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The Nautical Almanac 2019 (Selected Stars)

Revision V0.5 - Nov 2017

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 Tue Oct 23 20:05:36 2018

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Introduction

This Nautical Almanac contains the Ephemerides of the "First Point of Aries" and sixty selected stars. It is designed for determination of Position (geographical Latitude and Longitude) from astronomical observations (Altitude of Celestial Objects).

The data compiled in this Nautical Almanac is based on calculations done with the software package "NOVAS" from the U.S. Naval Observatory (http://aa.usno.navy.mil/AA/software).The fundamental star data was originally obtained from the "Bright Star Catalogue" (5th revised edition of 1991). However, this data has recently been updated from other star catalogues. The complete star data as used in this Almanac is shown on the next page.

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 : 69.5 s	Apr : 69.7 s	Jul : 69.8 s	Oct : 69.9 s
Feb : 69.6 s	May : 69.7 s	Aug : 69.8 s	Nov : 70.0 s
Mar : 69.6 s	Jun : 69.8 s	Sep : 69.9 s	Dec : 70.0 s

NOTICE:

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

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

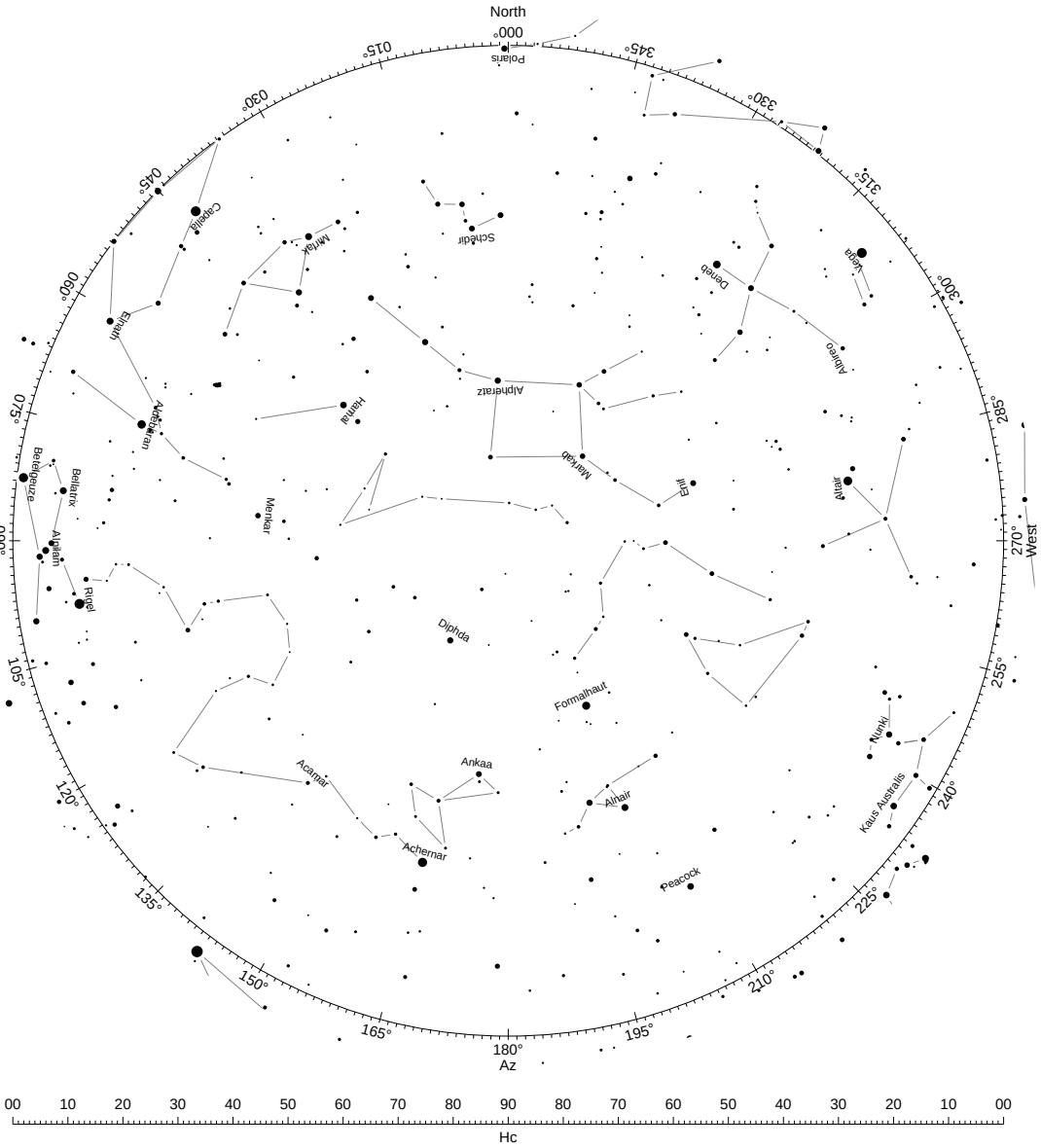
The following table shows the fundamental star data as used in this Almanac. The data refers to Equinox J2000 / Epoch J2000.0.

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

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

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

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

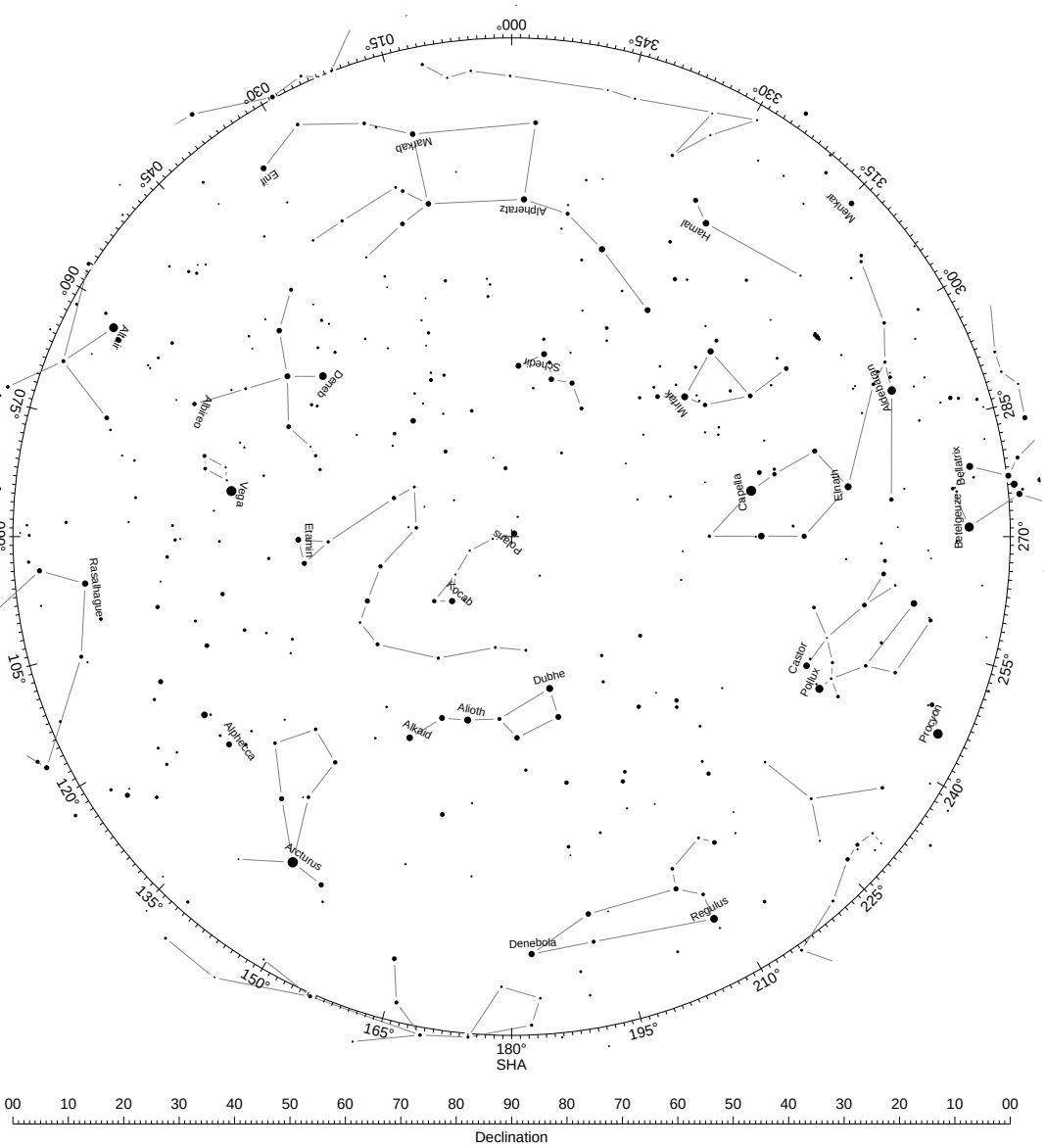


The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth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

Position of the Stars on the local hemisphere

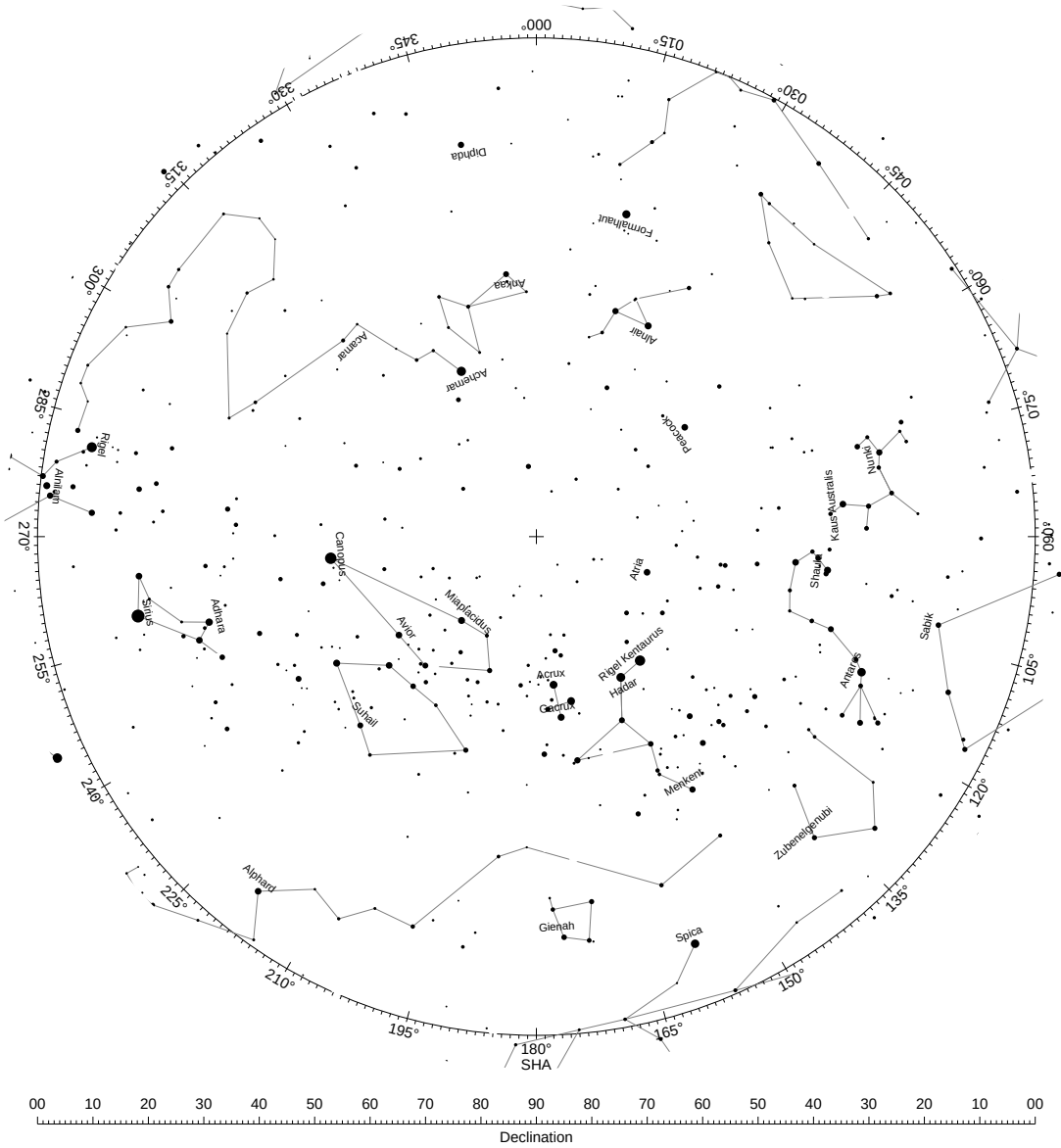
The following pages show different maps of the brightest stars on the night sky (down to magnitude 4.5) as well as some of the standard constellations. On each of the maps, the stars used in this Almanac are labeled with their traditional names.
The first two maps are stereographic maps of the stars of the northern- and southern hemisphere, respectively. These maps are centered on the celestial poles and may be used for observations at locations in high northern- or southern latitudes.
The following eight maps show the star constellations on the local hemisphere for locations on the Equator. These maps can be used for observations at locations in lower latitudes.

Map of bright Stars of the Northern Celestial Sphere



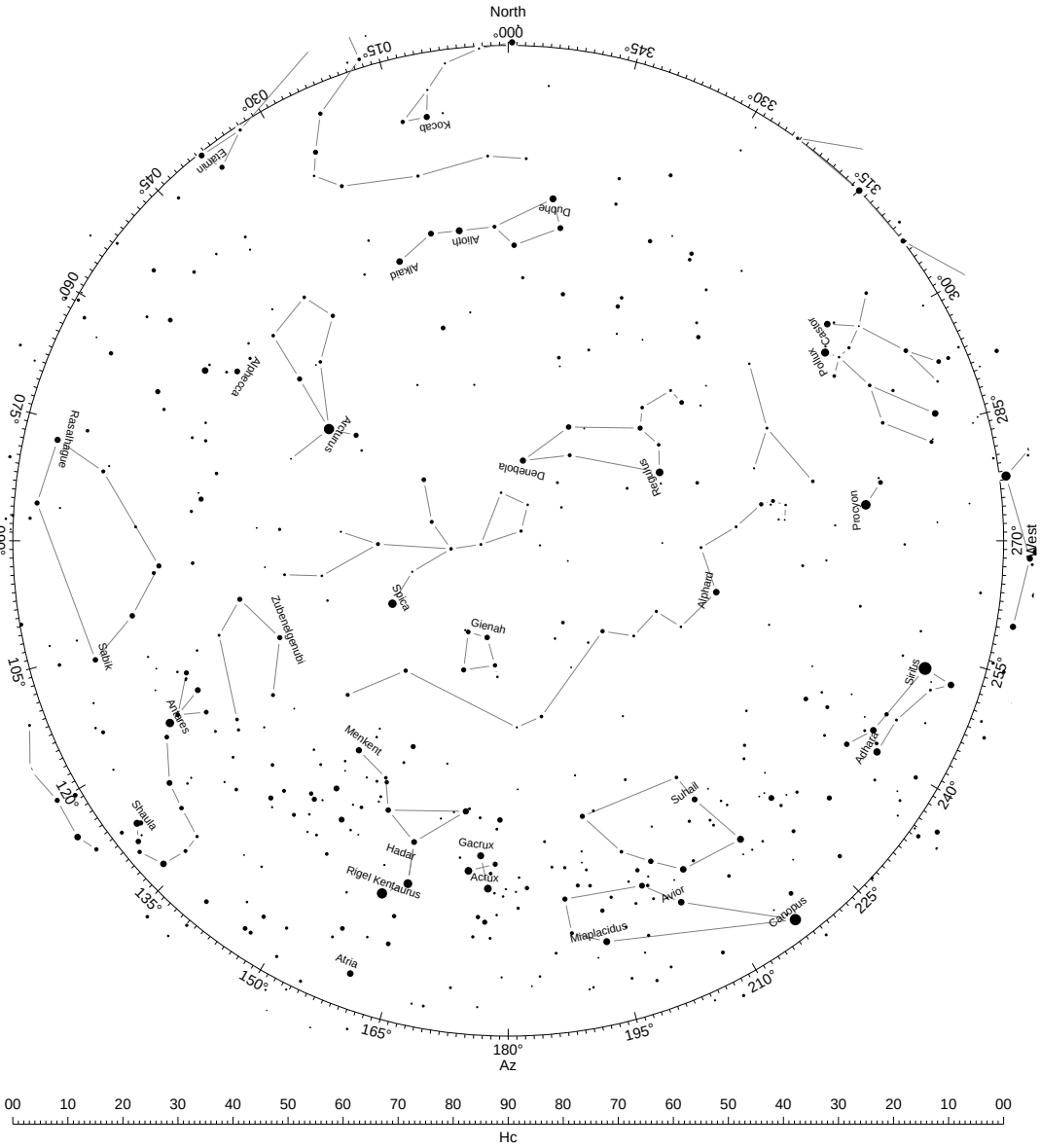
The map is centered on the celestial north pole and shows the brightest stars (up to magnitude 4.5) of the northern celestial hemisphere. The circle of constant declination is shown at 00° (Celestial Equator).
The Sidereal Hour Angle of a specific star can be directly read from the SHA scale plotted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

Map of bright Stars of the Southern Celestial Sphere



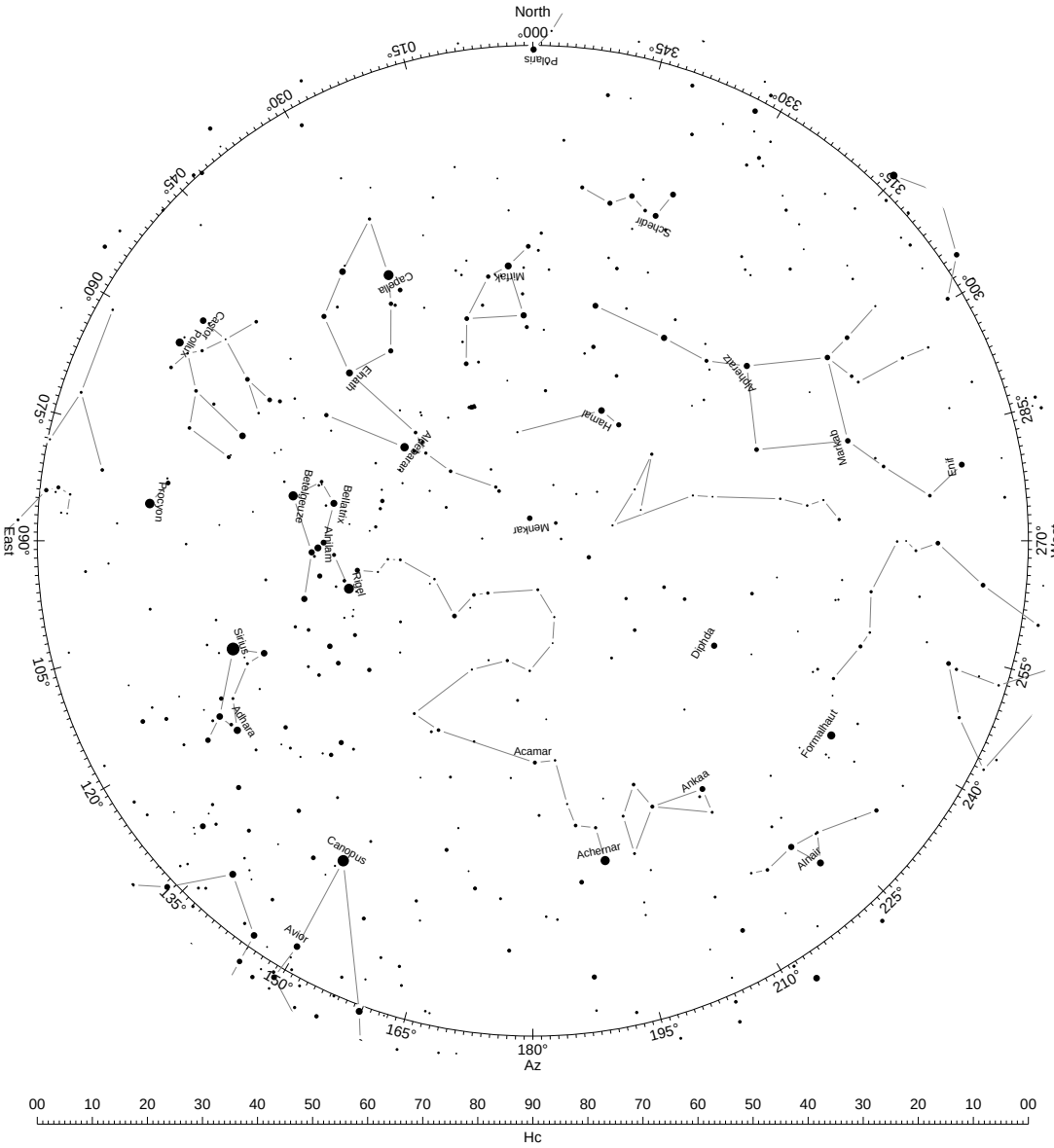
The map is centered on the celestial south pole and shows the brightest stars (up to magnitude 4.5) of the southern celestial hemisphere. The circle of constant declination is shown at 00° (Celestial Equator).
The Sidereal Hour Angle of a specific star can be directly read from the SHA scale plotted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

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



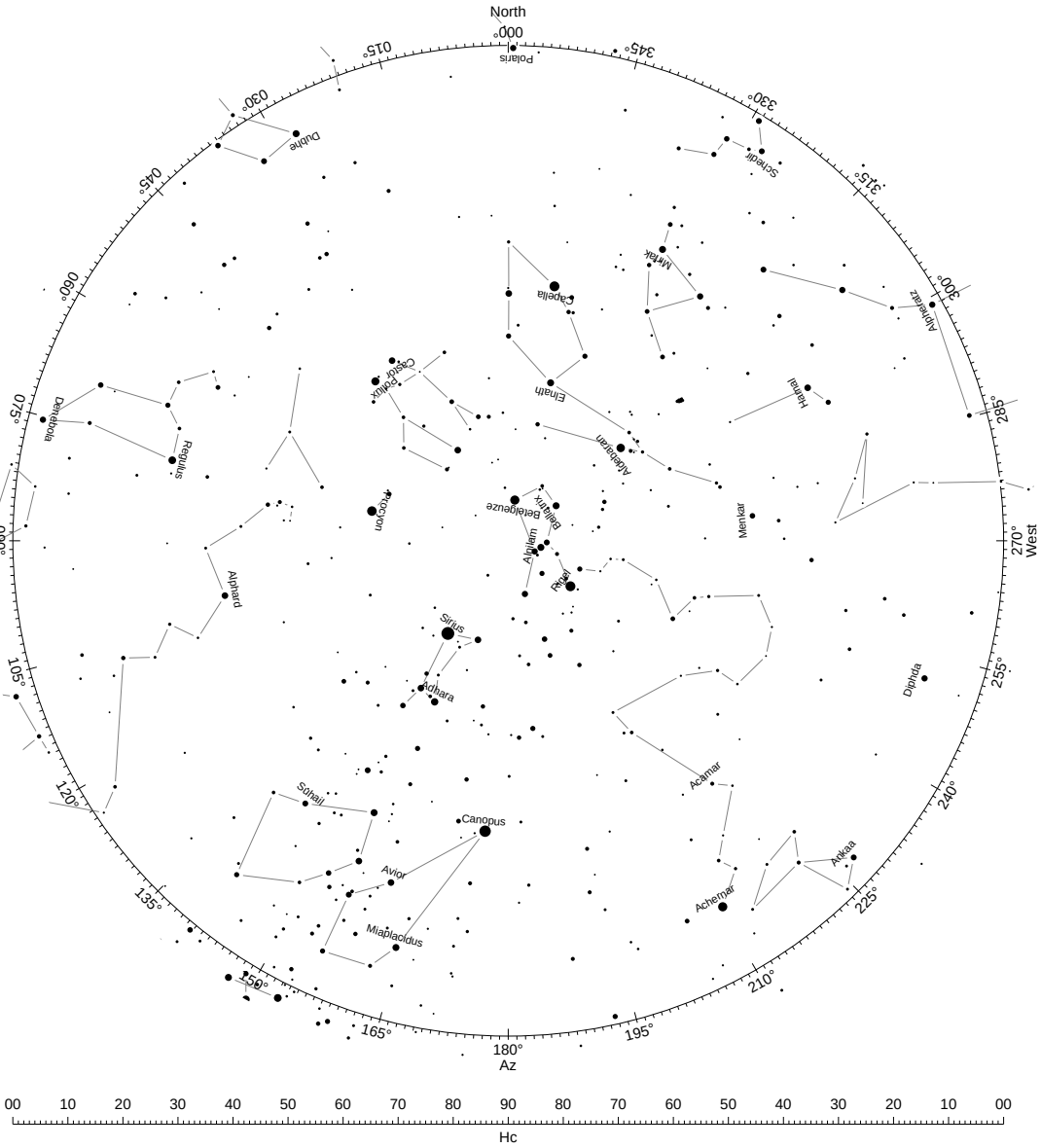
The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth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

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



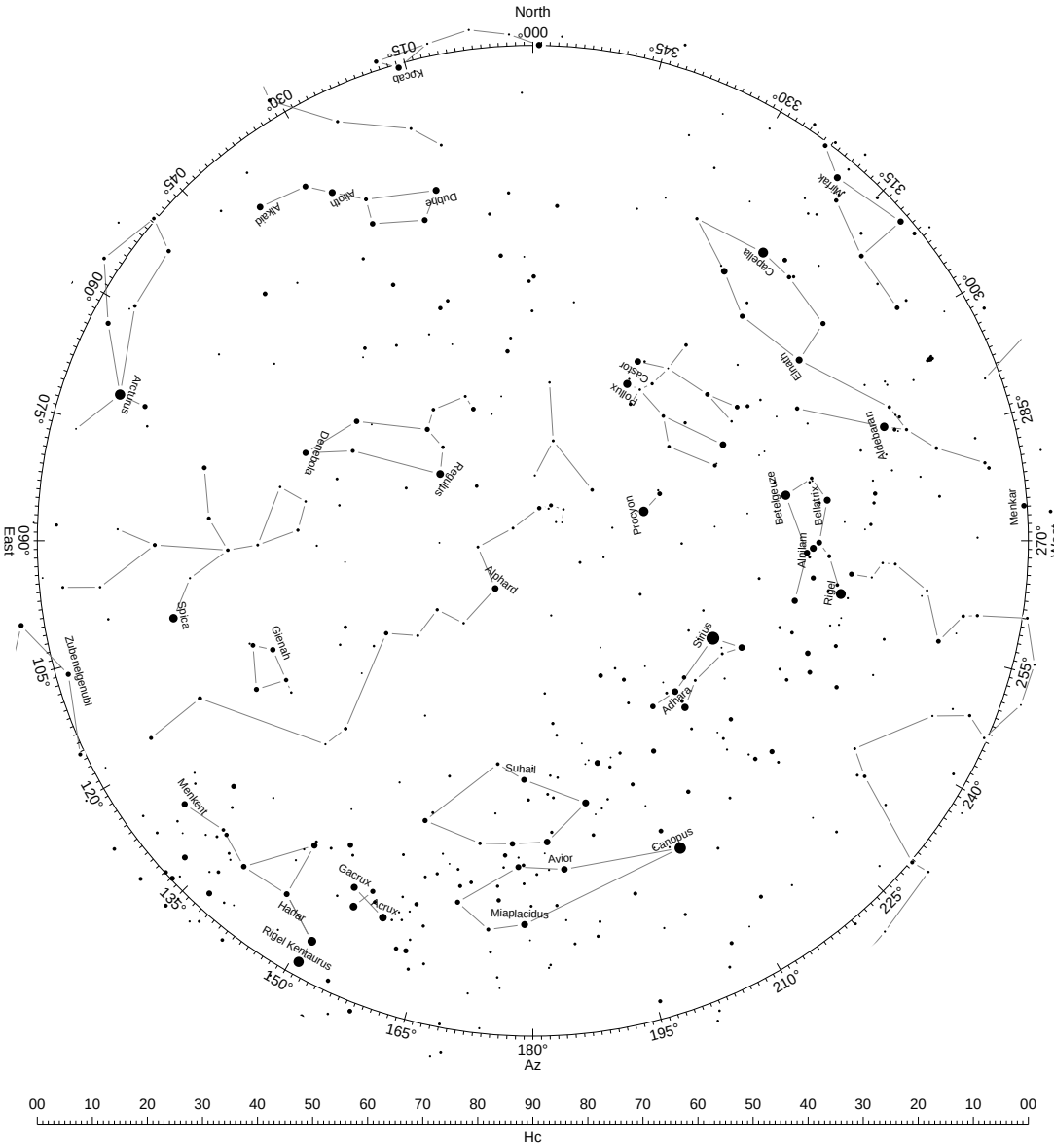
The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth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

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



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

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



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

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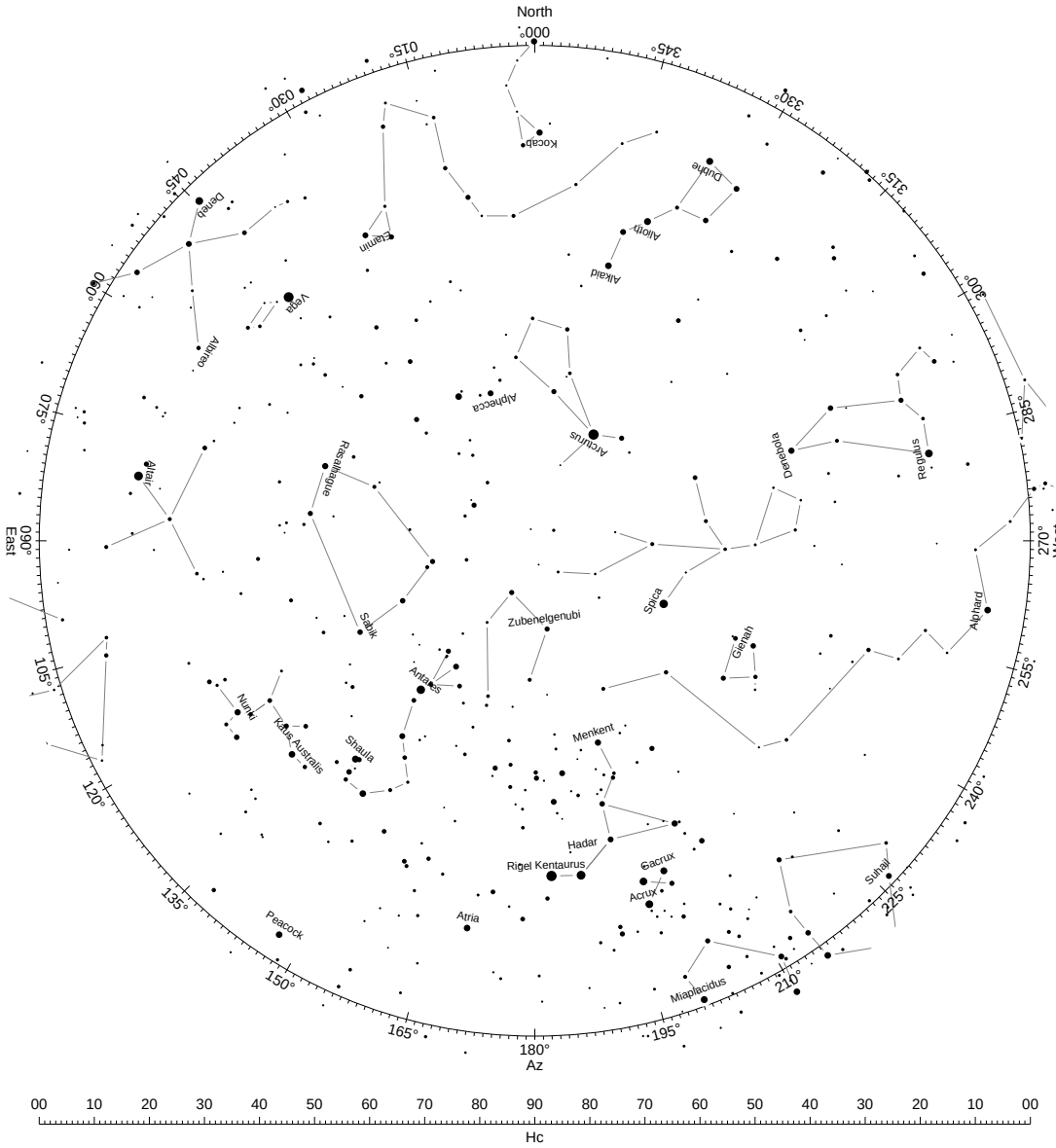
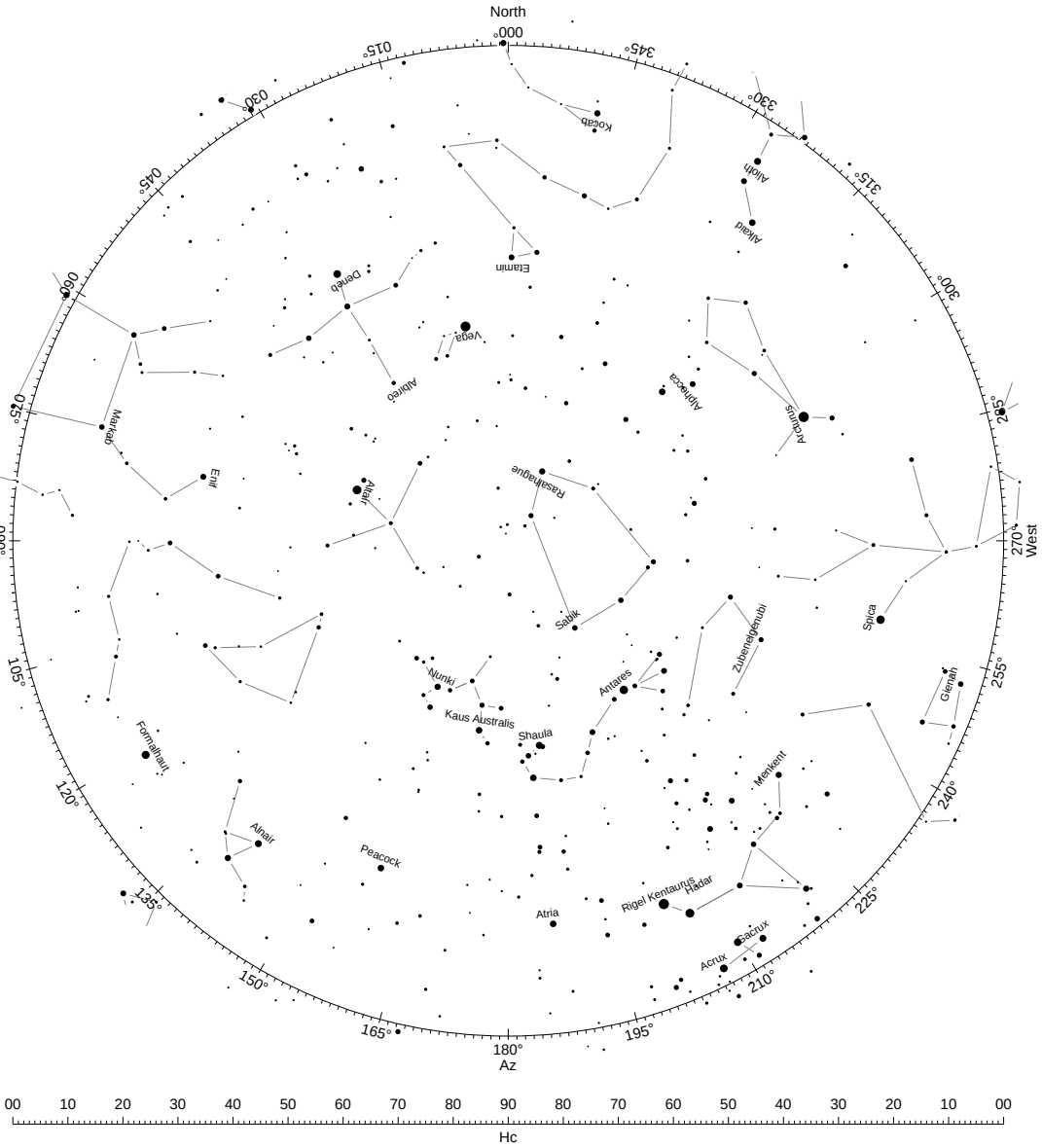
Horizontal-Coordinate-System Map of bright Stars - Part VI



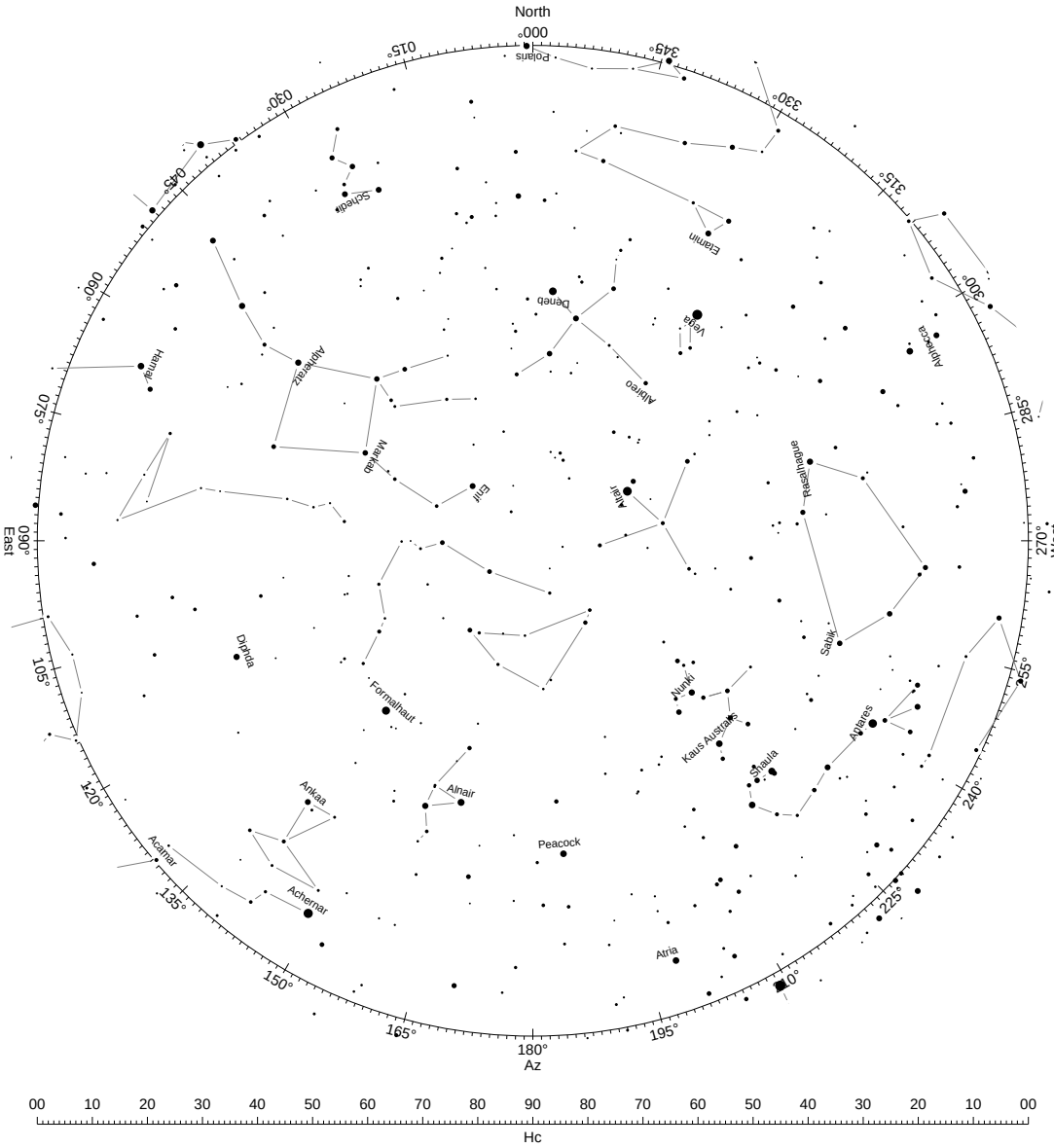
The Horizontal-Coordinate-System map shows the brightest stars (up to magnitude 4.5) of the local hemisphere for a location on the Equator. The stars are plotted with their Altitude (Hc) and Azimuth (Az) coordinates. The Azimuth scale is plotted on the circle of 0°-Altitude (local horizon). The Azimuth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

UT	day 11 of 365 ***January 11*** GHA ° '	ddGHA '	day 12 of 365 ***January 12*** GHA ° '	ddGHA '	day 13 of 365 ***January 13*** GHA ° '	ddGHA '	day 14 of 365 ***January 14*** GHA ° '	ddGHA '	day 15 of 365 ***January 15*** GHA ° '	ddGHA '	UT
00	110 12.8	+02.5	111 11.9	+02.5	112 11.1	+02.4	113 10.2	+02.5	114 09.4	+02.4	**00**
01	125 15.3	+02.4	126 14.4	+02.5	127 13.5	+02.5	128 12.7	+02.4	129 11.8	+02.5	**01**
02	140 17.7	+02.5	141 16.9	+02.4	142 16.0	+02.5	143 15.1	+02.5	144 14.3	+02.4	**02**
03	155 20.2	+02.5	156 19.3	+02.5	157 18.5	+02.4	158 17.6	+02.5	159 16.7	+02.5	**03**
04	170 22.7	+02.4	171 21.8	+02.5	172 20.9	+02.5	173 20.1	+02.4	174 19.2	+02.5	**04**
05	185 25.1	+02.5	186 24.3	+02.4	187 23.4	+02.5	188 22.5	+02.5	189 21.7	+02.4	**05**
06	200 27.6	+02.4	201 26.7	+02.5	202 25.9	+02.4	203 25.0	+02.5	204 24.1	+02.5	**06**
07	215 30.0	+02.5	216 29.2	+02.4	217 28.3	+02.5	218 27.5	+02.4	219 26.6	+02.5	**07**
08	230 32.5	+02.5	231 31.6	+02.5	232 30.8	+02.5	233 29.9	+02.5	234 29.1	+02.4	**08**
09	245 35.0	+02.4	246 34.1	+02.5	247 33.3	+02.4	248 32.4	+02.5	249 31.5	+02.5	**09**
10	260 37.4	+02.5	261 36.6	+02.4	262 35.7	+02.5	263 34.9	+02.4	264 34.0	+02.5	**10**
11	275 39.9	+02.5	276 39.0	+02.5	277 38.2	+02.4	278 37.3	+02.5	279 36.5	+02.4	**11**
12	290 42.4	+02.4	291 41.5	+02.5	292 40.6	+02.5	293 39.8	+02.4	294 38.9	+02.5	**12**
13	305 44.8	+02.5	306 44.0	+02.4	307 43.1	+02.5	308 42.2	+02.5	309 41.4	+02.4	**13**
14	320 47.3	+02.5	321 46.4	+02.5	322 45.6	+02.4	323 44.7	+02.5	324 43.8	+02.5	**14**
15	335 49.8	+02.4	336 48.9	+02.5	337 48.0	+02.5	338 47.2	+02.4	339 46.3	+02.5	**15**
16	350 52.2	+02.5	351 51.4	+02.4	352 50.5	+02.5	353 49.6	+02.5	354 48.8	+02.4	**16**
17	5 54.7	+02.5	6 53.8	+02.5	7 53.0	+02.4	8 52.1	+02.5	9 51.2	+02.5	**17**
18	20 57.2	+02.4	21 56.3	+02.5	22 55.4	+02.5	23 54.6	+02.4	24 53.7	+02.5	**18**
19	35 59.6	+02.5	36 58.8	+02.4	37 57.9	+02.5	38 57.0	+02.5	39 56.2	+02.4	**19**
20	51 02.1	+02.4	52 01.2	+02.5	53 00.4	+02.4	53 59.5	+02.5	54 58.6	+02.5	**20**
21	66 04.5	+02.5	67 03.7	+02.4	68 02.8	+02.5	69 02.0	+02.4	70 01.1	+02.5	**21**
22	81 07.0	+02.5	82 06.1	+02.5	83 05.3	+02.4	84 04.4	+02.5	85 03.6	+02.4	**22**
23	96 09.5	+02.4	97 08.6	+02.5	98 07.7	+02.5	99 06.9	+02.5	100 06.0	+02.5	**23**

	SHA ° '	Dec ° '
Alpheratz	357 39.7	N 29 11.8
Ankaa	353 12.1	S 42 12.4
Schedir	349 36.3	N 56 38.6
Diphda	348 52.2	S 17 53.2
Achernar	335 23.9	S 57 08.9
Hamal	327 56.4	N 23 33.1
Polaris	315 53.6	N 89 20.8
Acamar	315 15.2	S 40 14.1
Menkar	314 10.9	N 04 09.7
Mirfak	308 34.6	N 49 55.7
Aldebaran	290 44.8	N 16 32.7
Capella	280 28.4	N 46 01.0
Rigel	281 08.1	S 08 11.0
Bellatrix	278 27.6	N 06 21.8
Elnath	278 07.5	N 28 37.3
Alnilam	275 42.2	S 01 11.6
Betelgeuze	270 56.9	N 07 24.4
Canopus	263 53.9	S 52 42.6
Sirius	258 29.9	S 16 44.3
Adhara	255 09.1	S 29 00.0
Castor	246 02.7	N 31 50.6
Procyon	244 55.2	N 05 10.7
Pollux	243 22.4	N 27 58.7
Avior	234 15.8	S 59 34.2
Suhail	222 49.2	S 43 30.5
Miaplacidus	221 37.9	S 69 47.6
Alphard	217 52.1	S 08 44.5
Regulus	207 39.2	N 11 52.4
Dubhe	193 46.6	N 61 38.7
Denebola	182 29.5	N 14 27.9
Gienah	175 48.3	S 17 38.7
Acrux	173 04.9	S 63 11.9
Gacrux	171 56.5	S 57 12.7
Alioth	166 17.4	N 55 51.2
Spica	158 27.3	S 11 15.5
Alkaid	152 56.0	N 49 13.0
Hadar	148 42.6	S 60 27.4
Menkent	148 02.9	S 36 27.2
Arcturus	145 52.1	N 19 05.6
Rigel Kentaurus	139 44.5	S 60 54.5
Zubenelgenubi	137 01.3	S 16 07.0
Kocab	137 20.6	N 74 04.5
Alphecca	126 08.1	N 26 39.1
Antares	112 22.0	S 26 28.2
Atria	107 20.8	S 69 03.3
Sabik	102 08.5	S 15 44.7
Shaula	96 17.1	S 37 06.8
Rasalhague	96 03.3	N 12 32.9
Etamin	90 44.9	N 51 29.2
Kaus Australis	83 39.2	S 34 22.3
Vega	80 36.9	N 38 48.0
Nunki	75 54.0	S 26 16.3
Albireo	67 08.2	N 28 00.0
Altair	62 05.0	N 08 55.0
Peacock	53 13.9	S 56 40.4
Deneb	49 29.3	N 45 21.0
Enif	33 43.7	N 09 57.7
Alnair	27 39.4	S 46 52.3
Formalhaut	15 20.1	S 29 31.5
Markab	13 34.8	N 15 18.4

Nautical Almanac for selected Stars

The following pages contain the celestial coordinates of the "First Point of Aries" and a set of selected stars. Each page compiles the almanac data for five successive days of the year. For this time span, the recorded star data consisting of Siderial Hour Angle (SHA) and Declination (Dec) is valid. The time used in this Almanac is Universal Time (UT).
The GHA of a specific star is obtained from the GHA of the "First Point of Aries" and the star's SHA by the following relationship: $GHA_{star} = GHA_{Aries} + SHA_{star}$

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

Abbreviations used in the Almanac tables:

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

2019 - First Point of Aries / Selected Stars

UT	day 1 of 365 **January 1** GHA	ddGHA	day 2 of 365 **January 2** GHA	ddGHA	day 3 of 365 **January 3** GHA	ddGHA	day 4 of 365 **January 4** GHA	ddGHA	day 5 of 365 **January 5** GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	100 21.4	+02.5	101 20.5	+02.5	102 19.7	+02.4	103 18.8	+02.5	104 18.0	+02.4	00
01	115 23.9	+02.4	116 23.0	+02.5	117 22.1	+02.5	118 21.3	+02.4	119 20.4	+02.5	01
02	130 26.3	+02.5	131 25.5	+02.4	132 24.6	+02.5	133 23.7	+02.5	134 22.9	+02.5	02
03	145 28.8	+02.5	146 27.9	+02.5	147 27.1	+02.4	148 26.2	+02.5	149 25.4	+02.4	03
04	160 31.3	+02.4	161 30.4	+02.5	162 29.5	+02.5	163 28.7	+02.4	164 27.8	+02.5	04
05	175 33.7	+02.5	176 32.9	+02.4	177 32.0	+02.5	178 31.1	+02.5	179 30.3	+02.4	05
06	190 36.2	+02.5	191 35.3	+02.5	192 34.5	+02.4	193 33.6	+02.5	194 32.7	+02.5	06
07	205 38.7	+02.4	206 37.8	+02.5	207 36.9	+02.5	208 36.1	+02.4	209 35.2	+02.5	07
08	220 41.1	+02.5	221 40.3	+02.4	222 39.4	+02.5	223 38.5	+02.5	224 37.7	+02.4	08
09	235 43.6	+02.4	236 42.7	+02.5	237 41.9	+02.4	238 41.0	+02.5	239 40.1	+02.5	09
10	250 46.0	+02.5	251 45.2	+02.4	252 44.3	+02.5	253 43.5	+02.4	254 42.6	+02.5	10
11	265 48.5	+02.5	266 47.6	+02.5	267 46.8	+02.5	268 45.9	+02.5	269 45.1	+02.4	11
12	280 51.0	+02.4	281 50.1	+02.5	282 49.3	+02.4	283 48.4	+02.5	284 47.5	+02.5	12
13	295 53.4	+02.5	296 52.6	+02.4	297 51.7	+02.5	298 50.9	+02.4	299 50.0	+02.5	13
14	310 55.9	+02.5	311 55.0	+02.5	312 54.2	+02.4	313 53.3	+02.5	314 52.5	+02.4	14
15	325 58.4	+02.4	326 57.5	+02.5	327 56.6	+02.5	328 55.8	+02.4	329 54.9	+02.5	15
16	341 00.8	+02.5	341 60.0	+02.4	342 59.1	+02.5	343 58.2	+02.5	344 57.4	+02.5	16
17	356 03.3	+02.5	357 02.4	+02.5	358 01.6	+02.4	359 00.7	+02.5	359 59.9	+02.4	17
18	11 05.8	+02.4	12 04.9	+02.5	13 04.0	+02.5	14 03.2	+02.4	15 02.3	+02.5	18
19	26 08.2	+02.5	27 07.4	+02.4	28 06.5	+02.5	29 05.6	+02.5	30 04.8	+02.4	19
20	41 10.7	+02.4	42 09.8	+02.5	43 09.0	+02.4	44 08.1	+02.5	45 07.2	+02.5	20
21	56 13.1	+02.5	57 12.3	+02.5	58 11.4	+02.5	59 10.6	+02.4	60 09.7	+02.5	21
22	71 15.6	+02.5	72 14.8	+02.4	73 13.9	+02.5	74 13.0	+02.5	75 12.2	+02.4	22
23	86 18.1	+02.4	87 17.2	+02.5	88 16.4	+02.4	89 15.5	+02.5	90 14.6	+02.5	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 39.7	N 29 11.8
Ankaa	353 12.1	S 42 12.4
Schedir	349 36.2	N 56 38.6
Diphda	348 52.2	S 17 53.2
Achernar	335 23.9	S 57 08.8
Hamal	327 56.4	N 23 33.1
Polaris	315 49.8	N 89 20.8
Acamar	315 15.2	S 40 14.1
Menkar	314 10.9	N 04 09.7
Mirfak	308 34.6	N 49 55.7
Aldebaran	290 44.8	N 16 32.7
Capella	280 28.4	N 46 01.0
Rigel	281 08.1	S 08 11.0
Bellatrix	278 27.6	N 06 21.8
Elnath	278 07.5	N 28 37.3
Alnilam	275 42.2	S 01 11.6
Betelgeuze	270 56.9	N 07 24.4
Canopus	263 53.9	S 52 42.5
Sirius	258 29.9	S 16 44.3
Adhara	255 09.2	S 28 60.0
Castor	246 02.7	N 31 50.6
Procyon	244 55.3	N 05 10.7
Pollux	243 22.5	N 27 58.7
Avior	234 15.9	S 59 34.2
Suhail	222 49.3	S 43 30.5
Miaplacidus	221 38.0	S 69 47.6
Alphard	217 52.1	S 08 44.5
Regulus	207 39.2	N 11 52.4
Dubhe	193 46.8	N 61 38.7
Denebola	182 29.6	N 14 28.0

	SHA	Dec
	° ,	° ,
Gienah	175 48.3	S 17 38.7
Acrux	173 05.0	S 63 11.8
Gacrux	171 56.7	S 57 12.7
Alioth	166 17.5	N 55 51.2
Spica	158 27.3	S 11 15.4
Alkaid	152 56.1	N 49 13.0
Hadar	148 42.7	S 60 27.4
Menkent	148 03.0	S 36 27.2
Arcturus	145 52.1	N 19 05.7
Rigel Kentaurus	139 44.7	S 60 54.5
Zubenelgenubi	137 01.4	S 16 07.0
Kocab	137 20.8	N 74 04.5
Alphecca	126 08.1	N 26 39.1
Antares	112 22.1	S 26 28.2
Atria	107 20.9	S 69 03.3
Sabik	102 08.6	S 15 44.7
Shaula	96 17.2	S 37 06.8
Rasalhague	96 03.3	N 12 33.0
Etamin	90 44.9	N 51 29.3
Kaus Australis	83 39.2	S 34 22.3
Vega	80 36.9	N 38 48.1
Nunki	75 54.0	S 26 16.3
Albireo	67 08.2	N 28 00.1
Altair	62 05.0	N 08 55.1
Peacock	53 13.9	S 56 40.5
Deneb	49 29.3	N 45 21.0
Enif	33 43.7	N 09 57.8
Alnair	27 39.4	S 46 52.3
Formalhaut	15 20.1	S 29 31.5
Markab	13 34.7	N 15 18.5

2019 - First Point of Aries / Selected Stars

UT	day 6 of 365 **January 6** GHA	ddGHA	day 7 of 365 **January 7** GHA	ddGHA	day 8 of 365 **January 8** GHA	ddGHA	day 9 of 365 **January 9** GHA	ddGHA	day 10 of 365 **January 10** GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	105 17.1	+02.5	106 16.2	+02.5	107 15.4	+02.4	108 14.5	+02.5	109 13.7	+02.4	00
01	120 19.6	+02.4	121 18.7	+02.5	122 17.8	+02.5	123 17.0	+02.4	124 16.1	+02.5	01
02	135 22.0	+02.5	136 21.2	+02.4	137 20.3	+02.5	138 19.4	+02.5	139 18.6	+02.5	02
03	150 24.5	+02.5	151 23.6	+02.5	152 22.8	+02.4	153 21.9	+02.5	154 21.1	+02.4	03
04	165 27.0	+02.4	166 26.1	+02.5	167 25.2	+02.5	168 24.4	+02.4	169 23.5	+02.5	04
05	180 29.4	+02.5	181 28.6	+02.4	182 27.7	+02.5	183 26.8	+02.5	184 26.0	+02.4	05
06	195 31.9	+02.5	196 31.0	+02.5	197 30.2	+02.4	198 29.3	+02.5	199 28.4	+02.5	06
07	210 34.4	+02.4	211 33.5	+02.5	212 32.6	+02.5	213 31.8	+02.4	214 30.9	+02.5	07
08	225 36.8	+02.5	226 36.0	+02.4	227 35.1	+02.5	228 34.2	+02.5	229 33.4	+02.4	08
09	240 39.3	+02.4	241 38.4	+02.5	242 37.6	+02.4	243 36.7	+02.5	244 35.8	+02.5	09
10	255 41.7	+02.5	256 40.9	+02.4	257 40.0	+02.5	258 39.2	+02.4	259 38.3	+02.5	10
11	270 44.2	+02.5	271 43.3	+02.5	272 42.5	+02.5	273 41.6	+02.5	274 40.8	+02.4	11
12	285 46.7	+02.4	286 45.8	+02.5	287 45.0	+02.4	288 44.1	+02.5	289 43.2	+02.5	12
13	300 49.1	+02.5	301 48.3	+02.4	302 47.4	+02.5	303 46.6	+02.4	304 45.7	+02.5	13
14	315 51.6	+02.5	316 50.7	+02.5	317 49.9	+02.4	318 49.0	+02.5	319 48.2	+02.4	14
15	330 54.1	+02.4	331 53.2	+02.5	332 52.3	+02.5	333 51.5	+02.4	334 50.6	+02.5	15
16	345 56.5	+02.5	346 55.7	+02.4	347 54.8	+02.5	348 53.9	+02.5	349 53.1	+02.5	16
17	0 59.0	+02.5	1 58.1	+02.5	2 57.3	+02.4	3 56.4	+02.5	4 55.6	+02.4	17
18	16 01.5	+02.4	17 00.6	+02.5	17 59.7	+02.5	18 58.9	+02.4	19 58.0	+02.5	18
19	31 03.9	+02.5	32 03.1	+02.4	33 02.2	+02.5	34 01.3	+02.5	35 00.5	+02.4	19
20	46 06.4	+02.4	47 05.5	+02.5	48 04.7	+02.4	49 03.8	+02.5	50 02.9	+02.5	20
21	61 08.8	+02.5	62 08.0	+02.5	63 07.1	+02.5	64 06.3	+02.4	65 05.4	+02.5	21
22	76 11.3	+02.5	77 10.5	+02.4	78 09.6	+02.5	79 08.7	+02.5	80 07.9	+02.4	22
23	91 13.8	+02.4	92 12.9	+02.5	93 12.1	+02.4	94 11.2	+02.5	95 10.3	+02.5	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 39.7	N 29 11.8
Ankaa	353 12.1	S 42 12.4
Schedir	349 36.2	N 56 38.6
Diphda	348 52.2	S 17 53.2
Achernar	335 23.9	S 57 08.9
Hamal	327 56.4	N 23 33.1
Polaris	315 51.4	N 89 20.8
Acamar	315 15.2	S 40 14.1
Menkar	314 10.9	N 04 09.7
Mirfak	308 34.6	N 49 55.7
Aldebaran	290 44.8	N 16 32.7
Capella	280 28.4	N 46 01.0
Rigel	281 08.1	S 08 11.0
Bellatrix	278 27.6	N 06 21.8
Elnath	278 07.5	N 28 37.3
Alnilam	275 42.2	S 01 11.6
Betelgeuze	270 56.9	N 07 24.4
Canopus	263 53.9	S 52 42.5
Sirius	258 29.9	S 16 44.3
Adhara	255 09.2	S 29 00.0
Castor	246 02.7	N 31 50.6
Procyon	244 55.3	N 05 10.7
Pollux	243 22.4	N 27 58.7
Avior	234 15.8	S 59 34.2
Suhail	222 49.2	S 43 30.5
Miaplacidus	221 37.9	S 69 47.6
Alphard	217 52.1	S 08 44.5
Regulus	207 39.2	N 11 52.4
Dubhe	193 46.7	N 61 38.7
Denebola	182 29.6	N 14 28.0

	SHA	Dec
	° ,	° ,
Gienah	175 48.3	S 17 38.7
Acrux	173 04.9	S 63 11.9
Gacrux	171 56.6	S 57 12.7
Alioth	166 17.5	N 55 51.2
Spica	158 27.3	S 11 15.4
Alkaid	152 56.0	N 49 13.0
Hadar	148 42.7	S 60 27.4
Menkent	148 03.0	S 36 27.2
Arcturus	145 52.1	N 19 05.6
Rigel Kentaurus	139 44.6	S 60 54.5
Zubenelgenubi	137 01.3	S 16 07.0
Kocab	137 20.7	N 74 04.5
Alphecca	126 08.1	N 26 39.1
Antares	112 22.0	S 26 28.2
Atria	107 20.8	S 69 03.3
Sabik	102 08.5	S 15 44.7
Shaula	96 17.2	S 37 06.8
Rasalhague	96 03.3	N 12 32.9
Etamin	90 44.9	N 51 29.2
Kaus Australis	83 39.2	S 34 22.3
Vega	80 36.9	N 38 48.1
Nunki	75 54.0	S 26 16.3
Albireo	67 08.2	N 28 00.1
Altair	62 05.0	N 08 55.1
Peacock	53 13.9	S 56 40.4
Deneb	49 29.3	N 45 21.0
Enif	33 43.7	N 09 57.7
Alnair	27 39.4	S 46 52.3
Formalhaut	15 20.1	S 29 31.5
Markab	13 34.7	N 15 18.5

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2019 - First Point of Aries / Selected Stars

UT	day 31 of 365 **January 31** GHA	ddGHA	day 32 of 365 **February 1** GHA	ddGHA	day 33 of 365 **February 2** GHA	ddGHA	day 34 of 365 **February 3** GHA	ddGHA	day 35 of 365 **February 4** GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	129 55.6	+02.4	130 54.7	+02.5	131 53.9	+02.4	132 53.0	+02.5	133 52.1	+02.5	00
01	144 58.0	+02.5	145 57.2	+02.4	146 56.3	+02.5	147 55.5	+02.4	148 54.6	+02.5	01
02	160 00.5	+02.5	160 59.6	+02.5	161 58.8	+02.5	162 57.9	+02.5	163 57.1	+02.4	02
03	175 03.0	+02.4	176 02.1	+02.5	177 01.3	+02.4	178 00.4	+02.5	178 59.5	+02.5	03
04	190 05.4	+02.5	191 04.6	+02.4	192 03.7	+02.5	193 02.9	+02.4	194 02.0	+02.5	04
05	205 07.9	+02.5	206 07.0	+02.5	207 06.2	+02.4	208 05.3	+02.5	209 04.5	+02.4	05
06	220 10.4	+02.4	221 09.5	+02.5	222 08.6	+02.5	223 07.8	+02.4	224 06.9	+02.5	06
07	235 12.8	+02.5	236 12.0	+02.4	237 11.1	+02.5	238 10.2	+02.5	239 09.4	+02.5	07
08	250 15.3	+02.5	251 14.4	+02.5	252 13.6	+02.4	253 12.7	+02.5	254 11.9	+02.4	08
09	265 17.8	+02.4	266 16.9	+02.5	267 16.0	+02.5	268 15.2	+02.4	269 14.3	+02.5	09
10	280 20.2	+02.5	281 19.4	+02.4	282 18.5	+02.5	283 17.6	+02.5	284 16.8	+02.4	10
11	295 22.7	+02.4	296 21.8	+02.5	297 21.0	+02.4	298 20.1	+02.5	299 19.2	+02.5	11
12	310 25.1	+02.5	311 24.3	+02.5	312 23.4	+02.5	313 22.6	+02.4	314 21.7	+02.5	12
13	325 27.6	+02.5	326 26.8	+02.4	327 25.9	+02.5	328 25.0	+02.5	329 24.2	+02.4	13
14	340 30.1	+02.4	341 29.2	+02.5	342 28.4	+02.4	343 27.5	+02.5	344 26.6	+02.5	14
15	355 32.5	+02.5	356 31.7	+02.4	357 30.8	+02.5	358 30.0	+02.4	359 29.1	+02.5	15
16	10 35.0	+02.5	11 34.1	+02.5	12 33.3	+02.4	13 32.4	+02.5	14 31.6	+02.4	16
17	25 37.5	+02.4	26 36.6	+02.5	27 35.7	+02.5	28 34.9	+02.5	29 34.0	+02.5	17
18	40 39.9	+02.5	41 39.1	+02.4	42 38.2	+02.5	43 37.4	+02.4	44 36.5	+02.5	18
19	55 42.4	+02.5	56 41.5	+02.5	57 40.7	+02.4	58 39.8	+02.5	59 39.0	+02.4	19
20	70 44.9	+02.4	71 44.0	+02.5	72 43.1	+02.5	73 42.3	+02.4	74 41.4	+02.5	20
21	85 47.3	+02.5	86 46.5	+02.4	87 45.6	+02.5	88 44.7	+02.5	89 43.9	+02.4	21
22	100 49.8	+02.5	101 48.9	+02.5	102 48.1	+02.4	103 47.2	+02.5	104 46.3	+02.5	22
23	115 52.3	+02.4	116 51.4	+02.5	117 50.5	+02.5	118 49.7	+02.4	119 48.8	+02.5	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 39.8	N 29 11.8
Ankaa	353 12.2	S 42 12.4
Schedir	349 36.4	N 56 38.6
Diphda	348 52.3	S 17 53.2
Achernar	335 24.1	S 57 08.8
Hamal	327 56.5	N 23 33.1
Polaris	316 02.5	N 89 20.9
Acamar	315 15.4	S 40 14.1
Menkar	314 11.0	N 04 09.7
Mirfak	308 34.7	N 49 55.7
Aldebaran	290 44.8	N 16 32.7
Capella	280 28.5	N 46 01.1
Rigel	281 08.1	S 08 11.1
Bellatrix	278 27.6	N 06 21.8
Elnath	278 07.5	N 28 37.3
Alnilam	275 42.2	S 01 11.6
Betelgeuze	270 56.9	N 07 24.4
Canopus	263 54.0	S 52 42.7
Sirius	258 29.9	S 16 44.4
Adhara	255 09.2	S 29 00.1
Castor	246 02.6	N 31 50.7
Procyon	244 55.2	N 05 10.7
Pollux	243 22.4	N 27 58.7
Avior	234 15.8	S 59 34.4
Suhail	222 49.1	S 43 30.6
Miaplacidus	221 37.8	S 69 47.7
Alphard	217 52.0	S 08 44.6
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.4	N 61 38.7
Denebola	182 29.4	N 14 27.9

	SHA	Dec
	° ,	° ,
Gienah	175 48.1	S 17 38.8
Acrux	173 04.6	S 63 12.0
Gacrux	171 56.3	S 57 12.8
Alioth	166 17.2	N 55 51.2
Spica	158 27.1	S 11 15.5
Alkaid	152 55.7	N 49 12.9
Hadar	148 42.3	S 60 27.5
Menkent	148 02.7	S 36 27.3
Arcturus	145 51.9	N 19 05.6
Rigel Kentaurus	139 44.3	S 60 54.6
Zubenelgenubi	137 01.1	S 16 07.0
Kocab	137 20.2	N 74 04.4
Alphecca	126 07.9	N 26 39.0
Antares	112 21.8	S 26 28.2
Atria	107 20.4	S 69 03.3
Sabik	102 08.4	S 15 44.8
Shaula	96 17.0	S 37 06.8
Rasalhague	96 03.2	N 12 32.9
Etamin	90 44.8	N 51 29.1
Kaus Australis	83 39.1	S 34 22.3
Vega	80 36.8	N 38 47.9
Nunki	75 53.9	S 26 16.2
Albireo	67 08.2	N 27 60.0
Altair	62 05.0	N 08 55.0
Peacock	53 13.8	S 56 40.4
Deneb	49 29.3	N 45 20.9
Enif	33 43.7	N 09 57.7
Alnair	27 39.4	S 46 52.2
Formalhaut	15 20.2	S 29 31.4
Markab	13 34.8	N 15 18.4

2019 - First Point of Aries / Selected Stars

UT	day 16 of 365 **January 16** GHA	ddGHA	day 17 of 365 **January 17** GHA	ddGHA	day 18 of 365 **January 18** GHA	ddGHA	day 19 of 365 **January 19** GHA	ddGHA	day 20 of 365 **January 20** GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	115 08.5	+02.5	116 07.6	+02.5	117 06.8	+02.4	118 05.9	+02.5	119 05.1	+02.4	00
01	130 11.0	+02.4	131 10.1	+02.5	132 09.2	+02.5	133 08.4	+02.4	134 07.5	+02.5	01
02	145 13.4	+02.5	146 12.6	+02.4	147 11.7	+02.5	148 10.8	+02.5	149 10.0	+02.4	02
03	160 15.9	+02.4	161 15.0	+02.5	162 14.2	+02.4	163 13.3	+02.5	164 12.4	+02.5	03
04	175 18.3	+02.5	176 17.5	+02.4	177 16.6	+02.5	178 15.8	+02.4	179 14.9	+02.5	04
05	190 20.8	+02.5	191 19.9	+02.5	192 19.1	+02.5	193 18.2	+02.5	194 17.4	+02.4	05
06	205 23.3	+02.4	206 22.4	+02.5	207 21.6	+02.4	208 20.7	+02.5	209 19.8	+02.5	06
07	220 25.7	+02.5	221 24.9	+02.4	222 24.0	+02.5	223 23.2	+02.4	224 22.3	+02.5	07
08	235 28.2	+02.5	236 27.3	+02.5	237 26.5	+02.4	238 25.6	+02.5	239 24.8	+02.4	08
09	250 30.7	+02.4	251 29.8	+02.5	252 28.9	+02.5	253 28.1	+02.5	254 27.2	+02.5	09
10	265 33.1	+02.5	266 32.3	+02.4	267 31.4	+02.5	268 30.6	+02.4	269 29.7	+02.5	10
11	280 35.6	+02.5	281 34.7	+02.5	282 33.9	+02.4	283 33.0	+02.5	284 32.2	+02.4	11
12	295 38.1	+02.4	296 37.2	+02.5	297 36.3	+02.5	298 35.5	+02.4	299 34.6	+02.5	12
13	310 40.5	+02.5	311 39.7	+02.4	312 38.8	+02.5	313 37.9	+02.5	314 37.1	+02.4	13
14	325 43.0	+02.5	326 42.1	+02.5	327 41.3	+02.4	328 40.4	+02.5	329 39.5	+02.5	14
15	340 45.5	+02.4	341 44.6	+02.5	342 43.7	+02.5	343 42.9	+02.4	344 42.0	+02.5	15
16	355 47.9	+02.5	356 47.1	+02.4	357 46.2	+02.5	358 45.3	+02.5	359 44.5	+02.4	16
17	10 50.4	+02.4	11 49.5	+02.5	12 48.7	+02.4	13 47.8	+02.5	14 46.9	+02.5	17
18	25 52.8	+02.5	26 52.0	+02.4	27 51.1	+02.5	28 50.3	+02.4	29 49.4	+02.5	18
19	40 55.3	+02.5	41 54.4	+02.5	42 53.6	+02.5	43 52.7	+02.5	44 51.9	+02.4	19
20	55 57.8	+02.4	56 56.9	+02.5	57 56.1	+02.4	58 55.2	+02.5	59 54.3	+02.5	20
21	71 00.2	+02.5	71 59.4	+02.4	72 58.5	+02.5	73 57.7	+02.4	74 56.8	+02.5	21
22	86 02.7	+02.5	87 01.8	+02.5	88 01.0	+02.4	89 00.1	+02.5	89 59.3	+02.4	22
23	101 05.2	+02.4	102 04.3	+02.5	103 03.4	+02.5	104 02.6	+02.5	105 01.7	+02.5	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 39.7	N 29 11.8
Ankaa	353 12.2	S 42 12.4
Schedir	349 36.3	N 56 38.6
Diphda	348 52.2	S 17 53.2
Achernar	335 24.0	S 57 08.9
Hamal	327 56.5	N 23 33.1
Polaris	315 55.8	N 89 20.9
Acamar	315 15.3	S 40 14.1
Menkar	314 10.9	N 04 09.7
Mirfak	308 34.6	N 49 55.7
Aldebaran	290 44.8	N 16 32.7
Capella	280 28.4	N 46 01.1
Rigel	281 08.1	S 08 11.0
Bellatrix	278 27.6	N 06 21.8
Elnath	278 07.5	N 28 37.3
Alnilam	275 42.2	S 01 11.6
Betelgeuze	270 56.9	N 07 24.4
Canopus	263 53.9	S 52 42.6
Sirius	258 29.9	S 16 44.4
Adhara	255 09.1	S 29 00.1
Castor	246 02.7	N 31 50.7
Procyon	244 55.2	N 05 10.7
Pollux	243 22.4	N 27 58.7
Avior	234 15.8	S 59 34.3
Suhail	222 49.2	S 43 30.5
Miaplacidus	221 37.8	S 69 47.6
Alphard	217 52.1	S 08 44.5
Regulus	207 39.1	N 11 52.4
Dubhe	193 46.6	N 61 38.7
Denebola	182 29.5	N 14 27.9

	SHA	Dec
	° ,	° ,
Gienah	175 48.2	S 17 38.7
Acrux	173 04.8	S 63 11.9
Gacrux	171 56.5	S 57 12.7
Alioth	166 17.4	N 55 51.2
Spica	158 27.2	S 11 15.5
Alkaid	152 55.9	N 49 13.0
Hadar	148 42.5	S 60 27.4
Menkent	148 02.9	S 36 27.3
Arcturus	145 52.0	N 19 05.6
Rigel Kentaurus	139 44.5	S 60 54.5
Zubenelgenubi	137 01.3	S 16 07.0
Kocab	137 20.5	N 74 04.5
Alphecca	126 08.0	N 26 39.1
Antares	112 22.0	S 26 28.2
Atria	107 20.7	S 69 03.3
Sabik	102 08.5	S 15 44.8
Shaula	96 17.1	S 37 06.8
Rasalhague	96 03.2	N 12 32.9
Etamin	90 44.9	N 51 29.2
Kaus Australis	83 39.2	S 34 22.3
Vega	80 36.9	N 38 48.0
Nunki	75 54.0	S 26 16.2
Albireo	67 08.2	N 28 00.0
Altair	62 05.0	N 08 55.0
Peacock	53 13.9	S 56 40.4
Deneb	49 29.3	N 45 21.0
Enif	33 43.7	N 09 57.7
Alnair	27 39.4	S 46 52.3
Formalhaut	15 20.2	S 29 31.5
Markab	13 34.8	N 15 18.4

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2019 - First Point of Aries / Selected Stars

UT	day 21 of 365 **January 21** GHA	ddGHA	day 22 of 365 **January 22** GHA	ddGHA	day 23 of 365 **January 23** GHA	ddGHA	day 24 of 365 **January 24** GHA	ddGHA	day 25 of 365 **January 25** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	120 04.2	+02.5	121 03.3	+02.5	122 02.5	+02.4	123 01.6	+02.5	124 00.7	+02.5	00
01	135 06.7	+02.4	136 05.8	+02.5	137 04.9	+02.5	138 04.1	+02.4	139 03.2	+02.5	01
02	150 09.1	+02.5	151 08.3	+02.4	152 07.4	+02.5	153 06.5	+02.5	154 05.7	+02.4	02
03	165 11.6	+02.4	166 10.7	+02.5	167 09.9	+02.4	168 09.0	+02.5	169 08.1	+02.5	03
04	180 14.0	+02.5	181 13.2	+02.5	182 12.3	+02.5	183 11.5	+02.4	184 10.6	+02.5	04
05	195 16.5	+02.5	196 15.7	+02.4	197 14.8	+02.5	198 13.9	+02.5	199 13.1	+02.4	05
06	210 19.0	+02.4	211 18.1	+02.5	212 17.3	+02.4	213 16.4	+02.5	214 15.5	+02.5	06
07	225 21.4	+02.5	226 20.6	+02.4	227 19.7	+02.5	228 18.9	+02.4	229 18.0	+02.5	07
08	240 23.9	+02.5	241 23.0	+02.5	242 22.2	+02.4	243 21.3	+02.5	244 20.5	+02.4	08
09	255 26.4	+02.4	256 25.5	+02.5	257 24.6	+02.5	258 23.8	+02.5	259 22.9	+02.5	09
10	270 28.8	+02.5	271 28.0	+02.4	272 27.1	+02.5	273 26.3	+02.4	274 25.4	+02.5	10
11	285 31.3	+02.5	286 30.4	+02.5	287 29.6	+02.4	288 28.7	+02.5	289 27.9	+02.4	11
12	300 33.8	+02.4	301 32.9	+02.5	302 32.0	+02.5	303 31.2	+02.4	304 30.3	+02.5	12
13	315 36.2	+02.5	316 35.4	+02.4	317 34.5	+02.5	318 33.6	+02.5	319 32.8	+02.4	13
14	330 38.7	+02.5	331 37.8	+02.5	332 37.0	+02.4	333 36.1	+02.5	334 35.2	+02.5	14
15	345 41.2	+02.4	346 40.3	+02.5	347 39.4	+02.5	348 38.6	+02.4	349 37.7	+02.5	15
16	0 43.6	+02.5	1 42.8	+02.4	2 41.9	+02.5	3 41.0	+02.5	4 40.2	+02.4	16
17	15 46.1	+02.4	16 45.2	+02.5	17 44.4	+02.4	18 43.5	+02.5	19 42.6	+02.5	17
18	30 48.5	+02.5	31 47.7	+02.5	32 46.8	+02.5	33 46.0	+02.4	34 45.1	+02.5	18
19	45 51.0	+02.5	46 50.2	+02.4	47 49.3	+02.5	48 48.4	+02.5	49 47.6	+02.4	19
20	60 53.5	+02.4	61 52.6	+02.5	62 51.8	+02.4	63 50.9	+02.5	64 50.0	+02.5	20
21	75 55.9	+02.5	76 55.1	+02.4	77 54.2	+02.5	78 53.4	+02.4	79 52.5	+02.5	21
22	90 58.4	+02.5	91 57.5	+02.5	92 56.7	+02.4	93 55.8	+02.5	94 55.0	+02.4	22
23	106 00.9	+02.4	107 00.0	+02.5	107 59.1	+02.5	108 58.3	+02.4	109 57.4	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.7	N 29 11.8
Ankaa	353 12.2	S 42 12.4
Schedir	349 36.3	N 56 38.6
Diphda	348 52.2	S 17 53.2
Achernar	335 24.0	S 57 08.9
Hamal	327 56.5	N 23 33.1
Polaris	315 57.7	N 89 20.9
Acamar	315 15.3	S 40 14.1
Menkar	314 10.9	N 04 09.7
Mirfak	308 34.6	N 49 55.7
Aldebaran	290 44.8	N 16 32.7
Capella	280 28.4	N 46 01.1
Rigel	281 08.1	S 08 11.0
Bellatrix	278 27.6	N 06 21.8
Elnath	278 07.5	N 28 37.3
Alnilam	275 42.2	S 01 11.6
Betelgeuze	270 56.9	N 07 24.4
Canopus	263 53.9	S 52 42.6
Sirius	258 29.9	S 16 44.4
Adhara	255 09.1	S 29 00.1
Castor	246 02.6	N 31 50.7
Procyon	244 55.2	N 05 10.7
Pollux	243 22.4	N 27 58.7
Avior	234 15.8	S 59 34.3
Suhail	222 49.2	S 43 30.6
Miaplacidus	221 37.8	S 69 47.7
Alphard	217 52.0	S 08 44.6
Regulus	207 39.1	N 11 52.3
Dubhe	193 46.5	N 61 38.7
Denebola	182 29.5	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 48.2	S 17 38.7
Acrux	173 04.7	S 63 11.9
Gacrux	171 56.4	S 57 12.8
Alioth	166 17.3	N 55 51.2
Spica	158 27.2	S 11 15.5
Alkaid	152 55.8	N 49 12.9
Hadar	148 42.4	S 60 27.5
Menkent	148 02.8	S 36 27.3
Arcturus	145 52.0	N 19 05.6
Rigel Kentaurus	139 44.4	S 60 54.5
Zubenelgenubi	137 01.2	S 16 07.0
Kocab	137 20.4	N 74 04.4
Alphecca	126 08.0	N 26 39.0
Antares	112 21.9	S 26 28.2
Atria	107 20.6	S 69 03.3
Sabik	102 08.4	S 15 44.8
Shaula	96 17.1	S 37 06.8
Rasalhague	96 03.2	N 12 32.9
Etamin	90 44.8	N 51 29.1
Kaus Australis	83 39.1	S 34 22.3
Vega	80 36.9	N 38 48.0
Nunki	75 54.0	S 26 16.2
Albireo	67 08.2	N 27 60.0
Altair	62 05.0	N 08 55.0
Peacock	53 13.9	S 56 40.4
Deneb	49 29.3	N 45 20.9
Enif	33 43.7	N 09 57.7
Alnair	27 39.4	S 46 52.3
Formalhaut	15 20.2	S 29 31.5
Markab	13 34.8	N 15 18.4

2019 - First Point of Aries / Selected Stars

UT	day 26 of 365 **January 26** GHA	ddGHA	day 27 of 365 **January 27** GHA	ddGHA	day 28 of 365 **January 28** GHA	ddGHA	day 29 of 365 **January 29** GHA	ddGHA	day 30 of 365 **January 30** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	124 59.9	+02.4	125 59.0	+02.5	126 58.2	+02.4	127 57.3	+02.5	128 56.4	+02.5	00
01	140 02.3	+02.5	141 01.5	+02.5	142 00.6	+02.5	142 59.8	+02.4	143 58.9	+02.5	01
02	155 04.8	+02.5	156 04.0	+02.4	157 03.1	+02.5	158 02.2	+02.5	159 01.4	+02.4	02
03	170 07.3	+02.4	171 06.4	+02.5	172 05.6	+02.4	173 04.7	+02.5	174 03.8	+02.5	03
04	185 09.7	+02.5	186 08.9	+02.4	187 08.0	+02.5	188 07.2	+02.4	189 06.3	+02.5	04
05	200 12.2	+02.5	201 11.3	+02.5	202 10.5	+02.4	203 09.6	+02.5	204 08.8	+02.4	05
06	215 14.7	+02.4	216 13.8	+02.5	217 12.9	+02.5	218 12.1	+02.4	219 11.2	+02.5	06
07	230 17.1	+02.5	231 16.3	+02.4	232 15.4	+02.5	233 14.5	+02.5	234 13.7	+02.5	07
08	245 19.6	+02.5	246 18.7	+02.5	247 17.9	+02.4	248 17.0	+02.5	249 16.2	+02.4	08
09	260 22.1	+02.4	261 21.2	+02.5	262 20.3	+02.5	263 19.5	+02.4	264 18.6	+02.5	09
10	275 24.5	+02.5	276 23.7	+02.4	277 22.8	+02.5	278 21.9	+02.5	279 21.1	+02.4	10
11	290 27.0	+02.5	291 26.1	+02.5	292 25.3	+02.4	293 24.4	+02.5	294 23.5	+02.5	11
12	305 29.5	+02.4	306 28.6	+02.5	307 27.7	+02.5	308 26.9	+02.4	309 26.0	+02.5	12
13	320 31.9	+02.5	321 31.1	+02.4	322 30.2	+02.5	323 29.3	+02.5	324 28.5	+02.4	13
14	335 34.4	+02.4	336 33.5	+02.5	337 32.7	+02.4	338 31.8	+02.5	339 30.9	+02.5	14
15	350 36.8	+02.5	351 36.0	+02.4	352 35.1	+02.5	353 34.3	+02.4	354 33.4	+02.5	15
16	5 39.3	+02.5	6 38.4	+02.5	7 37.6	+02.5	8 36.7	+02.5	9 35.9	+02.4	16
17	20 41.8	+02.4	21 40.9	+02.5	22 40.1	+02.4	23 39.2	+02.5	24 38.3	+02.5	17
18	35 44.2	+02.5	36 43.4	+02.4	37 42.5	+02.5	38 41.7	+02.4	39 40.8	+02.5	18
19	50 46.7	+02.5	51 45.8	+02.5	52 45.0	+02.4	53 44.1	+02.5	54 43.3	+02.4	19
20	65 49.2	+02.4	66 48.3	+02.5	67 47.4	+02.5	68 46.6	+02.4	69 45.7	+02.5	20
21	80 51.6	+02.5	81 50.8	+02.4	82 49.9	+02.5	83 49.0	+02.5	84 48.2	+02.5	21
22	95 54.1	+02.5	96 53.2	+02.5	97 52.4	+02.4	98 51.5	+02.5	99 50.7	+02.4	22
23	110 56.6	+02.4	111 55.7	+02.5	112 54.8	+02.5	113 54.0	+02.4	114 53.1	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.8
Ankaa	353 12.2	S 42 12.4
Schedir	349 36.4	N 56 38.6
Diphda	348 52.2	S 17 53.2
Achernar	335 24.1	S 57 08.8
Hamal	327 56.5	N 23 33.1
Polaris	316 00.3	N 89 20.9
Acamar	315 15.3	S 40 14.1
Menkar	314 11.0	N 04 09.7
Mirfak	308 34.7	N 49 55.7
Aldebaran	290 44.8	N 16 32.7
Capella	280 28.5	N 46 01.1
Rigel	281 08.1	S 08 11.1
Bellatrix	278 27.6	N 06 21.8
Elnath	278 07.5	N 28 37.3
Alnilam	275 42.2	S 01 11.6
Betelgeuze	270 56.9	N 07 24.4
Canopus	263 54.0	S 52 42.6
Sirius	258 29.9	S 16 44.4
Adhara	255 09.1	S 29 00.1
Castor	246 02.6	N 31 50.7
Procyon	244 55.2	N 05 10.7
Pollux	243 22.4	N 27 58.7
Avior	234 15.8	S 59 34.3
Suhail	222 49.2	S 43 30.6
Miaplacidus	221 37.8	S 69 47.7
Alphard	217 52.0	S 08 44.6
Regulus	207 39.1	N 11 52.3
Dubhe	193 46.4	N 61 38.7
Denebola	182 29.4	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 48.1	S 17 38.8
Acrux	173 04.7	S 63 11.9
Gacrux	171 56.4	S 57 12.8
Alioth	166 17.2	N 55 51.2
Spica	158 27.1	S 11 15.5
Alkaid	152 55.8	N 49 12.9
Hadar	148 42.4	S 60 27.5
Menkent	148 02.8	S 36 27.3
Arcturus	145 51.9	N 19 05.6
Rigel Kentaurus	139 44.3	S 60 54.5
Zubenelgenubi	137 01.2	S 16 07.0
Kocab	137 20.3	N 74 04.4
Alphecca	126 07.9	N 26 39.0
Antares	112 21.9	S 26 28.2
Atria	107 20.5	S 69 03.3
Sabik	102 08.4	S 15 44.8
Shaula	96 17.0	S 37 06.8
Rasalhague	96 03.2	N 12 32.9
Etamin	90 44.8	N 51 29.1
Kaus Australis	83 39.1	S 34 22.3
Vega	80 36.8	N 38 48.0
Nunki	75 53.9	S 26 16.2
Albireo	67 08.2	N 27 60.0
Altair	62 05.0	N 08 55.0
Peacock	53 13.8	S 56 40.4
Deneb	49 29.3	N 45 20.9
Enif	33 43.7	N 09 57.7
Alnair	27 39.4	S 46 52.3
Formalhaut	15 20.2	S 29 31.4
Markab	13 34.8	N 15 18.4

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2019 - First Point of Aries / Selected Stars

UT	day 51 of 365 **February 20** GHA	ddGHA	day 52 of 365 **February 21** GHA	ddGHA	day 53 of 365 **February 22** GHA	ddGHA	day 54 of 365 **February 23** GHA	ddGHA	day 55 of 365 **February 24** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	149 38.4	+02.4	150 37.5	+02.5	151 36.6	+02.5	152 35.8	+02.4	153 34.9	+02.5	00
01	164 40.8	+02.5	165 40.0	+02.4	166 39.1	+02.5	167 38.2	+02.5	168 37.4	+02.4	01
02	179 43.3	+02.4	180 42.4	+02.5	181 41.6	+02.4	182 40.7	+02.5	183 39.8	+02.5	02
03	194 45.7	+02.5	195 44.9	+02.4	196 44.0	+02.5	197 43.2	+02.4	198 42.3	+02.5	03
04	209 48.2	+02.5	210 47.3	+02.5	211 46.5	+02.4	212 45.6	+02.5	213 44.8	+02.4	04
05	224 50.7	+02.4	225 49.8	+02.5	226 48.9	+02.5	227 48.1	+02.5	228 47.2	+02.5	05
06	239 53.1	+02.5	240 52.3	+02.4	241 51.4	+02.5	242 50.6	+02.4	243 49.7	+02.5	06
07	254 55.6	+02.5	255 54.7	+02.5	256 53.9	+02.4	257 53.0	+02.5	258 52.2	+02.4	07
08	269 58.1	+02.4	270 57.2	+02.5	271 56.3	+02.5	272 55.5	+02.4	273 54.6	+02.5	08
09	285 00.5	+02.5	285 59.7	+02.4	286 58.8	+02.5	287 57.9	+02.5	288 57.1	+02.4	09
10	300 03.0	+02.5	301 02.1	+02.5	302 01.3	+02.4	303 00.4	+02.5	303 59.5	+02.5	10
11	315 05.5	+02.4	316 04.6	+02.5	317 03.7	+02.5	318 02.9	+02.4	319 02.0	+02.5	11
12	330 07.9	+02.5	331 07.1	+02.4	332 06.2	+02.5	333 05.3	+02.5	334 04.5	+02.4	12
13	345 10.4	+02.5	346 09.5	+02.5	347 08.7	+02.4	348 07.8	+02.5	349 06.9	+02.5	13
14	0 12.9	+02.4	1 12.0	+02.5	2 11.1	+02.5	3 10.3	+02.4	4 09.4	+02.5	14
15	15 15.3	+02.5	16 14.5	+02.4	17 13.6	+02.5	18 12.7	+02.5	19 11.9	+02.4	15
16	30 17.8	+02.4	31 16.9	+02.5	32 16.1	+02.4	33 15.2	+02.5	34 14.3	+02.5	16
17	45 20.2	+02.5	46 19.4	+02.4	47 18.5	+02.5	48 17.7	+02.4	49 16.8	+02.5	17
18	60 22.7	+02.5	61 21.8	+02.5	62 21.0	+02.4	63 20.1	+02.5	64 19.3	+02.4	18
19	75 25.2	+02.4	76 24.3	+02.5	77 23.4	+02.5	78 22.6	+02.4	79 21.7	+02.5	19
20	90 27.6	+02.5	91 26.8	+02.4	92 25.9	+02.5	93 25.0	+02.5	94 24.2	+02.4	20
21	105 30.1	+02.5	106 29.2	+02.5	107 28.4	+02.4	108 27.5	+02.5	109 26.6	+02.5	21
22	120 32.6	+02.4	121 31.7	+02.5	122 30.8	+02.5	123 30.0	+02.4	124 29.1	+02.5	22
23	135 35.0	+02.5	136 34.2	+02.4	137 33.3	+02.5	138 32.4	+02.5	139 31.6	+02.4	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.7
Ankaa	353 12.3	S 42 12.3
Schedir	349 36.5	N 56 38.5
Diphda	348 52.3	S 17 53.2
Achernar	335 24.3	S 57 08.8
Hamal	327 56.6	N 23 33.1
Polaris	316 12.1	N 89 20.9
Acamar	315 15.5	S 40 14.1
Menkar	314 11.1	N 04 09.6
Mirfak	308 34.8	N 49 55.7
Aldebaran	290 44.9	N 16 32.7
Capella	280 28.6	N 46 01.1
Rigel	281 08.2	S 08 11.1
Bellatrix	278 27.7	N 06 21.8
Elnath	278 07.6	N 28 37.3
Alnilam	275 42.3	S 01 11.7
Betelgeuze	270 56.9	N 07 24.4
Canopus	263 54.1	S 52 42.7
Sirius	258 29.9	S 16 44.5
Adhara	255 09.2	S 29 00.2
Castor	246 02.6	N 31 50.7
Procyon	244 55.2	N 05 10.7
Pollux	243 22.4	N 27 58.7
Avior	234 15.9	S 59 34.5
Suhail	222 49.1	S 43 30.7
Miaplacidus	221 37.8	S 69 47.9
Alphard	217 52.0	S 08 44.6
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.2	N 61 38.8
Denebola	182 29.3	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 48.0	S 17 38.8
Acrux	173 04.4	S 63 12.1
Gacrux	171 56.1	S 57 12.9
Alioth	166 17.0	N 55 51.2
Spica	158 27.0	S 11 15.6
Alkaid	152 55.5	N 49 12.9
Hadar	148 42.0	S 60 27.6
Menkent	148 02.5	S 36 27.4
Arcturus	145 51.7	N 19 05.5
Rigel Kentaurus	139 44.0	S 60 54.6
Zubenelgenubi	137 01.0	S 16 07.1
Kocab	137 19.8	N 74 04.4
Alphecca	126 07.7	N 26 39.0
Antares	112 21.7	S 26 28.2
Atria	107 20.0	S 69 03.3
Sabik	102 08.2	S 15 44.8
Shaula	96 16.8	S 37 06.8
Rasalhague	96 03.0	N 12 32.8
Etamin	90 44.6	N 51 29.0
Kaus Australis	83 38.9	S 34 22.3
Vega	80 36.7	N 38 47.9
Nunki	75 53.8	S 26 16.2
Albireo	67 08.1	N 27 59.9
Altair	62 04.9	N 08 54.9
Peacock	53 13.7	S 56 40.3
Deneb	49 29.3	N 45 20.8
Enif	33 43.6	N 09 57.6
Alnair	27 39.4	S 46 52.2
Formalhaut	15 20.2	S 29 31.4
Markab	13 34.8	N 15 18.4

2019 - First Point of Aries / Selected Stars

UT	day 36 of 365 **February 5** GHA	ddGHA	day 37 of 365 **February 6** GHA	ddGHA	day 38 of 365 **February 7** GHA	ddGHA	day 39 of 365 **February 8** GHA	ddGHA	day 40 of 365 **February 9** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	134 51.3	+02.4	135 50.4	+02.5	136 49.6	+02.4	137 48.7	+02.5	138 47.8	+02.5	00
01	149 53.7	+02.5	150 52.9	+02.4	151 52.0	+02.5	152 51.2	+02.4	153 50.3	+02.5	01
02	164 56.2	+02.5	165 55.3	+02.5	166 54.5	+02.4	167 53.6	+02.5	168 52.8	+02.4	02
03	179 58.7	+02.4	180 57.8	+02.5	181 56.9	+02.5	182 56.1	+02.4	183 55.2	+02.5	03
04	195 01.1	+02.5	196 00.3	+02.4	196 59.4	+02.5	197 58.5	+02.5	198 57.7	+02.4	04
05	210 03.6	+02.5	211 02.7	+02.5	212 01.9	+02.4	213 01.0	+02.5	214 00.1	+02.5	05
06	225 06.1	+02.4	226 05.2	+02.5	227 04.3	+02.5	228 03.5	+02.4	229 02.6	+02.5	06
07	240 08.5	+02.5	241 07.7	+02.4	242 06.8	+02.5	243 05.9	+02.5	244 05.1	+02.4	07
08	255 11.0	+02.5	256 10.1	+02.5	257 09.3	+02.4	258 08.4	+02.5	259 07.5	+02.5	08
09	270 13.5	+02.4	271 12.6	+02.5	272 11.7	+02.5	273 10.9	+02.4	274 10.0	+02.5	09
10	285 15.9	+02.5	286 15.1	+02.4	287 14.2	+02.5	288 13.3	+02.5	289 12.5	+02.4	10
11	300 18.4	+02.4	301 17.5	+02.5	302 16.7	+02.4	303 15.8	+02.5	304 14.9	+02.5	11
12	315 20.8	+02.5	316 20.0	+02.4	317 19.1	+02.5	318 18.3	+02.4	319 17.4	+02.5	12
13	330 23.3	+02.5	331 22.4	+02.5	332 21.6	+02.4	333 20.7	+02.5	334 19.9	+02.4	13
14	345 25.8	+02.4	346 24.9	+02.5	347 24.0	+02.5	348 23.2	+02.5	349 22.3	+02.5	14
15	0 28.2	+02.5	1 27.4	+02.4	2 26.5	+02.5	3 25.7	+02.4	4 24.8	+02.5	15
16	15 30.7	+02.5	16 29.8	+02.5	17 29.0	+02.4	18 28.1	+02.5	19 27.3	+02.4	16
17	30 33.2	+02.4	31 32.3	+02.5	32 31.4	+02.5	33 30.6	+02.4	34 29.7	+02.5	17
18	45 35.6	+02.5	46 34.8	+02.4	47 33.9	+02.5	48 33.0	+02.5	49 32.2	+02.4	18
19	60 38.1	+02.5	61 37.2	+02.5	62 36.4	+02.4	63 35.5	+02.5	64 34.6	+02.5	19
20	75 40.6	+02.4	76 39.7	+02.5	77 38.8	+02.5	78 38.0	+02.4	79 37.1	+02.5	20
21	90 43.0	+02.5	91 42.2	+02.4	92 41.3	+02.5	93 40.4	+02.5	94 39.6	+02.4	21
22	105 45.5	+02.5	106 44.6	+02.5	107 43.8	+02.4	108 42.9	+02.5	109 42.0	+02.5	22
23	120 48.0	+02.4	121 47.1	+02.5	122 46.2	+02.5	123 45.4	+02.4	124 44.5	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.7
Ankaa	353 12.2	S 42 12.4
Schedir	349 36.5	N 56 38.6
Diphda	348 52.3	S 17 53.2
Achernar	335 24.1	S 57 08.8
Hamal	327 56.5	N 23 33.1
Polaris	316 04.9	N 89 20.9
Acamar	315 15.4	S 40 14.1
Menkar	314 11.0	N 04 09.7
Mirfak	308 34.7	N 49 55.7
Aldebaran	290 44.8	N 16 32.7
Capella	280 28.5	N 46 01.1
Rigel	281 08.2	S 08 11.1
Bellatrix	278 27.7	N 06 21.8
Elnath	278 07.5	N 28 37.3
Alnilam	275 42.2	S 01 11.6
Betelgeuze	270 56.9	N 07 24.4
Canopus	263 54.0	S 52 42.7
Sirius	258 29.9	S 16 44.4
Adhara	255 09.2	S 29 00.1
Castor	246 02.6	N 31 50.7
Procyon	244 55.2	N 05 10.7
Pollux	243 22.4	N 27 58.7
Avior	234 15.8	S 59 34.4
Suhail	222 49.1	S 43 30.7
Miaplacidus	221 37.8	S 69 47.8
Alphard	217 52.0	S 08 44.6
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.3	N 61 38.7
Denebola	182 29.4	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 48.1	S 17 38.8
Acrux	173 04.5	S 63 12.0
Gacrux	171 56.3	S 57 12.8
Alioth	166 17.1	N 55 51.2
Spica	158 27.1	S 11 15.5
Alkaid	152 55.7	N 49 12.9
Hadar	148 42.2	S 60 27.5
Menkent	148 02.7	S 36 27.3
Arcturus	145 51.8	N 19 05.6
Rigel Kentaurus	139 44.2	S 60 54.6
Zubenelgenubi	137 01.1	S 16 07.1
Kocab	137 20.1	N 74 04.4
Alphecca	126 07.8	N 26 39.0
Antares	112 21.8	S 26 28.2
Atria	107 20.3	S 69 03.3
Sabik	102 08.3	S 15 44.8
Shaula	96 16.9	S 37 06.8
Rasalhague	96 03.1	N 12 32.8
Etamin	90 44.7	N 51 29.1
Kaus Australis	83 39.0	S 34 22.3
Vega	80 36.8	N 38 47.9
Nunki	75 53.9	S 26 16.2
Albireo	67 08.1	N 27 59.9
Altair	62 04.9	N 08 55.0
Peacock	53 13.8	S 56 40.3
Deneb	49 29.3	N 45 20.9
Enif	33 43.7	N 09 57.7
Alnair	27 39.4	S 46 52.2
Formalhaut	15 20.2	S 29 31.4
Markab	13 34.8	N 15 18.4

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2019 - First Point of Aries / Selected Stars

UT	day 41 of 365 **February 10** GHA	ddGHA	day 42 of 365 **February 11** GHA	ddGHA	day 43 of 365 **February 12** GHA	ddGHA	day 44 of 365 **February 13** GHA	ddGHA	day 45 of 365 **February 14** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	139 47.0	+02.4	140 46.1	+02.5	141 45.2	+02.5	142 44.4	+02.4	143 43.5	+02.5	00
01	154 49.4	+02.5	155 48.6	+02.4	156 47.7	+02.5	157 46.8	+02.5	158 46.0	+02.4	01
02	169 51.9	+02.5	170 51.0	+02.5	171 50.2	+02.4	172 49.3	+02.5	173 48.4	+02.5	02
03	184 54.4	+02.4	185 53.5	+02.5	186 52.6	+02.5	187 51.8	+02.4	188 50.9	+02.5	03
04	199 56.8	+02.5	200 56.0	+02.4	201 55.1	+02.5	202 54.2	+02.5	203 53.4	+02.4	04
05	214 59.3	+02.4	215 58.4	+02.5	216 57.6	+02.4	217 56.7	+02.5	218 55.8	+02.5	05
06	230 01.7	+02.5	231 00.9	+02.5	232 00.0	+02.5	232 59.2	+02.4	233 58.3	+02.5	06
07	245 04.2	+02.5	246 03.4	+02.4	247 02.5	+02.5	248 01.6	+02.5	249 00.8	+02.4	07
08	260 06.7	+02.4	261 05.8	+02.5	262 05.0	+02.4	263 04.1	+02.5	264 03.2	+02.5	08
09	275 09.1	+02.5	276 08.3	+02.4	277 07.4	+02.5	278 06.6	+02.4	279 05.7	+02.5	09
10	290 11.6	+02.5	291 10.7	+02.5	292 09.9	+02.4	293 09.0	+02.5	294 08.2	+02.4	10
11	305 14.1	+02.4	306 13.2	+02.5	307 12.3	+02.5	308 11.5	+02.4	309 10.6	+02.5	11
12	320 16.5	+02.5	321 15.7	+02.4	322 14.8	+02.5	323 13.9	+02.5	324 13.1	+02.5	12
13	335 19.0	+02.5	336 18.1	+02.5	337 17.3	+02.4	338 16.4	+02.5	339 15.6	+02.4	13
14	350 21.5	+02.4	351 20.6	+02.5	352 19.7	+02.5	353 18.9	+02.4	354 18.0	+02.5	14
15	5 23.9	+02.5	6 23.1	+02.4	7 22.2	+02.5	8 21.3	+02.5	9 20.5	+02.4	15
16	20 26.4	+02.5	21 25.5	+02.5	22 24.7	+02.4	23 23.8	+02.5	24 22.9	+02.5	16
17	35 28.9	+02.4	36 28.0	+02.5	37 27.1	+02.5	38 26.3	+02.4	39 25.4	+02.5	17
18	50 31.3	+02.5	51 30.5	+02.4	52 29.6	+02.5	53 28.7	+02.5	54 27.9	+02.4	18
19	65 33.8	+02.4	66 32.9	+02.5	67 32.1	+02.4	68 31.2	+02.5	69 30.3	+02.5	19
20	80 36.2	+02.5	81 35.4	+02.4	82 34.5	+02.5	83 33.7	+02.4	84 32.8	+02.5	20
21	95 38.7	+02.5	96 37.8	+02.5	97 37.0	+02.5	98 36.1	+02.5	99 35.3	+02.4	21
22	110 41.2	+02.4	111 40.3	+02.5	112 39.5	+02.4	113 38.6	+02.5	114 37.7	+02.5	22
23	125 43.6	+02.5	126 42.8	+02.4	127 41.9	+02.5	128 41.1	+02.4	129 40.2	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.7
Ankaa	353 12.3	S 42 12.4
Schedir	349 36.5	N 56 38.6
Diphda	348 52.3	S 17 53.2
Achernar	335 24.2	S 57 08.8
Hamal	327 56.5	N 23 33.1
Polaris	316 07.5	N 89 20.9
Acamar	315 15.4	S 40 14.1
Menkar	314 11.0	N 04 09.7
Mirfak	308 34.8	N 49 55.7
Aldebaran	290 44.8	N 16 32.7
Capella	280 28.5	N 46 01.1
Rigel	281 08.2	S 08 11.1
Bellatrix	278 27.7	N 06 21.8
Elnath	278 07.5	N 28 37.3
Alnilam	275 42.3	S 01 11.6
Betelgeuze	270 56.9	N 07 24.4
Canopus	263 54.0	S 52 42.7
Sirius	258 29.9	S 16 44.4
Adhara	255 09.2	S 29 00.2
Castor	246 02.6	N 31 50.7
Procyon	244 55.2	N 05 10.7
Pollux	243 22.4	N 27 58.7
Avior	234 15.8	S 59 34.4
Suhail	222 49.1	S 43 30.7
Miaplacidus	221 37.8	S 69 47.8
Alphard	217 52.0	S 08 44.6
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.3	N 61 38.7
Denebola	182 29.3	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 48.0	S 17 38.8
Acrux	173 04.5	S 63 12.0
Gacrux	171 56.2	S 57 12.9
Alioth	166 17.1	N 55 51.2
Spica	158 27.0	S 11 15.6
Alkaid	152 55.6	N 49 12.9
Hadar	148 42.2	S 60 27.5
Menkent	148 02.6	S 36 27.3
Arcturus	145 51.8	N 19 05.5
Rigel Kentaurus	139 44.1	S 60 54.6
Zubenelgenubi	137 01.1	S 16 07.1
Kocab	137 20.0	N 74 04.4
Alphecca	126 07.8	N 26 39.0
Antares	112 21.8	S 26 28.2
Atria	107 20.2	S 69 03.3
Sabik	102 08.3	S 15 44.8
Shaula	96 16.9	S 37 06.8
Rasalhague	96 03.1	N 12 32.8
Etamin	90 44.7	N 51 29.0
Kaus Australis	83 39.0	S 34 22.3
Vega	80 36.7	N 38 47.9
Nunki	75 53.8	S 26 16.2
Albireo	67 08.1	N 27 59.9
Altair	62 04.9	N 08 55.0
Peacock	53 13.8	S 56 40.3
Deneb	49 29.3	N 45 20.8
Enif	33 43.7	N 09 57.7
Alnair	27 39.4	S 46 52.2
Formalhaut	15 20.2	S 29 31.4
Markab	13 34.8	N 15 18.4

2019 - First Point of Aries / Selected Stars

UT	day 46 of 365 **February 15** GHA	ddGHA	day 47 of 365 **February 16** GHA	ddGHA	day 48 of 365 **February 17** GHA	ddGHA	day 49 of 365 **February 18** GHA	ddGHA	day 50 of 365 **February 19** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	144 42.7	+02.4	145 41.8	+02.5	146 40.9	+02.5	147 40.1	+02.4	148 39.2	+02.5	00
01	159 45.1	+02.5	160 44.3	+02.4	161 43.4	+02.5	162 42.5	+02.5	163 41.7	+02.4	01
02	174 47.6	+02.4	175 46.7	+02.5	176 45.9	+02.4	177 45.0	+02.5	178 44.1	+02.5	02
03	189 50.0	+02.5	190 49.2	+02.5	191 48.3	+02.5	192 47.5	+02.4	193 46.6	+02.5	03
04	204 52.5	+02.5	205 51.7	+02.4	206 50.8	+02.5	207 49.9	+02.5	208 49.1	+02.4	04
05	219 55.0	+02.4	220 54.1	+02.5	221 53.3	+02.4	222 52.4	+02.5	223 51.5	+02.5	05
06	234 57.4	+02.5	235 56.6	+02.4	236 55.7	+02.5	237 54.9	+02.4	238 54.0	+02.5	06
07	249 59.9	+02.5	250 59.0	+02.5	251 58.2	+02.5	252 57.3	+02.5	253 56.5	+02.4	07
08	265 02.4	+02.4	266 01.5	+02.5	267 00.7	+02.4	267 59.8	+02.5	268 58.9	+02.5	08
09	280 04.8	+02.5	281 04.0	+02.4	282 03.1	+02.5	283 02.3	+02.4	284 01.4	+02.5	09
10	295 07.3	+02.5	296 06.4	+02.5	297 05.6	+02.4	298 04.7	+02.5	299 03.9	+02.4	10
11	310 09.8	+02.4	311 08.9	+02.5	312 08.0	+02.5	313 07.2	+02.4	314 06.3	+02.5	11
12	325 12.2	+02.5	326 11.4	+02.4	327 10.5	+02.5	328 09.6	+02.5	329 08.8	+02.5	12
13	340 14.7	+02.5	341 13.8	+02.5	342 13.0	+02.4	343 12.1	+02.5	344 11.3	+02.4	13
14	355 17.2	+02.4	356 16.3	+02.5	357 15.4	+02.5	358 14.6	+02.4	359 13.7	+02.5	14
15	10 19.6	+02.5	11 18.8	+02.4	12 17.9	+02.5	13 17.0	+02.5	14 16.2	+02.4	15
16	25 22.1	+02.4	26 21.2	+02.5	27 20.4	+02.4	28 19.5	+02.5	29 18.6	+02.5	16
17	40 24.5	+02.5	41 23.7	+02.5	42 22.8	+02.5	43 22.0	+02.4	44 21.1	+02.5	17
18	55 27.0	+02.5	56 26.2	+02.4	57 25.3	+02.5	58 24.4	+02.5	59 23.6	+02.4	18
19	70 29.5	+02.4	71 28.6	+02.5	72 27.8	+02.4	73 26.9	+02.5	74 26.0	+02.5	19
20	85 31.9	+02.5	86 31.1	+02.4	87 30.2	+02.5	88 29.4	+02.4	89 28.5	+02.5	20
21	100 34.4	+02.5	101 33.5	+02.5	102 32.7	+02.4	103 31.8	+02.5	104 31.0	+02.4	21
22	115 36.9	+02.4	116 36.0	+02.5	117 35.1	+02.5	118 34.3	+02.5	119 33.4	+02.5	22
23	130 39.3	+02.5	131 38.5	+02.4	132 37.6	+02.5	133 36.8	+02.4	134 35.9	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.7
Ankaa	353 12.3	S 42 12.4
Schedir	349 36.5	N 56 38.6
Diphda	348 52.3	S 17 53.2
Achernar	335 24.2	S 57 08.8
Hamal	327 56.6	N 23 33.1
Polaris	316 09.8	N 89 20.9
Acamar	315 15.4	S 40 14.1
Menkar	314 11.0	N 04 09.6
Mirfak	308 34.8	N 49 55.7
Aldebaran	290 44.9	N 16 32.7
Capella	280 28.6	N 46 01.1
Rigel	281 08.2	S 08 11.1
Bellatrix	278 27.7	N 06 21.8
Elnath	278 07.6	N 28 37.3
Alnilam	275 42.3	S 01 11.7
Betelgeuze	270 56.9	N 07 24.4
Canopus	263 54.1	S 52 42.7
Sirius	258 29.9	S 16 44.4
Adhara	255 09.2	S 29 00.2
Castor	246 02.6	N 31 50.7
Procyon	244 55.2	N 05 10.7
Pollux	243 22.4	N 27 58.7
Avior	234 15.8	S 59 34.4
Suhail	222 49.1	S 43 30.7
Miaplacidus	221 37.8	S 69 47.8
Alphard	217 52.0	S 08 44.6
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.3	N 61 38.8
Denebola	182 29.3	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 48.0	S 17 38.8
Acrux	173 04.4	S 63 12.0
Gacrux	171 56.2	S 57 12.9
Alioth	166 17.0	N 55 51.2
Spica	158 27.0	S 11 15.6
Alkaid	152 55.6	N 49 12.9
Hadar	148 42.1	S 60 27.5
Menkent	148 02.6	S 36 27.3
Arcturus	145 51.8	N 19 05.5
Rigel Kentaurus	139 44.0	S 60 54.6
Zubenelgenubi	137 01.0	S 16 07.1
Kocab	137 19.9	N 74 04.4
Alphecca	126 07.8	N 26 39.0
Antares	112 21.7	S 26 28.2
Atria	107 20.1	S 69 03.3
Sabik	102 08.3	S 15 44.8
Shaula	96 16.9	S 37 06.8
Rasalhague	96 03.1	N 12 32.8
Etamin	90 44.6	N 51 29.0
Kaus Australis	83 38.9	S 34 22.3
Vega	80 36.7	N 38 47.9
Nunki	75 53.8	S 26 16.2
Albireo	67 08.1	N 27 59.9
Altair	62 04.9	N 08 55.0
Peacock	53 13.7	S 56 40.3
Deneb	49 29.3	N 45 20.8
Enif	33 43.7	N 09 57.7
Alnair	27 39.4	S 46 52.2
Formalhaut	15 20.2	S 29 31.4
Markab	13 34.8	N 15 18.4

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2019 - First Point of Aries / Selected Stars

UT	day 71 of 365 **March 12** GHA	ddGHA	day 72 of 365 **March 13** GHA	ddGHA	day 73 of 365 **March 14** GHA	ddGHA	day 74 of 365 **March 15** GHA	ddGHA	day 75 of 365 **March 16** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	169 21.1	+02.5	170 20.3	+02.4	171 19.4	+02.5	172 18.5	+02.5	173 17.7	+02.4	00
01	184 23.6	+02.4	185 22.7	+02.5	186 21.9	+02.4	187 21.0	+02.5	188 20.1	+02.5	01
02	199 26.0	+02.5	200 25.2	+02.4	201 24.3	+02.5	202 23.5	+02.4	203 22.6	+02.5	02
03	214 28.5	+02.5	215 27.6	+02.5	216 26.8	+02.4	217 25.9	+02.5	218 25.1	+02.4	03
04	229 31.0	+02.4	230 30.1	+02.5	231 29.2	+02.5	232 28.4	+02.4	233 27.5	+02.5	04
05	244 33.4	+02.5	245 32.6	+02.4	246 31.7	+02.5	247 30.8	+02.5	248 30.0	+02.5	05
06	259 35.9	+02.5	260 35.0	+02.5	261 34.2	+02.4	262 33.3	+02.5	263 32.5	+02.4	06
07	274 38.4	+02.4	275 37.5	+02.5	276 36.6	+02.5	277 35.8	+02.4	278 34.9	+02.5	07
08	289 40.8	+02.5	290 40.0	+02.4	291 39.1	+02.5	292 38.2	+02.5	293 37.4	+02.4	08
09	304 43.3	+02.5	305 42.4	+02.5	306 41.6	+02.4	307 40.7	+02.5	308 39.8	+02.5	09
10	319 45.8	+02.4	320 44.9	+02.5	321 44.0	+02.5	322 43.2	+02.4	323 42.3	+02.5	10
11	334 48.2	+02.5	335 47.4	+02.4	336 46.5	+02.5	337 45.6	+02.5	338 44.8	+02.4	11
12	349 50.7	+02.4	350 49.8	+02.5	351 49.0	+02.4	352 48.1	+02.5	353 47.2	+02.5	12
13	4 53.1	+02.5	5 52.3	+02.4	6 51.4	+02.5	7 50.6	+02.4	8 49.7	+02.5	13
14	19 55.6	+02.5	20 54.7	+02.5	21 53.9	+02.5	22 53.0	+02.5	23 52.2	+02.4	14
15	34 58.1	+02.4	35 57.2	+02.5	36 56.4	+02.4	37 55.5	+02.5	38 54.6	+02.5	15
16	50 00.5	+02.5	50 59.7	+02.4	51 58.8	+02.5	52 58.0	+02.4	53 57.1	+02.5	16
17	65 03.0	+02.5	66 02.1	+02.5	67 01.3	+02.4	68 00.4	+02.5	68 59.6	+02.4	17
18	80 05.5	+02.4	81 04.6	+02.5	82 03.7	+02.5	83 02.9	+02.4	84 02.0	+02.5	18
19	95 07.9	+02.5	96 07.1	+02.4	97 06.2	+02.5	98 05.3	+02.5	99 04.5	+02.5	19
20	110 10.4	+02.5	111 09.5	+02.5	112 08.7	+02.4	113 07.8	+02.5	114 07.0	+02.4	20
21	125 12.9	+02.4	126 12.0	+02.5	127 11.1	+02.5	128 10.3	+02.4	129 09.4	+02.5	21
22	140 15.3	+02.5	141 14.5	+02.4	142 13.6	+02.5	143 12.7	+02.5	144 11.9	+02.4	22
23	155 17.8	+02.5	156 16.9	+02.5	157 16.1	+02.4	158 15.2	+02.5	159 14.3	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.9	N 29 11.6
Ankaa	353 12.3	S 42 12.3
Schedir	349 36.6	N 56 38.5
Diphda	348 52.3	S 17 53.2
Achernar	335 24.4	S 57 08.7
Hamal	327 56.7	N 23 33.0
Polaris	316 21.0	N 89 20.8
Acamar	315 15.6	S 40 14.1
Menkar	314 11.1	N 04 09.6
Mirfak	308 35.0	N 49 55.7
Aldebaran	290 45.0	N 16 32.7
Capella	280 28.7	N 46 01.1
Rigel	281 08.3	S 08 11.1
Bellatrix	278 27.8	N 06 21.8
Elnath	278 07.7	N 28 37.3
Alnilam	275 42.4	S 01 11.7
Betelgeuze	270 57.0	N 07 24.4
Canopus	263 54.3	S 52 42.8
Sirius	258 30.0	S 16 44.5
Adhara	255 09.3	S 29 00.2
Castor	246 02.7	N 31 50.7
Procyon	244 55.3	N 05 10.7
Pollux	243 22.5	N 27 58.7
Avior	234 16.0	S 59 34.6
Suhail	222 49.2	S 43 30.8
Miaplacidus	221 38.0	S 69 48.0
Alphard	217 52.0	S 08 44.7
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.2	N 61 38.9
Denebola	182 29.2	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 38.9
Acrux	173 04.3	S 63 12.2
Gacrux	171 56.0	S 57 13.0
Alioth	166 16.8	N 55 51.3
Spica	158 26.9	S 11 15.6
Alkaid	152 55.4	N 49 13.0
Hadar	148 41.8	S 60 27.6
Menkent	148 02.4	S 36 27.4
Arcturus	145 51.6	N 19 05.5
Rigel Kentaurus	139 43.7	S 60 54.7
Zubenelgenubi	137 00.9	S 16 07.1
Kocab	137 19.4	N 74 04.5
Alphecca	126 07.6	N 26 38.9
Antares	112 21.5	S 26 28.3
Atria	107 19.7	S 69 03.3
Sabik	102 08.1	S 15 44.8
Shaula	96 16.6	S 37 06.8
Rasalhague	96 02.9	N 12 32.8
Etamin	90 44.4	N 51 29.0
Kaus Australis	83 38.7	S 34 22.3
Vega	80 36.5	N 38 47.8
Nunki	75 53.6	S 26 16.2
Albireo	67 07.9	N 27 59.8
Altair	62 04.8	N 08 54.9
Peacock	53 13.5	S 56 40.2
Deneb	49 29.2	N 45 20.7
Enif	33 43.6	N 09 57.6
Alnair	27 39.3	S 46 52.1
Formalhaut	15 20.1	S 29 31.3
Markab	13 34.8	N 15 18.3

2019 - First Point of Aries / Selected Stars

UT	day 56 of 365 **February 25** GHA	ddGHA	day 57 of 365 **February 26** GHA	ddGHA	day 58 of 365 **February 27** GHA	ddGHA	day 59 of 365 **February 28** GHA	ddGHA	day 60 of 365 **March 1** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	154 34.0	+02.5	155 33.2	+02.4	156 32.3	+02.5	157 31.5	+02.4	158 30.6	+02.5	00
01	169 36.5	+02.5	170 35.6	+02.5	171 34.8	+02.4	172 33.9	+02.5	173 33.1	+02.4	01
02	184 39.0	+02.4	185 38.1	+02.5	186 37.2	+02.5	187 36.4	+02.5	188 35.5	+02.5	02
03	199 41.4	+02.5	200 40.6	+02.4	201 39.7	+02.5	202 38.9	+02.4	203 38.0	+02.5	03
04	214 43.9	+02.5	215 43.0	+02.5	216 42.2	+02.4	217 41.3	+02.5	218 40.5	+02.4	04
05	229 46.4	+02.4	230 45.5	+02.5	231 44.6	+02.5	232 43.8	+02.4	233 42.9	+02.5	05
06	244 48.8	+02.5	245 48.0	+02.4	246 47.1	+02.5	247 46.2	+02.5	248 45.4	+02.4	06
07	259 51.3	+02.5	260 50.4	+02.5	261 49.6	+02.4	262 48.7	+02.5	263 47.8	+02.5	07
08	274 53.8	+02.4	275 52.9	+02.5	276 52.0	+02.5	277 51.2	+02.4	278 50.3	+02.5	08
09	289 56.2	+02.5	290 55.4	+02.4	291 54.5	+02.5	292 53.6	+02.5	293 52.8	+02.4	09
10	304 58.7	+02.4	305 57.8	+02.5	306 57.0	+02.4	307 56.1	+02.5	308 55.2	+02.5	10
11	320 01.1	+02.5	321 00.3	+02.4	321 59.4	+02.5	322 58.6	+02.4	323 57.7	+02.5	11
12	335 03.6	+02.5	336 02.7	+02.5	337 01.9	+02.5	338 01.0	+02.5	339 00.2	+02.4	12
13	350 06.1	+02.4	351 05.2	+02.5	352 04.4	+02.4	353 03.5	+02.5	354 02.6	+02.5	13
14	5 08.5	+02.5	6 07.7	+02.4	7 06.8	+02.5	8 06.0	+02.4	9 05.1	+02.5	14
15	20 11.0	+02.5	21 10.1	+02.5	22 09.3	+02.4	23 08.4	+02.5	24 07.6	+02.4	15
16	35 13.5	+02.4	36 12.6	+02.5	37 11.7	+02.5	38 10.9	+02.4	39 10.0	+02.5	16
17	50 15.9	+02.5	51 15.1	+02.4	52 14.2	+02.5	53 13.3	+02.5	54 12.5	+02.5	17
18	65 18.4	+02.5	66 17.5	+02.5	67 16.7	+02.4	68 15.8	+02.5	69 15.0	+02.4	18
19	80 20.9	+02.4	81 20.0	+02.5	82 19.1	+02.5	83 18.3	+02.4	84 17.4	+02.5	19
20	95 23.3	+02.5	96 22.5	+02.4	97 21.6	+02.5	98 20.7	+02.5	99 19.9	+02.4	20
21	110 25.8	+02.5	111 24.9	+02.5	112 24.1	+02.4	113 23.2	+02.5	114 22.3	+02.5	21
22	125 28.3	+02.4	126 27.4	+02.5	127 26.5	+02.5	128 25.7	+02.4	129 24.8	+02.5	22
23	140 30.7	+02.5	141 29.9	+02.4	142 29.0	+02.5	143 28.1	+02.5	144 27.3	+02.4	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.7
Ankaa	353 12.3	S 42 12.3
Schedir	349 36.6	N 56 38.5
Diphda	348 52.3	S 17 53.2
Achernar	335 24.3	S 57 08.8
Hamal	327 56.6	N 23 33.1
Polaris	316 14.6	N 89 20.9
Acamar	315 15.5	S 40 14.1
Menkar	314 11.1	N 04 09.6
Mirfak	308 34.9	N 49 55.7
Aldebaran	290 44.9	N 16 32.7
Capella	280 28.6	N 46 01.1
Rigel	281 08.2	S 08 11.1
Bellatrix	278 27.7	N 06 21.8
Elnath	278 07.6	N 28 37.3
Alnilam	275 42.3	S 01 11.7
Betelgeuze	270 57.0	N 07 24.4
Canopus	263 54.2	S 52 42.7
Sirius	258 30.0	S 16 44.5
Adhara	255 09.2	S 29 00.2
Castor	246 02.7	N 31 50.7
Procyon	244 55.2	N 05 10.7
Pollux	243 22.4	N 27 58.7
Avior	234 15.9	S 59 34.5
Suhail	222 49.2	S 43 30.8
Miaplacidus	221 37.9	S 69 47.9
Alphard	217 52.0	S 08 44.6
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.2	N 61 38.8
Denebola	182 29.3	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 48.0	S 17 38.9
Acrux	173 04.4	S 63 12.1
Gacrux	171 56.1	S 57 12.9
Alioth	166 16.9	N 55 51.2
Spica	158 26.9	S 11 15.6
Alkaid	152 55.5	N 49 12.9
Hadar	148 42.0	S 60 27.6
Menkent	148 02.5	S 36 27.4
Arcturus	145 51.7	N 19 05.5
Rigel Kentaurus	139 43.9	S 60 54.6
Zubenelgenubi	137 01.0	S 16 07.1
Kocab	137 19.7	N 74 04.4
Alphecca	126 07.7	N 26 39.0
Antares	112 21.6	S 26 28.2
Atria	107 20.0	S 69 03.3
Sabik	102 08.2	S 15 44.8
Shaula	96 16.8	S 37 06.8
Rasalhague	96 03.0	N 12 32.8
Etamin	90 44.6	N 51 29.0
Kaus Australis	83 38.9	S 34 22.3
Vega	80 36.6	N 38 47.8
Nunki	75 53.7	S 26 16.2
Albireo	67 08.0	N 27 59.9
Altair	62 04.9	N 08 54.9
Peacock	53 13.7	S 56 40.3
Deneb	49 29.3	N 45 20.8
Enif	33 43.6	N 09 57.6
Alnair	27 39.4	S 46 52.1
Formalhaut	15 20.2	S 29 31.4
Markab	13 34.8	N 15 18.3

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2019 - First Point of Aries / Selected Stars

UT	day 61 of 365 **March 2** GHA	ddGHA	day 62 of 365 **March 3** GHA	ddGHA	day 63 of 365 **March 4** GHA	ddGHA	day 64 of 365 **March 5** GHA	ddGHA	day 65 of 365 **March 6** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	159 29.7	+02.5	160 28.9	+02.4	161 28.0	+02.5	162 27.2	+02.4	163 26.3	+02.5	00
01	174 32.2	+02.5	175 31.3	+02.5	176 30.5	+02.4	177 29.6	+02.5	178 28.8	+02.4	01
02	189 34.7	+02.4	190 33.8	+02.5	191 32.9	+02.5	192 32.1	+02.4	193 31.2	+02.5	02
03	204 37.1	+02.5	205 36.3	+02.4	206 35.4	+02.5	207 34.5	+02.5	208 33.7	+02.4	03
04	219 39.6	+02.5	220 38.7	+02.5	221 37.9	+02.4	222 37.0	+02.5	223 36.1	+02.5	04
05	234 42.1	+02.4	235 41.2	+02.5	236 40.3	+02.5	237 39.5	+02.4	238 38.6	+02.5	05
06	249 44.5	+02.5	250 43.7	+02.4	251 42.8	+02.5	252 41.9	+02.5	253 41.1	+02.4	06
07	264 47.0	+02.5	265 46.1	+02.5	266 45.3	+02.4	267 44.4	+02.5	268 43.5	+02.5	07
08	279 49.5	+02.4	280 48.6	+02.5	281 47.7	+02.5	282 46.9	+02.4	283 46.0	+02.5	08
09	294 51.9	+02.5	295 51.1	+02.4	296 50.2	+02.5	297 49.3	+02.5	298 48.5	+02.4	09
10	309 54.4	+02.4	310 53.5	+02.5	311 52.7	+02.4	312 51.8	+02.5	313 50.9	+02.5	10
11	324 56.8	+02.5	325 56.0	+02.4	326 55.1	+02.5	327 54.3	+02.4	328 53.4	+02.5	11
12	339 59.3	+02.5	340 58.4	+02.5	341 57.6	+02.4	342 56.7	+02.5	343 55.9	+02.4	12
13	355 01.8	+02.4	356 00.9	+02.5	357 00.0	+02.5	357 59.2	+02.4	358 58.3	+02.5	13
14	10 04.2	+02.5	11 03.4	+02.4	12 02.5	+02.5	13 01.6	+02.5	14 00.8	+02.5	14
15	25 06.7	+02.5	26 05.8	+02.5	27 05.0	+02.4	28 04.1	+02.5	29 03.3	+02.4	15
16	40 09.2	+02.4	41 08.3	+02.5	42 07.4	+02.5	43 06.6	+02.4	44 05.7	+02.5	16
17	55 11.6	+02.5	56 10.8	+02.4	57 09.9	+02.5	58 09.0	+02.5	59 08.2	+02.4	17
18	70 14.1	+02.5	71 13.2	+02.5	72 12.4	+02.4	73 11.5	+02.5	74 10.6	+02.5	18
19	85 16.6	+02.4	86 15.7	+02.5	87 14.8	+02.5	88 14.0	+02.4	89 13.1	+02.5	19
20	100 19.0	+02.5	101 18.2	+02.4	102 17.3	+02.5	103 16.4	+02.5	104 15.6	+02.4	20
21	115 21.5	+02.4	116 20.6	+02.5	117 19.8	+02.4	118 18.9	+02.5	119 18.0	+02.5	21
22	130 23.9	+02.5	131 23.1	+02.5	132 22.2	+02.5	133 21.4	+02.4	134 20.5	+02.5	22
23	145 26.4	+02.5	146 25.6	+02.4	147 24.7	+02.5	148 23.8	+02.5	149 23.0	+02.4	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.7
Ankaa	353 12.3	S 42 12.3
Schedir	349 36.6	N 56 38.5
Diphda	348 52.3	S 17 53.2
Achernar	335 24.3	S 57 08.8
Hamal	327 56.6	N 23 33.0
Polaris	316 16.6	N 89 20.9
Acamar	315 15.5	S 40 14.1
Menkar	314 11.1	N 04 09.6
Mirfak	308 34.9	N 49 55.7
Aldebaran	290 44.9	N 16 32.7
Capella	280 28.6	N 46 01.1
Rigel	281 08.3	S 08 11.1
Bellatrix	278 27.8	N 06 21.8
Elnath	278 07.6	N 28 37.3
Alnilam	275 42.3	S 01 11.7
Betelgeuze	270 57.0	N 07 24.4
Canopus	263 54.2	S 52 42.8
Sirius	258 30.0	S 16 44.5
Adhara	255 09.2	S 29 00.2
Castor	246 02.7	N 31 50.7
Procyon	244 55.3	N 05 10.7
Pollux	243 22.4	N 27 58.7
Avior	234 15.9	S 59 34.5
Suhail	222 49.2	S 43 30.8
Miaplacidus	221 37.9	S 69 47.9
Alphard	217 52.0	S 08 44.7
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.2	N 61 38.8
Denebola	182 29.2	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 38.9
Acrux	173 04.3	S 63 12.1
Gacrux	171 56.1	S 57 13.0
Alioth	166 16.9	N 55 51.3
Spica	158 26.9	S 11 15.6
Alkaid	152 55.5	N 49 12.9
Hadar	148 41.9	S 60 27.6
Menkent	148 02.5	S 36 27.4
Arcturus	145 51.7	N 19 05.5
Rigel Kentaurus	139 43.9	S 60 54.6
Zubenelgenubi	137 00.9	S 16 07.1
Kocab	137 19.6	N 74 04.4
Alphecca	126 07.7	N 26 38.9
Antares	112 21.6	S 26 28.3
Atria	107 19.8	S 69 03.3
Sabik	102 08.1	S 15 44.8
Shaula	96 16.7	S 37 06.8
Rasalhague	96 02.9	N 12 32.8
Etamin	90 44.5	N 51 29.0
Kaus Australis	83 38.8	S 34 22.3
Vega	80 36.6	N 38 47.8
Nunki	75 53.7	S 26 16.2
Albireo	67 08.0	N 27 59.8
Altair	62 04.8	N 08 54.9
Peacock	53 13.6	S 56 40.2
Deneb	49 29.2	N 45 20.7
Enif	33 43.6	N 09 57.6
Alnair	27 39.4	S 46 52.1
Formalhaut	15 20.2	S 29 31.4
Markab	13 34.8	N 15 18.3

2019 - First Point of Aries / Selected Stars

UT	day 66 of 365 **March 7** GHA	ddGHA	day 67 of 365 **March 8** GHA	ddGHA	day 68 of 365 **March 9** GHA	ddGHA	day 69 of 365 **March 10** GHA	ddGHA	day 70 of 365 **March 11** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	164 25.4	+02.5	165 24.6	+02.4	166 23.7	+02.5	167 22.8	+02.5	168 22.0	+02.4	00
01	179 27.9	+02.5	180 27.0	+02.5	181 26.2	+02.4	182 25.3	+02.5	183 24.4	+02.5	01
02	194 30.4	+02.4	195 29.5	+02.5	196 28.6	+02.5	197 27.8	+02.4	198 26.9	+02.5	02
03	209 32.8	+02.5	210 32.0	+02.4	211 31.1	+02.5	212 30.2	+02.5	213 29.4	+02.4	03
04	224 35.3	+02.4	225 34.4	+02.5	226 33.6	+02.4	227 32.7	+02.5	228 31.8	+02.5	04
05	239 37.7	+02.5	240 36.9	+02.4	241 36.0	+02.5	242 35.2	+02.4	243 34.3	+02.5	05
06	254 40.2	+02.5	255 39.3	+02.5	256 38.5	+02.4	257 37.6	+02.5	258 36.8	+02.4	06
07	269 42.7	+02.4	270 41.8	+02.5	271 40.9	+02.5	272 40.1	+02.4	273 39.2	+02.5	07
08	284 45.1	+02.5	285 44.3	+02.4	286 43.4	+02.5	287 42.5	+02.5	288 41.7	+02.5	08
09	299 47.6	+02.5	300 46.7	+02.5	301 45.9	+02.4	302 45.0	+02.5	303 44.2	+02.4	09
10	314 50.1	+02.4	315 49.2	+02.5	316 48.3	+02.5	317 47.5	+02.4	318 46.6	+02.5	10
11	329 52.5	+02.5	330 51.7	+02.4	331 50.8	+02.5	332 49.9	+02.5	333 49.1	+02.4	11
12	344 55.0	+02.5	345 54.1	+02.5	346 53.3	+02.4	347 52.4	+02.5	348 51.5	+02.5	12
13	359 57.5	+02.4	0 56.6	+02.5	1 55.7	+02.5	2 54.9	+02.4	3 54.0	+02.5	13
14	14 59.9	+02.5	15 59.1	+02.4	16 58.2	+02.5	17 57.3	+02.5	18 56.5	+02.4	14
15	30 02.4	+02.5	31 01.5	+02.5	32 00.7	+02.4	32 59.8	+02.5	33 58.9	+02.5	15
16	45 04.9	+02.4	46 04.0	+02.5	47 03.1	+02.5	48 02.3	+02.4	49 01.4	+02.5	16
17	60 07.3	+02.5	61 06.5	+02.4	62 05.6	+02.5	63 04.7	+02.5	64 03.9	+02.4	17
18	75 09.8	+02.4	76 08.9	+02.5	77 08.1	+02.4	78 07.2	+02.5	79 06.3	+02.5	18
19	90 12.2	+02.5	91 11.4	+02.4	92 10.5	+02.5	93 09.7	+02.4	94 08.8	+02.5	19
20	105 14.7	+02.5	106 13.8	+02.5	107 13.0	+02.4	108 12.1	+02.5	109 11.3	+02.4	20
21	120 17.2	+02.4	121 16.3	+02.5	122 15.4	+02.5	123 14.6	+02.4	124 13.7	+02.5	21
22	135 19.6	+02.5	136 18.8	+02.4	137 17.9	+02.5	138 17.0	+02.5	139 16.2	+02.4	22
23	150 22.1	+02.5	151 21.2	+02.5	152 20.4	+02.4	153 19.5	+02.5	154 18.6	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.7
Ankaa	353 12.3	S 42 12.3
Schedir	349 36.6	N 56 38.5
Diphda	348 52.3	S 17 53.2
Achernar	335 24.3	S 57 08.7
Hamal	327 56.6	N 23 33.0
Polaris	316 18.9	N 89 20.9
Acamar	315 15.6	S 40 14.1
Menkar	314 11.1	N 04 09.6
Mirfak	308 34.9	N 49 55.7
Aldebaran	290 44.9	N 16 32.7
Capella	280 28.7	N 46 01.1
Rigel	281 08.3	S 08 11.1
Bellatrix	278 27.8	N 06 21.8
Elnath	278 07.7	N 28 37.3
Alnilam	275 42.4	S 01 11.7
Betelgeuze	270 57.0	N 07 24.4
Canopus	263 54.2	S 52 42.8
Sirius	258 30.0	S 16 44.5
Adhara	255 09.3	S 29 00.2
Castor	246 02.7	N 31 50.7
Procyon	244 55.3	N 05 10.7
Pollux	243 22.4	N 27 58.7
Avior	234 16.0	S 59 34.5
Suhail	222 49.2	S 43 30.8
Miaplacidus	221 37.9	S 69 48.0
Alphard	217 52.0	S 08 44.7
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.2	N 61 38.8
Denebola	182 29.2	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 38.9
Acrux	173 04.3	S 63 12.2
Gacrux	171 56.0	S 57 13.0
Alioth	166 16.9	N 55 51.3
Spica	158 26.9	S 11 15.6
Alkaid	152 55.4	N 49 13.0
Hadar	148 41.9	S 60 27.6
Menkent	148 02.4	S 36 27.4
Arcturus	145 51.6	N 19 05.5
Rigel Kentaurus	139 43.8	S 60 54.7
Zubenelgenubi	137 00.9	S 16 07.1
Kocab	137 19.5	N 74 04.4
Alphecca	126 07.6	N 26 38.9
Antares	112 21.5	S 26 28.3
Atria	107 19.8	S 69 03.3
Sabik	102 08.1	S 15 44.8
Shaula	96 16.7	S 37 06.8
Rasalhague	96 02.9	N 12 32.8
Etamin	90 44.5	N 51 29.0
Kaus Australis	83 38.8	S 34 22.3
Vega	80 36.6	N 38 47.8
Nunki	75 53.7	S 26 16.2
Albireo	67 08.0	N 27 59.8
Altair	62 04.8	N 08 54.9
Peacock	53 13.6	S 56 40.2
Deneb	49 29.2	N 45 20.7
Enif	33 43.6	N 09 57.6
Alnair	27 39.3	S 46 52.1
Formalhaut	15 20.1	S 29 31.4
Markab	13 34.8	N 15 18.3

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2019 - First Point of Aries / Selected Stars

UT	day 91 of 365 April 1 GHA	ddGHA	day 92 of 365 April 2 GHA	ddGHA	day 93 of 365 April 3 GHA	ddGHA	day 94 of 365 April 4 GHA	ddGHA	day 95 of 365 April 5 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	189 03.9	+02.4	190 03.0	+02.5	191 02.2	+02.4	192 01.3	+02.5	193 00.4	+02.5	00
01	204 06.3	+02.5	205 05.5	+02.4	206 04.6	+02.5	207 03.8	+02.4	208 02.9	+02.5	01
02	219 08.8	+02.5	220 07.9	+02.5	221 07.1	+02.4	222 06.2	+02.5	223 05.4	+02.4	02
03	234 11.3	+02.4	235 10.4	+02.5	236 09.5	+02.5	237 08.7	+02.4	238 07.8	+02.5	03
04	249 13.7	+02.5	250 12.9	+02.4	251 12.0	+02.5	252 11.1	+02.5	253 10.3	+02.4	04
05	264 16.2	+02.5	265 15.3	+02.5	266 14.5	+02.4	267 13.6	+02.5	268 12.7	+02.5	05
06	279 18.7	+02.4	280 17.8	+02.5	281 16.9	+02.5	282 16.1	+02.4	283 15.2	+02.5	06
07	294 21.1	+02.5	295 20.3	+02.4	296 19.4	+02.5	297 18.5	+02.5	298 17.7	+02.4	07
08	309 23.6	+02.5	310 22.7	+02.5	311 21.9	+02.4	312 21.0	+02.5	313 20.1	+02.5	08
09	324 26.1	+02.4	325 25.2	+02.5	326 24.3	+02.5	327 23.5	+02.4	328 22.6	+02.5	09
10	339 28.5	+02.5	340 27.7	+02.4	341 26.8	+02.5	342 25.9	+02.5	343 25.1	+02.4	10
11	354 31.0	+02.4	355 30.1	+02.5	356 29.3	+02.4	357 28.4	+02.5	358 27.5	+02.5	11
12	9 33.4	+02.5	10 32.6	+02.5	11 31.7	+02.5	12 30.9	+02.4	13 30.0	+02.5	12
13	24 35.9	+02.5	25 35.1	+02.4	26 34.2	+02.5	27 33.3	+02.5	28 32.5	+02.4	13
14	39 38.4	+02.4	40 37.5	+02.5	41 36.7	+02.4	42 35.8	+02.5	43 34.9	+02.5	14
15	54 40.8	+02.5	55 40.0	+02.4	56 39.1	+02.5	57 38.3	+02.4	58 37.4	+02.5	15
16	69 43.3	+02.5	70 42.4	+02.5	71 41.6	+02.4	72 40.7	+02.5	73 39.9	+02.4	16
17	84 45.8	+02.4	85 44.9	+02.5	86 44.0	+02.5	87 43.2	+02.4	88 42.3	+02.5	17
18	99 48.2	+02.5	100 47.4	+02.4	101 46.5	+02.5	102 45.6	+02.5	103 44.8	+02.4	18
19	114 50.7	+02.5	115 49.8	+02.5	116 49.0	+02.4	117 48.1	+02.5	118 47.2	+02.5	19
20	129 53.2	+02.4	130 52.3	+02.5	131 51.4	+02.5	132 50.6	+02.4	133 49.7	+02.5	20
21	144 55.6	+02.5	145 54.8	+02.4	146 53.9	+02.5	147 53.0	+02.5	148 52.2	+02.4	21
22	159 58.1	+02.5	160 57.2	+02.5	161 56.4	+02.4	162 55.5	+02.5	163 54.6	+02.5	22
23	175 00.6	+02.4	175 59.7	+02.5	176 58.8	+02.5	177 58.0	+02.4	178 57.1	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.6
Ankaa	353 12.3	S 42 12.2
Schedir	349 36.6	N 56 38.4
Diphda	348 52.3	S 17 53.1
Achernar	335 24.4	S 57 08.6
Hamal	327 56.7	N 23 33.0
Polaris	316 27.2	N 89 20.8
Acamar	315 15.7	S 40 14.0
Menkar	314 11.2	N 04 09.6
Mirfak	308 35.1	N 49 55.7
Aldebaran	290 45.1	N 16 32.7
Capella	280 28.8	N 46 01.1
Rigel	281 08.4	S 08 11.1
Bellatrix	278 27.9	N 06 21.8
Elnath	278 07.8	N 28 37.3
Alnilam	275 42.5	S 01 11.7
Betelgeuze	270 57.1	N 07 24.4
Canopus	263 54.5	S 52 42.8
Sirius	258 30.1	S 16 44.5
Adhara	255 09.4	S 29 00.2
Castor	246 02.8	N 31 50.8
Procyon	244 55.4	N 05 10.7
Pollux	243 22.5	N 27 58.7
Avior	234 16.2	S 59 34.6
Suhail	222 49.3	S 43 30.9
Miaplacidus	221 38.2	S 69 48.1
Alphard	217 52.0	S 08 44.7
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.2	N 61 39.0
Denebola	182 29.2	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 39.0
Acrux	173 04.2	S 63 12.3
Gacrux	171 56.0	S 57 13.1
Alioth	166 16.8	N 55 51.4
Spica	158 26.8	S 11 15.7
Alkaid	152 55.3	N 49 13.0
Hadar	148 41.7	S 60 27.7
Menkent	148 02.3	S 36 27.5
Arcturus	145 51.5	N 19 05.5
Rigel Kentaurus	139 43.6	S 60 54.8
Zubenelgenubi	137 00.7	S 16 07.2
Kocab	137 19.1	N 74 04.5
Alphecca	126 07.4	N 26 39.0
Antares	112 21.3	S 26 28.3
Atria	107 19.3	S 69 03.3
Sabik	102 07.9	S 15 44.8
Shaula	96 16.4	S 37 06.8
Rasalhague	96 02.7	N 12 32.8
Etamin	90 44.2	N 51 29.0
Kaus Australis	83 38.5	S 34 22.3
Vega	80 36.4	N 38 47.8
Nunki	75 53.5	S 26 16.2
Albireo	67 07.8	N 27 59.8
Altair	62 04.6	N 08 54.9
Peacock	53 13.3	S 56 40.1
Deneb	49 29.0	N 45 20.7
Enif	33 43.5	N 09 57.6
Alnair	27 39.2	S 46 52.0
Formalhaut	15 20.1	S 29 31.3
Markab	13 34.7	N 15 18.3

2019 - First Point of Aries / Selected Stars

UT	day 76 of 365 March 17 GHA	ddGHA	day 77 of 365 March 18 GHA	ddGHA	day 78 of 365 March 19 GHA	ddGHA	day 79 of 365 March 20 GHA	ddGHA	day 80 of 365 March 21 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	174 16.8	+02.5	175 15.9	+02.5	176 15.1	+02.5	177 14.2	+02.5	178 13.4	+02.4	00
01	189 19.3	+02.4	190 18.4	+02.5	191 17.6	+02.4	192 16.7	+02.5	193 15.8	+02.5	01
02	204 21.7	+02.5	205 20.9	+02.4	206 20.0	+02.5	207 19.2	+02.4	208 18.3	+02.5	02
03	219 24.2	+02.5	220 23.3	+02.5	221 22.5	+02.4	222 21.6	+02.5	223 20.8	+02.4	03
04	234 26.7	+02.4	235 25.8	+02.5	236 24.9	+02.5	237 24.1	+02.4	238 23.2	+02.5	04
05	249 29.1	+02.5	250 28.3	+02.4	251 27.4	+02.5	252 26.5	+02.5	253 25.7	+02.4	05
06	264 31.6	+02.5	265 30.7	+02.5	266 29.9	+02.4	267 29.0	+02.5	268 28.1	+02.5	06
07	279 34.1	+02.4	280 33.2	+02.5	281 32.3	+02.5	282 31.5	+02.4	283 30.6	+02.5	07
08	294 36.5	+02.5	295 35.7	+02.4	296 34.8	+02.5	297 33.9	+02.5	298 33.1	+02.4	08
09	309 39.0	+02.5	310 38.1	+02.5	311 37.3	+02.4	312 36.4	+02.5	313 35.5	+02.5	09
10	324 41.5	+02.4	325 40.6	+02.5	326 39.7	+02.5	327 38.9	+02.4	328 38.0	+02.5	10
11	339 43.9	+02.5	340 43.1	+02.4	341 42.2	+02.5	342 41.3	+02.5	343 40.5	+02.4	11
12	354 46.4	+02.4	355 45.5	+02.5	356 44.7	+02.4	357 43.8	+02.5	358 42.9	+02.5	12
13	9 48.8	+02.5	10 48.0	+02.4	11 47.1	+02.5	12 46.3	+02.4	13 45.4	+02.5	13
14	24 51.3	+02.5	25 50.4	+02.5	26 49.6	+02.4	27 48.7	+02.5	28 47.9	+02.4	14
15	39 53.8	+02.4	40 52.9	+02.5	41 52.0	+02.5	42 51.2	+02.4	43 50.3	+02.5	15
16	54 56.2	+02.5	55 55.4	+02.4	56 54.5	+02.5	57 53.6	+02.5	58 52.8	+02.4	16
17	69 58.7	+02.5	70 57.8	+02.5	71 57.0	+02.4	72 56.1	+02.5	73 55.2	+02.5	17
18	85 01.2	+02.4	86 00.3	+02.5	86 59.4	+02.5	87 58.6	+02.4	88 57.7	+02.5	18
19	100 03.6	+02.5	101 02.8	+02.4	102 01.9	+02.5	103 01.0	+02.5	104 00.2	+02.4	19
20	115 06.1	+02.5	116 05.2	+02.5	117 04.4	+02.4	118 03.5	+02.5	119 02.6	+02.5	20
21	130 08.6	+02.4	131 07.7	+02.5	132 06.8	+02.5	133 06.0	+02.4	134 05.1	+02.5	21
22	145 11.0	+02.5	146 10.2	+02.4	147 09.3	+02.5	148 08.4	+02.5	149 07.6	+02.4	22
23	160 13.5	+02.4	161 12.6	+02.5	162 11.8	+02.4	163 10.9	+02.5	164 10.0	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.6
Ankaa	353 12.3	S 42 12.2
Schedir	349 36.6	N 56 38.4
Diphda	348 52.3	S 17 53.2
Achernar	335 24.4	S 57 08.7
Hamal	327 56.7	N 23 33.0
Polaris	316 22.6	N 89 20.8
Acamar	315 15.6	S 40 14.1
Menkar	314 11.1	N 04 09.6
Mirfak	308 35.0	N 49 55.7
Aldebaran	290 45.0	N 16 32.7
Capella	280 28.7	N 46 01.1
Rigel	281 08.3	S 08 11.1
Bellatrix	278 27.8	N 06 21.8
Elnath	278 07.7	N 28 37.3
Alnilam	275 42.4	S 01 11.7
Betelgeuze	270 57.1	N 07 24.4
Canopus	263 54.3	S 52 42.8
Sirius	258 30.0	S 16 44.5
Adhara	255 09.3	S 29 00.2
Castor	246 02.7	N 31 50.7
Procyon	244 55.3	N 05 10.7
Pollux	243 22.5	N 27 58.7
Avior	234 16.0	S 59 34.6
Suhail	222 49.2	S 43 30.8
Miaplacidus	221 38.0	S 69 48.0
Alphard	217 52.0	S 08 44.7
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.2	N 61 38.9
Denebola	182 29.2	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 38.9
Acrux	173 04.2	S 63 12.2
Gacrux	171 56.0	S 57 13.1
Alioth	166 16.8	N 55 51.3
Spica	158 26.8	S 11 15.6
Alkaid	152 55.3	N 49 13.0
Hadar	148 41.8	S 60 27.7
Menkent	148 02.4	S 36 27.5
Arcturus	145 51.6	N 19 05.5
Rigel Kentaurus	139 43.7	S 60 54.7
Zubenelgenubi	137 00.8	S 16 07.2
Kocab	137 19.3	N 74 04.5
Alphecca	126 07.5	N 26 38.9
Antares	112 21.5	S 26 28.3
Atria	107 19.6	S 69 03.3
Sabik	102 08.0	S 15 44.8
Shaula	96 16.6	S 37 06.8
Rasalhague	96 02.8	N 12 32.8
Etamin	90 44.4	N 51 29.0
Kaus Australis	83 38.7	S 34 22.3
Vega	80 36.5	N 38 47.8
Nunki	75 53.6	S 26 16.2
Albireo	67 07.9	N 27 59.8
Altair	62 04.7	N 08 54.9
Peacock	53 13.5	S 56 40.2
Deneb	49 29.1	N 45 20.7
Enif	33 43.6	N 09 57.6
Alnair	27 39.3	S 46 52.1
Formalhaut	15 20.1	S 29 31.3
Markab	13 34.8	N 15 18.3

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2019 - First Point of Aries / Selected Stars

UT	day 81 of 365 **March 22** GHA	ddGHA	day 82 of 365 **March 23** GHA	ddGHA	day 83 of 365 **March 24** GHA	ddGHA	day 84 of 365 **March 25** GHA	ddGHA	day 85 of 365 **March 26** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	179 12.5	+02.5	180 11.6	+02.5	181 10.8	+02.4	182 09.9	+02.5	183 09.0	+02.5	00
01	194 15.0	+02.4	195 14.1	+02.5	196 13.2	+02.5	197 12.4	+02.4	198 11.5	+02.5	01
02	209 17.4	+02.5	210 16.6	+02.4	211 15.7	+02.5	212 14.8	+02.5	213 14.0	+02.4	02
03	224 19.9	+02.5	225 19.0	+02.5	226 18.2	+02.4	227 17.3	+02.5	228 16.4	+02.5	03
04	239 22.4	+02.4	240 21.5	+02.5	241 20.6	+02.5	242 19.8	+02.4	243 18.9	+02.5	04
05	254 24.8	+02.5	255 24.0	+02.4	256 23.1	+02.5	257 22.2	+02.5	258 21.4	+02.4	05
06	269 27.3	+02.4	270 26.4	+02.5	271 25.6	+02.4	272 24.7	+02.5	273 23.8	+02.5	06
07	284 29.7	+02.5	285 28.9	+02.4	286 28.0	+02.5	287 27.2	+02.4	288 26.3	+02.5	07
08	299 32.2	+02.5	300 31.3	+02.5	301 30.5	+02.4	302 29.6	+02.5	303 28.8	+02.4	08
09	314 34.7	+02.4	315 33.8	+02.5	316 32.9	+02.5	317 32.1	+02.4	318 31.2	+02.5	09
10	329 37.1	+02.5	330 36.3	+02.4	331 35.4	+02.5	332 34.5	+02.5	333 33.7	+02.5	10
11	344 39.6	+02.5	345 38.7	+02.5	346 37.9	+02.4	347 37.0	+02.5	348 36.2	+02.4	11
12	359 42.1	+02.4	0 41.2	+02.5	1 40.3	+02.5	2 39.5	+02.4	3 38.6	+02.5	12
13	14 44.5	+02.5	15 43.7	+02.4	16 42.8	+02.5	17 41.9	+02.5	18 41.1	+02.4	13
14	29 47.0	+02.5	30 46.1	+02.5	31 45.3	+02.4	32 44.4	+02.5	33 43.5	+02.5	14
15	44 49.5	+02.4	45 48.6	+02.5	46 47.7	+02.5	47 46.9	+02.4	48 46.0	+02.5	15
16	59 51.9	+02.5	60 51.1	+02.4	61 50.2	+02.5	62 49.3	+02.5	63 48.5	+02.4	16
17	74 54.4	+02.4	75 53.5	+02.5	76 52.7	+02.4	77 51.8	+02.5	78 50.9	+02.5	17
18	89 56.8	+02.5	90 56.0	+02.5	91 55.1	+02.5	92 54.3	+02.4	93 53.4	+02.5	18
19	104 59.3	+02.5	105 58.5	+02.4	106 57.6	+02.5	107 56.7	+02.5	108 55.9	+02.4	19
20	120 01.8	+02.4	121 00.9	+02.5	122 00.1	+02.4	122 59.2	+02.5	123 58.3	+02.5	20
21	135 04.2	+02.5	136 03.4	+02.4	137 02.5	+02.5	138 01.7	+02.4	139 00.8	+02.5	21
22	150 06.7	+02.5	151 05.8	+02.5	152 05.0	+02.4	153 04.1	+02.5	154 03.3	+02.4	22
23	165 09.2	+02.4	166 08.3	+02.5	167 07.4	+02.5	168 06.6	+02.4	169 05.7	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.6
Ankaa	353 12.3	S 42 12.2
Schedir	349 36.6	N 56 38.4
Diphda	348 52.3	S 17 53.2
Achernar	335 24.4	S 57 08.7
Hamal	327 56.7	N 23 33.0
Polaris	316 24.5	N 89 20.8
Acamar	315 15.6	S 40 14.1
Menkar	314 11.2	N 04 09.6
Mirfak	308 35.0	N 49 55.7
Aldebaran	290 45.0	N 16 32.7
Capella	280 28.8	N 46 01.1
Rigel	281 08.4	S 08 11.1
Bellatrix	278 27.8	N 06 21.8
Elnath	278 07.7	N 28 37.3
Alnilam	275 42.4	S 01 11.7
Betelgeuze	270 57.1	N 07 24.4
Canopus	263 54.4	S 52 42.8
Sirius	258 30.1	S 16 44.5
Adhara	255 09.4	S 29 00.2
Castor	246 02.7	N 31 50.7
Procyon	244 55.3	N 05 10.7
Pollux	243 22.5	N 27 58.7
Avior	234 16.1	S 59 34.6
Suhail	222 49.2	S 43 30.9
Miaplacidus	221 38.1	S 69 48.0
Alphard	217 52.0	S 08 44.7
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.2	N 61 38.9
Denebola	182 29.2	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 38.9
Acrux	173 04.2	S 63 12.2
Gacrux	171 56.0	S 57 13.1
Alioth	166 16.8	N 55 51.3
Spica	158 26.8	S 11 15.7
Alkaid	152 55.3	N 49 13.0
Hadar	148 41.8	S 60 27.7
Menkent	148 02.3	S 36 27.5
Arcturus	145 51.6	N 19 05.5
Rigel Kentaurus	139 43.6	S 60 54.7
Zubenelgenubi	137 00.8	S 16 07.2
Kocab	137 19.2	N 74 04.5
Alphecca	126 07.5	N 26 39.0
Antares	112 21.4	S 26 28.3
Atria	107 19.5	S 69 03.3
Sabik	102 08.0	S 15 44.8
Shaula	96 16.5	S 37 06.8
Rasalhague	96 02.8	N 12 32.8
Etamin	90 44.3	N 51 29.0
Kaus Australis	83 38.6	S 34 22.3
Vega	80 36.4	N 38 47.8
Nunki	75 53.5	S 26 16.2
Albireo	67 07.9	N 27 59.8
Altair	62 04.7	N 08 54.9
Peacock	53 13.4	S 56 40.2
Deneb	49 29.1	N 45 20.7
Enif	33 43.5	N 09 57.6
Alnair	27 39.3	S 46 52.0
Formalhaut	15 20.1	S 29 31.3
Markab	13 34.8	N 15 18.3

2019 - First Point of Aries / Selected Stars

UT	day 86 of 365 **March 27** GHA	ddGHA	day 87 of 365 **March 28** GHA	ddGHA	day 88 of 365 **March 29** GHA	ddGHA	day 89 of 365 **March 30** GHA	ddGHA	day 90 of 365 **March 31** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	184 08.2	+02.5	185 07.3	+02.5	186 06.5	+02.4	187 05.6	+02.5	188 04.7	+02.5	00
01	199 10.7	+02.4	200 09.8	+02.5	201 08.9	+02.5	202 08.1	+02.4	203 07.2	+02.5	01
02	214 13.1	+02.5	215 12.3	+02.4	216 11.4	+02.5	217 10.5	+02.5	218 09.7	+02.4	02
03	229 15.6	+02.4	230 14.7	+02.5	231 13.9	+02.4	232 13.0	+02.5	233 12.1	+02.5	03
04	244 18.0	+02.5	245 17.2	+02.4	246 16.3	+02.5	247 15.5	+02.4	248 14.6	+02.5	04
05	259 20.5	+02.5	260 19.6	+02.5	261 18.8	+02.5	262 17.9	+02.5	263 17.1	+02.4	05
06	274 23.0	+02.4	275 22.1	+02.5	276 21.3	+02.4	277 20.4	+02.5	278 19.5	+02.5	06
07	289 25.4	+02.5	290 24.6	+02.4	291 23.7	+02.5	292 22.9	+02.4	293 22.0	+02.5	07
08	304 27.9	+02.5	305 27.0	+02.5	306 26.2	+02.4	307 25.3	+02.5	308 24.5	+02.4	08
09	319 30.4	+02.4	320 29.5	+02.5	321 28.6	+02.5	322 27.8	+02.4	323 26.9	+02.5	09
10	334 32.8	+02.5	335 32.0	+02.4	336 31.1	+02.5	337 30.2	+02.5	338 29.4	+02.4	10
11	349 35.3	+02.5	350 34.4	+02.5	351 33.6	+02.4	352 32.7	+02.5	353 31.8	+02.5	11
12	4 37.8	+02.4	5 36.9	+02.5	6 36.0	+02.5	7 35.2	+02.4	8 34.3	+02.5	12
13	19 40.2	+02.5	20 39.4	+02.4	21 38.5	+02.5	22 37.6	+02.5	23 36.8	+02.4	13
14	34 42.7	+02.4	35 41.8	+02.5	36 41.0	+02.4	37 40.1	+02.5	38 39.2	+02.5	14
15	49 45.1	+02.5	50 44.3	+02.5	51 43.4	+02.5	52 42.6	+02.4	53 41.7	+02.5	15
16	64 47.6	+02.5	65 46.8	+02.4	66 45.9	+02.5	67 45.0	+02.5	68 44.2	+02.4	16
17	79 50.1	+02.4	80 49.2	+02.5	81 48.4	+02.4	82 47.5	+02.5	83 46.6	+02.5	17
18	94 52.5	+02.5	95 51.7	+02.4	96 50.8	+02.5	97 50.0	+02.4	98 49.1	+02.5	18
19	109 55.0	+02.5	110 54.1	+02.5	111 53.3	+02.4	112 52.4	+02.5	113 51.6	+02.4	19
20	124 57.5	+02.4	125 56.6	+02.5	126 55.7	+02.5	127 54.9	+02.5	128 54.0	+02.5	20
21	139 59.9	+02.5	140 59.1	+02.4	141 58.2	+02.5	142 57.4	+02.4	143 56.5	+02.5	21
22	155 02.4	+02.5	156 01.5	+02.5	157 00.7	+02.4	157 59.8	+02.5	158 59.0	+02.4	22
23	170 04.9	+02.4	171 04.0	+02.5	172 03.1	+02.5	173 02.3	+02.4	174 01.4	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.6
Ankaa	353 12.3	S 42 12.2
Schedir	349 36.6	N 56 38.4
Diphda	348 52.3	S 17 53.1
Achernar	335 24.4	S 57 08.6
Hamal	327 56.7	N 23 33.0
Polaris	316 25.9	N 89 20.8
Acamar	315 15.6	S 40 14.1
Menkar	314 11.2	N 04 09.6
Mirfak	308 35.1	N 49 55.7
Aldebaran	290 45.0	N 16 32.7
Capella	280 28.8	N 46 01.1
Rigel	281 08.4	S 08 11.1
Bellatrix	278 27.9	N 06 21.8
Elnath	278 07.8	N 28 37.3
Alnilam	275 42.5	S 01 11.7
Betelgeuze	270 57.1	N 07 24.4
Canopus	263 54.4	S 52 42.8
Sirius	258 30.1	S 16 44.5
Adhara	255 09.4	S 29 00.2
Castor	246 02.8	N 31 50.7
Procyon	244 55.3	N 05 10.7
Pollux	243 22.5	N 27 58.7
Avior	234 16.1	S 59 34.6
Suhail	222 49.3	S 43 30.9
Miaplacidus	221 38.1	S 69 48.0
Alphard	217 52.0	S 08 44.7
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.2	N 61 38.9
Denebola	182 29.2	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 38.9
Acrux	173 04.2	S 63 12.3
Gacrux	171 56.0	S 57 13.1
Alioth	166 16.8	N 55 51.3
Spica	158 26.8	S 11 15.7
Alkaid	152 55.3	N 49 13.0
Hadar	148 41.7	S 60 27.7
Menkent	148 02.3	S 36 27.5
Arcturus	145 51.5	N 19 05.5
Rigel Kentaurus	139 43.6	S 60 54.8
Zubenelgenubi	137 00.8	S 16 07.2
Kocab	137 19.2	N 74 04.5
Alphecca	126 07.5	N 26 39.0
Antares	112 21.4	S 26 28.3
Atria	107 19.4	S 69 03.3
Sabik	102 07.9	S 15 44.8
Shaula	96 16.5	S 37 06.8
Rasalhague	96 02.8	N 12 32.8
Etamin	90 44.3	N 51 29.0
Kaus Australis	83 38.6	S 34 22.3
Vega	80 36.4	N 38 47.8
Nunki	75 53.5	S 26 16.2
Albireo	67 07.8	N 27 59.8
Altair	62 04.7	N 08 54.9
Peacock	53 13.4	S 56 40.1
Deneb	49 29.1	N 45 20.7
Enif	33 43.5	N 09 57.6
Alnair	27 39.2	S 46 52.0
Formalhaut	15 20.1	S 29 31.3
Markab	13 34.7	N 15 18.3

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2019 - First Point of Aries / Selected Stars

UT	day 111 of 365 *April 21* GHA	ddGHA	day 112 of 365 *April 22* GHA	ddGHA	day 113 of 365 *April 23* GHA	ddGHA	day 114 of 365 *April 24* GHA	ddGHA	day 115 of 365 *April 25* GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	208 46.6	+02.5	209 45.8	+02.4	210 44.9	+02.5	211 44.1	+02.4	212 43.2	+02.5	00
01	223 49.1	+02.5	224 48.2	+02.5	225 47.4	+02.4	226 46.5	+02.5	227 45.7	+02.4	01
02	238 51.6	+02.4	239 50.7	+02.5	240 49.8	+02.5	241 49.0	+02.5	242 48.1	+02.5	02
03	253 54.0	+02.5	254 53.2	+02.4	255 52.3	+02.5	256 51.5	+02.4	257 50.6	+02.5	03
04	268 56.5	+02.5	269 55.6	+02.5	270 54.8	+02.4	271 53.9	+02.5	272 53.1	+02.4	04
05	283 59.0	+02.4	284 58.1	+02.5	285 57.2	+02.5	286 56.4	+02.4	287 55.5	+02.5	05
06	299 01.4	+02.5	300 00.6	+02.4	300 59.7	+02.5	301 58.8	+02.5	302 58.0	+02.4	06
07	314 03.9	+02.5	315 03.0	+02.5	316 02.2	+02.4	317 01.3	+02.5	318 00.4	+02.5	07
08	329 06.4	+02.4	330 05.5	+02.5	331 04.6	+02.5	332 03.8	+02.4	333 02.9	+02.5	08
09	344 08.8	+02.5	345 08.0	+02.4	346 07.1	+02.5	347 06.2	+02.5	348 05.4	+02.4	09
10	359 11.3	+02.4	0 10.4	+02.5	1 09.6	+02.4	2 08.7	+02.5	3 07.8	+02.5	10
11	14 13.7	+02.5	15 12.9	+02.4	16 12.0	+02.5	17 11.2	+02.4	18 10.3	+02.5	11
12	29 16.2	+02.5	30 15.3	+02.5	31 14.5	+02.5	32 13.6	+02.5	33 12.8	+02.4	12
13	44 18.7	+02.4	45 17.8	+02.5	46 17.0	+02.4	47 16.1	+02.5	48 15.2	+02.5	13
14	59 21.1	+02.5	60 20.3	+02.4	61 19.4	+02.5	62 18.6	+02.4	63 17.7	+02.5	14
15	74 23.6	+02.5	75 22.7	+02.5	76 21.9	+02.4	77 21.0	+02.5	78 20.2	+02.4	15
16	89 26.1	+02.4	90 25.2	+02.5	91 24.3	+02.5	92 23.5	+02.4	93 22.6	+02.5	16
17	104 28.5	+02.5	105 27.7	+02.4	106 26.8	+02.5	107 25.9	+02.5	108 25.1	+02.5	17
18	119 31.0	+02.5	120 30.1	+02.5	121 29.3	+02.4	122 28.4	+02.5	123 27.6	+02.4	18
19	134 33.5	+02.4	135 32.6	+02.5	136 31.7	+02.5	137 30.9	+02.4	138 30.0	+02.5	19
20	149 35.9	+02.5	150 35.1	+02.4	151 34.2	+02.5	152 33.3	+02.5	153 32.5	+02.4	20
21	164 38.4	+02.5	165 37.5	+02.5	166 36.7	+02.4	167 35.8	+02.5	168 34.9	+02.5	21
22	179 40.9	+02.4	180 40.0	+02.5	181 39.1	+02.5	182 38.3	+02.4	183 37.4	+02.5	22
23	194 43.3	+02.5	195 42.5	+02.4	196 41.6	+02.5	197 40.7	+02.5	198 39.9	+02.4	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.6
Ankaa	353 12.3	S 42 12.1
Schedir	349 36.6	N 56 38.3
Diphda	348 52.3	S 17 53.1
Achernar	335 24.4	S 57 08.5
Hamal	327 56.7	N 23 33.0
Polaris	316 30.6	N 89 20.7
Acamar	315 15.7	S 40 13.9
Menkar	314 11.2	N 04 09.7
Mirfak	308 35.1	N 49 55.6
Aldebaran	290 45.1	N 16 32.7
Capella	280 28.9	N 46 01.1
Rigel	281 08.5	S 08 11.1
Bellatrix	278 28.0	N 06 21.8
Elnath	278 07.9	N 28 37.3
Alnilam	275 42.6	S 01 11.6
Betelgeuze	270 57.2	N 07 24.4
Canopus	263 54.6	S 52 42.8
Sirius	258 30.2	S 16 44.5
Adhara	255 09.5	S 29 00.2
Castor	246 02.9	N 31 50.8
Procyon	244 55.5	N 05 10.7
Pollux	243 22.6	N 27 58.8
Avior	234 16.4	S 59 34.7
Suhail	222 49.4	S 43 30.9
Miaplacidus	221 38.5	S 69 48.1
Alphard	217 52.1	S 08 44.7
Regulus	207 39.1	N 11 52.3
Dubhe	193 46.3	N 61 39.0
Denebola	182 29.2	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 39.0
Acrux	173 04.2	S 63 12.4
Gacrux	171 56.0	S 57 13.2
Alioth	166 16.8	N 55 51.5
Spica	158 26.7	S 11 15.7
Alkaid	152 55.2	N 49 13.1
Hadar	148 41.6	S 60 27.8
Menkent	148 02.2	S 36 27.6
Arcturus	145 51.5	N 19 05.6
Rigel Kentaurus	139 43.4	S 60 54.9
Zubenelgenubi	137 00.7	S 16 07.2
Kocab	137 18.9	N 74 04.6
Alphecca	126 07.4	N 26 39.0
Antares	112 21.2	S 26 28.3
Atria	107 19.0	S 69 03.4
Sabik	102 07.8	S 15 44.8
Shaula	96 16.3	S 37 06.8
Rasalhague	96 02.6	N 12 32.8
Etamin	90 44.0	N 51 29.0
Kaus Australis	83 38.4	S 34 22.3
Vega	80 36.2	N 38 47.8
Nunki	75 53.3	S 26 16.2
Albireo	67 07.6	N 27 59.8
Altair	62 04.5	N 08 54.9
Peacock	53 13.1	S 56 40.1
Deneb	49 28.9	N 45 20.7
Enif	33 43.4	N 09 57.6
Alnair	27 39.0	S 46 51.9
Formalhaut	15 20.0	S 29 31.2
Markab	13 34.6	N 15 18.3

2019 - First Point of Aries / Selected Stars

UT	day 96 of 365 *April 6* GHA	ddGHA	day 97 of 365 *April 7* GHA	ddGHA	day 98 of 365 *April 8* GHA	ddGHA	day 99 of 365 *April 9* GHA	ddGHA	day 100 of 365 *April 10* GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	193 59.6	+02.4	194 58.7	+02.5	195 57.8	+02.5	196 57.0	+02.4	197 56.1	+02.5	00
01	209 02.0	+02.5	210 01.2	+02.4	211 00.3	+02.5	211 59.4	+02.5	212 58.6	+02.4	01
02	224 04.5	+02.5	225 03.6	+02.5	226 02.8	+02.4	227 01.9	+02.5	228 01.0	+02.5	02
03	239 07.0	+02.4	240 06.1	+02.5	241 05.2	+02.5	242 04.4	+02.4	243 03.5	+02.5	03
04	254 09.4	+02.5	255 08.6	+02.4	256 07.7	+02.5	257 06.8	+02.5	258 06.0	+02.4	04
05	269 11.9	+02.4	270 11.0	+02.5	271 10.2	+02.4	272 09.3	+02.5	273 08.4	+02.5	05
06	284 14.3	+02.5	285 13.5	+02.5	286 12.6	+02.5	287 11.8	+02.4	288 10.9	+02.5	06
07	299 16.8	+02.5	300 16.0	+02.4	301 15.1	+02.5	302 14.2	+02.5	303 13.4	+02.4	07
08	314 19.3	+02.4	315 18.4	+02.5	316 17.6	+02.4	317 16.7	+02.5	318 15.8	+02.5	08
09	329 21.7	+02.5	330 20.9	+02.4	331 20.0	+02.5	332 19.2	+02.4	333 18.3	+02.5	09
10	344 24.2	+02.5	345 23.3	+02.5	346 22.5	+02.4	347 21.6	+02.5	348 20.8	+02.4	10
11	359 26.7	+02.4	0 25.8	+02.5	1 24.9	+02.5	2 24.1	+02.4	3 23.2	+02.5	11
12	14 29.1	+02.5	15 28.3	+02.4	16 27.4	+02.5	17 26.5	+02.5	18 25.7	+02.5	12
13	29 31.6	+02.5	30 30.7	+02.5	31 29.9	+02.4	32 29.0	+02.5	33 28.2	+02.4	13
14	44 34.1	+02.4	45 33.2	+02.5	46 32.3	+02.5	47 31.5	+02.4	48 30.6	+02.5	14
15	59 36.5	+02.5	60 35.7	+02.4	61 34.8	+02.5	62 33.9	+02.5	63 33.1	+02.4	15
16	74 39.0	+02.5	75 38.1	+02.5	76 37.3	+02.4	77 36.4	+02.5	78 35.5	+02.5	16
17	89 41.5	+02.4	90 40.6	+02.5	91 39.7	+02.5	92 38.9	+02.4	93 38.0	+02.5	17
18	104 43.9	+02.5	105 43.1	+02.4	106 42.2	+02.5	107 41.3	+02.5	108 40.5	+02.4	18
19	119 46.4	+02.4	120 45.5	+02.5	121 44.7	+02.4	122 43.8	+02.5	123 42.9	+02.5	19
20	134 48.8	+02.5	135 48.0	+02.4	136 47.1	+02.5	137 46.3	+02.4	138 45.4	+02.5	20
21	149 51.3	+02.5	150 50.4	+02.5	151 49.6	+02.5	152 48.7	+02.5	153 47.9	+02.4	21
22	164 53.8	+02.4	165 52.9	+02.5	166 52.1	+02.4	167 51.2	+02.5	168 50.3	+02.5	22
23	179 56.2	+02.5	180 55.4	+02.4	181 54.5	+02.5	182 53.7	+02.4	183 52.8	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.6
Ankaa	353 12.3	S 42 12.1
Schedir	349 36.6	N 56 38.4
Diphda	348 52.3	S 17 53.1
Achernar	335 24.4	S 57 08.6
Hamal	327 56.7	N 23 33.0
Polaris	316 28.6	N 89 20.7
Acamar	315 15.7	S 40 14.0
Menkar	314 11.2	N 04 09.6
Mirfak	308 35.1	N 49 55.6
Aldebaran	290 45.1	N 16 32.7
Capella	280 28.9	N 46 01.1
Rigel	281 08.4	S 08 11.1
Bellatrix	278 27.9	N 06 21.8
Elnath	278 07.8	N 28 37.3
Alnilam	275 42.5	S 01 11.7
Betelgeuze	270 57.1	N 07 24.4
Canopus	263 54.5	S 52 42.8
Sirius	258 30.1	S 16 44.5
Adhara	255 09.4	S 29 00.2
Castor	246 02.8	N 31 50.8
Procyon	244 55.4	N 05 10.7
Pollux	243 22.6	N 27 58.8
Avior	234 16.2	S 59 34.6
Suhail	222 49.3	S 43 30.9
Miaplacidus	221 38.3	S 69 48.1
Alphard	217 52.0	S 08 44.7
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.2	N 61 39.0
Denebola	182 29.2	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 39.0
Acrux	173 04.2	S 63 12.3
Gacrux	171 56.0	S 57 13.2
Alioth	166 16.8	N 55 51.4
Spica	158 26.8	S 11 15.7
Alkaid	152 55.3	N 49 13.1
Hadar	148 41.7	S 60 27.8
Menkent	148 02.3	S 36 27.5
Arcturus	145 51.5	N 19 05.6
Rigel Kentaurus	139 43.5	S 60 54.8
Zubenelgenubi	137 00.7	S 16 07.2
Kocab	137 19.0	N 74 04.5
Alphecca	126 07.4	N 26 39.0
Antares	112 21.3	S 26 28.3
Atria	107 19.2	S 69 03.3
Sabik	102 07.9	S 15 44.8
Shaula	96 16.4	S 37 06.8
Rasalhague	96 02.7	N 12 32.8
Etamin	90 44.2	N 51 29.0
Kaus Australis	83 38.5	S 34 22.3
Vega	80 36.3	N 38 47.8
Nunki	75 53.4	S 26 16.2
Albireo	67 07.8	N 27 59.8
Altair	62 04.6	N 08 54.9
Peacock	53 13.3	S 56 40.1
Deneb	49 29.0	N 45 20.7
Enif	33 43.5	N 09 57.6
Alnair	27 39.2	S 46 52.0
Formalhaut	15 20.1	S 29 31.3
Markab	13 34.7	N 15 18.3

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2019 - First Point of Aries / Selected Stars

UT	day 101 of 365 April 11 GHA	ddGHA	day 102 of 365 April 12 GHA	ddGHA	day 103 of 365 April 13 GHA	ddGHA	day 104 of 365 April 14 GHA	ddGHA	day 105 of 365 April 15 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	198 55.3	+02.4	199 54.4	+02.5	200 53.5	+02.5	201 52.7	+02.4	202 51.8	+02.5	00
01	213 57.7	+02.5	214 56.9	+02.4	215 56.0	+02.5	216 55.1	+02.5	217 54.3	+02.4	01
02	229 00.2	+02.5	229 59.3	+02.5	230 58.5	+02.4	231 57.6	+02.5	232 56.7	+02.5	02
03	244 02.7	+02.4	245 01.8	+02.5	246 00.9	+02.5	247 00.1	+02.4	247 59.2	+02.5	03
04	259 05.1	+02.5	260 04.3	+02.4	261 03.4	+02.5	262 02.5	+02.5	263 01.7	+02.4	04
05	274 07.6	+02.4	275 06.7	+02.5	276 05.9	+02.4	277 05.0	+02.5	278 04.1	+02.5	05
06	289 10.0	+02.5	290 09.2	+02.4	291 08.3	+02.5	292 07.5	+02.4	293 06.6	+02.5	06
07	304 12.5	+02.5	305 11.6	+02.5	306 10.8	+02.5	307 09.9	+02.5	308 09.1	+02.4	07
08	319 15.0	+02.4	320 14.1	+02.5	321 13.3	+02.4	322 12.4	+02.5	323 11.5	+02.5	08
09	334 17.4	+02.5	335 16.6	+02.4	336 15.7	+02.5	337 14.9	+02.4	338 14.0	+02.5	09
10	349 19.9	+02.5	350 19.0	+02.5	351 18.2	+02.4	352 17.3	+02.5	353 16.5	+02.4	10
11	4 22.4	+02.4	5 21.5	+02.5	6 20.6	+02.5	7 19.8	+02.4	8 18.9	+02.5	11
12	19 24.8	+02.5	20 24.0	+02.4	21 23.1	+02.5	22 22.2	+02.5	23 21.4	+02.4	12
13	34 27.3	+02.5	35 26.4	+02.5	36 25.6	+02.4	37 24.7	+02.5	38 23.8	+02.5	13
14	49 29.8	+02.4	50 28.9	+02.5	51 28.0	+02.5	52 27.2	+02.4	53 26.3	+02.5	14
15	64 32.2	+02.5	65 31.4	+02.4	66 30.5	+02.5	67 29.6	+02.5	68 28.8	+02.4	15
16	79 34.7	+02.4	80 33.8	+02.5	81 33.0	+02.4	82 32.1	+02.5	83 31.2	+02.5	16
17	94 37.1	+02.5	95 36.3	+02.5	96 35.4	+02.5	97 34.6	+02.4	98 33.7	+02.5	17
18	109 39.6	+02.5	110 38.8	+02.4	111 37.9	+02.5	112 37.0	+02.5	113 36.2	+02.4	18
19	124 42.1	+02.4	125 41.2	+02.5	126 40.4	+02.4	127 39.5	+02.5	128 38.6	+02.5	19
20	139 44.5	+02.5	140 43.7	+02.4	141 42.8	+02.5	142 42.0	+02.4	143 41.1	+02.5	20
21	154 47.0	+02.5	155 46.1	+02.5	156 45.3	+02.4	157 44.4	+02.5	158 43.6	+02.4	21
22	169 49.5	+02.4	170 48.6	+02.5	171 47.7	+02.5	172 46.9	+02.5	173 46.0	+02.5	22
23	184 51.9	+02.5	185 51.1	+02.4	186 50.2	+02.5	187 49.4	+02.4	188 48.5	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.6
Ankaa	353 12.3	S 42 12.1
Schedir	349 36.6	N 56 38.3
Diphda	348 52.3	S 17 53.1
Achernar	335 24.5	S 57 08.6
Hamal	327 56.7	N 23 33.0
Polaris	316 29.3	N 89 20.7
Acamar	315 15.7	S 40 14.0
Menkar	314 11.2	N 04 09.6
Mirfak	308 35.1	N 49 55.6
Aldebaran	290 45.1	N 16 32.7
Capella	280 28.9	N 46 01.1
Rigel	281 08.4	S 08 11.1
Bellatrix	278 27.9	N 06 21.8
Elnath	278 07.8	N 28 37.3
Alnilam	275 42.5	S 01 11.7
Betelgeuze	270 57.2	N 07 24.4
Canopus	263 54.6	S 52 42.8
Sirius	258 30.2	S 16 44.5
Adhara	255 09.5	S 29 00.2
Castor	246 02.9	N 31 50.8
Procyon	244 55.4	N 05 10.7
Pollux	243 22.6	N 27 58.8
Avior	234 16.3	S 59 34.6
Suhail	222 49.4	S 43 30.9
Miaplacidus	221 38.3	S 69 48.1
Alphard	217 52.1	S 08 44.7
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.2	N 61 39.0
Denebola	182 29.2	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 39.0
Acrux	173 04.2	S 63 12.3
Gacrux	171 56.0	S 57 13.2
Alioth	166 16.8	N 55 51.4
Spica	158 26.8	S 11 15.7
Alkaid	152 55.3	N 49 13.1
Hadar	148 41.6	S 60 27.8
Menkent	148 02.3	S 36 27.5
Arcturus	145 51.5	N 19 05.6
Rigel Kentaurus	139 43.5	S 60 54.8
Zubenelgenubi	137 00.7	S 16 07.2
Kocab	137 19.0	N 74 04.6
Alphecca	126 07.4	N 26 39.0
Antares	112 21.3	S 26 28.3
Atria	107 19.1	S 69 03.3
Sabik	102 07.8	S 15 44.8
Shaula	96 16.4	S 37 06.8
Rasalhague	96 02.7	N 12 32.8
Etamin	90 44.1	N 51 29.0
Kaus Australis	83 38.5	S 34 22.3
Vega	80 36.3	N 38 47.8
Nunki	75 53.4	S 26 16.2
Albireo	67 07.7	N 27 59.8
Altair	62 04.6	N 08 54.9
Peacock	53 13.2	S 56 40.1
Deneb	49 28.9	N 45 20.7
Enif	33 43.4	N 09 57.6
Alnair	27 39.1	S 46 52.0
Formalhaut	15 20.0	S 29 31.2
Markab	13 34.7	N 15 18.3

2019 - First Point of Aries / Selected Stars

UT	day 106 of 365 April 16 GHA	ddGHA	day 107 of 365 April 17 GHA	ddGHA	day 108 of 365 April 18 GHA	ddGHA	day 109 of 365 April 19 GHA	ddGHA	day 110 of 365 April 20 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	203 51.0	+02.4	204 50.1	+02.5	205 49.2	+02.5	206 48.4	+02.4	207 47.5	+02.5	00
01	218 53.4	+02.5	219 52.6	+02.4	220 51.7	+02.5	221 50.8	+02.5	222 50.0	+02.4	01
02	233 55.9	+02.4	234 55.0	+02.5	235 54.2	+02.4	236 53.3	+02.5	237 52.4	+02.5	02
03	248 58.3	+02.5	249 57.5	+02.4	250 56.6	+02.5	251 55.8	+02.4	252 54.9	+02.5	03
04	264 00.8	+02.5	264 59.9	+02.5	265 59.1	+02.4	266 58.2	+02.5	267 57.4	+02.4	04
05	279 03.3	+02.4	280 02.4	+02.5	281 01.5	+02.5	282 00.7	+02.4	282 59.8	+02.5	05
06	294 05.7	+02.5	295 04.9	+02.4	296 04.0	+02.5	297 03.1	+02.5	298 02.3	+02.5	06
07	309 08.2	+02.5	310 07.3	+02.5	311 06.5	+02.4	312 05.6	+02.5	313 04.8	+02.4	07
08	324 10.7	+02.4	325 09.8	+02.5	326 08.9	+02.5	327 08.1	+02.4	328 07.2	+02.5	08
09	339 13.1	+02.5	340 12.3	+02.4	341 11.4	+02.5	342 10.5	+02.5	343 09.7	+02.4	09
10	354 15.6	+02.5	355 14.7	+02.5	356 13.9	+02.4	357 13.0	+02.5	358 12.1	+02.5	10
11	9 18.1	+02.4	10 17.2	+02.5	11 16.3	+02.5	12 15.5	+02.4	13 14.6	+02.5	11
12	24 20.5	+02.5	25 19.7	+02.4	26 18.8	+02.5	27 17.9	+02.5	28 17.1	+02.4	12
13	39 23.0	+02.5	40 22.1	+02.5	41 21.3	+02.4	42 20.4	+02.5	43 19.5	+02.5	13
14	54 25.5	+02.4	55 24.6	+02.5	56 23.7	+02.5	57 22.9	+02.4	58 22.0	+02.5	14
15	69 27.9	+02.5	70 27.1	+02.4	71 26.2	+02.5	72 25.3	+02.5	73 24.5	+02.4	15
16	84 30.4	+02.4	85 29.5	+02.5	86 28.7	+02.4	87 27.8	+02.5	88 26.9	+02.5	16
17	99 32.8	+02.5	100 32.0	+02.4	101 31.1	+02.5	102 30.3	+02.4	103 29.4	+02.5	17
18	114 35.3	+02.5	115 34.4	+02.5	116 33.6	+02.4	117 32.7	+02.5	118 31.9	+02.4	18
19	129 37.8	+02.4	130 36.9	+02.5	131 36.0	+02.5	132 35.2	+02.4	133 34.3	+02.5	19
20	144 40.2	+02.5	145 39.4	+02.4	146 38.5	+02.5	147 37.6	+02.5	148 36.8	+02.4	20
21	159 42.7	+02.5	160 41.8	+02.5	161 41.0	+02.4	162 40.1	+02.5	163 39.2	+02.5	21
22	174 45.2	+02.4	175 44.3	+02.5	176 43.4	+02.5	177 42.6	+02.4	178 41.7	+02.5	22
23	189 47.6	+02.5	190 46.8	+02.4	191 45.9	+02.5	192 45.0	+02.5	193 44.2	+02.4	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.8	N 29 11.6
Ankaa	353 12.3	S 42 12.1
Schedir	349 36.6	N 56 38.3
Diphda	348 52.3	S 17 53.1
Achernar	335 24.4	S 57 08.5
Hamal	327 56.7	N 23 33.0
Polaris	316 30.0	N 89 20.7
Acamar	315 15.7	S 40 14.0
Menkar	314 11.2	N 04 09.7
Mirfak	308 35.1	N 49 55.6
Aldebaran	290 45.1	N 16 32.7
Capella	280 28.9	N 46 01.1
Rigel	281 08.5	S 08 11.1
Bellatrix	278 27.9	N 06 21.8
Elnath	278 07.8	N 28 37.3
Alnilam	275 42.5	S 01 11.6
Betelgeuze	270 57.2	N 07 24.4
Canopus	263 54.6	S 52 42.8
Sirius	258 30.2	S 16 44.5
Adhara	255 09.5	S 29 00.2
Castor	246 02.9	N 31 50.8
Procyon	244 55.4	N 05 10.7
Pollux	243 22.6	N 27 58.8
Avior	234 16.3	S 59 34.6
Suhail	222 49.4	S 43 30.9
Miaplacidus	221 38.4	S 69 48.1
Alphard	217 52.1	S 08 44.7
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.3	N 61 39.0
Denebola	182 29.2	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 39.0
Acrux	173 04.2	S 63 12.4
Gacrux	171 56.0	S 57 13.2
Alioth	166 16.7	N 55 51.4
Spica	158 26.7	S 11 15.7
Alkaid	152 55.2	N 49 13.1
Hadar	148 41.6	S 60 27.8
Menkent	148 02.2	S 36 27.6
Arcturus	145 51.5	N 19 05.6
Rigel Kentaurus	139 43.5	S 60 54.9
Zubenelgenubi	137 00.7	S 16 07.2
Kocab	137 19.0	N 74 04.6
Alphecca	126 07.4	N 26 39.0
Antares	112 21.2	S 26 28.3
Atria	107 19.0	S 69 03.4
Sabik	102 07.8	S 15 44.8
Shaula	96 16.3	S 37 06.8
Rasalhague	96 02.6	N 12 32.8
Etamin	90 44.1	N 51 29.0
Kaus Australis	83 38.4	S 34 22.3
Vega	80 36.2	N 38 47.8
Nunki	75 53.3	S 26 16.2
Albireo	67 07.7	N 27 59.8
Altair	62 04.5	N 08 54.9
Peacock	53 13.1	S 56 40.1
Deneb	49 28.9	N 45 20.7
Enif	33 43.4	N 09 57.6
Alnair	27 39.1	S 46 51.9
Formalhaut	15 20.0	S 29 31.2
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2019 - First Point of Aries / Selected Stars

UT	day 131 of 365 *May* 11 GHA	ddGHA	day 132 of 365 *May* 12 GHA	ddGHA	day 133 of 365 *May* 13 GHA	ddGHA	day 134 of 365 *May* 14 GHA	ddGHA	day 135 of 365 *May* 15 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	228 29.4	+02.5	229 28.6	+02.4	230 27.7	+02.5	231 26.8	+02.5	232 26.0	+02.4	00
01	243 31.9	+02.4	244 31.0	+02.5	245 30.2	+02.4	246 29.3	+02.5	247 28.4	+02.5	01
02	258 34.3	+02.5	259 33.5	+02.4	260 32.6	+02.5	261 31.8	+02.4	262 30.9	+02.5	02
03	273 36.8	+02.5	274 35.9	+02.5	275 35.1	+02.5	276 34.2	+02.5	277 33.4	+02.4	03
04	288 39.3	+02.4	289 38.4	+02.5	290 37.6	+02.4	291 36.7	+02.5	292 35.8	+02.5	04
05	303 41.7	+02.5	304 40.9	+02.4	305 40.0	+02.5	306 39.2	+02.4	307 38.3	+02.5	05
06	318 44.2	+02.5	319 43.3	+02.5	320 42.5	+02.4	321 41.6	+02.5	322 40.8	+02.4	06
07	333 46.7	+02.4	334 45.8	+02.5	335 44.9	+02.5	336 44.1	+02.4	337 43.2	+02.5	07
08	348 49.1	+02.5	349 48.3	+02.4	350 47.4	+02.5	351 46.5	+02.5	352 45.7	+02.4	08
09	3 51.6	+02.5	4 50.7	+02.5	5 49.9	+02.4	6 49.0	+02.5	7 48.1	+02.5	09
10	18 54.1	+02.4	19 53.2	+02.5	20 52.3	+02.5	21 51.5	+02.4	22 50.6	+02.5	10
11	33 56.5	+02.5	34 55.7	+02.4	35 54.8	+02.5	36 53.9	+02.5	37 53.1	+02.4	11
12	48 59.0	+02.5	49 58.1	+02.5	50 57.3	+02.4	51 56.4	+02.5	52 55.5	+02.5	12
13	64 01.5	+02.4	65 00.6	+02.5	65 59.7	+02.5	66 58.9	+02.4	67 58.0	+02.5	13
14	79 03.9	+02.5	80 03.1	+02.4	81 02.2	+02.5	82 01.3	+02.5	83 00.5	+02.4	14
15	94 06.4	+02.4	95 05.5	+02.5	96 04.7	+02.4	97 03.8	+02.5	98 02.9	+02.5	15
16	109 08.8	+02.5	110 08.0	+02.4	111 07.1	+02.5	112 06.3	+02.4	113 05.4	+02.5	16
17	124 11.3	+02.5	125 10.4	+02.5	126 09.6	+02.4	127 08.7	+02.5	128 07.9	+02.4	17
18	139 13.8	+02.4	140 12.9	+02.5	141 12.0	+02.5	142 11.2	+02.5	143 10.3	+02.5	18
19	154 16.2	+02.5	155 15.4	+02.4	156 14.5	+02.5	157 13.7	+02.4	158 12.8	+02.5	19
20	169 18.7	+02.5	170 17.8	+02.5	171 17.0	+02.4	172 16.1	+02.5	173 15.3	+02.4	20
21	184 21.2	+02.4	185 20.3	+02.5	186 19.4	+02.5	187 18.6	+02.4	188 17.7	+02.5	21
22	199 23.6	+02.5	200 22.8	+02.4	201 21.9	+02.5	202 21.0	+02.5	203 20.2	+02.4	22
23	214 26.1	+02.5	215 25.2	+02.5	216 24.4	+02.4	217 23.5	+02.5	218 22.6	+02.5	23

	SHA ° ′	Dec ° ′
Alpheratz	357 39.6	N 29 11.6
Ankaa	353 12.1	S 42 12.0
Schedir	349 36.4	N 56 38.3
Diphda	348 52.2	S 17 53.0
Achernar	335 24.4	S 57 08.4
Hamal	327 56.6	N 23 33.0
Polaris	316 30.1	N 89 20.6
Acamar	315 15.7	S 40 13.8
Menkar	314 11.2	N 04 09.7
Mirfak	308 35.1	N 49 55.5
Aldebaran	290 45.1	N 16 32.7
Capella	280 29.0	N 46 01.0
Rigel	281 08.5	S 08 11.0
Bellatrix	278 28.0	N 06 21.8
Elnath	278 07.9	N 28 37.3
Alnilam	275 42.6	S 01 11.6
Betelgeuze	270 57.2	N 07 24.4
Canopus	263 54.8	S 52 42.7
Sirius	258 30.3	S 16 44.4
Adhara	255 09.6	S 29 00.2
Castor	246 03.0	N 31 50.8
Procyon	244 55.5	N 05 10.7
Pollux	243 22.7	N 27 58.8
Avior	234 16.6	S 59 34.6
Suhail	222 49.5	S 43 30.9
Miaplacidus	221 38.8	S 69 48.2
Alphard	217 52.2	S 08 44.7
Regulus	207 39.1	N 11 52.4
Dubhe	193 46.4	N 61 39.1
Denebola	182 29.3	N 14 28.0

	SHA ° ′	Dec ° ′
Gienah	175 47.9	S 17 39.0
Acrux	173 04.3	S 63 12.5
Gacrux	171 56.0	S 57 13.3
Alioth	166 16.8	N 55 51.5
Spica	158 26.7	S 11 15.7
Alkaid	152 55.2	N 49 13.2
Hadar	148 41.5	S 60 27.9
Menkent	148 02.2	S 36 27.6
Arcturus	145 51.4	N 19 05.6
Rigel Kentaurus	139 43.4	S 60 55.0
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 18.9	N 74 04.7
Alphecca	126 07.3	N 26 39.1
Antares	112 21.1	S 26 28.3
Atria	107 18.7	S 69 03.5
Sabik	102 07.6	S 15 44.8
Shaula	96 16.1	S 37 06.9
Rasalhague	96 02.5	N 12 32.9
Etamin	90 43.9	N 51 29.1
Kaus Australis	83 38.2	S 34 22.3
Vega	80 36.0	N 38 47.9
Nunki	75 53.1	S 26 16.2
Albireo	67 07.5	N 27 59.9
Altair	62 04.3	N 08 55.0
Peacock	53 12.8	S 56 40.1
Deneb	49 28.7	N 45 20.7
Enif	33 43.2	N 09 57.7
Alnair	27 38.9	S 46 51.8
Formalhaut	15 19.8	S 29 31.1
Markab	13 34.5	N 15 18.3

2019 - First Point of Aries / Selected Stars

UT	day 116 of 365 *April* 26 GHA	ddGHA	day 117 of 365 *April* 27 GHA	ddGHA	day 118 of 365 *April* 28 GHA	ddGHA	day 119 of 365 *April* 29 GHA	ddGHA	day 120 of 365 *April* 30 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	213 42.3	+02.5	214 41.5	+02.4	215 40.6	+02.5	216 39.8	+02.4	217 38.9	+02.5	00
01	228 44.8	+02.5	229 43.9	+02.5	230 43.1	+02.4	231 42.2	+02.5	232 41.4	+02.4	01
02	243 47.3	+02.4	244 46.4	+02.5	245 45.5	+02.5	246 44.7	+02.4	247 43.8	+02.5	02
03	258 49.7	+02.5	259 48.9	+02.4	260 48.0	+02.5	261 47.1	+02.5	262 46.3	+02.4	03
04	273 52.2	+02.5	274 51.3	+02.5	275 50.5	+02.4	276 49.6	+02.5	277 48.7	+02.5	04
05	288 54.7	+02.4	289 53.8	+02.5	290 52.9	+02.5	291 52.1	+02.4	292 51.2	+02.5	05
06	303 57.1	+02.5	304 56.3	+02.4	305 55.4	+02.5	306 54.5	+02.5	307 53.7	+02.4	06
07	318 59.6	+02.5	319 58.7	+02.5	320 57.9	+02.4	321 57.0	+02.5	322 56.1	+02.5	07
08	334 02.1	+02.4	335 01.2	+02.5	336 00.3	+02.5	336 59.5	+02.4	337 58.6	+02.5	08
09	349 04.5	+02.5	350 03.7	+02.4	351 02.8	+02.5	352 01.9	+02.5	353 01.1	+02.4	09
10	4 07.0	+02.4	5 06.1	+02.5	6 05.3	+02.4	7 04.4	+02.5	8 03.5	+02.5	10
11	19 09.4	+02.5	20 08.6	+02.4	21 07.7	+02.5	22 06.9	+02.4	23 06.0	+02.5	11
12	34 11.9	+02.5	35 11.0	+02.5	36 10.2	+02.4	37 09.3	+02.5	38 08.5	+02.4	12
13	49 14.4	+02.4	50 13.5	+02.5	51 12.6	+02.5	52 11.8	+02.5	53 10.9	+02.5	13
14	64 16.8	+02.5	65 16.0	+02.4	66 15.1	+02.5	67 14.3	+02.4	68 13.4	+02.5	14
15	79 19.3	+02.5	80 18.4	+02.5	81 17.6	+02.4	82 16.7	+02.5	83 15.9	+02.4	15
16	94 21.8	+02.4	95 20.9	+02.5	96 20.0	+02.5	97 19.2	+02.4	98 18.3	+02.5	16
17	109 24.2	+02.5	110 23.4	+02.4	111 22.5	+02.5	112 21.6	+02.5	113 20.8	+02.4	17
18	124 26.7	+02.5	125 25.8	+02.5	126 25.0	+02.4	127 24.1	+02.5	128 23.2	+02.5	18
19	139 29.2	+02.4	140 28.3	+02.5	141 27.4	+02.5	142 26.6	+02.4	143 25.7	+02.5	19
20	154 31.6	+02.5	155 30.8	+02.4	156 29.9	+02.5	157 29.0	+02.5	158 28.2	+02.4	20
21	169 34.1	+02.4	170 33.2	+02.5	171 32.4	+02.4	172 31.5	+02.5	173 30.6	+02.5	21
22	184 36.5	+02.5	185 35.7	+02.5	186 34.8	+02.5	187 34.0	+02.4	188 33.1	+02.5	22
23	199 39.0	+02.5	200 38.2	+02.4	201 37.3	+02.5	202 36.4	+02.5	203 35.6	+02.4	23

	SHA ° ′	Dec ° ′
Alpheratz	357 39.7	N 29 11.6
Ankaa	353 12.2	S 42 12.0
Schedir	349 36.5	N 56 38.3
Diphda	348 52.3	S 17 53.0
Achernar	335 24.4	S 57 08.5
Hamal	327 56.7	N 23 33.0
Polaris	316 30.6	N 89 20.6
Acamar	315 15.7	S 40 13.9
Menkar	314 11.2	N 04 09.7
Mirfak	308 35.1	N 49 55.6
Aldebaran	290 45.1	N 16 32.7
Capella	280 28.9	N 46 01.1
Rigel	281 08.5	S 08 11.1
Bellatrix	278 28.0	N 06 21.8
Elnath	278 07.9	N 28 37.3
Alnilam	275 42.6	S 01 11.6
Betelgeuze	270 57.2	N 07 24.4
Canopus	263 54.7	S 52 42.7
Sirius	258 30.2	S 16 44.5
Adhara	255 09.5	S 29 00.2
Castor	246 02.9	N 31 50.8
Procyon	244 55.5	N 05 10.7
Pollux	243 22.7	N 27 58.8
Avior	234 16.4	S 59 34.7
Suhail	222 49.4	S 43 30.9
Miaplacidus	221 38.6	S 69 48.1
Alphard	217 52.1	S 08 44.7
Regulus	207 39.1	N 11 52.4
Dubhe	193 46.3	N 61 39.1
Denebola	182 29.2	N 14 27.9

	SHA ° ′	Dec ° ′
Gienah	175 47.9	S 17 39.0
Acrux	173 04.2	S 63 12.4
Gacrux	171 56.0	S 57 13.3
Alioth	166 16.8	N 55 51.5
Spica	158 26.7	S 11 15.7
Alkaid	152 55.2	N 49 13.1
Hadar	148 41.6	S 60 27.9
Menkent	148 02.2	S 36 27.6
Arcturus	145 51.4	N 19 05.6
Rigel Kentaurus	139 43.4	S 60 54.9
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 18.9	N 74 04.6
Alphecca	126 07.3	N 26 39.0
Antares	112 21.2	S 26 28.3
Atria	107 18.9	S 69 03.4
Sabik	102 07.7	S 15 44.8
Shaula	96 16.2	S 37 06.8
Rasalhague	96 02.6	N 12 32.8
Etamin	90 44.0	N 51 29.0
Kaus Australis	83 38.3	S 34 22.3
Vega	80 36.1	N 38 47.8
Nunki	75 53.3	S 26 16.2
Albireo	67 07.6	N 27 59.8
Altair	62 04.5	N 08 54.9
Peacock	53 13.0	S 56 40.1
Deneb	49 28.8	N 45 20.7
Enif	33 43.3	N 09 57.6
Alnair	27 39.0	S 46 51.9
Formalhaut	15 19.9	S 29 31.2
Markab	13 34.6	N 15 18.3

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2019 - First Point of Aries / Selected Stars

UT	day 121 of 365 *May* 1 GHA	ddGHA	day 122 of 365 *May* 2 GHA	ddGHA	day 123 of 365 *May* 3 GHA	ddGHA	day 124 of 365 *May* 4 GHA	ddGHA	day 125 of 365 *May* 5 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	218 38.0	+02.5	219 37.2	+02.4	220 36.3	+02.5	221 35.4	+02.5	222 34.6	+02.4	00
01	233 40.5	+02.5	234 39.6	+02.5	235 38.8	+02.4	236 37.9	+02.5	237 37.0	+02.5	01
02	248 43.0	+02.4	249 42.1	+02.5	250 41.2	+02.5	251 40.4	+02.4	252 39.5	+02.5	02
03	263 45.4	+02.5	264 44.6	+02.4	265 43.7	+02.5	266 42.8	+02.5	267 42.0	+02.4	03
04	278 47.9	+02.4	279 47.0	+02.5	280 46.2	+02.4	281 45.3	+02.5	282 44.4	+02.5	04
05	293 50.3	+02.5	294 49.5	+02.4	295 48.6	+02.5	296 47.8	+02.4	297 46.9	+02.5	05
06	308 52.8	+02.5	309 51.9	+02.5	310 51.1	+02.5	311 50.2	+02.5	312 49.4	+02.4	06
07	323 55.3	+02.4	324 54.4	+02.5	325 53.6	+02.4	326 52.7	+02.5	327 51.8	+02.5	07
08	338 57.7	+02.5	339 56.9	+02.4	340 56.0	+02.5	341 55.2	+02.4	342 54.3	+02.5	08
09	354 00.2	+02.5	354 59.3	+02.5	355 58.5	+02.4	356 57.6	+02.5	357 56.8	+02.4	09
10	9 02.7	+02.4	10 01.8	+02.5	11 00.9	+02.5	12 00.1	+02.4	12 59.2	+02.5	10
11	24 05.1	+02.5	25 04.3	+02.4	26 03.4	+02.5	27 02.5	+02.5	28 01.7	+02.4	11
12	39 07.6	+02.5	40 06.7	+02.5	41 05.9	+02.4	42 05.0	+02.5	43 04.1	+02.5	12
13	54 10.1	+02.4	55 09.2	+02.5	56 08.3	+02.5	57 07.5	+02.4	58 06.6	+02.5	13
14	69 12.5	+02.5	70 11.7	+02.4	71 10.8	+02.5	72 09.9	+02.5	73 09.1	+02.4	14
15	84 15.0	+02.5	85 14.1	+02.5	86 13.3	+02.4	87 12.4	+02.5	88 11.5	+02.5	15
16	99 17.5	+02.4	100 16.6	+02.5	101 15.7	+02.5	102 14.9	+02.4	103 14.0	+02.5	16
17	114 19.9	+02.5	115 19.1	+02.4	116 18.2	+02.5	117 17.3	+02.5	118 16.5	+02.4	17
18	129 22.4	+02.4	130 21.5	+02.5	131 20.7	+02.4	132 19.8	+02.5	133 18.9	+02.5	18
19	144 24.8	+02.5	145 24.0	+02.4	146 23.1	+02.5	147 22.3	+02.4	148 21.4	+02.5	19
20	159 27.3	+02.5	160 26.4	+02.5	161 25.6	+02.4	162 24.7	+02.5	163 23.9	+02.4	20
21	174 29.8	+02.4	175 28.9	+02.5	176 28.0	+02.5	177 27.2	+02.5	178 26.3	+02.5	21
22	189 32.2	+02.5	190 31.4	+02.4	191 30.5	+02.5	192 29.7	+02.4	193 28.8	+02.5	22
23	204 34.7	+02.5	205 33.8	+02.5	206 33.0	+02.4	207 32.1	+02.5	208 31.3	+02.4	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.7	N 29 11.6
Ankaa	353 12.2	S 42 12.0
Schedir	349 36.5	N 56 38.3
Diphda	348 52.3	S 17 53.0
Achernar	335 24.4	S 57 08.4
Hamal	327 56.7	N 23 33.0
Polaris	316 30.9	N 89 20.6
Acamar	315 15.7	S 40 13.9
Menkar	314 11.2	N 04 09.7
Mirfak	308 35.1	N 49 55.6
Aldebaran	290 45.1	N 16 32.7
Capella	280 29.0	N 46 01.1
Rigel	281 08.5	S 08 11.0
Bellatrix	278 28.0	N 06 21.8
Elnath	278 07.9	N 28 37.3
Alnilam	275 42.6	S 01 11.6
Betelgeuze	270 57.2	N 07 24.4
Canopus	263 54.7	S 52 42.7
Sirius	258 30.2	S 16 44.5
Adhara	255 09.6	S 29 00.2
Castor	246 02.9	N 31 50.8
Procyon	244 55.5	N 05 10.7
Pollux	243 22.7	N 27 58.8
Avior	234 16.5	S 59 34.7
Suhail	222 49.5	S 43 30.9
Miaplacidus	221 38.6	S 69 48.1
Alphard	217 52.1	S 08 44.7
Regulus	207 39.1	N 11 52.4
Dubhe	193 46.4	N 61 39.1
Denebola	182 29.2	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 39.0
Acrux	173 04.3	S 63 12.4
Gacrux	171 56.0	S 57 13.3
Alioth	166 16.8	N 55 51.5
Spica	158 26.7	S 11 15.7
Alkaid	152 55.2	N 49 13.2
Hadar	148 41.6	S 60 27.9
Menkent	148 02.2	S 36 27.6
Arcturus	145 51.4	N 19 05.6
Rigel Kentaurus	139 43.4	S 60 54.9
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 18.9	N 74 04.7
Alphecca	126 07.3	N 26 39.1
Antares	112 21.2	S 26 28.3
Atria	107 18.8	S 69 03.4
Sabik	102 07.7	S 15 44.8
Shaula	96 16.2	S 37 06.8
Rasalhague	96 02.5	N 12 32.8
Etamin	90 43.9	N 51 29.0
Kaus Australis	83 38.3	S 34 22.3
Vega	80 36.1	N 38 47.8
Nunki	75 53.2	S 26 16.2
Albireo	67 07.6	N 27 59.8
Altair	62 04.4	N 08 55.0
Peacock	53 12.9	S 56 40.1
Deneb	49 28.8	N 45 20.7
Enif	33 43.3	N 09 57.6
Alnair	27 39.0	S 46 51.9
Formalhaut	15 19.9	S 29 31.2
Markab	13 34.6	N 15 18.3

2019 - First Point of Aries / Selected Stars

UT	day 126 of 365 *May* 6 GHA	ddGHA	day 127 of 365 *May* 7 GHA	ddGHA	day 128 of 365 *May* 8 GHA	ddGHA	day 129 of 365 *May* 9 GHA	ddGHA	day 130 of 365 *May* 10 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	223 33.7	+02.5	224 32.9	+02.4	225 32.0	+02.5	226 31.1	+02.5	227 30.3	+02.4	00
01	238 36.2	+02.4	239 35.3	+02.5	240 34.5	+02.4	241 33.6	+02.5	242 32.7	+02.5	01
02	253 38.6	+02.5	254 37.8	+02.4	255 36.9	+02.5	256 36.1	+02.4	257 35.2	+02.5	02
03	268 41.1	+02.5	269 40.2	+02.5	270 39.4	+02.5	271 38.5	+02.5	272 37.7	+02.4	03
04	283 43.6	+02.4	284 42.7	+02.5	285 41.9	+02.4	286 41.0	+02.5	287 40.1	+02.5	04
05	298 46.0	+02.5	299 45.2	+02.4	300 44.3	+02.5	301 43.5	+02.4	302 42.6	+02.5	05
06	313 48.5	+02.5	314 47.6	+02.5	315 46.8	+02.4	316 45.9	+02.5	317 45.1	+02.4	06
07	328 51.0	+02.4	329 50.1	+02.5	330 49.2	+02.5	331 48.4	+02.5	332 47.5	+02.5	07
08	343 53.4	+02.5	344 52.6	+02.4	345 51.7	+02.5	346 50.9	+02.4	347 50.0	+02.5	08
09	358 55.9	+02.5	359 55.0	+02.5	0 54.2	+02.4	1 53.3	+02.5	2 52.5	+02.4	09
10	13 58.4	+02.4	14 57.5	+02.5	15 56.6	+02.5	16 55.8	+02.4	17 54.9	+02.5	10
11	29 00.8	+02.5	29 60.0	+02.4	30 59.1	+02.5	31 58.2	+02.5	32 57.4	+02.4	11
12	44 03.3	+02.5	45 02.4	+02.5	46 01.6	+02.4	47 00.7	+02.5	47 59.8	+02.5	12
13	59 05.8	+02.4	60 04.9	+02.5	61 04.0	+02.5	62 03.2	+02.4	63 02.3	+02.5	13
14	74 08.2	+02.5	75 07.4	+02.4	76 06.5	+02.5	77 05.6	+02.5	78 04.8	+02.4	14
15	89 10.7	+02.4	90 09.8	+02.5	91 09.0	+02.4	92 08.1	+02.5	93 07.2	+02.5	15
16	104 13.1	+02.5	105 12.3	+02.4	106 11.4	+02.5	107 10.6	+02.4	108 09.7	+02.5	16
17	119 15.6	+02.5	120 14.7	+02.5	121 13.9	+02.5	122 13.0	+02.5	123 12.2	+02.4	17
18	134 18.1	+02.4	135 17.2	+02.5	136 16.4	+02.4	137 15.5	+02.5	138 14.6	+02.5	18
19	149 20.5	+02.5	150 19.7	+02.4	151 18.8	+02.5	152 18.0	+02.4	153 17.1	+02.5	19
20	164 23.0	+02.5	165 22.1	+02.5	166 21.3	+02.4	167 20.4	+02.5	168 19.6	+02.4	20
21	179 25.5	+02.4	180 24.6	+02.5	181 23.7	+02.5	182 22.9	+02.4	183 22.0	+02.5	21
22	194 27.9	+02.5	195 27.1	+02.4	196 26.2	+02.5	197 25.3	+02.5	198 24.5	+02.5	22
23	209 30.4	+02.5	210 29.5	+02.5	211 28.7	+02.4	212 27.8	+02.5	213 27.0	+02.4	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.7	N 29 11.6
Ankaa	353 12.2	S 42 12.0
Schedir	349 36.5	N 56 38.3
Diphda	348 52.2	S 17 53.0
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Rigel	281 08.5	S 08 11.0
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Elnath	278 07.9	N 28 37.3
Alnilam	275 42.6	S 01 11.6
Betelgeuze	270 57.2	N 07 24.4
Canopus	263 54.7	S 52 42.7
Sirius	258 30.3	S 16 44.4
Adhara	255 09.6	S 29 00.2
Castor	246 03.0	N 31 50.8
Procyon	244 55.5	N 05 10.7
Pollux	243 22.7	N 27 58.8
Avior	234 16.5	S 59 34.7
Suhail	222 49.5	S 43 30.9
Miaplacidus	221 38.7	S 69 48.1
Alphard	217 52.2	S 08 44.7
Regulus	207 39.1	N 11 52.4
Dubhe	193 46.4	N 61 39.1
Denebola	182 29.3	N 14 28.0

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Gienah	175 47.9	S 17 39.0
Acrux	173 04.3	S 63 12.5
Gacrux	171 56.0	S 57 13.3
Alioth	166 16.8	N 55 51.5
Spica	158 26.7	S 11 15.7
Alkaid	152 55.2	N 49 13.2
Hadar	148 41.6	S 60 27.9
Menkent	148 02.2	S 36 27.6
Arcturus	145 51.4	N 19 05.6
Rigel Kentaurus	139 43.4	S 60 54.9
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 18.9	N 74 04.7
Alphecca	126 07.3	N 26 39.1
Antares	112 21.1	S 26 28.3
Atria	107 18.8	S 69 03.4
Sabik	102 07.7	S 15 44.8
Shaula	96 16.2	S 37 06.8
Rasalhague	96 02.5	N 12 32.8
Etamin	90 43.9	N 51 29.1
Kaus Australis	83 38.3	S 34 22.3
Vega	80 36.1	N 38 47.9
Nunki	75 53.2	S 26 16.2
Albireo	67 07.5	N 27 59.9
Altair	62 04.4	N 08 55.0
Peacock	53 12.9	S 56 40.1
Deneb	49 28.7	N 45 20.7
Enif	33 43.3	N 09 57.6
Alnair	27 38.9	S 46 51.9
Formalhaut	15 19.9	S 29 31.1
Markab	13 34.5	N 15 18.3

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2019 - First Point of Aries / Selected Stars

UT	day 151 of 365 May 31 GHA	ddGHA	day 152 of 365 June 1 GHA	ddGHA	day 153 of 365 June 2 GHA	ddGHA	day 154 of 365 June 3 GHA	ddGHA	day 155 of 365 June 4 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	248 12.2	+02.5	249 11.3	+02.5	250 10.5	+02.4	251 09.6	+02.5	252 08.8	+02.4	00
01	263 14.7	+02.4	264 13.8	+02.5	265 12.9	+02.5	266 12.1	+02.4	267 11.2	+02.5	01
02	278 17.1	+02.5	279 16.3	+02.4	280 15.4	+02.5	281 14.5	+02.5	282 13.7	+02.4	02
03	293 19.6	+02.4	294 18.7	+02.5	295 17.9	+02.4	296 17.0	+02.5	297 16.1	+02.5	03
04	308 22.0	+02.5	309 21.2	+02.5	310 20.3	+02.5	311 19.5	+02.4	312 18.6	+02.5	04
05	323 24.5	+02.5	324 23.7	+02.4	325 22.8	+02.5	326 21.9	+02.5	327 21.1	+02.4	05
06	338 27.0	+02.4	339 26.1	+02.5	340 25.3	+02.4	341 24.4	+02.5	342 23.5	+02.5	06
07	353 29.4	+02.5	354 28.6	+02.4	355 27.7	+02.5	356 26.9	+02.4	357 26.0	+02.5	07
08	8 31.9	+02.5	9 31.0	+02.5	10 30.2	+02.4	11 29.3	+02.5	12 28.5	+02.4	08
09	23 34.4	+02.4	24 33.5	+02.5	25 32.6	+02.5	26 31.8	+02.5	27 30.9	+02.5	09
10	38 36.8	+02.5	39 36.0	+02.4	40 35.1	+02.5	41 34.3	+02.4	42 33.4	+02.5	10
11	53 39.3	+02.5	54 38.4	+02.5	55 37.6	+02.4	56 36.7	+02.5	57 35.9	+02.4	11
12	68 41.8	+02.4	69 40.9	+02.5	70 40.0	+02.5	71 39.2	+02.4	72 38.3	+02.5	12
13	83 44.2	+02.5	84 43.4	+02.4	85 42.5	+02.5	86 41.6	+02.5	87 40.8	+02.5	13
14	98 46.7	+02.5	99 45.8	+02.5	100 45.0	+02.4	101 44.1	+02.5	102 43.3	+02.4	14
15	113 49.2	+02.4	114 48.3	+02.5	115 47.4	+02.5	116 46.6	+02.4	117 45.7	+02.5	15
16	128 51.6	+02.5	129 50.8	+02.4	130 49.9	+02.5	131 49.0	+02.5	132 48.2	+02.4	16
17	143 54.1	+02.4	144 53.2	+02.5	145 52.4	+02.4	146 51.5	+02.5	147 50.6	+02.5	17
18	158 56.5	+02.5	159 55.7	+02.5	160 54.8	+02.5	161 54.0	+02.4	162 53.1	+02.5	18
19	173 59.0	+02.5	174 58.2	+02.4	175 57.3	+02.5	176 56.4	+02.5	177 55.6	+02.4	19
20	189 01.5	+02.4	190 00.6	+02.5	190 59.8	+02.4	191 58.9	+02.5	192 58.0	+02.5	20
21	204 03.9	+02.5	205 03.1	+02.4	206 02.2	+02.5	207 01.4	+02.4	208 00.5	+02.5	21
22	219 06.4	+02.5	220 05.5	+02.5	221 04.7	+02.4	222 03.8	+02.5	223 03.0	+02.4	22
23	234 08.9	+02.4	235 08.0	+02.5	236 07.1	+02.5	237 06.3	+02.5	238 05.4	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.5	N 29 11.6
Ankaa	353 12.0	S 42 11.9
Schedir	349 36.2	N 56 38.2
Diphda	348 52.1	S 17 52.9
Achernar	335 24.2	S 57 08.3
Hamal	327 56.5	N 23 33.0
Polaris	316 26.7	N 89 20.5
Acamar	315 15.6	S 40 13.7
Menkar	314 11.1	N 04 09.7
Mirfak	308 35.0	N 49 55.5
Aldebaran	290 45.1	N 16 32.7
Capella	280 29.0	N 46 01.0
Rigel	281 08.5	S 08 11.0
Bellatrix	278 28.0	N 06 21.8
Elnath	278 07.9	N 28 37.3
Alnilam	275 42.6	S 01 11.6
Betelgeuze	270 57.3	N 07 24.5
Canopus	263 54.9	S 52 42.6
Sirius	258 30.3	S 16 44.4
Adhara	255 09.7	S 29 00.1
Castor	246 03.0	N 31 50.8
Procyon	244 55.6	N 05 10.7
Pollux	243 22.8	N 27 58.8
Avior	234 16.8	S 59 34.6
Suhail	222 49.6	S 43 30.9
Miaplacidus	221 39.1	S 69 48.1
Alphard	217 52.2	S 08 44.7
Regulus	207 39.2	N 11 52.4
Dubhe	193 46.6	N 61 39.1
Denebola	182 29.3	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.0	S 17 39.0
Acrux	173 04.4	S 63 12.6
Gacrux	171 56.1	S 57 13.4
Alioth	166 16.9	N 55 51.6
Spica	158 26.8	S 11 15.7
Alkaid	152 55.3	N 49 13.3
Hadar	148 41.6	S 60 28.0
Menkent	148 02.2	S 36 27.7
Arcturus	145 51.4	N 19 05.7
Rigel Kentaurus	139 43.4	S 60 55.0
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 19.0	N 74 04.8
Alphecca	126 07.3	N 26 39.2
Antares	112 21.0	S 26 28.4
Atria	107 18.5	S 69 03.5
Sabik	102 07.6	S 15 44.8
Shaula	96 16.0	S 37 06.9
Rasalhague	96 02.4	N 12 32.9
Etamin	90 43.7	N 51 29.2
Kaus Australis	83 38.1	S 34 22.3
Vega	80 35.9	N 38 48.0
Nunki	75 53.0	S 26 16.2
Albireo	67 07.3	N 27 59.9
Altair	62 04.2	N 08 55.0
Peacock	53 12.6	S 56 40.1
Deneb	49 28.5	N 45 20.8
Enif	33 43.1	N 09 57.7
Alnair	27 38.6	S 46 51.8
Formalhaut	15 19.7	S 29 31.1
Markab	13 34.4	N 15 18.4

2019 - First Point of Aries / Selected Stars

UT	day 136 of 365 May 16 GHA	ddGHA	day 137 of 365 May 17 GHA	ddGHA	day 138 of 365 May 18 GHA	ddGHA	day 139 of 365 May 19 GHA	ddGHA	day 140 of 365 May 20 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	233 25.1	+02.5	234 24.2	+02.5	235 23.4	+02.4	236 22.5	+02.5	237 21.7	+02.4	00
01	248 27.6	+02.4	249 26.7	+02.5	250 25.8	+02.5	251 25.0	+02.5	252 24.1	+02.5	01
02	263 30.0	+02.5	264 29.2	+02.4	265 28.3	+02.5	266 27.5	+02.4	267 26.6	+02.5	02
03	278 32.5	+02.5	279 31.6	+02.5	280 30.8	+02.4	281 29.9	+02.5	282 29.1	+02.4	03
04	293 35.0	+02.4	294 34.1	+02.5	295 33.2	+02.5	296 32.4	+02.4	297 31.5	+02.5	04
05	308 37.4	+02.5	309 36.6	+02.4	310 35.7	+02.5	311 34.8	+02.5	312 34.0	+02.4	05
06	323 39.9	+02.5	324 39.0	+02.5	325 38.2	+02.4	326 37.3	+02.5	327 36.4	+02.5	06
07	338 42.4	+02.4	339 41.5	+02.5	340 40.6	+02.5	341 39.8	+02.4	342 38.9	+02.5	07
08	353 44.8	+02.5	354 44.0	+02.4	355 43.1	+02.5	356 42.2	+02.5	357 41.4	+02.4	08
09	8 47.3	+02.4	9 46.4	+02.5	10 45.6	+02.4	11 44.7	+02.5	12 43.8	+02.5	09
10	23 49.7	+02.5	24 48.9	+02.5	25 48.0	+02.5	26 47.2	+02.4	27 46.3	+02.5	10
11	38 52.2	+02.5	39 51.4	+02.4	40 50.5	+02.5	41 49.6	+02.5	42 48.8	+02.4	11
12	53 54.7	+02.4	54 53.8	+02.5	55 53.0	+02.4	56 52.1	+02.5	57 51.2	+02.5	12
13	68 57.1	+02.5	69 56.3	+02.4	70 55.4	+02.5	71 54.6	+02.4	72 53.7	+02.5	13
14	83 59.6	+02.5	84 58.7	+02.5	85 57.9	+02.4	86 57.0	+02.5	87 56.2	+02.4	14
15	99 02.1	+02.4	100 01.2	+02.5	101 00.3	+02.5	101 59.5	+02.5	102 58.6	+02.5	15
16	114 04.5	+02.5	115 03.7	+02.4	116 02.8	+02.5	117 02.0	+02.4	118 01.1	+02.5	16
17	129 07.0	+02.5	130 06.1	+02.5	131 05.3	+02.4	132 04.4	+02.5	133 03.6	+02.4	17
18	144 09.5	+02.4	145 08.6	+02.5	146 07.7	+02.5	147 06.9	+02.4	148 06.0	+02.5	18
19	159 11.9	+02.5	160 11.1	+02.4	161 10.2	+02.5	162 09.3	+02.5	163 08.5	+02.4	19
20	174 14.4	+02.5	175 13.5	+02.5	176 12.7	+02.4	177 11.8	+02.5	178 10.9	+02.5	20
21	189 16.9	+02.4	190 16.0	+02.5	191 15.1	+02.5	192 14.3	+02.4	193 13.4	+02.5	21
22	204 19.3	+02.5	205 18.5	+02.4	206 17.6	+02.5	207 16.7	+02.5	208 15.9	+02.4	22
23	219 21.8	+02.4	220 20.9	+02.5	221 20.1	+02.4	222 19.2	+02.5	223 18.3	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.6	N 29 11.6
Ankaa	353 12.1	S 42 11.9
Schedir	349 36.4	N 56 38.2
Diphda	348 52.2	S 17 53.0
Achernar	335 24.3	S 57 08.3
Hamal	327 56.6	N 23 33.0
Polaris	316 29.7	N 89 20.5
Acamar	315 15.7	S 40 13.8
Menkar	314 11.2	N 04 09.7
Mirfak	308 35.1	N 49 55.5
Aldebaran	290 45.1	N 16 32.7
Capella	280 29.0	N 46 01.0
Rigel	281 08.5	S 08 11.0
Bellatrix	278 28.0	N 06 21.8
Elnath	278 07.9	N 28 37.3
Alnilam	275 42.6	S 01 11.6
Betelgeuze	270 57.3	N 07 24.4
Canopus	263 54.8	S 52 42.7
Sirius	258 30.3	S 16 44.4
Adhara	255 09.6	S 29 00.2
Castor	246 03.0	N 31 50.8
Procyon	244 55.5	N 05 10.7
Pollux	243 22.7	N 27 58.8
Avior	234 16.6	S 59 34.6
Suhail	222 49.6	S 43 30.9
Miaplacidus	221 38.9	S 69 48.1
Alphard	217 52.2	S 08 44.7
Regulus	207 39.1	N 11 52.4
Dubhe	193 46.5	N 61 39.1
Denebola	182 29.3	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 39.0
Acrux	173 04.3	S 63 12.5
Gacrux	171 56.1	S 57 13.3
Alioth	166 16.8	N 55 51.6
Spica	158 26.7	S 11 15.7
Alkaid	152 55.2	N 49 13.2
Hadar	148 41.6	S 60 28.0
Menkent	148 02.2	S 36 27.6
Arcturus	145 51.4	N 19 05.7
Rigel Kentaurus	139 43.4	S 60 55.0
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 18.9	N 74 04.8
Alphecca	126 07.3	N 26 39.1
Antares	112 21.1	S 26 28.3
Atria	107 18.7	S 69 03.5
Sabik	102 07.6	S 15 44.8
Shaula	96 16.1	S 37 06.9
Rasalhague	96 02.5	N 12 32.9
Etamin	90 43.8	N 51 29.1
Kaus Australis	83 38.2	S 34 22.3
Vega	80 36.0	N 38 47.9
Nunki	75 53.1	S 26 16.2
Albireo	67 07.4	N 27 59.9
Altair	62 04.3	N 08 55.0
Peacock	53 12.7	S 56 40.1
Deneb	49 28.6	N 45 20.7
Enif	33 43.2	N 09 57.7
Alnair	27 38.8	S 46 51.8
Formalhaut	15 19.8	S 29 31.1
Markab	13 34.5	N 15 18.3

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2019 - First Point of Aries / Selected Stars

UT	day 141 of 365 May 21 GHA	ddGHA	day 142 of 365 May 22 GHA	ddGHA	day 143 of 365 May 23 GHA	ddGHA	day 144 of 365 May 24 GHA	ddGHA	day 145 of 365 May 25 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	238 20.8	+02.5	239 19.9	+02.5	240 19.1	+02.4	241 18.2	+02.5	242 17.4	+02.4	00
01	253 23.3	+02.4	254 22.4	+02.5	255 21.5	+02.5	256 20.7	+02.5	257 19.8	+02.5	01
02	268 25.7	+02.5	269 24.9	+02.4	270 24.0	+02.5	271 23.2	+02.4	272 22.3	+02.5	02
03	283 28.2	+02.5	284 27.3	+02.5	285 26.5	+02.4	286 25.6	+02.5	287 24.8	+02.4	03
04	298 30.7	+02.4	299 29.8	+02.5	300 28.9	+02.5	301 28.1	+02.4	302 27.2	+02.5	04
05	313 33.1	+02.5	314 32.3	+02.4	315 31.4	+02.5	316 30.5	+02.5	317 29.7	+02.4	05
06	328 35.6	+02.5	329 34.7	+02.5	330 33.9	+02.4	331 33.0	+02.5	332 32.1	+02.5	06
07	343 38.1	+02.4	344 37.2	+02.5	345 36.3	+02.5	346 35.5	+02.4	347 34.6	+02.5	07
08	358 40.5	+02.5	359 39.7	+02.4	0 38.8	+02.5	1 37.9	+02.5	2 37.1	+02.4	08
09	13 43.0	+02.4	14 42.1	+02.5	15 41.3	+02.4	16 40.4	+02.5	17 39.5	+02.5	09
10	28 45.4	+02.5	29 44.6	+02.5	30 43.7	+02.5	31 42.9	+02.4	32 42.0	+02.5	10
11	43 47.9	+02.5	44 47.1	+02.4	45 46.2	+02.5	46 45.3	+02.5	47 44.5	+02.4	11
12	58 50.4	+02.4	59 49.5	+02.5	60 48.7	+02.4	61 47.8	+02.5	62 46.9	+02.5	12
13	73 52.8	+02.5	74 52.0	+02.4	75 51.1	+02.5	76 50.3	+02.4	77 49.4	+02.5	13
14	88 55.3	+02.5	89 54.4	+02.5	90 53.6	+02.4	91 52.7	+02.5	92 51.9	+02.4	14
15	103 57.8	+02.4	104 56.9	+02.5	105 56.0	+02.5	106 55.2	+02.5	107 54.3	+02.5	15
16	119 00.2	+02.5	119 59.4	+02.4	120 58.5	+02.5	121 57.7	+02.4	122 56.8	+02.5	16
17	134 02.7	+02.5	135 01.8	+02.5	136 01.0	+02.4	137 00.1	+02.5	137 59.3	+02.4	17
18	149 05.2	+02.4	150 04.3	+02.5	151 03.4	+02.5	152 02.6	+02.4	153 01.7	+02.5	18
19	164 07.6	+02.5	165 06.8	+02.4	166 05.9	+02.5	167 05.0	+02.5	168 04.2	+02.4	19
20	179 10.1	+02.5	180 09.2	+02.5	181 08.4	+02.4	182 07.5	+02.5	183 06.6	+02.5	20
21	194 12.6	+02.4	195 11.7	+02.5	196 10.8	+02.5	197 10.0	+02.4	198 09.1	+02.5	21
22	209 15.0	+02.5	210 14.2	+02.4	211 13.3	+02.5	212 12.4	+02.5	213 11.6	+02.4	22
23	224 17.5	+02.4	225 16.6	+02.5	226 15.8	+02.4	227 14.9	+02.5	228 14.0	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.6	N 29 11.6
Ankaa	353 12.1	S 42 11.9
Schedir	349 36.3	N 56 38.2
Diphda	348 52.1	S 17 53.0
Achernar	335 24.3	S 57 08.3
Hamal	327 56.6	N 23 33.0
Polaris	316 28.7	N 89 20.5
Acamar	315 15.7	S 40 13.8
Menkar	314 11.2	N 04 09.7
Mirfak	308 35.1	N 49 55.5
Aldebaran	290 45.1	N 16 32.7
Capella	280 29.0	N 46 01.0
Rigel	281 08.5	S 08 11.0
Bellatrix	278 28.0	N 06 21.8
Elnath	278 07.9	N 28 37.3
Alnilam	275 42.6	S 01 11.6
Betelgeuze	270 57.3	N 07 24.4
Canopus	263 54.8	S 52 42.7
Sirius	258 30.3	S 16 44.4
Adhara	255 09.6	S 29 00.2
Castor	246 03.0	N 31 50.8
Procyon	244 55.5	N 05 10.7
Pollux	243 22.7	N 27 58.8
Avior	234 16.7	S 59 34.6
Suhail	222 49.6	S 43 30.9
Miaplacidus	221 38.9	S 69 48.1
Alphard	217 52.2	S 08 44.7
Regulus	207 39.2	N 11 52.4
Dubhe	193 46.5	N 61 39.1
Denebola	182 29.3	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 39.0
Acrux	173 04.4	S 63 12.5
Gacrux	171 56.1	S 57 13.4
Alioth	166 16.9	N 55 51.6
Spica	158 26.7	S 11 15.7
Alkaid	152 55.3	N 49 13.3
Hadar	148 41.6	S 60 28.0
Menkent	148 02.2	S 36 27.6
Arcturus	145 51.4	N 19 05.7
Rigel Kentaurus	139 43.4	S 60 55.0
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 18.9	N 74 04.8
Alphecca	126 07.3	N 26 39.1
Antares	112 21.1	S 26 28.3
Atria	107 18.6	S 69 03.5
Sabik	102 07.6	S 15 44.8
Shaula	96 16.1	S 37 06.9
Rasalhague	96 02.4	N 12 32.9
Etamin	90 43.8	N 51 29.1
Kaus Australis	83 38.1	S 34 22.3
Vega	80 36.0	N 38 47.9
Nunki	75 53.1	S 26 16.2
Albireo	67 07.4	N 27 59.9
Altair	62 04.3	N 08 55.0
Peacock	53 12.7	S 56 40.1
Deneb	49 28.6	N 45 20.7
Enif	33 43.2	N 09 57.7
Alnair	27 38.8	S 46 51.8
Formalhaut	15 19.7	S 29 31.1
Markab	13 34.4	N 15 18.4

2019 - First Point of Aries / Selected Stars

UT	day 146 of 365 May 26 GHA	ddGHA	day 147 of 365 May 27 GHA	ddGHA	day 148 of 365 May 28 GHA	ddGHA	day 149 of 365 May 29 GHA	ddGHA	day 150 of 365 May 30 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	243 16.5	+02.5	244 15.6	+02.5	245 14.8	+02.4	246 13.9	+02.5	247 13.1	+02.4	00
01	258 19.0	+02.4	259 18.1	+02.5	260 17.2	+02.5	261 16.4	+02.4	262 15.5	+02.5	01
02	273 21.4	+02.5	274 20.6	+02.4	275 19.7	+02.5	276 18.8	+02.5	277 18.0	+02.4	02
03	288 23.9	+02.5	289 23.0	+02.5	290 22.2	+02.4	291 21.3	+02.5	292 20.4	+02.5	03
04	303 26.4	+02.4	304 25.5	+02.5	305 24.6	+02.5	306 23.8	+02.4	307 22.9	+02.5	04
05	318 28.8	+02.5	319 28.0	+02.4	320 27.1	+02.5	321 26.2	+02.5	322 25.4	+02.4	05
06	333 31.3	+02.5	334 30.4	+02.5	335 29.6	+02.4	336 28.7	+02.5	337 27.8	+02.5	06
07	348 33.8	+02.4	349 32.9	+02.5	350 32.0	+02.5	351 31.2	+02.4	352 30.3	+02.5	07
08	3 36.2	+02.5	4 35.4	+02.4	5 34.5	+02.5	6 33.6	+02.5	7 32.8	+02.4	08
09	18 38.7	+02.4	19 37.8	+02.5	20 37.0	+02.4	21 36.1	+02.5	22 35.2	+02.5	09
10	33 41.1	+02.5	34 40.3	+02.4	35 39.4	+02.5	36 38.6	+02.4	37 37.7	+02.5	10
11	48 43.6	+02.5	49 42.7	+02.5	50 41.9	+02.4	51 41.0	+02.5	52 40.2	+02.4	11
12	63 46.1	+02.4	64 45.2	+02.5	65 44.3	+02.5	66 43.5	+02.5	67 42.6	+02.5	12
13	78 48.5	+02.5	79 47.7	+02.4	80 46.8	+02.5	81 46.0	+02.4	82 45.1	+02.5	13
14	93 51.0	+02.5	94 50.1	+02.5	95 49.3	+02.4	96 48.4	+02.5	97 47.6	+02.4	14
15	108 53.5	+02.4	109 52.6	+02.5	110 51.7	+02.5	111 50.9	+02.4	112 50.0	+02.5	15
16	123 55.9	+02.5	124 55.1	+02.4	125 54.2	+02.5	126 53.3	+02.5	127 52.5	+02.4	16
17	138 58.4	+02.5	139 57.5	+02.5	140 56.7	+02.4	141 55.8	+02.5	142 54.9	+02.5	17
18	154 00.9	+02.4	154 60.0	+02.5	155 59.1	+02.5	156 58.3	+02.4	157 57.4	+02.5	18
19	169 03.3	+02.5	170 02.5	+02.4	171 01.6	+02.5	172 00.7	+02.5	172 59.9	+02.4	19
20	184 05.8	+02.4	185 04.9	+02.5	186 04.1	+02.4	187 03.2	+02.5	188 02.3	+02.5	20
21	199 08.2	+02.5	200 07.4	+02.5	201 06.5	+02.5	202 05.7	+02.4	203 04.8	+02.5	21
22	214 10.7	+02.5	215 09.9	+02.4	216 09.0	+02.5	217 08.1	+02.5	218 07.3	+02.4	22
23	229 13.2	+02.4	230 12.3	+02.5	231 11.5	+02.4	232 10.6	+02.5	233 09.7	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.5	N 29 11.6
Ankaa	353 12.0	S 42 11.9
Schedir	349 36.3	N 56 38.2
Diphda	348 52.1	S 17 52.9
Achernar	335 24.3	S 57 08.3
Hamal	327 56.6	N 23 33.0
Polaris	316 27.7	N 89 20.5
Acamar	315 15.7	S 40 13.8
Menkar	314 11.1	N 04 09.7
Mirfak	308 35.1	N 49 55.5
Aldebaran	290 45.1	N 16 32.7
Capella	280 29.0	N 46 01.0
Rigel	281 08.5	S 08 11.0
Bellatrix	278 28.0	N 06 21.8
Elnath	278 07.9	N 28 37.3
Alnilam	275 42.6	S 01 11.6
Betelgeuze	270 57.3	N 07 24.4
Canopus	263 54.8	S 52 42.6
Sirius	258 30.3	S 16 44.4
Adhara	255 09.6	S 29 00.1
Castor	246 03.0	N 31 50.8
Procyon	244 55.6	N 05 10.7
Pollux	243 22.8	N 27 58.8
Avior	234 16.7	S 59 34.6
Suhail	222 49.6	S 43 30.9
Miaplacidus	221 39.0	S 69 48.1
Alphard	217 52.2	S 08 44.7
Regulus	207 39.2	N 11 52.4
Dubhe	193 46.6	N 61 39.1
Denebola	182 29.3	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 39.0
Acrux	173 04.4	S 63 12.5
Gacrux	171 56.1	S 57 13.4
Alioth	166 16.9	N 55 51.6
Spica	158 26.7	S 11 15.7
Alkaid	152 55.3	N 49 13.3
Hadar	148 41.6	S 60 28.0
Menkent	148 02.2	S 36 27.7
Arcturus	145 51.4	N 19 05.7
Rigel Kentaurus	139 43.4	S 60 55.0
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 19.0	N 74 04.8
Alphecca	126 07.3	N 26 39.1
Antares	112 21.0	S 26 28.3
Atria	107 18.6	S 69 03.5
Sabik	102 07.6	S 15 44.8
Shaula	96 16.0	S 37 06.9
Rasalhague	96 02.4	N 12 32.9
Etamin	90 43.8	N 51 29.2
Kaus Australis	83 38.1	S 34 22.3
Vega	80 35.9	N 38 47.9
Nunki	75 53.0	S 26 16.2
Albireo	67 07.4	N 27 59.9
Altair	62 04.2	N 08 55.0
Peacock	53 12.6	S 56 40.1
Deneb	49 28.5	N 45 20.7
Enif	33 43.1	N 09 57.7
Alnair	27 38.7	S 46 51.8
Formalhaut	15 19.7	S 29 31.1
Markab	13 34.4	N 15 18.4

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2019 - First Point of Aries / Selected Stars

UT	day 171 of 365 June 20 GHA	ddGHA	day 172 of 365 June 21 GHA	ddGHA	day 173 of 365 June 22 GHA	ddGHA	day 174 of 365 June 23 GHA	ddGHA	day 175 of 365 June 24 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	267 55.0	+02.5	268 54.1	+02.5	269 53.3	+02.4	270 52.4	+02.5	271 51.5	+02.5	00
01	282 57.5	+02.4	283 56.6	+02.5	284 55.7	+02.5	285 54.9	+02.4	286 54.0	+02.5	01
02	297 59.9	+02.5	298 59.1	+02.4	299 58.2	+02.5	300 57.3	+02.5	301 56.5	+02.4	02
03	313 02.4	+02.4	314 01.5	+02.5	315 00.7	+02.4	315 59.8	+02.5	316 58.9	+02.5	03
04	328 04.8	+02.5	329 04.0	+02.4	330 03.1	+02.5	331 02.3	+02.4	332 01.4	+02.5	04
05	343 07.3	+02.5	344 06.4	+02.5	345 05.6	+02.5	346 04.7	+02.5	347 03.9	+02.4	05
06	358 09.8	+02.4	359 08.9	+02.5	0 08.1	+02.4	1 07.2	+02.5	2 06.3	+02.5	06
07	13 12.2	+02.5	14 11.4	+02.4	15 10.5	+02.5	16 09.7	+02.4	17 08.8	+02.5	07
08	28 14.7	+02.5	29 13.8	+02.5	30 13.0	+02.4	31 12.1	+02.5	32 11.3	+02.4	08
09	43 17.2	+02.4	44 16.3	+02.5	45 15.4	+02.5	46 14.6	+02.4	47 13.7	+02.5	09
10	58 19.6	+02.5	59 18.8	+02.4	60 17.9	+02.5	61 17.0	+02.5	62 16.2	+02.4	10
11	73 22.1	+02.5	74 21.2	+02.5	75 20.4	+02.4	76 19.5	+02.5	77 18.6	+02.5	11
12	88 24.6	+02.4	89 23.7	+02.5	90 22.8	+02.5	91 22.0	+02.4	92 21.1	+02.5	12
13	103 27.0	+02.5	104 26.2	+02.4	105 25.3	+02.5	106 24.4	+02.5	107 23.6	+02.4	13
14	118 29.5	+02.4	119 28.6	+02.5	120 27.8	+02.4	121 26.9	+02.5	122 26.0	+02.5	14
15	133 31.9	+02.5	134 31.1	+02.5	135 30.2	+02.5	136 29.4	+02.4	137 28.5	+02.5	15
16	148 34.4	+02.5	149 33.6	+02.4	150 32.7	+02.5	151 31.8	+02.5	152 31.0	+02.4	16
17	163 36.9	+02.4	164 36.0	+02.5	165 35.2	+02.4	166 34.3	+02.5	167 33.4	+02.5	17
18	178 39.3	+02.5	179 38.5	+02.4	180 37.6	+02.5	181 36.8	+02.4	182 35.9	+02.5	18
19	193 41.8	+02.5	194 40.9	+02.5	195 40.1	+02.4	196 39.2	+02.5	197 38.4	+02.4	19
20	208 44.3	+02.4	209 43.4	+02.5	210 42.5	+02.5	211 41.7	+02.5	212 40.8	+02.5	20
21	223 46.7	+02.5	224 45.9	+02.4	225 45.0	+02.5	226 44.2	+02.4	227 43.3	+02.5	21
22	238 49.2	+02.5	239 48.3	+02.5	240 47.5	+02.4	241 46.6	+02.5	242 45.8	+02.4	22
23	253 51.7	+02.4	254 50.8	+02.5	255 49.9	+02.5	256 49.1	+02.4	257 48.2	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.3	N 29 11.6
Ankaa	353 11.8	S 42 11.8
Schedir	349 36.0	N 56 38.2
Diphda	348 51.9	S 17 52.8
Achernar	335 24.0	S 57 08.2
Hamal	327 56.4	N 23 33.0
Polaris	316 19.9	N 89 20.4
Acamar	315 15.5	S 40 13.6
Menkar	314 11.0	N 04 09.8
Mirfak	308 34.9	N 49 55.5
Aldebaran	290 45.0	N 16 32.7
Capella	280 28.9	N 46 01.0
Rigel	281 08.5	S 08 10.9
Bellatrix	278 27.9	N 06 21.9
Elnath	278 07.8	N 28 37.3
Alnilam	275 42.6	S 01 11.5
Betelgeuze	270 57.2	N 07 24.5
Canopus	263 54.9	S 52 42.5
Sirius	258 30.3	S 16 44.3
Adhara	255 09.7	S 29 00.1
Castor	246 03.0	N 31 50.7
Procyon	244 55.6	N 05 10.7
Pollux	243 22.8	N 27 58.8
Avior	234 16.9	S 59 34.5
Suhail	222 49.7	S 43 30.8
Miaplacidus	221 39.3	S 69 48.1
Alphard	217 52.3	S 08 44.6
Regulus	207 39.2	N 11 52.4
Dubhe	193 46.8	N 61 39.1
Denebola	182 29.4	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.0	S 17 39.0
Acrux	173 04.6	S 63 12.6
Gacrux	171 56.2	S 57 13.4
Alioth	166 17.0	N 55 51.7
Spica	158 26.8	S 11 15.7
Alkaid	152 55.4	N 49 13.3
Hadar	148 41.7	S 60 28.1
Menkent	148 02.2	S 36 27.7
Arcturus	145 51.5	N 19 05.7
Rigel Kentaurus	139 43.4	S 60 55.1
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 19.2	N 74 04.9
Alphecca	126 07.3	N 26 39.2
Antares	112 21.0	S 26 28.4
Atria	107 18.4	S 69 03.6
Sabik	102 07.5	S 15 44.8
Shaula	96 15.9	S 37 06.9
Rasalhague	96 02.3	N 12 33.0
Etamin	90 43.7	N 51 29.3
Kaus Australis	83 38.0	S 34 22.3
Vega	80 35.8	N 38 48.1
Nunki	75 52.9	S 26 16.2
Albireo	67 07.2	N 28 00.0
Altair	62 04.1	N 08 55.1
Peacock	53 12.3	S 56 40.1
Deneb	49 28.3	N 45 20.8
Enif	33 42.9	N 09 57.8
Alnair	27 38.4	S 46 51.8
Formalhaut	15 19.5	S 29 31.0
Markab	13 34.2	N 15 18.5

2019 - First Point of Aries / Selected Stars

UT	day 156 of 365 June 5 GHA	ddGHA	day 157 of 365 June 6 GHA	ddGHA	day 158 of 365 June 7 GHA	ddGHA	day 159 of 365 June 8 GHA	ddGHA	day 160 of 365 June 9 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	253 07.9	+02.5	254 07.0	+02.5	255 06.2	+02.4	256 05.3	+02.5	257 04.5	+02.4	00
01	268 10.4	+02.4	269 09.5	+02.5	270 08.6	+02.5	271 07.8	+02.4	272 06.9	+02.5	01
02	283 12.8	+02.5	284 12.0	+02.4	285 11.1	+02.5	286 10.2	+02.5	287 09.4	+02.4	02
03	298 15.3	+02.4	299 14.4	+02.5	300 13.6	+02.4	301 12.7	+02.5	302 11.8	+02.5	03
04	313 17.7	+02.5	314 16.9	+02.5	315 16.0	+02.5	316 15.2	+02.4	317 14.3	+02.5	04
05	328 20.2	+02.5	329 19.4	+02.4	330 18.5	+02.5	331 17.6	+02.5	332 16.8	+02.4	05
06	343 22.7	+02.4	344 21.8	+02.5	345 21.0	+02.4	346 20.1	+02.5	347 19.2	+02.5	06
07	358 25.1	+02.5	359 24.3	+02.4	0 23.4	+02.5	1 22.6	+02.4	2 21.7	+02.5	07
08	13 27.6	+02.5	14 26.7	+02.5	15 25.9	+02.5	16 25.0	+02.5	17 24.2	+02.4	08
09	28 30.1	+02.4	29 29.2	+02.5	30 28.4	+02.4	31 27.5	+02.5	32 26.6	+02.5	09
10	43 32.5	+02.5	44 31.7	+02.4	45 30.8	+02.5	46 30.0	+02.4	47 29.1	+02.5	10
11	58 35.0	+02.5	59 34.1	+02.5	60 33.3	+02.4	61 32.4	+02.5	62 31.6	+02.4	11
12	73 37.5	+02.4	74 36.6	+02.5	75 35.7	+02.5	76 34.9	+02.4	77 34.0	+02.5	12
13	88 39.9	+02.5	89 39.1	+02.4	90 38.2	+02.5	91 37.3	+02.5	92 36.5	+02.5	13
14	103 42.4	+02.5	104 41.5	+02.5	105 40.7	+02.4	106 39.8	+02.5	107 39.0	+02.4	14
15	118 44.9	+02.4	119 44.0	+02.5	120 43.1	+02.5	121 42.3	+02.4	122 41.4	+02.5	15
16	133 47.3	+02.5	134 46.5	+02.4	135 45.6	+02.5	136 44.7	+02.5	137 43.9	+02.4	16
17	148 49.8	+02.4	149 48.9	+02.5	150 48.1	+02.4	151 47.2	+02.5	152 46.3	+02.5	17
18	163 52.2	+02.5	164 51.4	+02.5	165 50.5	+02.5	166 49.7	+02.4	167 48.8	+02.5	18
19	178 54.7	+02.5	179 53.9	+02.4	180 53.0	+02.5	181 52.1	+02.5	182 51.3	+02.4	19
20	193 57.2	+02.4	194 56.3	+02.5	195 55.5	+02.4	196 54.6	+02.5	197 53.7	+02.5	20
21	208 59.6	+02.5	209 58.8	+02.4	210 57.9	+02.5	211 57.1	+02.4	212 56.2	+02.5	21
22	224 02.1	+02.5	225 01.2	+02.5	226 00.4	+02.5	226 59.5	+02.5	227 58.7	+02.4	22
23	239 04.6	+02.4	240 03.7	+02.5	241 02.9	+02.4	242 02.0	+02.5	243 01.1	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.4	N 29 11.6
Ankaa	353 11.9	S 42 11.9
Schedir	349 36.2	N 56 38.2
Diphda	348 52.0	S 17 52.9
Achernar	335 24.2	S 57 08.2
Hamal	327 56.5	N 23 33.0
Polaris	316 25.0	N 89 20.5
Acamar	315 15.6	S 40 13.7
Menkar	314 11.1	N 04 09.7
Mirfak	308 35.0	N 49 55.5
Aldebaran	290 45.1	N 16 32.7
Capella	280 29.0	N 46 01.0
Rigel	281 08.5	S 08 11.0
Bellatrix	278 28.0	N 06 21.8
Elnath	278 07.9	N 28 37.3
Alnilam	275 42.6	S 01 11.6
Betelgeuze	270 57.2	N 07 24.5
Canopus	263 54.9	S 52 42.6
Sirius	258 30.3	S 16 44.4
Adhara	255 09.7	S 29 00.1
Castor	246 03.0	N 31 50.8
Procyon	244 55.6	N 05 10.7
Pollux	243 22.8	N 27 58.8
Avior	234 16.8	S 59 34.6
Suhail	222 49.7	S 43 30.9
Miaplacidus	221 39.1	S 69 48.1
Alphard	217 52.2	S 08 44.7
Regulus	207 39.2	N 11 52.4
Dubhe	193 46.7	N 61 39.1
Denebola	182 29.3	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.0	S 17 39.0
Acrux	173 04.5	S 63 12.6
Gacrux	171 56.2	S 57 13.4
Alioth	166 16.9	N 55 51.6
Spica	158 26.8	S 11 15.7
Alkaid	152 55.3	N 49 13.3
Hadar	148 41.6	S 60 28.0
Menkent	148 02.2	S 36 27.7
Arcturus	145 51.4	N 19 05.7
Rigel Kentaurus	139 43.4	S 60 55.1
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 19.1	N 74 04.8
Alphecca	126 07.3	N 26 39.2
Antares	112 21.0	S 26 28.4
Atria	107 18.5	S 69 03.6
Sabik	102 07.5	S 15 44.8
Shaula	96 16.0	S 37 06.9
Rasalhague	96 02.4	N 12 32.9
Etamin	90 43.7	N 51 29.2
Kaus Australis	83 38.0	S 34 22.3
Vega	80 35.9	N 38 48.0
Nunki	75 53.0	S 26 16.2
Albireo	67 07.3	N 27 60.0
Altair	62 04.2	N 08 55.1
Peacock	53 12.5	S 56 40.1
Deneb	49 28.5	N 45 20.8
Enif	33 43.0	N 09 57.7
Alnair	27 38.6	S 46 51.8
Formalhaut	15 19.6	S 29 31.0
Markab	13 34.3	N 15 18.4

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2019 - First Point of Aries / Selected Stars

UT	day 161 of 365 June 10 GHA	ddGHA	day 162 of 365 June 11 GHA	ddGHA	day 163 of 365 June 12 GHA	ddGHA	day 164 of 365 June 13 GHA	ddGHA	day 165 of 365 June 14 GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	258 03.6	+02.5	259 02.7	+02.5	260 01.9	+02.4	261 01.0	+02.5	262 00.1	+02.5	00
01	273 06.1	+02.4	274 05.2	+02.5	275 04.3	+02.5	276 03.5	+02.4	277 02.6	+02.5	01
02	288 08.5	+02.5	289 07.7	+02.4	290 06.8	+02.5	291 05.9	+02.5	292 05.1	+02.4	02
03	303 11.0	+02.4	304 10.1	+02.5	305 09.3	+02.4	306 08.4	+02.5	307 07.5	+02.5	03
04	318 13.4	+02.5	319 12.6	+02.5	320 11.7	+02.5	321 10.9	+02.4	322 10.0	+02.5	04
05	333 15.9	+02.5	334 15.1	+02.4	335 14.2	+02.5	336 13.3	+02.5	337 12.5	+02.4	05
06	348 18.4	+02.4	349 17.5	+02.5	350 16.7	+02.4	351 15.8	+02.5	352 14.9	+02.5	06
07	3 20.8	+02.5	4 20.0	+02.4	5 19.1	+02.5	6 18.3	+02.4	7 17.4	+02.5	07
08	18 23.3	+02.5	19 22.4	+02.5	20 21.6	+02.4	21 20.7	+02.5	22 19.9	+02.4	08
09	33 25.8	+02.4	34 24.9	+02.5	35 24.0	+02.5	36 23.2	+02.4	37 22.3	+02.5	09
10	48 28.2	+02.5	49 27.4	+02.4	50 26.5	+02.5	51 25.6	+02.5	52 24.8	+02.4	10
11	63 30.7	+02.5	64 29.8	+02.5	65 29.0	+02.4	66 28.1	+02.5	67 27.2	+02.5	11
12	78 33.2	+02.4	79 32.3	+02.5	80 31.4	+02.5	81 30.6	+02.4	82 29.7	+02.5	12
13	93 35.6	+02.5	94 34.8	+02.4	95 33.9	+02.5	96 33.0	+02.5	97 32.2	+02.4	13
14	108 38.1	+02.5	109 37.2	+02.5	110 36.4	+02.4	111 35.5	+02.5	112 34.6	+02.5	14
15	123 40.6	+02.4	124 39.7	+02.5	125 38.8	+02.5	126 38.0	+02.4	127 37.1	+02.5	15
16	138 43.0	+02.5	139 42.2	+02.4	140 41.3	+02.5	141 40.4	+02.5	142 39.6	+02.4	16
17	153 45.5	+02.4	154 44.6	+02.5	155 43.8	+02.4	156 42.9	+02.5	157 42.0	+02.5	17
18	168 47.9	+02.5	169 47.1	+02.4	170 46.2	+02.5	171 45.4	+02.4	172 44.5	+02.5	18
19	183 50.4	+02.5	184 49.5	+02.5	185 48.7	+02.4	186 47.8	+02.5	187 47.0	+02.4	19
20	198 52.9	+02.4	199 52.0	+02.5	200 51.1	+02.5	201 50.3	+02.5	202 49.4	+02.5	20
21	213 55.3	+02.5	214 54.5	+02.4	215 53.6	+02.5	216 52.8	+02.4	217 51.9	+02.5	21
22	228 57.8	+02.5	229 56.9	+02.5	230 56.1	+02.4	231 55.2	+02.5	232 54.4	+02.4	22
23	244 00.3	+02.4	244 59.4	+02.5	245 58.5	+02.5	246 57.7	+02.4	247 56.8	+02.5	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 39.4	N 29 11.6
Ankaa	353 11.9	S 42 11.8
Schedir	349 36.1	N 56 38.2
Diphda	348 52.0	S 17 52.9
Achernar	335 24.1	S 57 08.2
Hamal	327 56.5	N 23 33.0
Polaris	316 23.6	N 89 20.4
Acamar	315 15.6	S 40 13.7
Menkar	314 11.1	N 04 09.8
Mirfak	308 35.0	N 49 55.5
Aldebaran	290 45.1	N 16 32.7
Capella	280 28.9	N 46 01.0
Rigel	281 08.5	S 08 10.9
Bellatrix	278 28.0	N 06 21.9
Elnath	278 07.9	N 28 37.3
Alnilam	275 42.6	S 01 11.6
Betelgeuze	270 57.2	N 07 24.5
Canopus	263 54.9	S 52 42.6
Sirius	258 30.3	S 16 44.3
Adhara	255 09.7	S 29 00.1
Castor	246 03.0	N 31 50.7
Procyon	244 55.6	N 05 10.7
Pollux	243 22.8	N 27 58.8
Avior	234 16.8	S 59 34.6
Suhail	222 49.7	S 43 30.9
Miaplacidus	221 39.2	S 69 48.1
Alphard	217 52.3	S 08 44.7
Regulus	207 39.2	N 11 52.4
Dubhe	193 46.7	N 61 39.1
Denebola	182 29.3	N 14 28.0

	SHA	Dec
	° ,	° ,
Gienah	175 48.0	S 17 39.0
Acrux	173 04.5	S 63 12.6
Gacrux	171 56.2	S 57 13.4
Alioth	166 17.0	N 55 51.6
Spica	158 26.8	S 11 15.7
Alkaid	152 55.3	N 49 13.3
Hadar	148 41.6	S 60 28.0
Menkent	148 02.2	S 36 27.7
Arcturus	145 51.4	N 19 05.7
Rigel Kentaurus	139 43.4	S 60 55.1
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 19.1	N 74 04.9
Alphecca	126 07.3	N 26 39.2
Antares	112 21.0	S 26 28.4
Atria	107 18.5	S 69 03.6
Sabik	102 07.5	S 15 44.8
Shaula	96 16.0	S 37 06.9
Rasalhague	96 02.4	N 12 32.9
Etamin	90 43.7	N 51 29.2
Kaus Australis	83 38.0	S 34 22.3
Vega	80 35.9	N 38 48.0
Nunki	75 52.9	S 26 16.2
Albireo	67 07.3	N 27 60.0
Altair	62 04.1	N 08 55.1
Peacock	53 12.4	S 56 40.1
Deneb	49 28.4	N 45 20.8
Enif	33 43.0	N 09 57.8
Alnair	27 38.5	S 46 51.8
Formalhaut	15 19.6	S 29 31.0
Markab	13 34.3	N 15 18.4

2019 - First Point of Aries / Selected Stars

UT	day 166 of 365 June 15 GHA	ddGHA	day 167 of 365 June 16 GHA	ddGHA	day 168 of 365 June 17 GHA	ddGHA	day 169 of 365 June 18 GHA	ddGHA	day 170 of 365 June 19 GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	262 59.3	+02.4	263 58.4	+02.5	264 57.6	+02.4	265 56.7	+02.5	266 55.8	+02.5	00
01	278 01.7	+02.5	279 00.9	+02.5	280 00.0	+02.5	280 59.2	+02.4	281 58.3	+02.5	01
02	293 04.2	+02.5	294 03.4	+02.4	295 02.5	+02.5	296 01.6	+02.5	297 00.8	+02.4	02
03	308 06.7	+02.4	309 05.8	+02.5	310 05.0	+02.4	311 04.1	+02.5	312 03.2	+02.5	03
04	323 09.1	+02.5	324 08.3	+02.4	325 07.4	+02.5	326 06.6	+02.4	327 05.7	+02.5	04
05	338 11.6	+02.5	339 10.7	+02.5	340 09.9	+02.4	341 09.0	+02.5	342 08.2	+02.4	05
06	353 14.1	+02.4	354 13.2	+02.5	355 12.3	+02.5	356 11.5	+02.5	357 10.6	+02.5	06
07	8 16.5	+02.5	9 15.7	+02.4	10 14.8	+02.5	11 14.0	+02.4	12 13.1	+02.5	07
08	23 19.0	+02.5	24 18.1	+02.5	25 17.3	+02.4	26 16.4	+02.5	27 15.6	+02.4	08
09	38 21.5	+02.4	39 20.6	+02.5	40 19.7	+02.5	41 18.9	+02.4	42 18.0	+02.5	09
10	53 23.9	+02.5	54 23.1	+02.4	55 22.2	+02.5	56 21.3	+02.5	57 20.5	+02.5	10
11	68 26.4	+02.5	69 25.5	+02.5	70 24.7	+02.4	71 23.8	+02.5	72 23.0	+02.4	11
12	83 28.9	+02.4	84 28.0	+02.5	85 27.1	+02.5	86 26.3	+02.4	87 25.4	+02.5	12
13	98 31.3	+02.5	99 30.5	+02.4	100 29.6	+02.5	101 28.7	+02.5	102 27.9	+02.4	13
14	113 33.8	+02.4	114 32.9	+02.5	115 32.1	+02.4	116 31.2	+02.5	117 30.3	+02.5	14
15	128 36.2	+02.5	129 35.4	+02.5	130 34.5	+02.5	131 33.7	+02.4	132 32.8	+02.5	15
16	143 38.7	+02.5	144 37.9	+02.4	145 37.0	+02.5	146 36.1	+02.5	147 35.3	+02.4	16
17	158 41.2	+02.4	159 40.3	+02.5	160 39.5	+02.4	161 38.6	+02.5	162 37.7	+02.5	17
18	173 43.6	+02.5	174 42.8	+02.4	175 41.9	+02.5	176 41.1	+02.4	177 40.2	+02.5	18
19	188 46.1	+02.5	189 45.2	+02.5	190 44.4	+02.4	191 43.5	+02.5	192 42.7	+02.4	19
20	203 48.6	+02.4	204 47.7	+02.5	205 46.8	+02.5	206 46.0	+02.5	207 45.1	+02.5	20
21	218 51.0	+02.5	219 50.2	+02.4	220 49.3	+02.5	221 48.5	+02.4	222 47.6	+02.5	21
22	233 53.5	+02.5	234 52.6	+02.5	235 51.8	+02.4	236 50.9	+02.5	237 50.1	+02.4	22
23	248 56.0	+02.4	249 55.1	+02.5	250 54.2	+02.5	251 53.4	+02.4	252 52.5	+02.5	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 39.4	N 29 11.6
Ankaa	353 11.9	S 42 11.8
Schedir	349 36.1	N 56 38.2
Diphda	348 52.0	S 17 52.9
Achernar	335 24.1	S 57 08.2
Hamal	327 56.4	N 23 33.0
Polaris	316 21.9	N 89 20.4
Acamar	315 15.6	S 40 13.7
Menkar	314 11.0	N 04 09.8
Mirfak	308 34.9	N 49 55.5
Aldebaran	290 45.1	N 16 32.7
Capella	280 28.9	N 46 01.0
Rigel	281 08.5	S 08 10.9
Bellatrix	278 28.0	N 06 21.9
Elnath	278 07.9	N 28 37.3
Alnilam	275 42.6	S 01 11.5
Betelgeuze	270 57.2	N 07 24.5
Canopus	263 54.9	S 52 42.5
Sirius	258 30.3	S 16 44.3
Adhara	255 09.7	S 29 00.1
Castor	246 03.0	N 31 50.7
Procyon	244 55.6	N 05 10.7
Pollux	243 22.8	N 27 58.8
Avior	234 16.9	S 59 34.6
Suhail	222 49.7	S 43 30.9
Miaplacidus	221 39.3	S 69 48.1
Alphard	217 52.3	S 08 44.6
Regulus	207 39.2	N 11 52.4
Dubhe	193 46.7	N 61 39.1
Denebola	182 29.4	N 14 28.0

	SHA	Dec
	° ,	° ,
Gienah	175 48.0	S 17 39.0
Acrux	173 04.6	S 63 12.6
Gacrux	171 56.2	S 57 13.4
Alioth	166 17.0	N 55 51.6
Spica	158 26.8	S 11 15.7
Alkaid	152 55.4	N 49 13.3
Hadar	148 41.6	S 60 28.1
Menkent	148 02.2	S 36 27.7
Arcturus	145 51.5	N 19 05.7
Rigel Kentaurus	139 43.4	S 60 55.1
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 19.2	N 74 04.9
Alphecca	126 07.3	N 26 39.2
Antares	112 21.0	S 26 28.4
Atria	107 18.5	S 69 03.6
Sabik	102 07.5	S 15 44.8
Shaula	96 15.9	S 37 06.9
Rasalhague	96 02.3	N 12 33.0
Etamin	90 43.7	N 51 29.3
Kaus Australis	83 38.0	S 34 22.3
Vega	80 35.9	N 38 48.0
Nunki	75 52.9	S 26 16.2
Albireo	67 07.3	N 28 00.0
Altair	62 04.1	N 08 55.1
Peacock	53 12.4	S 56 40.1
Deneb	49 28.4	N 45 20.8
Enif	33 43.0	N 09 57.8
Alnair	27 38.5	S 46 51.8
Formalhaut	15 19.5	S 29 31.0
Markab	13 34.2	N 15 18.4

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2019 - First Point of Aries / Selected Stars

UT	day 191 of 365 July 10 GHA	ddGHA	day 192 of 365 July 11 GHA	ddGHA	day 193 of 365 July 12 GHA	ddGHA	day 194 of 365 July 13 GHA	ddGHA	day 195 of 365 July 14 GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	287 37.8	+02.4	288 36.9	+02.5	289 36.0	+02.5	290 35.2	+02.5	291 34.3	+02.5	00
01	302 40.2	+02.5	303 39.4	+02.4	304 38.5	+02.5	305 37.7	+02.4	306 36.8	+02.5	01
02	317 42.7	+02.5	318 41.8	+02.5	319 41.0	+02.4	320 40.1	+02.5	321 39.3	+02.4	02
03	332 45.2	+02.4	333 44.3	+02.5	334 43.4	+02.5	335 42.6	+02.4	336 41.7	+02.5	03
04	347 47.6	+02.5	348 46.8	+02.4	349 45.9	+02.5	350 45.0	+02.5	351 44.2	+02.4	04
05	2 50.1	+02.5	3 49.2	+02.5	4 48.4	+02.4	5 47.5	+02.5	6 46.6	+02.5	05
06	17 52.6	+02.4	18 51.7	+02.5	19 50.8	+02.5	20 50.0	+02.4	21 49.1	+02.5	06
07	32 55.0	+02.5	33 54.2	+02.4	34 53.3	+02.5	35 52.4	+02.5	36 51.6	+02.4	07
08	47 57.5	+02.4	48 56.6	+02.5	49 55.8	+02.4	50 54.9	+02.5	51 54.0	+02.5	08
09	62 59.9	+02.5	63 59.1	+02.4	64 58.2	+02.5	65 57.4	+02.4	66 56.5	+02.5	09
10	78 02.4	+02.5	79 01.5	+02.5	80 00.7	+02.5	80 59.8	+02.5	81 59.0	+02.4	10
11	93 04.9	+02.4	94 04.0	+02.5	95 03.2	+02.4	96 02.3	+02.5	97 01.4	+02.5	11
12	108 07.3	+02.5	109 06.5	+02.4	110 05.6	+02.5	111 04.8	+02.4	112 03.9	+02.5	12
13	123 09.8	+02.5	124 08.9	+02.5	125 08.1	+02.4	126 07.2	+02.5	127 06.4	+02.4	13
14	138 12.3	+02.4	139 11.4	+02.5	140 10.5	+02.5	141 09.7	+02.4	142 08.8	+02.5	14
15	153 14.7	+02.5	154 13.9	+02.4	155 13.0	+02.5	156 12.1	+02.5	157 11.3	+02.5	15
16	168 17.2	+02.5	169 16.3	+02.5	170 15.5	+02.4	171 14.6	+02.5	172 13.8	+02.4	16
17	183 19.7	+02.4	184 18.8	+02.5	185 17.9	+02.5	186 17.1	+02.4	187 16.2	+02.5	17
18	198 22.1	+02.5	199 21.3	+02.4	200 20.4	+02.5	201 19.5	+02.5	202 18.7	+02.4	18
19	213 24.6	+02.5	214 23.7	+02.5	215 22.9	+02.4	216 22.0	+02.5	217 21.1	+02.5	19
20	228 27.1	+02.4	229 26.2	+02.5	230 25.3	+02.5	231 24.5	+02.4	232 23.6	+02.5	20
21	243 29.5	+02.5	244 28.7	+02.4	245 27.8	+02.5	246 26.9	+02.5	247 26.1	+02.4	21
22	258 32.0	+02.4	259 31.1	+02.5	260 30.3	+02.4	261 29.4	+02.5	262 28.5	+02.5	22
23	273 34.4	+02.5	274 33.6	+02.4	275 32.7	+02.5	276 31.9	+02.4	277 31.0	+02.5	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 39.2	N 29 11.7
Ankaa	353 11.6	S 42 11.7
Schedir	349 35.8	N 56 38.3
Diphda	348 51.8	S 17 52.8
Achernar	335 23.8	S 57 08.1
Hamal	327 56.2	N 23 33.1
Polaris	316 11.6	N 89 20.4
Acamar	315 15.4	S 40 13.5
Menkar	314 10.9	N 04 09.8
Mirfak	308 34.7	N 49 55.5
Aldebaran	290 44.9	N 16 32.8
Capella	280 28.8	N 46 00.9
Rigel	281 08.4	S 08 10.8
Bellatrix	278 27.9	N 06 21.9
Elnath	278 07.7	N 28 37.3
Alnilam	275 42.5	S 01 11.5
Betelgeuze	270 57.1	N 07 24.5
Canopus	263 54.9	S 52 42.4
Sirius	258 30.3	S 16 44.2
Adhara	255 09.6	S 28 60.0
Castor	246 03.0	N 31 50.7
Procyon	244 55.5	N 05 10.8
Pollux	243 22.7	N 27 58.7
Avior	234 17.0	S 59 34.4
Suhail	222 49.8	S 43 30.8
Miaplacidus	221 39.5	S 69 48.0
Alphard	217 52.3	S 08 44.6
Regulus	207 39.3	N 11 52.4
Dubhe	193 46.9	N 61 39.1
Denebola	182 29.4	N 14 28.0

	SHA	Dec
	° ,	° ,
Gienah	175 48.1	S 17 39.0
Acrux	173 04.8	S 63 12.6
Gacrux	171 56.4	S 57 13.4
Alioth	166 17.2	N 55 51.7
Spica	158 26.8	S 11 15.7
Alkaid	152 55.5	N 49 13.4
Hadar	148 41.8	S 60 28.1
Menkent	148 02.3	S 36 27.7
Arcturus	145 51.5	N 19 05.8
Rigel Kentaurus	139 43.6	S 60 55.2
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 19.5	N 74 04.9
Alphecca	126 07.3	N 26 39.3
Antares	112 21.0	S 26 28.4
Atria	107 18.5	S 69 03.7
Sabik	102 07.5	S 15 44.8
Shaula	96 15.9	S 37 06.9
Rasalhague	96 02.3	N 12 33.0
Etamin	90 43.7	N 51 29.4
Kaus Australis	83 37.9	S 34 22.3
Vega	80 35.8	N 38 48.2
Nunki	75 52.8	S 26 16.2
Albireo	67 07.2	N 28 00.1
Altair	62 04.0	N 08 55.2
Peacock	53 12.2	S 56 40.1
Deneb	49 28.2	N 45 20.9
Enif	33 42.8	N 09 57.9
Alnair	27 38.2	S 46 51.8
Formalhaut	15 19.3	S 29 31.0
Markab	13 34.0	N 15 18.5

2019 - First Point of Aries / Selected Stars

UT	day 176 of 365 June 25 GHA	ddGHA	day 177 of 365 June 26 GHA	ddGHA	day 178 of 365 June 27 GHA	ddGHA	day 179 of 365 June 28 GHA	ddGHA	day 180 of 365 June 29 GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	272 50.7	+02.4	273 49.8	+02.5	274 49.0	+02.4	275 48.1	+02.5	276 47.2	+02.5	00
01	287 53.1	+02.5	288 52.3	+02.4	289 51.4	+02.5	290 50.6	+02.4	291 49.7	+02.5	01
02	302 55.6	+02.5	303 54.7	+02.5	304 53.9	+02.4	305 53.0	+02.5	306 52.2	+02.4	02
03	317 58.1	+02.4	318 57.2	+02.5	319 56.3	+02.5	320 55.5	+02.5	321 54.6	+02.5	03
04	333 00.5	+02.5	333 59.7	+02.4	334 58.8	+02.5	335 58.0	+02.4	336 57.1	+02.5	04
05	348 03.0	+02.5	349 02.1	+02.5	350 01.3	+02.4	351 00.4	+02.5	351 59.6	+02.4	05
06	3 05.5	+02.4	4 04.6	+02.5	5 03.7	+02.5	6 02.9	+02.4	7 02.0	+02.5	06
07	18 07.9	+02.5	19 07.1	+02.4	20 06.2	+02.5	21 05.3	+02.5	22 04.5	+02.4	07
08	33 10.4	+02.5	34 09.5	+02.5	35 08.7	+02.4	36 07.8	+02.5	37 06.9	+02.5	08
09	48 12.9	+02.4	49 12.0	+02.5	50 11.1	+02.5	51 10.3	+02.4	52 09.4	+02.5	09
10	63 15.3	+02.5	64 14.5	+02.4	65 13.6	+02.5	66 12.7	+02.5	67 11.9	+02.4	10
11	78 17.8	+02.4	79 16.9	+02.5	80 16.1	+02.4	81 15.2	+02.5	82 14.3	+02.5	11
12	93 20.2	+02.5	94 19.4	+02.5	95 18.5	+02.5	96 17.7	+02.4	97 16.8	+02.5	12
13	108 22.7	+02.5	109 21.9	+02.4	110 21.0	+02.5	111 20.1	+02.5	112 19.3	+02.4	13
14	123 25.2	+02.4	124 24.3	+02.5	125 23.5	+02.4	126 22.6	+02.5	127 21.7	+02.5	14
15	138 27.6	+02.5	139 26.8	+02.4	140 25.9	+02.5	141 25.1	+02.4	142 24.2	+02.5	15
16	153 30.1	+02.5	154 29.2	+02.5	155 28.4	+02.4	156 27.5	+02.5	157 26.7	+02.4	16
17	168 32.6	+02.4	169 31.7	+02.5	170 30.8	+02.5	171 30.0	+02.4	172 29.1	+02.5	17
18	183 35.0	+02.5	184 34.2	+02.4	185 33.3	+02.5	186 32.4	+02.5	187 31.6	+02.5	18
19	198 37.5	+02.5	199 36.6	+02.5	200 35.8	+02.4	201 34.9	+02.5	202 34.1	+02.4	19
20	213 40.0	+02.4	214 39.1	+02.5	215 38.2	+02.5	216 37.4	+02.4	217 36.5	+02.5	20
21	228 42.4	+02.5	229 41.6	+02.4	230 40.7	+02.5	231 39.8	+02.5	232 39.0	+02.4	21
22	243 44.9	+02.5	244 44.0	+02.5	245 43.2	+02.4	246 42.3	+02.5	247 41.4	+02.5	22
23	258 47.4	+02.4	259 46.5	+02.5	260 45.6	+02.5	261 44.8	+02.4	262 43.9	+02.5	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 39.3	N 29 11.7
Ankaa	353 11.8	S 42 11.8
Schedir	349 35.9	N 56 38.3
Diphda	348 51.9	S 17 52.8
Achernar	335 24.0	S 57 08.1
Hamal	327 56.3	N 23 33.0
Polaris	316 18.1	N 89 20.4
Acamar	315 15.5	S 40 13.6
Menkar	314 11.0	N 04 09.8
Mirfak	308 34.8	N 49 55.5
Aldebaran	290 45.0	N 16 32.8
Capella	280 28.9	N 46 01.0
Rigel	281 08.4	S 08 10.9
Bellatrix	278 27.9	N 06 21.9
Elnath	278 07.8	N 28 37.3
Alnilam	275 42.5	S 01 11.5
Betelgeuze	270 57.2	N 07 24.5
Canopus	263 54.9	S 52 42.5
Sirius	258 30.3	S 16 44.3
Adhara	255 09.7	S 29 00.0
Castor	246 03.0	N 31 50.7
Procyon	244 55.6	N 05 10.8
Pollux	243 22.8	N 27 58.8
Avior	234 16.9	S 59 34.5
Suhail	222 49.7	S 43 30.8
Miaplacidus	221 39.4	S 69 48.1
Alphard	217 52.3	S 08 44.6
Regulus	207 39.2	N 11 52.4
Dubhe	193 46.8	N 61 39.1
Denebola	182 29.4	N 14 28.0

	SHA	Dec
	° ,	° ,
Gienah	175 48.0	S 17 39.0
Acrux	173 04.6	S 63 12.6
Gacrux	171 56.3	S 57 13.4
Alioth	166 17.1	N 55 51.7
Spica	158 26.8	S 11 15.7
Alkaid	152 55.4	N 49 13.4
Hadar	148 41.7	S 60 28.1
Menkent	148 02.2	S 36 27.7
Arcturus	145 51.5	N 19 05.8
Rigel Kentaurus	139 43.5	S 60 55.1
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 19.3	N 74 04.9
Alphecca	126 07.3	N 26 39.2
Antares	112 21.0	S 26 28.4
Atria	107 18.4	S 69 03.7
Sabik	102 07.5	S 15 44.8
Shaula	96 15.9	S 37 06.9
Rasalhague	96 02.3	N 12 33.0
Etamin	90 43.7	N 51 29.3
Kaus Australis	83 37.9	S 34 22.3
Vega	80 35.8	N 38 48.1
Nunki	75 52.9	S 26 16.2
Albireo	67 07.2	N 28 00.1
Altair	62 04.1	N 08 55.1
Peacock	53 12.3	S 56 40.1
Deneb	49 28.3	N 45 20.9
Enif	33 42.9	N 09 57.8
Alnair	27 38.4	S 46 51.8
Formalhaut	15 19.4	S 29 31.0
Markab	13 34.2	N 15 18.5

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2019 - First Point of Aries / Selected Stars

UT	day 181 of 365 June 30 GHA	ddGHA	day 182 of 365 July 1 GHA	ddGHA	day 183 of 365 July 2 GHA	ddGHA	day 184 of 365 July 3 GHA	ddGHA	day 185 of 365 July 4 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	277 46.4	+02.4	278 45.5	+02.5	279 44.7	+02.4	280 43.8	+02.5	281 42.9	+02.5	00
01	292 48.8	+02.5	293 48.0	+02.4	294 47.1	+02.5	295 46.3	+02.4	296 45.4	+02.5	01
02	307 51.3	+02.5	308 50.4	+02.5	309 49.6	+02.4	310 48.7	+02.5	311 47.9	+02.4	02
03	322 53.8	+02.4	323 52.9	+02.5	324 52.0	+02.5	325 51.2	+02.5	326 50.3	+02.5	03
04	337 56.2	+02.5	338 55.4	+02.4	339 54.5	+02.5	340 53.7	+02.4	341 52.8	+02.5	04
05	352 58.7	+02.5	353 57.8	+02.5	354 57.0	+02.4	355 56.1	+02.5	356 55.3	+02.4	05
06	8 01.2	+02.4	9 00.3	+02.5	9 59.4	+02.5	10 58.6	+02.4	11 57.7	+02.5	06
07	23 03.6	+02.5	24 02.8	+02.4	25 01.9	+02.5	26 01.0	+02.5	27 00.2	+02.5	07
08	38 06.1	+02.5	39 05.2	+02.5	40 04.4	+02.4	41 03.5	+02.5	42 02.7	+02.4	08
09	53 08.6	+02.4	54 07.7	+02.5	55 06.8	+02.5	56 06.0	+02.4	57 05.1	+02.5	09
10	68 11.0	+02.5	69 10.2	+02.4	70 09.3	+02.5	71 08.4	+02.5	72 07.6	+02.4	10
11	83 13.5	+02.4	84 12.6	+02.5	85 11.8	+02.4	86 10.9	+02.5	87 10.0	+02.5	11
12	98 15.9	+02.5	99 15.1	+02.4	100 14.2	+02.5	101 13.4	+02.4	102 12.5	+02.5	12
13	113 18.4	+02.5	114 17.5	+02.5	115 16.7	+02.5	116 15.8	+02.5	117 15.0	+02.4	13
14	128 20.9	+02.4	129 20.0	+02.5	130 19.2	+02.4	131 18.3	+02.5	132 17.4	+02.5	14
15	143 23.3	+02.5	144 22.5	+02.4	145 21.6	+02.5	146 20.8	+02.4	147 19.9	+02.5	15
16	158 25.8	+02.5	159 24.9	+02.5	160 24.1	+02.4	161 23.2	+02.5	162 22.4	+02.4	16
17	173 28.3	+02.4	174 27.4	+02.5	175 26.5	+02.5	176 25.7	+02.5	177 24.8	+02.5	17
18	188 30.7	+02.5	189 29.9	+02.4	190 29.0	+02.5	191 28.2	+02.4	192 27.3	+02.5	18
19	203 33.2	+02.5	204 32.3	+02.5	205 31.5	+02.4	206 30.6	+02.5	207 29.8	+02.4	19
20	218 35.7	+02.4	219 34.8	+02.5	220 33.9	+02.5	221 33.1	+02.4	222 32.2	+02.5	20
21	233 38.1	+02.5	234 37.3	+02.4	235 36.4	+02.5	236 35.5	+02.5	237 34.7	+02.4	21
22	248 40.6	+02.4	249 39.7	+02.5	250 38.9	+02.4	251 38.0	+02.5	252 37.1	+02.5	22
23	263 43.0	+02.5	264 42.2	+02.5	265 41.3	+02.5	266 40.5	+02.4	267 39.6	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.2	N 29 11.7
Ankaa	353 11.7	S 42 11.8
Schedir	349 35.9	N 56 38.3
Diphda	348 51.8	S 17 52.8
Achernar	335 23.9	S 57 08.1
Hamal	327 56.3	N 23 33.0
Polaris	316 16.0	N 89 20.4
Acamar	315 15.5	S 40 13.6
Menkar	314 10.9	N 04 09.8
Mirfak	308 34.8	N 49 55.5
Aldebaran	290 45.0	N 16 32.8
Capella	280 28.9	N 46 00.9
Rigel	281 08.4	S 08 10.9
Bellatrix	278 27.9	N 06 21.9
Elnath	278 07.8	N 28 37.3
Alnilam	275 42.5	S 01 11.5
Betelgeuze	270 57.2	N 07 24.5
Canopus	263 54.9	S 52 42.5
Sirius	258 30.3	S 16 44.3
Adhara	255 09.7	S 29 00.0
Castor	246 03.0	N 31 50.7
Procyon	244 55.6	N 05 10.8
Pollux	243 22.8	N 27 58.7
Avior	234 16.9	S 59 34.5
Suhail	222 49.8	S 43 30.8
Miaplacidus	221 39.4	S 69 48.1
Alphard	217 52.3	S 08 44.6
Regulus	207 39.3	N 11 52.4
Dubhe	193 46.8	N 61 39.1
Denebola	182 29.4	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.0	S 17 39.0
Acrux	173 04.7	S 63 12.6
Gacrux	171 56.3	S 57 13.4
Alioth	166 17.1	N 55 51.7
Spica	158 26.8	S 11 15.7
Alkaid	152 55.4	N 49 13.4
Hadar	148 41.7	S 60 28.1
Menkent	148 02.3	S 36 27.7
Arcturus	145 51.5	N 19 05.8
Rigel Kentaurus	139 43.5	S 60 55.1
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 19.4	N 74 04.9
Alphecca	126 07.3	N 26 39.3
Antares	112 21.0	S 26 28.4
Atria	107 18.5	S 69 03.7
Sabik	102 07.5	S 15 44.8
Shaula	96 15.9	S 37 06.9
Rasalhague	96 02.3	N 12 33.0
Etamin	90 43.7	N 51 29.3
Kaus Australis	83 37.9	S 34 22.3
Vega	80 35.8	N 38 48.1
Nunki	75 52.8	S 26 16.2
Albireo	67 07.2	N 28 00.1
Altair	62 04.1	N 08 55.1
Peacock	53 12.2	S 56 40.1
Deneb	49 28.3	N 45 20.9
Enif	33 42.9	N 09 57.8
Alnair	27 38.3	S 46 51.8
Formalhaut	15 19.4	S 29 31.0
Markab	13 34.1	N 15 18.5

2019 - First Point of Aries / Selected Stars

UT	day 186 of 365 July 5 GHA	ddGHA	day 187 of 365 July 6 GHA	ddGHA	day 188 of 365 July 7 GHA	ddGHA	day 189 of 365 July 8 GHA	ddGHA	day 190 of 365 July 9 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	282 42.1	+02.4	283 41.2	+02.5	284 40.4	+02.4	285 39.5	+02.5	286 38.6	+02.5	00
01	297 44.5	+02.5	298 43.7	+02.4	299 42.8	+02.5	300 42.0	+02.4	301 41.1	+02.5	01
02	312 47.0	+02.5	313 46.1	+02.5	314 45.3	+02.4	315 44.4	+02.5	316 43.6	+02.4	02
03	327 49.5	+02.4	328 48.6	+02.5	329 47.7	+02.5	330 46.9	+02.4	331 46.0	+02.5	03
04	342 51.9	+02.5	343 51.1	+02.4	344 50.2	+02.5	345 49.3	+02.5	346 48.5	+02.5	04
05	357 54.4	+02.5	358 53.5	+02.5	359 52.7	+02.4	0 51.8	+02.5	1 51.0	+02.4	05
06	12 56.9	+02.4	13 56.0	+02.5	14 55.1	+02.5	15 54.3	+02.4	16 53.4	+02.5	06
07	27 59.3	+02.5	28 58.5	+02.4	29 57.6	+02.5	30 56.7	+02.5	31 55.9	+02.4	07
08	43 01.8	+02.5	44 00.9	+02.5	45 00.1	+02.4	45 59.2	+02.5	46 58.3	+02.5	08
09	58 04.3	+02.4	59 03.4	+02.5	60 02.5	+02.5	61 01.7	+02.4	62 00.8	+02.5	09
10	73 06.7	+02.5	74 05.9	+02.4	75 05.0	+02.5	76 04.1	+02.5	77 03.3	+02.4	10
11	88 09.2	+02.4	89 08.3	+02.5	90 07.5	+02.4	91 06.6	+02.5	92 05.7	+02.5	11
12	103 11.6	+02.5	104 10.8	+02.5	105 09.9	+02.5	106 09.1	+02.4	107 08.2	+02.5	12
13	118 14.1	+02.5	119 13.3	+02.4	120 12.4	+02.5	121 11.5	+02.5	122 10.7	+02.4	13
14	133 16.6	+02.4	134 15.7	+02.5	135 14.9	+02.4	136 14.0	+02.5	137 13.1	+02.5	14
15	148 19.0	+02.5	149 18.2	+02.4	150 17.3	+02.5	151 16.5	+02.4	152 15.6	+02.5	15
16	163 21.5	+02.5	164 20.6	+02.5	165 19.8	+02.4	166 18.9	+02.5	167 18.1	+02.4	16
17	178 24.0	+02.4	179 23.1	+02.5	180 22.2	+02.5	181 21.4	+02.4	182 20.5	+02.5	17
18	193 26.4	+02.5	194 25.6	+02.4	195 24.7	+02.5	196 23.8	+02.5	197 23.0	+02.4	18
19	208 28.9	+02.5	209 28.0	+02.5	210 27.2	+02.4	211 26.3	+02.5	212 25.4	+02.5	19
20	223 31.4	+02.4	224 30.5	+02.5	225 29.6	+02.5	226 28.8	+02.4	227 27.9	+02.5	20
21	238 33.8	+02.5	239 33.0	+02.4	240 32.1	+02.5	241 31.2	+02.5	242 30.4	+02.4	21
22	253 36.3	+02.5	254 35.4	+02.5	255 34.6	+02.4	256 33.7	+02.5	257 32.8	+02.5	22
23	268 38.8	+02.4	269 37.9	+02.5	270 37.0	+02.5	271 36.2	+02.4	272 35.3	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.2	N 29 11.7
Ankaa	353 11.7	S 42 11.8
Schedir	349 35.8	N 56 38.3
Diphda	348 51.8	S 17 52.8
Achernar	335 23.9	S 57 08.1
Hamal	327 56.3	N 23 33.1
Polaris	316 13.6	N 89 20.4
Acamar	315 15.4	S 40 13.6
Menkar	314 10.9	N 04 09.8
Mirfak	308 34.7	N 49 55.5
Aldebaran	290 44.9	N 16 32.8
Capella	280 28.8	N 46 00.9
Rigel	281 08.4	S 08 10.9
Bellatrix	278 27.9	N 06 21.9
Elnath	278 07.8	N 28 37.3
Alnilam	275 42.5	S 01 11.5
Betelgeuze	270 57.2	N 07 24.5
Canopus	263 54.9	S 52 42.4
Sirius	258 30.3	S 16 44.3
Adhara	255 09.7	S 28 60.0
Castor	246 03.0	N 31 50.7
Procyon	244 55.6	N 05 10.8
Pollux	243 22.8	N 27 58.7
Avior	234 17.0	S 59 34.5
Suhail	222 49.8	S 43 30.8
Miaplacidus	221 39.5	S 69 48.0
Alphard	217 52.3	S 08 44.6
Regulus	207 39.3	N 11 52.4
Dubhe	193 46.9	N 61 39.1
Denebola	182 29.4	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.0	S 17 39.0
Acrux	173 04.7	S 63 12.6
Gacrux	171 56.4	S 57 13.4
Alioth	166 17.1	N 55 51.7
Spica	158 26.8	S 11 15.7
Alkaid	152 55.4	N 49 13.4
Hadar	148 41.7	S 60 28.1
Menkent	148 02.3	S 36 27.7
Arcturus	145 51.5	N 19 05.8
Rigel Kentaurus	139 43.5	S 60 55.2
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 19.5	N 74 04.9
Alphecca	126 07.3	N 26 39.3
Antares	112 21.0	S 26 28.4
Atria	107 18.4	S 69 03.7
Sabik	102 07.5	S 15 44.8
Shaula	96 15.9	S 37 06.9
Rasalhague	96 02.3	N 12 33.0
Etamin	90 43.7	N 51 29.4
Kaus Australis	83 37.9	S 34 22.3
Vega	80 35.8	N 38 48.1
Nunki	75 52.8	S 26 16.2
Albireo	67 07.2	N 28 00.1
Altair	62 04.0	N 08 55.2
Peacock	53 12.2	S 56 40.1
Deneb	49 28.2	N 45 20.9
Enif	33 42.8	N 09 57.8
Alnair	27 38.3	S 46 51.8
Formalhaut	15 19.4	S 29 31.0
Markab	13 34.1	N 15 18.5

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2019 - First Point of Aries / Selected Stars

UT	day 211 of 365 July 30 GHA	ddGHA	day 212 of 365 July 31 GHA	ddGHA	day 213 of 365 August 1 GHA	ddGHA	day 214 of 365 August 2 GHA	ddGHA	day 215 of 365 August 3 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	307 20.6	+02.4	308 19.7	+02.5	309 18.8	+02.5	310 18.0	+02.4	311 17.1	+02.5	00
01	322 23.0	+02.5	323 22.2	+02.4	324 21.3	+02.5	325 20.4	+02.5	326 19.6	+02.4	01
02	337 25.5	+02.4	338 24.6	+02.5	339 23.8	+02.4	340 22.9	+02.5	341 22.0	+02.5	02
03	352 27.9	+02.5	353 27.1	+02.4	354 26.2	+02.5	355 25.4	+02.4	356 24.5	+02.5	03
04	7 30.4	+02.5	8 29.5	+02.5	9 28.7	+02.5	10 27.8	+02.5	11 27.0	+02.4	04
05	22 32.9	+02.4	23 32.0	+02.5	24 31.2	+02.4	25 30.3	+02.5	26 29.4	+02.5	05
06	37 35.3	+02.5	38 34.5	+02.4	39 33.6	+02.5	40 32.8	+02.4	41 31.9	+02.5	06
07	52 37.8	+02.5	53 36.9	+02.5	54 36.1	+02.4	55 35.2	+02.5	56 34.4	+02.4	07
08	67 40.3	+02.4	68 39.4	+02.5	69 38.5	+02.5	70 37.7	+02.5	71 36.8	+02.5	08
09	82 42.7	+02.5	83 41.9	+02.4	84 41.0	+02.5	85 40.2	+02.4	86 39.3	+02.5	09
10	97 45.2	+02.5	98 44.3	+02.5	99 43.5	+02.4	100 42.6	+02.5	101 41.8	+02.4	10
11	112 47.7	+02.4	113 46.8	+02.5	114 45.9	+02.5	115 45.1	+02.4	116 44.2	+02.5	11
12	127 50.1	+02.5	128 49.3	+02.4	129 48.4	+02.5	130 47.5	+02.5	131 46.7	+02.4	12
13	142 52.6	+02.5	143 51.7	+02.5	144 50.9	+02.4	145 50.0	+02.5	146 49.1	+02.5	13
14	157 55.1	+02.4	158 54.2	+02.5	159 53.3	+02.5	160 52.5	+02.4	161 51.6	+02.5	14
15	172 57.5	+02.5	173 56.7	+02.4	174 55.8	+02.5	175 54.9	+02.5	176 54.1	+02.4	15
16	187 60.0	+02.4	188 59.1	+02.5	189 58.3	+02.4	190 57.4	+02.5	191 56.5	+02.5	16
17	203 02.4	+02.5	204 01.6	+02.4	205 00.7	+02.5	205 59.9	+02.4	206 59.0	+02.5	17
18	218 04.9	+02.5	219 04.0	+02.5	220 03.2	+02.5	221 02.3	+02.5	222 01.5	+02.4	18
19	233 07.4	+02.4	234 06.5	+02.5	235 05.7	+02.4	236 04.8	+02.5	237 03.9	+02.5	19
20	248 09.8	+02.5	249 09.0	+02.4	250 08.1	+02.5	251 07.3	+02.4	252 06.4	+02.5	20
21	263 12.3	+02.5	264 11.4	+02.5	265 10.6	+02.4	266 09.7	+02.5	267 08.9	+02.4	21
22	278 14.8	+02.4	279 13.9	+02.5	280 13.0	+02.5	281 12.2	+02.4	282 11.3	+02.5	22
23	293 17.2	+02.5	294 16.4	+02.4	295 15.5	+02.5	296 14.6	+02.5	297 13.8	+02.4	23

	SHA ° ′	Dec ° ′
Alpheratz	357 39.0	N 29 11.8
Ankaa	353 11.4	S 42 11.7
Schedir	349 35.5	N 56 38.4
Diphda	348 51.6	S 17 52.7
Achernar	335 23.6	S 57 08.1
Hamal	327 56.1	N 23 33.1
Polaris	316 01.7	N 89 20.4
Acamar	315 15.2	S 40 13.5
Menkar	314 10.7	N 04 09.9
Mirfak	308 34.5	N 49 55.5
Aldebaran	290 44.8	N 16 32.8
Capella	280 28.6	N 46 00.9
Rigel	281 08.3	S 08 10.8
Bellatrix	278 27.7	N 06 22.0
Elnath	278 07.6	N 28 37.3
Alnilam	275 42.4	S 01 11.4
Betelgeuze	270 57.0	N 07 24.6
Canopus	263 54.8	S 52 42.3
Sirius	258 30.2	S 16 44.2
Adhara	255 09.6	S 28 59.9
Castor	246 02.9	N 31 50.7
Procyon	244 55.5	N 05 10.8
Pollux	243 22.7	N 27 58.7
Avior	234 17.0	S 59 34.3
Suhail	222 49.8	S 43 30.7
Miaplacidus	221 39.6	S 69 47.9
Alphard	217 52.3	S 08 44.6
Regulus	207 39.3	N 11 52.4
Dubhe	193 47.0	N 61 39.0
Denebola	182 29.5	N 14 28.0

	SHA ° ′	Dec ° ′
Gienah	175 48.1	S 17 38.9
Acrux	173 05.0	S 63 12.6
Gacrux	171 56.5	S 57 13.4
Alioth	166 17.3	N 55 51.6
Spica	158 26.9	S 11 15.6
Alkaid	152 55.6	N 49 13.4
Hadar	148 41.9	S 60 28.1
Menkent	148 02.4	S 36 27.7
Arcturus	145 51.6	N 19 05.8
Rigel Kentaurus	139 43.7	S 60 55.2
Zubenelgenubi	137 00.7	S 16 07.2
Kocab	137 19.9	N 74 05.0
Alphecca	126 07.4	N 26 39.3
Antares	112 21.0	S 26 28.4
Atria	107 18.6	S 69 03.8
Sabik	102 07.5	S 15 44.8
Shaula	96 15.9	S 37 07.0
Rasalhague	96 02.3	N 12 33.1
Etamin	90 43.8	N 51 29.5
Kaus Australis	83 37.9	S 34 22.4
Vega	80 35.8	N 38 48.3
Nunki	75 52.8	S 26 16.2
Albireo	67 07.1	N 28 00.2
Altair	62 04.0	N 08 55.2
Peacock	53 12.1	S 56 40.2
Deneb	49 28.2	N 45 21.1
Enif	33 42.7	N 09 57.9
Alnair	27 38.1	S 46 51.8
Formalhaut	15 19.2	S 29 30.9
Markab	13 33.9	N 15 18.6

2019 - First Point of Aries / Selected Stars

UT	day 196 of 365 July 15 GHA	ddGHA	day 197 of 365 July 16 GHA	ddGHA	day 198 of 365 July 17 GHA	ddGHA	day 199 of 365 July 18 GHA	ddGHA	day 200 of 365 July 19 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	292 33.5	+02.4	293 32.6	+02.5	294 31.7	+02.5	295 30.9	+02.5	296 30.0	+02.5	00
01	307 35.9	+02.5	308 35.1	+02.4	309 34.2	+02.5	310 33.4	+02.4	311 32.5	+02.5	01
02	322 38.4	+02.5	323 37.5	+02.5	324 36.7	+02.4	325 35.8	+02.5	326 35.0	+02.4	02
03	337 40.9	+02.4	338 40.0	+02.5	339 39.1	+02.5	340 38.3	+02.4	341 37.4	+02.5	03
04	352 43.3	+02.5	353 42.5	+02.4	354 41.6	+02.5	355 40.7	+02.5	356 39.9	+02.4	04
05	7 45.8	+02.5	8 44.9	+02.5	9 44.1	+02.4	10 43.2	+02.5	11 42.3	+02.5	05
06	22 48.3	+02.4	23 47.4	+02.5	24 46.5	+02.5	25 45.7	+02.4	26 44.8	+02.5	06
07	37 50.7	+02.5	38 49.9	+02.4	39 49.0	+02.5	40 48.1	+02.5	41 47.3	+02.4	07
08	52 53.2	+02.4	53 52.3	+02.5	54 51.5	+02.4	55 50.6	+02.5	56 49.7	+02.5	08
09	67 55.6	+02.5	68 54.8	+02.4	69 53.9	+02.5	70 53.1	+02.4	71 52.2	+02.5	09
10	82 58.1	+02.5	83 57.2	+02.5	84 56.4	+02.5	85 55.5	+02.5	86 54.7	+02.4	10
11	98 00.6	+02.4	98 59.7	+02.5	99 58.9	+02.4	100 58.0	+02.5	101 57.1	+02.5	11
12	113 03.0	+02.5	114 02.2	+02.4	115 01.3	+02.5	116 00.5	+02.4	116 59.6	+02.5	12
13	128 05.5	+02.5	129 04.6	+02.5	130 03.8	+02.4	131 02.9	+02.5	132 02.1	+02.4	13
14	143 08.0	+02.4	144 07.1	+02.5	145 06.2	+02.5	146 05.4	+02.4	147 04.5	+02.5	14
15	158 10.4	+02.5	159 09.6	+02.4	160 08.7	+02.5	161 07.8	+02.5	162 07.0	+02.5	15
16	173 12.9	+02.5	174 12.0	+02.5	175 11.2	+02.4	176 10.3	+02.5	177 09.5	+02.4	16
17	188 15.4	+02.4	189 14.5	+02.5	190 13.6	+02.5	191 12.8	+02.4	192 11.9	+02.5	17
18	203 17.8	+02.5	204 17.0	+02.4	205 16.1	+02.5	206 15.2	+02.5	207 14.4	+02.4	18
19	218 20.3	+02.5	219 19.4	+02.5	220 18.6	+02.4	221 17.7	+02.5	222 16.8	+02.5	19
20	233 22.8	+02.4	234 21.9	+02.5	235 21.0	+02.5	236 20.2	+02.4	237 19.3	+02.5	20
21	248 25.2	+02.5	249 24.4	+02.4	250 23.5	+02.5	251 22.6	+02.5	252 21.8	+02.4	21
22	263 27.7	+02.4	264 26.8	+02.5	265 26.0	+02.4	266 25.1	+02.5	267 24.2	+02.5	22
23	278 30.1	+02.5	279 29.3	+02.4	280 28.4	+02.5	281 27.6	+02.4	282 26.7	+02.5	23

	SHA ° ′	Dec ° ′
Alpheratz	357 39.1	N 29 11.7
Ankaa	353 11.6	S 42 11.7
Schedir	349 35.7	N 56 38.3
Diphda	348 51.7	S 17 52.8
Achernar	335 23.8	S 57 08.1
Hamal	327 56.2	N 23 33.1
Polaris	316 09.0	N 89 20.4
Acamar	315 15.3	S 40 13.5
Menkar	314 10.8	N 04 09.9
Mirfak	308 34.6	N 49 55.5
Aldebaran	290 44.9	N 16 32.8
Capella	280 28.7	N 46 00.9
Rigel	281 08.3	S 08 10.8
Bellatrix	278 27.8	N 06 21.9
Elnath	278 07.7	N 28 37.3
Alnilam	275 42.5	S 01 11.5
Betelgeuze	270 57.1	N 07 24.5
Canopus	263 54.8	S 52 42.4
Sirius	258 30.2	S 16 44.2
Adhara	255 09.6	S 28 59.9
Castor	246 03.0	N 31 50.7
Procyon	244 55.5	N 05 10.8
Pollux	243 22.7	N 27 58.7
Avior	234 17.0	S 59 34.4
Suhail	222 49.8	S 43 30.8
Miaplacidus	221 39.6	S 69 48.0
Alphard	217 52.3	S 08 44.6
Regulus	207 39.3	N 11 52.4
Dubhe	193 46.9	N 61 39.1
Denebola	182 29.4	N 14 28.0

	SHA ° ′	Dec ° ′
Gienah	175 48.1	S 17 39.0
Acrux	173 04.8	S 63 12.6
Gacrux	171 56.4	S 57 13.4
Alioth	166 17.2	N 55 51.7
Spica	158 26.9	S 11 15.7
Alkaid	152 55.5	N 49 13.4
Hadar	148 41.8	S 60 28.1
Menkent	148 02.3	S 36 27.7
Arcturus	145 51.5	N 19 05.8
Rigel Kentaurus	139 43.6	S 60 55.2
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 19.6	N 74 05.0
Alphecca	126 07.3	N 26 39.3
Antares	112 21.0	S 26 28.4
Atria	107 18.5	S 69 03.7
Sabik	102 07.5	S 15 44.8
Shaula	96 15.9	S 37 06.9
Rasalhague	96 02.3	N 12 33.0
Etamin	90 43.7	N 51 29.4
Kaus Australis	83 37.9	S 34 22.3
Vega	80 35.8	N 38 48.2
Nunki	75 52.8	S 26 16.2
Albireo	67 07.2	N 28 00.2
Altair	62 04.0	N 08 55.2
Peacock	53 12.1	S 56 40.1
Deneb	49 28.2	N 45 21.0
Enif	33 42.8	N 09 57.9
Alnair	27 38.2	S 46 51.8
Formalhaut	15 19.3	S 29 31.0
Markab	13 34.0	N 15 18.5

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2019 - First Point of Aries / Selected Stars

UT	day 201 of 365 July 20 GHA	ddGHA	day 202 of 365 July 21 GHA	ddGHA	day 203 of 365 July 22 GHA	ddGHA	day 204 of 365 July 23 GHA	ddGHA	day 205 of 365 July 24 GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	297 29.2	+02.4	298 28.3	+02.5	299 27.4	+02.5	300 26.6	+02.4	301 25.7	+02.5	00
01	312 31.6	+02.5	313 30.8	+02.4	314 29.9	+02.5	315 29.0	+02.5	316 28.2	+02.4	01
02	327 34.1	+02.5	328 33.2	+02.5	329 32.4	+02.4	330 31.5	+02.5	331 30.6	+02.5	02
03	342 36.6	+02.4	343 35.7	+02.5	344 34.8	+02.5	345 34.0	+02.4	346 33.1	+02.5	03
04	357 39.0	+02.5	358 38.2	+02.4	359 37.3	+02.5	0 36.4	+02.5	1 35.6	+02.4	04
05	12 41.5	+02.5	13 40.6	+02.5	14 39.8	+02.4	15 38.9	+02.5	16 38.0	+02.5	05
06	27 44.0	+02.4	28 43.1	+02.5	29 42.2	+02.5	30 41.4	+02.4	31 40.5	+02.5	06
07	42 46.4	+02.5	43 45.6	+02.4	44 44.7	+02.5	45 43.8	+02.5	46 43.0	+02.4	07
08	57 48.9	+02.4	58 48.0	+02.5	59 47.2	+02.4	60 46.3	+02.5	61 45.4	+02.5	08
09	72 51.3	+02.5	73 50.5	+02.4	74 49.6	+02.5	75 48.8	+02.4	76 47.9	+02.5	09
10	87 53.8	+02.5	88 52.9	+02.5	89 52.1	+02.4	90 51.2	+02.5	91 50.4	+02.4	10
11	102 56.3	+02.4	103 55.4	+02.5	104 54.5	+02.5	105 53.7	+02.4	106 52.8	+02.5	11
12	117 58.7	+02.5	118 57.9	+02.4	119 57.0	+02.5	120 56.1	+02.5	121 55.3	+02.4	12
13	133 01.2	+02.5	134 00.3	+02.5	134 59.5	+02.4	135 58.6	+02.5	136 57.7	+02.5	13
14	148 03.7	+02.4	149 02.8	+02.5	150 01.9	+02.5	151 01.1	+02.4	152 00.2	+02.5	14
15	163 06.1	+02.5	164 05.3	+02.4	165 04.4	+02.5	166 03.5	+02.5	167 02.7	+02.4	15
16	178 08.6	+02.5	179 07.7	+02.5	180 06.9	+02.4	181 06.0	+02.5	182 05.1	+02.5	16
17	193 11.1	+02.4	194 10.2	+02.5	195 09.3	+02.5	196 08.5	+02.4	197 07.6	+02.5	17
18	208 13.5	+02.5	209 12.7	+02.4	210 11.8	+02.5	211 10.9	+02.5	212 10.1	+02.4	18
19	223 16.0	+02.4	224 15.1	+02.5	225 14.3	+02.4	226 13.4	+02.5	227 12.5	+02.5	19
20	238 18.4	+02.5	239 17.6	+02.4	240 16.7	+02.5	241 15.9	+02.4	242 15.0	+02.5	20
21	253 20.9	+02.5	254 20.0	+02.5	255 19.2	+02.5	256 18.3	+02.5	257 17.5	+02.4	21
22	268 23.4	+02.4	269 22.5	+02.5	270 21.7	+02.4	271 20.8	+02.5	272 19.9	+02.5	22
23	283 25.8	+02.5	284 25.0	+02.4	285 24.1	+02.5	286 23.3	+02.4	287 22.4	+02.5	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 39.1	N 29 11.8
Ankaa	353 11.5	S 42 11.7
Schedir	349 35.6	N 56 38.3
Diphda	348 51.7	S 17 52.7
Achernar	335 23.7	S 57 08.1
Hamal	327 56.1	N 23 33.1
Polaris	316 06.7	N 89 20.4
Acamar	315 15.3	S 40 13.5
Menkar	314 10.8	N 04 09.9
Mirfak	308 34.6	N 49 55.5
Aldebaran	290 44.8	N 16 32.8
Capella	280 28.7	N 46 00.9
Rigel	281 08.3	S 08 10.8
Bellatrix	278 27.8	N 06 21.9
Elnath	278 07.7	N 28 37.3
Alnilam	275 42.4	S 01 11.4
Betelgeuze	270 57.1	N 07 24.5
Canopus	263 54.8	S 52 42.3
Sirius	258 30.2	S 16 44.2
Adhara	255 09.6	S 28 59.9
Castor	246 03.0	N 31 50.7
Procyon	244 55.5	N 05 10.8
Pollux	243 22.7	N 27 58.7
Avior	234 17.0	S 59 34.4
Suhail	222 49.8	S 43 30.7
Miaplacidus	221 39.6	S 69 48.0
Alphard	217 52.3	S 08 44.6
Regulus	207 39.3	N 11 52.4
Dubhe	193 46.9	N 61 39.1
Denebola	182 29.4	N 14 28.0

	SHA	Dec
	° ,	° ,
Gienah	175 48.1	S 17 39.0
Acrux	173 04.9	S 63 12.6
Gacrux	171 56.5	S 57 13.4
Alioth	166 17.2	N 55 51.7
Spica	158 26.9	S 11 15.6
Alkaid	152 55.5	N 49 13.4
Hadar	148 41.9	S 60 28.1
Menkent	148 02.3	S 36 27.7
Arcturus	145 51.5	N 19 05.8
Rigel Kentaurus	139 43.6	S 60 55.2
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 19.7	N 74 05.0
Alphecca	126 07.3	N 26 39.3
Antares	112 21.0	S 26 28.4
Atria	107 18.5	S 69 03.7
Sabik	102 07.5	S 15 44.8
Shaula	96 15.9	S 37 07.0
Rasalhague	96 02.3	N 12 33.1
Etamin	90 43.7	N 51 29.4
Kaus Australis	83 37.9	S 34 22.3
Vega	80 35.8	N 38 48.2
Nunki	75 52.8	S 26 16.2
Albireo	67 07.1	N 28 00.2
Altair	62 04.0	N 08 55.2
Peacock	53 12.1	S 56 40.1
Deneb	49 28.2	N 45 21.0
Enif	33 42.7	N 09 57.9
Alnair	27 38.2	S 46 51.8
Formalhaut	15 19.2	S 29 31.0
Markab	13 34.0	N 15 18.6

2019 - First Point of Aries / Selected Stars

UT	day 206 of 365 July 25 GHA	ddGHA	day 207 of 365 July 26 GHA	ddGHA	day 208 of 365 July 27 GHA	ddGHA	day 209 of 365 July 28 GHA	ddGHA	day 210 of 365 July 29 GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	302 24.9	+02.4	303 24.0	+02.5	304 23.1	+02.5	305 22.3	+02.4	306 21.4	+02.5	00
01	317 27.3	+02.5	318 26.5	+02.4	319 25.6	+02.5	320 24.7	+02.5	321 23.9	+02.4	01
02	332 29.8	+02.4	333 28.9	+02.5	334 28.1	+02.4	335 27.2	+02.5	336 26.3	+02.5	02
03	347 32.2	+02.5	348 31.4	+02.4	349 30.5	+02.5	350 29.7	+02.4	351 28.8	+02.5	03
04	2 34.7	+02.5	3 33.8	+02.5	4 33.0	+02.5	5 32.1	+02.5	6 31.3	+02.4	04
05	17 37.2	+02.4	18 36.3	+02.5	19 35.5	+02.4	20 34.6	+02.5	21 33.7	+02.5	05
06	32 39.6	+02.5	33 38.8	+02.4	34 37.9	+02.5	35 37.1	+02.4	36 36.2	+02.5	06
07	47 42.1	+02.5	48 41.2	+02.5	49 40.4	+02.4	50 39.5	+02.5	51 38.7	+02.4	07
08	62 44.6	+02.4	63 43.7	+02.5	64 42.8	+02.5	65 42.0	+02.4	66 41.1	+02.5	08
09	77 47.0	+02.5	78 46.2	+02.4	79 45.3	+02.5	80 44.4	+02.5	81 43.6	+02.5	09
10	92 49.5	+02.5	93 48.6	+02.5	94 47.8	+02.4	95 46.9	+02.5	96 46.1	+02.4	10
11	107 52.0	+02.4	108 51.1	+02.5	109 50.2	+02.5	110 49.4	+02.4	111 48.5	+02.5	11
12	122 54.4	+02.5	123 53.6	+02.4	124 52.7	+02.5	125 51.8	+02.5	126 51.0	+02.4	12
13	137 56.9	+02.5	138 56.0	+02.5	139 55.2	+02.4	140 54.3	+02.5	141 53.4	+02.5	13
14	152 59.4	+02.4	153 58.5	+02.5	154 57.6	+02.5	155 56.8	+02.4	156 55.9	+02.5	14
15	168 01.8	+02.5	169 01.0	+02.4	170 00.1	+02.5	170 59.2	+02.5	171 58.4	+02.4	15
16	183 04.3	+02.4	184 03.4	+02.5	185 02.6	+02.4	186 01.7	+02.5	187 00.8	+02.5	16
17	198 06.7	+02.5	199 05.9	+02.4	200 05.0	+02.5	201 04.2	+02.4	202 03.3	+02.5	17
18	213 09.2	+02.5	214 08.3	+02.5	215 07.5	+02.5	216 06.6	+02.5	217 05.8	+02.4	18
19	228 11.7	+02.4	229 10.8	+02.5	230 10.0	+02.4	231 09.1	+02.5	232 08.2	+02.5	19
20	243 14.1	+02.5	244 13.3	+02.4	245 12.4	+02.5	246 11.6	+02.4	247 10.7	+02.5	20
21	258 16.6	+02.5	259 15.7	+02.5	260 14.9	+02.4	261 14.0	+02.5	262 13.2	+02.4	21
22	273 19.1	+02.4	274 18.2	+02.5	275 17.3	+02.5	276 16.5	+02.4	277 15.6	+02.5	22
23	288 21.5	+02.5	289 20.7	+02.4	290 19.8	+02.5	291 18.9	+02.5	292 18.1	+02.5	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 39.0	N 29 11.8
Ankaa	353 11.5	S 42 11.7
Schedir	349 35.6	N 56 38.3
Diphda	348 51.6	S 17 52.7
Achernar	335 23.6	S 57 08.1
Hamal	327 56.1	N 23 33.1
Polaris	316 04.5	N 89 20.4
Acamar	315 15.2	S 40 13.5
Menkar	314 10.8	N 04 09.9
Mirfak	308 34.5	N 49 55.5
Aldebaran	290 44.8	N 16 32.8
Capella	280 28.7	N 46 00.9
Rigel	281 08.3	S 08 10.8
Bellatrix	278 27.8	N 06 21.9
Elnath	278 07.6	N 28 37.3
Alnilam	275 42.4	S 01 11.4
Betelgeuze	270 57.1	N 07 24.5
Canopus	263 54.8	S 52 42.3
Sirius	258 30.2	S 16 44.2
Adhara	255 09.6	S 28 59.9
Castor	246 03.0	N 31 50.7
Procyon	244 55.5	N 05 10.8
Pollux	243 22.7	N 27 58.7
Avior	234 17.0	S 59 34.4
Suhail	222 49.8	S 43 30.7
Miaplacidus	221 39.6	S 69 47.9
Alphard	217 52.3	S 08 44.6
Regulus	207 39.3	N 11 52.4
Dubhe	193 47.0	N 61 39.0
Denebola	182 29.5	N 14 28.0

	SHA	Dec
	° ,	° ,
Gienah	175 48.1	S 17 38.9
Acrux	173 04.9	S 63 12.6
Gacrux	171 56.5	S 57 13.4
Alioth	166 17.3	N 55 51.7
Spica	158 26.9	S 11 15.6
Alkaid	152 55.6	N 49 13.4
Hadar	148 41.9	S 60 28.1
Menkent	148 02.4	S 36 27.7
Arcturus	145 51.6	N 19 05.8
Rigel Kentaurus	139 43.7	S 60 55.2
Zubenelgenubi	137 00.7	S 16 07.2
Kocab	137 19.8	N 74 05.0
Alphecca	126 07.4	N 26 39.3
Antares	112 21.0	S 26 28.4
Atria	107 18.6	S 69 03.8
Sabik	102 07.5	S 15 44.8
Shaula	96 15.9	S 37 07.0
Rasalhague	96 02.3	N 12 33.1
Etamin	90 43.7	N 51 29.5
Kaus Australis	83 37.9	S 34 22.4
Vega	80 35.8	N 38 48.2
Nunki	75 52.8	S 26 16.2
Albireo	67 07.1	N 28 00.2
Altair	62 04.0	N 08 55.2
Peacock	53 12.1	S 56 40.2
Deneb	49 28.2	N 45 21.0
Enif	33 42.7	N 09 57.9
Alnair	27 38.1	S 46 51.8
Formalhaut	15 19.2	S 29 30.9
Markab	13 34.0	N 15 18.6

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2019 - First Point of Aries / Selected Stars

UT	day 231 of 365 **August 19** GHA	ddGHA	day 232 of 365 **August 20** GHA	ddGHA	day 233 of 365 **August 21** GHA	ddGHA	day 234 of 365 **August 22** GHA	ddGHA	day 235 of 365 **August 23** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	327 03.3	+02.5	328 02.5	+02.4	329 01.6	+02.5	330 00.7	+02.5	330 59.9	+02.4	00
01	342 05.8	+02.5	343 04.9	+02.5	344 04.1	+02.4	345 03.2	+02.5	346 02.3	+02.5	01
02	357 08.3	+02.4	358 07.4	+02.5	359 06.5	+02.5	0 05.7	+02.4	1 04.8	+02.5	02
03	12 10.7	+02.5	13 09.9	+02.4	14 09.0	+02.5	15 08.1	+02.5	16 07.3	+02.4	03
04	27 13.2	+02.4	28 12.3	+02.5	29 11.5	+02.4	30 10.6	+02.5	31 09.7	+02.5	04
05	42 15.6	+02.5	43 14.8	+02.4	44 13.9	+02.5	45 13.1	+02.4	46 12.2	+02.5	05
06	57 18.1	+02.5	58 17.2	+02.5	59 16.4	+02.4	60 15.5	+02.5	61 14.7	+02.4	06
07	72 20.6	+02.4	73 19.7	+02.5	74 18.8	+02.5	75 18.0	+02.5	76 17.1	+02.5	07
08	87 23.0	+02.5	88 22.2	+02.4	89 21.3	+02.5	90 20.5	+02.4	91 19.6	+02.5	08
09	102 25.5	+02.5	103 24.6	+02.5	104 23.8	+02.4	105 22.9	+02.5	106 22.1	+02.4	09
10	117 28.0	+02.4	118 27.1	+02.5	119 26.2	+02.5	120 25.4	+02.4	121 24.5	+02.5	10
11	132 30.4	+02.5	133 29.6	+02.4	134 28.7	+02.5	135 27.8	+02.5	136 27.0	+02.4	11
12	147 32.9	+02.5	148 32.0	+02.5	149 31.2	+02.4	150 30.3	+02.5	151 29.4	+02.5	12
13	162 35.4	+02.4	163 34.5	+02.5	164 33.6	+02.5	165 32.8	+02.4	166 31.9	+02.5	13
14	177 37.8	+02.5	178 37.0	+02.4	179 36.1	+02.5	180 35.2	+02.5	181 34.4	+02.4	14
15	192 40.3	+02.5	193 39.4	+02.5	194 38.6	+02.4	195 37.7	+02.5	196 36.8	+02.5	15
16	207 42.8	+02.4	208 41.9	+02.5	209 41.0	+02.5	210 40.2	+02.4	211 39.3	+02.5	16
17	222 45.2	+02.5	223 44.4	+02.4	224 43.5	+02.5	225 42.6	+02.5	226 41.8	+02.4	17
18	237 47.7	+02.4	238 46.8	+02.5	239 46.0	+02.4	240 45.1	+02.5	241 44.2	+02.5	18
19	252 50.1	+02.5	253 49.3	+02.4	254 48.4	+02.5	255 47.6	+02.4	256 46.7	+02.5	19
20	267 52.6	+02.5	268 51.7	+02.5	269 50.9	+02.4	270 50.0	+02.5	271 49.2	+02.4	20
21	282 55.1	+02.4	283 54.2	+02.5	284 53.3	+02.5	285 52.5	+02.4	286 51.6	+02.5	21
22	297 57.5	+02.5	298 56.7	+02.4	299 55.8	+02.5	300 54.9	+02.5	301 54.1	+02.5	22
23	312 60.0	+02.5	313 59.1	+02.5	314 58.3	+02.4	315 57.4	+02.5	316 56.6	+02.4	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.9	N 29 11.9
Ankaa	353 11.3	S 42 11.7
Schedir	349 35.3	N 56 38.5
Diphda	348 51.5	S 17 52.7
Achernar	335 23.3	S 57 08.1
Hamal	327 55.9	N 23 33.2
Polaris	315 51.9	N 89 20.4
Acamar	315 15.0	S 40 13.4
Menkar	314 10.6	N 04 10.0
Mirfak	308 34.3	N 49 55.5
Aldebaran	290 44.6	N 16 32.8
Capella	280 28.4	N 46 00.9
Rigel	281 08.1	S 08 10.7
Bellatrix	278 27.6	N 06 22.0
Elnath	278 07.5	N 28 37.3
Alnilam	275 42.2	S 01 11.4
Betelgeuze	270 56.9	N 07 24.6
Canopus	263 54.6	S 52 42.2
Sirius	258 30.1	S 16 44.1
Adhara	255 09.5	S 28 59.8
Castor	246 02.8	N 31 50.7
Procyon	244 55.4	N 05 10.8
Pollux	243 22.6	N 27 58.7
Avior	234 16.9	S 59 34.2
Suhail	222 49.8	S 43 30.6
Miaplacidus	221 39.6	S 69 47.8
Alphard	217 52.3	S 08 44.5
Regulus	207 39.3	N 11 52.4
Dubhe	193 47.0	N 61 38.9
Denebola	182 29.5	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.2	S 17 38.9
Acrux	173 05.1	S 63 12.5
Gacrux	171 56.7	S 57 13.3
Alioth	166 17.4	N 55 51.6
Spica	158 27.0	S 11 15.6
Alkaid	152 55.7	N 49 13.4
Hadar	148 42.1	S 60 28.1
Menkent	148 02.5	S 36 27.7
Arcturus	145 51.7	N 19 05.8
Rigel Kentaurus	139 43.9	S 60 55.2
Zubenelgenubi	137 00.8	S 16 07.2
Kocab	137 20.3	N 74 04.9
Alphecca	126 07.5	N 26 39.3
Antares	112 21.1	S 26 28.4
Atria	107 18.8	S 69 03.8
Sabik	102 07.6	S 15 44.8
Shaula	96 16.0	S 37 07.0
Rasalhague	96 02.4	N 12 33.1
Etamin	90 43.9	N 51 29.6
Kaus Australis	83 37.9	S 34 22.4
Vega	80 35.9	N 38 48.3
Nunki	75 52.8	S 26 16.2
Albireo	67 07.2	N 28 00.3
Altair	62 04.0	N 08 55.3
Peacock	53 12.0	S 56 40.2
Deneb	49 28.2	N 45 21.2
Enif	33 42.7	N 09 58.0
Alnair	27 38.0	S 46 51.8
Formalhaut	15 19.1	S 29 31.0
Markab	13 33.8	N 15 18.7

2019 - First Point of Aries / Selected Stars

UT	day 216 of 365 **August 4** GHA	ddGHA	day 217 of 365 **August 5** GHA	ddGHA	day 218 of 365 **August 6** GHA	ddGHA	day 219 of 365 **August 7** GHA	ddGHA	day 220 of 365 **August 8** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	312 16.2	+02.5	313 15.4	+02.5	314 14.5	+02.5	315 13.7	+02.4	316 12.8	+02.5	00
01	327 18.7	+02.5	328 17.9	+02.4	329 17.0	+02.5	330 16.1	+02.5	331 15.3	+02.4	01
02	342 21.2	+02.4	343 20.3	+02.5	344 19.5	+02.4	345 18.6	+02.5	346 17.7	+02.5	02
03	357 23.6	+02.5	358 22.8	+02.4	359 21.9	+02.5	0 21.1	+02.4	1 20.2	+02.5	03
04	12 26.1	+02.5	13 25.2	+02.5	14 24.4	+02.4	15 23.5	+02.5	16 22.7	+02.4	04
05	27 28.6	+02.4	28 27.7	+02.5	29 26.8	+02.5	30 26.0	+02.4	31 25.1	+02.5	05
06	42 31.0	+02.5	43 30.2	+02.4	44 29.3	+02.5	45 28.4	+02.5	46 27.6	+02.4	06
07	57 33.5	+02.5	58 32.6	+02.5	59 31.8	+02.4	60 30.9	+02.5	61 30.0	+02.5	07
08	72 36.0	+02.4	73 35.1	+02.5	74 34.2	+02.5	75 33.4	+02.4	76 32.5	+02.5	08
09	87 38.4	+02.5	88 37.6	+02.4	89 36.7	+02.5	90 35.8	+02.5	91 35.0	+02.4	09
10	102 40.9	+02.5	103 40.0	+02.5	104 39.2	+02.4	105 38.3	+02.5	106 37.4	+02.5	10
11	117 43.4	+02.4	118 42.5	+02.5	119 41.6	+02.5	120 40.8	+02.4	121 39.9	+02.5	11
12	132 45.8	+02.5	133 45.0	+02.4	134 44.1	+02.5	135 43.2	+02.5	136 42.4	+02.4	12
13	147 48.3	+02.4	148 47.4	+02.5	149 46.6	+02.4	150 45.7	+02.5	151 44.8	+02.5	13
14	162 50.7	+02.5	163 49.9	+02.4	164 49.0	+02.5	165 48.2	+02.4	166 47.3	+02.5	14
15	177 53.2	+02.5	178 52.3	+02.5	179 51.5	+02.4	180 50.6	+02.5	181 49.8	+02.4	15
16	192 55.7	+02.4	193 54.8	+02.5	194 53.9	+02.5	195 53.1	+02.5	196 52.2	+02.5	16
17	207 58.1	+02.5	208 57.3	+02.4	209 56.4	+02.5	210 55.6	+02.4	211 54.7	+02.5	17
18	223 00.6	+02.5	223 59.7	+02.5	224 58.9	+02.4	225 58.0	+02.5	226 57.2	+02.4	18
19	238 03.1	+02.4	239 02.2	+02.5	240 01.3	+02.5	241 00.5	+02.4	241 59.6	+02.5	19
20	253 05.5	+02.5	254 04.7	+02.4	255 03.8	+02.5	256 02.9	+02.5	257 02.1	+02.4	20
21	268 08.0	+02.5	269 07.1	+02.5	270 06.3	+02.4	271 05.4	+02.5	272 04.5	+02.5	21
22	283 10.5	+02.4	284 09.6	+02.5	285 08.7	+02.5	286 07.9	+02.4	287 07.0	+02.5	22
23	298 12.9	+02.5	299 12.1	+02.4	300 11.2	+02.5	301 10.3	+02.5	302 09.5	+02.4	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 39.0	N 29 11.8
Ankaa	353 11.4	S 42 11.7
Schedir	349 35.5	N 56 38.4
Diphda	348 51.6	S 17 52.7
Achernar	335 23.5	S 57 08.0
Hamal	327 56.0	N 23 33.1
Polaris	315 59.3	N 89 20.4
Acamar	315 15.2	S 40 13.5
Menkar	314 10.7	N 04 09.9
Mirfak	308 34.4	N 49 55.5
Aldebaran	290 44.7	N 16 32.8
Capella	280 28.6	N 46 00.9
Rigel	281 08.2	S 08 10.8
Bellatrix	278 27.7	N 06 22.0
Elnath	278 07.6	N 28 37.3
Alnilam	275 42.3	S 01 11.4
Betelgeuze	270 57.0	N 07 24.6
Canopus	263 54.7	S 52 42.3
Sirius	258 30.2	S 16 44.2
Adhara	255 09.6	S 28 59.9
Castor	246 02.9	N 31 50.7
Procyon	244 55.5	N 05 10.8
Pollux	243 22.7	N 27 58.7
Avior	234 17.0	S 59 34.3
Suhail	222 49.8	S 43 30.7
Miaplacidus	221 39.6	S 69 47.9
Alphard	217 52.3	S 08 44.5
Regulus	207 39.3	N 11 52.4
Dubhe	193 47.0	N 61 39.0
Denebola	182 29.5	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.1	S 17 38.9
Acrux	173 05.0	S 63 12.5
Gacrux	171 56.6	S 57 13.4
Alioth	166 17.3	N 55 51.6
Spica	158 26.9	S 11 15.6
Alkaid	152 55.6	N 49 13.4
Hadar	148 42.0	S 60 28.1
Menkent	148 02.4	S 36 27.7
Arcturus	145 51.6	N 19 05.8
Rigel Kentaurus	139 43.7	S 60 55.2
Zubenelgenubi	137 00.7	S 16 07.2
Kocab	137 20.0	N 74 05.0
Alphecca	126 07.4	N 26 39.3
Antares	112 21.0	S 26 28.4
Atria	107 18.6	S 69 03.8
Sabik	102 07.5	S 15 44.8
Shaula	96 15.9	S 37 07.0
Rasalhague	96 02.3	N 12 33.1
Etamin	90 43.8	N 51 29.5
Kaus Australis	83 37.9	S 34 22.4
Vega	80 35.8	N 38 48.3
Nunki	75 52.8	S 26 16.2
Albireo	67 07.1	N 28 00.2
Altair	62 04.0	N 08 55.2
Peacock	53 12.0	S 56 40.2
Deneb	49 28.2	N 45 21.1
Enif	33 42.7	N 09 57.9
Alnair	27 38.1	S 46 51.8
Formalhaut	15 19.1	S 29 30.9
Markab	13 33.9	N 15 18.6

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2019 - First Point of Aries / Selected Stars

UT	day 221 of 365 **August 9** GHA	ddGHA	day 222 of 365 **August 10** GHA	ddGHA	day 223 of 365 **August 11** GHA	ddGHA	day 224 of 365 **August 12** GHA	ddGHA	day 225 of 365 **August 13** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	317 11.9	+02.5	318 11.1	+02.4	319 10.2	+02.5	320 09.4	+02.4	321 08.5	+02.5	00
01	332 14.4	+02.5	333 13.5	+02.5	334 12.7	+02.4	335 11.8	+02.5	336 11.0	+02.4	01
02	347 16.9	+02.4	348 16.0	+02.5	349 15.1	+02.5	350 14.3	+02.5	351 13.4	+02.5	02
03	2 19.3	+02.5	3 18.5	+02.4	4 17.6	+02.5	5 16.8	+02.4	6 15.9	+02.5	03
04	17 21.8	+02.5	18 20.9	+02.5	19 20.1	+02.4	20 19.2	+02.5	21 18.4	+02.4	04
05	32 24.3	+02.4	33 23.4	+02.5	34 22.5	+02.5	35 21.7	+02.4	36 20.8	+02.5	05
06	47 26.7	+02.5	48 25.9	+02.4	49 25.0	+02.5	50 24.1	+02.5	51 23.3	+02.4	06
07	62 29.2	+02.5	63 28.3	+02.5	64 27.5	+02.4	65 26.6	+02.5	66 25.7	+02.5	07
08	77 31.7	+02.4	78 30.8	+02.5	79 29.9	+02.5	80 29.1	+02.4	81 28.2	+02.5	08
09	92 34.1	+02.5	93 33.3	+02.4	94 32.4	+02.5	95 31.5	+02.5	96 30.7	+02.4	09
10	107 36.6	+02.4	108 35.7	+02.5	109 34.9	+02.4	110 34.0	+02.5	111 33.1	+02.5	10
11	122 39.0	+02.5	123 38.2	+02.4	124 37.3	+02.5	125 36.5	+02.4	126 35.6	+02.5	11
12	137 41.5	+02.5	138 40.6	+02.5	139 39.8	+02.5	140 38.9	+02.5	141 38.1	+02.4	12
13	152 44.0	+02.4	153 43.1	+02.5	154 42.3	+02.4	155 41.4	+02.5	156 40.5	+02.5	13
14	167 46.4	+02.5	168 45.6	+02.4	169 44.7	+02.5	170 43.9	+02.4	171 43.0	+02.5	14
15	182 48.9	+02.5	183 48.0	+02.5	184 47.2	+02.4	185 46.3	+02.5	186 45.5	+02.4	15
16	197 51.4	+02.4	198 50.5	+02.5	199 49.6	+02.5	200 48.8	+02.4	201 47.9	+02.5	16
17	212 53.8	+02.5	213 53.0	+02.4	214 52.1	+02.5	215 51.2	+02.5	216 50.4	+02.5	17
18	227 56.3	+02.5	228 55.4	+02.5	229 54.6	+02.4	230 53.7	+02.5	231 52.9	+02.4	18
19	242 58.8	+02.4	243 57.9	+02.5	244 57.0	+02.5	245 56.2	+02.4	246 55.3	+02.5	19
20	258 01.2	+02.5	259 00.4	+02.4	259 59.5	+02.5	260 58.6	+02.5	261 57.8	+02.4	20
21	273 03.7	+02.5	274 02.8	+02.5	275 02.0	+02.4	276 01.1	+02.5	277 00.2	+02.5	21
22	288 06.2	+02.4	289 05.3	+02.5	290 04.4	+02.5	291 03.6	+02.4	292 02.7	+02.5	22
23	303 08.6	+02.5	304 07.8	+02.4	305 06.9	+02.5	306 06.0	+02.5	307 05.2	+02.4	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.9	N 29 11.8
Ankaa	353 11.3	S 42 11.7
Schedir	349 35.4	N 56 38.4
Diphda	348 51.5	S 17 52.7
Achernar	335 23.5	S 57 08.1
Hamal	327 56.0	N 23 33.2
Polaris	315 56.8	N 89 20.4
Acamar	315 15.1	S 40 13.4
Menkar	314 10.7	N 04 09.9
Mirfak	308 34.4	N 49 55.5
Aldebaran	290 44.7	N 16 32.8
Capella	280 28.5	N 46 00.9
Rigel	281 08.2	S 08 10.7
Bellatrix	278 27.7	N 06 22.0
Elnath	278 07.5	N 28 37.3
Alnilam	275 42.3	S 01 11.4
Betelgeuze	270 57.0	N 07 24.6
Canopus	263 54.7	S 52 42.2
Sirius	258 30.1	S 16 44.1
Adhara	255 09.5	S 28 59.8
Castor	246 02.9	N 31 50.7
Procyon	244 55.5	N 05 10.8
Pollux	243 22.6	N 27 58.7
Avior	234 17.0	S 59 34.3
Suhail	222 49.8	S 43 30.6
Miaplacidus	221 39.6	S 69 47.9
Alphard	217 52.3	S 08 44.5
Regulus	207 39.3	N 11 52.4
Dubhe	193 47.0	N 61 39.0
Denebola	182 29.5	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.1	S 17 38.9
Acrux	173 05.0	S 63 12.5
Gacrux	171 56.6	S 57 13.3
Alioth	166 17.4	N 55 51.6
Spica	158 26.9	S 11 15.6
Alkaid	152 55.7	N 49 13.4
Hadar	148 42.0	S 60 28.1
Menkent	148 02.4	S 36 27.7
Arcturus	145 51.6	N 19 05.8
Rigel Kentaurus	139 43.8	S 60 55.2
Zubenelgenubi	137 00.7	S 16 07.2
Kocab	137 20.1	N 74 05.0
Alphecca	126 07.4	N 26 39.3
Antares	112 21.1	S 26 28.4
Atria	107 18.7	S 69 03.8
Sabik	102 07.5	S 15 44.8
Shaula	96 15.9	S 37 07.0
Rasalhague	96 02.4	N 12 33.1
Etamin	90 43.8	N 51 29.5
Kaus Australis	83 37.9	S 34 22.4
Vega	80 35.8	N 38 48.3
Nunki	75 52.8	S 26 16.2
Albireo	67 07.2	N 28 00.3
Altair	62 04.0	N 08 55.3
Peacock	53 12.0	S 56 40.2
Deneb	49 28.2	N 45 21.1
Enif	33 42.7	N 09 58.0
Alnair	27 38.0	S 46 51.8
Formalhaut	15 19.1	S 29 30.9
Markab	13 33.9	N 15 18.6

2019 - First Point of Aries / Selected Stars

UT	day 226 of 365 **August 14** GHA	ddGHA	day 227 of 365 **August 15** GHA	ddGHA	day 228 of 365 **August 16** GHA	ddGHA	day 229 of 365 **August 17** GHA	ddGHA	day 230 of 365 **August 18** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	322 07.6	+02.5	323 06.8	+02.4	324 05.9	+02.5	325 05.1	+02.4	326 04.2	+02.5	00
01	337 10.1	+02.5	338 09.2	+02.5	339 08.4	+02.4	340 07.5	+02.5	341 06.7	+02.4	01
02	352 12.6	+02.4	353 11.7	+02.5	354 10.8	+02.5	355 10.0	+02.4	356 09.1	+02.5	02
03	7 15.0	+02.5	8 14.2	+02.4	9 13.3	+02.5	10 12.4	+02.5	11 11.6	+02.4	03
04	22 17.5	+02.5	23 16.6	+02.5	24 15.8	+02.4	25 14.9	+02.5	26 14.0	+02.5	04
05	37 20.0	+02.4	38 19.1	+02.5	39 18.2	+02.5	40 17.4	+02.4	41 16.5	+02.5	05
06	52 22.4	+02.5	53 21.6	+02.4	54 20.7	+02.5	55 19.8	+02.5	56 19.0	+02.4	06
07	67 24.9	+02.5	68 24.0	+02.5	69 23.2	+02.4	70 22.3	+02.5	71 21.4	+02.5	07
08	82 27.4	+02.4	83 26.5	+02.5	84 25.6	+02.5	85 24.8	+02.4	86 23.9	+02.5	08
09	97 29.8	+02.5	98 29.0	+02.4	99 28.1	+02.5	100 27.2	+02.5	101 26.4	+02.4	09
10	112 32.3	+02.4	113 31.4	+02.5	114 30.6	+02.4	115 29.7	+02.5	116 28.8	+02.5	10
11	127 34.7	+02.5	128 33.9	+02.4	129 33.0	+02.5	130 32.2	+02.4	131 31.3	+02.5	11
12	142 37.2	+02.5	143 36.3	+02.5	144 35.5	+02.4	145 34.6	+02.5	146 33.8	+02.4	12
13	157 39.7	+02.4	158 38.8	+02.5	159 37.9	+02.5	160 37.1	+02.4	161 36.2	+02.5	13
14	172 42.1	+02.5	173 41.3	+02.4	174 40.4	+02.5	175 39.5	+02.5	176 38.7	+02.5	14
15	187 44.6	+02.5	188 43.7	+02.5	189 42.9	+02.4	190 42.0	+02.5	191 41.2	+02.4	15
16	202 47.1	+02.4	203 46.2	+02.5	204 45.3	+02.5	205 44.5	+02.4	206 43.6	+02.5	16
17	217 49.5	+02.5	218 48.7	+02.4	219 47.8	+02.5	220 46.9	+02.5	221 46.1	+02.4	17
18	232 52.0	+02.5	233 51.1	+02.5	234 50.3	+02.4	235 49.4	+02.5	236 48.5	+02.5	18
19	247 54.5	+02.4	248 53.6	+02.5	249 52.7	+02.5	250 51.9	+02.4	251 51.0	+02.5	19
20	262 56.9	+02.5	263 56.1	+02.4	264 55.2	+02.5	265 54.3	+02.5	266 53.5	+02.4	20
21	277 59.4	+02.4	278 58.5	+02.5	279 57.7	+02.4	280 56.8	+02.5	281 55.9	+02.5	21
22	293 01.8	+02.5	294 01.0	+02.5	295 00.1	+02.5	295 59.3	+02.4	296 58.4	+02.5	22
23	308 04.3	+02.5	309 03.5	+02.4	310 02.6	+02.5	311 01.7	+02.5	312 00.9	+02.4	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.9	N 29 11.9
Ankaa	353 11.3	S 42 11.7
Schedir	349 35.4	N 56 38.4
Diphda	348 51.5	S 17 52.7
Achernar	335 23.4	S 57 08.1
Hamal	327 55.9	N 23 33.2
Polaris	315 54.2	N 89 20.4
Acamar	315 15.1	S 40 13.4
Menkar	314 10.6	N 04 09.9
Mirfak	308 34.3	N 49 55.5
Aldebaran	290 44.7	N 16 32.8
Capella	280 28.5	N 46 00.9
Rigel	281 08.2	S 08 10.7
Bellatrix	278 27.6	N 06 22.0
Elnath	278 07.5	N 28 37.3
Alnilam	275 42.3	S 01 11.4
Betelgeuze	270 56.9	N 07 24.6
Canopus	263 54.7	S 52 42.2
Sirius	258 30.1	S 16 44.1
Adhara	255 09.5	S 28 59.8
Castor	246 02.8	N 31 50.7
Procyon	244 55.4	N 05 10.8
Pollux	243 22.6	N 27 58.7
Avior	234 16.9	S 59 34.3
Suhail	222 49.8	S 43 30.6
Miaplacidus	221 39.6	S 69 47.8
Alphard	217 52.3	S 08 44.5
Regulus	207 39.3	N 11 52.4
Dubhe	193 47.0	N 61 39.0
Denebola	182 29.5	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.1	S 17 38.9
Acrux	173 05.1	S 63 12.5
Gacrux	171 56.6	S 57 13.3
Alioth	166 17.4	N 55 51.6
Spica	158 26.9	S 11 15.6
Alkaid	152 55.7	N 49 13.4
Hadar	148 42.1	S 60 28.1
Menkent	148 02.4	S 36 27.7
Arcturus	145 51.6	N 19 05.8
Rigel Kentaurus	139 43.8	S 60 55.2
Zubenelgenubi	137 00.7	S 16 07.2
Kocab	137 20.2	N 74 05.0
Alphecca	126 07.4	N 26 39.3
Antares	112 21.1	S 26 28.4
Atria	107 18.7	S 69 03.8
Sabik	102 07.5	S 15 44.8
Shaula	96 15.9	S 37 07.0
Rasalhague	96 02.4	N 12 33.1
Etamin	90 43.8	N 51 29.5
Kaus Australis	83 37.9	S 34 22.4
Vega	80 35.9	N 38 48.3
Nunki	75 52.8	S 26 16.2
Albireo	67 07.2	N 28 00.3
Altair	62 04.0	N 08 55.3
Peacock	53 12.0	S 56 40.2
Deneb	49 28.2	N 45 21.1
Enif	33 42.7	N 09 58.0
Alnair	27 38.0	S 46 51.8
Formalhaut	15 19.1	S 29 30.9
Markab	13 33.8	N 15 18.7

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2019 - First Point of Aries / Selected Stars

UT	day 251 of 365 **September 8** GHA	ddGHA	day 252 of 365 **September 9** GHA	ddGHA	day 253 of 365 **September 10** GHA	ddGHA	day 254 of 365 **September 11** GHA	ddGHA	day 255 of 365 **September 12** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	346 46.1	+02.5	347 45.2	+02.5	348 44.4	+02.4	349 43.5	+02.5	350 42.6	+02.5	00
01	1 48.6	+02.4	2 47.7	+02.5	3 46.8	+02.5	4 46.0	+02.4	5 45.1	+02.5	01
02	16 51.0	+02.5	17 50.2	+02.4	18 49.3	+02.5	19 48.4	+02.5	20 47.6	+02.4	02
03	31 53.5	+02.5	32 52.6	+02.5	33 51.8	+02.4	34 50.9	+02.5	35 50.0	+02.5	03
04	46 56.0	+02.4	47 55.1	+02.5	48 54.2	+02.5	49 53.4	+02.4	50 52.5	+02.5	04
05	61 58.4	+02.5	62 57.6	+02.4	63 56.7	+02.5	64 55.8	+02.5	65 55.0	+02.4	05
06	77 00.9	+02.4	78 00.0	+02.5	78 59.2	+02.4	79 58.3	+02.5	80 57.4	+02.5	06
07	92 03.3	+02.5	93 02.5	+02.4	94 01.6	+02.5	95 00.8	+02.4	95 59.9	+02.5	07
08	107 05.8	+02.5	108 04.9	+02.5	109 04.1	+02.5	110 03.2	+02.5	111 02.4	+02.4	08
09	122 08.3	+02.4	123 07.4	+02.5	124 06.6	+02.4	125 05.7	+02.5	126 04.8	+02.5	09
10	137 10.7	+02.5	138 09.9	+02.4	139 09.0	+02.5	140 08.2	+02.4	141 07.3	+02.5	10
11	152 13.2	+02.5	153 12.3	+02.5	154 11.5	+02.4	155 10.6	+02.5	156 09.8	+02.4	11
12	167 15.7	+02.4	168 14.8	+02.5	169 13.9	+02.5	170 13.1	+02.4	171 12.2	+02.5	12
13	182 18.1	+02.5	183 17.3	+02.4	184 16.4	+02.5	185 15.5	+02.5	186 14.7	+02.4	13
14	197 20.6	+02.5	198 19.7	+02.5	199 18.9	+02.4	200 18.0	+02.5	201 17.1	+02.5	14
15	212 23.1	+02.4	213 22.2	+02.5	214 21.3	+02.5	215 20.5	+02.4	216 19.6	+02.5	15
16	227 25.5	+02.5	228 24.7	+02.4	229 23.8	+02.5	230 22.9	+02.5	231 22.1	+02.4	16
17	242 28.0	+02.4	243 27.1	+02.5	244 26.3	+02.4	245 25.4	+02.5	246 24.5	+02.5	17
18	257 30.4	+02.5	258 29.6	+02.5	259 28.7	+02.5	260 27.9	+02.4	261 27.0	+02.5	18
19	272 32.9	+02.5	273 32.1	+02.4	274 31.2	+02.5	275 30.3	+02.5	276 29.5	+02.4	19
20	287 35.4	+02.4	288 34.5	+02.5	289 33.7	+02.4	290 32.8	+02.5	291 31.9	+02.5	20
21	302 37.8	+02.5	303 37.0	+02.4	304 36.1	+02.5	305 35.3	+02.4	306 34.4	+02.5	21
22	317 40.3	+02.5	318 39.4	+02.5	319 38.6	+02.4	320 37.7	+02.5	321 36.9	+02.4	22
23	332 42.8	+02.4	333 41.9	+02.5	334 41.0	+02.5	335 40.2	+02.4	336 39.3	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.8	N 29 12.0
Ankaa	353 11.2	S 42 11.8
Schedir	349 35.2	N 56 38.6
Diphda	348 51.4	S 17 52.7
Achernar	335 23.2	S 57 08.1
Hamal	327 55.8	N 23 33.2
Polaris	315 42.3	N 89 20.4
Acamar	315 14.9	S 40 13.4
Menkar	314 10.4	N 04 10.0
Mirfak	308 34.1	N 49 55.6
Aldebaran	290 44.5	N 16 32.9
Capella	280 28.2	N 46 00.9
Rigel	281 08.0	S 08 10.7
Bellatrix	278 27.5	N 06 22.0
Elnath	278 07.3	N 28 37.3
Alnilam	275 42.1	S 01 11.4
Betelgeuze	270 56.8	N 07 24.6
Canopus	263 54.5	S 52 42.1
Sirius	258 30.0	S 16 44.1
Adhara	255 09.4	S 28 59.7
Castor	246 02.7	N 31 50.6
Procyon	244 55.3	N 05 10.8
Pollux	243 22.5	N 27 58.7
Avior	234 16.8	S 59 34.1
Suhail	222 49.7	S 43 30.5
Miaplacidus	221 39.5	S 69 47.7
Alphard	217 52.2	S 08 44.5
Regulus	207 39.2	N 11 52.4
Dubhe	193 47.0	N 61 38.8
Denebola	182 29.5	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.2	S 17 38.9
Acrux	173 05.2	S 63 12.4
Gacrux	171 56.7	S 57 13.2
Alioth	166 17.5	N 55 51.5
Spica	158 27.0	S 11 15.6
Alkaid	152 55.8	N 49 13.3
Hadar	148 42.3	S 60 28.0
Menkent	148 02.5	S 36 27.6
Arcturus	145 51.7	N 19 05.8
Rigel Kentaurus	139 44.0	S 60 55.1
Zubenelgenubi	137 00.8	S 16 07.2
Kocab	137 20.6	N 74 04.9
Alphecca	126 07.5	N 26 39.3
Antares	112 21.2	S 26 28.4
Atria	107 19.0	S 69 03.8
Sabik	102 07.6	S 15 44.8
Shaula	96 16.1	S 37 07.0
Rasalhague	96 02.5	N 12 33.1
Etamin	90 44.0	N 51 29.6
Kaus Australis	83 38.0	S 34 22.4
Vega	80 36.0	N 38 48.4
Nunki	75 52.9	S 26 16.2
Albireo	67 07.2	N 28 00.3
Altair	62 04.0	N 08 55.3
Peacock	53 12.1	S 56 40.3
Deneb	49 28.2	N 45 21.3
Enif	33 42.6	N 09 58.0
Alnair	27 38.0	S 46 51.9
Formalhaut	15 19.0	S 29 31.0
Markab	13 33.8	N 15 18.7

2019 - First Point of Aries / Selected Stars

UT	day 236 of 365 **August 24** GHA	ddGHA	day 237 of 365 **August 25** GHA	ddGHA	day 238 of 365 **August 26** GHA	ddGHA	day 239 of 365 **August 27** GHA	ddGHA	day 240 of 365 **August 28** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	331 59.0	+02.5	332 58.2	+02.4	333 57.3	+02.5	334 56.4	+02.5	335 55.6	+02.4	00
01	347 01.5	+02.4	348 00.6	+02.5	348 59.8	+02.4	349 58.9	+02.5	350 58.0	+02.5	01
02	2 03.9	+02.5	3 03.1	+02.4	4 02.2	+02.5	5 01.4	+02.4	6 00.5	+02.5	02
03	17 06.4	+02.5	18 05.5	+02.5	19 04.7	+02.5	20 03.8	+02.5	21 03.0	+02.4	03
04	32 08.9	+02.4	33 08.0	+02.5	34 07.2	+02.4	35 06.3	+02.5	36 05.4	+02.5	04
05	47 11.3	+02.5	48 10.5	+02.4	49 09.6	+02.5	50 08.8	+02.4	51 07.9	+02.5	05
06	62 13.8	+02.5	63 12.9	+02.5	64 12.1	+02.4	65 11.2	+02.5	66 10.4	+02.4	06
07	77 16.3	+02.4	78 15.4	+02.5	79 14.5	+02.5	80 13.7	+02.4	81 12.8	+02.5	07
08	92 18.7	+02.5	93 17.9	+02.4	94 17.0	+02.5	95 16.1	+02.5	96 15.3	+02.5	08
09	107 21.2	+02.5	108 20.3	+02.5	109 19.5	+02.4	110 18.6	+02.5	111 17.8	+02.4	09
10	122 23.7	+02.4	123 22.8	+02.5	124 21.9	+02.5	125 21.1	+02.4	126 20.2	+02.5	10
11	137 26.1	+02.5	138 25.3	+02.4	139 24.4	+02.5	140 23.5	+02.5	141 22.7	+02.4	11
12	152 28.6	+02.4	153 27.7	+02.5	154 26.9	+02.4	155 26.0	+02.5	156 25.1	+02.5	12
13	167 31.0	+02.5	168 30.2	+02.5	169 29.3	+02.5	170 28.5	+02.4	171 27.6	+02.5	13
14	182 33.5	+02.5	183 32.7	+02.4	184 31.8	+02.5	185 30.9	+02.5	186 30.1	+02.4	14
15	197 36.0	+02.4	198 35.1	+02.5	199 34.3	+02.4	200 33.4	+02.5	201 32.5	+02.5	15
16	212 38.4	+02.5	213 37.6	+02.4	214 36.7	+02.5	215 35.9	+02.4	216 35.0	+02.5	16
17	227 40.9	+02.5	228 40.0	+02.5	229 39.2	+02.4	230 38.3	+02.5	231 37.5	+02.4	17
18	242 43.4	+02.4	243 42.5	+02.5	244 41.6	+02.5	245 40.8	+02.5	246 39.9	+02.5	18
19	257 45.8	+02.5	258 45.0	+02.4	259 44.1	+02.5	260 43.3	+02.4	261 42.4	+02.5	19
20	272 48.3	+02.5	273 47.4	+02.5	274 46.6	+02.4	275 45.7	+02.5	276 44.9	+02.4	20
21	287 50.8	+02.4	288 49.9	+02.5	289 49.0	+02.5	290 48.2	+02.4	291 47.3	+02.5	21
22	302 53.2	+02.5	303 52.4	+02.4	304 51.5	+02.5	305 50.6	+02.5	306 49.8	+02.5	22
23	317 55.7	+02.5	318 54.8	+02.5	319 54.0	+02.4	320 53.1	+02.5	321 52.3	+02.4	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.9	N 29 11.9
Ankaa	353 11.2	S 42 11.7
Schedir	349 35.3	N 56 38.5
Diphda	348 51.5	S 17 52.7
Achernar	335 23.3	S 57 08.1
Hamal	327 55.9	N 23 33.2
Polaris	315 49.5	N 89 20.4
Acamar	315 15.0	S 40 13.4
Menkar	314 10.5	N 04 10.0
Mirfak	308 34.2	N 49 55.5
Aldebaran	290 44.6	N 16 32.9
Capella	280 28.4	N 46 00.9
Rigel	281 08.1	S 08 10.7
Bellatrix	278 27.6	N 06 22.0
Elnath	278 07.4	N 28 37.3
Alnilam	275 42.2	S 01 11.4
Betelgeuze	270 56.9	N 07 24.6
Canopus	263 54.6	S 52 42.2
Sirius	258 30.1	S 16 44.1
Adhara	255 09.5	S 28 59.8
Castor	246 02.8	N 31 50.7
Procyon	244 55.4	N 05 10.8
Pollux	243 22.6	N 27 58.7
Avior	234 16.9	S 59 34.2
Suhail	222 49.8	S 43 30.6
Miaplacidus	221 39.6	S 69 47.8
Alphard	217 52.3	S 08 44.5
Regulus	207 39.3	N 11 52.4
Dubhe	193 47.0	N 61 38.9
Denebola	182 29.5	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.2	S 17 38.9
Acrux	173 05.2	S 63 12.5
Gacrux	171 56.7	S 57 13.3
Alioth	166 17.4	N 55 51.6
Spica	158 27.0	S 11 15.6
Alkaid	152 55.7	N 49 13.3
Hadar	148 42.2	S 60 28.1
Menkent	148 02.5	S 36 27.7
Arcturus	145 51.7	N 19 05.8
Rigel Kentaurus	139 43.9	S 60 55.2
Zubenelgenubi	137 00.8	S 16 07.2
Kocab	137 20.4	N 74 04.9
Alphecca	126 07.5	N 26 39.3
Antares	112 21.1	S 26 28.4
Atria	107 18.9	S 69 03.8
Sabik	102 07.6	S 15 44.8
Shaula	96 16.0	S 37 07.0
Rasalhague	96 02.4	N 12 33.1
Etamin	90 43.9	N 51 29.6
Kaus Australis	83 37.9	S 34 22.4
Vega	80 35.9	N 38 48.3
Nunki	75 52.8	S 26 16.2
Albireo	67 07.2	N 28 00.3
Altair	62 04.0	N 08 55.3
Peacock	53 12.0	S 56 40.3
Deneb	49 28.2	N 45 21.2
Enif	33 42.7	N 09 58.0
Alnair	27 38.0	S 46 51.8
Formalhaut	15 19.1	S 29 31.0
Markab	13 33.8	N 15 18.7

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2019 - First Point of Aries / Selected Stars

UT	day 241 of 365 ***August 29***		day 242 of 365 ***August 30***		day 243 of 365 ***August 31***		day 244 of 365 ***September 1***		day 245 of 365 ***September 2***		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	336 54.7	+02.5	337 53.9	+02.4	338 53.0	+02.5	339 52.1	+02.5	340 51.3	+02.4	00
01	351 57.2	+02.4	352 56.3	+02.5	353 55.5	+02.4	354 54.6	+02.5	355 53.7	+02.5	01
02	6 59.6	+02.5	7 58.8	+02.4	8 57.9	+02.5	9 57.1	+02.4	10 56.2	+02.5	02
03	22 02.1	+02.5	23 01.2	+02.5	24 00.4	+02.4	24 59.5	+02.5	25 58.7	+02.4	03
04	37 04.6	+02.4	38 03.7	+02.5	39 02.8	+02.5	40 02.0	+02.4	41 01.1	+02.5	04
05	52 07.0	+02.5	53 06.2	+02.4	54 05.3	+02.5	55 04.4	+02.5	56 03.6	+02.4	05
06	67 09.5	+02.5	68 08.6	+02.5	69 07.8	+02.4	70 06.9	+02.5	71 06.0	+02.5	06
07	82 12.0	+02.4	83 11.1	+02.5	84 10.2	+02.5	85 09.4	+02.4	86 08.5	+02.5	07
08	97 14.4	+02.5	98 13.6	+02.4	99 12.7	+02.5	100 11.8	+02.5	101 11.0	+02.4	08
09	112 16.9	+02.5	113 16.0	+02.5	114 15.2	+02.4	115 14.3	+02.5	116 13.4	+02.5	09
10	127 19.4	+02.4	128 18.5	+02.5	129 17.6	+02.5	130 16.8	+02.4	131 15.9	+02.5	10
11	142 21.8	+02.5	143 21.0	+02.4	144 20.1	+02.5	145 19.2	+02.5	146 18.4	+02.4	11
12	157 24.3	+02.4	158 23.4	+02.5	159 22.6	+02.4	160 21.7	+02.5	161 20.8	+02.5	12
13	172 26.7	+02.5	173 25.9	+02.4	174 25.0	+02.5	175 24.2	+02.4	176 23.3	+02.5	13
14	187 29.2	+02.5	188 28.3	+02.5	189 27.5	+02.5	190 26.6	+02.5	191 25.8	+02.4	14
15	202 31.7	+02.4	203 30.8	+02.5	204 30.0	+02.4	205 29.1	+02.5	206 28.2	+02.5	15
16	217 34.1	+02.5	218 33.3	+02.4	219 32.4	+02.5	220 31.6	+02.4	221 30.7	+02.5	16
17	232 36.6	+02.5	233 35.7	+02.5	234 34.9	+02.4	235 34.0	+02.5	236 33.2	+02.4	17
18	247 39.1	+02.4	248 38.2	+02.5	249 37.3	+02.5	250 36.5	+02.4	251 35.6	+02.5	18
19	262 41.5	+02.5	263 40.7	+02.4	264 39.8	+02.5	265 38.9	+02.5	266 38.1	+02.4	19
20	277 44.0	+02.5	278 43.1	+02.5	279 42.3	+02.4	280 41.4	+02.5	281 40.5	+02.5	20
21	292 46.5	+02.4	293 45.6	+02.5	294 44.7	+02.5	295 43.9	+02.4	296 43.0	+02.5	21
22	307 48.9	+02.5	308 48.1	+02.4	309 47.2	+02.5	310 46.3	+02.5	311 45.5	+02.4	22
23	322 51.4	+02.5	323 50.5	+02.5	324 49.7	+02.4	325 48.8	+02.5	326 47.9	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.8	N 29 11.9
Ankaa	353 11.2	S 42 11.7
Schedir	349 35.3	N 56 38.5
Diphda	348 51.4	S 17 52.7
Achernar	335 23.2	S 57 08.1
Hamal	327 55.8	N 23 33.2
Polaris	315 46.9	N 89 20.4
Acamar	315 14.9	S 40 13.4
Menkar	314 10.5	N 04 10.0
Mirfak	308 34.2	N 49 55.5
Aldebaran	290 44.5	N 16 32.9
Capella	280 28.3	N 46 00.9
Rigel	281 08.1	S 08 10.7
Bellatrix	278 27.5	N 06 22.0
Elnath	278 07.4	N 28 37.3
Alnilam	275 42.2	S 01 11.4
Betelgeuze	270 56.8	N 07 24.6
Canopus	263 54.6	S 52 42.2
Sirius	258 30.0	S 16 44.1
Adhara	255 09.4	S 28 59.8
Castor	246 02.8	N 31 50.7
Procyon	244 55.3	N 05 10.8
Pollux	243 22.5	N 27 58.7
Avior	234 16.9	S 59 34.2
Suhail	222 49.7	S 43 30.6
Miaplacidus	221 39.6	S 69 47.8
Alphard	217 52.2	S 08 44.5
Regulus	207 39.2	N 11 52.4
Dubhe	193 47.0	N 61 38.9
Denebola	182 29.5	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.2	S 17 38.9
Acrux	173 05.2	S 63 12.5
Gacrux	171 56.7	S 57 13.3
Alioth	166 17.4	N 55 51.6
Spica	158 27.0	S 11 15.6
Alkaid	152 55.8	N 49 13.3
Hadar	148 42.2	S 60 28.1
Menkent	148 02.5	S 36 27.7
Arcturus	145 51.7	N 19 05.8
Rigel Kentaurus	139 44.0	S 60 55.1
Zubenelgenubi	137 00.8	S 16 07.2
Kocab	137 20.5	N 74 04.9
Alphecca	126 07.5	N 26 39.3
Antares	112 21.1	S 26 28.4
Atria	107 18.9	S 69 03.8
Sabik	102 07.6	S 15 44.8
Shaula	96 16.0	S 37 07.0
Rasalhague	96 02.4	N 12 33.1
Etamin	90 43.9	N 51 29.6
Kaus Australis	83 38.0	S 34 22.4
Vega	80 35.9	N 38 48.4
Nunki	75 52.8	S 26 16.2
Albireo	67 07.2	N 28 00.3
Altair	62 04.0	N 08 55.3
Peacock	53 12.0	S 56 40.3
Deneb	49 28.2	N 45 21.2
Enif	33 42.6	N 09 58.0
Alnair	27 38.0	S 46 51.9
Formalhaut	15 19.0	S 29 31.0
Markab	13 33.8	N 15 18.7

2019 - First Point of Aries / Selected Stars

UT	day 246 of 365 ***September 3***		day 247 of 365 ***September 4***		day 248 of 365 ***September 5***		day 249 of 365 ***September 6***		day 250 of 365 ***September 7***		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	341 50.4	+02.5	342 49.5	+02.5	343 48.7	+02.4	344 47.8	+02.5	345 47.0	+02.4	00
01	356 52.9	+02.4	357 52.0	+02.5	358 51.1	+02.5	359 50.3	+02.4	0 49.4	+02.5	01
02	11 55.3	+02.5	12 54.5	+02.4	13 53.6	+02.5	14 52.7	+02.5	15 51.9	+02.4	02
03	26 57.8	+02.5	27 56.9	+02.5	28 56.1	+02.4	29 55.2	+02.5	30 54.3	+02.5	03
04	42 00.3	+02.4	42 59.4	+02.5	43 58.5	+02.5	44 57.7	+02.4	45 56.8	+02.5	04
05	57 02.7	+02.5	58 01.9	+02.4	59 01.0	+02.5	60 00.1	+02.5	60 59.3	+02.4	05
06	72 05.2	+02.4	73 04.3	+02.5	74 03.5	+02.4	75 02.6	+02.5	76 01.7	+02.5	06
07	87 07.6	+02.5	88 06.8	+02.5	89 05.9	+02.5	90 05.1	+02.4	91 04.2	+02.5	07
08	102 10.1	+02.5	103 09.3	+02.4	104 08.4	+02.5	105 07.5	+02.5	106 06.7	+02.4	08
09	117 12.6	+02.4	118 11.7	+02.5	119 10.9	+02.4	120 10.0	+02.5	121 09.1	+02.5	09
10	132 15.0	+02.5	133 14.2	+02.4	134 13.3	+02.5	135 12.5	+02.4	136 11.6	+02.5	10
11	147 17.5	+02.5	148 16.6	+02.5	149 15.8	+02.4	150 14.9	+02.5	151 14.1	+02.4	11
12	162 20.0	+02.4	163 19.1	+02.5	164 18.2	+02.5	165 17.4	+02.4	166 16.5	+02.5	12
13	177 22.4	+02.5	178 21.6	+02.4	179 20.7	+02.5	180 19.8	+02.5	181 19.0	+02.5	13
14	192 24.9	+02.5	193 24.0	+02.5	194 23.2	+02.4	195 22.3	+02.5	196 21.5	+02.4	14
15	207 27.4	+02.4	208 26.5	+02.5	209 25.6	+02.5	210 24.8	+02.4	211 23.9	+02.5	15
16	222 29.8	+02.5	223 29.0	+02.4	224 28.1	+02.5	225 27.2	+02.5	226 26.4	+02.4	16
17	237 32.3	+02.5	238 31.4	+02.5	239 30.6	+02.4	240 29.7	+02.5	241 28.8	+02.5	17
18	252 34.8	+02.4	253 33.9	+02.5	254 33.0	+02.5	255 32.2	+02.4	256 31.3	+02.5	18
19	267 37.2	+02.5	268 36.4	+02.4	269 35.5	+02.5	270 34.6	+02.5	271 33.8	+02.4	19
20	282 39.7	+02.4	283 38.8	+02.5	284 38.0	+02.4	285 37.1	+02.5	286 36.2	+02.5	20
21	297 42.1	+02.5	298 41.3	+02.4	299 40.4	+02.5	300 39.6	+02.4	301 38.7	+02.5	21
22	312 44.6	+02.5	313 43.7	+02.5	314 42.9	+02.5	315 42.0	+02.5	316 41.2	+02.4	22
23	327 47.1	+02.4	328 46.2	+02.5	329 45.4	+02.4	330 44.5	+02.5	331 43.6	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.8	N 29 11.9
Ankaa	353 11.2	S 42 11.8
Schedir	349 35.2	N 56 38.5
Diphda	348 51.4	S 17 52.7
Achernar	335 23.2	S 57 08.1
Hamal	327 55.8	N 23 33.2
Polaris	315 44.8	N 89 20.4
Acamar	315 14.9	S 40 13.4
Menkar	314 10.5	N 04 10.0
Mirfak	308 34.1	N 49 55.5
Aldebaran	290 44.5	N 16 32.9
Capella	280 28.3	N 46 00.9
Rigel	281 08.0	S 08 10.7
Bellatrix	278 27.5	N 06 22.0
Elnath	278 07.3	N 28 37.3
Alnilam	275 42.1	S 01 11.4
Betelgeuze	270 56.8	N 07 24.6
Canopus	263 54.5	S 52 42.1
Sirius	258 30.0	S 16 44.1
Adhara	255 09.4	S 28 59.8
Castor	246 02.7	N 31 50.7
Procyon	244 55.3	N 05 10.8
Pollux	243 22.5	N 27 58.7
Avior	234 16.8	S 59 34.2
Suhail	222 49.7	S 43 30.5
Miaplacidus	221 39.6	S 69 47.7
Alphard	217 52.2	S 08 44.5
Regulus	207 39.2	N 11 52.4
Dubhe	193 47.0	N 61 38.9
Denebola	182 29.5	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.2	S 17 38.9
Acrux	173 05.2	S 63 12.4
Gacrux	171 56.7	S 57 13.3
Alioth	166 17.5	N 55 51.5
Spica	158 27.0	S 11 15.6
Alkaid	152 55.8	N 49 13.3
Hadar	148 42.2	S 60 28.1
Menkent	148 02.5	S 36 27.6
Arcturus	145 51.7	N 19 05.8
Rigel Kentaurus	139 44.0	S 60 55.1
Zubenelgenubi	137 00.8	S 16 07.2
Kocab	137 20.5	N 74 04.9
Alphecca	126 07.5	N 26 39.3
Antares	112 21.2	S 26 28.4
Atria	107 19.0	S 69 03.8
Sabik	102 07.6	S 15 44.8
Shaula	96 16.0	S 37 07.0
Rasalhague	96 02.4	N 12 33.1
Etamin	90 44.0	N 51 29.6
Kaus Australis	83 38.0	S 34 22.4
Vega	80 36.0	N 38 48.4
Nunki	75 52.8	S 26 16.2
Albireo	67 07.2	N 28 00.3
Altair	62 04.0	N 08 55.3
Peacock	53 12.1	S 56 40.3
Deneb	49 28.2	N 45 21.2
Enif	33 42.6	N 09 58.0
Alnair	27 38.0	S 46 51.9
Formalhaut	15 19.0	S 29 31.0
Markab	13 33.8	N 15 18.7

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2019 - First Point of Aries / Selected Stars

UT	day 271 of 365 **September 28** GHA	ddGHA	day 272 of 365 **September 29** GHA	ddGHA	day 273 of 365 **September 30** GHA	ddGHA	day 274 of 365 **October 1** GHA	ddGHA	day 275 of 365 **October 2** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	6 28.9	+02.4	7 28.0	+02.5	8 27.1	+02.5	9 26.3	+02.4	10 25.4	+02.5	00
01	21 31.3	+02.5	22 30.5	+02.4	23 29.6	+02.5	24 28.7	+02.5	25 27.9	+02.4	01
02	36 33.8	+02.4	37 32.9	+02.5	38 32.1	+02.4	39 31.2	+02.5	40 30.3	+02.5	02
03	51 36.2	+02.5	52 35.4	+02.5	53 34.5	+02.5	54 33.7	+02.4	55 32.8	+02.5	03
04	66 38.7	+02.5	67 37.9	+02.4	68 37.0	+02.5	69 36.1	+02.5	70 35.3	+02.4	04
05	81 41.2	+02.4	82 40.3	+02.5	83 39.5	+02.4	84 38.6	+02.5	85 37.7	+02.5	05
06	96 43.6	+02.5	97 42.8	+02.4	98 41.9	+02.5	99 41.1	+02.4	100 40.2	+02.5	06
07	111 46.1	+02.5	112 45.2	+02.5	113 44.4	+02.4	114 43.5	+02.5	115 42.7	+02.4	07
08	126 48.6	+02.4	127 47.7	+02.5	128 46.8	+02.5	129 46.0	+02.4	130 45.1	+02.5	08
09	141 51.0	+02.5	142 50.2	+02.4	143 49.3	+02.5	144 48.4	+02.5	145 47.6	+02.4	09
10	156 53.5	+02.5	157 52.6	+02.5	158 51.8	+02.4	159 50.9	+02.5	160 50.0	+02.5	10
11	171 56.0	+02.4	172 55.1	+02.5	173 54.2	+02.5	174 53.4	+02.4	175 52.5	+02.5	11
12	186 58.4	+02.5	187 57.6	+02.4	188 56.7	+02.5	189 55.8	+02.5	190 55.0	+02.4	12
13	202 00.9	+02.5	203 00.0	+02.5	203 59.2	+02.4	204 58.3	+02.5	205 57.4	+02.5	13
14	217 03.4	+02.4	218 02.5	+02.5	219 01.6	+02.5	220 00.8	+02.4	220 59.9	+02.5	14
15	232 05.8	+02.5	233 05.0	+02.4	234 04.1	+02.5	235 03.2	+02.5	236 02.4	+02.4	15
16	247 08.3	+02.4	248 07.4	+02.5	249 06.6	+02.4	250 05.7	+02.5	251 04.8	+02.5	16
17	262 10.7	+02.5	263 09.9	+02.4	264 09.0	+02.5	265 08.2	+02.4	266 07.3	+02.5	17
18	277 13.2	+02.5	278 12.3	+02.5	279 11.5	+02.4	280 10.6	+02.5	281 09.8	+02.4	18
19	292 15.7	+02.4	293 14.8	+02.5	294 13.9	+02.5	295 13.1	+02.4	296 12.2	+02.5	19
20	307 18.1	+02.5	308 17.3	+02.4	309 16.4	+02.5	310 15.5	+02.5	311 14.7	+02.5	20
21	322 20.6	+02.5	323 19.7	+02.5	324 18.9	+02.4	325 18.0	+02.5	326 17.2	+02.4	21
22	337 23.1	+02.4	338 22.2	+02.5	339 21.3	+02.5	340 20.5	+02.4	341 19.6	+02.5	22
23	352 25.5	+02.5	353 24.7	+02.4	354 23.8	+02.5	355 22.9	+02.5	356 22.1	+02.4	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.8	N 29 12.0
Ankaa	353 11.1	S 42 11.8
Schedir	349 35.1	N 56 38.7
Diphda	348 51.3	S 17 52.7
Achernar	335 23.0	S 57 08.2
Hamal	327 55.7	N 23 33.3
Polaris	315 34.3	N 89 20.5
Acamar	315 14.7	S 40 13.5
Menkar	314 10.3	N 04 10.0
Mirfak	308 33.9	N 49 55.6
Aldebaran	290 44.3	N 16 32.9
Capella	280 28.0	N 46 00.9
Rigel	281 07.8	S 08 10.7
Bellatrix	278 27.3	N 06 22.0
Elnath	278 07.1	N 28 37.3
Alnilam	275 42.0	S 01 11.3
Betelgeuze	270 56.6	N 07 24.6
Canopus	263 54.3	S 52 42.1
Sirius	258 29.8	S 16 44.1
Adhara	255 09.2	S 28 59.7
Castor	246 02.5	N 31 50.6
Procyon	244 55.2	N 05 10.8
Pollux	243 22.3	N 27 58.7
Avior	234 16.6	S 59 34.1
Suhail	222 49.6	S 43 30.5
Miaplacidus	221 39.3	S 69 47.6
Alphard	217 52.1	S 08 44.5
Regulus	207 39.1	N 11 52.4
Dubhe	193 46.9	N 61 38.7
Denebola	182 29.5	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.2	S 17 38.8
Acrux	173 05.3	S 63 12.3
Gacrux	171 56.8	S 57 13.2
Alioth	166 17.5	N 55 51.4
Spica	158 27.0	S 11 15.6
Alkaid	152 55.9	N 49 13.2
Hadar	148 42.4	S 60 28.0
Menkent	148 02.6	S 36 27.6
Arcturus	145 51.8	N 19 05.7
Rigel Kentaurus	139 44.2	S 60 55.1
Zubenelgenubi	137 00.9	S 16 07.2
Kocab	137 20.9	N 74 04.8
Alphecca	126 07.6	N 26 39.3
Antares	112 21.3	S 26 28.4
Atria	107 19.3	S 69 03.8
Sabik	102 07.7	S 15 44.8
Shaula	96 16.2	S 37 07.0
Rasalhague	96 02.6	N 12 33.1
Etamin	90 44.2	N 51 29.6
Kaus Australis	83 38.1	S 34 22.4
Vega	80 36.1	N 38 48.4
Nunki	75 53.0	S 26 16.2
Albireo	67 07.3	N 28 00.4
Altair	62 04.1	N 08 55.3
Peacock	53 12.2	S 56 40.4
Deneb	49 28.3	N 45 21.3
Enif	33 42.7	N 09 58.1
Alnair	27 38.0	S 46 52.0
Formalhaut	15 19.0	S 29 31.0
Markab	13 33.8	N 15 18.8

2019 - First Point of Aries / Selected Stars

UT	day 256 of 365 **September 13** GHA	ddGHA	day 257 of 365 **September 14** GHA	ddGHA	day 258 of 365 **September 15** GHA	ddGHA	day 259 of 365 **September 16** GHA	ddGHA	day 260 of 365 **September 17** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	351 41.8	+02.5	352 40.9	+02.5	353 40.1	+02.4	354 39.2	+02.5	355 38.3	+02.5	00
01	6 44.3	+02.4	7 43.4	+02.5	8 42.5	+02.5	9 41.7	+02.4	10 40.8	+02.5	01
02	21 46.7	+02.5	22 45.9	+02.4	23 45.0	+02.5	24 44.1	+02.5	25 43.3	+02.4	02
03	36 49.2	+02.4	37 48.3	+02.5	38 47.5	+02.4	39 46.6	+02.5	40 45.7	+02.5	03
04	51 51.6	+02.5	52 50.8	+02.4	53 49.9	+02.5	54 49.1	+02.4	55 48.2	+02.5	04
05	66 54.1	+02.5	67 53.2	+02.5	68 52.4	+02.4	69 51.5	+02.5	70 50.7	+02.4	05
06	81 56.6	+02.4	82 55.7	+02.5	83 54.8	+02.5	84 54.0	+02.4	85 53.1	+02.5	06
07	96 59.0	+02.5	97 58.2	+02.4	98 57.3	+02.5	99 56.4	+02.5	100 55.6	+02.4	07
08	112 01.5	+02.5	113 00.6	+02.5	113 59.8	+02.4	114 58.9	+02.5	115 58.0	+02.5	08
09	127 04.0	+02.4	128 03.1	+02.5	129 02.2	+02.5	130 01.4	+02.4	131 00.5	+02.5	09
10	142 06.4	+02.5	143 05.6	+02.4	144 04.7	+02.5	145 03.8	+02.5	146 03.0	+02.4	10
11	157 08.9	+02.5	158 08.0	+02.5	159 07.2	+02.4	160 06.3	+02.5	161 05.4	+02.5	11
12	172 11.4	+02.4	173 10.5	+02.5	174 09.6	+02.5	175 08.8	+02.4	176 07.9	+02.5	12
13	187 13.8	+02.5	188 13.0	+02.4	189 12.1	+02.5	190 11.2	+02.5	191 10.4	+02.4	13
14	202 16.3	+02.4	203 15.4	+02.5	204 14.6	+02.4	205 13.7	+02.5	206 12.8	+02.5	14
15	217 18.7	+02.5	218 17.9	+02.4	219 17.0	+02.5	220 16.2	+02.4	221 15.3	+02.5	15
16	232 21.2	+02.5	233 20.3	+02.5	234 19.5	+02.4	235 18.6	+02.5	236 17.8	+02.4	16
17	247 23.7	+02.4	248 22.8	+02.5	249 21.9	+02.5	250 21.1	+02.4	251 20.2	+02.5	17
18	262 26.1	+02.5	263 25.3	+02.4	264 24.4	+02.5	265 23.5	+02.5	266 22.7	+02.5	18
19	277 28.6	+02.5	278 27.7	+02.5	279 26.9	+02.4	280 26.0	+02.5	281 25.2	+02.4	19
20	292 31.1	+02.4	293 30.2	+02.5	294 29.3	+02.5	295 28.5	+02.4	296 27.6	+02.5	20
21	307 33.5	+02.5	308 32.7	+02.4	309 31.8	+02.5	310 30.9	+02.5	311 30.1	+02.4	21
22	322 36.0	+02.5	323 35.1	+02.5	324 34.3	+02.4	325 33.4	+02.5	326 32.5	+02.5	22
23	337 38.5	+02.4	338 37.6	+02.5	339 36.7	+02.5	340 35.9	+02.4	341 35.0	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.8	N 29 12.0
Ankaa	353 11.1	S 42 11.8
Schedir	349 35.2	N 56 38.6
Diphda	348 51.4	S 17 52.7
Achernar	335 23.1	S 57 08.1
Hamal	327 55.7	N 23 33.3
Polaris	315 40.2	N 89 20.5
Acamar	315 14.8	S 40 13.4
Menkar	314 10.4	N 04 10.0
Mirfak	308 34.0	N 49 55.6
Aldebaran	290 44.4	N 16 32.9
Capella	280 28.2	N 46 00.9
Rigel	281 07.9	S 08 10.7
Bellatrix	278 27.4	N 06 22.0
Elnath	278 07.2	N 28 37.3
Alnilam	275 42.1	S 01 11.3
Betelgeuze	270 56.7	N 07 24.6
Canopus	263 54.4	S 52 42.1
Sirius	258 29.9	S 16 44.1
Adhara	255 09.3	S 28 59.7
Castor	246 02.6	N 31 50.6
Procyon	244 55.3	N 05 10.8
Pollux	243 22.4	N 27 58.7
Avior	234 16.8	S 59 34.1
Suhail	222 49.7	S 43 30.5
Miaplacidus	221 39.5	S 69 47.7
Alphard	217 52.2	S 08 44.5
Regulus	207 39.2	N 11 52.4
Dubhe	193 47.0	N 61 38.8
Denebola	182 29.5	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.2	S 17 38.9
Acrux	173 05.2	S 63 12.4
Gacrux	171 56.8	S 57 13.2
Alioth	166 17.5	N 55 51.5
Spica	158 27.0	S 11 15.6
Alkaid	152 55.8	N 49 13.3
Hadar	148 42.3	S 60 28.0
Menkent	148 02.6	S 36 27.6
Arcturus	145 51.7	N 19 05.8
Rigel Kentaurus	139 44.1	S 60 55.1
Zubenelgenubi	137 00.8	S 16 07.2
Kocab	137 20.7	N 74 04.9
Alphecca	126 07.6	N 26 39.3
Antares	112 21.2	S 26 28.4
Atria	107 19.1	S 69 03.8
Sabik	102 07.7	S 15 44.8
Shaula	96 16.1	S 37 07.0
Rasalhague	96 02.5	N 12 33.1
Etamin	90 44.1	N 51 29.6
Kaus Australis	83 38.0	S 34 22.4
Vega	80 36.0	N 38 48.4
Nunki	75 52.9	S 26 16.2
Albireo	67 07.3	N 28 00.3
Altair	62 04.0	N 08 55.3
Peacock	53 12.1	S 56 40.3
Deneb	49 28.3	N 45 21.3
Enif	33 42.7	N 09 58.0
Alnair	27 38.0	S 46 51.9
Formalhaut	15 19.0	S 29 31.0
Markab	13 33.8	N 15 18.7

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2019 - First Point of Aries / Selected Stars

UT	day 261 of 365 **September 18** GHA	ddGHA	day 262 of 365 **September 19** GHA	ddGHA	day 263 of 365 **September 20** GHA	ddGHA	day 264 of 365 **September 21** GHA	ddGHA	day 265 of 365 **September 22** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	356 37.5	+02.4	357 36.6	+02.5	358 35.7	+02.5	359 34.9	+02.5	0 34.0	+02.5	00
01	11 39.9	+02.5	12 39.1	+02.4	13 38.2	+02.5	14 37.4	+02.4	15 36.5	+02.5	01
02	26 42.4	+02.5	27 41.5	+02.5	28 40.7	+02.4	29 39.8	+02.5	30 39.0	+02.4	02
03	41 44.9	+02.4	42 44.0	+02.5	43 43.1	+02.5	44 42.3	+02.4	45 41.4	+02.5	03
04	56 47.3	+02.5	57 46.5	+02.4	58 45.6	+02.5	59 44.7	+02.5	60 43.9	+02.4	04
05	71 49.8	+02.5	72 48.9	+02.5	73 48.1	+02.4	74 47.2	+02.5	75 46.3	+02.5	05
06	86 52.3	+02.4	87 51.4	+02.5	88 50.5	+02.5	89 49.7	+02.4	90 48.8	+02.5	06
07	101 54.7	+02.5	102 53.9	+02.4	103 53.0	+02.5	104 52.1	+02.5	105 51.3	+02.4	07
08	116 57.2	+02.4	117 56.3	+02.5	118 55.5	+02.4	119 54.6	+02.5	120 53.7	+02.5	08
09	131 59.6	+02.5	132 58.8	+02.4	133 57.9	+02.5	134 57.1	+02.4	135 56.2	+02.5	09
10	147 02.1	+02.5	148 01.2	+02.5	149 00.4	+02.5	149 59.5	+02.5	150 58.7	+02.4	10
11	162 04.6	+02.4	163 03.7	+02.5	164 02.9	+02.4	165 02.0	+02.5	166 01.1	+02.5	11
12	177 07.0	+02.5	178 06.2	+02.4	179 05.3	+02.5	180 04.5	+02.4	181 03.6	+02.5	12
13	192 09.5	+02.5	193 08.6	+02.5	194 07.8	+02.4	195 06.9	+02.5	196 06.1	+02.4	13
14	207 12.0	+02.4	208 11.1	+02.5	209 10.2	+02.5	210 09.4	+02.4	211 08.5	+02.5	14
15	222 14.4	+02.5	223 13.6	+02.4	224 12.7	+02.5	225 11.8	+02.5	226 11.0	+02.5	15
16	237 16.9	+02.5	238 16.0	+02.5	239 15.2	+02.4	240 14.3	+02.5	241 13.5	+02.4	16
17	252 19.4	+02.4	253 18.5	+02.5	254 17.6	+02.5	255 16.8	+02.4	256 15.9	+02.5	17
18	267 21.8	+02.5	268 21.0	+02.4	269 20.1	+02.5	270 19.2	+02.5	271 18.4	+02.4	18
19	282 24.3	+02.5	283 23.4	+02.5	284 22.6	+02.4	285 21.7	+02.5	286 20.8	+02.5	19
20	297 26.8	+02.4	298 25.9	+02.5	299 25.0	+02.5	300 24.2	+02.4	301 23.3	+02.5	20
21	312 29.2	+02.5	313 28.4	+02.4	314 27.5	+02.5	315 26.6	+02.5	316 25.8	+02.4	21
22	327 31.7	+02.4	328 30.8	+02.5	329 30.0	+02.4	330 29.1	+02.5	331 28.2	+02.5	22
23	342 34.1	+02.5	343 33.3	+02.4	344 32.4	+02.5	345 31.6	+02.4	346 30.7	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.8	N 29 12.0
Ankaa	353 11.1	S 42 11.8
Schedir	349 35.2	N 56 38.6
Diphda	348 51.3	S 17 52.7
Achernar	335 23.1	S 57 08.1
Hamal	327 55.7	N 23 33.3
Polaris	315 38.3	N 89 20.5
Acamar	315 14.8	S 40 13.4
Menkar	314 10.4	N 04 10.0
Mirfak	308 34.0	N 49 55.6
Aldebaran	290 44.4	N 16 32.9
Capella	280 28.1	N 46 00.9
Rigel	281 07.9	S 08 10.7
Bellatrix	278 27.4	N 06 22.0
Elnath	278 07.2	N 28 37.3
Alnilam	275 42.0	S 01 11.3
Betelgeuze	270 56.7	N 07 24.6
Canopus	263 54.4	S 52 42.1
Sirius	258 29.9	S 16 44.1
Adhara	255 09.3	S 28 59.7
Castor	246 02.6	N 31 50.6
Procyon	244 55.2	N 05 10.8
Pollux	243 22.4	N 27 58.7
Avior	234 16.7	S 59 34.1
Suhail	222 49.7	S 43 30.5
Miaplacidus	221 39.5	S 69 47.7
Alphard	217 52.2	S 08 44.5
Regulus	207 39.2	N 11 52.4
Dubhe	193 47.0	N 61 38.8
Denebola	182 29.5	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.2	S 17 38.9
Acrux	173 05.3	S 63 12.4
Gacrux	171 56.8	S 57 13.2
Alioth	166 17.5	N 55 51.5
Spica	158 27.0	S 11 15.6
Alkaid	152 55.9	N 49 13.3
Hadar	148 42.3	S 60 28.0
Menkent	148 02.6	S 36 27.6
Arcturus	145 51.8	N 19 05.8
Rigel Kentaurus	139 44.1	S 60 55.1
Zubenelgenubi	137 00.9	S 16 07.2
Kocab	137 20.8	N 74 04.8
Alphecca	126 07.6	N 26 39.3
Antares	112 21.2	S 26 28.4
Atria	107 19.2	S 69 03.8
Sabik	102 07.7	S 15 44.8
Shaula	96 16.1	S 37 07.0
Rasalhague	96 02.5	N 12 33.1
Etamin	90 44.1	N 51 29.6
Kaus Australis	83 38.1	S 34 22.4
Vega	80 36.0	N 38 48.4
Nunki	75 52.9	S 26 16.2
Albireo	67 07.3	N 28 00.4
Altair	62 04.1	N 08 55.3
Peacock	53 12.1	S 56 40.3
Deneb	49 28.3	N 45 21.3
Enif	33 42.7	N 09 58.0
Alnair	27 38.0	S 46 51.9
Formalhaut	15 19.0	S 29 31.0
Markab	13 33.8	N 15 18.8

2019 - First Point of Aries / Selected Stars

UT	day 266 of 365 **September 23** GHA	ddGHA	day 267 of 365 **September 24** GHA	ddGHA	day 268 of 365 **September 25** GHA	ddGHA	day 269 of 365 **September 26** GHA	ddGHA	day 270 of 365 **September 27** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	1 33.2	+02.4	2 32.3	+02.5	3 31.4	+02.5	4 30.6	+02.4	5 29.7	+02.5	00
01	16 35.6	+02.5	17 34.8	+02.4	18 33.9	+02.5	19 33.0	+02.5	20 32.2	+02.4	01
02	31 38.1	+02.5	32 37.2	+02.5	33 36.4	+02.4	34 35.5	+02.5	35 34.6	+02.5	02
03	46 40.6	+02.4	47 39.7	+02.5	48 38.8	+02.5	49 38.0	+02.4	50 37.1	+02.5	03
04	61 43.0	+02.5	62 42.2	+02.4	63 41.3	+02.5	64 40.4	+02.5	65 39.6	+02.4	04
05	76 45.5	+02.5	77 44.6	+02.5	78 43.8	+02.4	79 42.9	+02.5	80 42.0	+02.5	05
06	91 48.0	+02.4	92 47.1	+02.5	93 46.2	+02.5	94 45.4	+02.4	95 44.5	+02.5	06
07	106 50.4	+02.5	107 49.6	+02.4	108 48.7	+02.5	109 47.8	+02.5	110 47.0	+02.4	07
08	121 52.9	+02.4	122 52.0	+02.5	123 51.2	+02.4	124 50.3	+02.5	125 49.4	+02.5	08
09	136 55.3	+02.5	137 54.5	+02.4	138 53.6	+02.5	139 52.8	+02.4	140 51.9	+02.5	09
10	151 57.8	+02.5	152 56.9	+02.5	153 56.1	+02.4	154 55.2	+02.5	155 54.4	+02.4	10
11	167 00.3	+02.4	167 59.4	+02.5	168 58.5	+02.5	169 57.7	+02.5	170 56.8	+02.5	11
12	182 02.7	+02.5	183 01.9	+02.4	184 01.0	+02.5	185 00.2	+02.4	185 59.3	+02.5	12
13	197 05.2	+02.5	198 04.3	+02.5	199 03.5	+02.4	200 02.6	+02.5	201 01.8	+02.4	13
14	212 07.7	+02.4	213 06.8	+02.5	214 05.9	+02.5	215 05.1	+02.4	216 04.2	+02.5	14
15	227 10.1	+02.5	228 09.3	+02.4	229 08.4	+02.5	230 07.5	+02.5	231 06.7	+02.4	15
16	242 12.6	+02.5	243 11.7	+02.5	244 10.9	+02.4	245 10.0	+02.5	246 09.1	+02.5	16
17	257 15.1	+02.4	258 14.2	+02.5	259 13.3	+02.5	260 12.5	+02.4	261 11.6	+02.5	17
18	272 17.5	+02.5	273 16.7	+02.4	274 15.8	+02.5	275 14.9	+02.5	276 14.1	+02.4	18
19	287 20.0	+02.4	288 19.1	+02.5	289 18.3	+02.4	290 17.4	+02.5	291 16.5	+02.5	19
20	302 22.4	+02.5	303 21.6	+02.5	304 20.7	+02.5	305 19.9	+02.4	306 19.0	+02.5	20
21	317 24.9	+02.5	318 24.1	+02.4	319 23.2	+02.5	320 22.3	+02.5	321 21.5	+02.4	21
22	332 27.4	+02.4	333 26.5	+02.5	334 25.7	+02.4	335 24.8	+02.5	336 23.9	+02.5	22
23	347 29.8	+02.5	348 29.0	+02.4	349 28.1	+02.5	350 27.3	+02.4	351 26.4	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.8	N 29 12.0
Ankaa	353 11.1	S 42 11.8
Schedir	349 35.1	N 56 38.6
Diphda	348 51.3	S 17 52.7
Achernar	335 23.1	S 57 08.1
Hamal	327 55.7	N 23 33.3
Polaris	315 36.0	N 89 20.5
Acamar	315 14.8	S 40 13.5
Menkar	314 10.3	N 04 10.0
Mirfak	308 33.9	N 49 55.6
Aldebaran	290 44.4	N 16 32.9
Capella	280 28.1	N 46 00.9
Rigel	281 07.9	S 08 10.7
Bellatrix	278 27.4	N 06 22.0
Elnath	278 07.2	N 28 37.3
Alnilam	275 42.0	S 01 11.3
Betelgeuze	270 56.7	N 07 24.6
Canopus	263 54.3	S 52 42.1
Sirius	258 29.9	S 16 44.1
Adhara	255 09.2	S 28 59.7
Castor	246 02.6	N 31 50.6
Procyon	244 55.2	N 05 10.8
Pollux	243 22.4	N 27 58.7
Avior	234 16.7	S 59 34.1
Suhail	222 49.6	S 43 30.5
Miaplacidus	221 39.4	S 69 47.6
Alphard	217 52.1	S 08 44.5
Regulus	207 39.2	N 11 52.4
Dubhe	193 47.0	N 61 38.8
Denebola	182 29.5	N 14 28.0

	SHA	Dec
	° ′	° ′
Gienah	175 48.2	S 17 38.9
Acrux	173 05.2	S 63 12.3
Gacrux	171 56.8	S 57 13.2
Alioth	166 17.5	N 55 51.4
Spica	158 27.0	S 11 15.6
Alkaid	152 55.9	N 49 13.2
Hadar	148 42.4	S 60 28.0
Menkent	148 02.6	S 36 27.6
Arcturus	145 51.8	N 19 05.8
Rigel Kentaurus	139 44.1	S 60 55.1
Zubenelgenubi	137 00.9	S 16 07.2
Kocab	137 20.9	N 74 04.8
Alphecca	126 07.6	N 26 39.3
Antares	112 21.3	S 26 28.4
Atria	107 19.2	S 69 03.8
Sabik	102 07.7	S 15 44.8
Shaula	96 16.1	S 37 07.0
Rasalhague	96 02.5	N 12 33.1
Etamin	90 44.2	N 51 29.6
Kaus Australis	83 38.1	S 34 22.4
Vega	80 36.1	N 38 48.4
Nunki	75 52.9	S 26 16.2
Albireo	67 07.3	N 28 00.4
Altair	62 04.1	N 08 55.3
Peacock	53 12.2	S 56 40.4
Deneb	49 28.3	N 45 21.3
Enif	33 42.7	N 09 58.1
Alnair	27 38.0	S 46 51.9
Formalhaut	15 19.0	S 29 31.0
Markab	13 33.8	N 15 18.8

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2019 - First Point of Aries / Selected Stars

UT	day 291 of 365 October 18 GHA	ddGHA	day 292 of 365 October 19 GHA	ddGHA	day 293 of 365 October 20 GHA	ddGHA	day 294 of 365 October 21 GHA	ddGHA	day 295 of 365 October 22 GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	26 11.6	+02.5	27 10.8	+02.4	28 09.9	+02.5	29 09.0	+02.5	30 08.2	+02.4	00
01	41 14.1	+02.4	42 13.2	+02.5	43 12.4	+02.4	44 11.5	+02.5	45 10.6	+02.5	01
02	56 16.5	+02.5	57 15.7	+02.4	58 14.8	+02.5	59 14.0	+02.4	60 13.1	+02.5	02
03	71 19.0	+02.5	72 18.1	+02.5	73 17.3	+02.5	74 16.4	+02.5	75 15.6	+02.4	03
04	86 21.5	+02.4	87 20.6	+02.5	88 19.8	+02.4	89 18.9	+02.5	90 18.0	+02.5	04
05	101 23.9	+02.5	102 23.1	+02.4	103 22.2	+02.5	104 21.4	+02.4	105 20.5	+02.5	05
06	116 26.4	+02.5	117 25.5	+02.5	118 24.7	+02.4	119 23.8	+02.5	120 23.0	+02.4	06
07	131 28.9	+02.4	132 28.0	+02.5	133 27.1	+02.5	134 26.3	+02.4	135 25.4	+02.5	07
08	146 31.3	+02.5	147 30.5	+02.4	148 29.6	+02.5	149 28.7	+02.5	150 27.9	+02.5	08
09	161 33.8	+02.5	162 32.9	+02.5	163 32.1	+02.4	164 31.2	+02.5	165 30.4	+02.4	09
10	176 36.3	+02.4	177 35.4	+02.5	178 34.5	+02.5	179 33.7	+02.4	180 32.8	+02.5	10
11	191 38.7	+02.5	192 37.9	+02.4	193 37.0	+02.5	194 36.1	+02.5	195 35.3	+02.4	11
12	206 41.2	+02.5	207 40.3	+02.5	208 39.5	+02.4	209 38.6	+02.5	210 37.7	+02.5	12
13	221 43.7	+02.4	222 42.8	+02.5	223 41.9	+02.5	224 41.1	+02.4	225 40.2	+02.5	13
14	236 46.1	+02.5	237 45.3	+02.4	238 44.4	+02.5	239 43.5	+02.5	240 42.7	+02.4	14
15	251 48.6	+02.4	252 47.7	+02.5	253 46.9	+02.4	254 46.0	+02.5	255 45.1	+02.5	15
16	266 51.0	+02.5	267 50.2	+02.4	268 49.3	+02.5	269 48.5	+02.4	270 47.6	+02.5	16
17	281 53.5	+02.5	282 52.6	+02.5	283 51.8	+02.5	284 50.9	+02.5	285 50.1	+02.4	17
18	296 56.0	+02.4	297 55.1	+02.5	298 54.3	+02.4	299 53.4	+02.5	300 52.5	+02.5	18
19	311 58.4	+02.5	312 57.6	+02.4	313 56.7	+02.5	314 55.9	+02.4	315 55.0	+02.5	19
20	327 00.9	+02.5	328 00.0	+02.5	328 59.2	+02.4	329 58.3	+02.5	330 57.5	+02.4	20
21	342 03.4	+02.4	343 02.5	+02.5	344 01.6	+02.5	345 00.8	+02.4	345 59.9	+02.5	21
22	357 05.8	+02.5	358 05.0	+02.4	359 04.1	+02.5	0 03.2	+02.5	1 02.4	+02.5	22
23	12 08.3	+02.5	13 07.4	+02.5	14 06.6	+02.4	15 05.7	+02.5	16 04.9	+02.4	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 38.8	N 29 12.1
Ankaa	353 11.1	S 42 11.9
Schedir	349 35.1	N 56 38.8
Diphda	348 51.3	S 17 52.7
Achernar	335 23.0	S 57 08.3
Hamal	327 55.6	N 23 33.3
Polaris	315 28.2	N 89 20.6
Acamar	315 14.6	S 40 13.5
Menkar	314 10.2	N 04 10.0
Mirfak	308 33.7	N 49 55.7
Aldebaran	290 44.2	N 16 32.9
Capella	280 27.8	N 46 01.0
Rigel	281 07.7	S 08 10.7
Bellatrix	278 27.2	N 06 22.0
Elnath	278 07.0	N 28 37.3
Alnilam	275 41.8	S 01 11.4
Betelgeuze	270 56.5	N 07 24.6
Canopus	263 54.1	S 52 42.1
Sirius	258 29.7	S 16 44.1
Adhara	255 09.1	S 28 59.7
Castor	246 02.4	N 31 50.6
Procyon	244 55.0	N 05 10.8
Pollux	243 22.2	N 27 58.6
Avior	234 16.4	S 59 34.1
Suhail	222 49.4	S 43 30.4
Miaplacidus	221 39.1	S 69 47.6
Alphard	217 52.0	S 08 44.5
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.8	N 61 38.6
Denebola	182 29.4	N 14 27.9

	SHA	Dec
	° ,	° ,
Gienah	175 48.1	S 17 38.8
Acrux	173 05.2	S 63 12.2
Gacrux	171 56.7	S 57 13.1
Alioth	166 17.5	N 55 51.3
Spica	158 27.0	S 11 15.6
Alkaid	152 55.9	N 49 13.1
Hadar	148 42.4	S 60 27.9
Menkent	148 02.6	S 36 27.5
Arcturus	145 51.8	N 19 05.7
Rigel Kentaurus	139 44.2	S 60 55.0
Zubenelgenubi	137 00.9	S 16 07.1
Kocab	137 21.1	N 74 04.7
Alphecca	126 07.7	N 26 39.2
Antares	112 21.3	S 26 28.4
Atria	107 19.5	S 69 03.8
Sabik	102 07.8	S 15 44.8
Shaula	96 16.3	S 37 07.0
Rasalhague	96 02.7	N 12 33.1
Etamin	90 44.4	N 51 29.6
Kaus Australis	83 38.2	S 34 22.4
Vega	80 36.2	N 38 48.4
Nunki	75 53.1	S 26 16.2
Albireo	67 07.4	N 28 00.4
Altair	62 04.2	N 08 55.3
Peacock	53 12.3	S 56 40.4
Deneb	49 28.5	N 45 21.4
Enif	33 42.7	N 09 58.1
Alnair	27 38.1	S 46 52.0
Formalhaut	15 19.0	S 29 31.1
Markab	13 33.8	N 15 18.8

2019 - First Point of Aries / Selected Stars

UT	day 276 of 365 October 3 GHA	ddGHA	day 277 of 365 October 4 GHA	ddGHA	day 278 of 365 October 5 GHA	ddGHA	day 279 of 365 October 6 GHA	ddGHA	day 280 of 365 October 7 GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	11 24.5	+02.5	12 23.7	+02.4	13 22.8	+02.5	14 22.0	+02.4	15 21.1	+02.5	00
01	26 27.0	+02.5	27 26.1	+02.5	28 25.3	+02.5	29 24.4	+02.5	30 23.6	+02.4	01
02	41 29.5	+02.4	42 28.6	+02.5	43 27.8	+02.4	44 26.9	+02.5	45 26.0	+02.5	02
03	56 31.9	+02.5	57 31.1	+02.4	58 30.2	+02.5	59 29.4	+02.4	60 28.5	+02.5	03
04	71 34.4	+02.5	72 33.5	+02.5	73 32.7	+02.4	74 31.8	+02.5	75 31.0	+02.4	04
05	86 36.9	+02.4	87 36.0	+02.5	88 35.1	+02.5	89 34.3	+02.4	90 33.4	+02.5	05
06	101 39.3	+02.5	102 38.5	+02.4	103 37.6	+02.5	104 36.7	+02.5	105 35.9	+02.5	06
07	116 41.8	+02.5	117 40.9	+02.5	118 40.1	+02.4	119 39.2	+02.5	120 38.4	+02.4	07
08	131 44.3	+02.4	132 43.4	+02.5	133 42.5	+02.5	134 41.7	+02.4	135 40.8	+02.5	08
09	146 46.7	+02.5	147 45.9	+02.4	148 45.0	+02.5	149 44.1	+02.5	150 43.3	+02.4	09
10	161 49.2	+02.5	162 48.3	+02.5	163 47.5	+02.4	164 46.6	+02.5	165 45.7	+02.5	10
11	176 51.7	+02.4	177 50.8	+02.5	178 49.9	+02.5	179 49.1	+02.4	180 48.2	+02.5	11
12	191 54.1	+02.5	192 53.3	+02.4	193 52.4	+02.5	194 51.5	+02.5	195 50.7	+02.4	12
13	206 56.6	+02.4	207 55.7	+02.5	208 54.9	+02.4	209 54.0	+02.5	210 53.1	+02.5	13
14	221 59.0	+02.5	222 58.2	+02.4	223 57.3	+02.5	224 56.5	+02.4	225 55.6	+02.5	14
15	237 01.5	+02.5	238 00.6	+02.5	238 59.8	+02.5	239 58.9	+02.5	240 58.1	+02.4	15
16	252 04.0	+02.4	253 03.1	+02.5	254 02.3	+02.4	255 01.4	+02.5	256 00.5	+02.5	16
17	267 06.4	+02.5	268 05.6	+02.4	269 04.7	+02.5	270 03.9	+02.4	271 03.0	+02.5	17
18	282 08.9	+02.5	283 08.0	+02.5	284 07.2	+02.4	285 06.3	+02.5	286 05.5	+02.4	18
19	297 11.4	+02.4	298 10.5	+02.5	299 09.6	+02.5	300 08.8	+02.4	301 07.9	+02.5	19
20	312 13.8	+02.5	313 13.0	+02.4	314 12.1	+02.5	315 11.2	+02.5	316 10.4	+02.4	20
21	327 16.3	+02.5	328 15.4	+02.5	329 14.6	+02.4	330 13.7	+02.5	331 12.8	+02.5	21
22	342 18.8	+02.4	343 17.9	+02.5	344 17.0	+02.5	345 16.2	+02.4	346 15.3	+02.5	22
23	357 21.2	+02.5	358 20.4	+02.4	359 19.5	+02.5	0 18.6	+02.5	1 17.8	+02.4	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 38.8	N 29 12.0
Ankaa	353 11.1	S 42 11.8
Schedir	349 35.1	N 56 38.7
Diphda	348 51.3	S 17 52.7
Achernar	335 23.0	S 57 08.2
Hamal	327 55.7	N 23 33.3
Polaris	315 32.5	N 89 20.6
Acamar	315 14.7	S 40 13.5
Menkar	314 10.3	N 04 10.0
Mirfak	308 33.8	N 49 55.6
Aldebaran	290 44.3	N 16 32.9
Capella	280 28.0	N 46 00.9
Rigel	281 07.8	S 08 10.7
Bellatrix	278 27.3	N 06 22.0
Elnath	278 07.1	N 28 37.3
Alnilam	275 41.9	S 01 11.3
Betelgeuze	270 56.6	N 07 24.6
Canopus	263 54.2	S 52 42.1
Sirius	258 29.8	S 16 44.1
Adhara	255 09.2	S 28 59.7
Castor	246 02.5	N 31 50.6
Procyon	244 55.1	N 05 10.8
Pollux	243 22.3	N 27 58.6
Avior	234 16.6	S 59 34.1
Suhail	222 49.6	S 43 30.4
Miaplacidus	221 39.3	S 69 47.6
Alphard	217 52.1	S 08 44.5
Regulus	207 39.1	N 11 52.4
Dubhe	193 46.9	N 61 38.7
Denebola	182 29.5	N 14 28.0

	SHA	Dec
	° ,	° ,
Gienah	175 48.2	S 17 38.8
Acrux	173 05.2	S 63 12.3
Gacrux	171 56.8	S 57 13.1
Alioth	166 17.5	N 55 51.4
Spica	158 27.0	S 11 15.6
Alkaid	152 55.9	N 49 13.2
Hadar	148 42.4	S 60 27.9
Menkent	148 02.6	S 36 27.6
Arcturus	145 51.8	N 19 05.7
Rigel Kentaurus	139 44.2	S 60 55.0
Zubenelgenubi	137 00.9	S 16 07.1
Kocab	137 21.0	N 74 04.8
Alphecca	126 07.7	N 26 39.3
Antares	112 21.3	S 26 28.4
Atria	107 19.4	S 69 03.8
Sabik	102 07.8	S 15 44.8
Shaula	96 16.2	S 37 07.0
Rasalhague	96 02.6	N 12 33.1
Etamin	90 44.2	N 51 29.6
Kaus Australis	83 38.1	S 34 22.4
Vega	80 36.1	N 38 48.4
Nunki	75 53.0	S 26 16.2
Albireo	67 07.4	N 28 00.4
Altair	62 04.1	N 08 55.3
Peacock	53 12.2	S 56 40.4
Deneb	49 28.4	N 45 21.3
Enif	33 42.7	N 09 58.1
Alnair	27 38.0	S 46 52.0
Formalhaut	15 19.0	S 29 31.0
Markab	13 33.8	N 15 18.8

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2019 - First Point of Aries / Selected Stars

UT	day 281 of 365 **October 8** GHA	ddGHA	day 282 of 365 **October 9** GHA	ddGHA	day 283 of 365 **October 10** GHA	ddGHA	day 284 of 365 **October 11** GHA	ddGHA	day 285 of 365 **October 12** GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	16 20.2	+02.5	17 19.4	+02.4	18 18.5	+02.5	19 17.7	+02.4	20 16.8	+02.5	00
01	31 22.7	+02.5	32 21.8	+02.5	33 21.0	+02.4	34 20.1	+02.5	35 19.3	+02.4	01
02	46 25.2	+02.4	47 24.3	+02.5	48 23.4	+02.5	49 22.6	+02.4	50 21.7	+02.5	02
03	61 27.6	+02.5	62 26.8	+02.4	63 25.9	+02.5	64 25.0	+02.5	65 24.2	+02.4	03
04	76 30.1	+02.5	77 29.2	+02.5	78 28.4	+02.4	79 27.5	+02.5	80 26.6	+02.5	04
05	91 32.6	+02.4	92 31.7	+02.5	93 30.8	+02.5	94 30.0	+02.4	95 29.1	+02.5	05
06	106 35.0	+02.5	107 34.2	+02.4	108 33.3	+02.5	109 32.4	+02.5	110 31.6	+02.4	06
07	121 37.5	+02.5	122 36.6	+02.5	123 35.8	+02.4	124 34.9	+02.5	125 34.0	+02.5	07
08	136 40.0	+02.4	137 39.1	+02.5	138 38.2	+02.5	139 37.4	+02.4	140 36.5	+02.5	08
09	151 42.4	+02.5	152 41.6	+02.4	153 40.7	+02.5	154 39.8	+02.5	155 39.0	+02.4	09
10	166 44.9	+02.4	167 44.0	+02.5	168 43.2	+02.4	169 42.3	+02.5	170 41.4	+02.5	10
11	181 47.3	+02.5	182 46.5	+02.4	183 45.6	+02.5	184 44.8	+02.4	185 43.9	+02.5	11
12	196 49.8	+02.5	197 48.9	+02.5	198 48.1	+02.4	199 47.2	+02.5	200 46.4	+02.4	12
13	211 52.3	+02.4	212 51.4	+02.5	213 50.5	+02.5	214 49.7	+02.5	215 48.8	+02.5	13
14	226 54.7	+02.5	227 53.9	+02.4	228 53.0	+02.5	229 52.2	+02.4	230 51.3	+02.5	14
15	241 57.2	+02.5	242 56.3	+02.5	243 55.5	+02.4	244 54.6	+02.5	245 53.8	+02.4	15
16	256 59.7	+02.4	257 58.8	+02.5	258 57.9	+02.5	259 57.1	+02.4	260 56.2	+02.5	16
17	272 02.1	+02.5	273 01.3	+02.4	274 00.4	+02.5	274 59.5	+02.5	275 58.7	+02.4	17
18	287 04.6	+02.5	288 03.7	+02.5	289 02.9	+02.4	290 02.0	+02.5	291 01.1	+02.5	18
19	302 07.1	+02.4	303 06.2	+02.5	304 05.3	+02.5	305 04.5	+02.4	306 03.6	+02.5	19
20	317 09.5	+02.5	318 08.7	+02.4	319 07.8	+02.5	320 06.9	+02.5	321 06.1	+02.4	20
21	332 12.0	+02.5	333 11.1	+02.5	334 10.3	+02.4	335 09.4	+02.5	336 08.5	+02.5	21
22	347 14.5	+02.4	348 13.6	+02.5	349 12.7	+02.5	350 11.9	+02.4	351 11.0	+02.5	22
23	2 16.9	+02.5	3 16.1	+02.4	4 15.2	+02.5	5 14.3	+02.5	6 13.5	+02.4	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 38.7	N 29 12.1
Ankaa	353 11.1	S 42 11.9
Schedir	349 35.1	N 56 38.7
Diphda	348 51.3	S 17 52.7
Achernar	335 23.0	S 57 08.2
Hamal	327 55.6	N 23 33.3
Polaris	315 30.8	N 89 20.6
Acamar	315 14.7	S 40 13.5
Menkar	314 10.3	N 04 10.0
Mirfak	308 33.8	N 49 55.7
Aldebaran	290 44.3	N 16 32.9
Capella	280 27.9	N 46 00.9
Rigel	281 07.8	S 08 10.7
Bellatrix	278 27.2	N 06 22.0
Elnath	278 07.0	N 28 37.3
Alnilam	275 41.9	S 01 11.3
Betelgeuze	270 56.6	N 07 24.6
Canopus	263 54.2	S 52 42.1
Sirius	258 29.7	S 16 44.1
Adhara	255 09.1	S 28 59.7
Castor	246 02.4	N 31 50.6
Procyon	244 55.1	N 05 10.8
Pollux	243 22.2	N 27 58.6
Avior	234 16.5	S 59 34.1
Suhail	222 49.5	S 43 30.4
Miaplacidus	221 39.2	S 69 47.6
Alphard	217 52.1	S 08 44.5
Regulus	207 39.1	N 11 52.4
Dubhe	193 46.9	N 61 38.7
Denebola	182 29.4	N 14 27.9

	SHA	Dec
	° ,	° ,
Gienah	175 48.2	S 17 38.8
Acrux	173 05.2	S 63 12.3
Gacrux	171 56.7	S 57 13.1
Alioth	166 17.5	N 55 51.4
Spica	158 27.0	S 11 15.6
Alkaid	152 55.9	N 49 13.2
Hadar	148 42.4	S 60 27.9
Menkent	148 02.6	S 36 27.6
Arcturus	145 51.8	N 19 05.7
Rigel Kentaurus	139 44.2	S 60 55.0
Zubenelgenubi	137 00.9	S 16 07.1
Kocab	137 21.0	N 74 04.7
Alphecca	126 07.7	N 26 39.3
Antares	112 21.3	S 26 28.4
Atria	107 19.4	S 69 03.8
Sabik	102 07.8	S 15 44.8
Shaula	96 16.2	S 37 07.0
Rasalhague	96 02.6	N 12 33.1
Etamin	90 44.3	N 51 29.6
Kaus Australis	83 38.2	S 34 22.4
Vega	80 36.2	N 38 48.4
Nunki	75 53.0	S 26 16.2
Albireo	67 07.4	N 28 00.4
Altair	62 04.1	N 08 55.3
Peacock	53 12.3	S 56 40.4
Deneb	49 28.4	N 45 21.3
Enif	33 42.7	N 09 58.1
Alnair	27 38.0	S 46 52.0
Formalhaut	15 19.0	S 29 31.0
Markab	13 33.8	N 15 18.8

2019 - First Point of Aries / Selected Stars

UT	day 286 of 365 **October 13** GHA	ddGHA	day 287 of 365 **October 14** GHA	ddGHA	day 288 of 365 **October 15** GHA	ddGHA	day 289 of 365 **October 16** GHA	ddGHA	day 290 of 365 **October 17** GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	21 15.9	+02.5	22 15.1	+02.4	23 14.2	+02.5	24 13.3	+02.5	25 12.5	+02.4	00
01	36 18.4	+02.5	37 17.5	+02.5	38 16.7	+02.4	39 15.8	+02.5	40 14.9	+02.5	01
02	51 20.9	+02.4	52 20.0	+02.5	53 19.1	+02.5	54 18.3	+02.4	55 17.4	+02.5	02
03	66 23.3	+02.5	67 22.5	+02.4	68 21.6	+02.5	69 20.7	+02.5	70 19.9	+02.4	03
04	81 25.8	+02.4	82 24.9	+02.5	83 24.1	+02.4	84 23.2	+02.5	85 22.3	+02.5	04
05	96 28.2	+02.5	97 27.4	+02.4	98 26.5	+02.5	99 25.7	+02.4	100 24.8	+02.5	05
06	111 30.7	+02.5	112 29.8	+02.5	113 29.0	+02.5	114 28.1	+02.5	115 27.3	+02.4	06
07	126 33.2	+02.4	127 32.3	+02.5	128 31.5	+02.4	129 30.6	+02.5	130 29.7	+02.5	07
08	141 35.6	+02.5	142 34.8	+02.4	143 33.9	+02.5	144 33.1	+02.4	145 32.2	+02.5	08
09	156 38.1	+02.5	157 37.2	+02.5	158 36.4	+02.4	159 35.5	+02.5	160 34.7	+02.4	09
10	171 40.6	+02.4	172 39.7	+02.5	173 38.8	+02.5	174 38.0	+02.4	175 37.1	+02.5	10
11	186 43.0	+02.5	187 42.2	+02.4	188 41.3	+02.5	189 40.4	+02.5	190 39.6	+02.4	11
12	201 45.5	+02.5	202 44.6	+02.5	203 43.8	+02.4	204 42.9	+02.5	205 42.0	+02.5	12
13	216 48.0	+02.4	217 47.1	+02.5	218 46.2	+02.5	219 45.4	+02.4	220 44.5	+02.5	13
14	231 50.4	+02.5	232 49.6	+02.4	233 48.7	+02.5	234 47.8	+02.5	235 47.0	+02.4	14
15	246 52.9	+02.5	247 52.0	+02.5	248 51.2	+02.4	249 50.3	+02.5	250 49.4	+02.5	15
16	261 55.4	+02.4	262 54.5	+02.5	263 53.6	+02.5	264 52.8	+02.4	265 51.9	+02.5	16
17	276 57.8	+02.5	277 57.0	+02.4	278 56.1	+02.5	279 55.2	+02.5	280 54.4	+02.4	17
18	292 00.3	+02.4	292 59.4	+02.5	293 58.6	+02.4	294 57.7	+02.5	295 56.8	+02.5	18
19	307 02.7	+02.5	308 01.9	+02.4	309 01.0	+02.5	310 00.2	+02.4	310 59.3	+02.5	19
20	322 05.2	+02.5	323 04.3	+02.5	324 03.5	+02.4	325 02.6	+02.5	326 01.8	+02.4	20
21	337 07.7	+02.4	338 06.8	+02.5	339 05.9	+02.5	340 05.1	+02.4	341 04.2	+02.5	21
22	352 10.1	+02.5	353 09.3	+02.4	354 08.4	+02.5	355 07.5	+02.5	356 06.7	+02.5	22
23	7 12.6	+02.5	8 11.7	+02.5	9 10.9	+02.4	10 10.0	+02.5	11 09.2	+02.4	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 38.8	N 29 12.1
Ankaa	353 11.1	S 42 11.9
Schedir	349 35.1	N 56 38.7
Diphda	348 51.3	S 17 52.7
Achernar	335 23.0	S 57 08.2
Hamal	327 55.6	N 23 33.3
Polaris	315 29.6	N 89 20.6
Acamar	315 14.6	S 40 13.5
Menkar	314 10.2	N 04 10.0
Mirfak	308 33.8	N 49 55.7
Aldebaran	290 44.2	N 16 32.9
Capella	280 27.9	N 46 01.0
Rigel	281 07.7	S 08 10.7
Bellatrix	278 27.2	N 06 22.0
Elnath	278 07.0	N 28 37.3
Alnilam	275 41.9	S 01 11.3
Betelgeuze	270 56.5	N 07 24.6
Canopus	263 54.1	S 52 42.1
Sirius	258 29.7	S 16 44.1
Adhara	255 09.1	S 28 59.7
Castor	246 02.4	N 31 50.6
Procyon	244 55.1	N 05 10.8
Pollux	243 22.2	N 27 58.6
Avior	234 16.5	S 59 34.1
Suhail	222 49.5	S 43 30.4
Miaplacidus	221 39.1	S 69 47.6
Alphard	217 52.0	S 08 44.5
Regulus	207 39.1	N 11 52.4
Dubhe	193 46.8	N 61 38.6
Denebola	182 29.4	N 14 27.9

	SHA	Dec
	° ,	° ,
Gienah	175 48.1	S 17 38.8
Acrux	173 05.2	S 63 12.3
Gacrux	171 56.7	S 57 13.1
Alioth	166 17.5	N 55 51.3
Spica	158 27.0	S 11 15.6
Alkaid	152 55.9	N 49 13.1
Hadar	148 42.4	S 60 27.9
Menkent	148 02.6	S 36 27.6
Arcturus	145 51.8	N 19 05.7
Rigel Kentaurus	139 44.2	S 60 55.0
Zubenelgenubi	137 00.9	S 16 07.1
Kocab	137 21.1	N 74 04.7
Alphecca	126 07.7	N 26 39.3
Antares	112 21.3	S 26 28.4
Atria	107 19.5	S 69 03.8
Sabik	102 07.8	S 15 44.8
Shaula	96 16.2	S 37 07.0
Rasalhague	96 02.6	N 12 33.1
Etamin	90 44.3	N 51 29.6
Kaus Australis	83 38.2	S 34 22.4
Vega	80 36.2	N 38 48.4
Nunki	75 53.0	S 26 16.2
Albireo	67 07.4	N 28 00.4
Altair	62 04.2	N 08 55.3
Peacock	53 12.3	S 56 40.4
Deneb	49 28.4	N 45 21.3
Enif	33 42.7	N 09 58.1
Alnair	27 38.0	S 46 52.0
Formalhaut	15 19.0	S 29 31.1
Markab	13 33.8	N 15 18.8

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2019 - First Point of Aries / Selected Stars

UT	day 311 of 365 **November 7** GHA	ddGHA	day 312 of 365 **November 8** GHA	ddGHA	day 313 of 365 **November 9** GHA	ddGHA	day 314 of 365 **November 10** GHA	ddGHA	day 315 of 365 **November 11** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	45 54.4	+02.5	46 53.5	+02.5	47 52.7	+02.4	48 51.8	+02.5	49 50.9	+02.5	00
01	60 56.9	+02.4	61 56.0	+02.5	62 55.1	+02.5	63 54.3	+02.4	64 53.4	+02.5	01
02	75 59.3	+02.5	76 58.5	+02.4	77 57.6	+02.5	78 56.7	+02.5	79 55.9	+02.4	02
03	91 01.8	+02.5	92 00.9	+02.5	93 00.1	+02.4	93 59.2	+02.5	94 58.3	+02.5	03
04	106 04.3	+02.4	107 03.4	+02.5	108 02.5	+02.5	109 01.7	+02.4	110 00.8	+02.5	04
05	121 06.7	+02.5	122 05.9	+02.4	123 05.0	+02.5	124 04.1	+02.5	125 03.3	+02.4	05
06	136 09.2	+02.4	137 08.3	+02.5	138 07.5	+02.4	139 06.6	+02.5	140 05.7	+02.5	06
07	151 11.6	+02.5	152 10.8	+02.4	153 09.9	+02.5	154 09.1	+02.4	155 08.2	+02.5	07
08	166 14.1	+02.5	167 13.2	+02.5	168 12.4	+02.4	169 11.5	+02.5	170 10.7	+02.4	08
09	181 16.6	+02.4	182 15.7	+02.5	183 14.8	+02.5	184 14.0	+02.4	185 13.1	+02.5	09
10	196 19.0	+02.5	197 18.2	+02.4	198 17.3	+02.5	199 16.4	+02.5	200 15.6	+02.4	10
11	211 21.5	+02.5	212 20.6	+02.5	213 19.8	+02.4	214 18.9	+02.5	215 18.0	+02.5	11
12	226 24.0	+02.4	227 23.1	+02.5	228 22.2	+02.5	229 21.4	+02.4	230 20.5	+02.5	12
13	241 26.4	+02.5	242 25.6	+02.4	243 24.7	+02.5	244 23.8	+02.5	245 23.0	+02.4	13
14	256 28.9	+02.5	257 28.0	+02.5	258 27.2	+02.4	259 26.3	+02.5	260 25.4	+02.5	14
15	271 31.4	+02.4	272 30.5	+02.5	273 29.6	+02.5	274 28.8	+02.4	275 27.9	+02.5	15
16	286 33.8	+02.5	287 33.0	+02.4	288 32.1	+02.5	289 31.2	+02.5	290 30.4	+02.4	16
17	301 36.3	+02.4	302 35.4	+02.5	303 34.6	+02.4	304 33.7	+02.5	305 32.8	+02.5	17
18	316 38.7	+02.5	317 37.9	+02.4	318 37.0	+02.5	319 36.2	+02.4	320 35.3	+02.5	18
19	331 41.2	+02.5	332 40.3	+02.5	333 39.5	+02.4	334 38.6	+02.5	335 37.8	+02.4	19
20	346 43.7	+02.4	347 42.8	+02.5	348 41.9	+02.5	349 41.1	+02.5	350 40.2	+02.5	20
21	1 46.1	+02.5	2 45.3	+02.4	3 44.4	+02.5	4 43.6	+02.4	5 42.7	+02.5	21
22	16 48.6	+02.5	17 47.7	+02.5	18 46.9	+02.4	19 46.0	+02.5	20 45.2	+02.4	22
23	31 51.1	+02.4	32 50.2	+02.5	33 49.3	+02.5	34 48.5	+02.4	35 47.6	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.8	N 29 12.1
Ankaa	353 11.1	S 42 12.0
Schedir	349 35.1	N 56 38.9
Diphda	348 51.3	S 17 52.8
Achernar	335 23.0	S 57 08.4
Hamal	327 55.6	N 23 33.4
Polaris	315 24.8	N 89 20.8
Acamar	315 14.6	S 40 13.6
Menkar	314 10.2	N 04 10.0
Mirfak	308 33.6	N 49 55.8
Aldebaran	290 44.1	N 16 32.9
Capella	280 27.6	N 46 01.0
Rigel	281 07.6	S 08 10.7
Bellatrix	278 27.1	N 06 22.0
Elnath	278 06.8	N 28 37.4
Alnilam	275 41.7	S 01 11.4
Betelgeuze	270 56.3	N 07 24.6
Canopus	263 53.9	S 52 42.2
Sirius	258 29.5	S 16 44.1
Adhara	255 08.9	S 28 59.8
Castor	246 02.2	N 31 50.6
Procyon	244 54.9	N 05 10.8
Pollux	243 22.0	N 27 58.6
Avior	234 16.2	S 59 34.1
Suhail	222 49.3	S 43 30.4
Miaplacidus	221 38.7	S 69 47.6
Alphard	217 51.8	S 08 44.5
Regulus	207 38.9	N 11 52.3
Dubhe	193 46.6	N 61 38.5
Denebola	182 29.3	N 14 27.8

	SHA	Dec
	° ′	° ′
Gienah	175 48.0	S 17 38.8
Acrux	173 05.0	S 63 12.2
Gacrux	171 56.6	S 57 13.0
Alioth	166 17.4	N 55 51.2
Spica	158 27.0	S 11 15.6
Alkaid	152 55.9	N 49 13.0
Hadar	148 42.3	S 60 27.8
Menkent	148 02.6	S 36 27.5
Arcturus	145 51.8	N 19 05.6
Rigel Kentaurus	139 44.2	S 60 54.9
Zubenelgenubi	137 00.9	S 16 07.1
Kocab	137 21.2	N 74 04.6
Alphecca	126 07.7	N 26 39.2
Antares	112 21.4	S 26 28.3
Atria	107 19.7	S 69 03.7
Sabik	102 07.8	S 15 44.8
Shaula	96 16.3	S 37 07.0
Rasalhague	96 02.7	N 12 33.1
Etamin	90 44.5	N 51 29.5
Kaus Australis	83 38.3	S 34 22.4
Vega	80 36.4	N 38 48.3
Nunki	75 53.1	S 26 16.2
Albireo	67 07.5	N 28 00.3
Altair	62 04.3	N 08 55.3
Peacock	53 12.5	S 56 40.4
Deneb	49 28.6	N 45 21.4
Enif	33 42.8	N 09 58.1
Alnair	27 38.2	S 46 52.1
Formalhaut	15 19.1	S 29 31.1
Markab	13 33.9	N 15 18.8

2019 - First Point of Aries / Selected Stars

UT	day 296 of 365 **October 23** GHA	ddGHA	day 297 of 365 **October 24** GHA	ddGHA	day 298 of 365 **October 25** GHA	ddGHA	day 299 of 365 **October 26** GHA	ddGHA	day 300 of 365 **October 27** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	31 07.3	+02.5	32 06.5	+02.4	33 05.6	+02.5	34 04.7	+02.5	35 03.9	+02.4	00
01	46 09.8	+02.4	47 08.9	+02.5	48 08.1	+02.4	49 07.2	+02.5	50 06.3	+02.5	01
02	61 12.2	+02.5	62 11.4	+02.4	63 10.5	+02.5	64 09.7	+02.4	65 08.8	+02.5	02
03	76 14.7	+02.5	77 13.8	+02.5	78 13.0	+02.4	79 12.1	+02.5	80 11.3	+02.4	03
04	91 17.2	+02.4	92 16.3	+02.5	93 15.4	+02.5	94 14.6	+02.4	95 13.7	+02.5	04
05	106 19.6	+02.5	107 18.8	+02.4	108 17.9	+02.5	109 17.0	+02.5	110 16.2	+02.4	05
06	121 22.1	+02.5	122 21.2	+02.5	123 20.4	+02.4	124 19.5	+02.5	125 18.6	+02.5	06
07	136 24.6	+02.4	137 23.7	+02.5	138 22.8	+02.5	139 22.0	+02.4	140 21.1	+02.5	07
08	151 27.0	+02.5	152 26.2	+02.4	153 25.3	+02.5	154 24.4	+02.5	155 23.6	+02.4	08
09	166 29.5	+02.5	167 28.6	+02.5	168 27.8	+02.4	169 26.9	+02.5	170 26.0	+02.5	09
10	181 32.0	+02.4	182 31.1	+02.5	183 30.2	+02.5	184 29.4	+02.4	185 28.5	+02.5	10
11	196 34.4	+02.5	197 33.6	+02.4	198 32.7	+02.5	199 31.8	+02.5	200 31.0	+02.4	11
12	211 36.9	+02.4	212 36.0	+02.5	213 35.2	+02.4	214 34.3	+02.5	215 33.4	+02.5	12
13	226 39.3	+02.5	227 38.5	+02.5	228 37.6	+02.5	229 36.8	+02.4	230 35.9	+02.5	13
14	241 41.8	+02.5	242 41.0	+02.4	243 40.1	+02.5	244 39.2	+02.5	245 38.4	+02.4	14
15	256 44.3	+02.4	257 43.4	+02.5	258 42.6	+02.4	259 41.7	+02.5	260 40.8	+02.5	15
16	271 46.7	+02.5	272 45.9	+02.4	273 45.0	+02.5	274 44.2	+02.4	275 43.3	+02.5	16
17	286 49.2	+02.5	287 48.3	+02.5	288 47.5	+02.4	289 46.6	+02.5	290 45.8	+02.4	17
18	301 51.7	+02.4	302 50.8	+02.5	303 49.9	+02.5	304 49.1	+02.4	305 48.2	+02.5	18
19	316 54.1	+02.5	317 53.3	+02.4	318 52.4	+02.5	319 51.5	+02.5	320 50.7	+02.4	19
20	331 56.6	+02.5	332 55.7	+02.5	333 54.9	+02.4	334 54.0	+02.5	335 53.1	+02.5	20
21	346 59.1	+02.4	347 58.2	+02.5	348 57.3	+02.5	349 56.5	+02.4	350 55.6	+02.5	21
22	2 01.5	+02.5	3 00.7	+02.4	3 59.8	+02.5	4 58.9	+02.5	5 58.1	+02.4	22
23	17 04.0	+02.5	18 03.1	+02.5	19 02.3	+02.4	20 01.4	+02.5	21 00.5	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.8	N 29 12.1
Ankaa	353 11.1	S 42 11.9
Schedir	349 35.1	N 56 38.8
Diphda	348 51.3	S 17 52.7
Achernar	335 23.0	S 57 08.3
Hamal	327 55.6	N 23 33.4
Polaris	315 27.0	N 89 20.7
Acamar	315 14.6	S 40 13.5
Menkar	314 10.2	N 04 10.0
Mirfak	308 33.7	N 49 55.7
Aldebaran	290 44.2	N 16 32.9
Capella	280 27.8	N 46 01.0
Rigel	281 07.7	S 08 10.7
Bellatrix	278 27.1	N 06 22.0
Elnath	278 06.9	N 28 37.4
Alnilam	275 41.8	S 01 11.4
Betelgeuze	270 56.4	N 07 24.6
Canopus	263 54.0	S 52 42.1
Sirius	258 29.6	S 16 44.1
Adhara	255 09.0	S 28 59.7
Castor	246 02.3	N 31 50.6
Procyon	244 55.0	N 05 10.8
Pollux	243 22.1	N 27 58.6
Avior	234 16.3	S 59 34.1
Suhail	222 49.4	S 43 30.4
Miaplacidus	221 39.0	S 69 47.6
Alphard	217 52.0	S 08 44.5
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.7	N 61 38.6
Denebola	182 29.4	N 14 27.9

	SHA	Dec
	° ′	° ′
Gienah	175 48.1	S 17 38.8
Acrux	173 05.2	S 63 12.2
Gacrux	171 56.7	S 57 13.1
Alioth	166 17.5	N 55 51.3
Spica	158 27.0	S 11 15.6
Alkaid	152 55.9	N 49 13.1
Hadar	148 42.4	S 60 27.9
Menkent	148 02.6	S 36 27.5
Arcturus	145 51.8	N 19 05.7
Rigel Kentaurus	139 44.2	S 60 55.0
Zubenelgenubi	137 00.9	S 16 07.1
Kocab	137 21.2	N 74 04.7
Alphecca	126 07.7	N 26 39.2
Antares	112 21.4	S 26 28.4
Atria	107 19.6	S 69 03.8
Sabik	102 07.8	S 15 44.8
Shaula	96 16.3	S 37 07.0
Rasalhague	96 02.7	N 12 33.1
Etamin	90 44.4	N 51 29.6
Kaus Australis	83 38.2	S 34 22.4
Vega	80 36.3	N 38 48.4
Nunki	75 53.1	S 26 16.2
Albireo	67 07.5	N 28 00.4
Altair	62 04.2	N 08 55.3
Peacock	53 12.4	S 56 40.4
Deneb	49 28.5	N 45 21.4
Enif	33 42.8	N 09 58.1
Alnair	27 38.1	S 46 52.0
Formalhaut	15 19.1	S 29 31.1
Markab	13 33.8	N 15 18.8

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2019 - First Point of Aries / Selected Stars

UT	day 301 of 365 October 28 GHA	ddGHA	day 302 of 365 October 29 GHA	ddGHA	day 303 of 365 October 30 GHA	ddGHA	day 304 of 365 October 31 GHA	ddGHA	day 305 of 365 November 1 GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	36 03.0	+02.5	37 02.1	+02.5	38 01.3	+02.4	39 00.4	+02.5	39 59.6	+02.4	00
01	51 05.5	+02.4	52 04.6	+02.5	53 03.7	+02.5	54 02.9	+02.4	55 02.0	+02.5	01
02	66 07.9	+02.5	67 07.1	+02.4	68 06.2	+02.5	69 05.3	+02.5	70 04.5	+02.5	02
03	81 10.4	+02.5	82 09.5	+02.5	83 08.7	+02.4	84 07.8	+02.5	85 07.0	+02.4	03
04	96 12.9	+02.4	97 12.0	+02.5	98 11.1	+02.5	99 10.3	+02.4	100 09.4	+02.5	04
05	111 15.3	+02.5	112 14.5	+02.4	113 13.6	+02.5	114 12.7	+02.5	115 11.9	+02.4	05
06	126 17.8	+02.5	127 16.9	+02.5	128 16.1	+02.4	129 15.2	+02.5	130 14.3	+02.5	06
07	141 20.3	+02.4	142 19.4	+02.5	143 18.5	+02.5	144 17.7	+02.4	145 16.8	+02.5	07
08	156 22.7	+02.5	157 21.9	+02.4	158 21.0	+02.5	159 20.1	+02.5	160 19.3	+02.4	08
09	171 25.2	+02.4	172 24.3	+02.5	173 23.5	+02.4	174 22.6	+02.5	175 21.7	+02.5	09
10	186 27.6	+02.5	187 26.8	+02.4	188 25.9	+02.5	189 25.1	+02.4	190 24.2	+02.5	10
11	201 30.1	+02.5	202 29.2	+02.5	203 28.4	+02.4	204 27.5	+02.5	205 26.7	+02.4	11
12	216 32.6	+02.4	217 31.7	+02.5	218 30.8	+02.5	219 30.0	+02.5	220 29.1	+02.5	12
13	231 35.0	+02.5	232 34.2	+02.4	233 33.3	+02.5	234 32.5	+02.4	235 31.6	+02.5	13
14	246 37.5	+02.5	247 36.6	+02.5	248 35.8	+02.4	249 34.9	+02.5	250 34.1	+02.4	14
15	261 40.0	+02.4	262 39.1	+02.5	263 38.2	+02.5	264 37.4	+02.4	265 36.5	+02.5	15
16	276 42.4	+02.5	277 41.6	+02.4	278 40.7	+02.5	279 39.8	+02.5	280 39.0	+02.5	16
17	291 44.9	+02.5	292 44.0	+02.5	293 43.2	+02.4	294 42.3	+02.5	295 41.5	+02.4	17
18	306 47.4	+02.4	307 46.5	+02.5	308 45.6	+02.5	309 44.8	+02.4	310 43.9	+02.5	18
19	321 49.8	+02.5	322 49.0	+02.4	323 48.1	+02.5	324 47.2	+02.5	325 46.4	+02.4	19
20	336 52.3	+02.4	337 51.4	+02.5	338 50.6	+02.4	339 49.7	+02.5	340 48.8	+02.5	20
21	351 54.7	+02.5	352 53.9	+02.5	353 53.0	+02.5	354 52.2	+02.4	355 51.3	+02.5	21
22	6 57.2	+02.5	7 56.4	+02.4	8 55.5	+02.5	9 54.6	+02.5	10 53.8	+02.4	22
23	21 59.7	+02.4	22 58.8	+02.5	23 58.0	+02.4	24 57.1	+02.5	25 56.2	+02.5	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 38.8	N 29 12.1
Ankaa	353 11.1	S 42 11.9
Schedir	349 35.1	N 56 38.8
Diphda	348 51.3	S 17 52.8
Achernar	335 23.0	S 57 08.3
Hamal	327 55.6	N 23 33.4
Polaris	315 26.2	N 89 20.7
Acamar	315 14.6	S 40 13.6
Menkar	314 10.2	N 04 10.0
Mirfak	308 33.7	N 49 55.7
Aldebaran	290 44.1	N 16 32.9
Capella	280 27.7	N 46 01.0
Rigel	281 07.6	S 08 10.7
Bellatrix	278 27.1	N 06 22.0
Elnath	278 06.9	N 28 37.4
Alnilam	275 41.8	S 01 11.4
Betelgeuze	270 56.4	N 07 24.6
Canopus	263 54.0	S 52 42.2
Sirius	258 29.6	S 16 44.1
Adhara	255 09.0	S 28 59.8
Castor	246 02.3	N 31 50.6
Procyon	244 54.9	N 05 10.8
Pollux	243 22.1	N 27 58.6
Avior	234 16.3	S 59 34.1
Suhail	222 49.3	S 43 30.4
Miaplacidus	221 38.9	S 69 47.6
Alphard	217 51.9	S 08 44.5
Regulus	207 39.0	N 11 52.3
Dubhe	193 46.7	N 61 38.6
Denebola	182 29.4	N 14 27.9

	SHA	Dec
	° ,	° ,
Gienah	175 48.1	S 17 38.8
Acrux	173 05.1	S 63 12.2
Gacrux	171 56.7	S 57 13.0
Alioth	166 17.5	N 55 51.2
Spica	158 27.0	S 11 15.6
Alkaid	152 55.9	N 49 13.0
Hadar	148 42.4	S 60 27.8
Menkent	148 02.6	S 36 27.5
Arcturus	145 51.8	N 19 05.7
Rigel Kentaurus	139 44.2	S 60 54.9
Zubenelgenubi	137 00.9	S 16 07.1
Kocab	137 21.2	N 74 04.6
Alphecca	126 07.7	N 26 39.2
Antares	112 21.4	S 26 28.4
Atria	107 19.6	S 69 03.7
Sabik	102 07.8	S 15 44.8
Shaula	96 16.3	S 37 07.0
Rasalhague	96 02.7	N 12 33.1
Etamin	90 44.4	N 51 29.5
Kaus Australis	83 38.3	S 34 22.4
Vega	80 36.3	N 38 48.4
Nunki	75 53.1	S 26 16.2
Albireo	67 07.5	N 28 00.4
Altair	62 04.2	N 08 55.3
Peacock	53 12.4	S 56 40.4
Deneb	49 28.5	N 45 21.4
Enif	33 42.8	N 09 58.1
Alnair	27 38.1	S 46 52.0
Formalhaut	15 19.1	S 29 31.1
Markab	13 33.8	N 15 18.8

2019 - First Point of Aries / Selected Stars

UT	day 306 of 365 November 2 GHA	ddGHA	day 307 of 365 November 3 GHA	ddGHA	day 308 of 365 November 4 GHA	ddGHA	day 309 of 365 November 5 GHA	ddGHA	day 310 of 365 November 6 GHA	ddGHA	UT
	° ,	,	° ,	,	° ,	,	° ,	,	° ,	,	
00	40 58.7	+02.5	41 57.8	+02.5	42 57.0	+02.4	43 56.1	+02.5	44 55.3	+02.4	00
01	56 01.2	+02.4	57 00.3	+02.5	57 59.4	+02.5	58 58.6	+02.4	59 57.7	+02.5	01
02	71 03.6	+02.5	72 02.8	+02.4	73 01.9	+02.5	74 01.0	+02.5	75 00.2	+02.4	02
03	86 06.1	+02.5	87 05.2	+02.5	88 04.4	+02.4	89 03.5	+02.5	90 02.6	+02.5	03
04	101 08.6	+02.4	102 07.7	+02.5	103 06.8	+02.5	104 06.0	+02.4	105 05.1	+02.5	04
05	116 11.0	+02.5	117 10.2	+02.4	118 09.3	+02.5	119 08.4	+02.5	120 07.6	+02.4	05
06	131 13.5	+02.4	132 12.6	+02.5	133 11.8	+02.4	134 10.9	+02.5	135 10.0	+02.5	06
07	146 15.9	+02.5	147 15.1	+02.5	148 14.2	+02.5	149 13.4	+02.4	150 12.5	+02.5	07
08	161 18.4	+02.5	162 17.6	+02.4	163 16.7	+02.5	164 15.8	+02.5	165 15.0	+02.4	08
09	176 20.9	+02.4	177 20.0	+02.5	178 19.2	+02.4	179 18.3	+02.5	180 17.4	+02.5	09
10	191 23.3	+02.5	192 22.5	+02.4	193 21.6	+02.5	194 20.8	+02.4	195 19.9	+02.5	10
11	206 25.8	+02.5	207 24.9	+02.5	208 24.1	+02.4	209 23.2	+02.5	210 22.4	+02.4	11
12	221 28.3	+02.4	222 27.4	+02.5	223 26.5	+02.5	224 25.7	+02.5	225 24.8	+02.5	12
13	236 30.7	+02.5	237 29.9	+02.4	238 29.0	+02.5	239 28.2	+02.4	240 27.3	+02.5	13
14	251 33.2	+02.5	252 32.3	+02.5	253 31.5	+02.4	254 30.6	+02.5	255 29.8	+02.4	14
15	266 35.7	+02.4	267 34.8	+02.5	268 33.9	+02.5	269 33.1	+02.4	270 32.2	+02.5	15
16	281 38.1	+02.5	282 37.3	+02.4	283 36.4	+02.5	284 35.5	+02.5	285 34.7	+02.4	16
17	296 40.6	+02.5	297 39.7	+02.5	298 38.9	+02.4	299 38.0	+02.5	300 37.1	+02.5	17
18	311 43.1	+02.4	312 42.2	+02.5	313 41.3	+02.5	314 40.5	+02.4	315 39.6	+02.5	18
19	326 45.5	+02.5	327 44.7	+02.4	328 43.8	+02.5	329 42.9	+02.5	330 42.1	+02.4	19
20	341 48.0	+02.4	342 47.1	+02.5	343 46.3	+02.4	344 45.4	+02.5	345 44.5	+02.5	20
21	356 50.4	+02.5	357 49.6	+02.5	358 48.7	+02.5	359 47.9	+02.4	0 47.0	+02.5	21
22	11 52.9	+02.5	12 52.1	+02.4	13 51.2	+02.5	14 50.3	+02.5	15 49.5	+02.4	22
23	26 55.4	+02.4	27 54.5	+02.5	28 53.7	+02.4	29 52.8	+02.5	30 51.9	+02.5	23

	SHA	Dec
	° ,	° ,
Alpheratz	357 38.8	N 29 12.1
Ankaa	353 11.1	S 42 12.0
Schedir	349 35.1	N 56 38.8
Diphda	348 51.3	S 17 52.8
Achernar	335 23.0	S 57 08.3
Hamal	327 55.6	N 23 33.4
Polaris	315 25.2	N 89 20.7
Acamar	315 14.6	S 40 13.6
Menkar	314 10.2	N 04 10.0
Mirfak	308 33.6	N 49 55.7
Aldebaran	290 44.1	N 16 32.9
Capella	280 27.7	N 46 01.0
Rigel	281 07.6	S 08 10.7
Bellatrix	278 27.1	N 06 22.0
Elnath	278 06.8	N 28 37.4
Alnilam	275 41.7	S 01 11.4
Betelgeuze	270 56.4	N 07 24.6
Canopus	263 53.9	S 52 42.2
Sirius	258 29.6	S 16 44.1
Adhara	255 08.9	S 28 59.8
Castor	246 02.2	N 31 50.6
Procyon	244 54.9	N 05 10.8
Pollux	243 22.0	N 27 58.6
Avior	234 16.2	S 59 34.1
Suhail	222 49.3	S 43 30.4
Miaplacidus	221 38.8	S 69 47.6
Alphard	217 51.9	S 08 44.5
Regulus	207 38.9	N 11 52.3
Dubhe	193 46.6	N 61 38.5
Denebola	182 29.3	N 14 27.9

	SHA	Dec
	° ,	° ,
Gienah	175 48.1	S 17 38.8
Acrux	173 05.1	S 63 12.2
Gacrux	171 56.6	S 57 13.0
Alioth	166 17.4	N 55 51.2
Spica	158 27.0	S 11 15.6
Alkaid	152 55.9	N 49 13.0
Hadar	148 42.4	S 60 27.8
Menkent	148 02.6	S 36 27.5
Arcturus	145 51.8	N 19 05.6
Rigel Kentaurus	139 44.2	S 60 54.9
Zubenelgenubi	137 00.9	S 16 07.1
Kocab	137 21.2	N 74 04.6
Alphecca	126 07.7	N 26 39.2
Antares	112 21.4	S 26 28.3
Atria	107 19.6	S 69 03.7
Sabik	102 07.8	S 15 44.8
Shaula	96 16.3	S 37 07.0
Rasalhague	96 02.7	N 12 33.1
Etamin	90 44.5	N 51 29.5
Kaus Australis	83 38.3	S 34 22.4
Vega	80 36.3	N 38 48.4
Nunki	75 53.1	S 26 16.2
Albireo	67 07.5	N 28 00.4
Altair	62 04.2	N 08 55.3
Peacock	53 12.5	S 56 40.4
Deneb	49 28.6	N 45 21.4
Enif	33 42.8	N 09 58.1
Alnair	27 38.1	S 46 52.0
Formalhaut	15 19.1	S 29 31.1
Markab	13 33.8	N 15 18.8

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2019 - First Point of Aries / Selected Stars

UT	day 331 of 365 November 27 GHA	ddGHA	day 332 of 365 November 28 GHA	ddGHA	day 333 of 365 November 29 GHA	ddGHA	day 334 of 365 November 30 GHA	ddGHA	day 335 of 365 December 1 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	65 37.2	+02.4	66 36.3	+02.5	67 35.5	+02.4	68 34.6	+02.5	69 33.7	+02.5	00
01	80 39.6	+02.5	81 38.8	+02.4	82 37.9	+02.5	83 37.1	+02.4	84 36.2	+02.5	01
02	95 42.1	+02.5	96 41.2	+02.5	97 40.4	+02.4	98 39.5	+02.5	99 38.7	+02.4	02
03	110 44.6	+02.4	111 43.7	+02.5	112 42.8	+02.5	113 42.0	+02.4	114 41.1	+02.5	03
04	125 47.0	+02.5	126 46.2	+02.4	127 45.3	+02.5	128 44.4	+02.5	129 43.6	+02.5	04
05	140 49.5	+02.5	141 48.6	+02.5	142 47.8	+02.4	143 46.9	+02.5	144 46.1	+02.4	05
06	155 52.0	+02.4	156 51.1	+02.5	157 50.2	+02.5	158 49.4	+02.4	159 48.5	+02.5	06
07	170 54.4	+02.5	171 53.6	+02.4	172 52.7	+02.5	173 51.8	+02.5	174 51.0	+02.4	07
08	185 56.9	+02.4	186 56.0	+02.5	187 55.2	+02.4	188 54.3	+02.5	189 53.4	+02.5	08
09	200 59.3	+02.5	201 58.5	+02.5	202 57.6	+02.5	203 56.8	+02.4	204 55.9	+02.5	09
10	216 01.8	+02.5	217 01.0	+02.4	218 00.1	+02.5	218 59.2	+02.5	219 58.4	+02.4	10
11	231 04.3	+02.4	232 03.4	+02.5	233 02.6	+02.4	234 01.7	+02.5	235 00.8	+02.5	11
12	246 06.7	+02.5	247 05.9	+02.4	248 05.0	+02.5	249 04.2	+02.4	250 03.3	+02.5	12
13	261 09.2	+02.5	262 08.3	+02.5	263 07.5	+02.5	264 06.6	+02.5	265 05.8	+02.4	13
14	276 11.7	+02.4	277 10.8	+02.5	278 10.0	+02.4	279 09.1	+02.5	280 08.2	+02.5	14
15	291 14.1	+02.5	292 13.3	+02.4	293 12.4	+02.5	294 11.6	+02.4	295 10.7	+02.5	15
16	306 16.6	+02.5	307 15.7	+02.5	308 14.9	+02.4	309 14.0	+02.5	310 13.2	+02.4	16
17	321 19.1	+02.4	322 18.2	+02.5	323 17.3	+02.5	324 16.5	+02.4	325 15.6	+02.5	17
18	336 21.5	+02.5	337 20.7	+02.4	338 19.8	+02.5	339 18.9	+02.5	340 18.1	+02.5	18
19	351 24.0	+02.5	352 23.1	+02.5	353 22.3	+02.4	354 21.4	+02.5	355 20.6	+02.4	19
20	6 26.5	+02.4	7 25.6	+02.5	8 24.7	+02.5	9 23.9	+02.4	10 23.0	+02.5	20
21	21 28.9	+02.5	22 28.1	+02.4	23 27.2	+02.5	24 26.3	+02.5	25 25.5	+02.4	21
22	36 31.4	+02.4	37 30.5	+02.5	38 29.7	+02.4	39 28.8	+02.5	40 27.9	+02.5	22
23	51 33.8	+02.5	52 33.0	+02.5	53 32.1	+02.5	54 31.3	+02.4	55 30.4	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.8	N 29 12.1
Ankaa	353 11.2	S 42 12.0
Schedir	349 35.2	N 56 38.9
Diphda	348 51.3	S 17 52.8
Achernar	335 23.0	S 57 08.4
Hamal	327 55.5	N 23 33.4
Polaris	315 24.5	N 89 20.9
Acamar	315 14.5	S 40 13.7
Menkar	314 10.1	N 04 10.0
Mirfak	308 33.5	N 49 55.8
Aldebaran	290 44.0	N 16 32.9
Capella	280 27.5	N 46 01.0
Rigel	281 07.5	S 08 10.8
Bellatrix	278 27.0	N 06 22.0
Elnath	278 06.7	N 28 37.4
Alnilam	275 41.6	S 01 11.4
Betelgeuze	270 56.2	N 07 24.6
Canopus	263 53.7	S 52 42.3
Sirius	258 29.4	S 16 44.2
Adhara	255 08.8	S 28 59.9
Castor	246 02.0	N 31 50.6
Procyon	244 54.7	N 05 10.7
Pollux	243 21.8	N 27 58.6
Avior	234 15.9	S 59 34.1
Suhail	222 49.1	S 43 30.5
Miaplacidus	221 38.4	S 69 47.6
Alphard	217 51.7	S 08 44.6
Regulus	207 38.7	N 11 52.2
Dubhe	193 46.3	N 61 38.4
Denebola	182 29.2	N 14 27.8

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 38.9
Acrux	173 04.8	S 63 12.1
Gacrux	171 56.4	S 57 13.0
Alioth	166 17.3	N 55 51.1
Spica	158 26.9	S 11 15.6
Alkaid	152 55.8	N 49 12.9
Hadar	148 42.2	S 60 27.8
Menkent	148 02.5	S 36 27.5
Arcturus	145 51.7	N 19 05.5
Rigel Kentaurus	139 44.1	S 60 54.8
Zubenelgenubi	137 00.8	S 16 07.2
Kocab	137 21.2	N 74 04.4
Alphecca	126 07.7	N 26 39.1
Antares	112 21.4	S 26 28.3
Atria	107 19.7	S 69 03.6
Sabik	102 07.9	S 15 44.8
Shaula	96 16.3	S 37 06.9
Rasalhague	96 02.7	N 12 33.0
Etamin	90 44.6	N 51 29.4
Kaus Australis	83 38.3	S 34 22.4
Vega	80 36.4	N 38 48.3
Nunki	75 53.2	S 26 16.2
Albireo	67 07.6	N 28 00.3
Altair	62 04.3	N 08 55.3
Peacock	53 12.6	S 56 40.4
Deneb	49 28.7	N 45 21.3
Enif	33 42.9	N 09 58.1
Alnair	27 38.3	S 46 52.1
Formalhaut	15 19.2	S 29 31.2
Markab	13 33.9	N 15 18.8

2019 - First Point of Aries / Selected Stars

UT	day 316 of 365 November 12 GHA	ddGHA	day 317 of 365 November 13 GHA	ddGHA	day 318 of 365 November 14 GHA	ddGHA	day 319 of 365 November 15 GHA	ddGHA	day 320 of 365 November 16 GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	50 50.1	+02.4	51 49.2	+02.5	52 48.4	+02.4	53 47.5	+02.5	54 46.6	+02.5	00
01	65 52.5	+02.5	66 51.7	+02.4	67 50.8	+02.5	68 50.0	+02.4	69 49.1	+02.5	01
02	80 55.0	+02.5	81 54.1	+02.5	82 53.3	+02.5	83 52.4	+02.5	84 51.6	+02.4	02
03	95 57.5	+02.4	96 56.6	+02.5	97 55.8	+02.4	98 54.9	+02.5	99 54.0	+02.5	03
04	110 59.9	+02.5	111 59.1	+02.4	112 58.2	+02.5	113 57.4	+02.4	114 56.5	+02.5	04
05	126 02.4	+02.5	127 01.5	+02.5	128 00.7	+02.4	128 59.8	+02.5	129 59.0	+02.4	05
06	141 04.9	+02.4	142 04.0	+02.5	143 03.1	+02.5	144 02.3	+02.4	145 01.4	+02.5	06
07	156 07.3	+02.5	157 06.5	+02.4	158 05.6	+02.5	159 04.7	+02.5	160 03.9	+02.5	07
08	171 09.8	+02.5	172 08.9	+02.5	173 08.1	+02.4	174 07.2	+02.5	175 06.4	+02.4	08
09	186 12.3	+02.4	187 11.4	+02.5	188 10.5	+02.5	189 09.7	+02.4	190 08.8	+02.5	09
10	201 14.7	+02.5	202 13.9	+02.4	203 13.0	+02.5	204 12.1	+02.5	205 11.3	+02.4	10
11	216 17.2	+02.5	217 16.3	+02.5	218 15.5	+02.4	219 14.6	+02.5	220 13.7	+02.5	11
12	231 19.7	+02.4	232 18.8	+02.5	233 17.9	+02.5	234 17.1	+02.4	235 16.2	+02.5	12
13	246 22.1	+02.5	247 21.3	+02.4	248 20.4	+02.5	249 19.5	+02.5	250 18.7	+02.4	13
14	261 24.6	+02.4	262 23.7	+02.5	263 22.9	+02.4	264 22.0	+02.5	265 21.1	+02.5	14
15	276 27.0	+02.5	277 26.2	+02.4	278 25.3	+02.5	279 24.5	+02.4	280 23.6	+02.5	15
16	291 29.5	+02.5	292 28.6	+02.5	293 27.8	+02.5	294 26.9	+02.5	295 26.1	+02.4	16
17	306 32.0	+02.4	307 31.1	+02.5	308 30.3	+02.4	309 29.4	+02.5	310 28.5	+02.5	17
18	321 34.4	+02.5	322 33.6	+02.4	323 32.7	+02.5	324 31.9	+02.4	325 31.0	+02.5	18
19	336 36.9	+02.5	337 36.0	+02.5	338 35.2	+02.4	339 34.3	+02.5	340 33.5	+02.4	19
20	351 39.4	+02.4	352 38.5	+02.5	353 37.6	+02.5	354 36.8	+02.4	355 35.9	+02.5	20
21	6 41.8	+02.5	7 41.0	+02.4	8 40.1	+02.5	9 39.2	+02.5	10 38.4	+02.5	21
22	21 44.3	+02.5	22 43.4	+02.5	23 42.6	+02.4	24 41.7	+02.5	25 40.9	+02.4	22
23	36 46.8	+02.4	37 45.9	+02.5	38 45.0	+02.5	39 44.2	+02.4	40 43.3	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.8	N 29 12.1
Ankaa	353 11.1	S 42 12.0
Schedir	349 35.2	N 56 38.9
Diphda	348 51.3	S 17 52.8
Achernar	335 23.0	S 57 08.4
Hamal	327 55.6	N 23 33.4
Polaris	315 24.5	N 89 20.8
Acamar	315 14.6	S 40 13.6
Menkar	314 10.2	N 04 10.0
Mirfak	308 33.6	N 49 55.8
Aldebaran	290 44.1	N 16 32.9
Capella	280 27.6	N 46 01.0
Rigel	281 07.6	S 08 10.7
Bellatrix	278 27.0	N 06 22.0
Elnath	278 06.8	N 28 37.4
Alnilam	275 41.7	S 01 11.4
Betelgeuze	270 56.3	N 07 24.6
Canopus	263 53.8	S 52 42.2
Sirius	258 29.5	S 16 44.1
Adhara	255 08.9	S 28 59.8
Castor	246 02.1	N 31 50.6
Procyon	244 54.8	N 05 10.8
Pollux	243 21.9	N 27 58.6
Avior	234 16.1	S 59 34.1
Suhail	222 49.2	S 43 30.4
Miaplacidus	221 38.6	S 69 47.6
Alphard	217 51.8	S 08 44.5
Regulus	207 38.9	N 11 52.3
Dubhe	193 46.5	N 61 38.5
Denebola	182 29.3	N 14 27.8

	SHA	Dec
	° ′	° ′
Gienah	175 48.0	S 17 38.8
Acrux	173 05.0	S 63 12.2
Gacrux	171 56.5	S 57 13.0
Alioth	166 17.4	N 55 51.1
Spica	158 26.9	S 11 15.6
Alkaid	152 55.8	N 49 13.0
Hadar	148 42.3	S 60 27.8
Menkent	148 02.6	S 36 27.5
Arcturus	145 51.8	N 19 05.6
Rigel Kentaurus	139 44.2	S 60 54.9
Zubenelgenubi	137 00.9	S 16 07.1
Kocab	137 21.2	N 74 04.5
Alphecca	126 07.7	N 26 39.1
Antares	112 21.4	S 26 28.3
Atria	107 19.7	S 69 03.7
Sabik	102 07.9	S 15 44.8
Shaula	96 16.3	S 37 07.0
Rasalhague	96 02.7	N 12 33.1
Etamin	90 44.5	N 51 29.5
Kaus Australis	83 38.3	S 34 22.4
Vega	80 36.4	N 38 48.3
Nunki	75 53.1	S 26 16.2
Albireo	67 07.6	N 28 00.3
Altair	62 04.3	N 08 55.3
Peacock	53 12.5	S 56 40.4
Deneb	49 28.6	N 45 21.4
Enif	33 42.8	N 09 58.1
Alnair	27 38.2	S 46 52.1
Formalhaut	15 19.1	S 29 31.1
Markab	13 33.9	N 15 18.8

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2019 - First Point of Aries / Selected Stars

UT	day 321 of 365 **November 17**		day 322 of 365 **November 18**		day 323 of 365 **November 19**		day 324 of 365 **November 20**		day 325 of 365 **November 21**		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	55 45.8	+02.4	56 44.9	+02.5	57 44.1	+02.4	58 43.2	+02.5	59 42.3	+02.5	00
01	70 48.2	+02.5	71 47.4	+02.5	72 46.5	+02.5	73 45.7	+02.4	74 44.8	+02.5	01
02	85 50.7	+02.5	86 49.9	+02.4	87 49.0	+02.5	88 48.1	+02.5	89 47.3	+02.4	02
03	100 53.2	+02.4	101 52.3	+02.5	102 51.5	+02.4	103 50.6	+02.5	104 49.7	+02.5	03
04	115 55.6	+02.5	116 54.8	+02.4	117 53.9	+02.5	118 53.1	+02.4	119 52.2	+02.5	04
05	130 58.1	+02.5	131 57.2	+02.5	132 56.4	+02.4	133 55.5	+02.5	134 54.7	+02.4	05
06	146 00.6	+02.4	146 59.7	+02.5	147 58.8	+02.5	148 58.0	+02.4	149 57.1	+02.5	06
07	161 03.0	+02.5	162 02.2	+02.4	163 01.3	+02.5	164 00.4	+02.5	164 59.6	+02.5	07
08	176 05.5	+02.5	177 04.6	+02.5	178 03.8	+02.4	179 02.9	+02.5	180 02.1	+02.4	08
09	191 08.0	+02.4	192 07.1	+02.5	193 06.2	+02.5	194 05.4	+02.4	195 04.5	+02.5	09
10	206 10.4	+02.5	207 09.6	+02.4	208 08.7	+02.5	209 07.8	+02.5	210 07.0	+02.4	10
11	221 12.9	+02.5	222 12.0	+02.5	223 11.2	+02.4	224 10.3	+02.5	225 09.4	+02.5	11
12	236 15.4	+02.4	237 14.5	+02.5	238 13.6	+02.5	239 12.8	+02.4	240 11.9	+02.5	12
13	251 17.8	+02.5	252 17.0	+02.4	253 16.1	+02.5	254 15.2	+02.5	255 14.4	+02.4	13
14	266 20.3	+02.4	267 19.4	+02.5	268 18.6	+02.4	269 17.7	+02.5	270 16.8	+02.5	14
15	281 22.7	+02.5	282 21.9	+02.4	283 21.0	+02.5	284 20.2	+02.4	285 19.3	+02.5	15
16	296 25.2	+02.5	297 24.3	+02.5	298 23.5	+02.5	299 22.6	+02.5	300 21.8	+02.4	16
17	311 27.7	+02.4	312 26.8	+02.5	313 26.0	+02.4	314 25.1	+02.5	315 24.2	+02.5	17
18	326 30.1	+02.5	327 29.3	+02.4	328 28.4	+02.5	329 27.6	+02.4	330 26.7	+02.5	18
19	341 32.6	+02.5	342 31.7	+02.5	343 30.9	+02.4	344 30.0	+02.5	345 29.2	+02.4	19
20	356 35.1	+02.4	357 34.2	+02.5	358 33.3	+02.5	359 32.5	+02.4	0 31.6	+02.5	20
21	11 37.5	+02.5	12 36.7	+02.4	13 35.8	+02.5	14 34.9	+02.5	15 34.1	+02.4	21
22	26 40.0	+02.5	27 39.1	+02.5	28 38.3	+02.4	29 37.4	+02.5	30 36.5	+02.5	22
23	41 42.5	+02.4	42 41.6	+02.5	43 40.7	+02.5	44 39.9	+02.4	45 39.0	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.8	N 29 12.1
Ankaa	353 11.2	S 42 12.0
Schedir	349 35.2	N 56 38.9
Diphda	348 51.3	S 17 52.8
Achernar	335 23.0	S 57 08.4
Hamal	327 55.5	N 23 33.4
Polaris	315 24.1	N 89 20.8
Acamar	315 14.5	S 40 13.7
Menkar	314 10.1	N 04 10.0
Mirfak	308 33.6	N 49 55.8
Aldebaran	290 44.0	N 16 32.9
Capella	280 27.6	N 46 01.0
Rigel	281 07.5	S 08 10.8
Bellatrix	278 27.0	N 06 22.0
Elnath	278 06.8	N 28 37.4
Alnilam	275 41.6	S 01 11.4
Betelgeuze	270 56.3	N 07 24.6
Canopus	263 53.8	S 52 42.2
Sirius	258 29.5	S 16 44.2
Adhara	255 08.8	S 28 59.8
Castor	246 02.1	N 31 50.6
Procyon	244 54.8	N 05 10.8
Pollux	243 21.9	N 27 58.6
Avior	234 16.0	S 59 34.1
Suhail	222 49.2	S 43 30.5
Miaplacidus	221 38.5	S 69 47.6
Alphard	217 51.8	S 08 44.5
Regulus	207 38.8	N 11 52.3
Dubhe	193 46.5	N 61 38.5
Denebola	182 29.2	N 14 27.8

	SHA	Dec
	° ′	° ′
Gienah	175 48.0	S 17 38.9
Acrux	173 04.9	S 63 12.1
Gacrux	171 56.5	S 57 13.0
Alioth	166 17.3	N 55 51.1
Spica	158 26.9	S 11 15.6
Alkaid	152 55.8	N 49 12.9
Hadar	148 42.3	S 60 27.8
Menkent	148 02.5	S 36 27.5
Arcturus	145 51.7	N 19 05.6
Rigel Kentaurus	139 44.1	S 60 54.9
Zubenelgenubi	137 00.9	S 16 07.2
Kocab	137 21.2	N 74 04.5
Alphecca	126 07.7	N 26 39.1
Antares	112 21.4	S 26 28.3
Atria	107 19.7	S 69 03.7
Sabik	102 07.9	S 15 44.8
Shaula	96 16.3	S 37 07.0
Rasalhague	96 02.7	N 12 33.0
Etamin	90 44.6	N 51 29.5
Kaus Australis	83 38.3	S 34 22.4
Vega	80 36.4	N 38 48.3
Nunki	75 53.2	S 26 16.2
Albireo	67 07.6	N 28 00.3
Altair	62 04.3	N 08 55.3
Peacock	53 12.6	S 56 40.4
Deneb	49 28.7	N 45 21.4
Enif	33 42.8	N 09 58.1
Alnair	27 38.2	S 46 52.1
Formalhaut	15 19.1	S 29 31.1
Markab	13 33.9	N 15 18.8

2019 - First Point of Aries / Selected Stars

UT	day 326 of 365 **November 22**		day 327 of 365 **November 23**		day 328 of 365 **November 24**		day 329 of 365 **November 25**		day 330 of 365 **November 26**		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	60 41.5	+02.4	61 40.6	+02.5	62 39.8	+02.4	63 38.9	+02.5	64 38.0	+02.5	00
01	75 43.9	+02.5	76 43.1	+02.4	77 42.2	+02.5	78 41.4	+02.4	79 40.5	+02.5	01
02	90 46.4	+02.5	91 45.5	+02.5	92 44.7	+02.4	93 43.8	+02.5	94 43.0	+02.4	02
03	105 48.9	+02.4	106 48.0	+02.5	107 47.1	+02.5	108 46.3	+02.4	109 45.4	+02.5	03
04	120 51.3	+02.5	121 50.5	+02.4	122 49.6	+02.5	123 48.7	+02.5	124 47.9	+02.5	04
05	135 53.8	+02.5	136 52.9	+02.5	137 52.1	+02.4	138 51.2	+02.5	139 50.4	+02.4	05
06	150 56.3	+02.4	151 55.4	+02.5	152 54.5	+02.5	153 53.7	+02.4	154 52.8	+02.5	06
07	165 58.7	+02.5	166 57.9	+02.4	167 57.0	+02.5	168 56.1	+02.5	169 55.3	+02.4	07
08	181 01.2	+02.5	182 00.3	+02.5	182 59.5	+02.4	183 58.6	+02.5	184 57.7	+02.5	08
09	196 03.7	+02.4	197 02.8	+02.5	198 01.9	+02.5	199 01.1	+02.4	200 00.2	+02.5	09
10	211 06.1	+02.5	212 05.3	+02.4	213 04.4	+02.5	214 03.5	+02.5	215 02.7	+02.4	10
11	226 08.6	+02.4	227 07.7	+02.5	228 06.9	+02.4	229 06.0	+02.5	230 05.1	+02.5	11
12	241 11.0	+02.5	242 10.2	+02.4	243 09.3	+02.5	244 08.5	+02.4	245 07.6	+02.5	12
13	256 13.5	+02.5	257 12.6	+02.5	258 11.8	+02.4	259 10.9	+02.5	260 10.1	+02.4	13
14	271 16.0	+02.4	272 15.1	+02.5	273 14.2	+02.5	274 13.4	+02.5	275 12.5	+02.5	14
15	286 18.4	+02.5	287 17.6	+02.4	288 16.7	+02.5	289 15.9	+02.4	290 15.0	+02.5	15
16	301 20.9	+02.5	302 20.0	+02.5	303 19.2	+02.4	304 18.3	+02.5	305 17.5	+02.4	16
17	316 23.4	+02.4	317 22.5	+02.5	318 21.6	+02.5	319 20.8	+02.4	320 19.9	+02.5	17
18	331 25.8	+02.5	332 25.0	+02.4	333 24.1	+02.5	334 23.2	+02.5	335 22.4	+02.4	18
19	346 28.3	+02.5	347 27.4	+02.5	348 26.6	+02.4	349 25.7	+02.5	350 24.8	+02.5	19
20	1 30.8	+02.4	2 29.9	+02.5	3 29.0	+02.5	4 28.2	+02.4	5 27.3	+02.5	20
21	16 33.2	+02.5	17 32.4	+02.4	18 31.5	+02.5	19 30.6	+02.5	20 29.8	+02.4	21
22	31 35.7	+02.5	32 34.8	+02.5	33 34.0	+02.4	34 33.1	+02.5	35 32.2	+02.5	22
23	46 38.2	+02.4	47 37.3	+02.5	48 36.4	+02.5	49 35.6	+02.4	50 34.7	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.8	N 29 12.1
Ankaa	353 11.2	S 42 12.0
Schedir	349 35.2	N 56 38.9
Diphda	348 51.3	S 17 52.8
Achernar	335 23.0	S 57 08.4
Hamal	327 55.5	N 23 33.4
Polaris	315 24.4	N 89 20.9
Acamar	315 14.5	S 40 13.7
Menkar	314 10.1	N 04 10.0
Mirfak	308 33.6	N 49 55.8
Aldebaran	290 44.0	N 16 32.9
Capella	280 27.5	N 46 01.0
Rigel	281 07.5	S 08 10.8
Bellatrix	278 27.0	N 06 22.0
Elnath	278 06.7	N 28 37.4
Alnilam	275 41.6	S 01 11.4
Betelgeuze	270 56.3	N 07 24.6
Canopus	263 53.8	S 52 42.3
Sirius	258 29.4	S 16 44.2
Adhara	255 08.8	S 28 59.8
Castor	246 02.0	N 31 50.6
Procyon	244 54.8	N 05 10.7
Pollux	243 21.8	N 27 58.6
Avior	234 16.0	S 59 34.1
Suhail	222 49.1	S 43 30.5
Miaplacidus	221 38.5	S 69 47.6
Alphard	217 51.7	S 08 44.6
Regulus	207 38.8	N 11 52.2
Dubhe	193 46.4	N 61 38.5
Denebola	182 29.2	N 14 27.8

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 38.9
Acrux	173 04.9	S 63 12.1
Gacrux	171 56.4	S 57 13.0
Alioth	166 17.3	N 55 51.1
Spica	158 26.9	S 11 15.6
Alkaid	152 55.8	N 49 12.9
Hadar	148 42.2	S 60 27.8
Menkent	148 02.5	S 36 27.5
Arcturus	145 51.7	N 19 05.5
Rigel Kentaurus	139 44.1	S 60 54.9
Zubenelgenubi	137 00.8	S 16 07.2
Kocab	137 21.2	N 74 04.5
Alphecca	126 07.7	N 26 39.1
Antares	112 21.4	S 26 28.3
Atria	107 19.7	S 69 03.6
Sabik	102 07.9	S 15 44.8
Shaula	96 16.3	S 37 07.0
Rasalhague	96 02.7	N 12 33.0
Etamin	90 44.6	N 51 29.4
Kaus Australis	83 38.3	S 34 22.4
Vega	80 36.4	N 38 48.3
Nunki	75 53.2	S 26 16.2
Albireo	67 07.6	N 28 00.3
Altair	62 04.3	N 08 55.3
Peacock	53 12.6	S 56 40.4
Deneb	49 28.7	N 45 21.3
Enif	33 42.9	N 09 58.1
Alnair	27 38.3	S 46 52.1
Formalhaut	15 19.2	S 29 31.1
Markab	13 33.9	N 15 18.8

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2019 - First Point of Aries / Selected Stars

UT	day 351 of 365 **December 17** GHA	ddGHA	day 352 of 365 **December 18** GHA	ddGHA	day 353 of 365 **December 19** GHA	ddGHA	day 354 of 365 **December 20** GHA	ddGHA	day 355 of 365 **December 21** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	85 20.0	+02.4	86 19.1	+02.5	87 18.2	+02.5	88 17.4	+02.4	89 16.5	+02.5	00
01	100 22.4	+02.5	101 21.6	+02.4	102 20.7	+02.5	103 19.8	+02.5	104 19.0	+02.4	01
02	115 24.9	+02.5	116 24.0	+02.5	117 23.2	+02.4	118 22.3	+02.5	119 21.4	+02.5	02
03	130 27.4	+02.4	131 26.5	+02.5	132 25.6	+02.5	133 24.8	+02.4	134 23.9	+02.5	03
04	145 29.8	+02.5	146 29.0	+02.4	147 28.1	+02.5	148 27.2	+02.5	149 26.4	+02.4	04
05	160 32.3	+02.4	161 31.4	+02.5	162 30.6	+02.4	163 29.7	+02.5	164 28.8	+02.5	05
06	175 34.7	+02.5	176 33.9	+02.5	177 33.0	+02.5	178 32.2	+02.4	179 31.3	+02.5	06
07	190 37.2	+02.5	191 36.4	+02.4	192 35.5	+02.5	193 34.6	+02.5	194 33.8	+02.4	07
08	205 39.7	+02.4	206 38.8	+02.5	207 38.0	+02.4	208 37.1	+02.5	209 36.2	+02.5	08
09	220 42.1	+02.5	221 41.3	+02.4	222 40.4	+02.5	223 39.6	+02.4	224 38.7	+02.5	09
10	235 44.6	+02.5	236 43.7	+02.5	237 42.9	+02.4	238 42.0	+02.5	239 41.2	+02.4	10
11	250 47.1	+02.4	251 46.2	+02.5	252 45.3	+02.5	253 44.5	+02.4	254 43.6	+02.5	11
12	265 49.5	+02.5	266 48.7	+02.4	267 47.8	+02.5	268 46.9	+02.5	269 46.1	+02.5	12
13	280 52.0	+02.5	281 51.1	+02.5	282 50.3	+02.4	283 49.4	+02.5	284 48.6	+02.4	13
14	295 54.5	+02.4	296 53.6	+02.5	297 52.7	+02.5	298 51.9	+02.4	299 51.0	+02.5	14
15	310 56.9	+02.5	311 56.1	+02.4	312 55.2	+02.5	313 54.3	+02.5	314 53.5	+02.4	15
16	325 59.4	+02.5	326 58.5	+02.5	327 57.7	+02.4	328 56.8	+02.5	329 55.9	+02.5	16
17	341 01.9	+02.4	342 01.0	+02.5	343 00.1	+02.5	343 59.3	+02.4	344 58.4	+02.5	17
18	356 04.3	+02.5	357 03.5	+02.4	358 02.6	+02.5	359 01.7	+02.5	0 00.9	+02.4	18
19	11 06.8	+02.4	12 05.9	+02.5	13 05.1	+02.4	14 04.2	+02.5	15 03.3	+02.5	19
20	26 09.2	+02.5	27 08.4	+02.4	28 07.5	+02.5	29 06.7	+02.4	30 05.8	+02.5	20
21	41 11.7	+02.5	42 10.8	+02.5	43 10.0	+02.5	44 09.1	+02.5	45 08.3	+02.4	21
22	56 14.2	+02.4	57 13.3	+02.5	58 12.5	+02.4	59 11.6	+02.5	60 10.7	+02.5	22
23	71 16.6	+02.5	72 15.8	+02.4	73 14.9	+02.5	74 14.1	+02.4	75 13.2	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.9	N 29 12.2
Ankaa	353 11.3	S 42 12.1
Schedir	349 35.3	N 56 39.0
Diphda	348 51.4	S 17 52.9
Achernar	335 23.2	S 57 08.5
Hamal	327 55.6	N 23 33.4
Polaris	315 27.6	N 89 21.0
Acamar	315 14.6	S 40 13.8
Menkar	314 10.1	N 04 10.0
Mirfak	308 33.5	N 49 55.9
Aldebaran	290 43.9	N 16 32.9
Capella	280 27.4	N 46 01.1
Rigel	281 07.4	S 08 10.8
Bellatrix	278 26.9	N 06 21.9
Elnath	278 06.6	N 28 37.4
Alnilam	275 41.5	S 01 11.5
Betelgeuze	270 56.1	N 07 24.5
Canopus	263 53.6	S 52 42.4
Sirius	258 29.3	S 16 44.3
Adhara	255 08.7	S 28 59.9
Castor	246 01.9	N 31 50.5
Procyon	244 54.6	N 05 10.7
Pollux	243 21.7	N 27 58.6
Avior	234 15.7	S 59 34.2
Suhail	222 48.9	S 43 30.6
Miaplacidus	221 38.1	S 69 47.7
Alphard	217 51.5	S 08 44.6
Regulus	207 38.6	N 11 52.2
Dubhe	193 46.0	N 61 38.4
Denebola	182 29.0	N 14 27.7

	SHA	Dec
	° ′	° ′
Gienah	175 47.7	S 17 38.9
Acrux	173 04.5	S 63 12.1
Gacrux	171 56.1	S 57 13.0
Alioth	166 17.0	N 55 51.0
Spica	158 26.7	S 11 15.7
Alkaid	152 55.6	N 49 12.8
Hadar	148 42.0	S 60 27.7
Menkent	148 02.3	S 36 27.5
Arcturus	145 51.6	N 19 05.4
Rigel Kentaurus	139 43.8	S 60 54.8
Zubenelgenubi	137 00.7	S 16 07.2
Kocab	137 21.0	N 74 04.3
Alphecca	126 07.6	N 26 39.0
Antares	112 21.3	S 26 28.3
Atria	107 19.6	S 69 03.5
Sabik	102 07.8	S 15 44.8
Shaula	96 16.3	S 37 06.9
Rasalhague	96 02.7	N 12 32.9
Etamin	90 44.6	N 51 29.3
Kaus Australis	83 38.3	S 34 22.4
Vega	80 36.5	N 38 48.2
Nunki	75 53.2	S 26 16.2
Albireo	67 07.6	N 28 00.2
Altair	62 04.3	N 08 55.2
Peacock	53 12.7	S 56 40.4
Deneb	49 28.8	N 45 21.3
Enif	33 42.9	N 09 58.0
Alnair	27 38.4	S 46 52.1
Formalhaut	15 19.2	S 29 31.2
Markab	13 34.0	N 15 18.8

2019 - First Point of Aries / Selected Stars

UT	day 336 of 365 **December 2** GHA	ddGHA	day 337 of 365 **December 3** GHA	ddGHA	day 338 of 365 **December 4** GHA	ddGHA	day 339 of 365 **December 5** GHA	ddGHA	day 340 of 365 **December 6** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	70 32.9	+02.4	71 32.0	+02.5	72 31.2	+02.4	73 30.3	+02.5	74 29.4	+02.5	00
01	85 35.3	+02.5	86 34.5	+02.4	87 33.6	+02.5	88 32.8	+02.4	89 31.9	+02.5	01
02	100 37.8	+02.5	101 36.9	+02.5	102 36.1	+02.4	103 35.2	+02.5	104 34.4	+02.4	02
03	115 40.3	+02.4	116 39.4	+02.5	117 38.5	+02.5	118 37.7	+02.4	119 36.8	+02.5	03
04	130 42.7	+02.5	131 41.9	+02.4	132 41.0	+02.5	133 40.1	+02.5	134 39.3	+02.4	04
05	145 45.2	+02.5	146 44.3	+02.5	147 43.5	+02.4	148 42.6	+02.5	149 41.7	+02.5	05
06	160 47.7	+02.4	161 46.8	+02.5	162 45.9	+02.5	163 45.1	+02.4	164 44.2	+02.5	06
07	175 50.1	+02.5	176 49.3	+02.4	177 48.4	+02.5	178 47.5	+02.5	179 46.7	+02.4	07
08	190 52.6	+02.5	191 51.7	+02.5	192 50.9	+02.4	193 50.0	+02.5	194 49.1	+02.5	08
09	205 55.1	+02.4	206 54.2	+02.5	207 53.3	+02.5	208 52.5	+02.4	209 51.6	+02.5	09
10	220 57.5	+02.5	221 56.7	+02.4	222 55.8	+02.5	223 54.9	+02.5	224 54.1	+02.4	10
11	235 60.0	+02.4	236 59.1	+02.5	237 58.3	+02.4	238 57.4	+02.5	239 56.5	+02.5	11
12	251 02.4	+02.5	252 01.6	+02.4	253 00.7	+02.5	253 59.9	+02.4	254 59.0	+02.5	12
13	266 04.9	+02.5	267 04.0	+02.5	268 03.2	+02.4	269 02.3	+02.5	270 01.5	+02.4	13
14	281 07.4	+02.4	282 06.5	+02.5	283 05.6	+02.5	284 04.8	+02.5	285 03.9	+02.5	14
15	296 09.8	+02.5	297 09.0	+02.4	298 08.1	+02.5	299 07.3	+02.4	300 06.4	+02.5	15
16	311 12.3	+02.5	312 11.4	+02.5	313 10.6	+02.4	314 09.7	+02.5	315 08.9	+02.4	16
17	326 14.8	+02.4	327 13.9	+02.5	328 13.0	+02.5	329 12.2	+02.4	330 11.3	+02.5	17
18	341 17.2	+02.5	342 16.4	+02.4	343 15.5	+02.5	344 14.6	+02.5	345 13.8	+02.4	18
19	356 19.7	+02.5	357 18.8	+02.5	358 18.0	+02.4	359 17.1	+02.5	0 16.2	+02.5	19
20	11 22.2	+02.4	12 21.3	+02.5	13 20.4	+02.5	14 19.6	+02.4	15 18.7	+02.5	20
21	26 24.6	+02.5	27 23.8	+02.4	28 22.9	+02.5	29 22.0	+02.5	30 21.2	+02.4	21
22	41 27.1	+02.4	42 26.2	+02.5	43 25.4	+02.4	44 24.5	+02.5	45 23.6	+02.5	22
23	56 29.5	+02.5	57 28.7	+02.5	58 27.8	+02.5	59 27.0	+02.4	60 26.1	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.8	N 29 12.2
Ankaa	353 11.2	S 42 12.0
Schedir	349 35.2	N 56 38.9
Diphda	348 51.3	S 17 52.8
Achernar	335 23.1	S 57 08.5
Hamal	327 55.5	N 23 33.4
Polaris	315 24.9	N 89 20.9
Acamar	315 14.5	S 40 13.7
Menkar	314 10.1	N 04 10.0
Mirfak	308 33.5	N 49 55.9
Aldebaran	290 44.0	N 16 32.9
Capella	280 27.5	N 46 01.1
Rigel	281 07.5	S 08 10.8
Bellatrix	278 26.9	N 06 22.0
Elnath	278 06.7	N 28 37.4
Alnilam	275 41.6	S 01 11.4
Betelgeuze	270 56.2	N 07 24.5
Canopus	263 53.7	S 52 42.3
Sirius	258 29.4	S 16 44.2
Adhara	255 08.7	S 28 59.9
Castor	246 02.0	N 31 50.5
Procyon	244 54.7	N 05 10.7
Pollux	243 21.8	N 27 58.6
Avior	234 15.9	S 59 34.2
Suhail	222 49.0	S 43 30.5
Miaplacidus	221 38.3	S 69 47.6
Alphard	217 51.6	S 08 44.6
Regulus	207 38.7	N 11 52.2
Dubhe	193 46.2	N 61 38.4
Denebola	182 29.1	N 14 27.8

	SHA	Dec
	° ′	° ′
Gienah	175 47.9	S 17 38.9
Acrux	173 04.7	S 63 12.1
Gacrux	171 56.3	S 57 13.0
Alioth	166 17.2	N 55 51.0
Spica	158 26.8	S 11 15.7
Alkaid	152 55.7	N 49 12.8
Hadar	148 42.1	S 60 27.7
Menkent	148 02.4	S 36 27.5
Arcturus	145 51.7	N 19 05.5
Rigel Kentaurus	139 44.0	S 60 54.8
Zubenelgenubi	137 00.8	S 16 07.2
Kocab	137 21.1	N 74 04.4
Alphecca	126 07.7	N 26 39.0
Antares	112 21.3	S 26 28.3
Atria	107 19.7	S 69 03.6
Sabik	102 07.8	S 15 44.8
Shaula	96 16.3	S 37 06.9
Rasalhague	96 02.7	N 12 33.0
Etamin	90 44.6	N 51 29.4
Kaus Australis	83 38.3	S 34 22.4
Vega	80 36.4	N 38 48.2
Nunki	75 53.2	S 26 16.2
Albireo	67 07.6	N 28 00.3
Altair	62 04.3	N 08 55.3
Peacock	53 12.6	S 56 40.4
Deneb	49 28.7	N 45 21.3
Enif	33 42.9	N 09 58.1
Alnair	27 38.3	S 46 52.1
Formalhaut	15 19.2	S 29 31.2
Markab	13 33.9	N 15 18.8

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2019 - First Point of Aries / Selected Stars

UT	day 341 of 365 **December 7** GHA	ddGHA	day 342 of 365 **December 8** GHA	ddGHA	day 343 of 365 **December 9** GHA	ddGHA	day 344 of 365 **December 10** GHA	ddGHA	day 345 of 365 **December 11** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	75 28.6	+02.4	76 27.7	+02.5	77 26.8	+02.5	78 26.0	+02.4	79 25.1	+02.5	00
01	90 31.0	+02.5	91 30.2	+02.4	92 29.3	+02.5	93 28.4	+02.5	94 27.6	+02.4	01
02	105 33.5	+02.5	106 32.6	+02.5	107 31.8	+02.4	108 30.9	+02.5	109 30.0	+02.5	02
03	120 36.0	+02.4	121 35.1	+02.5	122 34.2	+02.5	123 33.4	+02.4	124 32.5	+02.5	03
04	135 38.4	+02.5	136 37.6	+02.4	137 36.7	+02.5	138 35.8	+02.5	139 35.0	+02.4	04
05	150 40.9	+02.4	151 40.0	+02.5	152 39.2	+02.4	153 38.3	+02.5	154 37.4	+02.5	05
06	165 43.3	+02.5	166 42.5	+02.5	167 41.6	+02.5	168 40.8	+02.4	169 39.9	+02.5	06
07	180 45.8	+02.5	181 45.0	+02.4	182 44.1	+02.5	183 43.2	+02.5	184 42.4	+02.4	07
08	195 48.3	+02.4	196 47.4	+02.5	197 46.6	+02.4	198 45.7	+02.5	199 44.8	+02.5	08
09	210 50.7	+02.5	211 49.9	+02.4	212 49.0	+02.5	213 48.2	+02.4	214 47.3	+02.5	09
10	225 53.2	+02.5	226 52.3	+02.5	227 51.5	+02.4	228 50.6	+02.5	229 49.8	+02.4	10
11	240 55.7	+02.4	241 54.8	+02.5	242 53.9	+02.5	243 53.1	+02.5	244 52.2	+02.5	11
12	255 58.1	+02.5	256 57.3	+02.4	257 56.4	+02.5	258 55.6	+02.4	259 54.7	+02.5	12
13	271 00.6	+02.5	271 59.7	+02.5	272 58.9	+02.4	273 58.0	+02.5	274 57.2	+02.4	13
14	286 03.1	+02.4	287 02.2	+02.5	288 01.3	+02.5	289 00.5	+02.4	289 59.6	+02.5	14
15	301 05.5	+02.5	302 04.7	+02.4	303 03.8	+02.5	304 02.9	+02.5	305 02.1	+02.4	15
16	316 08.0	+02.5	317 07.1	+02.5	318 06.3	+02.4	319 05.4	+02.5	320 04.5	+02.5	16
17	331 10.5	+02.4	332 09.6	+02.5	333 08.7	+02.5	334 07.9	+02.4	335 07.0	+02.5	17
18	346 12.9	+02.5	347 12.1	+02.4	348 11.2	+02.5	349 10.3	+02.5	350 09.5	+02.4	18
19	1 15.4	+02.4	2 14.5	+02.5	3 13.7	+02.4	4 12.8	+02.5	5 11.9	+02.5	19
20	16 17.8	+02.5	17 17.0	+02.4	18 16.1	+02.5	19 15.3	+02.4	20 14.4	+02.5	20
21	31 20.3	+02.5	32 19.4	+02.5	33 18.6	+02.5	34 17.7	+02.5	35 16.9	+02.4	21
22	46 22.8	+02.4	47 21.9	+02.5	48 21.1	+02.4	49 20.2	+02.5	50 19.3	+02.5	22
23	61 25.2	+02.5	62 24.4	+02.4	63 23.5	+02.5	64 22.7	+02.4	65 21.8	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.9	N 29 12.2
Ankaa	353 11.2	S 42 12.1
Schedir	349 35.3	N 56 39.0
Diphda	348 51.4	S 17 52.8
Achernar	335 23.1	S 57 08.5
Hamal	327 55.6	N 23 33.4
Polaris	315 25.8	N 89 20.9
Acamar	315 14.6	S 40 13.7
Menkar	314 10.1	N 04 10.0
Mirfak	308 33.5	N 49 55.9
Aldebaran	290 44.0	N 16 32.9
Capella	280 27.4	N 46 01.1
Rigel	281 07.5	S 08 10.8
Bellatrix	278 26.9	N 06 22.0
Elnath	278 06.6	N 28 37.4
Alnilam	275 41.5	S 01 11.4
Betelgeuze	270 56.2	N 07 24.5
Canopus	263 53.7	S 52 42.3
Sirius	258 29.3	S 16 44.2
Adhara	255 08.7	S 28 59.9
Castor	246 01.9	N 31 50.6
Procyon	244 54.7	N 05 10.7
Pollux	243 21.7	N 27 58.6
Avior	234 15.8	S 59 34.2
Suhail	222 49.0	S 43 30.5
Miaplacidus	221 38.2	S 69 47.6
Alphard	217 51.6	S 08 44.6
Regulus	207 38.6	N 11 52.2
Dubhe	193 46.2	N 61 38.4
Denebola	182 29.1	N 14 27.7

	SHA	Dec
	° ′	° ′
Gienah	175 47.8	S 17 38.9
Acrux	173 04.7	S 63 12.1
Gacrux	171 56.3	S 57 13.0
Alioth	166 17.1	N 55 51.0
Spica	158 26.8	S 11 15.7
Alkaid	152 55.7	N 49 12.8
Hadar	148 42.1	S 60 27.7
Menkent	148 02.4	S 36 27.5
Arcturus	145 51.6	N 19 05.5
Rigel Kentaurus	139 44.0	S 60 54.8
Zubenelgenubi	137 00.8	S 16 07.2
Kocab	137 21.1	N 74 04.4
Alphecca	126 07.6	N 26 39.0
Antares	112 21.3	S 26 28.3
Atria	107 19.6	S 69 03.6
Sabik	102 07.8	S 15 44.8
Shaula	96 16.3	S 37 06.9
Rasalhague	96 02.7	N 12 33.0
Etamin	90 44.6	N 51 29.4
Kaus Australis	83 38.3	S 34 22.4
Vega	80 36.4	N 38 48.2
Nunki	75 53.2	S 26 16.2
Albireo	67 07.6	N 28 00.3
Altair	62 04.3	N 08 55.2
Peacock	53 12.7	S 56 40.4
Deneb	49 28.8	N 45 21.3
Enif	33 42.9	N 09 58.0
Alnair	27 38.3	S 46 52.1
Formalhaut	15 19.2	S 29 31.2
Markab	13 33.9	N 15 18.8

2019 - First Point of Aries / Selected Stars

UT	day 346 of 365 **December 12** GHA	ddGHA	day 347 of 365 **December 13** GHA	ddGHA	day 348 of 365 **December 14** GHA	ddGHA	day 349 of 365 **December 15** GHA	ddGHA	day 350 of 365 **December 16** GHA	ddGHA	UT
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	80 24.3	+02.4	81 23.4	+02.5	82 22.5	+02.5	83 21.7	+02.4	84 20.8	+02.5	00
01	95 26.7	+02.5	96 25.9	+02.4	97 25.0	+02.5	98 24.1	+02.5	99 23.3	+02.5	01
02	110 29.2	+02.5	111 28.3	+02.5	112 27.5	+02.4	113 26.6	+02.5	114 25.8	+02.4	02
03	125 31.7	+02.4	126 30.8	+02.5	127 29.9	+02.5	128 29.1	+02.4	129 28.2	+02.5	03
04	140 34.1	+02.5	141 33.3	+02.4	142 32.4	+02.5	143 31.5	+02.5	144 30.7	+02.4	04
05	155 36.6	+02.4	156 35.7	+02.5	157 34.9	+02.4	158 34.0	+02.5	159 33.1	+02.5	05
06	170 39.0	+02.5	171 38.2	+02.5	172 37.3	+02.5	173 36.5	+02.4	174 35.6	+02.5	06
07	185 41.5	+02.5	186 40.7	+02.4	187 39.8	+02.5	188 38.9	+02.5	189 38.1	+02.4	07
08	200 44.0	+02.4	201 43.1	+02.5	202 42.3	+02.4	203 41.4	+02.5	204 40.5	+02.5	08
09	215 46.4	+02.5	216 45.6	+02.4	217 44.7	+02.5	218 43.9	+02.4	219 43.0	+02.5	09
10	230 48.9	+02.5	231 48.0	+02.5	232 47.2	+02.4	233 46.3	+02.5	234 45.5	+02.4	10
11	245 51.4	+02.4	246 50.5	+02.5	247 49.6	+02.5	248 48.8	+02.5	249 47.9	+02.5	11
12	260 53.8	+02.5	261 53.0	+02.4	262 52.1	+02.5	263 51.3	+02.4	264 50.4	+02.5	12
13	275 56.3	+02.5	276 55.4	+02.5	277 54.6	+02.4	278 53.7	+02.5	279 52.9	+02.4	13
14	290 58.8	+02.4	291 57.9	+02.5	292 57.0	+02.5	293 56.2	+02.4	294 55.3	+02.5	14
15	306 01.2	+02.5	307 00.4	+02.4	307 59.5	+02.5	308 58.6	+02.5	309 57.8	+02.5	15
16	321 03.7	+02.5	322 02.8	+02.5	323 02.0	+02.4	324 01.1	+02.5	325 00.3	+02.4	16
17	336 06.2	+02.4	337 05.3	+02.5	338 04.4	+02.5	339 03.6	+02.4	340 02.7	+02.5	17
18	351 08.6	+02.5	352 07.8	+02.4	353 06.9	+02.5	354 06.0	+02.5	355 05.2	+02.4	18
19	6 11.1	+02.4	7 10.2	+02.5	8 09.4	+02.4	9 08.5	+02.5	10 07.6	+02.5	19
20	21 13.5	+02.5	22 12.7	+02.5	23 11.8	+02.5	24 11.0	+02.4	25 10.1	+02.5	20
21	36 16.0	+02.5	37 15.2	+02.4	38 14.3	+02.5	39 13.4	+02.5	40 12.6	+02.4	21
22	51 18.5	+02.4	52 17.6	+02.5	53 16.8	+02.4	54 15.9	+02.5	55 15.0	+02.5	22
23	66 20.9	+02.5	67 20.1	+02.4	68 19.2	+02.5	69 18.4	+02.4	70 17.5	+02.5	23

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.9	N 29 12.1
Ankaa	353 11.3	S 42 12.1
Schedir	349 35.3	N 56 39.0
Diphda	348 51.4	S 17 52.9
Achernar	335 23.1	S 57 08.5
Hamal	327 55.6	N 23 33.4
Polaris	315 26.6	N 89 21.0
Acamar	315 14.6	S 40 13.8
Menkar	314 10.1	N 04 10.0
Mirfak	308 33.5	N 49 55.9
Aldebaran	290 44.0	N 16 32.9
Capella	280 27.4	N 46 01.1
Rigel	281 07.4	S 08 10.8
Bellatrix	278 26.9	N 06 21.9
Elnath	278 06.6	N 28 37.4
Alnilam	275 41.5	S 01 11.5
Betelgeuze	270 56.2	N 07 24.5
Canopus	263 53.6	S 52 42.4
Sirius	258 29.3	S 16 44.2
Adhara	255 08.7	S 28 59.9
Castor	246 01.9	N 31 50.5
Procyon	244 54.6	N 05 10.7
Pollux	243 21.7	N 27 58.6
Avior	234 15.8	S 59 34.2
Suhail	222 48.9	S 43 30.6
Miaplacidus	221 38.1	S 69 47.7
Alphard	217 51.6	S 08 44.6
Regulus	207 38.6	N 11 52.2
Dubhe	193 46.1	N 61 38.4
Denebola	182 29.0	N 14 27.7

	SHA	Dec
	° ′	° ′
Gienah	175 47.8	S 17 38.9
Acrux	173 04.6	S 63 12.1
Gacrux	171 56.2	S 57 13.0
Alioth	166 17.1	N 55 51.0
Spica	158 26.7	S 11 15.7
Alkaid	152 55.6	N 49 12.8
Hadar	148 42.0	S 60 27.7
Menkent	148 02.4	S 36 27.5
Arcturus	145 51.6	N 19 05.5
Rigel Kentaurus	139 43.9	S 60 54.8
Zubenelgenubi	137 00.7	S 16 07.2
Kocab	137 21.0	N 74 04.3
Alphecca	126 07.6	N 26 39.0
Antares	112 21.3	S 26 28.3
Atria	107 19.6	S 69 03.6
Sabik	102 07.8	S 15 44.8
Shaula	96 16.3	S 37 06.9
Rasalhague	96 02.7	N 12 33.0
Etamin	90 44.6	N 51 29.3
Kaus Australis	83 38.3	S 34 22.4
Vega	80 36.5	N 38 48.2
Nunki	75 53.2	S 26 16.2
Albireo	67 07.6	N 28 00.2
Altair	62 04.3	N 08 55.2
Peacock	53 12.7	S 56 40.4
Deneb	49 28.8	N 45 21.3
Enif	33 42.9	N 09 58.0
Alnair	27 38.4	S 46 52.1
Formalhaut	15 19.2	S 29 31.2
Markab	13 34.0	N 15 18.8

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2019 - First Point of Aries / Selected Stars

UT	day 356 of 365 ***December 22*** GHA ° ′	ddGHA ′	day 357 of 365 ***December 23*** GHA ° ′	ddGHA ′	day 358 of 365 ***December 24*** GHA ° ′	ddGHA ′	day 359 of 365 ***December 25*** GHA ° ′	ddGHA ′	day 360 of 365 ***December 26*** GHA ° ′	ddGHA ′	UT
00	90 15.7	+02.4	91 14.8	+02.5	92 13.9	+02.5	93 13.1	+02.4	94 12.2	+02.5	**00**
01	105 18.1	+02.5	106 17.3	+02.4	107 16.4	+02.5	108 15.5	+02.5	109 14.7	+02.4	**01**
02	120 20.6	+02.4	121 19.7	+02.5	122 18.9	+02.4	123 18.0	+02.5	124 17.1	+02.5	**02**
03	135 23.0	+02.5	136 22.2	+02.5	137 21.3	+02.5	138 20.5	+02.4	139 19.6	+02.5	**03**
04	150 25.5	+02.5	151 24.7	+02.4	152 23.8	+02.5	153 22.9	+02.5	154 22.1	+02.4	**04**
05	165 28.0	+02.4	166 27.1	+02.5	167 26.3	+02.4	168 25.4	+02.5	169 24.5	+02.5	**05**
06	180 30.4	+02.5	181 29.6	+02.4	182 28.7	+02.5	183 27.9	+02.4	184 27.0	+02.5	**06**
07	195 32.9	+02.5	196 32.0	+02.5	197 31.2	+02.4	198 30.3	+02.5	199 29.5	+02.4	**07**
08	210 35.4	+02.4	211 34.5	+02.5	212 33.6	+02.5	213 32.8	+02.5	214 31.9	+02.5	**08**
09	225 37.8	+02.5	226 37.0	+02.4	227 36.1	+02.5	228 35.3	+02.4	229 34.4	+02.5	**09**
10	240 40.3	+02.5	241 39.4	+02.5	242 38.6	+02.4	243 37.7	+02.5	244 36.9	+02.4	**10**
11	255 42.8	+02.4	256 41.9	+02.5	257 41.0	+02.5	258 40.2	+02.4	259 39.3	+02.5	**11**
12	270 45.2	+02.5	271 44.4	+02.4	272 43.5	+02.5	273 42.6	+02.5	274 41.8	+02.5	**12**
13	285 47.7	+02.5	286 46.8	+02.5	287 46.0	+02.4	288 45.1	+02.5	289 44.3	+02.4	**13**
14	300 50.2	+02.4	301 49.3	+02.5	302 48.4	+02.5	303 47.6	+02.4	304 46.7	+02.5	**14**
15	315 52.6	+02.5	316 51.8	+02.4	317 50.9	+02.5	318 50.0	+02.5	319 49.2	+02.4	**15**
16	330 55.1	+02.4	331 54.2	+02.5	332 53.4	+02.4	333 52.5	+02.5	334 51.6	+02.5	**16**
17	345 57.5	+02.5	346 56.7	+02.5	347 55.8	+02.5	348 55.0	+02.4	349 54.1	+02.5	**17**
18	1 00.0	+02.5	1 59.2	+02.4	2 58.3	+02.5	3 57.4	+02.5	4 56.6	+02.4	**18**
19	16 02.5	+02.4	17 01.6	+02.5	18 00.8	+02.4	18 59.9	+02.5	19 59.0	+02.5	**19**
20	31 04.9	+02.5	32 04.1	+02.4	33 03.2	+02.5	34 02.4	+02.4	35 01.5	+02.5	**20**
21	46 07.4	+02.5	47 06.5	+02.5	48 05.7	+02.4	49 04.8	+02.5	50 04.0	+02.4	**21**
22	61 09.9	+02.4	62 09.0	+02.5	63 08.1	+02.5	64 07.3	+02.5	65 06.4	+02.5	**22**
23	76 12.3	+02.5	77 11.5	+02.4	78 10.6	+02.5	79 09.8	+02.4	80 08.9	+02.5	**23**

	SHA ° ′	Dec ° ′
Alpheratz	357 38.9	N 29 12.1
Ankaa	353 11.3	S 42 12.1
Schedir	349 35.4	N 56 39.0
Diphda	348 51.4	S 17 52.9
Achernar	335 23.2	S 57 08.5
Hamal	327 55.6	N 23 33.4
Polaris	315 29.1	N 89 21.0
Acamar	315 14.6	S 40 13.8
Menkar	314 10.1	N 04 10.0
Mirfak	308 33.5	N 49 55.9
Aldebaran	290 43.9	N 16 32.9
Capella	280 27.4	N 46 01.1
Rigel	281 07.4	S 08 10.9
Bellatrix	278 26.9	N 06 21.9
Elnath	278 06.6	N 28 37.4
Alnilam	275 41.5	S 01 11.5
Betelgeuze	270 56.1	N 07 24.5
Canopus	263 53.6	S 52 42.4
Sirius	258 29.3	S 16 44.3
Adhara	255 08.6	S 28 60.0
Castor	246 01.8	N 31 50.6
Procyon	244 54.6	N 05 10.7
Pollux	243 21.6	N 27 58.6
Avior	234 15.7	S 59 34.3
Suhail	222 48.8	S 43 30.6
Miaplacidus	221 38.0	S 69 47.7
Alphard	217 51.5	S 08 44.7
Regulus	207 38.5	N 11 52.2
Dubhe	193 45.9	N 61 38.4
Denebola	182 29.0	N 14 27.7

	SHA ° ′	Dec ° ′
Gienah	175 47.7	S 17 38.9
Acrux	173 04.4	S 63 12.1
Gacrux	171 56.1	S 57 13.0
Alioth	166 17.0	N 55 50.9
Spica	158 26.7	S 11 15.7
Alkaid	152 55.5	N 49 12.7
Hadar	148 41.9	S 60 27.7
Menkent	148 02.3	S 36 27.5
Arcturus	145 51.5	N 19 05.4
Rigel Kentaurus	139 43.8	S 60 54.8
Zubenelgenubi	137 00.7	S 16 07.2
Kocab	137 20.9	N 74 04.3
Alphecca	126 07.6	N 26 38.9
Antares	112 21.3	S 26 28.3
Atria	107 19.5	S 69 03.5
Sabik	102 07.8	S 15 44.8
Shaula	96 16.3	S 37 06.9
Rasalhague	96 02.7	N 12 32.9
Etamin	90 44.6	N 51 29.3
Kaus Australis	83 38.3	S 34 22.4
Vega	80 36.5	N 38 48.1
Nunki	75 53.2	S 26 16.2
Albireo	67 07.7	N 28 00.2
Altair	62 04.4	N 08 55.2
Peacock	53 12.7	S 56 40.3
Deneb	49 28.8	N 45 21.3
Enif	33 42.9	N 09 58.0
Alnair	27 38.4	S 46 52.1
Formalhaut	15 19.3	S 29 31.2
Markab	13 34.0	N 15 18.8

2019 - First Point of Aries / Selected Stars

UT	day 361 of 365 ***December 27***		day 362 of 365 ***December 28***		day 363 of 365 ***December 29***		day 364 of 365 ***December 30***		day 365 of 365 ***December 31***		UT
	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	GHA	ddGHA	
	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	
00	95 11.4	+02.4	96 10.5	+02.5	97 09.6	+02.5	98 08.8	+02.4	99 07.9	+02.5	**00**
01	110 13.8	+02.5	111 13.0	+02.4	112 12.1	+02.5	113 11.2	+02.5	114 10.4	+02.4	**01**
02	125 16.3	+02.5	126 15.4	+02.5	127 14.6	+02.4	128 13.7	+02.5	129 12.8	+02.5	**02**
03	140 18.8	+02.4	141 17.9	+02.5	142 17.0	+02.5	143 16.2	+02.4	144 15.3	+02.5	**03**
04	155 21.2	+02.5	156 20.4	+02.4	157 19.5	+02.5	158 18.6	+02.5	159 17.8	+02.4	**04**
05	170 23.7	+02.4	171 22.8	+02.5	172 22.0	+02.4	173 21.1	+02.5	174 20.2	+02.5	**05**
06	185 26.1	+02.5	186 25.3	+02.4	187 24.4	+02.5	188 23.6	+02.4	189 22.7	+02.5	**06**
07	200 28.6	+02.5	201 27.7	+02.5	202 26.9	+02.5	203 26.0	+02.5	204 25.2	+02.4	**07**
08	215 31.1	+02.4	216 30.2	+02.5	217 29.4	+02.4	218 28.5	+02.5	219 27.6	+02.5	**08**
09	230 33.5	+02.5	231 32.7	+02.4	232 31.8	+02.5	233 31.0	+02.4	234 30.1	+02.5	**09**
10	245 36.0	+02.5	246 35.1	+02.5	247 34.3	+02.4	248 33.4	+02.5	249 32.6	+02.4	**10**
11	260 38.5	+02.4	261 37.6	+02.5	262 36.7	+02.5	263 35.9	+02.4	264 35.0	+02.5	**11**
12	275 40.9	+02.5	276 40.1	+02.4	277 39.2	+02.5	278 38.3	+02.5	279 37.5	+02.5	**12**
13	290 43.4	+02.5	291 42.5	+02.5	292 41.7	+02.4	293 40.8	+02.5	294 40.0	+02.4	**13**
14	305 45.9	+02.4	306 45.0	+02.5	307 44.1	+02.5	308 43.3	+02.4	309 42.4	+02.5	**14**
15	320 48.3	+02.5	321 47.5	+02.4	322 46.6	+02.5	323 45.7	+02.5	324 44.9	+02.4	**15**
16	335 50.8	+02.5	336 49.9	+02.5	337 49.1	+02.4	338 48.2	+02.5	339 47.3	+02.5	**16**
17	350 53.3	+02.4	351 52.4	+02.5	352 51.5	+02.5	353 50.7	+02.4	354 49.8	+02.5	**17**
18	5 55.7	+02.5	6 54.9	+02.4	7 54.0	+02.5	8 53.1	+02.5	9 52.3	+02.4	**18**
19	20 58.2	+02.4	21 57.3	+02.5	22 56.5	+02.4	23 55.6	+02.5	24 54.7	+02.5	**19**
20	36 00.6	+02.5	36 59.8	+02.4	37 58.9	+02.5	38 58.1	+02.4	39 57.2	+02.5	**20**
21	51 03.1	+02.5	52 02.2	+02.5	53 01.4	+02.5	54 00.5	+02.5	54 59.7	+02.4	**21**
22	66 05.6	+02.4	67 04.7	+02.5	68 03.9	+02.4	69 03.0	+02.5	70 02.1	+02.5	**22**
23	81 08.0	+02.5	82 07.2	+02.4	83 06.3	+02.5	84 05.5	+02.4	85 04.6	+02.5	**23**

	SHA	Dec
	° ′	° ′
Alpheratz	357 38.9	N 29 12.1
Ankaa	353 11.3	S 42 12.1
Schedir	349 35.4	N 56 39.0
Diphda	348 51.4	S 17 52.9
Achernar	335 23.2	S 57 08.5
Hamal	327 55.6	N 23 33.4
Polaris	315 30.3	N 89 21.0
Acamar	315 14.6	S 40 13.8
Menkar	314 10.1	N 04 10.0
Mirfak	308 33.5	N 49 55.9
Aldebaran	290 43.9	N 16 32.9
Capella	280 27.4	N 46 01.1
Rigel	281 07.4	S 08 10.9
Bellatrix	278 26.9	N 06 21.9
Elnath	278 06.6	N 28 37.4
Alnilam	275 41.5	S 01 11.5
Betelgeuze	270 56.1	N 07 24.5
Canopus	263 53.6	S 52 42.5
Sirius	258 29.3	S 16 44.3
Adhara	255 08.6	S 29 00.0
Castor	246 01.8	N 31 50.5
Procyon	244 54.5	N 05 10.7
Pollux	243 21.6	N 27 58.6
Avior	234 15.6	S 59 34.3
Suhail	222 48.8	S 43 30.6
Miaplacidus	221 37.9	S 69 47.7
Alphard	217 51.5	S 08 44.7
Regulus	207 38.5	N 11 52.1
Dubhe	193 45.9	N 61 38.4
Denebola	182 28.9	N 14 27.7

	SHA	Dec
	° ′	° ′
Gienah	175 47.6	S 17 39.0
Acrux	173 04.4	S 63 12.2
Gacrux	171 56.0	S 57 13.0
Alioth	166 16.9	N 55 50.9
Spica	158 26.6	S 11 15.7
Alkaid	152 55.5	N 49 12.7
Hadar	148 41.8	S 60 27.7
Menkent	148 02.2	S 36 27.5
Arcturus	145 51.5	N 19 05.4
Rigel Kentaurus	139 43.7	S 60 54.8
Zubenelgenubi	137 00.6	S 16 07.2
Kocab	137 20.8	N 74 04.3
Alphecca	126 07.5	N 26 38.9
Antares	112 21.2	S 26 28.3
Atria	107 19.5	S 69 03.5
Sabik	102 07.8	S 15 44.8
Shaula	96 16.3	S 37 06.9
Rasalhague	96 02.7	N 12 32.9
Etamin	90 44.6	N 51 29.2
Kaus Australis	83 38.3	S 34 22.4
Vega	80 36.4	N 38 48.1
Nunki	75 53.1	S 26 16.2
Albireo	67 07.6	N 28 00.2
Altair	62 04.3	N 08 55.2
Peacock	53 12.7	S 56 40.3
Deneb	49 28.8	N 45 21.2
Enif	33 43.0	N 09 58.0
Alnair	27 38.4	S 46 52.1
Formalhaut	15 19.3	S 29 31.2
Markab	13 34.0	N 15 18.8