.6	S 08 45.2
Regulus	207 37.4	N 11 51.8
Dubhe	193 44.3	N 61 38.4
Denebola	182 27.7	N 14 27.3

	SHA ° ′	Dec ° ′
Gienah	175 46.4	S 17 39.7
Acrux	173 02.7	S 63 13.1
Gacrux	171 54.5	S 57 13.9
Alioth	166 15.3	N 55 50.8
Spica	158 25.2	S 11 16.3
Alkaid	152 53.9	N 49 12.5
Hadar	148 39.6	S 60 28.5
Menkent	148 00.5	S 36 28.2
Arcturus	145 50.0	N 19 05.0
Rigel Kentaurus	139 41.3	S 60 55.5
Zubenelgenubi	136 59.0	S 16 07.8
Kocab	137 18.7	N 74 04.1
Alphecca	126 06.1	N 26 38.5
Antares	112 19.4	S 26 28.7
Atria	107 15.8	S 69 03.7
Sabik	102 06.1	S 15 45.1
Shaula	96 14.2	S 37 07.0
Rasalhague	96 01.2	N 12 32.6
Etamin	90 43.3	N 51 28.9
Kaus Australis	83 36.4	S 34 22.3
Vega	80 35.2	N 38 47.8
Nunki	75 51.4	S 26 16.1
Albireo	67 06.4	N 27 60.0
Altair	62 03.1	N 08 55.2
Peacock	53 10.6	S 56 39.8
Deneb	49 27.9	N 45 21.0
Enif	33 41.9	N 09 58.1
Alnair	27 37.1	S 46 51.4
Formalhaut	15 18.3	S 29 30.6
Markab	13 33.2	N 15 18.9

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2021 - First Point of Aries / Selected Stars

UT	day 96 of 365 April 6 GHA	ddGHA	day 97 of 365 April 7 GHA	ddGHA	day 98 of 365 April 8 GHA	ddGHA	day 99 of 365 April 9 GHA	ddGHA	day 100 of 365 April 10 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	194 30.1	+02.4	195 29.2	+02.5	196 28.3	+02.5	197 27.5	+02.4	198 26.6	+02.5	00
01	209 32.5	+02.5	210 31.7	+02.4	211 30.8	+02.5	212 29.9	+02.5	213 29.1	+02.4	01
02	224 35.0	+02.5	225 34.1	+02.5	226 33.3	+02.4	227 32.4	+02.5	228 31.5	+02.5	02
03	239 37.5	+02.4	240 36.6	+02.5	241 35.7	+02.5	242 34.9	+02.4	243 34.0	+02.5	03
04	254 39.9	+02.5	255 39.1	+02.4	256 38.2	+02.5	257 37.3	+02.5	258 36.5	+02.4	04
05	269 42.4	+02.4	270 41.5	+02.5	271 40.7	+02.4	272 39.8	+02.5	273 38.9	+02.5	05
06	284 44.8	+02.5	285 44.0	+02.4	286 43.1	+02.5	287 42.3	+02.4	288 41.4	+02.5	06
07	299 47.3	+02.5	300 46.4	+02.5	301 45.6	+02.4	302 44.7	+02.5	303 43.9	+02.4	07
08	314 49.8	+02.4	315 48.9	+02.5	316 48.0	+02.5	317 47.2	+02.5	318 46.3	+02.5	08
09	329 52.2	+02.5	330 51.4	+02.4	331 50.5	+02.5	332 49.7	+02.4	333 48.8	+02.5	09
10	344 54.7	+02.5	345 53.8	+02.5	346 53.0	+02.4	347 52.1	+02.5	348 51.3	+02.4	10
11	359 57.2	+02.4	0 56.3	+02.5	1 55.4	+02.5	2 54.6	+02.4	3 53.7	+02.5	11
12	14 59.6	+02.5	15 58.8	+02.4	16 57.9	+02.5	17 57.0	+02.5	18 56.2	+02.4	12
13	30 02.1	+02.5	31 01.2	+02.5	32 00.4	+02.4	32 59.5	+02.5	33 58.6	+02.5	13
14	45 04.6	+02.4	46 03.7	+02.5	47 02.8	+02.5	48 02.0	+02.4	49 01.1	+02.5	14
15	60 07.0	+02.5	61 06.2	+02.4	62 05.3	+02.5	63 04.4	+02.5	64 03.6	+02.4	15
16	75 09.5	+02.5	76 08.6	+02.5	77 07.8	+02.4	78 06.9	+02.5	79 06.0	+02.5	16
17	90 12.0	+02.4	91 11.1	+02.5	92 10.2	+02.5	93 09.4	+02.4	94 08.5	+02.5	17
18	105 14.4	+02.5	106 13.6	+02.4	107 12.7	+02.5	108 11.8	+02.5	109 11.0	+02.4	18
19	120 16.9	+02.4	121 16.0	+02.5	122 15.2	+02.4	123 14.3	+02.5	124 13.4	+02.5	19
20	135 19.3	+02.5	136 18.5	+02.4	137 17.6	+02.5	138 16.8	+02.4	139 15.9	+02.5	20
21	150 21.8	+02.5	151 20.9	+02.5	152 20.1	+02.4	153 19.2	+02.5	154 18.4	+02.4	21
22	165 24.3	+02.4	166 23.4	+02.5	167 22.5	+02.5	168 21.7	+02.4	169 20.8	+02.5	22
23	180 26.7	+02.5	181 25.9	+02.4	182 25.0	+02.5	183 24.1	+02.5	184 23.3	+02.4	23

	SHA ° ′	Dec ° ′
Alpheratz	357 38.3	N 29 12.3
Ankaa	353 10.7	S 42 11.5
Schedir	349 35.1	N 56 39.0
Diphda	348 50.8	S 17 52.4
Achernar	335 23.2	S 57 07.9
Hamal	327 55.0	N 23 33.6
Polaris	315 52.6	N 89 21.3
Acamar	315 14.5	S 40 13.5
Menkar	314 09.6	N 04 10.2
Mirfak	308 33.0	N 49 56.1
Aldebaran	290 43.4	N 16 33.0
Capella	280 26.7	N 46 01.3
Rigel	281 07.0	S 08 10.9
Bellatrix	278 26.3	N 06 22.0
Elnath	278 05.9	N 28 37.5
Alnilam	275 41.0	S 01 11.5
Betelgeuze	270 55.5	N 07 24.5
Canopus	263 53.9	S 52 42.8
Sirius	258 28.8	S 16 44.5
Adhara	255 08.3	S 29 00.3
Castor	246 00.9	N 31 50.6
Procyon	244 53.8	N 05 10.5
Pollux	243 20.7	N 27 58.5
Avior	234 15.7	S 59 34.9
Suhail	222 48.3	S 43 31.3
Miaplacidus	221 38.2	S 69 48.5
Alphard	217 50.6	S 08 45.2
Regulus	207 37.4	N 11 51.8
Dubhe	193 44.2	N 61 38.4
Denebola	182 27.6	N 14 27.2

	SHA ° ′	Dec ° ′
Gienah	175 46.4	S 17 39.6
Acrux	173 02.7	S 63 13.0
Gacrux	171 54.4	S 57 13.8
Alioth	166 15.3	N 55 50.7
Spica	158 25.2	S 11 16.3
Alkaid	152 54.0	N 49 12.4
Hadar	148 39.6	S 60 28.4
Menkent	148 00.5	S 36 28.1
Arcturus	145 50.1	N 19 04.9
Rigel Kentaurus	139 41.4	S 60 55.4
Zubenelgenubi	136 59.1	S 16 07.7
Kocab	137 18.8	N 74 04.0
Alphecca	126 06.1	N 26 38.5
Antares	112 19.5	S 26 28.6
Atria	107 16.1	S 69 03.6
Sabik	102 06.2	S 15 45.1
Shaula	96 14.4	S 37 07.0
Rasalhague	96 01.3	N 12 32.6
Etamin	90 43.4	N 51 28.9
Kaus Australis	83 36.5	S 34 22.3
Vega	80 35.3	N 38 47.8
Nunki	75 51.6	S 26 16.1
Albireo	67 06.6	N 27 60.0
Altair	62 03.2	N 08 55.1
Peacock	53 10.8	S 56 39.8
Deneb	49 28.0	N 45 21.0
Enif	33 42.0	N 09 58.1
Alnair	27 37.2	S 46 51.4
Formalhaut	15 18.4	S 29 30.6
Markab	13 33.2	N 15 18.9

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2021 - First Point of Aries / Selected Stars

UT	day 101 of 365 April 11 GHA	ddGHA	day 102 of 365 April 12 GHA	ddGHA	day 103 of 365 April 13 GHA	ddGHA	day 104 of 365 April 14 GHA	ddGHA	day 105 of 365 April 15 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	199 25.7	+02.5	200 24.9	+02.4	201 24.0	+02.5	202 23.2	+02.4	203 22.3	+02.5	00
01	214 28.2	+02.5	215 27.3	+02.5	216 26.5	+02.4	217 25.6	+02.5	218 24.8	+02.4	01
02	229 30.7	+02.4	230 29.8	+02.5	231 28.9	+02.5	232 28.1	+02.5	233 27.2	+02.5	02
03	244 33.1	+02.5	245 32.3	+02.4	246 31.4	+02.5	247 30.6	+02.4	248 29.7	+02.5	03
04	259 35.6	+02.5	260 34.7	+02.5	261 33.9	+02.4	262 33.0	+02.5	263 32.2	+02.4	04
05	274 38.1	+02.5	275 37.2	+02.5	276 36.3	+02.5	277 35.5	+02.4	278 34.6	+02.5	05
06	289 40.5	+02.5	290 39.7	+02.4	291 38.8	+02.5	292 37.9	+02.5	293 37.1	+02.4	06
07	304 43.0	+02.5	305 42.1	+02.5	306 41.3	+02.4	307 40.4	+02.5	308 39.5	+02.5	07
08	319 45.5	+02.4	320 44.6	+02.5	321 43.7	+02.5	322 42.9	+02.4	323 42.0	+02.5	08
09	334 47.9	+02.5	335 47.1	+02.4	336 46.2	+02.5	337 45.3	+02.5	338 44.5	+02.4	09
10	349 50.4	+02.5	350 49.5	+02.5	351 48.7	+02.4	352 47.8	+02.5	353 46.9	+02.5	10
11	4 52.9	+02.4	5 52.0	+02.5	6 51.1	+02.5	7 50.3	+02.4	8 49.4	+02.5	11
12	19 55.3	+02.5	20 54.5	+02.4	21 53.6	+02.5	22 52.7	+02.5	23 51.9	+02.4	12
13	34 57.8	+02.4	35 56.9	+02.5	36 56.1	+02.4	37 55.2	+02.5	38 54.3	+02.5	13
14	50 00.2	+02.5	50 59.4	+02.4	51 58.5	+02.5	52 57.7	+02.4	53 56.8	+02.5	14
15	65 02.7	+02.5	66 01.8	+02.5	67 01.0	+02.4	68 00.1	+02.5	68 59.3	+02.4	15
16	80 05.2	+02.4	81 04.3	+02.5	82 03.4	+02.5	83 02.6	+02.4	84 01.7	+02.5	16
17	95 07.6	+02.5	96 06.8	+02.4	97 05.9	+02.5	98 05.0	+02.5	99 04.2	+02.5	17
18	110 10.1	+02.5	111 09.2	+02.5	112 08.4	+02.4	113 07.5	+02.5	114 06.7	+02.4	18
19	125 12.6	+02.4	126 11.7	+02.5	127 10.8	+02.5	128 10.0	+02.4	129 09.1	+02.5	19
20	140 15.0	+02.5	141 14.2	+02.4	142 13.3	+02.5	143 12.4	+02.5	144 11.6	+02.4	20
21	155 17.5	+02.5	156 16.6	+02.5	157 15.8	+02.4	158 14.9	+02.5	159 14.0	+02.5	21
22	170 20.0	+02.4	171 19.1	+02.5	172 18.2	+02.5	173 17.4	+02.4	174 16.5	+02.5	22
23	185 22.4	+02.5	186 21.6	+02.4	187 20.7	+02.5	188 19.8	+02.5	189 19.0	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.3	N 29 12.3	Gienah	175 46.4	S 17 39.6
Ankaa	353 10.7	S 42 11.4	*Acrux*	173 02.7	S 63 13.0
Schedir	349 35.0	N 56 39.0	*Gacrux*	171 54.4	S 57 13.9
Diphda	348 50.8	S 17 52.4	*Alioth*	166 15.3	N 55 50.7
Achernar	335 23.2	S 57 07.9	Spica	158 25.2	S 11 16.3
Hamal	327 55.0	N 23 33.6	*Alkaid*	152 54.0	N 49 12.4
Polaris	315 53.8	N 89 21.3	*Hadar*	148 39.6	S 60 28.4
Acamar	315 14.5	S 40 13.4	*Menkent*	148 00.5	S 36 28.2
Menkar	314 09.6	N 04 10.2	Arcturus	145 50.1	N 19 05.0
Mirfak	308 33.0	N 49 56.1	*Rigel Kentaurus*	139 41.3	S 60 55.4
Aldebaran	290 43.4	N 16 33.0	Zubenelgenubi	136 59.0	S 16 07.7
Capella	280 26.7	N 46 01.3	*Kocab*	137 18.8	N 74 04.0
Rigel	281 07.0	S 08 10.8	Alphecca	126 06.1	N 26 38.5
Bellatrix	278 26.3	N 06 22.0	Antares	112 19.5	S 26 28.7
Elnath	278 05.9	N 28 37.5	*Atria*	107 16.0	S 69 03.6
Alnilam	275 41.0	S 01 11.5	Sabik	102 06.1	S 15 45.1
Betelgeuze	270 55.5	N 07 24.5	*Shaula*	96 14.3	S 37 07.0
Canopus	263 53.9	S 52 42.7	Rasalhague	96 01.3	N 12 32.6
Sirius	258 28.8	S 16 44.5	*Etamin*	90 43.4	N 51 28.9
Adhara	255 08.3	S 29 00.3	*Kaus Australis*	83 36.5	S 34 22.3
Castor	246 00.9	N 31 50.6	*Vega*	80 35.3	N 38 47.8
Procyon	244 53.8	N 05 10.5	Nunki	75 51.5	S 26 16.1
Pollux	243 20.7	N 27 58.5	Albireo	67 06.5	N 27 60.0
Avior	234 15.8	S 59 34.9	Altair	62 03.1	N 08 55.1
Suhail	222 48.3	S 43 31.3	*Peacock*	53 10.7	S 56 39.8
Miaplacidus	221 38.2	S 69 48.5	*Deneb*	49 28.0	N 45 21.0
Alphard	217 50.6	S 08 45.2	Enif	33 42.0	N 09 58.1
Regulus	207 37.4	N 11 51.8	*Alnair*	27 37.2	S 46 51.4
Dubhe	193 44.2	N 61 38.4	Formalhaut	15 18.3	S 29 30.6
Denebola	182 27.6	N 14 27.2	Markab	13 33.2	N 15 18.9

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2021 - First Point of Aries / Selected Stars

UT	day 106 of 365 April 16 GHA	ddGHA	day 107 of 365 April 17 GHA	ddGHA	day 108 of 365 April 18 GHA	ddGHA	day 109 of 365 April 19 GHA	ddGHA	day 110 of 365 April 20 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	204 21.4	+02.5	205 20.6	+02.4	206 19.7	+02.5	207 18.9	+02.4	208 18.0	+02.5	00
01	219 23.9	+02.5	220 23.0	+02.5	221 22.2	+02.4	222 21.3	+02.5	223 20.5	+02.4	01
02	234 26.4	+02.4	235 25.5	+02.5	236 24.6	+02.5	237 23.8	+02.4	238 22.9	+02.5	02
03	249 28.8	+02.5	250 28.0	+02.4	251 27.1	+02.5	252 26.2	+02.5	253 25.4	+02.5	03
04	264 31.3	+02.5	265 30.4	+02.5	266 29.6	+02.4	267 28.7	+02.5	268 27.9	+02.4	04
05	279 33.8	+02.4	280 32.9	+02.5	281 32.0	+02.5	282 31.2	+02.4	283 30.3	+02.5	05
06	294 36.2	+02.5	295 35.4	+02.4	296 34.5	+02.5	297 33.6	+02.5	298 32.8	+02.4	06
07	309 38.7	+02.4	310 37.8	+02.5	311 37.0	+02.4	312 36.1	+02.5	313 35.2	+02.5	07
08	324 41.1	+02.5	325 40.3	+02.5	326 39.4	+02.5	327 38.6	+02.4	328 37.7	+02.5	08
09	339 43.6	+02.5	340 42.8	+02.4	341 41.9	+02.5	342 41.0	+02.5	343 40.2	+02.4	09
10	354 46.1	+02.4	355 45.2	+02.5	356 44.4	+02.4	357 43.5	+02.5	358 42.6	+02.5	10
11	9 48.5	+02.5	10 47.7	+02.4	11 46.8	+02.5	12 46.0	+02.4	13 45.1	+02.5	11
12	24 51.0	+02.5	25 50.1	+02.5	26 49.3	+02.5	27 48.4	+02.5	28 47.6	+02.4	12
13	39 53.5	+02.4	40 52.6	+02.5	41 51.8	+02.4	42 50.9	+02.5	43 50.0	+02.5	13
14	54 55.9	+02.5	55 55.1	+02.4	56 54.2	+02.5	57 53.4	+02.4	58 52.5	+02.5	14
15	69 58.4	+02.5	70 57.5	+02.5	71 56.7	+02.4	72 55.8	+02.5	73 55.0	+02.4	15
16	85 00.9	+02.4	86 00.0	+02.5	86 59.1	+02.5	87 58.3	+02.4	88 57.4	+02.5	16
17	100 03.3	+02.5	101 02.5	+02.4	102 01.6	+02.5	103 00.7	+02.5	103 59.9	+02.5	17
18	115 05.8	+02.5	116 04.9	+02.5	117 04.1	+02.4	118 03.2	+02.5	119 02.4	+02.4	18
19	130 08.3	+02.4	131 07.4	+02.5	132 06.5	+02.5	133 05.7	+02.4	134 04.8	+02.5	19
20	145 10.7	+02.5	146 09.9	+02.4	147 09.0	+02.5	148 08.1	+02.5	149 07.3	+02.4	20
21	160 13.2	+02.4	161 12.3	+02.5	162 11.5	+02.4	163 10.6	+02.5	164 09.7	+02.5	21
22	175 15.6	+02.5	176 14.8	+02.5	177 13.9	+02.5	178 13.1	+02.4	179 12.2	+02.5	22
23	190 18.1	+02.5	191 17.3	+02.4	192 16.4	+02.5	193 15.5	+02.5	194 14.7	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.3	N 29 12.2	Gienah	175 46.4	S 17 39.7
Ankaa	353 10.7	S 42 11.4	*Acrux*	173 02.7	S 63 13.1
Schedir	349 35.0	N 56 39.0	*Gacrux*	171 54.4	S 57 13.9
Diphda	348 50.8	S 17 52.4	*Alioth*	166 15.3	N 55 50.8
Achernar	335 23.2	S 57 07.9	Spica	158 25.2	S 11 16.3
Hamal	327 55.0	N 23 33.6	*Alkaid*	152 54.0	N 49 12.5
Polaris	315 54.4	N 89 21.2	*Hadar*	148 39.6	S 60 28.4
Acamar	315 14.5	S 40 13.4	*Menkent*	148 00.5	S 36 28.2
Menkar	314 09.7	N 04 10.2	Arcturus	145 50.0	N 19 05.0
Mirfak	308 33.1	N 49 56.1	*Rigel Kentaurus*	139 41.3	S 60 55.4
Aldebaran	290 43.4	N 16 33.0	Zubenelgenubi	136 59.0	S 16 07.8
Capella	280 26.7	N 46 01.3	*Kocab*	137 18.7	N 74 04.0
Rigel	281 07.0	S 08 10.8	Alphecca	126 06.1	N 26 38.5
Bellatrix	278 26.3	N 06 22.0	Antares	112 19.4	S 26 28.7
Elnath	278 06.0	N 28 37.5	*Atria*	107 15.9	S 69 03.7
Alnilam	275 41.0	S 01 11.5	Sabik	102 06.1	S 15 45.1
Betelgeuze	270 55.6	N 07 24.5	*Shaula*	96 14.3	S 37 07.0
Canopus	263 54.0	S 52 42.7	Rasalhague	96 01.2	N 12 32.6
Sirius	258 28.9	S 16 44.5	*Etamin*	90 43.4	N 51 28.9
Adhara	255 08.3	S 29 00.3	*Kaus Australis*	83 36.4	S 34 22.3
Castor	246 00.9	N 31 50.6	*Vega*	80 35.2	N 38 47.8
Procyon	244 53.9	N 05 10.5	Nunki	75 51.5	S 26 16.1
Pollux	243 20.7	N 27 58.5	Albireo	67 06.5	N 27 60.0
Avior	234 15.8	S 59 35.0	Altair	62 03.1	N 08 55.2
Suhail	222 48.4	S 43 31.3	*Peacock*	53 10.7	S 56 39.8
Miaplacidus	221 38.3	S 69 48.5	*Deneb*	49 27.9	N 45 21.0
Alphard	217 50.6	S 08 45.2	Enif	33 42.0	N 09 58.1
Regulus	207 37.4	N 11 51.8	*Alnair*	27 37.1	S 46 51.4
Dubhe	193 44.3	N 61 38.4	Formalhaut	15 18.3	S 29 30.6
Denebola	182 27.7	N 14 27.3	Markab	13 33.2	N 15 18.9

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2021 - First Point of Aries / Selected Stars

UT	day 131 of 365 May 11 GHA	ddGHA	day 132 of 365 May 12 GHA	ddGHA	day 133 of 365 May 13 GHA	ddGHA	day 134 of 365 May 14 GHA	ddGHA	day 135 of 365 May 15 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	228 59.9	+02.5	229 59.0	+02.5	230 58.2	+02.4	231 57.3	+02.5	232 56.5	+02.4	00
01	244 02.4	+02.4	245 01.5	+02.5	246 00.6	+02.5	246 59.8	+02.5	247 58.9	+02.5	01
02	259 04.8	+02.5	260 04.0	+02.4	261 03.1	+02.5	262 02.3	+02.4	263 01.4	+02.5	02
03	274 07.3	+02.5	275 06.4	+02.5	276 05.6	+02.4	277 04.7	+02.5	278 03.9	+02.4	03
04	289 09.8	+02.4	290 08.9	+02.5	291 08.0	+02.5	292 07.2	+02.4	293 06.3	+02.5	04
05	304 12.2	+02.5	305 11.4	+02.4	306 10.5	+02.5	307 09.6	+02.5	308 08.8	+02.4	05
06	319 14.7	+02.5	320 13.8	+02.5	321 13.0	+02.4	322 12.1	+02.5	323 11.2	+02.5	06
07	334 17.2	+02.4	335 16.3	+02.5	336 15.4	+02.5	337 14.6	+02.4	338 13.7	+02.5	07
08	349 19.6	+02.5	350 18.8	+02.4	351 17.9	+02.5	352 17.0	+02.5	353 16.2	+02.4	08
09	4 22.1	+02.4	5 21.2	+02.5	6 20.4	+02.4	7 19.5	+02.5	8 18.6	+02.5	09
10	19 24.5	+02.5	20 23.7	+02.5	21 22.8	+02.5	22 22.0	+02.4	23 21.1	+02.5	10
11	34 27.0	+02.5	35 26.2	+02.4	36 25.3	+02.5	37 24.4	+02.5	38 23.6	+02.4	11
12	49 29.5	+02.4	50 28.6	+02.5	51 27.8	+02.4	52 26.9	+02.5	53 26.0	+02.5	12
13	64 31.9	+02.5	65 31.1	+02.4	66 30.2	+02.5	67 29.4	+02.4	68 28.5	+02.5	13
14	79 34.4	+02.5	80 33.5	+02.5	81 32.7	+02.4	82 31.8	+02.5	83 31.0	+02.4	14
15	94 36.9	+02.4	95 36.0	+02.5	96 35.1	+02.5	97 34.3	+02.5	98 33.4	+02.5	15
16	109 39.3	+02.5	110 38.5	+02.4	111 37.6	+02.5	112 36.8	+02.4	113 35.9	+02.5	16
17	124 41.8	+02.5	125 40.9	+02.5	126 40.1	+02.4	127 39.2	+02.5	128 38.4	+02.4	17
18	139 44.3	+02.4	140 43.4	+02.5	141 42.5	+02.5	142 41.7	+02.4	143 40.8	+02.5	18
19	154 46.7	+02.5	155 45.9	+02.4	156 45.0	+02.5	157 44.1	+02.5	158 43.3	+02.4	19
20	169 49.2	+02.5	170 48.3	+02.5	171 47.5	+02.4	172 46.6	+02.5	173 45.7	+02.5	20
21	184 51.7	+02.4	185 50.8	+02.5	186 49.9	+02.5	187 49.1	+02.4	188 48.2	+02.5	21
22	199 54.1	+02.5	200 53.3	+02.4	201 52.4	+02.5	202 51.5	+02.5	203 50.7	+02.4	22
23	214 56.6	+02.4	215 55.7	+02.5	216 54.9	+02.4	217 54.0	+02.5	218 53.1	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.1	N 29 12.2	Gienah	175 46.4	S 17 39.7
Ankaa	353 10.6	S 42 11.3	*Acrux*	173 02.8	S 63 13.2
Schedir	349 34.9	N 56 38.9	*Gacrux*	171 54.5	S 57 14.0
Diphda	348 50.7	S 17 52.3	*Alioth*	166 15.4	N 55 50.9
Achernar	335 23.1	S 57 07.7	Spica	158 25.2	S 11 16.3
Hamal	327 55.0	N 23 33.6	*Alkaid*	152 54.0	N 49 12.6
Polaris	315 54.6	N 89 21.1	*Hadar*	148 39.6	S 60 28.6
Acamar	315 14.5	S 40 13.3	*Menkent*	148 00.5	S 36 28.2
Menkar	314 09.6	N 04 10.2	Arcturus	145 50.0	N 19 05.0
Mirfak	308 33.0	N 49 56.0	*Rigel Kentaurus*	139 41.2	S 60 55.5
Aldebaran	290 43.4	N 16 33.0	Zubenelgenubi	136 59.0	S 16 07.8
Capella	280 26.8	N 46 01.3	*Kocab*	137 18.7	N 74 04.2
Rigel	281 07.1	S 08 10.8	Alphecca	126 06.0	N 26 38.6
Bellatrix	278 26.4	N 06 22.0	Antares	112 19.3	S 26 28.7
Elnath	278 06.0	N 28 37.5	*Atria*	107 15.6	S 69 03.8
Alnilam	275 41.1	S 01 11.4	Sabik	102 05.9	S 15 45.1
Betelgeuze	270 55.6	N 07 24.5	*Shaula*	96 14.1	S 37 07.0
Canopus	263 54.1	S 52 42.7	Rasalhague	96 01.1	N 12 32.7
Sirius	258 28.9	S 16 44.5	*Etamin*	90 43.2	N 51 29.0
Adhara	255 08.4	S 29 00.3	*Kaus Australis*	83 36.2	S 34 22.3
Castor	246 01.0	N 31 50.6	*Vega*	80 35.0	N 38 47.9
Procyon	244 53.9	N 05 10.5	Nunki	75 51.3	S 26 16.1
Pollux	243 20.8	N 27 58.6	Albireo	67 06.3	N 28 00.0
Avior	234 16.1	S 59 35.0	Altair	62 02.9	N 08 55.2
Suhail	222 48.5	S 43 31.3	*Peacock*	53 10.4	S 56 39.7
Miaplacidus	221 38.7	S 69 48.6	*Deneb*	49 27.7	N 45 21.0
Alphard	217 50.7	S 08 45.2	Enif	33 41.8	N 09 58.2
Regulus	207 37.5	N 11 51.8	*Alnair*	27 36.9	S 46 51.3
Dubhe	193 44.4	N 61 38.5	Formalhaut	15 18.1	S 29 30.5
Denebola	182 27.7	N 14 27.3	Markab	13 33.0	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 116 of 365 April 26 GHA	ddGHA	day 117 of 365 April 27 GHA	ddGHA	day 118 of 365 April 28 GHA	ddGHA	day 119 of 365 April 29 GHA	ddGHA	day 120 of 365 April 30 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	214 12.8	+02.5	215 12.0	+02.4	216 11.1	+02.5	217 10.2	+02.5	218 09.4	+02.4	00
01	229 15.3	+02.5	230 14.4	+02.5	231 13.6	+02.4	232 12.7	+02.5	233 11.8	+02.5	01
02	244 17.8	+02.4	245 16.9	+02.5	246 16.0	+02.5	247 15.2	+02.4	248 14.3	+02.5	02
03	259 20.2	+02.5	260 19.4	+02.4	261 18.5	+02.5	262 17.6	+02.5	263 16.8	+02.4	03
04	274 22.7	+02.4	275 21.8	+02.5	276 21.0	+02.4	277 20.1	+02.5	278 19.2	+02.5	04
05	289 25.1	+02.5	290 24.3	+02.4	291 23.4	+02.5	292 22.6	+02.4	293 21.7	+02.5	05
06	304 27.6	+02.5	305 26.7	+02.5	306 25.9	+02.4	307 25.0	+02.5	308 24.2	+02.4	06
07	319 30.1	+02.4	320 29.2	+02.5	321 28.3	+02.5	322 27.5	+02.5	323 26.6	+02.5	07
08	334 32.5	+02.5	335 31.7	+02.4	336 30.8	+02.5	337 30.0	+02.4	338 29.1	+02.5	08
09	349 35.0	+02.5	350 34.1	+02.5	351 33.3	+02.4	352 32.4	+02.5	353 31.6	+02.4	09
10	4 37.5	+02.4	5 36.6	+02.5	6 35.7	+02.5	7 34.9	+02.4	8 34.0	+02.5	10
11	19 39.9	+02.5	20 39.1	+02.4	21 38.2	+02.5	22 37.3	+02.5	23 36.5	+02.5	11
12	34 42.4	+02.5	35 41.5	+02.5	36 40.7	+02.4	37 39.8	+02.5	38 39.0	+02.4	12
13	49 44.9	+02.4	50 44.0	+02.5	51 43.1	+02.5	52 42.3	+02.4	53 41.4	+02.5	13
14	64 47.3	+02.5	65 46.5	+02.4	66 45.6	+02.5	67 44.7	+02.5	68 43.9	+02.4	14
15	79 49.8	+02.4	80 48.9	+02.5	81 48.1	+02.4	82 47.2	+02.5	83 46.3	+02.5	15
16	94 52.2	+02.5	95 51.4	+02.5	96 50.5	+02.5	97 49.7	+02.4	98 48.8	+02.5	16
17	109 54.7	+02.5	110 53.9	+02.4	111 53.0	+02.5	112 52.1	+02.5	113 51.3	+02.4	17
18	124 57.2	+02.4	125 56.3	+02.5	126 55.5	+02.4	127 54.6	+02.5	128 53.7	+02.5	18
19	139 59.6	+02.5	140 58.8	+02.4	141 57.9	+02.5	142 57.1	+02.4	143 56.2	+02.5	19
20	155 02.1	+02.5	156 01.2	+02.5	157 00.4	+02.4	157 59.5	+02.5	158 58.7	+02.4	20
21	170 04.6	+02.4	171 03.7	+02.5	172 02.8	+02.5	173 02.0	+02.5	174 01.1	+02.5	21
22	185 07.0	+02.5	186 06.2	+02.4	187 05.3	+02.5	188 04.5	+02.4	189 03.6	+02.5	22
23	200 09.5	+02.5	201 08.6	+02.5	202 07.8	+02.4	203 06.9	+02.5	204 06.1	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.2	N 29 12.2	Gienah	175 46.4	S 17 39.7
Ankaa	353 10.7	S 42 11.4	*Acrux*	173 02.8	S 63 13.1
Schedir	349 35.0	N 56 39.0	*Gacrux*	171 54.5	S 57 13.9
Diphda	348 50.7	S 17 52.4	*Alioth*	166 15.3	N 55 50.8
Achernar	335 23.2	S 57 07.8	Spica	158 25.2	S 11 16.3
Hamal	327 55.0	N 23 33.6	*Alkaid*	152 53.9	N 49 12.5
Polaris	315 55.3	N 89 21.2	*Hadar*	148 39.6	S 60 28.5
Acamar	315 14.5	S 40 13.4	*Menkent*	148 00.5	S 36 28.2
Menkar	314 09.6	N 04 10.2	Arcturus	145 50.0	N 19 05.0
Mirfak	308 33.1	N 49 56.1	*Rigel Kentaurus*	139 41.3	S 60 55.5
Aldebaran	290 43.4	N 16 33.0	Zubenelgenubi	136 59.0	S 16 07.8
Capella	280 26.8	N 46 01.3	*Kocab*	137 18.7	N 74 04.1
Rigel	281 07.0	S 08 10.8	Alphecca	126 06.0	N 26 38.6
Bellatrix	278 26.4	N 06 22.0	Antares	112 19.4	S 26 28.7
Elnath	278 06.0	N 28 37.5	*Atria*	107 15.8	S 69 03.7
Alnilam	275 41.0	S 01 11.5	Sabik	102 06.0	S 15 45.1
Betelgeuze	270 55.6	N 07 24.5	*Shaula*	96 14.2	S 37 07.0
Canopus	263 54.0	S 52 42.7	Rasalhague	96 01.2	N 12 32.6
Sirius	258 28.9	S 16 44.5	*Etamin*	90 43.3	N 51 28.9
Adhara	255 08.4	S 29 00.3	*Kaus Australis*	83 36.3	S 34 22.3
Castor	246 01.0	N 31 50.6	*Vega*	80 35.2	N 38 47.8
Procyon	244 53.9	N 05 10.5	Nunki	75 51.4	S 26 16.1
Pollux	243 20.8	N 27 58.6	Albireo	67 06.4	N 27 60.0
Avior	234 15.9	S 59 35.0	Altair	62 03.0	N 08 55.2
Suhail	222 48.4	S 43 31.3	*Peacock*	53 10.6	S 56 39.8
Miaplacidus	221 38.4	S 69 48.6	*Deneb*	49 27.9	N 45 21.0
Alphard	217 50.7	S 08 45.2	Enif	33 41.9	N 09 58.1
Regulus	207 37.5	N 11 51.8	*Alnair*	27 37.0	S 46 51.3
Dubhe	193 44.3	N 61 38.4	Formalhaut	15 18.2	S 29 30.6
Denebola	182 27.7	N 14 27.3	Markab	13 33.1	N 15 18.9

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2021 - First Point of Aries / Selected Stars

UT	day 121 of 365 May 1 GHA	ddGHA	day 122 of 365 May 2 GHA	ddGHA	day 123 of 365 May 3 GHA	ddGHA	day 124 of 365 May 4 GHA	ddGHA	day 125 of 365 May 5 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	219 08.5	+02.5	220 07.7	+02.4	221 06.8	+02.5	222 05.9	+02.5	223 05.1	+02.4	00
01	234 11.0	+02.5	235 10.1	+02.5	236 09.3	+02.4	237 08.4	+02.5	238 07.5	+02.5	01
02	249 13.4	+02.5	250 12.6	+02.5	251 11.7	+02.5	252 10.9	+02.4	253 10.0	+02.5	02
03	264 15.9	+02.5	265 15.1	+02.4	266 14.2	+02.5	267 13.3	+02.5	268 12.5	+02.4	03
04	279 18.4	+02.4	280 17.5	+02.5	281 16.7	+02.4	282 15.8	+02.5	283 14.9	+02.5	04
05	294 20.8	+02.5	295 20.0	+02.4	296 19.1	+02.5	297 18.3	+02.4	298 17.4	+02.5	05
06	309 23.3	+02.5	310 22.4	+02.5	311 21.6	+02.5	312 20.7	+02.5	313 19.9	+02.4	06
07	324 25.8	+02.4	325 24.9	+02.5	326 24.1	+02.4	327 23.2	+02.5	328 22.3	+02.5	07
08	339 28.2	+02.5	340 27.4	+02.4	341 26.5	+02.5	342 25.7	+02.4	343 24.8	+02.5	08
09	354 30.7	+02.5	355 29.8	+02.5	356 29.0	+02.4	357 28.1	+02.5	358 27.3	+02.4	09
10	9 33.2	+02.4	10 32.3	+02.5	11 31.4	+02.5	12 30.6	+02.4	13 29.7	+02.5	10
11	24 35.6	+02.5	25 34.8	+02.4	26 33.9	+02.5	27 33.0	+02.5	28 32.2	+02.4	11
12	39 38.1	+02.5	40 37.2	+02.5	41 36.4	+02.4	42 35.5	+02.5	43 34.6	+02.5	12
13	54 40.6	+02.4	55 39.7	+02.5	56 38.8	+02.5	57 38.0	+02.4	58 37.1	+02.5	13
14	69 43.0	+02.5	70 42.2	+02.4	71 41.3	+02.5	72 40.4	+02.5	73 39.6	+02.4	14
15	84 45.5	+02.4	85 44.6	+02.5	86 43.8	+02.4	87 42.9	+02.5	88 42.0	+02.5	15
16	99 47.9	+02.5	100 47.1	+02.5	101 46.2	+02.5	102 45.4	+02.4	103 44.5	+02.5	16
17	114 50.4	+02.5	115 49.6	+02.4	116 48.7	+02.5	117 47.8	+02.5	118 47.0	+02.4	17
18	129 52.9	+02.4	130 52.0	+02.5	131 51.2	+02.4	132 50.3	+02.5	133 49.4	+02.5	18
19	144 55.3	+02.5	145 54.5	+02.4	146 53.6	+02.5	147 52.8	+02.4	148 51.9	+02.5	19
20	159 57.8	+02.5	160 56.9	+02.5	161 56.1	+02.4	162 55.2	+02.5	163 54.4	+02.4	20
21	175 00.3	+02.4	175 59.4	+02.5	176 58.5	+02.5	177 57.7	+02.5	178 56.8	+02.5	21
22	190 02.7	+02.5	191 01.9	+02.4	192 01.0	+02.5	193 00.2	+02.4	193 59.3	+02.5	22
23	205 05.2	+02.5	206 04.3	+02.5	207 03.5	+02.4	208 02.6	+02.5	209 01.8	+02.4	23

	SHA ° ′	Dec ° ′
Alpheratz	357 38.2	N 29 12.2
Ankaa	353 10.6	S 42 11.3
Schedir	349 34.9	N 56 38.9
Diphda	348 50.7	S 17 52.4
Achernar	335 23.2	S 57 07.8
Hamal	327 55.0	N 23 33.6
Polaris	315 55.0	N 89 21.2
Acamar	315 14.5	S 40 13.4
Menkar	314 09.6	N 04 10.2
Mirfak	308 33.1	N 49 56.1
Aldebaran	290 43.4	N 16 33.0
Capella	280 26.8	N 46 01.3
Rigel	281 07.1	S 08 10.8
Bellatrix	278 26.4	N 06 22.0
Elnath	278 06.0	N 28 37.5
Alnilam	275 41.1	S 01 11.5
Betelgeuze	270 55.6	N 07 24.5
Canopus	263 54.1	S 52 42.7
Sirius	258 28.9	S 16 44.5
Adhara	255 08.4	S 29 00.3
Castor	246 01.0	N 31 50.6
Procyon	244 53.9	N 05 10.5
Pollux	243 20.8	N 27 58.6
Avior	234 16.0	S 59 35.0
Suhail	222 48.4	S 43 31.3
Miaplacidus	221 38.5	S 69 48.6
Alphard	217 50.7	S 08 45.2
Regulus	207 37.5	N 11 51.8
Dubhe	193 44.4	N 61 38.4
Denebola	182 27.7	N 14 27.3

	SHA ° ′	Dec ° ′
Gienah	175 46.4	S 17 39.7
Acrux	173 02.8	S 63 13.1
Gacrux	171 54.5	S 57 14.0
Alioth	166 15.3	N 55 50.8
Spica	158 25.2	S 11 16.3
Alkaid	152 53.9	N 49 12.5
Hadar	148 39.6	S 60 28.5
Menkent	148 00.5	S 36 28.2
Arcturus	145 50.0	N 19 05.0
Rigel Kentaurus	139 41.2	S 60 55.5
Zubenelgenubi	136 59.0	S 16 07.8
Kocab	137 18.7	N 74 04.1
Alphecca	126 06.0	N 26 38.6
Antares	112 19.3	S 26 28.7
Atria	107 15.7	S 69 03.7
Sabik	102 06.0	S 15 45.1
Shaula	96 14.2	S 37 07.0
Rasalhague	96 01.1	N 12 32.7
Etamin	90 43.2	N 51 28.9
Kaus Australis	83 36.3	S 34 22.3
Vega	80 35.1	N 38 47.9
Nunki	75 51.3	S 26 16.1
Albireo	67 06.4	N 28 00.0
Altair	62 03.0	N 08 55.2
Peacock	53 10.5	S 56 39.8
Deneb	49 27.8	N 45 21.0
Enif	33 41.8	N 09 58.1
Alnair	27 37.0	S 46 51.3
Formalhaut	15 18.2	S 29 30.5
Markab	13 33.1	N 15 18.9

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2021 - First Point of Aries / Selected Stars

UT	day 126 of 365 May 6 GHA	ddGHA	day 127 of 365 May 7 GHA	ddGHA	day 128 of 365 May 8 GHA	ddGHA	day 129 of 365 May 9 GHA	ddGHA	day 130 of 365 May 10 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	224 04.2	+02.5	225 03.4	+02.4	226 02.5	+02.5	227 01.6	+02.5	228 00.8	+02.4	00
01	239 06.7	+02.4	240 05.8	+02.5	241 05.0	+02.4	242 04.1	+02.5	243 03.2	+02.5	01
02	254 09.1	+02.5	255 08.3	+02.4	256 07.4	+02.5	257 06.6	+02.4	258 05.7	+02.5	02
03	269 11.6	+02.5	270 10.7	+02.5	271 09.9	+02.4	272 09.0	+02.5	273 08.2	+02.4	03
04	284 14.1	+02.4	285 13.2	+02.5	286 12.3	+02.5	287 11.5	+02.5	288 10.6	+02.5	04
05	299 16.5	+02.5	300 15.7	+02.4	301 14.8	+02.5	302 14.0	+02.4	303 13.1	+02.5	05
06	314 19.0	+02.5	315 18.1	+02.5	316 17.3	+02.4	317 16.4	+02.5	318 15.6	+02.4	06
07	329 21.5	+02.4	330 20.6	+02.5	331 19.7	+02.5	332 18.9	+02.4	333 18.0	+02.5	07
08	344 23.9	+02.5	345 23.1	+02.4	346 22.2	+02.5	347 21.3	+02.5	348 20.5	+02.4	08
09	359 26.4	+02.5	0 25.5	+02.5	1 24.7	+02.4	2 23.8	+02.5	3 22.9	+02.5	09
10	14 28.9	+02.4	15 28.0	+02.5	16 27.1	+02.5	17 26.3	+02.4	18 25.4	+02.5	10
11	29 31.3	+02.5	30 30.5	+02.4	31 29.6	+02.5	32 28.7	+02.5	33 27.9	+02.4	11
12	44 33.8	+02.5	45 32.9	+02.5	46 32.1	+02.4	47 31.2	+02.5	48 30.3	+02.5	12
13	59 36.3	+02.4	60 35.4	+02.5	61 34.5	+02.5	62 33.7	+02.4	63 32.8	+02.5	13
14	74 38.7	+02.5	75 37.9	+02.4	76 37.0	+02.5	77 36.1	+02.5	78 35.3	+02.4	14
15	89 41.2	+02.4	90 40.3	+02.5	91 39.5	+02.4	92 38.6	+02.5	93 37.7	+02.5	15
16	104 43.6	+02.5	105 42.8	+02.4	106 41.9	+02.5	107 41.1	+02.4	108 40.2	+02.5	16
17	119 46.1	+02.5	120 45.2	+02.5	121 44.4	+02.4	122 43.5	+02.5	123 42.7	+02.4	17
18	134 48.6	+02.4	135 47.7	+02.5	136 46.8	+02.5	137 46.0	+02.4	138 45.1	+02.5	18
19	149 51.0	+02.5	150 50.2	+02.4	151 49.3	+02.5	152 48.4	+02.5	153 47.6	+02.4	19
20	164 53.5	+02.5	165 52.6	+02.5	166 51.8	+02.4	167 50.9	+02.5	168 50.0	+02.5	20
21	179 56.0	+02.4	180 55.1	+02.5	181 54.2	+02.5	182 53.4	+02.4	183 52.5	+02.5	21
22	194 58.4	+02.5	195 57.6	+02.4	196 56.7	+02.5	197 55.8	+02.5	198 55.0	+02.4	22
23	210 00.9	+02.5	211 00.0	+02.5	211 59.2	+02.4	212 58.3	+02.5	213 57.4	+02.5	23

	SHA ° ′	Dec ° ′
Alpheratz	357 38.2	N 29 12.2
Ankaa	353 10.6	S 42 11.3
Schedir	349 34.9	N 56 38.9
Diphda	348 50.7	S 17 52.3
Achernar	335 23.1	S 57 07.7
Hamal	327 55.0	N 23 33.6
Polaris	315 54.9	N 89 21.1
Acamar	315 14.5	S 40 13.3
Menkar	314 09.6	N 04 10.2
Mirfak	308 33.0	N 49 56.1
Aldebaran	290 43.4	N 16 33.0
Capella	280 26.8	N 46 01.3
Rigel	281 07.1	S 08 10.8
Bellatrix	278 26.4	N 06 22.0
Elnath	278 06.0	N 28 37.5
Alnilam	275 41.1	S 01 11.5
Betelgeuze	270 55.6	N 07 24.5
Canopus	263 54.1	S 52 42.7
Sirius	258 28.9	S 16 44.5
Adhara	255 08.4	S 29 00.3
Castor	246 01.0	N 31 50.6
Procyon	244 53.9	N 05 10.5
Pollux	243 20.8	N 27 58.6
Avior	234 16.0	S 59 35.0
Suhail	222 48.5	S 43 31.3
Miaplacidus	221 38.6	S 69 48.6
Alphard	217 50.7	S 08 45.2
Regulus	207 37.5	N 11 51.8
Dubhe	193 44.4	N 61 38.5
Denebola	182 27.7	N 14 27.3

	SHA ° ′	Dec ° ′
Gienah	175 46.4	S 17 39.7
Acrux	173 02.8	S 63 13.1
Gacrux	171 54.5	S 57 14.0
Alioth	166 15.3	N 55 50.9
Spica	158 25.2	S 11 16.3
Alkaid	152 53.9	N 49 12.5
Hadar	148 39.6	S 60 28.5
Menkent	148 00.5	S 36 28.2
Arcturus	145 50.0	N 19 05.0
Rigel Kentaurus	139 41.2	S 60 55.5
Zubenelgenubi	136 59.0	S 16 07.8
Kocab	137 18.7	N 74 04.1
Alphecca	126 06.0	N 26 38.6
Antares	112 19.3	S 26 28.7
Atria	107 15.6	S 69 03.7
Sabik	102 06.0	S 15 45.1
Shaula	96 14.1	S 37 07.0
Rasalhague	96 01.1	N 12 32.7
Etamin	90 43.2	N 51 29.0
Kaus Australis	83 36.2	S 34 22.3
Vega	80 35.1	N 38 47.9
Nunki	75 51.3	S 26 16.1
Albireo	67 06.3	N 28 00.0
Altair	62 02.9	N 08 55.2
Peacock	53 10.4	S 56 39.7
Deneb	49 27.8	N 45 21.0
Enif	33 41.8	N 09 58.2
Alnair	27 36.9	S 46 51.3
Formalhaut	15 18.2	S 29 30.5
Markab	13 33.1	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 151 of 365 May 31 GHA	ddGHA	day 152 of 365 June 1 GHA	ddGHA	day 153 of 365 June 2 GHA	ddGHA	day 154 of 365 June 3 GHA	ddGHA	day 155 of 365 June 4 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	248 42.7	+02.5	249 41.8	+02.5	250 41.0	+02.4	251 40.1	+02.5	252 39.3	+02.4	00
01	263 45.2	+02.4	264 44.3	+02.5	265 43.4	+02.5	266 42.6	+02.4	267 41.7	+02.5	01
02	278 47.6	+02.5	279 46.8	+02.4	280 45.9	+02.5	281 45.0	+02.5	282 44.2	+02.4	02
03	293 50.1	+02.5	294 49.2	+02.5	295 48.4	+02.4	296 47.5	+02.5	297 46.6	+02.5	03
04	308 52.6	+02.4	309 51.7	+02.5	310 50.8	+02.5	311 50.0	+02.4	312 49.1	+02.5	04
05	323 55.0	+02.4	324 54.2	+02.4	325 53.3	+02.5	326 52.4	+02.5	327 51.6	+02.4	05
06	338 57.5	+02.4	339 56.6	+02.5	340 55.8	+02.4	341 54.9	+02.5	342 54.0	+02.5	06
07	353 59.9	+02.5	354 59.1	+02.5	355 58.2	+02.5	356 57.4	+02.4	357 56.5	+02.5	07
08	9 02.4	+02.5	10 01.6	+02.4	11 00.7	+02.5	11 59.8	+02.5	12 59.0	+02.4	08
09	24 04.9	+02.4	25 04.0	+02.5	26 03.2	+02.4	27 02.3	+02.5	28 01.4	+02.5	09
10	39 07.3	+02.5	40 06.5	+02.4	41 05.6	+02.5	42 04.8	+02.4	43 03.9	+02.5	10
11	54 09.8	+02.5	55 08.9	+02.5	56 08.1	+02.4	57 07.2	+02.5	58 06.4	+02.4	11
12	69 12.3	+02.4	70 11.4	+02.5	71 10.5	+02.5	72 09.7	+02.4	73 08.8	+02.5	12
13	84 14.7	+02.5	85 13.9	+02.4	86 13.0	+02.5	87 12.1	+02.5	88 11.3	+02.4	13
14	99 17.2	+02.5	100 16.3	+02.5	101 15.5	+02.4	102 14.6	+02.5	103 13.7	+02.5	14
15	114 19.7	+02.4	115 18.8	+02.5	116 17.9	+02.5	117 17.1	+02.4	118 16.2	+02.5	15
16	129 22.1	+02.5	130 21.3	+02.4	131 20.4	+02.5	132 19.5	+02.5	133 18.7	+02.4	16
17	144 24.6	+02.5	145 23.7	+02.5	146 22.9	+02.4	147 22.0	+02.5	148 21.1	+02.5	17
18	159 27.1	+02.4	160 26.2	+02.5	161 25.3	+02.5	162 24.5	+02.4	163 23.6	+02.5	18
19	174 29.5	+02.5	175 28.7	+02.4	176 27.8	+02.5	177 26.9	+02.5	178 26.1	+02.4	19
20	189 32.0	+02.4	190 31.1	+02.5	191 30.3	+02.4	192 29.4	+02.5	193 28.5	+02.5	20
21	204 34.4	+02.5	205 33.6	+02.4	206 32.7	+02.5	207 31.9	+02.4	208 31.0	+02.5	21
22	219 36.9	+02.5	220 36.0	+02.5	221 35.2	+02.5	222 34.3	+02.5	223 33.5	+02.4	22
23	234 39.4	+02.4	235 38.5	+02.5	236 37.7	+02.4	237 36.8	+02.5	238 35.9	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.0	N 29 12.3	Gienah	175 46.4	S 17 39.7
Ankaa	353 10.4	S 42 11.2	*Acrux*	173 02.9	S 63 13.2
Schedir	349 34.6	N 56 38.9	*Gacrux*	171 54.6	S 57 14.1
Diphda	348 50.5	S 17 52.2	*Alioth*	166 15.5	N 55 50.9
Achernar	335 23.0	S 57 07.6	Spica	158 25.2	S 11 16.3
Hamal	327 54.9	N 23 33.6	*Alkaid*	152 54.0	N 49 12.6
Polaris	315 50.5	N 89 21.0	*Hadar*	148 39.6	S 60 28.6
Acamar	315 14.4	S 40 13.2	*Menkent*	148 00.5	S 36 28.3
Menkar	314 09.5	N 04 10.3	Arcturus	145 50.0	N 19 05.1
Mirfak	308 32.9	N 49 56.0	*Rigel Kentaurus*	139 41.2	S 60 55.6
Aldebaran	290 43.4	N 16 33.1	Zubenelgenubi	136 58.9	S 16 07.8
Capella	280 26.8	N 46 01.2	*Kocab*	137 18.8	N 74 04.3
Rigel	281 07.1	S 08 10.7	Alphecca	126 06.0	N 26 38.7
Bellatrix	278 26.4	N 06 22.0	Antares	112 19.2	S 26 28.7
Elnath	278 06.0	N 28 37.5	*Atria*	107 15.4	S 69 03.8
Alnilam	275 41.1	S 01 11.4	Sabik	102 05.8	S 15 45.1
Betelgeuze	270 55.6	N 07 24.6	*Shaula*	96 14.0	S 37 07.1
Canopus	263 54.2	S 52 42.6	Rasalhague	96 01.0	N 12 32.7
Sirius	258 29.0	S 16 44.4	*Etamin*	90 43.0	N 51 29.1
Adhara	255 08.5	S 29 00.2	*Kaus Australis*	83 36.1	S 34 22.3
Castor	246 01.1	N 31 50.6	*Vega*	80 34.9	N 38 48.0
Procyon	244 54.0	N 05 10.5	Nunki	75 51.1	S 26 16.1
Pollux	243 20.9	N 27 58.6	Albireo	67 06.1	N 28 00.1
Avior	234 16.2	S 59 34.9	Altair	62 02.8	N 08 55.3
Suhail	222 48.6	S 43 31.3	*Peacock*	53 10.1	S 56 39.7
Miaplacidus	221 39.0	S 69 48.6	*Deneb*	49 27.5	N 45 21.1
Alphard	217 50.8	S 08 45.1	Enif	33 41.6	N 09 58.2
Regulus	207 37.6	N 11 51.8	*Alnair*	27 36.7	S 46 51.2
Dubhe	193 44.6	N 61 38.5	Formalhaut	15 17.9	S 29 30.4
Denebola	182 27.7	N 14 27.3	Markab	13 32.9	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 136 of 365 May 16 GHA	ddGHA	day 137 of 365 May 17 GHA	ddGHA	day 138 of 365 May 18 GHA	ddGHA	day 139 of 365 May 19 GHA	ddGHA	day 140 of 365 May 20 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	233 55.6	+02.5	234 54.7	+02.5	235 53.9	+02.4	236 53.0	+02.5	237 52.2	+02.4	00
01	248 58.1	+02.4	249 57.2	+02.5	250 56.3	+02.5	251 55.5	+02.5	252 54.6	+02.5	01
02	264 00.5	+02.5	264 59.7	+02.4	265 58.8	+02.5	266 58.0	+02.4	267 57.1	+02.5	02
03	279 03.0	+02.5	280 02.1	+02.5	281 01.3	+02.4	282 00.4	+02.5	282 59.6	+02.4	03
04	294 05.5	+02.4	295 04.6	+02.5	296 03.7	+02.5	297 02.9	+02.4	298 02.0	+02.5	04
05	309 07.9	+02.5	310 07.1	+02.4	311 06.2	+02.5	312 05.3	+02.5	313 04.5	+02.4	05
06	324 10.4	+02.5	325 09.5	+02.5	326 08.7	+02.4	327 07.8	+02.5	328 06.9	+02.5	06
07	339 12.9	+02.4	340 12.0	+02.5	341 11.1	+02.5	342 10.3	+02.4	343 09.4	+02.5	07
08	354 15.3	+02.5	355 14.5	+02.4	356 13.6	+02.5	357 12.7	+02.5	358 11.9	+02.4	08
09	9 17.8	+02.4	10 16.9	+02.5	11 16.1	+02.4	12 15.2	+02.5	13 14.3	+02.5	09
10	24 20.2	+02.5	25 19.4	+02.5	26 18.5	+02.5	27 17.7	+02.4	28 16.8	+02.5	10
11	39 22.7	+02.5	40 21.9	+02.4	41 21.0	+02.5	42 20.1	+02.5	43 19.3	+02.4	11
12	54 25.2	+02.4	55 24.3	+02.5	56 23.5	+02.4	57 22.6	+02.5	58 21.7	+02.5	12
13	69 27.6	+02.5	70 26.8	+02.4	71 25.9	+02.5	72 25.1	+02.4	73 24.2	+02.5	13
14	84 30.1	+02.5	85 29.2	+02.5	86 28.4	+02.4	87 27.5	+02.5	88 26.7	+02.4	14
15	99 32.6	+02.4	100 31.7	+02.5	101 30.8	+02.5	102 30.0	+02.5	103 29.1	+02.5	15
16	114 35.0	+02.5	115 34.2	+02.4	116 33.3	+02.5	117 32.5	+02.4	118 31.6	+02.5	16
17	129 37.5	+02.5	130 36.6	+02.5	131 35.8	+02.4	132 34.9	+02.5	133 34.1	+02.4	17
18	144 40.0	+02.4	145 39.1	+02.5	146 38.2	+02.5	147 37.4	+02.4	148 36.5	+02.5	18
19	159 42.4	+02.5	160 41.6	+02.4	161 40.7	+02.5	162 39.8	+02.5	163 39.0	+02.4	19
20	174 44.9	+02.5	175 44.0	+02.5	176 43.2	+02.4	177 42.3	+02.5	178 41.4	+02.5	20
21	189 47.4	+02.4	190 46.5	+02.5	191 45.6	+02.5	192 44.8	+02.4	193 43.9	+02.5	21
22	204 49.8	+02.5	205 49.0	+02.4	206 48.1	+02.5	207 47.2	+02.5	208 46.4	+02.4	22
23	219 52.3	+02.4	220 51.4	+02.5	221 50.6	+02.4	222 49.7	+02.5	223 48.8	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.1	N 29 12.2	Gienah	175 46.4	S 17 39.7
Ankaa	353 10.5	S 42 11.3	*Acrux*	173 02.8	S 63 13.2
Schedir	349 34.8	N 56 38.9	*Gacrux*	171 54.5	S 57 14.0
Diphda	348 50.6	S 17 52.3	*Alioth*	166 15.4	N 55 50.9
Achernar	335 23.1	S 57 07.7	Spica	158 25.2	S 11 16.3
Hamal	327 54.9	N 23 33.6	*Alkaid*	152 54.0	N 49 12.6
Polaris	315 53.7	N 89 21.1	*Hadar*	148 39.6	S 60 28.6
Acamar	315 14.5	S 40 13.3	*Menkent*	148 00.5	S 36 28.3
Menkar	314 09.6	N 04 10.2	Arcturus	145 50.0	N 19 05.1
Mirfak	308 33.0	N 49 56.0	*Rigel Kentaurus*	139 41.2	S 60 55.6
Aldebaran	290 43.4	N 16 33.0	Zubenelgenubi	136 58.9	S 16 07.8
Capella	280 26.8	N 46 01.3	*Kocab*	137 18.7	N 74 04.2
Rigel	281 07.1	S 08 10.8	Alphecca	126 06.0	N 26 38.6
Bellatrix	278 26.4	N 06 22.0	Antares	112 19.3	S 26 28.7
Elnath	278 06.0	N 28 37.5	*Atria*	107 15.5	S 69 03.8
Alnilam	275 41.1	S 01 11.4	Sabik	102 05.9	S 15 45.1
Betelgeuze	270 55.6	N 07 24.5	*Shaula*	96 14.1	S 37 07.0
Canopus	263 54.2	S 52 42.6	Rasalhague	96 01.1	N 12 32.7
Sirius	258 29.0	S 16 44.5	*Etamin*	90 43.1	N 51 29.0
Adhara	255 08.5	S 29 00.2	*Kaus Australis*	83 36.2	S 34 22.3
Castor	246 01.1	N 31 50.6	*Vega*	80 35.0	N 38 47.9
Procyon	244 53.9	N 05 10.5	Nunki	75 51.2	S 26 16.1
Pollux	243 20.9	N 27 58.6	Albireo	67 06.3	N 28 00.1
Avior	234 16.1	S 59 34.9	Altair	62 02.9	N 08 55.2
Suhail	222 48.5	S 43 31.3	*Peacock*	53 10.3	S 56 39.7
Miaplacidus	221 38.7	S 69 48.6	*Deneb*	49 27.7	N 45 21.1
Alphard	217 50.7	S 08 45.2	Enif	33 41.7	N 09 58.2
Regulus	207 37.5	N 11 51.8	*Alnair*	27 36.8	S 46 51.3
Dubhe	193 44.5	N 61 38.5	Formalhaut	15 18.1	S 29 30.5
Denebola	182 27.7	N 14 27.3	Markab	13 33.0	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 141 of 365 May 21 GHA	ddGHA	day 142 of 365 May 22 GHA	ddGHA	day 143 of 365 May 23 GHA	ddGHA	day 144 of 365 May 24 GHA	ddGHA	day 145 of 365 May 25 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	238 51.3	+02.5	239 50.4	+02.5	240 49.6	+02.4	241 48.7	+02.5	242 47.9	+02.4	00
01	253 53.8	+02.4	254 52.9	+02.5	255 52.0	+02.5	256 51.2	+02.4	257 50.3	+02.5	01
02	268 56.2	+02.5	269 55.4	+02.4	270 54.5	+02.5	271 53.6	+02.5	272 52.8	+02.4	02
03	283 58.7	+02.5	284 57.8	+02.5	285 57.0	+02.4	286 56.1	+02.5	287 55.2	+02.5	03
04	299 01.2	+02.4	300 00.3	+02.5	300 59.4	+02.5	301 58.6	+02.4	302 57.7	+02.5	04
05	314 03.6	+02.5	315 02.8	+02.4	316 01.9	+02.5	317 01.0	+02.5	318 00.2	+02.4	05
06	329 06.1	+02.4	330 05.2	+02.5	331 04.4	+02.4	332 03.5	+02.5	333 02.6	+02.5	06
07	344 08.5	+02.5	345 07.7	+02.5	346 06.8	+02.5	347 06.0	+02.4	348 05.1	+02.5	07
08	359 11.0	+02.5	0 10.2	+02.4	1 09.3	+02.5	2 08.4	+02.5	3 07.6	+02.4	08
09	14 13.5	+02.4	15 12.6	+02.5	16 11.8	+02.4	17 10.9	+02.5	18 10.0	+02.5	09
10	29 15.9	+02.5	30 15.1	+02.4	31 14.2	+02.5	32 13.4	+02.4	33 12.5	+02.5	10
11	44 18.4	+02.5	45 17.5	+02.5	46 16.7	+02.4	47 15.8	+02.5	48 15.0	+02.4	11
12	59 20.9	+02.4	60 20.0	+02.5	61 19.1	+02.5	62 18.3	+02.4	63 17.4	+02.5	12
13	74 23.3	+02.5	75 22.5	+02.4	76 21.6	+02.5	77 20.7	+02.5	78 19.9	+02.5	13
14	89 25.8	+02.5	90 24.9	+02.5	91 24.1	+02.4	92 23.2	+02.5	93 22.4	+02.4	14
15	104 28.3	+02.4	105 27.4	+02.5	106 26.5	+02.5	107 25.7	+02.4	108 24.8	+02.5	15
16	119 30.7	+02.5	120 29.9	+02.4	121 29.0	+02.5	122 28.1	+02.5	123 27.3	+02.4	16
17	134 33.2	+02.5	135 32.3	+02.5	136 31.5	+02.4	137 30.6	+02.5	138 29.7	+02.5	17
18	149 35.7	+02.4	150 34.8	+02.5	151 33.9	+02.5	152 33.1	+02.4	153 32.2	+02.5	18
19	164 38.1	+02.5	165 37.3	+02.4	166 36.4	+02.5	167 35.5	+02.5	168 34.7	+02.4	19
20	179 40.6	+02.4	180 39.7	+02.5	181 38.9	+02.4	182 38.0	+02.5	183 37.1	+02.5	20
21	194 43.0	+02.5	195 42.2	+02.4	196 41.3	+02.5	197 40.5	+02.4	198 39.6	+02.5	21
22	209 45.5	+02.5	210 44.6	+02.5	211 43.8	+02.5	212 42.9	+02.5	213 42.1	+02.4	22
23	224 48.0	+02.4	225 47.1	+02.5	226 46.3	+02.4	227 45.4	+02.5	228 44.5	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.1	N 29 12.3	Gienah	175 46.4	S 17 39.7
Ankaa	353 10.5	S 42 11.2	*Acrux*	173 02.9	S 63 13.2
Schedir	349 34.8	N 56 38.9	*Gacrux*	171 54.5	S 57 14.0
Diphda	348 50.6	S 17 52.3	*Alioth*	166 15.4	N 55 50.9
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Hamal	327 54.9	N 23 33.6	*Alkaid*	152 54.0	N 49 12.6
Polaris	315 53.0	N 89 21.1	*Hadar*	148 39.6	S 60 28.6
Acamar	315 14.5	S 40 13.2	*Menkent*	148 00.5	S 36 28.3
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Mirfak	308 33.0	N 49 56.0	*Rigel Kentaurus*	139 41.2	S 60 55.6
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Capella	280 26.8	N 46 01.2	*Kocab*	137 18.7	N 74 04.2
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Betelgeuze	270 55.6	N 07 24.6	*Shaula*	96 14.0	S 37 07.0
Canopus	263 54.2	S 52 42.6	Rasalhague	96 01.0	N 12 32.7
Sirius	258 29.0	S 16 44.4	*Etamin*	90 43.1	N 51 29.0
Adhara	255 08.5	S 29 00.2	*Kaus Australis*	83 36.1	S 34 22.3
Castor	246 01.1	N 31 50.6	*Vega*	80 35.0	N 38 47.9
Procyon	244 54.0	N 05 10.5	Nunki	75 51.2	S 26 16.1
Pollux	243 20.9	N 27 58.6	Albireo	67 06.2	N 28 00.1
Avior	234 16.2	S 59 34.9	Altair	62 02.8	N 08 55.2
Suhail	222 48.6	S 43 31.3	*Peacock*	53 10.2	S 56 39.7
Miaplacidus	221 38.8	S 69 48.6	*Deneb*	49 27.6	N 45 21.1
Alphard	217 50.7	S 08 45.1	Enif	33 41.7	N 09 58.2
Regulus	207 37.5	N 11 51.8	*Alnair*	27 36.8	S 46 51.3
Dubhe	193 44.5	N 61 38.5	Formalhaut	15 18.0	S 29 30.5
Denebola	182 27.7	N 14 27.3	Markab	13 33.0	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 146 of 365 May 26 GHA	ddGHA	day 147 of 365 May 27 GHA	ddGHA	day 148 of 365 May 28 GHA	ddGHA	day 149 of 365 May 29 GHA	ddGHA	day 150 of 365 May 30 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	243 47.0	+02.5	244 46.1	+02.5	245 45.3	+02.4	246 44.4	+02.5	247 43.6	+02.4	00
01	258 49.5	+02.4	259 48.6	+02.5	260 47.7	+02.5	261 46.9	+02.4	262 46.0	+02.5	01
02	273 51.9	+02.5	274 51.1	+02.4	275 50.2	+02.5	276 49.3	+02.5	277 48.5	+02.5	02
03	288 54.4	+02.4	289 53.5	+02.5	290 52.7	+02.4	291 51.8	+02.5	292 51.0	+02.4	03
04	303 56.8	+02.5	304 56.0	+02.5	305 55.1	+02.5	306 54.3	+02.4	307 53.4	+02.5	04
05	318 59.3	+02.5	319 58.5	+02.4	320 57.6	+02.5	321 56.7	+02.5	322 55.9	+02.4	05
06	334 01.8	+02.4	335 00.9	+02.5	336 00.1	+02.4	336 59.2	+02.5	337 58.3	+02.5	06
07	349 04.2	+02.5	350 03.4	+02.4	351 02.5	+02.5	352 01.7	+02.4	353 00.8	+02.5	07
08	4 06.7	+02.5	5 05.8	+02.5	6 05.0	+02.5	7 04.1	+02.5	8 03.3	+02.4	08
09	19 09.2	+02.4	20 08.3	+02.5	21 07.5	+02.4	22 06.6	+02.5	23 05.7	+02.5	09
10	34 11.6	+02.5	35 10.8	+02.4	36 09.9	+02.5	37 09.1	+02.4	38 08.2	+02.5	10
11	49 14.1	+02.5	50 13.2	+02.5	51 12.4	+02.4	52 11.5	+02.5	53 10.7	+02.4	11
12	64 16.6	+02.4	65 15.7	+02.5	66 14.8	+02.5	67 14.0	+02.5	68 13.1	+02.5	12
13	79 19.0	+02.5	80 18.2	+02.4	81 17.3	+02.5	82 16.5	+02.4	83 15.6	+02.5	13
14	94 21.5	+02.5	95 20.6	+02.5	96 19.8	+02.4	97 18.9	+02.5	98 18.1	+02.4	14
15	109 24.0	+02.4	110 23.1	+02.5	111 22.2	+02.5	112 21.4	+02.4	113 20.5	+02.5	15
16	124 26.4	+02.5	125 25.6	+02.4	126 24.7	+02.5	127 23.8	+02.5	128 23.0	+02.4	16
17	139 28.9	+02.4	140 28.0	+02.5	141 27.2	+02.4	142 26.3	+02.5	143 25.4	+02.5	17
18	154 31.3	+02.5	155 30.5	+02.5	156 29.6	+02.5	157 28.8	+02.4	158 27.9	+02.5	18
19	169 33.8	+02.5	170 33.0	+02.4	171 32.1	+02.5	172 31.2	+02.5	173 30.4	+02.4	19
20	184 36.3	+02.4	185 35.4	+02.5	186 34.6	+02.4	187 33.7	+02.5	188 32.8	+02.5	20
21	199 38.7	+02.5	200 37.9	+02.4	201 37.0	+02.5	202 36.2	+02.4	203 35.3	+02.5	21
22	214 41.2	+02.5	215 40.3	+02.5	216 39.5	+02.5	217 38.6	+02.5	218 37.8	+02.4	22
23	229 43.7	+02.4	230 42.8	+02.5	231 42.0	+02.4	232 41.1	+02.5	233 40.2	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 38.0	N 29 12.3	Gienah	175 46.4	S 17 39.7
Ankaa	353 10.5	S 42 11.2	*Acrux*	173 02.9	S 63 13.2
Schedir	349 34.7	N 56 38.9	*Gacrux*	171 54.6	S 57 14.0
Diphda	348 50.6	S 17 52.3	*Alioth*	166 15.4	N 55 50.9
Achernar	335 23.0	S 57 07.6	Spica	158 25.2	S 11 16.3
Hamal	327 54.9	N 23 33.6	*Alkaid*	152 54.0	N 49 12.6
Polaris	315 52.0	N 89 21.0	*Hadar*	148 39.6	S 60 28.6
Acamar	315 14.5	S 40 13.2	*Menkent*	148 00.5	S 36 28.3
Menkar	314 09.6	N 04 10.3	Arcturus	145 50.0	N 19 05.1
Mirfak	308 33.0	N 49 56.0	*Rigel Kentaurus*	139 41.2	S 60 55.6
Aldebaran	290 43.4	N 16 33.1	Zubenelgenubi	136 58.9	S 16 07.8
Capella	280 26.8	N 46 01.2	*Kocab*	137 18.8	N 74 04.2
Rigel	281 07.1	S 08 10.8	Alphecca	126 06.0	N 26 38.7
Bellatrix	278 26.4	N 06 22.0	Antares	112 19.2	S 26 28.7
Elnath	278 06.0	N 28 37.5	*Atria*	107 15.4	S 69 03.8
Alnilam	275 41.1	S 01 11.4	Sabik	102 05.9	S 15 45.1
Betelgeuze	270 55.6	N 07 24.6	*Shaula*	96 14.0	S 37 07.0
Canopus	263 54.2	S 52 42.6	Rasalhague	96 01.0	N 12 32.7
Sirius	258 29.0	S 16 44.4	*Etamin*	90 43.1	N 51 29.1
Adhara	255 08.5	S 29 00.2	*Kaus Australis*	83 36.1	S 34 22.3
Castor	246 01.1	N 31 50.6	*Vega*	80 34.9	N 38 48.0
Procyon	244 54.0	N 05 10.5	Nunki	75 51.2	S 26 16.1
Pollux	243 20.9	N 27 58.6	Albireo	67 06.2	N 28 00.1
Avior	234 16.2	S 59 34.9	Altair	62 02.8	N 08 55.2
Suhail	222 48.6	S 43 31.3	*Peacock*	53 10.2	S 56 39.7
Miaplacidus	221 38.9	S 69 48.6	*Deneb*	49 27.6	N 45 21.1
Alphard	217 50.8	S 08 45.1	Enif	33 41.7	N 09 58.2
Regulus	207 37.6	N 11 51.8	*Alnair*	27 36.7	S 46 51.3
Dubhe	193 44.6	N 61 38.5	Formalhaut	15 18.0	S 29 30.5
Denebola	182 27.7	N 14 27.3	Markab	13 32.9	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 171 of 365 June 20 GHA	ddGHA	day 172 of 365 June 21 GHA	ddGHA	day 173 of 365 June 22 GHA	ddGHA	day 174 of 365 June 23 GHA	ddGHA	day 175 of 365 June 24 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	268 25.5	+02.4	269 24.6	+02.5	270 23.8	+02.4	271 22.9	+02.5	272 22.0	+02.5	00
01	283 27.9	+02.5	284 27.1	+02.4	285 26.2	+02.5	286 25.4	+02.4	287 24.5	+02.5	01
02	298 30.4	+02.5	299 29.5	+02.5	300 28.7	+02.5	301 27.8	+02.5	302 27.0	+02.4	02
03	313 32.9	+02.4	314 32.0	+02.5	315 31.2	+02.4	316 30.3	+02.5	317 29.4	+02.5	03
04	328 35.3	+02.5	329 34.5	+02.4	330 33.6	+02.5	331 32.8	+02.4	332 31.9	+02.5	04
05	343 37.8	+02.5	344 36.9	+02.5	345 36.1	+02.4	346 35.2	+02.5	347 34.4	+02.4	05
06	358 40.3	+02.4	359 39.4	+02.5	0 38.5	+02.5	1 37.7	+02.4	2 36.8	+02.5	06
07	13 42.7	+02.5	14 41.9	+02.4	15 41.0	+02.5	16 40.1	+02.5	17 39.3	+02.5	07
08	28 45.2	+02.5	29 44.3	+02.5	30 43.5	+02.4	31 42.6	+02.5	32 41.8	+02.4	08
09	43 47.7	+02.4	44 46.8	+02.5	45 45.9	+02.5	46 45.1	+02.4	47 44.2	+02.5	09
10	58 50.1	+02.5	59 49.3	+02.4	60 48.4	+02.5	61 47.5	+02.5	62 46.7	+02.4	10
11	73 52.6	+02.4	74 51.7	+02.5	75 50.9	+02.4	76 50.0	+02.5	77 49.1	+02.5	11
12	88 55.0	+02.5	89 54.2	+02.5	90 53.3	+02.5	91 52.5	+02.4	92 51.6	+02.5	12
13	103 57.5	+02.5	104 56.7	+02.4	105 55.8	+02.5	106 54.9	+02.5	107 54.1	+02.4	13
14	118 60.0	+02.4	119 59.1	+02.5	120 58.3	+02.4	121 57.4	+02.5	122 56.5	+02.5	14
15	134 02.4	+02.5	135 01.6	+02.4	136 00.7	+02.5	136 59.9	+02.4	137 59.0	+02.5	15
16	149 04.9	+02.5	150 04.0	+02.5	151 03.2	+02.4	152 02.3	+02.5	153 01.5	+02.4	16
17	164 07.4	+02.4	165 06.5	+02.5	166 05.6	+02.5	167 04.8	+02.5	168 03.9	+02.5	17
18	179 09.8	+02.5	180 09.0	+02.4	181 08.1	+02.5	182 07.3	+02.4	183 06.4	+02.5	18
19	194 12.3	+02.5	195 11.4	+02.5	196 10.6	+02.4	197 09.7	+02.5	198 08.9	+02.4	19
20	209 14.8	+02.4	210 13.9	+02.5	211 13.0	+02.5	212 12.2	+02.4	213 11.3	+02.5	20
21	224 17.2	+02.5	225 16.4	+02.4	226 15.5	+02.5	227 14.6	+02.5	228 13.8	+02.5	21
22	239 19.7	+02.5	240 18.8	+02.5	241 18.0	+02.4	242 17.1	+02.5	243 16.3	+02.4	22
23	254 22.2	+02.4	255 21.3	+02.5	256 20.4	+02.5	257 19.6	+02.4	258 18.7	+02.5	23

	SHA ° ′	Dec ° ′
Alpheratz	357 37.8	N 29 12.3
Ankaa	353 10.2	S 42 11.1
Schedir	349 34.4	N 56 38.9
Diphda	348 50.4	S 17 52.2
Achernar	335 22.8	S 57 07.5
Hamal	327 54.7	N 23 33.6
Polaris	315 44.1	N 89 21.0
Acamar	315 14.3	S 40 13.1
Menkar	314 09.4	N 04 10.3
Mirfak	308 32.8	N 49 56.0
Aldebaran	290 43.3	N 16 33.1
Capella	280 26.7	N 46 01.2
Rigel	281 07.0	S 08 10.7
Bellatrix	278 26.3	N 06 22.1
Elnath	278 05.9	N 28 37.5
Alnilam	275 41.0	S 01 11.4
Betelgeuze	270 55.6	N 07 24.6
Canopus	263 54.2	S 52 42.5
Sirius	258 29.0	S 16 44.3
Adhara	255 08.5	S 29 00.1
Castor	246 01.1	N 31 50.6
Procyon	244 54.0	N 05 10.6
Pollux	243 20.9	N 27 58.5
Avior	234 16.4	S 59 34.8
Suhail	222 48.7	S 43 31.3
Miaplacidus	221 39.2	S 69 48.5
Alphard	217 50.8	S 08 45.1
Regulus	207 37.6	N 11 51.9
Dubhe	193 44.7	N 61 38.5
Denebola	182 27.8	N 14 27.4

	SHA ° ′	Dec ° ′
Gienah	175 46.5	S 17 39.7
Acrux	173 03.1	S 63 13.3
Gacrux	171 54.7	S 57 14.1
Alioth	166 15.6	N 55 51.0
Spica	158 25.2	S 11 16.3
Alkaid	152 54.1	N 49 12.7
Hadar	148 39.7	S 60 28.7
Menkent	148 00.5	S 36 28.3
Arcturus	145 50.0	N 19 05.1
Rigel Kentaurus	139 41.3	S 60 55.7
Zubenelgenubi	136 58.9	S 16 07.8
Kocab	137 19.0	N 74 04.3
Alphecca	126 06.0	N 26 38.8
Antares	112 19.2	S 26 28.7
Atria	107 15.3	S 69 03.9
Sabik	102 05.8	S 15 45.1
Shaula	96 13.9	S 37 07.1
Rasalhague	96 00.9	N 12 32.8
Etamin	90 43.0	N 51 29.2
Kaus Australis	83 36.0	S 34 22.3
Vega	80 34.8	N 38 48.1
Nunki	75 51.0	S 26 16.1
Albireo	67 06.0	N 28 00.2
Altair	62 02.6	N 08 55.3
Peacock	53 09.9	S 56 39.8
Deneb	49 27.4	N 45 21.2
Enif	33 41.5	N 09 58.3
Alnair	27 36.5	S 46 51.2
Formalhaut	15 17.8	S 29 30.4
Markab	13 32.7	N 15 19.1

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2021 - First Point of Aries / Selected Stars

UT	day 156 of 365 June 5 GHA	ddGHA	day 157 of 365 June 6 GHA	ddGHA	day 158 of 365 June 7 GHA	ddGHA	day 159 of 365 June 8 GHA	ddGHA	day 160 of 365 June 9 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	253 38.4	+02.5	254 37.5	+02.5	255 36.7	+02.4	256 35.8	+02.5	257 34.9	+02.5	00
01	268 40.9	+02.4	269 40.0	+02.5	270 39.1	+02.5	271 38.3	+02.4	272 37.4	+02.5	01
02	283 43.3	+02.5	284 42.5	+02.4	285 41.6	+02.5	286 40.7	+02.5	287 39.9	+02.4	02
03	298 45.8	+02.4	299 44.9	+02.5	300 44.1	+02.4	301 43.2	+02.5	302 42.3	+02.5	03
04	313 48.2	+02.5	314 47.4	+02.4	315 46.5	+02.5	316 45.7	+02.4	317 44.8	+02.5	04
05	328 50.7	+02.5	329 49.8	+02.5	330 49.0	+02.5	331 48.1	+02.5	332 47.3	+02.4	05
06	343 53.2	+02.4	344 52.3	+02.5	345 51.5	+02.4	346 50.6	+02.5	347 49.7	+02.5	06
07	358 55.6	+02.5	359 54.8	+02.4	0 53.9	+02.5	1 53.1	+02.4	2 52.2	+02.5	07
08	13 58.1	+02.5	14 57.2	+02.5	15 56.4	+02.4	16 55.5	+02.5	17 54.7	+02.4	08
09	29 00.6	+02.4	29 59.7	+02.5	30 58.8	+02.5	31 58.0	+02.4	32 57.1	+02.5	09
10	44 03.0	+02.5	45 02.2	+02.4	46 01.3	+02.5	47 00.4	+02.5	47 59.6	+02.5	10
11	59 05.5	+02.5	60 04.6	+02.5	61 03.8	+02.4	62 02.9	+02.5	63 02.1	+02.4	11
12	74 08.0	+02.4	75 07.1	+02.5	76 06.2	+02.5	77 05.4	+02.4	78 04.5	+02.5	12
13	89 10.4	+02.5	90 09.6	+02.4	91 08.7	+02.5	92 07.8	+02.5	93 07.0	+02.4	13
14	104 12.9	+02.5	105 12.0	+02.5	106 11.2	+02.4	107 10.3	+02.5	108 09.4	+02.5	14
15	119 15.4	+02.4	120 14.5	+02.5	121 13.6	+02.5	122 12.8	+02.4	123 11.9	+02.5	15
16	134 17.8	+02.5	135 17.0	+02.4	136 16.1	+02.5	137 15.2	+02.5	138 14.4	+02.4	16
17	149 20.3	+02.4	150 19.4	+02.5	151 18.6	+02.4	152 17.7	+02.5	153 16.8	+02.5	17
18	164 22.7	+02.5	165 21.9	+02.4	166 21.0	+02.5	167 20.2	+02.4	168 19.3	+02.5	18
19	179 25.2	+02.5	180 24.3	+02.5	181 23.5	+02.4	182 22.6	+02.5	183 21.8	+02.4	19
20	194 27.7	+02.4	195 26.8	+02.5	196 25.9	+02.5	197 25.1	+02.5	198 24.2	+02.5	20
21	209 30.1	+02.5	210 29.3	+02.4	211 28.4	+02.5	212 27.6	+02.4	213 26.7	+02.5	21
22	224 32.6	+02.5	225 31.7	+02.5	226 30.9	+02.4	227 30.0	+02.5	228 29.2	+02.4	22
23	239 35.1	+02.4	240 34.2	+02.5	241 33.3	+02.5	242 32.5	+02.4	243 31.6	+02.5	23

	SHA ° ′	Dec ° ′
Alpheratz	357 37.9	N 29 12.3
Ankaa	353 10.4	S 42 11.2
Schedir	349 34.6	N 56 38.9
Diphda	348 50.5	S 17 52.2
Achernar	335 22.9	S 57 07.6
Hamal	327 54.8	N 23 33.6
Polaris	315 49.3	N 89 21.0
Acamar	315 14.4	S 40 13.2
Menkar	314 09.5	N 04 10.3
Mirfak	308 32.9	N 49 56.0
Aldebaran	290 43.4	N 16 33.1
Capella	280 26.8	N 46 01.2
Rigel	281 07.0	S 08 10.7
Bellatrix	278 26.4	N 06 22.0
Elnath	278 06.0	N 28 37.5
Alnilam	275 41.1	S 01 11.4
Betelgeuze	270 55.6	N 07 24.6
Canopus	263 54.2	S 52 42.6
Sirius	258 29.0	S 16 44.4
Adhara	255 08.5	S 29 00.2
Castor	246 01.1	N 31 50.6
Procyon	244 54.0	N 05 10.5
Pollux	243 20.9	N 27 58.6
Avior	234 16.3	S 59 34.9
Suhail	222 48.6	S 43 31.3
Miaplacidus	221 39.0	S 69 48.6
Alphard	217 50.8	S 08 45.1
Regulus	207 37.6	N 11 51.9
Dubhe	193 44.6	N 61 38.5
Denebola	182 27.7	N 14 27.3

	SHA ° ′	Dec ° ′
Gienah	175 46.4	S 17 39.7
Acrux	173 03.0	S 63 13.2
Gacrux	171 54.6	S 57 14.1
Alioth	166 15.5	N 55 51.0
Spica	158 25.2	S 11 16.3
Alkaid	152 54.0	N 49 12.7
Hadar	148 39.6	S 60 28.7
Menkent	148 00.5	S 36 28.3
Arcturus	145 50.0	N 19 05.1
Rigel Kentaurus	139 41.2	S 60 55.6
Zubenelgenubi	136 58.9	S 16 07.8
Kocab	137 18.8	N 74 04.3
Alphecca	126 06.0	N 26 38.7
Antares	112 19.2	S 26 28.7
Atria	107 15.4	S 69 03.9
Sabik	102 05.8	S 15 45.1
Shaula	96 13.9	S 37 07.1
Rasalhague	96 01.0	N 12 32.8
Etamin	90 43.0	N 51 29.1
Kaus Australis	83 36.0	S 34 22.3
Vega	80 34.9	N 38 48.0
Nunki	75 51.1	S 26 16.1
Albireo	67 06.1	N 28 00.1
Altair	62 02.7	N 08 55.3
Peacock	53 10.0	S 56 39.7
Deneb	49 27.5	N 45 21.1
Enif	33 41.6	N 09 58.2
Alnair	27 36.6	S 46 51.2
Formalhaut	15 17.9	S 29 30.4
Markab	13 32.8	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 161 of 365 June 10 GHA	ddGHA	day 162 of 365 June 11 GHA	ddGHA	day 163 of 365 June 12 GHA	ddGHA	day 164 of 365 June 13 GHA	ddGHA	day 165 of 365 June 14 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	258 34.1	+02.5	259 33.2	+02.5	260 32.4	+02.4	261 31.5	+02.5	262 30.6	+02.5	00
01	273 36.6	+02.4	274 35.7	+02.5	275 34.8	+02.5	276 34.0	+02.4	277 33.1	+02.5	01
02	288 39.0	+02.5	289 38.2	+02.4	290 37.3	+02.5	291 36.4	+02.5	292 35.6	+02.4	02
03	303 41.5	+02.4	304 40.6	+02.5	305 39.8	+02.4	306 38.9	+02.5	307 38.0	+02.5	03
04	318 43.9	+02.5	319 43.1	+02.4	320 42.2	+02.5	321 41.4	+02.4	322 40.5	+02.5	04
05	333 46.4	+02.5	334 45.5	+02.5	335 44.7	+02.5	336 43.8	+02.5	337 43.0	+02.4	05
06	348 48.9	+02.4	349 48.0	+02.5	350 47.2	+02.4	351 46.3	+02.5	352 45.4	+02.5	06
07	3 51.3	+02.5	4 50.5	+02.4	5 49.6	+02.5	6 48.8	+02.4	7 47.9	+02.5	07
08	18 53.8	+02.5	19 52.9	+02.5	20 52.1	+02.4	21 51.2	+02.5	22 50.4	+02.4	08
09	33 56.3	+02.4	34 55.4	+02.5	35 54.5	+02.5	36 53.7	+02.5	37 52.8	+02.5	09
10	48 58.7	+02.5	49 57.9	+02.4	50 57.0	+02.5	51 56.2	+02.4	52 55.3	+02.5	10
11	64 01.2	+02.5	65 00.3	+02.5	65 59.5	+02.4	66 58.6	+02.5	67 57.8	+02.4	11
12	79 03.7	+02.4	80 02.8	+02.5	81 01.9	+02.5	82 01.1	+02.4	83 00.2	+02.5	12
13	94 06.1	+02.5	95 05.3	+02.4	96 04.4	+02.5	97 03.5	+02.5	98 02.7	+02.4	13
14	109 08.6	+02.4	110 07.7	+02.5	111 06.9	+02.4	112 06.0	+02.5	113 05.1	+02.5	14
15	124 11.0	+02.5	125 10.2	+02.5	126 09.3	+02.5	127 08.5	+02.4	128 07.6	+02.5	15
16	139 13.5	+02.5	140 12.7	+02.4	141 11.8	+02.5	142 10.9	+02.5	143 10.1	+02.4	16
17	154 16.0	+02.4	155 15.1	+02.5	156 14.3	+02.4	157 13.4	+02.5	158 12.5	+02.5	17
18	169 18.4	+02.5	170 17.6	+02.4	171 16.7	+02.5	172 15.9	+02.4	173 15.0	+02.5	18
19	184 20.9	+02.5	185 20.0	+02.5	186 19.2	+02.5	187 18.3	+02.5	188 17.5	+02.4	19
20	199 23.4	+02.4	200 22.5	+02.5	201 21.7	+02.4	202 20.8	+02.5	203 19.9	+02.5	20
21	214 25.8	+02.5	215 25.0	+02.4	216 24.1	+02.5	217 23.3	+02.4	218 22.4	+02.5	21
22	229 28.3	+02.5	230 27.4	+02.5	231 26.6	+02.4	232 25.7	+02.5	233 24.9	+02.4	22
23	244 30.8	+02.4	245 29.9	+02.5	246 29.0	+02.5	247 28.2	+02.4	248 27.3	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.9	N 29 12.3	Gienah	175 46.5	S 17 39.7
Ankaa	353 10.3	S 42 11.2	*Acrux*	173 03.0	S 63 13.2
Schedir	349 34.5	N 56 38.9	*Gacrux*	171 54.7	S 57 14.1
Diphda	348 50.5	S 17 52.2	*Alioth*	166 15.5	N 55 51.0
Achernar	335 22.9	S 57 07.6	Spica	158 25.2	S 11 16.3
Hamal	327 54.8	N 23 33.6	*Alkaid*	152 54.0	N 49 12.7
Polaris	315 47.6	N 89 21.0	*Hadar*	148 39.6	S 60 28.7
Acamar	315 14.4	S 40 13.1	*Menkent*	148 00.5	S 36 28.3
Menkar	314 09.5	N 04 10.3	Arcturus	145 50.0	N 19 05.1
Mirfak	308 32.9	N 49 56.0	*Rigel Kentaurus*	139 41.2	S 60 55.7
Aldebaran	290 43.4	N 16 33.1	Zubenelgenubi	136 58.9	S 16 07.8
Capella	280 26.7	N 46 01.2	*Kocab*	137 18.9	N 74 04.3
Rigel	281 07.0	S 08 10.7	Alphecca	126 06.0	N 26 38.7
Bellatrix	278 26.4	N 06 22.1	Antares	112 19.2	S 26 28.7
Elnath	278 06.0	N 28 37.5	*Atria*	107 15.3	S 69 03.9
Alnilam	275 41.1	S 01 11.4	Sabik	102 05.8	S 15 45.1
Betelgeuze	270 55.6	N 07 24.6	*Shaula*	96 13.9	S 37 07.1
Canopus	263 54.2	S 52 42.5	Rasalhague	96 01.0	N 12 32.8
Sirius	258 29.0	S 16 44.4	*Etamin*	90 43.0	N 51 29.1
Adhara	255 08.5	S 29 00.2	*Kaus Australis*	83 36.0	S 34 22.3
Castor	246 01.1	N 31 50.6	*Vega*	80 34.9	N 38 48.0
Procyon	244 54.0	N 05 10.5	Nunki	75 51.1	S 26 16.1
Pollux	243 20.9	N 27 58.5	Albireo	67 06.1	N 28 00.2
Avior	234 16.3	S 59 34.9	Altair	62 02.7	N 08 55.3
Suhail	222 48.7	S 43 31.3	*Peacock*	53 10.0	S 56 39.7
Miaplacidus	221 39.1	S 69 48.5	*Deneb*	49 27.4	N 45 21.2
Alphard	217 50.8	S 08 45.1	Enif	33 41.5	N 09 58.3
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.6	S 46 51.2
Dubhe	193 44.7	N 61 38.5	Formalhaut	15 17.9	S 29 30.4
Denebola	182 27.8	N 14 27.3	Markab	13 32.8	N 15 19.0

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2021 - First Point of Aries / Selected Stars

UT	day 166 of 365 June 15 GHA	ddGHA	day 167 of 365 June 16 GHA	ddGHA	day 168 of 365 June 17 GHA	ddGHA	day 169 of 365 June 18 GHA	ddGHA	day 170 of 365 June 19 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	263 29.8	+02.5	264 28.9	+02.5	265 28.1	+02.4	266 27.2	+02.5	267 26.3	+02.5	00
01	278 32.3	+02.4	279 31.4	+02.5	280 30.5	+02.5	281 29.7	+02.4	282 28.8	+02.5	01
02	293 34.7	+02.5	294 33.9	+02.4	295 33.0	+02.5	296 32.1	+02.5	297 31.3	+02.4	02
03	308 37.2	+02.4	309 36.3	+02.5	310 35.5	+02.4	311 34.6	+02.5	312 33.7	+02.5	03
04	323 39.6	+02.5	324 38.8	+02.4	325 37.9	+02.5	326 37.1	+02.4	327 36.2	+02.5	04
05	338 42.1	+02.5	339 41.2	+02.5	340 40.4	+02.5	341 39.5	+02.5	342 38.7	+02.4	05
06	353 44.6	+02.4	354 43.7	+02.5	355 42.9	+02.4	356 42.0	+02.5	357 41.1	+02.5	06
07	8 47.0	+02.5	9 46.2	+02.4	10 45.3	+02.5	11 44.5	+02.4	12 43.6	+02.5	07
08	23 49.5	+02.5	24 48.6	+02.5	25 47.8	+02.4	26 46.9	+02.5	27 46.1	+02.4	08
09	38 52.0	+02.4	39 51.1	+02.5	40 50.2	+02.5	41 49.4	+02.4	42 48.5	+02.5	09
10	53 54.4	+02.5	54 53.6	+02.4	55 52.7	+02.5	56 51.8	+02.5	57 51.0	+02.4	10
11	68 56.9	+02.5	69 56.0	+02.5	70 55.2	+02.4	71 54.3	+02.5	72 53.4	+02.5	11
12	83 59.4	+02.4	84 58.5	+02.5	85 57.6	+02.5	86 56.8	+02.4	87 55.9	+02.5	12
13	99 01.8	+02.5	100 01.0	+02.4	101 00.1	+02.5	101 59.2	+02.5	102 58.4	+02.4	13
14	114 04.3	+02.5	115 03.4	+02.5	116 02.6	+02.4	117 01.7	+02.5	118 00.8	+02.5	14
15	129 06.8	+02.4	130 05.9	+02.5	131 05.0	+02.5	132 04.2	+02.4	133 03.3	+02.5	15
16	144 09.2	+02.5	145 08.4	+02.4	146 07.5	+02.5	147 06.6	+02.5	148 05.8	+02.4	16
17	159 11.7	+02.4	160 10.8	+02.5	161 10.0	+02.4	162 09.1	+02.5	163 08.2	+02.5	17
18	174 14.1	+02.5	175 13.3	+02.4	176 12.4	+02.5	177 11.6	+02.4	178 10.7	+02.5	18
19	189 16.6	+02.5	190 15.7	+02.5	191 14.9	+02.4	192 14.0	+02.5	193 13.2	+02.4	19
20	204 19.1	+02.4	205 18.2	+02.5	206 17.3	+02.5	207 16.5	+02.5	208 15.6	+02.5	20
21	219 21.5	+02.5	220 20.7	+02.4	221 19.8	+02.5	222 19.0	+02.4	223 18.1	+02.5	21
22	234 24.0	+02.5	235 23.1	+02.5	236 22.3	+02.4	237 21.4	+02.5	238 20.6	+02.4	22
23	249 26.5	+02.4	250 25.6	+02.5	251 24.7	+02.5	252 23.9	+02.4	253 23.0	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.9	N 29 12.3	Gienah	175 46.5	S 17 39.7
Ankaa	353 10.3	S 42 11.1	*Acrux*	173 03.1	S 63 13.3
Schedir	349 34.5	N 56 38.9	*Gacrux*	171 54.7	S 57 14.1
Diphda	348 50.4	S 17 52.2	*Alioth*	166 15.5	N 55 51.0
Achernar	335 22.8	S 57 07.5	Spica	158 25.2	S 11 16.3
Hamal	327 54.8	N 23 33.6	*Alkaid*	152 54.1	N 49 12.7
Polaris	315 45.8	N 89 21.0	*Hadar*	148 39.6	S 60 28.7
Acamar	315 14.3	S 40 13.1	*Menkent*	148 00.5	S 36 28.3
Menkar	314 09.5	N 04 10.3	Arcturus	145 50.0	N 19 05.1
Mirfak	308 32.8	N 49 56.0	*Rigel Kentaurus*	139 41.2	S 60 55.7
Aldebaran	290 43.3	N 16 33.1	Zubenelgenubi	136 58.9	S 16 07.8
Capella	280 26.7	N 46 01.2	*Kocab*	137 19.0	N 74 04.3
Rigel	281 07.0	S 08 10.7	Alphecca	126 06.0	N 26 38.7
Bellatrix	278 26.3	N 06 22.1	Antares	112 19.2	S 26 28.7
Elnath	278 05.9	N 28 37.5	*Atria*	107 15.3	S 69 03.9
Alnilam	275 41.0	S 01 11.4	Sabik	102 05.8	S 15 45.1
Betelgeuze	270 55.6	N 07 24.6	*Shaula*	96 13.9	S 37 07.1
Canopus	263 54.2	S 52 42.5	Rasalhague	96 00.9	N 12 32.8
Sirius	258 29.0	S 16 44.4	*Etamin*	90 43.0	N 51 29.2
Adhara	255 08.5	S 29 00.1	*Kaus Australis*	83 36.0	S 34 22.3
Castor	246 01.1	N 31 50.6	*Vega*	80 34.8	N 38 48.1
Procyon	244 54.0	N 05 10.5	Nunki	75 51.0	S 26 16.1
Pollux	243 20.9	N 27 58.5	Albireo	67 06.1	N 28 00.2
Avior	234 16.3	S 59 34.9	Altair	62 02.7	N 08 55.3
Suhail	222 48.7	S 43 31.3	*Peacock*	53 09.9	S 56 39.7
Miaplacidus	221 39.2	S 69 48.5	*Deneb*	49 27.4	N 45 21.2
Alphard	217 50.8	S 08 45.1	Enif	33 41.5	N 09 58.3
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.5	S 46 51.2
Dubhe	193 44.7	N 61 38.5	Formalhaut	15 17.8	S 29 30.4
Denebola	182 27.8	N 14 27.3	Markab	13 32.8	N 15 19.1

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2021 - First Point of Aries / Selected Stars

UT	day 191 of 365 July 10 GHA	ddGHA	day 192 of 365 July 11 GHA	ddGHA	day 193 of 365 July 12 GHA	ddGHA	day 194 of 365 July 13 GHA	ddGHA	day 195 of 365 July 14 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	288 08.3	+02.4	289 07.4	+02.5	290 06.6	+02.4	291 05.7	+02.5	292 04.8	+02.5	00
01	303 10.7	+02.5	304 09.9	+02.4	305 09.0	+02.5	306 08.2	+02.4	307 07.3	+02.5	01
02	318 13.2	+02.5	319 12.3	+02.5	320 11.5	+02.4	321 10.6	+02.5	322 09.8	+02.4	02
03	333 15.7	+02.4	334 14.8	+02.5	335 13.9	+02.5	336 13.1	+02.5	337 12.2	+02.5	03
04	348 18.1	+02.5	349 17.3	+02.4	350 16.4	+02.5	351 15.6	+02.4	352 14.7	+02.5	04
05	3 20.6	+02.5	4 19.7	+02.5	5 18.9	+02.4	6 18.0	+02.5	7 17.2	+02.4	05
06	18 23.1	+02.4	19 22.2	+02.5	20 21.3	+02.5	21 20.5	+02.4	22 19.6	+02.5	06
07	33 25.5	+02.5	34 24.7	+02.4	35 23.8	+02.5	36 22.9	+02.5	37 22.1	+02.4	07
08	48 28.0	+02.5	49 27.1	+02.5	50 26.3	+02.4	51 25.4	+02.5	52 24.5	+02.5	08
09	63 30.5	+02.4	64 29.6	+02.5	65 28.7	+02.5	66 27.9	+02.4	67 27.0	+02.5	09
10	78 32.9	+02.5	79 32.1	+02.4	80 31.2	+02.5	81 30.3	+02.5	82 29.5	+02.4	10
11	93 35.4	+02.4	94 34.5	+02.5	95 33.7	+02.4	96 32.8	+02.5	97 31.9	+02.5	11
12	108 37.8	+02.5	109 37.0	+02.4	110 36.1	+02.5	111 35.3	+02.4	112 34.4	+02.5	12
13	123 40.3	+02.5	124 39.4	+02.5	125 38.6	+02.5	126 37.7	+02.5	127 36.9	+02.4	13
14	138 42.8	+02.4	139 41.9	+02.5	140 41.1	+02.4	141 40.2	+02.5	142 39.3	+02.5	14
15	153 45.2	+02.5	154 44.4	+02.4	155 43.5	+02.5	156 42.7	+02.4	157 41.8	+02.5	15
16	168 47.7	+02.5	169 46.8	+02.5	170 46.0	+02.4	171 45.1	+02.5	172 44.3	+02.4	16
17	183 50.2	+02.4	184 49.3	+02.5	185 48.4	+02.5	186 47.6	+02.4	187 46.7	+02.5	17
18	198 52.6	+02.5	199 51.8	+02.4	200 50.9	+02.5	201 50.0	+02.5	202 49.2	+02.5	18
19	213 55.1	+02.5	214 54.2	+02.5	215 53.4	+02.4	216 52.5	+02.5	217 51.7	+02.4	19
20	228 57.6	+02.4	229 56.7	+02.5	230 55.8	+02.5	231 55.0	+02.4	232 54.1	+02.5	20
21	244 00.0	+02.5	244 59.2	+02.4	245 58.3	+02.5	246 57.4	+02.5	247 56.6	+02.4	21
22	259 02.5	+02.5	260 01.6	+02.5	261 00.8	+02.4	261 59.9	+02.5	262 59.0	+02.5	22
23	274 05.0	+02.4	275 04.1	+02.5	276 03.2	+02.5	277 02.4	+02.4	278 01.5	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.6	N 29 12.4	Gienah	175 46.5	S 17 39.6
Ankaa	353 10.0	S 42 11.1	*Acrux*	173 03.3	S 63 13.3
Schedir	349 34.2	N 56 39.0	*Gacrux*	171 54.9	S 57 14.1
Diphda	348 50.2	S 17 52.1	*Alioth*	166 15.7	N 55 51.0
Achernar	335 22.5	S 57 07.4	Spica	158 25.3	S 11 16.3
Hamal	327 54.6	N 23 33.7	*Alkaid*	152 54.2	N 49 12.7
Polaris	315 35.1	N 89 20.9	*Hadar*	148 39.8	S 60 28.7
Acamar	315 14.2	S 40 13.0	*Menkent*	148 00.6	S 36 28.3
Menkar	314 09.3	N 04 10.4	Arcturus	145 50.1	N 19 05.2
Mirfak	308 32.6	N 49 56.0	*Rigel Kentaurus*	139 41.4	S 60 55.7
Aldebaran	290 43.2	N 16 33.1	Zubenelgenubi	136 59.0	S 16 07.8
Capella	280 26.6	N 46 01.2	*Kocab*	137 19.3	N 74 04.4
Rigel	281 06.9	S 08 10.6	Alphecca	126 06.0	N 26 38.8
Bellatrix	278 26.2	N 06 22.1	Antares	112 19.1	S 26 28.7
Elnath	278 05.8	N 28 37.5	*Atria*	107 15.3	S 69 04.0
Alnilam	275 40.9	S 01 11.3	Sabik	102 05.8	S 15 45.0
Betelgeuze	270 55.5	N 07 24.6	*Shaula*	96 13.8	S 37 07.1
Canopus	263 54.2	S 52 42.4	Rasalhague	96 00.9	N 12 32.9
Sirius	258 28.9	S 16 44.3	*Etamin*	90 43.0	N 51 29.3
Adhara	255 08.5	S 29 00.0	*Kaus Australis*	83 35.9	S 34 22.4
Castor	246 01.0	N 31 50.5	*Vega*	80 34.8	N 38 48.2
Procyon	244 53.9	N 05 10.6	Nunki	75 50.9	S 26 16.1
Pollux	243 20.9	N 27 58.5	Albireo	67 06.0	N 28 00.3
Avior	234 16.4	S 59 34.8	Altair	62 02.6	N 08 55.4
Suhail	222 48.7	S 43 31.2	*Peacock*	53 09.7	S 56 39.8
Miaplacidus	221 39.4	S 69 48.4	*Deneb*	49 27.3	N 45 21.3
Alphard	217 50.8	S 08 45.1	Enif	33 41.3	N 09 58.4
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.3	S 46 51.2
Dubhe	193 44.9	N 61 38.5	Formalhaut	15 17.6	S 29 30.3
Denebola	182 27.8	N 14 27.4	Markab	13 32.6	N 15 19.2

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2021 - First Point of Aries / Selected Stars

UT	day 176 of 365 June 25 GHA	ddGHA	day 177 of 365 June 26 GHA	ddGHA	day 178 of 365 June 27 GHA	ddGHA	day 179 of 365 June 28 GHA	ddGHA	day 180 of 365 June 29 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	273 21.2	+02.4	274 20.3	+02.5	275 19.5	+02.4	276 18.6	+02.5	277 17.7	+02.5	00
01	288 23.6	+02.5	289 22.8	+02.5	290 21.9	+02.5	291 21.1	+02.4	292 20.2	+02.5	01
02	303 26.1	+02.5	304 25.3	+02.4	305 24.4	+02.5	306 23.5	+02.5	307 22.7	+02.4	02
03	318 28.6	+02.4	319 27.7	+02.5	320 26.9	+02.4	321 26.0	+02.5	322 25.1	+02.5	03
04	333 31.0	+02.5	334 30.2	+02.4	335 29.3	+02.5	336 28.5	+02.4	337 27.6	+02.5	04
05	348 33.5	+02.5	349 32.6	+02.5	350 31.8	+02.5	351 30.9	+02.5	352 30.1	+02.4	05
06	3 36.0	+02.4	4 35.1	+02.5	5 34.3	+02.4	6 33.4	+02.5	7 32.5	+02.5	06
07	18 38.4	+02.5	19 37.6	+02.4	20 36.7	+02.5	21 35.9	+02.4	22 35.0	+02.5	07
08	33 40.9	+02.5	34 40.0	+02.5	35 39.2	+02.4	36 38.3	+02.5	37 37.5	+02.4	08
09	48 43.4	+02.4	49 42.5	+02.5	50 41.6	+02.5	51 40.8	+02.4	52 39.9	+02.5	09
10	63 45.8	+02.5	64 45.0	+02.4	65 44.1	+02.5	66 43.2	+02.5	67 42.4	+02.4	10
11	78 48.3	+02.5	79 47.4	+02.5	80 46.6	+02.4	81 45.7	+02.5	82 44.8	+02.5	11
12	93 50.8	+02.4	94 49.9	+02.5	95 49.0	+02.5	96 48.2	+02.4	97 47.3	+02.5	12
13	108 53.2	+02.5	109 52.4	+02.4	110 51.5	+02.5	111 50.6	+02.5	112 49.8	+02.4	13
14	123 55.7	+02.4	124 54.8	+02.5	125 54.0	+02.4	126 53.1	+02.5	127 52.2	+02.5	14
15	138 58.1	+02.5	139 57.3	+02.5	140 56.4	+02.5	141 55.6	+02.4	142 54.7	+02.5	15
16	154 00.6	+02.5	154 59.8	+02.4	155 58.9	+02.5	156 58.0	+02.5	157 57.2	+02.4	16
17	169 03.1	+02.4	170 02.2	+02.5	171 01.4	+02.4	172 00.5	+02.5	172 59.6	+02.5	17
18	184 05.5	+02.5	185 04.7	+02.4	186 03.8	+02.5	187 03.0	+02.4	188 02.1	+02.5	18
19	199 08.0	+02.5	200 07.1	+02.5	201 06.3	+02.4	202 05.4	+02.5	203 04.6	+02.4	19
20	214 10.5	+02.4	215 09.6	+02.5	216 08.7	+02.5	217 07.9	+02.5	218 07.0	+02.5	20
21	229 12.9	+02.5	230 12.1	+02.4	231 11.2	+02.5	232 10.4	+02.4	233 09.5	+02.5	21
22	244 15.4	+02.5	245 14.5	+02.5	246 13.7	+02.4	247 12.8	+02.5	248 12.0	+02.4	22
23	259 17.9	+02.4	260 17.0	+02.5	261 16.1	+02.5	262 15.3	+02.4	263 14.4	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.8	N 29 12.3	Gienah	175 46.5	S 17 39.7
Ankaa	353 10.2	S 42 11.1	*Acrux*	173 03.1	S 63 13.3
Schedir	349 34.3	N 56 38.9	*Gacrux*	171 54.8	S 57 14.1
Diphda	348 50.3	S 17 52.1	*Alioth*	166 15.6	N 55 51.0
Achernar	335 22.7	S 57 07.5	Spica	158 25.2	S 11 16.3
Hamal	327 54.7	N 23 33.7	*Alkaid*	152 54.1	N 49 12.7
Polaris	315 41.8	N 89 20.9	*Hadar*	148 39.7	S 60 28.7
Acamar	315 14.3	S 40 13.1	*Menkent*	148 00.5	S 36 28.3
Menkar	314 09.4	N 04 10.3	Arcturus	145 50.0	N 19 05.1
Mirfak	308 32.7	N 49 56.0	*Rigel Kentaurus*	139 41.3	S 60 55.7
Aldebaran	290 43.3	N 16 33.1	Zubenelgenubi	136 58.9	S 16 07.8
Capella	280 26.7	N 46 01.2	*Kocab*	137 19.1	N 74 04.4
Rigel	281 07.0	S 08 10.7	Alphecca	126 06.0	N 26 38.8
Bellatrix	278 26.3	N 06 22.1	Antares	112 19.1	S 26 28.7
Elnath	278 05.9	N 28 37.5	*Atria*	107 15.3	S 69 03.9
Alnilam	275 41.0	S 01 11.3	Sabik	102 05.8	S 15 45.1
Betelgeuze	270 55.6	N 07 24.6	*Shaula*	96 13.9	S 37 07.1
Canopus	263 54.2	S 52 42.4	Rasalhague	96 00.9	N 12 32.8
Sirius	258 29.0	S 16 44.3	*Etamin*	90 43.0	N 51 29.2
Adhara	255 08.5	S 29 00.1	*Kaus Australis*	83 35.9	S 34 22.3
Castor	246 01.1	N 31 50.6	*Vega*	80 34.8	N 38 48.1
Procyon	244 54.0	N 05 10.6	Nunki	75 51.0	S 26 16.1
Pollux	243 20.9	N 27 58.5	Albireo	67 06.0	N 28 00.2
Avior	234 16.4	S 59 34.8	Altair	62 02.6	N 08 55.4
Suhail	222 48.7	S 43 31.3	*Peacock*	53 09.8	S 56 39.8
Miaplacidus	221 39.3	S 69 48.5	*Deneb*	49 27.3	N 45 21.2
Alphard	217 50.8	S 08 45.1	Enif	33 41.4	N 09 58.3
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.4	S 46 51.2
Dubhe	193 44.8	N 61 38.5	Formalhaut	15 17.7	S 29 30.4
Denebola	182 27.8	N 14 27.4	Markab	13 32.7	N 15 19.1

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2021 - First Point of Aries / Selected Stars

UT	day 181 of 365 *June 30* GHA ° ′	ddGHA ′	day 182 of 365 *July 1* GHA ° ′	ddGHA ′	day 183 of 365 *July 2* GHA ° ′	ddGHA ′	day 184 of 365 *July 3* GHA ° ′	ddGHA ′	day 185 of 365 *July 4* GHA ° ′	ddGHA ′	UT
00	278 16.9	+02.4	279 16.0	+02.5	280 15.2	+02.4	281 14.3	+02.5	282 13.4	+02.5	00
01	293 19.3	+02.5	294 18.5	+02.4	295 17.6	+02.5	296 16.8	+02.4	297 15.9	+02.5	01
02	308 21.8	+02.5	309 20.9	+02.5	310 20.1	+02.5	311 19.2	+02.5	312 18.4	+02.4	02
03	323 24.3	+02.4	324 23.4	+02.5	325 22.6	+02.4	326 21.7	+02.5	327 20.8	+02.5	03
04	338 26.7	+02.5	339 25.9	+02.4	340 25.0	+02.5	341 24.2	+02.4	342 23.3	+02.5	04
05	353 29.2	+02.5	354 28.3	+02.5	355 27.5	+02.4	356 26.6	+02.5	357 25.8	+02.4	05
06	8 31.7	+02.4	9 30.8	+02.5	10 29.9	+02.5	11 29.1	+02.4	12 28.2	+02.5	06
07	23 34.1	+02.5	24 33.3	+02.4	25 32.4	+02.5	26 31.5	+02.5	27 30.7	+02.4	07
08	38 36.6	+02.5	39 35.7	+02.5	40 34.9	+02.4	41 34.0	+02.5	42 33.1	+02.5	08
09	53 39.1	+02.4	54 38.2	+02.5	55 37.3	+02.5	56 36.5	+02.4	57 35.6	+02.5	09
10	68 41.5	+02.5	69 40.7	+02.4	70 39.8	+02.5	71 38.9	+02.5	72 38.1	+02.4	10
11	83 44.0	+02.5	84 43.1	+02.5	85 42.3	+02.4	86 41.4	+02.5	87 40.5	+02.5	11
12	98 46.5	+02.4	99 45.6	+02.5	100 44.7	+02.5	101 43.9	+02.4	102 43.0	+02.5	12
13	113 48.9	+02.5	114 48.1	+02.4	115 47.2	+02.5	116 46.3	+02.5	117 45.5	+02.4	13
14	128 51.4	+02.4	129 50.5	+02.5	130 49.7	+02.4	131 48.8	+02.5	132 47.9	+02.5	14
15	143 53.8	+02.5	144 53.0	+02.4	145 52.1	+02.5	146 51.3	+02.4	147 50.4	+02.5	15
16	158 56.3	+02.5	159 55.4	+02.5	160 54.6	+02.4	161 53.7	+02.5	162 52.9	+02.4	16
17	173 58.8	+02.4	174 57.9	+02.5	175 57.0	+02.5	176 56.2	+02.5	177 55.3	+02.5	17
18	189 01.2	+02.5	190 00.4	+02.4	190 59.5	+02.5	191 58.7	+02.4	192 57.8	+02.5	18
19	204 03.7	+02.5	205 02.8	+02.5	206 02.0	+02.4	207 01.1	+02.5	208 00.3	+02.4	19
20	219 06.2	+02.4	220 05.3	+02.5	221 04.4	+02.5	222 03.6	+02.4	223 02.7	+02.5	20
21	234 08.6	+02.5	235 07.8	+02.4	236 06.9	+02.5	237 06.0	+02.5	238 05.2	+02.4	21
22	249 11.1	+02.5	250 10.2	+02.5	251 09.4	+02.4	252 08.5	+02.5	253 07.6	+02.5	22
23	264 13.6	+02.4	265 12.7	+02.5	266 11.8	+02.5	267 11.0	+02.4	268 10.1	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.7	N 29 12.4	Gienah	175 46.5	S 17 39.7
Ankaa	353 10.1	S 42 11.1	*Acrux*	173 03.2	S 63 13.3
Schedir	349 34.3	N 56 38.9	*Gacrux*	171 54.8	S 57 14.1
Diphda	348 50.3	S 17 52.1	*Alioth*	166 15.6	N 55 51.0
Achernar	335 22.7	S 57 07.5	Spica	158 25.2	S 11 16.3
Hamal	327 54.6	N 23 33.7	*Alkaid*	152 54.1	N 49 12.7
Polaris	315 39.8	N 89 20.9	*Hadar*	148 39.7	S 60 28.7
Acamar	315 14.2	S 40 13.0	*Menkent*	148 00.5	S 36 28.3
Menkar	314 09.4	N 04 10.4	Arcturus	145 50.0	N 19 05.2
Mirfak	308 32.7	N 49 56.0	*Rigel Kentaurus*	139 41.3	S 60 55.7
Aldebaran	290 43.2	N 16 33.1	Zubenelgenubi	136 58.9	S 16 07.8
Capella	280 26.6	N 46 01.2	*Kocab*	137 19.2	N 74 04.4
Rigel	281 07.0	S 08 10.6	Alphecca	126 06.0	N 26 38.8
Bellatrix	278 26.3	N 06 22.1	Antares	112 19.1	S 26 28.7
Elnath	278 05.9	N 28 37.5	*Atria*	107 15.3	S 69 04.0
Alnilam	275 41.0	S 01 11.3	Sabik	102 05.8	S 15 45.1
Betelgeuze	270 55.5	N 07 24.6	*Shaula*	96 13.9	S 37 07.1
Canopus	263 54.2	S 52 42.4	Rasalhague	96 00.9	N 12 32.8
Sirius	258 28.9	S 16 44.3	*Etamin*	90 43.0	N 51 29.2
Adhara	255 08.5	S 29 00.1	*Kaus Australis*	83 35.9	S 34 22.3
Castor	246 01.1	N 31 50.6	*Vega*	80 34.8	N 38 48.1
Procyon	244 54.0	N 05 10.6	Nunki	75 51.0	S 26 16.1
Pollux	243 20.9	N 27 58.5	Albireo	67 06.0	N 28 00.2
Avior	234 16.4	S 59 34.8	Altair	62 02.6	N 08 55.4
Suhail	222 48.7	S 43 31.2	*Peacock*	53 09.8	S 56 39.8
Miaplacidus	221 39.3	S 69 48.5	*Deneb*	49 27.3	N 45 21.3
Alphard	217 50.8	S 08 45.1	Enif	33 41.4	N 09 58.3
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.3	S 46 51.2
Dubhe	193 44.8	N 61 38.5	Formalhaut	15 17.7	S 29 30.4
Denebola	182 27.8	N 14 27.4	Markab	13 32.6	N 15 19.1

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2021 - First Point of Aries / Selected Stars

UT	day 186 of 365 *July 5* GHA ° ′	ddGHA ′	day 187 of 365 *July 6* GHA ° ′	ddGHA ′	day 188 of 365 *July 7* GHA ° ′	ddGHA ′	day 189 of 365 *July 8* GHA ° ′	ddGHA ′	day 190 of 365 *July 9* GHA ° ′	ddGHA ′	UT
00	283 12.6	+02.4	284 11.7	+02.5	285 10.9	+02.4	286 10.0	+02.5	287 09.1	+02.5	00
01	298 15.0	+02.5	299 14.2	+02.4	300 13.3	+02.5	301 12.5	+02.4	302 11.6	+02.5	01
02	313 17.5	+02.5	314 16.6	+02.5	315 15.8	+02.4	316 14.9	+02.5	317 14.1	+02.4	02
03	328 20.0	+02.4	329 19.1	+02.5	330 18.2	+02.5	331 17.4	+02.5	332 16.5	+02.5	03
04	343 22.4	+02.5	344 21.6	+02.4	345 20.7	+02.5	346 19.9	+02.4	347 19.0	+02.5	04
05	358 24.9	+02.5	359 24.0	+02.5	0 23.2	+02.4	1 22.3	+02.5	2 21.5	+02.4	05
06	13 27.4	+02.4	14 26.5	+02.5	15 25.6	+02.5	16 24.8	+02.4	17 23.9	+02.5	06
07	28 29.8	+02.5	29 29.0	+02.4	30 28.1	+02.5	31 27.2	+02.5	32 26.4	+02.4	07
08	43 32.3	+02.5	44 31.4	+02.5	45 30.6	+02.4	46 29.7	+02.5	47 28.8	+02.5	08
09	58 34.8	+02.4	59 33.9	+02.5	60 33.0	+02.5	61 32.2	+02.4	62 31.3	+02.5	09
10	73 37.2	+02.5	74 36.4	+02.4	75 35.5	+02.5	76 34.6	+02.5	77 33.8	+02.4	10
11	88 39.7	+02.4	89 38.8	+02.5	90 38.0	+02.4	91 37.1	+02.5	92 36.2	+02.5	11
12	103 42.1	+02.5	104 41.3	+02.4	105 40.4	+02.5	106 39.6	+02.4	107 38.7	+02.5	12
13	118 44.6	+02.5	119 43.7	+02.5	120 42.9	+02.5	121 42.0	+02.5	122 41.2	+02.4	13
14	133 47.1	+02.4	134 46.2	+02.5	135 45.4	+02.4	136 44.5	+02.5	137 43.6	+02.5	14
15	148 49.5	+02.5	149 48.7	+02.4	150 47.8	+02.5	151 47.0	+02.4	152 46.1	+02.5	15
16	163 52.0	+02.5	164 51.1	+02.5	165 50.3	+02.4	166 49.4	+02.5	167 48.6	+02.4	16
17	178 54.5	+02.4	179 53.6	+02.5	180 52.7	+02.5	181 51.9	+02.4	182 51.0	+02.5	17
18	193 56.9	+02.5	194 56.1	+02.4	195 55.2	+02.5	196 54.3	+02.5	197 53.5	+02.5	18
19	208 59.4	+02.5	209 58.5	+02.5	210 57.7	+02.4	211 56.8	+02.5	212 56.0	+02.4	19
20	224 01.9	+02.4	225 01.0	+02.5	226 00.1	+02.5	226 59.3	+02.4	227 58.4	+02.5	20
21	239 04.3	+02.5	240 03.5	+02.4	241 02.6	+02.5	242 01.7	+02.5	243 00.9	+02.4	21
22	254 06.8	+02.4	255 05.9	+02.5	256 05.1	+02.4	257 04.2	+02.5	258 03.3	+02.5	22
23	269 09.2	+02.5	270 08.4	+02.5	271 07.5	+02.5	272 06.7	+02.4	273 05.8	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.7	N 29 12.4	Gienah	175 46.5	S 17 39.7
Ankaa	353 10.1	S 42 11.1	*Acrux*	173 03.2	S 63 13.3
Schedir	349 34.2	N 56 39.0	*Gacrux*	171 54.8	S 57 14.1
Diphda	348 50.3	S 17 52.1	*Alioth*	166 15.7	N 55 51.0
Achernar	335 22.6	S 57 07.5	Spica	158 25.3	S 11 16.3
Hamal	327 54.6	N 23 33.7	*Alkaid*	152 54.2	N 49 12.7
Polaris	315 37.7	N 89 20.9	*Hadar*	148 39.8	S 60 28.7
Acamar	315 14.2	S 40 13.0	*Menkent*	148 00.5	S 36 28.3
Menkar	314 09.3	N 04 10.4	Arcturus	145 50.1	N 19 05.2
Mirfak	308 32.7	N 49 56.0	*Rigel Kentaurus*	139 41.4	S 60 55.7
Aldebaran	290 43.2	N 16 33.1	Zubenelgenubi	136 59.0	S 16 07.8
Capella	280 26.6	N 46 01.2	*Kocab*	137 19.3	N 74 04.4
Rigel	281 06.9	S 08 10.6	Alphecca	126 06.0	N 26 38.8
Bellatrix	278 26.3	N 06 22.1	Antares	112 19.1	S 26 28.7
Elnath	278 05.9	N 28 37.5	*Atria*	107 15.3	S 69 04.0
Alnilam	275 41.0	S 01 11.3	Sabik	102 05.8	S 15 45.1
Betelgeuze	270 55.5	N 07 24.6	*Shaula*	96 13.9	S 37 07.1
Canopus	263 54.2	S 52 42.4	Rasalhague	96 00.9	N 12 32.8
Sirius	258 28.9	S 16 44.3	*Etamin*	90 43.0	N 51 29.3
Adhara	255 08.5	S 29 00.1	*Kaus Australis*	83 35.9	S 34 22.4
Castor	246 01.1	N 31 50.5	*Vega*	80 34.8	N 38 48.2
Procyon	244 54.0	N 05 10.6	Nunki	75 50.9	S 26 16.1
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2021 - First Point of Aries / Selected Stars

UT	day 211 of 365 July 30 GHA	ddGHA	day 212 of 365 July 31 GHA	ddGHA	day 213 of 365 August 1 GHA	ddGHA	day 214 of 365 August 2 GHA	ddGHA	day 215 of 365 August 3 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	307 51.1	+02.4	308 50.2	+02.5	309 49.3	+02.5	310 48.5	+02.4	311 47.6	+02.5	00
01	322 53.5	+02.5	323 52.7	+02.4	324 51.8	+02.5	325 50.9	+02.5	326 50.1	+02.4	01
02	337 56.0	+02.5	338 55.1	+02.5	339 54.3	+02.4	340 53.4	+02.5	341 52.5	+02.5	02
03	352 58.5	+02.4	353 57.6	+02.5	354 56.7	+02.5	355 55.9	+02.4	356 55.0	+02.5	03
04	8 00.9	+02.5	9 00.1	+02.4	9 59.2	+02.5	10 58.3	+02.5	11 57.5	+02.4	04
05	23 03.4	+02.4	24 02.5	+02.5	25 01.7	+02.4	26 00.8	+02.5	26 59.9	+02.5	05
06	38 05.8	+02.5	39 05.0	+02.4	40 04.1	+02.5	41 03.3	+02.4	42 02.4	+02.5	06
07	53 08.3	+02.5	54 07.4	+02.5	55 06.6	+02.4	56 05.7	+02.5	57 04.9	+02.4	07
08	68 10.8	+02.4	69 09.9	+02.5	70 09.0	+02.5	71 08.2	+02.5	72 07.3	+02.5	08
09	83 13.2	+02.5	84 12.4	+02.4	85 11.5	+02.5	86 10.7	+02.4	87 09.8	+02.5	09
10	98 15.7	+02.5	99 14.8	+02.5	100 14.0	+02.4	101 13.1	+02.5	102 12.3	+02.4	10
11	113 18.2	+02.4	114 17.3	+02.5	115 16.4	+02.5	116 15.6	+02.4	117 14.7	+02.5	11
12	128 20.6	+02.5	129 19.8	+02.4	130 18.9	+02.5	131 18.0	+02.5	132 17.2	+02.4	12
13	143 23.1	+02.5	144 22.2	+02.5	145 21.4	+02.4	146 20.5	+02.5	147 19.6	+02.5	13
14	158 25.6	+02.4	159 24.7	+02.5	160 23.8	+02.5	161 23.0	+02.4	162 22.1	+02.5	14
15	173 28.0	+02.5	174 27.2	+02.4	175 26.3	+02.5	176 25.4	+02.5	177 24.6	+02.4	15
16	188 30.5	+02.4	189 29.6	+02.5	190 28.8	+02.4	191 27.9	+02.5	192 27.0	+02.5	16
17	203 32.9	+02.5	204 32.1	+02.4	205 31.2	+02.5	206 30.4	+02.4	207 29.5	+02.5	17
18	218 35.4	+02.5	219 34.5	+02.5	220 33.7	+02.5	221 32.8	+02.5	222 32.0	+02.4	18
19	233 37.9	+02.4	234 37.0	+02.5	235 36.2	+02.4	236 35.3	+02.5	237 34.4	+02.5	19
20	248 40.3	+02.5	249 39.5	+02.4	250 38.6	+02.5	251 37.8	+02.4	252 36.9	+02.5	20
21	263 42.8	+02.5	264 41.9	+02.5	265 41.1	+02.4	266 40.2	+02.5	267 39.4	+02.4	21
22	278 45.3	+02.4	279 44.4	+02.5	280 43.5	+02.5	281 42.7	+02.4	282 41.8	+02.5	22
23	293 47.7	+02.5	294 46.9	+02.4	295 46.0	+02.5	296 45.1	+02.5	297 44.3	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
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Diphda	348 50.1	S 17 52.0	*Alioth*	166 15.8	N 55 51.0
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Hamal	327 54.4	N 23 33.8	*Alkaid*	152 54.3	N 49 12.7
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Canopus	263 54.1	S 52 42.3	Rasalhague	96 00.9	N 12 32.9
Sirius	258 28.8	S 16 44.2	*Etamin*	90 43.1	N 51 29.4
Adhara	255 08.4	S 28 59.9	*Kaus Australis*	83 35.9	S 34 22.4
Castor	246 01.0	N 31 50.5	*Vega*	80 34.8	N 38 48.3
Procyon	244 53.9	N 05 10.6	Nunki	75 50.9	S 26 16.1
Pollux	243 20.8	N 27 58.5	Albireo	67 05.9	N 28 00.4
Avior	234 16.5	S 59 34.6	Altair	62 02.5	N 08 55.5
Suhail	222 48.8	S 43 31.1	*Peacock*	53 09.6	S 56 39.9
Miaplacidus	221 39.5	S 69 48.3	*Deneb*	49 27.2	N 45 21.4
Alphard	217 50.8	S 08 45.0	Enif	33 41.2	N 09 58.4
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.1	S 46 51.2
Dubhe	193 45.0	N 61 38.4	Formalhaut	15 17.5	S 29 30.3
Denebola	182 27.9	N 14 27.4	Markab	13 32.4	N 15 19.2

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2021 - First Point of Aries / Selected Stars

UT	day 196 of 365 July 15 GHA	ddGHA	day 197 of 365 July 16 GHA	ddGHA	day 198 of 365 July 17 GHA	ddGHA	day 199 of 365 July 18 GHA	ddGHA	day 200 of 365 July 19 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	293 04.0	+02.4	294 03.1	+02.5	295 02.2	+02.5	296 01.4	+02.4	297 00.5	+02.5	00
01	308 06.4	+02.5	309 05.6	+02.4	310 04.7	+02.5	311 03.8	+02.5	312 03.0	+02.5	01
02	323 08.9	+02.5	324 08.0	+02.5	325 07.2	+02.4	326 06.3	+02.5	327 05.5	+02.4	02
03	338 11.4	+02.4	339 10.5	+02.5	340 09.6	+02.5	341 08.8	+02.4	342 07.9	+02.5	03
04	353 13.8	+02.5	354 13.0	+02.4	355 12.1	+02.5	356 11.2	+02.5	357 10.4	+02.4	04
05	8 16.3	+02.5	9 15.4	+02.5	10 14.6	+02.4	11 13.7	+02.5	12 12.8	+02.5	05
06	23 18.8	+02.4	24 17.9	+02.5	25 17.0	+02.5	26 16.2	+02.4	27 15.3	+02.5	06
07	38 21.2	+02.5	39 20.4	+02.4	40 19.5	+02.5	41 18.6	+02.5	42 17.8	+02.4	07
08	53 23.7	+02.4	54 22.8	+02.5	55 22.0	+02.4	56 21.1	+02.5	57 20.2	+02.5	08
09	68 26.1	+02.5	69 25.3	+02.4	70 24.4	+02.5	71 23.6	+02.4	72 22.7	+02.5	09
10	83 28.6	+02.5	84 27.7	+02.5	85 26.9	+02.5	86 26.0	+02.5	87 25.2	+02.4	10
11	98 31.1	+02.4	99 30.2	+02.5	100 29.4	+02.4	101 28.5	+02.5	102 27.6	+02.5	11
12	113 33.5	+02.5	114 32.7	+02.4	115 31.8	+02.5	116 31.0	+02.4	117 30.1	+02.5	12
13	128 36.0	+02.5	129 35.1	+02.5	130 34.3	+02.4	131 33.4	+02.5	132 32.6	+02.4	13
14	143 38.5	+02.4	144 37.6	+02.5	145 36.7	+02.5	146 35.9	+02.4	147 35.0	+02.5	14
15	158 40.9	+02.5	159 40.1	+02.4	160 39.2	+02.5	161 38.3	+02.5	162 37.5	+02.5	15
16	173 43.4	+02.5	174 42.5	+02.5	175 41.7	+02.4	176 40.8	+02.5	177 40.0	+02.4	16
17	188 45.9	+02.4	189 45.0	+02.5	190 44.1	+02.5	191 43.3	+02.4	192 42.4	+02.5	17
18	203 48.3	+02.5	204 47.5	+02.4	205 46.6	+02.5	206 45.7	+02.5	207 44.9	+02.4	18
19	218 50.8	+02.5	219 49.9	+02.5	220 49.1	+02.4	221 48.2	+02.5	222 47.3	+02.5	19
20	233 53.3	+02.4	234 52.4	+02.5	235 51.5	+02.5	236 50.7	+02.4	237 49.8	+02.5	20
21	248 55.7	+02.5	249 54.9	+02.4	250 54.0	+02.5	251 53.1	+02.5	252 52.3	+02.4	21
22	263 58.2	+02.4	264 57.3	+02.5	265 56.5	+02.4	266 55.6	+02.5	267 54.7	+02.5	22
23	279 00.6	+02.5	279 59.8	+02.4	280 58.9	+02.5	281 58.1	+02.4	282 57.2	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.6	N 29 12.4	Gienah	175 46.5	S 17 39.6
Ankaa	353 10.0	S 42 11.1	*Acrux*	173 03.3	S 63 13.3
Schedir	349 34.1	N 56 39.0	*Gacrux*	171 54.9	S 57 14.1
Diphda	348 50.2	S 17 52.1	*Alioth*	166 15.7	N 55 51.0
Achernar	335 22.5	S 57 07.4	Spica	158 25.3	S 11 16.3
Hamal	327 54.5	N 23 33.7	*Alkaid*	152 54.2	N 49 12.7
Polaris	315 32.9	N 89 20.9	*Hadar*	148 39.8	S 60 28.7
Acamar	315 14.1	S 40 13.0	*Menkent*	148 00.6	S 36 28.3
Menkar	314 09.3	N 04 10.4	Arcturus	145 50.1	N 19 05.2
Mirfak	308 32.5	N 49 56.0	*Rigel Kentaurus*	139 41.4	S 60 55.7
Aldebaran	290 43.2	N 16 33.1	Zubenelgenubi	136 59.0	S 16 07.8
Capella	280 26.5	N 46 01.1	*Kocab*	137 19.4	N 74 04.4
Rigel	281 06.9	S 08 10.6	Alphecca	126 06.0	N 26 38.8
Bellatrix	278 26.2	N 06 22.1	Antares	112 19.2	S 26 28.7
Elnath	278 05.8	N 28 37.5	*Atria*	107 15.3	S 69 04.0
Alnilam	275 40.9	S 01 11.3	Sabik	102 05.8	S 15 45.1
Betelgeuze	270 55.5	N 07 24.6	*Shaula*	96 13.8	S 37 07.1
Canopus	263 54.2	S 52 42.3	Rasalhague	96 00.9	N 12 32.9
Sirius	258 28.9	S 16 44.3	*Etamin*	90 43.0	N 51 29.3
Adhara	255 08.5	S 29 00.0	*Kaus Australis*	83 35.9	S 34 22.4
Castor	246 01.0	N 31 50.5	*Vega*	80 34.8	N 38 48.2
Procyon	244 53.9	N 05 10.6	Nunki	75 50.9	S 26 16.1
Pollux	243 20.8	N 27 58.5	Albireo	67 06.0	N 28 00.3
Avior	234 16.5	S 59 34.7	Altair	62 02.5	N 08 55.4
Suhail	222 48.8	S 43 31.2	*Peacock*	53 09.7	S 56 39.8
Miaplacidus	221 39.4	S 69 48.4	*Deneb*	49 27.2	N 45 21.3
Alphard	217 50.8	S 08 45.1	Enif	33 41.3	N 09 58.4
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.2	S 46 51.2
Dubhe	193 44.9	N 61 38.4	Formalhaut	15 17.6	S 29 30.3
Denebola	182 27.8	N 14 27.4	Markab	13 32.5	N 15 19.2

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2021 - First Point of Aries / Selected Stars

UT	day 201 of 365 July 20 GHA	ddGHA	day 202 of 365 July 21 GHA	ddGHA	day 203 of 365 July 22 GHA	ddGHA	day 204 of 365 July 23 GHA	ddGHA	day 205 of 365 July 24 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	297 59.7	+02.4	298 58.8	+02.5	299 57.9	+02.5	300 57.1	+02.5	301 56.2	+02.5	00
01	313 02.1	+02.5	314 01.3	+02.4	315 00.4	+02.5	315 59.6	+02.4	316 58.7	+02.5	01
02	328 04.6	+02.5	329 03.7	+02.5	330 02.9	+02.4	331 02.0	+02.5	332 01.2	+02.4	02
03	343 07.1	+02.4	344 06.2	+02.5	345 05.3	+02.5	346 04.5	+02.4	347 03.6	+02.5	03
04	358 09.5	+02.5	359 08.7	+02.4	0 07.8	+02.5	1 06.9	+02.5	2 06.1	+02.4	04
05	13 12.0	+02.4	14 11.1	+02.5	15 10.3	+02.4	16 09.4	+02.5	17 08.5	+02.5	05
06	28 14.4	+02.5	29 13.6	+02.5	30 12.7	+02.5	31 11.9	+02.4	32 11.0	+02.5	06
07	43 16.9	+02.5	44 16.1	+02.4	45 15.2	+02.5	46 14.3	+02.5	47 13.5	+02.4	07
08	58 19.4	+02.4	59 18.5	+02.5	60 17.7	+02.4	61 16.8	+02.5	62 15.9	+02.5	08
09	73 21.8	+02.5	74 21.0	+02.4	75 20.1	+02.5	76 19.3	+02.4	77 18.4	+02.5	09
10	88 24.3	+02.5	89 23.4	+02.5	90 22.6	+02.5	91 21.7	+02.5	92 20.9	+02.4	10
11	103 26.8	+02.4	104 25.9	+02.5	105 25.1	+02.4	106 24.2	+02.5	107 23.3	+02.5	11
12	118 29.2	+02.5	119 28.4	+02.4	120 27.5	+02.5	121 26.7	+02.4	122 25.8	+02.5	12
13	133 31.7	+02.5	134 30.8	+02.5	135 30.0	+02.4	136 29.1	+02.5	137 28.3	+02.4	13
14	148 34.2	+02.4	149 33.3	+02.5	150 32.4	+02.5	151 31.6	+02.5	152 30.7	+02.5	14
15	163 36.6	+02.5	164 35.8	+02.4	165 34.9	+02.5	166 34.1	+02.4	167 33.2	+02.5	15
16	178 39.1	+02.5	179 38.2	+02.5	180 37.4	+02.4	181 36.5	+02.5	182 35.7	+02.4	16
17	193 41.6	+02.4	194 40.7	+02.5	195 39.8	+02.5	196 39.0	+02.4	197 38.1	+02.5	17
18	208 44.0	+02.5	209 43.2	+02.4	210 42.3	+02.5	211 41.4	+02.5	212 40.6	+02.4	18
19	223 46.5	+02.4	224 45.6	+02.5	225 44.8	+02.4	226 43.9	+02.5	227 43.0	+02.5	19
20	238 48.9	+02.5	239 48.1	+02.5	240 47.2	+02.5	241 46.4	+02.4	242 45.5	+02.5	20
21	253 51.4	+02.5	254 50.6	+02.4	255 49.7	+02.5	256 48.8	+02.5	257 48.0	+02.4	21
22	268 53.9	+02.4	269 53.0	+02.5	270 52.2	+02.4	271 51.3	+02.5	272 50.4	+02.5	22
23	283 56.3	+02.5	284 55.5	+02.4	285 54.6	+02.5	286 53.8	+02.4	287 52.9	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.6	N 29 12.4	Gienah	175 46.6	S 17 39.6
Ankaa	353 09.9	S 42 11.0	*Acrux*	173 03.4	S 63 13.3
Schedir	349 34.0	N 56 39.0	*Gacrux*	171 54.9	S 57 14.1
Diphda	348 50.1	S 17 52.1	*Alioth*	166 15.8	N 55 51.0
Achernar	335 22.4	S 57 07.4	Spica	158 25.3	S 11 16.3
Hamal	327 54.5	N 23 33.7	*Alkaid*	152 54.2	N 49 12.7
Polaris	315 30.4	N 89 20.9	*Hadar*	148 39.9	S 60 28.7
Acamar	315 14.1	S 40 12.9	*Menkent*	148 00.6	S 36 28.3
Menkar	314 09.2	N 04 10.4	Arcturus	145 50.1	N 19 05.2
Mirfak	308 32.5	N 49 56.0	*Rigel Kentaurus*	139 41.5	S 60 55.7
Aldebaran	290 43.1	N 16 33.1	Zubenelgenubi	136 59.0	S 16 07.8
Capella	280 26.5	N 46 01.1	*Kocab*	137 19.5	N 74 04.4
Rigel	281 06.9	S 08 10.6	Alphecca	126 06.0	N 26 38.8
Bellatrix	278 26.2	N 06 22.1	Antares	112 19.2	S 26 28.7
Elnath	278 05.8	N 28 37.5	*Atria*	107 15.4	S 69 04.0
Alnilam	275 40.9	S 01 11.3	Sabik	102 05.8	S 15 45.0
Betelgeuze	270 55.5	N 07 24.6	*Shaula*	96 13.9	S 37 07.1
Canopus	263 54.2	S 52 42.3	Rasalhague	96 00.9	N 12 32.9
Sirius	258 28.9	S 16 44.2	*Etamin*	90 43.0	N 51 29.3
Adhara	255 08.4	S 28 60.0	*Kaus Australis*	83 35.9	S 34 22.4
Castor	246 01.0	N 31 50.5	*Vega*	80 34.8	N 38 48.2
Procyon	244 53.9	N 05 10.6	Nunki	75 50.9	S 26 16.1
Pollux	243 20.8	N 27 58.5	Albireo	67 06.0	N 28 00.3
Avior	234 16.5	S 59 34.7	Altair	62 02.5	N 08 55.4
Suhail	222 48.8	S 43 31.2	*Peacock*	53 09.6	S 56 39.8
Miaplacidus	221 39.5	S 69 48.4	*Deneb*	49 27.2	N 45 21.4
Alphard	217 50.8	S 08 45.0	Enif	33 41.3	N 09 58.4
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.2	S 46 51.2
Dubhe	193 44.9	N 61 38.4	Formalhaut	15 17.5	S 29 30.3
Denebola	182 27.9	N 14 27.4	Markab	13 32.5	N 15 19.2

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2021 - First Point of Aries / Selected Stars

UT	day 206 of 365 July 25 GHA	ddGHA	day 207 of 365 July 26 GHA	ddGHA	day 208 of 365 July 27 GHA	ddGHA	day 209 of 365 July 28 GHA	ddGHA	day 210 of 365 July 29 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	302 55.4	+02.4	303 54.5	+02.5	304 53.6	+02.5	305 52.8	+02.4	306 51.9	+02.5	00
01	317 57.8	+02.5	318 57.0	+02.4	319 56.1	+02.5	320 55.2	+02.5	321 54.4	+02.4	01
02	333 00.3	+02.5	333 59.4	+02.5	334 58.6	+02.4	335 57.7	+02.5	336 56.8	+02.5	02
03	348 02.8	+02.4	349 01.9	+02.5	350 01.0	+02.5	351 00.2	+02.4	351 59.3	+02.5	03
04	3 05.2	+02.5	4 04.4	+02.4	5 03.5	+02.5	6 02.6	+02.5	7 01.8	+02.4	04
05	18 07.7	+02.5	19 06.8	+02.5	20 06.0	+02.4	21 05.1	+02.5	22 04.2	+02.5	05
06	33 10.2	+02.4	34 09.3	+02.5	35 08.4	+02.5	36 07.6	+02.4	37 06.7	+02.5	06
07	48 12.6	+02.5	49 11.8	+02.4	50 10.9	+02.5	51 10.0	+02.5	52 09.2	+02.4	07
08	63 15.1	+02.4	64 14.2	+02.5	65 13.4	+02.4	66 12.5	+02.5	67 11.6	+02.5	08
09	78 17.5	+02.5	79 16.7	+02.4	80 15.8	+02.5	81 15.0	+02.4	82 14.1	+02.5	09
10	93 20.0	+02.5	94 19.1	+02.5	95 18.3	+02.5	96 17.4	+02.5	97 16.6	+02.4	10
11	108 22.5	+02.4	109 21.6	+02.5	110 20.8	+02.4	111 19.9	+02.5	112 19.0	+02.5	11
12	123 24.9	+02.5	124 24.1	+02.4	125 23.2	+02.5	126 22.4	+02.4	127 21.5	+02.5	12
13	138 27.4	+02.5	139 26.5	+02.5	140 25.7	+02.4	141 24.8	+02.5	142 24.0	+02.4	13
14	153 29.9	+02.4	154 29.0	+02.5	155 28.1	+02.5	156 27.3	+02.4	157 26.4	+02.5	14
15	168 32.3	+02.5	169 31.5	+02.4	170 30.6	+02.5	171 29.7	+02.5	172 28.9	+02.4	15
16	183 34.8	+02.5	184 33.9	+02.5	185 33.1	+02.4	186 32.2	+02.5	187 31.3	+02.5	16
17	198 37.3	+02.4	199 36.4	+02.5	200 35.5	+02.5	201 34.7	+02.4	202 33.8	+02.5	17
18	213 39.7	+02.5	214 38.9	+02.4	215 38.0	+02.5	216 37.1	+02.5	217 36.3	+02.4	18
19	228 42.2	+02.5	229 41.3	+02.5	230 40.5	+02.4	231 39.6	+02.5	232 38.7	+02.5	19
20	243 44.7	+02.4	244 43.8	+02.5	245 42.9	+02.5	246 42.1	+02.4	247 41.2	+02.5	20
21	258 47.1	+02.5	259 46.3	+02.4	260 45.4	+02.5	261 44.5	+02.5	262 43.7	+02.4	21
22	273 49.6	+02.4	274 48.7	+02.5	275 47.9	+02.4	276 47.0	+02.5	277 46.1	+02.5	22
23	288 52.0	+02.5	289 51.2	+02.4	290 50.3	+02.5	291 49.5	+02.4	292 48.6	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.5	N 29 12.5	Gienah	175 46.6	S 17 39.6
Ankaa	353 09.9	S 42 11.0	*Acrux*	173 03.4	S 63 13.2
Schedir	349 34.0	N 56 39.0	*Gacrux*	171 55.0	S 57 14.1
Diphda	348 50.1	S 17 52.0	*Alioth*	166 15.8	N 55 51.0
Achernar	335 22.4	S 57 07.4	Spica	158 25.3	S 11 16.3
Hamal	327 54.4	N 23 33.7	*Alkaid*	152 54.3	N 49 12.7
Polaris	315 27.7	N 89 20.9	*Hadar*	148 39.9	S 60 28.7
Acamar	315 14.0	S 40 12.9	*Menkent*	148 00.6	S 36 28.3
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Mirfak	308 32.4	N 49 56.0	*Rigel Kentaurus*	139 41.5	S 60 55.8
Aldebaran	290 43.1	N 16 33.1	Zubenelgenubi	136 59.0	S 16 07.8
Capella	280 26.4	N 46 01.1	*Kocab*	137 19.6	N 74 04.4
Rigel	281 06.8	S 08 10.6	Alphecca	126 06.0	N 26 38.8
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Elnath	278 05.7	N 28 37.5	*Atria*	107 15.4	S 69 04.1
Alnilam	275 40.9	S 01 11.3	Sabik	102 05.8	S 15 45.0
Betelgeuze	270 55.4	N 07 24.7	*Shaula*	96 13.8	S 37 07.1
Canopus	263 54.1	S 52 42.3	Rasalhague	96 00.9	N 12 32.9
Sirius	258 28.9	S 16 44.2	*Etamin*	90 43.0	N 51 29.4
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Pollux	243 20.8	N 27 58.5	Albireo	67 05.9	N 28 00.4
Avior	234 16.5	S 59 34.7	Altair	62 02.5	N 08 55.4
Suhail	222 48.8	S 43 31.1	*Peacock*	53 09.6	S 56 39.8
Miaplacidus	221 39.5	S 69 48.4	*Deneb*	49 27.2	N 45 21.4
Alphard	217 50.8	S 08 45.0	Enif	33 41.3	N 09 58.4
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.1	S 46 51.2
Dubhe	193 44.9	N 61 38.4	Formalhaut	15 17.5	S 29 30.3
Denebola	182 27.9	N 14 27.4	Markab	13 32.5	N 15 19.2

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2021 - First Point of Aries / Selected Stars

UT	day 231 of 365 August 19 GHA	ddGHA	day 232 of 365 August 20 GHA	ddGHA	day 233 of 365 August 21 GHA	ddGHA	day 234 of 365 August 22 GHA	ddGHA	day 235 of 365 August 23 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	327 33.8	+02.5	328 33.0	+02.4	329 32.1	+02.5	330 31.3	+02.4	331 30.4	+02.5	00
01	342 36.3	+02.5	343 35.4	+02.5	344 34.6	+02.4	345 33.7	+02.5	346 32.9	+02.4	01
02	357 38.8	+02.4	358 37.9	+02.5	359 37.0	+02.5	0 36.2	+02.4	1 35.3	+02.5	02
03	12 41.2	+02.5	13 40.4	+02.4	14 39.5	+02.5	15 38.6	+02.5	16 37.8	+02.5	03
04	27 43.7	+02.5	28 42.8	+02.5	29 42.0	+02.4	30 41.1	+02.5	31 40.3	+02.4	04
05	42 46.2	+02.4	43 45.3	+02.5	44 44.4	+02.5	45 43.6	+02.4	46 42.7	+02.5	05
06	57 48.6	+02.5	58 47.8	+02.4	59 46.9	+02.5	60 46.0	+02.5	61 45.2	+02.4	06
07	72 51.1	+02.5	73 50.2	+02.5	74 49.4	+02.4	75 48.5	+02.5	76 47.6	+02.5	07
08	87 53.6	+02.4	88 52.7	+02.5	89 51.8	+02.5	90 51.0	+02.4	91 50.1	+02.5	08
09	102 56.0	+02.4	103 55.2	+02.4	104 54.3	+02.5	105 53.4	+02.5	106 52.6	+02.4	09
10	117 58.5	+02.4	118 57.6	+02.5	119 56.8	+02.4	120 55.9	+02.5	121 55.0	+02.5	10
11	133 00.9	+02.5	134 00.1	+02.4	134 59.2	+02.5	135 58.4	+02.4	136 57.5	+02.5	11
12	148 03.4	+02.5	149 02.5	+02.5	150 01.7	+02.5	151 00.8	+02.5	151 60.0	+02.4	12
13	163 05.9	+02.4	164 05.0	+02.5	165 04.2	+02.4	166 03.3	+02.5	167 02.4	+02.5	13
14	178 08.3	+02.5	179 07.5	+02.4	180 06.6	+02.5	181 05.8	+02.4	182 04.9	+02.5	14
15	193 10.8	+02.5	194 09.9	+02.5	195 09.1	+02.4	196 08.2	+02.5	197 07.4	+02.4	15
16	208 13.3	+02.4	209 12.4	+02.5	210 11.5	+02.5	211 10.7	+02.4	212 09.8	+02.5	16
17	223 15.7	+02.5	224 14.9	+02.4	225 14.0	+02.5	226 13.1	+02.5	227 12.3	+02.4	17
18	238 18.2	+02.5	239 17.3	+02.5	240 16.5	+02.4	241 15.6	+02.5	242 14.7	+02.5	18
19	253 20.7	+02.4	254 19.8	+02.5	255 18.9	+02.5	256 18.1	+02.4	257 17.2	+02.5	19
20	268 23.1	+02.5	269 22.3	+02.4	270 21.4	+02.5	271 20.5	+02.5	272 19.7	+02.4	20
21	283 25.6	+02.5	284 24.7	+02.5	285 23.9	+02.4	286 23.0	+02.5	287 22.1	+02.5	21
22	298 28.1	+02.4	299 27.2	+02.5	300 26.3	+02.5	301 25.5	+02.4	302 24.6	+02.5	22
23	313 30.5	+02.5	314 29.7	+02.4	315 28.8	+02.5	316 27.9	+02.5	317 27.1	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.4	N 29 12.6	Gienah	175 46.6	S 17 39.6
Ankaa	353 09.7	S 42 11.0	*Acrux*	173 03.6	S 63 13.2
Schedir	349 33.7	N 56 39.1	*Gacrux*	171 55.1	S 57 14.0
Diphda	348 49.9	S 17 52.0	*Alioth*	166 15.9	N 55 50.9
Achernar	335 22.1	S 57 07.4	Spica	158 25.4	S 11 16.3
Hamal	327 54.2	N 23 33.8	*Alkaid*	152 54.4	N 49 12.7
Polaris	315 14.9	N 89 20.9	*Hadar*	148 40.1	S 60 28.7
Acamar	315 13.8	S 40 12.9	*Menkent*	148 00.7	S 36 28.3
Menkar	314 09.0	N 04 10.5	Arcturus	145 50.2	N 19 05.2
Mirfak	308 32.2	N 49 56.0	*Rigel Kentaurus*	139 41.7	S 60 55.7
Aldebaran	290 42.9	N 16 33.2	Zubenelgenubi	136 59.1	S 16 07.7
Capella	280 26.2	N 46 01.1	*Kocab*	137 20.1	N 74 04.4
Rigel	281 06.7	S 08 10.5	Alphecca	126 06.1	N 26 38.9
Bellatrix	278 26.0	N 06 22.2	Antares	112 19.2	S 26 28.7
Elnath	278 05.5	N 28 37.5	*Atria*	107 15.6	S 69 04.1
Alnilam	275 40.7	S 01 11.2	Sabik	102 05.8	S 15 45.0
Betelgeuze	270 55.3	N 07 24.7	*Shaula*	96 13.9	S 37 07.2
Canopus	263 54.0	S 52 42.2	Rasalhague	96 01.0	N 12 32.9
Sirius	258 28.7	S 16 44.1	*Etamin*	90 43.2	N 51 29.4
Adhara	255 08.3	S 28 59.9	*Kaus Australis*	83 35.9	S 34 22.4
Castor	246 00.9	N 31 50.5	*Vega*	80 34.9	N 38 48.3
Procyon	244 53.8	N 05 10.6	Nunki	75 50.9	S 26 16.1
Pollux	243 20.7	N 27 58.5	Albireo	67 06.0	N 28 00.5
Avior	234 16.4	S 59 34.5	Altair	62 02.5	N 08 55.5
Suhail	222 48.7	S 43 31.0	*Peacock*	53 09.6	S 56 39.9
Miaplacidus	221 39.5	S 69 48.2	*Deneb*	49 27.2	N 45 21.5
Alphard	217 50.8	S 08 45.0	Enif	33 41.2	N 09 58.5
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.0	S 46 51.3
Dubhe	193 45.0	N 61 38.3	Formalhaut	15 17.4	S 29 30.3
Denebola	182 27.9	N 14 27.4	Markab	13 32.3	N 15 19.3

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2021 - First Point of Aries / Selected Stars

UT	day 216 of 365 August 4 GHA	ddGHA	day 217 of 365 August 5 GHA	ddGHA	day 218 of 365 August 6 GHA	ddGHA	day 219 of 365 August 7 GHA	ddGHA	day 220 of 365 August 8 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	312 46.8	+02.4	313 45.9	+02.5	314 45.0	+02.5	315 44.2	+02.4	316 43.3	+02.5	00
01	327 49.2	+02.5	328 48.4	+02.4	329 47.5	+02.5	330 46.6	+02.5	331 45.8	+02.4	01
02	342 51.7	+02.4	343 50.8	+02.5	344 50.0	+02.4	345 49.1	+02.5	346 48.2	+02.5	02
03	357 54.1	+02.5	358 53.3	+02.4	359 52.4	+02.5	0 51.6	+02.4	1 50.7	+02.5	03
04	12 56.6	+02.5	13 55.7	+02.5	14 54.9	+02.5	15 54.0	+02.5	16 53.2	+02.4	04
05	27 59.1	+02.4	28 58.2	+02.5	29 57.4	+02.4	30 56.5	+02.5	31 55.6	+02.5	05
06	43 01.5	+02.5	44 00.7	+02.4	44 59.8	+02.5	45 59.0	+02.4	46 58.1	+02.5	06
07	58 04.0	+02.5	59 03.1	+02.5	60 02.3	+02.4	61 01.4	+02.5	62 00.6	+02.4	07
08	73 06.5	+02.4	74 05.6	+02.5	75 04.7	+02.5	76 03.9	+02.5	77 03.0	+02.5	08
09	88 08.9	+02.5	89 08.1	+02.4	90 07.2	+02.5	91 06.4	+02.4	92 05.5	+02.5	09
10	103 11.4	+02.5	104 10.5	+02.5	105 09.7	+02.4	106 08.8	+02.5	107 08.0	+02.4	10
11	118 13.9	+02.4	119 13.0	+02.5	120 12.1	+02.5	121 11.3	+02.4	122 10.4	+02.5	11
12	133 16.3	+02.5	134 15.5	+02.4	135 14.6	+02.5	136 13.7	+02.5	137 12.9	+02.4	12
13	148 18.8	+02.5	149 17.9	+02.5	150 17.1	+02.4	151 16.2	+02.5	152 15.3	+02.5	13
14	163 21.3	+02.4	164 20.4	+02.5	165 19.5	+02.5	166 18.7	+02.4	167 17.8	+02.5	14
15	178 23.7	+02.5	179 22.9	+02.4	180 22.0	+02.5	181 21.1	+02.5	182 20.3	+02.4	15
16	193 26.2	+02.4	194 25.3	+02.5	195 24.5	+02.4	196 23.6	+02.5	197 22.7	+02.5	16
17	208 28.6	+02.5	209 27.8	+02.4	210 26.9	+02.5	211 26.1	+02.4	212 25.2	+02.5	17
18	223 31.1	+02.5	224 30.2	+02.5	225 29.4	+02.5	226 28.5	+02.5	227 27.7	+02.4	18
19	238 33.6	+02.4	239 32.7	+02.5	240 31.9	+02.4	241 31.0	+02.5	242 30.1	+02.5	19
20	253 36.0	+02.5	254 35.2	+02.4	255 34.3	+02.5	256 33.5	+02.4	257 32.6	+02.5	20
21	268 38.5	+02.5	269 37.6	+02.5	270 36.8	+02.4	271 35.9	+02.5	272 35.1	+02.4	21
22	283 41.0	+02.4	284 40.1	+02.5	285 39.2	+02.5	286 38.4	+02.4	287 37.5	+02.5	22
23	298 43.4	+02.5	299 42.6	+02.4	300 41.7	+02.5	301 40.8	+02.5	302 40.0	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.5	N 29 12.5	Gienah	175 46.6	S 17 39.6
Ankaa	353 09.8	S 42 11.0	*Acrux*	173 03.5	S 63 13.2
Schedir	349 33.9	N 56 39.1	*Gacrux*	171 55.0	S 57 14.0
Diphda	348 50.0	S 17 52.0	*Alioth*	166 15.9	N 55 51.0
Achernar	335 22.3	S 57 07.4	Spica	158 25.3	S 11 16.3
Hamal	327 54.3	N 23 33.8	*Alkaid*	152 54.3	N 49 12.7
Polaris	315 22.7	N 89 20.9	*Hadar*	148 40.0	S 60 28.7
Acamar	315 13.9	S 40 12.9	*Menkent*	148 00.7	S 36 28.3
Menkar	314 09.1	N 04 10.5	Arcturus	145 50.2	N 19 05.2
Mirfak	308 32.3	N 49 56.0	*Rigel Kentaurus*	139 41.6	S 60 55.8
Aldebaran	290 43.0	N 16 33.2	Zubenelgenubi	136 59.0	S 16 07.8
Capella	280 26.3	N 46 01.1	*Kocab*	137 19.8	N 74 04.4
Rigel	281 06.8	S 08 10.5	Alphecca	126 06.1	N 26 38.9
Bellatrix	278 26.1	N 06 22.2	Antares	112 19.2	S 26 28.7
Elnath	278 05.7	N 28 37.5	*Atria*	107 15.5	S 69 04.1
Alnilam	275 40.8	S 01 11.2	Sabik	102 05.8	S 15 45.0
Betelgeuze	270 55.4	N 07 24.7	*Shaula*	96 13.9	S 37 07.2
Canopus	263 54.1	S 52 42.2	Rasalhague	96 00.9	N 12 32.9
Sirius	258 28.8	S 16 44.2	*Etamin*	90 43.1	N 51 29.4
Adhara	255 08.4	S 28 59.9	*Kaus Australis*	83 35.9	S 34 22.4
Castor	246 00.9	N 31 50.5	*Vega*	80 34.8	N 38 48.3
Procyon	244 53.9	N 05 10.6	Nunki	75 50.9	S 26 16.1
Pollux	243 20.8	N 27 58.5	Albireo	67 05.9	N 28 00.4
Avior	234 16.5	S 59 34.6	Altair	62 02.5	N 08 55.5
Suhail	222 48.8	S 43 31.1	*Peacock*	53 09.6	S 56 39.9
Miaplacidus	221 39.5	S 69 48.3	*Deneb*	49 27.2	N 45 21.4
Alphard	217 50.8	S 08 45.0	Enif	33 41.2	N 09 58.5
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.1	S 46 51.2
Dubhe	193 45.0	N 61 38.4	Formalhaut	15 17.4	S 29 30.3
Denebola	182 27.9	N 14 27.4	Markab	13 32.4	N 15 19.3

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2021 - First Point of Aries / Selected Stars

UT	day 221 of 365 *August 9* GHA ° ′	ddGHA ′	day 222 of 365 *August 10* GHA ° ′	ddGHA ′	day 223 of 365 *August 11* GHA ° ′	ddGHA ′	day 224 of 365 *August 12* GHA ° ′	ddGHA ′	day 225 of 365 *August 13* GHA ° ′	ddGHA ′	UT
00	317 42.5	+02.4	318 41.6	+02.5	319 40.7	+02.5	320 39.9	+02.4	321 39.0	+02.5	00
01	332 44.9	+02.5	333 44.1	+02.4	334 43.2	+02.5	335 42.3	+02.5	336 41.5	+02.4	01
02	347 47.4	+02.4	348 46.5	+02.5	349 45.7	+02.4	350 44.8	+02.5	351 43.9	+02.5	02
03	2 49.8	+02.5	3 49.0	+02.4	4 48.1	+02.5	5 47.3	+02.4	6 46.4	+02.5	03
04	17 52.3	+02.5	18 51.4	+02.5	19 50.6	+02.4	20 49.7	+02.5	21 48.9	+02.4	04
05	32 54.8	+02.4	33 53.9	+02.5	34 53.0	+02.5	35 52.2	+02.4	36 51.3	+02.5	05
06	47 57.2	+02.5	48 56.4	+02.4	49 55.5	+02.5	50 54.6	+02.5	51 53.8	+02.5	06
07	62 59.7	+02.5	63 58.8	+02.5	64 58.0	+02.4	65 57.1	+02.5	66 56.3	+02.4	07
08	78 02.2	+02.4	79 01.3	+02.5	80 00.4	+02.5	80 59.6	+02.4	81 58.7	+02.5	08
09	93 04.6	+02.5	94 03.8	+02.4	95 02.9	+02.5	96 02.0	+02.5	97 01.2	+02.4	09
10	108 07.1	+02.5	109 06.2	+02.5	110 05.4	+02.4	111 04.5	+02.5	112 03.6	+02.5	10
11	123 09.6	+02.4	124 08.7	+02.5	125 07.8	+02.5	126 07.0	+02.4	127 06.1	+02.5	11
12	138 12.0	+02.5	139 11.2	+02.4	140 10.3	+02.5	141 09.4	+02.5	142 08.6	+02.4	12
13	153 14.5	+02.4	154 13.6	+02.5	155 12.8	+02.4	156 11.9	+02.5	157 11.0	+02.5	13
14	168 16.9	+02.5	169 16.1	+02.5	170 15.2	+02.5	171 14.4	+02.4	172 13.5	+02.5	14
15	183 19.4	+02.5	184 18.6	+02.4	185 17.7	+02.5	186 16.8	+02.5	187 16.0	+02.4	15
16	198 21.9	+02.4	199 21.0	+02.5	200 20.2	+02.4	201 19.3	+02.5	202 18.4	+02.5	16
17	213 24.3	+02.5	214 23.5	+02.4	215 22.6	+02.5	216 21.8	+02.4	217 20.9	+02.5	17
18	228 26.8	+02.5	229 25.9	+02.5	230 25.1	+02.4	231 24.2	+02.5	232 23.4	+02.4	18
19	243 29.3	+02.4	244 28.4	+02.5	245 27.5	+02.5	246 26.7	+02.4	247 25.8	+02.5	19
20	258 31.7	+02.5	259 30.9	+02.4	260 30.0	+02.5	261 29.1	+02.5	262 28.3	+02.4	20
21	273 34.2	+02.5	274 33.3	+02.5	275 32.5	+02.4	276 31.6	+02.5	277 30.7	+02.5	21
22	288 36.7	+02.4	289 35.8	+02.5	290 34.9	+02.5	291 34.1	+02.4	292 33.2	+02.5	22
23	303 39.1	+02.5	304 38.3	+02.4	305 37.4	+02.5	306 36.5	+02.5	307 35.7	+02.4	23

	SHA ° ′	Dec ° ′
Alpheratz	357 37.4	N 29 12.5
Ankaa	353 09.8	S 42 11.0
Schedir	349 33.8	N 56 39.1
Diphda	348 50.0	S 17 52.0
Achernar	335 22.2	S 57 07.4
Hamal	327 54.3	N 23 33.8
Polaris	315 20.1	N 89 20.9
Acamar	315 13.9	S 40 12.9
Menkar	314 09.1	N 04 10.5
Mirfak	308 32.3	N 49 56.0
Aldebaran	290 43.0	N 16 33.2
Capella	280 26.3	N 46 01.1
Rigel	281 06.7	S 08 10.5
Bellatrix	278 26.0	N 06 22.2
Elnath	278 05.6	N 28 37.5
Alnilam	275 40.8	S 01 11.2
Betelgeuze	270 55.3	N 07 24.7
Canopus	263 54.1	S 52 42.2
Sirius	258 28.8	S 16 44.2
Adhara	255 08.4	S 28 59.9
Castor	246 00.9	N 31 50.5
Procyon	244 53.8	N 05 10.6
Pollux	243 20.7	N 27 58.5
Avior	234 16.4	S 59 34.6
Suhail	222 48.7	S 43 31.1
Miaplacidus	221 39.5	S 69 48.3
Alphard	217 50.8	S 08 45.0
Regulus	207 37.6	N 11 51.9
Dubhe	193 45.0	N 61 38.3
Denebola	182 27.9	N 14 27.4

	SHA ° ′	Dec ° ′
Gienah	175 46.6	S 17 39.6
Acrux	173 03.5	S 63 13.2
Gacrux	171 55.1	S 57 14.0
Alioth	166 15.9	N 55 50.9
Spica	158 25.3	S 11 16.3
Alkaid	152 54.4	N 49 12.7
Hadar	148 40.0	S 60 28.7
Menkent	148 00.7	S 36 28.3
Arcturus	145 50.2	N 19 05.2
Rigel Kentaurus	139 41.6	S 60 55.8
Zubenelgenubi	136 59.0	S 16 07.8
Kocab	137 19.9	N 74 04.4
Alphecca	126 06.1	N 26 38.9
Antares	112 19.2	S 26 28.7
Atria	107 15.5	S 69 04.1
Sabik	102 05.8	S 15 45.0
Shaula	96 13.9	S 37 07.2
Rasalhague	96 00.9	N 12 32.9
Etamin	90 43.1	N 51 29.4
Kaus Australis	83 35.9	S 34 22.4
Vega	80 34.8	N 38 48.3
Nunki	75 50.9	S 26 16.1
Albireo	67 05.9	N 28 00.4
Altair	62 02.5	N 08 55.5
Peacock	53 09.6	S 56 39.9
Deneb	49 27.2	N 45 21.5
Enif	33 41.2	N 09 58.5
Alnair	27 36.0	S 46 51.2
Formalhaut	15 17.4	S 29 30.3
Markab	13 32.4	N 15 19.3

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2021 - First Point of Aries / Selected Stars

UT	day 226 of 365 *August 14* GHA ° ′	ddGHA ′	day 227 of 365 *August 15* GHA ° ′	ddGHA ′	day 228 of 365 *August 16* GHA ° ′	ddGHA ′	day 229 of 365 *August 17* GHA ° ′	ddGHA ′	day 230 of 365 *August 18* GHA ° ′	ddGHA ′	UT
00	322 38.1	+02.5	323 37.3	+02.4	324 36.4	+02.5	325 35.6	+02.4	326 34.7	+02.5	00
01	337 40.6	+02.5	338 39.7	+02.5	339 38.9	+02.4	340 38.0	+02.5	341 37.2	+02.4	01
02	352 43.1	+02.4	353 42.2	+02.5	354 41.3	+02.5	355 40.5	+02.4	356 39.6	+02.5	02
03	7 45.5	+02.5	8 44.7	+02.4	9 43.8	+02.5	10 42.9	+02.5	11 42.1	+02.5	03
04	22 48.0	+02.5	23 47.1	+02.5	24 46.3	+02.4	25 45.4	+02.5	26 44.6	+02.4	04
05	37 50.5	+02.4	38 49.6	+02.5	39 48.7	+02.5	40 47.9	+02.4	41 47.0	+02.5	05
06	52 52.9	+02.5	53 52.1	+02.4	54 51.2	+02.5	55 50.3	+02.5	56 49.5	+02.4	06
07	67 55.4	+02.5	68 54.5	+02.5	69 53.7	+02.4	70 52.8	+02.5	71 51.9	+02.5	07
08	82 57.9	+02.4	83 57.0	+02.5	84 56.1	+02.5	85 55.3	+02.4	86 54.4	+02.5	08
09	98 00.3	+02.5	98 59.5	+02.4	99 58.6	+02.5	100 57.7	+02.5	101 56.9	+02.4	09
10	113 02.8	+02.4	114 01.9	+02.5	115 01.1	+02.4	116 00.2	+02.5	116 59.3	+02.5	10
11	128 05.2	+02.5	129 04.4	+02.4	130 03.5	+02.5	131 02.7	+02.4	132 01.8	+02.5	11
12	143 07.7	+02.5	144 06.8	+02.5	145 06.0	+02.5	146 05.1	+02.5	147 04.3	+02.4	12
13	158 10.2	+02.4	159 09.3	+02.5	160 08.5	+02.4	161 07.6	+02.5	162 06.7	+02.5	13
14	173 12.6	+02.5	174 11.8	+02.4	175 10.9	+02.5	176 10.1	+02.4	177 09.2	+02.5	14
15	188 15.1	+02.5	189 14.2	+02.5	190 13.4	+02.4	191 12.5	+02.5	192 11.7	+02.4	15
16	203 17.6	+02.4	204 16.7	+02.5	205 15.8	+02.5	206 15.0	+02.4	207 14.1	+02.5	16
17	218 20.0	+02.5	219 19.2	+02.4	220 18.3	+02.5	221 17.4	+02.5	222 16.6	+02.5	17
18	233 22.5	+02.5	234 21.6	+02.5	235 20.8	+02.4	236 19.9	+02.5	237 19.1	+02.4	18
19	248 25.0	+02.4	249 24.1	+02.5	250 23.2	+02.5	251 22.4	+02.4	252 21.5	+02.5	19
20	263 27.4	+02.5	264 26.6	+02.4	265 25.7	+02.5	266 24.8	+02.5	267 24.0	+02.4	20
21	278 29.9	+02.4	279 29.0	+02.5	280 28.2	+02.4	281 27.3	+02.5	282 26.4	+02.5	21
22	293 32.3	+02.5	294 31.5	+02.5	295 30.6	+02.5	296 29.8	+02.4	297 28.9	+02.5	22
23	308 34.8	+02.5	309 34.0	+02.4	310 33.1	+02.5	311 32.2	+02.5	312 31.4	+02.4	23

	SHA ° ′	Dec ° ′
Alpheratz	357 37.4	N 29 12.5
Ankaa	353 09.7	S 42 11.0
Schedir	349 33.8	N 56 39.1
Diphda	348 50.0	S 17 52.0
Achernar	335 22.1	S 57 07.4
Hamal	327 54.3	N 23 33.8
Polaris	315 17.8	N 89 20.9
Acamar	315 13.9	S 40 12.9
Menkar	314 09.0	N 04 10.5
Mirfak	308 32.2	N 49 56.0
Aldebaran	290 42.9	N 16 33.2
Capella	280 26.3	N 46 01.1
Rigel	281 06.7	S 08 10.5
Bellatrix	278 26.0	N 06 22.2
Elnath	278 05.6	N 28 37.5
Alnilam	275 40.7	S 01 11.2
Betelgeuze	270 55.3	N 07 24.7
Canopus	263 54.0	S 52 42.2
Sirius	258 28.8	S 16 44.2
Adhara	255 08.3	S 28 59.9
Castor	246 00.9	N 31 50.5
Procyon	244 53.8	N 05 10.6
Pollux	243 20.7	N 27 58.5
Avior	234 16.4	S 59 34.6
Suhail	222 48.7	S 43 31.0
Miaplacidus	221 39.5	S 69 48.3
Alphard	217 50.8	S 08 45.0
Regulus	207 37.6	N 11 51.9
Dubhe	193 45.0	N 61 38.3
Denebola	182 27.9	N 14 27.4

	SHA ° ′	Dec ° ′
Gienah	175 46.6	S 17 39.6
Acrux	173 03.6	S 63 13.2
Gacrux	171 55.1	S 57 14.0
Alioth	166 15.9	N 55 50.9
Spica	158 25.4	S 11 16.3
Alkaid	152 54.4	N 49 12.7
Hadar	148 40.1	S 60 28.7
Menkent	148 00.7	S 36 28.3
Arcturus	145 50.2	N 19 05.2
Rigel Kentaurus	139 41.7	S 60 55.7
Zubenelgenubi	136 59.1	S 16 07.7
Kocab	137 20.0	N 74 04.4
Alphecca	126 06.1	N 26 38.9
Antares	112 19.2	S 26 28.7
Atria	107 15.6	S 69 04.1
Sabik	102 05.8	S 15 45.0
Shaula	96 13.9	S 37 07.2
Rasalhague	96 01.0	N 12 32.9
Etamin	90 43.1	N 51 29.4
Kaus Australis	83 35.9	S 34 22.4
Vega	80 34.9	N 38 48.3
Nunki	75 50.9	S 26 16.1
Albireo	67 06.0	N 28 00.4
Altair	62 02.5	N 08 55.5
Peacock	53 09.6	S 56 39.9
Deneb	49 27.2	N 45 21.5
Enif	33 41.2	N 09 58.5
Alnair	27 36.0	S 46 51.3
Formalhaut	15 17.4	S 29 30.3
Markab	13 32.4	N 15 19.3

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2021 - First Point of Aries / Selected Stars

UT	day 251 of 365 **September 8** GHA ° ′	ddGHA ′	day 252 of 365 **September 9** GHA ° ′	ddGHA ′	day 253 of 365 **September 10** GHA ° ′	ddGHA ′	day 254 of 365 **September 11** GHA ° ′	ddGHA ′	day 255 of 365 **September 12** GHA ° ′	ddGHA ′	UT
00	347 16.6	+02.5	348 15.7	+02.5	349 14.9	+02.4	350 14.0	+02.5	351 13.2	+02.4	00
01	2 19.1	+02.4	3 18.2	+02.5	4 17.3	+02.5	5 16.5	+02.4	6 15.6	+02.5	01
02	17 21.5	+02.5	18 20.7	+02.4	19 19.8	+02.5	20 18.9	+02.5	21 18.1	+02.4	02
03	32 24.0	+02.5	33 23.1	+02.5	34 22.3	+02.4	35 21.4	+02.5	36 20.5	+02.5	03
04	47 26.5	+02.4	48 25.6	+02.5	49 24.7	+02.5	50 23.9	+02.4	51 23.0	+02.5	04
05	62 28.9	+02.5	63 28.1	+02.4	64 27.2	+02.5	65 26.3	+02.5	66 25.5	+02.4	05
06	77 31.4	+02.5	78 30.5	+02.5	79 29.7	+02.4	80 28.8	+02.5	81 27.9	+02.5	06
07	92 33.9	+02.4	93 33.0	+02.5	94 32.1	+02.5	95 31.3	+02.4	96 30.4	+02.5	07
08	107 36.3	+02.5	108 35.5	+02.4	109 34.6	+02.5	110 33.7	+02.5	111 32.9	+02.4	08
09	122 38.8	+02.4	123 37.9	+02.5	124 37.1	+02.4	125 36.2	+02.5	126 35.3	+02.5	09
10	137 41.2	+02.5	138 40.4	+02.4	139 39.5	+02.5	140 38.7	+02.4	141 37.8	+02.5	10
11	152 43.7	+02.5	153 42.8	+02.5	154 42.0	+02.4	155 41.1	+02.5	156 40.3	+02.4	11
12	167 46.2	+02.4	168 45.3	+02.5	169 44.4	+02.5	170 43.6	+02.5	171 42.7	+02.5	12
13	182 48.6	+02.5	183 47.8	+02.4	184 46.9	+02.5	185 46.1	+02.4	186 45.2	+02.5	13
14	197 51.1	+02.5	198 50.2	+02.5	199 49.4	+02.4	200 48.5	+02.5	201 47.7	+02.4	14
15	212 53.6	+02.4	213 52.7	+02.5	214 51.8	+02.5	215 51.0	+02.4	216 50.1	+02.5	15
16	227 56.0	+02.5	228 55.2	+02.4	229 54.3	+02.5	230 53.4	+02.5	231 52.6	+02.4	16
17	242 58.5	+02.5	243 57.6	+02.5	244 56.8	+02.4	245 55.9	+02.5	246 55.0	+02.5	17
18	258 01.0	+02.4	259 00.1	+02.5	259 59.2	+02.5	260 58.4	+02.4	261 57.5	+02.5	18
19	273 03.4	+02.5	274 02.6	+02.4	275 01.7	+02.5	276 00.8	+02.5	276 60.0	+02.4	19
20	288 05.9	+02.5	289 05.0	+02.5	290 04.2	+02.4	291 03.3	+02.5	292 02.4	+02.5	20
21	303 08.4	+02.4	304 07.5	+02.5	305 06.6	+02.5	306 05.8	+02.4	307 04.9	+02.5	21
22	318 10.8	+02.5	319 10.0	+02.4	320 09.1	+02.5	321 08.2	+02.5	322 07.4	+02.4	22
23	333 13.3	+02.4	334 12.4	+02.5	335 11.6	+02.4	336 10.7	+02.5	337 09.8	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.3	N 29 12.6	Gienah	175 46.6	S 17 39.6
Ankaa	353 09.6	S 42 11.1	*Acrux*	173 03.7	S 63 13.1
Schedir	349 33.6	N 56 39.2	*Gacrux*	171 55.2	S 57 13.9
Diphda	348 49.8	S 17 52.0	*Alioth*	166 16.0	N 55 50.8
Achernar	335 21.9	S 57 07.4	Spica	158 25.4	S 11 16.3
Hamal	327 54.1	N 23 33.9	*Alkaid*	152 54.5	N 49 12.6
Polaris	315 05.4	N 89 21.0	*Hadar*	148 40.3	S 60 28.7
Acamar	315 13.6	S 40 12.9	*Menkent*	148 00.8	S 36 28.3
Menkar	314 08.8	N 04 10.5	Arcturus	145 50.3	N 19 05.2
Mirfak	308 31.9	N 49 56.1	*Rigel Kentaurus*	139 41.9	S 60 55.7
Aldebaran	290 42.7	N 16 33.2	Zubenelgenubi	136 59.2	S 16 07.7
Capella	280 26.0	N 46 01.1	*Kocab*	137 20.4	N 74 04.3
Rigel	281 06.5	S 08 10.5	Alphecca	126 06.2	N 26 38.8
Bellatrix	278 25.8	N 06 22.2	Antares	112 19.3	S 26 28.7
Elnath	278 05.4	N 28 37.5	*Atria*	107 15.9	S 69 04.1
Alnilam	275 40.6	S 01 11.2	Sabik	102 05.9	S 15 45.0
Betelgeuze	270 55.1	N 07 24.7	*Shaula*	96 14.0	S 37 07.2
Canopus	263 53.8	S 52 42.1	Rasalhague	96 01.1	N 12 33.0
Sirius	258 28.6	S 16 44.1	*Etamin*	90 43.3	N 51 29.5
Adhara	255 08.2	S 28 59.8	*Kaus Australis*	83 36.0	S 34 22.4
Castor	246 00.7	N 31 50.5	*Vega*	80 35.0	N 38 48.4
Procyon	244 53.7	N 05 10.6	Nunki	75 51.0	S 26 16.2
Pollux	243 20.6	N 27 58.5	Albireo	67 06.0	N 28 00.5
Avior	234 16.3	S 59 34.5	Altair	62 02.6	N 08 55.5
Suhail	222 48.7	S 43 30.9	*Peacock*	53 09.6	S 56 40.0
Miaplacidus	221 39.4	S 69 48.1	*Deneb*	49 27.3	N 45 21.6
Alphard	217 50.7	S 08 45.0	Enif	33 41.2	N 09 58.5
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.0	S 46 51.3
Dubhe	193 45.0	N 61 38.2	Formalhaut	15 17.3	S 29 30.4
Denebola	182 27.9	N 14 27.3	Markab	13 32.3	N 15 19.4

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2021 - First Point of Aries / Selected Stars

UT	day 236 of 365 **August 24** GHA ° ′	ddGHA ′	day 237 of 365 **August 25** GHA ° ′	ddGHA ′	day 238 of 365 **August 26** GHA ° ′	ddGHA ′	day 239 of 365 **August 27** GHA ° ′	ddGHA ′	day 240 of 365 **August 28** GHA ° ′	ddGHA ′	UT
00	332 29.5	+02.5	333 28.7	+02.4	334 27.8	+02.5	335 26.9	+02.5	336 26.1	+02.4	00
01	347 32.0	+02.5	348 31.1	+02.5	349 30.3	+02.4	350 29.4	+02.5	351 28.5	+02.5	01
02	2 34.5	+02.4	3 33.6	+02.5	4 32.7	+02.5	5 31.9	+02.4	6 31.0	+02.5	02
03	17 36.9	+02.5	18 36.1	+02.4	19 35.2	+02.5	20 34.3	+02.5	21 33.5	+02.4	03
04	32 39.4	+02.5	33 38.5	+02.5	34 37.7	+02.4	35 36.8	+02.5	36 35.9	+02.5	04
05	47 41.9	+02.4	48 41.0	+02.5	49 40.1	+02.5	50 39.3	+02.4	51 38.4	+02.5	05
06	62 44.3	+02.5	63 43.5	+02.4	64 42.6	+02.5	65 41.7	+02.5	66 40.9	+02.4	06
07	77 46.8	+02.4	78 45.9	+02.5	79 45.1	+02.4	80 44.2	+02.5	81 43.3	+02.5	07
08	92 49.2	+02.5	93 48.4	+02.4	94 47.5	+02.5	95 46.7	+02.4	96 45.8	+02.5	08
09	107 51.7	+02.5	108 50.8	+02.5	109 50.0	+02.4	110 49.1	+02.5	111 48.3	+02.4	09
10	122 54.2	+02.4	123 53.3	+02.5	124 52.4	+02.5	125 51.6	+02.4	126 50.7	+02.5	10
11	137 56.6	+02.5	138 55.8	+02.4	139 54.9	+02.5	140 54.0	+02.5	141 53.2	+02.4	11
12	152 59.1	+02.5	153 58.2	+02.5	154 57.4	+02.4	155 56.5	+02.5	156 55.6	+02.5	12
13	168 01.6	+02.4	169 00.7	+02.5	169 59.8	+02.5	170 59.0	+02.4	171 58.1	+02.5	13
14	183 04.0	+02.5	184 03.2	+02.4	185 02.3	+02.5	186 01.4	+02.5	187 00.6	+02.4	14
15	198 06.5	+02.5	199 05.6	+02.5	200 04.8	+02.4	201 03.9	+02.5	202 03.0	+02.5	15
16	213 09.0	+02.4	214 08.1	+02.5	215 07.2	+02.5	216 06.4	+02.4	217 05.5	+02.5	16
17	228 11.4	+02.5	229 10.6	+02.4	230 09.7	+02.5	231 08.8	+02.5	232 08.0	+02.4	17
18	243 13.9	+02.4	244 13.0	+02.5	245 12.2	+02.4	246 11.3	+02.5	247 10.4	+02.5	18
19	258 16.3	+02.5	259 15.5	+02.5	260 14.6	+02.5	261 13.8	+02.4	262 12.9	+02.5	19
20	273 18.8	+02.5	274 18.0	+02.4	275 17.1	+02.5	276 16.2	+02.5	277 15.4	+02.4	20
21	288 21.3	+02.4	289 20.4	+02.5	290 19.6	+02.4	291 18.7	+02.5	292 17.8	+02.5	21
22	303 23.7	+02.5	304 22.9	+02.4	305 22.0	+02.5	306 21.2	+02.4	307 20.3	+02.5	22
23	318 26.2	+02.5	319 25.3	+02.5	320 24.5	+02.4	321 23.6	+02.5	322 22.8	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.3	N 29 12.6	Gienah	175 46.6	S 17 39.6
Ankaa	353 09.7	S 42 11.1	*Acrux*	173 03.6	S 63 13.2
Schedir	349 33.7	N 56 39.2	*Gacrux*	171 55.1	S 57 14.0
Diphda	348 49.9	S 17 52.0	*Alioth*	166 16.0	N 55 50.9
Achernar	335 22.0	S 57 07.4	Spica	158 25.4	S 11 16.3
Hamal	327 54.2	N 23 33.8	*Alkaid*	152 54.4	N 49 12.7
Polaris	315 12.6	N 89 21.0	*Hadar*	148 40.1	S 60 28.7
Acamar	315 13.8	S 40 12.9	*Menkent*	148 00.7	S 36 28.3
Menkar	314 08.9	N 04 10.5	Arcturus	145 50.2	N 19 05.2
Mirfak	308 32.1	N 49 56.0	*Rigel Kentaurus*	139 41.7	S 60 55.7
Aldebaran	290 42.9	N 16 33.2	Zubenelgenubi	136 59.1	S 16 07.7
Capella	280 26.1	N 46 01.1	*Kocab*	137 20.2	N 74 04.4
Rigel	281 06.6	S 08 10.5	Alphecca	126 06.2	N 26 38.9
Bellatrix	278 25.9	N 06 22.2	Antares	112 19.3	S 26 28.7
Elnath	278 05.5	N 28 37.5	*Atria*	107 15.7	S 69 04.1
Alnilam	275 40.7	S 01 11.2	Sabik	102 05.8	S 15 45.0
Betelgeuze	270 55.2	N 07 24.7	*Shaula*	96 13.9	S 37 07.2
Canopus	263 53.9	S 52 42.1	Rasalhague	96 01.0	N 12 32.9
Sirius	258 28.7	S 16 44.1	*Etamin*	90 43.2	N 51 29.5
Adhara	255 08.3	S 28 59.9	*Kaus Australis*	83 35.9	S 34 22.4
Castor	246 00.8	N 31 50.5	*Vega*	80 34.9	N 38 48.4
Procyon	244 53.8	N 05 10.6	Nunki	75 50.9	S 26 16.1
Pollux	243 20.7	N 27 58.5	Albireo	67 06.0	N 28 00.5
Avior	234 16.4	S 59 34.5	Altair	62 02.5	N 08 55.5
Suhail	222 48.7	S 43 31.0	*Peacock*	53 09.6	S 56 39.9
Miaplacidus	221 39.5	S 69 48.2	*Deneb*	49 27.2	N 45 21.5
Alphard	217 50.8	S 08 45.0	Enif	33 41.2	N 09 58.5
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.0	S 46 51.3
Dubhe	193 45.0	N 61 38.3	Formalhaut	15 17.3	S 29 30.3
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2021 - First Point of Aries / Selected Stars

UT	day 241 of 365 August 29 GHA	ddGHA	day 242 of 365 August 30 GHA	ddGHA	day 243 of 365 August 31 GHA	ddGHA	day 244 of 365 September 1 GHA	ddGHA	day 245 of 365 September 2 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	337 25.2	+02.5	338 24.4	+02.4	339 23.5	+02.5	340 22.6	+02.5	341 21.8	+02.4	00
01	352 27.7	+02.4	353 26.8	+02.5	354 26.0	+02.4	355 25.1	+02.5	356 24.2	+02.5	01
02	7 30.1	+02.5	8 29.3	+02.5	9 28.4	+02.5	10 27.6	+02.4	11 26.7	+02.5	02
03	22 32.6	+02.5	23 31.8	+02.4	24 30.9	+02.5	25 30.0	+02.5	26 29.2	+02.4	03
04	37 35.1	+02.4	38 34.2	+02.5	39 33.4	+02.4	40 32.5	+02.5	41 31.6	+02.5	04
05	52 37.5	+02.5	53 36.7	+02.4	54 35.8	+02.5	55 35.0	+02.4	56 34.1	+02.5	05
06	67 40.0	+02.5	68 39.1	+02.5	69 38.3	+02.4	70 37.4	+02.5	71 36.6	+02.4	06
07	82 42.5	+02.4	83 41.6	+02.5	84 40.7	+02.5	85 39.9	+02.4	86 39.0	+02.5	07
08	97 44.9	+02.5	98 44.1	+02.4	99 43.2	+02.5	100 42.3	+02.5	101 41.5	+02.5	08
09	112 47.4	+02.5	113 46.5	+02.5	114 45.7	+02.4	115 44.8	+02.5	116 44.0	+02.4	09
10	127 49.9	+02.4	128 49.0	+02.5	129 48.1	+02.5	130 47.3	+02.4	131 46.4	+02.5	10
11	142 52.3	+02.5	143 51.5	+02.4	144 50.6	+02.5	145 49.7	+02.5	146 48.9	+02.4	11
12	157 54.8	+02.5	158 53.9	+02.5	159 53.1	+02.4	160 52.2	+02.5	161 51.3	+02.5	12
13	172 57.3	+02.4	173 56.4	+02.5	174 55.5	+02.5	175 54.7	+02.4	176 53.8	+02.5	13
14	187 59.7	+02.5	188 58.9	+02.4	189 58.0	+02.5	190 57.1	+02.5	191 56.3	+02.4	14
15	203 02.2	+02.4	204 01.3	+02.5	205 00.5	+02.4	205 59.6	+02.5	206 58.7	+02.5	15
16	218 04.6	+02.5	219 03.8	+02.4	220 02.9	+02.5	221 02.1	+02.4	222 01.2	+02.5	16
17	233 07.1	+02.5	234 06.2	+02.5	235 05.4	+02.5	236 04.5	+02.5	237 03.7	+02.4	17
18	248 09.6	+02.4	249 08.7	+02.5	250 07.9	+02.4	251 07.0	+02.5	252 06.1	+02.5	18
19	263 12.0	+02.5	264 11.2	+02.4	265 10.3	+02.5	266 09.5	+02.4	267 08.6	+02.5	19
20	278 14.5	+02.5	279 13.6	+02.5	280 12.8	+02.4	281 11.9	+02.5	282 11.1	+02.4	20
21	293 17.0	+02.4	294 16.1	+02.5	295 15.2	+02.5	296 14.4	+02.4	297 13.5	+02.5	21
22	308 19.4	+02.5	309 18.6	+02.4	310 17.7	+02.5	311 16.8	+02.5	312 16.0	+02.5	22
23	323 21.9	+02.5	324 21.0	+02.5	325 20.2	+02.4	326 19.3	+02.5	327 18.5	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.3	N 29 12.6	Gienah	175 46.6	S 17 39.6
Ankaa	353 09.6	S 42 11.1	*Acrux*	173 03.7	S 63 13.1
Schedir	349 33.7	N 56 39.2	*Gacrux*	171 55.2	S 57 14.0
Diphda	348 49.9	S 17 52.0	*Alioth*	166 16.0	N 55 50.9
Achernar	335 22.0	S 57 07.4	Spica	158 25.4	S 11 16.3
Hamal	327 54.2	N 23 33.8	*Alkaid*	152 54.5	N 49 12.7
Polaris	315 10.2	N 89 21.0	*Hadar*	148 40.2	S 60 28.7
Acamar	315 13.7	S 40 12.9	*Menkent*	148 00.8	S 36 28.3
Menkar	314 08.9	N 04 10.5	Arcturus	145 50.2	N 19 05.2
Mirfak	308 32.1	N 49 56.0	*Rigel Kentaurus*	139 41.8	S 60 55.7
Aldebaran	290 42.8	N 16 33.2	Zubenelgenubi	136 59.1	S 16 07.7
Capella	280 26.1	N 46 01.1	*Kocab*	137 20.3	N 74 04.4
Rigel	281 06.6	S 08 10.5	Alphecca	126 06.2	N 26 38.9
Bellatrix	278 25.9	N 06 22.2	Antares	112 19.3	S 26 28.7
Elnath	278 05.5	N 28 37.5	*Atria*	107 15.8	S 69 04.1
Alnilam	275 40.6	S 01 11.2	Sabik	102 05.9	S 15 45.0
Betelgeuze	270 55.2	N 07 24.7	*Shaula*	96 14.0	S 37 07.2
Canopus	263 53.9	S 52 42.1	Rasalhague	96 01.0	N 12 33.0
Sirius	258 28.7	S 16 44.1	*Etamin*	90 43.2	N 51 29.5
Adhara	255 08.2	S 28 59.8	*Kaus Australis*	83 35.9	S 34 22.4
Castor	246 00.8	N 31 50.5	*Vega*	80 34.9	N 38 48.4
Procyon	244 53.7	N 05 10.6	Nunki	75 50.9	S 26 16.1
Pollux	243 20.6	N 27 58.5	Albireo	67 06.0	N 28 00.5
Avior	234 16.3	S 59 34.5	Altair	62 02.5	N 08 55.5
Suhail	222 48.7	S 43 31.0	*Peacock*	53 09.6	S 56 40.0
Miaplacidus	221 39.5	S 69 48.2	*Deneb*	49 27.2	N 45 21.6
Alphard	217 50.8	S 08 45.0	Enif	33 41.2	N 09 58.5
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.0	S 46 51.3
Dubhe	193 45.0	N 61 38.3	Formalhaut	15 17.3	S 29 30.3
Denebola	182 27.9	N 14 27.3	Markab	13 32.3	N 15 19.3

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2021 - First Point of Aries / Selected Stars

UT	day 246 of 365 September 3 GHA	ddGHA	day 247 of 365 September 4 GHA	ddGHA	day 248 of 365 September 5 GHA	ddGHA	day 249 of 365 September 6 GHA	ddGHA	day 250 of 365 September 7 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	342 20.9	+02.5	343 20.1	+02.4	344 19.2	+02.5	345 18.3	+02.5	346 17.5	+02.4	00
01	357 23.4	+02.4	358 22.5	+02.5	359 21.7	+02.4	0 20.8	+02.5	1 19.9	+02.5	01
02	12 25.8	+02.5	13 25.0	+02.4	14 24.1	+02.5	15 23.3	+02.4	16 22.4	+02.5	02
03	27 28.3	+02.5	28 27.4	+02.5	29 26.6	+02.5	30 25.7	+02.5	31 24.9	+02.4	03
04	42 30.8	+02.4	43 29.9	+02.5	44 29.1	+02.4	45 28.2	+02.5	46 27.3	+02.5	04
05	57 33.2	+02.5	58 32.4	+02.4	59 31.5	+02.5	60 30.7	+02.4	61 29.8	+02.5	05
06	72 35.7	+02.5	73 34.8	+02.5	74 34.0	+02.4	75 33.1	+02.5	76 32.3	+02.4	06
07	87 38.2	+02.4	88 37.3	+02.5	89 36.4	+02.5	90 35.6	+02.4	91 34.7	+02.5	07
08	102 40.6	+02.5	103 39.8	+02.4	104 38.9	+02.5	105 38.0	+02.5	106 37.2	+02.4	08
09	117 43.1	+02.5	118 42.2	+02.5	119 41.4	+02.4	120 40.5	+02.5	121 39.6	+02.5	09
10	132 45.6	+02.4	133 44.7	+02.5	134 43.8	+02.5	135 43.0	+02.4	136 42.1	+02.5	10
11	147 48.0	+02.5	148 47.2	+02.4	149 46.3	+02.5	150 45.4	+02.5	151 44.6	+02.4	11
12	162 50.5	+02.4	163 49.6	+02.5	164 48.8	+02.4	165 47.9	+02.5	166 47.0	+02.5	12
13	177 52.9	+02.5	178 52.1	+02.5	179 51.2	+02.5	180 50.4	+02.4	181 49.5	+02.5	13
14	192 55.4	+02.5	193 54.6	+02.4	194 53.7	+02.5	195 52.8	+02.5	196 52.0	+02.4	14
15	207 57.9	+02.4	208 57.0	+02.5	209 56.2	+02.4	210 55.3	+02.5	211 54.4	+02.5	15
16	223 00.3	+02.5	223 59.5	+02.4	224 58.6	+02.5	225 57.8	+02.4	226 56.9	+02.5	16
17	238 02.8	+02.5	239 01.9	+02.5	240 01.1	+02.4	241 00.2	+02.5	241 59.4	+02.4	17
18	253 05.3	+02.4	254 04.4	+02.5	255 03.5	+02.5	256 02.7	+02.4	257 01.8	+02.5	18
19	268 07.7	+02.5	269 06.9	+02.4	270 06.0	+02.5	271 05.1	+02.5	272 04.3	+02.5	19
20	283 10.2	+02.5	284 09.3	+02.5	285 08.5	+02.4	286 07.6	+02.5	287 06.8	+02.4	20
21	298 12.7	+02.4	299 11.8	+02.5	300 10.9	+02.5	301 10.1	+02.4	302 09.2	+02.5	21
22	313 15.1	+02.5	314 14.3	+02.4	315 13.4	+02.5	316 12.5	+02.5	317 11.7	+02.4	22
23	328 17.6	+02.5	329 16.7	+02.5	330 15.9	+02.4	331 15.0	+02.5	332 14.1	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.3	N 29 12.6	Gienah	175 46.6	S 17 39.6
Ankaa	353 09.6	S 42 11.1	*Acrux*	173 03.7	S 63 13.1
Schedir	349 33.6	N 56 39.2	*Gacrux*	171 55.2	S 57 13.9
Diphda	348 49.8	S 17 52.0	*Alioth*	166 16.0	N 55 50.8
Achernar	335 21.9	S 57 07.4	Spica	158 25.4	S 11 16.3
Hamal	327 54.1	N 23 33.9	*Alkaid*	152 54.5	N 49 12.7
Polaris	315 07.5	N 89 21.0	*Hadar*	148 40.2	S 60 28.7
Acamar	315 13.7	S 40 12.9	*Menkent*	148 00.8	S 36 28.3
Menkar	314 08.9	N 04 10.5	Arcturus	145 50.3	N 19 05.2
Mirfak	308 32.0	N 49 56.0	*Rigel Kentaurus*	139 41.8	S 60 55.7
Aldebaran	290 42.8	N 16 33.2	Zubenelgenubi	136 59.1	S 16 07.7
Capella	280 26.0	N 46 01.1	*Kocab*	137 20.3	N 74 04.3
Rigel	281 06.6	S 08 10.5	Alphecca	126 06.2	N 26 38.9
Bellatrix	278 25.9	N 06 22.2	Antares	112 19.3	S 26 28.7
Elnath	278 05.4	N 28 37.5	*Atria*	107 15.8	S 69 04.1
Alnilam	275 40.6	S 01 11.2	Sabik	102 05.9	S 15 45.0
Betelgeuze	270 55.2	N 07 24.7	*Shaula*	96 14.0	S 37 07.2
Canopus	263 53.8	S 52 42.1	Rasalhague	96 01.0	N 12 33.0
Sirius	258 28.6	S 16 44.1	*Etamin*	90 43.3	N 51 29.5
Adhara	255 08.2	S 28 59.8	*Kaus Australis*	83 36.0	S 34 22.4
Castor	246 00.8	N 31 50.5	*Vega*	80 34.9	N 38 48.4
Procyon	244 53.7	N 05 10.6	Nunki	75 51.0	S 26 16.1
Pollux	243 20.6	N 27 58.5	Albireo	67 06.0	N 28 00.5
Avior	234 16.3	S 59 34.5	Altair	62 02.5	N 08 55.5
Suhail	222 48.7	S 43 31.0	*Peacock*	53 09.6	S 56 40.0
Miaplacidus	221 39.4	S 69 48.2	*Deneb*	49 27.2	N 45 21.6
Alphard	217 50.7	S 08 45.0	Enif	33 41.2	N 09 58.5
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.0	S 46 51.3
Dubhe	193 45.0	N 61 38.2	Formalhaut	15 17.3	S 29 30.3
Denebola	182 27.9	N 14 27.3	Markab	13 32.3	N 15 19.4

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2021 - First Point of Aries / Selected Stars

UT	day 271 of 365 **September 28** GHA	ddGHA	day 272 of 365 **September 29** GHA	ddGHA	day 273 of 365 **September 30** GHA	ddGHA	day 274 of 365 **October 1** GHA	ddGHA	day 275 of 365 **October 2** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	6 59.4	+02.4	7 58.5	+02.5	8 57.6	+02.5	9 56.8	+02.5	10 55.9	+02.5	00
01	22 01.8	+02.5	23 01.0	+02.4	24 00.1	+02.5	24 59.3	+02.4	25 58.4	+02.5	01
02	37 04.3	+02.5	38 03.4	+02.5	39 02.6	+02.4	40 01.7	+02.5	41 00.9	+02.4	02
03	52 06.8	+02.4	53 05.9	+02.5	54 05.0	+02.5	55 04.2	+02.4	56 03.3	+02.5	03
04	67 09.2	+02.5	68 08.4	+02.4	69 07.5	+02.5	70 06.6	+02.5	71 05.8	+02.4	04
05	82 11.7	+02.5	83 10.8	+02.5	84 10.0	+02.4	85 09.1	+02.5	86 08.2	+02.5	05
06	97 14.2	+02.4	98 13.3	+02.5	99 12.4	+02.5	100 11.6	+02.4	101 10.7	+02.5	06
07	112 16.6	+02.5	113 15.8	+02.4	114 14.9	+02.5	115 14.0	+02.5	116 13.2	+02.4	07
08	127 19.1	+02.4	128 18.2	+02.5	129 17.4	+02.4	130 16.5	+02.5	131 15.6	+02.5	08
09	142 21.5	+02.5	143 20.7	+02.5	144 19.8	+02.5	145 19.0	+02.4	146 18.1	+02.5	09
10	157 24.0	+02.5	158 23.2	+02.4	159 22.3	+02.5	160 21.4	+02.5	161 20.6	+02.4	10
11	172 26.5	+02.4	173 25.6	+02.5	174 24.8	+02.4	175 23.9	+02.5	176 23.0	+02.5	11
12	187 28.9	+02.5	188 28.1	+02.4	189 27.2	+02.5	190 26.4	+02.4	191 25.5	+02.5	12
13	202 31.4	+02.5	203 30.5	+02.5	204 29.7	+02.4	205 28.8	+02.5	206 28.0	+02.4	13
14	217 33.9	+02.4	218 33.0	+02.5	219 32.1	+02.5	220 31.3	+02.5	221 30.4	+02.5	14
15	232 36.3	+02.5	233 35.5	+02.4	234 34.6	+02.5	235 33.8	+02.4	236 32.9	+02.5	15
16	247 38.8	+02.5	248 37.9	+02.5	249 37.1	+02.4	250 36.2	+02.5	251 35.4	+02.4	16
17	262 41.3	+02.4	263 40.4	+02.5	264 39.5	+02.5	265 38.7	+02.4	266 37.8	+02.5	17
18	277 43.7	+02.5	278 42.9	+02.4	279 42.0	+02.5	280 41.1	+02.5	281 40.3	+02.4	18
19	292 46.2	+02.5	293 45.3	+02.5	294 44.5	+02.4	295 43.6	+02.5	296 42.7	+02.5	19
20	307 48.7	+02.4	308 47.8	+02.5	309 46.9	+02.5	310 46.1	+02.4	311 45.2	+02.5	20
21	322 51.1	+02.5	323 50.3	+02.4	324 49.4	+02.5	325 48.5	+02.5	326 47.7	+02.4	21
22	337 53.6	+02.4	338 52.7	+02.5	339 51.9	+02.4	340 51.0	+02.5	341 50.1	+02.5	22
23	352 56.0	+02.5	353 55.2	+02.4	354 54.3	+02.5	355 53.5	+02.4	356 52.6	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.2	N 29 12.7	Gienah	175 46.6	S 17 39.5
Ankaa	353 09.5	S 42 11.1	*Acrux*	173 03.7	S 63 13.0
Schedir	349 33.5	N 56 39.4	*Gacrux*	171 55.2	S 57 13.8
Diphda	348 49.8	S 17 52.0	*Alioth*	166 16.1	N 55 50.7
Achernar	335 21.8	S 57 07.5	Spica	158 25.4	S 11 16.3
Hamal	327 54.0	N 23 33.9	*Alkaid*	152 54.6	N 49 12.6
Polaris	314 56.9	N 89 21.1	*Hadar*	148 40.3	S 60 28.6
Acamar	315 13.5	S 40 12.9	*Menkent*	148 00.8	S 36 28.2
Menkar	314 08.7	N 04 10.6	Arcturus	145 50.3	N 19 05.1
Mirfak	308 31.8	N 49 56.1	*Rigel Kentaurus*	139 42.0	S 60 55.6
Aldebaran	290 42.6	N 16 33.2	Zubenelgenubi	136 59.2	S 16 07.7
Capella	280 25.8	N 46 01.1	*Kocab*	137 20.7	N 74 04.2
Rigel	281 06.4	S 08 10.5	Alphecca	126 06.3	N 26 38.8
Bellatrix	278 25.7	N 06 22.2	Antares	112 19.4	S 26 28.7
Elnath	278 05.2	N 28 37.5	*Atria*	107 16.1	S 69 04.1
Alnilam	275 40.4	S 01 11.2	Sabik	102 06.0	S 15 45.0
Betelgeuze	270 55.0	N 07 24.7	*Shaula*	96 14.1	S 37 07.2
Canopus	263 53.6	S 52 42.1	Rasalhague	96 01.2	N 12 33.0
Sirius	258 28.5	S 16 44.1	*Etamin*	90 43.5	N 51 29.5
Adhara	255 08.0	S 28 59.8	*Kaus Australis*	83 36.1	S 34 22.4
Castor	246 00.6	N 31 50.4	*Vega*	80 35.1	N 38 48.4
Procyon	244 53.5	N 05 10.6	Nunki	75 51.1	S 26 16.2
Pollux	243 20.4	N 27 58.4	Albireo	67 06.1	N 28 00.5
Avior	234 16.1	S 59 34.4	Altair	62 02.6	N 08 55.6
Suhail	222 48.5	S 43 30.9	*Peacock*	53 09.7	S 56 40.0
Miaplacidus	221 39.2	S 69 48.1	*Deneb*	49 27.4	N 45 21.7
Alphard	217 50.6	S 08 44.9	Enif	33 41.2	N 09 58.6
Regulus	207 37.5	N 11 51.8	*Alnair*	27 36.0	S 46 51.4
Dubhe	193 44.9	N 61 38.1	Formalhaut	15 17.3	S 29 30.4
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UT	day 256 of 365 **September 13** GHA	ddGHA	day 257 of 365 **September 14** GHA	ddGHA	day 258 of 365 **September 15** GHA	ddGHA	day 259 of 365 **September 16** GHA	ddGHA	day 260 of 365 **September 17** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	352 12.3	+02.5	353 11.4	+02.5	354 10.6	+02.4	355 09.7	+02.5	356 08.9	+02.4	00
01	7 14.8	+02.4	8 13.9	+02.5	9 13.0	+02.5	10 12.2	+02.4	11 11.3	+02.5	01
02	22 17.2	+02.5	23 16.4	+02.4	24 15.5	+02.5	25 14.6	+02.5	26 13.8	+02.4	02
03	37 19.7	+02.5	38 18.8	+02.5	39 18.0	+02.4	40 17.1	+02.5	41 16.2	+02.5	03
04	52 22.2	+02.4	53 21.3	+02.5	54 20.4	+02.5	55 19.6	+02.4	56 18.7	+02.5	04
05	67 24.6	+02.5	68 23.8	+02.4	69 22.9	+02.5	70 22.0	+02.5	71 21.2	+02.4	05
06	82 27.1	+02.4	83 26.2	+02.5	84 25.4	+02.4	85 24.5	+02.5	86 23.6	+02.5	06
07	97 29.5	+02.5	98 28.7	+02.4	99 27.8	+02.5	100 27.0	+02.4	101 26.1	+02.5	07
08	112 32.0	+02.5	113 31.1	+02.5	114 30.3	+02.5	115 29.4	+02.5	116 28.6	+02.4	08
09	127 34.5	+02.4	128 33.6	+02.5	129 32.8	+02.4	130 31.9	+02.5	131 31.0	+02.5	09
10	142 36.9	+02.5	143 36.1	+02.4	144 35.2	+02.5	145 34.4	+02.4	146 33.5	+02.5	10
11	157 39.4	+02.5	158 38.5	+02.5	159 37.7	+02.4	160 36.8	+02.5	161 36.0	+02.4	11
12	172 41.9	+02.4	173 41.0	+02.5	174 40.1	+02.5	175 39.3	+02.4	176 38.4	+02.5	12
13	187 44.3	+02.5	188 43.5	+02.4	189 42.6	+02.5	190 41.7	+02.5	191 40.9	+02.5	13
14	202 46.8	+02.5	203 45.9	+02.5	204 45.1	+02.4	205 44.2	+02.5	206 43.4	+02.4	14
15	217 49.3	+02.4	218 48.4	+02.5	219 47.5	+02.5	220 46.7	+02.4	221 45.8	+02.5	15
16	232 51.7	+02.5	233 50.9	+02.4	234 50.0	+02.5	235 49.1	+02.5	236 48.3	+02.4	16
17	247 54.2	+02.4	248 53.3	+02.5	249 52.5	+02.4	250 51.6	+02.5	251 50.7	+02.5	17
18	262 56.6	+02.5	263 55.8	+02.5	264 54.9	+02.5	265 54.1	+02.4	266 53.2	+02.5	18
19	277 59.1	+02.5	278 58.3	+02.4	279 57.4	+02.5	280 56.5	+02.5	281 55.7	+02.4	19
20	293 01.6	+02.4	294 00.7	+02.5	294 59.9	+02.4	295 59.0	+02.5	296 58.1	+02.5	20
21	308 04.0	+02.5	309 03.2	+02.4	310 02.3	+02.5	311 01.5	+02.4	312 00.6	+02.5	21
22	323 06.5	+02.5	324 05.6	+02.5	325 04.8	+02.5	326 03.9	+02.5	327 03.1	+02.4	22
23	338 09.0	+02.4	339 08.1	+02.5	340 07.3	+02.4	341 06.4	+02.5	342 05.5	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.3	N 29 12.7	Gienah	175 46.6	S 17 39.5
Ankaa	353 09.6	S 42 11.1	*Acrux*	173 03.7	S 63 13.1
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Canopus	263 53.8	S 52 42.1	Rasalhague	96 01.1	N 12 33.0
Sirius	258 28.6	S 16 44.1	*Etamin*	90 43.4	N 51 29.5
Adhara	255 08.1	S 28 59.8	*Kaus Australis*	83 36.0	S 34 22.4
Castor	246 00.7	N 31 50.5	*Vega*	80 35.0	N 38 48.4
Procyon	244 53.6	N 05 10.6	Nunki	75 51.0	S 26 16.2
Pollux	243 20.5	N 27 58.5	Albireo	67 06.1	N 28 00.5
Avior	234 16.2	S 59 34.4	Altair	62 02.6	N 08 55.5
Suhail	222 48.6	S 43 30.9	*Peacock*	53 09.6	S 56 40.0
Miaplacidus	221 39.4	S 69 48.1	*Deneb*	49 27.3	N 45 21.6
Alphard	217 50.7	S 08 45.0	Enif	33 41.2	N 09 58.6
Regulus	207 37.6	N 11 51.9	*Alnair*	27 36.0	S 46 51.3
Dubhe	193 45.0	N 61 38.2	Formalhaut	15 17.3	S 29 30.4
Denebola	182 27.9	N 14 27.3	Markab	13 32.3	N 15 19.4

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2021 - First Point of Aries / Selected Stars

UT	day 261 of 365 **September 18** GHA ° ′	ddGHA ′	day 262 of 365 **September 19** GHA ° ′	ddGHA ′	day 263 of 365 **September 20** GHA ° ′	ddGHA ′	day 264 of 365 **September 21** GHA ° ′	ddGHA ′	day 265 of 365 **September 22** GHA ° ′	ddGHA ′	UT
00	357 08.0	+02.5	358 07.1	+02.5	359 06.3	+02.4	0 05.4	+02.5	1 04.5	+02.5	00
01	12 10.5	+02.4	13 09.6	+02.5	14 08.7	+02.5	15 07.9	+02.4	16 07.0	+02.5	01
02	27 12.9	+02.5	28 12.1	+02.4	29 11.2	+02.5	30 10.3	+02.5	31 09.5	+02.4	02
03	42 15.4	+02.5	43 14.5	+02.5	44 13.7	+02.4	45 12.8	+02.5	46 11.9	+02.5	03
04	57 17.9	+02.4	58 17.0	+02.5	59 16.1	+02.5	60 15.3	+02.4	61 14.4	+02.5	04
05	72 20.3	+02.5	73 19.5	+02.4	74 18.6	+02.5	75 17.7	+02.5	76 16.9	+02.4	05
06	87 22.8	+02.4	88 21.9	+02.5	89 21.1	+02.4	90 20.2	+02.5	91 19.3	+02.5	06
07	102 25.2	+02.5	103 24.4	+02.4	104 23.5	+02.5	105 22.7	+02.4	106 21.8	+02.5	07
08	117 27.7	+02.5	118 26.8	+02.5	119 26.0	+02.4	120 25.1	+02.5	121 24.3	+02.4	08
09	132 30.2	+02.4	133 29.3	+02.5	134 28.4	+02.5	135 27.6	+02.4	136 26.7	+02.5	09
10	147 32.6	+02.5	148 31.8	+02.4	149 30.9	+02.5	150 30.0	+02.5	151 29.2	+02.4	10
11	162 35.1	+02.5	163 34.2	+02.5	164 33.4	+02.4	165 32.5	+02.5	166 31.6	+02.5	11
12	177 37.6	+02.4	178 36.7	+02.5	179 35.8	+02.5	180 35.0	+02.4	181 34.1	+02.5	12
13	192 40.0	+02.5	193 39.2	+02.4	194 38.3	+02.5	195 37.4	+02.5	196 36.6	+02.4	13
14	207 42.5	+02.5	208 41.6	+02.5	209 40.8	+02.4	210 39.9	+02.5	211 39.0	+02.5	14
15	222 45.0	+02.4	223 44.1	+02.5	224 43.2	+02.5	225 42.4	+02.4	226 41.5	+02.5	15
16	237 47.4	+02.5	238 46.6	+02.4	239 45.7	+02.5	240 44.8	+02.5	241 44.0	+02.4	16
17	252 49.9	+02.4	253 49.0	+02.5	254 48.2	+02.4	255 47.3	+02.5	256 46.4	+02.5	17
18	267 52.3	+02.5	268 51.5	+02.4	269 50.6	+02.5	270 49.8	+02.4	271 48.9	+02.5	18
19	282 54.8	+02.5	283 53.9	+02.5	284 53.1	+02.4	285 52.2	+02.5	286 51.4	+02.4	19
20	297 57.3	+02.4	298 56.4	+02.5	299 55.5	+02.5	300 54.7	+02.5	301 53.8	+02.5	20
21	312 59.7	+02.5	313 58.9	+02.4	314 58.0	+02.5	315 57.2	+02.4	316 56.3	+02.5	21
22	328 02.2	+02.5	329 01.3	+02.5	330 00.5	+02.4	330 59.6	+02.5	331 58.8	+02.4	22
23	343 04.7	+02.4	344 03.8	+02.5	345 02.9	+02.5	346 02.1	+02.4	347 01.2	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.2	N 29 12.7	Gienah	175 46.6	S 17 39.5
Ankaa	353 09.5	S 42 11.1	*Acrux*	173 03.7	S 63 13.0
Schedir	349 33.6	N 56 39.3	*Gacrux*	171 55.2	S 57 13.9
Diphda	348 49.8	S 17 52.0	*Alioth*	166 16.0	N 55 50.8
Achernar	335 21.8	S 57 07.5	Spica	158 25.4	S 11 16.3
Hamal	327 54.0	N 23 33.9	*Alkaid*	152 54.5	N 49 12.6
Polaris	315 00.8	N 89 21.0	*Hadar*	148 40.3	S 60 28.6
Acamar	315 13.6	S 40 12.9	*Menkent*	148 00.8	S 36 28.2
Menkar	314 08.8	N 04 10.6	Arcturus	145 50.3	N 19 05.1
Mirfak	308 31.8	N 49 56.1	*Rigel Kentaurus*	139 41.9	S 60 55.7
Aldebaran	290 42.7	N 16 33.2	Zubenelgenubi	136 59.2	S 16 07.7
Capella	280 25.9	N 46 01.1	*Kocab*	137 20.6	N 74 04.3
Rigel	281 06.4	S 08 10.5	Alphecca	126 06.3	N 26 38.8
Bellatrix	278 25.8	N 06 22.2	Antares	112 19.4	S 26 28.7
Elnath	278 05.3	N 28 37.5	*Atria*	107 16.0	S 69 04.1
Alnilam	275 40.5	S 01 11.2	Sabik	102 05.9	S 15 45.0
Betelgeuze	270 55.0	N 07 24.7	*Shaula*	96 14.1	S 37 07.2
Canopus	263 53.7	S 52 42.1	Rasalhague	96 01.1	N 12 33.0
Sirius	258 28.5	S 16 44.1	*Etamin*	90 43.4	N 51 29.5
Adhara	255 08.1	S 28 59.8	*Kaus Australis*	83 36.0	S 34 22.4
Castor	246 00.6	N 31 50.4	*Vega*	80 35.0	N 38 48.4
Procyon	244 53.6	N 05 10.6	Nunki	75 51.0	S 26 16.2
Pollux	243 20.5	N 27 58.5	Albireo	67 06.1	N 28 00.5
Avior	234 16.2	S 59 34.4	Altair	62 02.6	N 08 55.5
Suhail	222 48.6	S 43 30.9	*Peacock*	53 09.6	S 56 40.0
Miaplacidus	221 39.3	S 69 48.1	*Deneb*	49 27.3	N 45 21.7
Alphard	217 50.7	S 08 44.9	Enif	33 41.2	N 09 58.6
Regulus	207 37.5	N 11 51.8	*Alnair*	27 36.0	S 46 51.4
Dubhe	193 44.9	N 61 38.1	Formalhaut	15 17.3	S 29 30.4
Denebola	182 27.9	N 14 27.3	Markab	13 32.3	N 15 19.4

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UT	day 266 of 365 **September 23** GHA ° ′	ddGHA ′	day 267 of 365 **September 24** GHA ° ′	ddGHA ′	day 268 of 365 **September 25** GHA ° ′	ddGHA ′	day 269 of 365 **September 26** GHA ° ′	ddGHA ′	day 270 of 365 **September 27** GHA ° ′	ddGHA ′	UT
00	2 03.7	+02.4	3 02.8	+02.5	4 02.0	+02.4	5 01.1	+02.5	6 00.2	+02.5	00
01	17 06.1	+02.5	18 05.3	+02.4	19 04.4	+02.5	20 03.6	+02.4	21 02.7	+02.5	01
02	32 08.6	+02.5	33 07.7	+02.5	34 06.9	+02.4	35 06.0	+02.5	36 05.2	+02.4	02
03	47 11.1	+02.4	48 10.2	+02.5	49 09.3	+02.5	50 08.5	+02.4	51 07.6	+02.5	03
04	62 13.5	+02.5	63 12.7	+02.4	64 11.8	+02.5	65 10.9	+02.5	66 10.1	+02.5	04
05	77 16.0	+02.5	78 15.1	+02.5	79 14.3	+02.4	80 13.4	+02.5	81 12.6	+02.4	05
06	92 18.5	+02.4	93 17.6	+02.5	94 16.7	+02.5	95 15.9	+02.4	96 15.0	+02.5	06
07	107 20.9	+02.5	108 20.1	+02.4	109 19.2	+02.5	110 18.3	+02.5	111 17.5	+02.4	07
08	122 23.4	+02.5	123 22.5	+02.5	124 21.7	+02.4	125 20.8	+02.5	126 19.9	+02.5	08
09	137 25.9	+02.4	138 25.0	+02.5	139 24.1	+02.5	140 23.3	+02.4	141 22.4	+02.5	09
10	152 28.3	+02.5	153 27.5	+02.4	154 26.6	+02.5	155 25.7	+02.5	156 24.9	+02.4	10
11	167 30.8	+02.4	168 29.9	+02.5	169 29.1	+02.4	170 28.2	+02.5	171 27.3	+02.5	11
12	182 33.2	+02.5	183 32.4	+02.4	184 31.5	+02.5	185 30.7	+02.4	186 29.8	+02.5	12
13	197 35.7	+02.5	198 34.8	+02.5	199 34.0	+02.5	200 33.1	+02.5	201 32.3	+02.4	13
14	212 38.2	+02.4	213 37.3	+02.5	214 36.5	+02.4	215 35.6	+02.5	216 34.7	+02.5	14
15	227 40.6	+02.5	228 39.8	+02.4	229 38.9	+02.5	230 38.1	+02.4	231 37.2	+02.5	15
16	242 43.1	+02.5	243 42.2	+02.5	244 41.4	+02.4	245 40.5	+02.5	246 39.7	+02.4	16
17	257 45.6	+02.4	258 44.7	+02.5	259 43.8	+02.5	260 43.0	+02.4	261 42.1	+02.5	17
18	272 48.0	+02.5	273 47.2	+02.4	274 46.3	+02.5	275 45.4	+02.5	276 44.6	+02.4	18
19	287 50.5	+02.5	288 49.6	+02.5	289 48.8	+02.4	290 47.9	+02.5	291 47.0	+02.5	19
20	302 53.0	+02.4	303 52.1	+02.5	304 51.2	+02.5	305 50.4	+02.4	306 49.5	+02.5	20
21	317 55.4	+02.5	318 54.6	+02.4	319 53.7	+02.5	320 52.8	+02.5	321 52.0	+02.4	21
22	332 57.9	+02.5	333 57.0	+02.5	334 56.2	+02.4	335 55.3	+02.5	336 54.4	+02.5	22
23	348 00.4	+02.4	348 59.5	+02.5	349 58.6	+02.5	350 57.8	+02.4	351 56.9	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.2	N 29 12.7	Gienah	175 46.6	S 17 39.5
Ankaa	353 09.5	S 42 11.1	*Acrux*	173 03.7	S 63 13.0
Schedir	349 33.5	N 56 39.3	*Gacrux*	171 55.2	S 57 13.9
Diphda	348 49.8	S 17 52.0	*Alioth*	166 16.1	N 55 50.8
Achernar	335 21.8	S 57 07.5	Spica	158 25.4	S 11 16.3
Hamal	327 54.0	N 23 33.9	*Alkaid*	152 54.6	N 49 12.6
Polaris	314 59.0	N 89 21.1	*Hadar*	148 40.3	S 60 28.6
Acamar	315 13.5	S 40 12.9	*Menkent*	148 00.8	S 36 28.2
Menkar	314 08.8	N 04 10.6	Arcturus	145 50.3	N 19 05.1
Mirfak	308 31.8	N 49 56.1	*Rigel Kentaurus*	139 42.0	S 60 55.7
Aldebaran	290 42.6	N 16 33.2	Zubenelgenubi	136 59.2	S 16 07.7
Capella	280 25.8	N 46 01.1	*Kocab*	137 20.7	N 74 04.3
Rigel	281 06.4	S 08 10.5	Alphecca	126 06.3	N 26 38.8
Bellatrix	278 25.7	N 06 22.2	Antares	112 19.4	S 26 28.7
Elnath	278 05.2	N 28 37.5	*Atria*	107 16.1	S 69 04.1
Alnilam	275 40.4	S 01 11.2	Sabik	102 06.0	S 15 45.0
Betelgeuze	270 55.0	N 07 24.7	*Shaula*	96 14.1	S 37 07.2
Canopus	263 53.7	S 52 42.1	Rasalhague	96 01.1	N 12 33.0
Sirius	258 28.5	S 16 44.1	*Etamin*	90 43.4	N 51 29.5
Adhara	255 08.1	S 28 59.8	*Kaus Australis*	83 36.1	S 34 22.4
Castor	246 00.6	N 31 50.4	*Vega*	80 35.1	N 38 48.4
Procyon	244 53.6	N 05 10.6	Nunki	75 51.0	S 26 16.2
Pollux	243 20.4	N 27 58.4	Albireo	67 06.1	N 28 00.5
Avior	234 16.1	S 59 34.4	Altair	62 02.6	N 08 55.5
Suhail	222 48.6	S 43 30.9	*Peacock*	53 09.7	S 56 40.0
Miaplacidus	221 39.3	S 69 48.1	*Deneb*	49 27.3	N 45 21.7
Alphard	217 50.7	S 08 44.9	Enif	33 41.2	N 09 58.6
Regulus	207 37.5	N 11 51.8	*Alnair*	27 36.0	S 46 51.4
Dubhe	193 44.9	N 61 38.1	Formalhaut	15 17.3	S 29 30.4
Denebola	182 27.9	N 14 27.3	Markab	13 32.3	N 15 19.4

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UT	day 291 of 365 **October 18** GHA ° ′	ddGHA ′	day 292 of 365 **October 19** GHA ° ′	ddGHA ′	day 293 of 365 **October 20** GHA ° ′	ddGHA ′	day 294 of 365 **October 21** GHA ° ′	ddGHA ′	day 295 of 365 **October 22** GHA ° ′	ddGHA ′	UT
00	26 42.1	+02.5	27 41.3	+02.4	28 40.4	+02.5	29 39.6	+02.4	30 38.7	+02.5	00
01	41 44.6	+02.5	42 43.7	+02.5	43 42.9	+02.4	44 42.0	+02.5	45 41.2	+02.4	01
02	56 47.1	+02.4	57 46.2	+02.5	58 45.3	+02.5	59 44.5	+02.4	60 43.6	+02.5	02
03	71 49.5	+02.5	72 48.7	+02.4	73 47.8	+02.5	74 46.9	+02.5	75 46.1	+02.4	03
04	86 52.0	+02.5	87 51.1	+02.5	88 50.3	+02.4	89 49.4	+02.5	90 48.5	+02.5	04
05	101 54.5	+02.4	102 53.6	+02.5	103 52.7	+02.5	104 51.9	+02.4	105 51.0	+02.5	05
06	116 56.9	+02.5	117 56.1	+02.4	118 55.2	+02.5	119 54.3	+02.5	120 53.5	+02.4	06
07	131 59.4	+02.5	132 58.5	+02.5	133 57.7	+02.4	134 56.8	+02.5	135 55.9	+02.5	07
08	147 01.9	+02.4	148 01.0	+02.5	149 00.1	+02.5	149 59.3	+02.4	150 58.4	+02.5	08
09	162 04.3	+02.5	163 03.5	+02.4	164 02.6	+02.5	165 01.7	+02.5	166 00.9	+02.4	09
10	177 06.8	+02.4	178 05.9	+02.5	179 05.1	+02.4	180 04.2	+02.5	181 03.3	+02.5	10
11	192 09.2	+02.5	193 08.4	+02.4	194 07.5	+02.5	195 06.7	+02.4	196 05.8	+02.5	11
12	207 11.7	+02.5	208 10.8	+02.5	209 10.0	+02.4	210 09.1	+02.5	211 08.3	+02.4	12
13	222 14.2	+02.4	223 13.3	+02.5	224 12.4	+02.5	225 11.6	+02.4	226 10.7	+02.5	13
14	237 16.6	+02.5	238 15.8	+02.4	239 14.9	+02.5	240 14.0	+02.5	241 13.2	+02.5	14
15	252 19.1	+02.5	253 18.2	+02.5	254 17.4	+02.4	255 16.5	+02.5	256 15.7	+02.4	15
16	267 21.6	+02.4	268 20.7	+02.5	269 19.8	+02.5	270 19.0	+02.4	271 18.1	+02.5	16
17	282 24.0	+02.5	283 23.2	+02.4	284 22.3	+02.5	285 21.4	+02.5	286 20.6	+02.4	17
18	297 26.5	+02.5	298 25.6	+02.5	299 24.8	+02.4	300 23.9	+02.5	301 23.0	+02.5	18
19	312 29.0	+02.4	313 28.1	+02.5	314 27.2	+02.5	315 26.4	+02.4	316 25.5	+02.5	19
20	327 31.4	+02.5	328 30.6	+02.4	329 29.7	+02.5	330 28.8	+02.5	331 28.0	+02.4	20
21	342 33.9	+02.5	343 33.0	+02.5	344 32.2	+02.4	345 31.3	+02.5	346 30.4	+02.5	21
22	357 36.4	+02.4	358 35.5	+02.5	359 34.6	+02.5	0 33.8	+02.4	1 32.9	+02.5	22
23	12 38.8	+02.5	13 38.0	+02.4	14 37.1	+02.5	15 36.2	+02.5	16 35.4	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.2	N 29 12.8	Gienah	175 46.6	S 17 39.5
Ankaa	353 09.5	S 42 11.2	*Acrux*	173 03.7	S 63 12.9
Schedir	349 33.5	N 56 39.5	*Gacrux*	171 55.2	S 57 13.8
Diphda	348 49.7	S 17 52.1	*Alioth*	166 16.0	N 55 50.6
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Rigel	281 06.2	S 08 10.5	Alphecca	126 06.4	N 26 38.8
Bellatrix	278 25.5	N 06 22.2	Antares	112 19.5	S 26 28.7
Elnath	278 05.0	N 28 37.5	*Atria*	107 16.4	S 69 04.1
Alnilam	275 40.3	S 01 11.2	Sabik	102 06.1	S 15 45.0
Betelgeuze	270 54.8	N 07 24.7	*Shaula*	96 14.2	S 37 07.2
Canopus	263 53.4	S 52 42.1	Rasalhague	96 01.2	N 12 32.9
Sirius	258 28.3	S 16 44.1	*Etamin*	90 43.7	N 51 29.5
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Castor	246 00.4	N 31 50.4	*Vega*	80 35.2	N 38 48.4
Procyon	244 53.4	N 05 10.6	Nunki	75 51.1	S 26 16.2
Pollux	243 20.2	N 27 58.4	Albireo	67 06.2	N 28 00.5
Avior	234 15.9	S 59 34.4	Altair	62 02.7	N 08 55.6
Suhail	222 48.4	S 43 30.9	*Peacock*	53 09.9	S 56 40.1
Miaplacidus	221 38.9	S 69 48.0	*Deneb*	49 27.5	N 45 21.7
Alphard	217 50.5	S 08 45.0	Enif	33 41.3	N 09 58.6
Regulus	207 37.4	N 11 51.8	*Alnair*	27 36.1	S 46 51.5
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UT	day 276 of 365 **October 3** GHA ° ′	ddGHA ′	day 277 of 365 **October 4** GHA ° ′	ddGHA ′	day 278 of 365 **October 5** GHA ° ′	ddGHA ′	day 279 of 365 **October 6** GHA ° ′	ddGHA ′	day 280 of 365 **October 7** GHA ° ′	ddGHA ′	UT
00	11 55.1	+02.4	12 54.2	+02.5	13 53.3	+02.5	14 52.5	+02.4	15 51.6	+02.5	00
01	26 57.5	+02.5	27 56.7	+02.4	28 55.8	+02.5	29 54.9	+02.5	30 54.1	+02.4	01
02	41 60.0	+02.5	42 59.1	+02.5	43 58.3	+02.4	44 57.4	+02.5	45 56.5	+02.5	02
03	57 02.5	+02.4	58 01.6	+02.5	59 00.7	+02.5	59 59.9	+02.4	60 59.0	+02.5	03
04	72 04.9	+02.5	73 04.1	+02.4	74 03.2	+02.5	75 02.3	+02.5	76 01.5	+02.4	04
05	87 07.4	+02.5	88 06.5	+02.5	89 05.7	+02.4	90 04.8	+02.5	91 03.9	+02.5	05
06	102 09.9	+02.4	103 09.0	+02.5	104 08.1	+02.5	105 07.3	+02.4	106 06.4	+02.5	06
07	117 12.3	+02.5	118 11.5	+02.4	119 10.6	+02.5	120 09.7	+02.5	121 08.9	+02.4	07
08	132 14.8	+02.4	133 13.9	+02.5	134 13.1	+02.4	135 12.2	+02.5	136 11.3	+02.5	08
09	147 17.2	+02.5	148 16.4	+02.4	149 15.5	+02.5	150 14.7	+02.4	151 13.8	+02.5	09
10	162 19.7	+02.5	163 18.8	+02.5	164 18.0	+02.4	165 17.1	+02.5	166 16.3	+02.4	10
11	177 22.2	+02.4	178 21.3	+02.5	179 20.4	+02.5	180 19.6	+02.4	181 18.7	+02.5	11
12	192 24.6	+02.5	193 23.8	+02.4	194 22.9	+02.5	195 22.0	+02.5	196 21.2	+02.4	12
13	207 27.1	+02.5	208 26.2	+02.5	209 25.4	+02.4	210 24.5	+02.5	211 23.6	+02.5	13
14	222 29.6	+02.4	223 28.7	+02.5	224 27.8	+02.5	225 27.0	+02.4	226 26.1	+02.5	14
15	237 32.0	+02.5	238 31.2	+02.4	239 30.3	+02.5	240 29.4	+02.5	241 28.6	+02.4	15
16	252 34.5	+02.5	253 33.6	+02.5	254 32.8	+02.4	255 31.9	+02.5	256 31.0	+02.5	16
17	267 37.0	+02.4	268 36.1	+02.5	269 35.2	+02.5	270 34.4	+02.4	271 33.5	+02.5	17
18	282 39.4	+02.5	283 38.6	+02.4	284 37.7	+02.5	285 36.8	+02.5	286 36.0	+02.4	18
19	297 41.9	+02.4	298 41.0	+02.5	299 40.2	+02.4	300 39.3	+02.5	301 38.4	+02.5	19
20	312 44.3	+02.5	313 43.5	+02.4	314 42.6	+02.5	315 41.8	+02.4	316 40.9	+02.5	20
21	327 46.8	+02.5	328 45.9	+02.5	329 45.1	+02.4	330 44.2	+02.5	331 43.4	+02.4	21
22	342 49.3	+02.4	343 48.4	+02.5	344 47.5	+02.5	345 46.7	+02.4	346 45.8	+02.5	22
23	357 51.7	+02.5	358 50.9	+02.4	359 50.0	+02.5	0 49.1	+02.5	1 48.3	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.2	N 29 12.7	Gienah	175 46.6	S 17 39.5
Ankaa	353 09.5	S 42 11.2	*Acrux*	173 03.7	S 63 13.0
Schedir	349 33.5	N 56 39.4	*Gacrux*	171 55.2	S 57 13.8
Diphda	348 49.8	S 17 52.0	*Alioth*	166 16.1	N 55 50.7
Achernar	335 21.7	S 57 07.5	Spica	158 25.4	S 11 16.3
Hamal	327 54.0	N 23 33.9	*Alkaid*	152 54.6	N 49 12.5
Polaris	314 55.1	N 89 21.1	*Hadar*	148 40.4	S 60 28.6
Acamar	315 13.5	S 40 12.9	*Menkent*	148 00.8	S 36 28.2
Menkar	314 08.7	N 04 10.6	Arcturus	145 50.3	N 19 05.1
Mirfak	308 31.7	N 49 56.1	*Rigel Kentaurus*	139 42.0	S 60 55.6
Aldebaran	290 42.5	N 16 33.2	Zubenelgenubi	136 59.2	S 16 07.7
Capella	280 25.7	N 46 01.2	*Kocab*	137 20.8	N 74 04.2
Rigel	281 06.3	S 08 10.5	Alphecca	126 06.3	N 26 38.8
Bellatrix	278 25.6	N 06 22.2	Antares	112 19.4	S 26 28.7
Elnath	278 05.2	N 28 37.5	*Atria*	107 16.2	S 69 04.1
Alnilam	275 40.4	S 01 11.2	Sabik	102 06.0	S 15 45.0
Betelgeuze	270 54.9	N 07 24.7	*Shaula*	96 14.1	S 37 07.2
Canopus	263 53.5	S 52 42.1	Rasalhague	96 01.2	N 12 33.0
Sirius	258 28.4	S 16 44.1	*Etamin*	90 43.5	N 51 29.5
Adhara	255 08.0	S 28 59.8	*Kaus Australis*	83 36.1	S 34 22.4
Castor	246 00.5	N 31 50.4	*Vega*	80 35.1	N 38 48.4
Procyon	244 53.5	N 05 10.6	Nunki	75 51.1	S 26 16.2
Pollux	243 20.4	N 27 58.4	Albireo	67 06.1	N 28 00.5
Avior	234 16.0	S 59 34.4	Altair	62 02.7	N 08 55.6
Suhail	222 48.5	S 43 30.9	*Peacock*	53 09.7	S 56 40.1
Miaplacidus	221 39.1	S 69 48.0	*Deneb*	49 27.4	N 45 21.7
Alphard	217 50.6	S 08 44.9	Enif	33 41.2	N 09 58.6
Regulus	207 37.5	N 11 51.8	*Alnair*	27 36.0	S 46 51.4
Dubhe	193 44.9	N 61 38.1	Formalhaut	15 17.3	S 29 30.4
Denebola	182 27.9	N 14 27.3	Markab	13 32.3	N 15 19.4

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2021 - First Point of Aries / Selected Stars

UT	day 281 of 365 **October 8** GHA ° ′	ddGHA ′	day 282 of 365 **October 9** GHA ° ′	ddGHA ′	day 283 of 365 **October 10** GHA ° ′	ddGHA ′	day 284 of 365 **October 11** GHA ° ′	ddGHA ′	day 285 of 365 **October 12** GHA ° ′	ddGHA ′	UT
00	16 50.8	+02.4	17 49.9	+02.5	18 49.0	+02.5	19 48.2	+02.4	20 47.3	+02.5	00
01	31 53.2	+02.5	32 52.4	+02.4	33 51.5	+02.5	34 50.6	+02.5	35 49.8	+02.4	01
02	46 55.7	+02.4	47 54.8	+02.5	48 54.0	+02.4	49 53.1	+02.5	50 52.2	+02.5	02
03	61 58.1	+02.5	62 57.3	+02.4	63 56.4	+02.5	64 55.6	+02.4	65 54.7	+02.5	03
04	77 00.6	+02.5	77 59.7	+02.5	78 58.9	+02.4	79 58.0	+02.5	80 57.2	+02.4	04
05	92 03.1	+02.4	93 02.2	+02.5	94 01.3	+02.5	95 00.5	+02.5	95 59.6	+02.5	05
06	107 05.5	+02.5	108 04.7	+02.4	109 03.8	+02.5	110 03.0	+02.4	111 02.1	+02.5	06
07	122 08.0	+02.5	123 07.1	+02.5	124 06.3	+02.4	125 05.4	+02.5	126 04.6	+02.4	07
08	137 10.5	+02.4	138 09.6	+02.5	139 08.7	+02.5	140 07.9	+02.4	141 07.0	+02.5	08
09	152 12.9	+02.5	153 12.1	+02.4	154 11.2	+02.5	155 10.3	+02.5	156 09.5	+02.5	09
10	167 15.4	+02.5	168 14.5	+02.5	169 13.7	+02.4	170 12.8	+02.5	171 12.0	+02.4	10
11	182 17.9	+02.4	183 17.0	+02.5	184 16.1	+02.5	185 15.3	+02.4	186 14.4	+02.5	11
12	197 20.3	+02.5	198 19.5	+02.4	199 18.6	+02.5	200 17.7	+02.5	201 16.9	+02.4	12
13	212 22.8	+02.4	213 21.9	+02.5	214 21.1	+02.4	215 20.2	+02.5	216 19.3	+02.5	13
14	227 25.2	+02.5	228 24.4	+02.5	229 23.5	+02.5	230 22.7	+02.4	231 21.8	+02.5	14
15	242 27.7	+02.5	243 26.9	+02.4	244 26.0	+02.5	245 25.1	+02.5	246 24.3	+02.4	15
16	257 30.2	+02.4	258 29.3	+02.5	259 28.5	+02.4	260 27.6	+02.5	261 26.7	+02.5	16
17	272 32.6	+02.5	273 31.8	+02.4	274 30.9	+02.5	275 30.1	+02.4	276 29.2	+02.5	17
18	287 35.1	+02.5	288 34.2	+02.5	289 33.4	+02.4	290 32.5	+02.5	291 31.7	+02.4	18
19	302 37.6	+02.4	303 36.7	+02.5	304 35.8	+02.5	305 35.0	+02.5	306 34.1	+02.5	19
20	317 40.0	+02.5	318 39.2	+02.4	319 38.3	+02.5	320 37.5	+02.4	321 36.6	+02.5	20
21	332 42.5	+02.5	333 41.6	+02.5	334 40.8	+02.4	335 39.9	+02.5	336 39.1	+02.4	21
22	347 45.0	+02.4	348 44.1	+02.5	349 43.2	+02.5	350 42.4	+02.4	351 41.5	+02.5	22
23	2 47.4	+02.5	3 46.6	+02.4	4 45.7	+02.5	5 44.8	+02.5	6 44.0	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.2	N 29 12.7	Gienah	175 46.6	S 17 39.5
Ankaa	353 09.5	S 42 11.2	*Acrux*	173 03.7	S 63 13.0
Schedir	349 33.5	N 56 39.4	*Gacrux*	171 55.2	S 57 13.8
Diphda	348 49.7	S 17 52.0	*Alioth*	166 16.1	N 55 50.7
Achernar	335 21.7	S 57 07.6	Spica	158 25.4	S 11 16.3
Hamal	327 53.9	N 23 34.0	*Alkaid*	152 54.6	N 49 12.5
Polaris	314 53.7	N 89 21.1	*Hadar*	148 40.4	S 60 28.6
Acamar	315 13.4	S 40 12.9	*Menkent*	148 00.9	S 36 28.2
Menkar	314 08.7	N 04 10.6	Arcturus	145 50.3	N 19 05.1
Mirfak	308 31.7	N 49 56.2	*Rigel Kentaurus*	139 42.0	S 60 55.6
Aldebaran	290 42.5	N 16 33.2	Zubenelgenubi	136 59.2	S 16 07.7
Capella	280 25.7	N 46 01.2	*Kocab*	137 20.8	N 74 04.2
Rigel	281 06.3	S 08 10.5	Alphecca	126 06.4	N 26 38.8
Bellatrix	278 25.6	N 06 22.2	Antares	112 19.5	S 26 28.7
Elnath	278 05.1	N 28 37.5	*Atria*	107 16.3	S 69 04.1
Alnilam	275 40.3	S 01 11.2	Sabik	102 06.0	S 15 45.0
Betelgeuze	270 54.9	N 07 24.7	*Shaula*	96 14.2	S 37 07.2
Canopus	263 53.5	S 52 42.1	Rasalhague	96 01.2	N 12 32.9
Sirius	258 28.4	S 16 44.1	*Etamin*	90 43.6	N 51 29.5
Adhara	255 07.9	S 28 59.8	*Kaus Australis*	83 36.1	S 34 22.4
Castor	246 00.5	N 31 50.4	*Vega*	80 35.2	N 38 48.4
Procyon	244 53.5	N 05 10.6	Nunki	75 51.1	S 26 16.2
Pollux	243 20.3	N 27 58.4	Albireo	67 06.2	N 28 00.5
Avior	234 16.0	S 59 34.4	Altair	62 02.7	N 08 55.6
Suhail	222 48.5	S 43 30.9	*Peacock*	53 09.8	S 56 40.1
Miaplacidus	221 39.1	S 69 48.0	*Deneb*	49 27.4	N 45 21.7
Alphard	217 50.6	S 08 44.9	Enif	33 41.2	N 09 58.6
Regulus	207 37.4	N 11 51.8	*Alnair*	27 36.0	S 46 51.4
Dubhe	193 44.8	N 61 38.0	Formalhaut	15 17.3	S 29 30.4
Denebola	182 27.9	N 14 27.3	Markab	13 32.3	N 15 19.4

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2021 - First Point of Aries / Selected Stars

UT	day 286 of 365 **October 13** GHA ° ′	ddGHA ′	day 287 of 365 **October 14** GHA ° ′	ddGHA ′	day 288 of 365 **October 15** GHA ° ′	ddGHA ′	day 289 of 365 **October 16** GHA ° ′	ddGHA ′	day 290 of 365 **October 17** GHA ° ′	ddGHA ′	UT
00	21 46.4	+02.5	22 45.6	+02.5	23 44.7	+02.5	24 43.9	+02.4	25 43.0	+02.5	00
01	36 48.9	+02.5	37 48.1	+02.4	38 47.2	+02.5	39 46.3	+02.5	40 45.5	+02.4	01
02	51 51.4	+02.4	52 50.5	+02.5	53 49.7	+02.4	54 48.8	+02.5	55 47.9	+02.5	02
03	66 53.8	+02.5	67 53.0	+02.4	68 52.1	+02.5	69 51.3	+02.4	70 50.4	+02.5	03
04	81 56.3	+02.5	82 55.4	+02.5	83 54.6	+02.4	84 53.7	+02.5	85 52.9	+02.4	04
05	96 58.8	+02.4	97 57.9	+02.5	98 57.0	+02.5	99 56.2	+02.5	100 55.3	+02.5	05
06	112 01.2	+02.5	113 00.4	+02.4	113 59.5	+02.5	114 58.7	+02.4	115 57.8	+02.5	06
07	127 03.7	+02.5	128 02.8	+02.5	129 02.0	+02.4	130 01.1	+02.5	131 00.3	+02.4	07
08	142 06.2	+02.4	143 05.3	+02.5	144 04.4	+02.5	145 03.6	+02.4	146 02.7	+02.5	08
09	157 08.6	+02.5	158 07.8	+02.4	159 06.9	+02.5	160 06.0	+02.5	161 05.2	+02.4	09
10	172 11.1	+02.5	173 10.2	+02.5	174 09.4	+02.4	175 08.5	+02.5	176 07.6	+02.5	10
11	187 13.6	+02.4	188 12.7	+02.5	189 11.8	+02.5	190 11.0	+02.4	191 10.1	+02.5	11
12	202 16.0	+02.5	203 15.2	+02.4	204 14.3	+02.5	205 13.4	+02.5	206 12.6	+02.4	12
13	217 18.5	+02.4	218 17.6	+02.5	219 16.8	+02.4	220 15.9	+02.5	221 15.0	+02.5	13
14	232 20.9	+02.5	233 20.1	+02.5	234 19.2	+02.5	235 18.4	+02.4	236 17.5	+02.5	14
15	247 23.4	+02.5	248 22.6	+02.4	249 21.7	+02.5	250 20.8	+02.5	251 20.0	+02.4	15
16	262 25.9	+02.4	263 25.0	+02.5	264 24.2	+02.4	265 23.3	+02.5	266 22.4	+02.5	16
17	277 28.3	+02.5	278 27.5	+02.4	279 26.6	+02.5	280 25.8	+02.4	281 24.9	+02.5	17
18	292 30.8	+02.5	293 29.9	+02.5	294 29.1	+02.4	295 28.2	+02.5	296 27.4	+02.4	18
19	307 33.3	+02.4	308 32.4	+02.5	309 31.5	+02.5	310 30.7	+02.4	311 29.8	+02.5	19
20	322 35.7	+02.5	323 34.9	+02.4	324 34.0	+02.5	325 33.1	+02.5	326 32.3	+02.4	20
21	337 38.2	+02.5	338 37.3	+02.5	339 36.5	+02.4	340 35.6	+02.5	341 34.7	+02.5	21
22	352 40.7	+02.4	353 39.8	+02.5	354 38.9	+02.5	355 38.1	+02.4	356 37.2	+02.5	22
23	7 43.1	+02.5	8 42.3	+02.4	9 41.4	+02.5	10 40.5	+02.5	11 39.7	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.2	N 29 12.8	Gienah	175 46.6	S 17 39.5
Ankaa	353 09.5	S 42 11.2	*Acrux*	173 03.7	S 63 12.9
Schedir	349 33.5	N 56 39.4	*Gacrux*	171 55.2	S 57 13.8
Diphda	348 49.7	S 17 52.0	*Alioth*	166 16.0	N 55 50.6
Achernar	335 21.7	S 57 07.6	Spica	158 25.4	S 11 16.3
Hamal	327 53.9	N 23 34.0	*Alkaid*	152 54.6	N 49 12.5
Polaris	314 51.8	N 89 21.2	*Hadar*	148 40.4	S 60 28.5
Acamar	315 13.4	S 40 13.0	*Menkent*	148 00.9	S 36 28.2
Menkar	314 08.6	N 04 10.6	Arcturus	145 50.3	N 19 05.1
Mirfak	308 31.6	N 49 56.2	*Rigel Kentaurus*	139 42.0	S 60 55.6
Aldebaran	290 42.5	N 16 33.2	Zubenelgenubi	136 59.2	S 16 07.7
Capella	280 25.6	N 46 01.2	*Kocab*	137 20.9	N 74 04.2
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Alnilam	275 40.3	S 01 11.2	Sabik	102 06.0	S 15 45.0
Betelgeuze	270 54.9	N 07 24.7	*Shaula*	96 14.2	S 37 07.2
Canopus	263 53.4	S 52 42.1	Rasalhague	96 01.2	N 12 32.9
Sirius	258 28.3	S 16 44.1	*Etamin*	90 43.6	N 51 29.5
Adhara	255 07.9	S 28 59.8	*Kaus Australis*	83 36.1	S 34 22.4
Castor	246 00.4	N 31 50.4	*Vega*	80 35.2	N 38 48.4
Procyon	244 53.4	N 05 10.6	Nunki	75 51.1	S 26 16.2
Pollux	243 20.3	N 27 58.4	Albireo	67 06.2	N 28 00.5
Avior	234 15.9	S 59 34.4	Altair	62 02.7	N 08 55.6
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Alphard	217 50.5	S 08 45.0	Enif	33 41.2	N 09 58.6
Regulus	207 37.4	N 11 51.8	*Alnair*	27 36.1	S 46 51.4
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UT	day 311 of 365 November 7 GHA	ddGHA	day 312 of 365 November 8 GHA	ddGHA	day 313 of 365 November 9 GHA	ddGHA	day 314 of 365 November 10 GHA	ddGHA	day 315 of 365 November 11 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	46 24.9	+02.5	47 24.1	+02.4	48 23.2	+02.5	49 22.3	+02.5	50 21.5	+02.4	00
01	61 27.4	+02.4	62 26.5	+02.5	63 25.7	+02.4	64 24.8	+02.5	65 23.9	+02.5	01
02	76 29.8	+02.5	77 29.0	+02.4	78 28.1	+02.5	79 27.3	+02.4	80 26.4	+02.5	02
03	91 32.3	+02.5	92 31.4	+02.5	93 30.6	+02.5	94 29.7	+02.5	95 28.9	+02.4	03
04	106 34.8	+02.4	107 33.9	+02.5	108 33.1	+02.4	109 32.2	+02.5	110 31.3	+02.5	04
05	121 37.2	+02.5	122 36.4	+02.4	123 35.5	+02.5	124 34.7	+02.4	125 33.8	+02.5	05
06	136 39.7	+02.5	137 38.8	+02.5	138 38.0	+02.4	139 37.1	+02.5	140 36.3	+02.4	06
07	151 42.2	+02.4	152 41.3	+02.5	153 40.4	+02.5	154 39.6	+02.4	155 38.7	+02.5	07
08	166 44.6	+02.5	167 43.8	+02.4	168 42.9	+02.5	169 42.0	+02.5	170 41.2	+02.5	08
09	181 47.1	+02.5	182 46.2	+02.5	183 45.4	+02.4	184 44.5	+02.5	185 43.7	+02.4	09
10	196 49.6	+02.4	197 48.7	+02.5	198 47.8	+02.5	199 47.0	+02.4	200 46.1	+02.5	10
11	211 52.0	+02.5	212 51.2	+02.4	213 50.3	+02.5	214 49.4	+02.5	215 48.6	+02.4	11
12	226 54.5	+02.4	227 53.6	+02.5	228 52.8	+02.4	229 51.9	+02.5	230 51.0	+02.5	12
13	241 56.9	+02.5	242 56.1	+02.5	243 55.2	+02.5	244 54.4	+02.4	245 53.5	+02.5	13
14	256 59.4	+02.5	257 58.6	+02.4	258 57.7	+02.5	259 56.8	+02.5	260 56.0	+02.4	14
15	272 01.9	+02.4	273 01.0	+02.5	274 00.2	+02.4	274 59.3	+02.5	275 58.4	+02.5	15
16	287 04.3	+02.5	288 03.5	+02.4	289 02.6	+02.5	290 01.8	+02.4	291 00.9	+02.5	16
17	302 06.8	+02.5	303 05.9	+02.5	304 05.1	+02.4	305 04.2	+02.5	306 03.4	+02.4	17
18	317 09.3	+02.4	318 08.4	+02.5	319 07.5	+02.5	320 06.7	+02.5	321 05.8	+02.5	18
19	332 11.7	+02.5	333 10.9	+02.4	334 10.0	+02.5	335 09.2	+02.4	336 08.3	+02.5	19
20	347 14.2	+02.5	348 13.3	+02.5	349 12.5	+02.4	350 11.6	+02.5	351 10.8	+02.4	20
21	2 16.7	+02.4	3 15.8	+02.5	4 14.9	+02.5	5 14.1	+02.4	6 13.2	+02.5	21
22	17 19.1	+02.5	18 18.3	+02.4	19 17.4	+02.5	20 16.5	+02.5	21 15.7	+02.5	22
23	32 21.6	+02.5	33 20.7	+02.5	34 19.9	+02.4	35 19.0	+02.5	36 18.2	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.3	N 29 12.8	Gienah	175 46.5	S 17 39.5
Ankaa	353 09.5	S 42 11.3	*Acrux*	173 03.5	S 63 12.9
Schedir	349 33.5	N 56 39.5	*Gacrux*	171 55.0	S 57 13.7
Diphda	348 49.7	S 17 52.1	*Alioth*	166 15.9	N 55 50.5
Achernar	335 21.7	S 57 07.7	Spica	158 25.4	S 11 16.3
Hamal	327 53.9	N 23 34.0	*Alkaid*	152 54.6	N 49 12.3
Polaris	314 47.0	N 89 21.3	*Hadar*	148 40.3	S 60 28.4
Acamar	315 13.3	S 40 13.1	*Menkent*	148 00.8	S 36 28.1
Menkar	314 08.6	N 04 10.6	Arcturus	145 50.3	N 19 05.0
Mirfak	308 31.5	N 49 56.3	*Rigel Kentaurus*	139 42.0	S 60 55.5
Aldebaran	290 42.3	N 16 33.2	Zubenelgenubi	136 59.2	S 16 07.7
Capella	280 25.4	N 46 01.2	*Kocab*	137 21.0	N 74 04.0
Rigel	281 06.1	S 08 10.5	Alphecca	126 06.4	N 26 38.7
Bellatrix	278 25.4	N 06 22.2	Antares	112 19.5	S 26 28.7
Elnath	278 04.9	N 28 37.6	*Atria*	107 16.5	S 69 04.0
Alnilam	275 40.1	S 01 11.2	Sabik	102 06.1	S 15 45.0
Betelgeuze	270 54.7	N 07 24.7	*Shaula*	96 14.3	S 37 07.1
Canopus	263 53.2	S 52 42.2	Rasalhague	96 01.3	N 12 32.9
Sirius	258 28.2	S 16 44.2	*Etamin*	90 43.8	N 51 29.4
Adhara	255 07.7	S 28 59.9	*Kaus Australis*	83 36.3	S 34 22.4
Castor	246 00.2	N 31 50.4	*Vega*	80 35.3	N 38 48.4
Procyon	244 53.2	N 05 10.6	Nunki	75 51.2	S 26 16.2
Pollux	243 20.1	N 27 58.4	Albireo	67 06.3	N 28 00.5
Avior	234 15.6	S 59 34.4	Altair	62 02.8	N 08 55.5
Suhail	222 48.2	S 43 30.9	*Peacock*	53 10.0	S 56 40.1
Miaplacidus	221 38.6	S 69 48.0	*Deneb*	49 27.6	N 45 21.7
Alphard	217 50.4	S 08 45.0	Enif	33 41.3	N 09 58.6
Regulus	207 37.2	N 11 51.7	*Alnair*	27 36.2	S 46 51.5
Dubhe	193 44.5	N 61 37.9	Formalhaut	15 17.4	S 29 30.5
Denebola	182 27.7	N 14 27.2	Markab	13 32.4	N 15 19.5

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2021 - First Point of Aries / Selected Stars

UT	day 296 of 365 October 23 GHA	ddGHA	day 297 of 365 October 24 GHA	ddGHA	day 298 of 365 October 25 GHA	ddGHA	day 299 of 365 October 26 GHA	ddGHA	day 300 of 365 October 27 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	31 37.8	+02.5	32 37.0	+02.4	33 36.1	+02.5	34 35.2	+02.5	35 34.4	+02.5	00
01	46 40.3	+02.5	47 39.4	+02.5	48 38.6	+02.4	49 37.7	+02.5	50 36.9	+02.4	01
02	61 42.8	+02.4	62 41.9	+02.5	63 41.0	+02.5	64 40.2	+02.4	65 39.3	+02.5	02
03	76 45.2	+02.5	77 44.4	+02.4	78 43.5	+02.5	79 42.6	+02.5	80 41.8	+02.4	03
04	91 47.7	+02.4	92 46.8	+02.5	93 46.0	+02.4	94 45.1	+02.5	95 44.2	+02.5	04
05	106 50.1	+02.5	107 49.3	+02.5	108 48.4	+02.5	109 47.6	+02.4	110 46.7	+02.5	05
06	121 52.6	+02.5	122 51.8	+02.4	123 50.9	+02.5	124 50.0	+02.5	125 49.2	+02.4	06
07	136 55.1	+02.4	137 54.2	+02.5	138 53.4	+02.4	139 52.5	+02.5	140 51.6	+02.5	07
08	151 57.5	+02.5	152 56.7	+02.4	153 55.8	+02.5	154 55.0	+02.4	155 54.1	+02.5	08
09	167 00.0	+02.5	167 59.1	+02.5	168 58.3	+02.4	169 57.4	+02.5	170 56.6	+02.4	09
10	182 02.5	+02.4	183 01.6	+02.5	184 00.7	+02.5	184 59.9	+02.5	185 59.0	+02.5	10
11	197 04.9	+02.5	198 04.1	+02.4	199 03.2	+02.5	200 02.4	+02.4	201 01.5	+02.5	11
12	212 07.4	+02.5	213 06.5	+02.5	214 05.7	+02.4	215 04.8	+02.5	216 04.0	+02.4	12
13	227 09.9	+02.4	228 09.0	+02.5	229 08.1	+02.5	230 07.3	+02.4	231 06.4	+02.5	13
14	242 12.3	+02.5	243 11.5	+02.4	244 10.6	+02.5	245 09.7	+02.5	246 08.9	+02.4	14
15	257 14.8	+02.5	258 13.9	+02.5	259 13.1	+02.4	260 12.2	+02.5	261 11.3	+02.5	15
16	272 17.3	+02.4	273 16.4	+02.5	274 15.5	+02.5	275 14.7	+02.4	276 13.8	+02.5	16
17	287 19.7	+02.5	288 18.9	+02.4	289 18.0	+02.5	290 17.1	+02.5	291 16.3	+02.4	17
18	302 22.2	+02.4	303 21.3	+02.5	304 20.5	+02.4	305 19.6	+02.5	306 18.7	+02.5	18
19	317 24.6	+02.5	318 23.8	+02.5	319 22.9	+02.5	320 22.1	+02.4	321 21.2	+02.5	19
20	332 27.1	+02.5	333 26.3	+02.4	334 25.4	+02.5	335 24.5	+02.5	336 23.7	+02.4	20
21	347 29.6	+02.4	348 28.7	+02.5	349 27.9	+02.4	350 27.0	+02.5	351 26.1	+02.5	21
22	2 32.0	+02.5	3 31.2	+02.4	4 30.3	+02.5	5 29.5	+02.4	6 28.6	+02.5	22
23	17 34.5	+02.5	18 33.6	+02.5	19 32.8	+02.4	20 31.9	+02.5	21 31.1	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.2	N 29 12.8	Gienah	175 46.6	S 17 39.5
Ankaa	353 09.5	S 42 11.2	*Acrux*	173 03.6	S 63 12.9
Schedir	349 33.5	N 56 39.5	*Gacrux*	171 55.1	S 57 13.7
Diphda	348 49.7	S 17 52.1	*Alioth*	166 16.0	N 55 50.6
Achernar	335 21.7	S 57 07.6	Spica	158 25.4	S 11 16.3
Hamal	327 53.9	N 23 34.0	*Alkaid*	152 54.6	N 49 12.4
Polaris	314 49.5	N 89 21.2	*Hadar*	148 40.4	S 60 28.5
Acamar	315 13.4	S 40 13.0	*Menkent*	148 00.8	S 36 28.2
Menkar	314 08.6	N 04 10.6	Arcturus	145 50.3	N 19 05.1
Mirfak	308 31.6	N 49 56.2	*Rigel Kentaurus*	139 42.0	S 60 55.5
Aldebaran	290 42.4	N 16 33.2	Zubenelgenubi	136 59.2	S 16 07.7
Capella	280 25.5	N 46 01.2	*Kocab*	137 21.0	N 74 04.1
Rigel	281 06.2	S 08 10.5	Alphecca	126 06.4	N 26 38.7
Bellatrix	278 25.5	N 06 22.2	Antares	112 19.5	S 26 28.7
Elnath	278 05.0	N 28 37.5	*Atria*	107 16.4	S 69 04.1
Alnilam	275 40.2	S 01 11.2	Sabik	102 06.1	S 15 45.0
Betelgeuze	270 54.8	N 07 24.7	*Shaula*	96 14.2	S 37 07.2
Canopus	263 53.3	S 52 42.1	Rasalhague	96 01.3	N 12 32.9
Sirius	258 28.3	S 16 44.1	*Etamin*	90 43.7	N 51 29.4
Adhara	255 07.8	S 28 59.8	*Kaus Australis*	83 36.2	S 34 22.4
Castor	246 00.3	N 31 50.4	*Vega*	80 35.3	N 38 48.4
Procyon	244 53.4	N 05 10.6	Nunki	75 51.2	S 26 16.2
Pollux	243 20.2	N 27 58.4	Albireo	67 06.3	N 28 00.5
Avior	234 15.8	S 59 34.4	Altair	62 02.7	N 08 55.5
Suhail	222 48.3	S 43 30.9	*Peacock*	53 09.9	S 56 40.1
Miaplacidus	221 38.8	S 69 48.0	*Deneb*	49 27.5	N 45 21.7
Alphard	217 50.5	S 08 45.0	Enif	33 41.3	N 09 58.6
Regulus	207 37.3	N 11 51.8	*Alnair*	27 36.1	S 46 51.5
Dubhe	193 44.7	N 61 38.0	Formalhaut	15 17.3	S 29 30.5
Denebola	182 27.8	N 14 27.2	Markab	13 32.3	N 15 19.4

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2021 - First Point of Aries / Selected Stars

UT	day 301 of 365 **October 28** GHA ° ′	ddGHA ′	day 302 of 365 **October 29** GHA ° ′	ddGHA ′	day 303 of 365 **October 30** GHA ° ′	ddGHA ′	day 304 of 365 **October 31** GHA ° ′	ddGHA ′	day 305 of 365 **November 1** GHA ° ′	ddGHA ′	UT
00	36 33.5	+02.5	37 32.7	+02.4	38 31.8	+02.5	39 30.9	+02.5	40 30.1	+02.4	00
01	51 36.0	+02.5	52 35.1	+02.5	53 34.3	+02.4	54 33.4	+02.5	55 32.5	+02.5	01
02	66 38.5	+02.4	67 37.6	+02.5	68 36.7	+02.5	69 35.9	+02.5	70 35.0	+02.5	02
03	81 40.9	+02.5	82 40.1	+02.4	83 39.2	+02.5	84 38.3	+02.5	85 37.5	+02.4	03
04	96 43.4	+02.4	97 42.5	+02.5	98 41.7	+02.4	99 40.8	+02.5	100 39.9	+02.5	04
05	111 45.8	+02.5	112 45.0	+02.5	113 44.1	+02.5	114 43.3	+02.4	115 42.4	+02.5	05
06	126 48.3	+02.5	127 47.5	+02.4	128 46.6	+02.5	129 45.7	+02.5	130 44.9	+02.4	06
07	141 50.8	+02.4	142 49.9	+02.5	143 49.1	+02.4	144 48.2	+02.5	145 47.3	+02.5	07
08	156 53.2	+02.5	157 52.4	+02.4	158 51.5	+02.5	159 50.7	+02.4	160 49.8	+02.5	08
09	171 55.7	+02.5	172 54.8	+02.5	173 54.0	+02.4	174 53.1	+02.5	175 52.3	+02.4	09
10	186 58.2	+02.4	187 57.3	+02.5	188 56.4	+02.5	189 55.6	+02.4	190 54.7	+02.5	10
11	202 00.6	+02.5	202 59.8	+02.4	203 58.9	+02.5	204 58.0	+02.5	205 57.2	+02.4	11
12	217 03.1	+02.5	218 02.2	+02.5	219 01.4	+02.4	220 00.5	+02.5	220 59.6	+02.5	12
13	232 05.6	+02.4	233 04.7	+02.5	234 03.8	+02.5	235 03.0	+02.4	236 02.1	+02.5	13
14	247 08.0	+02.5	248 07.2	+02.4	249 06.3	+02.5	250 05.4	+02.5	251 04.6	+02.4	14
15	262 10.5	+02.5	263 09.6	+02.5	264 08.8	+02.4	265 07.9	+02.5	266 07.0	+02.5	15
16	277 13.0	+02.4	278 12.1	+02.5	279 11.2	+02.5	280 10.4	+02.4	281 09.5	+02.5	16
17	292 15.4	+02.5	293 14.6	+02.4	294 13.7	+02.5	295 12.8	+02.5	296 12.0	+02.4	17
18	307 17.9	+02.4	308 17.0	+02.5	309 16.2	+02.4	310 15.3	+02.5	311 14.4	+02.5	18
19	322 20.3	+02.5	323 19.5	+02.4	324 18.6	+02.5	325 17.8	+02.4	326 16.9	+02.5	19
20	337 22.8	+02.5	338 21.9	+02.5	339 21.1	+02.5	340 20.2	+02.5	341 19.4	+02.4	20
21	352 25.3	+02.4	353 24.4	+02.5	354 23.6	+02.4	355 22.7	+02.5	356 21.8	+02.5	21
22	7 27.7	+02.5	8 26.9	+02.4	9 26.0	+02.5	10 25.2	+02.4	11 24.3	+02.5	22
23	22 30.2	+02.5	23 29.3	+02.5	24 28.5	+02.4	25 27.6	+02.5	26 26.8	+02.4	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.2	N 29 12.8	Gienah	175 46.5	S 17 39.5
Ankaa	353 09.5	S 42 11.3	*Acrux*	173 03.6	S 63 12.9
Schedir	349 33.5	N 56 39.5	*Gacrux*	171 55.1	S 57 13.7
Diphda	348 49.7	S 17 52.1	*Alioth*	166 16.0	N 55 50.5
Achernar	335 21.7	S 57 07.6	Spica	158 25.4	S 11 16.3
Hamal	327 53.9	N 23 34.0	*Alkaid*	152 54.6	N 49 12.4
Polaris	314 48.3	N 89 21.3	*Hadar*	148 40.3	S 60 28.5
Acamar	315 13.4	S 40 13.0	*Menkent*	148 00.8	S 36 28.2
Menkar	314 08.6	N 04 10.6	Arcturus	145 50.3	N 19 05.0
Mirfak	308 31.5	N 49 56.2	*Rigel Kentaurus*	139 42.0	S 60 55.5
Aldebaran	290 42.4	N 16 33.2	Zubenelgenubi	136 59.2	S 16 07.7
Capella	280 25.5	N 46 01.2	*Kocab*	137 21.0	N 74 04.1
Rigel	281 06.2	S 08 10.5	Alphecca	126 06.4	N 26 38.7
Bellatrix	278 25.5	N 06 22.2	Antares	112 19.5	S 26 28.7
Elnath	278 05.0	N 28 37.5	*Atria*	107 16.4	S 69 04.0
Alnilam	275 40.2	S 01 11.2	Sabik	102 06.1	S 15 45.0
Betelgeuze	270 54.8	N 07 24.7	*Shaula*	96 14.2	S 37 07.2
Canopus	263 53.3	S 52 42.1	Rasalhague	96 01.3	N 12 32.9
Sirius	258 28.2	S 16 44.1	*Etamin*	90 43.7	N 51 29.4
Adhara	255 07.8	S 28 59.8	*Kaus Australis*	83 36.2	S 34 22.4
Castor	246 00.3	N 31 50.4	*Vega*	80 35.3	N 38 48.4
Procyon	244 53.3	N 05 10.6	Nunki	75 51.2	S 26 16.2
Pollux	243 20.2	N 27 58.4	Albireo	67 06.3	N 28 00.5
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2021 - First Point of Aries / Selected Stars

UT	day 306 of 365 **November 2** GHA ° ′	ddGHA ′	day 307 of 365 **November 3** GHA ° ′	ddGHA ′	day 308 of 365 **November 4** GHA ° ′	ddGHA ′	day 309 of 365 **November 5** GHA ° ′	ddGHA ′	day 310 of 365 **November 6** GHA ° ′	ddGHA ′	UT
00	41 29.2	+02.5	42 28.4	+02.4	43 27.5	+02.5	44 26.6	+02.5	45 25.8	+02.4	00
01	56 31.7	+02.4	57 30.8	+02.5	58 30.0	+02.4	59 29.1	+02.5	60 28.2	+02.5	01
02	71 34.1	+02.5	72 33.3	+02.4	73 32.4	+02.5	74 31.6	+02.4	75 30.7	+02.5	02
03	86 36.6	+02.5	87 35.7	+02.5	88 34.9	+02.4	89 34.0	+02.5	90 33.2	+02.4	03
04	101 39.1	+02.4	102 38.2	+02.5	103 37.3	+02.5	104 36.5	+02.5	105 35.6	+02.5	04
05	116 41.5	+02.5	117 40.7	+02.4	118 39.8	+02.5	119 39.0	+02.4	120 38.1	+02.5	05
06	131 44.0	+02.5	132 43.1	+02.5	133 42.3	+02.4	134 41.4	+02.5	135 40.6	+02.4	06
07	146 46.5	+02.4	147 45.6	+02.5	148 44.7	+02.5	149 43.9	+02.4	150 43.0	+02.5	07
08	161 48.9	+02.5	162 48.1	+02.4	163 47.2	+02.5	164 46.3	+02.5	165 45.5	+02.4	08
09	176 51.4	+02.5	177 50.5	+02.5	178 49.7	+02.4	179 48.8	+02.5	180 47.9	+02.5	09
10	191 53.9	+02.4	192 53.0	+02.5	193 52.1	+02.5	194 51.3	+02.4	195 50.4	+02.5	10
11	206 56.3	+02.5	207 55.5	+02.4	208 54.6	+02.5	209 53.7	+02.5	210 52.9	+02.4	11
12	221 58.8	+02.5	222 57.9	+02.5	223 57.1	+02.4	224 56.2	+02.5	225 55.3	+02.5	12
13	237 01.3	+02.4	238 00.4	+02.5	238 59.5	+02.5	239 58.7	+02.4	240 57.8	+02.5	13
14	252 03.7	+02.5	253 02.9	+02.4	254 02.0	+02.5	255 01.1	+02.5	256 00.3	+02.4	14
15	267 06.2	+02.4	268 05.3	+02.5	269 04.5	+02.4	270 03.6	+02.5	271 02.7	+02.5	15
16	282 08.6	+02.5	283 07.8	+02.4	284 06.9	+02.5	285 06.1	+02.4	286 05.2	+02.5	16
17	297 11.1	+02.5	298 10.2	+02.5	299 09.4	+02.4	300 08.5	+02.5	301 07.7	+02.4	17
18	312 13.6	+02.4	313 12.7	+02.5	314 11.8	+02.5	315 11.0	+02.5	316 10.1	+02.5	18
19	327 16.0	+02.5	328 15.2	+02.4	329 14.3	+02.5	330 13.5	+02.4	331 12.6	+02.5	19
20	342 18.5	+02.5	343 17.6	+02.5	344 16.8	+02.4	345 15.9	+02.5	346 15.1	+02.4	20
21	357 21.0	+02.4	358 20.1	+02.5	359 19.2	+02.5	0 18.4	+02.4	1 17.5	+02.5	21
22	12 23.4	+02.5	13 22.6	+02.4	14 21.7	+02.5	15 20.8	+02.5	16 20.0	+02.4	22
23	27 25.9	+02.5	28 25.0	+02.5	29 24.2	+02.4	30 23.3	+02.5	31 22.4	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
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Acamar	315 13.3	S 40 13.0	*Menkent*	148 00.8	S 36 28.1
Menkar	314 08.6	N 04 10.6	Arcturus	145 50.3	N 19 05.0
Mirfak	308 31.5	N 49 56.2	*Rigel Kentaurus*	139 42.0	S 60 55.5
Aldebaran	290 42.4	N 16 33.2	Zubenelgenubi	136 59.2	S 16 07.7
Capella	280 25.4	N 46 01.2	*Kocab*	137 21.0	N 74 04.0
Rigel	281 06.1	S 08 10.5	Alphecca	126 06.4	N 26 38.7
Bellatrix	278 25.4	N 06 22.2	Antares	112 19.5	S 26 28.7
Elnath	278 04.9	N 28 37.6	*Atria*	107 16.5	S 69 04.0
Alnilam	275 40.2	S 01 11.2	Sabik	102 06.1	S 15 45.0
Betelgeuze	270 54.7	N 07 24.7	*Shaula*	96 14.3	S 37 07.2
Canopus	263 53.3	S 52 42.2	Rasalhague	96 01.3	N 12 32.9
Sirius	258 28.2	S 16 44.1	*Etamin*	90 43.8	N 51 29.4
Adhara	255 07.7	S 28 59.8	*Kaus Australis*	83 36.2	S 34 22.4
Castor	246 00.2	N 31 50.4	*Vega*	80 35.3	N 38 48.4
Procyon	244 53.3	N 05 10.6	Nunki	75 51.2	S 26 16.2
Pollux	243 20.1	N 27 58.4	Albireo	67 06.3	N 28 00.5
Avior	234 15.7	S 59 34.4	Altair	62 02.8	N 08 55.5
Suhail	222 48.2	S 43 30.9	*Peacock*	53 10.0	S 56 40.1
Miaplacidus	221 38.7	S 69 48.0	*Deneb*	49 27.6	N 45 21.7
Alphard	217 50.4	S 08 45.0	Enif	33 41.3	N 09 58.6
Regulus	207 37.3	N 11 51.7	*Alnair*	27 36.2	S 46 51.5
Dubhe	193 44.6	N 61 37.9	Formalhaut	15 17.4	S 29 30.5
Denebola	182 27.7	N 14 27.2	Markab	13 32.3	N 15 19.5

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2021 - First Point of Aries / Selected Stars

UT	day 331 of 365 **November 27** GHA ° ′	ddGHA ′	day 332 of 365 **November 28** GHA ° ′	ddGHA ′	day 333 of 365 **November 29** GHA ° ′	ddGHA ′	day 334 of 365 **November 30** GHA ° ′	ddGHA ′	day 335 of 365 **December 1** GHA ° ′	ddGHA ′	UT
00	66 07.7	+02.5	67 06.8	+02.5	68 06.0	+02.4	69 05.1	+02.5	70 04.3	+02.4	00
01	81 10.2	+02.4	82 09.3	+02.5	83 08.4	+02.5	84 07.6	+02.4	85 06.7	+02.5	01
02	96 12.6	+02.5	97 11.8	+02.4	98 10.9	+02.5	99 10.0	+02.5	100 09.2	+02.4	02
03	111 15.1	+02.5	112 14.2	+02.5	113 13.4	+02.4	114 12.5	+02.5	115 11.6	+02.5	03
04	126 17.6	+02.4	127 16.7	+02.5	128 15.8	+02.5	129 15.0	+02.4	130 14.1	+02.5	04
05	141 20.0	+02.5	142 19.2	+02.4	143 18.3	+02.5	144 17.4	+02.5	145 16.6	+02.4	05
06	156 22.5	+02.4	157 21.6	+02.5	158 20.8	+02.4	159 19.9	+02.5	160 19.0	+02.5	06
07	171 24.9	+02.5	172 24.1	+02.5	173 23.2	+02.5	174 22.4	+02.4	175 21.5	+02.5	07
08	186 27.4	+02.5	187 26.6	+02.4	188 25.7	+02.5	189 24.8	+02.5	190 24.0	+02.4	08
09	201 29.9	+02.4	202 29.0	+02.5	203 28.2	+02.4	204 27.3	+02.5	205 26.4	+02.5	09
10	216 32.3	+02.5	217 31.5	+02.4	218 30.6	+02.5	219 29.8	+02.4	220 28.9	+02.5	10
11	231 34.8	+02.5	232 33.9	+02.5	233 33.1	+02.4	234 32.2	+02.5	235 31.4	+02.4	11
12	246 37.3	+02.4	247 36.4	+02.5	248 35.5	+02.5	249 34.7	+02.4	250 33.8	+02.5	12
13	261 39.7	+02.5	262 38.9	+02.4	263 38.0	+02.5	264 37.1	+02.5	265 36.3	+02.4	13
14	276 42.2	+02.5	277 41.3	+02.5	278 40.5	+02.4	279 39.6	+02.5	280 38.7	+02.5	14
15	291 44.7	+02.4	292 43.8	+02.5	293 42.9	+02.5	294 42.1	+02.4	295 41.2	+02.5	15
16	306 47.1	+02.5	307 46.3	+02.4	308 45.4	+02.5	309 44.5	+02.5	310 43.7	+02.4	16
17	321 49.6	+02.5	322 48.7	+02.5	323 47.9	+02.4	324 47.0	+02.5	325 46.1	+02.5	17
18	336 52.1	+02.4	337 51.2	+02.5	338 50.3	+02.5	339 49.5	+02.4	340 48.6	+02.5	18
19	351 54.5	+02.5	352 53.7	+02.4	353 52.8	+02.5	354 51.9	+02.5	355 51.1	+02.4	19
20	6 57.0	+02.4	7 56.1	+02.5	8 55.3	+02.4	9 54.4	+02.5	10 53.5	+02.5	20
21	21 59.4	+02.5	22 58.6	+02.4	23 57.7	+02.5	24 56.9	+02.4	25 56.0	+02.5	21
22	37 01.9	+02.5	38 01.0	+02.5	39 00.2	+02.5	39 59.3	+02.5	40 58.5	+02.4	22
23	52 04.4	+02.4	53 03.5	+02.5	54 02.7	+02.4	55 01.8	+02.5	56 00.9	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.3	N 29 12.8	Gienah	175 46.3	S 17 39.6
Ankaa	353 09.6	S 42 11.3	*Acrux*	173 03.3	S 63 12.8
Schedir	349 33.6	N 56 39.6	*Gacrux*	171 54.8	S 57 13.7
Diphda	348 49.8	S 17 52.1	*Alioth*	166 15.8	N 55 50.4
Achernar	335 21.8	S 57 07.8	Spica	158 25.2	S 11 16.3
Hamal	327 53.9	N 23 34.0	*Alkaid*	152 54.4	N 49 12.2
Polaris	314 46.6	N 89 21.4	*Hadar*	148 40.1	S 60 28.4
Acamar	315 13.3	S 40 13.1	*Menkent*	148 00.7	S 36 28.1
Menkar	314 08.5	N 04 10.5	Arcturus	145 50.2	N 19 04.9
Mirfak	308 31.4	N 49 56.3	*Rigel Kentaurus*	139 41.9	S 60 55.4
Aldebaran	290 42.2	N 16 33.2	Zubenelgenubi	136 59.1	S 16 07.7
Capella	280 25.2	N 46 01.3	*Kocab*	137 21.0	N 74 03.9
Rigel	281 06.0	S 08 10.6	Alphecca	126 06.4	N 26 38.6
Bellatrix	278 25.3	N 06 22.2	Antares	112 19.5	S 26 28.7
Elnath	278 04.8	N 28 37.6	*Atria*	107 16.5	S 69 03.9
Alnilam	275 40.0	S 01 11.3	Sabik	102 06.1	S 15 45.1
Betelgeuze	270 54.6	N 07 24.7	*Shaula*	96 14.3	S 37 07.1
Canopus	263 53.1	S 52 42.3	Rasalhague	96 01.3	N 12 32.8
Sirius	258 28.0	S 16 44.2	*Etamin*	90 43.9	N 51 29.3
Adhara	255 07.6	S 28 59.9	*Kaus Australis*	83 36.3	S 34 22.4
Castor	246 00.0	N 31 50.4	*Vega*	80 35.4	N 38 48.3
Procyon	244 53.1	N 05 10.5	Nunki	75 51.3	S 26 16.2
Pollux	243 19.9	N 27 58.4	Albireo	67 06.4	N 28 00.5
Avior	234 15.4	S 59 34.5	Altair	62 02.8	N 08 55.5
Suhail	222 48.0	S 43 30.9	*Peacock*	53 10.1	S 56 40.1
Miaplacidus	221 38.2	S 69 48.1	*Deneb*	49 27.7	N 45 21.7
Alphard	217 50.2	S 08 45.1	Enif	33 41.4	N 09 58.6
Regulus	207 37.1	N 11 51.7	*Alnair*	27 36.3	S 46 51.5
Dubhe	193 44.3	N 61 37.8	Formalhaut	15 17.4	S 29 30.5
Denebola	182 27.6	N 14 27.1	Markab	13 32.4	N 15 19.5

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UT	day 316 of 365 **November 12** GHA ° ′	ddGHA ′	day 317 of 365 **November 13** GHA ° ′	ddGHA ′	day 318 of 365 **November 14** GHA ° ′	ddGHA ′	day 319 of 365 **November 15** GHA ° ′	ddGHA ′	day 320 of 365 **November 16** GHA ° ′	ddGHA ′	UT
00	51 20.6	+02.5	52 19.8	+02.4	53 18.9	+02.5	54 18.0	+02.5	55 17.2	+02.4	00
01	66 23.1	+02.4	67 22.2	+02.5	68 21.4	+02.4	69 20.5	+02.5	70 19.6	+02.5	01
02	81 25.5	+02.5	82 24.7	+02.4	83 23.8	+02.5	84 23.0	+02.4	85 22.1	+02.5	02
03	96 28.0	+02.5	97 27.1	+02.5	98 26.3	+02.4	99 25.4	+02.5	100 24.6	+02.4	03
04	111 30.5	+02.4	112 29.6	+02.5	113 28.7	+02.5	114 27.9	+02.4	115 27.0	+02.5	04
05	126 32.9	+02.5	127 32.1	+02.4	128 31.2	+02.5	129 30.3	+02.5	130 29.5	+02.4	05
06	141 35.4	+02.5	142 34.5	+02.5	143 33.7	+02.4	144 32.8	+02.5	145 31.9	+02.5	06
07	156 37.9	+02.4	157 37.0	+02.5	158 36.1	+02.5	159 35.3	+02.4	160 34.4	+02.5	07
08	171 40.3	+02.5	172 39.5	+02.4	173 38.6	+02.5	174 37.7	+02.5	175 36.9	+02.4	08
09	186 42.8	+02.5	187 41.9	+02.5	188 41.1	+02.4	189 40.2	+02.5	190 39.3	+02.5	09
10	201 45.3	+02.4	202 44.4	+02.5	203 43.5	+02.5	204 42.7	+02.4	205 41.8	+02.5	10
11	216 47.7	+02.5	217 46.9	+02.4	218 46.0	+02.5	219 45.1	+02.5	220 44.3	+02.4	11
12	231 50.2	+02.4	232 49.3	+02.5	233 48.5	+02.4	234 47.6	+02.5	235 46.7	+02.5	12
13	246 52.6	+02.5	247 51.8	+02.4	248 50.9	+02.5	249 50.1	+02.4	250 49.2	+02.5	13
14	261 55.1	+02.5	262 54.2	+02.5	263 53.4	+02.5	264 52.5	+02.5	265 51.7	+02.4	14
15	276 57.6	+02.4	277 56.7	+02.5	278 55.9	+02.4	279 55.0	+02.5	280 54.1	+02.5	15
16	292 00.0	+02.5	292 59.2	+02.4	293 58.3	+02.5	294 57.5	+02.4	295 56.6	+02.5	16
17	307 02.5	+02.5	308 01.6	+02.5	309 00.8	+02.4	309 59.9	+02.5	310 59.1	+02.4	17
18	322 05.0	+02.4	323 04.1	+02.5	324 03.2	+02.5	325 02.4	+02.4	326 01.5	+02.5	18
19	337 07.4	+02.5	338 06.6	+02.4	339 05.7	+02.5	340 04.8	+02.5	341 04.0	+02.4	19
20	352 09.9	+02.5	353 09.0	+02.5	354 08.2	+02.4	355 07.3	+02.5	356 06.4	+02.5	20
21	7 12.4	+02.4	8 11.5	+02.5	9 10.6	+02.5	10 09.8	+02.4	11 08.9	+02.5	21
22	22 14.8	+02.5	23 14.0	+02.4	24 13.1	+02.5	25 12.2	+02.5	26 11.4	+02.4	22
23	37 17.3	+02.5	38 16.4	+02.5	39 15.6	+02.4	40 14.7	+02.5	41 13.8	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.3	N 29 12.8	Gienah	175 46.4	S 17 39.5
Ankaa	353 09.6	S 42 11.3	*Acrux*	173 03.4	S 63 12.8
Schedir	349 33.5	N 56 39.6	*Gacrux*	171 55.0	S 57 13.7
Diphda	348 49.7	S 17 52.1	*Alioth*	166 15.9	N 55 50.5
Achernar	335 21.7	S 57 07.7	Spica	158 25.3	S 11 16.3
Hamal	327 53.9	N 23 34.0	*Alkaid*	152 54.5	N 49 12.3
Polaris	314 46.5	N 89 21.4	*Hadar*	148 40.3	S 60 28.4
Acamar	315 13.3	S 40 13.1	*Menkent*	148 00.8	S 36 28.1
Menkar	314 08.5	N 04 10.6	Arcturus	145 50.3	N 19 05.0
Mirfak	308 31.5	N 49 56.3	*Rigel Kentaurus*	139 42.0	S 60 55.5
Aldebaran	290 42.3	N 16 33.2	Zubenelgenubi	136 59.2	S 16 07.7
Capella	280 25.4	N 46 01.2	*Kocab*	137 21.0	N 74 04.0
Rigel	281 06.1	S 08 10.5	Alphecca	126 06.4	N 26 38.7
Bellatrix	278 25.4	N 06 22.2	Antares	112 19.5	S 26 28.7
Elnath	278 04.8	N 28 37.6	*Atria*	107 16.5	S 69 04.0
Alnilam	275 40.1	S 01 11.2	Sabik	102 06.1	S 15 45.0
Betelgeuze	270 54.7	N 07 24.7	*Shaula*	96 14.3	S 37 07.1
Canopus	263 53.2	S 52 42.2	Rasalhague	96 01.3	N 12 32.9
Sirius	258 28.1	S 16 44.2	*Etamin*	90 43.8	N 51 29.4
Adhara	255 07.7	S 28 59.9	*Kaus Australis*	83 36.3	S 34 22.4
Castor	246 00.1	N 31 50.4	*Vega*	80 35.4	N 38 48.3
Procyon	244 53.2	N 05 10.6	Nunki	75 51.2	S 26 16.2
Pollux	243 20.0	N 27 58.4	Albireo	67 06.3	N 28 00.5
Avior	234 15.6	S 59 34.4	Altair	62 02.8	N 08 55.5
Suhail	222 48.1	S 43 30.9	*Peacock*	53 10.0	S 56 40.1
Miaplacidus	221 38.5	S 69 48.0	*Deneb*	49 27.7	N 45 21.7
Alphard	217 50.3	S 08 45.0	Enif	33 41.3	N 09 58.6
Regulus	207 37.2	N 11 51.7	*Alnair*	27 36.2	S 46 51.5
Dubhe	193 44.5	N 61 37.9	Formalhaut	15 17.4	S 29 30.5
Denebola	182 27.7	N 14 27.2	Markab	13 32.4	N 15 19.5

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UT	day 321 of 365 November 17 GHA	ddGHA	day 322 of 365 November 18 GHA	ddGHA	day 323 of 365 November 19 GHA	ddGHA	day 324 of 365 November 20 GHA	ddGHA	day 325 of 365 November 21 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	56 16.3	+02.5	57 15.4	+02.5	58 14.6	+02.4	59 13.7	+02.5	60 12.9	+02.4	00
01	71 18.8	+02.4	72 17.9	+02.5	73 17.0	+02.5	74 16.2	+02.4	75 15.3	+02.5	01
02	86 21.2	+02.5	87 20.4	+02.4	88 19.5	+02.5	89 18.6	+02.5	90 17.8	+02.5	02
03	101 23.7	+02.5	102 22.8	+02.5	103 22.0	+02.4	104 21.1	+02.5	105 20.3	+02.4	03
04	116 26.2	+02.4	117 25.3	+02.5	118 24.4	+02.5	119 23.6	+02.4	120 22.7	+02.5	04
05	131 28.6	+02.5	132 27.8	+02.4	133 26.9	+02.5	134 26.0	+02.5	135 25.2	+02.4	05
06	146 31.1	+02.5	147 30.2	+02.5	148 29.4	+02.4	149 28.5	+02.5	150 27.6	+02.5	06
07	161 33.6	+02.4	162 32.7	+02.5	163 31.8	+02.5	164 31.0	+02.4	165 30.1	+02.5	07
08	176 36.0	+02.5	177 35.2	+02.4	178 34.3	+02.5	179 33.4	+02.5	180 32.6	+02.4	08
09	191 38.5	+02.4	192 37.6	+02.5	193 36.8	+02.4	194 35.9	+02.5	195 35.0	+02.5	09
10	206 40.9	+02.5	207 40.1	+02.4	208 39.2	+02.5	209 38.4	+02.4	210 37.5	+02.5	10
11	221 43.4	+02.5	222 42.5	+02.5	223 41.7	+02.4	224 40.8	+02.5	225 40.0	+02.4	11
12	236 45.9	+02.4	237 45.0	+02.5	238 44.1	+02.5	239 43.3	+02.5	240 42.4	+02.5	12
13	251 48.3	+02.5	252 47.5	+02.4	253 46.6	+02.5	254 45.8	+02.4	255 44.9	+02.5	13
14	266 50.8	+02.5	267 49.9	+02.5	268 49.1	+02.4	269 48.2	+02.5	270 47.4	+02.4	14
15	281 53.3	+02.4	282 52.4	+02.5	283 51.5	+02.5	284 50.7	+02.4	285 49.8	+02.5	15
16	296 55.7	+02.5	297 54.9	+02.4	298 54.0	+02.5	299 53.1	+02.5	300 52.3	+02.5	16
17	311 58.2	+02.5	312 57.3	+02.5	313 56.5	+02.4	314 55.6	+02.5	315 54.8	+02.4	17
18	327 00.7	+02.4	327 59.8	+02.5	328 58.9	+02.5	329 58.1	+02.4	330 57.2	+02.5	18
19	342 03.1	+02.5	343 02.3	+02.4	344 01.4	+02.5	345 00.5	+02.5	345 59.7	+02.4	19
20	357 05.6	+02.4	358 04.7	+02.5	359 03.9	+02.4	0 03.0	+02.5	1 02.1	+02.5	20
21	12 08.0	+02.5	13 07.2	+02.5	14 06.3	+02.5	15 05.5	+02.4	16 04.6	+02.5	21
22	27 10.5	+02.5	28 09.7	+02.4	29 08.8	+02.5	30 07.9	+02.5	31 07.1	+02.4	22
23	42 13.0	+02.4	43 12.1	+02.5	44 11.3	+02.4	45 10.4	+02.5	46 09.5	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
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Avior	234 15.5	S 59 34.4	Altair	62 02.8	N 08 55.5
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Dubhe	193 44.4	N 61 37.8	Formalhaut	15 17.4	S 29 30.5
Denebola	182 27.6	N 14 27.1	Markab	13 32.4	N 15 19.5

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2021 - First Point of Aries / Selected Stars

UT	day 326 of 365 November 22 GHA	ddGHA	day 327 of 365 November 23 GHA	ddGHA	day 328 of 365 November 24 GHA	ddGHA	day 329 of 365 November 25 GHA	ddGHA	day 330 of 365 November 26 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	61 12.0	+02.5	62 11.1	+02.5	63 10.3	+02.4	64 09.4	+02.5	65 08.6	+02.4	00
01	76 14.5	+02.4	77 13.6	+02.5	78 12.7	+02.5	79 11.9	+02.4	80 11.0	+02.5	01
02	91 16.9	+02.5	92 16.1	+02.4	93 15.2	+02.5	94 14.3	+02.5	95 13.5	+02.5	02
03	106 19.4	+02.5	107 18.5	+02.5	108 17.7	+02.4	109 16.8	+02.5	110 16.0	+02.4	03
04	121 21.9	+02.4	122 21.0	+02.5	123 20.1	+02.5	124 19.3	+02.4	125 18.4	+02.5	04
05	136 24.3	+02.5	137 23.5	+02.4	138 22.6	+02.5	139 21.7	+02.5	140 20.9	+02.4	05
06	151 26.8	+02.4	152 25.9	+02.5	153 25.1	+02.4	154 24.2	+02.5	155 23.3	+02.5	06
07	166 29.2	+02.5	167 28.4	+02.5	168 27.5	+02.5	169 26.7	+02.4	170 25.8	+02.5	07
08	181 31.7	+02.5	182 30.9	+02.4	183 30.0	+02.5	184 29.1	+02.5	185 28.3	+02.4	08
09	196 34.2	+02.4	197 33.3	+02.5	198 32.5	+02.4	199 31.6	+02.5	200 30.7	+02.5	09
10	211 36.6	+02.5	212 35.8	+02.4	213 34.9	+02.5	214 34.1	+02.4	215 33.2	+02.5	10
11	226 39.1	+02.5	227 38.2	+02.5	228 37.4	+02.5	229 36.5	+02.5	230 35.7	+02.4	11
12	241 41.6	+02.4	242 40.7	+02.5	243 39.9	+02.4	244 39.0	+02.5	245 38.1	+02.5	12
13	256 44.0	+02.5	257 43.2	+02.4	258 42.3	+02.5	259 41.5	+02.4	260 40.6	+02.5	13
14	271 46.5	+02.5	272 45.6	+02.5	273 44.8	+02.4	274 43.9	+02.5	275 43.1	+02.4	14
15	286 49.0	+02.4	287 48.1	+02.5	288 47.2	+02.5	289 46.4	+02.4	290 45.5	+02.5	15
16	301 51.4	+02.5	302 50.6	+02.4	303 49.7	+02.5	304 48.8	+02.5	305 48.0	+02.5	16
17	316 53.9	+02.5	317 53.0	+02.5	318 52.2	+02.4	319 51.3	+02.5	320 50.5	+02.4	17
18	331 56.4	+02.4	332 55.5	+02.5	333 54.6	+02.5	334 53.8	+02.4	335 52.9	+02.5	18
19	346 58.8	+02.5	347 58.0	+02.4	348 57.1	+02.5	349 56.2	+02.5	350 55.4	+02.4	19
20	2 01.3	+02.4	3 00.4	+02.5	3 59.6	+02.4	4 58.7	+02.5	5 57.8	+02.5	20
21	17 03.7	+02.5	18 02.9	+02.5	19 02.0	+02.5	20 01.2	+02.4	21 00.3	+02.5	21
22	32 06.2	+02.5	33 05.4	+02.4	34 04.5	+02.5	35 03.6	+02.5	36 02.8	+02.4	22
23	47 08.7	+02.4	48 07.8	+02.5	49 07.0	+02.4	50 06.1	+02.5	51 05.2	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.3	N 29 12.8	Gienah	175 46.4	S 17 39.6
Ankaa	353 09.6	S 42 11.3	*Acrux*	173 03.3	S 63 12.8
Schedir	349 33.6	N 56 39.6	*Gacrux*	171 54.9	S 57 13.7
Diphda	348 49.8	S 17 52.1	*Alioth*	166 15.8	N 55 50.4
Achernar	335 21.8	S 57 07.8	Spica	158 25.3	S 11 16.3
Hamal	327 53.9	N 23 34.0	*Alkaid*	152 54.5	N 49 12.2
Polaris	314 46.4	N 89 21.4	*Hadar*	148 40.2	S 60 28.4
Acamar	315 13.3	S 40 13.1	*Menkent*	148 00.7	S 36 28.1
Menkar	314 08.5	N 04 10.5	Arcturus	145 50.2	N 19 04.9
Mirfak	308 31.4	N 49 56.3	*Rigel Kentaurus*	139 41.9	S 60 55.4
Aldebaran	290 42.3	N 16 33.2	Zubenelgenubi	136 59.2	S 16 07.7
Capella	280 25.3	N 46 01.2	*Kocab*	137 21.0	N 74 03.9
Rigel	281 06.0	S 08 10.5	Alphecca	126 06.4	N 26 38.6
Bellatrix	278 25.3	N 06 22.2	Antares	112 19.5	S 26 28.7
Elnath	278 04.8	N 28 37.6	*Atria*	107 16.5	S 69 03.9
Alnilam	275 40.1	S 01 11.2	Sabik	102 06.1	S 15 45.0
Betelgeuze	270 54.6	N 07 24.7	*Shaula*	96 14.3	S 37 07.1
Canopus	263 53.1	S 52 42.2	Rasalhague	96 01.3	N 12 32.9
Sirius	258 28.1	S 16 44.2	*Etamin*	90 43.9	N 51 29.3
Adhara	255 07.6	S 28 59.9	*Kaus Australis*	83 36.3	S 34 22.4
Castor	246 00.1	N 31 50.4	*Vega*	80 35.4	N 38 48.3
Procyon	244 53.1	N 05 10.5	Nunki	75 51.3	S 26 16.2
Pollux	243 19.9	N 27 58.4	Albireo	67 06.4	N 28 00.5
Avior	234 15.4	S 59 34.4	Altair	62 02.8	N 08 55.5
Suhail	222 48.0	S 43 30.9	*Peacock*	53 10.1	S 56 40.1
Miaplacidus	221 38.3	S 69 48.0	*Deneb*	49 27.7	N 45 21.7
Alphard	217 50.2	S 08 45.0	Enif	33 41.4	N 09 58.6
Regulus	207 37.1	N 11 51.7	*Alnair*	27 36.3	S 46 51.5
Dubhe	193 44.3	N 61 37.8	Formalhaut	15 17.4	S 29 30.5
Denebola	182 27.6	N 14 27.1	Markab	13 32.4	N 15 19.5

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UT	day 351 of 365 **December 17** GHA ° ′	ddGHA ′	day 352 of 365 **December 18** GHA ° ′	ddGHA ′	day 353 of 365 **December 19** GHA ° ′	ddGHA ′	day 354 of 365 **December 20** GHA ° ′	ddGHA ′	day 355 of 365 **December 21** GHA ° ′	ddGHA ′	UT
00	85 50.5	+02.5	86 49.6	+02.5	87 48.8	+02.4	88 47.9	+02.5	89 47.1	+02.4	00
01	100 53.0	+02.4	101 52.1	+02.5	102 51.2	+02.5	103 50.4	+02.4	104 49.5	+02.5	01
02	115 55.4	+02.5	116 54.6	+02.4	117 53.7	+02.5	118 52.8	+02.5	119 52.0	+02.4	02
03	130 57.9	+02.4	131 57.0	+02.5	132 56.2	+02.4	133 55.3	+02.5	134 54.4	+02.5	03
04	146 00.3	+02.5	146 59.5	+02.4	147 58.6	+02.5	148 57.8	+02.4	149 56.9	+02.5	04
05	161 02.8	+02.5	162 01.9	+02.5	163 01.1	+02.5	164 00.2	+02.5	164 59.4	+02.4	05
06	176 05.3	+02.4	177 04.4	+02.5	178 03.6	+02.4	179 02.7	+02.5	180 01.8	+02.5	06
07	191 07.7	+02.5	192 06.9	+02.4	193 06.0	+02.5	194 05.2	+02.4	195 04.3	+02.5	07
08	206 10.2	+02.5	207 09.3	+02.5	208 08.5	+02.4	209 07.6	+02.5	210 06.8	+02.4	08
09	221 12.7	+02.4	222 11.8	+02.5	223 10.9	+02.5	224 10.1	+02.5	225 09.2	+02.5	09
10	236 15.1	+02.5	237 14.3	+02.4	238 13.4	+02.5	239 12.6	+02.4	240 11.7	+02.5	10
11	251 17.6	+02.5	252 16.7	+02.5	253 15.9	+02.4	254 15.0	+02.5	255 14.2	+02.4	11
12	266 20.1	+02.4	267 19.2	+02.5	268 18.3	+02.5	269 17.5	+02.4	270 16.6	+02.5	12
13	281 22.5	+02.5	282 21.7	+02.4	283 20.8	+02.5	284 19.9	+02.5	285 19.1	+02.4	13
14	296 25.0	+02.5	297 24.1	+02.5	298 23.3	+02.4	299 22.4	+02.5	300 21.5	+02.5	14
15	311 27.5	+02.4	312 26.6	+02.5	313 25.7	+02.5	314 24.9	+02.4	315 24.0	+02.5	15
16	326 29.9	+02.5	327 29.1	+02.4	328 28.2	+02.5	329 27.3	+02.5	330 26.5	+02.4	16
17	341 32.4	+02.4	342 31.5	+02.5	343 30.7	+02.4	344 29.8	+02.5	345 28.9	+02.5	17
18	356 34.8	+02.5	357 34.0	+02.4	358 33.1	+02.5	359 32.3	+02.4	0 31.4	+02.5	18
19	11 37.3	+02.5	12 36.4	+02.5	13 35.6	+02.5	14 34.7	+02.5	15 33.9	+02.4	19
20	26 39.8	+02.4	27 38.9	+02.5	28 38.1	+02.4	29 37.2	+02.5	30 36.3	+02.5	20
21	41 42.2	+02.5	42 41.4	+02.4	43 40.5	+02.5	44 39.7	+02.4	45 38.8	+02.5	21
22	56 44.7	+02.5	57 43.8	+02.5	58 43.0	+02.4	59 42.1	+02.5	60 41.3	+02.4	22
23	71 47.2	+02.4	72 46.3	+02.5	73 45.4	+02.5	74 44.6	+02.5	75 43.7	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.4	N 29 12.8	Gienah	175 46.2	S 17 39.6
Ankaa	353 09.7	S 42 11.4	*Acrux*	173 03.0	S 63 12.8
Schedir	349 33.7	N 56 39.7	*Gacrux*	171 54.6	S 57 13.7
Diphda	348 49.8	S 17 52.2	*Alioth*	166 15.6	N 55 50.3
Achernar	335 21.9	S 57 07.8	Spica	158 25.1	S 11 16.4
Hamal	327 53.9	N 23 34.0	*Alkaid*	152 54.3	N 49 12.1
Polaris	314 49.8	N 89 21.6	*Hadar*	148 39.9	S 60 28.4
Acamar	315 13.4	S 40 13.2	*Menkent*	148 00.5	S 36 28.1
Menkar	314 08.5	N 04 10.5	Arcturus	145 50.1	N 19 04.8
Mirfak	308 31.4	N 49 56.4	*Rigel Kentaurus*	139 41.6	S 60 55.4
Aldebaran	290 42.2	N 16 33.2	Zubenelgenubi	136 59.0	S 16 07.8
Capella	280 25.2	N 46 01.3	*Kocab*	137 20.8	N 74 03.7
Rigel	281 06.0	S 08 10.6	Alphecca	126 06.3	N 26 38.5
Bellatrix	278 25.2	N 06 22.1	Antares	112 19.4	S 26 28.7
Elnath	278 04.7	N 28 37.6	*Atria*	107 16.4	S 69 03.8
Alnilam	275 40.0	S 01 11.3	Sabik	102 06.0	S 15 45.1
Betelgeuze	270 54.5	N 07 24.6	*Shaula*	96 14.2	S 37 07.1
Canopus	263 53.0	S 52 42.4	Rasalhague	96 01.3	N 12 32.8
Sirius	258 27.9	S 16 44.3	*Etamin*	90 43.9	N 51 29.2
Adhara	255 07.5	S 29 00.0	*Kaus Australis*	83 36.3	S 34 22.4
Castor	245 59.9	N 31 50.4	*Vega*	80 35.4	N 38 48.2
Procyon	244 53.0	N 05 10.5	Nunki	75 51.3	S 26 16.2
Pollux	243 19.7	N 27 58.3	Albireo	67 06.4	N 28 00.4
Avior	234 15.2	S 59 34.6	Altair	62 02.9	N 08 55.5
Suhail	222 47.8	S 43 31.0	*Peacock*	53 10.2	S 56 40.0
Miaplacidus	221 37.9	S 69 48.1	*Deneb*	49 27.8	N 45 21.6
Alphard	217 50.0	S 08 45.1	Enif	33 41.4	N 09 58.5
Regulus	207 36.9	N 11 51.6	*Alnair*	27 36.4	S 46 51.5
Dubhe	193 44.0	N 61 37.7	Formalhaut	15 17.5	S 29 30.5
Denebola	182 27.4	N 14 27.0	Markab	13 32.5	N 15 19.4

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2021 - First Point of Aries / Selected Stars

UT	day 336 of 365 **December 2** GHA ° ′	ddGHA ′	day 337 of 365 **December 3** GHA ° ′	ddGHA ′	day 338 of 365 **December 4** GHA ° ′	ddGHA ′	day 339 of 365 **December 5** GHA ° ′	ddGHA ′	day 340 of 365 **December 6** GHA ° ′	ddGHA ′	UT
00	71 03.4	+02.5	72 02.5	+02.5	73 01.7	+02.4	74 00.8	+02.5	74 60.0	+02.4	00
01	86 05.9	+02.4	87 05.0	+02.5	88 04.1	+02.5	89 03.3	+02.4	90 02.4	+02.5	01
02	101 08.3	+02.5	102 07.5	+02.4	103 06.6	+02.5	104 05.7	+02.5	105 04.9	+02.4	02
03	116 10.8	+02.4	117 09.9	+02.5	118 09.1	+02.4	119 08.2	+02.5	120 07.3	+02.5	03
04	131 13.2	+02.5	132 12.4	+02.5	133 11.5	+02.5	134 10.7	+02.4	135 09.8	+02.5	04
05	146 15.7	+02.5	147 14.9	+02.4	148 14.0	+02.5	149 13.1	+02.5	150 12.3	+02.4	05
06	161 18.2	+02.4	162 17.3	+02.5	163 16.5	+02.4	164 15.6	+02.5	165 14.7	+02.5	06
07	176 20.6	+02.5	177 19.8	+02.4	178 18.9	+02.5	179 18.1	+02.4	180 17.2	+02.5	07
08	191 23.1	+02.5	192 22.2	+02.5	193 21.4	+02.4	194 20.5	+02.5	195 19.7	+02.4	08
09	206 25.6	+02.4	207 24.7	+02.5	208 23.8	+02.5	209 23.0	+02.5	210 22.1	+02.5	09
10	221 28.0	+02.5	222 27.2	+02.4	223 26.3	+02.5	224 25.5	+02.4	225 24.6	+02.5	10
11	236 30.5	+02.5	237 29.6	+02.5	238 28.8	+02.4	239 27.9	+02.5	240 27.1	+02.4	11
12	251 33.0	+02.4	252 32.1	+02.5	253 31.2	+02.5	254 30.4	+02.4	255 29.5	+02.5	12
13	266 35.4	+02.5	267 34.6	+02.4	268 33.7	+02.5	269 32.8	+02.5	270 32.0	+02.5	13
14	281 37.9	+02.5	282 37.0	+02.5	283 36.2	+02.4	284 35.3	+02.5	285 34.5	+02.4	14
15	296 40.4	+02.4	297 39.5	+02.5	298 38.6	+02.5	299 37.8	+02.4	300 36.9	+02.5	15
16	311 42.8	+02.5	312 42.0	+02.4	313 41.1	+02.5	314 40.2	+02.5	315 39.4	+02.4	16
17	326 45.3	+02.4	327 44.4	+02.5	328 43.6	+02.4	329 42.7	+02.5	330 41.8	+02.5	17
18	341 47.7	+02.5	342 46.9	+02.5	343 46.0	+02.5	344 45.2	+02.4	345 44.3	+02.5	18
19	356 50.2	+02.5	357 49.4	+02.4	358 48.5	+02.5	359 47.6	+02.5	0 46.8	+02.4	19
20	11 52.7	+02.4	12 51.8	+02.5	13 51.0	+02.4	14 50.1	+02.5	15 49.2	+02.5	20
21	26 55.1	+02.5	27 54.3	+02.4	28 53.4	+02.5	29 52.6	+02.4	30 51.7	+02.5	21
22	41 57.6	+02.5	42 56.7	+02.5	43 55.9	+02.4	44 55.0	+02.5	45 54.2	+02.4	22
23	57 00.1	+02.4	57 59.2	+02.5	58 58.3	+02.5	59 57.5	+02.5	60 56.6	+02.5	23

	SHA ° ′	Dec ° ′		SHA ° ′	Dec ° ′
Alpheratz	357 37.3	N 29 12.8	Gienah	175 46.3	S 17 39.6
Ankaa	353 09.6	S 42 11.4	*Acrux*	173 03.2	S 63 12.8
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Capella	280 25.2	N 46 01.3	*Kocab*	137 20.9	N 74 03.8
Rigel	281 06.0	S 08 10.6	Alphecca	126 06.3	N 26 38.6
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Alnilam	275 40.0	S 01 11.3	Sabik	102 06.1	S 15 45.1
Betelgeuze	270 54.5	N 07 24.7	*Shaula*	96 14.3	S 37 07.1
Canopus	263 53.0	S 52 42.3	Rasalhague	96 01.3	N 12 32.8
Sirius	258 28.0	S 16 44.2	*Etamin*	90 43.9	N 51 29.3
Adhara	255 07.5	S 28 60.0	*Kaus Australis*	83 36.3	S 34 22.4
Castor	245 60.0	N 31 50.4	*Vega*	80 35.4	N 38 48.3
Procyon	244 53.1	N 05 10.5	Nunki	75 51.3	S 26 16.2
Pollux	243 19.9	N 27 58.4	Albireo	67 06.4	N 28 00.5
Avior	234 15.3	S 59 34.5	Altair	62 02.9	N 08 55.5
Suhail	222 48.0	S 43 30.9	*Peacock*	53 10.2	S 56 40.1
Miaplacidus	221 38.2	S 69 48.1	*Deneb*	49 27.8	N 45 21.7
Alphard	217 50.2	S 08 45.1	Enif	33 41.4	N 09 58.6
Regulus	207 37.0	N 11 51.7	*Alnair*	27 36.3	S 46 51.5
Dubhe	193 44.2	N 61 37.8	Formalhaut	15 17.5	S 29 30.5
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2021 - First Point of Aries / Selected Stars

UT	day 341 of 365 **December 7** GHA ° ′	ddGHA ′	day 342 of 365 **December 8** GHA ° ′	ddGHA ′	day 343 of 365 **December 9** GHA ° ′	ddGHA ′	day 344 of 365 **December 10** GHA ° ′	ddGHA ′	day 345 of 365 **December 11** GHA ° ′	ddGHA ′	UT
00	75 59.1	+02.5	76 58.2	+02.5	77 57.4	+02.4	78 56.5	+02.5	79 55.7	+02.4	00
01	91 01.6	+02.4	92 00.7	+02.5	92 59.8	+02.5	93 59.0	+02.4	94 58.1	+02.5	01
02	106 04.0	+02.5	107 03.2	+02.4	108 02.3	+02.5	109 01.4	+02.5	110 00.6	+02.4	02
03	121 06.5	+02.5	122 05.6	+02.5	123 04.8	+02.4	124 03.9	+02.5	125 03.0	+02.5	03
04	136 09.0	+02.4	137 08.1	+02.5	138 07.2	+02.5	139 06.4	+02.4	140 05.5	+02.5	04
05	151 11.4	+02.5	152 10.6	+02.4	153 09.7	+02.5	154 08.8	+02.5	155 08.0	+02.4	05
06	166 13.9	+02.4	167 13.0	+02.5	168 12.2	+02.4	169 11.3	+02.5	170 10.4	+02.5	06
07	181 16.3	+02.5	182 15.5	+02.5	183 14.6	+02.5	184 13.8	+02.4	185 12.9	+02.5	07
08	196 18.8	+02.5	197 18.0	+02.4	198 17.1	+02.5	199 16.2	+02.5	200 15.4	+02.4	08
09	211 21.3	+02.4	212 20.4	+02.5	213 19.6	+02.4	214 18.7	+02.5	215 17.8	+02.5	09
10	226 23.7	+02.5	227 22.9	+02.4	228 22.0	+02.5	229 21.2	+02.4	230 20.3	+02.5	10
11	241 26.2	+02.5	242 25.3	+02.5	243 24.5	+02.4	244 23.6	+02.5	245 22.8	+02.4	11
12	256 28.7	+02.4	257 27.8	+02.5	258 26.9	+02.5	259 26.1	+02.5	260 25.2	+02.5	12
13	271 31.1	+02.5	272 30.3	+02.4	273 29.4	+02.5	274 28.6	+02.4	275 27.7	+02.5	13
14	286 33.6	+02.5	287 32.7	+02.5	288 31.9	+02.4	289 31.0	+02.5	290 30.2	+02.4	14
15	301 36.1	+02.4	302 35.2	+02.5	303 34.3	+02.5	304 33.5	+02.4	305 32.6	+02.5	15
16	316 38.5	+02.5	317 37.7	+02.4	318 36.8	+02.5	319 35.9	+02.5	320 35.1	+02.4	16
17	331 41.0	+02.5	332 40.1	+02.5	333 39.3	+02.4	334 38.4	+02.5	335 37.5	+02.5	17
18	346 43.5	+02.4	347 42.6	+02.5	348 41.7	+02.5	349 40.9	+02.4	350 40.0	+02.5	18
19	1 45.9	+02.5	2 45.1	+02.4	3 44.2	+02.5	4 43.3	+02.5	5 42.5	+02.4	19
20	16 48.4	+02.4	17 47.5	+02.5	18 46.7	+02.4	19 45.8	+02.5	20 44.9	+02.5	20
21	31 50.8	+02.5	32 50.0	+02.5	33 49.1	+02.5	34 48.3	+02.4	35 47.4	+02.5	21
22	46 53.3	+02.5	47 52.5	+02.4	48 51.6	+02.5	49 50.7	+02.5	50 49.9	+02.4	22
23	61 55.8	+02.4	62 54.9	+02.5	63 54.1	+02.4	64 53.2	+02.5	65 52.3	+02.5	23

	SHA ° ′	Dec ° ′
Alpheratz	357 37.3	N 29 12.8
Ankaa	353 09.6	S 42 11.4
Schedir	349 33.7	N 56 39.6
Diphda	348 49.8	S 17 52.2
Achernar	335 21.8	S 57 07.8
Hamal	327 53.9	N 23 34.0
Polaris	314 47.6	N 89 21.5
Acamar	315 13.3	S 40 13.2
Menkar	314 08.5	N 04 10.5
Mirfak	308 31.4	N 49 56.4
Aldebaran	290 42.2	N 16 33.2
Capella	280 25.2	N 46 01.3
Rigel	281 06.0	S 08 10.6
Bellatrix	278 25.3	N 06 22.2
Elnath	278 04.7	N 28 37.6
Alnilam	275 40.0	S 01 11.3
Betelgeuze	270 54.5	N 07 24.6
Canopus	263 53.0	S 52 42.3
Sirius	258 28.0	S 16 44.3
Adhara	255 07.5	S 28 60.0
Castor	245 59.9	N 31 50.4
Procyon	244 53.0	N 05 10.5
Pollux	243 19.8	N 27 58.3
Avior	234 15.3	S 59 34.5
Suhail	222 47.9	S 43 31.0
Miaplacidus	221 38.1	S 69 48.1
Alphard	217 50.1	S 08 45.1
Regulus	207 37.0	N 11 51.6
Dubhe	193 44.1	N 61 37.8
Denebola	182 27.5	N 14 27.1

	SHA ° ′	Dec ° ′
Gienah	175 46.3	S 17 39.6
Acrux	173 03.1	S 63 12.8
Gacrux	171 54.7	S 57 13.7
Alioth	166 15.7	N 55 50.3
Spica	158 25.2	S 11 16.3
Alkaid	152 54.4	N 49 12.2
Hadar	148 40.0	S 60 28.4
Menkent	148 00.6	S 36 28.1
Arcturus	145 50.2	N 19 04.9
Rigel Kentaurus	139 41.7	S 60 55.4
Zubenelgenubi	136 59.1	S 16 07.8
Kocab	137 20.9	N 74 03.8
Alphecca	126 06.3	N 26 38.5
Antares	112 19.4	S 26 28.7
Atria	107 16.4	S 69 03.9
Sabik	102 06.1	S 15 45.1
Shaula	96 14.2	S 37 07.1
Rasalhague	96 01.3	N 12 32.8
Etamin	90 43.9	N 51 29.2
Kaus Australis	83 36.3	S 34 22.4
Vega	80 35.4	N 38 48.2
Nunki	75 51.3	S 26 16.2
Albireo	67 06.4	N 28 00.4
Altair	62 02.9	N 08 55.5
Peacock	53 10.2	S 56 40.1
Deneb	49 27.8	N 45 21.7
Enif	33 41.4	N 09 58.6
Alnair	27 36.3	S 46 51.5
Formalhaut	15 17.5	S 29 30.5
Markab	13 32.4	N 15 19.4

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2021 - First Point of Aries / Selected Stars

UT	day 346 of 365 **December 12** GHA ° ′	ddGHA ′	day 347 of 365 **December 13** GHA ° ′	ddGHA ′	day 348 of 365 **December 14** GHA ° ′	ddGHA ′	day 349 of 365 **December 15** GHA ° ′	ddGHA ′	day 350 of 365 **December 16** GHA ° ′	ddGHA ′	UT
00	80 54.8	+02.5	81 53.9	+02.5	82 53.1	+02.4	83 52.2	+02.5	84 51.3	+02.5	00
01	95 57.3	+02.4	96 56.4	+02.5	97 55.5	+02.5	98 54.7	+02.4	99 53.8	+02.5	01
02	110 59.7	+02.5	111 58.9	+02.4	112 58.0	+02.5	113 57.1	+02.5	114 56.3	+02.4	02
03	126 02.2	+02.5	127 01.3	+02.5	128 00.5	+02.4	128 59.6	+02.5	129 58.7	+02.5	03
04	141 04.7	+02.4	142 03.8	+02.5	143 02.9	+02.5	144 02.1	+02.4	145 01.2	+02.5	04
05	156 07.1	+02.5	157 06.3	+02.4	158 05.4	+02.5	159 04.5	+02.5	160 03.7	+02.4	05
06	171 09.6	+02.4	172 08.7	+02.5	173 07.9	+02.4	174 07.0	+02.5	175 06.1	+02.5	06
07	186 12.0	+02.5	187 11.2	+02.4	188 10.3	+02.5	189 09.5	+02.4	190 08.6	+02.5	07
08	201 14.5	+02.5	202 13.6	+02.5	203 12.8	+02.4	204 11.9	+02.5	205 11.1	+02.4	08
09	216 17.0	+02.4	217 16.1	+02.5	218 15.2	+02.5	219 14.4	+02.5	220 13.5	+02.5	09
10	231 19.4	+02.5	232 18.6	+02.4	233 17.7	+02.5	234 16.9	+02.4	235 16.0	+02.5	10
11	246 21.9	+02.5	247 21.0	+02.5	248 20.2	+02.4	249 19.3	+02.5	250 18.5	+02.4	11
12	261 24.4	+02.4	262 23.5	+02.5	263 22.6	+02.5	264 21.8	+02.4	265 20.9	+02.5	12
13	276 26.8	+02.5	277 26.0	+02.4	278 25.1	+02.5	279 24.2	+02.5	280 23.4	+02.4	13
14	291 29.3	+02.5	292 28.4	+02.5	293 27.6	+02.4	294 26.7	+02.5	295 25.8	+02.5	14
15	306 31.8	+02.4	307 30.9	+02.5	308 30.0	+02.5	309 29.2	+02.4	310 28.3	+02.5	15
16	321 34.2	+02.5	322 33.4	+02.4	323 32.5	+02.5	324 31.6	+02.5	325 30.8	+02.4	16
17	336 36.7	+02.4	337 35.8	+02.5	338 35.0	+02.4	339 34.1	+02.5	340 33.2	+02.5	17
18	351 39.1	+02.5	352 38.3	+02.4	353 37.4	+02.5	354 36.6	+02.4	355 35.7	+02.5	18
19	6 41.6	+02.5	7 40.7	+02.5	8 39.9	+02.5	9 39.0	+02.5	10 38.2	+02.4	19
20	21 44.1	+02.4	22 43.2	+02.5	23 42.4	+02.4	24 41.5	+02.5	25 40.6	+02.5	20
21	36 46.5	+02.5	37 45.7	+02.4	38 44.8	+02.5	39 44.0	+02.4	40 43.1	+02.5	21
22	51 49.0	+02.5	52 48.1	+02.5	53 47.3	+02.4	54 46.4	+02.5	55 45.6	+02.4	22
23	66 51.5	+02.4	67 50.6	+02.5	68 49.7	+02.5	69 48.9	+02.4	70 48.0	+02.5	23

	SHA ° ′	Dec ° ′
Alpheratz	357 37.3	N 29 12.8
Ankaa	353 09.7	S 42 11.4
Schedir	349 33.7	N 56 39.7
Diphda	348 49.8	S 17 52.2
Achernar	335 21.9	S 57 07.8
Hamal	327 53.9	N 23 34.0
Polaris	314 48.7	N 89 21.5
Acamar	315 13.3	S 40 13.2
Menkar	314 08.5	N 04 10.5
Mirfak	308 31.4	N 49 56.4
Aldebaran	290 42.2	N 16 33.2
Capella	280 25.2	N 46 01.3
Rigel	281 06.0	S 08 10.6
Bellatrix	278 25.2	N 06 22.2
Elnath	278 04.7	N 28 37.6
Alnilam	275 40.0	S 01 11.3
Betelgeuze	270 54.5	N 07 24.6
Canopus	263 53.0	S 52 42.3
Sirius	258 28.0	S 16 44.3
Adhara	255 07.5	S 29 00.0
Castor	245 59.9	N 31 50.4
Procyon	244 53.0	N 05 10.5
Pollux	243 19.8	N 27 58.3
Avior	234 15.2	S 59 34.5
Suhail	222 47.9	S 43 31.0
Miaplacidus	221 38.0	S 69 48.1
Alphard	217 50.1	S 08 45.1
Regulus	207 36.9	N 11 51.6
Dubhe	193 44.0	N 61 37.8
Denebola	182 27.4	N 14 27.0

	SHA ° ′	Dec ° ′
Gienah	175 46.2	S 17 39.6
Acrux	173 03.0	S 63 12.8
Gacrux	171 54.6	S 57 13.7
Alioth	166 15.6	N 55 50.3
Spica	158 25.1	S 11 16.4
Alkaid	152 54.3	N 49 12.1
Hadar	148 40.0	S 60 28.4
Menkent	148 00.6	S 36 28.1
Arcturus	145 50.1	N 19 04.8
Rigel Kentaurus	139 41.7	S 60 55.4
Zubenelgenubi	136 59.1	S 16 07.8
Kocab	137 20.8	N 74 03.8
Alphecca	126 06.3	N 26 38.5
Antares	112 19.4	S 26 28.7
Atria	107 16.4	S 69 03.9
Sabik	102 06.1	S 15 45.1
Shaula	96 14.2	S 37 07.1
Rasalhague	96 01.3	N 12 32.8
Etamin	90 43.9	N 51 29.2
Kaus Australis	83 36.3	S 34 22.4
Vega	80 35.4	N 38 48.2
Nunki	75 51.3	S 26 16.2
Albireo	67 06.4	N 28 00.4
Altair	62 02.9	N 08 55.5
Peacock	53 10.2	S 56 40.0
Deneb	49 27.8	N 45 21.7
Enif	33 41.4	N 09 58.5
Alnair	27 36.4	S 46 51.5
Formalhaut	15 17.5	S 29 30.5
Markab	13 32.5	N 15 19.4

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2021 - First Point of Aries / Selected Stars

UT	day 356 of 365 **December 22** GHA ° ′	ddGHA ′	day 357 of 365 **December 23** GHA ° ′	ddGHA ′	day 358 of 365 **December 24** GHA ° ′	ddGHA ′	day 359 of 365 **December 25** GHA ° ′	ddGHA ′	day 360 of 365 **December 26** GHA ° ′	ddGHA ′	UT
00	90 46.2	+02.5	91 45.3	+02.5	92 44.5	+02.4	93 43.6	+02.5	94 42.7	+02.5	00
01	105 48.7	+02.4	106 47.8	+02.5	107 46.9	+02.5	108 46.1	+02.4	109 45.2	+02.5	01
02	120 51.1	+02.5	121 50.3	+02.4	122 49.4	+02.5	123 48.5	+02.5	124 47.7	+02.4	02
03	135 53.6	+02.4	136 52.7	+02.5	137 51.9	+02.4	138 51.0	+02.5	139 50.1	+02.5	03
04	150 56.0	+02.5	151 55.2	+02.5	152 54.3	+02.5	153 53.5	+02.4	154 52.6	+02.5	04
05	165 58.5	+02.5	166 57.7	+02.4	167 56.8	+02.5	168 55.9	+02.5	169 55.1	+02.4	05
06	181 01.0	+02.4	182 00.1	+02.5	182 59.3	+02.4	183 58.4	+02.5	184 57.5	+02.5	06
07	196 03.4	+02.5	197 02.6	+02.4	198 01.7	+02.5	199 00.9	+02.4	199 60.0	+02.5	07
08	211 05.9	+02.5	212 05.0	+02.5	213 04.2	+02.4	214 03.3	+02.5	215 02.5	+02.4	08
09	226 08.4	+02.4	227 07.5	+02.5	228 06.6	+02.5	229 05.8	+02.5	230 04.9	+02.5	09
10	241 10.8	+02.5	242 10.0	+02.4	243 09.1	+02.5	244 08.3	+02.4	245 07.4	+02.5	10
11	256 13.3	+02.5	257 12.4	+02.5	258 11.6	+02.4	259 10.7	+02.5	260 09.9	+02.4	11
12	271 15.8	+02.4	272 14.9	+02.5	273 14.0	+02.5	274 13.2	+02.4	275 12.3	+02.5	12
13	286 18.2	+02.5	287 17.4	+02.4	288 16.5	+02.5	289 15.6	+02.5	290 14.8	+02.4	13
14	301 20.7	+02.5	302 19.8	+02.5	303 19.0	+02.4	304 18.1	+02.5	305 17.2	+02.5	14
15	316 23.2	+02.4	317 22.3	+02.5	318 21.4	+02.5	319 20.6	+02.4	320 19.7	+02.5	15
16	331 25.6	+02.5	332 24.8	+02.4	333 23.9	+02.5	334 23.0	+02.5	335 22.2	+02.4	16
17	346 28.1	+02.4	347 27.2	+02.5	348 26.4	+02.4	349 25.5	+02.5	350 24.6	+02.5	17
18	1 30.5	+02.5	2 29.7	+02.5	3 28.8	+02.5	4 28.0	+02.4	5 27.1	+02.5	18
19	16 33.0	+02.5	17 32.2	+02.4	18 31.3	+02.5	19 30.4	+02.5	20 29.6	+02.4	19
20	31 35.5	+02.4	32 34.6	+02.5	33 33.8	+02.4	34 32.9	+02.5	35 32.0	+02.5	20
21	46 37.9	+02.5	47 37.1	+02.4	48 36.2	+02.5	49 35.4	+02.4	50 34.5	+02.5	21
22	61 40.4	+02.5	62 39.5	+02.5	63 38.7	+02.4	64 37.8	+02.5	65 37.0	+02.4	22
23	76 42.9	+02.4	77 42.0	+02.5	78 41.1	+02.5	79 40.3	+02.4	80 39.4	+02.5	23

	SHA ° ′	Dec ° ′
Alpheratz	357 37.4	N 29 12.8
Ankaa	353 09.7	S 42 11.4
Schedir	349 33.7	N 56 39.7
Diphda	348 49.8	S 17 52.2
Achernar	335 21.9	S 57 07.9
Hamal	327 53.9	N 23 34.0
Polaris	314 50.9	N 89 21.6
Acamar	315 13.4	S 40 13.2
Menkar	314 08.5	N 04 10.5
Mirfak	308 31.4	N 49 56.4
Aldebaran	290 42.2	N 16 33.2
Capella	280 25.1	N 46 01.3
Rigel	281 05.9	S 08 10.6
Bellatrix	278 25.2	N 06 22.1
Elnath	278 04.7	N 28 37.6
Alnilam	275 39.9	S 01 11.3
Betelgeuze	270 54.5	N 07 24.6
Canopus	263 52.9	S 52 42.4
Sirius	258 27.9	S 16 44.3
Adhara	255 07.4	S 29 00.1
Castor	245 59.8	N 31 50.4
Procyon	244 52.9	N 05 10.5
Pollux	243 19.7	N 27 58.3
Avior	234 15.1	S 59 34.6
Suhail	222 47.8	S 43 31.0
Miaplacidus	221 37.9	S 69 48.2
Alphard	217 50.0	S 08 45.1
Regulus	207 36.9	N 11 51.6
Dubhe	193 43.9	N 61 37.7
Denebola	182 27.3	N 14 27.0

	SHA ° ′	Dec ° ′
Gienah	175 46.1	S 17 39.6
Acrux	173 02.9	S 63 12.8
Gacrux	171 54.5	S 57 13.7
Alioth	166 15.5	N 55 50.3
Spica	158 25.1	S 11 16.4
Alkaid	152 54.2	N 49 12.1
Hadar	148 39.8	S 60 28.4
Menkent	148 00.5	S 36 28.1
Arcturus	145 50.1	N 19 04.8
Rigel Kentaurus	139 41.6	S 60 55.4
Zubenelgenubi	136 59.0	S 16 07.8
Kocab	137 20.7	N 74 03.7
Alphecca	126 06.2	N 26 38.5
Antares	112 19.4	S 26 28.7
Atria	107 16.3	S 69 03.8
Sabik	102 06.0	S 15 45.1
Shaula	96 14.2	S 37 07.1
Rasalhague	96 01.3	N 12 32.7
Etamin	90 43.9	N 51 29.2
Kaus Australis	83 36.2	S 34 22.4
Vega	80 35.4	N 38 48.2
Nunki	75 51.2	S 26 16.2
Albireo	67 06.4	N 28 00.4
Altair	62 02.9	N 08 55.4
Peacock	53 10.2	S 56 40.0
Deneb	49 27.9	N 45 21.6
Enif	33 41.5	N 09 58.5
Alnair	27 36.4	S 46 51.5
Formalhaut	15 17.5	S 29 30.5
Markab	13 32.5	N 15 19.4

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2021 - First Point of Aries / Selected Stars

UT	day 361 of 365 **December 27** GHA	ddGHA	day 362 of 365 **December 28** GHA	ddGHA	day 363 of 365 **December 29** GHA	ddGHA	day 364 of 365 **December 30** GHA	ddGHA	day 365 of 365 **December 31** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	95 41.9	+02.5	96 41.0	+02.5	97 40.2	+02.4	98 39.3	+02.5	99 38.4	+02.5	**00**
01	110 44.4	+02.4	111 43.5	+02.5	112 42.6	+02.5	113 41.8	+02.4	114 40.9	+02.5	**01**
02	125 46.8	+02.5	126 46.0	+02.4	127 45.1	+02.5	128 44.2	+02.5	129 43.4	+02.4	**02**
03	140 49.3	+02.4	141 48.4	+02.5	142 47.6	+02.4	143 46.7	+02.5	144 45.8	+02.5	**03**
04	155 51.7	+02.5	156 50.9	+02.4	157 50.0	+02.5	158 49.2	+02.4	159 48.3	+02.5	**04**
05	170 54.2	+02.5	171 53.3	+02.5	172 52.5	+02.4	173 51.6	+02.5	174 50.8	+02.4	**05**
06	185 56.7	+02.4	186 55.8	+02.5	187 54.9	+02.5	188 54.1	+02.5	189 53.2	+02.5	**06**
07	200 59.1	+02.5	201 58.3	+02.4	202 57.4	+02.5	203 56.6	+02.4	204 55.7	+02.5	**07**
08	216 01.6	+02.5	217 00.7	+02.5	217 59.9	+02.4	218 59.0	+02.5	219 58.2	+02.4	**08**
09	231 04.1	+02.4	232 03.2	+02.5	233 02.3	+02.5	234 01.5	+02.4	235 00.6	+02.5	**09**
10	246 06.5	+02.5	247 05.7	+02.4	248 04.8	+02.5	249 03.9	+02.5	250 03.1	+02.4	**10**
11	261 09.0	+02.5	262 08.1	+02.5	263 07.3	+02.4	264 06.4	+02.5	265 05.5	+02.5	**11**
12	276 11.5	+02.4	277 10.6	+02.5	278 09.7	+02.5	279 08.9	+02.4	280 08.0	+02.5	**12**
13	291 13.9	+02.5	292 13.1	+02.4	293 12.2	+02.5	294 11.3	+02.5	295 10.5	+02.4	**13**
14	306 16.4	+02.4	307 15.5	+02.5	308 14.7	+02.4	309 13.8	+02.5	310 12.9	+02.5	**14**
15	321 18.8	+02.5	322 18.0	+02.4	323 17.1	+02.5	324 16.3	+02.4	325 15.4	+02.5	**15**
16	336 21.3	+02.5	337 20.4	+02.5	338 19.6	+02.5	339 18.7	+02.5	340 17.9	+02.4	**16**
17	351 23.8	+02.4	352 22.9	+02.5	353 22.1	+02.4	354 21.2	+02.5	355 20.3	+02.5	**17**
18	6 26.2	+02.5	7 25.4	+02.4	8 24.5	+02.5	9 23.7	+02.4	10 22.8	+02.5	**18**
19	21 28.7	+02.5	22 27.8	+02.5	23 27.0	+02.4	24 26.1	+02.5	25 25.3	+02.4	**19**
20	36 31.2	+02.4	37 30.3	+02.5	38 29.4	+02.5	39 28.6	+02.4	40 27.7	+02.5	**20**
21	51 33.6	+02.5	52 32.8	+02.4	53 31.9	+02.5	54 31.0	+02.5	55 30.2	+02.5	**21**
22	66 36.1	+02.5	67 35.2	+02.5	68 34.4	+02.4	69 33.5	+02.5	70 32.7	+02.4	**22**
23	81 38.6	+02.4	82 37.7	+02.5	83 36.8	+02.5	84 36.0	+02.4	85 35.1	+02.5	**23**

	SHA ° ′	Dec ° ′
Alpheratz	357 37.4	N 29 12.8
Ankaa	353 09.7	S 42 11.4
Schedir	349 33.8	N 56 39.7
Diphda	348 49.9	S 17 52.2
Achernar	335 22.0	S 57 07.9
Hamal	327 53.9	N 23 34.0
Polaris	314 52.6	N 89 21.6
Acamar	315 13.4	S 40 13.3
Menkar	314 08.5	N 04 10.5
Mirfak	308 31.4	N 49 56.4
Aldebaran	290 42.2	N 16 33.2
Capella	280 25.1	N 46 01.3
Rigel	281 05.9	S 08 10.6
Bellatrix	278 25.2	N 06 22.1
Elnath	278 04.6	N 28 37.6
Alnilam	275 39.9	S 01 11.3
Betelgeuze	270 54.5	N 07 24.6
Canopus	263 52.9	S 52 42.4
Sirius	258 27.9	S 16 44.3
Adhara	255 07.4	S 29 00.1
Castor	245 59.8	N 31 50.4
Procyon	244 52.9	N 05 10.5
Pollux	243 19.7	N 27 58.3
Avior	234 15.1	S 59 34.6
Suhail	222 47.7	S 43 31.1
Miaplacidus	221 37.8	S 69 48.2
Alphard	217 50.0	S 08 45.2
Regulus	207 36.8	N 11 51.6
Dubhe	193 43.8	N 61 37.7
Denebola	182 27.3	N 14 27.0

	SHA ° ′	Dec ° ′
Gienah	175 46.1	S 17 39.7
Acrux	173 02.8	S 63 12.8
Gacrux	171 54.4	S 57 13.7
Alioth	166 15.4	N 55 50.2
Spica	158 25.0	S 11 16.4
Alkaid	152 54.2	N 49 12.1
Hadar	148 39.8	S 60 28.4
Menkent	148 00.4	S 36 28.1
Arcturus	145 50.0	N 19 04.8
Rigel Kentaurus	139 41.5	S 60 55.4
Zubenelgenubi	136 58.9	S 16 07.8
Kocab	137 20.6	N 74 03.7
Alphecca	126 06.2	N 26 38.4
Antares	112 19.3	S 26 28.7
Atria	107 16.3	S 69 03.8
Sabik	102 06.0	S 15 45.1
Shaula	96 14.2	S 37 07.1
Rasalhague	96 01.2	N 12 32.7
Etamin	90 43.9	N 51 29.1
Kaus Australis	83 36.2	S 34 22.4
Vega	80 35.4	N 38 48.1
Nunki	75 51.2	S 26 16.2
Albireo	67 06.4	N 28 00.4
Altair	62 02.9	N 08 55.4
Peacock	53 10.2	S 56 40.0
Deneb	49 27.9	N 45 21.6
Enif	33 41.5	N 09 58.5
Alnair	27 36.4	S 46 51.5
Formalhaut	15 17.5	S 29 30.5
Markab	13 32.5	N 15 19.4

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Polaris (Pole Star) Tables, 2021

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	a0	a0	a0	a0	a0	a0	a0	a0	a0	a0	a0
	° '	° '	° '	° '	° '	° '	° '	° '	° '	° '	° '	° '
0	0 31.4	0 27.1	0 23.7	0 21.5	0 20.3	0 20.4	0 21.6	0 24.0	0 27.4	0 31.8	0 37.0	0 42.8
1	0 30.9	0 26.7	0 23.5	0 21.3	0 20.3	0 20.4	0 21.8	0 24.2	0 27.8	0 32.2	0 37.5	0 43.5
2	0 30.5	0 26.3	0 23.2	0 21.1	0 20.2	0 20.5	0 22.0	0 24.6	0 28.2	0 32.7	0 38.1	0 44.1
3	0 30.0	0 26.0	0 22.9	0 21.0	0 20.2	0 20.6	0 22.2	0 24.9	0 28.6	0 33.2	0 38.7	0 44.7
4	0 29.6	0 25.6	0 22.7	0 20.9	0 20.2	0 20.7	0 22.4	0 25.2	0 29.0	0 33.7	0 39.2	0 45.3
5	0 29.1	0 25.3	0 22.5	0 20.8	0 20.2	0 20.8	0 22.6	0 25.5	0 29.4	0 34.3	0 39.8	0 46.0
6	0 28.7	0 24.9	0 22.2	0 20.6	0 20.2	0 21.0	0 22.9	0 25.9	0 29.9	0 34.8	0 40.4	0 46.6
7	0 28.3	0 24.6	0 22.0	0 20.6	0 20.2	0 21.1	0 23.1	0 26.2	0 30.3	0 35.3	0 41.0	0 47.3
8	0 27.9	0 24.3	0 21.8	0 20.5	0 20.3	0 21.3	0 23.4	0 26.6	0 30.8	0 35.9	0 41.6	0 47.9
9	0 27.5	0 24.0	0 21.6	0 20.4	0 20.3	0 21.4	0 23.7	0 27.0	0 31.3	0 36.4	0 42.2	0 48.6
Lat.	a1	a1	a1	a1	a1	a1	a1	a1	a1	a1	a1	a1
	'	'	'	'	'	'	'	'	'	'	'	'
10	0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.8
20	0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.9
30	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.8	0.9	0.9
40	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.8	0.8	0.9	1.0
45	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.8	0.9	0.9	1.0
50	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.0
55	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.1
60	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.7	0.8	1.0	1.1	1.1
62	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.7	0.9	1.0	1.1	1.2
64	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.7	0.9	1.0	1.1	1.2
66	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.8	0.9	1.0	1.1	1.2
68	0.5	0.4	0.4	0.4	0.5	0.5	0.6	0.8	0.9	1.1	1.2	1.3
70	0.5	0.4	0.4	0.4	0.5	0.5	0.6	0.8	0.9	1.1	1.2	1.3
Month	a2	a2	a2	a2	a2	a2	a2	a2	a2	a2	a2	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	0.4
Mar	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6
Apr	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8	0.7	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	0.7
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	0.2	0.1
Lat.	Zo	Zo	Zo	Zo	Zo	Zo	Zo	Zo	Zo	Zo	Zo	Zo
	°	°	°	°	°	°	°	°	°	°	°	°
10	0.4	0.3	0.2	0.1	360.0	359.9	359.8	359.7	359.6	359.5	359.4	359.4
20	0.4	0.3	0.2	0.1	360.0	359.9	359.8	359.7	359.6	359.5	359.4	359.4
30	0.5	0.4	0.3	0.1	360.0	359.9	359.7	359.6	359.5	359.4	359.3	359.3
40	0.5	0.4	0.3	0.1	360.0	359.8	359.7	359.6	359.4	359.3	359.3	359.2
45	0.6	0.5	0.3	0.2	360.0	359.8	359.7	359.5	359.4	359.3	359.2	359.1
50	0.6	0.5	0.3	0.2	360.0	359.8	359.6	359.5	359.3	359.2	359.1	359.0
55	0.7	0.6	0.4	0.2	360.0	359.8	359.6	359.4	359.3	359.1	359.0	358.9
60	0.8	0.7	0.4	0.2	360.0	359.8	359.5	359.3	359.1	359.0	358.9	358.8
62	0.9	0.7	0.5	0.2	360.0	359.7	359.5	359.3	359.1	358.9	358.8	358.7
64	1.0	0.7	0.5	0.3	360.0	359.7	359.5	359.2	359.0	358.8	358.7	358.6
66	1.0	0.8	0.5	0.3	360.0	359.7	359.4	359.2	359.0	358.8	358.6	358.5
68	1.1	0.9	0.6	0.3	360.0	359.7	359.4	359.1	358.9	358.6	358.5	358.4
70	1.2	1.0	0.7	0.3	360.0	359.6	359.3	359.0	358.7	358.5	358.3	358.2

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

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 a0 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 a1 and a2 are taken, without interpolation, from the second and third table with arguments Latitude and Month respectively. The correction terms a0, a1 and a2 are always positive. The final table gives the Azimuth of Polaris.

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Polaris (Pole Star) Tables, 2021

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	a0	a0	a0	a0	a0	a0	a0	a0	a0	a0	a0
	° '	° '	° '	° '	° '	° '	° '	° '	° '	° '	° '	° '
0	0 49.2	0 55.9	1 02.6	1 09.3	1 15.6	1 21.5	1 26.6	1 30.9	1 34.3	1 36.5	1 37.7	1 37.6
1	0 49.9	0 56.5	1 03.3	1 09.9	1 16.2	1 22.0	1 27.1	1 31.3	1 34.5	1 36.7	1 37.7	1 37.6
2	0 50.5	0 57.2	1 04.0	1 10.6	1 16.8	1 22.5	1 27.5	1 31.7	1 34.8	1 36.9	1 37.8	1 37.5
3	0 51.2	0 57.9	1 04.7	1 11.2	1 17.4	1 23.1	1 28.0	1 32.0	1 35.1	1 37.0	1 37.8	1 37.4
4	0 51.8	0 58.6	1 05.3	1 11.9	1 18.0	1 23.6	1 28.4	1 32.4	1 35.3	1 37.1	1 37.8	1 37.3
5	0 52.5	0 59.3	1 06.0	1 12.5	1 18.6	1 24.1	1 28.9	1 32.7	1 35.5	1 37.2	1 37.8	1 37.2
6	0 53.2	0 59.9	1 06.7	1 13.1	1 19.2	1 24.6	1 29.3	1 33.1	1 35.8	1 37.4	1 37.8	1 37.0
7	0 53.9	1 00.6	1 07.3	1 13.8	1 19.8	1 25.1	1 29.7	1 33.4	1 36.0	1 37.4	1 37.8	1 36.9
8	0 54.5	1 01.3	1 08.0	1 14.4	1 20.3	1 25.6	1 30.1	1 33.7	1 36.2	1 37.5	1 37.7	1 36.7
9	0 55.2	1 02.0	1 08.6	1 15.0	1 20.9	1 26.1	1 30.5	1 34.0	1 36.4	1 37.6	1 37.7	1 36.6
Lat.	a1	a1	a1	a1	a1	a1	a1	a1	a1	a1	a1	a1
	'	'	'	'	'	'	'	'	'	'	'	'
10	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.6	0.5	0.5
20	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.5	0.5
30	0.9	1.0	1.0	0.9	0.9	0.9	0.8	0.7	0.7	0.6	0.5	0.5
40	1.0	1.0	1.0	1.0	1.0	0.9	0.8	0.8	0.7	0.6	0.5	0.5
45	1.0	1.1	1.1	1.0	1.0	0.9	0.8	0.8	0.7	0.6	0.5	0.5
50	1.1	1.1	1.1	1.1	1.0	0.9	0.9	0.8	0.7	0.6	0.5	0.5
55	1.1	1.2	1.1	1.1	1.0	1.0	0.9	0.8	0.7	0.6	0.5	0.5
60	1.2	1.2	1.2	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.5	0.5
62	1.2	1.2	1.2	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.5	0.5
64	1.3	1.3	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.5	0.5
66	1.3	1.3	1.3	1.3	1.2	1.1	1.0	0.8	0.7	0.6	0.5	0.5
68	1.4	1.4	1.4	1.3	1.2	1.1	1.0	0.8	0.7	0.6	0.5	0.5
70	1.4	1.4	1.4	1.4	1.3	1.1	1.0	0.9	0.7	0.6	0.5	0.5
Month	a2	a2	a2	a2	a2	a2	a2	a2	a2	a2	a2	a2
	'	'	'	'	'	'	'	'	'	'	'	'
Jan	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5
Feb	0.4	0.4	0.3	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	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.3
May	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.5	0.4	0.4
Jun	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.6	0.6	0.5
Jul	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	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	0.6	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	0.7	0.7	0.7
Nov	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.6
Dec	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.4
Lat.	Zo	Zo	Zo	Zo	Zo	Zo	Zo	Zo	Zo	Zo	Zo	Zo
	°	°	°	°	°	°	°	°	°	°	°	°
10	359.4	359.3	359.4	359.4	359.4	359.5	359.6	359.7	359.8	359.9	0.0	0.1
20	359.3	359.3	359.3	359.4	359.4	359.5	359.6	359.7	359.8	359.9	0.0	0.1
30	359.3	359.3	359.3	359.3	359.4	359.4	359.5	359.6	359.8	359.9	0.0	0.1
40	359.2	359.2	359.2	359.2	359.3	359.4	359.5	359.6	359.7	359.9	0.0	0.2
45	359.1	359.1	359.1	359.1	359.2	359.3	359.4	359.6	359.7	359.8	0.0	0.2
50	359.0	359.0	359.0	359.1	359.1	359.2	359.4	359.5	359.7	359.8	0.0	0.2
55	358.9	358.9	358.9	358.9	359.0	359.2	359.3	359.5	359.6	359.8	0.0	0.2
60	358.7	358.7	358.7	358.8	358.9	359.0	359.2	359.4	359.6	359.8	0.0	0.2
62	358.6	358.6	358.7	358.7	358.8	359.0	359.1	359.3	359.5	359.8	0.0	0.2
64	358.5	358.5	358.6	358.6	358.7	358.9	359.1	359.3	359.5	359.8	0.0	0.3
66	358.4	358.4	358.4	358.5	358.6	358.8	359.0	359.2	359.5	359.7	0.0	0.3
68	358.3	358.3	358.3	358.4	358.5	358.7	358.9	359.2	359.4	359.7	0.0	0.3
70	358.1	358.1	358.2	358.2	358.4	358.6	358.8	359.1	359.4	359.7	0.0	0.3

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

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 a0 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 a1 and a2 are taken, without interpolation, from the second and third table with arguments Latitude and Month respectively. The correction terms a0, a1 and a2 are always positive. The final table gives the Azimuth of Polaris.

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Polaris (Pole Star) Tables, 2021

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	a0	a0	a0	a0	a0	a0	a0	a0	a0	a0	a0
	° '	° '	° '	° '	° '	° '	° '	° '	° '	° '	° '	° '
0	1 36.4	1 34.0	1 30.6	1 26.2	1 21.0	1 15.2	1 08.8	1 02.1	0 55.4	0 48.7	0 42.4	0 36.5
1	1 36.2	1 33.8	1 30.2	1 25.8	1 20.5	1 14.5	1 08.1	1 01.5	0 54.7	0 48.1	0 41.8	0 36.0
2	1 36.0	1 33.4	1 29.8	1 25.3	1 19.9	1 13.9	1 07.5	1 00.8	0 54.0	0 47.4	0 41.2	0 35.5
3	1 35.8	1 33.1	1 29.4	1 24.8	1 19.3	1 13.3	1 06.8	1 00.1	0 53.3	0 46.8	0 40.6	0 34.9
4	1 35.6	1 32.8	1 29.0	1 24.3	1 18.8	1 12.7	1 06.2	0 59.4	0 52.7	0 46.1	0 40.0	0 34.4
5	1 35.4	1 32.5	1 28.6	1 23.7	1 18.2	1 12.0	1 05.5	0 58.7	0 52.0	0 45.5	0 39.4	0 33.9
6	1 35.1	1 32.1	1 28.1	1 23.2	1 17.6	1 11.4	1 04.8	0 58.1	0 51.3	0 44.9	0 38.8	0 33.4
7	1 34.9	1 31.8	1 27.7	1 22.7	1 17.0	1 10.7	1 04.1	0 57.4	0 50.7	0 44.2	0 38.2	0 32.9
8	1 34.6	1 31.4	1 27.2	1 22.1	1 16.4	1 10.1	1 03.5	0 56.7	0 50.0	0 43.6	0 37.7	0 32.4
9	1 34.3	1 31.0	1 26.7	1 21.6	1 15.8	1 09.4	1 02.8	0 56.0	0 49.4	0 43.0	0 37.1	0 31.9
Lat.	a1	a1	a1	a1	a1	a1	a1	a1	a1	a1	a1	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	0.4	0.4	0.4	0.3	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	0.4	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	0.6	0.6	0.6	0.7	0.7	0.6	0.6	0.6	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	0.8	0.8	0.7	0.7	0.6	0.6
Month	a2	a2	a2	a2	a2	a2	a2	a2	a2	a2	a2	a2
	'	'	'	'	'	'	'	'	'	'	'	'
Jan	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Feb	0.3	0.4	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	0.3	0.3	0.3	0.4	0.4	0.5	0.5
Apr	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4
May	0.3	0.3	0.2	0.2	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	0.3	0.3	0.2	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	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.5	0.5
Nov	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7
Dec	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.9	0.9	0.9
Lat.	Zo	Zo	Zo	Zo	Zo	Zo	Zo	Zo	Zo	Zo	Zo	Zo
	°	°	°	°	°	°	°	°	°	°	°	°
10	0.2	0.3	0.4	0.5	0.6	0.6	0.6	0.7	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	0.3	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	0.5	0.6	0.7	0.8	0.9	0.9	0.9	0.9	0.9	0.8	0.7
50	0.3	0.5	0.6	0.8	0.9	0.9	1.0	1.0	1.0	0.9	0.9	0.8
55	0.4	0.6	0.7	0.9	1.0	1.1	1.1	1.1	1.1	1.1	1.0	0.9
60	0.4	0.6	0.8	1.0	1.1	1.2	1.3	1.3	1.3	1.2	1.1	1.0
62	0.5	0.7	0.9	1.0	1.2	1.3	1.4	1.4	1.4	1.3	1.2	1.1
64	0.5	0.7	0.9	1.1	1.3	1.4	1.4	1.5	1.5	1.4	1.3	1.1
66	0.5	0.8	1.0	1.2	1.4	1.5	1.6	1.6	1.6	1.5	1.4	1.2
68	0.6	0.9	1.1	1.3	1.5	1.6	1.7	1.7	1.7	1.6	1.5	1.3
70	0.6	0.9	1.2	1.4	1.6	1.8	1.9	1.9	1.9	1.8	1.7	1.5

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

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 a0 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 a1 and a2 are taken, without interpolation, from the second and third table with arguments Latitude and Month respectively. The correction terms a0, a1 and a2 are always positive. The final table gives the Azimuth of Polaris.

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