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Nautical Almanac (Selected Stars)

2020

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/>"

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

Star Name	RA			Dec		mu_RA	mu_Dec	prllx	rad.vel.
	h	m	s	°	'	["/yr]	["/yr]	["]	[km/s]
Alpheratz	00	08	23.3	N 29	05.4	0.135680	-0.162950	0.034	-11
Ankaa	00	26	17.0	S 42	18.4	0.233050	-0.356300	0.039	75
Schedir	00	40	30.4	N 56	32.2	0.050360	-0.032170	0.014	-4
Diphda	00	43	35.4	S 17	59.2	0.232550	0.031990	0.034	13
Achernar	01	37	42.8	S 57	14.2	0.088020	-0.038240	0.023	16
Hamal	02	07	10.4	N 23	27.7	0.190730	-0.145770	0.049	-14
Polaris	02	31	49.1	N 89	15.8	0.044480	-0.011850	0.008	-17
Acamar	02	58	15.7	S 40	18.3	-0.044600	-0.019000	0.028	12
Menkar	03	02	16.8	N 04	05.4	-0.010410	-0.076850	0.013	-26
Mirfak	03	24	19.4	N 49	51.7	0.024110	-0.026010	0.005	-2
Aldebaran	04	35	55.2	N 16	30.6	0.063000	-0.190000	0.050	54
Capella	05	16	41.4	N 45	59.9	0.075520	-0.427110	0.077	29
Rigel	05	14	32.3	S 08	12.1	0.001870	-0.000560	0.004	21
Bellatrix	05	25	07.9	N 06	21.0	-0.008750	-0.013280	0.013	18
Elnath	05	26	17.5	N 28	36.5	0.023280	-0.174220	0.025	9
Alnilam	05	36	12.8	S 01	12.1	0.001490	-0.001060	0.002	26
Betelgeuze	05	55	10.3	N 07	24.4	0.024950	0.009560	0.005	22
Canopus	06	23	57.1	S 52	41.7	0.019990	0.023670	0.010	21
Sirius	06	45	08.9	S 16	43.0	-0.546050	-1.223140	0.379	-8
Adhara	06	58	37.6	S 28	58.3	0.002600	0.002290	0.008	27
Castor	07	34	36.0	N 31	53.3	-0.206330	-0.148180	0.066	5
Procyon	07	39	18.1	N 05	13.5	-0.716570	-1.034580	0.286	-3
Pollux	07	45	19.4	N 28	01.6	-0.625690	-0.045950	0.097	3
Avior	08	22	30.8	S 59	30.6	-0.025340	0.022720	0.005	2
Suhail	09	07	59.8	S 43	25.9	-0.023210	0.014280	0.006	18
Miaplacidus	09	13	12.0	S 69	43.0	-0.157660	0.108910	0.029	-5
Alphard	09	27	35.2	S 08	39.5	-0.014500	0.033250	0.018	-4
Regulus	10	08	22.3	N 11	58.0	0.249000	0.002000	0.042	6
Dubhe	11	03	43.7	N 61	45.0	-0.136460	-0.035250	0.026	-9
Denebola	11	49	03.6	N 14	34.3	-0.499020	-0.113780	0.090	0
Gienah	12	15	48.4	S 17	32.5	-0.161000	0.023000	0.020	-4
Acruz	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

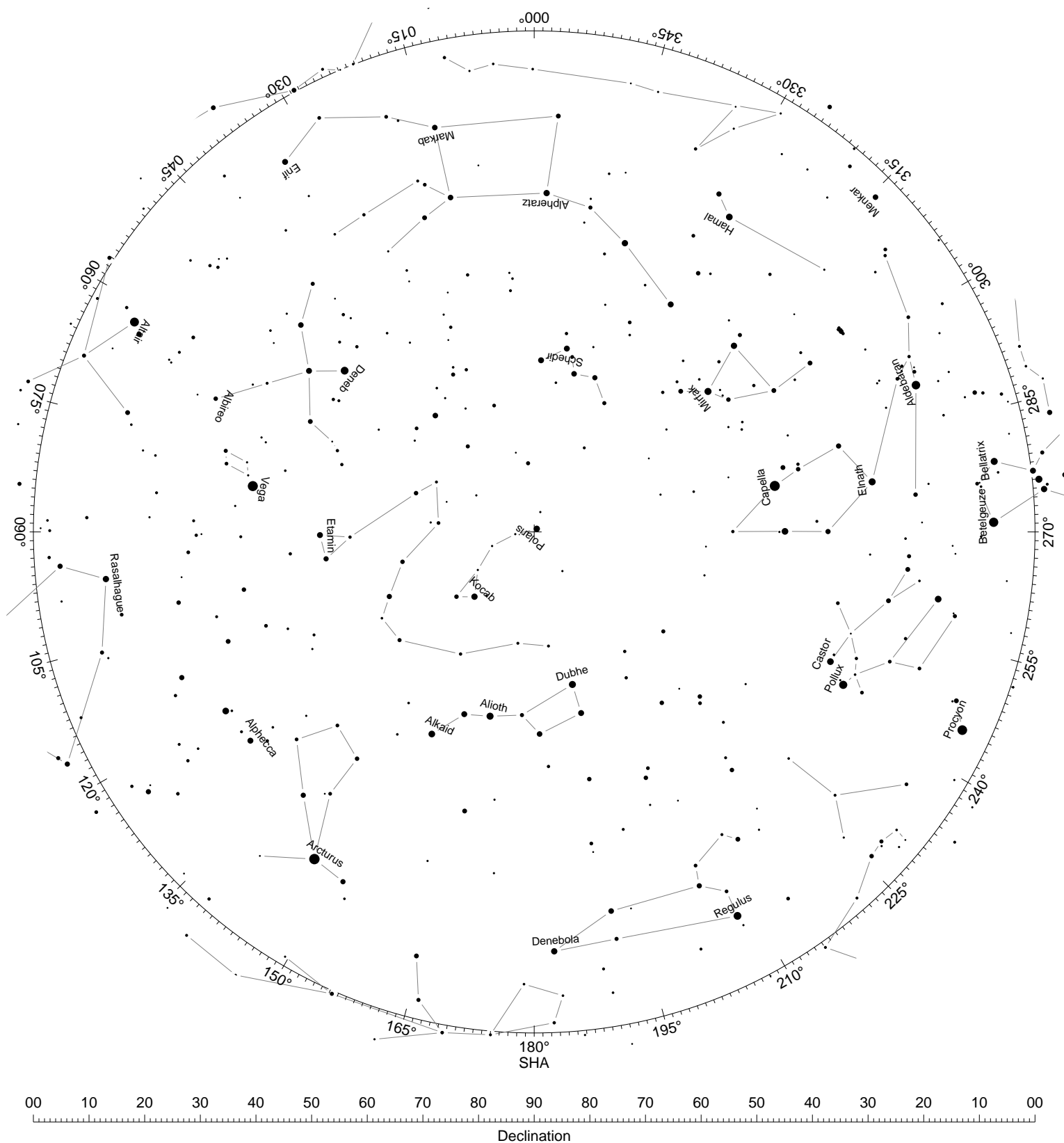
Position of the Stars on the local hemisphere

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

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

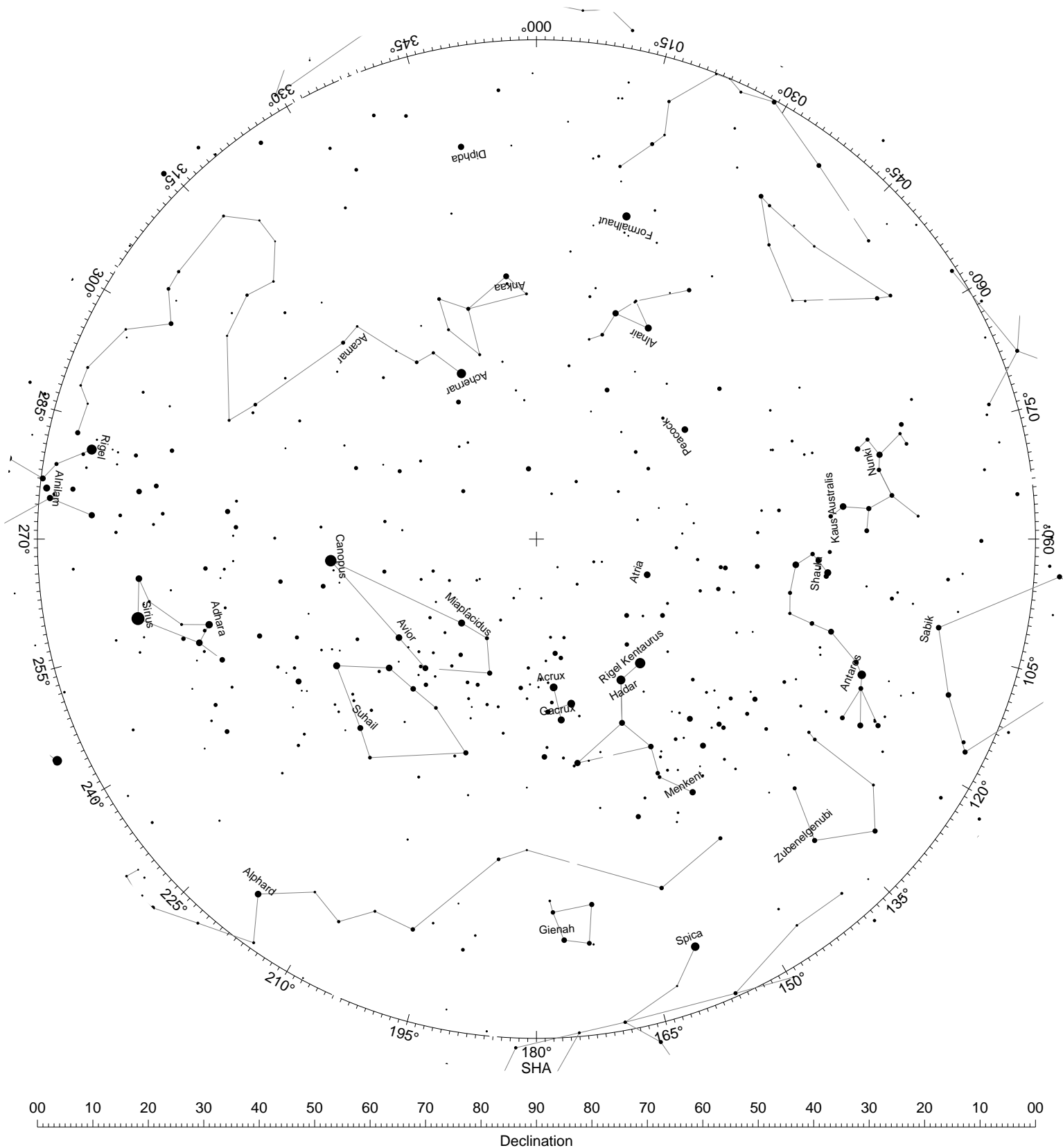
The following eight maps show the star constellations on the local hemisphere for locations on the Equator. These maps can be used for observations at locations in lower latitudes.

Map of bright Stars of the Northern Celestial Sphere



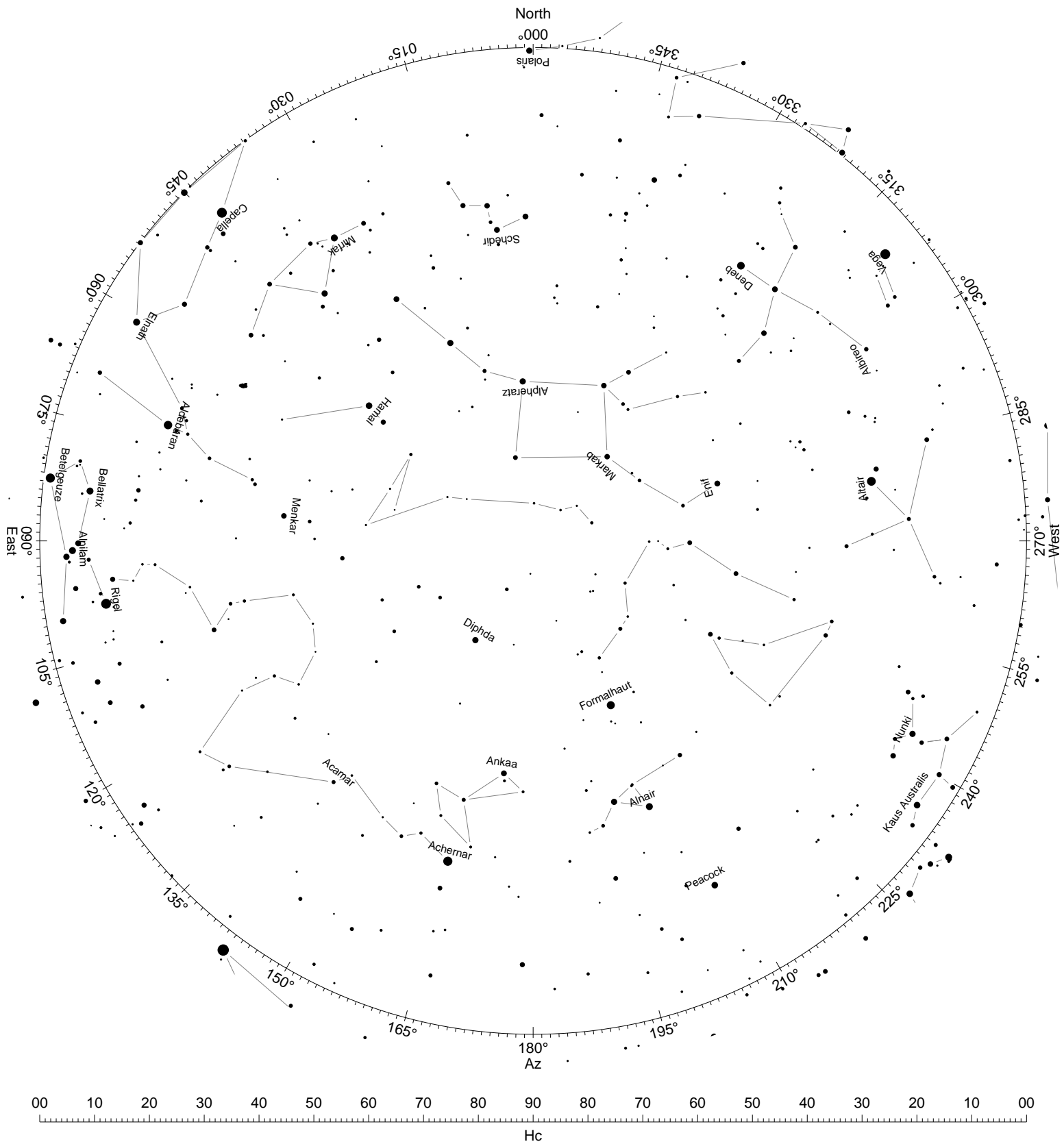
The map is centered on the celestial north pole and shows the brightest stars (up to magnitude 4.5) of the northern celestial hemisphere. The circle of constant declination is shown at 00° (Celestial Equator). The Sidereal Hour Angle of a specific star can be directly read from the SHA scale plotted on the Celestial Equator, while, the Declination can be determined by transferring the distance from the star to the center of the map onto the separate Declination scale. The Sidereal Hour Angle is zero for the "First-Point-of-Aries" and increases westward.

Map of bright Stars of the Southern Celestial Sphere



The map is centered on the celestial south pole and shows the brightest stars (up to magnitude 4.5) of the southern celestial hemisphere. The circle of constant declination is shown at 00° (Celestial Equator). The Sidereal Hour Angle of a specific star can be directly read from the SHA scale plotted on the Celestial Equator, while, the Declination can be determined by transferring the distance from the star to the center of the map onto the separate Declination scale. The Sidereal Hour Angle is zero for the "First-Point-of-Aries" and increases westward.

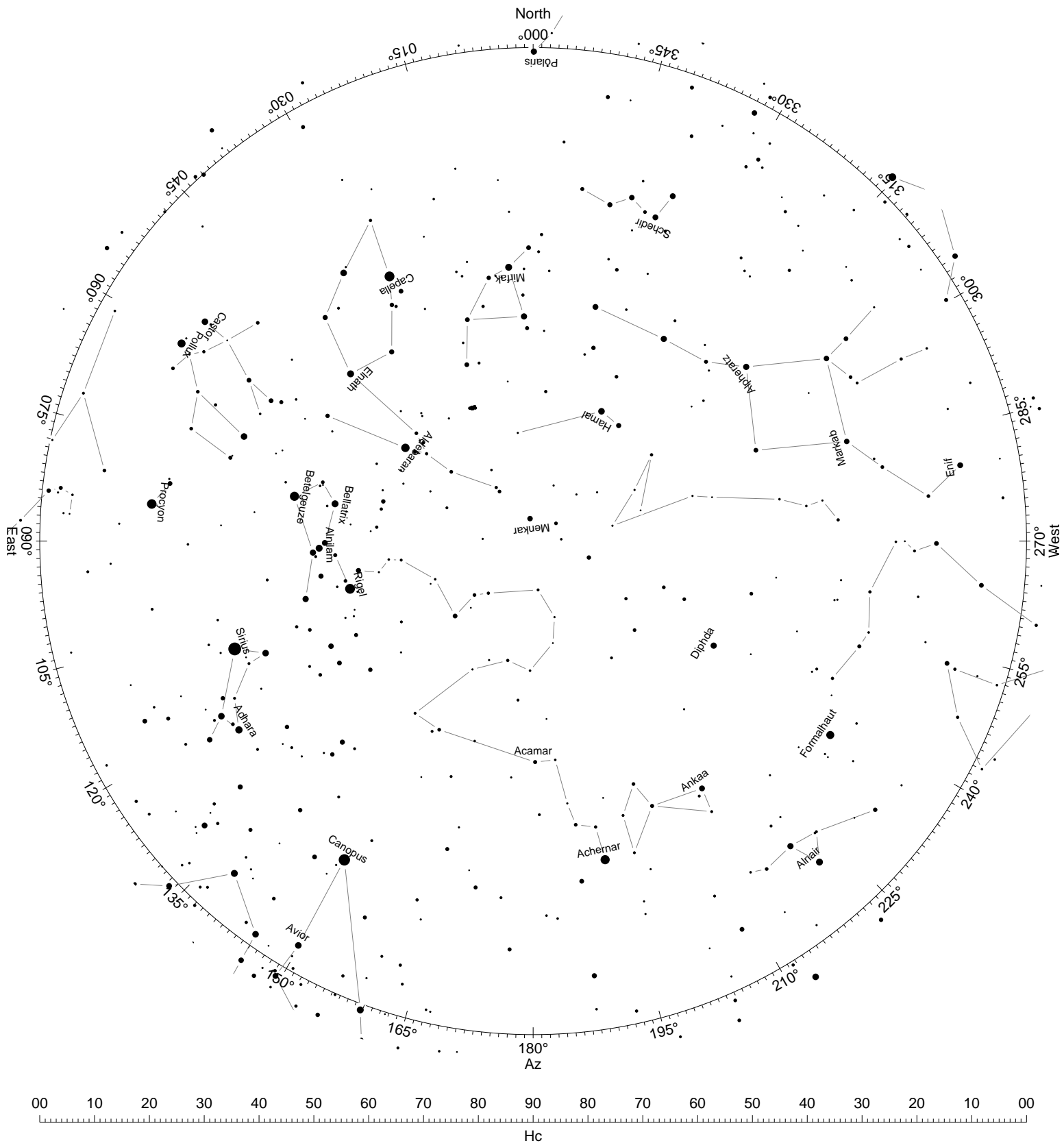
Horizontal-Coordinate-System Map of bright Stars - Part I



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

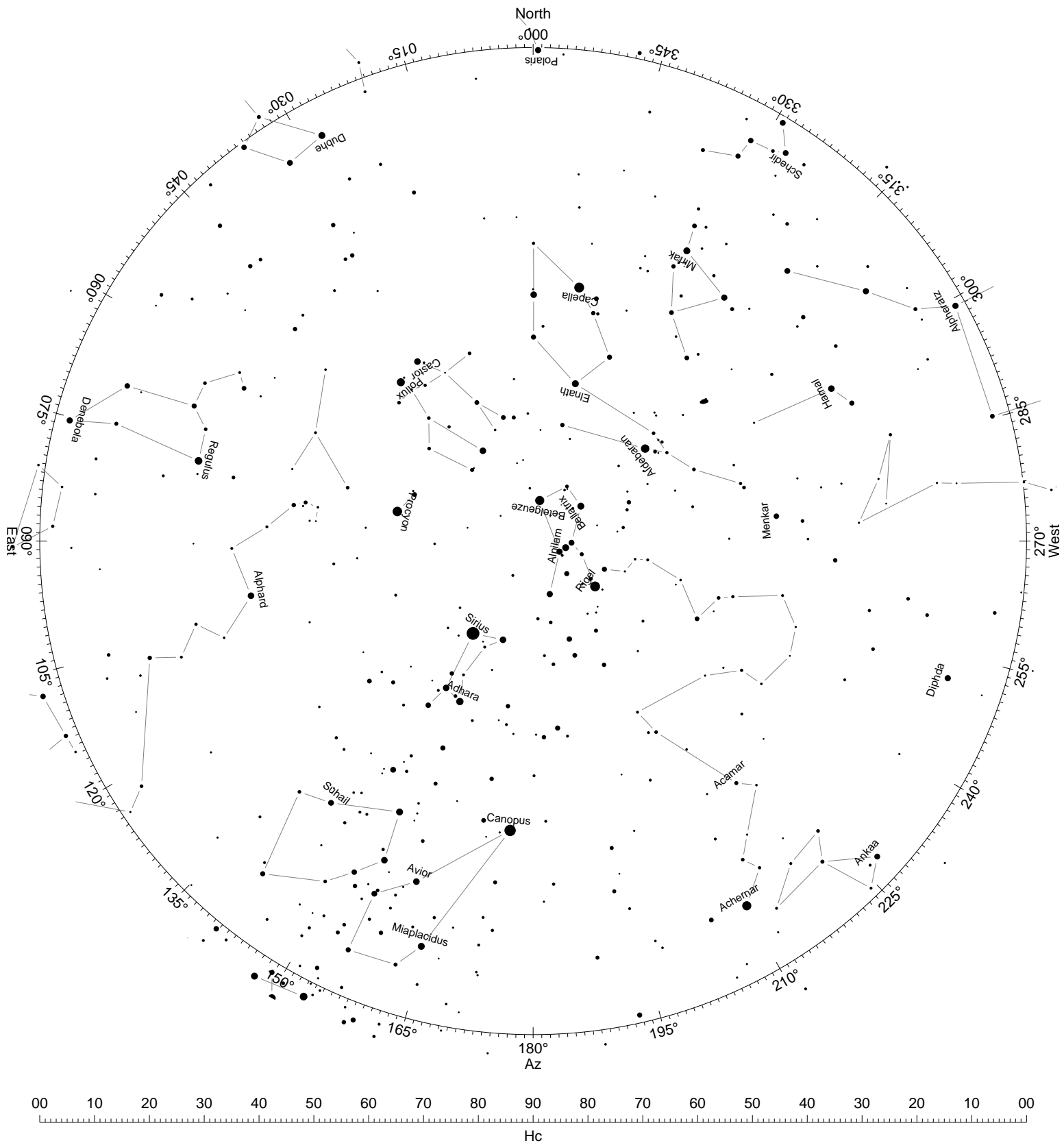
Each of these maps is valid for a location on the equator at a specific time of the day.

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



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

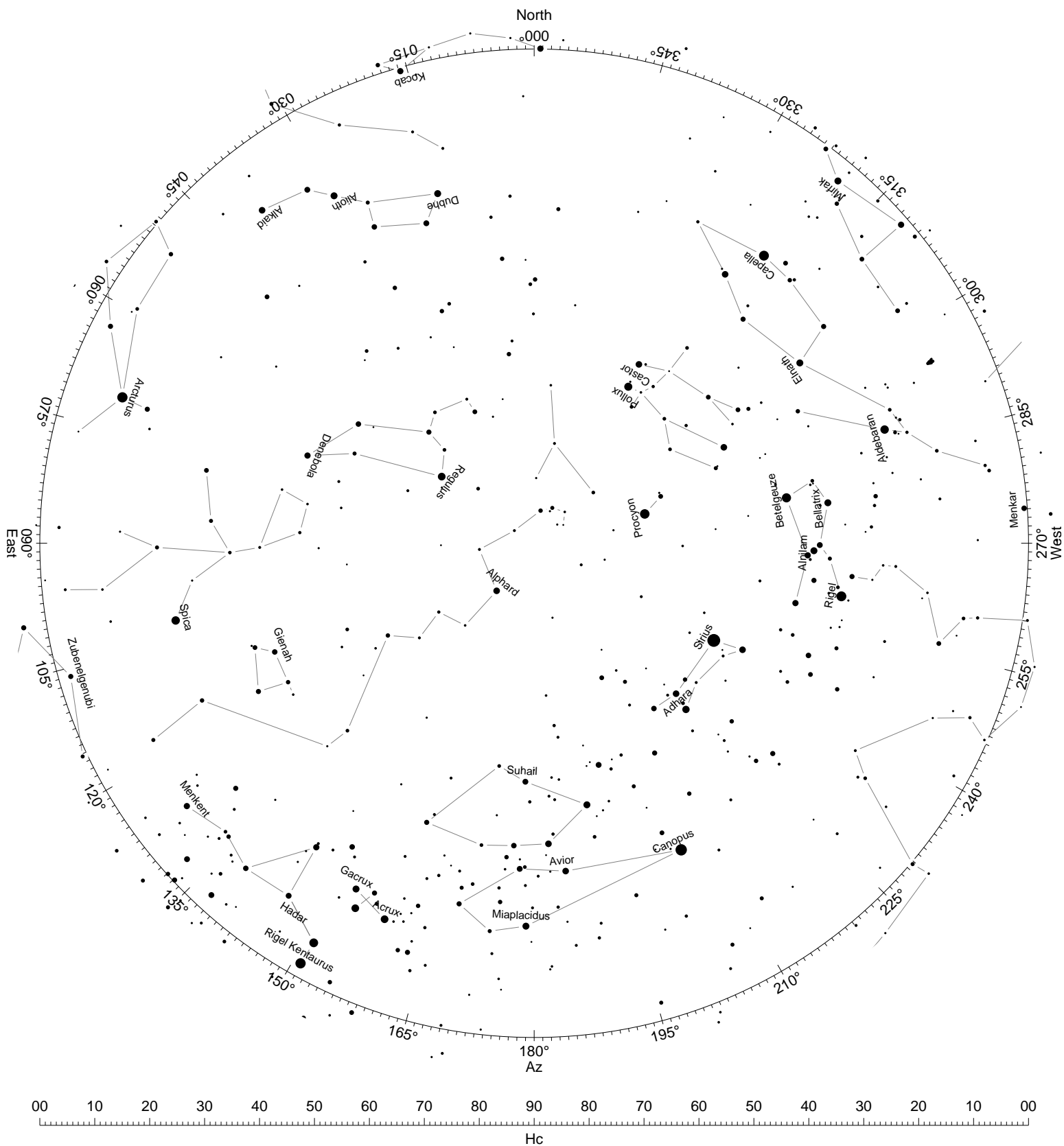
Horizontal-Coordinate-System Map of bright Stars - Part III



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

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

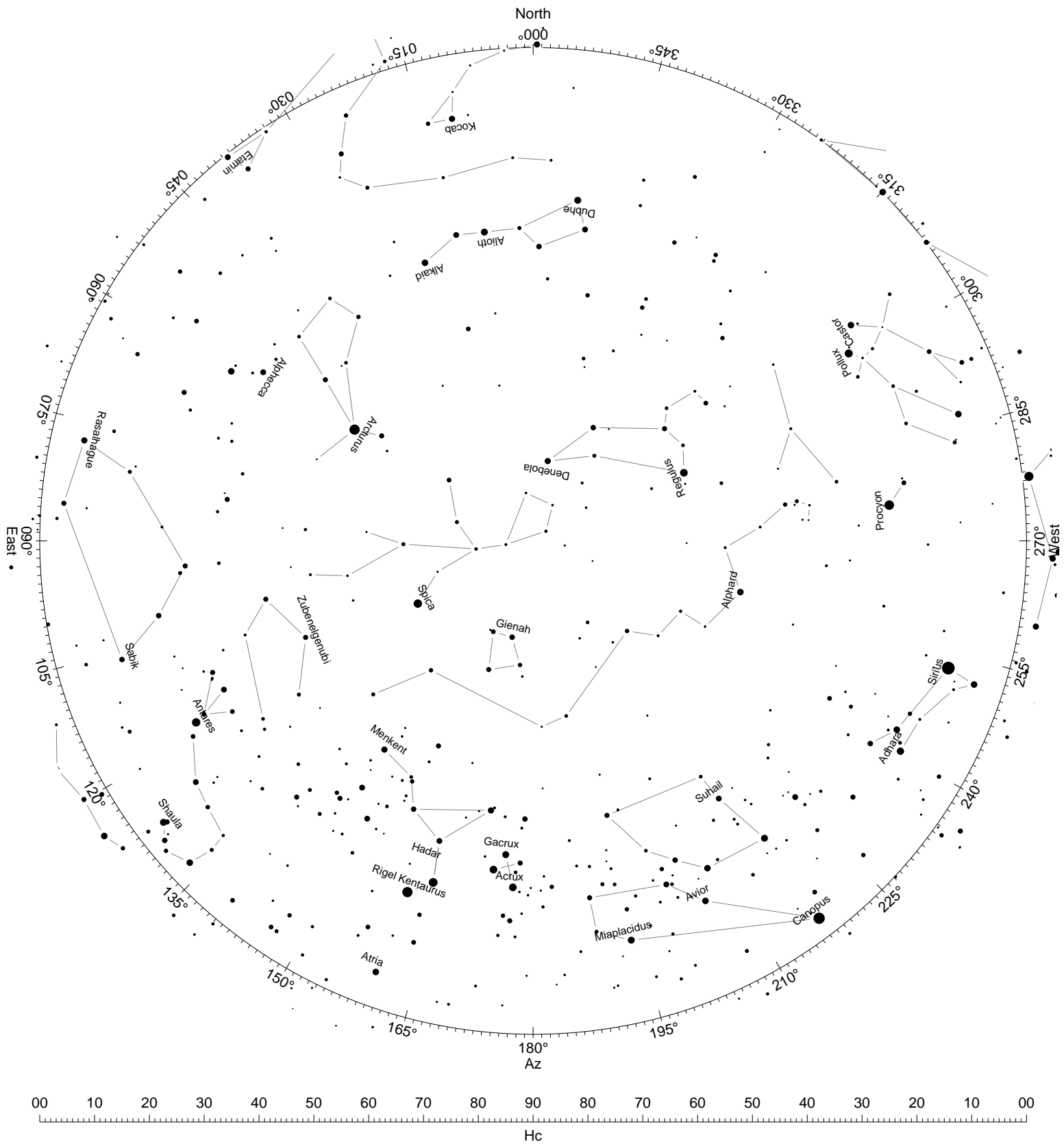
Horizontal-Coordinate-System Map of bright Stars - Part IV



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

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

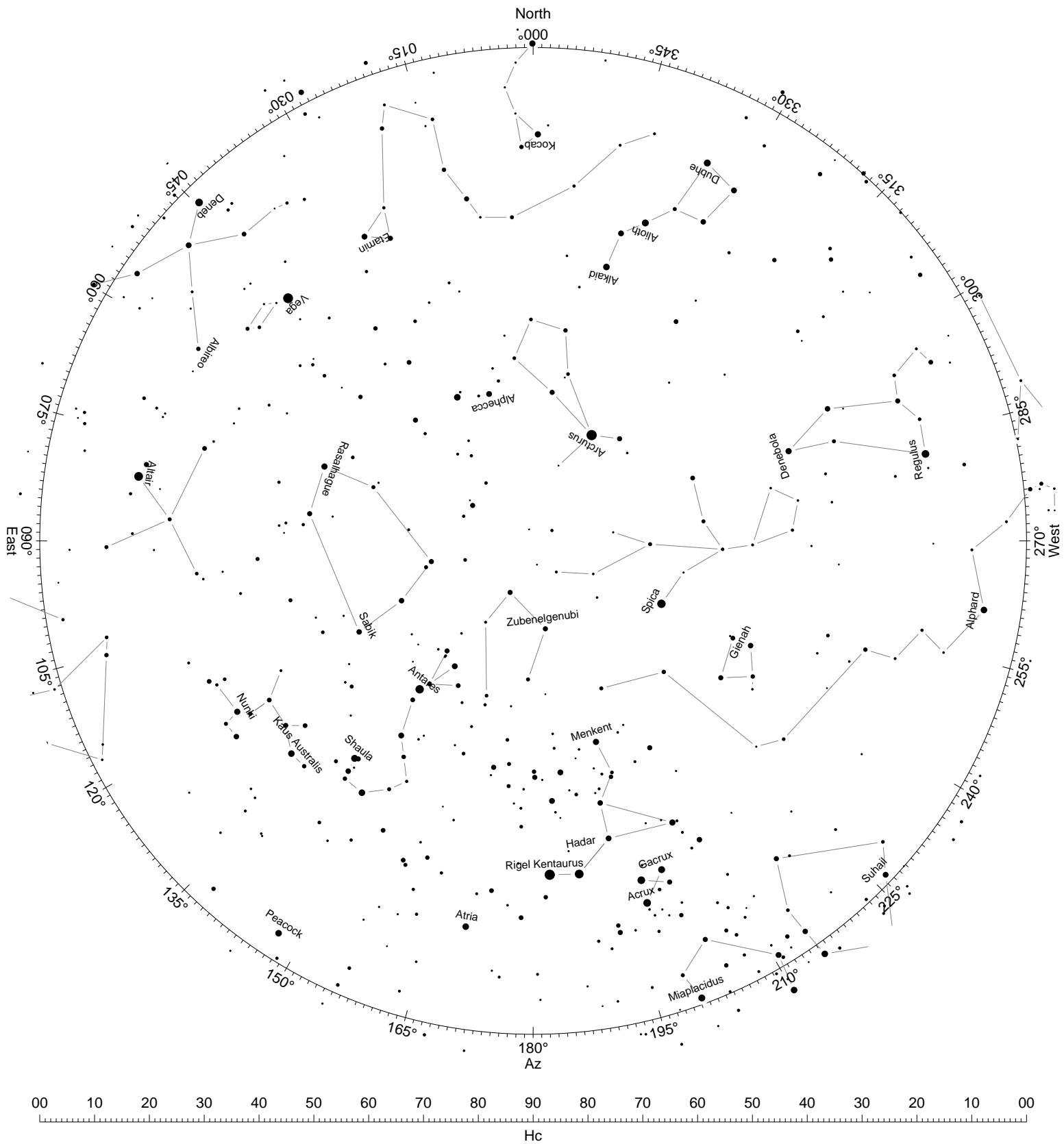
Horizontal-Coordinate-System Map of bright Stars - Part V



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

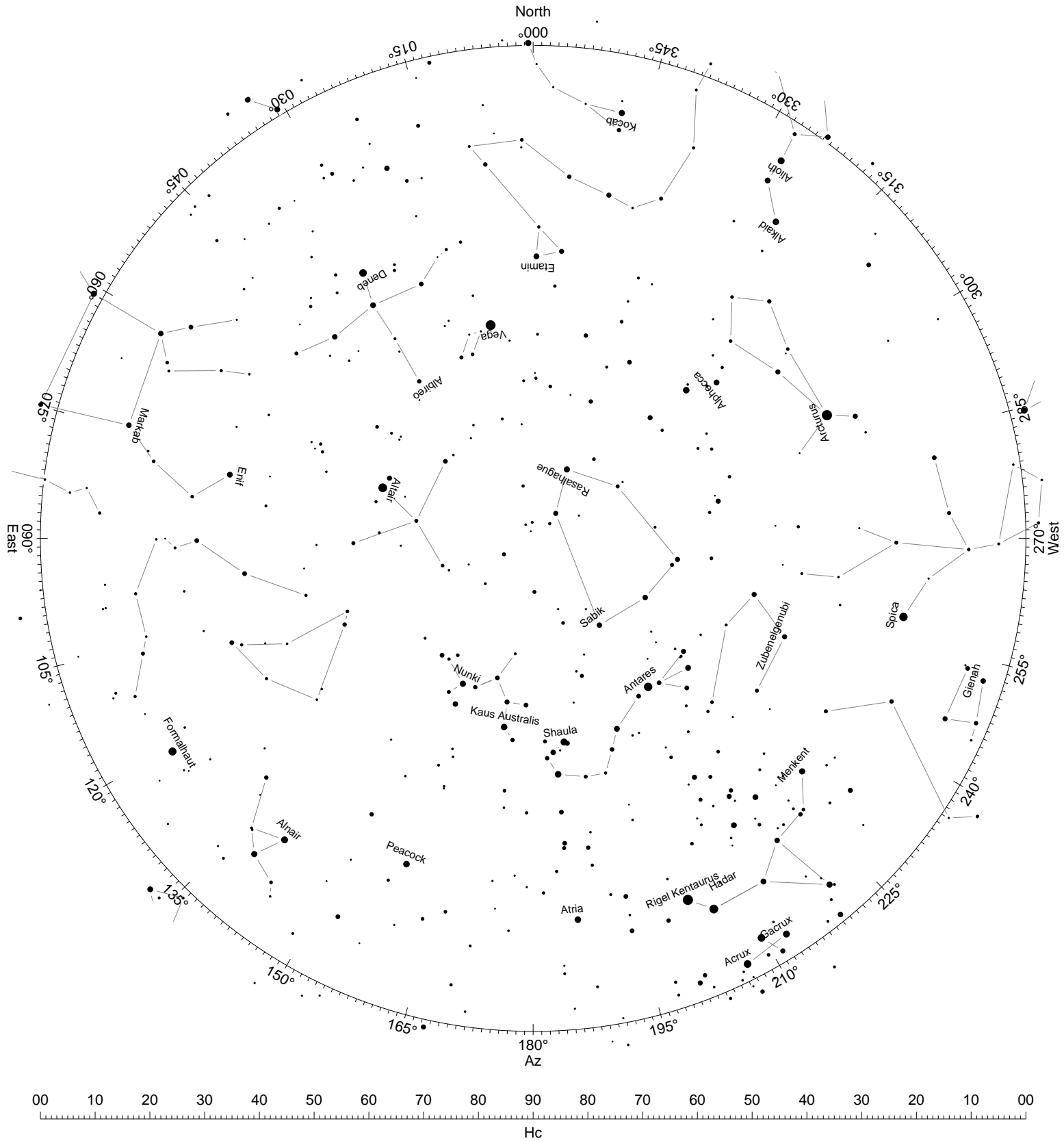
Each of these maps is valid for a location on the equator at a specific time of the day.

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



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

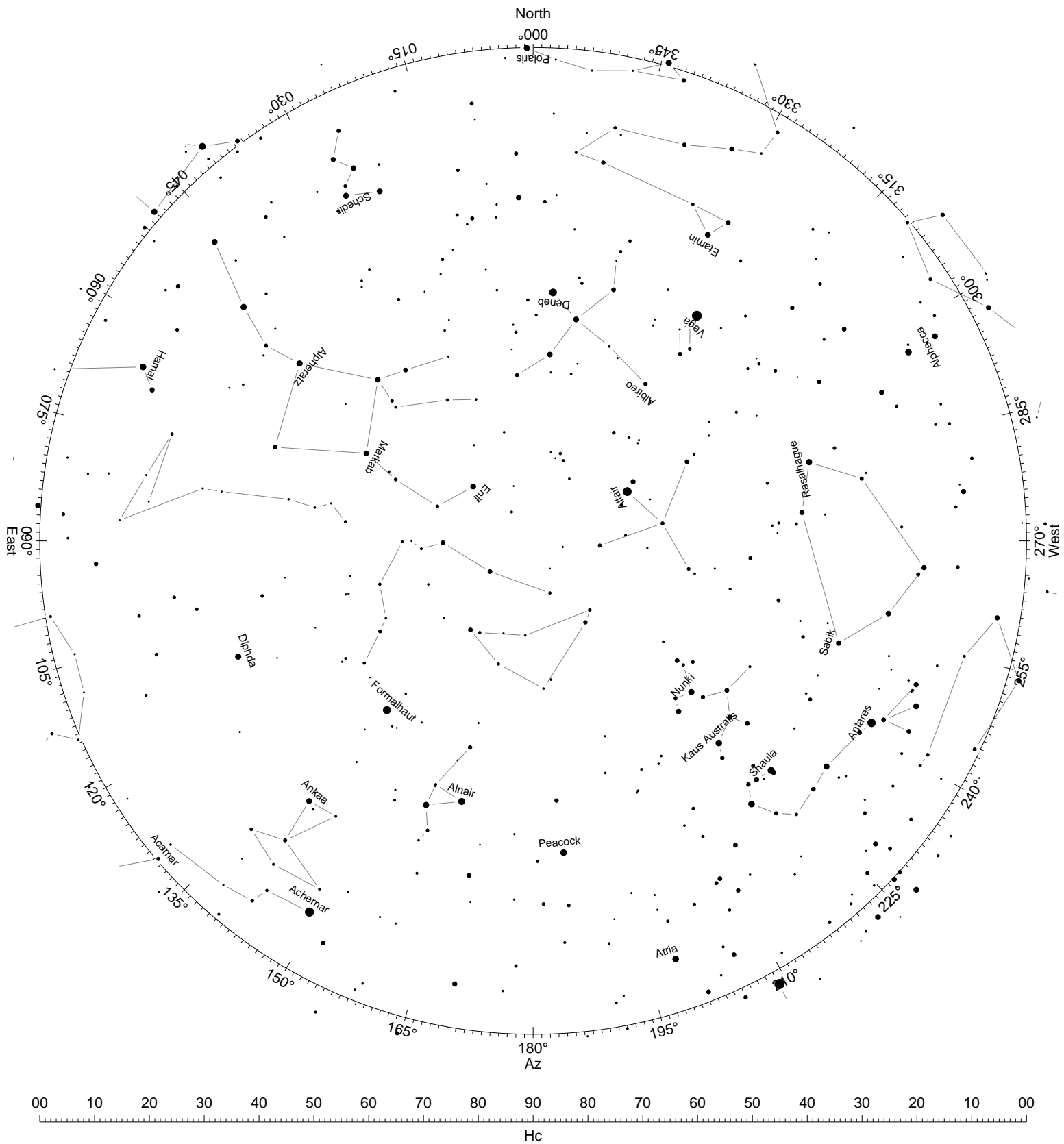
Horizontal-Coordinate-System Map of bright Stars - Part VII



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

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

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



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

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]

2020 - First Point of Aries / Selected Stars

UT	day 1 of 366 January 1			day 2 of 366 January 2			day 3 of 366 January 3			day 4 of 366 January 4			day 5 of 366 January 5			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

	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

2020 - First Point of Aries / Selected Stars

UT	day 6 of 366 January 6		day 7 of 366 January 7		day 8 of 366 January 8		day 9 of 366 January 9		day 10 of 366 January 10		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 +02.5	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 +02.5	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 +02.5	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 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 37.8	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 38.4	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

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	+02.4	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

	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	Zubenelgenubi	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

UT	day 16 of 366			day 17 of 366			day 18 of 366			day 19 of 366			day 20 of 366			UT		
	<i>January 16</i>			<i>January 17</i>			<i>January 18</i>			<i>January 19</i>			<i>January 20</i>					
	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	+02.5	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	+02.5	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	39.0	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
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Achernar	335	23.4	S 57	08.5	Spica	158	26.5	S 11	15.8
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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	Deneb	49	28.9	N 45	21.1
Alphard	217	51.3	S 08	44.8	Enif	33	43.0	N 09	58.0
Regulus	207	38.3	N 11	52.1	Alnair	27	38.5	S 46	52.0
Dubhe	193	45.6	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

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	+02.4	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

2020 - First Point of Aries / Selected Stars

UT	day 26 of 366			day 27 of 366			day 28 of 366			day 29 of 366			day 30 of 366			UT		
	<i>January 26</i>			<i>January 27</i>			<i>January 28</i>			<i>January 29</i>			<i>January 30</i>					
	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	+02.5	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
Schedir	349	35.6	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	26.4	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

2020 - First Point of Aries / Selected Stars

UT	day 31 of 366 January 31		day 32 of 366 February 1		day 33 of 366 February 2		day 34 of 366 February 3		day 35 of 366 February 4		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	+02.4	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

	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

2020 - First Point of Aries / Selected Stars

UT	day 36 of 366			day 37 of 366			day 38 of 366			day 39 of 366			day 40 of 366			UT		
	February 5			February 6			February 7			February 8			February 9					
	GHA	ddGHA		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	138	33.5	+02.5	00		
01	149	39.4	+02.5	150	38.5	+02.5	151	37.7	+02.4	152	36.8	+02.5	153	36.0	+02.4	01		
02	164	41.9	+02.4	165	41.0	+02.5	166	40.1	+02.5	167	39.3	+02.4	168	38.4	+02.5	02		
03	179	44.3	+02.5	180	43.5	+02.4	181	42.6	+02.5	182	41.7	+02.5	183	40.9	+02.4	03		
04	194	46.8	+02.4	195	45.9	+02.5	196	45.1	+02.4	197	44.2	+02.5	198	43.3	+02.5	04		
05	209	49.2	+02.5	210	48.4	+02.5	211	47.5	+02.5	212	46.7	+02.4	213	45.8	+02.5	05		
06	224	51.7	+02.5	225	50.9	+02.4	226	50.0	+02.5	227	49.1	+02.5	228	48.3	+02.4	06		
07	239	54.2	+02.4	240	53.3	+02.5	241	52.5	+02.4	242	51.6	+02.5	243	50.7	+02.5	07		
08	254	56.6	+02.5	255	55.8	+02.4	256	54.9	+02.5	257	54.1	+02.4	258	53.2	+02.5	08		
09	269	59.1	+02.5	270	58.2	+02.5	271	57.4	+02.4	272	56.5	+02.5	273	55.7	+02.4	09		
10	285	01.6	+02.4	286	00.7	+02.5	286	59.8	+02.5	287	59.0	+02.5	288	58.1	+02.5	10		
11	300	04.0	+02.5	301	03.2	+02.4	302	02.3	+02.5	303	01.5	+02.4	304	00.6	+02.5	11		
12	315	06.5	+02.5	316	05.6	+02.5	317	04.8	+02.4	318	03.9	+02.5	319	03.1	+02.4	12		
13	330	09.0	+02.4	331	08.1	+02.5	332	07.2	+02.5	333	06.4	+02.4	334	05.5	+02.5	13		
14	345	11.4	+02.5	346	10.6	+02.4	347	09.7	+02.5	348	08.8	+02.5	349	08.0	+02.4	14		
15	0	13.9	+02.5	1	13.0	+02.5	2	12.2	+02.4	3	11.3	+02.5	4	10.4	+02.5	15		
16	15	16.4	+02.4	16	15.5	+02.5	17	14.6	+02.5	18	13.8	+02.4	19	12.9	+02.5	16		
17	30	18.8	+02.5	31	18.0	+02.4	32	17.1	+02.5	33	16.2	+02.5	34	15.4	+02.4	17		
18	45	21.3	+02.4	46	20.4	+02.5	47	19.6	+02.4	48	18.7	+02.5	49	17.8	+02.5	18		
19	60	23.7	+02.5	61	22.9	+02.4	62	22.0	+02.5	63	21.2	+02.4	64	20.3	+02.5	19		
20	75	26.2	+02.5	76	25.3	+02.5	77	24.5	+02.5	78	23.6	+02.5	79	22.8	+02.4	20		
21	90	28.7	+02.4	91	27.8	+02.5	92	27.0	+02.4	93	26.1	+02.5	94	25.2	+02.5	21		
22	105	31.1	+02.5	106	30.3	+02.4	107	29.4	+02.5	108	28.6	+02.4	109	27.7	+02.5	22		
23	120	33.6	+02.5	121	32.7	+02.5	122	31.9	+02.4	123	31.0	+02.5	124	30.2	+02.4	23		

	SHA	Dec		SHA	Dec				
	°	'		°	'				
Alpheratz	357	39.1	N 29	12.1	Gienah	175	47.3	S 17	39.1
Ankaa	353	11.5	S 42	12.1	Acrux	173	03.8	S 63	12.3
Schedir	349	35.7	N 56	38.9	Gacrux	171	55.5	S 57	13.2
Diphda	348	51.5	S 17	52.9	Alioth	166	16.4	N 55	50.9
Achernar	335	23.5	S 57	08.5	Spica	158	26.3	S 11	15.9
Hamal	327	55.7	N 23	33.4	Alkaid	152	55.1	N 49	12.6
Polaris	315	47.4	N 89	21.2	Hadar	148	41.3	S 60	27.8
Acamar	315	14.8	S 40	13.9	Menkent	148	01.8	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	43.1	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	20.0	N 74	04.1
Rigel	281	07.5	S 08	11.0	Alphecca	126	07.2	N 26	38.8
Bellatrix	278	26.9	N 06	21.9	Antares	112	20.9	S 26	28.4
Elnath	278	06.6	N 28	37.4	Atria	107	18.8	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	42.7	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	38.0	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	15.6	S 59	34.5	Altair	62	04.3	N 08	55.1
Suhail	222	48.6	S 43	30.9	Peacock	53	12.6	S 56	40.2
Miaplacidus	221	37.7	S 69	48.0	Deneb	49	28.9	N 45	21.0
Alphard	217	51.3	S 08	44.8	Enif	33	43.0	N 09	57.9
Regulus	207	38.2	N 11	52.1	Alnair	27	38.5	S 46	52.0
Dubhe	193	45.4	N 61	38.4	Formalhaut	15	19.4	S 29	31.1
Denebola	182	28.6	N 14	27.6	Markab	13	34.1	N 15	18.7

2020 - First Point of Aries / Selected Stars

UT	day 41 of 366		day 42 of 366		day 43 of 366		day 44 of 366		day 45 of 366		UT					
	February 10		February 11		February 12		February 13		February 14							
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA						
	°	'	°	'	°	'	°	'	°	'						
00	139	32.6	+02.5	140	31.8	+02.4	141	30.9	+02.5	142	30.0	+02.5	143	29.2	+02.4	00
01	154	35.1	+02.5	155	34.2	+02.5	156	33.4	+02.4	157	32.5	+02.5	158	31.6	+02.5	01
02	169	37.6	+02.4	170	36.7	+02.5	171	35.8	+02.5	172	35.0	+02.4	173	34.1	+02.5	02
03	184	40.0	+02.5	185	39.2	+02.4	186	38.3	+02.5	187	37.4	+02.5	188	36.6	+02.4	03
04	199	42.5	+02.4	200	41.6	+02.5	201	40.8	+02.4	202	39.9	+02.5	203	39.0	+02.5	04
05	214	44.9	+02.5	215	44.1	+02.4	216	43.2	+02.5	217	42.4	+02.4	218	41.5	+02.5	05
06	229	47.4	+02.5	230	46.5	+02.5	231	45.7	+02.4	232	44.8	+02.5	233	44.0	+02.4	06
07	244	49.9	+02.4	245	49.0	+02.5	246	48.1	+02.5	247	47.3	+02.4	248	46.4	+02.5	07
08	259	52.3	+02.5	260	51.5	+02.4	261	50.6	+02.5	262	49.7	+02.5	263	48.9	+02.5	08
09	274	54.8	+02.5	275	53.9	+02.5	276	53.1	+02.4	277	52.2	+02.5	278	51.4	+02.4	09
10	289	57.3	+02.4	290	56.4	+02.5	291	55.5	+02.5	292	54.7	+02.4	293	53.8	+02.5	10
11	304	59.7	+02.5	305	58.9	+02.4	306	58.0	+02.5	307	57.1	+02.5	308	56.3	+02.4	11
12	320	02.2	+02.5	321	01.3	+02.5	322	00.5	+02.4	322	59.6	+02.5	323	58.7	+02.5	12
13	335	04.7	+02.4	336	03.8	+02.5	337	02.9	+02.5	338	02.1	+02.4	339	01.2	+02.5	13
14	350	07.1	+02.5	351	06.3	+02.4	352	05.4	+02.5	353	04.5	+02.5	354	03.7	+02.4	14
15	5	09.6	+02.5	6	08.7	+02.5	7	07.9	+02.4	8	07.0	+02.5	9	06.1	+02.5	15
16	20	12.1	+02.4	21	11.2	+02.5	22	10.3	+02.5	23	09.5	+02.4	24	08.6	+02.5	16
17	35	14.5	+02.5	36	13.7	+02.4	37	12.8	+02.5	38	11.9	+02.5	39	11.1	+02.4	17
18	50	17.0	+02.4	51	16.1	+02.5	52	15.3	+02.4	53	14.4	+02.5	54	13.5	+02.5	18
19	65	19.4	+02.5	66	18.6	+02.4	67	17.7	+02.5	68	16.9	+02.4	69	16.0	+02.5	19
20	80	21.9	+02.5	81	21.0	+02.5	82	20.2	+02.4	83	19.3	+02.5	84	18.5	+02.4	20
21	95	24.4	+02.4	96	23.5	+02.5	97	22.6	+02.5	98	21.8	+02.4	99	20.9	+02.5	21
22	110	26.8	+02.5	111	26.0	+02.4	112	25.1	+02.5	113	24.2	+02.5	114	23.4	+02.4	22
23	125	29.3	+02.5	126	28.4	+02.5	127	27.6	+02.4	128	26.7	+02.5	129	25.8	+02.5	23

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

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UT	day 46 of 366 February 15		day 47 of 366 February 16		day 48 of 366 February 17		day 49 of 366 February 18		day 50 of 366 February 19		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	148 24.9	+02.4	00
01	159 30.8	+02.4	160 29.9	+02.5	161 29.1	+02.4	162 28.2	+02.5	163 27.3	+02.5	01
02	174 33.2	+02.5	175 32.4	+02.4	176 31.5	+02.5	177 30.7	+02.4	178 29.8	+02.5	02
03	189 35.7	+02.5	190 34.8	+02.5	191 34.0	+02.4	192 33.1	+02.5	193 32.3	+02.4	03
04	204 38.2	+02.4	205 37.3	+02.5	206 36.4	+02.5	207 35.6	+02.5	208 34.7	+02.5	04
05	219 40.6	+02.5	220 39.8	+02.4	221 38.9	+02.5	222 38.1	+02.4	223 37.2	+02.5	05
06	234 43.1	+02.5	235 42.2	+02.5	236 41.4	+02.4	237 40.5	+02.5	238 39.7	+02.4	06
07	249 45.6	+02.4	250 44.7	+02.5	251 43.8	+02.5	252 43.0	+02.4	253 42.1	+02.5	07
08	264 48.0	+02.5	265 47.2	+02.4	266 46.3	+02.5	267 45.4	+02.5	268 44.6	+02.4	08
09	279 50.5	+02.5	280 49.6	+02.5	281 48.8	+02.4	282 47.9	+02.5	283 47.0	+02.5	09
10	294 53.0	+02.4	295 52.1	+02.5	296 51.2	+02.5	297 50.4	+02.4	298 49.5	+02.5	10
11	309 55.4	+02.5	310 54.6	+02.4	311 53.7	+02.5	312 52.8	+02.5	313 52.0	+02.4	11
12	324 57.9	+02.4	325 57.0	+02.5	326 56.2	+02.4	327 55.3	+02.5	328 54.4	+02.5	12
13	340 00.3	+02.5	340 59.5	+02.4	341 58.6	+02.5	342 57.8	+02.4	343 56.9	+02.5	13
14	355 02.8	+02.5	356 01.9	+02.5	357 01.1	+02.5	358 00.2	+02.5	358 59.4	+02.4	14
15	10 05.3	+02.4	11 04.4	+02.5	12 03.6	+02.4	13 02.7	+02.5	14 01.8	+02.5	15
16	25 07.7	+02.5	26 06.9	+02.4	27 06.0	+02.5	28 05.2	+02.4	29 04.3	+02.5	16
17	40 10.2	+02.5	41 09.3	+02.5	42 08.5	+02.4	43 07.6	+02.5	44 06.8	+02.4	17
18	55 12.7	+02.4	56 11.8	+02.5	57 10.9	+02.5	58 10.1	+02.4	59 09.2	+02.5	18
19	70 15.1	+02.5	71 14.3	+02.4	72 13.4	+02.5	73 12.5	+02.5	74 11.7	+02.5	19
20	85 17.6	+02.5	86 16.7	+02.5	87 15.9	+02.4	88 15.0	+02.5	89 14.2	+02.4	20
21	100 20.1	+02.4	101 19.2	+02.5	102 18.3	+02.5	103 17.5	+02.4	104 16.6	+02.5	21
22	115 22.5	+02.5	116 21.7	+02.4	117 20.8	+02.5	118 19.9	+02.5	119 19.1	+02.4	22
23	130 25.0	+02.5	131 24.1	+02.5	132 23.3	+02.4	133 22.4	+02.5	134 21.5	+02.5	23

	SHA	Dec		SHA	Dec
	° ,	° ,		° ,	° ,
Alpheratz	357 39.1	N 29 12.0	Gienah	175 47.3	S 17 39.2
Ankaa	353 11.5	S 42 12.0	Acrux	173 03.7	S 63 12.4
Schedir	349 35.8	N 56 38.9	Gacrux	171 55.4	S 57 13.2
Diphda	348 51.6	S 17 52.9	Alioth	166 16.3	N 55 50.9
Achernar	335 23.6	S 57 08.5	Spica	158 26.2	S 11 15.9
Hamal	327 55.8	N 23 33.4	Alkaid	152 55.0	N 49 12.6
Polaris	315 52.3	N 89 21.2	Hadar	148 41.1	S 60 27.8
Acamar	315 14.9	S 40 13.9	Menkent	148 01.8	S 36 27.6
Menkar	314 10.3	N 04 09.9	Arcturus	145 51.1	N 19 05.2
Mirfak	308 33.8	N 49 56.0	Rigel Kentaurus	139 43.0	S 60 54.9
Aldebaran	290 44.0	N 16 32.9	Zubenelgenubi	137 00.2	S 16 07.4
Capella	280 27.5	N 46 01.2	Kocab	137 19.8	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 20.8	S 26 28.4
Elnath	278 06.6	N 28 37.4	Atria	107 18.6	S 69 03.4
Alnilam	275 41.5	S 01 11.6	Sabik	102 07.4	S 15 44.9
Betelgeuze	270 56.1	N 07 24.5	Shaula	96 15.9	S 37 06.9
Canopus	263 53.8	S 52 42.7	Rasalhague	96 02.4	N 12 32.7
Sirius	258 29.3	S 16 44.5	Etamin	90 44.3	N 51 29.0
Adhara	255 08.6	S 29 00.2	Kaus Australis	83 38.0	S 34 22.3
Castor	246 01.7	N 31 50.6	Vega	80 36.2	N 38 47.9
Procyon	244 54.5	N 05 10.6	Nunki	75 52.9	S 26 16.2
Pollux	243 21.5	N 27 58.6	Albireo	67 07.5	N 27 60.0
Avior	234 15.6	S 59 34.6	Altair	62 04.2	N 08 55.1
Suhail	222 48.6	S 43 30.9	Peacock	53 12.6	S 56 40.1
Miaplacidus	221 37.7	S 69 48.0	Deneb	49 28.8	N 45 21.0
Alphard	217 51.3	S 08 44.8	Enif	33 43.0	N 09 57.9
Regulus	207 38.2	N 11 52.1	Alnair	27 38.5	S 46 51.9
Dubhe	193 45.3	N 61 38.5	Formalhaut	15 19.4	S 29 31.1
Denebola	182 28.6	N 14 27.6	Markab	13 34.1	N 15 18.7

2020 - First Point of Aries / Selected Stars

UT	day 51 of 366 February 20		day 52 of 366 February 21		day 53 of 366 February 22		day 54 of 366 February 23		day 55 of 366 February 24		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	153 20.6	+02.4	00
01	164 26.5	+02.4	165 25.6	+02.5	166 24.8	+02.4	167 23.9	+02.5	168 23.0	+02.5	01
02	179 28.9	+02.5	180 28.1	+02.4	181 27.2	+02.5	182 26.4	+02.4	183 25.5	+02.5	02
03	194 31.4	+02.5	195 30.5	+02.5	196 29.7	+02.4	197 28.8	+02.5	198 28.0	+02.4	03
04	209 33.9	+02.4	210 33.0	+02.5	211 32.1	+02.5	212 31.3	+02.4	213 30.4	+02.5	04
05	224 36.3	+02.5	225 35.5	+02.4	226 34.6	+02.5	227 33.7	+02.5	228 32.9	+02.4	05
06	239 38.8	+02.5	240 37.9	+02.5	241 37.1	+02.4	242 36.2	+02.5	243 35.3	+02.5	06
07	254 41.3	+02.4	255 40.4	+02.5	256 39.5	+02.5	257 38.7	+02.4	258 37.8	+02.5	07
08	269 43.7	+02.5	270 42.9	+02.4	271 42.0	+02.5	272 41.1	+02.5	273 40.3	+02.4	08
09	284 46.2	+02.5	285 45.3	+02.5	286 44.5	+02.4	287 43.6	+02.5	288 42.7	+02.5	09
10	299 48.7	+02.4	300 47.8	+02.5	301 46.9	+02.5	302 46.1	+02.4	303 45.2	+02.5	10
11	314 51.1	+02.5	315 50.3	+02.4	316 49.4	+02.5	317 48.5	+02.5	318 47.7	+02.4	11
12	329 53.6	+02.4	330 52.7	+02.5	331 51.9	+02.4	332 51.0	+02.5	333 50.1	+02.5	12
13	344 56.0	+02.5	345 55.2	+02.4	346 54.3	+02.5	347 53.5	+02.4	348 52.6	+02.5	13
14	359 58.5	+02.5	0 57.6	+02.5	1 56.8	+02.5	2 55.9	+02.5	3 55.1	+02.4	14
15	15 01.0	+02.4	16 00.1	+02.5	16 59.3	+02.4	17 58.4	+02.5	18 57.5	+02.5	15
16	30 03.4	+02.5	31 02.6	+02.4	32 01.7	+02.5	33 00.9	+02.4	33 60.0	+02.5	16
17	45 05.9	+02.5	46 05.0	+02.5	47 04.2	+02.4	48 03.3	+02.5	49 02.5	+02.4	17
18	60 08.4	+02.4	61 07.5	+02.5	62 06.6	+02.5	63 05.8	+02.4	64 04.9	+02.5	18
19	75 10.8	+02.5	76 10.0	+02.4	77 09.1	+02.5	78 08.2	+02.5	79 07.4	+02.4	19
20	90 13.3	+02.5	91 12.4	+02.5	92 11.6	+02.4	93 10.7	+02.5	94 09.8	+02.5	20
21	105 15.8	+02.4	106 14.9	+02.5	107 14.0	+02.5	108 13.2	+02.4	109 12.3	+02.5	21
22	120 18.2	+02.5	121 17.4	+02.4	122 16.5	+02.5	123 15.6	+02.5	124 14.8	+02.4	22
23	135 20.7	+02.4	136 19.8	+02.5	137 19.0	+02.4	138 18.1	+02.5	139 17.2	+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 03.7	S 63 12.4
Schedir	349 35.8	N 56 38.9	Gacrux	171 55.4	S 57 13.2
Diphda	348 51.6	S 17 52.9	Alioth	166 16.3	N 55 50.9
Achernar	335 23.6	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 54.5	N 89 21.2	Hadar	148 41.1	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 33.8	N 49 56.0	Rigel Kentaurus	139 42.9	S 60 54.9
Aldebaran	290 44.0	N 16 32.9	Zubenelgenubi	137 00.2	S 16 07.4
Capella	280 27.5	N 46 01.2	Kocab	137 19.7	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 20.8	S 26 28.4
Elnath	278 06.7	N 28 37.4	Atria	107 18.5	S 69 03.4
Alnilam	275 41.6	S 01 11.6	Sabik	102 07.4	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 44.3	N 51 29.0
Adhara	255 08.6	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 47.9
Procyon	244 54.5	N 05 10.6	Nunki	75 52.9	S 26 16.2
Pollux	243 21.5	N 27 58.6	Albireo	67 07.5	N 27 60.0
Avior	234 15.6	S 59 34.6	Altair	62 04.2	N 08 55.1
Suhail	222 48.6	S 43 30.9	Peacock	53 12.5	S 56 40.1
Miaplacidus	221 37.8	S 69 48.1	Deneb	49 28.8	N 45 21.0
Alphard	217 51.2	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 45.3	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 18.7

2020 - First Point of Aries / Selected Stars

UT	day 56 of 366			day 57 of 366			day 58 of 366			day 59 of 366			day 60 of 366			UT		
	February 25			February 26			February 27			February 28			February 29					
	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	+02.4	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	+02.5	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	48.1	Deneb	49	28.8	N 45	20.9
Alphard	217	51.2	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	18.7

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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					
	March 1		March 2		March 3		March 4		March 5							
	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	163	11.9	+02.5	00
01	174	17.9	+02.4	175	17.0	+02.5	176	16.1	+02.5	177	15.3	+02.4	178	14.4	+02.5	01
02	189	20.3	+02.5	190	19.5	+02.4	191	18.6	+02.5	192	17.7	+02.5	193	16.9	+02.4	02
03	204	22.8	+02.4	205	21.9	+02.5	206	21.1	+02.4	207	20.2	+02.5	208	19.3	+02.5	03
04	219	25.2	+02.5	220	24.4	+02.4	221	23.5	+02.5	222	22.7	+02.4	223	21.8	+02.5	04
05	234	27.7	+02.5	235	26.8	+02.5	236	26.0	+02.4	237	25.1	+02.5	238	24.3	+02.4	05
06	249	30.2	+02.4	250	29.3	+02.5	251	28.4	+02.5	252	27.6	+02.5	253	26.7	+02.5	06
07	264	32.6	+02.5	265	31.8	+02.4	266	30.9	+02.5	267	30.1	+02.4	268	29.2	+02.5	07
08	279	35.1	+02.5	280	34.2	+02.5	281	33.4	+02.4	282	32.5	+02.5	283	31.7	+02.4	08
09	294	37.6	+02.4	295	36.7	+02.5	296	35.8	+02.5	297	35.0	+02.4	298	34.1	+02.5	09
10	309	40.0	+02.5	310	39.2	+02.4	311	38.3	+02.5	312	37.4	+02.5	313	36.6	+02.4	10
11	324	42.5	+02.5	325	41.6	+02.5	326	40.8	+02.4	327	39.9	+02.5	328	39.0	+02.5	11
12	339	45.0	+02.4	340	44.1	+02.5	341	43.2	+02.5	342	42.4	+02.4	343	41.5	+02.5	12
13	354	47.4	+02.5	355	46.6	+02.4	356	45.7	+02.5	357	44.8	+02.5	358	44.0	+02.4	13
14	9	49.9	+02.4	10	49.0	+02.5	11	48.2	+02.4	12	47.3	+02.5	13	46.4	+02.5	14
15	24	52.3	+02.5	25	51.5	+02.5	26	50.6	+02.5	27	49.8	+02.4	28	48.9	+02.5	15
16	39	54.8	+02.5	40	54.0	+02.4	41	53.1	+02.5	42	52.2	+02.5	43	51.4	+02.4	16
17	54	57.3	+02.4	55	56.4	+02.5	56	55.6	+02.4	57	54.7	+02.5	58	53.8	+02.5	17
18	69	59.7	+02.5	70	58.9	+02.4	71	58.0	+02.5	72	57.2	+02.4	73	56.3	+02.5	18
19	85	02.2	+02.5	86	01.3	+02.5	87	00.5	+02.4	87	59.6	+02.5	88	58.8	+02.4	19
20	100	04.7	+02.4	101	03.8	+02.5	102	02.9	+02.5	103	02.1	+02.5	104	01.2	+02.5	20
21	115	07.1	+02.5	116	06.3	+02.4	117	05.4	+02.5	118	04.6	+02.4	119	03.7	+02.5	21
22	130	09.6	+02.5	131	08.7	+02.5	132	07.9	+02.4	133	07.0	+02.5	134	06.2	+02.4	22
23	145	12.1	+02.4	146	11.2	+02.5	147	10.3	+02.5	148	09.5	+02.4	149	08.6	+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	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

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UT	day 66 of 366		day 67 of 366		day 68 of 366		day 69 of 366		day 70 of 366		UT
	March 6		March 7		March 8		March 9		March 10		
	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	168	07.6 +02.5	00
01	179	13.5 +02.5	180	12.7 +02.5	181	11.8 +02.5	182	11.0 +02.4	183	10.1 +02.5	01
02	194	16.0 +02.5	195	15.2 +02.4	196	14.3 +02.5	197	13.4 +02.5	198	12.6 +02.4	02
03	209	18.5 +02.4	210	17.6 +02.5	211	16.8 +02.4	212	15.9 +02.5	213	15.0 +02.5	03
04	224	20.9 +02.5	225	20.1 +02.4	226	19.2 +02.5	227	18.4 +02.4	228	17.5 +02.5	04
05	239	23.4 +02.5	240	22.5 +02.5	241	21.7 +02.4	242	20.8 +02.5	243	20.0 +02.4	05
06	254	25.9 +02.4	255	25.0 +02.5	256	24.1 +02.5	257	23.3 +02.4	258	22.4 +02.5	06
07	269	28.3 +02.5	270	27.5 +02.4	271	26.6 +02.5	272	25.7 +02.5	273	24.9 +02.4	07
08	284	30.8 +02.5	285	29.9 +02.5	286	29.1 +02.4	287	28.2 +02.5	288	27.3 +02.5	08
09	299	33.3 +02.4	300	32.4 +02.5	301	31.5 +02.5	302	30.7 +02.4	303	29.8 +02.5	09
10	314	35.7 +02.5	315	34.9 +02.4	316	34.0 +02.5	317	33.1 +02.5	318	32.3 +02.4	10
11	329	38.2 +02.5	330	37.3 +02.5	331	36.5 +02.4	332	35.6 +02.5	333	34.7 +02.5	11
12	344	40.7 +02.4	345	39.8 +02.5	346	38.9 +02.5	347	38.1 +02.4	348	37.2 +02.5	12
13	359	43.1 +02.5	0	42.3 +02.4	1	41.4 +02.5	2	40.5 +02.5	3	39.7 +02.4	13
14	14	45.6 +02.4	15	44.7 +02.5	16	43.9 +02.4	17	43.0 +02.5	18	42.1 +02.5	14
15	29	48.0 +02.5	30	47.2 +02.4	31	46.3 +02.5	32	45.5 +02.4	33	44.6 +02.5	15
16	44	50.5 +02.5	45	49.6 +02.5	46	48.8 +02.5	47	47.9 +02.5	48	47.1 +02.4	16
17	59	53.0 +02.4	60	52.1 +02.5	61	51.3 +02.4	62	50.4 +02.5	63	49.5 +02.5	17
18	74	55.4 +02.5	75	54.6 +02.4	76	53.7 +02.5	77	52.9 +02.4	78	52.0 +02.5	18
19	89	57.9 +02.5	90	57.0 +02.5	91	56.2 +02.4	92	55.3 +02.5	93	54.5 +02.4	19
20	105	00.4 +02.4	105	59.5 +02.5	106	58.6 +02.5	107	57.8 +02.4	108	56.9 +02.5	20
21	120	02.8 +02.5	121	02.0 +02.4	122	01.1 +02.5	123	00.2 +02.5	123	59.4 +02.4	21
22	135	05.3 +02.5	136	04.4 +02.5	137	03.6 +02.4	138	02.7 +02.5	139	01.8 +02.5	22
23	150	07.8 +02.4	151	06.9 +02.5	152	06.0 +02.5	153	05.2 +02.4	154	04.3 +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 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 51.8
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

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UT	day 71 of 366		day 72 of 366		day 73 of 366		day 74 of 366		day 75 of 366		UT					
	March 11		March 12		March 13		March 14		March 15							
	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

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UT	day 76 of 366			day 77 of 366			day 78 of 366			day 79 of 366			day 80 of 366			UT		
	March 16			March 17			March 18			March 19			March 20					
	GHA	ddGHA		GHA	ddGHA		GHA	ddGHA		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	+02.4	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	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	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	38.3	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

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UT	day 81 of 366		day 82 of 366		day 83 of 366		day 84 of 366		day 85 of 366		UT					
	March 21		March 22		March 23		March 24		March 25							
	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	+02.4	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

	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

2020 - First Point of Aries / Selected Stars

UT	day 86 of 366		day 87 of 366		day 88 of 366		day 89 of 366		day 90 of 366		UT					
	March 26		March 27		March 28		March 29		March 30							
	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	+02.5	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	+02.4	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	+02.4	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	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	53	12.2	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	57.8
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

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					
	March 31		April 1		April 2		April 3		April 4							
	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	+02.4	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

	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

2020 - First Point of Aries / Selected Stars

UT	day 96 of 366		day 97 of 366		day 98 of 366		day 99 of 366		day 100 of 366		UT
	April 5		April 6		April 7		April 8		April 9		
	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	197	41.8 +02.4	00
01	208	47.7 +02.5	209	46.8 +02.5	210	46.0 +02.4	211	45.1 +02.5	212	44.2 +02.5	01
02	223	50.2 +02.4	224	49.3 +02.5	225	48.4 +02.5	226	47.6 +02.4	227	46.7 +02.5	02
03	238	52.6 +02.5	239	51.8 +02.4	240	50.9 +02.5	241	50.0 +02.5	242	49.2 +02.4	03
04	253	55.1 +02.5	254	54.2 +02.5	255	53.4 +02.4	256	52.5 +02.5	257	51.6 +02.5	04
05	268	57.6 +02.4	269	56.7 +02.5	270	55.8 +02.5	271	55.0 +02.4	272	54.1 +02.5	05
06	284	00.0 +02.5	284	59.2 +02.4	285	58.3 +02.5	286	57.4 +02.5	287	56.6 +02.4	06
07	299	02.5 +02.4	300	01.6 +02.5	301	00.8 +02.4	301	59.9 +02.5	302	59.0 +02.5	07
08	314	04.9 +02.5	315	04.1 +02.4	316	03.2 +02.5	317	02.4 +02.4	318	01.5 +02.5	08
09	329	07.4 +02.5	330	06.5 +02.5	331	05.7 +02.4	332	04.8 +02.5	333	04.0 +02.4	09
10	344	09.9 +02.4	345	09.0 +02.5	346	08.1 +02.5	347	07.3 +02.4	348	06.4 +02.5	10
11	359	12.3 +02.5	0	11.5 +02.4	1	10.6 +02.5	2	09.7 +02.5	3	08.9 +02.4	11
12	14	14.8 +02.5	15	13.9 +02.5	16	13.1 +02.4	17	12.2 +02.5	18	11.3 +02.5	12
13	29	17.3 +02.4	30	16.4 +02.5	31	15.5 +02.5	32	14.7 +02.4	33	13.8 +02.5	13
14	44	19.7 +02.5	45	18.9 +02.4	46	18.0 +02.5	47	17.1 +02.5	48	16.3 +02.4	14
15	59	22.2 +02.5	60	21.3 +02.5	61	20.5 +02.4	62	19.6 +02.5	63	18.7 +02.5	15
16	74	24.7 +02.4	75	23.8 +02.5	76	22.9 +02.5	77	22.1 +02.4	78	21.2 +02.5	16
17	89	27.1 +02.5	90	26.3 +02.4	91	25.4 +02.5	92	24.5 +02.5	93	23.7 +02.4	17
18	104	29.6 +02.4	105	28.7 +02.5	106	27.9 +02.4	107	27.0 +02.5	108	26.1 +02.5	18
19	119	32.0 +02.5	120	31.2 +02.4	121	30.3 +02.5	122	29.5 +02.4	123	28.6 +02.5	19
20	134	34.5 +02.5	135	33.6 +02.5	136	32.8 +02.4	137	31.9 +02.5	138	31.1 +02.4	20
21	149	37.0 +02.4	150	36.1 +02.5	151	35.2 +02.5	152	34.4 +02.5	153	33.5 +02.5	21
22	164	39.4 +02.5	165	38.6 +02.4	166	37.7 +02.5	167	36.9 +02.4	168	36.0 +02.5	22
23	179	41.9 +02.5	180	41.0 +02.5	181	40.2 +02.4	182	39.3 +02.5	183	38.5 +02.4	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	35.9	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 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

2020 - First Point of Aries / Selected Stars

UT	day 101 of 366 <i>April 10</i>		day 102 of 366 <i>April 11</i>		day 103 of 366 <i>April 12</i>		day 104 of 366 <i>April 13</i>		day 105 of 366 <i>April 14</i>		UT
	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

	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

2020 - First Point of Aries / Selected Stars

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 +02.5	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 +02.5	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 39.0	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

2020 - First Point of Aries / Selected Stars

UT	day 111 of 366			day 112 of 366			day 113 of 366			day 114 of 366			day 115 of 366			UT
	<i>April 20</i>			<i>April 21</i>			<i>April 22</i>			<i>April 23</i>			<i>April 24</i>			
	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	212	28.9	+02.4	00
01	223	34.8	+02.4	224	33.9	+02.5	225	33.0	+02.5	226	32.2	+02.4	227	31.3	+02.5	01
02	238	37.2	+02.5	239	36.4	+02.4	240	35.5	+02.5	241	34.6	+02.5	242	33.8	+02.4	02
03	253	39.7	+02.5	254	38.8	+02.5	255	38.0	+02.4	256	37.1	+02.5	257	36.2	+02.5	03
04	268	42.2	+02.4	269	41.3	+02.5	270	40.4	+02.5	271	39.6	+02.4	272	38.7	+02.5	04
05	283	44.6	+02.5	284	43.8	+02.4	285	42.9	+02.5	286	42.0	+02.5	287	41.2	+02.4	05
06	298	47.1	+02.5	299	46.2	+02.5	300	45.4	+02.4	301	44.5	+02.5	302	43.6	+02.5	06
07	313	49.6	+02.4	314	48.7	+02.5	315	47.8	+02.5	316	47.0	+02.4	317	46.1	+02.5	07
08	328	52.0	+02.5	329	51.2	+02.4	330	50.3	+02.5	331	49.4	+02.5	332	48.6	+02.4	08
09	343	54.5	+02.4	344	53.6	+02.5	345	52.8	+02.4	346	51.9	+02.5	347	51.0	+02.5	09
10	358	56.9	+02.5	359	56.1	+02.4	0	55.2	+02.5	1	54.4	+02.4	2	53.5	+02.5	10
11	13	59.4	+02.5	14	58.5	+02.5	15	57.7	+02.4	16	56.8	+02.5	17	56.0	+02.4	11
12	29	01.9	+02.4	30	01.0	+02.5	31	00.1	+02.5	31	59.3	+02.4	32	58.4	+02.5	12
13	44	04.3	+02.5	45	03.5	+02.4	46	02.6	+02.5	47	01.7	+02.5	48	00.9	+02.5	13
14	59	06.8	+02.5	60	05.9	+02.5	61	05.1	+02.4	62	04.2	+02.5	63	03.4	+02.4	14
15	74	09.3	+02.4	75	08.4	+02.5	76	07.5	+02.5	77	06.7	+02.4	78	05.8	+02.5	15
16	89	11.7	+02.5	90	10.9	+02.4	91	10.0	+02.5	92	09.1	+02.5	93	08.3	+02.4	16
17	104	14.2	+02.5	105	13.3	+02.5	106	12.5	+02.4	107	11.6	+02.5	108	10.7	+02.5	17
18	119	16.7	+02.4	120	15.8	+02.5	121	14.9	+02.5	122	14.1	+02.4	123	13.2	+02.5	18
19	134	19.1	+02.5	135	18.3	+02.4	136	17.4	+02.5	137	16.5	+02.5	138	15.7	+02.4	19
20	149	21.6	+02.4	150	20.7	+02.5	151	19.9	+02.4	152	19.0	+02.5	153	18.1	+02.5	20
21	164	24.0	+02.5	165	23.2	+02.5	166	22.3	+02.5	167	21.5	+02.4	168	20.6	+02.5	21
22	179	26.5	+02.5	180	25.7	+02.4	181	24.8	+02.5	182	23.9	+02.5	183	23.1	+02.4	22
23	194	29.0	+02.4	195	28.1	+02.5	196	27.3	+02.4	197	26.4	+02.5	198	25.5	+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

2020 - First Point of Aries / Selected Stars

UT	day 116 of 366 April 25		day 117 of 366 April 26		day 118 of 366 April 27		day 119 of 366 April 28		day 120 of 366 April 29		UT
	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
Hamal	327 55.9	N 23 33.3	Alkaid	152 54.6	N 49 12.8
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

2020 - First Point of Aries / Selected Stars

UT	day 121 of 366 April 30		day 122 of 366 May 1		day 123 of 366 May 2		day 124 of 366 May 3		day 125 of 366 May 4		UT
	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	222	20.2 +02.5	00
01	233	26.2 +02.4	234	25.3 +02.5	235	24.4 +02.5	236	23.6 +02.4	237	22.7 +02.5	01
02	248	28.6 +02.5	249	27.8 +02.4	250	26.9 +02.5	251	26.0 +02.5	252	25.2 +02.4	02
03	263	31.1 +02.4	264	30.2 +02.5	265	29.4 +02.4	266	28.5 +02.5	267	27.6 +02.5	03
04	278	33.5 +02.5	279	32.7 +02.5	280	31.8 +02.5	281	31.0 +02.4	282	30.1 +02.5	04
05	293	36.0 +02.5	294	35.2 +02.4	295	34.3 +02.5	296	33.4 +02.5	297	32.6 +02.4	05
06	308	38.5 +02.4	309	37.6 +02.5	310	36.8 +02.4	311	35.9 +02.5	312	35.0 +02.5	06
07	323	40.9 +02.5	324	40.1 +02.4	325	39.2 +02.5	326	38.4 +02.4	327	37.5 +02.5	07
08	338	43.4 +02.5	339	42.5 +02.5	340	41.7 +02.4	341	40.8 +02.5	342	40.0 +02.4	08
09	353	45.9 +02.4	354	45.0 +02.5	355	44.1 +02.5	356	43.3 +02.4	357	42.4 +02.5	09
10	8	48.3 +02.5	9	47.5 +02.4	10	46.6 +02.5	11	45.7 +02.5	12	44.9 +02.4	10
11	23	50.8 +02.5	24	49.9 +02.5	25	49.1 +02.4	26	48.2 +02.5	27	47.3 +02.5	11
12	38	53.3 +02.4	39	52.4 +02.5	40	51.5 +02.5	41	50.7 +02.4	42	49.8 +02.5	12
13	53	55.7 +02.5	54	54.9 +02.4	55	54.0 +02.5	56	53.1 +02.5	57	52.3 +02.4	13
14	68	58.2 +02.5	69	57.3 +02.5	70	56.5 +02.4	71	55.6 +02.5	72	54.7 +02.5	14
15	84	00.7 +02.4	84	59.8 +02.5	85	58.9 +02.5	86	58.1 +02.4	87	57.2 +02.5	15
16	99	03.1 +02.5	100	02.3 +02.4	101	01.4 +02.5	102	00.5 +02.5	102	59.7 +02.4	16
17	114	05.6 +02.4	115	04.7 +02.5	116	03.9 +02.4	117	03.0 +02.5	118	02.1 +02.5	17
18	129	08.0 +02.5	130	07.2 +02.4	131	06.3 +02.5	132	05.5 +02.4	133	04.6 +02.5	18
19	144	10.5 +02.5	145	09.6 +02.5	146	08.8 +02.5	147	07.9 +02.5	148	07.1 +02.4	19
20	159	13.0 +02.4	160	12.1 +02.5	161	11.3 +02.4	162	10.4 +02.5	163	09.5 +02.5	20
21	174	15.4 +02.5	175	14.6 +02.4	176	13.7 +02.5	177	12.9 +02.4	178	12.0 +02.5	21
22	189	17.9 +02.5	190	17.0 +02.5	191	16.2 +02.4	192	15.3 +02.5	193	14.5 +02.4	22
23	204	20.4 +02.4	205	19.5 +02.5	206	18.6 +02.5	207	17.8 +02.4	208	16.9 +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 11.4	S 42 11.7	Acrux	173 03.5	S 63 12.8
Schedir	349 35.7	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
Hamal	327 55.9	N 23 33.3	Alkaid	152 54.6	N 49 12.9
Polaris	316 13.4	N 89 20.9	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 09.9	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 04.4
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 07.0	N 28 37.4	Atria	107 17.3	S 69 03.6
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 15.2	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 00.2	Kaus Australis	83 37.3	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 52.3	S 26 16.2
Pollux	243 21.8	N 27 58.7	Albireo	67 07.0	N 27 59.9
Avior	234 16.2	S 59 34.8	Altair	62 03.7	N 08 55.1
Suhail	222 49.0	S 43 31.1	Peacock	53 11.7	S 56 39.9
Miaplacidus	221 38.6	S 69 48.4	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 45.4	N 61 38.8	Formalhaut	15 19.1	S 29 30.9
Denebola	182 28.5	N 14 27.6	Markab	13 33.9	N 15 18.6

2020 - First Point of Aries / Selected Stars

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	227	15.9 +02.5	00
01	238	21.8 +02.5	239	21.0 +02.4	240	20.1 +02.5	241	19.3 +02.4	242	18.4 +02.5	01
02	253	24.3 +02.5	254	23.4 +02.5	255	22.6 +02.5	256	21.7 +02.5	257	20.9 +02.4	02
03	268	26.8 +02.4	269	25.9 +02.5	270	25.1 +02.4	271	24.2 +02.5	272	23.3 +02.5	03
04	283	29.2 +02.5	284	28.4 +02.4	285	27.5 +02.5	286	26.7 +02.4	287	25.8 +02.5	04
05	298	31.7 +02.5	299	30.8 +02.5	300	30.0 +02.4	301	29.1 +02.5	302	28.3 +02.4	05
06	313	34.2 +02.4	314	33.3 +02.5	315	32.4 +02.5	316	31.6 +02.4	317	30.7 +02.5	06
07	328	36.6 +02.5	329	35.8 +02.4	330	34.9 +02.5	331	34.0 +02.5	332	33.2 +02.5	07
08	343	39.1 +02.5	344	38.2 +02.5	345	37.4 +02.4	346	36.5 +02.5	347	35.7 +02.4	08
09	358	41.6 +02.4	359	40.7 +02.5	0	39.8 +02.5	1	39.0 +02.4	2	38.1 +02.5	09
10	13	44.0 +02.5	14	43.2 +02.4	15	42.3 +02.5	16	41.4 +02.5	17	40.6 +02.4	10
11	28	46.5 +02.5	29	45.6 +02.5	30	44.8 +02.4	31	43.9 +02.5	32	43.0 +02.5	11
12	43	49.0 +02.4	44	48.1 +02.5	45	47.2 +02.5	46	46.4 +02.4	47	45.5 +02.5	12
13	58	51.4 +02.5	59	50.6 +02.4	60	49.7 +02.5	61	48.8 +02.5	62	48.0 +02.4	13
14	73	53.9 +02.4	74	53.0 +02.5	75	52.2 +02.4	76	51.3 +02.5	77	50.4 +02.5	14
15	88	56.3 +02.5	89	55.5 +02.4	90	54.6 +02.5	91	53.8 +02.4	92	52.9 +02.5	15
16	103	58.8 +02.5	104	57.9 +02.5	105	57.1 +02.4	106	56.2 +02.5	107	55.4 +02.4	16
17	119	01.3 +02.4	120	00.4 +02.5	120	59.5 +02.5	121	58.7 +02.5	122	57.8 +02.5	17
18	134	03.7 +02.5	135	02.9 +02.4	136	02.0 +02.5	137	01.2 +02.4	138	00.3 +02.5	18
19	149	06.2 +02.5	150	05.3 +02.5	151	04.5 +02.4	152	03.6 +02.5	153	02.8 +02.4	19
20	164	08.7 +02.4	165	07.8 +02.5	166	06.9 +02.5	167	06.1 +02.4	168	05.2 +02.5	20
21	179	11.1 +02.5	180	10.3 +02.4	181	09.4 +02.5	182	08.5 +02.5	183	07.7 +02.4	21
22	194	13.6 +02.5	195	12.7 +02.5	196	11.9 +02.4	197	11.0 +02.5	198	10.1 +02.5	22
23	209	16.1 +02.4	210	15.2 +02.5	211	14.3 +02.5	212	13.5 +02.4	213	12.6 +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 11.7	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 13.5	N 89 20.9	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 09.9	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 04.4
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 20.2	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 15.2	S 37 06.9
Canopus	263 54.4	S 52 42.7	Rasalhague	96 01.8	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 00.2	Kaus Australis	83 37.3	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 52.3	S 26 16.2
Pollux	243 21.8	N 27 58.7	Albireo	67 06.9	N 27 59.9
Avior	234 16.3	S 59 34.8	Altair	62 03.7	N 08 55.1
Suhail	222 49.0	S 43 31.1	Peacock	53 11.7	S 56 39.9
Miaplacidus	221 38.7	S 69 48.4	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 37.9	S 46 51.6
Dubhe	193 45.4	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

2020 - First Point of Aries / Selected Stars

UT	day 131 of 366 May 10		day 132 of 366 May 11		day 133 of 366 May 12		day 134 of 366 May 13		day 135 of 366 May 14		UT
	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 +02.5	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

2020 - First Point of Aries / Selected Stars

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	237	07.3 +02.5	00
01	248	13.2 +02.5	249	12.4 +02.4	250	11.5 +02.5	251	10.7 +02.4	252	09.8 +02.5	01
02	263	15.7 +02.5	264	14.8 +02.5	265	14.0 +02.4	266	13.1 +02.5	267	12.3 +02.4	02
03	278	18.2 +02.4	279	17.3 +02.5	280	16.4 +02.5	281	15.6 +02.4	282	14.7 +02.5	03
04	293	20.6 +02.5	294	19.8 +02.4	295	18.9 +02.5	296	18.0 +02.5	297	17.2 +02.4	04
05	308	23.1 +02.5	309	22.2 +02.5	310	21.4 +02.4	311	20.5 +02.5	312	19.6 +02.5	05
06	323	25.6 +02.4	324	24.7 +02.5	325	23.8 +02.5	326	23.0 +02.4	327	22.1 +02.5	06
07	338	28.0 +02.5	339	27.2 +02.4	340	26.3 +02.5	341	25.4 +02.5	342	24.6 +02.4	07
08	353	30.5 +02.5	354	29.6 +02.5	355	28.8 +02.4	356	27.9 +02.5	357	27.0 +02.5	08
09	8	33.0 +02.4	9	32.1 +02.5	10	31.2 +02.5	11	30.4 +02.4	12	29.5 +02.5	09
10	23	35.4 +02.5	24	34.6 +02.4	25	33.7 +02.5	26	32.8 +02.5	27	32.0 +02.4	10
11	38	37.9 +02.4	39	37.0 +02.5	40	36.2 +02.4	41	35.3 +02.5	42	34.4 +02.5	11
12	53	40.3 +02.5	54	39.5 +02.4	55	38.6 +02.5	56	37.8 +02.4	57	36.9 +02.5	12
13	68	42.8 +02.5	69	41.9 +02.5	70	41.1 +02.4	71	40.2 +02.5	72	39.4 +02.4	13
14	83	45.3 +02.4	84	44.4 +02.5	85	43.5 +02.5	86	42.7 +02.5	87	41.8 +02.5	14
15	98	47.7 +02.5	99	46.9 +02.4	100	46.0 +02.5	101	45.2 +02.4	102	44.3 +02.5	15
16	113	50.2 +02.5	114	49.3 +02.5	115	48.5 +02.4	116	47.6 +02.5	117	46.8 +02.4	16
17	128	52.7 +02.4	129	51.8 +02.5	130	50.9 +02.5	131	50.1 +02.4	132	49.2 +02.5	17
18	143	55.1 +02.5	144	54.3 +02.4	145	53.4 +02.5	146	52.5 +02.5	147	51.7 +02.4	18
19	158	57.6 +02.5	159	56.7 +02.5	160	55.9 +02.4	161	55.0 +02.5	162	54.1 +02.5	19
20	174	00.1 +02.4	174	59.2 +02.5	175	58.3 +02.5	176	57.5 +02.4	177	56.6 +02.5	20
21	189	02.5 +02.5	190	01.7 +02.4	191	00.8 +02.5	191	59.9 +02.5	192	59.1 +02.4	21
22	204	05.0 +02.5	205	04.1 +02.5	206	03.3 +02.4	207	02.4 +02.5	208	01.5 +02.5	22
23	219	07.5 +02.4	220	06.6 +02.5	221	05.7 +02.5	222	04.9 +02.4	223	04.0 +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 11.3	S 42 11.6	Acrux	173 03.6	S 63 12.8
Schedir	349 35.6	N 56 38.6	Gacrux	171 55.3	S 57 13.7
Diphda	348 51.4	S 17 52.6	Alioth	166 16.1	N 55 51.2
Achernar	335 23.7	S 57 08.0	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 12.2	N 89 20.8	Hadar	148 40.6	S 60 28.3
Acamar	315 15.1	S 40 13.5	Menkent	148 01.3	S 36 27.9
Menkar	314 10.4	N 04 10.0	Arcturus	145 50.7	N 19 05.4
Mirfak	308 34.1	N 49 55.8	Rigel Kentaurus	139 42.3	S 60 55.3
Aldebaran	290 44.3	N 16 32.9	Zubenelgenubi	136 59.8	S 16 07.5
Capella	280 27.9	N 46 01.1	Kocab	137 18.8	N 74 04.5
Rigel	281 07.8	S 08 10.9	Alphecca	126 06.6	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 17.1	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 29.1
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 35.5	N 38 47.9
Procyon	244 54.8	N 05 10.6	Nunki	75 52.2	S 26 16.1
Pollux	243 21.8	N 27 58.7	Albireo	67 06.9	N 27 60.0
Avior	234 16.4	S 59 34.8	Altair	62 03.6	N 08 55.1
Suhail	222 49.1	S 43 31.1	Peacock	53 11.5	S 56 39.9
Miaplacidus	221 38.8	S 69 48.4	Deneb	49 28.2	N 45 20.9
Alphard	217 51.5	S 08 44.9	Enif	33 42.5	N 09 57.9
Regulus	207 38.3	N 11 52.1	Alnair	27 37.8	S 46 51.6
Dubhe	193 45.5	N 61 38.8	Formalhaut	15 18.9	S 29 30.8
Denebola	182 28.5	N 14 27.6	Markab	13 33.7	N 15 18.7

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	242	03.0 +02.5	00
01	253	08.9 +02.5	254	08.1 +02.4	255	07.2 +02.5	256	06.3 +02.5	257	05.5 +02.5	01
02	268	11.4 +02.5	269	10.5 +02.5	270	09.7 +02.4	271	08.8 +02.5	272	08.0 +02.4	02
03	283	13.9 +02.4	284	13.0 +02.5	285	12.1 +02.5	286	11.3 +02.4	287	10.4 +02.5	03
04	298	16.3 +02.5	299	15.5 +02.4	300	14.6 +02.5	301	13.7 +02.5	302	12.9 +02.4	04
05	313	18.8 +02.5	314	17.9 +02.5	315	17.1 +02.4	316	16.2 +02.5	317	15.3 +02.5	05
06	328	21.3 +02.4	329	20.4 +02.5	330	19.5 +02.5	331	18.7 +02.4	332	17.8 +02.5	06
07	343	23.7 +02.5	344	22.9 +02.4	345	22.0 +02.5	346	21.1 +02.5	347	20.3 +02.4	07
08	358	26.2 +02.4	359	25.3 +02.5	0	24.5 +02.4	1	23.6 +02.5	2	22.7 +02.5	08
09	13	28.6 +02.5	14	27.8 +02.4	15	26.9 +02.5	16	26.1 +02.4	17	25.2 +02.5	09
10	28	31.1 +02.5	29	30.2 +02.5	30	29.4 +02.4	31	28.5 +02.5	32	27.7 +02.4	10
11	43	33.6 +02.4	44	32.7 +02.5	45	31.8 +02.5	46	31.0 +02.5	47	30.1 +02.5	11
12	58	36.0 +02.5	59	35.2 +02.4	60	34.3 +02.5	61	33.5 +02.4	62	32.6 +02.5	12
13	73	38.5 +02.5	74	37.6 +02.5	75	36.8 +02.4	76	35.9 +02.5	77	35.1 +02.4	13
14	88	41.0 +02.4	89	40.1 +02.5	90	39.2 +02.5	91	38.4 +02.4	92	37.5 +02.5	14
15	103	43.4 +02.5	104	42.6 +02.4	105	41.7 +02.5	106	40.8 +02.5	107	40.0 +02.4	15
16	118	45.9 +02.5	119	45.0 +02.5	120	44.2 +02.4	121	43.3 +02.5	122	42.4 +02.5	16
17	133	48.4 +02.4	134	47.5 +02.5	135	46.6 +02.5	136	45.8 +02.4	137	44.9 +02.5	17
18	148	50.8 +02.5	149	50.0 +02.4	150	49.1 +02.5	151	48.2 +02.5	152	47.4 +02.4	18
19	163	53.3 +02.4	164	52.4 +02.5	165	51.6 +02.4	166	50.7 +02.5	167	49.8 +02.5	19
20	178	55.7 +02.5	179	54.9 +02.5	180	54.0 +02.5	181	53.2 +02.4	182	52.3 +02.5	20
21	193	58.2 +02.5	194	57.4 +02.4	195	56.5 +02.5	196	55.6 +02.5	197	54.8 +02.4	21
22	209	00.7 +02.4	209	59.8 +02.5	210	59.0 +02.4	211	58.1 +02.5	212	57.2 +02.5	22
23	224	03.1 +02.5	225	02.3 +02.4	226	01.4 +02.5	227	00.6 +02.4	227	59.7 +02.5	23

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

2020 - First Point of Aries / Selected Stars

UT	day 146 of 366 May 25		day 147 of 366 May 26		day 148 of 366 May 27		day 149 of 366 May 28		day 150 of 366 May 29		UT
	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	246	58.7 +02.5	00
01	258	04.6 +02.5	259	03.8 +02.4	260	02.9 +02.5	261	02.0 +02.5	262	01.2 +02.5	01
02	273	07.1 +02.5	274	06.2 +02.5	275	05.4 +02.4	276	04.5 +02.5	277	03.7 +02.4	02
03	288	09.6 +02.4	289	08.7 +02.5	290	07.8 +02.5	291	07.0 +02.4	292	06.1 +02.5	03
04	303	12.0 +02.5	304	11.2 +02.4	305	10.3 +02.5	306	09.4 +02.5	307	08.6 +02.4	04
05	318	14.5 +02.4	319	13.6 +02.5	320	12.8 +02.4	321	11.9 +02.5	322	11.0 +02.5	05
06	333	16.9 +02.5	334	16.1 +02.5	335	15.2 +02.5	336	14.4 +02.4	337	13.5 +02.5	06
07	348	19.4 +02.5	349	18.6 +02.4	350	17.7 +02.5	351	16.8 +02.5	352	16.0 +02.4	07
08	3	21.9 +02.4	4	21.0 +02.5	5	20.2 +02.4	6	19.3 +02.5	7	18.4 +02.5	08
09	18	24.3 +02.5	19	23.5 +02.4	20	22.6 +02.5	21	21.8 +02.4	22	20.9 +02.5	09
10	33	26.8 +02.5	34	25.9 +02.5	35	25.1 +02.5	36	24.2 +02.5	37	23.4 +02.4	10
11	48	29.3 +02.4	49	28.4 +02.5	50	27.6 +02.4	51	26.7 +02.5	52	25.8 +02.5	11
12	63	31.7 +02.5	64	30.9 +02.4	65	30.0 +02.5	66	29.2 +02.4	67	28.3 +02.5	12
13	78	34.2 +02.5	79	33.3 +02.5	80	32.5 +02.4	81	31.6 +02.5	82	30.8 +02.4	13
14	93	36.7 +02.4	94	35.8 +02.5	95	34.9 +02.5	96	34.1 +02.4	97	33.2 +02.5	14
15	108	39.1 +02.5	109	38.3 +02.4	110	37.4 +02.5	111	36.5 +02.5	112	35.7 +02.5	15
16	123	41.6 +02.5	124	40.7 +02.5	125	39.9 +02.4	126	39.0 +02.5	127	38.2 +02.4	16
17	138	44.1 +02.4	139	43.2 +02.5	140	42.3 +02.5	141	41.5 +02.4	142	40.6 +02.5	17
18	153	46.5 +02.5	154	45.7 +02.4	155	44.8 +02.5	156	43.9 +02.5	157	43.1 +02.4	18
19	168	49.0 +02.4	169	48.1 +02.5	170	47.3 +02.4	171	46.4 +02.5	172	45.5 +02.5	19
20	183	51.4 +02.5	184	50.6 +02.5	185	49.7 +02.5	186	48.9 +02.4	187	48.0 +02.5	20
21	198	53.9 +02.5	199	53.1 +02.4	200	52.2 +02.5	201	51.3 +02.5	202	50.5 +02.4	21
22	213	56.4 +02.4	214	55.5 +02.5	215	54.7 +02.4	216	53.8 +02.5	217	52.9 +02.5	22
23	228	58.8 +02.5	229	58.0 +02.4	230	57.1 +02.5	231	56.3 +02.4	232	55.4 +02.5	23

	SHA	Dec		SHA	Dec
	° ,	° ,		° ,	° ,
Alpheratz	357 38.8	N 29 11.9	Gienah	175 47.2	S 17 39.3
Ankaa	353 11.3	S 42 11.6	Acrux	173 03.7	S 63 12.9
Schedir	349 35.5	N 56 38.6	Gacrux	171 55.4	S 57 13.7
Diphda	348 51.4	S 17 52.6	Alioth	166 16.2	N 55 51.3
Achernar	335 23.7	S 57 08.0	Spica	158 26.0	S 11 16.0
Hamal	327 55.7	N 23 33.3	Alkaid	152 54.6	N 49 13.0
Polaris	316 10.4	N 89 20.8	Hadar	148 40.6	S 60 28.3
Acamar	315 15.1	S 40 13.5	Menkent	148 01.3	S 36 28.0
Menkar	314 10.4	N 04 10.0	Arcturus	145 50.7	N 19 05.4
Mirfak	308 34.0	N 49 55.7	Rigel Kentaurus	139 42.3	S 60 55.3
Aldebaran	290 44.3	N 16 32.9	Zubenelgenubi	136 59.8	S 16 07.5
Capella	280 27.9	N 46 01.1	Kocab	137 18.9	N 74 04.5
Rigel	281 07.8	S 08 10.9	Alphecca	126 06.6	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 17.0	S 69 03.7
Alnilam	275 41.9	S 01 11.5	Sabik	102 06.7	S 15 44.9
Betelgeuze	270 56.5	N 07 24.5	Shaula	96 15.0	S 37 07.0
Canopus	263 54.5	S 52 42.6	Rasalhague	96 01.7	N 12 32.8
Sirius	258 29.7	S 16 44.4	Etamin	90 43.4	N 51 29.1
Adhara	255 09.1	S 29 00.2	Kaus Australis	83 37.1	S 34 22.3
Castor	246 02.1	N 31 50.7	Vega	80 35.5	N 38 48.0
Procyon	244 54.8	N 05 10.6	Nunki	75 52.1	S 26 16.1
Pollux	243 21.8	N 27 58.7	Albireo	67 06.8	N 28 00.0
Avior	234 16.5	S 59 34.8	Altair	62 03.5	N 08 55.1
Suhail	222 49.1	S 43 31.1	Peacock	53 11.4	S 56 39.9
Miaplacidus	221 38.9	S 69 48.4	Deneb	49 28.1	N 45 20.9
Alphard	217 51.5	S 08 44.9	Enif	33 42.4	N 09 57.9
Regulus	207 38.4	N 11 52.1	Alnair	27 37.7	S 46 51.5
Dubhe	193 45.6	N 61 38.8	Formalhaut	15 18.9	S 29 30.8
Denebola	182 28.5	N 14 27.7	Markab	13 33.7	N 15 18.7

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
	<i>May 30</i>			<i>May 31</i>			<i>June 1</i>			<i>June 2</i>			<i>June 3</i>			
	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	251	54.4	+02.5	00
01	263	00.3	+02.5	263	59.5	+02.4	264	58.6	+02.5	265	57.7	+02.5	266	56.9	+02.4	01
02	278	02.8	+02.5	279	01.9	+02.5	280	01.1	+02.4	281	00.2	+02.5	281	59.3	+02.5	02
03	293	05.3	+02.4	294	04.4	+02.5	295	03.5	+02.5	296	02.7	+02.4	297	01.8	+02.5	03
04	308	07.7	+02.5	309	06.9	+02.4	310	06.0	+02.5	311	05.1	+02.5	312	04.3	+02.4	04
05	323	10.2	+02.4	324	09.3	+02.5	325	08.5	+02.4	326	07.6	+02.5	327	06.7	+02.5	05
06	338	12.6	+02.5	339	11.8	+02.4	340	10.9	+02.5	341	10.1	+02.4	342	09.2	+02.5	06
07	353	15.1	+02.5	354	14.2	+02.5	355	13.4	+02.5	356	12.5	+02.5	357	11.7	+02.4	07
08	8	17.6	+02.4	9	16.7	+02.5	10	15.9	+02.4	11	15.0	+02.5	12	14.1	+02.5	08
09	23	20.0	+02.5	24	19.2	+02.4	25	18.3	+02.5	26	17.5	+02.4	27	16.6	+02.5	09
10	38	22.5	+02.5	39	21.6	+02.5	40	20.8	+02.4	41	19.9	+02.5	42	19.1	+02.4	10
11	53	25.0	+02.4	54	24.1	+02.5	55	23.2	+02.5	56	22.4	+02.4	57	21.5	+02.5	11
12	68	27.4	+02.5	69	26.6	+02.4	70	25.7	+02.5	71	24.8	+02.5	72	24.0	+02.4	12
13	83	29.9	+02.5	84	29.0	+02.5	85	28.2	+02.4	86	27.3	+02.5	87	26.4	+02.5	13
14	98	32.4	+02.4	99	31.5	+02.5	100	30.6	+02.5	101	29.8	+02.4	102	28.9	+02.5	14
15	113	34.8	+02.5	114	34.0	+02.4	115	33.1	+02.5	116	32.2	+02.5	117	31.4	+02.4	15
16	128	37.3	+02.5	129	36.4	+02.5	130	35.6	+02.4	131	34.7	+02.5	132	33.8	+02.5	16
17	143	39.8	+02.4	144	38.9	+02.5	145	38.0	+02.5	146	37.2	+02.4	147	36.3	+02.5	17
18	158	42.2	+02.5	159	41.4	+02.4	160	40.5	+02.5	161	39.6	+02.5	162	38.8	+02.4	18
19	173	44.7	+02.4	174	43.8	+02.5	175	43.0	+02.4	176	42.1	+02.5	177	41.2	+02.5	19
20	188	47.1	+02.5	189	46.3	+02.4	190	45.4	+02.5	191	44.6	+02.4	192	43.7	+02.5	20
21	203	49.6	+02.5	204	48.7	+02.5	205	47.9	+02.4	206	47.0	+02.5	207	46.2	+02.4	21
22	218	52.1	+02.4	219	51.2	+02.5	220	50.3	+02.5	221	49.5	+02.5	222	48.6	+02.5	22
23	233	54.5	+02.5	234	53.7	+02.4	235	52.8	+02.5	236	52.0	+02.4	237	51.1	+02.5	23

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

2020 - First Point of Aries / Selected Stars

UT	day 156 of 366		day 157 of 366		day 158 of 366		day 159 of 366		day 160 of 366		UT					
	<i>June 4</i>		<i>June 5</i>		<i>June 6</i>		<i>June 7</i>		<i>June 8</i>							
	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	256	50.1	+02.5	00
01	267	56.0	+02.5	268	55.2	+02.4	269	54.3	+02.5	270	53.4	+02.5	271	52.6	+02.4	01
02	282	58.5	+02.4	283	57.6	+02.5	284	56.8	+02.4	285	55.9	+02.5	286	55.0	+02.5	02
03	298	00.9	+02.5	299	00.1	+02.5	299	59.2	+02.5	300	58.4	+02.4	301	57.5	+02.5	03
04	313	03.4	+02.5	314	02.6	+02.4	315	01.7	+02.5	316	00.8	+02.5	316	60.0	+02.4	04
05	328	05.9	+02.4	329	05.0	+02.5	330	04.2	+02.4	331	03.3	+02.5	332	02.4	+02.5	05
06	343	08.3	+02.5	344	07.5	+02.4	345	06.6	+02.5	346	05.8	+02.4	347	04.9	+02.5	06
07	358	10.8	+02.5	359	09.9	+02.5	0	09.1	+02.4	1	08.2	+02.5	2	07.4	+02.4	07
08	13	13.3	+02.4	14	12.4	+02.5	15	11.5	+02.5	16	10.7	+02.5	17	09.8	+02.5	08
09	28	15.7	+02.5	29	14.9	+02.4	30	14.0	+02.5	31	13.2	+02.4	32	12.3	+02.5	09
10	43	18.2	+02.5	44	17.3	+02.5	45	16.5	+02.4	46	15.6	+02.5	47	14.8	+02.4	10
11	58	20.7	+02.4	59	19.8	+02.5	60	18.9	+02.5	61	18.1	+02.4	62	17.2	+02.5	11
12	73	23.1	+02.5	74	22.3	+02.4	75	21.4	+02.5	76	20.5	+02.5	77	19.7	+02.5	12
13	88	25.6	+02.5	89	24.7	+02.5	90	23.9	+02.4	91	23.0	+02.5	92	22.2	+02.4	13
14	103	28.1	+02.4	104	27.2	+02.5	105	26.3	+02.5	106	25.5	+02.4	107	24.6	+02.5	14
15	118	30.5	+02.5	119	29.7	+02.4	120	28.8	+02.5	121	27.9	+02.5	122	27.1	+02.4	15
16	133	33.0	+02.4	134	32.1	+02.5	135	31.3	+02.4	136	30.4	+02.5	137	29.5	+02.5	16
17	148	35.4	+02.5	149	34.6	+02.4	150	33.7	+02.5	151	32.9	+02.4	152	32.0	+02.5	17
18	163	37.9	+02.5	164	37.0	+02.5	165	36.2	+02.5	166	35.3	+02.5	167	34.5	+02.4	18
19	178	40.4	+02.4	179	39.5	+02.5	180	38.7	+02.4	181	37.8	+02.5	182	36.9	+02.5	19
20	193	42.8	+02.5	194	42.0	+02.4	195	41.1	+02.5	196	40.3	+02.4	197	39.4	+02.5	20
21	208	45.3	+02.5	209	44.4	+02.5	210	43.6	+02.4	211	42.7	+02.5	212	41.9	+02.4	21
22	223	47.8	+02.4	224	46.9	+02.5	225	46.0	+02.5	226	45.2	+02.5	227	44.3	+02.5	22
23	238	50.2	+02.5	239	49.4	+02.4	240	48.5	+02.5	241	47.7	+02.4	242	46.8	+02.5	23

	SHA	Dec		SHA	Dec				
	° ' "	° ' "		° ' "	° ' "				
Alpheratz	357	38.7	N 29	11.9	Gienah	175	47.2	S 17	39.3
Ankaa	353	11.2	S 42	11.5	Acrux	173	03.7	S 63	12.9
Schedir	349	35.4	N 56	38.6	Gacrux	171	55.4	S 57	13.7
Diphda	348	51.3	S 17	52.6	Alioth	166	16.2	N 55	51.3
Achernar	335	23.6	S 57	07.9	Spica	158	26.0	S 11	16.0
Hamal	327	55.7	N 23	33.3	Alkaid	152	54.7	N 49	13.0
Polaris	316	08.0	N 89	20.7	Hadar	148	40.6	S 60	28.3
Acamar	315	15.0	S 40	13.4	Menkent	148	01.4	S 36	28.0
Menkar	314	10.3	N 04	10.0	Arcturus	145	50.7	N 19	05.4
Mirfak	308	34.0	N 49	55.7	Rigel Kentaurus	139	42.3	S 60	55.3
Aldebaran	290	44.3	N 16	32.9	Zubenelgenubi	136	59.8	S 16	07.5
Capella	280	27.9	N 46	01.1	Kocab	137	18.9	N 74	04.6
Rigel	281	07.8	S 08	10.8	Alphecca	126	06.6	N 26	38.9
Bellatrix	278	27.2	N 06	21.9	Antares	112	20.1	S 26	28.5
Elnath	278	07.0	N 28	37.4	Atria	107	17.0	S 69	03.7
Alnilam	275	41.8	S 01	11.5	Sabik	102	06.7	S 15	44.9
Betelgeuze	270	56.5	N 07	24.5	Shaula	96	15.0	S 37	07.0
Canopus	263	54.6	S 52	42.6	Rasalhague	96	01.7	N 12	32.8
Sirius	258	29.7	S 16	44.4	Etamin	90	43.4	N 51	29.2
Adhara	255	09.1	S 29	00.1	Kaus Australis	83	37.1	S 34	22.3
Castor	246	02.1	N 31	50.7	Vega	80	35.4	N 38	48.0
Procyon	244	54.8	N 05	10.6	Nunki	75	52.1	S 26	16.1
Pollux	243	21.9	N 27	58.7	Albireo	67	06.7	N 28	00.0
Avior	234	16.5	S 59	34.7	Altair	62	03.5	N 08	55.2
Suhail	222	49.2	S 43	31.1	Peacock	53	11.3	S 56	39.9
Miaplacidus	221	39.1	S 69	48.3	Deneb	49	28.0	N 45	20.9
Alphard	217	51.5	S 08	44.9	Enif	33	42.3	N 09	58.0
Regulus	207	38.4	N 11	52.1	Alnair	27	37.6	S 46	51.5
Dubhe	193	45.7	N 61	38.8	Formalhaut	15	18.8	S 29	30.7
Denebola	182	28.6	N 14	27.7	Markab	13	33.6	N 15	18.7

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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	261	45.8	+02.5	00
01	272	51.7	+02.5	273	50.9	+02.4	274	50.0	+02.5	275	49.1	+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	291	50.7	+02.5	02
03	302	56.7	+02.4	303	55.8	+02.5	304	54.9	+02.5	305	54.1	+02.4	306	53.2	+02.5	03
04	317	59.1	+02.5	318	58.3	+02.4	319	57.4	+02.5	320	56.5	+02.5	321	55.7	+02.4	04
05	333	01.6	+02.4	334	00.7	+02.5	334	59.9	+02.4	335	59.0	+02.5	336	58.1	+02.5	05
06	348	04.0	+02.5	349	03.2	+02.4	350	02.3	+02.5	351	01.5	+02.4	352	00.6	+02.5	06
07	3	06.5	+02.5	4	05.6	+02.5	5	04.8	+02.5	6	03.9	+02.5	7	03.1	+02.4	07
08	18	09.0	+02.4	19	08.1	+02.5	20	07.3	+02.4	21	06.4	+02.5	22	05.5	+02.5	08
09	33	11.4	+02.5	34	10.6	+02.4	35	09.7	+02.5	36	08.9	+02.4	37	08.0	+02.5	09
10	48	13.9	+02.5	49	13.0	+02.5	50	12.2	+02.4	51	11.3	+02.5	52	10.5	+02.4	10
11	63	16.4	+02.4	64	15.5	+02.5	65	14.6	+02.5	66	13.8	+02.4	67	12.9	+02.5	11
12	78	18.8	+02.5	79	18.0	+02.4	80	17.1	+02.5	81	16.2	+02.5	82	15.4	+02.4	12
13	93	21.3	+02.5	94	20.4	+02.5	95	19.6	+02.4	96	18.7	+02.5	97	17.8	+02.5	13
14	108	23.8	+02.4	109	22.9	+02.5	110	22.0	+02.5	111	21.2	+02.4	112	20.3	+02.5	14
15	123	26.2	+02.5	124	25.4	+02.4	125	24.5	+02.5	126	23.6	+02.5	127	22.8	+02.4	15
16	138	28.7	+02.4	139	27.8	+02.5	140	27.0	+02.4	141	26.1	+02.5	142	25.2	+02.5	16
17	153	31.1	+02.5	154	30.3	+02.5	155	29.4	+02.5	156	28.6	+02.4	157	27.7	+02.5	17
18	168	33.6	+02.5	169	32.8	+02.4	170	31.9	+02.5	171	31.0	+02.5	172	30.2	+02.4	18
19	183	36.1	+02.4	184	35.2	+02.5	185	34.4	+02.4	186	33.5	+02.5	187	32.6	+02.5	19
20	198	38.5	+02.5	199	37.7	+02.4	200	36.8	+02.5	201	36.0	+02.4	202	35.1	+02.5	20
21	213	41.0	+02.5	214	40.1	+02.5	215	39.3	+02.4	216	38.4	+02.5	217	37.6	+02.4	21
22	228	43.5	+02.4	229	42.6	+02.5	230	41.7	+02.5	231	40.9	+02.5	232	40.0	+02.5	22
23	243	45.9	+02.5	244	45.1	+02.4	245	44.2	+02.5	246	43.4	+02.4	247	42.5	+02.5	23

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

2020 - First Point of Aries / Selected Stars

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	266	41.5 +02.5	00
01	277	47.4 +02.5	278	46.6 +02.4	279	45.7 +02.5	280	44.8 +02.5	281	44.0 +02.4	01
02	292	49.9 +02.4	293	49.0 +02.5	294	48.2 +02.4	295	47.3 +02.5	296	46.4 +02.5	02
03	307	52.3 +02.5	308	51.5 +02.4	309	50.6 +02.5	310	49.8 +02.4	311	48.9 +02.5	03
04	322	54.8 +02.5	323	53.9 +02.5	324	53.1 +02.4	325	52.2 +02.5	326	51.4 +02.4	04
05	337	57.3 +02.4	338	56.4 +02.5	339	55.5 +02.5	340	54.7 +02.5	341	53.8 +02.5	05
06	352	59.7 +02.5	353	58.9 +02.4	354	58.0 +02.5	355	57.2 +02.4	356	56.3 +02.5	06
07	8	02.2 +02.5	9	01.3 +02.5	10	00.5 +02.4	10	59.6 +02.5	11	58.8 +02.4	07
08	23	04.7 +02.4	24	03.8 +02.5	25	02.9 +02.5	26	02.1 +02.4	27	01.2 +02.5	08
09	38	07.1 +02.5	39	06.3 +02.4	40	05.4 +02.5	41	04.5 +02.5	42	03.7 +02.4	09
10	53	09.6 +02.5	54	08.7 +02.5	55	07.9 +02.4	56	07.0 +02.5	57	06.1 +02.5	10
11	68	12.1 +02.4	69	11.2 +02.5	70	10.3 +02.5	71	09.5 +02.4	72	08.6 +02.5	11
12	83	14.5 +02.5	84	13.7 +02.4	85	12.8 +02.5	86	11.9 +02.5	87	11.1 +02.4	12
13	98	17.0 +02.4	99	16.1 +02.5	100	15.3 +02.4	101	14.4 +02.5	102	13.5 +02.5	13
14	113	19.4 +02.5	114	18.6 +02.5	115	17.7 +02.5	116	16.9 +02.4	117	16.0 +02.5	14
15	128	21.9 +02.5	129	21.1 +02.4	130	20.2 +02.5	131	19.3 +02.5	132	18.5 +02.4	15
16	143	24.4 +02.4	144	23.5 +02.5	145	22.7 +02.4	146	21.8 +02.5	147	20.9 +02.5	16
17	158	26.8 +02.5	159	26.0 +02.4	160	25.1 +02.5	161	24.3 +02.4	162	23.4 +02.5	17
18	173	29.3 +02.5	174	28.4 +02.5	175	27.6 +02.4	176	26.7 +02.5	177	25.9 +02.4	18
19	188	31.8 +02.4	189	30.9 +02.5	190	30.0 +02.5	191	29.2 +02.4	192	28.3 +02.5	19
20	203	34.2 +02.5	204	33.4 +02.4	205	32.5 +02.5	206	31.6 +02.5	207	30.8 +02.5	20
21	218	36.7 +02.5	219	35.8 +02.5	220	35.0 +02.4	221	34.1 +02.5	222	33.3 +02.4	21
22	233	39.2 +02.4	234	38.3 +02.5	235	37.4 +02.5	236	36.6 +02.4	237	35.7 +02.5	22
23	248	41.6 +02.5	249	40.8 +02.4	250	39.9 +02.5	251	39.0 +02.5	252	38.2 +02.4	23

	SHA	Dec		SHA	Dec
	° ,	° ,		° ,	° ,
Alpheratz	357 38.6	N 29 12.0	Gienah	175 47.2	S 17 39.3
Ankaa	353 11.1	S 42 11.5	Acrux	173 03.8	S 63 12.9
Schedir	349 35.3	N 56 38.6	Gacrux	171 55.5	S 57 13.7
Diphda	348 51.2	S 17 52.5	Alioth	166 16.3	N 55 51.3
Achernar	335 23.5	S 57 07.9	Spica	158 26.0	S 11 16.0
Hamal	327 55.6	N 23 33.3	Alkaid	152 54.7	N 49 13.0
Polaris	316 04.7	N 89 20.7	Hadar	148 40.7	S 60 28.4
Acamar	315 15.0	S 40 13.4	Menkent	148 01.4	S 36 28.0
Menkar	314 10.3	N 04 10.0	Arcturus	145 50.8	N 19 05.4
Mirfak	308 33.9	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 19.1	N 74 04.6
Rigel	281 07.8	S 08 10.8	Alphecca	126 06.6	N 26 39.0
Bellatrix	278 27.2	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 11.5	Sabik	102 06.7	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 01.7	N 12 32.9
Sirius	258 29.7	S 16 44.3	Etamin	90 43.4	N 51 29.2
Adhara	255 09.1	S 29 00.1	Kaus Australis	83 37.0	S 34 22.3
Castor	246 02.1	N 31 50.7	Vega	80 35.4	N 38 48.0
Procyon	244 54.8	N 05 10.6	Nunki	75 52.0	S 26 16.1
Pollux	243 21.9	N 27 58.7	Albireo	67 06.7	N 28 00.1
Avior	234 16.6	S 59 34.7	Altair	62 03.4	N 08 55.2
Suhail	222 49.2	S 43 31.1	Peacock	53 11.2	S 56 39.9
Miaplacidus	221 39.2	S 69 48.3	Deneb	49 27.9	N 45 21.0
Alphard	217 51.5	S 08 44.9	Enif	33 42.2	N 09 58.0
Regulus	207 38.4	N 11 52.1	Alnair	27 37.5	S 46 51.5
Dubhe	193 45.7	N 61 38.8	Formalhaut	15 18.7	S 29 30.7
Denebola	182 28.6	N 14 27.7	Markab	13 33.5	N 15 18.7

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UT	day 171 of 366		day 172 of 366		day 173 of 366		day 174 of 366		day 175 of 366		UT					
	<i>June 19</i>		<i>June 20</i>		<i>June 21</i>		<i>June 22</i>		<i>June 23</i>							
	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	271	37.2	+02.5	00
01	282	43.1	+02.5	283	42.2	+02.5	284	41.4	+02.5	285	40.5	+02.5	286	39.7	+02.4	01
02	297	45.6	+02.4	298	44.7	+02.5	299	43.9	+02.4	300	43.0	+02.5	301	42.1	+02.5	02
03	312	48.0	+02.5	313	47.2	+02.4	314	46.3	+02.5	315	45.5	+02.4	316	44.6	+02.5	03
04	327	50.5	+02.5	328	49.6	+02.5	329	48.8	+02.4	330	47.9	+02.5	331	47.1	+02.4	04
05	342	53.0	+02.4	343	52.1	+02.5	344	51.2	+02.5	345	50.4	+02.5	346	49.5	+02.5	05
06	357	55.4	+02.5	358	54.6	+02.4	359	53.7	+02.5	0	52.9	+02.4	1	52.0	+02.5	06
07	12	57.9	+02.5	13	57.0	+02.5	14	56.2	+02.4	15	55.3	+02.5	16	54.5	+02.4	07
08	28	00.4	+02.4	28	59.5	+02.5	29	58.6	+02.5	30	57.8	+02.4	31	56.9	+02.5	08
09	43	02.8	+02.5	44	02.0	+02.4	45	01.1	+02.5	46	00.2	+02.5	46	59.4	+02.5	09
10	58	05.3	+02.5	59	04.4	+02.5	60	03.6	+02.4	61	02.7	+02.5	62	01.9	+02.4	10
11	73	07.8	+02.4	74	06.9	+02.5	75	06.0	+02.5	76	05.2	+02.4	77	04.3	+02.5	11
12	88	10.2	+02.5	89	09.4	+02.4	90	08.5	+02.5	91	07.6	+02.5	92	06.8	+02.4	12
13	103	12.7	+02.4	104	11.8	+02.5	105	11.0	+02.4	106	10.1	+02.5	107	09.2	+02.5	13
14	118	15.1	+02.5	119	14.3	+02.4	120	13.4	+02.5	121	12.6	+02.4	122	11.7	+02.5	14
15	133	17.6	+02.5	134	16.7	+02.5	135	15.9	+02.5	136	15.0	+02.5	137	14.2	+02.4	15
16	148	20.1	+02.4	149	19.2	+02.5	150	18.4	+02.4	151	17.5	+02.5	152	16.6	+02.5	16
17	163	22.5	+02.5	164	21.7	+02.4	165	20.8	+02.5	166	20.0	+02.4	167	19.1	+02.5	17
18	178	25.0	+02.5	179	24.1	+02.5	180	23.3	+02.4	181	22.4	+02.5	182	21.6	+02.4	18
19	193	27.5	+02.4	194	26.6	+02.5	195	25.7	+02.5	196	24.9	+02.5	197	24.0	+02.5	19
20	208	29.9	+02.5	209	29.1	+02.4	210	28.2	+02.5	211	27.4	+02.4	212	26.5	+02.5	20
21	223	32.4	+02.5	224	31.5	+02.5	225	30.7	+02.4	226	29.8	+02.5	227	29.0	+02.4	21
22	238	34.9	+02.4	239	34.0	+02.5	240	33.1	+02.5	241	32.3	+02.4	242	31.4	+02.5	22
23	253	37.3	+02.5	254	36.5	+02.4	255	35.6	+02.5	256	34.7	+02.5	257	33.9	+02.4	23

	SHA	Dec		SHA	Dec
	° ' "	° ' "		° ' "	° ' "
Alpheratz	357 38.6	N 29 12.0	Gienah	175 47.3	S 17 39.3
Ankaa	353 11.0	S 42 11.5	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 51.2	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 55.6	N 23 33.3	Alkaid	152 54.7	N 49 13.0
Polaris	316 02.8	N 89 20.7	Hadar	148 40.7	S 60 28.4
Acamar	315 14.9	S 40 13.4	Menkent	148 01.4	S 36 28.0
Menkar	314 10.2	N 04 10.1	Arcturus	145 50.8	N 19 05.4
Mirfak	308 33.9	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 19.1	N 74 04.6
Rigel	281 07.8	S 08 10.8	Alphecca	126 06.6	N 26 39.0
Bellatrix	278 27.2	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 06.7	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 29.7	S 16 44.3	Etamin	90 43.3	N 51 29.2
Adhara	255 09.1	S 29 00.1	Kaus Australis	83 37.0	S 34 22.3
Castor	246 02.1	N 31 50.7	Vega	80 35.3	N 38 48.1
Procyon	244 54.8	N 05 10.6	Nunki	75 52.0	S 26 16.1
Pollux	243 21.9	N 27 58.7	Albireo	67 06.7	N 28 00.1
Avior	234 16.6	S 59 34.7	Altair	62 03.4	N 08 55.2
Suhail	222 49.2	S 43 31.1	Peacock	53 11.1	S 56 39.9
Miaplacidus	221 39.3	S 69 48.3	Deneb	49 27.9	N 45 21.0
Alphard	217 51.6	S 08 44.9	Enif	33 42.2	N 09 58.0
Regulus	207 38.4	N 11 52.1	Alnair	27 37.5	S 46 51.5
Dubhe	193 45.8	N 61 38.8	Formalhaut	15 18.7	S 29 30.7
Denebola	182 28.6	N 14 27.7	Markab	13 33.5	N 15 18.8

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UT	day 176 of 366		day 177 of 366		day 178 of 366		day 179 of 366		day 180 of 366		UT					
	<i>June 24</i>		<i>June 25</i>		<i>June 26</i>		<i>June 27</i>		<i>June 28</i>							
	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	276	32.9	+02.5	00
01	287	38.8	+02.5	288	38.0	+02.4	289	37.1	+02.5	290	36.2	+02.5	291	35.4	+02.4	01
02	302	41.3	+02.4	303	40.4	+02.5	304	39.6	+02.4	305	38.7	+02.5	306	37.8	+02.5	02
03	317	43.7	+02.5	318	42.9	+02.4	319	42.0	+02.5	320	41.2	+02.4	321	40.3	+02.5	03
04	332	46.2	+02.5	333	45.3	+02.5	334	44.5	+02.4	335	43.6	+02.5	336	42.8	+02.4	04
05	347	48.7	+02.4	348	47.8	+02.5	349	46.9	+02.5	350	46.1	+02.5	351	45.2	+02.5	05
06	2	51.1	+02.5	3	50.3	+02.4	4	49.4	+02.5	5	48.6	+02.4	6	47.7	+02.5	06
07	17	53.6	+02.5	18	52.7	+02.5	19	51.9	+02.4	20	51.0	+02.5	21	50.2	+02.4	07
08	32	56.1	+02.4	33	55.2	+02.5	34	54.3	+02.5	35	53.5	+02.4	36	52.6	+02.5	08
09	47	58.5	+02.5	48	57.7	+02.4	49	56.8	+02.5	50	55.9	+02.5	51	55.1	+02.4	09
10	63	01.0	+02.5	64	00.1	+02.5	64	59.3	+02.4	65	58.4	+02.5	66	57.5	+02.5	10
11	78	03.5	+02.4	79	02.6	+02.5	80	01.7	+02.5	81	00.9	+02.4	82	00.0	+02.5	11
12	93	05.9	+02.5	94	05.1	+02.4	95	04.2	+02.5	96	03.3	+02.5	97	02.5	+02.4	12
13	108	08.4	+02.4	109	07.5	+02.5	110	06.7	+02.4	111	05.8	+02.5	112	04.9	+02.5	13
14	123	10.8	+02.5	124	10.0	+02.5	125	09.1	+02.5	126	08.3	+02.4	127	07.4	+02.5	14
15	138	13.3	+02.5	139	12.5	+02.4	140	11.6	+02.5	141	10.7	+02.5	142	09.9	+02.4	15
16	153	15.8	+02.4	154	14.9	+02.5	155	14.1	+02.4	156	13.2	+02.5	157	12.3	+02.5	16
17	168	18.2	+02.5	169	17.4	+02.4	170	16.5	+02.5	171	15.7	+02.4	172	14.8	+02.5	17
18	183	20.7	+02.5	184	19.8	+02.5	185	19.0	+02.4	186	18.1	+02.5	187	17.3	+02.4	18
19	198	23.2	+02.4	199	22.3	+02.5	200	21.4	+02.5	201	20.6	+02.4	202	19.7	+02.5	19
20	213	25.6	+02.5	214	24.8	+02.4	215	23.9	+02.5	216	23.0	+02.5	217	22.2	+02.4	20
21	228	28.1	+02.5	229	27.2	+02.5	230	26.4	+02.4	231	25.5	+02.5	232	24.6	+02.5	21
22	243	30.6	+02.4	244	29.7	+02.5	245	28.8	+02.5	246	28.0	+02.4	247	27.1	+02.5	22
23	258	33.0	+02.5	259	32.2	+02.4	260	31.3	+02.5	261	30.4	+02.5	262	29.6	+02.4	23

	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	48.3	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	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

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		
	June 29		June 30		July 1		July 2		July 3				
	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	36.1	+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	+02.5	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	+02.4	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

	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

2020 - First Point of Aries / Selected Stars

UT	day 186 of 366		day 187 of 366		day 188 of 366		day 189 of 366		day 190 of 366		UT					
	July 4		July 5		July 6		July 7		July 8							
	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	286	24.3	+02.5	00
01	297	30.2	+02.5	298	29.3	+02.5	299	28.5	+02.5	300	27.6	+02.5	301	26.8	+02.4	01
02	312	32.7	+02.4	313	31.8	+02.5	314	31.0	+02.4	315	30.1	+02.5	316	29.2	+02.5	02
03	327	35.1	+02.5	328	34.3	+02.4	329	33.4	+02.5	330	32.6	+02.4	331	31.7	+02.5	03
04	342	37.6	+02.5	343	36.7	+02.5	344	35.9	+02.4	345	35.0	+02.5	346	34.2	+02.4	04
05	357	40.1	+02.4	358	39.2	+02.5	359	38.3	+02.5	0	37.5	+02.4	1	36.6	+02.5	05
06	12	42.5	+02.5	13	41.7	+02.4	14	40.8	+02.5	15	39.9	+02.5	16	39.1	+02.5	06
07	27	45.0	+02.5	28	44.1	+02.5	29	43.3	+02.4	30	42.4	+02.5	31	41.6	+02.4	07
08	42	47.5	+02.4	43	46.6	+02.5	44	45.7	+02.5	45	44.9	+02.4	46	44.0	+02.5	08
09	57	49.9	+02.5	58	49.1	+02.4	59	48.2	+02.5	60	47.3	+02.5	61	46.5	+02.4	09
10	72	52.4	+02.4	73	51.5	+02.5	74	50.7	+02.4	75	49.8	+02.5	76	48.9	+02.5	10
11	87	54.8	+02.5	88	54.0	+02.5	89	53.1	+02.5	90	52.3	+02.4	91	51.4	+02.5	11
12	102	57.3	+02.5	103	56.5	+02.4	104	55.6	+02.5	105	54.7	+02.5	106	53.9	+02.4	12
13	117	59.8	+02.4	118	58.9	+02.5	119	58.1	+02.4	120	57.2	+02.5	121	56.3	+02.5	13
14	133	02.2	+02.5	134	01.4	+02.4	135	00.5	+02.5	135	59.7	+02.4	136	58.8	+02.5	14
15	148	04.7	+02.5	149	03.8	+02.5	150	03.0	+02.4	151	02.1	+02.5	152	01.3	+02.4	15
16	163	07.2	+02.4	164	06.3	+02.5	165	05.4	+02.5	166	04.6	+02.5	167	03.7	+02.5	16
17	178	09.6	+02.5	179	08.8	+02.4	180	07.9	+02.5	181	07.1	+02.4	182	06.2	+02.5	17
18	193	12.1	+02.5	194	11.2	+02.5	195	10.4	+02.4	196	09.5	+02.5	197	08.7	+02.4	18
19	208	14.6	+02.4	209	13.7	+02.5	210	12.8	+02.5	211	12.0	+02.4	212	11.1	+02.5	19
20	223	17.0	+02.5	224	16.2	+02.4	225	15.3	+02.5	226	14.4	+02.5	227	13.6	+02.4	20
21	238	19.5	+02.5	239	18.6	+02.5	240	17.8	+02.4	241	16.9	+02.5	242	16.0	+02.5	21
22	253	22.0	+02.4	254	21.1	+02.5	255	20.2	+02.5	256	19.4	+02.4	257	18.5	+02.5	22
23	268	24.4	+02.5	269	23.6	+02.4	270	22.7	+02.5	271	21.8	+02.5	272	21.0	+02.4	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	35.0	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

2020 - First Point of Aries / Selected Stars

UT	day 191 of 366 <i>July 9</i>		day 192 of 366 <i>July 10</i>		day 193 of 366 <i>July 11</i>		day 194 of 366 <i>July 12</i>		day 195 of 366 <i>July 13</i>		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	291	20.0 +02.5	00
01	302	25.9 +02.5	303	25.0 +02.5	304	24.2 +02.4	305	23.3 +02.5	306	22.5 +02.4	01
02	317	28.4 +02.4	318	27.5 +02.5	319	26.6 +02.5	320	25.8 +02.4	321	24.9 +02.5	02
03	332	30.8 +02.5	333	30.0 +02.4	334	29.1 +02.5	335	28.2 +02.5	336	27.4 +02.4	03
04	347	33.3 +02.5	348	32.4 +02.5	349	31.6 +02.4	350	30.7 +02.5	351	29.8 +02.5	04
05	2	35.8 +02.4	3	34.9 +02.5	4	34.0 +02.5	5	33.2 +02.4	6	32.3 +02.5	05
06	17	38.2 +02.5	18	37.4 +02.4	19	36.5 +02.5	20	35.6 +02.5	21	34.8 +02.4	06
07	32	40.7 +02.5	33	39.8 +02.5	34	39.0 +02.4	35	38.1 +02.5	36	37.2 +02.5	07
08	47	43.2 +02.4	48	42.3 +02.5	49	41.4 +02.5	50	40.6 +02.4	51	39.7 +02.5	08
09	62	45.6 +02.5	63	44.8 +02.4	64	43.9 +02.5	65	43.0 +02.5	66	42.2 +02.4	09
10	77	48.1 +02.4	78	47.2 +02.5	79	46.4 +02.4	80	45.5 +02.5	81	44.6 +02.5	10
11	92	50.5 +02.5	93	49.7 +02.4	94	48.8 +02.5	95	48.0 +02.4	96	47.1 +02.5	11
12	107	53.0 +02.5	108	52.1 +02.5	109	51.3 +02.5	110	50.4 +02.5	111	49.6 +02.4	12
13	122	55.5 +02.4	123	54.6 +02.5	124	53.8 +02.4	125	52.9 +02.5	126	52.0 +02.5	13
14	137	57.9 +02.5	138	57.1 +02.4	139	56.2 +02.5	140	55.4 +02.4	141	54.5 +02.5	14
15	153	00.4 +02.5	153	59.5 +02.5	154	58.7 +02.4	155	57.8 +02.5	156	57.0 +02.4	15
16	168	02.9 +02.4	169	02.0 +02.5	170	01.1 +02.5	171	00.3 +02.4	171	59.4 +02.5	16
17	183	05.3 +02.5	184	04.5 +02.4	185	03.6 +02.5	186	02.7 +02.5	187	01.9 +02.4	17
18	198	07.8 +02.5	199	06.9 +02.5	200	06.1 +02.4	201	05.2 +02.5	202	04.3 +02.5	18
19	213	10.3 +02.4	214	09.4 +02.5	215	08.5 +02.5	216	07.7 +02.4	217	06.8 +02.5	19
20	228	12.7 +02.5	229	11.9 +02.4	230	11.0 +02.5	231	10.1 +02.5	232	09.3 +02.4	20
21	243	15.2 +02.5	244	14.3 +02.5	245	13.5 +02.4	246	12.6 +02.5	247	11.7 +02.5	21
22	258	17.7 +02.4	259	16.8 +02.5	260	15.9 +02.5	261	15.1 +02.4	262	14.2 +02.5	22
23	273	20.1 +02.5	274	19.3 +02.4	275	18.4 +02.5	276	17.5 +02.5	277	16.7 +02.4	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

2020 - First Point of Aries / Selected Stars

UT	day 196 of 366		day 197 of 366		day 198 of 366		day 199 of 366		day 200 of 366		UT					
	<i>July 14</i>		<i>July 15</i>		<i>July 16</i>		<i>July 17</i>		<i>July 18</i>							
	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	+02.4	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	+02.5	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 38.4	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	Zubenelgenubi	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	Deneb	49 27.7	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 37.2	S 46 51.5
Dubhe	193 45.9	N 61 38.8	Formalhaut	15 18.4	S 29 30.7
Denebola	182 28.7	N 14 27.7	Markab	13 33.3	N 15 18.9

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

	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

2020 - First Point of Aries / Selected Stars

UT	day 206 of 366			day 207 of 366			day 208 of 366			day 209 of 366			day 210 of 366			UT
	July 24			July 25			July 26			July 27			July 28			
	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	306	07.1	+02.4	00
01	317	13.0	+02.5	318	12.1	+02.5	319	11.3	+02.4	320	10.4	+02.5	321	09.5	+02.5	01
02	332	15.5	+02.4	333	14.6	+02.5	334	13.7	+02.5	335	12.9	+02.4	336	12.0	+02.5	02
03	347	17.9	+02.5	348	17.1	+02.4	349	16.2	+02.5	350	15.3	+02.5	351	14.5	+02.4	03
04	2	20.4	+02.4	3	19.5	+02.5	4	18.7	+02.4	5	17.8	+02.5	6	16.9	+02.5	04
05	17	22.8	+02.5	18	22.0	+02.5	19	21.1	+02.5	20	20.3	+02.4	21	19.4	+02.5	05
06	32	25.3	+02.5	33	24.5	+02.4	34	23.6	+02.5	35	22.7	+02.5	36	21.9	+02.4	06
07	47	27.8	+02.4	48	26.9	+02.5	49	26.1	+02.4	50	25.2	+02.5	51	24.3	+02.5	07
08	62	30.2	+02.5	63	29.4	+02.4	64	28.5	+02.5	65	27.7	+02.4	66	26.8	+02.5	08
09	77	32.7	+02.5	78	31.8	+02.5	79	31.0	+02.4	80	30.1	+02.5	81	29.3	+02.4	09
10	92	35.2	+02.4	93	34.3	+02.5	94	33.4	+02.5	95	32.6	+02.4	96	31.7	+02.5	10
11	107	37.6	+02.5	108	36.8	+02.4	109	35.9	+02.5	110	35.0	+02.5	111	34.2	+02.4	11
12	122	40.1	+02.5	123	39.2	+02.5	124	38.4	+02.4	125	37.5	+02.5	126	36.6	+02.5	12
13	137	42.6	+02.4	138	41.7	+02.5	139	40.8	+02.5	140	40.0	+02.4	141	39.1	+02.5	13
14	152	45.0	+02.5	153	44.2	+02.4	154	43.3	+02.5	155	42.4	+02.5	156	41.6	+02.4	14
15	167	47.5	+02.5	168	46.6	+02.5	169	45.8	+02.4	170	44.9	+02.5	171	44.0	+02.5	15
16	182	50.0	+02.4	183	49.1	+02.5	184	48.2	+02.5	185	47.4	+02.4	186	46.5	+02.5	16
17	197	52.4	+02.5	198	51.6	+02.4	199	50.7	+02.5	200	49.8	+02.5	201	49.0	+02.4	17
18	212	54.9	+02.4	213	54.0	+02.5	214	53.2	+02.4	215	52.3	+02.5	216	51.4	+02.5	18
19	227	57.3	+02.5	228	56.5	+02.4	229	55.6	+02.5	230	54.8	+02.4	231	53.9	+02.5	19
20	242	59.8	+02.5	243	58.9	+02.5	244	58.1	+02.4	245	57.2	+02.5	246	56.4	+02.4	20
21	258	02.3	+02.4	259	01.4	+02.5	260	00.5	+02.5	260	59.7	+02.5	261	58.8	+02.5	21
22	273	04.7	+02.5	274	03.9	+02.4	275	03.0	+02.5	276	02.2	+02.4	277	01.3	+02.5	22
23	288	07.2	+02.5	289	06.3	+02.5	290	05.5	+02.4	291	04.6	+02.5	292	03.8	+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 55.7 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

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		
	<i>July 29</i>		<i>July 30</i>		<i>July 31</i>		<i>August 1</i>		<i>August 2</i>				
	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	00
01	322	08.7	+02.4	323	07.8	+02.5	324	07.0	+02.4	325	06.1	+02.5	01
02	337	11.1	+02.5	338	10.3	+02.5	339	09.4	+02.5	340	08.6	+02.4	02
03	352	13.6	+02.5	353	12.8	+02.4	354	11.9	+02.5	355	11.0	+02.5	03
04	7	16.1	+02.4	8	15.2	+02.5	9	14.4	+02.4	10	13.5	+02.5	04
05	22	18.5	+02.5	23	17.7	+02.4	24	16.8	+02.5	25	16.0	+02.4	05
06	37	21.0	+02.5	38	20.1	+02.5	39	19.3	+02.4	40	18.4	+02.5	06
07	52	23.5	+02.4	53	22.6	+02.5	54	21.7	+02.5	55	20.9	+02.5	07
08	67	25.9	+02.5	68	25.1	+02.4	69	24.2	+02.5	70	23.4	+02.4	08
09	82	28.4	+02.5	83	27.5	+02.5	84	26.7	+02.4	85	25.8	+02.5	09
10	97	30.9	+02.4	98	30.0	+02.5	99	29.1	+02.5	100	28.3	+02.4	10
11	112	33.3	+02.5	113	32.5	+02.4	114	31.6	+02.5	115	30.7	+02.5	11
12	127	35.8	+02.5	128	34.9	+02.5	129	34.1	+02.4	130	33.2	+02.5	12
13	142	38.3	+02.4	143	37.4	+02.5	144	36.5	+02.5	145	35.7	+02.4	13
14	157	40.7	+02.5	158	39.9	+02.4	159	39.0	+02.5	160	38.1	+02.5	14
15	172	43.2	+02.4	173	42.3	+02.5	174	41.5	+02.4	175	40.6	+02.5	15
16	187	45.6	+02.5	188	44.8	+02.4	189	43.9	+02.5	190	43.1	+02.4	16
17	202	48.1	+02.5	203	47.2	+02.5	204	46.4	+02.5	205	45.5	+02.5	17
18	217	50.6	+02.4	218	49.7	+02.5	219	48.9	+02.4	220	48.0	+02.5	18
19	232	53.0	+02.5	233	52.2	+02.4	234	51.3	+02.5	235	50.5	+02.4	19
20	247	55.5	+02.5	248	54.6	+02.5	249	53.8	+02.4	250	52.9	+02.5	20
21	262	58.0	+02.4	263	57.1	+02.5	264	56.2	+02.5	265	55.4	+02.5	21
22	278	00.4	+02.5	278	59.6	+02.4	279	58.7	+02.5	280	57.9	+02.4	22
23	293	02.9	+02.5	294	02.0	+02.5	295	01.2	+02.4	296	00.3	+02.5	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	Zubenelgenubi	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

2020 - First Point of Aries / Selected Stars

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	315	58.5	+02.4	00		
01	327	04.4	+02.4	328	03.5	+02.5	329	02.7	+02.4	330	01.8	+02.5	331	00.9	+02.5	01		
02	342	06.8	+02.5	343	06.0	+02.5	344	05.1	+02.5	345	04.3	+02.4	346	03.4	+02.5	02		
03	357	09.3	+02.5	358	08.5	+02.4	359	07.6	+02.5	0	06.7	+02.5	1	05.9	+02.4	03		
04	12	11.8	+02.4	13	10.9	+02.5	14	10.1	+02.4	15	09.2	+02.5	16	08.3	+02.5	04		
05	27	14.2	+02.5	28	13.4	+02.4	29	12.5	+02.5	30	11.7	+02.4	31	10.8	+02.5	05		
06	42	16.7	+02.5	43	15.8	+02.5	44	15.0	+02.4	45	14.1	+02.5	46	13.3	+02.4	06		
07	57	19.2	+02.4	58	18.3	+02.5	59	17.4	+02.5	60	16.6	+02.4	61	15.7	+02.5	07		
08	72	21.6	+02.5	73	20.8	+02.4	74	19.9	+02.5	75	19.0	+02.5	76	18.2	+02.5	08		
09	87	24.1	+02.5	88	23.2	+02.5	89	22.4	+02.4	90	21.5	+02.5	91	20.7	+02.4	09		
10	102	26.6	+02.4	103	25.7	+02.5	104	24.8	+02.5	105	24.0	+02.4	106	23.1	+02.5	10		
11	117	29.0	+02.5	118	28.2	+02.4	119	27.3	+02.5	120	26.4	+02.5	121	25.6	+02.4	11		
12	132	31.5	+02.5	133	30.6	+02.5	134	29.8	+02.4	135	28.9	+02.5	136	28.0	+02.5	12		
13	147	34.0	+02.4	148	33.1	+02.5	149	32.2	+02.5	150	31.4	+02.4	151	30.5	+02.5	13		
14	162	36.4	+02.5	163	35.6	+02.4	164	34.7	+02.5	165	33.8	+02.5	166	33.0	+02.4	14		
15	177	38.9	+02.4	178	38.0	+02.5	179	37.2	+02.4	180	36.3	+02.5	181	35.4	+02.5	15		
16	192	41.3	+02.5	193	40.5	+02.4	194	39.6	+02.5	195	38.8	+02.4	196	37.9	+02.5	16		
17	207	43.8	+02.5	208	42.9	+02.5	209	42.1	+02.5	210	41.2	+02.5	211	40.4	+02.4	17		
18	222	46.3	+02.4	223	45.4	+02.5	224	44.6	+02.4	225	43.7	+02.5	226	42.8	+02.5	18		
19	237	48.7	+02.5	238	47.9	+02.4	239	47.0	+02.5	240	46.2	+02.4	241	45.3	+02.5	19		
20	252	51.2	+02.5	253	50.3	+02.5	254	49.5	+02.4	255	48.6	+02.5	256	47.8	+02.4	20		
21	267	53.7	+02.4	268	52.8	+02.5	269	51.9	+02.5	270	51.1	+02.4	271	50.2	+02.5	21		
22	282	56.1	+02.5	283	55.3	+02.4	284	54.4	+02.5	285	53.5	+02.5	286	52.7	+02.4	22		
23	297	58.6	+02.5	298	57.7	+02.5	299	56.9	+02.4	300	56.0	+02.5	301	55.1	+02.5	23		

	SHA	Dec		SHA	Dec				
	°	'		°	'				
Alpheratz	357	38.2	N 29	12.1	Gienah	175	47.4	S 17	39.3
Ankaa	353	10.6	S 42	11.4	Acrux	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	22.9	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	41.7	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	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	27.5	N 46	01.0	Kocab	137	19.9	N 74	04.7
Rigel	281	07.5	S 08	10.6	Alphecca	126	06.7	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	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	54.4	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	29.5
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	34.5	Altair	62	03.3	N 08	55.4
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	21.3
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	33.2	N 15	18.9

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		
	August 8		August 9		August 10		August 11		August 12				
	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	00
01	332	00.1	+02.4	332	59.2	+02.5	333	58.3	+02.5	334	57.5	+02.5	01
02	347	02.5	+02.5	348	01.7	+02.4	349	00.8	+02.5	349	60.0	+02.4	02
03	2	05.0	+02.5	3	04.1	+02.5	4	03.3	+02.4	5	02.4	+02.5	03
04	17	07.5	+02.4	18	06.6	+02.5	19	05.7	+02.5	20	04.9	+02.4	04
05	32	09.9	+02.5	33	09.1	+02.4	34	08.2	+02.5	35	07.3	+02.5	05
06	47	12.4	+02.5	48	11.5	+02.5	49	10.7	+02.4	50	09.8	+02.5	06
07	62	14.9	+02.4	63	14.0	+02.5	64	13.1	+02.5	65	12.3	+02.4	07
08	77	17.3	+02.5	78	16.5	+02.4	79	15.6	+02.5	80	14.7	+02.5	08
09	92	19.8	+02.5	93	18.9	+02.5	94	18.1	+02.4	95	17.2	+02.5	09
10	107	22.3	+02.4	108	21.4	+02.5	109	20.5	+02.5	110	19.7	+02.4	10
11	122	24.7	+02.5	123	23.9	+02.4	124	23.0	+02.5	125	22.1	+02.5	11
12	137	27.2	+02.4	138	26.3	+02.5	139	25.5	+02.4	140	24.6	+02.5	12
13	152	29.6	+02.5	153	28.8	+02.4	154	27.9	+02.5	155	27.1	+02.4	13
14	167	32.1	+02.5	168	31.2	+02.5	169	30.4	+02.4	170	29.5	+02.5	14
15	182	34.6	+02.4	183	33.7	+02.5	184	32.8	+02.5	185	32.0	+02.4	15
16	197	37.0	+02.5	198	36.2	+02.4	199	35.3	+02.5	200	34.4	+02.5	16
17	212	39.5	+02.5	213	38.6	+02.5	214	37.8	+02.4	215	36.9	+02.5	17
18	227	42.0	+02.4	228	41.1	+02.5	229	40.2	+02.5	230	39.4	+02.4	18
19	242	44.4	+02.5	243	43.6	+02.4	244	42.7	+02.5	245	41.8	+02.5	19
20	257	46.9	+02.5	258	46.0	+02.5	259	45.2	+02.4	260	44.3	+02.5	20
21	272	49.4	+02.4	273	48.5	+02.5	274	47.6	+02.5	275	46.8	+02.4	21
22	287	51.8	+02.5	288	51.0	+02.4	289	50.1	+02.5	290	49.2	+02.5	22
23	302	54.3	+02.4	303	53.4	+02.5	304	52.6	+02.4	305	51.7	+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	Acrux	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

2020 - First Point of Aries / Selected Stars

UT	day 226 of 366 August 13			day 227 of 366 August 14			day 228 of 366 August 15			day 229 of 366 August 16			day 230 of 366 August 17			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	+02.4	159	23.6	+02.5	160	22.8	+02.4	161	21.9	+02.5	13
14	172	27.8	+02.5	173	26.9	+02.5	174	26.1	+02.4	175	25.2	+02.5	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	+02.4	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 39.2
Ankaa	353 10.5	S 42 11.4	Acrux	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	49 27.7	N 45 21.3
Alphard	217 51.6	S 08 44.8	Enif	33 41.9	N 09 58.2
Regulus	207 38.5	N 11 52.2	Alnair	27 37.0	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 19.0

2020 - First Point of Aries / Selected Stars

UT	day 231 of 366 August 18		day 232 of 366 August 19		day 233 of 366 August 20		day 234 of 366 August 21		day 235 of 366 August 22		UT
	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	330	45.6 +02.4	00
01	341	51.5 +02.4	342	50.6 +02.5	343	49.7 +02.5	344	48.9 +02.4	345	48.0 +02.5	01
02	356	53.9 +02.5	357	53.1 +02.4	358	52.2 +02.5	359	51.3 +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	15	52.9 +02.5	03
04	26	58.9 +02.4	27	58.0 +02.5	28	57.1 +02.5	29	56.3 +02.4	30	55.4 +02.5	04
05	42	01.3 +02.5	43	00.5 +02.4	43	59.6 +02.5	44	58.7 +02.5	45	57.9 +02.4	05
06	57	03.8 +02.4	58	02.9 +02.5	59	02.1 +02.4	60	01.2 +02.5	61	00.3 +02.5	06
07	72	06.2 +02.5	73	05.4 +02.5	74	04.5 +02.5	75	03.7 +02.4	76	02.8 +02.5	07
08	87	08.7 +02.5	88	07.9 +02.4	89	07.0 +02.5	90	06.1 +02.5	91	05.3 +02.4	08
09	102	11.2 +02.4	103	10.3 +02.5	104	09.5 +02.4	105	08.6 +02.5	106	07.7 +02.5	09
10	117	13.6 +02.5	118	12.8 +02.4	119	11.9 +02.5	120	11.1 +02.4	121	10.2 +02.5	10
11	132	16.1 +02.5	133	15.2 +02.5	134	14.4 +02.4	135	13.5 +02.5	136	12.7 +02.4	11
12	147	18.6 +02.4	148	17.7 +02.5	149	16.8 +02.5	150	16.0 +02.4	151	15.1 +02.5	12
13	162	21.0 +02.5	163	20.2 +02.4	164	19.3 +02.5	165	18.4 +02.5	166	17.6 +02.4	13
14	177	23.5 +02.5	178	22.6 +02.5	179	21.8 +02.4	180	20.9 +02.5	181	20.0 +02.5	14
15	192	26.0 +02.4	193	25.1 +02.5	194	24.2 +02.5	195	23.4 +02.4	196	22.5 +02.5	15
16	207	28.4 +02.5	208	27.6 +02.4	209	26.7 +02.5	210	25.8 +02.5	211	25.0 +02.4	16
17	222	30.9 +02.5	223	30.0 +02.5	224	29.2 +02.4	225	28.3 +02.5	226	27.4 +02.5	17
18	237	33.4 +02.4	238	32.5 +02.5	239	31.6 +02.5	240	30.8 +02.4	241	29.9 +02.5	18
19	252	35.8 +02.5	253	35.0 +02.4	254	34.1 +02.5	255	33.2 +02.5	256	32.4 +02.4	19
20	267	38.3 +02.4	268	37.4 +02.5	269	36.6 +02.4	270	35.7 +02.5	271	34.8 +02.5	20
21	282	40.7 +02.5	283	39.9 +02.4	284	39.0 +02.5	285	38.2 +02.4	286	37.3 +02.5	21
22	297	43.2 +02.5	298	42.3 +02.5	299	41.5 +02.5	300	40.6 +02.5	301	39.8 +02.4	22
23	312	45.7 +02.4	313	44.8 +02.5	314	44.0 +02.4	315	43.1 +02.5	316	42.2 +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 34.6	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 51.3
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 34.2	N 89 20.7	Hadar	148 41.1	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 50.9	N 19 05.5
Mirfak	308 33.2	N 49 55.8	Rigel Kentaurus	139 42.8	S 60 55.4
Aldebaran	290 43.8	N 16 33.0	Zubenelgenubi	136 59.9	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 17.2	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 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 43.5	N 51 29.5
Adhara	255 08.9	S 28 59.8	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 00.4
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 21.3
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 30.6
Denebola	182 28.7	N 14 27.7	Markab	13 33.1	N 15 19.0

2020 - First Point of Aries / Selected Stars

UT	day 236 of 366			day 237 of 366			day 238 of 366			day 239 of 366			day 240 of 366			UT
	August 23			August 24			August 25			August 26			August 27			
	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	+02.4	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	Zubenelgenubi	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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UT	day 241 of 366 August 28		day 242 of 366 August 29		day 243 of 366 August 30		day 244 of 366 August 31		day 245 of 366 September 1		UT
	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	340	36.9 +02.5	00
01	351	42.8 +02.5	352	42.0 +02.5	353	41.1 +02.5	354	40.3 +02.4	355	39.4 +02.5	01
02	6	45.3 +02.5	7	44.5 +02.4	8	43.6 +02.5	9	42.7 +02.5	10	41.9 +02.4	02
03	21	47.8 +02.4	22	46.9 +02.5	23	46.1 +02.4	24	45.2 +02.5	25	44.3 +02.5	03
04	36	50.2 +02.5	37	49.4 +02.4	38	48.5 +02.5	39	47.7 +02.4	40	46.8 +02.5	04
05	51	52.7 +02.5	52	51.8 +02.5	53	51.0 +02.4	54	50.1 +02.5	55	49.3 +02.4	05
06	66	55.2 +02.4	67	54.3 +02.5	68	53.4 +02.5	69	52.6 +02.5	70	51.7 +02.5	06
07	81	57.6 +02.5	82	56.8 +02.4	83	55.9 +02.5	84	55.1 +02.4	85	54.2 +02.5	07
08	97	00.1 +02.5	97	59.2 +02.5	98	58.4 +02.4	99	57.5 +02.5	100	56.7 +02.4	08
09	112	02.6 +02.4	113	01.7 +02.5	114	00.8 +02.5	114	60.0 +02.4	115	59.1 +02.5	09
10	127	05.0 +02.5	128	04.2 +02.4	129	03.3 +02.5	130	02.4 +02.5	131	01.6 +02.4	10
11	142	07.5 +02.5	143	06.6 +02.5	144	05.8 +02.4	145	04.9 +02.5	146	04.0 +02.5	11
12	157	10.0 +02.4	158	09.1 +02.5	159	08.2 +02.5	160	07.4 +02.4	161	06.5 +02.5	12
13	172	12.4 +02.5	173	11.6 +02.4	174	10.7 +02.5	175	09.8 +02.5	176	09.0 +02.4	13
14	187	14.9 +02.4	188	14.0 +02.5	189	13.2 +02.4	190	12.3 +02.5	191	11.4 +02.5	14
15	202	17.3 +02.5	203	16.5 +02.5	204	15.6 +02.5	205	14.8 +02.4	206	13.9 +02.5	15
16	217	19.8 +02.5	218	19.0 +02.4	219	18.1 +02.5	220	17.2 +02.5	221	16.4 +02.4	16
17	232	22.3 +02.4	233	21.4 +02.5	234	20.6 +02.4	235	19.7 +02.5	236	18.8 +02.5	17
18	247	24.7 +02.5	248	23.9 +02.4	249	23.0 +02.5	250	22.2 +02.4	251	21.3 +02.5	18
19	262	27.2 +02.5	263	26.3 +02.5	264	25.5 +02.4	265	24.6 +02.5	266	23.8 +02.4	19
20	277	29.7 +02.4	278	28.8 +02.5	279	27.9 +02.5	280	27.1 +02.4	281	26.2 +02.5	20
21	292	32.1 +02.5	293	31.3 +02.4	294	30.4 +02.5	295	29.5 +02.5	296	28.7 +02.4	21
22	307	34.6 +02.5	308	33.7 +02.5	309	32.9 +02.4	310	32.0 +02.5	311	31.1 +02.5	22
23	322	37.1 +02.4	323	36.2 +02.5	324	35.3 +02.5	325	34.5 +02.4	326	33.6 +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 10.4	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

2020 - First Point of Aries / Selected Stars

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	00
01	356	38.5	+02.5	357	37.7	+02.4	358	36.8	+02.5	359	36.0	+02.4	01
02	11	41.0	+02.5	12	40.1	+02.5	13	39.3	+02.4	14	38.4	+02.5	02
03	26	43.5	+02.4	27	42.6	+02.5	28	41.7	+02.5	29	40.9	+02.4	03
04	41	45.9	+02.5	42	45.1	+02.4	43	44.2	+02.5	44	43.3	+02.5	04
05	56	48.4	+02.5	57	47.5	+02.5	58	46.7	+02.4	59	45.8	+02.5	05
06	71	50.9	+02.4	72	50.0	+02.5	73	49.1	+02.5	74	48.3	+02.4	06
07	86	53.3	+02.5	87	52.5	+02.4	88	51.6	+02.5	89	50.7	+02.5	07
08	101	55.8	+02.5	102	54.9	+02.5	103	54.1	+02.4	104	53.2	+02.5	08
09	116	58.3	+02.4	117	57.4	+02.5	118	56.5	+02.5	119	55.7	+02.4	09
10	132	00.7	+02.5	132	59.9	+02.4	133	59.0	+02.5	134	58.1	+02.5	10
11	147	03.2	+02.4	148	02.3	+02.5	149	01.5	+02.4	150	00.6	+02.5	11
12	162	05.6	+02.5	163	04.8	+02.4	164	03.9	+02.5	165	03.1	+02.4	12
13	177	08.1	+02.5	178	07.2	+02.5	179	06.4	+02.4	180	05.5	+02.5	13
14	192	10.6	+02.4	193	09.7	+02.5	194	08.8	+02.5	195	08.0	+02.4	14
15	207	13.0	+02.5	208	12.2	+02.4	209	11.3	+02.5	210	10.4	+02.5	15
16	222	15.5	+02.5	223	14.6	+02.5	224	13.8	+02.4	225	12.9	+02.5	16
17	237	18.0	+02.4	238	17.1	+02.5	239	16.2	+02.5	240	15.4	+02.4	17
18	252	20.4	+02.5	253	19.6	+02.4	254	18.7	+02.5	255	17.8	+02.5	18
19	267	22.9	+02.5	268	22.0	+02.5	269	21.2	+02.4	270	20.3	+02.5	19
20	282	25.4	+02.4	283	24.5	+02.5	284	23.6	+02.5	285	22.8	+02.4	20
21	297	27.8	+02.5	298	27.0	+02.4	299	26.1	+02.5	300	25.2	+02.5	21
22	312	30.3	+02.5	313	29.4	+02.5	314	28.6	+02.4	315	27.7	+02.5	22
23	327	32.8	+02.4	328	31.9	+02.5	329	31.0	+02.5	330	30.2	+02.4	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	12.8
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

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	+02.4	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	Zubenelgenubi	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

2020 - First Point of Aries / Selected Stars

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	+02.5	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	+02.5	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

2020 - First Point of Aries / Selected Stars

UT	day 261 of 366			day 262 of 366			day 263 of 366			day 264 of 366			day 265 of 366			UT
	September 17			September 18			September 19			September 20			September 21			
	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	0	19.7	+02.5	00
01	11	25.6	+02.5	12	24.8	+02.4	13	23.9	+02.5	14	23.0	+02.5	15	22.2	+02.4	01
02	26	28.1	+02.4	27	27.2	+02.5	28	26.4	+02.4	29	25.5	+02.5	30	24.6	+02.5	02
03	41	30.5	+02.5	42	29.7	+02.4	43	28.8	+02.5	44	28.0	+02.4	45	27.1	+02.5	03
04	56	33.0	+02.5	57	32.1	+02.5	58	31.3	+02.4	59	30.4	+02.5	60	29.6	+02.4	04
05	71	35.5	+02.4	72	34.6	+02.5	73	33.7	+02.5	74	32.9	+02.4	75	32.0	+02.5	05
06	86	37.9	+02.5	87	37.1	+02.4	88	36.2	+02.5	89	35.3	+02.5	90	34.5	+02.4	06
07	101	40.4	+02.5	102	39.5	+02.5	103	38.7	+02.4	104	37.8	+02.5	105	36.9	+02.5	07
08	116	42.9	+02.4	117	42.0	+02.5	118	41.1	+02.5	119	40.3	+02.4	120	39.4	+02.5	08
09	131	45.3	+02.5	132	44.5	+02.4	133	43.6	+02.5	134	42.7	+02.5	135	41.9	+02.4	09
10	146	47.8	+02.5	147	46.9	+02.5	148	46.1	+02.4	149	45.2	+02.5	150	44.3	+02.5	10
11	161	50.3	+02.4	162	49.4	+02.5	163	48.5	+02.5	164	47.7	+02.4	165	46.8	+02.5	11
12	176	52.7	+02.5	177	51.9	+02.4	178	51.0	+02.5	179	50.1	+02.5	180	49.3	+02.4	12
13	191	55.2	+02.4	192	54.3	+02.5	193	53.5	+02.4	194	52.6	+02.5	195	51.7	+02.5	13
14	206	57.6	+02.5	207	56.8	+02.4	208	55.9	+02.5	209	55.1	+02.4	210	54.2	+02.5	14
15	222	00.1	+02.5	222	59.2	+02.5	223	58.4	+02.4	224	57.5	+02.5	225	56.7	+02.4	15
16	237	02.6	+02.4	238	01.7	+02.5	239	00.8	+02.5	239	60.0	+02.4	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	256	01.6	+02.5	17
18	267	07.5	+02.5	268	06.6	+02.5	269	05.8	+02.4	270	04.9	+02.5	271	04.1	+02.4	18
19	282	10.0	+02.4	283	09.1	+02.5	284	08.2	+02.5	285	07.4	+02.4	286	06.5	+02.5	19
20	297	12.4	+02.5	298	11.6	+02.4	299	10.7	+02.5	300	09.8	+02.5	301	09.0	+02.4	20
21	312	14.9	+02.5	313	14.0	+02.5	314	13.2	+02.4	315	12.3	+02.5	316	11.4	+02.5	21
22	327	17.4	+02.4	328	16.5	+02.5	329	15.6	+02.5	330	14.8	+02.4	331	13.9	+02.5	22
23	342	19.8	+02.5	343	19.0	+02.4	344	18.1	+02.5	345	17.2	+02.5	346	16.4	+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 10.3	S 42 11.5	Acrux	173 04.5	S 63 12.7
Schedir	349 34.4	N 56 38.9	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 22.5	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 12.9
Polaris	315 20.4	N 89 20.8	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 32.9	N 49 55.8	Rigel Kentaurus	139 43.0	S 60 55.4
Aldebaran	290 43.5	N 16 33.1	Zubenelgenubi	137 00.0	S 16 07.4
Capella	280 27.0	N 46 01.0	Kocab	137 20.7	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 54.0	S 52 42.1	Rasalhague	96 01.8	N 12 33.0
Sirius	258 29.2	S 16 44.1	Etamin	90 43.8	N 51 29.5
Adhara	255 08.7	S 28 59.8	Kaus Australis	83 37.1	S 34 22.4
Castor	246 01.6	N 31 50.5	Vega	80 35.5	N 38 48.4
Procyon	244 54.4	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 49.1	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 21.5
Alphard	217 51.4	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 33.0	N 15 19.1

2020 - First Point of Aries / Selected Stars

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	5	15.4	+02.5	00
01	16	21.3	+02.5	17	20.4	+02.5	18	19.6	+02.4	19	18.7	+02.5	20	17.9	+02.4	01
02	31	23.8	+02.4	32	22.9	+02.5	33	22.0	+02.5	34	21.2	+02.4	35	20.3	+02.5	02
03	46	26.2	+02.5	47	25.4	+02.4	48	24.5	+02.5	49	23.6	+02.5	50	22.8	+02.5	03
04	61	28.7	+02.5	62	27.8	+02.5	63	27.0	+02.4	64	26.1	+02.5	65	25.3	+02.4	04
05	76	31.2	+02.4	77	30.3	+02.5	78	29.4	+02.5	79	28.6	+02.4	80	27.7	+02.5	05
06	91	33.6	+02.5	92	32.8	+02.4	93	31.9	+02.5	94	31.0	+02.5	95	30.2	+02.4	06
07	106	36.1	+02.4	107	35.2	+02.5	108	34.4	+02.4	109	33.5	+02.5	110	32.6	+02.5	07
08	121	38.5	+02.5	122	37.7	+02.5	123	36.8	+02.5	124	36.0	+02.4	125	35.1	+02.5	08
09	136	41.0	+02.5	137	40.2	+02.4	138	39.3	+02.5	139	38.4	+02.5	140	37.6	+02.4	09
10	151	43.5	+02.4	152	42.6	+02.5	153	41.8	+02.4	154	40.9	+02.5	155	40.0	+02.5	10
11	166	45.9	+02.5	167	45.1	+02.4	168	44.2	+02.5	169	43.4	+02.4	170	42.5	+02.5	11
12	181	48.4	+02.5	182	47.5	+02.5	183	46.7	+02.5	184	45.8	+02.5	185	45.0	+02.4	12
13	196	50.9	+02.4	197	50.0	+02.5	198	49.2	+02.4	199	48.3	+02.5	200	47.4	+02.5	13
14	211	53.3	+02.5	212	52.5	+02.4	213	51.6	+02.5	214	50.8	+02.4	215	49.9	+02.5	14
15	226	55.8	+02.5	227	54.9	+02.5	228	54.1	+02.4	229	53.2	+02.5	230	52.4	+02.4	15
16	241	58.3	+02.4	242	57.4	+02.5	243	56.5	+02.5	244	55.7	+02.4	245	54.8	+02.5	16
17	257	00.7	+02.5	257	59.9	+02.4	258	59.0	+02.5	259	58.1	+02.5	260	57.3	+02.4	17
18	272	03.2	+02.5	273	02.3	+02.5	274	01.5	+02.4	275	00.6	+02.5	275	59.7	+02.5	18
19	287	05.7	+02.4	288	04.8	+02.5	289	03.9	+02.5	290	03.1	+02.4	291	02.2	+02.5	19
20	302	08.1	+02.5	303	07.3	+02.4	304	06.4	+02.5	305	05.5	+02.5	306	04.7	+02.4	20
21	317	10.6	+02.4	318	09.7	+02.5	319	08.9	+02.4	320	08.0	+02.5	321	07.1	+02.5	21
22	332	13.0	+02.5	333	12.2	+02.5	334	11.3	+02.5	335	10.5	+02.4	336	09.6	+02.5	22
23	347	15.5	+02.5	348	14.7	+02.4	349	13.8	+02.5	350	12.9	+02.5	351	12.1	+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	10.3	S 42	11.5	Acrux	173	04.5	S 63	12.7
Schedir	349	34.4	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	54.9	N 23	33.6	Alkaid	152	55.2	N 49	12.9
Polaris	315	18.3	N 89	20.8	Hadar	148	41.4	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	51.1	N 19	05.5
Mirfak	308	32.9	N 49	55.8	Rigel Kentaurus	139	43.1	S 60	55.4
Aldebaran	290	43.5	N 16	33.1	Zubenelgenubi	137	00.1	S 16	07.4
Capella	280	27.0	N 46	01.0	Kocab	137	20.8	N 74	04.5
Rigel	281	07.2	S 08	10.6	Alphecca	126	07.0	N 26	39.1
Bellatrix	278	26.6	N 06	22.1	Antares	112	20.3	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	55.9	N 07	24.7	Shaula	96	15.1	S 37	07.1
Canopus	263	54.0	S 52	42.1	Rasalhague	96	01.8	N 12	33.0
Sirius	258	29.2	S 16	44.1	Etamin	90	43.8	N 51	29.5
Adhara	255	08.7	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	58.6	Albireo	67	06.7	N 28	00.4
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	10.9	S 56	40.2
Miaplacidus	221	39.3	S 69	47.9	Deneb	49	27.8	N 45	21.5
Alphard	217	51.4	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	51.7
Dubhe	193	46.0	N 61	38.4	Formalhaut	15	18.2	S 29	30.7
Denebola	182	28.7	N 14	27.7	Markab	13	33.1	N 15	19.1

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 +02.4	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

2020 - First Point of Aries / Selected Stars

UT	day 276 of 366 October 2		day 277 of 366 October 3		day 278 of 366 October 4		day 279 of 366 October 5		day 280 of 366 October 6		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
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 +02.5	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 +02.4	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 11.5	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	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

2020 - First Point of Aries / Selected Stars

UT	day 281 of 366 October 7		day 282 of 366 October 8		day 283 of 366 October 9		day 284 of 366 October 10		day 285 of 366 October 11		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				

2020 - First Point of Aries / Selected Stars

UT	day 286 of 366		day 287 of 366		day 288 of 366		day 289 of 366		day 290 of 366		UT
	October 12		October 13		October 14		October 15		October 16		
	GHA	ddGHA	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 +02.5	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 +02.4	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	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 38.2	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 30.7
Denebola	182 28.6	N 14 27.6	Markab	13 33.1	N 15 19.1

2020 - First Point of Aries / Selected Stars

UT	day 291 of 366 October 17		day 292 of 366 October 18		day 293 of 366 October 19		day 294 of 366 October 20		day 295 of 366 October 21		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
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

	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

2020 - First Point of Aries / Selected Stars

UT	day 296 of 366		day 297 of 366		day 298 of 366		day 299 of 366		day 300 of 366		UT					
	October 22		October 23		October 24		October 25		October 26							
	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	+02.4	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	+02.5	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	12.4	Gienah	175	47.4	S 17	39.2
Ankaa	353	10.3	S 42	11.6	Acrux	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	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	38.2	N 11	52.1	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

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UT	day 301 of 366 <i>October 27</i>		day 302 of 366 <i>October 28</i>		day 303 of 366 <i>October 29</i>		day 304 of 366 <i>October 30</i>		day 305 of 366 <i>October 31</i>		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	
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	+02.5	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	Acrux	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

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UT	day 306 of 366 November 1		day 307 of 366 November 2		day 308 of 366 November 3		day 309 of 366 November 4		day 310 of 366 November 5		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	
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	+02.4	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	Acrux	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 51.8
Dubhe	193 45.6	N 61 38.2	Formalhaut	15 18.2	S 29 30.8
Denebola	182 28.6	N 14 27.5	Markab	13 33.1	N 15 19.1

2020 - First Point of Aries / Selected Stars

UT	day 311 of 366 November 6		day 312 of 366 November 7		day 313 of 366 November 8		day 314 of 366 November 9		day 315 of 366 November 10		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 +02.5	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

	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	Acrux	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 28.1	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

2020 - First Point of Aries / Selected Stars

UT	day 316 of 366 November 11		day 317 of 366 November 12		day 318 of 366 November 13		day 319 of 366 November 14		day 320 of 366 November 15		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 +02.4	217	02.0 +02.5	218	01.1 +02.5	219	00.3 +02.4	219	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 +02.4	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 +02.5	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 +02.4	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 38.0	N 29 12.5	Gienah	175 47.2	S 17 39.2
Ankaa	353 10.4	S 42 11.7	Acrux	173 04.2	S 63 12.5
Schedir	349 34.4	N 56 39.2	Gacrux	171 55.8	S 57 13.3
Diphda	348 50.5	S 17 52.5	Alioth	166 16.6	N 55 50.8
Achernar	335 22.4	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 12.6
Polaris	315 06.2	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 00.1	S 16 07.4
Capella	280 26.5	N 46 01.1	Kocab	137 21.1	N 74 04.3
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 07.1
Canopus	263 53.5	S 52 42.2	Rasalhague	96 02.0	N 12 33.0
Sirius	258 28.8	S 16 44.1	Etamin	90 44.2	N 51 29.4
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 54.0	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 34.2	Altair	62 03.6	N 08 55.4
Suhail	222 48.7	S 43 30.7	Peacock	53 11.3	S 56 40.3
Miaplacidus	221 38.6	S 69 47.8	Deneb	49 28.1	N 45 21.5
Alphard	217 51.1	S 08 44.8	Enif	33 42.1	N 09 58.3
Regulus	207 38.0	N 11 52.0	Alnair	27 37.2	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 33.1	N 15 19.1

2020 - First Point of Aries / Selected Stars

UT	day 321 of 366 November 16		day 322 of 366 November 17		day 323 of 366 November 18		day 324 of 366 November 19		day 325 of 366 November 20		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	+02.4	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

	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	Acrux	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

2020 - First Point of Aries / Selected Stars

UT	day 326 of 366		day 327 of 366		day 328 of 366		day 329 of 366		day 330 of 366		UT
	November 21		November 22		November 23		November 24		November 25		
	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	272	59.9 +02.5	273	59.1 +02.4	274	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	Acrux	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 30.7	Peacock	53 11.4	S 56 40.2
Miaplacidus	221 38.4	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 45.4	N 61 38.1	Formalhaut	15 18.3	S 29 30.8
Denebola	182 28.4	N 14 27.5	Markab	13 33.2	N 15 19.1

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
	November 26		November 27		November 28		November 29		November 30		
	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 +02.4	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	308	59.7 +02.5	309	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

	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 04.1	S 63 12.5
Schedir	349 34.4	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 26.1	S 11 16.0
Hamal	327 54.7	N 23 33.7	Alkaid	152 55.1	N 49 12.5
Polaris	315 06.3	N 89 21.2	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 43.1	N 16 33.1	Zubenelgenubi	137 00.0	S 16 07.4
Capella	280 26.4	N 46 01.2	Kocab	137 21.1	N 74 04.2
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 05.8	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 42.3	Rasalhague	96 02.0	N 12 32.9
Sirius	258 28.7	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 01.0	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 20.9	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 48.5	S 43 30.7	Peacock	53 11.4	S 56 40.2
Miaplacidus	221 38.3	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 37.9	N 11 52.0	Alnair	27 37.3	S 46 51.8
Dubhe	193 45.3	N 61 38.1	Formalhaut	15 18.3	S 29 30.8
Denebola	182 28.4	N 14 27.4	Markab	13 33.2	N 15 19.1

2020 - First Point of Aries / Selected Stars

UT	day 336 of 366		day 337 of 366		day 338 of 366		day 339 of 366		day 340 of 366		UT					
	<i>December 1</i>		<i>December 2</i>		<i>December 3</i>		<i>December 4</i>		<i>December 5</i>							
	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	74	15.1	+02.5	00
01	85	21.0	+02.5	86	20.2	+02.4	87	19.3	+02.5	88	18.4	+02.5	89	17.6	+02.4	01
02	100	23.5	+02.4	101	22.6	+02.5	102	21.8	+02.4	103	20.9	+02.5	104	20.0	+02.5	02
03	115	25.9	+02.5	116	25.1	+02.4	117	24.2	+02.5	118	23.4	+02.4	119	22.5	+02.5	03
04	130	28.4	+02.5	131	27.5	+02.5	132	26.7	+02.4	133	25.8	+02.5	134	25.0	+02.4	04
05	145	30.9	+02.4	146	30.0	+02.5	147	29.1	+02.5	148	28.3	+02.5	149	27.4	+02.5	05
06	160	33.3	+02.5	161	32.5	+02.4	162	31.6	+02.5	163	30.8	+02.4	164	29.9	+02.5	06
07	175	35.8	+02.5	176	34.9	+02.5	177	34.1	+02.4	178	33.2	+02.5	179	32.4	+02.4	07
08	190	38.3	+02.4	191	37.4	+02.5	192	36.5	+02.5	193	35.7	+02.4	194	34.8	+02.5	08
09	205	40.7	+02.5	206	39.9	+02.4	207	39.0	+02.5	208	38.1	+02.5	209	37.3	+02.5	09
10	220	43.2	+02.5	221	42.3	+02.5	222	41.5	+02.4	223	40.6	+02.5	224	39.8	+02.4	10
11	235	45.7	+02.4	236	44.8	+02.5	237	43.9	+02.5	238	43.1	+02.4	239	42.2	+02.5	11
12	250	48.1	+02.5	251	47.3	+02.4	252	46.4	+02.5	253	45.5	+02.5	254	44.7	+02.4	12
13	265	50.6	+02.4	266	49.7	+02.5	267	48.9	+02.4	268	48.0	+02.5	269	47.1	+02.5	13
14	280	53.0	+02.5	281	52.2	+02.4	282	51.3	+02.5	283	50.5	+02.4	284	49.6	+02.5	14
15	295	55.5	+02.5	296	54.6	+02.5	297	53.8	+02.5	298	52.9	+02.5	299	52.1	+02.4	15
16	310	58.0	+02.4	311	57.1	+02.5	312	56.3	+02.4	313	55.4	+02.5	314	54.5	+02.5	16
17	326	00.4	+02.5	326	59.6	+02.4	327	58.7	+02.5	328	57.9	+02.4	329	57.0	+02.5	17
18	341	02.9	+02.5	342	02.0	+02.5	343	01.2	+02.4	344	00.3	+02.5	344	59.5	+02.4	18
19	356	05.4	+02.4	357	04.5	+02.5	358	03.6	+02.5	359	02.8	+02.5	0	01.9	+02.5	19
20	11	07.8	+02.5	12	07.0	+02.4	13	06.1	+02.5	14	05.3	+02.4	15	04.4	+02.5	20
21	26	10.3	+02.5	27	09.4	+02.5	28	08.6	+02.4	29	07.7	+02.5	30	06.9	+02.4	21
22	41	12.8	+02.4	42	11.9	+02.5	43	11.0	+02.5	44	10.2	+02.4	45	09.3	+02.5	22
23	56	15.2	+02.5	57	14.4	+02.4	58	13.5	+02.5	59	12.6	+02.5	60	11.8	+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	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	27	37.3	S 46	51.8
Dubhe	193	45.2	N 61	38.1	Formalhaut	15	18.3	S 29	30.8
Denebola	182	28.3	N 14	27.4	Markab	13	33.2	N 15	19.1

2020 - First Point of Aries / Selected Stars

UT	day 341 of 366		day 342 of 366		day 343 of 366		day 344 of 366		day 345 of 366		UT					
	<i>December 6</i>		<i>December 7</i>		<i>December 8</i>		<i>December 9</i>		<i>December 10</i>							
	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	+02.4	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	+02.5	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	Acrux	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

2020 - First Point of Aries / Selected Stars

UT	day 346 of 366		day 347 of 366		day 348 of 366		day 349 of 366		day 350 of 366		UT					
	<i>December 11</i>		<i>December 12</i>		<i>December 13</i>		<i>December 14</i>		<i>December 15</i>							
	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	+02.4	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	+02.5	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	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 16.4	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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UT	day 351 of 366		day 352 of 366		day 353 of 366		day 354 of 366		day 355 of 366		UT					
	<i>December 16</i>		<i>December 17</i>		<i>December 18</i>		<i>December 19</i>		<i>December 20</i>							
	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	89	02.2	+02.5	00
01	100	08.1	+02.5	101	07.2	+02.5	102	06.4	+02.5	103	05.5	+02.5	104	04.7	+02.4	01
02	115	10.6	+02.4	116	09.7	+02.5	117	08.9	+02.4	118	08.0	+02.5	119	07.1	+02.5	02
03	130	13.0	+02.5	131	12.2	+02.4	132	11.3	+02.5	133	10.5	+02.4	134	09.6	+02.5	03
04	145	15.5	+02.5	146	14.6	+02.5	147	13.8	+02.4	148	12.9	+02.5	149	12.1	+02.4	04
05	160	18.0	+02.4	161	17.1	+02.5	162	16.2	+02.5	163	15.4	+02.5	164	14.5	+02.5	05
06	175	20.4	+02.5	176	19.6	+02.4	177	18.7	+02.5	178	17.9	+02.4	179	17.0	+02.5	06
07	190	22.9	+02.5	191	22.0	+02.5	192	21.2	+02.4	193	20.3	+02.5	194	19.5	+02.4	07
08	205	25.4	+02.4	206	24.5	+02.5	207	23.6	+02.5	208	22.8	+02.4	209	21.9	+02.5	08
09	220	27.8	+02.5	221	27.0	+02.4	222	26.1	+02.5	223	25.2	+02.5	224	24.4	+02.4	09
10	235	30.3	+02.5	236	29.4	+02.5	237	28.6	+02.4	238	27.7	+02.5	239	26.8	+02.5	10
11	250	32.8	+02.4	251	31.9	+02.5	252	31.0	+02.5	253	30.2	+02.4	254	29.3	+02.5	11
12	265	35.2	+02.5	266	34.4	+02.4	267	33.5	+02.5	268	32.6	+02.5	269	31.8	+02.4	12
13	280	37.7	+02.4	281	36.8	+02.5	282	36.0	+02.4	283	35.1	+02.5	284	34.2	+02.5	13
14	295	40.1	+02.5	296	39.3	+02.4	297	38.4	+02.5	298	37.6	+02.4	299	36.7	+02.5	14
15	310	42.6	+02.5	311	41.7	+02.5	312	40.9	+02.5	313	40.0	+02.5	314	39.2	+02.4	15
16	325	45.1	+02.4	326	44.2	+02.5	327	43.4	+02.4	328	42.5	+02.5	329	41.6	+02.5	16
17	340	47.5	+02.5	341	46.7	+02.4	342	45.8	+02.5	343	45.0	+02.4	344	44.1	+02.5	17
18	355	50.0	+02.5	356	49.1	+02.5	357	48.3	+02.4	358	47.4	+02.5	359	46.6	+02.4	18
19	10	52.5	+02.4	11	51.6	+02.5	12	50.7	+02.5	13	49.9	+02.4	14	49.0	+02.5	19
20	25	54.9	+02.5	26	54.1	+02.4	27	53.2	+02.5	28	52.3	+02.5	29	51.5	+02.5	20
21	40	57.4	+02.5	41	56.5	+02.5	42	55.7	+02.4	43	54.8	+02.5	44	54.0	+02.4	21
22	55	59.9	+02.4	56	59.0	+02.5	57	58.1	+02.5	58	57.3	+02.4	59	56.4	+02.5	22
23	71	02.3	+02.5	72	01.5	+02.4	73	00.6	+02.5	73	59.7	+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

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UT	day 356 of 366		day 357 of 366		day 358 of 366		day 359 of 366		day 360 of 366		UT					
	<i>December 21</i>		<i>December 22</i>		<i>December 23</i>		<i>December 24</i>		<i>December 25</i>							
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA						
	°	'	°	'	°	'	°	'	°	'						
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

	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

UT	day 361 of 366		day 362 of 366		day 363 of 366		day 364 of 366		day 365 of 366		UT					
	<i>December 26</i>		<i>December 27</i>		<i>December 28</i>		<i>December 29</i>		<i>December 30</i>							
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA						
	°	'	°	'	°	'	°	'	°	'						
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

	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	00.0	Kaus Australis	83	37.3	S 34	22.4
Castor	246	00.8	N 31	50.5	Vega	80	35.9	N 38	48.1
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
Denebola	182	28.1	N 14	27.3	Markab	13	33.3	N 15	19.1

2020 - First Point of Aries / Selected Stars

day 366 of 366			
December 31			
UT	GHA ° ' ''	ddGHA +02.5	UT
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 46.8 S 17 39.3
Ankaa	353 10.6	S 42 11.7		Acrux	173 03.5 S 63 12.5
Schedir	349 34.6	N 56 39.3		Gacrux	171 55.2 S 57 13.4
Diphda	348 50.7	S 17 52.5		Alioth	166 16.1 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 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
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 20.6 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

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	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

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

To determine Latitude, the table is entered with LHA Aries, which is obtained by addition of the observer's Longitude and the GHA Aries from the daily pages of this Almanac. The value of LHA Aries determines which column of the Polaris Tables to be used. Each column refers to a range of 10° of LHA. The value 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	0.3	0.3
50	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
55	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4
60	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4
62	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.5
64	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5
66	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.6	0.6	0.6	0.5
68	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.5
70	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.7	0.7	0.6	0.6
Month	a2	a2	a2	a2	a2	a2	a2	a2	a2	a2	a2	a2
	° ,	° ,	° ,	° ,	° ,	° ,	° ,	° ,	° ,	° ,	° ,	° ,
Jan	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Feb	0.3	0.4	0.4	0.4	0.4	0.4	0.5	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.

