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Nautical Almanac (Selected Stars)

2020

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Star Maps
The Nautical Almanac 2020 (Selected Stars)
Polaris Tables 2020

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 Thu Oct 24 15:58:11 2019

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 : 69.5 s	Oct : 69.5 s
Feb : 69.4 s	May : 69.4 s	Aug : 69.5 s	Nov : 69.6 s
Mar : 69.4 s	Jun : 69.5 s	Sep : 69.5 s	Dec : 69.6 s

Interpolation of the integral-hour GHA values

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

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

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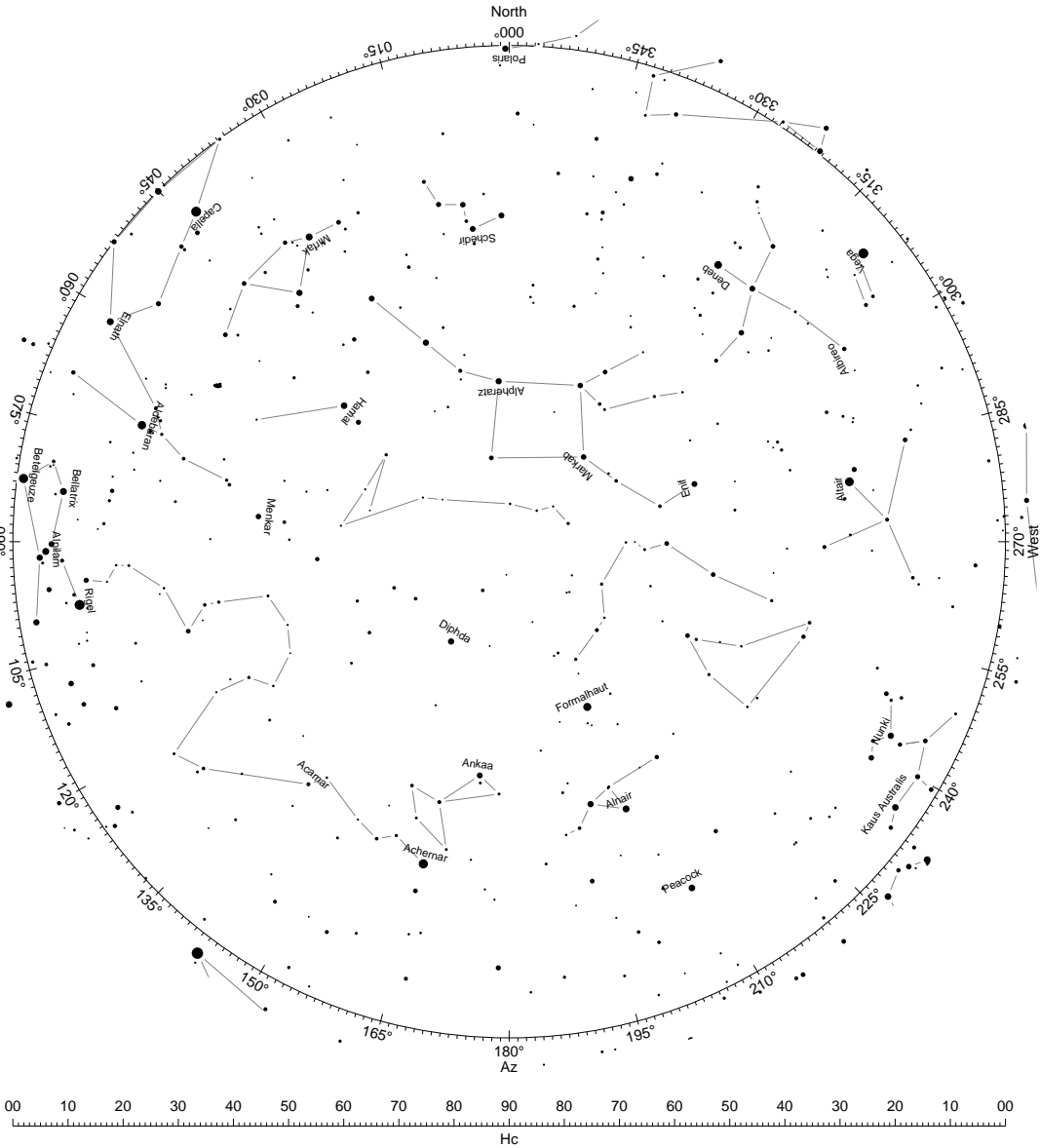
The following table shows the fundamental star data as used in this Almanac. The data refers to Equinox J2000 / Epoch J2000.0.

Star Name	RA			Dec	mu_RA ["/yr]	mu_Dec ["/yr]	prllx ["]	rad.vel. [km/s]	
	h	m	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



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.

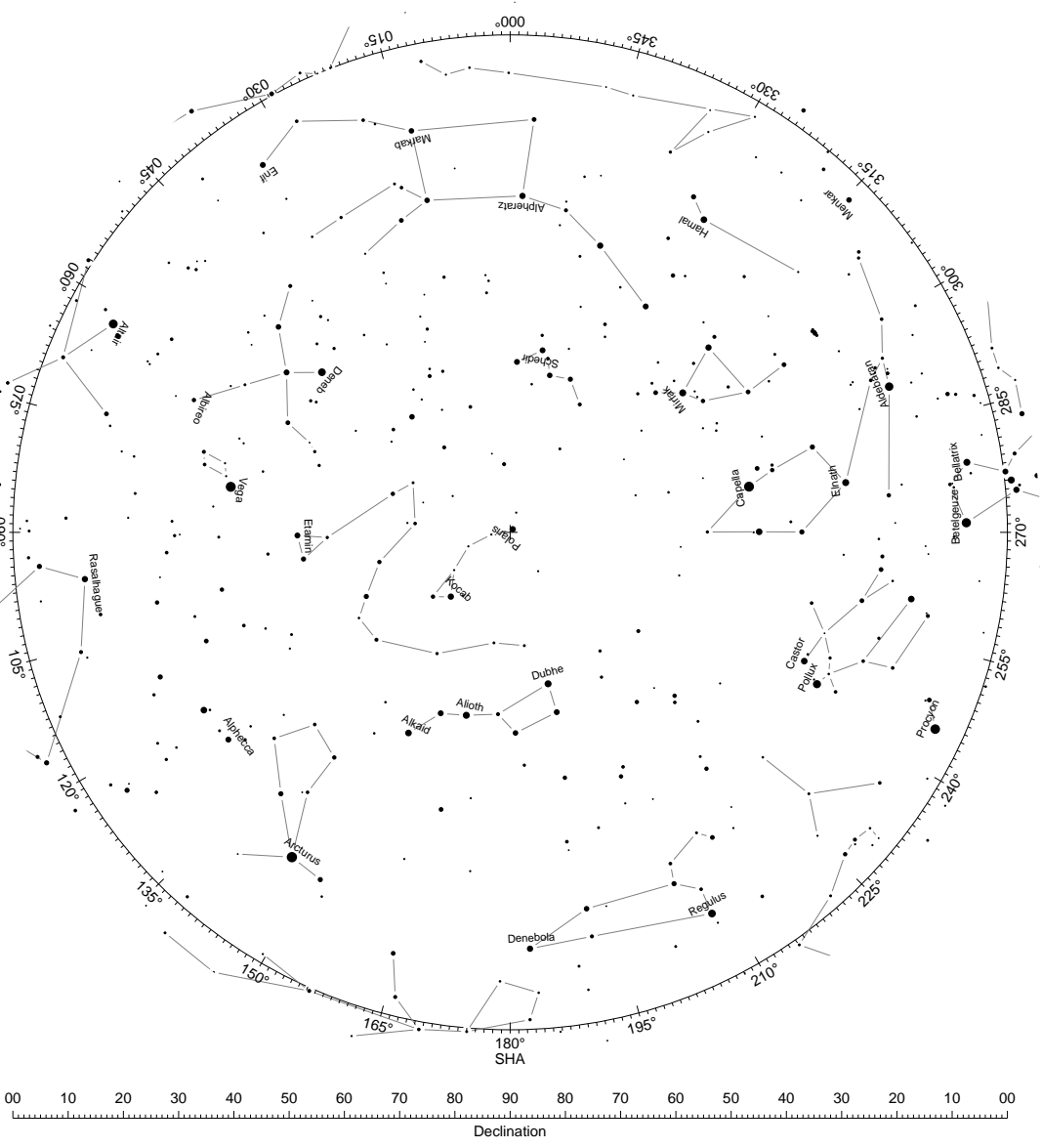
The first two maps are stereographic maps of the stars of the northern- and southern hemisphere, respectively. These maps are centered on the celestial poles and may be used for observations at locations in high northern- or southern latitudes.

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.

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.

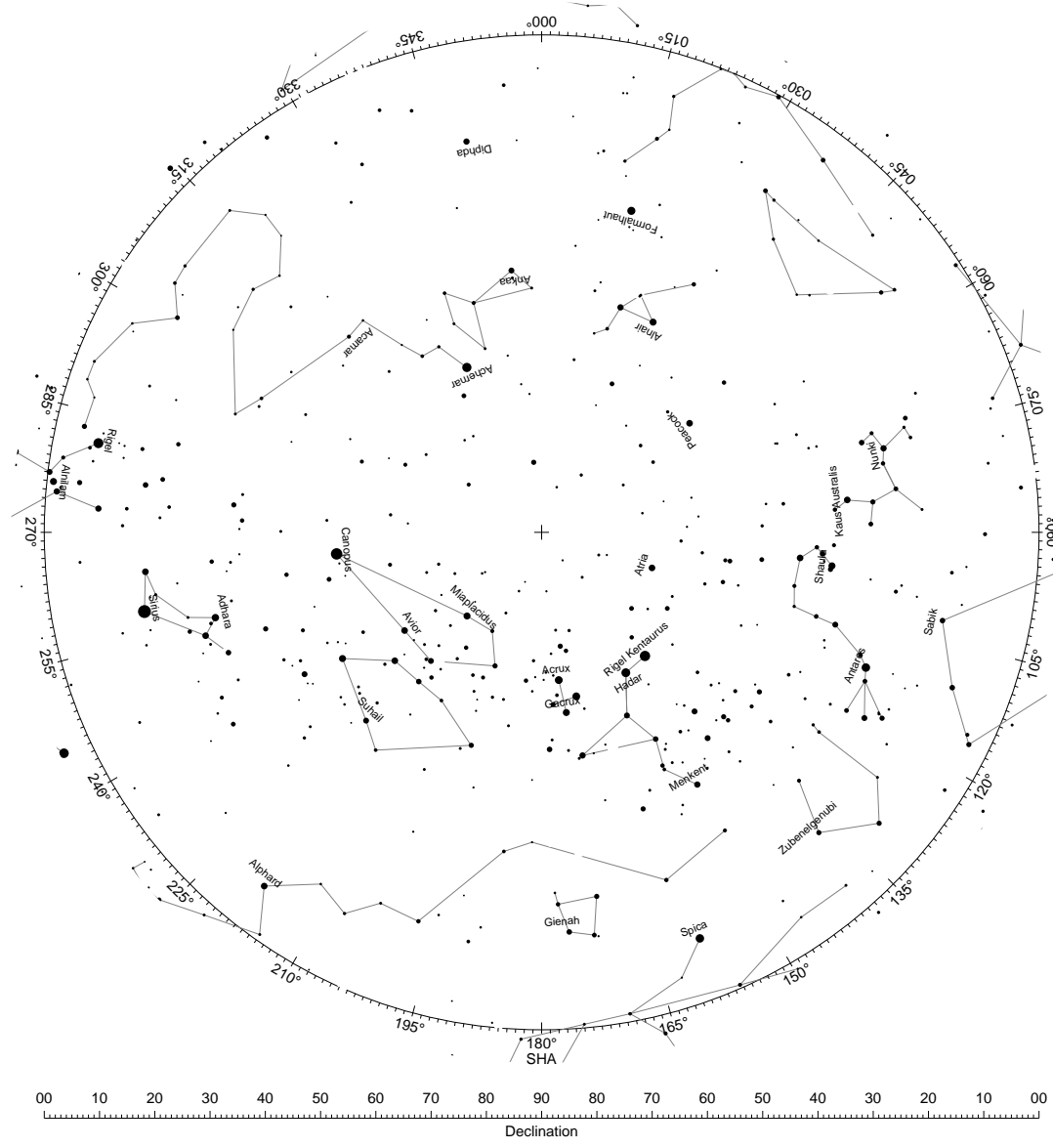
Each of these maps is valid for a location on the equator at a specific time of the day.

Map of bright Stars of the Northern Celestial Sphere



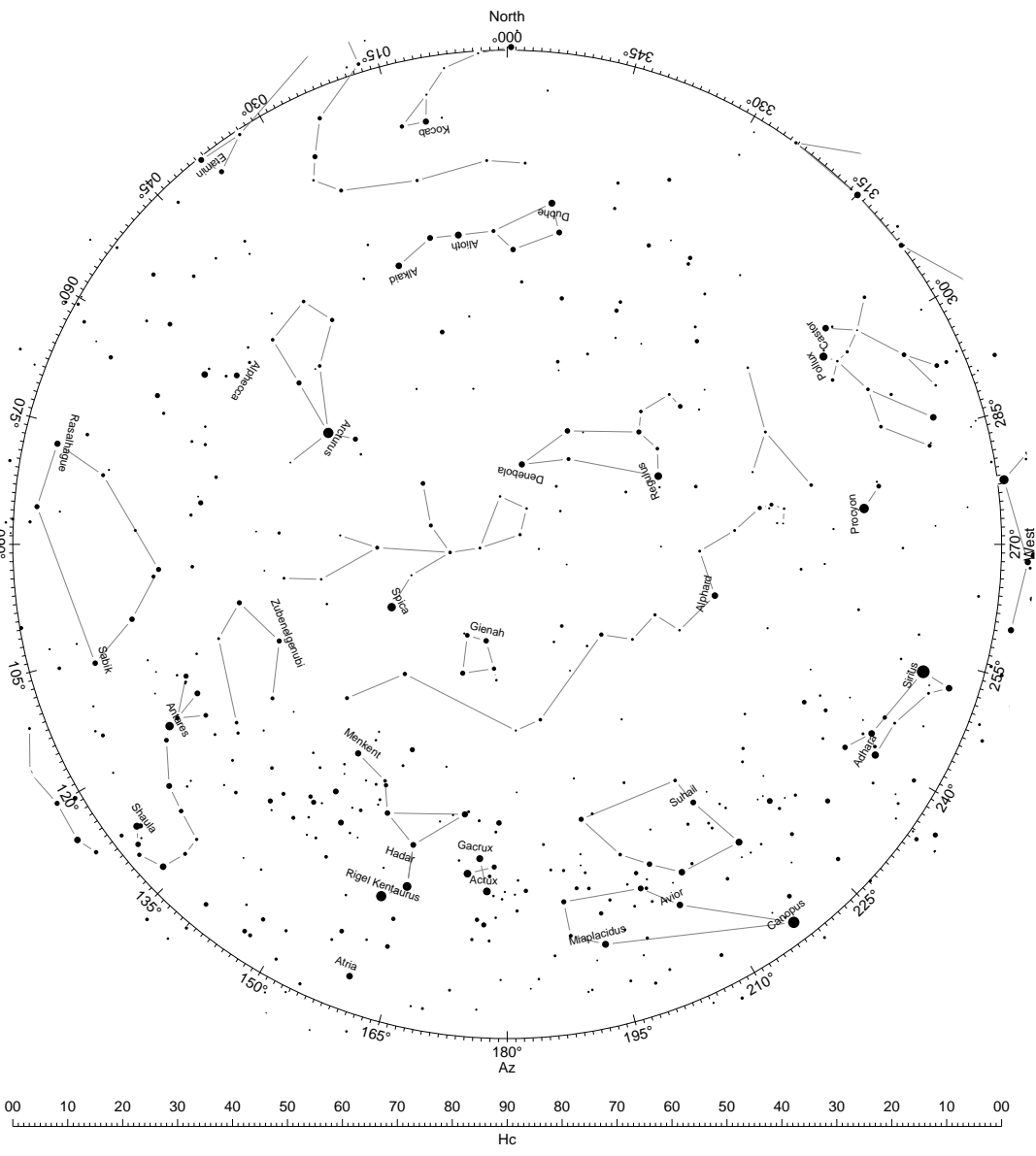
The map is centered on the celestial north pole and shows the brightest stars (up to magnitude 4.5) of the northern celestial hemisphere. The circle of constant declination is shown at 00° (Celestial Equator). The Sidereal Hour Angle of a specific star can be directly read from the SHA scale plotted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

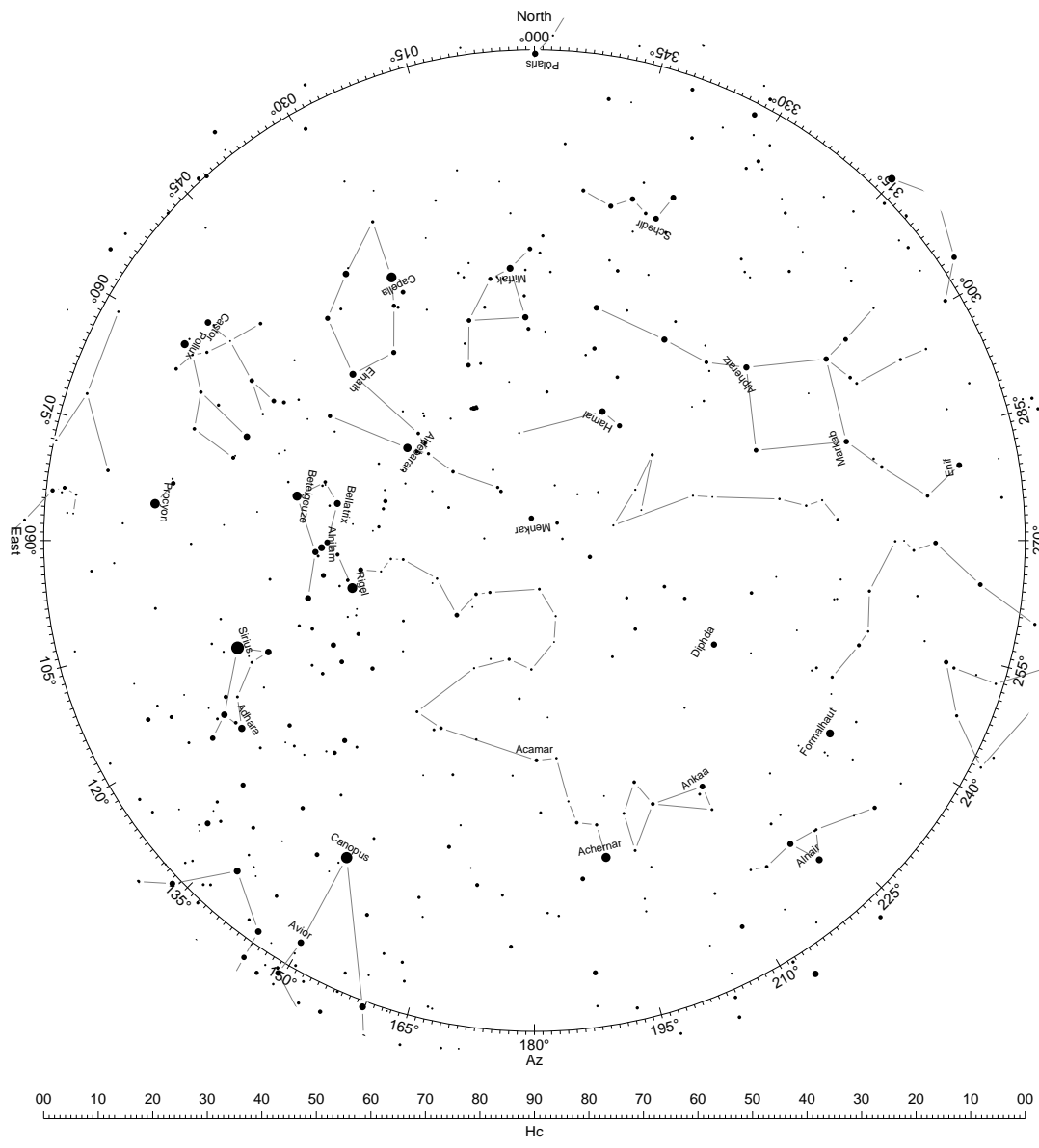


The map is centered on the celestial south pole and shows the brightest stars (up to magnitude 4.5) of the southern celestial hemisphere. The circle of constant declination is shown at 00° (Celestial Equator). The Sidereal Hour Angle of a specific star can be directly read from the SHA scale plotted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



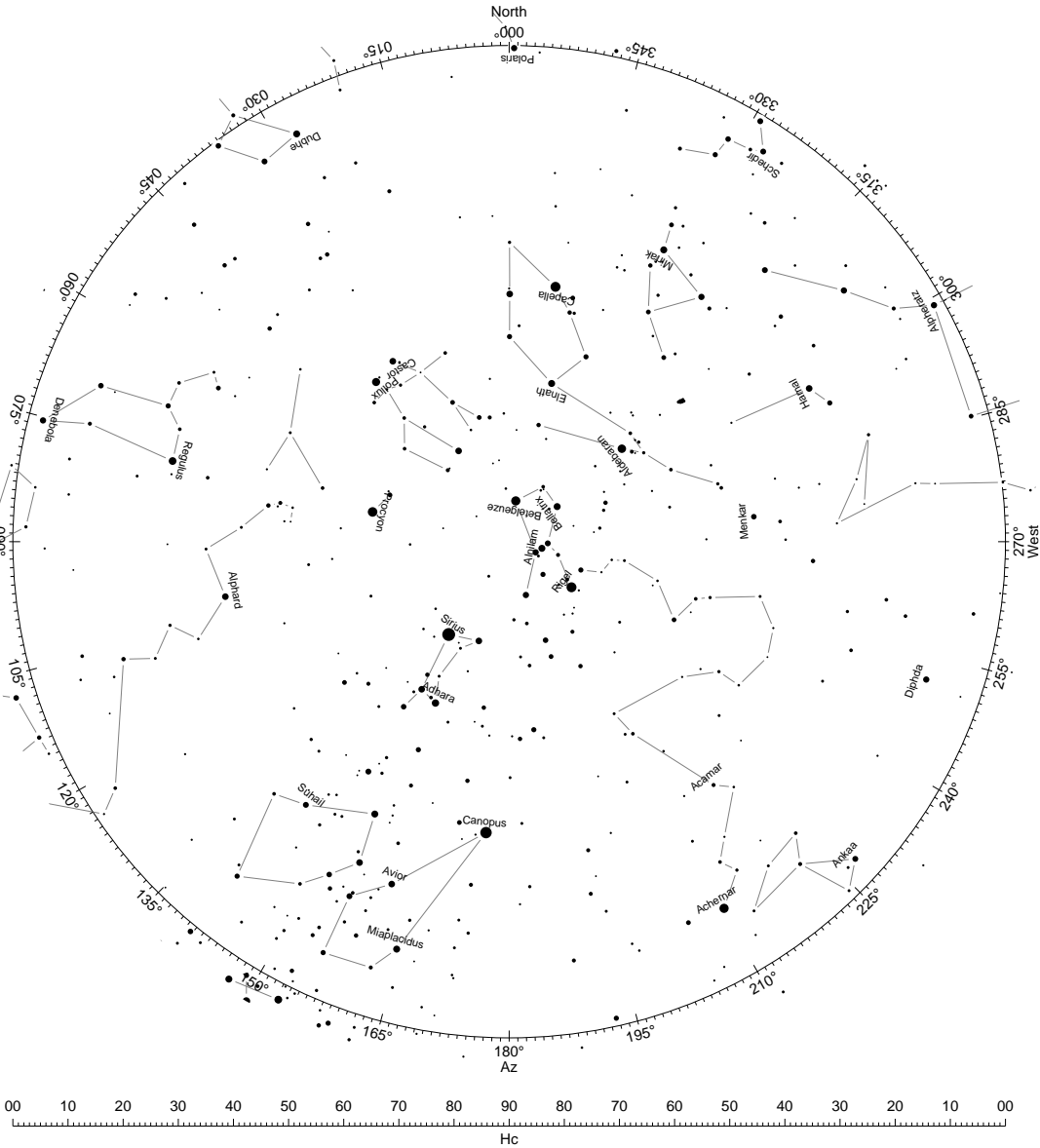
Horizontal-Coordinate-System Map of bright Stars - Part II



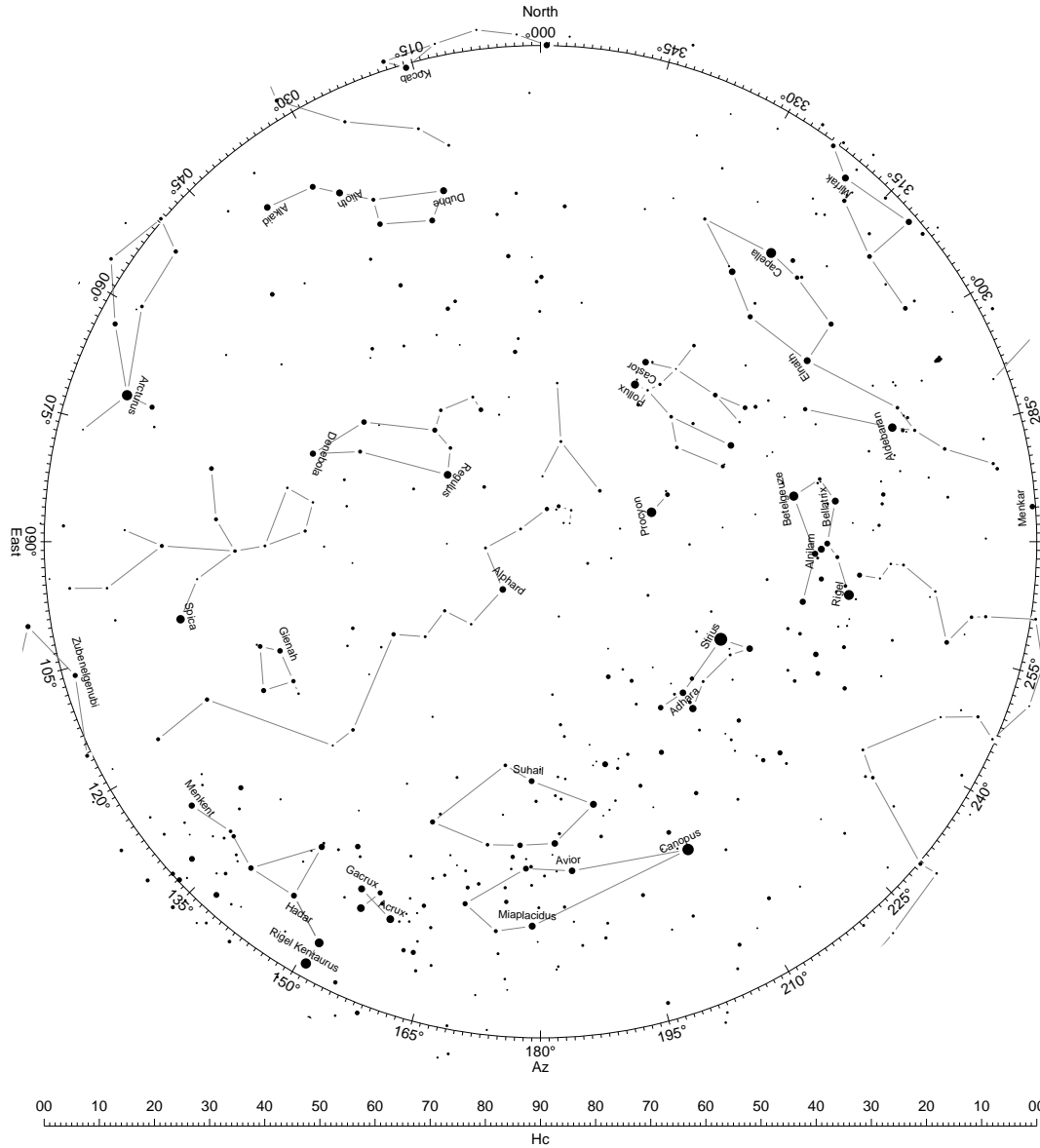
The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth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

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

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



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



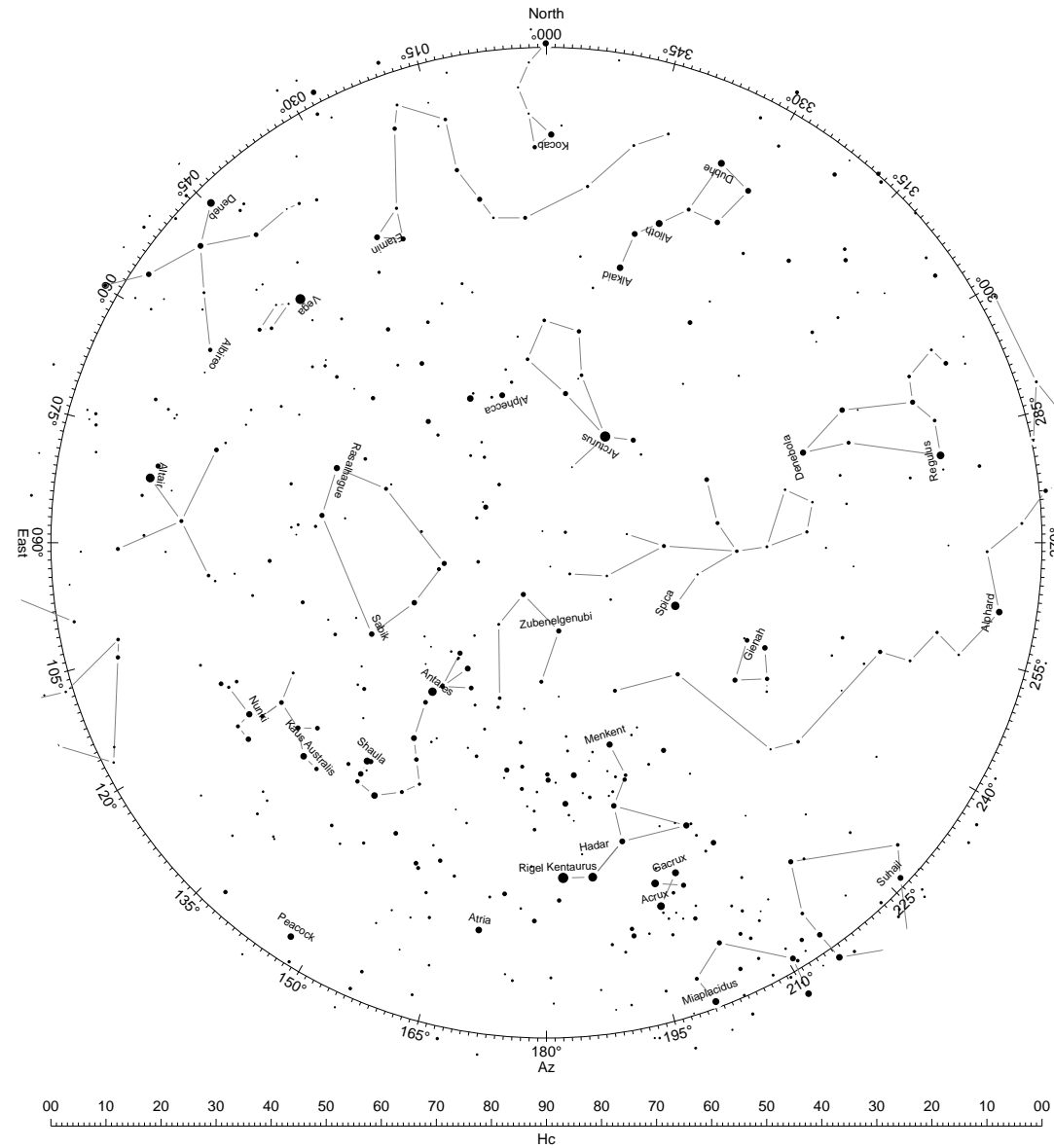
The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth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

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.

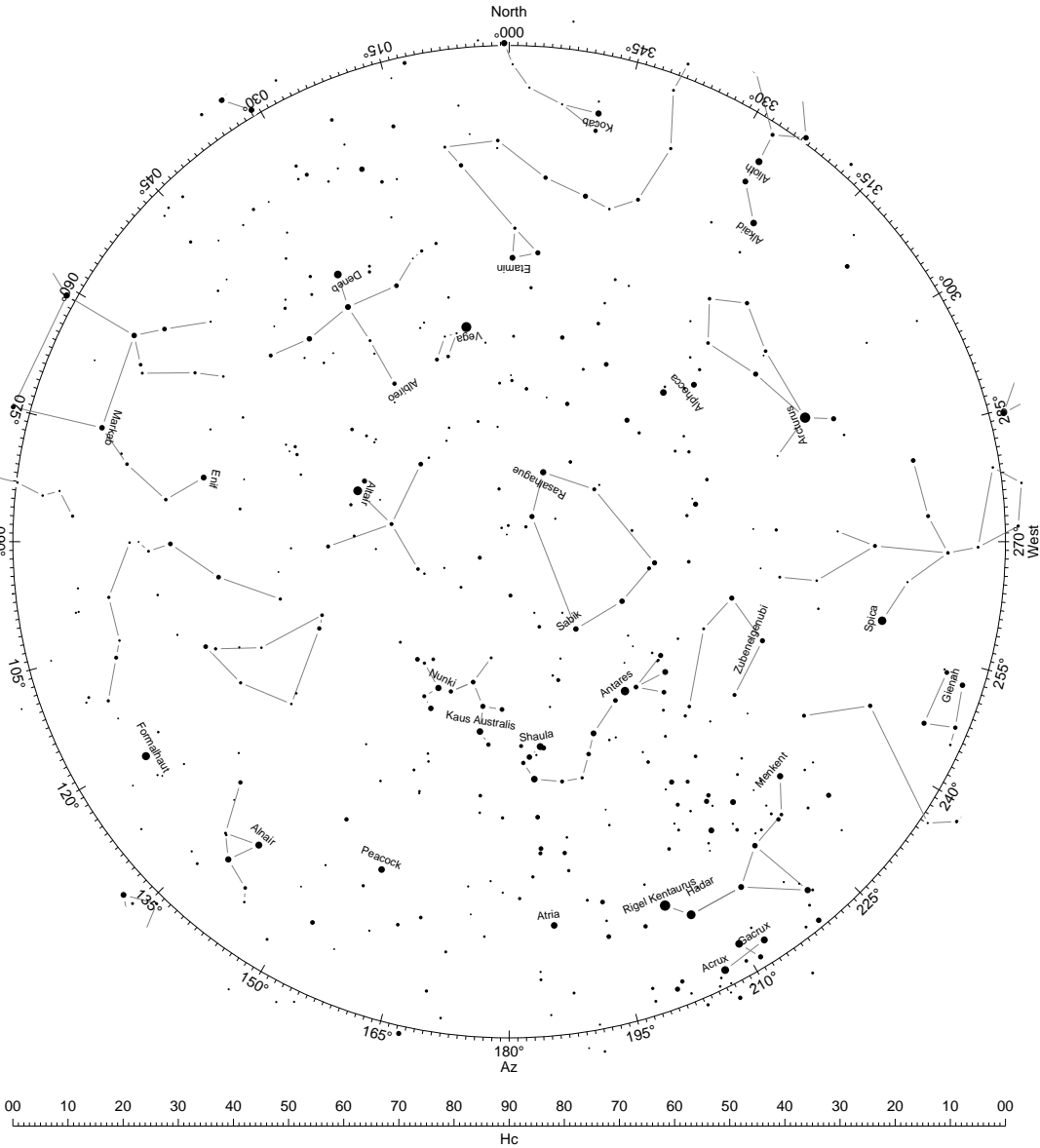
Horizontal-Coordinate-System Map of bright Stars - Part VI



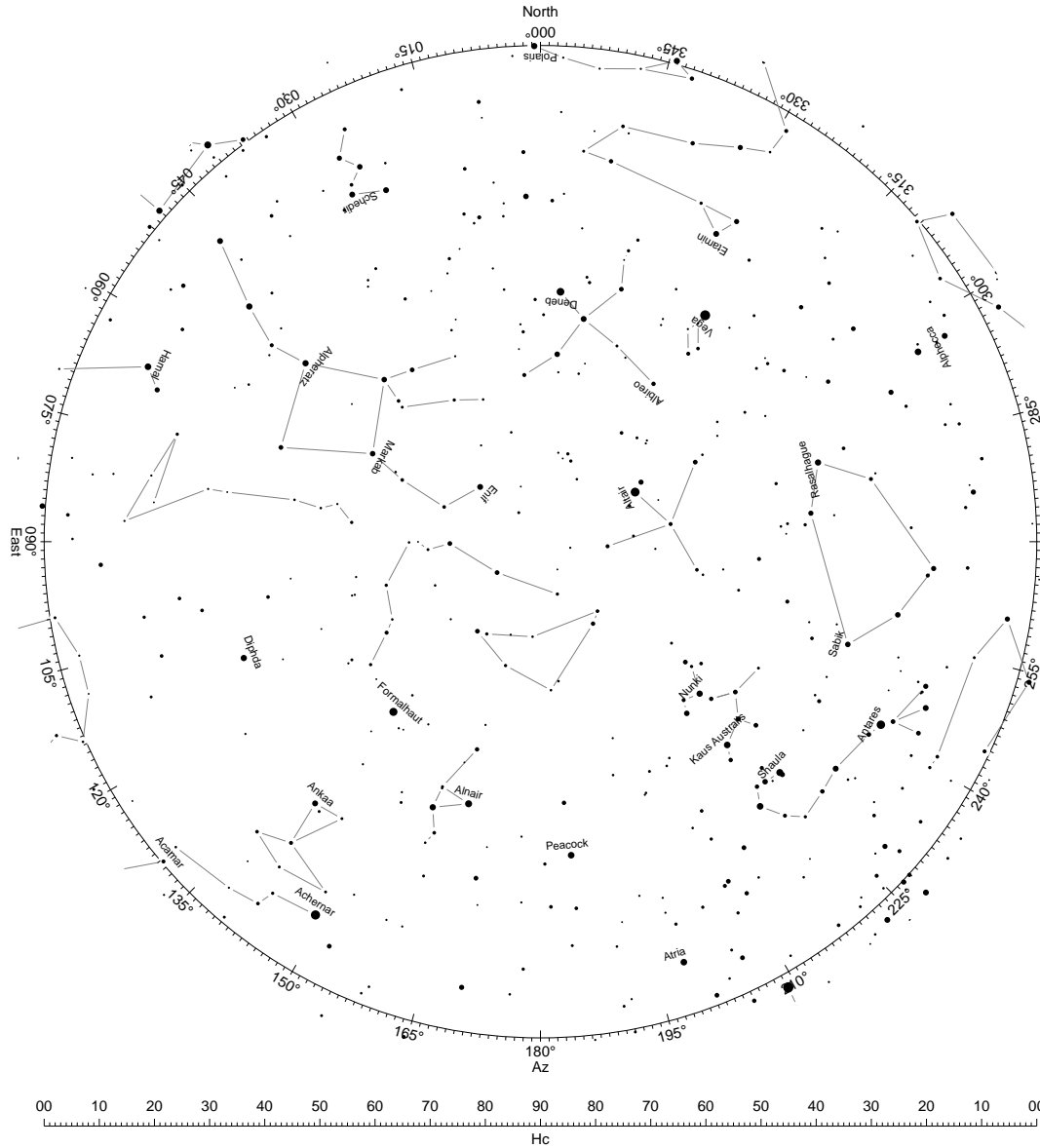
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The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on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



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.

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.

2020 - First Point of Aries / Selected Stars

UT	day 11 of 366 January 11		day 12 of 366 January 12		day 13 of 366 January 13		day 14 of 366 January 14		day 15 of 366 January 15		UT
	GHA ° / ' / "	ddGHA ° / ' / "	GHA ° / ' / "	ddGHA ° / ' / "	GHA ° / ' / "	ddGHA ° / ' / "	GHA ° / ' / "	ddGHA ° / ' / "	GHA ° / ' / "	ddGHA ° / ' / "	
00	109 58.5	+02.4	110 57.6	+02.5	111 56.7	+02.5	112 55.9	+02.4	113 55.0	+02.5	00
01	125 00.9	+02.5	126 00.1	+02.4	126 59.2	+02.5	127 58.3	+02.5	128 57.5	+02.4	01
02	140 03.4	+02.4	141 02.5	+02.5	142 01.7	+02.4	143 00.8	+02.5	143 59.9	+02.5	02
03	155 05.8	+02.5	156 05.0	+02.4	157 04.1	+02.5	158 03.3	+02.4	159 02.4	+02.5	03
04	170 08.3	+02.5	171 07.4	+02.5	172 06.6	+02.5	173 05.7	+02.5	174 04.9	+02.4	04
05	185 10.8	+02.4	186 09.9	+02.5	187 09.1	+02.4	188 08.2	+02.5	189 07.3	+02.5	05
06	200 13.2	+02.5	201 12.4	+02.4	202 11.5	+02.5	203 10.7	+02.4	204 09.8	+02.5	06
07	215 15.7	+02.5	216 14.8	+02.5	217 14.0	+02.4	218 13.1	+02.5	219 12.3	+02.4	07
08	230 18.2	+02.4	231 17.3	+02.5	232 16.4	+02.5	233 15.6	+02.4	234 14.7	+02.5	08
09	245 20.6	+02.5	246 19.8	+02.4	247 18.9	+02.5	248 18.0	+02.5	249 17.2	+02.5	09
10	260 23.1	+02.5	261 22.2	+02.5	262 21.4	+02.4	263 20.5	+02.5	264 19.7	+02.4	10
11	275 25.6	+02.4	276 24.7	+02.5	277 23.8	+02.5	278 23.0	+02.5	279 22.1	+02.5	11
12	290 28.0	+02.5	291 27.2	+02.4	292 26.3	+02.5	293 25.4	+02.5	294 24.6	+02.4	12
13	305 30.5	+02.5	306 29.6	+02.5	307 28.8	+02.4	308 27.9	+02.5	309 27.0	+02.5	13
14	320 33.0	+02.4	321 32.1	+02.5	322 31.2	+02.5	323 30.4	+02.4	324 29.5	+02.5	14
15	335 35.4	+02.5	336 34.6	+02.4	337 33.7	+02.5	338 32.8	+02.5	339 32.0	+02.4	15
16	350 37.9	+02.4	351 37.0	+02.5	352 36.2	+02.4	353 35.3	+02.5	354 34.4	+02.5	16
17	5 40.3	+02.5	6 39.5	+02.4	7 38.6	+02.5	8 37.8	+02.4	9 36.9	+02.5	17
18	20 42.8	+02.5	21 41.9	+02.5	22 41.1	+02.5	23 40.2	+02.5	24 39.4	+02.4	18
19	35 45.3	+02.4	36 44.4	+02.5	37 43.6	+02.4	38 42.7	+02.5	39 41.8	+02.5	19
20	50 47.7	+02.5	51 46.9	+02.4	52 46.0	+02.5	53 45.2	+02.4	54 44.3	+02.5	20
21	65 50.2	+02.5	66 49.3	+02.5	67 48.5	+02.4	68 47.6	+02.5	69 46.8	+02.4	21
22	80 52.7	+02.4	81 51.8	+02.5	82 50.9	+02.5	83 50.1	+02.4	84 49.2	+02.5	22
23	95 55.1	+02.5	96 54.3	+02.4	97 53.4	+02.5	98 52.5	+02.5	99 51.7	+02.4	23

Nautical Almanac for selected Stars

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

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

NOTICE:

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

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

Abbreviations used in the Almanac tables:

UT	Universal Time	
GHA	Greenwich Hour Angle	° [degrees]
ddGHA	the increment of the GHA value for the next hour of time, additional to the "linear" increment of 15°/h	' [minutes of arc]
SHA	Siderial Hour Angle	° [degrees]
Dec	Declination	° [degrees]

	SHA		Dec			SHA		Dec	
	° / ' / "	° / ' / "	° / ' / "	° / ' / "		° / ' / "	° / ' / "	° / ' / "	° / ' / "
Alpheratz	357	39.0	N 29	12.1	Gienah	175	47.5	S 17	39.0
Ankaa	353	11.4	S 42	12.1	Acrux	173	04.1	S 63	12.2
Schedir	349	35.5	N 56	39.0	Gacrux	171	55.8	S 57	13.1
Diphda	348	51.5	S 17	52.9	Alioth	166	16.7	N 55	50.9
Achernar	335	23.3	S 57	08.5	Spica	158	26.5	S 11	15.8
Hamal	327	55.6	N 23	33.4	Alkaid	152	55.3	N 49	12.7
Polaris	315	35.8	N 89	21.1	Hadar	148	41.6	S 60	27.7
Acamar	315	14.7	S 40	13.9	Menkent	148	02.1	S 36	27.5
Menkar	314	10.2	N 04	09.9	Arcturus	145	51.4	N 19	05.3
Mirfak	308	33.6	N 49	56.0	Rigel Kentaurus	139	43.5	S 60	54.8
Aldebaran	290	43.9	N 16	32.9	Zubeneigenubi	137	00.5	S 16	07.3
Capella	280	27.4	N 46	01.2	Kocab	137	20.5	N 74	04.2
Rigel	281	07.4	S 08	10.9	Alphecca	126	07.4	N 26	38.8
Bellatrix	278	26.8	N 06	21.9	Antares	112	21.1	S 26	28.4
Elnath	278	06.6	N 28	37.4	Atria	107	19.2	S 69	03.5
Alnilam	275	41.5	S 01	11.5	Sabik	102	07.7	S 15	44.9
Betelgeuze	270	56.1	N 07	24.5	Shaula	96	16.2	S 37	06.9
Canopus	263	53.6	S 52	42.5	Rasalhague	96	02.6	N 12	32.8
Sirius	258	29.2	S 16	44.4	Etamin	90	44.6	N 51	29.2
Adhara	255	08.6	S 29	00.1	Kaus Australis	83	38.2	S 34	22.3
Castor	246	01.7	N 31	50.6	Vega	80	36.4	N 38	48.0
Procyon	244	54.5	N 05	10.6	Nunki	75	53.1	S 26	16.2
Pollux	243	21.5	N 27	58.6	Albireo	67	07.6	N 28	00.1
Avior	234	15.6	S 59	34.4	Altair	62	04.3	N 08	55.2
Suhail	222	48.7	S 43	30.7	Peacock	53	12.7	S 56	40.3
Miaplacidus	221	37.8	S 69	47.8	Deneb	49	28.9	N 45	21.2
Alphard	217	51.4	S 08	44.7	Enif	33	43.0	N 09	58.0
Regulus	207	38.4	N 11	52.1	Alnair	27	38.5	S 46	52.0
Dubhe	193	45.7	N 61	38.4	Formalhaut	15	19.3	S 29	31.2
Denebola	182	28.8	N 14	27.6	Markab	13	34.0	N 15	18.7

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 1 of 366 <i>January 1</i>		day 2 of 366 <i>January 2</i>		day 3 of 366 <i>January 3</i>		day 4 of 366 <i>January 4</i>		day 5 of 366 <i>January 5</i>		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	100 07.1	+02.4	101 06.2	+02.5	102 05.3	+02.5	103 04.5	+02.4	104 03.6	+02.5	00
01	115 09.5	+02.5	116 08.7	+02.4	117 07.8	+02.5	118 06.9	+02.5	119 06.1	+02.4	01
02	130 12.0	+02.4	131 11.1	+02.5	132 10.3	+02.4	133 09.4	+02.5	134 08.5	+02.5	02
03	145 14.4	+02.5	146 13.6	+02.5	147 12.7	+02.5	148 11.9	+02.4	149 11.0	+02.5	03
04	160 16.9	+02.5	161 16.1	+02.4	162 15.2	+02.5	163 14.3	+02.5	164 13.5	+02.4	04
05	175 19.4	+02.4	176 18.5	+02.5	177 17.7	+02.4	178 16.8	+02.5	179 15.9	+02.5	05
06	190 21.8	+02.5	191 21.0	+02.4	192 20.1	+02.5	193 19.3	+02.4	194 18.4	+02.5	06
07	205 24.3	+02.5	206 23.4	+02.5	207 22.6	+02.4	208 21.7	+02.5	209 20.9	+02.4	07
08	220 26.8	+02.4	221 25.9	+02.5	222 25.0	+02.5	223 24.2	+02.4	224 23.3	+02.5	08
09	235 29.2	+02.5	236 28.4	+02.4	237 27.5	+02.5	238 26.6	+02.5	239 25.8	+02.5	09
10	250 31.7	+02.5	251 30.8	+02.5	252 30.0	+02.4	253 29.1	+02.5	254 28.3	+02.4	10
11	265 34.2	+02.4	266 33.3	+02.5	267 32.4	+02.5	268 31.6	+02.4	269 30.7	+02.5	11
12	280 36.6	+02.5	281 35.8	+02.4	282 34.9	+02.5	283 34.0	+02.5	284 33.2	+02.4	12
13	295 39.1	+02.5	296 38.2	+02.5	297 37.4	+02.4	298 36.5	+02.5	299 35.6	+02.5	13
14	310 41.6	+02.4	311 40.7	+02.5	312 39.8	+02.5	313 39.0	+02.4	314 38.1	+02.5	14
15	325 44.0	+02.5	326 43.2	+02.4	327 42.3	+02.5	328 41.4	+02.5	329 40.6	+02.4	15
16	340 46.5	+02.4	341 45.6	+02.5	342 44.8	+02.4	343 43.9	+02.5	344 43.0	+02.5	16
17	355 48.9	+02.5	356 48.1	+02.4	357 47.2	+02.5	358 46.4	+02.4	359 45.5	+02.5	17
18	10 51.4	+02.5	11 50.5	+02.5	12 49.7	+02.5	13 48.8	+02.5	14 48.0	+02.4	18
19	25 53.9	+02.4	26 53.0	+02.5	27 52.2	+02.4	28 51.3	+02.5	29 50.4	+02.5	19
20	40 56.3	+02.5	41 55.5	+02.4	42 54.6	+02.5	43 53.8	+02.4	44 52.9	+02.5	20
21	55 58.8	+02.5	56 57.9	+02.5	57 57.1	+02.4	58 56.2	+02.5	59 55.4	+02.4	21
22	71 01.3	+02.4	72 00.4	+02.5	72 59.5	+02.5	73 58.7	+02.4	74 57.8	+02.5	22
23	86 03.7	+02.5	87 02.9	+02.4	88 02.0	+02.5	89 01.1	+02.5	90 00.3	+02.4	23

UT	day 6 of 366 <i>January 6</i>		day 7 of 366 <i>January 7</i>		day 8 of 366 <i>January 8</i>		day 9 of 366 <i>January 9</i>		day 10 of 366 <i>January 10</i>		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	105 02.7	+02.5	106 01.9	+02.5	107 01.0	+02.5	108 00.2	+02.4	108 59.3	+02.5	00
01	120 05.2	+02.5	121 04.4	+02.4	122 03.5	+02.5	123 02.6	+02.5	124 01.8	+02.4	01
02	135 07.7	+02.4	136 06.8	+02.5	137 06.0	+02.4	138 05.1	+02.5	139 04.2	+02.5	02
03	150 10.1	+02.5	151 09.3	+02.4	152 08.4	+02.5	153 07.6	+02.4	154 06.7	+02.5	03
04	165 12.6	+02.5	166 11.7	+02.5	167 10.9	+02.4	168 10.0	+02.5	169 09.2	+02.4	04
05	180 15.1	+02.4	181 14.2	+02.5	182 13.3	+02.5	183 12.5	+02.5	184 11.6	+02.4	05
06	195 17.5	+02.5	196 16.7	+02.4	197 15.8	+02.5	198 15.0	+02.4	199 14.1	+02.5	06
07	210 20.0	+02.5	211 19.1	+02.5	212 18.3	+02.4	213 17.4	+02.5	214 16.6	+02.4	07
08	225 22.5	+02.4	226 21.6	+02.5	227 20.7	+02.5	228 19.9	+02.4	229 19.0	+02.5	08
09	240 24.9	+02.5	241 24.1	+02.4	242 23.2	+02.5	243 22.3	+02.5	244 21.5	+02.5	09
10	255 27.4	+02.5	256 26.5	+02.5	257 25.7	+02.4	258 24.8	+02.5	259 24.0	+02.4	10
11	270 29.9	+02.4	271 29.0	+02.5	272 28.1	+02.5	273 27.3	+02.4	274 26.4	+02.5	11
12	285 32.3	+02.5	286 31.5	+02.4	287 30.6	+02.5	288 29.7	+02.5	289 28.9	+02.4	12
13	300 34.8	+02.4	301 33.9	+02.5	302 33.1	+02.4	303 32.2	+02.5	304 31.3	+02.5	13
14	315 37.2	+02.5	316 36.4	+02.4	317 35.5	+02.5	318 34.7	+02.4	319 33.8	+02.5	14
15	330 39.7	+02.5	331 38.9	+02.4	332 38.0	+02.5	333 37.1	+02.5	334 36.3	+02.4	15
16	345 42.2	+02.4	346 41.3	+02.5	347 40.5	+02.4	348 39.6	+02.5	349 38.7	+02.5	16
17	0 44.6	+02.5	1 43.8	+02.4	2 42.9	+02.5	3 42.1	+02.4	4 41.2	+02.5	17
18	15 47.1	+02.5	16 46.2	+02.5	17 45.4	+02.4	18 44.5	+02.5	19 43.7	+02.4	18
19	30 49.6	+02.4	31 48.7	+02.5	32 47.8	+02.5	33 47.0	+02.5	34 46.1	+02.5	19
20	45 52.0	+02.5	46 51.2	+02.4	47 50.3	+02.5	48 49.5	+02.4	49 48.6	+02.5	20
21	60 54.5	+02.4	61 53.6	+02.5	62 52.8	+02.4	63 51.9	+02.5	64 51.1	+02.4	21
22	75 57.0	+02.4	76 56.1	+02.5	77 55.2	+02.5	78 54.4	+02.4	79 53.5	+02.5	22
23	90 59.4	+02.5	91 58.6	+02.4	92 57.7	+02.5	93 56.8	+02.5	94 56.0	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 38.9	N 29 12.1	Gienah	175 47.6	S 17 39.0
Ankaa	353 11.3	S 42 12.1	Acrux	173 04.3	S 63 12.2
Schedir	349 35.4	N 56 39.0	Gacrux	171 55.9	S 57 13.0
Diphda	348 51.4	S 17 52.9	Alioth	166 16.8	N 55 50.9
Achernar	335 23.3	S 57 08.5	Spica	158 26.6	S 11 15.7
Hamal	327 55.6	N 23 33.4	Alkaid	152 55.4	N 49 12.7
Polaris	315 32.2	N 89 21.1	Hadar	148 41.8	S 60 27.7
Acamar	315 14.6	S 40 13.8	Menkent	148 02.2	S 36 27.5
Menkar	314 10.1	N 04 09.9	Arcturus	145 51.4	N 19 05.4
Mirfak	308 33.6	N 49 55.9	Rigel Kentaurus	139 43.7	S 60 54.8
Aldebaran	290 43.9	N 16 32.9	Zubenelgenubi	137 00.6	S 16 07.2
Capella	280 27.4	N 46 01.1	Kocab	137 20.7	N 74 04.2
Rigel	281 07.4	S 08 10.9	Alphecca	126 07.5	N 26 38.9
Bellatrix	278 26.8	N 06 21.9	Antares	112 21.2	S 26 28.3
Elnath	278 06.6	N 28 37.4	Atria	107 19.4	S 69 03.5
Alnilam	275 41.5	S 01 11.5	Sabik	102 07.7	S 15 44.9
Betelgeuze	270 56.1	N 07 24.5	Shaula	96 16.2	S 37 06.9
Canopus	263 53.6	S 52 42.5	Rasalhague	96 02.6	N 12 32.9
Sirius	258 29.2	S 16 44.3	Etamin	90 44.6	N 51 29.2
Adhara	255 08.6	S 29 00.0	Kaus Australis	83 38.3	S 34 22.3
Castor	246 01.8	N 31 50.6	Vega	80 36.4	N 38 48.1
Procyon	244 54.5	N 05 10.6	Nunki	75 53.1	S 26 16.2
Pollux	243 21.6	N 27 58.6	Albireo	67 07.6	N 28 00.2
Avior	234 15.6	S 59 34.3	Altair	62 04.3	N 08 55.2
Suhail	222 48.8	S 43 30.7	Peacock	53 12.7	S 56 40.3
Miaplacidus	221 37.9	S 69 47.8	Deneb	49 28.9	N 45 21.2
Alphard	217 51.4	S 08 44.7	Enif	33 43.0	N 09 58.0
Regulus	207 38.4	N 11 52.1	Alnair	27 38.4	S 46 52.1
Dubhe	193 45.8	N 61 38.4	Formalhaut	15 19.3	S 29 31.2
Denebola	182 28.9	N 14 27.6	Markab	13 34.0	N 15 18.8

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 39.0	N 29 12.1	Gienah	175 47.6	S 17 39.0
Ankaa	353 11.4	S 42 12.1	Acrux	173 04.2	S 63 12.2
Schedir	349 35.5	N 56 39.0	Gacrux	171 55.9	S 57 13.0
Diphda	348 51.4	S 17 52.9	Alioth	166 16.8	N 55 50.9
Achernar	335 23.3	S 57 08.5	Spica	158 26.5	S 11 15.8
Hamal	327 55.6	N 23 33.4	Alkaid	152 55.4	N 49 12.7
Polaris	315 34.1	N 89 21.1	Hadar	148 41.7	S 60 27.7
Acamar	315 14.6	S 40 13.8	Menkent	148 02.1	S 36 27.5
Menkar	314 10.2	N 04 09.9	Arcturus	145 51.4	N 19 05.4
Mirfak	308 33.6	N 49 55.9	Rigel Kentaurus	139 43.6	S 60 54.8
Aldebaran	290 43.9	N 16 32.9	Zubenelgenubi	137 00.6	S 16 07.2
Capella	280 27.4	N 46 01.1	Kocab	137 20.6	N 74 04.2
Rigel	281 07.4	S 08 10.9	Alphecca	126 07.5	N 26 38.9
Bellatrix	278 26.8	N 06 21.9	Antares	112 21.2	S 26 28.3
Elnath	278 06.6	N 28 37.4	Atria	107 19.3	S 69 03.5
Alnilam	275 41.5	S 01 11.5	Sabik	102 07.7	S 15 44.9
Betelgeuze	270 56.1	N 07 24.5	Shaula	96 16.2	S 37 06.9
Canopus	263 53.6	S 52 42.5	Rasalhague	96 02.6	N 12 32.9
Sirius	258 29.2	S 16 44.3	Etamin	90 44.6	N 51 29.2
Adhara	255 08.6	S 29 00.0	Kaus Australis	83 38.2	S 34 22.3
Castor	246 01.7	N 31 50.6	Vega	80 36.4	N 38 48.1
Procyon	244 54.5	N 05 10.6	Nunki	75 53.1	S 26 16.2
Pollux	243 21.5	N 27 58.6	Albireo	67 07.6	N 28 00.1
Avior	234 15.6	S 59 34.3	Altair	62 04.3	N 08 55.2
Suhail	222 48.7	S 43 30.7	Peacock	53 12.7	S 56 40.3
Miaplacidus	221 37.9	S 69 47.8	Deneb	49 28.9	N 45 21.2
Alphard	217 51.4	S 08 44.7	Enif	33 43.0	N 09 58.0
Regulus	207 38.4	N 11 52.1	Alnair	27 38.4	S 46 52.0
Dubhe	193 45.7	N 61 38.4	Formalhaut	15 19.3	S 29 31.2
Denebola	182 28.8	N 14 27.6	Markab	13 34.0	N 15 18.8

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2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 31 of 366		day 32 of 366		day 33 of 366		day 34 of 366		day 35 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	129 41.2	+02.5	130 40.4	+02.4	131 39.5	+02.5	132 38.6	+02.5	133 37.8	+02.4	00
01	144 43.7	+02.5	145 42.8	+02.5	146 42.0	+02.4	147 41.1	+02.5	148 40.2	+02.5	01
02	159 46.2	+02.4	160 45.3	+02.5	161 44.4	+02.5	162 43.6	+02.4	163 42.7	+02.5	02
03	174 48.6	+02.5	175 47.8	+02.4	176 46.9	+02.5	177 46.0	+02.5	178 45.2	+02.4	03
04	189 51.1	+02.5	190 50.2	+02.5	191 49.4	+02.4	192 48.5	+02.5	193 47.6	+02.5	04
05	204 53.6	+02.4	205 52.7	+02.5	206 51.8	+02.5	207 51.0	+02.4	208 50.1	+02.5	05
06	219 56.0	+02.5	220 55.2	+02.4	221 54.3	+02.5	222 53.4	+02.5	223 52.6	+02.4	06
07	234 58.5	+02.4	235 57.6	+02.5	236 56.8	+02.4	237 55.9	+02.5	238 55.0	+02.5	07
08	250 00.9	+02.5	251 00.1	+02.4	251 59.2	+02.5	252 58.4	+02.4	253 57.5	+02.5	08
09	265 03.4	+02.5	266 02.5	+02.5	267 01.7	+02.4	268 00.8	+02.5	268 60.0	+02.4	09
10	280 05.9	+02.4	281 05.0	+02.5	282 04.1	+02.5	283 03.3	+02.5	284 02.4	+02.5	10
11	295 08.3	+02.5	296 07.5	+02.4	297 06.6	+02.5	298 05.8	+02.5	299 04.9	+02.5	11
12	310 10.8	+02.5	311 09.9	+02.5	312 09.1	+02.4	313 08.2	+02.5	314 07.4	+02.4	12
13	325 13.3	+02.4	326 12.4	+02.5	327 11.5	+02.5	328 10.7	+02.4	329 09.8	+02.5	13
14	340 15.7	+02.5	341 14.9	+02.4	342 14.0	+02.5	343 13.1	+02.5	344 12.3	+02.4	14
15	355 18.2	+02.5	356 17.3	+02.5	357 16.5	+02.4	358 15.6	+02.5	359 14.7	+02.5	15
16	10 20.7	+02.4	11 19.8	+02.5	12 18.9	+02.5	13 18.1	+02.4	14 17.2	+02.5	16
17	25 23.1	+02.5	26 22.3	+02.4	27 21.4	+02.5	28 20.5	+02.5	29 19.7	+02.4	17
18	40 25.6	+02.4	41 24.7	+02.5	42 23.9	+02.4	43 23.0	+02.5	44 22.1	+02.5	18
19	55 28.0	+02.5	56 27.2	+02.5	57 26.3	+02.5	58 25.5	+02.4	59 24.6	+02.5	19
20	70 30.5	+02.5	71 29.7	+02.4	72 28.8	+02.5	73 27.9	+02.5	74 27.1	+02.4	20
21	85 33.0	+02.4	86 32.1	+02.5	87 31.3	+02.4	88 30.4	+02.5	89 29.5	+02.5	21
22	100 35.4	+02.5	101 34.6	+02.4	102 33.7	+02.5	103 32.9	+02.4	104 32.0	+02.5	22
23	115 37.9	+02.5	116 37.0	+02.5	117 36.2	+02.4	118 35.3	+02.5	119 34.5	+02.4	23

UT	day 16 of 366		day 17 of 366		day 18 of 366		day 19 of 366		day 20 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	114 54.1	+02.5	115 53.3	+02.4	116 52.4	+02.5	117 51.6	+02.4	118 50.7	+02.5	00
01	129 56.6	+02.5	130 55.7	+02.5	131 54.9	+02.5	132 54.0	+02.5	133 53.2	+02.4	01
02	144 59.1	+02.4	145 58.2	+02.5	146 57.4	+02.4	147 56.5	+02.5	148 55.6	+02.5	02
03	160 01.5	+02.5	161 00.7	+02.4	161 59.8	+02.5	162 59.0	+02.4	163 58.1	+02.5	03
04	175 04.0	+02.5	176 03.1	+02.5	177 02.3	+02.4	178 01.4	+02.5	179 00.6	+02.4	04
05	190 06.5	+02.4	191 05.6	+02.5	192 04.7	+02.5	193 03.9	+02.4	194 03.0	+02.5	05
06	205 08.9	+02.5	206 08.1	+02.4	207 07.2	+02.5	208 06.3	+02.5	209 05.5	+02.5	06
07	220 11.4	+02.5	221 10.5	+02.5	222 09.7	+02.4	223 08.8	+02.5	224 08.0	+02.4	07
08	235 13.9	+02.4	236 13.0	+02.5	237 12.1	+02.5	238 11.3	+02.4	239 10.4	+02.5	08
09	250 16.3	+02.4	251 15.5	+02.4	252 14.6	+02.5	253 13.7	+02.5	254 12.9	+02.4	09
10	265 18.8	+02.5	266 17.9	+02.5	267 17.1	+02.4	268 16.2	+02.5	269 15.3	+02.5	10
11	280 21.3	+02.4	281 20.4	+02.5	282 19.5	+02.5	283 18.7	+02.4	284 17.8	+02.5	11
12	295 23.7	+02.5	296 22.9	+02.4	297 22.0	+02.5	298 21.1	+02.5	299 20.3	+02.4	12
13	310 26.2	+02.4	311 25.3	+02.5	312 24.5	+02.4	313 23.6	+02.5	314 22.7	+02.5	13
14	325 28.6	+02.4	326 27.8	+02.4	327 26.9	+02.5	328 26.1	+02.4	329 25.2	+02.5	14
15	340 31.1	+02.5	341 30.2	+02.5	342 29.4	+02.4	343 28.5	+02.5	344 27.7	+02.4	15
16	355 33.6	+02.4	356 32.7	+02.5	357 31.8	+02.5	358 31.0	+02.5	359 30.1	+02.5	16
17	10 36.0	+02.5	11 35.2	+02.4	12 34.3	+02.5	13 33.5	+02.4	14 32.6	+02.5	17
18	25 38.5	+02.5	26 37.6	+02.5	27 36.8	+02.4	28 35.9	+02.5	29 35.1	+02.4	18
19	40 41.0	+02.4	41 40.1	+02.5	42 39.2	+02.5	43 38.4	+02.4	44 37.5	+02.5	19
20	55 43.4	+02.5	56 42.6	+02.4	57 41.7	+02.5	58 40.8	+02.5	59 40.0	+02.4	20
21	70 45.9	+02.5	71 45.0	+02.5	72 44.2	+02.4	73 43.3	+02.5	74 42.4	+02.5	21
22	85 48.4	+02.4	86 47.5	+02.5	87 46.6	+02.5	88 45.8	+02.4	89 44.9	+02.5	22
23	100 50.8	+02.5	101 50.0	+02.4	102 49.1	+02.5	103 48.2	+02.5	104 47.4	+02.4	23

	SHA	Dec		SHA	Dec
Alpheratz	357 39.1	N 29 12.1	Gienah	175 47.4	S 17 39.1
Ankaa	353 11.5	S 42 12.1	Acrux	173 03.9	S 63 12.3
Schedir	349 35.7	N 56 38.9	Gacrux	171 55.6	S 57 13.1
Diphda	348 51.5	S 17 52.9	Alioth	166 16.5	N 55 50.9
Achernar	335 23.5	S 57 08.5	Spica	158 26.3	S 11 15.8
Hamal	327 55.7	N 23 33.4	Alkaid	152 55.1	N 49 12.6
Polaris	315 45.1	N 89 21.2	Hadar	148 41.3	S 60 27.8
Acamar	315 14.8	S 40 13.9	Menkent	148 01.9	S 36 27.6
Menkar	314 10.2	N 04 09.9	Arcturus	145 51.2	N 19 05.3
Mirfak	308 33.7	N 49 56.0	Rigel Kentaurus	139 43.2	S 60 54.8
Aldebaran	290 44.0	N 16 32.9	Zubenelgenubi	137 00.3	S 16 07.3
Capella	280 27.4	N 46 01.2	Kocab	137 20.1	N 74 04.1
Rigel	281 07.4	S 08 11.0	Alphecca	126 07.3	N 26 38.8
Bellatrix	278 26.9	N 06 21.9	Antares	112 21.0	S 26 28.4
Elnath	278 06.6	N 28 37.4	Atria	107 18.9	S 69 03.4
Alnilam	275 41.5	S 01 11.6	Sabik	102 07.5	S 15 44.9
Betelgeuze	270 56.1	N 07 24.5	Shaula	96 16.0	S 37 06.9
Canopus	263 53.7	S 52 42.6	Rasalhague	96 02.5	N 12 32.8
Sirius	258 29.2	S 16 44.4	Etamin	90 44.4	N 51 29.0
Adhara	255 08.6	S 29 00.2	Kaus Australis	83 38.1	S 34 22.3
Castor	246 01.7	N 31 50.6	Vega	80 36.3	N 38 47.9
Procyon	244 54.4	N 05 10.6	Nunki	75 53.0	S 26 16.2
Pollux	243 21.5	N 27 58.6	Albireo	67 07.6	N 28 00.0
Avior	234 15.5	S 59 34.5	Altair	62 04.3	N 08 55.1
Suhail	222 48.7	S 43 30.8	Peacock	53 12.6	S 56 40.2
Miaplacidus	221 37.7	S 69 47.9	Deneb	49 28.9	N 45 21.1
Alphard	217 51.3	S 08 44.8	Enif	33 43.0	N 09 57.9
Regulus	207 38.3	N 11 52.1	Alnair	27 38.5	S 46 52.0
Dubhe	193 45.4	N 61 38.4	Formalhaut	15 19.3	S 29 31.1
Denebola	182 28.6	N 14 27.6	Markab	13 34.1	N 15 18.7

	SHA	Dec		SHA	Dec
Alpheratz	357 39.0	N 29 12.1	Gienah	175 47.5	S 17 39.0
Ankaa	353 11.4	S 42 12.1	Acrux	173 04.1	S 63 12.2
Schedir	349 35.6	N 56 39.0	Gacrux	171 55.8	S 57 13.1
Diphda	348 51.5	S 17 52.9	Alioth	166 16.7	N 55 50.9
Achernar	335 23.4	S 57 08.5	Spica	158 26.5	S 11 15.8
Hamal	327 55.6	N 23 33.4	Alkaid	152 55.3	N 49 12.6
Polaris	315 38.2	N 89 21.1	Hadar	148 41.6	S 60 27.7
Acamar	315 14.7	S 40 13.9	Menkent	148 02.0	S 36 27.6
Menkar	314 10.2	N 04 09.9	Arcturus	145 51.3	N 19 05.3
Mirfak	308 33.6	N 49 56.0	Rigel Kentaurus	139 43.4	S 60 54.8
Aldebaran	290 43.9	N 16 32.9	Zubenelgenubi	137 00.5	S 16 07.3
Capella	280 27.4	N 46 01.2	Kocab	137 20.4	N 74 04.2
Rigel	281 07.4	S 08 10.9	Alphecca	126 07.4	N 26 38.8
Bellatrix	278 26.8	N 06 21.9	Antares	112 21.1	S 26 28.4
Elnath	278 06.6	N 28 37.4	Atria	107 19.2	S 69 03.4
Alnilam	275 41.5	S 01 11.5	Sabik	102 07.6	S 15 44.9
Betelgeuze	270 56.1	N 07 24.5	Shaula	96 16.1	S 37 06.9
Canopus	263 53.6	S 52 42.6	Rasalhague	96 02.6	N 12 32.8
Sirius	258 29.2	S 16 44.4	Etamin	90 44.5	N 51 29.1
Adhara	255 08.6	S 29 00.1	Kaus Australis	83 38.2	S 34 22.3
Castor	246 01.7	N 31 50.6	Vega	80 36.4	N 38 48.0
Procyon	244 54.5	N 05 10.6	Nunki	75 53.1	S 26 16.2
Pollux	243 21.5	N 27 58.6	Albireo	67 07.6	N 28 00.1
Avior	234 15.6	S 59 34.4	Altair	62 04.3	N 08 55.1
Suhail	222 48.7	S 43 30.7	Peacock	53 12.7	S 56 40.3
Miaplacidus	221 37.8	S 69 47.9			

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 21 of 366 January 21		day 22 of 366 January 22		day 23 of 366 January 23		day 24 of 366 January 24		day 25 of 366 January 25		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	119 49.8	+02.5	120 49.0	+02.4	121 48.1	+02.5	122 47.3	+02.4	123 46.4	+02.5	00
01	134 52.3	+02.5	135 51.4	+02.5	136 50.6	+02.5	137 49.7	+02.5	138 48.9	+02.4	01
02	149 54.8	+02.4	150 53.9	+02.5	151 53.1	+02.4	152 52.2	+02.5	153 51.3	+02.5	02
03	164 57.2	+02.5	165 56.4	+02.4	166 55.5	+02.5	167 54.7	+02.4	168 53.8	+02.5	03
04	179 59.7	+02.5	180 58.8	+02.5	181 58.0	+02.4	182 57.1	+02.5	183 56.3	+02.4	04
05	195 02.2	+02.4	196 01.3	+02.5	197 00.4	+02.5	197 59.6	+02.4	198 58.7	+02.5	05
06	210 04.6	+02.5	211 03.8	+02.4	212 02.9	+02.5	213 02.0	+02.5	214 01.2	+02.5	06
07	225 07.1	+02.5	226 06.2	+02.5	227 05.4	+02.4	228 04.5	+02.5	229 03.7	+02.4	07
08	240 09.6	+02.4	241 08.7	+02.5	242 07.8	+02.5	243 07.0	+02.4	244 06.1	+02.5	08
09	255 12.0	+02.5	256 11.2	+02.4	257 10.3	+02.5	258 09.4	+02.5	259 08.6	+02.4	09
10	270 14.5	+02.4	271 13.6	+02.5	272 12.8	+02.4	273 11.9	+02.5	274 11.0	+02.5	10
11	285 16.9	+02.5	286 16.1	+02.5	287 15.2	+02.5	288 14.4	+02.5	289 13.5	+02.5	11
12	300 19.4	+02.5	301 18.6	+02.4	302 17.7	+02.5	303 16.8	+02.5	304 16.0	+02.4	12
13	315 21.9	+02.4	316 21.0	+02.5	317 20.2	+02.4	318 19.3	+02.5	319 18.4	+02.5	13
14	330 24.3	+02.5	331 23.5	+02.4	332 22.6	+02.5	333 21.8	+02.4	334 20.9	+02.5	14
15	345 26.8	+02.5	346 25.9	+02.5	347 25.1	+02.4	348 24.2	+02.5	349 23.4	+02.4	15
16	0 29.3	+02.4	1 28.4	+02.5	2 27.5	+02.5	3 26.7	+02.5	4 25.8	+02.5	16
17	15 31.7	+02.5	16 30.9	+02.4	17 30.0	+02.5	18 29.2	+02.4	19 28.3	+02.5	17
18	30 34.2	+02.5	31 33.3	+02.5	32 32.5	+02.4	33 31.6	+02.5	34 30.8	+02.4	18
19	45 36.7	+02.4	46 35.8	+02.5	47 34.9	+02.5	48 34.1	+02.4	49 33.2	+02.5	19
20	60 39.1	+02.5	61 38.3	+02.4	62 37.4	+02.5	63 36.5	+02.5	64 35.7	+02.5	20
21	75 41.6	+02.5	76 40.7	+02.5	77 39.9	+02.4	78 39.0	+02.5	79 38.2	+02.4	21
22	90 44.1	+02.4	91 43.2	+02.5	92 42.3	+02.5	93 41.5	+02.4	94 40.6	+02.5	22
23	105 46.5	+02.5	106 45.7	+02.4	107 44.8	+02.5	108 43.9	+02.5	109 43.1	+02.4	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 39.0	N 29 12.1	Gienah	175 47.4	S 17 39.1
Ankaa	353 11.4	S 42 12.1	AcruX	173 04.0	S 63 12.2
Schedir	349 35.6	N 56 39.0	Gacrux	171 55.7	S 57 13.1
Diphda	348 51.5	S 17 52.9	Alioth	166 16.6	N 55 50.9
Achernar	335 23.4	S 57 08.5	Spica	158 26.4	S 11 15.8
Hamal	327 55.7	N 23 33.4	Alkaid	152 55.2	N 49 12.6
Polaris	315 40.3	N 89 21.1	Hadar	148 41.5	S 60 27.8
Acamar	315 14.7	S 40 13.9	Menkent	148 02.0	S 36 27.6
Menkar	314 10.2	N 04 09.9	Arcturus	145 51.3	N 19 05.3
Mirfak	308 33.6	N 49 56.0	Rigel Kentaurus	139 43.4	S 60 54.8
Aldebaran	290 44.0	N 16 32.9	Zubenelgenubi	137 00.4	S 16 07.3
Capella	280 27.4	N 46 01.2	Kocab	137 20.3	N 74 04.2
Rigel	281 07.4	S 08 10.9	Alphecca	126 07.4	N 26 38.8
Bellatrix	278 26.9	N 06 21.9	Antares	112 21.0	S 26 28.4
Elnath	278 06.6	N 28 37.4	Atria	107 19.1	S 69 03.4
Alnilam	275 41.5	S 01 11.5	Sabik	102 07.6	S 15 44.9
Betelgeuze	270 56.1	N 07 24.5	Shaula	96 16.1	S 37 06.9
Canopus	263 53.6	S 52 42.6	Rasalhague	96 02.5	N 12 32.8
Sirius	258 29.2	S 16 44.4	Etamin	90 44.5	N 51 29.1
Adhara	255 08.6	S 29 00.1	Kaus Australis	83 38.2	S 34 22.3
Castor	246 01.7	N 31 50.6	Vega	80 36.4	N 38 48.0
Procyon	244 54.5	N 05 10.6	Nunki	75 53.1	S 26 16.2
Pollux	243 21.5	N 27 58.6	Albireo	67 07.6	N 28 00.1
Avior	234 15.5	S 59 34.4	Altair	62 04.3	N 08 55.1
Suhail	222 48.7	S 43 30.8	Peacock	53 12.7	S 56 40.2
Miaplacidus	221 37.8	S 69 47.9	Deneb	49 28.9	N 45 21.1
Alphard	217 51.3	S 08 44.8	Enif	33 43.0	N 09 57.9
Regulus	207 38.3	N 11 52.1	Alnair	27 38.5	S 46 52.0
Dubhe	193 45.5	N 61 38.4	Formalhaut	15 19.3	S 29 31.2
Denebola	182 28.7	N 14 27.6	Markab	13 34.1	N 15 18.7

UT	day 26 of 366 January 26		day 27 of 366 January 27		day 28 of 366 January 28		day 29 of 366 January 29		day 30 of 366 January 30		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	124 45.5	+02.5	125 44.7	+02.4	126 43.8	+02.5	127 43.0	+02.4	128 42.1	+02.5	00
01	139 48.0	+02.5	140 47.1	+02.5	141 46.3	+02.4	142 45.4	+02.5	143 44.6	+02.4	01
02	154 50.5	+02.4	155 49.6	+02.5	156 48.7	+02.5	157 47.9	+02.4	158 47.0	+02.5	02
03	169 52.9	+02.5	170 52.1	+02.4	171 51.2	+02.5	172 50.3	+02.5	173 49.5	+02.5	03
04	184 55.4	+02.5	185 54.5	+02.5	186 53.7	+02.4	187 52.8	+02.5	188 52.0	+02.4	04
05	199 57.9	+02.4	200 57.0	+02.5	201 56.1	+02.5	202 55.3	+02.4	203 54.4	+02.5	05
06	215 00.3	+02.5	215 59.5	+02.4	216 58.6	+02.5	217 57.7	+02.5	218 56.9	+02.4	06
07	230 02.8	+02.5	231 01.9	+02.5	232 01.1	+02.4	233 00.2	+02.5	233 59.3	+02.5	07
08	245 05.3	+02.4	246 04.4	+02.5	247 03.5	+02.5	248 02.7	+02.4	249 01.8	+02.5	08
09	260 07.7	+02.4	261 06.9	+02.4	262 06.0	+02.5	263 05.1	+02.5	264 04.3	+02.4	09
10	275 10.2	+02.4	276 09.3	+02.5	277 08.5	+02.4	278 07.6	+02.5	279 06.7	+02.5	10
11	290 12.6	+02.5	291 11.8	+02.5	292 10.9	+02.5	293 10.1	+02.4	294 09.2	+02.5	11
12	305 15.1	+02.5	306 14.3	+02.4	307 13.4	+02.5	308 12.5	+02.5	309 11.7	+02.4	12
13	320 17.6	+02.4	321 16.7	+02.5	322 15.9	+02.4	323 15.0	+02.5	324 14.1	+02.5	13
14	335 20.0	+02.5	336 19.2	+02.4	337 18.3	+02.5	338 17.5	+02.4	339 16.6	+02.5	14
15	350 22.5	+02.5	351 21.6	+02.5	352 20.8	+02.4	353 19.9	+02.5	354 19.1	+02.4	15
16	5 25.0	+02.4	6 24.1	+02.5	7 23.2	+02.5	8 22.4	+02.4	9 21.5	+02.5	16
17	20 27.4	+02.5	21 26.6	+02.4	22 25.7	+02.5	23 24.8	+02.5	24 24.0	+02.4	17
18	35 29.9	+02.5	36 29.0	+02.5	37 28.2	+02.4	38 27.3	+02.5	39 26.4	+02.5	18
19	50 32.4	+02.4	51 31.5	+02.5	52 30.6	+02.5	53 29.8	+02.4	54 28.9	+02.5	19
20	65 34.8	+02.5	66 34.0	+02.4	67 33.1	+02.5	68 32.2	+02.5	69 31.4	+02.4	20
21	80 37.3	+02.5	81 36.4	+02.5	82 35.6	+02.4	83 34.7	+02.5	84 33.8	+02.5	21
22	95 39.8	+02.4	96 38.9	+02.5	97 38.0	+02.5	98 37.2	+02.4	99 36.3	+02.5	22
23	110 42.2	+02.5	111 41.4	+02.4	112 40.5	+02.5	113 39.6	+02.5	114 38.8	+02.4	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 39.0	N 29 12.1	Gienah	175 47.4	S 17 39.1
Ankaa	353 11.5	S 42 12.1	AcruX	173 03.9	S 63 12.3
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Diphda	348 51.5	S 17 52.9	Alioth	166 16.5	N 55 50.9
Achernar	335 23.5	S 57 08.5	Spica	158 26.4	S 11 15.8
Hamal	327 55.7	N 23 33.4	Alkaid	152 55.2	N 49 12.6
Polaris	315 42.5	N 89 21.1	Hadar	148 41.4	S 60 27.8
Acamar	315 14.7	S 40 13.9	Menkent	148 01.9	S 36 27.6
Menkar	314 10.2	N 04 09.9	Arcturus	145 51.2	N 19 05.3
Mirfak	308 33.7	N 49 56.0	Rigel Kentaurus	139 43.3	S 60 54.8
Aldebaran	290 44.0	N 16 32.9	Zubenelgenubi	137 00.4	S 16 07.3
Capella	280 27.4	N 46 01.2	Kocab	137 20.2	N 74 04.2
Rigel	281 07.4	S 08 10.9	Alphecca	126 07.3	N 26 38.8
Bellatrix	278 26.9	N 06 21.9	Antares	112 21.0	S 26 28.4
Elnath	278 06.6	N 28 37.4	Atria	107 19.0	S 69 03.4
Alnilam	275 41.5	S 01 11.5	Sabik	102 07.6	S 15 44.9
Betelgeuze	270 56.1	N 07 24.5	Shaula	96 16.0	S 37 06.9
Canopus	263 53.6	S 52 42.6	Rasalhague	96 02.5	N 12 32.8
Sirius	258 29.2	S 16 44.4	Etamin	90 44.5	N 51 29.1
Adhara	255 08.6	S 29 00.1	Kaus Australis	83 38.1	S 34 22.3
Castor	246 01.7	N 31 50.6	Vega	80 36.3	N 38 48.0
Procyon	244 54.4	N 05 10.6	Nunki	75 53.0	S 26 16.2
Pollux	243 21.5	N 27 58.6	Albireo	67 07.6	N 28 00.1
Avior	234 15.5	S 59 34.5	Altair	62 04.3	N 08 55.1
Suhail	222 48.7	S 43 30.8	Peacock	53 12.7	S 56 40.2
Miaplacidus	221 37.7	S 69 47.9	Deneb	49 28.9	N 45 21.1
Alphard	217 51.3	S 08 44.8	Enif	33 43.0	N 09 57.9
Regulus	207 38.3	N 11 52.1	Alnair	27 38.5	S 46 52.0
Dubhe	193 45.5	N 61 38.4	Formalhaut	15 19.3	S 29 31.1
Denebola	182 28.7	N 14 27.6	Markab	13 34.1	N 15 18.7

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2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 51 of 366 <i>February 20</i>		day 52 of 366 <i>February 21</i>		day 53 of 366 <i>February 22</i>		day 54 of 366 <i>February 23</i>		day 55 of 366 <i>February 24</i>		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	149	24.0	+02.5	150	23.1	+02.5	151	22.3	+02.5	152	21.4	+02.5	00
01	164	26.5	+02.4	165	25.6	+02.5	166	24.8	+02.4	167	23.9	+02.5	01
02	179	28.9	+02.5	180	28.1	+02.4	181	27.2	+02.5	182	26.4	+02.4	02
03	194	31.4	+02.5	195	30.5	+02.5	196	29.7	+02.4	197	28.8	+02.5	03
04	209	33.9	+02.4	210	33.0	+02.5	211	32.1	+02.5	212	31.3	+02.4	04
05	224	36.3	+02.5	225	35.5	+02.4	226	34.6	+02.5	227	33.7	+02.5	05
06	239	38.8	+02.5	240	37.9	+02.5	241	37.1	+02.4	242	36.2	+02.5	06
07	254	41.3	+02.4	255	40.4	+02.5	256	39.5	+02.5	257	38.7	+02.4	07
08	269	43.7	+02.5	270	42.9	+02.4	271	42.0	+02.5	272	41.1	+02.5	08
09	284	46.2	+02.5	285	45.3	+02.5	286	44.5	+02.4	287	43.6	+02.5	09
10	299	48.7	+02.4	300	47.8	+02.5	301	46.9	+02.5	302	46.1	+02.4	10
11	314	51.1	+02.5	315	50.3	+02.4	316	49.4	+02.5	317	48.5	+02.5	11
12	329	53.6	+02.4	330	52.7	+02.5	331	51.9	+02.4	332	51.0	+02.5	12
13	344	56.0	+02.5	345	55.2	+02.4	346	54.3	+02.5	347	53.5	+02.4	13
14	359	58.5	+02.5	0	57.6	+02.5	1	56.8	+02.5	2	55.9	+02.5	14
15	15	01.0	+02.4	16	00.1	+02.5	16	59.3	+02.4	17	58.4	+02.5	15
16	30	03.4	+02.5	31	02.6	+02.4	32	01.7	+02.5	33	00.9	+02.4	16
17	45	05.9	+02.5	46	05.0	+02.5	47	04.2	+02.4	48	03.3	+02.5	17
18	60	08.4	+02.4	61	07.5	+02.5	62	06.6	+02.5	63	05.8	+02.4	18
19	75	10.8	+02.5	76	10.0	+02.4	77	09.1	+02.5	78	08.2	+02.5	19
20	90	13.3	+02.5	91	12.4	+02.5	92	11.6	+02.4	93	10.7	+02.5	20
21	105	15.8	+02.4	106	14.9	+02.5	107	14.0	+02.5	108	13.2	+02.4	21
22	120	18.2	+02.5	121	17.4	+02.4	122	16.5	+02.5	123	15.6	+02.5	22
23	135	20.7	+02.4	136	19.8	+02.5	137	19.0	+02.4	138	18.1	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	39.1	N 29	12.0	
Ankaa	353	11.5	S 42	12.0	
Schedir	349	35.8	N 56	38.9	
Diphda	348	51.6	S 17	52.9	
Achernar	335	23.6	S 57	08.5	
Hamal	327	55.8	N 23	33.4	
Polaris	315	54.5	N 89	21.2	
Acamar	315	14.9	S 40	13.9	
Menkar	314	10.3	N 04	09.9	
Mirfak	308	33.8	N 49	56.0	
Aldebaran	290	44.0	N 16	32.9	
Capella	280	27.5	N 46	01.2	
Rigel	281	07.5	S 08	11.0	
Bellatrix	278	26.9	N 06	21.9	
Elnath	278	06.7	N 28	37.4	
Alnilam	275	41.6	S 01	11.6	
Betelgeuze	270	56.2	N 07	24.5	
Canopus	263	53.8	S 52	42.7	
Sirius	258	29.3	S 16	44.5	
Adhara	255	08.6	S 29	00.2	
Castor	246	01.7	N 31	50.6	
Procyon	244	54.5	N 05	10.6	
Pollux	243	21.5	N 27	58.6	
Avior	234	15.6	S 59	34.6	
Suhail	222	48.6	S 43	30.9	
Miaplacidus	221	37.8	S 69	48.1	
Alphard	217	51.2	S 08	44.9	
Regulus	207	38.2	N 11	52.0	
Dubhe	193	45.3	N 61	38.5	
Denebola	182	28.5	N 14	27.6	
Gienah	175	47.2	S 17	39.2	
Acrux	173	03.7	S 63	12.4	
Gacrux	171	55.4	S 57	13.2	
Alioth	166	16.3	N 55	50.9	
Spica	158	26.2	S 11	15.9	
Alkaid	152	54.9	N 49	12.6	
Hadar	148	41.1	S 60	27.9	
Menkent	148	01.7	S 36	27.7	
Arcturus	145	51.0	N 19	05.2	
Rigel Kentaurus	139	42.9	S 60	54.9	
Zubenelgenubi	137	00.2	S 16	07.4	
Kocab	137	19.7	N 74	04.1	
Alphecca	126	07.1	N 26	38.7	
Antares	112	20.8	S 26	28.4	
Atria	107	18.5	S 69	03.4	
Sabik	102	07.4	S 15	44.9	
Shaula	96	15.8	S 37	06.9	
Rasalhague	96	02.3	N 12	32.7	
Etamin	90	44.3	N 51	29.0	
Kaus Australis	83	37.9	S 34	22.3	
Vega	80	36.2	N 38	47.9	
Nunki	75	52.9	S 26	16.2	
Albireo	67	07.5	N 27	60.0	
Altair	62	04.2	N 08	55.1	
Peacock	53	12.5	S 56	40.1	
Deneb	49	28.8	N 45	21.0	
Enif	33	42.9	N 09	57.9	
Alnair	27	38.4	S 46	51.9	
Formalhaut	15	19.3	S 29	31.1	
Markab	13	34.1	N 15	18.7	

UT	day 36 of 366 <i>February 5</i>		day 37 of 366 <i>February 6</i>		day 38 of 366 <i>February 7</i>		day 39 of 366 <i>February 8</i>		day 40 of 366 <i>February 9</i>		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	134	36.9	+02.5	135	36.1	+02.4	136	35.2	+02.5	137	34.3	+02.5	00
01	149	39.4	+02.5	150	38.5	+02.5	151	37.7	+02.4	152	36.8	+02.5	01
02	164	41.9	+02.4	165	41.0	+02.5	166	40.1	+02.5	167	39.3	+02.4	02
03	179	44.3	+02.5	180	43.5	+02.4	181	42.6	+02.5	182	41.7	+02.5	03
04	194	46.8	+02.4	195	45.9	+02.5	196	45.1	+02.4	197	44.2	+02.5	04
05	209	49.2	+02.5	210	48.4	+02.5	211	47.5	+02.5	212	46.7	+02.4	05
06	224	51.7	+02.5	225	50.9	+02.4	226	50.0	+02.5	227	49.1	+02.5	06
07	239	54.2	+02.4	240	53.3	+02.5	241	52.5	+02.4	242	51.6	+02.5	07
08	254	56.6	+02.5	255	55.8	+02.4	256	54.9	+02.5	257	54.1	+02.4	08
09	269	59.1	+02.5	270	58.2	+02.5	271	57.4	+02.4	272	56.5	+02.5	09
10	285	01.6	+02.4	286	00.7	+02.5	286	59.8	+02.5	287	59.0	+02.5	10
11	300	04.0	+02.4	301	03.2	+02.4	302	02.3	+02.5	303	01.5	+02.4	11
12	315	06.5	+02.5	316	05.6	+02.5	317	04.8	+02.4	318	03.9	+02.5	12
13	330	09.0	+02.4	331	08.1	+02.5	332	07.2	+02.5	333	06.4	+02.4	13
14	345	11.4	+02.4	346	10.6	+02.5	347	09.7	+02.5	348	08.8	+02.5	14
15	0	13.9	+02.5	1	13.0	+02.5	2	12.2	+02.4	3	11.3	+02.5	15
16	15	16.4	+02.4	16	15.5	+02.5	17	14.6	+02.5	18	13.8	+02.4	16
17	30	18.8	+02.5	31	18.0	+02.4	32	17.1	+02.5	33	16.2	+02.5	17
18	45	21.3	+02.4	46	20.4	+02.5	47	19.6	+02.4	48	18.7	+02.5	18
19	60	23.7	+02.5	61	22.9	+02.4	62	22.0	+02.5	63	21.2	+02.4	19
20	75	26.2	+02.5	76	25.3	+02.5	77	24.5	+02.5	78	23.6	+02.5	20
21	90	28.7	+02.4	91	27.8	+02.5	92	27.0	+02.4	93	26.1	+02.5	21
22	105	31.1	+02.5	106	30.3	+02.4	107	29.4	+02.5	108	28.6	+02.4	22
23	120	33.6	+02.5	121	32.7	+02.5	122	31.9	+02.4	123	31.0	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	39.1	N 29	12.1	
Ankaa	353	11.5	S 42	12.1	
Schedir	349	35.7	N 56	38.9	
Diphda	348	51.5	S 17	52.9	
Achernar	335	23.5	S 57	08.5	
Hamal	327	55.7	N 23	33.4	
Polaris	315	47.4	N 89	21.2	
Acamar	315	14.8	S 40	13.9	
Menkar	314	10.2	N 04	09.9	
Mirfak	308	33.7	N 49	56.0	
Aldebaran	290	44.0	N 16	32.9	
Capella	280	27.4	N 46	01.2	
Rigel	281	07.5	S 08	11.0	
Bellatrix	278	26.9	N 06	21.9	
Elnath	278	06.6	N 28	37.4	
Alnilam	275	41.5	S 01	11.6	
Betelgeuze	270	56.1	N 07	24.5	
Canopus	263	53.7	S 52	42.7	
Sirius	258	29.2	S 16	44.4	
Adhara	255	08.6	S 29	00.2	
Castor	246	01.7	N 31	50.6	
Procyon	244	54.4	N 05	10.6	
Pollux	243	21.5	N 27	58.6	
Avior	234	15.6	S 59	34.5	
Suhail	222	48.6	S 43	30.9	
Miaplacidus	221	37.7	S 69	48.0	
Alphard	217	51.3	S 08	44.8	
Regulus	207	38.2	N 11	52.1	
Dubhe	193	45.4	N 61	38.4	
Denebola	182	28.6	N 14	27.6	
Gienah	175	47.3	S 17	39.1	
Acrux	173	03.8	S 63	12.3	
Gacrux	171	55.5	S 57	13.2	
Alioth	166	16.4	N 55	50.9	
Spica	158	26.3	S 11	15.9	
Alkaid	152	55.1	N 49	12.6	
Hadar	148	41.3	S 60	27.8	
Menkent	148	01.8	S 36	27.6	
Arcturus	145	51.2	N 19	05.3	
Rigel Kentaurus	139	43.1	S 60	54.8	
Zubenelgenubi	137	00.3	S 16	07.3	
Kocab	137	20.0	N 74	04.1	
Alphecca	126	07.2	N 26	38.8	
Antares	112	20.9	S 26	28.4	
Atria	107	18.8	S 69	03.4	
Sabik	102	07.5	S 15	44.9	
Shaula	96	16.0	S 37	06.9	
Rasalhague	96	02.5	N 12	32.8	
Etamin	90	44.4	N 51	29.0	
Kaus Australis	83	38.0	S 34	22.3	
Vega	80	36.3	N 38	47.9	

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 41 of 366 <i>February 10</i>		day 42 of 366 <i>February 11</i>		day 43 of 366 <i>February 12</i>		day 44 of 366 <i>February 13</i>		day 45 of 366 <i>February 14</i>		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	139	32.6	+02.5	140	31.8	+02.4	141	30.9	+02.5	142	30.0	+02.5	00
01	154	35.1	+02.5	155	34.2	+02.5	156	33.4	+02.4	157	32.5	+02.5	01
02	169	37.6	+02.4	170	36.7	+02.5	171	35.8	+02.5	172	35.0	+02.4	02
03	184	40.0	+02.5	185	39.2	+02.4	186	38.3	+02.5	187	37.4	+02.5	03
04	199	42.5	+02.4	200	41.6	+02.5	201	40.8	+02.4	202	39.9	+02.5	04
05	214	44.9	+02.5	215	44.1	+02.4	216	43.2	+02.5	217	42.4	+02.4	05
06	229	47.4	+02.5	230	46.5	+02.5	231	45.7	+02.4	232	44.8	+02.5	06
07	244	49.9	+02.4	245	49.0	+02.5	246	48.1	+02.5	247	47.3	+02.4	07
08	259	52.3	+02.5	260	51.5	+02.4	261	50.6	+02.5	262	49.7	+02.5	08
09	274	54.8	+02.5	275	53.9	+02.5	276	53.1	+02.4	277	52.2	+02.5	09
10	289	57.3	+02.4	290	56.4	+02.5	291	55.5	+02.5	292	54.7	+02.4	10
11	304	59.7	+02.5	305	58.9	+02.4	306	58.0	+02.5	307	57.1	+02.5	11
12	320	02.2	+02.5	321	01.3	+02.5	322	00.5	+02.4	323	59.6	+02.5	12
13	335	04.7	+02.4	336	03.8	+02.5	337	02.9	+02.5	338	02.1	+02.4	13
14	350	07.1	+02.5	351	06.3	+02.4	352	05.4	+02.5	353	04.5	+02.5	14
15	5	09.6	+02.5	6	08.7	+02.5	7	07.9	+02.4	8	07.0	+02.5	15
16	20	12.1	+02.4	21	11.2	+02.5	22	10.3	+02.5	23	09.5	+02.4	16
17	35	14.5	+02.5	36	13.7	+02.4	37	12.8	+02.5	38	11.9	+02.5	17
18	50	17.0	+02.4	51	16.1	+02.5	52	15.3	+02.4	53	14.4	+02.5	18
19	65	19.4	+02.5	66	18.6	+02.4	67	17.7	+02.5	68	16.9	+02.4	19
20	80	21.9	+02.5	81	21.0	+02.5	82	20.2	+02.4	83	19.3	+02.5	20
21	95	24.4	+02.4	96	23.5	+02.5	97	22.6	+02.5	98	21.8	+02.4	21
22	110	26.8	+02.5	111	26.0	+02.4	112	25.1	+02.5	113	24.2	+02.5	22
23	125	29.3	+02.5	126	28.4	+02.5	127	27.6	+02.4	128	26.7	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	39.1	N 29	12.1	
Ankaa	353	11.5	S 42	12.0	
Schedir	349	35.7	N 56	38.9	
Diphda	348	51.5	S 17	52.9	
Achernar	335	23.6	S 57	08.5	
Hamal	327	55.7	N 23	33.4	
Polaris	315	49.8	N 89	21.2	
Acamar	315	14.8	S 40	13.9	
Menkar	314	10.3	N 04	09.9	
Mirfak	308	33.8	N 49	56.0	
Aldebaran	290	44.0	N 16	32.9	
Capella	280	27.5	N 46	01.2	
Rigel	281	07.5	S 08	11.0	
Bellatrix	278	26.9	N 06	21.9	
Elnath	278	06.6	N 28	37.4	
Alnilam	275	41.5	S 01	11.6	
Betelgeuze	270	56.1	N 07	24.5	
Canopus	263	53.7	S 52	42.7	
Sirius	258	29.3	S 16	44.5	
Adhara	255	08.6	S 29	00.2	
Castor	246	01.7	N 31	50.6	
Procyon	244	54.4	N 05	10.6	
Pollux	243	21.5	N 27	58.6	
Avior	234	15.6	S 59	34.6	
Suhail	222	48.6	S 43	30.9	
Miaplacidus	221	37.7	S 69	48.0	
Alphard	217	51.3	S 08	44.8	
Regulus	207	38.2	N 11	52.1	
Dubhe	193	45.3	N 61	38.4	
Denebola	182	28.6	N 14	27.6	
Gienah	175	47.3	S 17	39.1	
Acrux	173	03.8	S 63	12.3	
Gacrux	171	55.5	S 57	13.2	
Alioth	166	16.4	N 55	50.9	
Spica	158	26.3	S 11	15.9	
Alkaid	152	55.0	N 49	12.6	
Hadar	148	41.2	S 60	27.8	
Menkent	148	01.8	S 36	27.6	
Arcturus	145	51.1	N 19	05.2	
Rigel Kentaurus	139	43.1	S 60	54.9	
Zubenelgenubi	137	00.3	S 16	07.3	
Kocab	137	19.9	N 74	04.1	
Alphecca	126	07.2	N 26	38.7	
Antares	112	20.9	S 26	28.4	
Atria	107	18.7	S 69	03.4	
Sabik	102	07.5	S 15	44.9	
Shaula	96	15.9	S 37	06.9	
Rasalhague	96	02.4	N 12	32.7	
Etamin	90	44.3	N 51	29.0	
Kaus Australis	83	38.0	S 34	22.3	
Vega	80	36.3	N 38	47.9	
Nunki	75	52.9	S 26	16.2	
Albireo	67	07.5	N 27	60.0	
Altair	62	04.2	N 08	55.1	
Peacock	53	12.6	S 56	40.2	
Deneb	49	28.9	N 45	21.0	
Enif	33	43.0	N 09	57.9	
Alnair	27	38.5	S 46	51.9	
Formalhaut	15	19.3	S 29	31.1	
Markab	13	34.1	N 15	18.7	

UT	day 46 of 366 <i>February 15</i>		day 47 of 366 <i>February 16</i>		day 48 of 366 <i>February 17</i>		day 49 of 366 <i>February 18</i>		day 50 of 366 <i>February 19</i>		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	144	28.3	+02.5	145	27.5	+02.4	146	26.6	+02.5	147	25.7	+02.5	00
01	159	30.8	+02.4	160	29.9	+02.5	161	29.1	+02.4	162	28.2	+02.5	01
02	174	33.2	+02.5	175	32.4	+02.4	176	31.5	+02.5	177	30.7	+02.4	02
03	189	35.7	+02.5	190	34.8	+02.5	191	34.0	+02.4	192	33.1	+02.5	03
04	204	38.2	+02.4	205	37.3	+02.5	206	36.4	+02.5	207	35.6	+02.5	04
05	219	40.6	+02.5	220	39.8	+02.4	221	38.9	+02.5	222	38.1	+02.4	05
06	234	43.1	+02.5	235	42.2	+02.5	236	41.4	+02.4	237	40.5	+02.5	06
07	249	45.6	+02.4	250	44.7	+02.5	251	43.8	+02.5	252	43.0	+02.4	07
08	264	48.0	+02.5	265	47.2	+02.4	266	46.3	+02.5	267	45.4	+02.5	08
09	279	50.5	+02.5	280	49.6	+02.5	281	48.8	+02.4	282	47.9	+02.5	09
10	294	53.0	+02.4	295	52.1	+02.5	296	51.2	+02.5	297	50.4	+02.4	10
11	309	55.4	+02.5	310	54.6	+02.4	311	53.7	+02.5	312	52.8	+02.5	11
12	324	57.9	+02.4	325	57.0	+02.5	326	56.2	+02.4	327	55.3	+02.5	12
13	340	00.3	+02.5	340	59.5	+02.4	341	58.6	+02.5	342	57.8	+02.4	13
14	355	02.8	+02.5	356	01.9	+02.5	357	01.1	+02.5	358	00.2	+02.4	14
15	10	05.3	+02.4	11	04.4	+02.5	12	03.6	+02.4	13	02.7	+02.5	15
16	25	07.7	+02.5	26	06.9	+02.4	27	06.0	+02.5	28	05.2	+02.4	16
17	40	10.2	+02.5	41	09.3	+02.5	42	08.5	+02.4	43	07.6	+02.5	17
18	55	12.7	+02.4	56	11.8	+02.5	57	10.9	+02.5	58	10.1	+02.4	18
19	70	15.1	+02.5	71	14.3	+02.4	72	13.4	+02.5	73	12.5	+02.5	19
20	85	17.6	+02.5	86	16.7	+02.5	87	15.9	+02.4	88	15.0	+02.5	20
21	100	20.1	+02.4	101	19.2	+02.5	102	18.3	+02.5	103	17.5	+02.4	21
22	115	22.5	+02.5	116	21.7	+02.4	117	20.8	+02.5	118	19.9	+02.5	22
23	130	25.0	+02.5	131	24.1	+02.5	132	23.3	+02.4	133	22.4	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	39.1	N 29	12.0	
Ankaa	353	11.5	S 42	12.0	
Schedir	349	35.8	N 56	38.9	
Diphda	348	51.6	S 17	52.9	
Achernar	335	23.6	S 57	08.5	
Hamal	327	55.8	N 23	33.4	
Polaris	315	52.3	N 89	21.2	
Acamar	315	14.9	S 40	13.9	
Menkar	314	10.3	N 04	09.9	
Mirfak	308	33.8	N 49	56.0	
Aldebaran	290	44.0	N 16	32.9	
Capella	280	27.5	N 46	01.2	
Rigel	281	07.5	S 08	11.0	
Bellatrix	278	26.9	N 06	21.9	
Elnath	278	06.6	N 28	37.4	
Alnilam	275	41.5	S 01	11.6	
Betelgeuze	270	56.1	N 07	24.5	
Canopus	263	53.8	S 52	42.7	
Sirius	258	29.3	S 16	44.5	
Adhara	255	08.6	S 29	00.2	
Castor	246	01.7	N 31	50.6	
Procyon	244	54.5	N 05	10.6	
Pollux	243	21.5	N 27	58.6	
Avior	234	15.6	S 59	34.6	
Suhail	222	48.6	S 43	30.9	
Miaplacidus	221	37.7	S 69	48.0	
Alphard	217	51.3	S 08	44.8	
Regulus	207	38.2	N 11	52.1	
Dubhe	193	45.3	N 61	38.5	
Denebola	182	28.6	N 14	27.6	
Gienah	175	47.3	S 17	39.2	
Acrux	173	03.7	S 63	12.4	
Gacrux	171	55.4	S 57	13.2	
Alioth	166	16.3	N 55	50.9	
Spica	158	26.2	S 11	15.9	
Alkaid	152	55.0	N 49	12.6	
Hadar	148	41.1	S 60	27.8	
Menkent	148	01.8	S 36	27.6	
Arcturus	145	51.1	N 19	05.2	
Rigel Kentaurus	139	43.0	S 60	54.9	
Zubenelgenubi	137	00.2	S 16	07.4	
Kocab	137	19.8	N 74	04.1	
Alphecca	126	07.1	N 26	38.7	
Antares	112	20.8	S 26	28.4	
Atria	107	18.6	S 69	03.4	
Sabik	102	07.4	S 15	44.9	
Shaula	96	15.9	S 37	06.9	
Rasalhague	96	02.4	N 12	32.7	
Etamin	90	44.3	N 51	29.0	
Kaus Australis	83	38.0	S 34	22.3	
Vega	80	36.2	N 38</		

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2020 - First Point of Aries / Selected Stars

UT	day 71 of 366		day 72 of 366		day 73 of 366		day 74 of 366		day 75 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	169 06.8	+02.4	170 05.9	+02.5	171 05.0	+02.5	172 04.2	+02.4	173 03.3	+02.5	00
01	184 09.2	+02.5	185 08.4	+02.4	186 07.5	+02.5	187 06.6	+02.5	188 05.8	+02.5	01
02	199 11.7	+02.5	200 10.8	+02.5	201 10.0	+02.4	202 09.1	+02.5	203 08.3	+02.4	02
03	214 14.2	+02.4	215 13.3	+02.5	216 12.4	+02.5	217 11.6	+02.4	218 10.7	+02.5	03
04	229 16.6	+02.5	230 15.8	+02.4	231 14.9	+02.5	232 14.0	+02.5	233 13.2	+02.4	04
05	244 19.1	+02.5	245 18.2	+02.5	246 17.4	+02.4	247 16.5	+02.5	248 15.6	+02.5	05
06	259 21.6	+02.4	260 20.7	+02.5	261 19.8	+02.5	262 19.0	+02.4	263 18.1	+02.5	06
07	274 24.0	+02.5	275 23.2	+02.4	276 22.3	+02.5	277 21.4	+02.5	278 20.6	+02.4	07
08	289 26.5	+02.4	290 25.6	+02.5	291 24.8	+02.4	292 23.9	+02.5	293 23.0	+02.5	08
09	304 28.9	+02.5	305 28.1	+02.5	306 27.2	+02.5	307 26.4	+02.4	308 25.5	+02.5	09
10	319 31.4	+02.5	320 30.6	+02.4	321 29.7	+02.5	322 28.8	+02.5	323 28.0	+02.4	10
11	334 33.9	+02.4	335 33.0	+02.5	336 32.2	+02.4	337 31.3	+02.5	338 30.4	+02.5	11
12	349 36.3	+02.5	350 35.5	+02.4	351 34.6	+02.5	352 33.8	+02.4	353 32.9	+02.5	12
13	4 38.8	+02.5	5 37.9	+02.5	6 37.1	+02.4	7 36.2	+02.5	8 35.4	+02.4	13
14	19 41.3	+02.4	20 40.4	+02.5	21 39.5	+02.5	22 38.7	+02.4	23 37.8	+02.5	14
15	34 43.7	+02.5	35 42.9	+02.4	36 42.0	+02.5	37 41.1	+02.5	38 40.3	+02.5	15
16	49 46.2	+02.5	50 45.3	+02.5	51 44.5	+02.4	52 43.6	+02.5	53 42.8	+02.4	16
17	64 48.7	+02.4	65 47.8	+02.5	66 46.9	+02.5	67 46.1	+02.4	68 45.2	+02.5	17
18	79 51.1	+02.5	80 50.3	+02.4	81 49.4	+02.5	82 48.5	+02.5	83 47.7	+02.4	18
19	94 53.6	+02.5	95 52.7	+02.5	96 51.9	+02.4	97 51.0	+02.5	98 50.1	+02.5	19
20	109 56.1	+02.4	110 55.2	+02.5	111 54.3	+02.5	112 53.5	+02.4	113 52.6	+02.5	20
21	124 58.5	+02.5	125 57.7	+02.4	126 56.8	+02.5	127 55.9	+02.5	128 55.1	+02.4	21
22	140 01.0	+02.4	141 00.1	+02.5	141 59.3	+02.4	142 58.4	+02.5	143 57.5	+02.5	22
23	155 03.4	+02.5	156 02.6	+02.4	157 01.7	+02.5	158 00.9	+02.4	158 60.0	+02.5	23

	SHA	Dec		SHA	Dec
Alpheratz	357 39.1	N 29 12.0	Gienah	175 47.2	S 17 39.2
Ankaa	353 11.6	S 42 11.9	Acrux	173 03.5	S 63 12.5
Schedir	349 35.9	N 56 38.8	Gacrux	171 55.3	S 57 13.4
Diphda	348 51.6	S 17 52.8	Alioth	166 16.1	N 55 51.0
Achernar	335 23.8	S 57 08.4	Spica	158 26.1	S 11 16.0
Hamal	327 55.8	N 23 33.3	Alkaid	152 54.8	N 49 12.7
Polaris	316 03.5	N 89 21.1	Hadar	148 40.9	S 60 27.9
Acamar	315 15.0	S 40 13.8	Menkent	148 01.6	S 36 27.7
Menkar	314 10.4	N 04 09.9	Arcturus	145 50.9	N 19 05.2
Mirfak	308 34.0	N 49 55.9	Rigel Kentaurus	139 42.7	S 60 55.0
Aldebaran	290 44.1	N 16 32.9	Zubenelgenubi	137 00.0	S 16 07.4
Capella	280 27.6	N 46 01.2	Kocab	137 19.3	N 74 04.2
Rigel	281 07.6	S 08 11.0	Alphecca	126 06.9	N 26 38.7
Bellatrix	278 27.0	N 06 21.9	Antares	112 20.6	S 26 28.4
Elnath	278 06.8	N 28 37.4	Atria	107 18.1	S 69 03.4
Alnilam	275 41.6	S 01 11.6	Sabik	102 07.2	S 15 44.9
Betelgeuze	270 56.2	N 07 24.5	Shaula	96 15.6	S 37 06.9
Canopus	263 54.0	S 52 42.8	Rasalhague	96 02.2	N 12 32.7
Sirius	258 29.4	S 16 44.5	Etamin	90 44.1	N 51 28.9
Adhara	255 08.7	S 29 00.3	Kaus Australis	83 37.8	S 34 22.3
Castor	246 01.8	N 31 50.6	Vega	80 36.0	N 38 47.8
Procyon	244 54.5	N 05 10.6	Nunki	75 52.7	S 26 16.2
Pollux	243 21.5	N 27 58.6	Albireo	67 07.4	N 27 59.9
Avior	234 15.7	S 59 34.7	Altair	62 04.1	N 08 55.0
Suhail	222 48.7	S 43 31.0	Peacock	53 12.3	S 56 40.0
Miaplacidus	221 37.9	S 69 48.2	Deneb	49 28.7	N 45 20.9
Alphard	217 51.3	S 08 44.9	Enif	33 42.9	N 09 57.9
Regulus	207 38.2	N 11 52.1	Alnair	27 38.4	S 46 51.8
Dubhe	193 45.2	N 61 38.6	Formalhaut	15 19.3	S 29 31.0
Denebola	182 28.5	N 14 27.6	Markab	13 34.1	N 15 18.6

UT	day 56 of 366		day 57 of 366		day 58 of 366		day 59 of 366		day 60 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	154 19.7	+02.5	155 18.8	+02.5	156 18.0	+02.4	157 17.1	+02.5	158 16.2	+02.5	00
01	169 22.2	+02.4	170 21.3	+02.5	171 20.4	+02.5	172 19.6	+02.4	173 18.7	+02.5	01
02	184 24.6	+02.5	185 23.8	+02.5	186 22.9	+02.5	187 22.0	+02.5	188 21.2	+02.4	02
03	199 27.1	+02.5	200 26.2	+02.5	201 25.4	+02.4	202 24.5	+02.5	203 23.6	+02.5	03
04	214 29.6	+02.4	215 28.7	+02.5	216 27.8	+02.5	217 27.0	+02.4	218 26.1	+02.5	04
05	229 32.0	+02.5	230 31.2	+02.4	231 30.3	+02.5	232 29.4	+02.5	233 28.6	+02.4	05
06	244 34.5	+02.4	245 33.6	+02.5	246 32.8	+02.4	247 31.9	+02.5	248 31.0	+02.5	06
07	259 36.9	+02.5	260 36.1	+02.5	261 35.2	+02.5	262 34.4	+02.4	263 33.5	+02.5	07
08	274 39.4	+02.5	275 38.6	+02.4	276 37.7	+02.5	277 36.8	+02.5	278 36.0	+02.4	08
09	289 41.9	+02.4	290 41.0	+02.5	291 40.2	+02.4	292 39.3	+02.5	293 38.4	+02.5	09
10	304 44.3	+02.5	305 43.5	+02.4	306 42.6	+02.5	307 41.8	+02.4	308 40.9	+02.5	10
11	319 46.8	+02.5	320 45.9	+02.5	321 45.1	+02.4	322 44.2	+02.4	323 43.4	+02.4	11
12	334 49.3	+02.4	335 48.4	+02.5	336 47.5	+02.5	337 46.7	+02.4	338 45.8	+02.5	12
13	349 51.7	+02.5	350 50.9	+02.4	351 50.0	+02.5	352 49.1	+02.5	353 48.3	+02.4	13
14	4 54.2	+02.5	5 53.3	+02.5	6 52.5	+02.4	7 51.6	+02.5	8 50.7	+02.5	14
15	19 56.7	+02.4	20 55.8	+02.5	21 54.9	+02.5	22 54.1	+02.4	23 53.2	+02.5	15
16	34 59.1	+02.5	35 58.3	+02.4	36 57.4	+02.5	37 56.5	+02.5	38 55.7	+02.4	16
17	50 01.6	+02.5	51 00.7	+02.5	51 59.9	+02.4	52 59.0	+02.5	53 58.1	+02.5	17
18	65 04.1	+02.4	66 03.2	+02.5	67 02.3	+02.5	68 01.5	+02.4	69 00.6	+02.5	18
19	80 06.5	+02.5	81 05.7	+02.4	82 04.8	+02.5	83 03.9	+02.5	84 03.1	+02.4	19
20	95 09.0	+02.4	96 08.1	+02.5	97 07.3	+02.4	98 06.4	+02.5	99 05.5	+02.5	20
21	110 11.4	+02.5	111 10.6	+02.4	112 09.7	+02.5	113 08.9	+02.4	114 08.0	+02.5	21
22	125 13.9	+02.5	126 13.0	+02.5	127 12.2	+02.4	128 11.3	+02.5	129 10.5	+02.4	22
23	140 16.4	+02.4	141 15.5	+02.5	142 14.6	+02.5	143 13.8	+02.4	144 12.9	+02.5	23

	SHA	Dec		SHA	Dec
Alpheratz	357 39.1	N 29 12.0	Gienah	175 47.2	S 17 39.2
Ankaa	353 11.5	S 42 12.0	Acrux	173 03.6	S 63 12.4
Schedir	349 35.8	N 56 38.9	Gacrux	171 55.4	S 57 13.3
Diphda	348 51.6	S 17 52.9	Alioth	166 16.2	N 55 50.9
Achernar	335 23.7	S 57 08.5	Spica	158 26.2	S 11 15.9
Hamal	327 55.8	N 23 33.4	Alkaid	152 54.9	N 49 12.6
Polaris	315 57.0	N 89 21.1	Hadar	148 41.0	S 60 27.9
Acamar	315 14.9	S 40 13.9	Menkent	148 01.7	S 36 27.7
Menkar	314 10.3	N 04 09.9	Arcturus	145 51.0	N 19 05.2
Mirfak	308 33.9	N 49 56.0	Rigel Kentaurus	139 42.9	S 60 54.9
Aldebaran	290 44.1	N 16 32.9	Zubenelgenubi	137 00.1	S 16 07.4
Capella	280 27.5	N 46 01.2	Kocab	137 19.6	N 74 04.1
Rigel	281 07.5	S 08 11.0	Alphecca	126 07.1	N 26 38.7
Bellatrix	278 26.9	N 06 21.9	Antares	112 20.7	S 26 28.4
Elnath	278 06.7	N 28 37.4	Atria	107 18.4	S 69 03.4
Alnilam	275 41.6	S 01 11.6	Sabik	102 07.3	S 15 44.9
Betelgeuze	270 56.2	N 07 24.5	Shaula	96 15.8	S 37 06.9
Canopus	263 53.8	S 52 42.7	Rasalhague	96 02.3	N 12 32.7
Sirius	258 29.3	S 16 44.5	Etamin	90 44.2	N 51 28.9
Adhara	255 08.7	S 29 00.2	Kaus Australis	83 37.9	S 34 22.3
Castor	246 01.7	N 31 50.6	Vega	80 36.2	N 38 47.8
Procyon	244 54.5	N 05 10.6	Nunki	75 52.8	S 26 16.2
Pollux	243 21.5	N 27 58.6	Albireo	67 07.5	N 27 59.9
Avior	234 15.6	S 59 34.6	Altair	62 04.2	N 08 55.0
Suhail	222 48.7	S 43 31.0	Peacock	53 12.5	S 56 40.1
Miaplacidus	221 37.8	S 69 48.2	Deneb	49 28.8</	

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UT	day 61 of 366		day 62 of 366		day 63 of 366		day 64 of 366		day 65 of 366		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	159	15.4	+02.5	160	14.5	+02.5	161	13.7	+02.4	162	12.8	+02.5	00
01	174	17.9	+02.4	175	17.0	+02.5	176	16.1	+02.5	177	15.3	+02.4	01
02	189	20.3	+02.5	190	19.5	+02.4	191	18.6	+02.5	192	17.7	+02.5	02
03	204	22.8	+02.4	205	21.9	+02.5	206	21.1	+02.4	207	20.2	+02.5	03
04	219	25.2	+02.5	220	24.4	+02.4	221	23.5	+02.5	222	22.7	+02.4	04
05	234	27.7	+02.5	235	26.8	+02.5	236	26.0	+02.4	237	25.1	+02.5	05
06	249	30.2	+02.4	250	29.3	+02.5	251	28.4	+02.5	252	27.6	+02.5	06
07	264	32.6	+02.5	265	31.8	+02.4	266	30.9	+02.5	267	30.1	+02.4	07
08	279	35.1	+02.5	280	34.2	+02.5	281	33.4	+02.4	282	32.5	+02.5	08
09	294	37.6	+02.4	295	36.7	+02.5	296	35.8	+02.5	297	35.0	+02.4	09
10	309	40.0	+02.5	310	39.2	+02.4	311	38.3	+02.5	312	37.4	+02.5	10
11	324	42.5	+02.5	325	41.6	+02.4	326	40.8	+02.4	327	39.9	+02.5	11
12	339	45.0	+02.4	340	44.1	+02.5	341	43.2	+02.5	342	42.4	+02.4	12
13	354	47.4	+02.5	355	46.6	+02.4	356	45.7	+02.5	357	44.8	+02.5	13
14	9	49.9	+02.4	10	49.0	+02.5	11	48.2	+02.4	12	47.3	+02.5	14
15	24	52.3	+02.5	25	51.5	+02.5	26	50.6	+02.5	27	49.8	+02.4	15
16	39	54.8	+02.5	40	54.0	+02.4	41	53.1	+02.5	42	52.2	+02.5	16
17	54	57.3	+02.4	55	56.4	+02.5	56	55.6	+02.4	57	54.7	+02.5	17
18	69	59.7	+02.5	70	58.9	+02.4	71	58.0	+02.5	72	57.2	+02.4	18
19	85	02.2	+02.5	86	01.3	+02.5	87	00.5	+02.4	88	59.6	+02.5	19
20	100	04.7	+02.4	101	03.8	+02.5	102	02.9	+02.5	103	02.1	+02.5	20
21	115	07.1	+02.5	116	06.3	+02.4	117	05.4	+02.5	118	04.6	+02.5	21
22	130	09.6	+02.5	131	08.7	+02.5	132	07.9	+02.4	133	07.0	+02.5	22
23	145	12.1	+02.4	146	11.2	+02.5	147	10.3	+02.5	148	09.5	+02.4	23

	SHA	Dec		SHA	Dec
Alpheratz	357 39.1	N 29 12.0	Gienah	175 47.2	S 17 39.2
Ankaa	353 11.6	S 42 12.0	Acrux	173 03.6	S 63 12.4
Schedir	349 35.8	N 56 38.8	Gacrux	171 55.3	S 57 13.3
Diphda	348 51.6	S 17 52.9	Alioth	166 16.2	N 55 50.9
Achernar	335 23.7	S 57 08.4	Spica	158 26.1	S 11 15.9
Hamal	327 55.8	N 23 33.3	Alkaid	152 54.8	N 49 12.6
Polaris	315 59.3	N 89 21.1	Hadar	148 41.0	S 60 27.9
Acamar	315 14.9	S 40 13.9	Menkent	148 01.6	S 36 27.7
Menkar	314 10.3	N 04 09.9	Arcturus	145 51.0	N 19 05.2
Mirfak	308 33.9	N 49 56.0	Rigel Kentaurus	139 42.8	S 60 54.9
Aldebaran	290 44.1	N 16 32.9	Zubenelgenubi	137 00.1	S 16 07.4
Capella	280 27.6	N 46 01.2	Kocab	137 19.5	N 74 04.2
Rigel	281 07.6	S 08 11.0	Alphecca	126 07.0	N 26 38.7
Bellatrix	278 27.0	N 06 21.9	Antares	112 20.7	S 26 28.4
Elnath	278 06.7	N 28 37.4	Atria	107 18.3	S 69 03.4
Alnilam	275 41.6	S 01 11.6	Sabik	102 07.3	S 15 44.9
Betelgeuze	270 56.2	N 07 24.5	Shaula	96 15.7	S 37 06.9
Canopus	263 53.9	S 52 42.7	Rasalhague	96 02.3	N 12 32.7
Sirius	258 29.3	S 16 44.5	Etamin	90 44.2	N 51 28.9
Adhara	255 08.7	S 29 00.2	Kaus Australis	83 37.8	S 34 22.3
Castor	246 01.7	N 31 50.6	Vega	80 36.1	N 38 47.8
Procyon	244 54.5	N 05 10.6	Nunki	75 52.8	S 26 16.2
Pollux	243 21.5	N 27 58.6	Albireo	67 07.4	N 27 59.9
Avior	234 15.7	S 59 34.7	Altair	62 04.1	N 08 55.0
Suhail	222 48.7	S 43 31.0	Peacock	53 12.4	S 56 40.1
Miaplacidus	221 37.8	S 69 48.1	Deneb	49 28.8	N 45 20.9
Alphard	217 51.3	S 08 44.9	Enif	33 42.9	N 09 57.9
Regulus	207 38.2	N 11 52.0	Alnair	27 38.4	S 46 51.9
Dubhe	193 45.2	N 61 38.5	Formalhaut	15 19.3	S 29 31.1
Denebola	182 28.5	N 14 27.6	Markab	13 34.1	N 15 18.6

UT	day 66 of 366		day 67 of 366		day 68 of 366		day 69 of 366		day 70 of 366		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	164	11.1	+02.4	165	10.2	+02.5	166	09.4	+02.4	167	08.5	+02.5	00
01	179	13.5	+02.5	180	12.7	+02.5	181	11.8	+02.5	182	11.0	+02.4	01
02	194	16.0	+02.5	195	15.2	+02.4	196	14.3	+02.5	197	13.4	+02.5	02
03	209	18.5	+02.4	210	17.6	+02.5	211	16.8	+02.4	212	15.9	+02.5	03
04	224	20.9	+02.5	225	20.1	+02.4	226	19.2	+02.5	227	18.4	+02.4	04
05	239	23.4	+02.5	240	22.5	+02.5	241	21.7	+02.4	242	20.8	+02.5	05
06	254	25.9	+02.4	255	25.0	+02.5	256	24.1	+02.5	257	23.3	+02.4	06
07	269	28.3	+02.5	270	27.5	+02.4	271	26.6	+02.5	272	25.7	+02.5	07
08	284	30.8	+02.5	285	29.9	+02.5	286	29.1	+02.4	287	28.2	+02.5	08
09	299	33.3	+02.4	300	32.4	+02.5	301	31.5	+02.5	302	30.7	+02.4	09
10	314	35.7	+02.5	315	34.9	+02.4	316	34.0	+02.5	317	33.1	+02.5	10
11	329	38.2	+02.5	330	37.3	+02.5	331	36.5	+02.4	332	35.6	+02.5	11
12	344	40.7	+02.4	345	39.8	+02.5	346	38.9	+02.5	347	38.1	+02.4	12
13	359	43.1	+02.5	0	42.3	+02.4	1	41.4	+02.5	2	40.5	+02.5	13
14	14	45.6	+02.4	15	44.7	+02.5	16	43.9	+02.4	17	43.0	+02.5	14
15	29	48.0	+02.5	30	47.2	+02.4	31	46.3	+02.5	32	45.5	+02.4	15
16	44	50.5	+02.5	45	49.6	+02.5	46	48.8	+02.5	47	47.9	+02.5	16
17	59	53.0	+02.4	60	52.1	+02.5	61	51.3	+02.4	62	50.4	+02.5	17
18	74	55.4	+02.5	75	54.6	+02.4	76	53.7	+02.5	77	52.9	+02.4	18
19	89	57.9	+02.5	90	57.0	+02.5	91	56.2	+02.4	92	55.3	+02.5	19
20	105	00.4	+02.4	105	59.5	+02.5	106	58.6	+02.5	107	57.8	+02.4	20
21	120	02.8	+02.5	121	02.0	+02.4	122	01.1	+02.5	123	00.2	+02.5	21
22	135	05.3	+02.5	136	04.4	+02.5	137	03.6	+02.4	138	02.7	+02.5	22
23	150	07.8	+02.4	151	06.9	+02.5	152	06.0	+02.5	153	05.2	+02.4	23

	SHA	Dec		SHA	Dec
Alpheratz	357 39.1	N 29 12.0	Gienah	175 47.2	S 17 39.2
Ankaa	353 11.6	S 42 12.0	Acrux	173 03.6	S 63 12.5
Schedir	349 35.8	N 56 38.8	Gacrux	171 55.3	S 57 13.3
Diphda	348 51.6	S 17 52.9	Alioth	166 16.2	N 55 50.9
Achernar	335 23.7	S 57 08.4	Spica	158 26.1	S 11 15.9
Hamal	327 55.8	N 23 33.3	Alkaid	152 54.8	N 49 12.6
Polaris	316 01.2	N 89 21.1	Hadar	148 40.9	S 60 27.9
Acamar	315 15.0	S 40 13.8	Menkent	148 01.6	S 36 27.7
Menkar	314 10.4	N 04 09.9	Arcturus	145 50.9	N 19 05.2
Mirfak	308 33.9	N 49 56.0	Rigel Kentaurus	139 42.7	S 60 54.9
Aldebaran	290 44.1	N 16 32.9	Zubenelgenubi	137 00.1	S 16 07.4
Capella	280 27.6	N 46 01.2	Kocab	137 19.4	N 74 04.2
Rigel	281 07.6	S 08 11.0	Alphecca	126 07.0	N 26 38.7
Bellatrix	278 27.0	N 06 21.9	Antares	112 20.7	S 26 28.4
Elnath	278 06.7	N 28 37.4	Atria	107 18.2	S 69 03.4
Alnilam	275 41.6	S 01 11.6	Sabik	102 07.3	S 15 44.9
Betelgeuze	270 56.2	N 07 24.5	Shaula	96 15.7	S 37 06.9
Canopus	263 53.9	S 52 42.8	Rasalhague	96 02.2	N 12 32.7
Sirius	258 29.3	S 16 44.5	Etamin	90 44.1	N 51 28.9
Adhara	255 08.7	S 29 00.3	Kaus Australis	83 37.8	S 34 22.3
Castor	246 01.7	N 31 50.6	Vega	80 36.1	N 38 47.8
Procyon	244 54.5	N 05 10.6	Nunki	75 52.8	S 26 16.2
Pollux	243 21.5	N 27 58.6	Albireo	67 07.4	N 27 59.9
Avior	234 15.7	S 59 34.7	Altair	62 04.1	N 08 55.0
Suhail	222 48.7	S 43 31.0	Peacock	53 12.4	S 56 40.1
Miaplacidus	221 37.9	S 69 48.2	Deneb	49 28.7	N 45 20.9
Alphard	217 51.3	S 08 44.9	Enif	33 42.9	N 09 57.9
Regulus	207 38.2	N 11 52.0	Alnair	27 38.4	S 46

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 91 of 366		day 92 of 366		day 93 of 366		day 94 of 366		day 95 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	188 49.5	+02.5	189 48.7	+02.4	190 47.8	+02.5	191 47.0	+02.4	192 46.1	+02.5	00
01	203 52.0	+02.5	204 51.1	+02.5	205 50.3	+02.4	206 49.4	+02.5	207 48.6	+02.4	01
02	218 54.5	+02.4	219 53.6	+02.5	220 52.7	+02.5	221 51.9	+02.4	222 51.0	+02.5	02
03	233 56.9	+02.5	234 56.1	+02.4	235 55.2	+02.5	236 54.3	+02.5	237 53.5	+02.4	03
04	248 59.4	+02.5	249 58.5	+02.5	250 57.7	+02.4	251 56.8	+02.5	252 55.9	+02.5	04
05	264 01.9	+02.4	265 01.0	+02.5	266 00.1	+02.5	266 59.3	+02.4	267 58.4	+02.5	05
06	279 04.3	+02.5	280 03.5	+02.4	281 02.6	+02.5	282 01.7	+02.5	283 00.9	+02.4	06
07	294 06.8	+02.4	295 05.9	+02.5	296 05.1	+02.4	297 04.2	+02.5	298 03.3	+02.5	07
08	309 09.2	+02.5	310 08.4	+02.5	311 07.5	+02.5	312 06.7	+02.4	313 05.8	+02.5	08
09	324 11.7	+02.5	325 10.9	+02.4	326 10.0	+02.5	327 09.1	+02.5	328 08.3	+02.4	09
10	339 14.2	+02.4	340 13.3	+02.5	341 12.5	+02.4	342 11.6	+02.5	343 10.7	+02.5	10
11	354 16.6	+02.5	355 15.8	+02.4	356 14.9	+02.5	357 14.1	+02.5	358 13.2	+02.5	11
12	9 19.1	+02.5	10 18.2	+02.5	11 17.4	+02.4	12 16.5	+02.5	13 15.7	+02.4	12
13	24 21.6	+02.4	25 20.7	+02.5	26 19.8	+02.5	27 19.0	+02.5	28 18.1	+02.5	13
14	39 24.0	+02.5	40 23.2	+02.4	41 22.3	+02.5	42 21.5	+02.4	43 20.6	+02.5	14
15	54 26.5	+02.5	55 25.6	+02.5	56 24.8	+02.4	57 23.9	+02.5	58 23.1	+02.4	15
16	69 29.0	+02.4	70 28.1	+02.5	71 27.2	+02.5	72 26.4	+02.4	73 25.5	+02.5	16
17	84 31.4	+02.5	85 30.6	+02.4	86 29.7	+02.5	87 28.8	+02.5	88 28.0	+02.4	17
18	99 33.9	+02.5	100 33.0	+02.5	101 32.2	+02.4	102 31.3	+02.5	103 30.4	+02.5	18
19	114 36.4	+02.4	115 35.5	+02.5	116 34.6	+02.5	117 33.8	+02.4	118 32.9	+02.5	19
20	129 38.8	+02.5	130 38.0	+02.4	131 37.1	+02.5	132 36.2	+02.5	133 35.4	+02.4	20
21	144 41.3	+02.4	145 40.4	+02.5	146 39.6	+02.4	147 38.7	+02.5	148 37.8	+02.5	21
22	159 43.7	+02.5	160 42.9	+02.4	161 42.0	+02.5	162 41.2	+02.4	163 40.3	+02.5	22
23	174 46.2	+02.5	175 45.3	+02.5	176 44.5	+02.5	177 43.6	+02.5	178 42.8	+02.4	23

UT	day 76 of 366		day 77 of 366		day 78 of 366		day 79 of 366		day 80 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	174 02.5	+02.4	175 01.6	+02.5	176 00.7	+02.5	176 59.9	+02.4	177 59.0	+02.5	00
01	189 04.9	+02.5	190 04.1	+02.4	191 03.2	+02.5	192 02.3	+02.5	193 01.5	+02.4	01
02	204 07.4	+02.5	205 06.5	+02.5	206 05.7	+02.4	207 04.8	+02.5	208 03.9	+02.5	02
03	219 09.9	+02.4	220 09.0	+02.5	221 08.1	+02.5	222 07.3	+02.4	223 06.4	+02.5	03
04	234 12.3	+02.5	235 11.5	+02.4	236 10.6	+02.5	237 09.7	+02.5	238 08.9	+02.4	04
05	249 14.8	+02.4	250 13.9	+02.5	251 13.1	+02.4	252 12.2	+02.5	253 11.3	+02.5	05
06	264 17.2	+02.5	265 16.4	+02.5	266 15.5	+02.5	267 14.7	+02.4	268 13.8	+02.5	06
07	279 19.7	+02.5	280 18.9	+02.4	281 18.0	+02.5	282 17.1	+02.5	283 16.3	+02.4	07
08	294 22.2	+02.4	295 21.3	+02.5	296 20.5	+02.4	297 19.6	+02.5	298 18.7	+02.5	08
09	309 24.6	+02.5	310 23.8	+02.4	311 22.9	+02.5	312 22.1	+02.4	313 21.2	+02.5	09
10	324 27.1	+02.5	325 26.2	+02.5	326 25.4	+02.4	327 24.5	+02.5	328 23.7	+02.4	10
11	339 29.6	+02.4	340 28.7	+02.5	341 27.8	+02.5	342 27.0	+02.5	343 26.1	+02.5	11
12	354 32.0	+02.5	355 31.2	+02.4	356 30.3	+02.5	357 29.5	+02.4	358 28.6	+02.5	12
13	9 34.5	+02.5	10 33.6	+02.5	11 32.8	+02.4	12 31.9	+02.5	13 31.1	+02.4	13
14	24 37.0	+02.5	25 36.1	+02.5	26 35.2	+02.5	27 34.4	+02.4	28 33.5	+02.5	14
15	39 39.4	+02.5	40 38.6	+02.4	41 37.7	+02.5	42 36.8	+02.5	43 36.0	+02.4	15
16	54 41.9	+02.5	55 41.0	+02.5	56 40.2	+02.4	57 39.3	+02.5	58 38.4	+02.5	16
17	69 44.4	+02.4	70 43.5	+02.5	71 42.6	+02.5	72 41.8	+02.4	73 40.9	+02.5	17
18	84 46.8	+02.5	85 46.0	+02.4	86 45.1	+02.5	87 44.2	+02.5	88 43.4	+02.4	18
19	99 49.3	+02.4	100 48.4	+02.5	101 47.6	+02.4	102 46.7	+02.5	103 45.8	+02.5	19
20	114 51.7	+02.5	115 50.9	+02.5	116 50.0	+02.5	117 49.2	+02.4	118 48.3	+02.5	20
21	129 54.2	+02.5	130 53.4	+02.4	131 52.5	+02.5	132 51.6	+02.5	133 50.8	+02.4	21
22	144 56.7	+02.4	145 55.8	+02.5	146 55.0	+02.4	147 54.1	+02.5	148 53.2	+02.5	22
23	159 59.1	+02.5	160 58.3	+02.4	161 57.4	+02.5	162 56.6	+02.4	163 55.7	+02.5	23

	SHA	Dec		SHA	Dec
Alpheratz	357 39.1	N 29 11.9	Gienah	175 47.1	S 17 39.3
Ankaa	353 11.6	S 42 11.8	AcruX	173 03.5	S 63 12.6
Schedir	349 35.9	N 56 38.7	Gacrux	171 55.2	S 57 13.5
Diphda	348 51.6	S 17 52.8	Alioth	166 16.1	N 55 51.0
Achernar	335 23.8	S 57 08.3	Spica	158 26.0	S 11 16.0
Hamal	327 55.9	N 23 33.3	Alkaid	152 54.7	N 49 12.7
Polaris	316 09.9	N 89 21.0	Hadar	148 40.7	S 60 28.0
Acamar	315 15.1	S 40 13.8	Menkent	148 01.5	S 36 27.8
Menkar	314 10.4	N 04 09.9	Arcturus	145 50.8	N 19 05.3
Mirfak	308 34.1	N 49 55.9	Rigel Kentaurus	139 42.5	S 60 55.1
Aldebaran	290 44.2	N 16 32.9	Zubenelgenubi	136 59.9	S 16 07.4
Capella	280 27.8	N 46 01.2	Kocab	137 19.0	N 74 04.3
Rigel	281 07.7	S 08 11.0	Alphecca	126 06.8	N 26 38.7
Bellatrix	278 27.1	N 06 21.9	Antares	112 20.5	S 26 28.5
Elnath	278 06.9	N 28 37.4	Atria	107 17.8	S 69 03.5
Alnilam	275 41.7	S 01 11.6	Sabik	102 07.1	S 15 45.0
Betelgeuze	270 56.3	N 07 24.5	Shaula	96 15.5	S 37 06.9
Canopus	263 54.1	S 52 42.8	Rasalhague	96 02.1	N 12 32.7
Sirius	258 29.5	S 16 44.5	Etamin	90 43.9	N 51 28.9
Adhara	255 08.8	S 29 00.3	Kaus Australis	83 37.6	S 34 22.3
Castor	246 01.9	N 31 50.7	Vega	80 35.9	N 38 47.8
Procyon	244 54.6	N 05 10.6	Nunki	75 52.6	S 26 16.2
Pollux	243 21.6	N 27 58.6	Albireo	67 07.2	N 27 59.9
Avior	234 15.9	S 59 34.8	Altair	62 03.9	N 08 55.0
Suhail	222 48.8	S 43 31.1	Peacock	53 12.1	S 56 40.0
Miaplacidus	221 38.1	S 69 48.3	Deneb	49 28.6	N 45 20.8
Alphard	217 51.3	S 08 44.9	Enif	33 42.8	N 09 57.9
Regulus	207 38.2	N 11 52.1	Alnair	27 38.2	S 46 51.7
Dubhe	193 45.2	N 61 38.7	Formalhaut	15 19.2	S 29 31.0
Denebola	182 28.4	N 14 27.6	Markab	13 34.0	N 15 18.6

	SHA	Dec		SHA	Dec
Alpheratz	357 39.1	N 29 12.0	Gienah	175 47.2	S 17 39.2
Ankaa	353 11.6	S 42 11.9	AcruX	173 03.5	S 63 12.5
Schedir	349 35.9	N 56 38.8	Gacrux	171 55.3	S 57 13.4
Diphda	348 51.6	S 17 52.8	Alioth	166 16.1	N 55 51.0
Achernar	335 23.8	S 57 08.4	Spica	158 26.1	S 11 16.0
Hamal	327 55.9	N 23 33.3	Alkaid	152 54.7	N 49 12.7
Polaris	316 05.2	N 89 21.1	Hadar	148 40.8	S 60 28.0
Acamar	315 15.0	S 40 13.8	Menkent	148 01.5	S 36 27.8
Menkar	314 10.4	N 04 09.9	Arcturus	145 50.9	N 19 05.2
Mirfak	308 34.0	N 49 55.9	Rigel Kentaurus	139 42.6	S 60 55.0
Aldebaran	290 44.2	N 16 32.9	Zubenelgenubi	137 00.0	S 16 07.4
Capella	280 27.7	N 46 01.2	Kocab	137 19.2	N 74 04.2
Rigel	281 07.6	S 08 11.0	Alphecca	126 06.9	N 26 38.7
Bellatrix	278 27.0	N 06 21.9	Antares	112 20.6	S 26 28.4
Elnath	278 06.8	N 28 37.4	Atria	107 18.0	S 69 03.4
Alnilam	275 41.7	S 01 11.6	Sabik	102 07.2	S 15 44.9
Betelgeuze	270 56.3	N 07 24.5	Shaula	96 15.6	S 37 06.9
Canopus	263 54.0	S 52 42.8	Rasalhague	96 02.2	N 12 32.7
Sirius	258 29.4	S 16 44.5	Etamin	90 44.0	N 51 28.9
Adhara	255 08.8	S 29 00.3	Kaus Australis	83 37.7	S 34 22.3
Castor	246 01.8	N 31 50.6	Vega	80 36.0	N 38 47.8
Procyon	244 54.5	N 05 10.6	Nunki	75 52.7	S 26 16.2
Pollux	243 21.6	N 27 58.6	Albireo	67 07.3	N 27 59.9
Avior	234 15.8	S 59 34.7	Altair	62 04.0	N 08 55.0
Suhail	222 48.7	S 43 31.0	Peacock	53 12.3	S 56 40.0
Miaplacidus	221 38.0	S 69 48.2			

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UT	day 81 of 366		day 82 of 366		day 83 of 366		day 84 of 366		day 85 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	178	58.2 +02.4	179	57.3 +02.5	180	56.4 +02.5	181	55.6 +02.4	182	54.7 +02.5	00
01	194	00.6 +02.5	194	59.8 +02.4	195	58.9 +02.5	196	58.0 +02.5	197	57.2 +02.4	01
02	209	03.1 +02.5	210	02.2 +02.5	211	01.4 +02.4	212	00.5 +02.5	212	59.6 +02.5	02
03	224	05.6 +02.4	225	04.7 +02.5	226	03.8 +02.5	227	03.0 +02.4	228	02.1 +02.5	03
04	239	08.0 +02.5	240	07.2 +02.4	241	06.3 +02.5	242	05.4 +02.5	243	04.6 +02.4	04
05	254	10.5 +02.4	255	09.6 +02.5	256	08.8 +02.4	257	07.9 +02.5	258	07.0 +02.5	05
06	269	12.9 +02.5	270	12.1 +02.4	271	11.2 +02.5	272	10.4 +02.4	273	09.5 +02.5	06
07	284	15.4 +02.5	285	14.5 +02.5	286	13.7 +02.4	287	12.8 +02.5	288	12.0 +02.4	07
08	299	17.9 +02.4	300	17.0 +02.5	301	16.1 +02.5	302	15.3 +02.4	303	14.4 +02.5	08
09	314	20.3 +02.5	315	19.5 +02.4	316	18.6 +02.5	317	17.7 +02.5	318	16.9 +02.4	09
10	329	22.8 +02.5	330	21.9 +02.5	331	21.1 +02.4	332	20.2 +02.5	333	19.3 +02.5	10
11	344	25.3 +02.4	345	24.4 +02.5	346	23.5 +02.5	347	22.7 +02.5	348	21.8 +02.5	11
12	359	27.7 +02.5	0	26.9 +02.4	1	26.0 +02.5	2	25.1 +02.5	3	24.3 +02.4	12
13	14	30.2 +02.5	15	29.3 +02.5	16	28.5 +02.4	17	27.6 +02.5	18	26.7 +02.5	13
14	29	32.7 +02.4	30	31.8 +02.5	31	30.9 +02.5	32	30.1 +02.4	33	29.2 +02.5	14
15	44	35.1 +02.5	45	34.3 +02.4	46	33.4 +02.5	47	32.5 +02.5	48	31.7 +02.4	15
16	59	37.6 +02.4	60	36.7 +02.5	61	35.9 +02.4	62	35.0 +02.5	63	34.1 +02.5	16
17	74	40.0 +02.5	75	39.2 +02.4	76	38.3 +02.5	77	37.5 +02.4	78	36.6 +02.5	17
18	89	42.5 +02.5	90	41.6 +02.5	91	40.8 +02.5	92	39.9 +02.5	93	39.1 +02.4	18
19	104	45.0 +02.4	105	44.1 +02.5	106	43.3 +02.4	107	42.4 +02.5	108	41.5 +02.5	19
20	119	47.4 +02.5	120	46.6 +02.4	121	45.7 +02.5	122	44.9 +02.4	123	44.0 +02.5	20
21	134	49.9 +02.5	135	49.0 +02.5	136	48.2 +02.4	137	47.3 +02.5	138	46.5 +02.4	21
22	149	52.4 +02.4	150	51.5 +02.5	151	50.6 +02.5	152	49.8 +02.4	153	48.9 +02.5	22
23	164	54.8 +02.5	165	54.0 +02.4	166	53.1 +02.5	167	52.2 +02.5	168	51.4 +02.4	23

UT	day 86 of 366		day 87 of 366		day 88 of 366		day 89 of 366		day 90 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	183	53.8 +02.5	184	53.0 +02.4	185	52.1 +02.5	186	51.3 +02.4	187	50.4 +02.5	00
01	198	56.3 +02.5	199	55.4 +02.5	200	54.6 +02.4	201	53.7 +02.5	202	52.9 +02.4	01
02	213	58.8 +02.4	214	57.9 +02.5	215	57.0 +02.5	216	56.2 +02.4	217	55.3 +02.5	02
03	229	01.2 +02.5	230	00.4 +02.4	230	59.5 +02.5	231	58.6 +02.5	232	57.8 +02.5	03
04	244	03.7 +02.5	245	02.8 +02.5	246	02.0 +02.4	247	01.1 +02.5	248	00.3 +02.4	04
05	259	06.2 +02.4	260	05.3 +02.5	261	04.4 +02.5	262	03.6 +02.4	263	02.7 +02.5	05
06	274	08.6 +02.5	275	07.8 +02.4	276	06.9 +02.5	277	06.0 +02.5	278	05.2 +02.4	06
07	289	11.1 +02.5	290	10.2 +02.5	291	09.4 +02.4	292	08.5 +02.5	293	07.6 +02.5	07
08	304	13.6 +02.4	305	12.7 +02.5	306	11.8 +02.5	307	11.0 +02.4	308	10.1 +02.5	08
09	319	16.0 +02.4	320	15.2 +02.4	321	14.3 +02.5	322	13.4 +02.5	323	12.6 +02.4	09
10	334	18.5 +02.4	335	17.6 +02.5	336	16.8 +02.4	337	15.9 +02.5	338	15.0 +02.5	10
11	349	20.9 +02.5	350	20.1 +02.4	351	19.2 +02.5	352	18.4 +02.5	353	17.5 +02.5	11
12	4	23.4 +02.5	5	22.5 +02.5	6	21.7 +02.5	7	20.8 +02.5	8	20.0 +02.4	12
13	19	25.9 +02.4	20	25.0 +02.5	21	24.2 +02.4	22	23.3 +02.5	23	22.4 +02.5	13
14	34	28.3 +02.5	35	27.5 +02.5	36	26.6 +02.5	37	25.8 +02.4	38	24.9 +02.5	14
15	49	30.8 +02.5	50	29.9 +02.5	51	29.1 +02.4	52	28.2 +02.5	53	27.4 +02.4	15
16	64	33.3 +02.4	65	32.4 +02.5	66	31.5 +02.5	67	30.7 +02.4	68	29.8 +02.5	16
17	79	35.7 +02.5	80	34.9 +02.4	81	34.0 +02.5	82	33.1 +02.5	83	32.3 +02.4	17
18	94	38.2 +02.5	95	37.3 +02.5	96	36.5 +02.4	97	35.6 +02.5	98	34.7 +02.5	18
19	109	40.7 +02.4	110	39.8 +02.5	111	38.9 +02.5	112	38.1 +02.4	113	37.2 +02.5	19
20	124	43.1 +02.5	125	42.3 +02.4	126	41.4 +02.5	127	40.5 +02.5	128	39.7 +02.4	20
21	139	45.6 +02.5	140	44.7 +02.5	141	43.9 +02.4	142	43.0 +02.5	143	42.1 +02.5	21
22	154	48.1 +02.4	155	47.2 +02.5	156	46.3 +02.5	157	45.5 +02.4	158	44.6 +02.5	22
23	169	50.5 +02.5	170	49.7 +02.4	171	48.8 +02.5	172	47.9 +02.5	173	47.1 +02.4	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 39.1	N 29 11.9	Gienah	175 47.2	S 17 39.3
Ankaa	353 11.6	S 42 11.9	Acrux	173 03.5	S 63 12.6
Schedir	349 35.9	N 56 38.7	Gacrux	171 55.2	S 57 13.4
Diphda	348 51.6	S 17 52.8	Alioth	166 16.1	N 55 51.0
Achernar	335 23.8	S 57 08.3	Spica	158 26.0	S 11 16.0
Hamal	327 55.9	N 23 33.3	Alkaid	152 54.7	N 49 12.7
Polaris	316 06.9	N 89 21.1	Hadar	148 40.8	S 60 28.0
Acamar	315 15.0	S 40 13.8	Menkent	148 01.5	S 36 27.8
Menkar	314 10.4	N 04 09.9	Arcturus	145 50.9	N 19 05.2
Mirfak	308 34.0	N 49 55.9	Rigel Kentaurus	139 42.6	S 60 55.0
Aldebaran	290 44.2	N 16 32.9	Zubenelgenubi	136 60.0	S 16 07.4
Capella	280 27.7	N 46 01.2	Kocab	137 19.1	N 74 04.2
Rigel	281 07.6	S 08 11.0	Alphecca	126 06.9	N 26 38.7
Bellatrix	278 27.1	N 06 21.9	Antares	112 20.5	S 26 28.5
Elnath	278 06.8	N 28 37.4	Atria	107 17.9	S 69 03.4
Alnilam	275 41.7	S 01 11.6	Sabik	102 07.1	S 15 45.0
Betelgeuze	270 56.3	N 07 24.5	Shaula	96 15.5	S 37 06.9
Canopus	263 54.1	S 52 42.8	Rasalhague	96 02.1	N 12 32.7
Sirius	258 29.4	S 16 44.5	Etamin	90 44.0	N 51 28.9
Adhara	255 08.8	S 29 00.3	Kaus Australis	83 37.7	S 34 22.3
Castor	246 01.8	N 31 50.7	Vega	80 36.0	N 38 47.8
Procyon	244 54.5	N 05 10.6	Nunki	75 52.6	S 26 16.2
Pollux	243 21.6	N 27 58.6	Albireo	67 07.3	N 27 59.9
Avior	234 15.8	S 59 34.7	Altair	62 04.0	N 08 55.0
Suhail	222 48.7	S 43 31.1	Peacock	53 12.2	S 56 40.0
Miaplacidus	221 38.0	S 69 48.2	Deneb	49 28.6	N 45 20.9
Alphard	217 51.3	S 08 44.9	Enif	33 42.8	N 09 57.9
Regulus	207 38.2	N 11 52.1	Alnair	27 38.3	S 46 51.8
Dubhe	193 45.2	N 61 38.6	Formalhaut	15 19.3	S 29 31.0
Denebola	182 28.4	N 14 27.6	Markab	13 34.0	N 15 18.6

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 39.1	N 29 11.9	Gienah	175 47.2	S 17 39.3
Ankaa	353 11.6	S 42 11.9	Acrux	173 03.5	S 63 12.6
Schedir	349 35.9	N 56 38.7	Gacrux	171 55.2	S 57 13.4
Diphda	348 51.6	S 17 52.8	Alioth	166 16.1	N 55 51.0
Achernar	335 23.8	S 57 08.3	Spica	158 26.0	S 11 16.0
Hamal	327 55.9	N 23 33.3	Alkaid	152 54.7	N 49 12.7
Polaris	316 08.7	N 89 21.1	Hadar	148 40.7	S 60 28.0
Acamar	315 15.1	S 40 13.8	Menkent	148 01.5	S 36 27.8
Menkar	314 10.4	N 04 09.9	Arcturus	145 50.8	N 19 05.2
Mirfak	308 34.1	N 49 55.9	Rigel Kentaurus	139 42.6	S 60 55.0
Aldebaran	290 44.2	N 16 32.9	Zubenelgenubi	136 60.0	S 16 07.4
Capella	280 27.7	N 46 01.2	Kocab	137 19.0	N 74 04.2
Rigel	281 07.7	S 08 11.0	Alphecca	126 06.8	N 26 38.7
Bellatrix	278 27.1	N 06 21.9	Antares	112 20.5	S 26 28.5
Elnath	278 06.8	N 28 37.4	Atria	107 17.9	S 69 03.5
Alnilam	275 41.7	S 01 11.6	Sabik	102 07.1	S 15 45.0
Betelgeuze	270 56.3	N 07 24.5	Shaula	96 15.5	S 37 06.9
Canopus	263 54.1	S 52 42.8	Rasalhague	96 02.1	N 12 32.7
Sirius	258 29.4	S 16 44.5	Etamin	90 43.9	N 51 28.9
Adhara	255 08.8	S 29 00.3	Kaus Australis	83 37.6	S 34 22.3
Castor	246 01.8	N 31 50.7	Vega	80 35.9	N 38 47.8
Procyon	244 54.6	N 05 10.6	Nunki	75 52.6	S 26 16.2
Pollux	243 21.6	N 27 58.6	Albireo	67 07.2	N 27 59.9
Avior	234 15.9	S 59 34.8	Altair	62 04.0	N 08 55.0
Suhail	222 48.8	S 43 31.1	Peacock		

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UT	day 111 of 366		day 112 of 366		day 113 of 366		day 114 of 366		day 115 of 366		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	208	32.3	+02.5	209	31.4	+02.5	210	30.6	+02.4	211	29.7	+02.5	00
01	223	34.8	+02.4	224	33.9	+02.5	225	33.0	+02.5	226	32.2	+02.4	01
02	238	37.2	+02.5	239	36.4	+02.4	240	35.5	+02.5	241	34.6	+02.5	02
03	253	39.7	+02.5	254	38.8	+02.5	255	38.0	+02.4	256	37.1	+02.5	03
04	268	42.2	+02.4	269	41.3	+02.5	270	40.4	+02.5	271	39.6	+02.4	04
05	283	44.6	+02.5	284	43.8	+02.4	285	42.9	+02.5	286	42.0	+02.5	05
06	298	47.1	+02.5	299	46.2	+02.5	300	45.4	+02.4	301	44.5	+02.5	06
07	313	49.6	+02.4	314	48.7	+02.5	315	47.8	+02.5	316	47.0	+02.4	07
08	328	52.0	+02.5	329	51.2	+02.4	330	50.3	+02.5	331	49.4	+02.5	08
09	343	54.5	+02.4	344	53.6	+02.5	345	52.8	+02.4	346	51.9	+02.4	09
10	358	56.9	+02.5	359	56.1	+02.4	0	55.2	+02.5	1	54.4	+02.4	10
11	13	59.4	+02.5	14	58.5	+02.5	15	57.7	+02.4	16	56.8	+02.5	11
12	29	01.9	+02.4	30	01.0	+02.5	31	00.1	+02.5	32	58.4	+02.5	12
13	44	04.3	+02.5	45	03.5	+02.5	46	02.6	+02.5	47	01.7	+02.5	13
14	59	06.8	+02.5	60	05.9	+02.5	61	05.1	+02.4	62	04.2	+02.5	14
15	74	09.3	+02.4	75	08.4	+02.5	76	07.5	+02.5	77	06.7	+02.4	15
16	89	11.7	+02.5	90	10.9	+02.4	91	10.0	+02.5	92	09.1	+02.5	16
17	104	14.2	+02.5	105	13.3	+02.5	106	12.5	+02.4	107	11.6	+02.5	17
18	119	16.7	+02.4	120	15.8	+02.5	121	14.9	+02.5	122	14.1	+02.4	18
19	134	19.1	+02.5	135	18.3	+02.4	136	17.4	+02.5	137	16.5	+02.5	19
20	149	21.6	+02.4	150	20.7	+02.5	151	19.9	+02.4	152	19.0	+02.5	20
21	164	24.0	+02.5	165	23.2	+02.5	166	22.3	+02.5	167	21.5	+02.4	21
22	179	26.5	+02.5	180	25.7	+02.4	181	24.8	+02.5	182	23.9	+02.5	22
23	194	29.0	+02.4	195	28.1	+02.5	196	27.3	+02.4	197	26.4	+02.5	23

UT	day 96 of 366		day 97 of 366		day 98 of 366		day 99 of 366		day 100 of 366		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	193	45.2	+02.5	194	44.4	+02.4	195	43.5	+02.5	196	42.6	+02.5	00
01	208	47.7	+02.5	209	46.8	+02.5	210	46.0	+02.4	211	45.1	+02.5	01
02	223	50.2	+02.4	224	49.3	+02.5	225	48.4	+02.5	226	47.6	+02.5	02
03	238	52.6	+02.5	239	51.8	+02.4	240	50.9	+02.5	241	50.0	+02.5	03
04	253	55.1	+02.5	254	54.2	+02.5	255	53.4	+02.4	256	52.5	+02.5	04
05	268	57.6	+02.4	269	56.7	+02.5	270	55.8	+02.5	271	55.0	+02.4	05
06	284	00.0	+02.5	284	59.2	+02.4	285	58.3	+02.5	286	57.4	+02.5	06
07	299	02.5	+02.4	300	01.6	+02.5	301	00.8	+02.4	301	59.9	+02.5	07
08	314	04.9	+02.5	315	04.1	+02.4	316	03.2	+02.5	317	02.4	+02.4	08
09	329	07.4	+02.5	330	06.5	+02.5	331	05.7	+02.4	332	04.8	+02.5	09
10	344	09.9	+02.4	345	09.0	+02.5	346	08.1	+02.5	347	07.3	+02.4	10
11	359	12.3	+02.4	0	11.5	+02.4	1	10.6	+02.5	2	09.7	+02.4	11
12	14	14.8	+02.5	15	13.9	+02.5	16	13.1	+02.4	17	12.2	+02.5	12
13	29	17.3	+02.4	30	16.4	+02.5	31	15.5	+02.5	32	14.7	+02.4	13
14	44	19.7	+02.4	45	18.9	+02.4	46	18.0	+02.5	47	17.1	+02.5	14
15	59	22.2	+02.5	60	21.3	+02.5	61	20.5	+02.4	62	19.6	+02.5	15
16	74	24.7	+02.4	75	23.8	+02.5	76	22.9	+02.5	77	22.1	+02.4	16
17	89	27.1	+02.5	90	26.3	+02.4	91	25.4	+02.5	92	24.5	+02.5	17
18	104	29.6	+02.4	105	28.7	+02.5	106	27.9	+02.4	107	27.0	+02.5	18
19	119	32.0	+02.5	120	31.2	+02.4	121	30.3	+02.5	122	29.5	+02.4	19
20	134	34.5	+02.5	135	33.6	+02.5	136	32.8	+02.4	137	31.9	+02.5	20
21	149	37.0	+02.4	150	36.1	+02.5	151	35.2	+02.5	152	34.4	+02.5	21
22	164	39.4	+02.5	165	38.6	+02.4	166	37.7	+02.5	167	36.9	+02.4	22
23	179	41.9	+02.5	180	41.0	+02.5	181	40.2	+02.4	182	39.3	+02.5	23

	SHA	Dec		SHA	Dec
Alpheratz	357 39.0	N 29 11.9	Gienah	175 47.1	S 17 39.3
Ankaa	353 11.5	S 42 11.7	Acrux	173 03.5	S 63 12.7
Schedir	349 35.8	N 56 38.6	Gacrux	171 55.2	S 57 13.6
Diphda	348 51.5	S 17 52.7	Alioth	166 16.0	N 55 51.1
Achernar	335 23.8	S 57 08.2	Spica	158 26.0	S 11 16.0
Hamal	327 55.9	N 23 33.3	Alkaid	152 54.6	N 49 12.8
Polaris	316 13.3	N 89 20.9	Hadar	148 40.6	S 60 28.1
Acamar	315 15.1	S 40 13.7	Menkent	148 01.4	S 36 27.9
Menkar	314 10.4	N 04 09.9	Arcturus	145 50.8	N 19 05.3
Mirfak	308 34.1	N 49 55.8	Rigel Kentaurus	139 42.4	S 60 55.2
Aldebaran	290 44.3	N 16 32.9	Zubenelgenubi	136 59.9	S 16 07.5
Capella	280 27.9	N 46 01.2	Kocab	137 18.8	N 74 04.3
Rigel	281 07.8	S 08 10.9	Alphecca	126 06.7	N 26 38.8
Bellatrix	278 27.2	N 06 21.9	Antares	112 20.3	S 26 28.5
Elnath	278 06.9	N 28 37.4	Atria	107 17.4	S 69 03.5
Alnilam	275 41.8	S 01 11.6	Sabik	102 06.9	S 15 45.0
Betelgeuze	270 56.4	N 07 24.5	Shaula	96 15.3	S 37 06.9
Canopus	263 54.3	S 52 42.7	Rasalhague	96 01.9	N 12 32.7
Sirius	258 29.6	S 16 44.5	Etamin	90 43.7	N 51 29.0
Adhara	255 08.9	S 29 00.3	Kaus Australis	83 37.4	S 34 22.3
Castor	246 01.9	N 31 50.7	Vega	80 35.7	N 38 47.8
Procyon	244 54.7	N 05 10.6	Nunki	75 52.4	S 26 16.2
Pollux	243 21.7	N 27 58.7	Albireo	67 07.1	N 27 59.9
Avior	234 16.1	S 59 34.8	Altair	62 03.8	N 08 55.0
Suhail	222 48.9	S 43 31.1	Peacock	53 11.9	S 56 39.9
Miaplacidus	221 38.4	S 69 48.3	Deneb	49 28.4	N 45 20.8
Alphard	217 51.4	S 08 44.9	Enif	33 42.7	N 09 57.9
Regulus	207 38.3	N 11 52.1	Alnair	27 38.1	S 46 51.6
Dubhe	193 45.3	N 61 38.7	Formalhaut	15 19.1	S 29 30.9
Denebola	182 28.5	N 14 27.6	Markab	13 33.9	N 15 18.6

	SHA	Dec		SHA	Dec
Alpheratz	357 39.1	N 29 11.9	Gienah	175 47.1	S 17 39.3
Ankaa	353 11.5	S 42 11.8	Acrux	173 03.5	S 63 12.7
Schedir	349 35.9	N 56 38.7	Gacrux	171 55.2	S 57 13.5
Diphda	348 51.6	S 17 52.8	Alioth	166 16.0	N 55 51.1
Achernar	335 23.8	S 57 08.3	Spica	158 26.0	S 11 16.0
Hamal	327 55.9	N 23 33.3	Alkaid	152 54.6	N 49 12.7
Polaris	316 11.0	N 89 21.0	Hadar	148 40.7	S 60 28.1
Acamar	315 15.1	S 40 13.7	Menkent	148 01.4	S 36 27.8
Menkar	314 10.4	N 04 09.9	Arcturus	145 50.8	N 19 05.3
Mirfak	308 34.1	N 49 55.9	Rigel Kentaurus	139 42.5	S 60 55.1
Aldebaran	290 44.2	N 16 32.9	Zubenelgenubi	136 59.9	S 16 07.5
Capella	280 27.8	N 46 01.2	Kocab	137 18.9	N 74 04.3
Rigel	281 07.7	S 08 11.0	Alphecca	126 06.8	N 26 38.7
Bellatrix	278 27.1	N 06 21.9	Antares	112 20.4	S 26 28.5
Elnath	278 06.9	N 28 37.4	Atria	107 17.7	S 69 03.5
Alnilam	275 41.7	S 01 11.6	Sabik	102 07.0	S 15 45.0
Betelgeuze	270 56.3	N 07 24.5	Shaula	96 15.4	S 37 06.9
Canopus	263 54.2	S 52 42.8	Rasalhague	96 02.0	N 12 32.7
Sirius	258 29.5	S 16 44.5	Etamin	90 43.8	N 51 28.9
Adhara	255 08.9	S 29 00.3	Kaus Australis	83 37.5	S 34 22.3
Castor	246 01.9	N 31 50.7	Vega	80 35.8	N 38 47.8
Procyon	244 54.6	N 05 10.6	Nunki	75 52.5	S 26 16.2
Pollux	243 21.6	N 27 58.6	Albireo	67 07.2	N 27 59.9
Avior	234 16.0	S 59 34.8	Altair	62 03.9	N 08 55.0
Suhail	222 48.8	S 43 31.1	Peacock	53 12.1	S 56 40.0
Miaplacidus	221 38.2	S 69 48.3	Deneb	49 28.5	N 45 20.8
Alphard	217 51.3	S 08 44.9	Enif	33 42.8	N 09 57.9
Regulus	207 38.2	N 11 52.1	Alnair	27 38.2	S

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UT	day 101 of 366		day 102 of 366		day 103 of 366		day 104 of 366		day 105 of 366		UT
	April 10		April 11		April 12		April 13		April 14		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	198 40.9	+02.5	199 40.1	+02.4	200 39.2	+02.5	201 38.3	+02.5	202 37.5	+02.4	00
01	213 43.4	+02.4	214 42.5	+02.5	215 41.7	+02.4	216 40.8	+02.5	217 39.9	+02.5	01
02	228 45.8	+02.5	229 45.0	+02.4	230 44.1	+02.5	231 43.3	+02.4	232 42.4	+02.5	02
03	243 48.3	+02.5	244 47.4	+02.5	245 46.6	+02.5	246 45.7	+02.5	247 44.9	+02.4	03
04	258 50.8	+02.4	259 49.9	+02.5	260 49.1	+02.4	261 48.2	+02.5	262 47.3	+02.5	04
05	273 53.2	+02.5	274 52.4	+02.4	275 51.5	+02.5	276 50.7	+02.4	277 49.8	+02.5	05
06	288 55.7	+02.5	289 54.8	+02.5	290 54.0	+02.4	291 53.1	+02.5	292 52.3	+02.4	06
07	303 58.2	+02.4	304 57.3	+02.5	305 56.4	+02.5	306 55.6	+02.4	307 54.7	+02.5	07
08	319 00.6	+02.5	319 59.8	+02.4	320 58.9	+02.5	321 58.0	+02.5	322 57.2	+02.5	08
09	334 03.1	+02.5	335 02.2	+02.5	336 01.4	+02.4	337 00.5	+02.5	337 59.7	+02.4	09
10	349 05.6	+02.4	350 04.7	+02.5	351 03.8	+02.5	352 03.0	+02.4	353 02.1	+02.5	10
11	4 08.0	+02.5	5 07.2	+02.4	6 06.3	+02.5	7 05.4	+02.5	8 04.6	+02.4	11
12	19 10.5	+02.4	20 09.6	+02.5	21 08.8	+02.4	22 07.9	+02.5	23 07.0	+02.5	12
13	34 12.9	+02.5	35 12.1	+02.5	36 11.2	+02.5	37 10.4	+02.4	38 09.5	+02.5	13
14	49 15.4	+02.5	50 14.6	+02.4	51 13.7	+02.5	52 12.8	+02.5	53 12.0	+02.4	14
15	64 17.9	+02.4	65 17.0	+02.5	66 16.2	+02.4	67 15.3	+02.5	68 14.4	+02.5	15
16	79 20.3	+02.5	80 19.5	+02.4	81 18.6	+02.5	82 17.8	+02.4	83 16.9	+02.5	16
17	94 22.8	+02.5	95 21.9	+02.5	96 21.1	+02.4	97 20.2	+02.5	98 19.4	+02.4	17
18	109 25.3	+02.4	110 24.4	+02.5	111 23.5	+02.5	112 22.7	+02.5	113 21.8	+02.5	18
19	124 27.7	+02.5	125 26.9	+02.4	126 26.0	+02.5	127 25.2	+02.4	128 24.3	+02.5	19
20	139 30.2	+02.5	140 29.3	+02.5	141 28.5	+02.4	142 27.6	+02.5	143 26.8	+02.4	20
21	154 32.7	+02.4	155 31.8	+02.5	156 30.9	+02.5	157 30.1	+02.4	158 29.2	+02.5	21
22	169 35.1	+02.5	170 34.3	+02.4	171 33.4	+02.5	172 32.5	+02.5	173 31.7	+02.5	22
23	184 37.6	+02.5	185 36.7	+02.5	186 35.9	+02.4	187 35.0	+02.5	188 34.2	+02.4	23

UT	day 106 of 366		day 107 of 366		day 108 of 366		day 109 of 366		day 110 of 366		UT
	April 15		April 16		April 17		April 18		April 19		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	203 36.6	+02.5	204 35.8	+02.4	205 34.9	+02.5	206 34.0	+02.5	207 33.2	+02.4	00
01	218 39.1	+02.4	219 38.2	+02.5	220 37.4	+02.4	221 36.5	+02.5	222 35.6	+02.5	01
02	233 41.5	+02.5	234 40.7	+02.4	235 39.8	+02.5	236 39.0	+02.4	237 38.1	+02.5	02
03	248 44.0	+02.5	249 43.1	+02.5	250 42.3	+02.4	251 41.4	+02.5	252 40.6	+02.4	03
04	263 46.5	+02.4	264 45.6	+02.5	265 44.7	+02.5	266 43.9	+02.5	267 43.0	+02.5	04
05	278 48.9	+02.5	279 48.1	+02.4	280 47.2	+02.5	281 46.4	+02.4	282 45.5	+02.5	05
06	293 51.4	+02.5	294 50.5	+02.5	295 49.7	+02.4	296 48.8	+02.5	297 48.0	+02.4	06
07	308 53.9	+02.4	309 53.0	+02.5	310 52.1	+02.5	311 51.3	+02.4	312 50.4	+02.5	07
08	323 56.3	+02.5	324 55.5	+02.4	325 54.6	+02.5	326 53.7	+02.5	327 52.9	+02.4	08
09	338 58.8	+02.5	339 57.9	+02.5	340 57.1	+02.4	341 56.2	+02.5	342 55.3	+02.5	09
10	354 01.3	+02.4	355 00.4	+02.5	355 59.5	+02.5	356 58.7	+02.4	357 57.8	+02.5	10
11	9 03.7	+02.4	10 02.9	+02.4	11 02.0	+02.5	12 01.1	+02.5	13 00.3	+02.4	11
12	24 06.2	+02.4	25 05.3	+02.5	26 04.5	+02.4	27 03.6	+02.5	28 02.7	+02.5	12
13	39 08.6	+02.5	40 07.8	+02.5	41 06.9	+02.5	42 06.1	+02.4	43 05.2	+02.5	13
14	54 11.1	+02.4	55 10.3	+02.4	56 09.4	+02.5	57 08.5	+02.5	58 07.7	+02.4	14
15	69 13.6	+02.4	70 12.7	+02.5	71 11.9	+02.4	72 11.0	+02.5	73 10.1	+02.5	15
16	84 16.0	+02.5	85 15.2	+02.4	86 14.3	+02.5	87 13.5	+02.4	88 12.6	+02.5	16
17	99 18.5	+02.5	100 17.6	+02.5	101 16.8	+02.4	102 15.9	+02.5	103 15.1	+02.4	17
18	114 21.0	+02.4	115 20.1	+02.5	116 19.2	+02.5	117 18.4	+02.4	118 17.5	+02.5	18
19	129 23.4	+02.5	130 22.6	+02.4	131 21.7	+02.5	132 20.8	+02.5	133 20.0	+02.4	19
20	144 25.9	+02.5	145 25.0	+02.5	146 24.2	+02.4	147 23.3	+02.5	148 22.4	+02.5	20
21	159 28.4	+02.4	160 27.5	+02.5	161 26.6	+02.5	162 25.8	+02.4	163 24.9	+02.5	21
22	174 30.8	+02.5	175 30.0	+02.4	176 29.1	+02.5	177 28.2	+02.5	178 27.4	+02.4	22
23	189 33.3	+02.5	190 32.4	+02.5	191 31.6	+02.4	192 30.7	+02.5	193 29.8	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 39.1	N 29 11.9	Gienah	175 47.1	S 17 39.3
Ankaa	353 11.5	S 42 11.8	Acrux	173 03.5	S 63 12.7
Schedir	349 35.8	N 56 38.7	Gacrux	171 55.2	S 57 13.5
Diphda	348 51.6	S 17 52.8	Alioth	166 16.0	N 55 51.1
Achernar	335 23.8	S 57 08.2	Spica	158 26.0	S 11 16.0
Hamal	327 55.9	N 23 33.3	Alkaid	152 54.6	N 49 12.8
Polaris	316 12.1	N 89 21.0	Hadar	148 40.7	S 60 28.1
Acamar	315 15.1	S 40 13.7	Menkent	148 01.4	S 36 27.8
Menkar	314 10.4	N 04 09.9	Arcturus	145 50.8	N 19 05.3
Mirfak	308 34.1	N 49 55.9	Rigel Kentaurus	139 42.4	S 60 55.1
Aldebaran	290 44.3	N 16 32.9	Zubenelgenubi	136 59.9	S 16 07.5
Capella	280 27.8	N 46 01.2	Kocab	137 18.9	N 74 04.3
Rigel	281 07.7	S 08 11.0	Alphecca	126 06.8	N 26 38.8
Bellatrix	278 27.1	N 06 21.9	Antares	112 20.4	S 26 28.5
Elnath	278 06.9	N 28 37.4	Atria	107 17.6	S 69 03.5
Alnilam	275 41.8	S 01 11.6	Sabik	102 07.0	S 15 45.0
Betelgeuze	270 56.4	N 07 24.5	Shaula	96 15.4	S 37 06.9
Canopus	263 54.2	S 52 42.8	Rasalhague	96 02.0	N 12 32.7
Sirius	258 29.5	S 16 44.5	Etamin	90 43.8	N 51 28.9
Adhara	255 08.9	S 29 00.3	Kaus Australis	83 37.5	S 34 22.3
Castor	246 01.9	N 31 50.7	Vega	80 35.8	N 38 47.8
Procyon	244 54.6	N 05 10.6	Nunki	75 52.5	S 26 16.2
Pollux	243 21.7	N 27 58.7	Albireo	67 07.1	N 27 59.9
Avior	234 16.0	S 59 34.8	Altair	62 03.9	N 08 55.0
Suhail	222 48.8	S 43 31.1	Peacock	53 12.0	S 56 40.0
Miaplacidus	221 38.3	S 69 48.3	Deneb	49 28.5	N 45 20.8
Alphard	217 51.3	S 08 44.9	Enif	33 42.7	N 09 57.9
Regulus	207 38.2	N 11 52.1	Alnair	27 38.2	S 46 51.7
Dubhe	193 45.3	N 61 38.7	Formalhaut	15 19.2	S 29 30.9
Denebola	182 28.4	N 14 27.6	Markab	13 34.0	N 15 18.6

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 39.0	N 29 11.9	Gienah	175 47.1	S 17 39.3
Ankaa	353 11.5	S 42 11.8	Acrux	173 03.5	S 63 12.7
Schedir	349 35.8	N 56 38.7	Gacrux	171 55.2	S 57 13.5
Diphda	348 51.6	S 17 52.8	Alioth	166 16.0	N 55 51.1
Achernar	335 23.8	S 57 08.2	Spica	158 26.0	S 11 16.0
Hamal	327 55.9	N 23 33.3	Alkaid	152 54.6	N 49 12.8
Polaris	316 12.5	N 89 21.0	Hadar	148 40.6	S 60 28.1
Acamar	315 15.1	S 40 13.7	Menkent	148 01.4	S 36 27.9
Menkar	314 10.4	N 04 09.9	Arcturus	145 50.8	N 19 05.3
Mirfak	308 34.1	N 49 55.9	Rigel Kentaurus	139 42.4	S 60 55.1
Aldebaran	290 44.3	N 16 32.9	Zubenelgenubi	136 59.9	S 16 07.5
Capella	280 27.8	N 46 01.2	Kocab	137 18.9	N 74 04.3
Rigel	281 07.7	S 08 11.0	Alphecca	126 06.7	N 26 38.8
Bellatrix	278 27.2	N 06 21.9	Antares	112 20.4	S 26 28.5
Elnath	278 06.9	N 28 37.4	Atria	107 17.5	S 69 03.5
Alnilam	275 41.8	S 01 11.6	Sabik	102 07.0	S 15 45.0
Betelgeuze	270 56.4	N 07 24.5	Shaula	96 15.3	S 37 06.9
Canopus	263 54.3	S 52 42.8	Rasalhague	96 01.9	N 12 32.7
Sirius	258 29.5	S 16 44.5	Etamin	90 43.7	N 51 28.9
Adhara	255 08.9	S 29 00.3	Kaus Australis	83 37.4	S 34 22.3
Castor	246 01.9	N 31 50.7	Vega	80 35.7	N 38 47.8
Procyon	244 54.7	N 05 10.6	Nunki	75 52.4	S 26 16.2
Pollux	243 21.7	N 27 58.7	Albireo	67 07.1	N 27 59.9
Avior	234 16.1	S 59 34.8	Altair	62 03.8	N 08 55.0
Suhail	222 48.9	S 43 31.1	Peacock	53 11.9	S 56 39.9
Miaplacidus	221 38.3	S 69 48.3	Deneb	49 28.4	N 45 20.8
Alphard	217 51.4	S 08 44.9	Enif	33 42.7	N 09 57.9
Regulus	207 38.2	N 11 52.1	Alnair	27 38.1	S 46 51.7
Dubhe	193 45.3	N 61 38.7	Formalhaut	15 19.2	S 29 30.9
Denebola	182 28.4	N 14 27.6	Markab	13 33.9	N 15 18.6

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2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 131 of 366		day 132 of 366		day 133 of 366		day 134 of 366		day 135 of 366		UT
	May 10		May 11		May 12		May 13		May 14		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	228 15.1	+02.4	229 14.2	+02.5	230 13.4	+02.4	231 12.5	+02.5	232 11.6	+02.5	00
01	243 17.5	+02.5	244 16.7	+02.4	245 15.8	+02.5	246 15.0	+02.4	247 14.1	+02.5	01
02	258 20.0	+02.5	259 19.1	+02.5	260 18.3	+02.5	261 17.4	+02.5	262 16.6	+02.4	02
03	273 22.5	+02.4	274 21.6	+02.5	275 20.8	+02.4	276 19.9	+02.5	277 19.0	+02.5	03
04	288 24.9	+02.5	289 24.1	+02.4	290 23.2	+02.5	291 22.4	+02.4	292 21.5	+02.5	04
05	303 27.4	+02.5	304 26.5	+02.5	305 25.7	+02.4	306 24.8	+02.5	307 24.0	+02.4	05
06	318 29.9	+02.4	319 29.0	+02.5	320 28.1	+02.5	321 27.3	+02.4	322 26.4	+02.5	06
07	333 32.3	+02.5	334 31.5	+02.4	335 30.6	+02.5	336 29.7	+02.5	337 28.9	+02.5	07
08	348 34.8	+02.5	349 33.9	+02.5	350 33.1	+02.4	351 32.2	+02.4	352 31.4	+02.4	08
09	3 37.3	+02.4	4 36.4	+02.5	5 35.5	+02.5	6 34.7	+02.4	7 33.8	+02.5	09
10	18 39.7	+02.5	19 38.9	+02.4	20 38.0	+02.5	21 37.1	+02.5	22 36.3	+02.4	10
11	33 42.2	+02.4	34 41.3	+02.5	35 40.5	+02.4	36 39.6	+02.5	37 38.7	+02.5	11
12	48 44.6	+02.5	49 43.8	+02.5	50 42.9	+02.5	51 42.1	+02.4	52 41.2	+02.5	12
13	63 47.1	+02.5	64 46.3	+02.4	65 45.4	+02.5	66 44.5	+02.5	67 43.7	+02.4	13
14	78 49.6	+02.4	79 48.7	+02.5	80 47.9	+02.4	81 47.0	+02.5	82 46.1	+02.5	14
15	93 52.0	+02.5	94 51.2	+02.4	95 50.3	+02.5	96 49.5	+02.4	97 48.6	+02.5	15
16	108 54.5	+02.5	109 53.6	+02.5	110 52.8	+02.4	111 51.9	+02.5	112 51.1	+02.4	16
17	123 57.0	+02.4	124 56.1	+02.5	125 55.2	+02.5	126 54.4	+02.5	127 53.5	+02.5	17
18	138 59.4	+02.5	139 58.6	+02.4	140 57.7	+02.5	141 56.9	+02.4	142 56.0	+02.5	18
19	154 01.9	+02.5	155 01.0	+02.5	156 00.2	+02.4	156 59.3	+02.5	157 58.5	+02.4	19
20	169 04.4	+02.4	170 03.5	+02.5	171 02.6	+02.5	172 01.8	+02.4	173 00.9	+02.5	20
21	184 06.8	+02.5	185 06.0	+02.4	186 05.1	+02.5	187 04.2	+02.5	188 03.4	+02.4	21
22	199 09.3	+02.5	200 08.4	+02.5	201 07.6	+02.4	202 06.7	+02.5	203 05.8	+02.5	22
23	214 11.8	+02.4	215 10.9	+02.5	216 10.0	+02.5	217 09.2	+02.4	218 08.3	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 38.9	N 29 11.9	Gienah	175 47.2	S 17 39.3
Ankaa	353 11.4	S 42 11.6	Acrux	173 03.6	S 63 12.8
Schedir	349 35.7	N 56 38.6	Gacrux	171 55.3	S 57 13.6
Diphda	348 51.5	S 17 52.7	Alioth	166 16.1	N 55 51.2
Achernar	335 23.8	S 57 08.1	Spica	158 26.0	S 11 16.0
Hamal	327 55.8	N 23 33.3	Alkaid	152 54.6	N 49 12.9
Polaris	316 12.8	N 89 20.8	Hadar	148 40.6	S 60 28.2
Acamar	315 15.1	S 40 13.6	Menkent	148 01.4	S 36 27.9
Menkar	314 10.4	N 04 10.0	Arcturus	145 50.7	N 19 05.3
Mirfak	308 34.1	N 49 55.8	Rigel Kentaurus	139 42.3	S 60 55.2
Aldebaran	290 44.3	N 16 32.9	Zubenelgenubi	136 59.8	S 16 07.5
Capella	280 27.9	N 46 01.2	Kocab	137 18.8	N 74 04.5
Rigel	281 07.8	S 08 10.9	Alphecca	126 06.7	N 26 38.9
Bellatrix	278 27.2	N 06 21.9	Antares	112 20.2	S 26 28.5
Elnath	278 07.0	N 28 37.4	Atria	107 17.2	S 69 03.6
Alnilam	275 41.8	S 01 11.5	Sabik	102 06.8	S 15 45.0
Betelgeuze	270 56.4	N 07 24.5	Shaula	96 15.1	S 37 06.9
Canopus	263 54.5	S 52 42.7	Rasalhague	96 01.8	N 12 32.8
Sirius	258 29.6	S 16 44.4	Etamin	90 43.5	N 51 29.0
Adhara	255 09.0	S 29 00.2	Kaus Australis	83 37.2	S 34 22.3
Castor	246 02.0	N 31 50.7	Vega	80 35.6	N 38 47.9
Procyon	244 54.7	N 05 10.6	Nunki	75 52.2	S 26 16.2
Pollux	243 21.8	N 27 58.7	Albireo	67 06.9	N 27 60.0
Avior	234 16.3	S 59 34.8	Altair	62 03.6	N 08 55.1
Suhail	222 49.0	S 43 31.1	Peacock	53 11.6	S 56 39.9
Miaplacidus	221 38.7	S 69 48.4	Deneb	49 28.2	N 45 20.9
Alphard	217 51.4	S 08 44.9	Enif	33 42.5	N 09 57.9
Regulus	207 38.3	N 11 52.1	Alnair	27 37.9	S 46 51.6
Dubhe	193 45.5	N 61 38.8	Formalhaut	15 19.0	S 29 30.8
Denebola	182 28.5	N 14 27.6	Markab	13 33.8	N 15 18.6

UT	day 116 of 366		day 117 of 366		day 118 of 366		day 119 of 366		day 120 of 366		UT
	April 25		April 26		April 27		April 28		April 29		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	213 28.0	+02.5	214 27.1	+02.5	215 26.3	+02.4	216 25.4	+02.5	217 24.6	+02.4	00
01	228 30.5	+02.4	229 29.6	+02.5	230 28.7	+02.5	231 27.9	+02.4	232 27.0	+02.5	01
02	243 32.9	+02.5	244 32.1	+02.4	245 31.2	+02.5	246 30.3	+02.5	247 29.5	+02.4	02
03	258 35.4	+02.4	259 34.5	+02.5	260 33.7	+02.4	261 32.8	+02.5	262 31.9	+02.5	03
04	273 37.8	+02.5	274 37.0	+02.5	275 36.1	+02.5	276 35.3	+02.4	277 34.4	+02.5	04
05	288 40.3	+02.5	289 39.5	+02.4	290 38.6	+02.5	291 37.7	+02.5	292 36.9	+02.4	05
06	303 42.8	+02.4	304 41.9	+02.5	305 41.1	+02.4	306 40.2	+02.5	307 39.3	+02.5	06
07	318 45.2	+02.5	319 44.4	+02.4	320 43.5	+02.5	321 42.7	+02.4	322 41.8	+02.5	07
08	333 47.7	+02.5	334 46.8	+02.5	335 46.0	+02.4	336 45.1	+02.5	337 44.3	+02.4	08
09	348 50.2	+02.4	349 49.3	+02.5	350 48.4	+02.5	351 47.6	+02.5	352 46.7	+02.5	09
10	3 52.6	+02.5	4 51.8	+02.4	5 50.9	+02.5	6 50.1	+02.4	7 49.2	+02.5	10
11	18 55.1	+02.5	19 54.2	+02.5	20 53.4	+02.4	21 52.5	+02.5	22 51.7	+02.4	11
12	33 57.6	+02.4	34 56.7	+02.5	35 55.8	+02.5	36 55.0	+02.4	37 54.1	+02.5	12
13	49 00.0	+02.5	49 59.2	+02.4	50 58.3	+02.5	51 57.4	+02.5	52 56.6	+02.4	13
14	64 02.5	+02.5	65 01.6	+02.5	66 00.8	+02.4	66 59.9	+02.5	67 59.0	+02.5	14
15	79 05.0	+02.4	80 04.1	+02.5	81 03.2	+02.5	82 02.4	+02.4	83 01.5	+02.5	15
16	94 07.4	+02.5	95 06.6	+02.4	96 05.7	+02.5	97 04.8	+02.5	98 04.0	+02.4	16
17	109 09.9	+02.4	110 09.0	+02.5	111 08.2	+02.4	112 07.3	+02.5	113 06.4	+02.5	17
18	124 12.3	+02.5	125 11.5	+02.5	126 10.6	+02.5	127 09.8	+02.4	128 08.9	+02.5	18
19	139 14.8	+02.5	140 14.0	+02.4	141 13.1	+02.5	142 12.2	+02.5	143 11.4	+02.4	19
20	154 17.3	+02.4	155 16.4	+02.5	156 15.6	+02.4	157 14.7	+02.5	158 13.8	+02.5	20
21	169 19.7	+02.5	170 18.9	+02.4	171 18.0	+02.5	172 17.2	+02.4	173 16.3	+02.5	21
22	184 22.2	+02.5	185 21.3	+02.5	186 20.5	+02.4	187 19.6	+02.5	188 18.8	+02.4	22
23	199 24.7	+02.4	200 23.8	+02.5	201 22.9	+02.5	202 22.1	+02.5	203 21.2	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 39.0	N 29 11.9	Gienah	175 47.1	S 17 39.3
Ankaa	353 11.5	S 42 11.7	Acrux	173 03.5	S 63 12.8
Schedir	349 35.8	N 56 38.6	Gacrux	171 55.2	S 57 13.6
Diphda	348 51.5	S 17 52.7	Alioth	166 16.1	N 55 51.2
Achernar	335 23.8	S 57 08.1	Spica	158 26.0	S 11 16.0
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Polaris	316 13.6	N 89 20.9	Hadar	148 40.6	S 60 28.2
Acamar	315 15.1	S 40 13.7	Menkent	148 01.4	S 36 27.9
Menkar	314 10.4	N 04 09.9	Arcturus	145 50.8	N 19 05.3
Mirfak	308 34.1	N 49 55.8	Rigel Kentaurus	139 42.4	S 60 55.2
Aldebaran	290 44.3	N 16 32.9	Zubenelgenubi	136 59.8	S 16 07.5
Capella	280 27.9	N 46 01.2	Kocab	137 18.8	N 74 04.4
Rigel	281 07.8	S 08 10.9	Alphecca	126 06.7	N 26 38.8
Bellatrix	278 27.2	N 06 21.9	Antares	112 20.3	S 26 28.5
Elnath	278 06.9	N 28 37.4	Atria	107 17.4	S 69 03.5
Alnilam	275 41.8	S 01 11.6	Sabik	102 06.9	S 15 45.0
Betelgeuze	270 56.4	N 07 24.5	Shaula	96 15.3	S 37 06.9
Canopus	263 54.4	S 52 42.7	Rasalhague	96 01.9	N 12 32.7
Sirius	258 29.6	S 16 44.5	Etamin	90 43.6	N 51 29.0
Adhara	255 09.0	S 29 00.3	Kaus Australis	83 37.4	S 34 22.3
Castor	246 02.0	N 31 50.7	Vega	80 35.7	N 38 47.8
Procyon	244 54.7	N 05 10.6	Nunki	75 52.4	S 26 16.2
Pollux	243 21.7	N 27 58.7	Albireo	67 07.0	N 27 59.9
Avior	234 16.2	S 59 34.8	Altair	62 03.8	N 08 55.1
Suhail	222 48.9	S 43 31.1	Peacock	53 11.8	S 56 39.9
Miaplacidus	221 38.5	S 69 48.3	Deneb	49 28.3	N 45 20.8
Alphard	217 51.4	S 08 44.9	Enif	33 42.6	N 09 57.9
Regulus	207 38.3	N 11 52.1	Alnair	27 38.0	S 46 51.6
Dubhe	193 45.3	N 61 38.7	Formalhaut	15 19.1	S 29 30.9
Denebola	182 28.5	N 14 27.6	Markab	13 33.9	N 15 18.6

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2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 121 of 366		day 122 of 366		day 123 of 366		day 124 of 366		day 125 of 366		UT		
	April 30		May 1		May 2		May 3		May 4				
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	218	23.7	+02.5	219	22.8	+02.5	220	22.0	+02.4	221	21.1	+02.5	00
01	233	26.2	+02.4	234	25.3	+02.5	235	24.4	+02.5	236	23.6	+02.4	01
02	248	28.6	+02.5	249	27.8	+02.4	250	26.9	+02.5	251	26.0	+02.5	02
03	263	31.1	+02.4	264	30.2	+02.5	265	29.4	+02.4	266	28.5	+02.5	03
04	278	33.5	+02.5	279	32.7	+02.5	280	31.8	+02.5	281	31.0	+02.4	04
05	293	36.0	+02.5	294	35.2	+02.4	295	34.3	+02.5	296	33.4	+02.5	05
06	308	38.5	+02.4	309	37.6	+02.5	310	36.8	+02.4	311	35.9	+02.5	06
07	323	40.9	+02.5	324	40.1	+02.4	325	39.2	+02.5	326	38.4	+02.4	07
08	338	43.4	+02.5	339	42.5	+02.5	340	41.7	+02.4	341	40.8	+02.5	08
09	353	45.9	+02.4	354	45.0	+02.5	355	44.1	+02.5	356	43.3	+02.4	09
10	8	48.3	+02.5	9	47.5	+02.4	10	46.6	+02.5	11	45.7	+02.5	10
11	23	50.8	+02.5	24	49.9	+02.4	25	49.1	+02.4	26	48.2	+02.5	11
12	38	53.3	+02.4	39	52.4	+02.5	40	51.5	+02.5	41	50.7	+02.4	12
13	53	55.7	+02.5	54	54.9	+02.4	55	54.0	+02.5	56	53.1	+02.5	13
14	68	58.2	+02.5	69	57.3	+02.5	70	56.5	+02.4	71	55.6	+02.5	14
15	84	00.7	+02.4	84	59.8	+02.5	85	58.9	+02.5	86	58.1	+02.4	15
16	99	03.1	+02.5	100	02.3	+02.4	101	01.4	+02.5	102	00.5	+02.5	16
17	114	05.6	+02.4	115	04.7	+02.5	116	03.9	+02.4	117	03.0	+02.5	17
18	129	08.0	+02.5	130	07.2	+02.4	131	06.3	+02.5	132	05.5	+02.4	18
19	144	10.5	+02.5	145	09.6	+02.5	146	08.8	+02.5	147	07.9	+02.5	19
20	159	13.0	+02.4	160	12.1	+02.5	161	11.3	+02.4	162	10.4	+02.5	20
21	174	15.4	+02.5	175	14.6	+02.4	176	13.7	+02.5	177	12.9	+02.4	21
22	189	17.9	+02.5	190	17.0	+02.5	191	16.2	+02.4	192	15.3	+02.5	22
23	204	20.4	+02.4	205	19.5	+02.5	206	18.6	+02.5	207	17.8	+02.4	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	39.0	N 29	11.9	
Ankaa	353	11.4	S 42	11.7	
Schedir	349	35.7	N 56	38.6	
Diphda	348	51.5	S 17	52.7	
Achernar	335	23.8	S 57	08.1	
Hamal	327	55.9	N 23	33.3	
Polaris	316	13.4	N 89	20.9	
Acamar	315	15.1	S 40	13.6	
Menkar	314	10.4	N 04	09.9	
Mirfak	308	34.1	N 49	55.8	
Aldebaran	290	44.3	N 16	32.9	
Capella	280	27.9	N 46	01.2	
Rigel	281	07.8	S 08	10.9	
Bellatrix	278	27.2	N 06	21.9	
Elnath	278	07.0	N 28	37.4	
Alnilam	275	41.8	S 01	11.6	
Betelgeuze	270	56.4	N 07	24.5	
Canopus	263	54.4	S 52	42.7	
Sirius	258	29.6	S 16	44.5	
Adhara	255	09.0	S 29	00.2	
Castor	246	02.0	N 31	50.7	
Procyon	244	54.7	N 05	10.6	
Pollux	243	21.8	N 27	58.7	
Avior	234	16.2	S 59	34.8	
Suhail	222	49.0	S 43	31.1	
Miaplacidus	221	38.6	S 69	48.4	
Alphard	217	51.4	S 08	44.9	
Regulus	207	38.3	N 11	52.1	
Dubhe	193	45.4	N 61	38.8	
Denebola	182	28.5	N 14	27.6	
Gienah	175	47.1	S 17	39.3	
Acrux	173	03.5	S 63	12.8	
Gacrux	171	55.2	S 57	13.6	
Alioth	166	16.1	N 55	51.2	
Spica	158	26.0	S 11	16.0	
Alkaid	152	54.6	N 49	12.9	
Hadar	148	40.6	S 60	28.2	
Menkent	148	01.4	S 36	27.9	
Arcturus	145	50.7	N 19	05.3	
Rigel Kentaurus	139	42.3	S 60	55.2	
Zubenelgenubi	136	59.8	S 16	07.5	
Kocab	137	18.8	N 74	04.4	
Alphecca	126	06.7	N 26	38.8	
Antares	112	20.3	S 26	28.5	
Atria	107	17.3	S 69	03.6	
Sabik	102	06.9	S 15	45.0	
Shaula	96	15.2	S 37	06.9	
Rasalhague	96	01.9	N 12	32.7	
Etamin	90	43.6	N 51	29.0	
Kaus Australis	83	37.3	S 34	22.3	
Vega	80	35.6	N 38	47.9	
Nunki	75	52.3	S 26	16.2	
Albireo	67	07.0	N 27	59.9	
Altair	62	03.7	N 08	55.1	
Peacock	53	11.7	S 56	39.9	
Deneb	49	28.3	N 45	20.8	
Enif	33	42.6	N 09	57.9	
Alnair	27	38.0	S 46	51.6	
Formalhaut	15	19.1	S 29	30.9	
Markab	13	33.9	N 15	18.6	

UT	day 126 of 366		day 127 of 366		day 128 of 366		day 129 of 366		day 130 of 366		UT		
	May 5		May 6		May 7		May 8		May 9				
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	223	19.4	+02.4	224	18.5	+02.5	225	17.7	+02.4	226	16.8	+02.5	00
01	238	21.8	+02.5	239	21.0	+02.4	240	20.1	+02.5	241	19.3	+02.4	01
02	253	24.3	+02.5	254	23.4	+02.5	255	22.6	+02.5	256	21.7	+02.5	02
03	268	26.8	+02.4	269	25.9	+02.5	270	25.1	+02.4	271	24.2	+02.5	03
04	283	29.2	+02.5	284	28.4	+02.4	285	27.5	+02.5	286	26.7	+02.4	04
05	298	31.7	+02.5	299	30.8	+02.5	300	30.0	+02.4	301	29.1	+02.5	05
06	313	34.2	+02.4	314	33.3	+02.5	315	32.4	+02.5	316	31.6	+02.4	06
07	328	36.6	+02.5	329	35.8	+02.4	330	34.9	+02.5	331	34.0	+02.5	07
08	343	39.1	+02.5	344	38.2	+02.5	345	37.4	+02.4	346	36.5	+02.5	08
09	358	41.6	+02.4	359	40.7	+02.5	0	39.8	+02.5	1	39.0	+02.4	09
10	13	44.0	+02.5	14	43.2	+02.4	15	42.3	+02.5	16	41.4	+02.5	10
11	28	46.5	+02.5	29	45.6	+02.5	30	44.8	+02.4	31	43.9	+02.5	11
12	43	49.0	+02.4	44	48.1	+02.5	45	47.2	+02.5	46	46.4	+02.4	12
13	58	51.4	+02.5	59	50.6	+02.4	60	49.7	+02.5	61	48.8	+02.5	13
14	73	53.9	+02.5	74	53.0	+02.5	75	52.2	+02.4	76	51.3	+02.5	14
15	88	56.3	+02.5	89	55.5	+02.4	90	54.6	+02.5	91	53.8	+02.4	15
16	103	58.8	+02.5	104	57.9	+02.5	105	57.1	+02.4	106	56.2	+02.5	16
17	119	01.3	+02.4	120	00.4	+02.5	120	59.5	+02.5	121	58.7	+02.5	17
18	134	03.7	+02.5	135	02.9	+02.4	136	02.0	+02.5	137	01.2	+02.4	18
19	149	06.2	+02.5	150	05.3	+02.5	151	04.5	+02.4	152	03.6	+02.5	19
20	164	08.7	+02.4	165	07.8	+02.5	166	06.9	+02.5	167	06.1	+02.4	20
21	179	11.1	+02.5	180	10.3	+02.4	181	09.4	+02.5	182	08.5	+02.5	21
22	194	13.6	+02.5	195	12.7	+02.5	196	11.9	+02.4	197	11.0	+02.5	22
23	209	16.1	+02.4	210	15.2	+02.5	211	14.3	+02.5	212	13.5	+02.4	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	38.9	N 29	11.9	
Ankaa	353	11.4	S 42	11.7	
Schedir	349	35.7	N 56	38.6	
Diphda	348	51.5	S 17	52.7	
Achernar	335	23.8	S 57	08.1	
Hamal	327	55.8	N 23	33.3	
Polaris	316	13.5	N 89	20.9	
Acamar	315	15.1	S 40	13.6	
Menkar	314	10.4	N 04	09.9	
Mirfak	308	34.1	N 49	55.8	
Aldebaran	290	44.3	N 16	32.9	
Capella	280	27.9	N 46	01.2	
Rigel	281	07.8	S 08	10.9	
Bellatrix	278	27.2	N 06	21.9	
Elnath	278	07.0	N 28	37.4	
Alnilam	275	41.8	S 01	11.5	
Betelgeuze	270	56.4	N 07	24.5	
Canopus	263	54.4	S 52	42.7	
Sirius	258	29.6	S 16	44.5	
Adhara	255	09.0	S 29	00.2	
Castor	246	02.0	N 31	50.7	
Procyon	244	54.7	N 05	10.6	
Pollux	243	21.8	N 27	58.7	
Avior	234	16.3	S 59	34.8	
Suhail	222	49.0	S 43	31.1	
Miaplacidus	221	38.7	S 69	48.4	
Alphard	217	51.4	S 08	44.9	
Regulus	207	38.3	N 11	52.1	
Dubhe	193	45.4	N 61	38.8	
Denebola	182	28.5	N 14	27.6	
Gienah	175	47.2	S 17	39.3	
Acrux	173	03.6	S 63	12.8	
Gacrux	171	55.3	S 57	13.6	
Alioth	166	16.1	N 55	51.2	
Spica	158	26.0	S 11	16.0	
Alkaid	152	54.6	N 49	12.9	
Hadar	148	40.6	S 60	28.2	
Menkent	148	01.4	S 36	27.9	
Arcturus	145	50.7	N 19	05.3	
Rigel Kentaurus	139	42.3	S 60	55.2	
Zubenelgenubi	136	59.8	S 16	07.5	
Kocab	137	18.8	N 74	04.4	
Alphecca	126	06.7	N 26	38.8	
Antares	112	20.2	S 26	28.5	
Atria	107	17.2	S 69	03.6	
Sabik	102	06.8	S 15	45.0	
Shaula	96	15.2	S 37	06.9	
Rasalhague	96	01.8	N 12	32.7	
Etamin	90	43.6</			

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 151 of 366		day 152 of 366		day 153 of 366		day 154 of 366		day 155 of 366		UT		
	May 30		May 31		June 1		June 2		June 3				
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	247	57.9	+02.4	248	57.0	+02.5	249	56.1	+02.5	250	55.3	+02.4	00
01	263	00.3	+02.5	263	59.5	+02.4	264	58.6	+02.5	265	57.7	+02.5	01
02	278	02.8	+02.5	279	01.9	+02.5	280	01.1	+02.4	281	00.2	+02.5	02
03	293	05.3	+02.4	294	04.4	+02.5	295	03.5	+02.5	296	02.7	+02.4	03
04	308	07.7	+02.5	309	06.9	+02.4	310	06.0	+02.5	311	05.1	+02.5	04
05	323	10.2	+02.4	324	09.3	+02.5	325	08.5	+02.4	326	07.6	+02.5	05
06	338	12.6	+02.5	339	11.8	+02.4	340	10.9	+02.5	341	10.1	+02.4	06
07	353	15.1	+02.5	354	14.2	+02.5	355	13.4	+02.5	356	12.5	+02.5	07
08	8	17.6	+02.4	9	16.7	+02.5	10	15.9	+02.4	11	15.0	+02.5	08
09	23	20.0	+02.5	24	19.2	+02.4	25	18.3	+02.5	26	17.5	+02.4	09
10	38	22.5	+02.5	39	21.6	+02.5	40	20.8	+02.4	41	19.9	+02.5	10
11	53	25.0	+02.4	54	24.1	+02.5	55	23.2	+02.5	56	22.4	+02.4	11
12	68	27.4	+02.5	69	26.6	+02.4	70	25.7	+02.5	71	24.8	+02.5	12
13	83	29.9	+02.5	84	29.0	+02.5	85	28.2	+02.4	86	27.3	+02.5	13
14	98	32.4	+02.4	99	31.5	+02.5	100	30.6	+02.5	101	29.8	+02.4	14
15	113	34.8	+02.5	114	34.0	+02.4	115	33.1	+02.5	116	32.2	+02.5	15
16	128	37.3	+02.5	129	36.4	+02.5	130	35.6	+02.4	131	34.7	+02.5	16
17	143	39.8	+02.4	144	38.9	+02.5	145	38.0	+02.5	146	37.2	+02.4	17
18	158	42.2	+02.5	159	41.4	+02.4	160	40.5	+02.5	161	39.6	+02.5	18
19	173	44.7	+02.4	174	43.8	+02.5	175	43.0	+02.4	176	42.1	+02.5	19
20	188	47.1	+02.5	189	46.3	+02.4	190	45.4	+02.5	191	44.6	+02.4	20
21	203	49.6	+02.5	204	48.7	+02.5	205	47.9	+02.4	206	47.0	+02.5	21
22	218	52.1	+02.4	219	51.2	+02.5	220	50.3	+02.5	221	49.5	+02.5	22
23	233	54.5	+02.5	234	53.7	+02.4	235	52.8	+02.5	236	52.0	+02.4	23

UT	day 136 of 366		day 137 of 366		day 138 of 366		day 139 of 366		day 140 of 366		UT		
	May 15		May 16		May 17		May 18		May 19				
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	233	10.8	+02.4	234	09.9	+02.5	235	09.1	+02.4	236	08.2	+02.5	00
01	248	13.2	+02.5	249	12.4	+02.4	250	11.5	+02.5	251	10.7	+02.4	01
02	263	15.7	+02.5	264	14.8	+02.5	265	14.0	+02.4	266	13.1	+02.5	02
03	278	18.2	+02.4	279	17.3	+02.5	280	16.4	+02.5	281	15.6	+02.4	03
04	293	20.6	+02.5	294	19.8	+02.4	295	18.9	+02.5	296	18.0	+02.5	04
05	308	23.1	+02.5	309	22.2	+02.5	310	21.4	+02.4	311	20.5	+02.5	05
06	323	25.6	+02.4	324	24.7	+02.5	325	23.8	+02.5	326	23.0	+02.4	06
07	338	28.0	+02.5	339	27.2	+02.4	340	26.3	+02.5	341	25.4	+02.5	07
08	353	30.5	+02.5	354	29.6	+02.5	355	28.8	+02.4	356	27.9	+02.5	08
09	8	33.0	+02.4	9	32.1	+02.5	10	31.2	+02.5	11	30.4	+02.4	09
10	23	35.4	+02.5	24	34.6	+02.4	25	33.7	+02.5	26	32.8	+02.5	10
11	38	37.9	+02.4	39	37.0	+02.5	40	36.2	+02.4	41	35.3	+02.5	11
12	53	40.3	+02.5	54	39.5	+02.4	55	38.6	+02.5	56	37.8	+02.4	12
13	68	42.8	+02.5	69	41.9	+02.5	70	41.1	+02.4	71	40.2	+02.5	13
14	83	45.3	+02.5	84	44.4	+02.5	85	43.5	+02.5	86	42.7	+02.5	14
15	98	47.7	+02.5	99	46.9	+02.4	100	46.0	+02.5	101	45.2	+02.4	15
16	113	50.2	+02.5	114	49.3	+02.5	115	48.5	+02.4	116	47.6	+02.5	16
17	128	52.7	+02.4	129	51.8	+02.5	130	50.9	+02.5	131	50.1	+02.4	17
18	143	55.1	+02.5	144	54.3	+02.4	145	53.4	+02.5	146	52.5	+02.5	18
19	158	57.6	+02.5	159	56.7	+02.5	160	55.9	+02.4	161	55.0	+02.5	19
20	174	00.1	+02.4	174	59.2	+02.5	175	58.3	+02.5	176	57.5	+02.4	20
21	189	02.5	+02.5	190	01.7	+02.4	191	00.8	+02.5	191	59.9	+02.5	21
22	204	05.0	+02.5	205	04.1	+02.5	206	03.3	+02.4	207	02.4	+02.5	22
23	219	07.5	+02.4	220	06.6	+02.5	221	05.7	+02.5	222	04.9	+02.4	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	38.8	N 29	11.9	
Ankaa	353	11.2	S 42	11.5	
Schedir	349	35.5	N 56	38.6	
Diphda	348	51.3	S 17	52.6	
Achernar	335	23.6	S 57	07.9	
Hamal	327	55.7	N 23	33.3	
Polaris	316	09.2	N 89	20.7	
Acamar	315	15.0	S 40	13.5	
Menkar	314	10.3	N 04	10.0	
Mirfak	308	34.0	N 49	55.7	
Aldebaran	290	44.3	N 16	32.9	
Capella	280	27.9	N 46	01.1	
Rigel	281	07.8	S 08	10.9	
Bellatrix	278	27.2	N 06	21.9	
Elnath	278	07.0	N 28	37.4	
Alnilam	275	41.8	S 01	11.5	
Betelgeuze	270	56.5	N 07	24.5	
Canopus	263	54.5	S 52	42.6	
Sirius	258	29.7	S 16	44.4	
Adhara	255	09.1	S 29	00.2	
Castor	246	02.1	N 31	50.7	
Procyon	244	54.8	N 05	10.6	
Pollux	243	21.8	N 27	58.7	
Avior	234	16.5	S 59	34.8	
Suhail	222	49.1	S 43	31.1	
Miaplacidus	221	39.0	S 69	48.3	
Alphard	217	51.5	S 08	44.9	
Regulus	207	38.4	N 11	52.1	
Dubhe	193	45.6	N 61	38.8	
Denebola	182	28.5	N 14	27.7	
Gienah	175	47.2	S 17	39.3	
Acrux	173	03.7	S 63	12.9	
Gacrux	171	55.4	S 57	13.7	
Alioth	166	16.2	N 55	51.3	
Spica	158	26.0	S 11	16.0	
Alkaid	152	54.7	N 49	13.0	
Hadar	148	40.6	S 60	28.3	
Menkent	148	01.3	S 36	28.0	
Arcturus	145	50.7	N 19	05.4	
Rigel Kentaurus	139	42.3	S 60	55.3	
Zubenelgenubi	136	59.8	S 16	07.5	
Kocab	137	18.9	N 74	04.5	
Alphecca	126	06.6	N 26	38.9	
Antares	112	20.1	S 26	28.5	
Atria	107	17.0	S 69	03.7	
Sabik	102	06.7	S 15	44.9	
Shaula	96	15.0	S 37	07.0	
Rasalhague	96	01.7	N 12	32.8	
Etamin	90	43.4	N 51	29.1	
Kaus Australis	83	37.1	S 34	22.3	
Vega	80	35.4	N 38	48.0	
Nunki	75	52.1	S 26	16.1	
Albireo	67	06.8	N 28	00.0	
Altair	62	03.5	N 08	55.1	
Peacock	53	11.4	S 56	39.9	
Deneb	49	28.0	N 45	20.9	
Enif	33	42.4	N 09	58.0	
Alnair	27	37.7	S 46	51.5	
Formalhaut	15	18.8	S 29	30.8	
Markab	13	33.6	N 15	18.7	

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	38.9	N 29	11.9	
Ankaa	353	11.3	S 42	11.6	
Schedir	349	35.6	N 56	38.6	
Diphda	348	51.4	S 17	52.6	
Achernar	335	23.7	S 57	08.0	
Hamal	327	55.8	N 23	33.3	
Polaris	316	12.2	N 89	20.8	
Acamar	315	15.1	S 40	13.5	
Menkar	314	10.4	N 04	10.0	
Mirfak	308	34.1	N 49	55.8	
Aldebaran	290	44.3	N 16	32.9	
Capella	280	27.9	N 46	01.1	
Rigel	281	07.8	S 08	10.9	
Bellatrix	278	27.2	N 06	21.9	
Elnath	278	07.0	N 28	37.4	
Alnilam	275	41.8	S 01	11.5	
Betelgeuze	270	56.4	N 07	24.5	
Canopus	263	54.5	S 52	42.7	
Sirius	258	29.6	S 16	44.4	
Adhara	255	09.0	S 29	00.2	
Castor	246	02.0	N 31	50.7	
Procyon	244	54.8	N 05	10.6	
Pollux	243	21.8	N 27	58.7	
Avior	234	16.4	S 59	34.8	
Suhail	222	49.1	S 43	31.1	
Miaplacidus	221	38.8	S 69	48.4	
Alphard	217	51.5	S 08	44.9	
Regulus	207	38.3	N 11	52.1	
Dubhe	193	45.5	N 61	38.8	
Denebola	182	28.5	N 14	27.6	
Gienah	175	47.2	S 17	39.3	
Acrux	173	03.6	S 63	12.8	
Gacrux	171	55.3	S 57	13.7	
Alioth	166	16.1	N 55	51.2	
Spica	158	26.0	S 11	16.0	
Alkaid	152	54.6	N 49	12.9	
Hadar	148	40.6	S 60	28.3	
Menkent	148	01.3	S 36	27.9	
Arcturus	145	50.7	N 19	05.4	
Rigel Kentaurus	139	42.3	S 60	55.3	
Zubenelgenubi	136	59.8	S 16	07.5	
Kocab	137	18.8	N 74	04.5	
Alphecca	126	06.6	N 26	38.9	
Antares	112	20.2	S 26	28.5	
Atria	107	17.1	S 69	03.6	
Sabik	102	06.8	S 15	45.0	
Shaula	96	15.1	S 37	06.9	
Rasalhague	96	01.8	N 12	32.8	
Etamin	90	43.5	N 51	29.	

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 141 of 366		day 142 of 366		day 143 of 366		day 144 of 366		day 145 of 366		UT		
	May	20	May	21	May	22	May	23	May	24			
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	238	06.5	+02.4	239	05.6	+02.5	240	04.7	+02.5	241	03.9	+02.4	00
01	253	08.9	+02.5	254	08.1	+02.4	255	07.2	+02.5	256	06.3	+02.5	01
02	268	11.4	+02.5	269	10.5	+02.5	270	09.7	+02.4	271	08.8	+02.5	02
03	283	13.9	+02.4	284	13.0	+02.5	285	12.1	+02.5	286	11.3	+02.4	03
04	298	16.3	+02.5	299	15.5	+02.4	300	14.6	+02.5	301	13.7	+02.5	04
05	313	18.8	+02.5	314	17.9	+02.5	315	17.1	+02.4	316	16.2	+02.5	05
06	328	21.3	+02.4	329	20.4	+02.5	330	19.5	+02.5	331	18.7	+02.4	06
07	343	23.7	+02.5	344	22.9	+02.4	345	22.0	+02.5	346	21.1	+02.5	07
08	358	26.2	+02.4	359	25.3	+02.5	0	24.5	+02.4	1	23.6	+02.5	08
09	13	28.6	+02.5	14	27.8	+02.4	15	26.9	+02.5	16	26.1	+02.4	09
10	28	31.1	+02.5	29	30.2	+02.5	30	29.4	+02.4	31	28.5	+02.5	10
11	43	33.6	+02.4	44	32.7	+02.5	45	31.8	+02.5	46	31.0	+02.5	11
12	58	36.0	+02.5	59	35.2	+02.4	60	34.3	+02.5	61	33.5	+02.4	12
13	73	38.5	+02.5	74	37.6	+02.5	75	36.8	+02.4	76	35.9	+02.5	13
14	88	41.0	+02.4	89	40.1	+02.5	90	39.2	+02.5	91	38.4	+02.4	14
15	103	43.4	+02.5	104	42.6	+02.4	105	41.7	+02.5	106	40.8	+02.5	15
16	118	45.9	+02.5	119	45.0	+02.5	120	44.2	+02.4	121	43.3	+02.5	16
17	133	48.4	+02.4	134	47.5	+02.5	135	46.6	+02.5	136	45.8	+02.4	17
18	148	50.8	+02.5	149	50.0	+02.4	150	49.1	+02.5	151	48.2	+02.5	18
19	163	53.3	+02.4	164	52.4	+02.5	165	51.6	+02.4	166	50.7	+02.5	19
20	178	55.7	+02.5	179	54.9	+02.5	180	54.0	+02.5	181	53.2	+02.4	20
21	193	58.2	+02.5	194	57.4	+02.4	195	56.5	+02.5	196	55.6	+02.5	21
22	209	00.7	+02.4	209	59.8	+02.5	210	59.0	+02.4	211	58.1	+02.5	22
23	224	03.1	+02.5	225	02.3	+02.4	226	01.4	+02.5	227	00.6	+02.4	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	38.8	N 29	11.9	
Ankaa	353	11.3	S 42	11.6	
Schedir	349	35.6	N 56	38.6	
Diphda	348	51.4	S 17	52.6	
Achernar	335	23.7	S 57	08.0	
Hamal	327	55.8	N 23	33.3	
Polaris	316	11.6	N 89	20.8	
Acamar	315	15.1	S 40	13.5	
Menkar	314	10.4	N 04	10.0	
Mirfak	308	34.1	N 49	55.8	
Aldebaran	290	44.3	N 16	32.9	
Capella	280	27.9	N 46	01.1	
Rigel	281	07.8	S 08	10.9	
Bellatrix	278	27.2	N 06	21.9	
Elnath	278	07.0	N 28	37.4	
Alnilam	275	41.9	S 01	11.5	
Betelgeuze	270	56.5	N 07	24.5	
Canopus	263	54.5	S 52	42.6	
Sirius	258	29.6	S 16	44.4	
Adhara	255	09.1	S 29	00.2	
Castor	246	02.1	N 31	50.7	
Procyon	244	54.8	N 05	10.6	
Pollux	243	21.8	N 27	58.7	
Avior	234	16.4	S 59	34.8	
Suhail	222	49.1	S 43	31.1	
Miaplacidus	221	38.9	S 69	48.4	
Alphard	217	51.5	S 08	44.9	
Regulus	207	38.4	N 11	52.1	
Dubhe	193	45.5	N 61	38.8	
Denebola	182	28.5	N 14	27.7	
Gienah	175	47.2	S 17	39.3	
Acrux	173	03.6	S 63	12.9	
Gacrux	171	55.3	S 57	13.7	
Alioth	166	16.1	N 55	51.3	
Spica	158	26.0	S 11	16.0	
Alkaid	152	54.6	N 49	12.9	
Hadar	148	40.6	S 60	28.3	
Menkent	148	01.4	S 36	28.0	
Arcturus	145	50.7	N 19	05.4	
Rigel Kentaurus	139	42.3	S 60	55.3	
Zubenelgenubi	136	59.8	S 16	07.5	
Kocab	137	18.8	N 74	04.5	
Alphecca	126	06.6	N 26	38.9	
Antares	112	20.2	S 26	28.5	
Atria	107	17.1	S 69	03.6	
Sabik	102	06.8	S 15	45.0	
Shaula	96	15.1	S 37	07.0	
Rasalhague	96	01.8	N 12	32.8	
Etamin	90	43.5	N 51	29.1	
Kaus Australis	83	37.2	S 34	22.3	
Vega	80	35.5	N 38	47.9	
Nunki	75	52.2	S 26	16.1	
Albireo	67	06.8	N 27	60.0	
Altair	62	03.6	N 08	55.1	
Peacock	53	11.5	S 56	39.9	
Deneb	49	28.1	N 45	20.9	
Enif	33	42.4	N 09	57.9	
Alnair	27	37.8	S 46	51.5	
Formalhaut	15	18.9	S 29	30.8	
Markab	13	33.7	N 15	18.7	

UT	day 146 of 366		day 147 of 366		day 148 of 366		day 149 of 366		day 150 of 366		UT		
	May	25	May	26	May	27	May	28	May	29			
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	243	02.2	+02.4	244	01.3	+02.5	245	00.4	+02.5	245	59.6	+02.4	00
01	258	04.6	+02.5	259	03.8	+02.4	260	02.9	+02.5	261	02.0	+02.5	01
02	273	07.1	+02.5	274	06.2	+02.5	275	05.4	+02.4	276	04.5	+02.5	02
03	288	09.6	+02.4	289	08.7	+02.5	290	07.8	+02.5	291	07.0	+02.4	03
04	303	12.0	+02.5	304	11.2	+02.4	305	10.3	+02.5	306	09.4	+02.5	04
05	318	14.5	+02.4	319	13.6	+02.5	320	12.8	+02.4	321	11.9	+02.5	05
06	333	16.9	+02.5	334	16.1	+02.5	335	15.2	+02.5	336	14.4	+02.4	06
07	348	19.4	+02.5	349	18.6	+02.4	350	17.7	+02.5	351	16.8	+02.5	07
08	3	21.9	+02.4	4	21.0	+02.5	5	20.2	+02.4	6	19.3	+02.5	08
09	18	24.3	+02.5	19	23.5	+02.4	20	22.6	+02.5	21	21.8	+02.4	09
10	33	26.8	+02.5	34	25.9	+02.5	35	25.1	+02.5	36	24.2	+02.5	10
11	48	29.3	+02.5	49	28.4	+02.5	50	27.6	+02.4	51	26.7	+02.5	11
12	63	31.7	+02.5	64	30.9	+02.4	65	30.0	+02.5	66	29.2	+02.4	12
13	78	34.2	+02.5	79	33.3	+02.5	80	32.5	+02.4	81	31.6	+02.5	13
14	93	36.7	+02.4	94	35.8	+02.5	95	34.9	+02.5	96	34.1	+02.4	14
15	108	39.1	+02.5	109	38.3	+02.4	110	37.4	+02.5	111	36.5	+02.5	15
16	123	41.6	+02.5	124	40.7	+02.5	125	39.9	+02.4	126	39.0	+02.5	16
17	138	44.1	+02.4	139	43.2	+02.5	140	42.3	+02.5	141	41.5	+02.4	17
18	153	46.5	+02.5	154	45.7	+02.4	155	44.8	+02.5	156	43.9	+02.5	18
19	168	49.0	+02.4	169	48.1	+02.5	170	47.3	+02.4	171	46.4	+02.5	19
20	183	51.4	+02.5	184	50.6	+02.5	185	49.7	+02.5	186	48.9	+02.4	20
21	198	53.9	+02.5	199	53.1	+02.4	200	52.2	+02.5	201	51.3	+02.5	21
22	213	56.4	+02.4	214	55.5	+02.5	215	54.7	+02.4	216	53.8	+02.5	22
23	228	58.8	+02.5	229	58.0	+02.4	230	57.1	+02.5	231	56.3	+02.4	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	38.8	N 29	11.9	
Ankaa	353	11.3	S 42	11.6	
Schedir	349	35.6	N 56	38.6	
Diphda	348	51.4	S 17	52.6	
Achernar	335	23.7	S 57	08.0	
Hamal	327	55.8	N 23	33.3	
Polaris	316	11.6	N 89	20.8	
Acamar	315	15.1	S 40	13.5	
Menkar	314	10.4	N 04	10.0	
Mirfak	308	34.0	N 49	55.7	
Aldebaran	290	44.3	N 16	32.9	
Capella	280	27.9	N 46	01.1	
Rigel	281	07.8	S 08	10.9	
Bellatrix	278	27.2	N 06	21.9	
Elnath	278	07.0	N 28	37.4	
Alnilam	275	41.9	S 01	11.5	
Betelgeuze	270	56.5	N 07	24.5	
Canopus	263	54.5	S 52	42.6	
Sirius	258	29.7	S 16	44.4	
Adhara	255	09.1	S 29	00.2	
Castor	246	02.1	N 31	50.7	
Procyon	244	54.8	N 05	10.6	
Pollux	243	21.8	N 27	58.7	
Avior	234	16.5	S 59	34.8	
Suhail	222	49.1	S 43	31.1	
Miaplacidus	221	38.9	S 69	48.4	
Alphard	217	51.5	S 08	44.9	
Regulus	207	38.4	N 11	52.1	
Dubhe	193	45.6	N 61	38.8	
Denebola	182	28.5	N 14	27.7	
Gienah	175	47.2	S 17	39.3	
Acrux	173	03.7	S 63	12.9	
Gacrux	171	55.4	S 57	13.7	
Alioth	166	16.2	N 55	51.3	
Spica	158	26.0	S 11	16.0	
Alkaid	152	54.6	N 49	13.0	
Hadar	148	40.6	S 60	28.3	
Menkent	148	01.3	S 36	28.0	
Arcturus	145	50.7	N 19	05.4	
Rigel Kentaurus	139	42.3	S 60	55.3	
Zubenelgenubi	136	59.8	S 16	07.5	
Kocab	137	18.9	N 74	04.5	
Alphecca	126	06.6	N 26	38.9	
Antares	112	20.2	S 26	28.5	
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Sabik	102	06.7	S 15	44.9	
Shaula	96	15.0	S 37	07.0	
Rasalhague	96	01.7	N 12	32.8	
Etamin	90	43.4	N 51	29.1	

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 171 of 366		day 172 of 366		day 173 of 366		day 174 of 366		day 175 of 366		UT		
	June	19	June	20	June	21	June	22	June	23			
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	267	40.6	+02.5	268	39.8	+02.4	269	38.9	+02.5	270	38.1	+02.4	00
01	282	43.1	+02.5	283	42.2	+02.5	284	41.4	+02.5	285	40.5	+02.5	01
02	297	45.6	+02.4	298	44.7	+02.5	299	43.9	+02.4	300	43.0	+02.5	02
03	312	48.0	+02.5	313	47.2	+02.4	314	46.3	+02.5	315	45.5	+02.4	03
04	327	50.5	+02.5	328	49.6	+02.5	329	48.8	+02.4	330	47.9	+02.5	04
05	342	53.0	+02.4	343	52.1	+02.5	344	51.2	+02.5	345	50.4	+02.5	05
06	357	55.4	+02.5	358	54.6	+02.4	359	53.7	+02.5	0	52.9	+02.4	06
07	12	57.9	+02.5	13	57.0	+02.5	14	56.2	+02.4	15	55.3	+02.5	07
08	28	00.4	+02.4	28	59.5	+02.5	29	58.6	+02.5	30	57.8	+02.4	08
09	43	02.8	+02.5	44	02.0	+02.4	45	01.1	+02.5	46	00.2	+02.5	09
10	58	05.3	+02.5	59	04.4	+02.5	60	03.6	+02.4	61	02.7	+02.5	10
11	73	07.8	+02.4	74	06.9	+02.5	75	06.0	+02.5	76	05.2	+02.5	11
12	88	10.2	+02.5	89	09.4	+02.4	90	08.5	+02.5	91	07.6	+02.5	12
13	103	12.7	+02.4	104	11.8	+02.5	105	11.0	+02.4	106	10.1	+02.5	13
14	118	15.1	+02.5	119	14.3	+02.4	120	13.4	+02.5	121	12.6	+02.4	14
15	133	17.6	+02.5	134	16.7	+02.5	135	15.9	+02.5	136	15.0	+02.5	15
16	148	20.1	+02.4	149	19.2	+02.5	150	18.4	+02.4	151	17.5	+02.5	16
17	163	22.5	+02.5	164	21.7	+02.4	165	20.8	+02.5	166	20.0	+02.4	17
18	178	25.0	+02.5	179	24.1	+02.5	180	23.3	+02.4	181	22.4	+02.5	18
19	193	27.5	+02.4	194	26.6	+02.5	195	25.7	+02.5	196	24.9	+02.5	19
20	208	29.9	+02.5	209	29.1	+02.4	210	28.2	+02.5	211	27.4	+02.4	20
21	223	32.4	+02.5	224	31.5	+02.5	225	30.7	+02.4	226	29.8	+02.5	21
22	238	34.9	+02.4	239	34.0	+02.5	240	33.1	+02.5	241	32.3	+02.4	22
23	253	37.3	+02.5	254	36.5	+02.4	255	35.6	+02.5	256	34.7	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	38.6	N 29	12.0	
Ankaa	353	11.0	S 42	11.5	
Schedir	349	35.2	N 56	38.6	
Diphda	348	51.2	S 17	52.5	
Achernar	335	23.4	S 57	07.8	
Hamal	327	55.6	N 23	33.3	
Polaris	316	02.8	N 89	20.7	
Acamar	315	14.9	S 40	13.4	
Menkar	314	10.2	N 04	10.1	
Mirfak	308	33.9	N 49	55.7	
Aldebaran	290	44.2	N 16	32.9	
Capella	280	27.8	N 46	01.1	
Rigel	281	07.8	S 08	10.8	
Bellatrix	278	27.2	N 06	22.0	
Elnath	278	06.9	N 28	37.4	
Alnilam	275	41.8	S 01	11.4	
Betelgeuze	270	56.4	N 07	24.5	
Canopus	263	54.6	S 52	42.5	
Sirius	258	29.7	S 16	44.3	
Adhara	255	09.1	S 29	00.1	
Castor	246	02.1	N 31	50.7	
Procyon	244	54.8	N 05	10.6	
Pollux	243	21.9	N 27	58.7	
Avior	234	16.6	S 59	34.7	
Suhail	222	49.2	S 43	31.1	
Miaplacidus	221	39.3	S 69	48.3	
Alphard	217	51.6	S 08	44.9	
Regulus	207	38.4	N 11	52.1	
Dubhe	193	45.8	N 61	38.8	
Denebola	182	28.6	N 14	27.7	
Gienah	175	47.3	S 17	39.3	
Acrux	173	03.9	S 63	12.9	
Gacrux	171	55.5	S 57	13.7	
Alioth	166	16.3	N 55	51.3	
Spica	158	26.0	S 11	16.0	
Alkaid	152	54.7	N 49	13.0	
Hadar	148	40.7	S 60	28.4	
Menkent	148	01.4	S 36	28.0	
Arcturus	145	50.8	N 19	05.4	
Rigel Kentaurus	139	42.4	S 60	55.4	
Zubenelgenubi	136	59.8	S 16	07.5	
Kocab	137	19.1	N 74	04.6	
Alphecca	126	06.6	N 26	39.0	
Antares	112	20.1	S 26	28.5	
Atria	107	16.9	S 69	03.8	
Sabik	102	06.7	S 15	44.9	
Shaula	96	14.9	S 37	07.0	
Rasalhague	96	01.6	N 12	32.9	
Etamin	90	43.3	N 51	29.2	
Kaus Australis	83	37.0	S 34	22.3	
Vega	80	35.3	N 38	48.1	
Nunki	75	52.0	S 26	16.1	
Albireo	67	06.7	N 28	00.1	
Altair	62	03.4	N 08	55.2	
Peacock	53	11.1	S 56	39.9	
Deneb	49	27.9	N 45	21.0	
Enif	33	42.2	N 09	58.0	
Alnair	27	37.5	S 46	51.5	
Formalhaut	15	18.7	S 29	30.7	
Markab	13	33.5	N 15	18.8	

UT	day 156 of 366		day 157 of 366		day 158 of 366		day 159 of 366		day 160 of 366		UT		
	June	4	June	5	June	6	June	7	June	8			
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	252	53.6	+02.4	253	52.7	+02.5	254	51.8	+02.5	255	51.0	+02.4	00
01	267	56.0	+02.5	268	55.2	+02.4	269	54.3	+02.5	270	53.4	+02.5	01
02	282	58.5	+02.4	283	57.6	+02.5	284	56.8	+02.4	285	55.9	+02.5	02
03	298	00.9	+02.5	299	00.1	+02.5	299	59.2	+02.5	300	58.4	+02.4	03
04	313	03.4	+02.5	314	02.6	+02.4	315	01.7	+02.5	316	00.8	+02.5	04
05	328	05.9	+02.4	329	05.0	+02.5	330	04.2	+02.4	331	03.3	+02.5	05
06	343	08.3	+02.5	344	07.5	+02.4	345	06.6	+02.5	346	05.8	+02.4	06
07	358	10.8	+02.5	359	09.9	+02.5	0	09.1	+02.4	1	08.2	+02.5	07
08	13	13.3	+02.4	14	12.4	+02.5	15	11.5	+02.5	16	10.7	+02.5	08
09	28	15.7	+02.5	29	14.9	+02.4	30	14.0	+02.5	31	13.2	+02.5	09
10	43	18.2	+02.5	44	17.3	+02.5	45	16.5	+02.4	46	15.6	+02.5	10
11	58	20.7	+02.4	59	19.8	+02.5	60	18.9	+02.5	61	18.1	+02.4	11
12	73	23.1	+02.5	74	22.3	+02.4	75	21.4	+02.5	76	20.5	+02.5	12
13	88	25.6	+02.5	89	24.7	+02.5	90	23.9	+02.4	91	23.0	+02.5	13
14	103	28.1	+02.4	104	27.2	+02.5	105	26.3	+02.5	106	25.5	+02.4	14
15	118	30.5	+02.5	119	29.7	+02.4	120	28.8	+02.5	121	27.9	+02.5	15
16	133	33.0	+02.4	134	32.1	+02.5	135	31.3	+02.4	136	30.4	+02.5	16
17	148	35.4	+02.5	149	34.6	+02.4	150	33.7	+02.5	151	32.9	+02.4	17
18	163	37.9	+02.5	164	37.0	+02.5	165	36.2	+02.5	166	35.3	+02.5	18
19	178	40.4	+02.4	179	39.5	+02.5	180	38.7	+02.4	181	37.8	+02.5	19
20	193	42.8	+02.5	194	42.0	+02.4	195	41.1	+02.5	196	40.3	+02.4	20
21	208	45.3	+02.5	209	44.4	+02.5	210	43.6	+02.4	211	42.7	+02.4	21
22	223	47.8	+02.4	224	46.9	+02.5	225	46.0	+02.5	226	45.2	+02.5	22
23	238	50.2	+02.5	239	49.4	+02.4	240	48.5	+02.5	241	47.7	+02.4	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	38.7	N 29	11.9	
Ankaa	353	11.2	S 42	11.5	
Schedir	349	35.4	N 56	38.6	
Diphda	348	51.3	S 17	52.6	
Achernar	335	23.6	S 57	07.9	
Hamal	327	55.7	N 23	33.3	
Polaris	316	08.0	N 89	20.7	
Acamar	315	15.0	S 40	13.4	
Menkar	314	10.3	N 04	10.0	
Mirfak	308	34.0	N 49	55.7	
Aldebaran	290	44.3	N 16	32.9	
Capella	280	27.9	N 46	01.1	
Rigel	281	07.8	S 08	10.8	
Bellatrix	278	27.2	N 06	21.9	
Elnath	278	07.0	N 28	37.4	
Alnilam	275	41.8	S 01	11.5	
Betelgeuze	270	56.5	N 07	24.5	
Canopus	263	54.6	S 52	42.6	
Sirius	258	29.7	S 16	44.4	
Adhara	255	09.1	S 29	00.1	
Castor	246	02.1	N 31	50.7	
Procyon	244	54.8	N 05	10.6	
Pollux	243	21.9	N 27	58.7	
Avior	234	16.5	S 59	34.7	
Suhail	222	49.2	S 43	31.1	
Miaplacidus	221	39.3	S 69	48.3	
Alphard	217	51.5	S 08	44.9	
Regulus	207	38.4	N 11	52.1	
Dubhe	193	45.7	N 61	38.8	
Denebola	182	28.6	N 14	27.7	
Gienah	175	47.2	S 17	39.3	
Acrux	173	03.7	S 63	12.9	
Gacrux	171	55.4	S 57	13.7	
Alioth	166	16.2	N 55	51.3	
Spica	158	26.0	S 11	16.0	
Alkaid	152	54.7	N 49	13.0	
Hadar	148	40.6	S 60	28.3	
Menkent	148	01.4	S 36	28.0	
Arcturus	145	50.7	N 19	05.4	
Rigel Kentaurus	139	42.3	S 60	55.3	
Zubenelgenubi	136	59.8	S 16	07.5	
Kocab	137	18.9	N 74	04.6	
Alphecca	126	06.6	N 26	38.9	
Antares	112	20.1	S 26	28.5	
Atria	107	17.0	S 69	03.7	
Sabik	102	06.7	S 15	44.9	
Shaula	96	15.0	S 37	07.0	
Rasalhague	96	01.7	N 12	32.8	
Etamin	90	43.4	N 51	29.	

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 161 of 366		day 162 of 366		day 163 of 366		day 164 of 366		day 165 of 366		UT		
	June 9		June 10		June 11		June 12		June 13				
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	257	49.3	+02.4	258	48.4	+02.5	259	47.5	+02.5	260	46.7	+02.4	00
01	272	51.7	+02.5	273	50.9	+02.4	274	50.0	+02.5	276	48.3	+02.4	01
02	287	54.2	+02.5	288	53.3	+02.5	289	52.5	+02.4	290	51.6	+02.5	02
03	302	56.7	+02.4	303	55.8	+02.5	304	54.9	+02.5	305	54.1	+02.4	03
04	317	59.1	+02.5	318	58.3	+02.4	319	57.4	+02.5	320	56.5	+02.5	04
05	333	01.6	+02.4	334	00.7	+02.5	334	59.9	+02.4	335	59.0	+02.5	05
06	348	04.0	+02.5	349	03.2	+02.4	350	02.3	+02.5	351	01.5	+02.4	06
07	3	06.5	+02.5	4	05.6	+02.5	5	04.8	+02.5	6	03.9	+02.5	07
08	18	09.0	+02.4	19	08.1	+02.5	20	07.3	+02.4	21	06.4	+02.5	08
09	33	11.4	+02.5	34	10.6	+02.4	35	09.7	+02.5	36	08.9	+02.4	09
10	48	13.9	+02.5	49	13.0	+02.5	50	12.2	+02.4	51	11.3	+02.5	10
11	63	16.4	+02.4	64	15.5	+02.5	65	14.6	+02.5	66	13.8	+02.4	11
12	78	18.8	+02.5	79	18.0	+02.4	80	17.1	+02.5	81	16.2	+02.5	12
13	93	21.3	+02.5	94	20.4	+02.5	95	19.6	+02.4	96	18.7	+02.5	13
14	108	23.8	+02.4	109	22.9	+02.5	110	22.0	+02.5	111	21.2	+02.4	14
15	123	26.2	+02.5	124	25.4	+02.4	125	24.5	+02.5	126	23.6	+02.5	15
16	138	28.7	+02.4	139	27.8	+02.5	140	27.0	+02.4	141	26.1	+02.5	16
17	153	31.1	+02.5	154	30.3	+02.5	155	29.4	+02.5	156	28.6	+02.4	17
18	168	33.6	+02.5	169	32.8	+02.4	170	31.9	+02.5	171	31.0	+02.5	18
19	183	36.1	+02.4	184	35.2	+02.5	185	34.4	+02.4	186	33.5	+02.5	19
20	198	38.5	+02.5	199	37.7	+02.4	200	36.8	+02.5	201	36.0	+02.4	20
21	213	41.0	+02.5	214	40.1	+02.5	215	39.3	+02.4	216	38.4	+02.4	21
22	228	43.5	+02.4	229	42.6	+02.5	230	41.7	+02.5	231	40.9	+02.5	22
23	243	45.9	+02.5	244	45.1	+02.4	245	44.2	+02.5	246	43.4	+02.4	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	38.7	N 29	11.9	
Ankaa	353	11.1	S 42	11.5	
Schedir	349	35.3	N 56	38.6	
Diphda	348	51.2	S 17	52.5	
Achernar	335	23.5	S 57	07.9	
Hamal	327	55.6	N 23	33.3	
Polaris	316	06.1	N 89	20.7	
Acamar	315	15.0	S 40	13.4	
Menkar	314	10.3	N 04	10.0	
Mirfak	308	33.9	N 49	55.7	
Aldebaran	290	44.2	N 16	32.9	
Capella	280	27.9	N 46	01.1	
Rigel	281	07.8	S 08	10.8	
Bellatrix	278	27.2	N 06	22.0	
Elnath	278	06.9	N 28	37.4	
Alnilam	275	41.8	S 01	11.5	
Betelgeuze	270	56.4	N 07	24.5	
Canopus	263	54.6	S 52	42.5	
Sirius	258	29.7	S 16	44.4	
Adhara	255	09.1	S 29	00.1	
Castor	246	02.1	N 31	50.7	
Procyon	244	54.8	N 05	10.6	
Pollux	243	21.8	N 27	58.7	
Avior	234	16.6	S 59	34.7	
Suhail	222	49.2	S 43	31.1	
Miaplacidus	221	39.1	S 69	48.3	
Alphard	217	51.5	S 08	44.9	
Regulus	207	38.4	N 11	52.1	
Dubhe	193	45.7	N 61	38.8	
Denebola	182	28.6	N 14	27.7	
Gienah	175	47.2	S 17	39.3	
Acrux	173	03.8	S 63	12.9	
Gacrux	171	55.4	S 57	13.7	
Alioth	166	16.2	N 55	51.3	
Spica	158	26.0	S 11	16.0	
Alkaid	152	54.7	N 49	13.0	
Hadar	148	40.6	S 60	28.4	
Menkent	148	01.4	S 36	28.0	
Arcturus	145	50.7	N 19	05.4	
Rigel Kentaurus	139	42.3	S 60	55.4	
Zubenelgenubi	136	59.8	S 16	07.5	
Kocab	137	19.0	N 74	04.6	
Alphecca	126	06.6	N 26	39.0	
Antares	112	20.1	S 26	28.5	
Atria	107	16.9	S 69	03.7	
Sabik	102	06.7	S 15	44.9	
Shaula	96	15.0	S 37	07.0	
Rasalhague	96	01.7	N 12	32.9	
Etamin	90	43.4	N 51	29.2	
Kaus Australis	83	37.0	S 34	22.3	
Vega	80	35.4	N 38	48.0	
Nunki	75	52.0	S 26	16.1	
Albireo	67	06.7	N 28	00.1	
Altair	62	03.4	N 08	55.2	
Peacock	53	11.2	S 56	39.9	
Deneb	49	27.9	N 45	21.0	
Enif	33	42.3	N 09	58.0	
Alnair	27	37.6	S 46	51.5	
Formalhaut	15	18.7	S 29	30.7	
Markab	13	33.6	N 15	18.7	

UT	day 166 of 366		day 167 of 366		day 168 of 366		day 169 of 366		day 170 of 366		UT		
	June 14		June 15		June 16		June 17		June 18				
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	262	45.0	+02.4	263	44.1	+02.5	264	43.2	+02.5	265	42.4	+02.4	00
01	277	47.4	+02.5	278	46.6	+02.4	279	45.7	+02.5	280	44.8	+02.5	01
02	292	49.9	+02.4	293	49.0	+02.5	294	48.2	+02.4	295	47.3	+02.5	02
03	307	52.3	+02.5	308	51.5	+02.4	309	50.6	+02.5	310	49.8	+02.4	03
04	322	54.8	+02.5	323	53.9	+02.5	324	53.1	+02.4	325	52.2	+02.5	04
05	337	57.3	+02.4	338	56.4	+02.5	339	55.5	+02.5	340	54.7	+02.5	05
06	352	59.7	+02.5	353	58.9	+02.4	354	58.0	+02.5	355	57.2	+02.4	06
07	8	02.2	+02.5	9	01.3	+02.5	10	00.5	+02.4	10	59.6	+02.5	07
08	23	04.7	+02.4	24	03.8	+02.5	25	02.9	+02.5	26	02.1	+02.4	08
09	38	07.1	+02.5	39	06.3	+02.4	40	05.4	+02.5	41	04.5	+02.5	09
10	53	09.6	+02.5	54	08.7	+02.5	55	07.9	+02.4	56	07.0	+02.5	10
11	68	12.1	+02.4	69	11.2	+02.5	70	10.3	+02.5	71	09.5	+02.4	11
12	83	14.5	+02.5	84	13.7	+02.4	85	12.8	+02.5	86	11.9	+02.5	12
13	98	17.0	+02.4	99	16.1	+02.5	100	15.3	+02.4	101	14.4	+02.5	13
14	113	19.4	+02.5	114	18.6	+02.5	115	17.7	+02.5	116	16.9	+02.5	14
15	128	21.9	+02.5	129	21.1	+02.4	130	20.2	+02.5	131	19.3	+02.5	15
16	143	24.4	+02.4	144	23.5	+02.5	145	22.7	+02.4	146	21.8	+02.5	16
17	158	26.8	+02.5	159	26.0	+02.4	160	25.1	+02.5	161	24.3	+02.4	17
18	173	29.3	+02.5	174	28.4	+02.5	175	27.6	+02.4	176	26.7	+02.5	18
19	188	31.8	+02.4	189	30.9	+02.5	190	30.0	+02.5	191	29.2	+02.4	19
20	203	34.2	+02.5	204	33.4	+02.4	205	32.5	+02.5	206	31.6	+02.5	20
21	218	36.7	+02.5	219	35.8	+02.5	220	35.0	+02.4	221	34.1	+02.4	21
22	233	39.2	+02.4	234	38.3	+02.5	235	37.4	+02.5	236	36.6	+02.4	22
23	248	41.6	+02.5	249	40.8	+02.4	250	39.9	+02.5	251	39.0	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	38.6	N 29	12.0	
Ankaa	353	11.1	S 42	11.5	
Schedir	349	35.3	N 56	38.6	
Diphda	348	51.2	S 17	52.5	
Achernar	335	23.5	S 57	07.9	
Hamal	327	55.6	N 23	33.3	
Polaris	316	04.7	N 89	20.7	
Acamar	315	15.0	S 40	13.4	
Menkar	314	10.3	N 04	10.0	
Mirfak	308	33.9	N 49	55.7	
Aldebaran	290	44.2	N 16	32.9	
Capella	280	27.8	N 46	01.1	
Rigel	281	07.8	S 08	10.8	
Bellatrix	278	27.2	N 06	22.0	
Elnath	278	06.9	N 28	37.4	
Alnilam	275	41.8	S 01	11.5	
Betelgeuze	270	56.4	N 07	24.5	
Canopus	263	54.6	S 52	42.5	
Sirius	258	29.7	S 16	44.3	
Adhara	255	09.1	S 29	00.1	
Castor	246	02.1	N 31	50.7	
Procyon	244	54.8	N 05	10.6	
Pollux	243	21.9	N 27	58.7	
Avior	234	16.6	S 59	34.7	
Suhail	222	49.2	S 43	31.1	
Miaplacidus	221	39.2	S 69	48.3	
Alphard	217	51.5	S 08	44.9	
Regulus	207	38.4	N 11	52.1	
Dubhe	193	45.7	N 61	38.8	
Denebola	182	28.6	N 14	27.7	
Gienah	175	47.2	S 17	39.3	
Acrux	173	03.8	S 63	12.9	
Gacrux	171	55.5	S 57	13.7	
Alioth	166	16.3	N 55	51.3	
Spica	158	26.0	S 11	16.0	
Alkaid	152	54.7	N 49	13.0	
Hadar	148	40.7	S 60	28.4	
Menkent	148	01.4	S 36	28.0	
Arcturus	145	50.8	N 19	05.4	
Rigel Kentaurus	139	42.4	S 60	55.4	
Zubenelgenubi	136	59.8	S 16	07.5	
Kocab	137	19.1	N 74	04.6	
Alphecca	126	06.6	N 26	39.0	
Antares	112	20.1	S 26	28.5	
Atria	107	16.9	S 69	03.8	
Sabik	102	06.7	S 15	44.9	
Shaula	96	14.9	S 37	07.0	
Rasalhague	96	01.7	N 12	32.9	
Etamin	90	43.4	N 51	29.2</	

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 191 of 366		day 192 of 366		day 193 of 366		day 194 of 366		day 195 of 366		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	287	23.4	+02.5	288	22.6	+02.4	289	21.7	+02.5	290	20.9	+02.4	00
01	302	25.9	+02.5	303	25.0	+02.5	304	24.2	+02.4	305	23.3	+02.5	01
02	317	28.4	+02.4	318	27.5	+02.5	319	26.6	+02.5	320	25.8	+02.4	02
03	332	30.8	+02.5	333	30.0	+02.4	334	29.1	+02.5	335	28.2	+02.5	03
04	347	33.3	+02.5	348	32.4	+02.5	349	31.6	+02.4	350	30.7	+02.5	04
05	2	35.8	+02.4	3	34.9	+02.5	4	34.0	+02.5	5	33.2	+02.4	05
06	17	38.2	+02.5	18	37.4	+02.4	19	36.5	+02.5	20	35.6	+02.5	06
07	32	40.7	+02.5	33	39.8	+02.5	34	39.0	+02.4	35	38.1	+02.5	07
08	47	43.2	+02.4	48	42.3	+02.5	49	41.4	+02.5	50	40.6	+02.4	08
09	62	45.6	+02.5	63	44.8	+02.4	64	43.9	+02.5	65	43.0	+02.5	09
10	77	48.1	+02.4	78	47.2	+02.5	79	46.4	+02.4	80	45.5	+02.5	10
11	92	50.5	+02.5	93	49.7	+02.4	94	48.8	+02.5	95	48.0	+02.4	11
12	107	53.0	+02.5	108	52.1	+02.5	109	51.3	+02.5	110	50.4	+02.5	12
13	122	55.5	+02.4	123	54.6	+02.5	124	53.8	+02.4	125	52.9	+02.5	13
14	137	57.9	+02.5	138	57.1	+02.4	139	56.2	+02.5	140	55.4	+02.4	14
15	153	00.4	+02.5	153	59.5	+02.5	154	58.7	+02.4	155	57.8	+02.5	15
16	168	02.9	+02.4	169	02.0	+02.5	170	01.1	+02.5	171	00.3	+02.4	16
17	183	05.3	+02.5	184	04.5	+02.4	185	03.6	+02.5	186	02.7	+02.5	17
18	198	07.8	+02.5	199	06.9	+02.5	200	06.1	+02.4	201	05.2	+02.5	18
19	213	10.3	+02.4	214	09.4	+02.5	215	08.5	+02.5	216	07.7	+02.4	19
20	228	12.7	+02.5	229	11.9	+02.4	230	11.0	+02.5	231	10.1	+02.5	20
21	243	15.2	+02.5	244	14.3	+02.5	245	13.5	+02.4	246	12.6	+02.5	21
22	258	17.7	+02.4	259	16.8	+02.5	260	15.9	+02.5	261	15.1	+02.4	22
23	273	20.1	+02.5	274	19.3	+02.4	275	18.4	+02.5	276	17.5	+02.5	23

UT	day 176 of 366		day 177 of 366		day 178 of 366		day 179 of 366		day 180 of 366		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	272	36.3	+02.5	273	35.5	+02.5	274	34.6	+02.5	275	33.8	+02.4	00
01	287	38.8	+02.5	288	38.0	+02.4	289	37.1	+02.5	290	36.2	+02.5	01
02	302	41.3	+02.4	303	40.4	+02.5	304	39.6	+02.4	305	38.7	+02.5	02
03	317	43.7	+02.5	318	42.9	+02.4	319	42.0	+02.5	320	41.2	+02.4	03
04	332	46.2	+02.5	333	45.3	+02.5	334	44.5	+02.4	335	43.6	+02.5	04
05	347	48.7	+02.5	348	47.8	+02.5	349	46.9	+02.5	350	46.1	+02.5	05
06	2	51.1	+02.5	3	50.3	+02.4	4	49.4	+02.5	5	48.6	+02.4	06
07	17	53.6	+02.5	18	52.7	+02.5	19	51.9	+02.4	20	51.0	+02.5	07
08	32	56.1	+02.4	33	55.2	+02.5	34	54.3	+02.5	35	53.5	+02.4	08
09	47	58.5	+02.5	48	57.7	+02.4	49	56.8	+02.5	50	55.9	+02.5	09
10	63	01.0	+02.5	64	00.1	+02.5	64	59.3	+02.4	65	58.4	+02.5	10
11	78	03.5	+02.5	79	02.6	+02.5	80	01.7	+02.5	81	00.9	+02.5	11
12	93	05.9	+02.5	94	05.1	+02.4	95	04.2	+02.5	96	03.3	+02.5	12
13	108	08.4	+02.4	109	07.5	+02.5	110	06.7	+02.4	111	05.8	+02.5	13
14	123	10.8	+02.5	124	10.0	+02.5	125	09.1	+02.5	126	08.3	+02.4	14
15	138	13.3	+02.5	139	12.5	+02.4	140	11.6	+02.5	141	10.7	+02.5	15
16	153	15.8	+02.4	154	14.9	+02.5	155	14.1	+02.4	156	13.2	+02.5	16
17	168	18.2	+02.4	169	17.4	+02.4	170	16.5	+02.5	171	15.7	+02.4	17
18	183	20.7	+02.5	184	19.8	+02.5	185	19.0	+02.4	186	18.1	+02.5	18
19	198	23.2	+02.4	199	22.3	+02.5	200	21.4	+02.5	201	20.6	+02.4	19
20	213	25.6	+02.5	214	24.8	+02.4	215	23.9	+02.5	216	23.0	+02.5	20
21	228	28.1	+02.5	229	27.2	+02.5	230	26.4	+02.4	231	25.5	+02.5	21
22	243	30.6	+02.4	244	29.7	+02.5	245	28.8	+02.5	246	28.0	+02.4	22
23	258	33.0	+02.5	259	32.2	+02.4	260	31.3	+02.5	261	30.4	+02.5	23

	SHA	Dec		SHA	Dec
Alpheratz	357 38.4	N 29 12.0	Gienah	175 47.3	S 17 39.3
Ankaa	353 10.8	S 42 11.4	Acrux	173 04.0	S 63 12.9
Schedir	349 35.0	N 56 38.6	Gacrux	171 55.6	S 57 13.7
Diphda	348 51.0	S 17 52.4	Alioth	166 16.4	N 55 51.3
Achernar	335 23.2	S 57 07.8	Spica	158 26.1	S 11 16.0
Hamal	327 55.4	N 23 33.4	Alkaid	152 54.8	N 49 13.1
Polaris	315 54.1	N 89 20.6	Hadar	148 40.8	S 60 28.4
Acamar	315 14.8	S 40 13.3	Menkent	148 01.4	S 36 28.0
Menkar	314 10.1	N 04 10.1	Arcturus	145 50.8	N 19 05.5
Mirfak	308 33.7	N 49 55.7	Rigel Kentaurus	139 42.5	S 60 55.4
Aldebaran	290 44.1	N 16 32.9	Zubenelgenubi	136 59.8	S 16 07.5
Capella	280 27.7	N 46 01.0	Kocab	137 19.4	N 74 04.7
Rigel	281 07.7	S 08 10.7	Alphecca	126 06.7	N 26 39.0
Bellatrix	278 27.1	N 06 22.0	Antares	112 20.1	S 26 28.6
Elnath	278 06.8	N 28 37.4	Atria	107 16.9	S 69 03.9
Alnilam	275 41.7	S 01 11.4	Sabik	102 06.6	S 15 44.9
Betelgeuze	270 56.3	N 07 24.6	Shaula	96 14.9	S 37 07.0
Canopus	263 54.5	S 52 42.4	Rasalhague	96 01.6	N 12 32.9
Sirius	258 29.6	S 16 44.3	Etamin	90 43.3	N 51 29.3
Adhara	255 09.1	S 28 60.0	Kaus Australis	83 36.9	S 34 22.3
Castor	246 02.0	N 31 50.6	Vega	80 35.3	N 38 48.2
Procyon	244 54.8	N 05 10.7	Nunki	75 51.9	S 26 16.1
Pollux	243 21.8	N 27 58.6	Albireo	67 06.6	N 28 00.2
Avior	234 16.7	S 59 34.6	Altair	62 03.3	N 08 55.3
Suhail	222 49.3	S 43 31.0	Peacock	53 10.9	S 56 40.0
Miaplacidus	221 39.5	S 69 48.2	Deneb	49 27.8	N 45 21.1
Alphard	217 51.6	S 08 44.8	Enif	33 42.1	N 09 58.1
Regulus	207 38.5	N 11 52.2	Alnair	27 37.3	S 46 51.5
Dubhe	193 45.9	N 61 38.8	Formalhaut	15 18.5	S 29 30.7
Denebola	182 28.6	N 14 27.7	Markab	13 33.3	N 15 18.8

	SHA	Dec		SHA	Dec
Alpheratz	357 38.5	N 29 12.0	Gienah	175 47.3	S 17 39.3
Ankaa	353 11.0	S 42 11.4	Acrux	173 03.9	S 63 12.9
Schedir	349 35.2	N 56 38.6	Gacrux	171 55.5	S 57 13.7
Diphda	348 51.1	S 17 52.5	Alioth	166 16.3	N 55 51.3
Achernar	335 23.4	S 57 07.8	Spica	158 26.0	S 11 16.0
Hamal	327 55.5	N 23 33.3	Alkaid	152 54.8	N 49 13.0
Polaris	316 00.6	N 89 20.7	Hadar	148 40.7	S 60 28.4
Acamar	315 14.9	S 40 13.3	Menkent	148 01.4	S 36 28.0
Menkar	314 10.2	N 04 10.1	Arcturus	145 50.8	N 19 05.5
Mirfak	308 33.8	N 49 55.7	Rigel Kentaurus	139 42.4	S 60 55.4
Aldebaran	290 44.2	N 16 32.9	Zubenelgenubi	136 59.8	S 16 07.5
Capella	280 27.8	N 46 01.1	Kocab	137 19.2	N 74 04.6
Rigel	281 07.7	S 08 10.8	Alphecca	126 06.6	N 26 39.0
Bellatrix	278 27.1	N 06 22.0	Antares	112 20.1	S 26 28.5
Elnath	278 06.9	N 28 37.4	Atria	107 16.9	S 69 03.8
Alnilam	275 41.8	S 01 11.4	Sabik	102 06.6	S 15 44.9
Betelgeuze	270 56.4	N 07 24.5	Shaula	96 14.9	S 37 07.0
Canopus	263 54.6	S 52 42.5	Rasalhague	96 01.6	N 12 32.9
Sirius	258 29.6	S 16 44.3	Etamin	90 43.3	N 51 29.3
Adhara	255 09.1	S 29 00.1	Kaus Australis	83 37.0	S 34 22.3
Castor	246 02.1	N 31 50.6	Vega	80 35.3	N 38 48.1
Procyon	244 54.8	N 05 10.7	Nunki	75 51.9	S 26 16.1
Pollux	243 21.8	N 27 58.6	Albireo	67 06.6	N 28 00.1
Avior	234 16.7	S 59 34.7	Altair	62 03.4	N 08 55.2
Suhail	222 49.2	S 43 31.0	Peacock	53 11.1	S 56 39.9
Miaplacidus	221 39.3	S 69 48.2	Deneb	49 27.8	N 45 21.0
Alphard	217 51.6	S 08 44.9	Enif	33 42.2	N 09 58.1
Regulus	207 38.4	N 11 52.1	Alnair	27 37.4	S 46

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 181 of 366		day 182 of 366		day 183 of 366		day 184 of 366		day 185 of 366		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	277	32.0	+02.5	278	31.2	+02.4	279	30.3	+02.5	280	29.5	+02.4	00
01	292	34.5	+02.5	293	33.6	+02.5	294	32.8	+02.4	295	31.9	+02.5	01
02	307	37.0	+02.4	308	35.1	+02.5	309	35.2	+02.5	310	34.4	+02.5	02
03	322	39.4	+02.5	323	38.6	+02.4	324	37.7	+02.5	325	36.9	+02.4	03
04	337	41.9	+02.5	338	41.0	+02.4	339	40.2	+02.4	340	39.3	+02.5	04
05	352	44.4	+02.4	353	43.5	+02.5	354	42.6	+02.5	355	41.8	+02.4	05
06	7	46.8	+02.5	8	46.0	+02.4	9	45.1	+02.5	10	44.2	+02.5	06
07	22	49.3	+02.5	23	48.4	+02.5	24	47.6	+02.4	25	46.7	+02.5	07
08	37	51.8	+02.4	38	50.9	+02.5	39	50.0	+02.5	40	49.2	+02.4	08
09	52	54.2	+02.5	53	53.4	+02.4	54	52.5	+02.5	55	51.6	+02.5	09
10	67	56.7	+02.4	68	55.8	+02.5	69	55.0	+02.4	70	54.1	+02.5	10
11	82	59.1	+02.5	83	58.3	+02.4	84	57.4	+02.5	85	56.6	+02.5	11
12	98	01.6	+02.5	99	00.7	+02.5	99	59.9	+02.5	100	59.0	+02.5	12
13	113	04.1	+02.4	114	03.2	+02.5	115	02.4	+02.4	116	01.5	+02.5	13
14	128	06.5	+02.5	129	05.7	+02.4	130	04.8	+02.5	131	04.0	+02.4	14
15	143	09.0	+02.5	144	08.1	+02.5	145	07.3	+02.4	146	06.4	+02.5	15
16	158	11.5	+02.4	159	10.6	+02.5	160	09.7	+02.5	161	08.9	+02.5	16
17	173	13.9	+02.5	174	13.1	+02.4	175	12.2	+02.5	176	11.4	+02.4	17
18	188	16.4	+02.5	189	15.5	+02.5	190	14.7	+02.4	191	13.8	+02.5	18
19	203	18.9	+02.4	204	18.0	+02.5	205	17.1	+02.5	206	16.3	+02.4	19
20	218	21.3	+02.5	219	20.5	+02.4	220	19.6	+02.5	221	18.7	+02.5	20
21	233	23.8	+02.5	234	22.9	+02.5	235	22.1	+02.4	236	21.2	+02.5	21
22	248	26.3	+02.4	249	25.4	+02.5	250	24.5	+02.5	251	23.7	+02.4	22
23	263	28.7	+02.5	264	27.9	+02.4	265	27.0	+02.5	266	26.1	+02.5	23

UT	day 186 of 366		day 187 of 366		day 188 of 366		day 189 of 366		day 190 of 366		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	282	27.7	+02.5	283	26.9	+02.4	284	26.0	+02.5	285	25.2	+02.4	00
01	297	30.2	+02.5	298	29.3	+02.5	299	28.5	+02.5	300	27.6	+02.5	01
02	312	32.7	+02.4	313	31.8	+02.5	314	31.0	+02.4	315	30.1	+02.5	02
03	327	35.1	+02.5	328	34.3	+02.4	329	33.4	+02.5	330	32.6	+02.4	03
04	342	37.6	+02.5	343	36.7	+02.5	344	35.9	+02.4	345	35.0	+02.5	04
05	357	40.1	+02.4	358	39.2	+02.5	359	38.3	+02.5	0	37.5	+02.4	05
06	12	42.5	+02.5	13	41.7	+02.4	14	40.8	+02.5	15	39.9	+02.5	06
07	27	45.0	+02.5	28	44.1	+02.5	29	43.3	+02.4	30	42.4	+02.5	07
08	42	47.5	+02.4	43	46.6	+02.5	44	45.7	+02.5	45	44.9	+02.4	08
09	57	49.9	+02.5	58	49.1	+02.4	59	48.2	+02.5	60	47.3	+02.5	09
10	72	52.4	+02.4	73	51.5	+02.5	74	50.7	+02.4	75	49.8	+02.5	10
11	87	54.8	+02.5	88	54.0	+02.5	89	53.1	+02.5	90	52.3	+02.5	11
12	102	57.3	+02.5	103	56.5	+02.4	104	55.6	+02.5	105	54.7	+02.5	12
13	117	59.8	+02.4	118	58.9	+02.5	119	58.1	+02.4	120	57.2	+02.5	13
14	133	02.2	+02.5	134	01.4	+02.4	135	00.5	+02.5	135	59.7	+02.4	14
15	148	04.7	+02.5	149	03.8	+02.5	150	03.0	+02.4	151	02.1	+02.5	15
16	163	07.2	+02.4	164	06.3	+02.5	165	05.4	+02.5	166	04.6	+02.5	16
17	178	09.6	+02.5	179	08.8	+02.4	180	07.9	+02.5	181	07.1	+02.4	17
18	193	12.1	+02.5	194	11.2	+02.5	195	10.4	+02.4	196	09.5	+02.5	18
19	208	14.6	+02.4	209	13.7	+02.5	210	12.8	+02.5	211	12.0	+02.4	19
20	223	17.0	+02.5	224	16.2	+02.4	225	15.3	+02.5	226	14.4	+02.5	20
21	238	19.5	+02.5	239	18.6	+02.5	240	17.8	+02.4	241	16.9	+02.5	21
22	253	22.0	+02.4	254	21.1	+02.5	255	20.2	+02.5	256	19.4	+02.4	22
23	268	24.4	+02.5	269	23.6	+02.4	270	22.7	+02.5	271	21.8	+02.5	23

	SHA	Dec		SHA	Dec
Alpheratz	357 38.5	N 29 12.0	Gienah	175 47.3	S 17 39.3
Ankaa	353 10.9	S 42 11.4	Acrux	173 04.0	S 63 12.9
Schedir	349 35.1	N 56 38.6	Gacrux	171 55.6	S 57 13.7
Diphda	348 51.1	S 17 52.5	Alioth	166 16.4	N 55 51.3
Achernar	335 23.3	S 57 07.8	Spica	158 26.0	S 11 16.0
Hamal	327 55.5	N 23 33.4	Alkaid	152 54.8	N 49 13.1
Polaris	315 58.8	N 89 20.7	Hadar	148 40.7	S 60 28.4
Acamar	315 14.9	S 40 13.3	Menkent	148 01.4	S 36 28.0
Menkar	314 10.2	N 04 10.1	Arcturus	145 50.8	N 19 05.5
Mirfak	308 33.8	N 49 55.7	Rigel Kentaurus	139 42.4	S 60 55.4
Aldebaran	290 44.1	N 16 32.9	Zubenelgenubi	136 59.8	S 16 07.5
Capella	280 27.8	N 46 01.1	Kocab	137 19.3	N 74 04.7
Rigel	281 07.7	S 08 10.8	Alphecca	126 06.6	N 26 39.0
Bellatrix	278 27.1	N 06 22.0	Antares	112 20.1	S 26 28.5
Elnath	278 06.9	N 28 37.4	Atria	107 16.9	S 69 03.8
Alnilam	275 41.8	S 01 11.4	Sabik	102 06.6	S 15 44.9
Betelgeuze	270 56.4	N 07 24.6	Shaula	96 14.9	S 37 07.0
Canopus	263 54.6	S 52 42.4	Rasalhague	96 01.6	N 12 32.9
Sirius	258 29.6	S 16 44.3	Etamin	90 43.3	N 51 29.3
Adhara	255 09.1	S 29 00.0	Kaus Australis	83 36.9	S 34 22.3
Castor	246 02.1	N 31 50.6	Vega	80 35.3	N 38 48.1
Procyon	244 54.8	N 05 10.7	Nunki	75 51.9	S 26 16.1
Pollux	243 21.8	N 27 58.6	Albireo	67 06.6	N 28 00.2
Avior	234 16.7	S 59 34.6	Altair	62 03.3	N 08 55.2
Suhail	222 49.3	S 43 31.0	Peacock	53 11.0	S 56 39.9
Miaplacidus	221 39.4	S 69 48.3	Deneb	49 27.8	N 45 21.1
Alphard	217 51.6	S 08 44.8	Enif	33 42.1	N 09 58.1
Regulus	207 38.5	N 11 52.1	Alnair	27 37.4	S 46 51.5
Dubhe	193 45.8	N 61 38.8	Formalhaut	15 18.6	S 29 30.7
Denebola	182 28.6	N 14 27.7	Markab	13 33.4	N 15 18.8

	SHA	Dec		SHA	Dec
Alpheratz	357 38.5	N 29 12.0	Gienah	175 47.3	S 17 39.3
Ankaa	353 10.9	S 42 11.4	Acrux	173 04.0	S 63 12.9
Schedir	349 35.1	N 56 38.6	Gacrux	171 55.6	S 57 13.7
Diphda	348 51.1	S 17 52.5	Alioth	166 16.4	N 55 51.3
Achernar	335 23.3	S 57 07.8	Spica	158 26.0	S 11 16.0
Hamal	327 55.5	N 23 33.4	Alkaid	152 54.8	N 49 13.1
Polaris	315 56.4	N 89 20.6	Hadar	148 40.8	S 60 28.4
Acamar	315 14.8	S 40 13.3	Menkent	148 01.4	S 36 28.0
Menkar	314 10.1	N 04 10.1	Arcturus	145 50.8	N 19 05.5
Mirfak	308 33.7	N 49 55.7	Rigel Kentaurus	139 42.4	S 60 55.4
Aldebaran	290 44.1	N 16 32.9	Zubenelgenubi	136 59.8	S 16 07.5
Capella	280 27.7	N 46 01.0	Kocab	137 19.3	N 74 04.7
Rigel	281 07.7	S 08 10.7	Alphecca	126 06.6	N 26 39.0
Bellatrix	278 27.1	N 06 22.0	Antares	112 20.1	S 26 28.5
Elnath	278 06.8	N 28 37.4	Atria	107 16.9	S 69 03.8
Alnilam	275 41.7	S 01 11.4	Sabik	102 06.6	S 15 44.9
Betelgeuze	270 56.4	N 07 24.6	Shaula	96 14.9	S 37 07.0
Canopus	263 54.6	S 52 42.4	Rasalhague	96 01.6	N 12 32.9
Sirius	258 29.6	S 16 44.3	Etamin	90 43.3	N 51 29.3
Adhara	255 09.1	S 29 00.0	Kaus Australis	83 36.9	S 34 22.3
Castor	246 02.1	N 31 50.6	Vega	80 35.3	N 38 48.2
Procyon	244 54.8	N 05 10.7	Nunki	75 51.9	S 26 16.1
Pollux	243 21.8	N 27 58.6	Albireo	67 06.6	N 28 00.2
Avior	234 16.7	S 59 34.6	Altair	62 03.3	N 08 55.3
Suhail	222 49.3	S 43 31.0	Peacock	53 11.0	S 56 39.9
Miaplacidus	221 39.4	S 69 48.2	Deneb	49 27.8	N 45 21.1
Alphard	217 51.6	S 08 44.8	Enif	33 42.1	N 09 58.1
Regulus	207 38.5	N 11 52.2	Alnair	27 37.3	S 46 51.5
Dubhe	193 45.9	N 61 38.8	Formalhaut	15 18.5	S 29 30.7
Denebola	182 28.6	N 14 27.7	Markab	13 33.4	N 15 18.8

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2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 211 of 366		day 212 of 366		day 213 of 366		day 214 of 366		day 215 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	307 06.2	+02.5	308 05.4	+02.4	309 04.5	+02.5	310 03.6	+02.5	311 02.8	+02.4	00
01	322 08.7	+02.4	323 07.8	+02.5	324 07.0	+02.4	325 06.1	+02.5	326 05.2	+02.5	01
02	337 11.1	+02.5	338 10.3	+02.5	339 09.4	+02.5	340 08.6	+02.4	341 07.7	+02.5	02
03	352 13.6	+02.5	353 12.8	+02.4	354 11.9	+02.5	355 11.0	+02.5	356 10.2	+02.4	03
04	7 16.1	+02.4	8 15.2	+02.5	9 14.4	+02.4	10 13.5	+02.5	11 12.6	+02.5	04
05	22 18.5	+02.5	23 17.7	+02.4	24 16.8	+02.5	25 16.0	+02.4	26 15.1	+02.5	05
06	37 21.0	+02.5	38 20.1	+02.5	39 19.3	+02.4	40 18.4	+02.5	41 17.6	+02.4	06
07	52 23.5	+02.4	53 22.6	+02.5	54 21.7	+02.5	55 20.9	+02.5	56 20.0	+02.5	07
08	67 25.9	+02.5	68 25.1	+02.4	69 24.2	+02.5	70 23.4	+02.4	71 22.5	+02.5	08
09	82 28.4	+02.5	83 27.5	+02.5	84 26.7	+02.4	85 25.8	+02.5	86 25.0	+02.4	09
10	97 30.9	+02.4	98 30.0	+02.5	99 29.1	+02.5	100 28.3	+02.4	101 27.4	+02.5	10
11	112 33.3	+02.5	113 32.5	+02.4	114 31.6	+02.5	115 30.7	+02.5	116 29.9	+02.5	11
12	127 35.8	+02.5	128 34.9	+02.5	129 34.1	+02.4	130 33.2	+02.5	131 32.4	+02.4	12
13	142 38.3	+02.4	143 37.4	+02.5	144 36.5	+02.5	145 35.7	+02.4	146 34.8	+02.5	13
14	157 40.7	+02.5	158 39.9	+02.4	159 39.0	+02.5	160 38.1	+02.5	161 37.3	+02.4	14
15	172 43.2	+02.4	173 42.3	+02.5	174 41.5	+02.4	175 40.6	+02.5	176 39.7	+02.5	15
16	187 45.6	+02.5	188 44.8	+02.4	189 43.9	+02.5	190 43.1	+02.4	191 42.2	+02.5	16
17	202 48.1	+02.5	203 47.2	+02.5	204 46.4	+02.5	205 45.5	+02.5	206 44.7	+02.4	17
18	217 50.6	+02.4	218 49.7	+02.5	219 48.9	+02.4	220 48.0	+02.5	221 47.1	+02.5	18
19	232 53.0	+02.5	233 52.2	+02.4	234 51.3	+02.5	235 50.5	+02.4	236 49.6	+02.5	19
20	247 55.5	+02.5	248 54.6	+02.5	249 53.8	+02.4	250 52.9	+02.5	251 52.1	+02.4	20
21	262 58.0	+02.4	263 57.1	+02.5	264 56.2	+02.5	265 55.4	+02.5	266 54.5	+02.5	21
22	278 00.4	+02.5	278 59.6	+02.4	279 58.7	+02.5	280 57.9	+02.4	281 57.0	+02.5	22
23	293 02.9	+02.5	294 02.0	+02.5	295 01.2	+02.4	296 00.3	+02.5	296 59.5	+02.4	23

UT	day 196 of 366		day 197 of 366		day 198 of 366		day 199 of 366		day 200 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	292 19.1	+02.5	293 18.3	+02.4	294 17.4	+02.5	295 16.5	+02.5	296 15.7	+02.5	00
01	307 21.6	+02.5	308 20.7	+02.5	309 19.9	+02.4	310 19.0	+02.5	311 18.2	+02.4	01
02	322 24.1	+02.4	323 23.2	+02.5	324 22.3	+02.5	325 21.5	+02.4	326 20.6	+02.5	02
03	337 26.5	+02.5	338 25.7	+02.4	339 24.8	+02.5	340 23.9	+02.5	341 23.1	+02.4	03
04	352 29.0	+02.5	353 28.1	+02.5	354 27.3	+02.4	355 26.4	+02.5	356 25.5	+02.5	04
05	7 31.5	+02.4	8 30.6	+02.5	9 29.7	+02.5	10 28.9	+02.4	11 28.0	+02.5	05
06	22 33.9	+02.5	23 33.1	+02.4	24 32.2	+02.5	25 31.3	+02.5	26 30.5	+02.4	06
07	37 36.4	+02.4	38 35.5	+02.5	39 34.7	+02.4	40 33.8	+02.5	41 32.9	+02.5	07
08	52 38.8	+02.5	53 38.0	+02.4	54 37.1	+02.5	55 36.3	+02.4	56 35.4	+02.5	08
09	67 41.3	+02.5	68 40.4	+02.5	69 39.6	+02.5	70 38.7	+02.5	71 37.9	+02.4	09
10	82 43.8	+02.4	83 42.9	+02.5	84 42.1	+02.4	85 41.2	+02.5	86 40.3	+02.5	10
11	97 46.2	+02.5	98 45.4	+02.4	99 44.5	+02.5	100 43.7	+02.5	101 42.8	+02.5	11
12	112 48.7	+02.5	113 47.8	+02.5	114 47.0	+02.4	115 46.1	+02.5	116 45.3	+02.4	12
13	127 51.2	+02.4	128 50.3	+02.5	129 49.4	+02.5	130 48.6	+02.4	131 47.7	+02.5	13
14	142 53.6	+02.4	143 52.8	+02.4	144 51.9	+02.5	145 51.0	+02.5	146 50.2	+02.5	14
15	157 56.1	+02.5	158 55.2	+02.5	159 54.4	+02.4	160 53.5	+02.5	161 52.7	+02.4	15
16	172 58.6	+02.4	173 57.7	+02.5	174 56.8	+02.5	175 56.0	+02.4	176 55.1	+02.5	16
17	188 01.0	+02.5	189 00.2	+02.4	189 59.3	+02.5	190 58.4	+02.5	191 57.6	+02.4	17
18	203 03.5	+02.4	204 02.6	+02.5	205 01.8	+02.4	206 00.9	+02.5	207 00.0	+02.5	18
19	218 05.9	+02.5	219 05.1	+02.5	220 04.2	+02.5	221 03.4	+02.4	222 02.5	+02.5	19
20	233 08.4	+02.5	234 07.6	+02.4	235 06.7	+02.5	236 05.8	+02.5	237 05.0	+02.4	20
21	248 10.9	+02.4	249 10.0	+02.5	250 09.2	+02.4	251 08.3	+02.5	252 07.4	+02.5	21
22	263 13.3	+02.5	264 12.5	+02.4	265 11.6	+02.5	266 10.8	+02.4	267 09.9	+02.5	22
23	278 15.8	+02.5	279 14.9	+02.5	280 14.1	+02.4	281 13.2	+02.5	282 12.4	+02.4	23

	SHA	Dec		SHA	Dec
Alpheratz	357 38.3	N 29 12.1	Gienah	175 47.4	S 17 39.3
Ankaa	353 10.7	S 42 11.4	Acrux	173 04.2	S 63 12.9
Schedir	349 34.8	N 56 38.7	Gacrux	171 55.8	S 57 13.7
Diphda	348 50.9	S 17 52.4	Alioth	166 16.6	N 55 51.3
Achernar	335 23.0	S 57 07.7	Spica	158 26.1	S 11 16.0
Hamal	327 55.2	N 23 33.4	Alkaid	152 55.0	N 49 13.1
Polaris	315 44.4	N 89 20.6	Hadar	148 41.0	S 60 28.4
Acamar	315 14.6	S 40 13.2	Menkent	148 01.5	S 36 28.0
Menkar	314 10.0	N 04 10.2	Arcturus	145 50.9	N 19 05.5
Mirfak	308 33.5	N 49 55.7	Rigel Kentaurus	139 42.6	S 60 55.5
Aldebaran	290 43.9	N 16 33.0	Zubeneigenubi	136 59.9	S 16 07.5
Capella	280 27.5	N 46 01.0	Kocab	137 19.8	N 74 04.7
Rigel	281 07.5	S 08 10.7	Alphecca	126 06.7	N 26 39.1
Bellatrix	278 27.0	N 06 22.1	Antares	112 20.1	S 26 28.6
Elnath	278 06.7	N 28 37.4	Atria	107 17.1	S 69 03.9
Alnilam	275 41.6	S 01 11.3	Sabik	102 06.7	S 15 44.9
Betelgeuze	270 56.2	N 07 24.6	Shaula	96 14.9	S 37 07.1
Canopus	263 54.5	S 52 42.3	Rasalhague	96 01.6	N 12 33.0
Sirius	258 29.5	S 16 44.2	Etamin	90 43.4	N 51 29.4
Adhara	255 09.0	S 28 59.9	Kaus Australis	83 36.9	S 34 22.4
Castor	246 02.0	N 31 50.6	Vega	80 35.3	N 38 48.3
Procyon	244 54.7	N 05 10.7	Nunki	75 51.9	S 26 16.2
Pollux	243 21.8	N 27 58.6	Albireo	67 06.6	N 28 00.3
Avior	234 16.7	S 59 34.5	Altair	62 03.3	N 08 55.3
Suhail	222 49.3	S 43 30.9	Peacock	53 10.8	S 56 40.0
Miaplacidus	221 39.6	S 69 48.1	Deneb	49 27.7	N 45 21.2
Alphard	217 51.6	S 08 44.8	Enif	33 42.0	N 09 58.2
Regulus	207 38.5	N 11 52.2	Alnair	27 37.1	S 46 51.5
Dubhe	193 46.0	N 61 38.7	Formalhaut	15 18.3	S 29 30.6
Denebola	182 28.7	N 14 27.7	Markab	13 33.2	N 15 18.9

	SHA	Dec		SHA	Dec
Alpheratz	357 38.4	N 29 12.1	Gienah	175 47.3	S 17 39.3
Ankaa	353 10.8	S 42 11.4	Acrux	173 04.1	S 63 12.9
Schedir	349 34.9	N 56 38.6	Gacrux	171 55.7	S 57 13.7
Diphda	348 51.0	S 17 52.4	Alioth	166 16.5	N 55 51.3
Achernar	335 23.1	S 57 07.8	Spica	158 26.1	S 11 16.0
Hamal	327 55.4	N 23 33.4	Alkaid	152 54.9	N 49 13.1
Polaris	315 51.9	N 89 20.6	Hadar	148 40.8	S 60 28.4
Acamar	315 14.7	S 40 13.2	Menkent	148 01.5	S 36 28.0
Menkar	314 10.1	N 04 10.1	Arcturus	145 50.8	N 19 05.5
Mirfak	308 33.6	N 49 55.7	Rigel Kentaurus	139 42.5	S 60 55.4
Aldebaran	290 44.0	N 16 32.9	Zubeneigenubi	136 59.8	S 16 07.5
Capella	280 27.7	N 46 01.0	Kocab	137 19.5	N 74 04.7
Rigel	281 07.6	S 08 10.7	Alphecca	126 06.7	N 26 39.1
Bellatrix	278 27.0	N 06 22.0	Antares	112 20.1	S 26 28.6
Elnath	278 06.8	N 28 37.4	Atria	107 17.0	S 69 03.9
Alnilam	275 41.7	S 01 11.4	Sabik	102 06.6	S 15 44.9
Betelgeuze	270 56.3	N 07 24.6	Shaula	96 14.9	S 37 07.0
Canopus	263 54.5	S 52 42.4	Rasalhague	96 01.6	N 12 33.0
Sirius	258 29.6	S 16 44.2	Etamin	90 43.4	N 51 29.4
Adhara	255 09.1	S 28 60.0	Kaus Australis	83 36.9	S 34 22.4
Castor	246 02.0	N 31 50.6	Vega	80 35.3	N 38 48.2
Procyon	244 54.8	N 05 10.7	Nunki	75 51.9	S 26 16.1
Pollux	243 21.8	N 27 58.6	Albireo	67 06.6	N 28 00.2
Avior	234 16.7	S 59 34.6	Altair	62 03.3	N 08 55.3
Suhail	222 49.3	S 43 31.0	Peacock	53 10.9	S 56 40.0
Miaplacidus	221 39.5	S 69 48.2			

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 201 of 366		day 202 of 366		day 203 of 366		day 204 of 366		day 205 of 366		UT	
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA		
00	297	14.8	+02.5	298	14.0	+02.4	299	13.1	+02.5	300	12.3	+02.4
01	312	17.3	+02.5	313	16.4	+02.5	314	15.6	+02.4	315	14.7	+02.5
02	327	19.8	+02.4	328	18.9	+02.5	329	18.0	+02.5	330	17.2	+02.4
03	342	22.2	+02.5	343	21.4	+02.4	344	20.5	+02.5	345	19.6	+02.5
04	357	24.7	+02.5	358	23.8	+02.5	359	23.0	+02.4	0	22.1	+02.5
05	12	27.2	+02.4	13	26.3	+02.5	14	25.4	+02.5	15	24.6	+02.4
06	27	29.6	+02.5	28	28.8	+02.4	29	27.9	+02.5	30	27.0	+02.5
07	42	32.1	+02.4	43	31.2	+02.5	44	30.4	+02.4	45	29.5	+02.5
08	57	34.5	+02.5	58	33.7	+02.4	59	32.8	+02.5	60	32.0	+02.4
09	72	37.0	+02.5	73	36.1	+02.5	74	35.3	+02.5	75	34.4	+02.5
10	87	39.5	+02.4	88	38.6	+02.5	89	37.8	+02.4	90	36.9	+02.5
11	102	41.9	+02.5	103	41.1	+02.4	104	40.2	+02.5	105	39.4	+02.5
12	117	44.4	+02.5	118	43.5	+02.5	119	42.7	+02.4	120	41.8	+02.5
13	132	46.9	+02.4	133	46.0	+02.5	134	45.1	+02.5	135	44.3	+02.4
14	147	49.3	+02.5	148	48.5	+02.4	149	47.6	+02.5	150	46.7	+02.5
15	162	51.8	+02.5	163	50.9	+02.5	164	50.1	+02.4	165	49.2	+02.5
16	177	54.3	+02.4	178	53.4	+02.5	179	52.5	+02.5	180	51.7	+02.4
17	192	56.7	+02.5	193	55.9	+02.4	194	55.0	+02.5	195	54.1	+02.5
18	207	59.2	+02.4	208	58.3	+02.5	209	57.5	+02.4	210	56.6	+02.5
19	223	01.6	+02.5	224	00.8	+02.5	224	59.9	+02.5	225	59.1	+02.4
20	238	04.1	+02.5	239	03.3	+02.4	240	02.4	+02.5	241	01.5	+02.5
21	253	06.6	+02.4	254	05.7	+02.5	255	04.9	+02.4	256	04.0	+02.5
22	268	09.0	+02.5	269	08.2	+02.4	270	07.3	+02.5	271	06.5	+02.4
23	283	11.5	+02.5	284	10.6	+02.5	285	09.8	+02.5	286	08.9	+02.5

UT	day 206 of 366		day 207 of 366		day 208 of 366		day 209 of 366		day 210 of 366		UT	
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA		
00	302	10.5	+02.5	303	09.7	+02.4	304	08.8	+02.5	305	07.9	+02.5
01	317	13.0	+02.5	318	12.1	+02.5	319	11.3	+02.4	320	10.4	+02.5
02	332	15.5	+02.4	333	14.6	+02.5	334	13.7	+02.5	335	12.9	+02.5
03	347	17.9	+02.5	348	17.1	+02.4	349	16.2	+02.5	350	15.3	+02.5
04	2	20.4	+02.4	3	19.5	+02.5	4	18.7	+02.4	5	17.8	+02.5
05	17	22.8	+02.5	18	22.0	+02.5	19	21.1	+02.5	20	20.3	+02.4
06	32	25.3	+02.5	33	24.5	+02.4	34	23.6	+02.5	35	22.7	+02.5
07	47	27.8	+02.4	48	26.9	+02.5	49	26.1	+02.4	50	25.2	+02.5
08	62	30.2	+02.5	63	29.4	+02.4	64	28.5	+02.5	65	27.7	+02.4
09	77	32.7	+02.5	78	31.8	+02.5	79	31.0	+02.4	80	30.1	+02.5
10	92	35.2	+02.4	93	34.3	+02.5	94	33.4	+02.5	95	32.6	+02.4
11	107	37.6	+02.5	108	36.8	+02.4	109	35.9	+02.5	110	35.0	+02.5
12	122	40.1	+02.5	123	39.2	+02.5	124	38.4	+02.4	125	37.5	+02.5
13	137	42.6	+02.4	138	41.7	+02.5	139	40.8	+02.5	140	40.0	+02.4
14	152	45.0	+02.5	153	44.2	+02.4	154	43.3	+02.5	155	42.4	+02.5
15	167	47.5	+02.5	168	46.6	+02.5	169	45.8	+02.4	170	44.9	+02.5
16	182	50.0	+02.4	183	49.1	+02.5	184	48.2	+02.5	185	47.4	+02.4
17	197	52.4	+02.4	198	51.6	+02.4	199	50.7	+02.5	200	49.8	+02.5
18	212	54.9	+02.4	213	54.0	+02.5	214	53.2	+02.4	215	52.3	+02.5
19	227	57.3	+02.5	228	56.5	+02.4	229	55.6	+02.5	230	54.8	+02.4
20	242	59.8	+02.5	243	58.9	+02.5	244	58.1	+02.4	245	57.2	+02.5
21	258	02.3	+02.5	259	01.4	+02.5	260	00.5	+02.5	260	59.7	+02.5
22	273	04.7	+02.5	274	03.9	+02.4	275	03.0	+02.5	276	02.2	+02.4
23	288	07.2	+02.5	289	06.3	+02.5	290	05.5	+02.4	291	04.6	+02.5

	SHA	Dec		SHA	Dec
Alpheratz	357 38.3	N 29 12.1	Gienah	175 47.3	S 17 39.3
Ankaa	353 10.8	S 42 11.4	Acrux	173 04.1	S 63 12.9
Schedir	349 34.9	N 56 38.7	Gacrux	171 55.7	S 57 13.7
Diphda	348 50.9	S 17 52.4	Alioth	166 16.5	N 55 51.3
Achernar	335 23.1	S 57 07.7	Spica	158 26.1	S 11 16.0
Hamal	327 55.3	N 23 33.4	Alkaid	152 54.9	N 49 13.1
Polaris	315 49.3	N 89 20.6	Hadar	148 40.9	S 60 28.4
Acamar	315 14.7	S 40 13.2	Menkent	148 01.5	S 36 28.0
Menkar	314 10.0	N 04 10.1	Arcturus	145 50.8	N 19 05.5
Mirfak	308 33.6	N 49 55.7	Rigel Kentaurus	139 42.6	S 60 55.5
Aldebaran	290 44.0	N 16 33.0	Zubenelgenubi	136 59.8	S 16 07.5
Capella	280 27.6	N 46 01.0	Kocab	137 19.6	N 74 04.7
Rigel	281 07.6	S 08 10.7	Alphecca	126 06.7	N 26 39.1
Bellatrix	278 27.0	N 06 22.0	Antares	112 20.1	S 26 28.6
Elnath	278 06.7	N 28 37.4	Atria	107 17.0	S 69 03.9
Alnilam	275 41.7	S 01 11.4	Sabik	102 06.6	S 15 44.9
Betelgeuze	270 56.3	N 07 24.6	Shaula	96 14.9	S 37 07.0
Canopus	263 54.5	S 52 42.3	Rasalhague	96 01.6	N 12 33.0
Sirius	258 29.6	S 16 44.2	Etamin	90 43.4	N 51 29.4
Adhara	255 09.0	S 28 60.0	Kaus Australis	83 36.9	S 34 22.4
Castor	246 02.0	N 31 50.6	Vega	80 35.3	N 38 48.2
Procyon	244 54.7	N 05 10.7	Nunki	75 51.9	S 26 16.1
Pollux	243 21.8	N 27 58.6	Albireo	67 06.6	N 28 00.3
Avior	234 16.7	S 59 34.5	Altair	62 03.3	N 08 55.3
Suhail	222 49.3	S 43 30.9	Peacock	53 10.9	S 56 40.0
Miaplacidus	221 39.5	S 69 48.2	Deneb	49 27.7	N 45 21.2
Alphard	217 51.6	S 08 44.8	Enif	33 42.0	N 09 58.1
Regulus	207 38.5	N 11 52.2	Alnair	27 37.2	S 46 51.5
Dubhe	193 46.0	N 61 38.7	Formalhaut	15 18.4	S 29 30.6
Denebola	182 28.7	N 14 27.7	Markab	13 33.3	N 15 18.9

	SHA	Dec		SHA	Dec
Alpheratz	357 38.3	N 29 12.1	Gienah	175 47.4	S 17 39.3
Ankaa	353 10.7	S 42 11.4	Acrux	173 04.2	S 63 12.9
Schedir	349 34.8	N 56 38.7	Gacrux	171 55.7	S 57 13.7
Diphda	348 50.9	S 17 52.4	Alioth	166 16.5	N 55 51.3
Achernar	335 23.0	S 57 07.7	Spica	158 26.1	S 11 16.0
Hamal	327 55.3	N 23 33.4	Alkaid	152 54.9	N 49 13.1
Polaris	315 46.9	N 89 20.6	Hadar	148 40.9	S 60 28.4
Acamar	315 14.6	S 40 13.2	Menkent	148 01.5	S 36 28.0
Menkar	314 10.0	N 04 10.2	Arcturus	145 50.9	N 19 05.5
Mirfak	308 33.5	N 49 55.7	Rigel Kentaurus	139 42.6	S 60 55.5
Aldebaran	290 44.0	N 16 33.0	Zubenelgenubi	136 59.8	S 16 07.5
Capella	280 27.6	N 46 01.0	Kocab	137 19.7	N 74 04.7
Rigel	281 07.6	S 08 10.7	Alphecca	126 06.7	N 26 39.1
Bellatrix	278 27.0	N 06 22.0	Antares	112 20.1	S 26 28.6
Elnath	278 06.7	N 28 37.4	Atria	107 17.0	S 69 03.9
Alnilam	275 41.6	S 01 11.3	Sabik	102 06.6	S 15 44.9
Betelgeuze	270 56.3	N 07 24.6	Shaula	96 14.9	S 37 07.1
Canopus	263 54.5	S 52 42.3	Rasalhague	96 01.6	N 12 33.0
Sirius	258 29.6	S 16 44.2	Etamin	90 43.4	N 51 29.4
Adhara	255 09.0	S 28 59.9	Kaus Australis	83 36.9	S 34 22.4
Castor	246 02.0	N 31 50.6	Vega	80 35.3	N 38 48.2
Procyon	244 54.7	N 05 10.7	Nunki	75 51.9	S 26 16.2
Pollux	243 21.8	N 27 58.6	Albireo	67 06.6	N 28 00.3
Avior	234 16.7	S 59 34.5	Altair	62 03.3	N 08 55.3
Suhail	222 49.3	S 43 30.9	Peacock	53 10.9	S 56 40.0
Miaplacidus	221 39.6	S 69 48.2	Deneb	49 27.7	N 45 21.2
Alphard	217 51.6	S 08 44.8	Enif	33 42.0	N 09 58.2
Regulus	207 38.5	N 11 52.2	Alnair	27 37.2	S 46 51.5
Dubhe	193 46.0	N 61 38.7	Formalhaut	15 18.4	S 29 30.6
Denebola	182 28.7	N 14 27.7	Markab	13 33.2	N 15 18.9

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2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 231 of 366		day 232 of 366		day 233 of 366		day 234 of 366		day 235 of 366		UT		
	August 18		August 19		August 20		August 21		August 22				
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	326	49.0	+02.5	327	48.1	+02.5	328	47.3	+02.4	329	46.4	+02.5	00
01	341	51.5	+02.4	342	50.6	+02.5	343	49.7	+02.5	344	48.9	+02.4	01
02	356	53.9	+02.5	357	53.1	+02.4	358	52.2	+02.5	0	50.5	+02.4	02
03	11	56.4	+02.5	12	55.5	+02.5	13	54.7	+02.4	14	53.8	+02.5	03
04	26	58.9	+02.4	27	58.0	+02.5	28	57.1	+02.5	29	56.3	+02.4	04
05	42	01.3	+02.5	43	00.5	+02.4	43	59.6	+02.5	44	58.7	+02.5	05
06	57	03.8	+02.4	58	02.9	+02.5	59	02.1	+02.4	60	01.2	+02.5	06
07	72	06.2	+02.5	73	05.4	+02.5	74	04.5	+02.5	75	03.7	+02.4	07
08	87	08.7	+02.5	88	07.9	+02.4	89	07.0	+02.5	90	06.1	+02.5	08
09	102	11.2	+02.4	103	10.3	+02.5	104	09.5	+02.4	105	08.6	+02.5	09
10	117	13.6	+02.5	118	12.8	+02.4	119	11.9	+02.5	120	11.1	+02.4	10
11	132	16.1	+02.5	133	15.2	+02.4	134	14.4	+02.4	135	13.5	+02.4	11
12	147	18.6	+02.4	148	17.7	+02.5	149	16.8	+02.5	150	16.0	+02.4	12
13	162	21.0	+02.5	163	20.2	+02.4	164	19.3	+02.5	165	18.4	+02.5	13
14	177	23.5	+02.5	178	22.6	+02.5	179	21.8	+02.4	180	20.9	+02.5	14
15	192	26.0	+02.4	193	25.1	+02.5	194	24.2	+02.5	195	23.4	+02.4	15
16	207	28.4	+02.5	208	27.6	+02.4	209	26.7	+02.5	210	25.8	+02.5	16
17	222	30.9	+02.5	223	30.0	+02.5	224	29.2	+02.4	225	28.3	+02.5	17
18	237	33.4	+02.4	238	32.5	+02.5	239	31.6	+02.5	240	30.8	+02.4	18
19	252	35.8	+02.5	253	35.0	+02.4	254	34.1	+02.5	255	33.2	+02.5	19
20	267	38.3	+02.4	268	37.4	+02.5	269	36.6	+02.4	270	35.7	+02.5	20
21	282	40.7	+02.5	283	39.9	+02.4	284	39.0	+02.5	285	38.2	+02.4	21
22	297	43.2	+02.5	298	42.3	+02.5	299	41.5	+02.5	300	40.6	+02.5	22
23	312	45.7	+02.4	313	44.8	+02.5	314	44.0	+02.4	315	43.1	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	38.1	N 29	12.2	
Ankaa	353	10.5	S 42	11.4	
Schedir	349	34.6	N 56	38.8	
Diphda	348	50.7	S 17	52.4	
Achernar	335	22.7	S 57	07.7	
Hamal	327	55.1	N 23	33.5	
Polaris	315	34.2	N 89	20.7	
Acamar	315	14.4	S 40	13.2	
Menkar	314	09.8	N 04	10.2	
Mirfak	308	33.2	N 49	55.8	
Aldebaran	290	43.8	N 16	33.0	
Capella	280	27.3	N 46	01.0	
Rigel	281	07.4	S 08	10.6	
Bellatrix	278	26.8	N 06	22.1	
Elnath	278	06.5	N 28	37.4	
Alnilam	275	41.5	S 01	11.3	
Betelgeuze	270	56.1	N 07	24.6	
Canopus	263	54.3	S 52	42.2	
Sirius	258	29.4	S 16	44.1	
Adhara	255	08.9	S 28	59.8	
Castor	246	01.9	N 31	50.6	
Procyon	244	54.6	N 05	10.7	
Pollux	243	21.7	N 27	58.6	
Avior	234	16.7	S 59	34.4	
Suhail	222	49.3	S 43	30.8	
Miaplacidus	221	39.6	S 69	48.0	
Alphard	217	51.5	S 08	44.7	
Regulus	207	38.4	N 11	52.2	
Dubhe	193	46.0	N 61	38.6	
Denebola	182	28.7	N 14	27.7	
Gienah	175	47.4	S 17	39.2	
Acrux	173	04.4	S 63	12.8	
Gacrux	171	55.9	S 57	13.6	
Alioth	166	16.7	N 55	51.3	
Spica	158	26.2	S 11	15.9	
Alkaid	152	55.1	N 49	13.0	
Hadar	148	41.1	S 60	28.4	
Menkent	148	01.6	S 36	28.0	
Arcturus	145	50.9	N 19	05.5	
Rigel Kentaurus	139	42.8	S 60	55.4	
Zubenelgenubi	136	59.9	S 16	07.5	
Kocab	137	20.2	N 74	04.7	
Alphecca	126	06.8	N 26	39.1	
Antares	112	20.2	S 26	28.6	
Atria	107	17.2	S 69	04.0	
Sabik	102	06.7	S 15	44.9	
Shaula	96	15.0	S 37	07.1	
Rasalhague	96	01.7	N 12	33.0	
Etamin	90	43.5	N 51	29.5	
Kaus Australis	83	36.9	S 34	22.4	
Vega	80	35.4	N 38	48.3	
Nunki	75	51.9	S 26	16.2	
Albireo	67	06.6	N 28	00.4	
Altair	62	03.3	N 08	55.4	
Peacock	53	10.8	S 56	40.1	
Deneb	49	27.7	N 45	21.3	
Enif	33	41.9	N 09	58.2	
Alnair	27	37.0	S 46	51.6	
Formalhaut	15	18.2	S 29	30.6	
Markab	13	33.1	N 15	19.0	

UT	day 216 of 366		day 217 of 366		day 218 of 366		day 219 of 366		day 220 of 366		UT		
	August 3		August 4		August 5		August 6		August 7				
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	312	01.9	+02.5	313	01.1	+02.4	314	00.2	+02.5	314	59.3	+02.5	00
01	327	04.4	+02.4	328	03.5	+02.5	329	02.7	+02.4	330	01.8	+02.5	01
02	342	06.8	+02.5	343	06.0	+02.5	344	05.1	+02.5	345	04.3	+02.4	02
03	357	09.3	+02.5	358	08.5	+02.4	359	07.6	+02.5	0	06.7	+02.5	03
04	12	11.8	+02.4	13	10.9	+02.5	14	10.1	+02.4	15	09.2	+02.5	04
05	27	14.2	+02.4	28	13.4	+02.4	29	12.5	+02.5	30	11.7	+02.5	05
06	42	16.7	+02.5	43	15.8	+02.5	44	15.0	+02.4	45	14.1	+02.5	06
07	57	19.2	+02.4	58	18.3	+02.5	59	17.4	+02.5	60	16.6	+02.4	07
08	72	21.6	+02.5	73	20.8	+02.4	74	19.9	+02.5	75	19.0	+02.5	08
09	87	24.1	+02.5	88	23.2	+02.5	89	22.4	+02.4	90	21.5	+02.5	09
10	102	26.6	+02.4	103	25.7	+02.5	104	24.8	+02.5	105	24.0	+02.4	10
11	117	29.0	+02.5	118	28.2	+02.4	119	27.3	+02.5	120	26.4	+02.5	11
12	132	31.5	+02.5	133	30.6	+02.5	134	29.8	+02.4	135	28.9	+02.5	12
13	147	34.0	+02.4	148	33.1	+02.5	149	32.2	+02.5	150	31.4	+02.4	13
14	162	36.4	+02.5	163	35.6	+02.4	164	34.7	+02.5	165	33.8	+02.5	14
15	177	38.9	+02.4	178	38.0	+02.5	179	37.2	+02.4	180	36.3	+02.5	15
16	192	41.3	+02.5	193	40.5	+02.4	194	39.6	+02.5	195	38.8	+02.4	16
17	207	43.8	+02.5	208	42.9	+02.5	209	42.1	+02.5	210	41.2	+02.5	17
18	222	46.3	+02.4	223	45.4	+02.5	224	44.6	+02.4	225	43.7	+02.5	18
19	237	48.7	+02.5	238	47.9	+02.4	239	47.0	+02.5	240	46.2	+02.4	19
20	252	51.2	+02.5	253	50.3	+02.5	254	49.5	+02.4	255	48.6	+02.5	20
21	267	53.7	+02.4	268	52.8	+02.5	269	51.9	+02.5	270	51.1	+02.4	21
22	282	56.1	+02.5	283	55.3	+02.4	284	54.4	+02.5	285	53.5	+02.5	22
23	297	58.6	+02.5	298	57.7	+02.5	299	56.9	+02.4	300	56.0	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	38.2	N 29	12.1	
Ankaa	353	10.6	S 42	11.4	
Schedir	349	34.7	N 56	38.7	
Diphda	348	50.8	S 17	52.4	
Achernar	335	22.9	S 57	07.7	
Hamal	327	55.2	N 23	33.4	
Polaris	315	41.7	N 89	20.6	
Acamar	315	14.6	S 40	13.2	
Menkar	314	09.9	N 04	10.2	
Mirfak	308	33.4	N 49	55.7	
Aldebaran	290	43.9	N 16	33.0	
Capella	280	27.5	N 46	01.0	
Rigel	281	07.5	S 08	10.6	
Bellatrix	278	26.9	N 06	22.1	
Elnath	278	06.6	N 28	37.4	
Alnilam	275	41.6	S 01	11.3	
Betelgeuze	270	56.2	N 07	24.6	
Canopus	263	54.4	S 52	42.3	
Sirius	258	29.5	S 16	44.2	
Adhara	255	09.0	S 28	59.9	
Castor	246	01.9	N 31	50.6	
Procyon	244	54.7	N 05	10.7	
Pollux	243	21.7	N 27	58.6	
Avior	234	16.7	S 59	34.5	
Suhail	222	49.3	S 43	30.9	
Miaplacidus	221	39.6	S 69	48.1	
Alphard	217	51.6	S 08	44.8	
Regulus	207	38.5	N 11	52.2	
Dubhe	193	46.0	N 61	38.7	
Denebola	182	28.7	N 14	27.7	
Gienah	175	47.4	S 17	39.3	
Acrux	173	04.3	S 63	12.9	
Gacrux	171	55.8	S 57	13.7	
Alioth	166	16.6	N 55	51.3	
Spica	158	26.1	S 11	16.0	
Alkaid	152	55.0	N 49	13.1	
Hadar	148	41.0	S 60	28.4	
Menkent	148	01.5	S 36	28.0	
Arcturus	145	50.9	N 19	05.5	
Rigel Kentaurus	139	42.7	S 60	55.5	
Zubenelgenubi	136	59.9	S 16	07.5	
Kocab	137	19.9	N 74	04.7	
Alphecca	126	06.7	N 26	39.1	
Antares	112	20.1	S 26	28.6	
Atria	107	17.1	S 69	03.9	
Sabik	102	06.7	S 15	44.9	
Shaula	96	14.9	S 37	07.1	
Rasalhague	96	01.6	N 12	33.0	
Etamin	90				

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 221 of 366		day 222 of 366		day 223 of 366		day 224 of 366		day 225 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	316 57.6	+02.5	317 56.7	+02.5	318 55.9	+02.4	319 55.0	+02.5	320 54.2	+02.4	00
01	332 00.1	+02.4	332 59.2	+02.5	333 58.3	+02.5	334 57.5	+02.5	335 56.6	+02.5	01
02	347 02.5	+02.5	348 01.7	+02.4	349 00.8	+02.5	349 60.0	+02.4	350 59.1	+02.5	02
03	2 05.0	+02.5	3 04.1	+02.5	4 03.3	+02.4	5 02.4	+02.5	6 01.6	+02.4	03
04	17 07.5	+02.4	18 06.6	+02.5	19 05.7	+02.5	20 04.9	+02.4	21 04.0	+02.5	04
05	32 09.9	+02.5	32 09.9	+02.5	34 08.2	+02.5	35 07.3	+02.5	36 06.5	+02.4	05
06	47 12.4	+02.5	48 11.5	+02.5	49 10.7	+02.4	50 09.8	+02.5	51 08.9	+02.5	06
07	62 14.9	+02.4	63 14.0	+02.5	64 13.1	+02.5	65 12.3	+02.4	66 11.4	+02.5	07
08	77 17.3	+02.5	78 16.5	+02.4	79 15.6	+02.5	80 14.7	+02.5	81 13.9	+02.4	08
09	92 19.8	+02.5	93 18.9	+02.5	94 18.1	+02.4	95 17.2	+02.5	96 16.3	+02.5	09
10	107 22.3	+02.4	108 21.4	+02.5	109 20.5	+02.5	110 19.7	+02.4	111 18.8	+02.5	10
11	122 24.7	+02.5	123 23.9	+02.4	124 23.0	+02.5	125 22.1	+02.5	126 21.3	+02.4	11
12	137 27.2	+02.4	138 26.3	+02.5	139 25.5	+02.4	140 24.6	+02.5	141 23.7	+02.5	12
13	152 29.6	+02.5	153 28.8	+02.4	154 27.9	+02.5	155 27.1	+02.4	156 26.2	+02.5	13
14	167 32.1	+02.5	168 31.2	+02.5	169 30.4	+02.4	170 29.5	+02.5	171 28.7	+02.4	14
15	182 34.6	+02.4	183 33.7	+02.5	184 32.8	+02.5	185 32.0	+02.4	186 31.1	+02.5	15
16	197 37.0	+02.5	198 36.2	+02.4	199 35.3	+02.5	200 34.4	+02.5	201 33.6	+02.5	16
17	212 39.5	+02.5	213 38.6	+02.5	214 37.8	+02.4	215 36.9	+02.5	216 36.1	+02.4	17
18	227 42.0	+02.4	228 41.1	+02.5	229 40.2	+02.5	230 39.4	+02.4	231 38.5	+02.5	18
19	242 44.4	+02.5	243 43.6	+02.4	244 42.7	+02.5	245 41.8	+02.5	246 41.0	+02.4	19
20	257 46.9	+02.5	258 46.0	+02.5	259 45.2	+02.4	260 44.3	+02.5	261 43.4	+02.5	20
21	272 49.4	+02.4	273 48.5	+02.5	274 47.6	+02.5	275 46.8	+02.4	276 45.9	+02.5	21
22	287 51.8	+02.5	288 51.0	+02.4	289 50.1	+02.5	290 49.2	+02.5	291 48.4	+02.4	22
23	302 54.3	+02.4	303 53.4	+02.5	304 52.6	+02.4	305 51.7	+02.5	306 50.8	+02.5	23

UT	day 226 of 366		day 227 of 366		day 228 of 366		day 229 of 366		day 230 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	321 53.3	+02.5	322 52.4	+02.5	323 51.6	+02.4	324 50.7	+02.5	325 49.9	+02.4	00
01	336 55.8	+02.4	337 54.9	+02.5	338 54.0	+02.5	339 53.2	+02.4	340 52.3	+02.5	01
02	351 58.2	+02.5	352 57.4	+02.4	353 56.5	+02.5	354 55.6	+02.5	355 54.8	+02.5	02
03	7 00.7	+02.5	7 59.8	+02.5	8 59.0	+02.4	9 58.1	+02.5	10 57.3	+02.4	03
04	22 03.2	+02.4	23 02.3	+02.5	24 01.4	+02.5	25 00.6	+02.4	25 59.7	+02.5	04
05	37 05.6	+02.5	38 04.8	+02.4	39 03.9	+02.5	40 03.0	+02.5	41 02.2	+02.4	05
06	52 08.1	+02.4	53 07.2	+02.5	54 06.4	+02.4	55 05.5	+02.5	56 04.6	+02.5	06
07	67 10.5	+02.5	68 09.7	+02.5	69 08.8	+02.5	70 08.0	+02.4	71 07.1	+02.5	07
08	82 13.0	+02.5	83 12.2	+02.4	84 11.3	+02.5	85 10.4	+02.5	86 09.6	+02.4	08
09	97 15.5	+02.4	98 14.6	+02.5	99 13.8	+02.4	100 12.9	+02.5	101 12.0	+02.5	09
10	112 17.9	+02.5	113 17.1	+02.4	114 16.2	+02.5	115 15.4	+02.4	116 14.5	+02.5	10
11	127 20.4	+02.5	128 19.5	+02.5	129 18.7	+02.5	130 17.8	+02.5	131 17.0	+02.4	11
12	142 22.9	+02.4	143 22.0	+02.5	144 21.2	+02.4	145 20.3	+02.5	146 19.4	+02.5	12
13	157 25.3	+02.5	158 24.5	+02.5	159 23.6	+02.5	160 22.8	+02.4	161 21.9	+02.5	13
14	172 27.8	+02.4	173 26.9	+02.5	174 26.1	+02.4	175 25.2	+02.4	176 24.4	+02.4	14
15	187 30.3	+02.4	188 29.4	+02.5	189 28.5	+02.5	190 27.7	+02.4	191 26.8	+02.5	15
16	202 32.7	+02.5	203 31.9	+02.4	204 31.0	+02.5	205 30.1	+02.5	206 29.3	+02.5	16
17	217 35.2	+02.5	218 34.3	+02.5	219 33.5	+02.4	220 32.6	+02.5	221 31.8	+02.4	17
18	232 37.7	+02.4	233 36.8	+02.5	234 35.9	+02.5	235 35.1	+02.4	236 34.2	+02.5	18
19	247 40.1	+02.5	248 39.3	+02.4	249 38.4	+02.5	250 37.5	+02.5	251 36.7	+02.4	19
20	262 42.6	+02.4	263 41.7	+02.5	264 40.9	+02.4	265 40.0	+02.5	266 39.1	+02.5	20
21	277 45.0	+02.5	278 44.2	+02.5	279 43.3	+02.5	280 42.5	+02.5	281 41.6	+02.5	21
22	292 47.5	+02.5	293 46.7	+02.4	294 45.8	+02.5	295 44.9	+02.5	296 44.1	+02.4	22
23	307 50.0	+02.4	308 49.1	+02.5	309 48.3	+02.4	310 47.4	+02.5	311 46.5	+02.5	23

	SHA	Dec		SHA	Dec
Alpheratz	357 38.2	N 29 12.2	Gienah	175 47.4	S 17 39.3
Ankaa	353 10.6	S 42 11.4	Acruz	173 04.3	S 63 12.9
Schedir	349 34.7	N 56 38.7	Gacrux	171 55.8	S 57 13.7
Diphda	348 50.8	S 17 52.4	Alioth	166 16.6	N 55 51.3
Achernar	335 22.8	S 57 07.7	Spica	158 26.2	S 11 16.0
Hamal	327 55.2	N 23 33.5	Alkaid	152 55.0	N 49 13.1
Polaris	315 39.4	N 89 20.6	Hadar	148 41.0	S 60 28.4
Acamar	315 14.5	S 40 13.2	Menkent	148 01.6	S 36 28.0
Menkar	314 09.9	N 04 10.2	Arcturus	145 50.9	N 19 05.5
Mirfak	308 33.4	N 49 55.7	Rigel Kentaurus	139 42.7	S 60 55.5
Aldebaran	290 43.9	N 16 33.0	Zubenelgenubi	136 59.9	S 16 07.5
Capella	280 27.4	N 46 01.0	Kocab	137 20.0	N 74 04.7
Rigel	281 07.5	S 08 10.6	Alphecca	126 06.8	N 26 39.1
Bellatrix	278 26.9	N 06 22.1	Antares	112 20.1	S 26 28.6
Elnath	278 06.6	N 28 37.4	Atria	107 17.1	S 69 04.0
Alnilam	275 41.6	S 01 11.3	Sabik	102 06.7	S 15 44.9
Betelgeuze	270 56.2	N 07 24.6	Shaula	96 14.9	S 37 07.1
Canopus	263 54.4	S 52 42.2	Rasalhague	96 01.7	N 12 33.0
Sirius	258 29.5	S 16 44.2	Etamin	90 43.5	N 51 29.5
Adhara	255 09.0	S 28 59.9	Kaus Australis	83 36.9	S 34 22.4
Castor	246 01.9	N 31 50.6	Vega	80 35.3	N 38 48.3
Procyon	244 54.7	N 05 10.7	Nunki	75 51.9	S 26 16.2
Pollux	243 21.7	N 27 58.6	Albireo	67 06.6	N 28 00.3
Avior	234 16.7	S 59 34.4	Altair	62 03.3	N 08 55.4
Suhail	222 49.3	S 43 30.8	Peacock	53 10.8	S 56 40.1
Miaplacidus	221 39.6	S 69 48.1	Deneb	49 27.7	N 45 21.3
Alphard	217 51.6	S 08 44.8	Enif	33 42.0	N 09 58.2
Regulus	207 38.5	N 11 52.2	Alnair	27 37.1	S 46 51.5
Dubhe	193 46.0	N 61 38.7	Formalhaut	15 18.3	S 29 30.6
Denebola	182 28.7	N 14 27.7	Markab	13 33.1	N 15 18.9

	SHA	Dec		SHA	Dec
Alpheratz	357 38.2	N 29 12.2	Gienah	175 47.4	S 17 39.2
Ankaa	353 10.5	S 42 11.4	Acruz	173 04.3	S 63 12.8
Schedir	349 34.6	N 56 38.8	Gacrux	171 55.9	S 57 13.7
Diphda	348 50.8	S 17 52.4	Alioth	166 16.7	N 55 51.3
Achernar	335 22.8	S 57 07.7	Spica	158 26.2	S 11 15.9
Hamal	327 55.1	N 23 33.5	Alkaid	152 55.0	N 49 13.0
Polaris	315 36.8	N 89 20.6	Hadar	148 41.1	S 60 28.4
Acamar	315 14.5	S 40 13.2	Menkent	148 01.6	S 36 28.0
Menkar	314 09.8	N 04 10.2	Arcturus	145 50.9	N 19 05.5
Mirfak	308 33.3	N 49 55.7	Rigel Kentaurus	139 42.8	S 60 55.5
Aldebaran	290 43.8	N 16 33.0	Zubenelgenubi	136 59.9	S 16 07.5
Capella	280 27.4	N 46 01.0	Kocab	137 20.1	N 74 04.7
Rigel	281 07.4	S 08 10.6	Alphecca	126 06.8	N 26 39.1
Bellatrix	278 26.9	N 06 22.1	Antares	112 20.2	S 26 28.6
Elnath	278 06.6	N 28 37.4	Atria	107 17.2	S 69 04.0
Alnilam	275 41.5	S 01 11.3	Sabik	102 06.7	S 15 44.9
Betelgeuze	270 56.1	N 07 24.6	Shaula	96 14.9	S 37 07.1
Canopus	263 54.4	S 52 42.2	Rasalhague	96 01.7	N 12 33.0
Sirius	258 29.5	S 16 44.1	Etamin	90 43.5	N 51 29.5
Adhara	255 08.9	S 28 59.9	Kaus Australis	83 36.9	S 34 22.4
Castor	246 01.9	N 31 50.6	Vega	80 35.4	N 38 48.3
Procyon	244 54.6	N 05 10.7	Nunki	75 51.9	S 26 16.2
Pollux	243 21.7	N 27 58.6	Albireo	67 06.6	N 28 00.3
Avior	234 16.7	S 59 34.4	Altair	62 03.3	N 08 55.4
Suhail	222 49.3	S 43 30.8	Peacock	53 10.8	S 56 40.1
Miaplacidus	221 39.6	S 69 48.0	Deneb</		

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 251 of 366 September 7		day 252 of 366 September 8		day 253 of 366 September 9		day 254 of 366 September 10		day 255 of 366 September 11		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	346 31.8	+02.4	347 30.9	+02.5	348 30.0	+02.5	349 29.2	+02.4	350 28.3	+02.5	00
01	1 34.2	+02.5	2 33.4	+02.4	3 32.5	+02.5	4 31.6	+02.5	5 30.8	+02.4	01
02	16 36.7	+02.5	17 35.8	+02.5	18 35.0	+02.4	19 34.1	+02.5	20 33.2	+02.5	02
03	31 39.2	+02.4	32 38.3	+02.5	33 37.4	+02.5	34 36.6	+02.4	35 35.7	+02.5	03
04	46 41.6	+02.5	47 40.8	+02.4	48 39.9	+02.5	49 39.0	+02.5	50 38.2	+02.4	04
05	61 44.1	+02.4	62 43.2	+02.5	63 42.4	+02.4	64 41.5	+02.5	65 40.6	+02.5	05
06	76 46.5	+02.5	77 45.7	+02.4	78 44.8	+02.5	79 44.0	+02.4	80 43.1	+02.5	06
07	91 49.0	+02.5	92 48.1	+02.5	93 47.3	+02.5	94 46.4	+02.5	95 45.6	+02.4	07
08	106 51.5	+02.4	107 50.6	+02.5	108 49.8	+02.4	109 48.9	+02.5	110 48.0	+02.5	08
09	121 53.9	+02.5	122 53.1	+02.4	123 52.2	+02.5	124 51.4	+02.4	125 50.5	+02.5	09
10	136 56.4	+02.5	137 55.5	+02.5	138 54.7	+02.4	139 53.8	+02.5	140 53.0	+02.4	10
11	151 58.9	+02.4	152 58.0	+02.5	153 57.1	+02.5	154 56.3	+02.5	155 55.4	+02.5	11
12	167 01.3	+02.5	168 00.5	+02.4	168 59.6	+02.5	169 58.7	+02.5	170 57.9	+02.5	12
13	182 03.8	+02.5	183 02.9	+02.5	184 02.1	+02.4	185 01.2	+02.5	186 00.4	+02.4	13
14	197 06.3	+02.4	198 05.4	+02.5	199 04.5	+02.5	200 03.7	+02.4	201 02.8	+02.5	14
15	212 08.7	+02.5	213 07.9	+02.4	214 07.0	+02.5	215 06.1	+02.5	216 05.3	+02.4	15
16	227 11.2	+02.5	228 10.3	+02.5	229 09.5	+02.4	230 08.6	+02.5	231 07.7	+02.5	16
17	242 13.7	+02.4	243 12.8	+02.5	244 11.9	+02.5	245 11.1	+02.4	246 10.2	+02.5	17
18	257 16.1	+02.5	258 15.3	+02.4	259 14.4	+02.5	260 13.5	+02.5	261 12.7	+02.4	18
19	272 18.6	+02.4	273 17.7	+02.5	274 16.9	+02.4	275 16.0	+02.5	276 15.1	+02.5	19
20	287 21.0	+02.5	288 20.2	+02.4	289 19.3	+02.5	290 18.5	+02.4	291 17.6	+02.5	20
21	302 23.5	+02.5	303 22.6	+02.5	304 21.8	+02.4	305 20.9	+02.5	306 20.1	+02.4	21
22	317 26.0	+02.4	318 25.1	+02.5	319 24.2	+02.5	320 23.4	+02.5	321 22.5	+02.5	22
23	332 28.4	+02.5	333 27.6	+02.4	334 26.7	+02.5	335 25.9	+02.4	336 25.0	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 38.1	N 29 12.3	Gienah	175 47.4	S 17 39.2
Ankaa	353 10.4	S 42 11.4	Acrux	173 04.5	S 63 12.7
Schedir	349 34.4	N 56 38.9	Gacrux	171 56.0	S 57 13.6
Diphda	348 50.6	S 17 52.4	Alioth	166 16.8	N 55 51.2
Achernar	335 22.5	S 57 07.8	Spica	158 26.2	S 11 15.9
Hamal	327 55.0	N 23 33.6	Alkaid	152 55.2	N 49 13.0
Polaris	315 24.8	N 89 20.7	Hadar	148 41.3	S 60 28.3
Acamar	315 14.3	S 40 13.2	Menkent	148 01.7	S 36 27.9
Menkar	314 09.7	N 04 10.3	Arcturus	145 51.0	N 19 05.5
Mirfak	308 33.0	N 49 55.8	Rigel Kentaurus	139 43.0	S 60 55.4
Aldebaran	290 43.6	N 16 33.0	Zubeneigenubi	137 00.0	S 16 07.4
Capella	280 27.1	N 46 01.0	Kocab	137 20.5	N 74 04.6
Rigel	281 07.3	S 08 10.6	Alphecca	126 06.9	N 26 39.1
Bellatrix	278 26.7	N 06 22.1	Antares	112 20.3	S 26 28.6
Elnath	278 06.4	N 28 37.4	Atria	107 17.5	S 69 04.0
Alnilam	275 41.4	S 01 11.3	Sabik	102 06.8	S 15 44.9
Betelgeuze	270 56.0	N 07 24.7	Shaula	96 15.1	S 37 07.1
Canopus	263 54.1	S 52 42.1	Rasalhague	96 01.8	N 12 33.0
Sirius	258 29.3	S 16 44.1	Etamin	90 43.7	N 51 29.5
Adhara	255 08.8	S 28 59.8	Kaus Australis	83 37.0	S 34 22.4
Castor	246 01.7	N 31 50.6	Vega	80 35.5	N 38 48.4
Procyon	244 54.5	N 05 10.7	Nunki	75 51.9	S 26 16.2
Pollux	243 21.5	N 27 58.6	Albireo	67 06.6	N 28 00.4
Avior	234 16.6	S 59 34.3	Altair	62 03.3	N 08 55.4
Suhail	222 49.2	S 43 30.7	Peacock	53 10.9	S 56 40.2
Miaplacidus	221 39.5	S 69 47.9	Deneb	49 27.8	N 45 21.4
Alphard	217 51.5	S 08 44.7	Enif	33 41.9	N 09 58.3
Regulus	207 38.4	N 11 52.1	Alnair	27 37.0	S 46 51.6
Dubhe	193 46.0	N 61 38.5	Formalhaut	15 18.2	S 29 30.7
Denebola	182 28.7	N 14 27.7	Markab	13 33.1	N 15 19.0

UT	day 236 of 366 August 23		day 237 of 366 August 24		day 238 of 366 August 25		day 239 of 366 August 26		day 240 of 366 August 27		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	331 44.7	+02.5	332 43.8	+02.5	333 43.0	+02.4	334 42.1	+02.5	335 41.2	+02.5	00
01	346 47.2	+02.4	347 46.3	+02.5	348 45.4	+02.5	349 44.6	+02.4	350 43.7	+02.5	01
02	1 49.6	+02.5	2 48.8	+02.4	3 47.9	+02.5	4 47.0	+02.5	5 46.2	+02.4	02
03	16 52.1	+02.4	17 51.2	+02.5	18 50.4	+02.4	19 49.5	+02.5	20 48.6	+02.5	03
04	31 54.5	+02.5	32 53.7	+02.4	33 52.8	+02.5	34 52.0	+02.4	35 51.1	+02.5	04
05	46 57.0	+02.5	47 56.1	+02.5	48 55.3	+02.4	49 54.4	+02.5	50 53.6	+02.4	05
06	61 59.5	+02.4	62 58.6	+02.5	63 57.7	+02.5	64 56.9	+02.5	65 56.0	+02.5	06
07	77 01.9	+02.5	78 01.1	+02.4	79 00.2	+02.5	79 59.4	+02.4	80 58.5	+02.5	07
08	92 04.4	+02.5	93 03.5	+02.5	94 02.7	+02.4	95 01.8	+02.5	96 01.0	+02.4	08
09	107 06.9	+02.4	108 06.0	+02.5	109 05.1	+02.5	110 04.3	+02.4	111 03.4	+02.5	09
10	122 09.3	+02.5	123 08.5	+02.4	124 07.6	+02.5	125 06.7	+02.5	126 05.9	+02.4	10
11	137 11.8	+02.5	138 10.9	+02.5	139 10.1	+02.4	140 09.2	+02.5	141 08.3	+02.5	11
12	152 14.3	+02.4	153 13.4	+02.5	154 12.5	+02.5	155 11.7	+02.4	156 10.8	+02.5	12
13	167 16.7	+02.5	168 15.9	+02.4	169 15.0	+02.5	170 14.1	+02.5	171 13.3	+02.4	13
14	182 19.2	+02.4	183 18.3	+02.5	184 17.5	+02.4	185 16.6	+02.5	186 15.7	+02.5	14
15	197 21.6	+02.5	198 20.8	+02.5	199 19.9	+02.5	200 19.1	+02.4	201 18.2	+02.5	15
16	212 24.1	+02.5	213 23.3	+02.4	214 22.4	+02.5	215 21.5	+02.5	216 20.7	+02.4	16
17	227 26.6	+02.4	228 25.7	+02.5	229 24.9	+02.4	230 24.0	+02.5	231 23.1	+02.5	17
18	242 29.0	+02.5	243 28.2	+02.4	244 27.3	+02.5	245 26.5	+02.4	246 25.6	+02.5	18
19	257 31.5	+02.5	258 30.6	+02.5	259 29.8	+02.4	260 28.9	+02.5	261 28.1	+02.4	19
20	272 34.0	+02.4	273 33.1	+02.5	274 32.2	+02.5	275 31.4	+02.5	276 30.5	+02.5	20
21	287 36.4	+02.5	288 35.6	+02.4	289 34.7	+02.5	290 33.9	+02.5	291 33.0	+02.5	21
22	302 38.9	+02.5	303 38.0	+02.5	304 37.2	+02.4	305 36.3	+02.5	306 35.5	+02.4	22
23	317 41.4	+02.4	318 40.5	+02.5	319 39.6	+02.5	320 38.8	+02.4	321 37.9	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 38.1	N 29 12.2	Gienah	175 47.4	S 17 39.2
Ankaa	353 10.5	S 42 11.4	Acrux	173 04.4	S 63 12.8
Schedir	349 34.5	N 56 38.8	Gacrux	171 55.9	S 57 13.6
Diphda	348 50.7	S 17 52.4	Alioth	166 16.7	N 55 51.2
Achernar	335 22.7	S 57 07.7	Spica	158 26.2	S 11 15.9
Hamal	327 55.1	N 23 33.5	Alkaid	152 55.1	N 49 13.0
Polaris	315 31.9	N 89 20.7	Hadar	148 41.2	S 60 28.4
Acamar	315 14.4	S 40 13.2	Menkent	148 01.6	S 36 28.0
Menkar	314 09.8	N 04 10.2	Arcturus	145 51.0	N 19 05.5
Mirfak	308 33.2	N 49 55.8	Rigel Kentaurus	139 42.9	S 60 55.4
Aldebaran	290 43.7	N 16 33.0	Zubeneigenubi	136 60.0	S 16 07.5
Capella	280 27.3	N 46 01.0	Kocab	137 20.2	N 74 04.7
Rigel	281 07.4	S 08 10.6	Alphecca	126 06.8	N 26 39.1
Bellatrix	278 26.8	N 06 22.1	Antares	112 20.2	S 26 28.6
Elnath	278 06.5	N 28 37.4	Atria	107 17.3	S 69 04.0
Alnilam	275 41.5	S 01 11.3	Sabik	102 06.7	S 15 44.9
Betelgeuze	270 56.1	N 07 24.7	Shaula	96 15.0	S 37 07.1
Canopus	263 54.3	S 52 42.2	Rasalhague	96 01.7	N 12 33.0
Sirius	258 29.4	S 16 44.1	Etamin	90 43.6	N 51 29.5
Adhara	255 08.9	S 28 59.8	Kaus Australis	83 37.0	S 34 22.4
Castor	246 01.8	N 31 50.6	Vega	80 35.4	N 38 48.3
Procyon	244 54.6	N 05 10.7	Nunki	75 51.9	S 26 16.2
Pollux	243 21.6	N 27 58.6	Albireo	67 06.6	N 28 00.4
Avior	234 16.7	S 59 34.4	Altair	62 03.3	N 08 55.4
Suhail	222 49.3	S 43 30.8	Peacock	53 10.8	S 56 40.1
Miaplacidus	221 39.6	S 69 48.0	Deneb	49 27.7	N 45 21.4
Alphard	217 51.5	S 08 44.7	Enif	33 41.9	N 09 58.2
Regulus	207 38.4	N 11 52.2	Alnair	27 37.0	S 46 51.6
Dubhe	193 46.0	N 61 38.6	Formalhaut	15 18.2	S 29 30.7
Denebola	182 28.7	N 14 27.7	Markab	13 33.1	N 15 19.0

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2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 241 of 366		day 242 of 366		day 243 of 366		day 244 of 366		day 245 of 366		UT	
	August 28		August 29		August 30		August 31		September 1			
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA		
00	336	40.4	+02.4	337	39.5	+02.5	338	38.7	+02.4	339	37.8	+02.5
01	351	42.8	+02.5	352	42.0	+02.5	353	41.1	+02.5	354	40.3	+02.4
02	6	45.3	+02.5	7	44.5	+02.4	8	43.6	+02.5	9	42.7	+02.5
03	21	47.8	+02.4	22	46.9	+02.5	23	46.1	+02.4	24	45.2	+02.5
04	36	50.2	+02.5	37	49.4	+02.4	38	48.5	+02.5	39	47.7	+02.4
05	51	52.7	+02.5	52	51.8	+02.5	53	51.0	+02.4	54	50.1	+02.5
06	66	55.2	+02.4	67	54.3	+02.5	68	53.4	+02.5	69	52.6	+02.5
07	81	57.6	+02.5	82	56.8	+02.4	83	55.9	+02.5	84	55.1	+02.4
08	97	00.1	+02.5	97	59.2	+02.5	98	58.4	+02.4	99	57.5	+02.5
09	112	02.6	+02.4	113	01.7	+02.5	114	00.8	+02.5	115	59.1	+02.5
10	127	05.0	+02.5	128	04.2	+02.4	129	03.3	+02.5	130	02.4	+02.5
11	142	07.5	+02.5	143	06.6	+02.5	144	05.8	+02.4	145	04.9	+02.5
12	157	10.0	+02.4	158	09.1	+02.5	159	08.2	+02.5	160	07.4	+02.4
13	172	12.4	+02.5	173	11.6	+02.5	174	10.7	+02.5	175	09.8	+02.5
14	187	14.9	+02.4	188	14.0	+02.5	189	13.2	+02.4	190	12.3	+02.5
15	202	17.3	+02.5	203	16.5	+02.5	204	15.6	+02.5	205	14.8	+02.4
16	217	19.8	+02.5	218	19.0	+02.4	219	18.1	+02.5	220	17.2	+02.5
17	232	22.3	+02.4	233	21.4	+02.5	234	20.6	+02.4	235	19.7	+02.5
18	247	24.7	+02.5	248	23.9	+02.4	249	23.0	+02.5	250	22.2	+02.4
19	262	27.2	+02.5	263	26.3	+02.5	264	25.5	+02.4	265	24.6	+02.5
20	277	29.7	+02.4	278	28.8	+02.5	279	27.9	+02.5	280	27.1	+02.4
21	292	32.1	+02.5	293	31.3	+02.4	294	30.4	+02.5	295	29.5	+02.5
22	307	34.6	+02.5	308	33.7	+02.5	309	32.9	+02.4	310	32.0	+02.5
23	322	37.1	+02.4	323	36.2	+02.5	324	35.3	+02.5	325	34.5	+02.4

	SHA	Dec		SHA	Dec				
	°	'		°	'				
Alpheratz	357	38.1	N 29	12.2	Gienah	175	47.4	S 17	39.2
Ankaa	353	10.4	S 42	11.4	Acrux	173	04.4	S 63	12.8
Schedir	349	34.5	N 56	38.8	Gacrux	171	55.9	S 57	13.6
Diphda	348	50.7	S 17	52.4	Alioth	166	16.7	N 55	51.2
Achernar	335	22.6	S 57	07.7	Spica	158	26.2	S 11	15.9
Hamal	327	55.0	N 23	33.5	Alkaid	152	55.1	N 49	13.0
Polaris	315	29.2	N 89	20.7	Hadar	148	41.2	S 60	28.4
Acamar	315	14.3	S 40	13.2	Menkent	148	01.6	S 36	28.0
Menkar	314	09.7	N 04	10.2	Arcturus	145	51.0	N 19	05.5
Mirfak	308	33.1	N 49	55.8	Rigel Kentaurus	139	42.9	S 60	55.4
Aldebaran	290	43.7	N 16	33.0	Zubenelgenubi	136	60.0	S 16	07.5
Capella	280	27.2	N 46	01.0	Kocab	137	20.3	N 74	04.6
Rigel	281	07.3	S 08	10.6	Alphecca	126	06.9	N 26	39.1
Bellatrix	278	26.7	N 06	22.1	Antares	112	20.2	S 26	28.6
Elnath	278	06.4	N 28	37.4	Atria	107	17.4	S 69	04.0
Alnilam	275	41.4	S 01	11.3	Sabik	102	06.7	S 15	44.9
Betelgeuze	270	56.0	N 07	24.7	Shaula	96	15.0	S 37	07.1
Canopus	263	54.2	S 52	42.2	Rasalhague	96	01.7	N 12	33.0
Sirius	258	29.4	S 16	44.1	Etamin	90	43.6	N 51	29.5
Adhara	255	08.8	S 28	59.8	Kaus Australis	83	37.0	S 34	22.4
Castor	246	01.8	N 31	50.6	Vega	80	35.4	N 38	48.4
Procyon	244	54.6	N 05	10.7	Nunki	75	51.9	S 26	16.2
Pollux	243	21.6	N 27	58.6	Albireo	67	06.6	N 28	00.4
Avior	234	16.6	S 59	34.3	Altair	62	03.3	N 08	55.4
Suhail	222	49.2	S 43	30.8	Peacock	53	10.8	S 56	40.1
Miaplacidus	221	39.5	S 69	48.0	Deneb	49	27.7	N 45	21.4
Alphard	217	51.5	S 08	44.7	Enif	33	41.9	N 09	58.3
Regulus	207	38.4	N 11	52.2	Alnair	27	37.0	S 46	51.6
Dubhe	193	46.0	N 61	38.6	Formalhaut	15	18.2	S 29	30.7
Denebola	182	28.7	N 14	27.7	Markab	13	33.1	N 15	19.0

UT	day 246 of 366		day 247 of 366		day 248 of 366		day 249 of 366		day 250 of 366		UT	
	September 2		September 3		September 4		September 5		September 6			
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA		
00	341	36.1	+02.4	342	35.2	+02.5	343	34.4	+02.4	344	33.5	+02.5
01	356	38.5	+02.5	357	37.7	+02.4	358	36.8	+02.5	359	36.0	+02.4
02	11	41.0	+02.5	12	40.1	+02.5	13	39.3	+02.4	14	38.4	+02.5
03	26	43.5	+02.4	27	42.6	+02.5	28	41.7	+02.5	29	40.9	+02.4
04	41	45.9	+02.5	42	45.1	+02.4	43	44.2	+02.5	44	43.3	+02.5
05	56	48.4	+02.5	57	47.5	+02.5	58	46.7	+02.4	59	45.8	+02.5
06	71	50.9	+02.4	72	50.0	+02.5	73	49.1	+02.5	74	48.3	+02.4
07	86	53.3	+02.5	87	52.5	+02.4	88	51.6	+02.5	89	50.7	+02.5
08	101	55.8	+02.5	102	54.9	+02.5	103	54.1	+02.4	104	53.2	+02.5
09	116	58.3	+02.4	117	57.4	+02.5	118	56.5	+02.5	119	55.7	+02.4
10	132	00.7	+02.5	132	59.9	+02.4	133	59.0	+02.5	134	58.1	+02.5
11	147	03.2	+02.5	148	02.3	+02.5	149	01.5	+02.4	150	00.6	+02.5
12	162	05.6	+02.5	163	04.8	+02.4	164	03.9	+02.5	165	03.1	+02.4
13	177	08.1	+02.5	178	07.2	+02.5	179	06.4	+02.4	180	05.5	+02.5
14	192	10.6	+02.4	193	09.7	+02.5	194	08.8	+02.5	195	08.0	+02.4
15	207	13.0	+02.5	208	12.2	+02.4	209	11.3	+02.5	210	10.4	+02.5
16	222	15.5	+02.5	223	14.6	+02.5	224	13.8	+02.4	225	12.9	+02.5
17	237	18.0	+02.4	238	17.1	+02.5	239	16.2	+02.5	240	15.4	+02.5
18	252	20.4	+02.5	253	19.6	+02.4	254	18.7	+02.5	255	17.8	+02.5
19	267	22.9	+02.5	268	22.0	+02.5	269	21.2	+02.4	270	20.3	+02.5
20	282	25.4	+02.4	283	24.5	+02.5	284	23.6	+02.5	285	22.8	+02.4
21	297	27.8	+02.5	298	27.0	+02.4	299	26.1	+02.5	300	25.2	+02.5
22	312	30.3	+02.5	313	29.4	+02.5	314	28.6	+02.4	315	27.7	+02.5
23	327	32.8	+02.4	328	31.9	+02.5	329	31.0	+02.5	330	30.2	+02.4

	SHA	Dec		SHA	Dec				
	°	'		°	'				
Alpheratz	357	38.1	N 29	12.3	Gienah	175	47.4	S 17	39.2
Ankaa	353	10.4	S 42	11.4	Acrux	173	04.5	S 63	12.8
Schedir	349	34.5	N 56	38.9	Gacrux	171	56.0	S 57	13.6
Diphda	348	50.6	S 17	52.3	Alioth	166	16.7	N 55	51.2
Achernar	335	22.6	S 57	07.8	Spica	158	26.2	S 11	15.9
Hamal	327	55.0	N 23	33.5	Alkaid	152	55.1	N 49	13.0
Polaris	315	27.0	N 89	20.7	Hadar	148	41.2	S 60	28.4
Acamar	315	14.3	S 40	13.2	Menkent	148	01.7	S 36	28.0
Menkar	314	09.7	N 04	10.3	Arcturus	145	51.0	N 19	05.5
Mirfak	308	33.1	N 49	55.8	Rigel Kentaurus	139	42.9	S 60	55.4
Aldebaran	290	43.7	N 16	33.0	Zubenelgenubi	136	60.0	S 16	07.5
Capella	280	27.2	N 46	01.0	Kocab	137	20.4	N 74	04.6
Rigel	281	07.3	S 08	10.6	Alphecca	126	06.9	N 26	39.1
Bellatrix	278	26.7	N 06	22.1	Antares	112	20.2	S 26	28.6
Elnath	278	06.4	N 28	37.4	Atria	107	17.4	S 69	04.0
Alnilam	275	41.4	S 01	11.3	Sabik	102	06.8	S 15	44.9
Betelgeuze	270	56.0	N 07	24.7	Shaula	96	15.0	S 37	07.1
Canopus	263	54.2	S 52	42.1	Rasalhague	96	01.8	N 12	33.0
Sirius	258	29.3	S 16	44.1	Etamin	90	43.6	N 51	29.5
Adhara	255	08.8	S 28	59.8	Kaus Australis	83	37.0	S 34	22.4
Castor	246	01.8	N 31	50.6	Vega	80	35.5	N 38	48.4
Procyon	244	54.5	N 05	10.7	Nunki	75	51.9	S 26	16.2
Pollux	243	21.6	N 27	58.6	Albireo	67	06.6	N 28	00.4
Avior	234	16.6	S 59	34.3	Altair	62	03.3	N 08	55.4
Suhail	222	49.2	S 43	30.7	Peacock	53	10.8	S 56	40.1
Miaplacidus	221	39.5	S 69	47.9	Deneb	49	27.7	N 45	21.4
Alphard	217	51.5	S 08	44.7	Enif	33	41.9	N 09	58.3
Regulus	207	38.4	N 11	52.1	Alnair	27	37.0	S 46	51.6
Dubhe	193	46.0	N 61	38.6	Formalhaut	15	18.2	S 29	30.7
Denebola	182	28.7	N 14	27.7	Markab	13	33.1	N 15	19.0

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2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 271 of 366 September 27		day 272 of 366 September 28		day 273 of 366 September 29		day 274 of 366 September 30		day 275 of 366 October 1		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	6 14.5	+02.5	7 13.7	+02.4	8 12.8	+02.5	9 11.9	+02.5	10 11.1	+02.4	00
01	21 17.0	+02.5	22 16.1	+02.5	23 15.3	+02.4	24 14.4	+02.5	25 13.5	+02.5	01
02	36 19.5	+02.4	37 18.6	+02.5	38 17.7	+02.5	39 16.9	+02.4	40 16.0	+02.5	02
03	51 21.9	+02.5	52 21.1	+02.4	53 20.2	+02.5	54 19.3	+02.5	55 18.5	+02.4	03
04	66 24.4	+02.5	67 23.5	+02.5	68 22.7	+02.4	69 21.8	+02.5	70 20.9	+02.5	04
05	81 26.9	+02.4	82 26.0	+02.5	83 25.1	+02.5	84 24.3	+02.4	85 23.4	+02.5	05
06	96 29.3	+02.5	97 28.5	+02.4	98 27.6	+02.5	99 26.7	+02.5	100 25.9	+02.4	06
07	111 31.8	+02.4	112 30.9	+02.5	113 30.1	+02.4	114 29.2	+02.5	115 28.3	+02.5	07
08	126 34.2	+02.5	127 33.4	+02.4	128 32.5	+02.5	129 31.7	+02.4	130 30.8	+02.5	08
09	141 36.7	+02.5	142 35.8	+02.5	143 35.0	+02.5	144 34.1	+02.5	145 33.3	+02.4	09
10	156 39.2	+02.4	157 38.3	+02.5	158 37.5	+02.4	159 36.6	+02.5	160 35.7	+02.5	10
11	171 41.6	+02.5	172 40.8	+02.4	173 39.9	+02.5	174 39.1	+02.5	175 38.2	+02.5	11
12	186 44.1	+02.5	187 43.2	+02.5	188 42.4	+02.4	189 41.5	+02.5	190 40.7	+02.4	12
13	201 46.6	+02.4	202 45.7	+02.5	203 44.8	+02.5	204 44.0	+02.4	205 43.1	+02.5	13
14	216 49.0	+02.5	217 48.2	+02.4	218 47.3	+02.5	219 46.4	+02.5	220 45.6	+02.4	14
15	231 51.5	+02.5	232 50.6	+02.5	233 49.8	+02.4	234 48.9	+02.5	235 48.0	+02.5	15
16	246 54.0	+02.4	247 53.1	+02.5	248 52.2	+02.5	249 51.4	+02.4	250 50.5	+02.5	16
17	261 56.4	+02.5	262 55.6	+02.4	263 54.7	+02.5	264 53.8	+02.5	265 53.0	+02.4	17
18	276 58.9	+02.5	277 58.0	+02.5	278 57.2	+02.4	279 56.3	+02.5	280 55.4	+02.5	18
19	292 01.4	+02.4	293 00.5	+02.5	293 59.6	+02.5	294 58.8	+02.4	295 57.9	+02.5	19
20	307 03.8	+02.5	308 03.0	+02.4	309 02.1	+02.5	310 01.2	+02.5	311 00.4	+02.4	20
21	322 06.3	+02.4	323 05.4	+02.5	324 04.6	+02.4	325 03.7	+02.5	326 02.8	+02.5	21
22	337 08.7	+02.5	338 07.9	+02.4	339 07.0	+02.5	340 06.2	+02.4	341 05.3	+02.5	22
23	352 11.2	+02.5	353 10.3	+02.5	354 09.5	+02.4	355 08.6	+02.5	356 07.8	+02.4	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 38.0	N 29 12.4	Gienah	175 47.4	S 17 39.2
Ankaa	353 10.3	S 42 11.5	Acrux	173 04.5	S 63 12.7
Schedir	349 34.3	N 56 39.0	Gacrux	171 56.0	S 57 13.5
Diphda	348 50.6	S 17 52.4	Alioth	166 16.8	N 55 51.1
Achernar	335 22.4	S 57 07.8	Spica	158 26.2	S 11 15.9
Hamal	327 54.8	N 23 33.6	Alkaid	152 55.2	N 49 12.9
Polaris	315 16.2	N 89 20.8	Hadar	148 41.4	S 60 28.3
Acamar	315 14.1	S 40 13.2	Menkent	148 01.7	S 36 27.9
Menkar	314 09.5	N 04 10.3	Arcturus	145 51.1	N 19 05.4
Mirfak	308 32.8	N 49 55.9	Rigel Kentaurus	139 43.1	S 60 55.3
Aldebaran	290 43.5	N 16 33.1	Zubenelgenubi	137 00.1	S 16 07.4
Capella	280 26.9	N 46 01.0	Kocab	137 20.8	N 74 04.5
Rigel	281 07.1	S 08 10.6	Alphecca	126 07.0	N 26 39.1
Bellatrix	278 26.5	N 06 22.1	Antares	112 20.4	S 26 28.6
Elnath	278 06.2	N 28 37.4	Atria	107 17.7	S 69 04.0
Alnilam	275 41.2	S 01 11.3	Sabik	102 06.9	S 15 44.9
Betelgeuze	270 55.8	N 07 24.7	Shaula	96 15.2	S 37 07.1
Canopus	263 53.9	S 52 42.1	Rasalhague	96 01.9	N 12 33.0
Sirius	258 29.2	S 16 44.1	Etamin	90 43.8	N 51 29.5
Adhara	255 08.6	S 28 59.8	Kaus Australis	83 37.1	S 34 22.4
Castor	246 01.6	N 31 50.5	Vega	80 35.6	N 38 48.4
Procyon	244 54.4	N 05 10.7	Nunki	75 52.0	S 26 16.2
Pollux	243 21.4	N 27 58.5	Albireo	67 06.7	N 28 00.5
Avior	234 16.4	S 59 34.2	Altair	62 03.4	N 08 55.4
Suhail	222 49.1	S 43 30.7	Peacock	53 11.0	S 56 40.2
Miaplacidus	221 39.3	S 69 47.8	Deneb	49 27.9	N 45 21.5
Alphard	217 51.4	S 08 44.7	Enif	33 42.0	N 09 58.3
Regulus	207 38.3	N 11 52.1	Alnair	27 37.0	S 46 51.7
Dubhe	193 45.9	N 61 38.4	Formalhaut	15 18.2	S 29 30.7
Denebola	182 28.7	N 14 27.6	Markab	13 33.0	N 15 19.1

UT	day 256 of 366 September 12		day 257 of 366 September 13		day 258 of 366 September 14		day 259 of 366 September 15		day 260 of 366 September 16		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	351 27.5	+02.4	352 26.6	+02.5	353 25.7	+02.5	354 24.9	+02.4	355 24.0	+02.5	00
01	6 29.9	+02.5	7 29.1	+02.4	8 28.2	+02.5	9 27.3	+02.5	10 26.5	+02.4	01
02	21 32.4	+02.4	22 31.5	+02.5	23 30.7	+02.4	24 29.8	+02.5	25 28.9	+02.5	02
03	36 34.8	+02.5	37 34.0	+02.5	38 33.1	+02.5	39 32.3	+02.4	40 31.4	+02.5	03
04	51 37.3	+02.5	52 36.5	+02.4	53 35.6	+02.5	54 34.7	+02.5	55 33.9	+02.4	04
05	66 39.8	+02.4	67 38.9	+02.5	68 38.1	+02.4	69 37.2	+02.4	70 36.3	+02.5	05
06	81 42.2	+02.5	82 41.4	+02.4	83 40.5	+02.5	84 39.7	+02.4	85 38.8	+02.5	06
07	96 44.7	+02.5	97 43.8	+02.5	98 43.0	+02.4	99 42.1	+02.5	100 41.3	+02.4	07
08	111 47.2	+02.4	112 46.3	+02.5	113 45.4	+02.5	114 44.6	+02.5	115 43.7	+02.5	08
09	126 49.6	+02.5	127 48.8	+02.4	128 47.9	+02.5	129 47.1	+02.4	130 46.2	+02.5	09
10	141 52.1	+02.5	142 51.2	+02.5	143 50.4	+02.4	144 49.5	+02.5	145 48.7	+02.4	10
11	156 54.6	+02.4	157 53.7	+02.5	158 52.8	+02.5	159 52.0	+02.4	160 51.1	+02.5	11
12	171 57.0	+02.5	172 56.2	+02.4	173 55.3	+02.5	174 54.4	+02.5	175 53.6	+02.4	12
13	186 59.5	+02.5	187 58.6	+02.4	188 57.8	+02.4	189 56.9	+02.5	190 56.0	+02.5	13
14	202 02.0	+02.4	203 01.1	+02.5	204 00.2	+02.5	204 59.4	+02.4	205 58.5	+02.5	14
15	217 04.4	+02.5	218 03.6	+02.4	219 02.7	+02.5	220 01.8	+02.5	221 01.0	+02.4	15
16	232 06.9	+02.4	233 06.0	+02.5	234 05.2	+02.4	235 04.3	+02.5	236 03.4	+02.5	16
17	247 09.3	+02.5	248 08.5	+02.5	249 07.6	+02.5	250 06.8	+02.4	251 05.9	+02.5	17
18	262 11.8	+02.5	263 11.0	+02.4	264 10.1	+02.5	265 09.2	+02.5	266 08.4	+02.4	18
19	277 14.3	+02.4	278 13.4	+02.5	279 12.6	+02.4	280 11.7	+02.5	281 10.8	+02.5	19
20	292 16.7	+02.5	293 15.9	+02.4	294 15.0	+02.5	295 14.2	+02.4	296 13.3	+02.5	20
21	307 19.2	+02.5	308 18.3	+02.5	309 17.5	+02.4	310 16.6	+02.5	311 15.8	+02.4	21
22	322 21.7	+02.4	323 20.8	+02.5	324 19.9	+02.5	325 19.1	+02.4	326 18.2	+02.5	22
23	337 24.1	+02.5	338 23.3	+02.4	339 22.4	+02.5	340 21.5	+02.5	341 20.7	+02.4	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 38.0	N 29 12.3	Gienah	175 47.4	S 17 39.2
Ankaa	353 10.4	S 42 11.4	Acrux	173 04.5	S 63 12.7
Schedir	349 34.4	N 56 38.9	Gacrux	171 56.0	S 57 13.6
Diphda	348 50.6	S 17 52.4	Alioth	166 16.8	N 55 51.2
Achernar	335 22.5	S 57 07.8	Spica	158 26.2	S 11 15.9
Hamal	327 54.9	N 23 33.6	Alkaid	152 55.2	N 49 13.0
Polaris	315 22.4	N 89 20.7	Hadar	148 41.3	S 60 28.3
Acamar	315 14.2	S 40 13.2	Menkent	148 01.7	S 36 27.9
Menkar	314 09.6	N 04 10.3	Arcturus	145 51.0	N 19 05.5
Mirfak	308 33.0	N 49 55.8	Rigel Kentaurus	139 43.0	S 60 55.4
Aldebaran	290 43.6	N 16 33.0	Zubenelgenubi	137 00.0	S 16 07.4
Capella	280 27.1	N 46 01.0	Kocab	137 20.6	N 74 04.6
Rigel	281 07.2	S 08 10.6	Alphecca	126 06.9	N 26 39.1
Bellatrix	278 26.6	N 06 22.1	Antares	112 20.3	S 26 28.6
Elnath	278 06.3	N 28 37.4	Atria	107 17.6	S 69 04.0
Alnilam	275 41.3	S 01 11.3	Sabik	102 06.8	S 15 44.9
Betelgeuze	270 55.9	N 07 24.7	Shaula	96 15.1	S 37 07.1
Canopus	263 54.1	S 52 42.1	Rasalhague	96 01.8	N 12 33.0
Sirius	258 29.3	S 16 44.1	Etamin	90 43.7	N 51 29.5
Adhara	255 08.7	S 28 59.8	Kaus Australis	83 37.0	S 34 22.4
Castor	246 01.7	N 31 50.6	Vega	80 35.5	N 38 48.4
Procyon	244 54.5	N 05 10.7	Nunki	75 52.0	S 26 16.2
Pollux	243 21.5	N 27 58.6	Albireo	67 06.7	N 28 00.4
Avior	234 16.5	S 59 34.3	Altair	62 03.3	N 08 55.4
Suhail	222 49.2	S 43 30.7	Peacock	53 10.9	S 56 40.2
Miaplacidus	221 39.4	S 69 47.9	Deneb	49 27.8	N 45 21.4
Alphard	217 51.5	S 08 44.7	Enif	33 41.9	N 09 58.3
Regulus	207 38.4	N 11 52.1	Alnair	27 37.0	S 46 51.6
Dubhe	193 46.0	N 61 38.5	Formalhaut	15 18.2	S 29 30.7
Denebola	182 28.7	N 14 27.7	Markab	13 33.1	N 15 19.1

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2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 261 of 366 September 17		day 262 of 366 September 18		day 263 of 366 September 19		day 264 of 366 September 20		day 265 of 366 September 21		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	356	23.1	+02.5	357	22.3	+02.5	358	21.4	+02.5	359	20.6	+02.4	00
01	11	25.6	+02.5	12	24.8	+02.4	13	23.9	+02.5	14	23.0	+02.5	01
02	26	28.1	+02.4	27	27.2	+02.5	28	26.4	+02.4	29	25.5	+02.5	02
03	41	30.5	+02.5	42	29.7	+02.4	43	28.8	+02.5	44	28.0	+02.4	03
04	56	33.0	+02.5	57	32.1	+02.5	58	31.3	+02.4	59	30.4	+02.5	04
05	71	35.5	+02.4	72	34.6	+02.5	73	33.7	+02.5	74	32.9	+02.4	05
06	86	37.9	+02.5	87	37.1	+02.4	88	36.2	+02.5	89	35.3	+02.5	06
07	101	40.4	+02.5	102	39.5	+02.5	103	38.7	+02.4	104	37.8	+02.5	07
08	116	42.9	+02.4	117	42.0	+02.5	118	41.1	+02.5	119	40.3	+02.4	08
09	131	45.3	+02.5	132	44.5	+02.4	133	43.6	+02.5	134	42.7	+02.5	09
10	146	47.8	+02.5	147	46.9	+02.5	148	46.1	+02.4	149	45.2	+02.5	10
11	161	50.3	+02.4	162	49.4	+02.5	163	48.5	+02.5	164	47.7	+02.4	11
12	176	52.7	+02.5	177	51.9	+02.4	178	51.0	+02.5	179	50.1	+02.5	12
13	191	55.2	+02.4	192	54.3	+02.5	193	53.5	+02.4	194	52.6	+02.5	13
14	206	57.6	+02.5	207	56.8	+02.4	208	55.9	+02.5	209	55.1	+02.4	14
15	222	00.1	+02.5	222	59.2	+02.5	223	58.4	+02.4	224	57.5	+02.5	15
16	237	02.6	+02.4	238	01.7	+02.5	239	00.8	+02.5	240	59.1	+02.5	16
17	252	05.0	+02.5	253	04.2	+02.4	254	03.3	+02.5	255	02.4	+02.5	17
18	267	07.5	+02.5	268	06.6	+02.5	269	05.8	+02.4	270	04.9	+02.5	18
19	282	10.0	+02.4	283	09.1	+02.5	284	08.2	+02.5	285	07.4	+02.4	19
20	297	12.4	+02.5	298	11.6	+02.4	299	10.7	+02.5	300	09.8	+02.5	20
21	312	14.9	+02.5	313	14.0	+02.5	314	13.2	+02.4	315	12.3	+02.5	21
22	327	17.4	+02.4	328	16.5	+02.5	329	15.6	+02.5	330	14.8	+02.4	22
23	342	19.8	+02.5	343	19.0	+02.4	344	18.1	+02.5	345	17.2	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	38.0	N 29	12.3	
Ankaa	353	10.3	S 42	11.5	
Schedir	349	34.4	N 56	38.9	
Diphda	348	50.6	S 17	52.4	
Achernar	335	22.5	S 57	07.8	
Hamal	327	54.9	N 23	33.6	
Polaris	315	20.4	N 89	20.8	
Acamar	315	14.2	S 40	13.2	
Menkar	314	09.6	N 04	10.3	
Mirfak	308	32.9	N 49	55.8	
Aldebaran	290	43.5	N 16	33.1	
Capella	280	27.0	N 46	01.0	
Rigel	281	07.2	S 08	10.6	
Bellatrix	278	26.6	N 06	22.1	
Elnath	278	06.3	N 28	37.4	
Alnilam	275	41.3	S 01	11.3	
Betelgeuze	270	55.9	N 07	24.7	
Canopus	263	54.0	S 52	42.1	
Sirius	258	29.2	S 16	44.1	
Adhara	255	08.7	S 28	59.8	
Castor	246	01.6	N 31	50.5	
Procyon	244	54.4	N 05	10.7	
Pollux	243	21.5	N 27	58.6	
Avior	234	16.5	S 59	34.3	
Suhail	222	49.1	S 43	30.7	
Miaplacidus	221	39.4	S 69	47.9	
Alphard	217	51.4	S 08	44.7	
Regulus	207	38.4	N 11	52.1	
Dubhe	193	46.0	N 61	38.5	
Denebola	182	28.7	N 14	27.7	
Gienah	175	47.4	S 17	39.2	
Acrux	173	04.5	S 63	12.7	
Gacrux	171	56.0	S 57	13.5	
Alioth	166	16.8	N 55	51.1	
Spica	158	26.2	S 11	15.9	
Alkaid	152	55.2	N 49	12.9	
Hadar	148	41.3	S 60	28.3	
Menkent	148	01.7	S 36	27.9	
Arcturus	145	51.0	N 19	05.5	
Rigel Kentaurus	139	43.0	S 60	55.4	
Zubenelgenubi	137	00.0	S 16	07.4	
Kocab	137	20.7	N 74	04.6	
Alphecca	126	06.9	N 26	39.1	
Antares	112	20.3	S 26	28.6	
Atria	107	17.6	S 69	04.0	
Sabik	102	06.8	S 15	44.9	
Shaula	96	15.1	S 37	07.1	
Rasalhague	96	01.8	N 12	33.0	
Etamin	90	43.8	N 51	29.5	
Kaus Australis	83	37.1	S 34	22.4	
Vega	80	35.5	N 38	48.4	
Nunki	75	52.0	S 26	16.2	
Albireo	67	06.7	N 28	00.4	
Altair	62	03.3	N 08	55.4	
Peacock	53	10.9	S 56	40.2	
Deneb	49	27.8	N 45	21.5	
Enif	33	41.9	N 09	58.3	
Alnair	27	37.0	S 46	51.6	
Formalhaut	15	18.2	S 29	30.7	
Markab	13	33.0	N 15	19.1	

UT	day 266 of 366 September 22		day 267 of 366 September 23		day 268 of 366 September 24		day 269 of 366 September 25		day 270 of 366 September 26		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	1	18.8	+02.5	2	18.0	+02.4	3	17.1	+02.5	4	16.3	+02.4	00
01	16	21.3	+02.5	17	20.4	+02.5	18	19.6	+02.4	19	18.7	+02.5	01
02	31	23.8	+02.4	32	22.9	+02.5	33	22.0	+02.5	34	21.2	+02.4	02
03	46	26.2	+02.5	47	25.4	+02.4	48	24.5	+02.5	49	23.6	+02.5	03
04	61	28.7	+02.5	62	27.8	+02.5	63	27.0	+02.4	64	26.1	+02.5	04
05	76	31.2	+02.4	77	30.3	+02.5	78	29.4	+02.5	79	28.6	+02.4	05
06	91	33.6	+02.5	92	32.8	+02.4	93	31.9	+02.5	94	31.0	+02.5	06
07	106	36.1	+02.4	107	35.2	+02.5	108	34.4	+02.4	109	33.5	+02.5	07
08	121	38.5	+02.5	122	37.7	+02.5	123	36.8	+02.5	124	36.0	+02.4	08
09	136	41.0	+02.5	137	40.2	+02.4	138	39.3	+02.5	139	38.4	+02.5	09
10	151	43.5	+02.4	152	42.6	+02.5	153	41.8	+02.4	154	40.9	+02.5	10
11	166	45.9	+02.5	167	45.1	+02.4	168	44.2	+02.5	169	43.4	+02.5	11
12	181	48.4	+02.5	182	47.5	+02.5	183	46.7	+02.5	184	45.8	+02.5	12
13	196	50.9	+02.4	197	50.0	+02.5	198	49.2	+02.4	199	48.3	+02.5	13
14	211	53.3	+02.5	212	52.5	+02.4	213	51.6	+02.5	214	50.8	+02.4	14
15	226	55.8	+02.5	227	54.9	+02.5	228	54.1	+02.4	229	53.2	+02.5	15
16	241	58.3	+02.4	242	57.4	+02.5	243	56.5	+02.5	244	55.7	+02.4	16
17	257	00.7	+02.5	257	59.9	+02.4	258	59.0	+02.5	259	58.1	+02.5	17
18	272	03.2	+02.5	273	02.3	+02.5	274	01.5	+02.4	275	00.6	+02.5	18
19	287	05.7	+02.4	288	04.8	+02.5	289	03.9	+02.5	290	03.1	+02.4	19
20	302	08.1	+02.5	303	07.3	+02.4	304	06.4	+02.5	305	05.5	+02.5	20
21	317	10.6	+02.4	318	09.7	+02.5	319	08.9	+02.4	320	08.0	+02.5	21
22	332	13.0	+02.5	333	12.2	+02.5	334	11.3	+02.5	335	10.5	+02.4	22
23	347	15.5	+02.5	348	14.7	+02.4	349	13.8	+02.5	350	12.9	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	38.0	N 29	12.3	
Ankaa	353	10.3	S 42	11.5	
Schedir	349	34.4	N 56	38.9	
Diphda	348	50.6	S 17	52.4	
Achernar	335	22.4	S 57	07.8	
Hamal	327	54.9	N 23	33.6	
Polaris	315	18.3	N 89	20.8	
Acamar	315	14.2	S 40	13.2	
Menkar	314	09.6	N 04	10.3	
Mirfak	308	32.9	N 49	55.8	
Aldebaran	290	43.5	N 16	33.1	
Capella	280	27.0	N 46	01.0	
Rigel	281	07.2	S 08	10.6	
Bellatrix	278	26.6	N 06	22.1	
Elnath	278	06.2	N 28	37.4	
Alnilam	275	41.2	S 01	11.3	
Betelgeuze	270	55.9	N 07	24.7	
Canopus	263	54.0	S 52	42.1	
Sirius	258	29.2	S 16	44.1	
Adhara	255	08.7	S 28	59.8	
Castor	246	01.6	N 31	50.5	
Procyon	244	54.4	N 05	10.7	
Pollux	243	21.4	N 27	58.6	
Avior	234	16.4	S 59	34.2	
Suhail	222	49.1	S 43	30.7	
Miaplacidus	221	39.3	S 69	47.9	
Alphard	217	51.4	S 08	44.7	
Regulus	207	38.4	N 11	52.1	
Dubhe	193	46.0	N 61	38.4	
Denebola	182	28.7	N 14	27.7	
Gienah	175	47.4	S 17	39.2	
Acrux	173	04.5	S 63	12.7	
Gacrux	171	56.0	S 57	13.5	
Alioth	166	16.8	N 55	51.1	
Spica	158	26.2	S 11	15.9	
Alkaid	152	55.2	N 49	12.9	
Hadar	148	41.4	S 60	28.3	
Menkent	148	01.7	S 36	27.9	
Arcturus	145	51.1	N 19	05.5	
Rigel Kentaurus	139	43.1	S 60	55.4	
Zubenelgenubi	137	00.1	S 16	07.4	
Kocab	137	20.8	N 74	04.5	
Alphecca	126	07.0	N 26	39.1	
Antares	112	20.3	S 26	28.6	
Atria	107	17.7	S 69	04.0	
Sabik	102	06.9	S 15	44.9	
Shaula	96	15.1	S 37	07.1	
Rasalhague	96	01.8	N 12	33.0	
Etamin	90	43.8	N 51	29.5	
Kaus Australis	83	37.1	S 34	22.4	
Vega	80	35.			

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 291 of 366		day 292 of 366		day 293 of 366		day 294 of 366		day 295 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
	October 17		October 18		October 19		October 20		October 21		
00	25 57.3	+02.5	26 56.4	+02.5	27 55.6	+02.4	28 54.7	+02.5	29 53.8	+02.5	00
01	40 59.8	+02.4	41 58.9	+02.5	42 58.0	+02.5	43 57.2	+02.4	44 56.3	+02.5	01
02	56 02.2	+02.5	57 01.4	+02.4	58 00.5	+02.5	58 59.6	+02.5	59 58.8	+02.4	02
03	71 04.7	+02.4	72 03.8	+02.5	73 03.0	+02.4	74 02.1	+02.5	75 01.2	+02.5	03
04	86 07.1	+02.5	87 06.3	+02.5	88 05.4	+02.5	89 04.6	+02.4	90 03.7	+02.5	04
05	101 09.6	+02.5	102 08.8	+02.4	103 07.9	+02.5	104 07.0	+02.5	105 06.2	+02.4	05
06	116 12.1	+02.4	117 11.2	+02.5	118 10.4	+02.4	119 09.5	+02.5	120 08.6	+02.5	06
07	131 14.5	+02.5	132 13.7	+02.4	133 12.8	+02.5	134 12.0	+02.4	135 11.1	+02.5	07
08	146 17.0	+02.5	147 16.1	+02.5	148 15.3	+02.4	149 14.4	+02.5	150 13.6	+02.4	08
09	161 19.5	+02.4	162 18.6	+02.5	163 17.7	+02.5	164 16.9	+02.5	165 16.0	+02.5	09
10	176 21.9	+02.5	177 21.1	+02.4	178 20.2	+02.5	179 19.4	+02.4	180 18.5	+02.5	10
11	191 24.4	+02.5	192 23.5	+02.5	193 22.7	+02.4	194 21.8	+02.5	195 21.0	+02.4	11
12	206 26.9	+02.4	207 26.0	+02.5	208 25.1	+02.5	209 24.3	+02.4	210 23.4	+02.5	12
13	221 29.3	+02.5	222 28.5	+02.4	223 27.6	+02.5	224 26.7	+02.5	225 25.9	+02.4	13
14	236 31.8	+02.5	237 30.9	+02.5	238 30.1	+02.4	239 29.2	+02.5	240 28.3	+02.5	14
15	251 34.3	+02.4	252 33.4	+02.5	253 32.5	+02.5	254 31.7	+02.4	255 30.8	+02.5	15
16	266 36.7	+02.5	267 35.9	+02.4	268 35.0	+02.5	269 34.1	+02.5	270 33.3	+02.4	16
17	281 39.2	+02.4	282 38.3	+02.5	283 37.5	+02.4	284 36.6	+02.5	285 35.7	+02.5	17
18	296 41.6	+02.5	297 40.8	+02.4	298 39.9	+02.5	299 39.1	+02.4	300 38.2	+02.5	18
19	311 44.1	+02.5	312 43.2	+02.5	313 42.4	+02.5	314 41.5	+02.5	315 40.7	+02.4	19
20	326 46.6	+02.4	327 45.7	+02.5	328 44.9	+02.4	329 44.0	+02.5	330 43.1	+02.5	20
21	341 49.0	+02.5	342 48.2	+02.4	343 47.3	+02.5	344 46.5	+02.4	345 45.6	+02.5	21
22	356 51.5	+02.5	357 50.6	+02.5	358 49.8	+02.4	359 48.9	+02.5	0 48.1	+02.4	22
23	11 54.0	+02.4	12 53.1	+02.5	13 52.2	+02.5	14 51.4	+02.4	15 50.5	+02.5	23

UT	day 276 of 366		day 277 of 366		day 278 of 366		day 279 of 366		day 280 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
	October 2		October 3		October 4		October 5		October 6		
00	11 10.2	+02.5	12 09.4	+02.4	13 08.5	+02.5	14 07.6	+02.5	15 06.8	+02.4	00
01	26 12.7	+02.4	27 11.8	+02.5	28 11.0	+02.4	29 10.1	+02.5	30 09.2	+02.5	01
02	41 15.1	+02.5	42 14.3	+02.4	43 13.4	+02.5	44 12.6	+02.4	45 11.7	+02.5	02
03	56 17.6	+02.5	57 16.7	+02.5	58 15.9	+02.5	59 15.0	+02.5	60 14.2	+02.4	03
04	71 20.1	+02.4	72 19.2	+02.5	73 18.4	+02.4	74 17.5	+02.5	75 16.6	+02.5	04
05	86 22.5	+02.5	87 21.7	+02.4	88 20.8	+02.5	89 20.0	+02.4	90 19.1	+02.5	05
06	101 25.0	+02.5	102 24.1	+02.5	103 23.3	+02.4	104 22.4	+02.5	105 21.6	+02.4	06
07	116 27.5	+02.4	117 26.6	+02.5	118 25.7	+02.5	119 24.9	+02.4	120 24.0	+02.5	07
08	131 29.9	+02.5	132 29.1	+02.4	133 28.2	+02.5	134 27.3	+02.5	135 26.5	+02.4	08
09	146 32.4	+02.5	147 31.5	+02.5	148 30.7	+02.4	149 29.8	+02.5	150 28.9	+02.5	09
10	161 34.9	+02.4	162 34.0	+02.5	163 33.1	+02.5	164 32.3	+02.4	165 31.4	+02.5	10
11	176 37.3	+02.4	177 36.5	+02.4	178 35.6	+02.5	179 34.7	+02.5	180 33.9	+02.4	11
12	191 39.8	+02.5	192 38.9	+02.5	193 38.1	+02.4	194 37.2	+02.5	195 36.3	+02.5	12
13	206 42.3	+02.4	207 41.4	+02.5	208 40.5	+02.5	209 39.7	+02.4	210 38.8	+02.5	13
14	221 44.7	+02.5	222 43.9	+02.5	223 43.0	+02.5	224 42.1	+02.5	225 41.3	+02.4	14
15	236 47.2	+02.4	237 46.3	+02.5	238 45.5	+02.4	239 44.6	+02.5	240 43.7	+02.5	15
16	251 49.6	+02.5	252 48.8	+02.4	253 47.9	+02.5	254 47.1	+02.4	255 46.2	+02.5	16
17	266 52.1	+02.5	267 51.2	+02.5	268 50.4	+02.4	269 49.5	+02.5	270 48.7	+02.4	17
18	281 54.6	+02.4	282 53.7	+02.5	283 52.8	+02.5	284 52.0	+02.4	285 51.1	+02.5	18
19	296 57.0	+02.5	297 56.2	+02.4	298 55.3	+02.5	299 54.4	+02.5	300 53.6	+02.5	19
20	311 59.5	+02.5	312 58.6	+02.5	313 57.8	+02.4	314 56.9	+02.5	315 56.1	+02.4	20
21	327 02.0	+02.4	328 01.1	+02.5	329 00.2	+02.5	329 59.4	+02.4	330 58.5	+02.5	21
22	342 04.4	+02.5	343 03.6	+02.4	344 02.7	+02.5	345 01.8	+02.5	346 01.0	+02.4	22
23	357 06.9	+02.5	358 06.0	+02.5	359 05.2	+02.4	0 04.3	+02.5	1 03.4	+02.5	23

	SHA	Dec		SHA	Dec
Alpheratz	357 38.0	N 29 12.4	Gienah	175 47.4	S 17 39.2
Ankaa	353 10.3	S 42 11.6	Acrux	173 04.5	S 63 12.6
Schedir	349 34.3	N 56 39.1	Gacrux	171 56.0	S 57 13.4
Diphda	348 50.5	S 17 52.4	Alioth	166 16.8	N 55 51.0
Achernar	335 22.3	S 57 07.9	Spica	158 26.2	S 11 15.9
Hamal	327 54.8	N 23 33.7	Alkaid	152 55.3	N 49 12.8
Polaris	315 10.3	N 89 20.9	Hadar	148 41.4	S 60 28.2
Acamar	315 14.0	S 40 13.3	Menkent	148 01.8	S 36 27.9
Menkar	314 09.4	N 04 10.3	Arcturus	145 51.1	N 19 05.4
Mirfak	308 32.7	N 49 55.9	Rigel Kentaurus	139 43.2	S 60 55.3
Aldebaran	290 43.3	N 16 33.1	Zubenelgenubi	137 00.1	S 16 07.4
Capella	280 26.7	N 46 01.1	Kocab	137 21.0	N 74 04.4
Rigel	281 07.0	S 08 10.6	Alphecca	126 07.0	N 26 39.0
Bellatrix	278 26.4	N 06 22.1	Antares	112 20.4	S 26 28.5
Elnath	278 06.0	N 28 37.4	Atria	107 18.0	S 69 03.9
Alnilam	275 41.1	S 01 11.3	Sabik	102 07.0	S 15 44.9
Betelgeuze	270 55.7	N 07 24.7	Shaula	96 15.3	S 37 07.1
Canopus	263 53.7	S 52 42.1	Rasalhague	96 02.0	N 12 33.0
Sirius	258 29.0	S 16 44.1	Etamin	90 44.0	N 51 29.5
Adhara	255 08.5	S 28 59.8	Kaus Australis	83 37.2	S 34 22.4
Castor	246 01.4	N 31 50.5	Vega	80 35.7	N 38 48.4
Procyon	244 54.2	N 05 10.7	Nunki	75 52.1	S 26 16.2
Pollux	243 21.2	N 27 58.5	Albireo	67 06.8	N 28 00.5
Avior	234 16.1	S 59 34.2	Altair	62 03.5	N 08 55.4
Suhail	222 48.9	S 43 30.6	Peacock	53 11.1	S 56 40.3
Miaplacidus	221 39.0	S 69 47.8	Deneb	49 28.0	N 45 21.5
Alphard	217 51.3	S 08 44.7	Enif	33 42.0	N 09 58.3
Regulus	207 38.2	N 11 52.1	Alnair	27 37.1	S 46 51.7
Dubhe	193 45.8	N 61 38.3	Formalhaut	15 18.2	S 29 30.8
Denebola	182 28.6	N 14 27.6	Markab	13 33.1	N 15 19.1

	SHA	Dec		SHA	Dec
Alpheratz	357 38.0	N 29 12.4	Gienah	175 47.4	S 17 39.2
Ankaa	353 10.3	S 42 11.5	Acrux	173 04.5	S 63 12.6
Schedir	349 34.3	N 56 39.0	Gacrux	171 56.0	S 57 13.5
Diphda	348 50.5	S 17 52.4	Alioth	166 16.8	N 55 51.0
Achernar	335 22.4	S 57 07.9	Spica	158 26.3	S 11 15.9
Hamal	327 54.8	N 23 33.6	Alkaid	152 55.2	N 49 12.9
Polaris	315 14.7	N 89 20.8	Hadar	148 41.4	S 60 28.3
Acamar	315 14.1	S 40 13.2	Menkent	148 01.8	S 36 27.9
Menkar	314 09.5	N 04 10.3	Arcturus	145 51.1	N 19 05.4
Mirfak	308 32.8	N 49 55.9	Rigel Kentaurus	139 43.1	S 60 55.3
Aldebaran	290 43.4	N 16 33.1	Zubenelgenubi	137 00.1	S 16 07.4
Capella	280 26.9	N 46 01.0	Kocab	137 20.9	N 74 04.5
Rigel	281 07.1	S 08 10.6	Alphecca	126 07.0	N 26 39.0
Bellatrix	278 26.5	N 06 22.1	Antares	112 20.4	S 26 28.5
Elnath	278 06.1	N 28 37.4	Atria	107 17.8	S 69 04.0
Alnilam	275 41.2	S 01 11.3	Sabik	102 06.9	S 15 44.9
Betelgeuze	270 55.8	N 07 24.7	Shaula	96 15.2	S 37 07.1
Canopus	263 53.9	S 52 42.1	Rasalhague	96 01.9	N 12 33.0
Sirius	258 29.1	S 16 44.1	Etamin	90 43.9	N 51 29.5
Adhara	255 08.6	S 28 59.8	Kaus Australis	83 37.1	S 34 22.4
Castor	246 01.5	N 31 50.5	Vega	80 35.6	N 38 48.4
Procyon	244 54.3	N 05 10.7	Nunki	75 52.0	S 26 16.2
Pollux	243 21.3	N 27 58.5	Albireo	67 06.8	N 28 00.5
Avior	234 16.3	S 59 34.2	Altair	62 03.4	N 08 55.4
Suhail	222 49.0	S 43 30.7	Peacock	53 11.0	S 56 40.2
Miaplacidus	221 39.2	S 69 47.8	Deneb	49 27.9	N 45 21.5
Alphard	217 51.4	S 08 44.7	Enif	33 42.0	N 09 58.3
Regulus	207 38.3	N 11 52.1	Alnair	27 37.0	

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 281 of 366		day 282 of 366		day 283 of 366		day 284 of 366		day 285 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	16 05.9	+02.5	17 05.0	+02.5	18 04.2	+02.5	19 03.3	+02.5	20 02.5	+02.4	00
01	31 08.4	+02.4	32 07.5	+02.5	33 06.7	+02.4	34 05.8	+02.5	35 04.9	+02.5	01
02	46 10.8	+02.5	47 10.0	+02.4	48 09.1	+02.5	49 08.3	+02.4	50 07.4	+02.5	02
03	61 13.3	+02.5	62 12.4	+02.5	63 11.6	+02.4	64 10.7	+02.5	65 09.9	+02.4	03
04	76 15.8	+02.4	77 14.9	+02.5	78 14.0	+02.5	79 13.2	+02.4	80 12.3	+02.5	04
05	91 18.2	+02.5	92 17.4	+02.4	93 16.5	+02.5	94 15.6	+02.5	95 14.8	+02.5	05
06	106 20.7	+02.5	107 19.8	+02.5	108 19.0	+02.4	109 18.1	+02.5	110 17.3	+02.4	06
07	121 23.2	+02.4	122 22.3	+02.5	123 21.4	+02.5	124 20.6	+02.4	125 19.7	+02.5	07
08	136 25.6	+02.5	137 24.8	+02.4	138 23.9	+02.5	139 23.0	+02.5	140 22.2	+02.4	08
09	151 28.1	+02.5	152 27.2	+02.5	153 26.4	+02.4	154 25.5	+02.5	155 24.6	+02.5	09
10	166 30.6	+02.4	167 29.7	+02.5	168 28.8	+02.5	169 28.0	+02.4	170 27.1	+02.5	10
11	181 33.0	+02.5	182 32.2	+02.4	183 31.3	+02.5	184 30.4	+02.5	185 29.6	+02.4	11
12	196 35.5	+02.4	197 34.6	+02.5	198 33.8	+02.4	199 32.9	+02.5	200 32.0	+02.5	12
13	211 37.9	+02.5	212 37.1	+02.4	213 36.2	+02.5	214 35.4	+02.4	215 34.5	+02.5	13
14	226 40.4	+02.5	227 39.5	+02.5	228 38.7	+02.5	229 37.8	+02.5	230 37.0	+02.4	14
15	241 42.9	+02.4	242 42.0	+02.5	243 41.2	+02.4	244 40.3	+02.5	245 39.4	+02.5	15
16	256 45.3	+02.5	257 44.5	+02.4	258 43.6	+02.5	259 42.8	+02.4	260 41.9	+02.5	16
17	271 47.8	+02.5	272 46.9	+02.5	273 46.1	+02.4	274 45.2	+02.5	275 44.4	+02.4	17
18	286 50.3	+02.4	287 49.4	+02.5	288 48.5	+02.5	289 47.7	+02.4	290 46.8	+02.5	18
19	301 52.7	+02.5	302 51.9	+02.4	303 51.0	+02.5	304 50.1	+02.5	305 49.3	+02.4	19
20	316 55.2	+02.5	317 54.3	+02.5	318 53.5	+02.4	319 52.6	+02.5	320 51.7	+02.5	20
21	331 57.7	+02.4	332 56.8	+02.5	333 55.9	+02.5	334 55.1	+02.4	335 54.2	+02.5	21
22	347 00.1	+02.5	347 59.3	+02.4	348 58.4	+02.5	349 57.5	+02.5	350 56.7	+02.4	22
23	2 02.6	+02.4	3 01.7	+02.5	4 00.9	+02.4	5 00.0	+02.5	5 59.1	+02.5	23

	SHA	Dec		SHA	Dec
Alpheratz	357 38.0	N 29 12.4	Gienah	175 47.4	S 17 39.2
Ankaa	353 10.3	S 42 11.5	Acrux	173 04.5	S 63 12.6
Schedir	349 34.3	N 56 39.1	Gacrux	171 56.0	S 57 13.4
Diphda	348 50.5	S 17 52.4	Alioth	166 16.8	N 55 51.0
Achernar	335 22.4	S 57 07.9	Spica	158 26.3	S 11 15.9
Hamal	327 54.8	N 23 33.6	Alkaid	152 55.3	N 49 12.8
Polaris	315 13.0	N 89 20.9	Hadar	148 41.4	S 60 28.2
Acamar	315 14.1	S 40 13.2	Menkent	148 01.8	S 36 27.9
Menkar	314 09.5	N 04 10.3	Arcturus	145 51.1	N 19 05.4
Mirfak	308 32.8	N 49 55.9	Rigel Kentaurus	139 43.1	S 60 55.3
Aldebaran	290 43.4	N 16 33.1	Zubenelgenubi	137 00.1	S 16 07.4
Capella	280 26.8	N 46 01.1	Kocab	137 20.9	N 74 04.5
Rigel	281 07.1	S 08 10.6	Alphecca	126 07.0	N 26 39.0
Bellatrix	278 26.5	N 06 22.1	Antares	112 20.4	S 26 28.5
Elnath	278 06.1	N 28 37.4	Atria	107 17.9	S 69 03.9
Alnilam	275 41.1	S 01 11.3	Sabik	102 06.9	S 15 44.9
Betelgeuze	270 55.8	N 07 24.7	Shaula	96 15.2	S 37 07.1
Canopus	263 53.8	S 52 42.1	Rasalhague	96 01.9	N 12 33.0
Sirius	258 29.1	S 16 44.1	Etamin	90 43.9	N 51 29.5
Adhara	255 08.6	S 28 59.8	Kaus Australis	83 37.2	S 34 22.4
Castor	246 01.5	N 31 50.5	Vega	80 35.7	N 38 48.4
Procyon	244 54.3	N 05 10.7	Nunki	75 52.1	S 26 16.2
Pollux	243 21.3	N 27 58.5	Albireo	67 06.8	N 28 00.5
Avior	234 16.3	S 59 34.2	Altair	62 03.4	N 08 55.4
Suhail	222 49.0	S 43 30.6	Peacock	53 11.0	S 56 40.2
Miaplacidus	221 39.1	S 69 47.8	Deneb	49 27.9	N 45 21.5
Alphard	217 51.3	S 08 44.7	Enif	33 42.0	N 09 58.3
Regulus	207 38.3	N 11 52.1	Alnair	27 37.1	S 46 51.7
Dubhe	193 45.9	N 61 38.4	Formalhaut	15 18.2	S 29 30.7
Denebola	182 28.7	N 14 27.6	Markab	13 33.1	N 15 19.1

UT	day 286 of 366		day 287 of 366		day 288 of 366		day 289 of 366		day 290 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	21 01.6	+02.5	22 00.7	+02.5	22 59.9	+02.4	23 59.0	+02.5	24 58.2	+02.4	00
01	36 04.1	+02.4	37 03.2	+02.5	38 02.3	+02.5	39 01.5	+02.4	40 00.6	+02.5	01
02	51 06.5	+02.5	52 05.7	+02.4	53 04.8	+02.5	54 03.9	+02.5	55 03.1	+02.4	02
03	66 09.0	+02.5	67 08.1	+02.5	68 07.3	+02.4	69 06.4	+02.5	70 05.5	+02.5	03
04	81 11.5	+02.4	82 10.6	+02.5	83 09.7	+02.5	84 08.9	+02.4	85 08.0	+02.5	04
05	96 13.9	+02.5	97 13.1	+02.4	98 12.2	+02.5	99 11.3	+02.5	100 10.5	+02.4	05
06	111 16.4	+02.5	112 15.5	+02.5	113 14.7	+02.4	114 13.8	+02.5	115 12.9	+02.5	06
07	126 18.9	+02.4	127 18.0	+02.5	128 17.1	+02.5	129 16.3	+02.4	130 15.4	+02.5	07
08	141 21.3	+02.5	142 20.5	+02.4	143 19.6	+02.5	144 18.7	+02.5	145 17.9	+02.4	08
09	156 23.8	+02.4	157 22.9	+02.5	158 22.1	+02.4	159 21.2	+02.5	160 20.3	+02.5	09
10	171 26.2	+02.5	172 25.4	+02.4	173 24.5	+02.5	174 23.7	+02.4	175 22.8	+02.5	10
11	186 28.7	+02.5	187 27.8	+02.5	188 27.0	+02.5	189 26.1	+02.5	190 25.3	+02.4	11
12	201 31.2	+02.4	202 30.3	+02.5	203 29.5	+02.4	204 28.6	+02.5	205 27.7	+02.5	12
13	216 33.6	+02.5	217 32.8	+02.4	218 31.9	+02.5	219 31.1	+02.4	220 30.2	+02.5	13
14	231 36.1	+02.4	232 35.2	+02.5	233 34.4	+02.4	234 33.5	+02.5	235 32.7	+02.4	14
15	246 38.6	+02.4	247 37.7	+02.5	248 36.8	+02.5	249 36.0	+02.4	250 35.1	+02.5	15
16	261 41.0	+02.5	262 40.2	+02.4	263 39.3	+02.5	264 38.4	+02.5	265 37.6	+02.4	16
17	276 43.5	+02.5	277 42.6	+02.5	278 41.8	+02.4	279 40.9	+02.5	280 40.0	+02.5	17
18	291 46.0	+02.4	292 45.1	+02.5	293 44.2	+02.5	294 43.4	+02.4	295 42.5	+02.5	18
19	306 48.4	+02.5	307 47.6	+02.4	308 46.7	+02.5	309 45.8	+02.5	310 45.0	+02.4	19
20	321 50.9	+02.5	322 50.0	+02.5	323 49.2	+02.4	324 48.3	+02.5	325 47.4	+02.5	20
21	336 53.4	+02.4	337 52.5	+02.5	338 51.6	+02.5	339 50.8	+02.5	340 49.9	+02.5	21
22	351 55.8	+02.5	352 55.0	+02.4	353 54.1	+02.5	354 53.2	+02.5	355 52.4	+02.4	22
23	6 58.3	+02.4	7 57.4	+02.5	8 56.6	+02.4	9 55.7	+02.5	10 54.8	+02.5	23

	SHA	Dec		SHA	Dec
Alpheratz	357 38.0	N 29 12.4	Gienah	175 47.4	S 17 39.2
Ankaa	353 10.3	S 42 11.5	Acrux	173 04.5	S 63 12.6
Schedir	349 34.3	N 56 39.1	Gacrux	171 56.0	S 57 13.4
Diphda	348 50.5	S 17 52.4	Alioth	166 16.8	N 55 51.0
Achernar	335 22.4	S 57 07.9	Spica	158 26.2	S 11 15.9
Hamal	327 54.8	N 23 33.6	Alkaid	152 55.3	N 49 12.8
Polaris	315 11.4	N 89 20.9	Hadar	148 41.4	S 60 28.2
Acamar	315 14.0	S 40 13.2	Menkent	148 01.8	S 36 27.9
Menkar	314 09.5	N 04 10.3	Arcturus	145 51.1	N 19 05.4
Mirfak	308 32.7	N 49 55.9	Rigel Kentaurus	139 43.1	S 60 55.3
Aldebaran	290 43.4	N 16 33.1	Zubenelgenubi	137 00.1	S 16 07.4
Capella	280 26.8	N 46 01.1	Kocab	137 21.0	N 74 04.4
Rigel	281 07.0	S 08 10.6	Alphecca	126 07.0	N 26 39.0
Bellatrix	278 26.4	N 06 22.1	Antares	112 20.4	S 26 28.5
Elnath	278 06.1	N 28 37.4	Atria	107 17.9	S 69 03.9
Alnilam	275 41.1	S 01 11.3	Sabik	102 06.9	S 15 44.9
Betelgeuze	270 55.7	N 07 24.7	Shaula	96 15.2	S 37 07.1
Canopus	263 53.8	S 52 42.1	Rasalhague	96 01.9	N 12 33.0
Sirius	258 29.0	S 16 44.1	Etamin	90 44.0	N 51 29.5
Adhara	255 08.5	S 28 59.8	Kaus Australis	83 37.2	S 34 22.4
Castor	246 01.4	N 31 50.5	Vega	80 35.7	N 38 48.4
Procyon	244 54.3	N 05 10.7	Nunki	75 52.1	S 26 16.2
Pollux	243 21.3	N 27 58.5	Albireo	67 06.8	N 28 00.5
Avior	234 16.2	S 59 34.2	Altair	62 03.4	N 08 55.4
Suhail	222 49.0	S 43 30.6	Peacock	53 11.1	S 56 40.2
Miaplacidus	221 39.1	S 69 47.8	Deneb		

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UT	day 311 of 366		day 312 of 366		day 313 of 366		day 314 of 366		day 315 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	45 40.1	+02.4	46 39.2	+02.5	47 38.3	+02.5	48 37.5	+02.5	49 36.6	+02.5	00
01	60 42.5	+02.5	61 41.7	+02.4	62 40.8	+02.5	63 40.0	+02.4	64 39.1	+02.5	01
02	75 45.0	+02.5	76 44.1	+02.5	77 43.3	+02.4	78 42.4	+02.5	79 41.6	+02.4	02
03	90 47.5	+02.4	91 46.6	+02.5	92 45.7	+02.5	93 44.9	+02.4	94 44.0	+02.5	03
04	105 49.9	+02.5	106 49.1	+02.4	107 48.2	+02.5	108 47.3	+02.5	109 46.5	+02.4	04
05	120 52.4	+02.5	121 51.5	+02.5	122 50.7	+02.4	123 49.8	+02.5	124 48.9	+02.5	05
06	135 54.9	+02.4	136 54.0	+02.5	137 53.1	+02.5	138 52.3	+02.4	139 51.4	+02.5	06
07	150 57.3	+02.5	151 56.5	+02.4	152 55.6	+02.5	153 54.7	+02.5	154 53.9	+02.4	07
08	165 59.8	+02.4	166 58.9	+02.5	167 58.1	+02.4	168 57.2	+02.5	169 56.3	+02.5	08
09	181 02.2	+02.5	182 01.4	+02.5	183 00.5	+02.5	183 59.7	+02.4	184 58.8	+02.5	09
10	196 04.7	+02.5	197 03.9	+02.4	198 03.0	+02.5	199 02.1	+02.5	200 01.3	+02.4	10
11	211 07.2	+02.4	212 06.3	+02.4	213 05.5	+02.4	214 04.6	+02.5	215 03.7	+02.5	11
12	226 09.6	+02.5	227 08.8	+02.4	228 07.9	+02.5	229 07.1	+02.4	230 06.2	+02.5	12
13	241 12.1	+02.5	242 11.2	+02.5	243 10.4	+02.4	244 09.5	+02.5	245 08.7	+02.4	13
14	256 14.6	+02.4	257 13.7	+02.5	258 12.8	+02.5	259 12.0	+02.4	260 11.1	+02.5	14
15	271 17.0	+02.5	272 16.2	+02.4	273 15.3	+02.5	274 14.4	+02.5	275 13.6	+02.5	15
16	286 19.5	+02.5	287 18.6	+02.5	288 17.8	+02.4	289 16.9	+02.5	290 16.1	+02.4	16
17	301 22.0	+02.4	302 21.1	+02.5	303 20.2	+02.5	304 19.4	+02.4	305 18.5	+02.5	17
18	316 24.4	+02.5	317 23.6	+02.4	318 22.7	+02.5	319 21.8	+02.5	320 21.0	+02.4	18
19	331 26.9	+02.5	332 26.0	+02.5	333 25.2	+02.4	334 24.3	+02.5	335 23.4	+02.5	19
20	346 29.4	+02.4	347 28.5	+02.5	348 27.6	+02.5	349 26.8	+02.4	350 25.9	+02.5	20
21	1 31.8	+02.5	2 31.0	+02.4	3 30.1	+02.5	4 29.2	+02.5	5 28.4	+02.4	21
22	16 34.3	+02.4	17 33.4	+02.5	18 32.6	+02.4	19 31.7	+02.5	20 30.8	+02.5	22
23	31 36.7	+02.5	32 35.9	+02.4	33 35.0	+02.5	34 34.2	+02.4	35 33.3	+02.5	23

UT	day 296 of 366		day 297 of 366		day 298 of 366		day 299 of 366		day 300 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	30 53.0	+02.5	31 52.1	+02.5	32 51.3	+02.4	33 50.4	+02.5	34 49.5	+02.5	00
01	45 55.5	+02.4	46 54.6	+02.5	47 53.7	+02.5	48 52.9	+02.4	49 52.0	+02.5	01
02	60 57.9	+02.5	61 57.1	+02.4	62 56.2	+02.5	63 55.3	+02.5	64 54.5	+02.4	02
03	76 00.4	+02.4	76 59.5	+02.5	77 58.7	+02.4	78 57.8	+02.5	79 56.9	+02.5	03
04	91 02.8	+02.5	92 02.0	+02.5	93 01.1	+02.5	94 00.3	+02.4	94 59.4	+02.5	04
05	106 05.3	+02.5	107 04.5	+02.5	108 03.6	+02.5	109 02.7	+02.5	110 01.9	+02.4	05
06	121 07.8	+02.4	122 06.9	+02.5	123 06.1	+02.4	124 05.2	+02.5	125 04.3	+02.5	06
07	136 10.2	+02.5	137 09.4	+02.4	138 08.5	+02.5	139 07.7	+02.4	140 06.8	+02.5	07
08	151 12.7	+02.5	152 11.8	+02.5	153 11.0	+02.4	154 10.1	+02.5	155 09.3	+02.4	08
09	166 15.2	+02.4	167 14.3	+02.5	168 13.4	+02.5	169 12.6	+02.4	170 11.7	+02.5	09
10	181 17.6	+02.5	182 16.8	+02.4	183 15.9	+02.5	184 15.0	+02.5	185 14.2	+02.5	10
11	196 20.1	+02.5	197 19.2	+02.5	198 18.4	+02.4	199 17.5	+02.5	200 16.7	+02.4	11
12	211 22.6	+02.4	212 21.7	+02.5	213 20.8	+02.5	214 20.0	+02.4	215 19.1	+02.5	12
13	226 25.0	+02.5	227 24.2	+02.4	228 23.3	+02.5	229 22.4	+02.5	230 21.6	+02.4	13
14	241 27.5	+02.5	242 26.6	+02.5	243 25.8	+02.4	244 24.9	+02.5	245 24.0	+02.5	14
15	256 30.0	+02.4	257 29.1	+02.5	258 28.2	+02.5	259 27.4	+02.4	260 26.5	+02.5	15
16	271 32.4	+02.5	272 31.6	+02.4	273 30.7	+02.5	274 29.8	+02.5	275 29.0	+02.4	16
17	286 34.9	+02.4	287 34.0	+02.5	288 33.2	+02.4	289 32.3	+02.5	290 31.4	+02.5	17
18	301 37.3	+02.5	302 36.5	+02.4	303 35.6	+02.5	304 34.8	+02.4	305 33.9	+02.5	18
19	316 39.8	+02.5	317 38.9	+02.5	318 38.1	+02.5	319 37.2	+02.5	320 36.4	+02.4	19
20	331 42.3	+02.4	332 41.4	+02.5	333 40.6	+02.4	334 39.7	+02.5	335 38.8	+02.5	20
21	346 44.7	+02.4	347 43.9	+02.4	348 43.0	+02.5	349 42.2	+02.4	350 41.3	+02.5	21
22	1 47.2	+02.5	2 46.3	+02.5	3 45.5	+02.4	4 44.6	+02.5	5 43.8	+02.4	22
23	16 49.7	+02.4	17 48.8	+02.5	18 47.9	+02.5	19 47.1	+02.4	20 46.2	+02.5	23

	SHA	Dec		SHA	Dec
Alpheratz	357 38.0	N 29 12.5	Gienah	175 47.3	S 17 39.2
Ankaa	353 10.3	S 42 11.6	Acruz	173 04.3	S 63 12.5
Schedir	349 34.3	N 56 39.2	Gacrux	171 55.8	S 57 13.4
Diphda	348 50.5	S 17 52.4	Alioth	166 16.7	N 55 50.8
Achernar	335 22.3	S 57 08.0	Spica	158 26.2	S 11 15.9
Hamal	327 54.7	N 23 33.7	Alkaid	152 55.2	N 49 12.7
Polaris	315 06.5	N 89 21.0	Hadar	148 41.4	S 60 28.1
Acamar	315 14.0	S 40 13.3	Menkent	148 01.7	S 36 27.8
Menkar	314 09.4	N 04 10.3	Arcturus	145 51.0	N 19 05.3
Mirfak	308 32.6	N 49 56.0	Rigel Kentaurus	139 43.1	S 60 55.2
Aldebaran	290 43.2	N 16 33.1	Zubenelgenubi	137 00.1	S 16 07.4
Capella	280 26.5	N 46 01.1	Kocab	137 21.1	N 74 04.3
Rigel	281 06.9	S 08 10.6	Alphecca	126 07.1	N 26 38.9
Bellatrix	278 26.3	N 06 22.1	Antares	112 20.5	S 26 28.5
Elnath	278 05.9	N 28 37.5	Atria	107 18.1	S 69 03.8
Alnilam	275 40.9	S 01 11.3	Sabik	102 07.0	S 15 44.9
Betelgeuze	270 55.5	N 07 24.6	Shaula	96 15.3	S 37 07.1
Canopus	263 53.6	S 52 42.2	Rasalhague	96 02.0	N 12 33.0
Sirius	258 28.9	S 16 44.1	Etamin	90 44.2	N 51 29.5
Adhara	255 08.3	S 28 59.8	Kaus Australis	83 37.3	S 34 22.4
Castor	246 01.2	N 31 50.5	Vega	80 35.9	N 38 48.3
Procyon	244 54.1	N 05 10.7	Nunki	75 52.2	S 26 16.2
Pollux	243 21.0	N 27 58.5	Albireo	67 06.9	N 28 00.4
Avior	234 15.9	S 59 34.2	Altair	62 03.5	N 08 55.4
Suhail	222 48.7	S 43 30.6	Peacock	53 11.3	S 56 40.3
Miaplacidus	221 38.7	S 69 47.8	Deneb	49 28.7	N 45 21.5
Alphard	217 51.1	S 08 44.7	Enif	33 42.1	N 09 58.3
Regulus	207 38.1	N 11 52.0	Alnair	27 37.2	S 46 51.8
Dubhe	193 45.6	N 61 38.2	Formalhaut	15 18.3	S 29 30.8
Denebola	182 28.5	N 14 27.5	Markab	13 33.1	N 15 19.1

	SHA	Dec		SHA	Dec
Alpheratz	357 38.0	N 29 12.4	Gienah	175 47.4	S 17 39.2
Ankaa	353 10.3	S 42 11.6	Acruz	173 04.4	S 63 12.6
Schedir	349 34.3	N 56 39.1	Gacrux	171 55.9	S 57 13.4
Diphda	348 50.5	S 17 52.4	Alioth	166 16.8	N 55 50.9
Achernar	335 22.3	S 57 08.0	Spica	158 26.2	S 11 15.9
Hamal	327 54.8	N 23 33.7	Alkaid	152 55.3	N 49 12.8
Polaris	315 08.8	N 89 20.9	Hadar	148 41.4	S 60 28.2
Acamar	315 14.0	S 40 13.3	Menkent	148 01.7	S 36 27.8
Menkar	314 09.4	N 04 10.3	Arcturus	145 51.1	N 19 05.4
Mirfak	308 32.7	N 49 56.0	Rigel Kentaurus	139 43.1	S 60 55.3
Aldebaran	290 43.3	N 16 33.1	Zubenelgenubi	137 00.1	S 16 07.4
Capella	280 26.7	N 46 01.1	Kocab	137 21.1	N 74 04.4
Rigel	281 07.0	S 08 10.6	Alphecca	126 07.1	N 26 39.0
Bellatrix	278 26.3	N 06 22.1	Antares	112 20.4	S 26 28.5
Elnath	278 06.0	N 28 37.4	Atria	107 18.0	S 69 03.9
Alnilam	275 41.0	S 01 11.3	Sabik	102 07.0	S 15 44.9
Betelgeuze	270 55.6	N 07 24.7	Shaula	96 15.3	S 37 07.1
Canopus	263 53.7	S 52 42.1	Rasalhague	96 02.0	N 12 33.0
Sirius	258 29.0	S 16 44.1	Etamin	90 44.1	N 51 29.5
Adhara	255 08.4	S 28 59.8	Kaus Australis	83 37.2	S 34 22.4
Castor	246 01.3	N 31 50.5	Vega	80 35.8	N 38 48.4
Procyon	244 54.2	N 05 10.7	Nunki	75 52.1	S 26 16.2
Pollux	243 21.2	N 27 58.5	Albireo	67 06.9	N 28 00.5
Avior	234 16.1	S 59 34.2	Altair	62 03.5	N 08 55.4
Suhail	222 48.9	S 43 30.6	Peacock	53 11.2	S 56 40.3
Miaplacidus	221 38.9	S 69 47.8	Deneb		

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 301 of 366		day 302 of 366		day 303 of 366		day 304 of 366		day 305 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
	October 27		October 28		October 29		October 30		October 31		
00	35 48.7	+02.4	36 47.8	+02.5	37 47.0	+02.4	38 46.1	+02.5	39 45.2	+02.5	00
01	50 51.1	+02.5	51 50.3	+02.4	52 49.4	+02.5	53 48.6	+02.4	54 47.7	+02.5	01
02	65 53.6	+02.5	66 52.7	+02.5	67 51.9	+02.5	68 51.0	+02.5	69 50.2	+02.4	02
03	80 56.1	+02.4	81 55.2	+02.5	82 54.4	+02.4	83 53.5	+02.5	84 52.6	+02.5	03
04	95 58.5	+02.5	96 57.7	+02.4	97 56.8	+02.5	98 56.0	+02.4	99 55.1	+02.5	04
05	111 01.0	+02.5	112 00.1	+02.5	112 59.3	+02.4	113 58.4	+02.5	114 57.6	+02.4	05
06	126 03.5	+02.4	127 02.6	+02.5	128 01.7	+02.5	129 00.9	+02.4	130 00.0	+02.5	06
07	141 05.9	+02.5	142 05.1	+02.4	143 04.2	+02.5	144 03.3	+02.5	145 02.5	+02.4	07
08	156 08.4	+02.5	157 07.5	+02.5	158 06.7	+02.4	159 05.8	+02.5	160 04.9	+02.5	08
09	171 10.9	+02.4	172 10.0	+02.5	173 09.1	+02.5	174 08.3	+02.4	175 07.4	+02.5	09
10	186 13.3	+02.5	187 12.5	+02.4	188 11.6	+02.5	189 10.7	+02.5	190 09.9	+02.4	10
11	201 15.8	+02.5	202 14.9	+02.4	203 14.1	+02.4	204 13.2	+02.5	205 12.3	+02.5	11
12	216 18.3	+02.4	217 17.4	+02.5	218 16.5	+02.5	219 15.7	+02.4	220 14.8	+02.5	12
13	231 20.7	+02.5	232 19.9	+02.4	233 19.0	+02.5	234 18.1	+02.5	235 17.3	+02.4	13
14	246 23.2	+02.4	247 22.3	+02.5	248 21.5	+02.4	249 20.6	+02.5	250 19.7	+02.5	14
15	261 25.6	+02.5	262 24.8	+02.4	263 23.9	+02.5	264 23.1	+02.4	265 22.2	+02.5	15
16	276 28.1	+02.5	277 27.2	+02.5	278 26.4	+02.4	279 25.5	+02.5	280 24.7	+02.4	16
17	291 30.6	+02.4	292 29.7	+02.5	293 28.8	+02.5	294 28.0	+02.4	295 27.1	+02.5	17
18	306 33.0	+02.5	307 32.2	+02.4	308 31.3	+02.5	309 30.4	+02.5	310 29.6	+02.5	18
19	321 35.5	+02.5	322 34.6	+02.5	323 33.8	+02.4	324 32.9	+02.5	325 32.1	+02.4	19
20	336 38.0	+02.4	337 37.1	+02.5	338 36.2	+02.5	339 35.4	+02.4	340 34.5	+02.5	20
21	351 40.4	+02.5	352 39.6	+02.4	353 38.7	+02.5	354 37.8	+02.5	355 37.0	+02.4	21
22	6 42.9	+02.5	7 42.0	+02.5	8 41.2	+02.4	9 40.3	+02.5	10 39.4	+02.5	22
23	21 45.4	+02.4	22 44.5	+02.5	23 43.6	+02.5	24 42.8	+02.4	25 41.9	+02.5	23

	SHA	Dec		SHA	Dec
Alpheratz	357 38.0	N 29 12.4	Gienah	175 47.3	S 17 39.2
Ankaa	353 10.3	S 42 11.6	Acruz	173 04.4	S 63 12.5
Schedir	349 34.3	N 56 39.2	Gacrux	171 55.9	S 57 13.4
Diphda	348 50.5	S 17 52.4	Alioth	166 16.7	N 55 50.9
Achernar	335 22.3	S 57 08.0	Spica	158 26.2	S 11 15.9
Hamal	327 54.7	N 23 33.7	Alkaid	152 55.2	N 49 12.7
Polaris	315 08.0	N 89 21.0	Hadar	148 41.4	S 60 28.2
Acamar	315 14.0	S 40 13.3	Menkent	148 01.7	S 36 27.8
Menkar	314 09.4	N 04 10.3	Arcturus	145 51.1	N 19 05.3
Mirfak	308 32.6	N 49 56.0	Rigel Kentaurus	139 43.1	S 60 55.2
Aldebaran	290 43.3	N 16 33.1	Zubenelgenubi	137 00.1	S 16 07.4
Capella	280 26.6	N 46 01.1	Kocab	137 21.1	N 74 04.3
Rigel	281 06.9	S 08 10.6	Alphecca	126 07.1	N 26 39.0
Bellatrix	278 26.3	N 06 22.1	Antares	112 20.4	S 26 28.5
Elnath	278 05.9	N 28 37.5	Atria	107 18.0	S 69 03.9
Alnilam	275 41.0	S 01 11.3	Sabik	102 07.0	S 15 44.9
Betelgeuze	270 55.6	N 07 24.7	Shaula	96 15.3	S 37 07.1
Canopus	263 53.6	S 52 42.1	Rasalhague	96 02.0	N 12 33.0
Sirius	258 28.9	S 16 44.1	Etamin	90 44.1	N 51 29.5
Adhara	255 08.4	S 28 59.8	Kaus Australis	83 37.2	S 34 22.4
Castor	246 01.3	N 31 50.5	Vega	80 35.8	N 38 48.4
Procyon	244 54.1	N 05 10.7	Nunki	75 52.2	S 26 16.2
Pollux	243 21.1	N 27 58.5	Albireo	67 06.9	N 28 00.4
Avior	234 16.0	S 59 34.2	Altair	62 03.5	N 08 55.4
Suhail	222 48.8	S 43 30.6	Peacock	53 11.2	S 56 40.3
Miaplacidus	221 38.8	S 69 47.8	Deneb	49 28.0	N 45 21.5
Alphard	217 51.2	S 08 44.7	Enif	33 42.0	N 09 58.3
Regulus	207 38.1	N 11 52.0	Alnair	27 37.1	S 46 51.8
Dubhe	193 45.7	N 61 38.3	Formalhaut	15 18.2	S 29 30.8
Denebola	182 28.6	N 14 27.6	Markab	13 33.1	N 15 19.1

UT	day 306 of 366		day 307 of 366		day 308 of 366		day 309 of 366		day 310 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
	November 1		November 2		November 3		November 4		November 5		
00	40 44.4	+02.4	41 43.5	+02.5	42 42.6	+02.5	43 41.8	+02.5	44 40.9	+02.5	00
01	55 46.8	+02.5	56 46.0	+02.4	57 45.1	+02.5	58 44.3	+02.4	59 43.4	+02.5	01
02	70 49.3	+02.5	71 48.4	+02.5	72 47.6	+02.4	73 46.7	+02.5	74 45.9	+02.4	02
03	85 51.8	+02.4	86 50.9	+02.5	87 50.0	+02.5	88 49.2	+02.4	89 48.3	+02.5	03
04	100 54.2	+02.5	101 53.4	+02.4	102 52.5	+02.5	103 51.6	+02.5	104 50.8	+02.4	04
05	115 56.7	+02.5	116 55.8	+02.5	117 55.0	+02.4	118 54.1	+02.5	119 53.2	+02.5	05
06	130 59.2	+02.4	131 58.3	+02.5	132 57.4	+02.5	133 56.6	+02.4	134 55.7	+02.5	06
07	146 01.6	+02.5	147 00.8	+02.4	147 59.9	+02.5	148 59.0	+02.5	149 58.2	+02.4	07
08	161 04.1	+02.4	162 03.2	+02.5	163 02.4	+02.4	164 01.5	+02.5	165 00.6	+02.5	08
09	176 06.5	+02.5	177 05.7	+02.5	178 04.8	+02.5	179 04.0	+02.4	180 03.1	+02.5	09
10	191 09.0	+02.5	192 08.2	+02.4	193 07.3	+02.5	194 06.4	+02.5	195 05.6	+02.4	10
11	206 11.5	+02.4	207 10.6	+02.5	208 09.8	+02.4	209 08.9	+02.5	210 08.0	+02.5	11
12	221 13.9	+02.5	222 13.1	+02.4	223 12.2	+02.5	224 11.4	+02.4	225 10.5	+02.5	12
13	236 16.4	+02.5	237 15.5	+02.5	238 14.7	+02.4	239 13.8	+02.5	240 13.0	+02.4	13
14	251 18.9	+02.5	252 18.0	+02.5	253 17.1	+02.5	254 16.3	+02.5	255 15.4	+02.5	14
15	266 21.3	+02.5	267 20.5	+02.4	268 19.6	+02.5	269 18.8	+02.4	270 17.9	+02.5	15
16	281 23.8	+02.5	282 22.9	+02.5	283 22.1	+02.4	284 21.2	+02.5	285 20.4	+02.4	16
17	296 26.3	+02.4	297 25.4	+02.5	298 24.5	+02.5	299 23.7	+02.4	300 22.8	+02.5	17
18	311 28.7	+02.5	312 27.9	+02.4	313 27.0	+02.5	314 26.1	+02.5	315 25.3	+02.4	18
19	326 31.2	+02.5	327 30.3	+02.5	328 29.5	+02.4	329 28.6	+02.5	330 27.7	+02.5	19
20	341 33.7	+02.4	342 32.8	+02.5	343 31.9	+02.5	344 31.1	+02.4	345 30.2	+02.5	20
21	356 36.1	+02.5	357 35.3	+02.4	358 34.4	+02.5	359 33.5	+02.5	0 32.7	+02.4	21
22	11 38.6	+02.4	12 37.7	+02.5	13 36.9	+02.4	14 36.0	+02.5	15 35.1	+02.5	22
23	26 41.0	+02.5	27 40.2	+02.4	28 39.3	+02.5	29 38.5	+02.4	30 37.6	+02.5	23

	SHA	Dec		SHA	Dec
Alpheratz	357 38.0	N 29 12.5	Gienah	175 47.3	S 17 39.2
Ankaa	353 10.3	S 42 11.6	Acruz	173 04.3	S 63 12.5
Schedir	349 34.3	N 56 39.2	Gacrux	171 55.9	S 57 13.4
Diphda	348 50.5	S 17 52.4	Alioth	166 16.7	N 55 50.9
Achernar	335 22.3	S 57 08.0	Spica	158 26.2	S 11 15.9
Hamal	327 54.7	N 23 33.7	Alkaid	152 55.2	N 49 12.7
Polaris	315 07.3	N 89 21.0	Hadar	148 41.4	S 60 28.1
Acamar	315 14.0	S 40 13.3	Menkent	148 01.7	S 36 27.8
Menkar	314 09.4	N 04 10.3	Arcturus	145 51.1	N 19 05.3
Mirfak	308 32.6	N 49 56.0	Rigel Kentaurus	139 43.1	S 60 55.2
Aldebaran	290 43.3	N 16 33.1	Zubenelgenubi	137 00.1	S 16 07.4
Capella	280 26.6	N 46 01.1	Kocab	137 21.1	N 74 04.3
Rigel	281 06.9	S 08 10.6	Alphecca	126 07.1	N 26 38.9
Bellatrix	278 26.3	N 06 22.1	Antares	112 20.5	S 26 28.5
Elnath	278 05.9	N 28 37.5	Atria	107 18.1	S 69 03.9
Alnilam	275 41.0	S 01 11.3	Sabik	102 07.0	S 15 44.9
Betelgeuze	270 55.6	N 07 24.6	Shaula	96 15.3	S 37 07.1
Canopus	263 53.6	S 52 42.2	Rasalhague	96 02.0	N 12 33.0
Sirius	258 28.9	S 16 44.1	Etamin	90 44.1	N 51 29.5
Adhara	255 08.4	S 28 59.8	Kaus Australis	83 37.3	S 34 22.4
Castor	246 01.3	N 31 50.5	Vega	80 35.8	N 38 48.4
Procyon	244 54.1	N 05 10.7	Nunki	75 52.2	S 26 16.2
Pollux	243 21.1	N 27 58.5	Albireo	67 06.9	N 28 00.4
Avior	234 16.0	S 59 34.2	Altair	62 03.5	N 08 55.4
Suhail	222 48.8	S 43 30.6	Peacock	53 11.2	S 56 40.3
Miaplacidus	221 38.8	S 69 47.8	Deneb	49 28.1	N 45 21.5
Alphard	217 51.2	S 08 44.7	Enif	33 42.1	N 09 58.3
Regulus	207 38.1	N 11 52.0	Alnair	27 37.2	S 46

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2020 - First Point of Aries / Selected Stars

UT	day 331 of 366		day 332 of 366		day 333 of 366		day 334 of 366		day 335 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	65	22.9 +02.4	66	22.0 +02.5	67	21.1 +02.5	68	20.3 +02.4	69	19.4 +02.5	00
01	80	25.3 +02.5	81	24.5 +02.4	82	23.6 +02.5	83	22.7 +02.5	84	21.9 +02.4	01
02	95	27.8 +02.4	96	26.9 +02.5	97	26.1 +02.4	98	25.2 +02.5	99	24.3 +02.5	02
03	110	30.2 +02.5	111	29.4 +02.4	112	28.5 +02.5	113	27.7 +02.4	114	26.8 +02.5	03
04	125	32.7 +02.5	126	31.8 +02.5	127	31.0 +02.4	128	30.1 +02.5	129	29.3 +02.4	04
05	140	35.2 +02.4	141	34.3 +02.5	142	33.4 +02.5	143	32.6 +02.5	144	31.7 +02.5	05
06	155	37.6 +02.5	156	36.8 +02.4	157	35.9 +02.5	158	35.1 +02.4	159	34.2 +02.5	06
07	170	40.1 +02.5	171	39.2 +02.5	172	38.4 +02.4	173	37.5 +02.5	174	36.7 +02.4	07
08	185	42.6 +02.4	186	41.7 +02.5	187	40.8 +02.5	188	40.0 +02.4	189	39.1 +02.5	08
09	200	45.0 +02.5	201	44.2 +02.4	202	43.3 +02.5	203	42.4 +02.5	204	41.6 +02.4	09
10	215	47.5 +02.5	216	46.6 +02.5	217	45.8 +02.4	218	44.9 +02.5	219	44.0 +02.5	10
11	230	50.0 +02.4	231	49.1 +02.5	232	48.2 +02.5	233	47.4 +02.5	234	46.5 +02.5	11
12	245	52.4 +02.5	246	51.6 +02.4	247	50.7 +02.5	248	49.8 +02.5	249	49.0 +02.4	12
13	260	54.9 +02.4	261	54.0 +02.5	262	53.2 +02.4	263	52.3 +02.5	264	51.4 +02.5	13
14	275	57.3 +02.5	276	56.5 +02.4	277	55.6 +02.5	278	54.8 +02.4	279	53.9 +02.5	14
15	290	59.8 +02.5	291	58.9 +02.5	292	58.1 +02.5	293	57.2 +02.5	294	56.4 +02.4	15
16	306	02.3 +02.4	307	01.4 +02.5	308	00.6 +02.4	309	59.7 +02.5	310	58.8 +02.5	16
17	321	04.7 +02.5	322	03.9 +02.4	323	03.0 +02.5	324	02.2 +02.4	325	01.3 +02.5	17
18	336	07.2 +02.5	337	06.3 +02.5	338	05.5 +02.4	339	04.6 +02.5	340	03.8 +02.4	18
19	351	09.7 +02.4	352	08.8 +02.5	353	07.9 +02.5	354	07.1 +02.4	355	06.2 +02.5	19
20	6	12.1 +02.5	7	11.3 +02.4	8	10.4 +02.5	9	09.5 +02.5	10	08.7 +02.5	20
21	21	14.6 +02.5	22	13.7 +02.5	23	12.9 +02.4	24	12.0 +02.5	25	11.2 +02.4	21
22	36	17.1 +02.4	37	16.2 +02.5	38	15.3 +02.5	39	14.5 +02.4	40	13.6 +02.5	22
23	51	19.5 +02.5	52	18.7 +02.4	53	17.8 +02.5	54	16.9 +02.5	55	16.1 +02.4	23

UT	day 316 of 366		day 317 of 366		day 318 of 366		day 319 of 366		day 320 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	50	35.8 +02.4	51	34.9 +02.5	52	34.0 +02.5	53	33.2 +02.4	54	32.3 +02.5	00
01	65	38.2 +02.5	66	37.4 +02.4	67	36.5 +02.5	68	35.6 +02.5	69	34.8 +02.4	01
02	80	40.7 +02.5	81	39.8 +02.5	82	39.0 +02.4	83	38.1 +02.5	84	37.2 +02.5	02
03	95	43.2 +02.4	96	42.3 +02.5	97	41.4 +02.5	98	40.6 +02.4	99	39.7 +02.5	03
04	110	45.6 +02.5	111	44.8 +02.4	112	43.9 +02.5	113	43.0 +02.5	114	42.2 +02.4	04
05	125	48.1 +02.4	126	47.2 +02.5	127	46.4 +02.4	128	45.5 +02.5	129	44.6 +02.5	05
06	140	50.5 +02.5	141	49.7 +02.4	142	48.8 +02.5	143	48.0 +02.4	144	47.1 +02.5	06
07	155	53.0 +02.5	156	52.1 +02.5	157	51.3 +02.5	158	50.4 +02.5	159	49.6 +02.4	07
08	170	55.5 +02.4	171	54.6 +02.5	172	53.8 +02.4	173	52.9 +02.5	174	52.0 +02.5	08
09	185	57.9 +02.5	186	57.1 +02.4	187	56.2 +02.5	188	55.4 +02.4	189	54.5 +02.5	09
10	201	00.4 +02.5	201	59.5 +02.5	202	58.7 +02.4	203	57.8 +02.5	204	57.0 +02.4	10
11	216	02.9 +02.5	217	02.0 +02.5	218	01.1 +02.5	219	00.3 +02.5	220	59.4 +02.5	11
12	231	05.3 +02.5	232	04.5 +02.4	233	03.6 +02.5	234	02.7 +02.5	235	01.9 +02.4	12
13	246	07.8 +02.5	247	06.9 +02.5	248	06.1 +02.4	249	05.2 +02.5	250	04.3 +02.5	13
14	261	10.3 +02.5	262	09.4 +02.5	263	08.5 +02.5	264	07.7 +02.4	265	06.8 +02.5	14
15	276	12.7 +02.5	277	11.9 +02.4	278	11.0 +02.5	279	10.1 +02.5	280	09.3 +02.4	15
16	291	15.2 +02.5	292	14.3 +02.5	293	13.5 +02.4	294	12.6 +02.4	295	11.7 +02.5	16
17	306	17.7 +02.4	307	16.8 +02.5	308	15.9 +02.5	309	15.1 +02.5	310	14.2 +02.5	17
18	321	20.1 +02.5	322	19.3 +02.4	323	18.4 +02.5	324	17.5 +02.5	325	16.7 +02.4	18
19	336	22.6 +02.4	337	21.7 +02.5	338	20.9 +02.4	339	20.0 +02.5	340	19.1 +02.5	19
20	351	25.0 +02.5	352	24.2 +02.4	353	23.3 +02.5	354	22.5 +02.4	355	21.6 +02.5	20
21	6	27.5 +02.5	7	26.6 +02.5	8	25.8 +02.4	9	24.9 +02.5	10	24.1 +02.4	21
22	21	30.0 +02.4	22	29.1 +02.5	23	28.2 +02.5	24	27.4 +02.5	25	26.5 +02.5	22
23	36	32.4 +02.5	37	31.6 +02.4	38	30.7 +02.5	39	29.9 +02.4	40	29.0 +02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	38.1	N 29	12.5	
Ankaa	353	10.4	S 42	11.7	
Schedir	349	34.4	N 56	39.3	
Diphda	348	50.6	S 17	52.5	
Achernar	335	22.4	S 57	08.1	
Hamal	327	54.7	N 23	33.7	
Polaris	315	06.3	N 89	21.2	
Acamar	315	13.9	S 40	13.4	
Menkar	314	09.3	N 04	10.3	
Mirfak	308	32.5	N 49	56.1	
Aldebaran	290	43.1	N 16	33.1	
Capella	280	26.4	N 46	01.2	
Rigel	281	06.8	S 08	10.7	
Bellatrix	278	26.1	N 06	22.1	
Elnath	278	05.8	N 28	37.5	
Alnilam	275	40.8	S 01	11.3	
Betelgeuze	270	55.4	N 07	24.6	
Canopus	263	53.4	S 52	42.3	
Sirius	258	28.7	S 16	44.2	
Adhara	255	08.2	S 28	59.9	
Castor	246	01.0	N 31	50.5	
Procyon	244	53.9	N 05	10.6	
Pollux	243	20.9	N 27	58.5	
Avior	234	15.7	S 59	34.3	
Suhail	222	48.5	S 43	30.7	
Miaplacidus	221	38.3	S 69	47.8	
Alphard	217	51.0	S 08	44.8	
Regulus	207	37.9	N 11	52.0	
Dubhe	193	45.3	N 61	38.1	
Denebola	182	28.4	N 14	27.4	
Gienah	175	47.1	S 17	39.2	
Acrux	173	04.1	S 63	12.5	
Gacrux	171	55.6	S 57	13.3	
Alioth	166	16.5	N 55	50.7	
Spica	158	26.1	S 11	16.0	
Alkaid	152	55.1	N 49	12.5	
Hadar	148	41.2	S 60	28.1	
Menkent	148	01.6	S 36	27.8	
Arcturus	145	51.0	N 19	05.2	
Rigel Kentaurus	139	43.0	S 60	55.1	
Zubenelgenubi	137	00.0	S 16	07.4	
Kocab	137	21.1	N 74	04.2	
Alphecca	126	07.0	N 26	38.8	
Antares	112	20.4	S 26	28.5	
Atria	107	18.1	S 69	03.8	
Sabik	102	07.0	S 15	44.9	
Shaula	96	15.3	S 37	07.0	
Rasalhague	96	02.0	N 12	32.9	
Etamin	90	44.2	N 51	29.4	
Kaus Australis	83	37.3	S 34	22.4	
Vega	80	35.9	N 38	48.3	
Nunki	75	52.2	S 26	16.2	
Albireo	67	07.0	N 28	00.4	
Altair	62	03.6	N 08	55.4	
Peacock	53	11.4	S 56	40.2	
Deneb	49	28.2	N 45	21.5	
Enif	33	42.1	N 09	58.3	
Alnair	27	37.3	S 46	51.8	
Formalhaut	15	18.3	S 29	30.8	
Markab	13	33.2	N 15	19.1	

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357	38.0	N 29	12.5	
Ankaa	353	10.4	S 42	11.7	
Schedir	349	34.4	N 56	39.2	
Diphda	348	50.5	S 17	52.5	
Achernar	335	22.4	S 57	08.0	
Hamal	327	54.7	N 23	33.7	
Polaris	315	06.2	N 89	21.1	
Acamar	315	13.9	S 40	13.4	
Menkar	314	09.4	N 04	10.3	
Mirfak	308	32.5	N 49	56.0	
Aldebaran	290	43.2	N 16	33.1	
Capella	280	26.5	N 46	01.1	
Rigel	281	06.8	S 08	10.6	
Bellatrix	278	26.2	N 06	22.1	
Elnath	278</				

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 321 of 366		day 322 of 366		day 323 of 366		day 324 of 366		day 325 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	55 31.5	+02.4	56 30.6	+02.5	57 29.7	+02.5	58 28.9	+02.4	59 28.0	+02.5	00
01	70 33.9	+02.5	71 33.1	+02.4	72 32.2	+02.5	73 31.3	+02.5	74 30.5	+02.4	01
02	85 36.4	+02.4	86 35.5	+02.5	87 34.7	+02.4	88 33.8	+02.5	89 32.9	+02.5	02
03	100 38.8	+02.5	101 38.0	+02.5	102 37.1	+02.5	103 36.3	+02.4	104 35.4	+02.5	03
04	115 41.3	+02.5	116 40.5	+02.4	117 39.6	+02.5	118 38.7	+02.5	119 37.9	+02.4	04
05	130 43.8	+02.4	131 42.9	+02.5	132 42.1	+02.4	133 41.2	+02.5	134 40.3	+02.5	05
06	145 46.2	+02.5	146 45.4	+02.4	147 44.5	+02.5	148 43.7	+02.4	149 42.8	+02.5	06
07	160 48.7	+02.5	161 47.8	+02.5	162 47.0	+02.5	163 46.1	+02.5	164 45.3	+02.4	07
08	175 51.2	+02.4	176 50.3	+02.5	177 49.5	+02.4	178 48.6	+02.5	179 47.7	+02.5	08
09	190 53.6	+02.5	191 52.8	+02.4	192 51.9	+02.5	193 51.1	+02.4	194 50.2	+02.5	09
10	205 56.1	+02.5	206 55.2	+02.5	207 54.4	+02.4	208 53.5	+02.5	209 52.7	+02.4	10
11	220 58.6	+02.4	221 57.7	+02.5	222 56.8	+02.5	223 56.0	+02.5	224 55.1	+02.5	11
12	236 01.0	+02.5	237 00.2	+02.4	237 59.3	+02.5	238 58.4	+02.5	239 57.6	+02.5	12
13	251 03.5	+02.5	252 02.6	+02.5	253 01.8	+02.4	254 00.9	+02.5	255 00.1	+02.4	13
14	266 06.0	+02.4	267 05.1	+02.5	268 04.2	+02.5	269 03.4	+02.4	270 02.5	+02.5	14
15	281 08.4	+02.5	282 07.6	+02.4	283 06.7	+02.5	284 05.8	+02.5	285 05.0	+02.4	15
16	296 10.9	+02.4	297 10.0	+02.5	298 09.2	+02.4	299 08.3	+02.5	300 07.4	+02.5	16
17	311 13.3	+02.5	312 12.5	+02.5	313 11.6	+02.5	314 10.8	+02.4	315 09.9	+02.5	17
18	326 15.8	+02.5	327 15.0	+02.4	328 14.1	+02.5	329 13.2	+02.5	330 12.4	+02.4	18
19	341 18.3	+02.4	342 17.4	+02.5	343 16.6	+02.4	344 15.7	+02.5	345 14.8	+02.5	19
20	356 20.7	+02.5	357 19.9	+02.4	358 19.0	+02.5	359 18.2	+02.4	0 17.3	+02.5	20
21	11 23.2	+02.5	12 22.3	+02.5	13 21.5	+02.5	14 20.6	+02.5	15 19.8	+02.4	21
22	26 25.7	+02.4	27 24.8	+02.5	28 24.0	+02.4	29 23.1	+02.5	30 22.2	+02.5	22
23	41 28.1	+02.5	42 27.3	+02.4	43 26.4	+02.5	44 25.6	+02.4	45 24.7	+02.5	23

UT	day 326 of 366		day 327 of 366		day 328 of 366		day 329 of 366		day 330 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	60 27.2	+02.4	61 26.3	+02.5	62 25.4	+02.5	63 24.6	+02.4	64 23.7	+02.5	00
01	75 29.6	+02.5	76 28.8	+02.4	77 27.9	+02.5	78 27.0	+02.5	79 26.2	+02.4	01
02	90 32.1	+02.5	91 31.2	+02.5	92 30.4	+02.4	93 29.5	+02.5	94 28.6	+02.5	02
03	105 34.6	+02.4	106 33.7	+02.5	107 32.8	+02.5	108 32.0	+02.4	109 31.1	+02.5	03
04	120 37.0	+02.5	121 36.2	+02.4	122 35.3	+02.5	123 34.4	+02.5	124 33.6	+02.4	04
05	135 39.5	+02.4	136 38.6	+02.5	137 37.8	+02.4	138 36.9	+02.5	139 36.0	+02.5	05
06	150 41.9	+02.5	151 41.1	+02.4	152 40.2	+02.5	153 39.4	+02.4	154 38.5	+02.5	06
07	165 44.4	+02.5	166 43.5	+02.5	167 42.7	+02.4	168 41.8	+02.5	169 41.0	+02.4	07
08	180 46.9	+02.4	181 46.0	+02.5	182 45.1	+02.5	183 44.3	+02.5	184 43.4	+02.5	08
09	195 49.3	+02.5	196 48.5	+02.4	197 47.6	+02.5	198 46.8	+02.4	199 45.9	+02.5	09
10	210 51.8	+02.5	211 50.9	+02.5	212 50.1	+02.4	213 49.2	+02.5	214 48.4	+02.4	10
11	225 54.3	+02.4	226 53.4	+02.5	227 52.5	+02.5	228 51.7	+02.4	229 50.8	+02.5	11
12	240 56.7	+02.5	241 55.9	+02.4	242 55.0	+02.5	243 54.1	+02.5	244 53.3	+02.4	12
13	255 59.2	+02.5	256 58.3	+02.5	257 57.5	+02.4	258 56.6	+02.5	259 55.7	+02.5	13
14	271 01.7	+02.4	272 00.8	+02.5	273 00.0	+02.5	274 59.1	+02.4	275 58.2	+02.5	14
15	286 04.1	+02.5	287 03.3	+02.4	288 02.4	+02.5	289 01.5	+02.5	290 00.7	+02.4	15
16	301 06.6	+02.4	302 05.7	+02.5	303 04.9	+02.4	304 04.0	+02.5	305 03.1	+02.5	16
17	316 09.0	+02.5	317 08.2	+02.5	318 07.3	+02.5	319 06.5	+02.4	320 05.6	+02.5	17
18	331 11.5	+02.5	332 10.7	+02.4	333 09.8	+02.5	334 08.9	+02.5	335 08.1	+02.4	18
19	346 14.0	+02.4	347 13.1	+02.5	348 12.3	+02.4	349 11.4	+02.5	350 10.5	+02.5	19
20	1 16.4	+02.5	2 15.6	+02.4	3 14.7	+02.5	4 13.9	+02.4	5 13.0	+02.5	20
21	16 18.9	+02.5	17 18.0	+02.5	18 17.2	+02.4	19 16.3	+02.5	20 15.5	+02.4	21
22	31 21.4	+02.4	32 20.5	+02.5	33 19.6	+02.5	34 18.8	+02.4	35 17.9	+02.5	22
23	46 23.8	+02.5	47 23.0	+02.4	48 22.1	+02.5	49 21.2	+02.5	50 20.4	+02.5	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 38.1	N 29 12.5	Gienah	175 47.2	S 17 39.2
Ankaa	353 10.4	S 42 11.7	Acruz	173 04.2	S 63 12.5
Schedir	349 34.4	N 56 39.2	Gacrux	171 55.7	S 57 13.3
Diphda	348 50.6	S 17 52.5	Alioth	166 16.6	N 55 50.8
Achernar	335 22.4	S 57 08.1	Spica	158 26.1	S 11 15.9
Hamal	327 54.7	N 23 33.7	Alkaid	152 55.2	N 49 12.6
Polaris	315 06.0	N 89 21.1	Hadar	148 41.3	S 60 28.1
Acamar	315 13.9	S 40 13.4	Menkent	148 01.7	S 36 27.8
Menkar	314 09.4	N 04 10.3	Arcturus	145 51.0	N 19 05.3
Mirfak	308 32.5	N 49 56.0	Rigel Kentaurus	139 43.1	S 60 55.2
Aldebaran	290 43.2	N 16 33.1	Zubenelgenubi	137 00.0	S 16 07.4
Capella	280 26.5	N 46 01.1	Kocab	137 21.1	N 74 04.2
Rigel	281 06.8	S 08 10.6	Alphecca	126 07.1	N 26 38.9
Bellatrix	278 26.2	N 06 22.1	Antares	112 20.5	S 26 28.5
Elnath	278 05.8	N 28 37.5	Atria	107 18.1	S 69 03.8
Alnilam	275 40.9	S 01 11.3	Sabik	102 07.0	S 15 44.9
Betelgeuze	270 55.5	N 07 24.6	Shaula	96 15.3	S 37 07.0
Canopus	263 53.5	S 52 42.2	Rasalhague	96 02.0	N 12 33.0
Sirius	258 28.8	S 16 44.2	Etamin	90 44.2	N 51 29.4
Adhara	255 08.2	S 28 59.9	Kaus Australis	83 37.3	S 34 22.4
Castor	246 01.1	N 31 50.5	Vega	80 35.9	N 38 48.3
Procyon	244 54.0	N 05 10.7	Nunki	75 52.2	S 26 16.2
Pollux	243 21.0	N 27 58.5	Albireo	67 07.0	N 28 00.4
Avior	234 15.8	S 59 34.3	Altair	62 03.6	N 08 55.4
Suhail	222 48.6	S 43 30.7	Peacock	53 11.3	S 56 40.3
Miaplacidus	221 38.5	S 69 47.8	Deneb	49 28.2	N 45 21.5
Alphard	217 51.0	S 08 44.8	Enif	33 42.1	N 09 58.3
Regulus	207 38.0	N 11 52.0	Alnair	27 37.3	S 46 51.8
Dubhe	193 45.5	N 61 38.2	Formalhaut	15 18.3	S 29 30.8
Denebola	182 28.5	N 14 27.5	Markab	13 33.2	N 15 19.1

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 38.1	N 29 12.5	Gienah	175 47.2	S 17 39.2
Ankaa	353 10.4	S 42 11.7	Acruz	173 04.1	S 63 12.5
Schedir	349 34.4	N 56 39.3	Gacrux	171 55.7	S 57 13.3
Diphda	348 50.6	S 17 52.5	Alioth	166 16.6	N 55 50.7
Achernar	335 22.4	S 57 08.1	Spica	158 26.1	S 11 16.0
Hamal	327 54.7	N 23 33.7	Alkaid	152 55.1	N 49 12.6
Polaris	315 05.8	N 89 21.1	Hadar	148 41.2	S 60 28.1
Acamar	315 13.9	S 40 13.4	Menkent	148 01.6	S 36 27.8
Menkar	314 09.3	N 04 10.3	Arcturus	145 51.0	N 19 05.2
Mirfak	308 32.5	N 49 56.1	Rigel Kentaurus	139 43.0	S 60 55.1
Aldebaran	290 43.2	N 16 33.1	Zubenelgenubi	137 00.0	S 16 07.4
Capella	280 26.4	N 46 01.1	Kocab	137 21.1	N 74 04.2
Rigel	281 06.8	S 08 10.7	Alphecca	126 07.0	N 26 38.9
Bellatrix	278 26.2	N 06 22.1	Antares	112 20.4	S 26 28.5
Elnath	278 05.8	N 28 37.5	Atria	107 18.1	S 69 03.8
Alnilam	275 40.8	S 01 11.3	Sabik	102 07.0	S 15 44.9
Betelgeuze	270 55.4	N 07 24.6	Shaula	96 15.3	S 37 07.0
Canopus	263 53.4	S 52 42.2	Rasalhague	96 02.0	N 12 32.9
Sirius	258 28.8	S 16 44.2	Etamin	90 44.2	N 51 29.4
Adhara	255 08.2	S 28 59.9	Kaus Australis	83 37.3	S 34 22.4
Castor	246 01.1	N 31 50.5	Vega	80 35.9	N 38 48.3
Procyon	244 54.0	N 05 10.6	Nunki	75 52.2	S 26 16.2
Pollux	243 20.9	N 27 58.5	Albireo	67 07.0	N 28 00.4
Avior	234 15.7	S 59 34.3	Altair	62 03.6	N 08 55.4
Suhail	222 48.6	S 43 30			

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 351 of 366		day 352 of 366		day 353 of 366		day 354 of 366		day 355 of 366		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	85	05.6	+02.5	86	04.8	+02.4	87	03.9	+02.5	88	03.1	+02.4	00
01	100	08.1	+02.5	101	07.2	+02.5	102	06.4	+02.5	103	05.5	+02.5	01
02	115	10.6	+02.4	116	09.7	+02.5	117	08.9	+02.4	118	08.0	+02.5	02
03	130	13.0	+02.5	131	12.2	+02.4	132	11.3	+02.5	133	10.5	+02.4	03
04	145	15.5	+02.5	146	14.6	+02.5	147	13.8	+02.4	148	12.9	+02.5	04
05	160	18.0	+02.4	161	17.1	+02.5	162	16.2	+02.5	163	15.4	+02.5	05
06	175	20.4	+02.5	176	19.6	+02.4	177	18.7	+02.5	178	17.9	+02.4	06
07	190	22.9	+02.5	191	22.0	+02.5	192	21.2	+02.4	193	20.3	+02.5	07
08	205	25.4	+02.4	206	24.5	+02.5	207	23.6	+02.5	208	22.8	+02.4	08
09	220	27.8	+02.5	221	27.0	+02.4	222	26.1	+02.5	223	25.2	+02.5	09
10	235	30.3	+02.5	236	29.4	+02.5	237	28.6	+02.4	238	27.7	+02.5	10
11	250	32.8	+02.4	251	31.9	+02.5	252	31.0	+02.5	253	30.2	+02.5	11
12	265	35.2	+02.5	266	34.4	+02.4	267	33.5	+02.5	268	32.6	+02.5	12
13	280	37.7	+02.4	281	36.8	+02.5	282	36.0	+02.4	283	35.1	+02.5	13
14	295	40.1	+02.5	296	39.3	+02.4	297	38.4	+02.5	298	37.6	+02.4	14
15	310	42.6	+02.5	311	41.7	+02.5	312	40.9	+02.5	313	40.0	+02.5	15
16	325	45.1	+02.4	326	44.2	+02.5	327	43.4	+02.4	328	42.5	+02.5	16
17	340	47.5	+02.5	341	46.7	+02.4	342	45.8	+02.5	343	45.0	+02.4	17
18	355	50.0	+02.5	356	49.1	+02.5	357	48.3	+02.4	358	47.4	+02.5	18
19	10	52.5	+02.4	11	51.6	+02.5	12	50.7	+02.5	13	49.9	+02.4	19
20	25	54.9	+02.5	26	54.1	+02.4	27	53.2	+02.5	28	52.3	+02.5	20
21	40	57.4	+02.5	41	56.5	+02.5	42	55.7	+02.4	43	54.8	+02.5	21
22	55	59.9	+02.4	56	59.0	+02.5	57	58.1	+02.5	58	57.3	+02.4	22
23	71	02.3	+02.5	72	01.5	+02.4	73	00.6	+02.5	74	58.9	+02.4	23

	SHA	Dec		SHA	Dec
Alpheratz	357 38.1	N 29 12.5	Gienah	175 47.0	S 17 39.3
Ankaa	353 10.5	S 42 11.7	AcruX	173 03.8	S 63 12.5
Schedir	349 34.5	N 56 39.3	Gacrux	171 55.4	S 57 13.3
Diphda	348 50.6	S 17 52.5	Alioth	166 16.3	N 55 50.6
Achernar	335 22.5	S 57 08.2	Spica	158 25.9	S 11 16.0
Hamal	327 54.7	N 23 33.7	Alkaid	152 54.9	N 49 12.4
Polaris	315 09.1	N 89 21.3	Hadar	148 41.0	S 60 28.0
Acamar	315 14.0	S 40 13.5	Menkent	148 01.4	S 36 27.8
Menkar	314 09.3	N 04 10.2	Arcturus	145 50.8	N 19 05.1
Mirfak	308 32.5	N 49 56.1	Rigel Kentaurus	139 42.8	S 60 55.1
Aldebaran	290 43.1	N 16 33.1	Zubenelgenubi	136 59.9	S 16 07.5
Capella	280 26.3	N 46 01.2	Kocab	137 20.9	N 74 04.0
Rigel	281 06.7	S 08 10.7	Alphecca	126 06.9	N 26 38.7
Bellatrix	278 26.1	N 06 22.0	Antares	112 20.4	S 26 28.5
Elnath	278 05.7	N 28 37.5	Atria	107 18.0	S 69 03.7
Alnilam	275 40.7	S 01 11.4	Sabik	102 06.9	S 15 44.9
Betelgeuze	270 55.3	N 07 24.6	Shaula	96 15.3	S 37 07.0
Canopus	263 53.3	S 52 42.4	Rasalhague	96 02.0	N 12 32.9
Sirius	258 28.6	S 16 44.3	Etamin	90 44.3	N 51 29.2
Adhara	255 08.1	S 28 60.0	Kaus Australis	83 37.3	S 34 22.4
Castor	246 00.9	N 31 50.5	Vega	80 36.0	N 38 48.2
Procyon	244 53.8	N 05 10.6	Nunki	75 52.2	S 26 16.2
Pollux	243 20.7	N 27 58.5	Albireo	67 07.0	N 28 00.3
Avior	234 15.5	S 59 34.4	Altair	62 03.6	N 08 55.3
Suhail	222 48.4	S 43 30.8	Peacock	53 11.5	S 56 40.2
Miaplacidus	221 38.0	S 69 47.9	Deneb	49 28.3	N 45 21.5
Alphard	217 50.8	S 08 44.9	Enif	33 42.2	N 09 58.3
Regulus	207 37.7	N 11 51.9	Alnair	27 37.4	S 46 51.8
Dubhe	193 45.0	N 61 38.1	Formalhaut	15 18.4	S 29 30.9
Denebola	182 28.2	N 14 27.4	Markab	13 33.2	N 15 19.1

UT	day 336 of 366		day 337 of 366		day 338 of 366		day 339 of 366		day 340 of 366		UT		
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA			
00	70	18.5	+02.5	71	17.7	+02.5	72	16.8	+02.5	73	16.0	+02.4	00
01	85	21.0	+02.5	86	20.2	+02.4	87	19.3	+02.5	88	18.4	+02.5	01
02	100	23.5	+02.4	101	22.6	+02.5	102	21.8	+02.4	103	20.9	+02.5	02
03	115	25.9	+02.5	116	25.1	+02.4	117	24.2	+02.5	118	23.4	+02.4	03
04	130	28.4	+02.5	131	27.5	+02.5	132	26.7	+02.4	133	25.8	+02.5	04
05	145	30.9	+02.5	146	30.0	+02.5	147	29.1	+02.5	148	28.3	+02.5	05
06	160	33.3	+02.5	161	32.5	+02.4	162	31.6	+02.5	163	30.8	+02.4	06
07	175	35.8	+02.5	176	34.9	+02.5	177	34.1	+02.4	178	33.2	+02.5	07
08	191	37.4	+02.4	191	37.4	+02.5	192	36.5	+02.5	193	35.7	+02.4	08
09	205	40.7	+02.5	206	39.9	+02.4	207	39.0	+02.5	208	38.1	+02.5	09
10	220	43.2	+02.5	221	42.3	+02.5	222	41.5	+02.4	223	40.6	+02.5	10
11	235	45.7	+02.5	236	44.8	+02.5	237	43.9	+02.5	238	43.1	+02.4	11
12	250	48.1	+02.5	251	47.3	+02.4	252	46.4	+02.5	253	45.5	+02.5	12
13	265	50.6	+02.4	266	49.7	+02.5	267	48.9	+02.4	268	48.0	+02.5	13
14	280	53.0	+02.5	281	52.2	+02.4	282	51.3	+02.5	283	50.5	+02.4	14
15	295	55.5	+02.5	296	54.6	+02.5	297	53.8	+02.5	298	52.9	+02.5	15
16	310	58.0	+02.4	311	57.1	+02.5	312	56.3	+02.4	313	55.4	+02.5	16
17	326	00.4	+02.5	326	59.6	+02.4	327	58.7	+02.5	328	57.9	+02.4	17
18	341	02.9	+02.5	342	02.0	+02.5	343	01.2	+02.4	344	00.3	+02.5	18
19	356	05.4	+02.4	357	04.5	+02.5	358	03.6	+02.5	359	02.8	+02.5	19
20	11	07.8	+02.5	12	07.0	+02.4	13	06.1	+02.5	14	05.3	+02.4	20
21	26	10.3	+02.5	27	09.4	+02.5	28	08.6	+02.4	29	07.7	+02.4	21
22	41	12.8	+02.4	42	11.9	+02.5	43	11.0	+02.5	44	10.2	+02.4	22
23	56	15.2	+02.5	57	14.4	+02.4	58	13.5	+02.5	59	12.6	+02.5	23

	SHA	Dec		SHA	Dec
Alpheratz	357 38.1	N 29 12.5	Gienah	175 47.1	S 17 39.2
Ankaa	353 10.4	S 42 11.7	AcruX	173 04.0	S 63 12.5
Schedir	349 34.5	N 56 39.3	Gacrux	171 55.6	S 57 13.3
Diphda	348 50.6	S 17 52.5	Alioth	166 16.5	N 55 50.7
Achernar	335 22.4	S 57 08.1	Spica	158 26.0	S 11 16.0
Hamal	327 54.7	N 23 33.7	Alkaid	152 55.1	N 49 12.5
Polaris	315 06.7	N 89 21.2	Hadar	148 41.2	S 60 28.1
Acamar	315 14.0	S 40 13.4	Menkent	148 01.6	S 36 27.8
Menkar	314 09.3	N 04 10.3	Arcturus	145 50.9	N 19 05.2
Mirfak	308 32.5	N 49 56.1	Rigel Kentaurus	139 42.9	S 60 55.1
Aldebaran	290 43.1	N 16 33.1	Zubenelgenubi	136 60.0	S 16 07.5
Capella	280 26.4	N 46 01.2	Kocab	137 21.0	N 74 04.1
Rigel	281 06.8	S 08 10.7	Alphecca	126 07.0	N 26 38.8
Bellatrix	278 26.1	N 06 22.1	Antares	112 20.4	S 26 28.5
Elnath	278 05.7	N 28 37.5	Atria	107 18.1	S 69 03.7
Alnilam	275 40.8	S 01 11.4	Sabik	102 07.0	S 15 44.9
Betelgeuze	270 55.4	N 07 24.6	Shaula	96 15.3	S 37 07.0
Canopus	263 53.4	S 52 42.3	Rasalhague	96 02.0	N 12 32.9
Sirius	258 28.7	S 16 44.2	Etamin	90 44.3	N 51 29.3
Adhara	255 08.2	S 28 59.9	Kaus Australis	83 37.3	S 34 22.4
Castor	246 01.0	N 31 50.5	Vega	80 35.9	N 38 48.3
Procyon	244 53.9	N 05 10.6	Nunki	75 52.2	S 26 16.2
Pollux	243 20.8	N 27 58.5	Albireo	67 07.0	N 28 00.4
Avior	234 15.6	S 59 34.3	Altair	62 03.6	N 08 55.4
Suhail	222 48.5	S 43 30.7	Peacock	53 11.4	S 56 40.2
Miaplacidus	221 38.2	S 69 47.8	Deneb	49 28.3	N 45 21.5
Alphard	217 50.9	S 08 44.8	Enif	33 42.2	N 09 58.3
Regulus	207 37.9	N 11 51.9	Alnair		

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UT	day 341 of 366 <i>December 6</i>		day 342 of 366 <i>December 7</i>		day 343 of 366 <i>December 8</i>		day 344 of 366 <i>December 9</i>		day 345 of 366 <i>December 10</i>		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	75 14.2	+02.5	76 13.4	+02.5	77 12.5	+02.5	78 11.7	+02.4	79 10.8	+02.5	00
01	90 16.7	+02.5	91 15.9	+02.4	92 15.0	+02.5	93 14.1	+02.5	94 13.3	+02.4	01
02	105 19.2	+02.4	106 18.3	+02.5	107 17.5	+02.4	108 16.6	+02.5	109 15.7	+02.5	02
03	120 21.6	+02.5	121 20.8	+02.4	122 19.9	+02.5	123 19.1	+02.4	124 18.2	+02.5	03
04	135 24.1	+02.5	136 23.2	+02.5	137 22.4	+02.4	138 21.5	+02.5	139 20.7	+02.4	04
05	150 26.6	+02.4	151 25.7	+02.5	152 24.8	+02.5	153 24.0	+02.4	154 23.1	+02.5	05
06	165 29.0	+02.5	166 28.2	+02.4	167 27.3	+02.5	168 26.4	+02.5	169 25.6	+02.5	06
07	180 31.5	+02.5	181 30.6	+02.5	182 29.8	+02.4	183 28.9	+02.5	184 28.1	+02.4	07
08	195 34.0	+02.4	196 33.1	+02.5	197 32.2	+02.5	198 31.4	+02.4	199 30.5	+02.5	08
09	210 36.4	+02.5	211 35.6	+02.4	212 34.7	+02.5	213 33.8	+02.5	214 33.0	+02.4	09
10	225 38.9	+02.5	226 38.0	+02.5	227 37.2	+02.4	228 36.3	+02.5	229 35.4	+02.5	10
11	240 41.4	+02.4	241 40.5	+02.5	242 39.6	+02.5	243 38.8	+02.5	244 37.9	+02.5	11
12	255 43.8	+02.5	256 43.0	+02.4	257 42.1	+02.5	258 41.2	+02.5	259 40.4	+02.4	12
13	270 46.3	+02.4	271 45.4	+02.5	272 44.6	+02.4	273 43.7	+02.5	274 42.8	+02.5	13
14	285 48.7	+02.5	286 47.9	+02.4	287 47.0	+02.5	288 46.2	+02.4	289 45.3	+02.5	14
15	300 51.2	+02.5	301 50.3	+02.5	302 49.5	+02.5	303 48.6	+02.5	304 47.8	+02.4	15
16	315 53.7	+02.4	316 52.8	+02.5	317 52.0	+02.4	318 51.1	+02.5	319 50.2	+02.5	16
17	330 56.1	+02.5	331 55.3	+02.4	332 54.4	+02.5	333 53.6	+02.4	334 52.7	+02.5	17
18	345 58.6	+02.5	346 57.7	+02.5	347 56.9	+02.4	348 56.0	+02.5	349 55.2	+02.4	18
19	1 01.1	+02.4	2 00.2	+02.5	2 59.3	+02.5	3 58.5	+02.4	4 57.6	+02.5	19
20	16 03.5	+02.5	17 02.7	+02.4	18 01.8	+02.5	19 00.9	+02.5	20 00.1	+02.4	20
21	31 06.0	+02.5	32 05.1	+02.5	33 04.3	+02.4	34 03.4	+02.4	35 02.5	+02.5	21
22	46 08.5	+02.4	47 07.6	+02.5	48 06.7	+02.5	49 05.9	+02.4	50 05.0	+02.5	22
23	61 10.9	+02.5	62 10.1	+02.4	63 09.2	+02.5	64 08.3	+02.5	65 07.5	+02.4	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 38.1	N 29 12.5	Gienah	175 47.1	S 17 39.2
Ankaa	353 10.4	S 42 11.7	Acruz	173 03.9	S 63 12.5
Schedir	349 34.5	N 56 39.3	Gacrux	171 55.5	S 57 13.3
Diphda	348 50.6	S 17 52.5	Alioth	166 16.4	N 55 50.7
Achernar	335 22.5	S 57 08.1	Spica	158 26.0	S 11 16.0
Hamal	327 54.7	N 23 33.7	Alkaid	152 55.0	N 49 12.5
Polaris	315 07.2	N 89 21.2	Hadar	148 41.1	S 60 28.0
Acamar	315 14.0	S 40 13.5	Menkent	148 01.5	S 36 27.8
Menkar	314 09.3	N 04 10.2	Arcturus	145 50.9	N 19 05.2
Mirfak	308 32.5	N 49 56.1	Rigel Kentaurus	139 42.9	S 60 55.1
Aldebaran	290 43.1	N 16 33.1	Zubenelgenubi	136 59.9	S 16 07.5
Capella	280 26.3	N 46 01.2	Kocab	137 21.0	N 74 04.1
Rigel	281 06.7	S 08 10.7	Alphecca	126 07.0	N 26 38.8
Bellatrix	278 26.1	N 06 22.1	Antares	112 20.4	S 26 28.5
Elnath	278 05.7	N 28 37.5	Atria	107 18.1	S 69 03.7
Alnilam	275 40.8	S 01 11.4	Sabik	102 07.0	S 15 44.9
Betelgeuze	270 55.4	N 07 24.6	Shaula	96 15.3	S 37 07.0
Canopus	263 53.3	S 52 42.3	Rasalhague	96 02.0	N 12 32.9
Sirius	258 28.7	S 16 44.2	Etamin	90 44.3	N 51 29.3
Adhara	255 08.1	S 28 59.9	Kaus Australis	83 37.3	S 34 22.4
Castor	246 01.0	N 31 50.5	Vega	80 35.9	N 38 48.2
Procyon	244 53.8	N 05 10.6	Nunki	75 52.2	S 26 16.2
Pollux	243 20.8	N 27 58.5	Albireo	67 07.0	N 28 00.4
Avior	234 15.6	S 59 34.3	Altair	62 03.6	N 08 55.4
Suhail	222 48.4	S 43 30.7	Peacock	53 11.4	S 56 40.2
Miaplacidus	221 38.2	S 69 47.9	Deneb	49 28.3	N 45 21.5
Alphard	217 50.9	S 08 44.8	Enif	33 42.2	N 09 58.3
Regulus	207 37.8	N 11 51.9	Alnair	27 37.3	S 46 51.8
Dubhe	193 45.2	N 61 38.1	Formalhaut	15 18.4	S 29 30.9
Denebola	182 28.3	N 14 27.4	Markab	13 33.2	N 15 19.1

UT	day 346 of 366 <i>December 11</i>		day 347 of 366 <i>December 12</i>		day 348 of 366 <i>December 13</i>		day 349 of 366 <i>December 14</i>		day 350 of 366 <i>December 15</i>		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
00	80 09.9	+02.5	81 09.1	+02.4	82 08.2	+02.5	83 07.4	+02.4	84 06.5	+02.5	00
01	95 12.4	+02.5	96 11.5	+02.5	97 10.7	+02.4	98 09.8	+02.5	99 09.0	+02.4	01
02	110 14.9	+02.4	111 14.0	+02.5	112 13.1	+02.5	113 12.3	+02.5	114 11.4	+02.5	02
03	125 17.3	+02.5	126 16.5	+02.4	127 15.6	+02.5	128 14.8	+02.4	129 13.9	+02.5	03
04	140 19.8	+02.5	141 18.9	+02.5	142 18.1	+02.4	143 17.2	+02.5	144 16.4	+02.4	04
05	155 22.3	+02.4	156 21.4	+02.5	157 20.5	+02.5	158 19.7	+02.4	159 18.8	+02.5	05
06	170 24.7	+02.5	171 23.9	+02.4	172 23.0	+02.5	173 22.1	+02.5	174 21.3	+02.5	06
07	185 27.2	+02.5	186 26.3	+02.5	187 25.5	+02.4	188 24.6	+02.5	189 23.8	+02.4	07
08	200 29.7	+02.4	201 28.8	+02.5	202 27.9	+02.5	203 27.1	+02.4	204 26.2	+02.5	08
09	215 32.1	+02.5	216 31.3	+02.4	217 30.4	+02.5	218 29.5	+02.5	219 28.7	+02.4	09
10	230 34.6	+02.4	231 33.7	+02.5	232 32.9	+02.4	233 32.0	+02.5	234 31.1	+02.5	10
11	245 37.0	+02.5	246 36.2	+02.4	247 35.3	+02.5	248 34.5	+02.5	249 33.6	+02.5	11
12	260 39.5	+02.5	261 38.6	+02.5	262 37.8	+02.5	263 36.9	+02.5	264 36.1	+02.4	12
13	275 42.0	+02.4	276 41.1	+02.5	277 40.3	+02.4	278 39.4	+02.5	279 38.5	+02.5	13
14	290 44.4	+02.5	291 43.6	+02.4	292 42.7	+02.5	293 41.9	+02.4	294 41.0	+02.5	14
15	305 46.9	+02.5	306 46.0	+02.5	307 45.2	+02.4	308 44.3	+02.5	309 43.5	+02.4	15
16	320 49.4	+02.4	321 48.5	+02.5	322 47.6	+02.5	323 46.8	+02.5	324 45.9	+02.5	16
17	335 51.8	+02.5	336 51.0	+02.4	337 50.1	+02.5	338 49.3	+02.4	339 48.4	+02.5	17
18	350 54.3	+02.5	351 53.4	+02.5	352 52.6	+02.4	353 51.7	+02.5	354 50.9	+02.4	18
19	5 56.8	+02.4	6 55.9	+02.5	7 55.0	+02.5	8 54.2	+02.4	9 53.3	+02.5	19
20	20 59.2	+02.5	21 58.4	+02.4	22 57.5	+02.5	23 56.6	+02.5	24 55.8	+02.5	20
21	36 01.7	+02.5	37 00.8	+02.5	37 60.0	+02.4	38 59.1	+02.4	39 58.3	+02.4	21
22	51 04.2	+02.4	52 03.3	+02.5	53 02.4	+02.5	54 01.6	+02.4	55 00.7	+02.5	22
23	66 06.6	+02.5	67 05.8	+02.4	68 04.9	+02.5	69 04.0	+02.5	70 03.2	+02.4	23

	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 38.1	N 29 12.5	Gienah	175 47.0	S 17 39.3
Ankaa	353 10.5	S 42 11.7	Acruz	173 03.8	S 63 12.5
Schedir	349 34.5	N 56 39.3	Gacrux	171 55.4	S 57 13.3
Diphda	348 50.6	S 17 52.5	Alioth	166 16.4	N 55 50.6
Achernar	335 22.5	S 57 08.2	Spica	158 26.0	S 11 16.0
Hamal	327 54.7	N 23 33.7	Alkaid	152 55.0	N 49 12.5
Polaris	315 08.3	N 89 21.2	Hadar	148 41.0	S 60 28.0
Acamar	315 14.0	S 40 13.5	Menkent	148 01.5	S 36 27.8
Menkar	314 09.3	N 04 10.2	Arcturus	145 50.9	N 19 05.2
Mirfak	308 32.5	N 49 56.1	Rigel Kentaurus	139 42.8	S 60 55.1
Aldebaran	290 43.1	N 16 33.1	Zubenelgenubi	136 59.9	S 16 07.5
Capella	280 26.3	N 46 01.2	Kocab	137 20.9	N 74 04.1
Rigel	281 06.7	S 08 10.7	Alphecca	126 07.0	N 26 38.8
Bellatrix	278 26.1	N 06 22.1	Antares	112 20.4	S 26 28.5
Elnath	278 05.7	N 28 37.5	Atria	107 18.0	S 69 03.7
Alnilam	275 40.8	S 01 11.4	Sabik	102 07.0	S 15 44.9
Betelgeuze	270 55.4	N 07 24.6	Shaula	96 15.3	S 37 07.0
Canopus	263 53.3	S 52 42.4	Rasalhague	96 02.0	N 12 32.9
Sirius	258 28.7	S 16 44.3	Etamin	90 44.3	N 51 29.3
Adhara	255 08.1	S 28 60.0	Kaus Australis	83 37.3	S 34 22.4
Castor	246 00.9	N 31 50.5	Vega	80 36.0	N 38 48.2
Procyon	244 53.8	N 05 10.6	Nunki	75 52.2	S 26 16.2
Pollux	243 20.8	N 27 58.5	Albireo	67 07.0	N 28 00.3
Avior	234 15.5	S 59 34.4	Altair	62 03.6	N 08 55.3
Suhail	222 48.4	S 43 30.8	Peacock	53 11.5	S 56 40.2
Miaplacidus	221 38.1	S 69 47.9	Deneb	49 28.3	N 45 21.5
Alphard	217 50.8	S 08 44.9	Enif	33 42.2	N 09 58.3
Regulus	207 37.8	N 11 51.9	Alnair	27 37.4	S 46 51.8
Dubhe	193 45.1	N 61 38.1	Formalhaut	15 18.4	S 29 30.9
Denebola	182 28.3	N 14 27.4	Markab	13 33.2	N 15 19.1

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2020 - First Point of Aries / Selected Stars

	day 356 of 366 December 21		day 357 of 366 December 22		day 358 of 366 December 23		day 359 of 366 December 24		day 360 of 366 December 25		
UT	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	UT
00	90 01.3	+02.5	91 00.5	+02.4	91 59.6	+02.5	92 58.8	+02.4	93 57.9	+02.5	00
01	105 03.8	+02.5	106 02.9	+02.5	107 02.1	+02.4	108 01.2	+02.5	109 00.4	+02.4	01
02	120 06.3	+02.4	121 05.4	+02.5	122 04.5	+02.5	123 03.7	+02.4	124 02.8	+02.5	02
03	135 08.7	+02.5	136 07.9	+02.4	137 07.0	+02.5	138 06.1	+02.5	139 05.3	+02.5	03
04	150 11.2	+02.5	151 10.3	+02.5	152 09.5	+02.4	153 08.6	+02.5	154 07.8	+02.4	04
05	165 13.7	+02.4	166 12.8	+02.5	167 11.9	+02.5	168 11.1	+02.4	169 10.2	+02.5	05
06	180 16.1	+02.5	181 15.3	+02.4	182 14.4	+02.5	183 13.5	+02.5	184 12.7	+02.4	06
07	195 18.6	+02.5	196 17.7	+02.5	197 16.9	+02.4	198 16.0	+02.5	199 15.1	+02.5	07
08	210 21.1	+02.4	211 20.2	+02.5	212 19.3	+02.5	213 18.5	+02.4	214 17.6	+02.5	08
09	225 23.5	+02.5	226 22.7	+02.4	227 21.8	+02.5	228 20.9	+02.5	229 20.1	+02.4	09
10	240 26.0	+02.4	241 25.1	+02.5	242 24.3	+02.4	243 23.4	+02.5	244 22.5	+02.5	10
11	255 28.4	+02.5	256 27.6	+02.5	257 26.7	+02.5	258 25.9	+02.4	259 25.0	+02.5	11
12	270 30.9	+02.5	271 30.1	+02.4	272 29.2	+02.5	273 28.3	+02.5	274 27.5	+02.4	12
13	285 33.4	+02.4	286 32.5	+02.5	287 31.7	+02.4	288 30.8	+02.5	289 29.9	+02.5	13
14	300 35.8	+02.5	301 35.0	+02.4	302 34.1	+02.5	303 33.3	+02.4	304 32.4	+02.5	14
15	315 38.3	+02.5	316 37.4	+02.5	317 36.6	+02.4	318 35.7	+02.5	319 34.9	+02.4	15
16	330 40.8	+02.4	331 39.9	+02.5	332 39.0	+02.5	333 38.2	+02.4	334 37.3	+02.5	16
17	345 43.2	+02.5	346 42.4	+02.4	347 41.5	+02.5	348 40.6	+02.5	349 39.8	+02.5	17
18	0 45.7	+02.5	1 44.8	+02.5	2 44.0	+02.4	3 43.1	+02.5	4 42.3	+02.4	18
19	15 48.2	+02.4	16 47.3	+02.5	17 46.4	+02.5	18 45.6	+02.4	19 44.7	+02.5	19
20	30 50.6	+02.5	31 49.8	+02.4	32 48.9	+02.5	33 48.0	+02.5	34 47.2	+02.4	20
21	45 53.1	+02.5	46 52.2	+02.5	47 51.4	+02.4	48 50.5	+02.5	49 49.6	+02.5	21
22	60 55.6	+02.4	61 54.7	+02.5	62 53.8	+02.5	63 53.0	+02.4	64 52.1	+02.5	22
23	75 58.0	+02.5	76 57.2	+02.4	77 56.3	+02.5	78 55.4	+02.5	79 54.6	+02.4	23

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	SHA	Dec		SHA	Dec
	°	'		°	'
Alpheratz	357 38.2	N 29 12.5	Gienah	175 46.9	S 17 39.3
Ankaa	353 10.5	S 42 11.7	Acrux	173 03.7	S 63 12.5
Schedir	349 34.6	N 56 39.3	Gacrux	171 55.3	S 57 13.3
Diphda	348 50.6	S 17 52.5	Alioth	166 16.2	N 55 50.6
Achernar	335 22.6	S 57 08.2	Spica	158 25.9	S 11 16.0
Hamal	327 54.7	N 23 33.7	Alkaid	152 54.9	N 49 12.4
Polaris	315 10.5	N 89 21.3	Hadar	148 40.9	S 60 28.0
Acamar	315 14.0	S 40 13.5	Menkent	148 01.4	S 36 27.8
Menkar	314 09.3	N 04 10.2	Arcturus	145 50.8	N 19 05.1
Mirfak	308 32.5	N 49 56.2	Rigel Kentaurus	139 42.7	S 60 55.1
Aldebaran	290 43.1	N 16 33.1	Zubenelgenubi	136 59.8	S 16 07.5
Capella	280 26.3	N 46 01.2	Kocab	137 20.8	N 74 04.0
Rigel	281 06.7	S 08 10.7	Alphecca	126 06.9	N 26 38.7
Bellatrix	278 26.1	N 06 22.0	Antares	112 20.3	S 26 28.5
Elnath	278 05.6	N 28 37.5	Atria	107 17.9	S 69 03.7
Alnilam	275 40.7	S 01 11.4	Sabik	102 06.9	S 15 45.0
Betelgeuze	270 55.3	N 07 24.6	Shaula	96 15.3	S 37 07.0
Canopus	263 53.3	S 52 42.4	Rasalhague	96 02.0	N 12 32.8
Sirius	258 28.6	S 16 44.3	Etamin	90 44.3	N 51 29.2
Adhara	255 08.0	S 29 00.0	Kaus Australis	83 37.3	S 34 22.4
Castor	246 00.8	N 31 50.5	Vega	80 35.9	N 38 48.2
Procyon	244 53.8	N 05 10.6	Nunki	75 52.2	S 26 16.2
Pollux	243 20.7	N 27 58.5	Albireo	67 07.1	N 28 00.3
Avior	234 15.4	S 59 34.4	Altair	62 03.6	N 08 55.3
Suhail	222 48.3	S 43 30.8	Peacock	53 11.5	S 56 40.2
Miaplacidus	221 37.9	S 69 47.9	Deneb	49 28.4	N 45 21.4
Alphard	217 50.8	S 08 44.9	Enif	33 42.2	N 09 58.3
Regulus	207 37.7	N 11 51.9	Alnair	27 37.4	S 46 51.8
Dubhe	193 44.9	N 61 38.1	Formalhaut	15 18.4	S 29 30.9
Denebola	182 28.2	N 14 27.4	Markab	13 33.3	N 15 19.1

2020 - First Point of Aries / Selected Stars

2020 - First Point of Aries / Selected Stars

UT	day 361 of 366		day 362 of 366		day 363 of 366		day 364 of 366		day 365 of 366		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
	December 26		December 27		December 28		December 29		December 30		
00	94 57.0	+02.5	95 56.2	+02.4	96 55.3	+02.5	97 54.5	+02.4	98 53.6	+02.5	00
01	109 59.5	+02.5	110 58.6	+02.5	111 57.8	+02.4	112 56.9	+02.5	113 56.1	+02.4	01
02	125 02.0	+02.4	126 01.1	+02.5	127 00.2	+02.5	127 59.4	+02.4	128 58.5	+02.5	02
03	140 04.4	+02.5	141 03.6	+02.4	142 02.7	+02.5	143 01.8	+02.5	144 01.0	+02.5	03
04	155 06.9	+02.5	156 06.0	+02.5	157 05.2	+02.4	158 04.3	+02.5	159 03.5	+02.4	04
05	170 09.4	+02.4	171 08.5	+02.5	172 07.6	+02.5	173 06.8	+02.4	174 05.9	+02.5	05
06	185 11.8	+02.5	186 11.0	+02.4	187 10.1	+02.5	188 09.2	+02.5	189 08.4	+02.4	06
07	200 14.3	+02.4	201 13.4	+02.5	202 12.6	+02.4	203 11.7	+02.5	204 10.8	+02.5	07
08	215 16.7	+02.5	216 15.9	+02.5	217 15.0	+02.5	218 14.2	+02.4	219 13.3	+02.5	08
09	230 19.2	+02.5	231 18.4	+02.4	232 17.5	+02.5	233 16.6	+02.5	234 15.8	+02.4	09
10	245 21.7	+02.4	246 20.8	+02.5	247 20.0	+02.4	248 19.1	+02.5	249 18.2	+02.5	10
11	260 24.1	+02.5	261 23.3	+02.4	262 22.4	+02.5	263 21.6	+02.4	264 20.7	+02.5	11
12	275 26.6	+02.5	276 25.7	+02.5	277 24.9	+02.4	278 24.0	+02.5	279 23.2	+02.4	12
13	290 29.1	+02.4	291 28.2	+02.5	292 27.3	+02.5	293 26.5	+02.5	294 25.6	+02.5	13
14	305 31.5	+02.5	306 30.7	+02.4	307 29.8	+02.5	308 29.0	+02.4	309 28.1	+02.5	14
15	320 34.0	+02.5	321 33.1	+02.5	322 32.3	+02.4	323 31.4	+02.5	324 30.6	+02.4	15
16	335 36.5	+02.4	336 35.6	+02.5	337 34.7	+02.5	338 33.9	+02.4	339 33.0	+02.5	16
17	350 38.9	+02.5	351 38.1	+02.4	352 37.2	+02.5	353 36.3	+02.5	354 35.5	+02.5	17
18	5 41.4	+02.5	6 40.5	+02.5	7 39.7	+02.4	8 38.8	+02.5	9 38.0	+02.4	18
19	20 43.9	+02.4	21 43.0	+02.5	22 42.1	+02.5	23 41.3	+02.4	24 40.4	+02.5	19
20	35 46.3	+02.5	36 45.5	+02.4	37 44.6	+02.5	38 43.7	+02.5	39 42.9	+02.4	20
21	50 48.8	+02.4	51 47.9	+02.5	52 47.1	+02.4	53 46.2	+02.5	54 45.3	+02.5	21
22	65 51.2	+02.5	66 50.4	+02.5	67 49.5	+02.5	68 48.7	+02.4	69 47.8	+02.5	22
23	80 53.7	+02.5	81 52.9	+02.4	82 52.0	+02.5	83 51.1	+02.5	84 50.3	+02.4	23

UT	day 366 of 366		UT
	GHA	ddGHA	
	December 31		
00	99 52.7	+02.5	00
01	114 55.2	+02.5	01
02	129 57.7	+02.4	02
03	145 00.1	+02.5	03
04	160 02.6	+02.5	04
05	175 05.1	+02.4	05
06	190 07.5	+02.5	06
07	205 10.0	+02.5	07
08	220 12.5	+02.4	08
09	235 14.9	+02.5	09
10	250 17.4	+02.4	10
11	265 19.8	+02.5	11
12	280 22.3	+02.5	12
13	295 24.8	+02.4	13
14	310 27.2	+02.5	14
15	325 29.7	+02.5	15
16	340 32.2	+02.4	16
17	355 34.6	+02.5	17
18	10 37.1	+02.5	18
19	25 39.6	+02.4	19
20	40 42.0	+02.5	20
21	55 44.5	+02.5	21
22	70 47.0	+02.4	22
23	85 49.4	+02.5	23

	SHA	Dec		SHA	Dec
Alpheratz	357 38.2	N 29 12.5	Gienah	175 46.9	S 17 39.3
Ankaa	353 10.5	S 42 11.7	Acrux	173 03.6	S 63 12.5
Schedir	349 34.6	N 56 39.3	Gacrux	171 55.2	S 57 13.4
Diphda	348 50.6	S 17 52.5	Alioth	166 16.2	N 55 50.6
Achernar	335 22.6	S 57 08.2	Spica	158 25.8	S 11 16.1
Hamal	327 54.8	N 23 33.7	Alkaid	152 54.8	N 49 12.4
Polaris	315 12.1	N 89 21.3	Hadar	148 40.8	S 60 28.0
Acamar	315 14.0	S 40 13.5	Menkent	148 01.4	S 36 27.8
Menkar	314 09.3	N 04 10.2	Arcturus	145 50.8	N 19 05.1
Mirfak	308 32.5	N 49 56.2	Rigel Kentaurus	139 42.6	S 60 55.1
Aldebaran	290 43.1	N 16 33.1	Zubenelgenubi	136 59.8	S 16 07.5
Capella	280 26.3	N 46 01.2	Kocab	137 20.7	N 74 04.0
Rigel	281 06.7	S 08 10.8	Alphecca	126 06.9	N 26 38.7
Bellatrix	278 26.1	N 06 22.0	Antares	112 20.3	S 26 28.5
Elnath	278 05.6	N 28 37.5	Atria	107 17.9	S 69 03.7
Alnilam	275 40.7	S 01 11.4	Sabik	102 06.9	S 15 45.0
Betelgeuze	270 55.3	N 07 24.6	Shaula	96 15.2	S 37 07.0
Canopus	263 53.3	S 52 42.4	Rasalhague	96 02.0	N 12 32.8
Sirius	258 28.6	S 16 44.3	Etamin	90 44.3	N 51 29.2
Adhara	255 08.0	S 29 00.1	Kaus Australis	83 37.3	S 34 22.4
Castor	246 00.8	N 31 50.5	Vega	80 35.9	N 38 48.1
Procyon	244 53.7	N 05 10.6	Nunki	75 52.2	S 26 16.2
Pollux	243 20.7	N 27 58.5	Albireo	67 07.1	N 28 00.3
Avior	234 15.4	S 59 34.4	Altair	62 03.6	N 08 55.3
Suhail	222 48.3	S 43 30.8	Peacock	53 11.5	S 56 40.2
Miaplacidus	221 37.9	S 69 48.0	Deneb	49 28.4	N 45 21.4
Alphard	217 50.7	S 08 44.9	Enif	33 42.2	N 09 58.3
Regulus	207 37.7	N 11 51.9	Alnair	27 37.4	S 46 51.8
Dubhe	193 44.9	N 61 38.1	Formalhaut	15 18.4	S 29 30.9
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	SHA	Dec		SHA	Dec
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Achernar	335 22.6	S 57 08.2	Spica	158 25.8	S 11 16.1
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Polaris	315 13.5	N 89 21.3	Hadar	148 40.8	S 60 28.0
Acamar	315 14.0	S 40 13.6	Menkent	148 01.3	S 36 27.8
Menkar	314 09.3	N 04 10.2	Arcturus	145 50.7	N 19 05.1
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Capella	280 26.3	N 46 01.2	Kocab	137 20.6	N 74 04.0
Rigel	281 06.7	S 08 10.8	Alphecca	126 06.8	N 26 38.7
Bellatrix	278 26.0	N 06 22.0	Antares	112 20.3	S 26 28.5
Elnath	278 05.6	N 28 37.5	Atria	107 17.8	S 69 03.6
Alnilam	275 40.7	S 01 11.4	Sabik	102 06.9	S 15 45.0
Betelgeuze	270 55.3	N 07 24.6	Shaula	96 15.2	S 37 07.0
Canopus	263 53.3	S 52 42.5	Rasalhague	96 01.9	N 12 32.8
Sirius	258 28.6	S 16 44.3	Etamin	90 44.2	N 51 29.2
Adhara	255 08.0	S 29 00.1	Kaus Australis	83 37.2	S 34 22.4
Castor	246 00.8	N 31 50.5	Vega	80 35.9	N 38 48.1
Procyon	244 53.7	N 05 10.5	Nunki	75 52.2	S 26 16.2
Pollux	243 20.6	N 27 58.5	Albireo	67 07.0	N 28 00.3
Avior	234 15.4	S 59 34.5	Altair	62 03.6	N 08 55.3
Suhail	222 48.3	S 43 30.9	Peacock	53 11.5	S 56 40.2
Miaplacidus	221 37.8	S 69 48.0	Deneb	49 28.4	N 45 21.4
Alphard	217 50.7	S 08 44.9	Enif	33 42.2	N 09 58.2
Regulus	207 37.6	N 11 51.9	Alnair	27 37.4	S 46 51.8
Dubhe	193 44.8	N 61 38.1	Formalhaut	15 18.4	S 29 30.9
Denebola	182 28.1	N 14 27.3	Markab	13 33.3	N 15 19.1

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Polaris (Pole Star) Tables, 2020

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 49.3	0 56.1	1 02.9	1 09.6	1 15.9	1 21.8	1 27.0	1 31.3	1 34.6	1 36.9	1 38.0	1 37.9
1	0 50.0	0 56.7	1 03.6	1 10.2	1 16.5	1 22.3	1 27.4	1 31.7	1 34.9	1 37.0	1 38.0	1 37.8
2	0 50.7	0 57.4	1 04.2	1 10.9	1 17.2	1 22.9	1 27.9	1 32.0	1 35.1	1 37.2	1 38.0	1 37.7
3	0 51.3	0 58.1	1 04.9	1 11.5	1 17.8	1 23.4	1 28.3	1 32.4	1 35.4	1 37.3	1 38.1	1 37.6
4	0 52.0	0 58.8	1 05.6	1 12.2	1 18.4	1 24.0	1 28.8	1 32.7	1 35.6	1 37.4	1 38.1	1 37.5
5	0 52.7	0 59.5	1 06.2	1 12.8	1 18.9	1 24.5	1 29.2	1 33.1	1 35.9	1 37.6	1 38.1	1 37.4
6	0 53.4	1 00.2	1 06.9	1 13.4	1 19.5	1 25.0	1 29.7	1 33.4	1 36.1	1 37.7	1 38.1	1 37.3
7	0 54.0	1 00.8	1 07.6	1 14.1	1 20.1	1 25.5	1 30.1	1 33.7	1 36.3	1 37.8	1 38.0	1 37.1
8	0 54.7	1 01.5	1 08.2	1 14.7	1 20.7	1 26.0	1 30.5	1 34.0	1 36.5	1 37.8	1 38.0	1 37.0
9	0 55.4	1 02.2	1 08.9	1 15.3	1 21.2	1 26.5	1 30.9	1 34.3	1 36.7	1 37.9	1 37.9	1 36.8
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	1.0	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	1.1	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	1.3	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	1.2	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	1.5	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	359.3	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	359.2	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	359.9	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	359.1	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	358.6	358.7	358.8	359.0	359.1	359.3	359.6	359.8	0.0	0.3
64	358.5	358.5	358.5	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	358.1	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.

Polaris (Pole Star) Tables, 2020
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 31.0	0 26.7	0 23.4	0 21.1	0 20.0	0 20.1	0 21.4	0 23.8	0 27.3	0 31.7	0 37.0	0 42.9
1	0 30.6	0 26.3	0 23.1	0 21.0	0 20.0	0 20.2	0 21.6	0 24.1	0 27.7	0 32.2	0 37.5	0 43.5
2	0 30.1	0 26.0	0 22.9	0 20.8	0 20.0	0 20.3	0 21.8	0 24.4	0 28.1	0 32.7	0 38.1	0 44.2
3	0 29.7	0 25.6	0 22.6	0 20.7	0 19.9	0 20.4	0 22.0	0 24.7	0 28.5	0 33.2	0 38.7	0 44.8
4	0 29.2	0 25.3	0 22.4	0 20.6	0 19.9	0 20.5	0 22.2	0 25.1	0 28.9	0 33.7	0 39.3	0 45.4
5	0 28.8	0 24.9	0 22.1	0 20.4	0 19.9	0 20.6	0 22.4	0 25.4	0 29.4	0 34.2	0 39.9	0 46.1
6	0 28.3	0 24.6	0 21.9	0 20.3	0 19.9	0 20.7	0 22.7	0 25.8	0 29.8	0 34.8	0 40.5	0 46.7
7	0 27.9	0 24.3	0 21.7	0 20.2	0 20.0	0 20.9	0 23.0	0 26.1	0 30.3	0 35.3	0 41.1	0 47.4
8	0 27.5	0 24.0	0 21.5	0 20.2	0 20.0	0 21.0	0 23.2	0 26.5	0 30.7	0 35.9	0 41.7	0 48.0
9	0 27.1	0 23.7	0 21.3	0 20.1	0 20.1	0 21.2	0 23.5	0 26.9	0 31.2	0 36.4	0 42.3	0 48.7
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	0.7	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	0.8	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	1.2	1.3
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	0.7	0.8	0.9	1.1	1.2	1.4
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	359.6	359.5	359.5	359.4	359.3
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	0.6	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	0.2	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	358.9	358.7	358.6	358.5
68	1.1	0.9	0.6	0.3	360.0	359.7	359.4	359.1	358.8	358.6	358.5	358.3
70	1.2	1.0	0.6	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.

Polaris (Pole Star) Tables, 2020
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 36.6	1 34.2	1 30.7	1 26.3	1 21.0	1 15.1	1 08.7	1 01.9	0 55.1	0 48.4	0 42.1	0 36.2
1	1 36.4	1 33.9	1 30.3	1 25.8	1 20.5	1 14.5	1 08.0	1 01.3	0 54.4	0 47.8	0 41.5	0 35.7
2	1 36.2	1 33.6	1 29.9	1 25.3	1 19.9	1 13.8	1 07.3	1 00.6	0 53.8	0 47.1	0 40.8	0 35.1
3	1 36.0	1 33.3	1 29.5	1 24.8	1 19.3	1 13.2	1 06.7	0 59.9	0 53.1	0 46.5	0 40.2	0 34.6
4	1 35.8	1 32.9	1 29.1	1 24.3	1 18.7	1 12.6	1 06.0	0 59.2	0 52.4	0 45.8	0 39.6	0 34.0
5	1 35.6	1 32.6	1 28.6	1 23.8	1 18.1	1 11.9	1 05.3	0 58.5	0 51.8	0 45.2	0 39.1	0 33.5
6	1 35.3	1 32.2	1 28.2	1 23.2	1 17.5	1 11.3	1 04.6	0 57.8	0 51.1	0 44.6	0 38.5	0 33.0
7	1 35.0	1 31.9	1 27.7	1 22.7	1 16.9	1 10.6	1 04.0	0 57.2	0 50.4	0 43.9	0 37.9	0 32.5
8	1 34.8	1 31.5	1 27.3	1 22.1	1 16.3	1 10.0	1 03.3	0 56.5	0 49.8	0 43.3	0 37.3	0 32.0
9	1 34.5	1 31.1	1 26.8	1 21.6	1 15.7	1 09.3	1 02.6	0 55.8	0 49.1	0 42.7	0 36.8	0 31.5
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	0.4	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	0.5	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	0.6	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	0.7	0.7	0.6	0.6	0.6	0.5
20	0.2	0.4	0.5	0.5	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.5
30	0.3	0.4	0.5	0.6	0.7	0.7	0.7	0.8	0.7	0.7	0.6	0.6
40	0.3	0.4	0.6	0.7	0.7	0.8	0.8	0.9	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	0.4	0.5	0.7	0.8	0.9	1.0	1.0	1.0	1.0	1.0	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	0.5	0.7	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	1.1	1.2	1.3	1.4	1.4	1.4	1.3	1.2	1.1
64	0.5	0.7	1.0	1.1	1.3	1.4	1.5	1.5	1.5	1.4	1.3	1.1
66	0.6	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	0.7	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.

