

Fri Dec 1, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.4' SD = 16.2'		SD = 16.4'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	70°02.5'	182°46.1'	S 21°47.5'	38°30.5'	9.0'	N 7°36.3'	11.4'	59.7'
1	85°04.9'	197°45.9'	S 21°47.9'	52°58.5'	9.0'	N 7°47.7'	11.4'	59.7'
2	100°07.4'	212°45.6'	S 21°48.3'	67°26.5'	8.9'	N 7°59.0'	11.3'	59.7'
3	115°09.8'	227°45.4'	S 21°48.7'	81°54.4'	8.8'	N 8°10.4'	11.3'	59.8'
4	130°12.3'	242°45.2'	S 21°49.1'	96°22.2'	8.7'	N 8°21.7'	11.3'	59.8'
5	145°14.8'	257°44.9'	S 21°49.4'	110°49.9'	8.7'	N 8°33.0'	11.2'	59.8'
6	160°17.2'	272°44.7'	S 21°49.8'	125°17.6'	8.6'	N 8°44.2'	11.2'	59.9'
7	175°19.7'	287°44.5'	S 21°50.2'	139°45.2'	8.5'	N 8°55.4'	11.2'	59.9'
8	190°22.2'	302°44.2'	S 21°50.6'	154°12.7'	8.4'	N 9°06.5'	11.1'	60.0'
9	205°24.6'	317°44.0'	S 21°51.0'	168°40.1'	8.3'	N 9°17.7'	11.1'	60.0'
10	220°27.1'	332°43.8'	S 21°51.4'	183°07.4'	8.3'	N 9°28.7'	11.0'	60.0'
11	235°29.6'	347°43.5'	S 21°51.7'	197°34.7'	8.2'	N 9°39.8'	11.0'	60.1'
12	250°32.0'	2°43.3'	S 21°52.1'	212°01.9'	8.1'	N 9°50.7'	10.9'	60.1'
13	265°34.5'	17°43.1'	S 21°52.5'	226°29.0'	8.0'	N 10°01.7'	10.9'	60.1'
14	280°37.0'	32°42.8'	S 21°52.9'	240°56.0'	7.9'	N 10°12.6'	10.8'	60.2'
15	295°39.4'	47°42.6'	S 21°53.3'	255°22.9'	7.9'	N 10°23.4'	10.8'	60.2'
16	310°41.9'	62°42.4'	S 21°53.6'	269°49.8'	7.8'	N 10°34.2'	10.7'	60.2'
17	325°44.3'	77°42.1'	S 21°54.0'	284°16.6'	7.7'	N 10°44.9'	10.7'	60.3'
18	340°46.8'	92°41.9'	S 21°54.4'	298°43.3'	7.6'	N 10°55.6'	10.6'	60.3'
19	355°49.3'	107°41.7'	S 21°54.8'	313°09.9'	7.5'	N 11°06.2'	10.6'	60.3'
20	10°51.7'	122°41.4'	S 21°55.2'	327°36.4'	7.4'	N 11°16.7'	10.5'	60.3'
21	25°54.2'	137°41.2'	S 21°55.5'	342°02.8'	7.4'	N 11°27.2'	10.4'	60.4'
22	40°56.7'	152°40.9'	S 21°55.9'	356°29.2'	7.3'	N 11°37.7'	10.4'	60.4'
23	55°59.1'	167°40.7'	S 21°56.3'	10°55.5'	7.2'	N 11°48.0'	10.3'	60.4'

Sat Dec 2, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.4' SD = 16.2'		SD = 16.6'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	71°01.6'	182°40.5'	S 21°56.6'	25°21.7'	7.1'	N 11°58.3'	10.2'	60.5'
1	86°04.1'	197°40.2'	S 21°57.0'	39°47.8'	7.0'	N 12°08.6'	10.2'	60.5'
2	101°06.5'	212°40.0'	S 21°57.4'	54°13.8'	6.9'	N 12°18.7'	10.1'	60.5'
3	116°09.0'	227°39.8'	S 21°57.8'	68°39.7'	6.9'	N 12°28.8'	10.0'	60.6'
4	131°11.4'	242°39.5'	S 21°58.1'	83°05.6'	6.8'	N 12°38.9'	10.0'	60.6'
5	146°13.9'	257°39.3'	S 21°58.5'	97°31.4'	6.7'	N 12°48.8'	9.9'	60.6'
6	161°16.4'	272°39.0'	S 21°58.9'	111°57.0'	6.6'	N 12°58.7'	9.8'	60.6'
7	176°18.8'	287°38.8'	S 21°59.2'	126°22.6'	6.5'	N 13°08.5'	9.7'	60.7'
8	191°21.3'	302°38.6'	S 21°59.6'	140°48.2'	6.4'	N 13°18.2'	9.6'	60.7'
9	206°23.8'	317°38.3'	S 21°60.0'	155°13.6'	6.4'	N 13°27.9'	9.6'	60.7'
10	221°26.2'	332°38.1'	S 22°00.3'	169°39.0'	6.3'	N 13°37.4'	9.5'	60.7'
11	236°28.7'	347°37.8'	S 22°00.7'	184°04.2'	6.2'	N 13°46.9'	9.4'	60.8'
12	251°31.2'	2°37.6'	S 22°01.0'	198°29.4'	6.1'	N 13°56.3'	9.3'	60.8'
13	266°33.6'	17°37.4'	S 22°01.4'	212°54.5'	6.0'	N 14°05.6'	9.2'	60.8'
14	281°36.1'	32°37.1'	S 22°01.8'	227°19.6'	5.9'	N 14°14.8'	9.1'	60.8'
15	296°38.6'	47°36.9'	S 22°02.1'	241°44.5'	5.9'	N 14°24.0'	9.0'	60.9'
16	311°41.0'	62°36.6'	S 22°02.5'	256°09.4'	5.8'	N 14°33.0'	8.9'	60.9'
17	326°43.5'	77°36.4'	S 22°02.9'	270°34.2'	5.7'	N 14°42.0'	8.9'	60.9'
18	341°45.9'	92°36.1'	S 22°03.2'	284°58.9'	5.6'	N 14°50.8'	8.8'	60.9'
19	356°48.4'	107°35.9'	S 22°03.6'	299°23.5'	5.5'	N 14°59.6'	8.7'	60.9'
20	11°50.9'	122°35.7'	S 22°03.9'	313°48.1'	5.5'	N 15°08.2'	8.6'	61.0'
21	26°53.3'	137°35.4'	S 22°04.3'	328°12.5'	5.4'	N 15°16.8'	8.5'	61.0'
22	41°55.8'	152°35.2'	S 22°04.6'	342°36.9'	5.3'	N 15°25.3'	8.4'	61.0'
23	56°58.3'	167°34.9'	S 22°05.0'	357°01.3'	5.2'	N 15°33.6'	8.3'	61.0'

Sun Dec 3, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.3' SD = 16.2'		SD = 16.7'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	72°00.7'	182°34.7'	S 22°05.4'	11°25.5'	5.2'	N 15°41.9'	8.1'	61.0'
1	87°03.2'	197°34.4'	S 22°05.7'	25°49.7'	5.1'	N 15°50.0'	8.0'	61.1'
2	102°05.7'	212°34.2'	S 22°06.1'	40°13.8'	5.0'	N 15°58.1'	7.9'	61.1'
3	117°08.1'	227°34.0'	S 22°06.4'	54°37.8'	4.9'	N 16°06.0'	7.8'	61.1'
4	132°10.6'	242°33.7'	S 22°06.8'	69°01.7'	4.9'	N 16°13.8'	7.7'	61.1'
5	147°13.1'	257°33.5'	S 22°07.1'	83°25.6'	4.8'	N 16°21.5'	7.6'	61.1'
6	162°15.5'	272°33.2'	S 22°07.5'	97°49.4'	4.7'	N 16°29.1'	7.5'	61.1'
7	177°18.0'	287°33.0'	S 22°07.8'	112°13.1'	4.7'	N 16°36.6'	7.4'	61.2'
8	192°20.4'	302°32.7'	S 22°08.2'	126°36.8'	4.6'	N 16°44.0'	7.3'	61.2'
9	207°22.9'	317°32.5'	S 22°08.5'	141°00.4'	4.5'	N 16°51.2'	7.1'	61.2'
10	222°25.4'	332°32.2'	S 22°08.9'	155°23.9'	4.5'	N 16°58.4'	7.0'	61.2'
11	237°27.8'	347°32.0'	S 22°09.2'	169°47.4'	4.4'	N 17°05.4'	6.9'	61.2'
12	252°30.3'	2°31.7'	S 22°09.5'	184°10.8'	4.3'	N 17°12.3'	6.8'	61.2'
13	267°32.8'	17°31.5'	S 22°09.9'	198°34.1'	4.3'	N 17°19.0'	6.6'	61.2'
14	282°35.2'	32°31.2'	S 22°10.2'	212°57.4'	4.2'	N 17°25.7'	6.5'	61.2'
15	297°37.7'	47°31.0'	S 22°10.6'	227°20.6'	4.1'	N 17°32.2'	6.4'	61.3'
16	312°40.2'	62°30.7'	S 22°10.9'	241°43.7'	4.1'	N 17°38.6'	6.3'	61.3'
17	327°42.6'	77°30.5'	S 22°11.3'	256°06.8'	4.0'	N 17°44.9'	6.1'	61.3'
18	342°45.1'	92°30.3'	S 22°11.6'	270°29.8'	4.0'	N 17°51.0'	6.0'	61.3'
19	357°47.6'	107°30.0'	S 22°11.9'	284°52.8'	3.9'	N 17°57.0'	5.9'	61.3'
20	12°50.0'	122°29.8'	S 22°12.3'	299°15.7'	3.9'	N 18°02.9'	5.7'	61.3'
21	27°52.5'	137°29.5'	S 22°12.6'	313°38.6'	3.8'	N 18°08.6'	5.6'	61.3'
22	42°54.9'	152°29.3'	S 22°13.0'	328°01.4'	3.8'	N 18°14.3'	5.5'	61.3'
23	57°57.4'	167°29.0'	S 22°13.3'	342°24.2'	3.7'	N 18°19.7'	5.3'	61.3'

Mon Dec 4, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.3' SD = 16.2'		SD = 16.7'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	72°59.9'	182°28.8'	S 22°13.6'	356°46.9'	3.7'	N 18°25.1'	5.2'	61.3'
1	88°02.3'	197°28.5'	S 22°14.0'	11°09.6'	3.6'	N 18°30.3'	5.1'	61.3'
2	103°04.8'	212°28.3'	S 22°14.3'	25°32.2'	3.6'	N 18°35.3'	4.9'	61.3'
3	118°07.3'	227°28.0'	S 22°14.6'	39°54.8'	3.5'	N 18°40.3'	4.8'	61.3'
4	133°09.7'	242°27.8'	S 22°15.0'	54°17.4'	3.5'	N 18°45.1'	4.6'	61.3'
5	148°12.2'	257°27.5'	S 22°15.3'	68°39.9'	3.5'	N 18°49.7'	4.5'	61.3'
6	163°14.7'	272°27.2'	S 22°15.6'	83°02.3'	3.4'	N 18°54.2'	4.4'	61.3'
7	178°17.1'	287°27.0'	S 22°16.0'	97°24.8'	3.4'	N 18°58.6'	4.2'	61.3'
8	193°19.6'	302°26.7'	S 22°16.3'	111°47.1'	3.4'	N 19°02.8'	4.1'	61.3'
9	208°22.1'	317°26.5'	S 22°16.6'	126°09.5'	3.3'	N 19°06.9'	3.9'	61.3'
10	223°24.5'	332°26.2'	S 22°17.0'	140°31.8'	3.3'	N 19°10.8'	3.8'	61.3'
11	238°27.0'	347°26.0'	S 22°17.3'	154°54.1'	3.3'	N 19°14.6'	3.6'	61.3'
12	253°29.4'	2°25.7'	S 22°17.6'	169°16.4'	3.2'	N 19°18.2'	3.5'	61.3'
13	268°31.9'	17°25.5'	S 22°17.9'	183°38.7'	3.2'	N 19°21.7'	3.3'	61.3'
14	283°34.4'	32°25.2'	S 22°18.3'	198°00.9'	3.2'	N 19°25.1'	3.2'	61.3'
15	298°36.8'	47°25.0'	S 22°18.6'	212°23.1'	3.2'	N 19°28.3'	3.1'	61.3'
16	313°39.3'	62°24.7'	S 22°18.9'	226°45.3'	3.2'	N 19°31.3'	2.9'	61.3'
17	328°41.8'	77°24.5'	S 22°19.2'	241°07.4'	3.1'	N 19°34.3'	2.8'	61.3'
18	343°44.2'	92°24.2'	S 22°19.6'	255°29.6'	3.1'	N 19°37.0'	2.6'	61.3'
19	358°46.7'	107°24.0'	S 22°19.9'	269°51.7'	3.1'	N 19°39.6'	2.5'	61.3'
20	13°49.2'	122°23.7'	S 22°20.2'	284°13.8'	3.1'	N 19°42.1'	2.3'	61.3'
21	28°51.6'	137°23.4'	S 22°20.5'	298°35.9'	3.1'	N 19°44.4'	2.2'	61.3'
22	43°54.1'	152°23.2'	S 22°20.8'	312°58.0'	3.1'	N 19°46.5'	2.0'	61.3'
23	58°56.6'	167°22.9'	S 22°21.2'	327°20.1'	3.1'	N 19°48.5'	1.9'	61.3'

Tue Dec 5, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.3' SD = 16.2'		SD = 16.7'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	73°59.0'	182°22.7'	S 22°21.5'	341°42.2'	3.1'	N 19°50.4'	1.7'	61.3'
1	89°01.5'	197°22.4'	S 22°21.8'	356°04.3'	3.1'	N 19°52.1'	1.5'	61.2'
2	104°03.9'	212°22.2'	S 22°22.1'	10°26.4'	3.1'	N 19°53.6'	1.4'	61.2'
3	119°06.4'	227°21.9'	S 22°22.4'	24°48.5'	3.1'	N 19°55.0'	1.2'	61.2'
4	134°08.9'	242°21.6'	S 22°22.8'	39°10.6'	3.1'	N 19°56.3'	1.1'	61.2'
5	149°11.3'	257°21.4'	S 22°23.1'	53°32.7'	3.1'	N 19°57.4'	0.9'	61.2'
6	164°13.8'	272°21.1'	S 22°23.4'	67°54.8'	3.1'	N 19°58.3'	0.8'	61.2'
7	179°16.3'	287°20.9'	S 22°23.7'	82°17.0'	3.1'	N 19°59.1'	0.6'	61.2'
8	194°18.7'	302°20.6'	S 22°24.0'	96°39.1'	3.2'	N 19°59.7'	0.5'	61.2'
9	209°21.2'	317°20.4'	S 22°24.3'	111°01.3'	3.2'	N 20°00.2'	0.3'	61.2'
10	224°23.7'	332°20.1'	S 22°24.6'	125°23.4'	3.2'	N 20°00.5'	0.2'	61.1'
11	239°26.1'	347°19.8'	S 22°24.9'	139°45.6'	3.2'	N 20°00.7'	0.0'	61.1'
12	254°28.6'	2°19.6'	S 22°25.3'	154°07.8'	3.2'	N 20°00.8'	0.1'	61.1'
13	269°31.1'	17°19.3'	S 22°25.6'	168°30.1'	3.3'	N 20°00.6'	0.3'	61.1'
14	284°33.5'	32°19.1'	S 22°25.9'	182°52.3'	3.3'	N 20°00.4'	0.4'	61.1'
15	299°36.0'	47°18.8'	S 22°26.2'	197°14.6'	3.3'	N 19°59.9'	0.6'	61.1'
16	314°38.4'	62°18.5'	S 22°26.5'	211°36.9'	3.3'	N 19°59.4'	0.7'	61.0'
17	329°40.9'	77°18.3'	S 22°26.8'	225°59.2'	3.4'	N 19°58.6'	0.9'	61.0'
18	344°43.4'	92°18.0'	S 22°27.1'	240°21.6'	3.4'	N 19°57.8'	1.0'	61.0'
19	359°45.8'	107°17.8'	S 22°27.4'	254°44.0'	3.4'	N 19°56.8'	1.2'	61.0'
20	14°48.3'	122°17.5'	S 22°27.7'	269°06.5'	3.5'	N 19°55.6'	1.3'	61.0'
21	29°50.8'	137°17.2'	S 22°28.0'	283°29.0'	3.5'	N 19°54.3'	1.5'	60.9'
22	44°53.2'	152°17.0'	S 22°28.3'	297°51.5'	3.6'	N 19°52.8'	1.6'	60.9'
23	59°55.7'	167°16.7'	S 22°28.6'	312°14.0'	3.6'	N 19°51.2'	1.8'	60.9'

Wed Dec 6, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.3' SD = 16.2'		SD = 16.5'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	74°58.2'	182°16.5'	S 22°28.9'	326°36.6'	3.7'	N 19°49.4'	1.9'	60.9'
1	90°00.6'	197°16.2'	S 22°29.2'	340°59.3'	3.7'	N 19°47.5'	2.0'	60.9'
2	105°03.1'	212°15.9'	S 22°29.5'	355°22.0'	3.7'	N 19°45.5'	2.2'	60.8'
3	120°05.5'	227°15.7'	S 22°29.8'	9°44.7'	3.8'	N 19°43.3'	2.3'	60.8'
4	135°08.0'	242°15.4'	S 22°30.1'	24°07.5'	3.9'	N 19°41.0'	2.5'	60.8'
5	150°10.5'	257°15.1'	S 22°30.4'	38°30.4'	3.9'	N 19°38.5'	2.6'	60.8'
6	165°12.9'	272°14.9'	S 22°30.7'	52°53.3'	4.0'	N 19°35.9'	2.8'	60.8'
7	180°15.4'	287°14.6'	S 22°31.0'	67°16.3'	4.0'	N 19°33.1'	2.9'	60.7'
8	195°17.9'	302°14.4'	S 22°31.3'	81°39.3'	4.1'	N 19°30.2'	3.0'	60.7'
9	210°20.3'	317°14.1'	S 22°31.6'	96°02.3'	4.1'	N 19°27.2'	3.2'	60.7'
10	225°22.8'	332°13.8'	S 22°31.9'	110°25.5'	4.2'	N 19°24.0'	3.3'	60.7'
11	240°25.3'	347°13.6'	S 22°32.2'	124°48.7'	4.3'	N 19°20.7'	3.5'	60.6'
12	255°27.7'	2°13.3'	S 22°32.5'	139°11.9'	4.3'	N 19°17.2'	3.6'	60.6'
13	270°30.2'	17°13.0'	S 22°32.7'	153°35.3'	4.4'	N 19°13.6'	3.7'	60.6'
14	285°32.7'	32°12.8'	S 22°33.0'	167°58.6'	4.5'	N 19°09.9'	3.9'	60.5'
15	300°35.1'	47°12.5'	S 22°33.3'	182°22.1'	4.5'	N 19°06.0'	4.0'	60.5'
16	315°37.6'	62°12.2'	S 22°33.6'	196°45.6'	4.6'	N 19°02.1'	4.1'	60.5'
17	330°40.0'	77°12.0'	S 22°33.9'	211°09.2'	4.7'	N 18°57.9'	4.3'	60.5'
18	345°42.5'	92°11.7'	S 22°34.2'	225°32.9'	4.7'	N 18°53.7'	4.4'	60.4'
19	0°45.0'	107°11.4'	S 22°34.5'	239°56.6'	4.8'	N 18°49.3'	4.5'	60.4'
20	15°47.4'	122°11.2'	S 22°34.8'	254°20.4'	4.9'	N 18°44.8'	4.6'	60.4'
21	30°49.9'	137°10.9'	S 22°35.0'	268°44.3'	5.0'	N 18°40.2'	4.8'	60.3'
22	45°52.4'	152°10.6'	S 22°35.3'	283°08.3'	5.0'	N 18°35.4'	4.9'	60.3'
23	60°54.8'	167°10.4'	S 22°35.6'	297°32.3'	5.1'	N 18°30.5'	5.0'	60.3'

Thu Dec 7, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.3' SD = 16.2'		SD = 16.3'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	75°57.3'	182°10.1'	S 22°35.9'	311°56.4'	5.2'	N 18°25.5'	5.1'	60.3'
1	90°59.8'	197°09.8'	S 22°36.2'	326°20.6'	5.3'	N 18°20.4'	5.3'	60.2'
2	106°02.2'	212°09.6'	S 22°36.4'	340°44.9'	5.4'	N 18°15.1'	5.4'	60.2'
3	121°04.7'	227°09.3'	S 22°36.7'	355°09.2'	5.4'	N 18°09.7'	5.5'	60.2'
4	136°07.2'	242°09.0'	S 22°37.0'	9°33.7'	5.5'	N 18°04.3'	5.6'	60.1'
5	151°09.6'	257°08.8'	S 22°37.3'	23°58.2'	5.6'	N 17°58.6'	5.7'	60.1'
6	166°12.1'	272°08.5'	S 22°37.6'	38°22.8'	5.7'	N 17°52.9'	5.8'	60.1'
7	181°14.5'	287°08.2'	S 22°37.8'	52°47.5'	5.8'	N 17°47.1'	6.0'	60.0'
8	196°17.0'	302°08.0'	S 22°38.1'	67°12.2'	5.9'	N 17°41.1'	6.1'	60.0'
9	211°19.5'	317°07.7'	S 22°38.4'	81°37.1'	5.9'	N 17°35.1'	6.2'	60.0'
10	226°21.9'	332°07.4'	S 22°38.7'	96°02.0'	6.0'	N 17°28.9'	6.3'	59.9'
11	241°24.4'	347°07.1'	S 22°38.9'	110°27.0'	6.1'	N 17°22.6'	6.4'	59.9'
12	256°26.9'	2°06.9'	S 22°39.2'	124°52.2'	6.2'	N 17°16.2'	6.5'	59.9'
13	271°29.3'	17°06.6'	S 22°39.5'	139°17.4'	6.3'	N 17°09.7'	6.6'	59.8'
14	286°31.8'	32°06.3'	S 22°39.8'	153°42.6'	6.4'	N 17°03.1'	6.7'	59.8'
15	301°34.3'	47°06.1'	S 22°40.0'	168°08.0'	6.5'	N 16°56.4'	6.8'	59.8'
16	316°36.7'	62°05.8'	S 22°40.3'	182°33.5'	6.6'	N 16°49.6'	6.9'	59.7'
17	331°39.2'	77°05.5'	S 22°40.6'	196°59.0'	6.6'	N 16°42.7'	7.0'	59.7'
18	346°41.7'	92°05.3'	S 22°40.8'	211°24.7'	6.7'	N 16°35.6'	7.1'	59.7'
19	1°44.1'	107°05.0'	S 22°41.1'	225°50.4'	6.8'	N 16°28.5'	7.2'	59.6'
20	16°46.6'	122°04.7'	S 22°41.4'	240°16.2'	6.9'	N 16°21.3'	7.3'	59.6'
21	31°49.0'	137°04.4'	S 22°41.6'	254°42.1'	7.0'	N 16°14.0'	7.4'	59.6'
22	46°51.5'	152°04.2'	S 22°41.9'	269°08.1'	7.1'	N 16°06.6'	7.5'	59.5'
23	61°54.0'	167°03.9'	S 22°42.2'	283°34.2'	7.2'	N 15°59.1'	7.6'	59.5'

Fri Dec 8, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.3' SD = 16.2'		SD = 16.1'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	76°56.4'	182°03.6'	S 22°42.4'	298°00.4'	7.3'	N 15°51.5'	7.7'	59.5'
1	91°58.9'	197°03.3'	S 22°42.7'	312°26.7'	7.4'	N 15°43.8'	7.8'	59.4'
2	107°01.4'	212°03.1'	S 22°43.0'	326°53.0'	7.5'	N 15°36.1'	7.9'	59.4'
3	122°03.8'	227°02.8'	S 22°43.2'	341°19.5'	7.5'	N 15°28.2'	7.9'	59.4'
4	137°06.3'	242°02.5'	S 22°43.5'	355°46.0'	7.6'	N 15°20.3'	8.0'	59.3'
5	152°08.8'	257°02.3'	S 22°43.7'	10°12.7'	7.7'	N 15°12.2'	8.1'	59.3'
6	167°11.2'	272°02.0'	S 22°44.0'	24°39.4'	7.8'	N 15°04.1'	8.2'	59.3'
7	182°13.7'	287°01.7'	S 22°44.3'	39°06.2'	7.9'	N 14°55.9'	8.3'	59.2'
8	197°16.2'	302°01.4'	S 22°44.5'	53°33.1'	8.0'	N 14°47.7'	8.4'	59.2'
9	212°18.6'	317°01.2'	S 22°44.8'	68°00.1'	8.1'	N 14°39.3'	8.4'	59.1'
10	227°21.1'	332°00.9'	S 22°45.0'	82°27.2'	8.2'	N 14°30.9'	8.5'	59.1'
11	242°23.5'	347°00.6'	S 22°45.3'	96°54.4'	8.3'	N 14°22.4'	8.6'	59.1'
12	257°26.0'	2°00.3'	S 22°45.5'	111°21.7'	8.4'	N 14°13.8'	8.7'	59.0'
13	272°28.5'	17°00.1'	S 22°45.8'	125°49.1'	8.5'	N 14°05.1'	8.7'	59.0'
14	287°30.9'	31°59.8'	S 22°46.0'	140°16.5'	8.5'	N 13°56.4'	8.8'	59.0'
15	302°33.4'	46°59.5'	S 22°46.3'	154°44.0'	8.6'	N 13°47.6'	8.9'	58.9'
16	317°35.9'	61°59.2'	S 22°46.5'	169°11.7'	8.7'	N 13°38.7'	8.9'	58.9'
17	332°38.3'	76°59.0'	S 22°46.8'	183°39.4'	8.8'	N 13°29.8'	9.0'	58.8'
18	347°40.8'	91°58.7'	S 22°47.0'	198°07.2'	8.9'	N 13°20.8'	9.1'	58.8'
19	2°43.3'	106°58.4'	S 22°47.3'	212°35.1'	9.0'	N 13°11.7'	9.1'	58.8'
20	17°45.7'	121°58.1'	S 22°47.5'	227°03.1'	9.1'	N 13°02.5'	9.2'	58.7'
21	32°48.2'	136°57.8'	S 22°47.8'	241°31.2'	9.2'	N 12°53.3'	9.3'	58.7'
22	47°50.6'	151°57.6'	S 22°48.0'	255°59.3'	9.2'	N 12°44.1'	9.3'	58.7'
23	62°53.1'	166°57.3'	S 22°48.3'	270°27.6'	9.3'	N 12°34.7'	9.4'	58.6'

## Sat Dec 9, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.2' SD = 16.2'		SD = 15.9'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	77°55.6'	181°57.0'	S 22°48.5'	284°55.9'	9.4'	N 12°25.3'	9.4'	58.6'
1	92°58.0'	196°56.7'	S 22°48.8'	299°24.3'	9.5'	N 12°15.9'	9.5'	58.6'
2	108°00.5'	211°56.5'	S 22°49.0'	313°52.8'	9.6'	N 12°06.4'	9.6'	58.5'
3	123°03.0'	226°56.2'	S 22°49.3'	328°21.4'	9.7'	N 11°56.8'	9.6'	58.5'
4	138°05.4'	241°55.9'	S 22°49.5'	342°50.1'	9.8'	N 11°47.2'	9.7'	58.4'
5	153°07.9'	256°55.6'	S 22°49.7'	357°18.8'	9.8'	N 11°37.5'	9.7'	58.4'
6	168°10.4'	271°55.3'	S 22°50.0'	11°47.7'	9.9'	N 11°27.8'	9.8'	58.4'
7	183°12.8'	286°55.1'	S 22°50.2'	26°16.6'	10.0'	N 11°18.0'	9.8'	58.3'
8	198°15.3'	301°54.8'	S 22°50.5'	40°45.6'	10.1'	N 11°08.2'	9.9'	58.3'
9	213°17.8'	316°54.5'	S 22°50.7'	55°14.7'	10.2'	N 10°58.3'	9.9'	58.3'
10	228°20.2'	331°54.2'	S 22°50.9'	69°43.8'	10.2'	N 10°48.4'	10.0'	58.2'
11	243°22.7'	346°53.9'	S 22°51.2'	84°13.1'	10.3'	N 10°38.4'	10.0'	58.2'
12	258°25.1'	1°53.7'	S 22°51.4'	98°42.4'	10.4'	N 10°28.4'	10.1'	58.1'
13	273°27.6'	16°53.4'	S 22°51.6'	113°11.8'	10.5'	N 10°18.4'	10.1'	58.1'
14	288°30.1'	31°53.1'	S 22°51.9'	127°41.3'	10.6'	N 10°08.3'	10.1'	58.1'
15	303°32.5'	46°52.8'	S 22°52.1'	142°10.8'	10.6'	N 9°58.1'	10.2'	58.0'
16	318°35.0'	61°52.5'	S 22°52.3'	156°40.5'	10.7'	N 9°48.0'	10.2'	58.0'
17	333°37.5'	76°52.3'	S 22°52.6'	171°10.2'	10.8'	N 9°37.7'	10.3'	58.0'
18	348°39.9'	91°52.0'	S 22°52.8'	185°40.0'	10.9'	N 9°27.5'	10.3'	57.9'
19	3°42.4'	106°51.7'	S 22°53.0'	200°09.8'	10.9'	N 9°17.2'	10.3'	57.9'
20	18°44.9'	121°51.4'	S 22°53.3'	214°39.8'	11.0'	N 9°06.8'	10.4'	57.9'
21	33°47.3'	136°51.1'	S 22°53.5'	229°09.8'	11.1'	N 8°56.5'	10.4'	57.8'
22	48°49.8'	151°50.9'	S 22°53.7'	243°39.8'	11.1'	N 8°46.1'	10.4'	57.8'
23	63°52.3'	166°50.6'	S 22°53.9'	258°10.0'	11.2'	N 8°35.6'	10.5'	57.8'

## Sun Dec 10, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.2' SD = 16.2'		SD = 15.6'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	78°54.7'	181°50.3'	S 22°54.2'	272°40.2'	11.3'	N 8°25.2'	10.5'	57.7'
1	93°57.2'	196°50.0'	S 22°54.4'	287°10.5'	11.4'	N 8°14.7'	10.5'	57.7'
2	108°59.6'	211°49.7'	S 22°54.6'	301°40.8'	11.4'	N 8°04.2'	10.6'	57.6'
3	124°02.1'	226°49.4'	S 22°54.8'	316°11.2'	11.5'	N 7°53.6'	10.6'	57.6'
4	139°04.6'	241°49.2'	S 22°55.1'	330°41.7'	11.6'	N 7°43.0'	10.6'	57.6'
5	154°07.0'	256°48.9'	S 22°55.3'	345°12.3'	11.6'	N 7°32.4'	10.6'	57.5'
6	169°09.5'	271°48.6'	S 22°55.5'	359°42.9'	11.7'	N 7°21.8'	10.7'	57.5'
7	184°12.0'	286°48.3'	S 22°55.7'	14°13.6'	11.7'	N 7°11.1'	10.7'	57.5'
8	199°14.4'	301°48.0'	S 22°56.0'	28°44.3'	11.8'	N 7°00.5'	10.7'	57.4'
9	214°16.9'	316°47.7'	S 22°56.2'	43°15.1'	11.9'	N 6°49.7'	10.7'	57.4'
10	229°19.4'	331°47.5'	S 22°56.4'	57°46.0'	11.9'	N 6°39.0'	10.7'	57.4'
11	244°21.8'	346°47.2'	S 22°56.6'	72°16.9'	12.0'	N 6°28.3'	10.8'	57.3'
12	259°24.3'	1°46.9'	S 22°56.8'	86°47.9'	12.1'	N 6°17.5'	10.8'	57.3'
13	274°26.7'	16°46.6'	S 22°57.0'	101°19.0'	12.1'	N 6°06.7'	10.8'	57.3'
14	289°29.2'	31°46.3'	S 22°57.3'	115°50.1'	12.2'	N 5°55.9'	10.8'	57.2'
15	304°31.7'	46°46.0'	S 22°57.5'	130°21.3'	12.2'	N 5°45.1'	10.8'	57.2'
16	319°34.1'	61°45.7'	S 22°57.7'	144°52.5'	12.3'	N 5°34.3'	10.8'	57.2'
17	334°36.6'	76°45.5'	S 22°57.9'	159°23.8'	12.3'	N 5°23.4'	10.9'	57.1'
18	349°39.1'	91°45.2'	S 22°58.1'	173°55.1'	12.4'	N 5°12.6'	10.9'	57.1'
19	4°41.5'	106°44.9'	S 22°58.3'	188°26.5'	12.4'	N 5°01.7'	10.9'	57.1'
20	19°44.0'	121°44.6'	S 22°58.5'	202°58.0'	12.5'	N 4°50.8'	10.9'	57.0'
21	34°46.5'	136°44.3'	S 22°58.7'	217°29.4'	12.5'	N 4°39.9'	10.9'	57.0'
22	49°48.9'	151°44.0'	S 22°58.9'	232°01.0'	12.6'	N 4°29.0'	10.9'	57.0'
23	64°51.4'	166°43.7'	S 22°59.2'	246°32.6'	12.6'	N 4°18.1'	10.9'	56.9'

Mon Dec 11, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.2' SD = 16.2'		SD = 15.4'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	79°53.9'	181°43.5'	S 22°59.4'	261°04.2'	12.7'	N 4°07.2'	10.9'	56.9'
1	94°56.3'	196°43.2'	S 22°59.6'	275°35.9'	12.7'	N 3°56.2'	10.9'	56.9'
2	109°58.8'	211°42.9'	S 22°59.8'	290°07.7'	12.8'	N 3°45.3'	10.9'	56.8'
3	125°01.2'	226°42.6'	S 22°60.0'	304°39.5'	12.8'	N 3°34.4'	10.9'	56.8'
4	140°03.7'	241°42.3'	S 23°00.2'	319°11.3'	12.9'	N 3°23.4'	11.0'	56.8'
5	155°06.2'	256°42.0'	S 23°00.4'	333°43.2'	12.9'	N 3°12.5'	11.0'	56.7'
6	170°08.6'	271°41.7'	S 23°00.6'	348°15.1'	13.0'	N 3°01.5'	11.0'	56.7'
7	185°11.1'	286°41.4'	S 23°00.8'	2°47.1'	13.0'	N 2°50.6'	11.0'	56.7'
8	200°13.6'	301°41.2'	S 23°01.0'	17°19.1'	13.1'	N 2°39.6'	11.0'	56.6'
9	215°16.0'	316°40.9'	S 23°01.2'	31°51.2'	13.1'	N 2°28.6'	11.0'	56.6'
10	230°18.5'	331°40.6'	S 23°01.4'	46°23.3'	13.1'	N 2°17.7'	11.0'	56.6'
11	245°21.0'	346°40.3'	S 23°01.6'	60°55.4'	13.2'	N 2°06.7'	11.0'	56.5'
12	260°23.4'	1°40.0'	S 23°01.8'	75°27.6'	13.2'	N 1°55.8'	11.0'	56.5'
13	275°25.9'	16°39.7'	S 23°02.0'	89°59.8'	13.3'	N 1°44.8'	11.0'	56.5'
14	290°28.4'	31°39.4'	S 23°02.2'	104°32.0'	13.3'	N 1°33.8'	10.9'	56.5'
15	305°30.8'	46°39.1'	S 23°02.4'	119°04.3'	13.3'	N 1°22.9'	10.9'	56.4'
16	320°33.3'	61°38.8'	S 23°02.6'	133°36.6'	13.4'	N 1°12.0'	10.9'	56.4'
17	335°35.7'	76°38.6'	S 23°02.8'	148°09.0'	13.4'	N 1°01.0'	10.9'	56.4'
18	350°38.2'	91°38.3'	S 23°03.0'	162°41.4'	13.4'	N 0°50.1'	10.9'	56.3'
19	5°40.7'	106°38.0'	S 23°03.2'	177°13.8'	13.5'	N 0°39.2'	10.9'	56.3'
20	20°43.1'	121°37.7'	S 23°03.3'	191°46.3'	13.5'	N 0°28.2'	10.9'	56.3'
21	35°45.6'	136°37.4'	S 23°03.5'	206°18.8'	13.5'	N 0°17.3'	10.9'	56.2'
22	50°48.1'	151°37.1'	S 23°03.7'	220°51.3'	13.5'	N 0°06.4'	10.9'	56.2'
23	65°50.5'	166°36.8'	S 23°03.9'	235°23.8'	13.6'	S 0°04.5'	10.9'	56.2'

Tue Dec 12, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.2' SD = 16.2'		SD = 15.2'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	80°53.0'	181°36.5'	S 23°04.1'	249°56.4'	13.6'	S 0°15.3'	10.9'	56.2'
1	95°55.5'	196°36.2'	S 23°04.3'	264°29.0'	13.6'	S 0°26.2'	10.9'	56.1'
2	110°57.9'	211°35.9'	S 23°04.5'	279°01.6'	13.7'	S 0°37.1'	10.8'	56.1'
3	126°00.4'	226°35.7'	S 23°04.7'	293°34.3'	13.7'	S 0°47.9'	10.8'	56.1'
4	141°02.8'	241°35.4'	S 23°04.9'	308°07.0'	13.7'	S 0°58.7'	10.8'	56.0'
5	156°05.3'	256°35.1'	S 23°05.0'	322°39.7'	13.7'	S 1°09.5'	10.8'	56.0'
6	171°07.8'	271°34.8'	S 23°05.2'	337°12.4'	13.8'	S 1°20.3'	10.8'	56.0'
7	186°10.2'	286°34.5'	S 23°05.4'	351°45.2'	13.8'	S 1°31.1'	10.8'	56.0'
8	201°12.7'	301°34.2'	S 23°05.6'	6°18.0'	13.8'	S 1°41.9'	10.8'	55.9'
9	216°15.2'	316°33.9'	S 23°05.8'	20°50.8'	13.8'	S 1°52.6'	10.7'	55.9'
10	231°17.6'	331°33.6'	S 23°05.9'	35°23.6'	13.8'	S 2°03.4'	10.7'	55.9'
11	246°20.1'	346°33.3'	S 23°06.1'	49°56.4'	13.9'	S 2°14.1'	10.7'	55.9'
12	261°22.6'	1°33.0'	S 23°06.3'	64°29.3'	13.9'	S 2°24.8'	10.7'	55.8'
13	276°25.0'	16°32.7'	S 23°06.5'	79°02.1'	13.9'	S 2°35.5'	10.7'	55.8'
14	291°27.5'	31°32.4'	S 23°06.7'	93°35.0'	13.9'	S 2°46.1'	10.6'	55.8'
15	306°30.0'	46°32.1'	S 23°06.8'	108°07.9'	13.9'	S 2°56.7'	10.6'	55.8'
16	321°32.4'	61°31.9'	S 23°07.0'	122°40.9'	13.9'	S 3°07.4'	10.6'	55.7'
17	336°34.9'	76°31.6'	S 23°07.2'	137°13.8'	14.0'	S 3°17.9'	10.6'	55.7'
18	351°37.3'	91°31.3'	S 23°07.4'	151°46.8'	14.0'	S 3°28.5'	10.5'	55.7'
19	6°39.8'	106°31.0'	S 23°07.5'	166°19.7'	14.0'	S 3°39.1'	10.5'	55.7'
20	21°42.3'	121°30.7'	S 23°07.7'	180°52.7'	14.0'	S 3°49.6'	10.5'	55.6'
21	36°44.7'	136°30.4'	S 23°07.9'	195°25.7'	14.0'	S 4°00.1'	10.5'	55.6'
22	51°47.2'	151°30.1'	S 23°08.1'	209°58.7'	14.0'	S 4°10.5'	10.4'	55.6'
23	66°49.7'	166°29.8'	S 23°08.2'	224°31.7'	14.0'	S 4°21.0'	10.4'	55.6'

Wed Dec 13, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.2' SD = 16.2'		SD = 15.1'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	81°52.1'	181°29.5'	S 23°08.4'	239°04.7'	14.0'	S 4°31.4'	10.4'	55.5'
1	96°54.6'	196°29.2'	S 23°08.6'	253°37.8'	14.0'	S 4°41.8'	10.4'	55.5'
2	111°57.1'	211°28.9'	S 23°08.7'	268°10.8'	14.0'	S 4°52.1'	10.3'	55.5'
3	126°59.5'	226°28.6'	S 23°08.9'	282°43.9'	14.1'	S 5°02.5'	10.3'	55.5'
4	142°02.0'	241°28.3'	S 23°09.1'	297°16.9'	14.1'	S 5°12.7'	10.3'	55.4'
5	157°04.4'	256°28.0'	S 23°09.2'	311°50.0'	14.1'	S 5°23.0'	10.2'	55.4'
6	172°06.9'	271°27.7'	S 23°09.4'	326°23.0'	14.1'	S 5°33.3'	10.2'	55.4'
7	187°09.4'	286°27.4'	S 23°09.6'	340°56.1'	14.1'	S 5°43.5'	10.2'	55.4'
8	202°11.8'	301°27.1'	S 23°09.7'	355°29.2'	14.1'	S 5°53.6'	10.1'	55.4'
9	217°14.3'	316°26.8'	S 23°09.9'	10°02.3'	14.1'	S 6°03.8'	10.1'	55.3'
10	232°16.8'	331°26.5'	S 23°10.0'	24°35.3'	14.1'	S 6°13.9'	10.1'	55.3'
11	247°19.2'	346°26.2'	S 23°10.2'	39°08.4'	14.1'	S 6°24.0'	10.0'	55.3'
12	262°21.7'	1°26.0'	S 23°10.4'	53°41.5'	14.1'	S 6°34.0'	10.0'	55.3'
13	277°24.2'	16°25.7'	S 23°10.5'	68°14.6'	14.1'	S 6°44.0'	10.0'	55.2'
14	292°26.6'	31°25.4'	S 23°10.7'	82°47.7'	14.1'	S 6°54.0'	9.9'	55.2'
15	307°29.1'	46°25.1'	S 23°10.8'	97°20.8'	14.1'	S 7°03.9'	9.9'	55.2'
16	322°31.6'	61°24.8'	S 23°11.0'	111°53.9'	14.1'	S 7°13.8'	9.9'	55.2'
17	337°34.0'	76°24.5'	S 23°11.1'	126°26.9'	14.1'	S 7°23.6'	9.8'	55.2'
18	352°36.5'	91°24.2'	S 23°11.3'	141°00.0'	14.1'	S 7°33.5'	9.8'	55.1'
19	7°38.9'	106°23.9'	S 23°11.5'	155°33.1'	14.1'	S 7°43.2'	9.7'	55.1'
20	22°41.4'	121°23.6'	S 23°11.6'	170°06.2'	14.1'	S 7°53.0'	9.7'	55.1'
21	37°43.9'	136°23.3'	S 23°11.8'	184°39.2'	14.1'	S 8°02.7'	9.7'	55.1'
22	52°46.3'	151°23.0'	S 23°11.9'	199°12.3'	14.1'	S 8°12.3'	9.6'	55.1'
23	67°48.8'	166°22.7'	S 23°12.1'	213°45.4'	14.1'	S 8°21.9'	9.6'	55.0'

Thu Dec 14, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.1' SD = 16.2'		SD = 15.0'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	82°51.3'	181°22.4'	S 23°12.2'	228°18.4'	14.0'	S 8°31.5'	9.5'	55.0'
1	97°53.7'	196°22.1'	S 23°12.4'	242°51.5'	14.0'	S 8°41.1'	9.5'	55.0'
2	112°56.2'	211°21.8'	S 23°12.5'	257°24.5'	14.0'	S 8°50.5'	9.4'	55.0'
3	127°58.7'	226°21.5'	S 23°12.7'	271°57.5'	14.0'	S 8°60.0'	9.4'	55.0'
4	143°01.1'	241°21.2'	S 23°12.8'	286°30.5'	14.0'	S 9°09.4'	9.4'	54.9'
5	158°03.6'	256°20.9'	S 23°13.0'	301°03.6'	14.0'	S 9°18.7'	9.3'	54.9'
6	173°06.1'	271°20.6'	S 23°13.1'	315°36.6'	14.0'	S 9°28.1'	9.3'	54.9'
7	188°08.5'	286°20.3'	S 23°13.2'	330°09.6'	14.0'	S 9°37.3'	9.2'	54.9'
8	203°11.0'	301°20.0'	S 23°13.4'	344°42.5'	14.0'	S 9°46.5'	9.2'	54.9'
9	218°13.4'	316°19.7'	S 23°13.5'	359°15.5'	14.0'	S 9°55.7'	9.1'	54.9'
10	233°15.9'	331°19.4'	S 23°13.7'	13°48.5'	14.0'	S 10°04.8'	9.1'	54.8'
11	248°18.4'	346°19.1'	S 23°13.8'	28°21.4'	13.9'	S 10°13.9'	9.0'	54.8'
12	263°20.8'	1°18.8'	S 23°14.0'	42°54.4'	13.9'	S 10°22.9'	9.0'	54.8'
13	278°23.3'	16°18.5'	S 23°14.1'	57°27.3'	13.9'	S 10°31.9'	8.9'	54.8'
14	293°25.8'	31°18.2'	S 23°14.2'	72°00.2'	13.9'	S 10°40.8'	8.9'	54.8'
15	308°28.2'	46°17.9'	S 23°14.4'	86°33.1'	13.9'	S 10°49.7'	8.8'	54.8'
16	323°30.7'	61°17.6'	S 23°14.5'	101°06.0'	13.9'	S 10°58.5'	8.8'	54.7'
17	338°33.2'	76°17.3'	S 23°14.6'	115°38.9'	13.9'	S 11°07.3'	8.7'	54.7'
18	353°35.6'	91°17.0'	S 23°14.8'	130°11.7'	13.8'	S 11°16.0'	8.7'	54.7'
19	8°38.1'	106°16.7'	S 23°14.9'	144°44.6'	13.8'	S 11°24.7'	8.6'	54.7'
20	23°40.6'	121°16.4'	S 23°15.1'	159°17.4'	13.8'	S 11°33.3'	8.6'	54.7'
21	38°43.0'	136°16.1'	S 23°15.2'	173°50.2'	13.8'	S 11°41.9'	8.5'	54.7'
22	53°45.5'	151°15.8'	S 23°15.3'	188°23.0'	13.8'	S 11°50.4'	8.5'	54.6'
23	68°47.9'	166°15.5'	S 23°15.4'	202°55.8'	13.8'	S 11°58.8'	8.4'	54.6'

Fri Dec 15, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.1' SD = 16.2'		SD = 14.9'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	83°50.4'	181°15.2'	S 23°15.6'	217°28.6'	13.7'	S 12°07.2'	8.3'	54.6'
1	98°52.9'	196°14.9'	S 23°15.7'	232°01.3'	13.7'	S 12°15.6'	8.3'	54.6'
2	113°55.3'	211°14.6'	S 23°15.8'	246°34.0'	13.7'	S 12°23.9'	8.2'	54.6'
3	128°57.8'	226°14.3'	S 23°16.0'	261°06.7'	13.7'	S 12°32.1'	8.2'	54.6'
4	144°00.3'	241°14.0'	S 23°16.1'	275°39.4'	13.7'	S 12°40.3'	8.1'	54.6'
5	159°02.7'	256°13.7'	S 23°16.2'	290°12.1'	13.7'	S 12°48.4'	8.1'	54.5'
6	174°05.2'	271°13.4'	S 23°16.3'	304°44.8'	13.6'	S 12°56.4'	8.0'	54.5'
7	189°07.7'	286°13.1'	S 23°16.5'	319°17.4'	13.6'	S 13°04.4'	7.9'	54.5'
8	204°10.1'	301°12.8'	S 23°16.6'	333°50.0'	13.6'	S 13°12.3'	7.9'	54.5'
9	219°12.6'	316°12.5'	S 23°16.7'	348°22.6'	13.6'	S 13°20.2'	7.8'	54.5'
10	234°15.0'	331°12.2'	S 23°16.8'	2°55.2'	13.6'	S 13°28.0'	7.7'	54.5'
11	249°17.5'	346°11.9'	S 23°17.0'	17°27.7'	13.5'	S 13°35.8'	7.7'	54.5'
12	264°20.0'	1°11.6'	S 23°17.1'	32°00.3'	13.5'	S 13°43.4'	7.6'	54.5'
13	279°22.4'	16°11.3'	S 23°17.2'	46°32.8'	13.5'	S 13°51.1'	7.6'	54.4'
14	294°24.9'	31°11.0'	S 23°17.3'	61°05.3'	13.5'	S 13°58.6'	7.5'	54.4'
15	309°27.4'	46°10.7'	S 23°17.4'	75°37.7'	13.4'	S 14°06.1'	7.4'	54.4'
16	324°29.8'	61°10.4'	S 23°17.6'	90°10.2'	13.4'	S 14°13.6'	7.4'	54.4'
17	339°32.3'	76°10.1'	S 23°17.7'	104°42.6'	13.4'	S 14°20.9'	7.3'	54.4'
18	354°34.8'	91°09.8'	S 23°17.8'	119°15.0'	13.4'	S 14°28.2'	7.2'	54.4'
19	9°37.2'	106°09.5'	S 23°17.9'	133°47.4'	13.4'	S 14°35.5'	7.2'	54.4'
20	24°39.7'	121°09.1'	S 23°18.0'	148°19.8'	13.3'	S 14°42.6'	7.1'	54.4'
21	39°42.2'	136°08.8'	S 23°18.1'	162°52.1'	13.3'	S 14°49.7'	7.0'	54.3'
22	54°44.6'	151°08.5'	S 23°18.3'	177°24.4'	13.3'	S 14°56.8'	7.0'	54.3'
23	69°47.1'	166°08.2'	S 23°18.4'	191°56.7'	13.3'	S 15°03.7'	6.9'	54.3'

Sat Dec 16, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.1' SD = 16.3'		SD = 14.8'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	84°49.5'	181°07.9'	S 23°18.5'	206°29.0'	13.2'	S 15°10.6'	6.8'	54.3'
1	99°52.0'	196°07.6'	S 23°18.6'	221°01.2'	13.2'	S 15°17.4'	6.8'	54.3'
2	114°54.5'	211°07.3'	S 23°18.7'	235°33.5'	13.2'	S 15°24.2'	6.7'	54.3'
3	129°56.9'	226°07.0'	S 23°18.8'	250°05.7'	13.2'	S 15°30.9'	6.6'	54.3'
4	144°59.4'	241°06.7'	S 23°18.9'	264°37.8'	13.2'	S 15°37.5'	6.5'	54.3'
5	160°01.9'	256°06.4'	S 23°19.0'	279°10.0'	13.1'	S 15°44.1'	6.5'	54.3'
6	175°04.3'	271°06.1'	S 23°19.1'	293°42.1'	13.1'	S 15°50.5'	6.4'	54.2'
7	190°06.8'	286°05.8'	S 23°19.2'	308°14.3'	13.1'	S 15°56.9'	6.3'	54.2'
8	205°09.3'	301°05.5'	S 23°19.3'	322°46.3'	13.1'	S 16°03.3'	6.3'	54.2'
9	220°11.7'	316°05.2'	S 23°19.4'	337°18.4'	13.0'	S 16°09.5'	6.2'	54.2'
10	235°14.2'	331°04.9'	S 23°19.6'	351°50.5'	13.0'	S 16°15.7'	6.1'	54.2'
11	250°16.7'	346°04.6'	S 23°19.7'	6°22.5'	13.0'	S 16°21.8'	6.0'	54.2'
12	265°19.1'	1°04.3'	S 23°19.8'	20°54.5'	13.0'	S 16°27.9'	6.0'	54.2'
13	280°21.6'	16°04.0'	S 23°19.9'	35°26.4'	13.0'	S 16°33.8'	5.9'	54.2'
14	295°24.0'	31°03.7'	S 23°20.0'	49°58.4'	12.9'	S 16°39.7'	5.8'	54.2'
15	310°26.5'	46°03.4'	S 23°20.1'	64°30.3'	12.9'	S 16°45.5'	5.7'	54.2'
16	325°29.0'	61°03.1'	S 23°20.2'	79°02.2'	12.9'	S 16°51.3'	5.7'	54.2'
17	340°31.4'	76°02.8'	S 23°20.3'	93°34.1'	12.9'	S 16°56.9'	5.6'	54.2'
18	355°33.9'	91°02.5'	S 23°20.4'	108°06.0'	12.8'	S 17°02.5'	5.5'	54.1'
19	10°36.4'	106°02.1'	S 23°20.4'	122°37.8'	12.8'	S 17°08.0'	5.4'	54.1'
20	25°38.8'	121°01.8'	S 23°20.5'	137°09.6'	12.8'	S 17°13.4'	5.3'	54.1'
21	40°41.3'	136°01.5'	S 23°20.6'	151°41.4'	12.8'	S 17°18.8'	5.3'	54.1'
22	55°43.8'	151°01.2'	S 23°20.7'	166°13.2'	12.7'	S 17°24.1'	5.2'	54.1'
23	70°46.2'	166°00.9'	S 23°20.8'	180°44.9'	12.7'	S 17°29.2'	5.1'	54.1'



## Sun Dec 17, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.1' SD = 16.3'		SD = 14.7'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	85°48.7'	181°00.6'	S 23°20.9'	195°16.7'	12.7'	S 17°34.4'	5.0'	54.1'
1	100°51.2'	196°00.3'	S 23°21.0'	209°48.4'	12.7'	S 17°39.4'	5.0'	54.1'
2	115°53.6'	211°00.0'	S 23°21.1'	224°20.1'	12.7'	S 17°44.3'	4.9'	54.1'
3	130°56.1'	225°59.7'	S 23°21.2'	238°51.7'	12.6'	S 17°49.2'	4.8'	54.1'
4	145°58.5'	240°59.4'	S 23°21.3'	253°23.4'	12.6'	S 17°54.0'	4.7'	54.1'
5	161°01.0'	255°59.1'	S 23°21.4'	267°55.0'	12.6'	S 17°58.7'	4.6'	54.1'
6	176°03.5'	270°58.8'	S 23°21.5'	282°26.6'	12.6'	S 18°03.3'	4.5'	54.1'
7	191°05.9'	285°58.5'	S 23°21.5'	296°58.1'	12.6'	S 18°07.9'	4.5'	54.1'
8	206°08.4'	300°58.2'	S 23°21.6'	311°29.7'	12.5'	S 18°12.3'	4.4'	54.0'
9	221°10.9'	315°57.9'	S 23°21.7'	326°01.2'	12.5'	S 18°16.7'	4.3'	54.0'
10	236°13.3'	330°57.6'	S 23°21.8'	340°32.8'	12.5'	S 18°21.0'	4.2'	54.0'
11	251°15.8'	345°57.2'	S 23°21.9'	355°04.3'	12.5'	S 18°25.2'	4.1'	54.0'
12	266°18.3'	0°56.9'	S 23°22.0'	9°35.7'	12.5'	S 18°29.3'	4.0'	54.0'
13	281°20.7'	15°56.6'	S 23°22.0'	24°07.2'	12.4'	S 18°33.4'	4.0'	54.0'
14	296°23.2'	30°56.3'	S 23°22.1'	38°38.6'	12.4'	S 18°37.3'	3.9'	54.0'
15	311°25.6'	45°56.0'	S 23°22.2'	53°10.1'	12.4'	S 18°41.2'	3.8'	54.0'
16	326°28.1'	60°55.7'	S 23°22.3'	67°41.5'	12.4'	S 18°45.0'	3.7'	54.0'
17	341°30.6'	75°55.4'	S 23°22.4'	82°12.8'	12.4'	S 18°48.7'	3.6'	54.0'
18	356°33.0'	90°55.1'	S 23°22.4'	96°44.2'	12.3'	S 18°52.3'	3.5'	54.0'
19	11°35.5'	105°54.8'	S 23°22.5'	111°15.6'	12.3'	S 18°55.8'	3.4'	54.0'
20	26°38.0'	120°54.5'	S 23°22.6'	125°46.9'	12.3'	S 18°59.3'	3.4'	54.0'
21	41°40.4'	135°54.2'	S 23°22.7'	140°18.2'	12.3'	S 19°02.6'	3.3'	54.0'
22	56°42.9'	150°53.9'	S 23°22.7'	154°49.5'	12.3'	S 19°05.9'	3.2'	54.0'
23	71°45.4'	165°53.6'	S 23°22.8'	169°20.8'	12.3'	S 19°09.1'	3.1'	54.0'

## Mon Dec 18, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.1' SD = 16.3'		SD = 14.7'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	86°47.8'	180°53.2'	S 23°22.9'	183°52.1'	12.3'	S 19°12.2'	3.0'	54.0'
1	101°50.3'	195°52.9'	S 23°23.0'	198°23.3'	12.2'	S 19°15.2'	2.9'	54.0'
2	116°52.8'	210°52.6'	S 23°23.0'	212°54.6'	12.2'	S 19°18.1'	2.8'	54.0'
3	131°55.2'	225°52.3'	S 23°23.1'	227°25.8'	12.2'	S 19°20.9'	2.7'	54.0'
4	146°57.7'	240°52.0'	S 23°23.2'	241°57.0'	12.2'	S 19°23.7'	2.7'	54.0'
5	162°00.1'	255°51.7'	S 23°23.2'	256°28.2'	12.2'	S 19°26.3'	2.6'	54.0'
6	177°02.6'	270°51.4'	S 23°23.3'	270°59.4'	12.2'	S 19°28.9'	2.5'	54.0'
7	192°05.1'	285°51.1'	S 23°23.4'	285°30.5'	12.2'	S 19°31.4'	2.4'	53.9'
8	207°07.5'	300°50.8'	S 23°23.4'	300°01.7'	12.1'	S 19°33.7'	2.3'	53.9'
9	222°10.0'	315°50.5'	S 23°23.5'	314°32.8'	12.1'	S 19°36.0'	2.2'	53.9'
10	237°12.5'	330°50.2'	S 23°23.6'	329°04.0'	12.1'	S 19°38.2'	2.1'	53.9'
11	252°14.9'	345°49.9'	S 23°23.6'	343°35.1'	12.1'	S 19°40.4'	2.0'	53.9'
12	267°17.4'	0°49.5'	S 23°23.7'	358°06.2'	12.1'	S 19°42.4'	1.9'	53.9'
13	282°19.9'	15°49.2'	S 23°23.8'	12°37.3'	12.1'	S 19°44.3'	1.8'	53.9'
14	297°22.3'	30°48.9'	S 23°23.8'	27°08.4'	12.1'	S 19°46.1'	1.7'	53.9'
15	312°24.8'	45°48.6'	S 23°23.9'	41°39.5'	12.1'	S 19°47.9'	1.7'	53.9'
16	327°27.3'	60°48.3'	S 23°23.9'	56°10.5'	12.1'	S 19°49.6'	1.6'	53.9'
17	342°29.7'	75°48.0'	S 23°24.0'	70°41.6'	12.1'	S 19°51.1'	1.5'	53.9'
18	357°32.2'	90°47.7'	S 23°24.1'	85°12.7'	12.0'	S 19°52.6'	1.4'	53.9'
19	12°34.6'	105°47.4'	S 23°24.1'	99°43.7'	12.0'	S 19°54.0'	1.3'	53.9'
20	27°37.1'	120°47.1'	S 23°24.2'	114°14.8'	12.0'	S 19°55.3'	1.2'	53.9'
21	42°39.6'	135°46.8'	S 23°24.2'	128°45.8'	12.0'	S 19°56.5'	1.1'	53.9'
22	57°42.0'	150°46.5'	S 23°24.3'	143°16.8'	12.0'	S 19°57.6'	1.0'	53.9'
23	72°44.5'	165°46.2'	S 23°24.3'	157°47.8'	12.0'	S 19°58.6'	0.9'	53.9'

Tue Dec 19, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.0' SD = 16.3'		SD = 14.7'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	87°47.0'	180°45.8'	S 23°24.4'	172°18.9'	12.0'	S 19°59.5'	0.8'	53.9'
1	102°49.4'	195°45.5'	S 23°24.4'	186°49.9'	12.0'	S 20°00.4'	0.7'	53.9'
2	117°51.9'	210°45.2'	S 23°24.5'	201°20.9'	12.0'	S 20°01.1'	0.6'	53.9'
3	132°54.4'	225°44.9'	S 23°24.5'	215°51.9'	12.0'	S 20°01.8'	0.6'	53.9'
4	147°56.8'	240°44.6'	S 23°24.6'	230°22.9'	12.0'	S 20°02.3'	0.5'	53.9'
5	162°59.3'	255°44.3'	S 23°24.6'	244°53.9'	12.0'	S 20°02.8'	0.4'	53.9'
6	178°01.8'	270°44.0'	S 23°24.7'	259°24.9'	12.0'	S 20°03.2'	0.3'	53.9'
7	193°04.2'	285°43.7'	S 23°24.7'	273°55.9'	12.0'	S 20°03.4'	0.2'	53.9'
8	208°06.7'	300°43.4'	S 23°24.8'	288°26.9'	12.0'	S 20°03.6'	0.1'	53.9'
9	223°09.1'	315°43.1'	S 23°24.8'	302°57.9'	12.0'	S 20°03.7'	0.0'	53.9'
10	238°11.6'	330°42.7'	S 23°24.9'	317°28.8'	12.0'	S 20°03.7'	0.1'	53.9'
11	253°14.1'	345°42.4'	S 23°24.9'	331°59.8'	12.0'	S 20°03.6'	0.2'	53.9'
12	268°16.5'	0°42.1'	S 23°25.0'	346°30.8'	12.0'	S 20°03.4'	0.3'	53.9'
13	283°19.0'	15°41.8'	S 23°25.0'	1°01.8'	12.0'	S 20°03.2'	0.4'	53.9'
14	298°21.5'	30°41.5'	S 23°25.0'	15°32.8'	12.0'	S 20°02.8'	0.5'	53.9'
15	313°23.9'	45°41.2'	S 23°25.1'	30°03.8'	12.0'	S 20°02.3'	0.6'	53.9'
16	328°26.4'	60°40.9'	S 23°25.1'	44°34.8'	12.0'	S 20°01.8'	0.6'	53.9'
17	343°28.9'	75°40.6'	S 23°25.2'	59°05.8'	12.0'	S 20°01.1'	0.7'	53.9'
18	358°31.3'	90°40.3'	S 23°25.2'	73°36.8'	12.0'	S 20°00.4'	0.8'	53.9'
19	13°33.8'	105°40.0'	S 23°25.2'	88°07.8'	12.0'	S 19°59.6'	0.9'	54.0'
20	28°36.3'	120°39.6'	S 23°25.3'	102°38.8'	12.0'	S 19°58.7'	1.0'	54.0'
21	43°38.7'	135°39.3'	S 23°25.3'	117°09.8'	12.0'	S 19°57.6'	1.1'	54.0'
22	58°41.2'	150°39.0'	S 23°25.3'	131°40.9'	12.0'	S 19°56.5'	1.2'	54.0'
23	73°43.6'	165°38.7'	S 23°25.4'	146°11.9'	12.0'	S 19°55.3'	1.3'	54.0'

Wed Dec 20, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.0' SD = 16.3'		SD = 14.7'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	88°46.1'	180°38.4'	S 23°25.4'	160°42.9'	12.0'	S 19°54.1'	1.4'	54.0'
1	103°48.6'	195°38.1'	S 23°25.4'	175°14.0'	12.0'	S 19°52.7'	1.5'	54.0'
2	118°51.0'	210°37.8'	S 23°25.5'	189°45.0'	12.1'	S 19°51.2'	1.6'	54.0'
3	133°53.5'	225°37.5'	S 23°25.5'	204°16.1'	12.1'	S 19°49.6'	1.7'	54.0'
4	148°56.0'	240°37.2'	S 23°25.5'	218°47.1'	12.1'	S 19°48.0'	1.7'	54.0'
5	163°58.4'	255°36.8'	S 23°25.6'	233°18.2'	12.1'	S 19°46.2'	1.8'	54.0'
6	179°00.9'	270°36.5'	S 23°25.6'	247°49.3'	12.1'	S 19°44.4'	1.9'	54.0'
7	194°03.4'	285°36.2'	S 23°25.6'	262°20.4'	12.1'	S 19°42.5'	2.0'	54.0'
8	209°05.8'	300°35.9'	S 23°25.7'	276°51.5'	12.1'	S 19°40.4'	2.1'	54.0'
9	224°08.3'	315°35.6'	S 23°25.7'	291°22.6'	12.1'	S 19°38.3'	2.2'	54.0'
10	239°10.7'	330°35.3'	S 23°25.7'	305°53.7'	12.1'	S 19°36.1'	2.3'	54.0'
11	254°13.2'	345°35.0'	S 23°25.7'	320°24.8'	12.1'	S 19°33.8'	2.4'	54.0'
12	269°15.7'	0°34.7'	S 23°25.8'	334°56.0'	12.2'	S 19°31.5'	2.5'	54.0'
13	284°18.1'	15°34.4'	S 23°25.8'	349°27.1'	12.2'	S 19°29.0'	2.6'	54.0'
14	299°20.6'	30°34.1'	S 23°25.8'	3°58.3'	12.2'	S 19°26.4'	2.6'	54.0'
15	314°23.1'	45°33.7'	S 23°25.8'	18°29.4'	12.2'	S 19°23.8'	2.7'	54.0'
16	329°25.5'	60°33.4'	S 23°25.8'	33°00.6'	12.2'	S 19°21.0'	2.8'	54.0'
17	344°28.0'	75°33.1'	S 23°25.9'	47°31.8'	12.2'	S 19°18.2'	2.9'	54.1'
18	359°30.5'	90°32.8'	S 23°25.9'	62°03.0'	12.2'	S 19°15.3'	3.0'	54.1'
19	14°32.9'	105°32.5'	S 23°25.9'	76°34.3'	12.2'	S 19°12.3'	3.1'	54.1'
20	29°35.4'	120°32.2'	S 23°25.9'	91°05.5'	12.3'	S 19°09.2'	3.2'	54.1'
21	44°37.9'	135°31.9'	S 23°25.9'	105°36.8'	12.3'	S 19°06.0'	3.3'	54.1'
22	59°40.3'	150°31.6'	S 23°25.9'	120°08.0'	12.3'	S 19°02.8'	3.4'	54.1'
23	74°42.8'	165°31.3'	S 23°26.0'	134°39.3'	12.3'	S 18°59.4'	3.4'	54.1'

Thu Dec 21, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.0' SD = 16.3'		SD = 14.8'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	89°45.2'	180°30.9'	S 23°26.0'	149°10.6'	12.3'	S 18°56.0'	3.5'	54.1'
1	104°47.7'	195°30.6'	S 23°26.0'	163°41.9'	12.3'	S 18°52.4'	3.6'	54.1'
2	119°50.2'	210°30.3'	S 23°26.0'	178°13.3'	12.3'	S 18°48.8'	3.7'	54.1'
3	134°52.6'	225°30.0'	S 23°26.0'	192°44.6'	12.4'	S 18°45.1'	3.8'	54.1'
4	149°55.1'	240°29.7'	S 23°26.0'	207°16.0'	12.4'	S 18°41.3'	3.9'	54.1'
5	164°57.6'	255°29.4'	S 23°26.0'	221°47.4'	12.4'	S 18°37.4'	4.0'	54.1'
6	180°00.0'	270°29.1'	S 23°26.0'	236°18.7'	12.4'	S 18°33.5'	4.0'	54.2'
7	195°02.5'	285°28.8'	S 23°26.0'	250°50.2'	12.4'	S 18°29.4'	4.1'	54.2'
8	210°05.0'	300°28.5'	S 23°26.1'	265°21.6'	12.4'	S 18°25.3'	4.2'	54.2'
9	225°07.4'	315°28.1'	S 23°26.1'	279°53.0'	12.5'	S 18°21.1'	4.3'	54.2'
10	240°09.9'	330°27.8'	S 23°26.1'	294°24.5'	12.5'	S 18°16.8'	4.4'	54.2'
11	255°12.4'	345°27.5'	S 23°26.1'	308°56.0'	12.5'	S 18°12.4'	4.5'	54.2'
12	270°14.8'	0°27.2'	S 23°26.1'	323°27.5'	12.5'	S 18°07.9'	4.6'	54.2'
13	285°17.3'	15°26.9'	S 23°26.1'	337°59.0'	12.5'	S 18°03.4'	4.6'	54.2'
14	300°19.7'	30°26.6'	S 23°26.1'	352°30.5'	12.6'	S 17°58.7'	4.7'	54.2'
15	315°22.2'	45°26.3'	S 23°26.1'	7°02.1'	12.6'	S 17°54.0'	4.8'	54.2'
16	330°24.7'	60°26.0'	S 23°26.1'	21°33.7'	12.6'	S 17°49.2'	4.9'	54.3'
17	345°27.1'	75°25.6'	S 23°26.1'	36°05.2'	12.6'	S 17°44.3'	5.0'	54.3'
18	0°29.6'	90°25.3'	S 23°26.1'	50°36.8'	12.6'	S 17°39.3'	5.0'	54.3'
19	15°32.1'	105°25.0'	S 23°26.1'	65°08.5'	12.6'	S 17°34.3'	5.1'	54.3'
20	30°34.5'	120°24.7'	S 23°26.1'	79°40.1'	12.7'	S 17°29.2'	5.2'	54.3'
21	45°37.0'	135°24.4'	S 23°26.1'	94°11.8'	12.7'	S 17°24.0'	5.3'	54.3'
22	60°39.5'	150°24.1'	S 23°26.1'	108°43.5'	12.7'	S 17°18.7'	5.4'	54.3'
23	75°41.9'	165°23.8'	S 23°26.1'	123°15.2'	12.7'	S 17°13.3'	5.4'	54.3'

Fri Dec 22, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.0' SD = 16.3'		SD = 14.9'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	90°44.4'	180°23.5'	S 23°26.1'	137°46.9'	12.7'	S 17°07.9'	5.5'	54.3'
1	105°46.9'	195°23.2'	S 23°26.1'	152°18.6'	12.8'	S 17°02.3'	5.6'	54.4'
2	120°49.3'	210°22.8'	S 23°26.1'	166°50.4'	12.8'	S 16°56.7'	5.7'	54.4'
3	135°51.8'	225°22.5'	S 23°26.0'	181°22.2'	12.8'	S 16°51.0'	5.8'	54.4'
4	150°54.2'	240°22.2'	S 23°26.0'	195°54.0'	12.8'	S 16°45.3'	5.8'	54.4'
5	165°56.7'	255°21.9'	S 23°26.0'	210°25.8'	12.8'	S 16°39.4'	5.9'	54.4'
6	180°59.2'	270°21.6'	S 23°26.0'	224°57.6'	12.9'	S 16°33.5'	6.0'	54.4'
7	196°01.6'	285°21.3'	S 23°26.0'	239°29.5'	12.9'	S 16°27.5'	6.1'	54.4'
8	211°04.1'	300°21.0'	S 23°26.0'	254°01.4'	12.9'	S 16°21.5'	6.1'	54.5'
9	226°06.6'	315°20.7'	S 23°26.0'	268°33.3'	12.9'	S 16°15.3'	6.2'	54.5'
10	241°09.0'	330°20.4'	S 23°26.0'	283°05.2'	12.9'	S 16°09.1'	6.3'	54.5'
11	256°11.5'	345°20.0'	S 23°25.9'	297°37.1'	13.0'	S 16°02.8'	6.4'	54.5'
12	271°14.0'	0°19.7'	S 23°25.9'	312°09.1'	13.0'	S 15°56.4'	6.4'	54.5'
13	286°16.4'	15°19.4'	S 23°25.9'	326°41.0'	13.0'	S 15°50.0'	6.5'	54.5'
14	301°18.9'	30°19.1'	S 23°25.9'	341°13.0'	13.0'	S 15°43.5'	6.6'	54.5'
15	316°21.3'	45°18.8'	S 23°25.9'	355°45.0'	13.0'	S 15°36.9'	6.7'	54.6'
16	331°23.8'	60°18.5'	S 23°25.9'	10°17.0'	13.0'	S 15°30.2'	6.7'	54.6'
17	346°26.3'	75°18.2'	S 23°25.8'	24°49.1'	13.1'	S 15°23.5'	6.8'	54.6'
18	1°28.7'	90°17.9'	S 23°25.8'	39°21.1'	13.1'	S 15°16.7'	6.9'	54.6'
19	16°31.2'	105°17.5'	S 23°25.8'	53°53.2'	13.1'	S 15°09.8'	7.0'	54.6'
20	31°33.7'	120°17.2'	S 23°25.8'	68°25.3'	13.1'	S 15°02.9'	7.0'	54.6'
21	46°36.1'	135°16.9'	S 23°25.8'	82°57.4'	13.1'	S 14°55.8'	7.1'	54.7'
22	61°38.6'	150°16.6'	S 23°25.7'	97°29.6'	13.1'	S 14°48.7'	7.2'	54.7'
23	76°41.1'	165°16.3'	S 23°25.7'	112°01.7'	13.2'	S 14°41.6'	7.2'	54.7'

## Sat Dec 23, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.0' SD = 16.3'		SD = 15.0'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	91°43.5'	180°16.0'	S 23°25.7'	126°33.9'	13.2'	S 14°34.4'	7.3'	54.7'
1	106°46.0'	195°15.7'	S 23°25.7'	141°06.1'	13.2'	S 14°27.1'	7.4'	54.7'
2	121°48.5'	210°15.4'	S 23°25.6'	155°38.3'	13.2'	S 14°19.7'	7.4'	54.7'
3	136°50.9'	225°15.1'	S 23°25.6'	170°10.5'	13.2'	S 14°12.3'	7.5'	54.8'
4	151°53.4'	240°14.7'	S 23°25.6'	184°42.7'	13.2'	S 14°04.8'	7.6'	54.8'
5	166°55.8'	255°14.4'	S 23°25.5'	199°14.9'	13.3'	S 13°57.2'	7.6'	54.8'
6	181°58.3'	270°14.1'	S 23°25.5'	213°47.2'	13.3'	S 13°49.6'	7.7'	54.8'
7	197°00.8'	285°13.8'	S 23°25.5'	228°19.5'	13.3'	S 13°41.8'	7.8'	54.8'
8	212°03.2'	300°13.5'	S 23°25.5'	242°51.8'	13.3'	S 13°34.1'	7.8'	54.9'
9	227°05.7'	315°13.2'	S 23°25.4'	257°24.1'	13.3'	S 13°26.3'	7.9'	54.9'
10	242°08.2'	330°12.9'	S 23°25.4'	271°56.4'	13.3'	S 13°18.4'	8.0'	54.9'
11	257°10.6'	345°12.6'	S 23°25.4'	286°28.7'	13.3'	S 13°10.4'	8.0'	54.9'
12	272°13.1'	0°12.3'	S 23°25.3'	301°01.1'	13.4'	S 13°02.4'	8.1'	54.9'
13	287°15.6'	15°11.9'	S 23°25.3'	315°33.4'	13.4'	S 12°54.3'	8.1'	55.0'
14	302°18.0'	30°11.6'	S 23°25.2'	330°05.8'	13.4'	S 12°46.1'	8.2'	55.0'
15	317°20.5'	45°11.3'	S 23°25.2'	344°38.2'	13.4'	S 12°37.9'	8.3'	55.0'
16	332°23.0'	60°11.0'	S 23°25.2'	359°10.6'	13.4'	S 12°29.7'	8.3'	55.0'
17	347°25.4'	75°10.7'	S 23°25.1'	13°43.0'	13.4'	S 12°21.3'	8.4'	55.0'
18	2°27.9'	90°10.4'	S 23°25.1'	28°15.4'	13.4'	S 12°12.9'	8.5'	55.1'
19	17°30.3'	105°10.1'	S 23°25.0'	42°47.9'	13.4'	S 12°04.5'	8.5'	55.1'
20	32°32.8'	120°09.8'	S 23°25.0'	57°20.3'	13.5'	S 11°56.0'	8.6'	55.1'
21	47°35.3'	135°09.5'	S 23°25.0'	71°52.7'	13.5'	S 11°47.4'	8.6'	55.1'
22	62°37.7'	150°09.1'	S 23°24.9'	86°25.2'	13.5'	S 11°38.8'	8.7'	55.2'
23	77°40.2'	165°08.8'	S 23°24.9'	100°57.7'	13.5'	S 11°30.1'	8.7'	55.2'

## Sun Dec 24, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.1' SD = 16.3'		SD = 15.1'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	92°42.7'	180°08.5'	S 23°24.8'	115°30.2'	13.5'	S 11°21.3'	8.8'	55.2'
1	107°45.1'	195°08.2'	S 23°24.8'	130°02.6'	13.5'	S 11°12.5'	8.9'	55.2'
2	122°47.6'	210°07.9'	S 23°24.7'	144°35.1'	13.5'	S 11°03.7'	8.9'	55.2'
3	137°50.1'	225°07.6'	S 23°24.7'	159°07.6'	13.5'	S 10°54.7'	9.0'	55.3'
4	152°52.5'	240°07.3'	S 23°24.6'	173°40.1'	13.5'	S 10°45.8'	9.0'	55.3'
5	167°55.0'	255°07.0'	S 23°24.6'	188°12.7'	13.5'	S 10°36.7'	9.1'	55.3'
6	182°57.4'	270°06.7'	S 23°24.5'	202°45.2'	13.5'	S 10°27.7'	9.1'	55.3'
7	197°59.9'	285°06.3'	S 23°24.5'	217°17.7'	13.5'	S 10°18.5'	9.2'	55.4'
8	213°02.4'	300°06.0'	S 23°24.4'	231°50.2'	13.5'	S 10°09.3'	9.2'	55.4'
9	228°04.8'	315°05.7'	S 23°24.4'	246°22.7'	13.5'	S 10°00.1'	9.3'	55.4'
10	243°07.3'	330°05.4'	S 23°24.3'	260°55.3'	13.5'	S 9°50.8'	9.3'	55.4'
11	258°09.8'	345°05.1'	S 23°24.3'	275°27.8'	13.5'	S 9°41.5'	9.4'	55.5'
12	273°12.2'	0°04.8'	S 23°24.2'	290°00.4'	13.5'	S 9°32.1'	9.4'	55.5'
13	288°14.7'	15°04.5'	S 23°24.2'	304°32.9'	13.5'	S 9°22.6'	9.5'	55.5'
14	303°17.2'	30°04.2'	S 23°24.1'	319°05.4'	13.5'	S 9°13.1'	9.5'	55.5'
15	318°19.6'	45°03.9'	S 23°24.1'	333°38.0'	13.5'	S 9°03.6'	9.6'	55.6'
16	333°22.1'	60°03.5'	S 23°24.0'	348°10.5'	13.5'	S 8°54.0'	9.6'	55.6'
17	348°24.6'	75°03.2'	S 23°23.9'	2°43.1'	13.5'	S 8°44.3'	9.7'	55.6'
18	3°27.0'	90°02.9'	S 23°23.9'	17°15.6'	13.5'	S 8°34.6'	9.7'	55.7'
19	18°29.5'	105°02.6'	S 23°23.8'	31°48.1'	13.5'	S 8°24.9'	9.8'	55.7'
20	33°31.9'	120°02.3'	S 23°23.8'	46°20.7'	13.5'	S 8°15.1'	9.8'	55.7'
21	48°34.4'	135°02.0'	S 23°23.7'	60°53.2'	13.5'	S 8°05.3'	9.9'	55.7'
22	63°36.9'	150°01.7'	S 23°23.6'	75°25.7'	13.5'	S 7°55.4'	9.9'	55.8'
23	78°39.3'	165°01.4'	S 23°23.6'	89°58.3'	13.5'	S 7°45.5'	10.0'	55.8'

Mon Dec 25, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.1' SD = 16.3'		SD = 15.3'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	93°41.8'	180°01.1'	S 23°23.5'	104°30.8'	13.5'	S 7°35.5'	10.0'	55.8'
1	108°44.3'	195°00.8'	S 23°23.4'	119°03.3'	13.5'	S 7°25.5'	10.1'	55.9'
2	123°46.7'	210°00.4'	S 23°23.4'	133°35.8'	13.5'	S 7°15.5'	10.1'	55.9'
3	138°49.2'	225°00.1'	S 23°23.3'	148°08.3'	13.5'	S 7°05.4'	10.1'	55.9'
4	153°51.7'	239°59.8'	S 23°23.2'	162°40.8'	13.5'	S 6°55.2'	10.2'	55.9'
5	168°54.1'	254°59.5'	S 23°23.2'	177°13.3'	13.5'	S 6°45.1'	10.2'	56.0'
6	183°56.6'	269°59.2'	S 23°23.1'	191°45.7'	13.5'	S 6°34.8'	10.3'	56.0'
7	198°59.1'	284°58.9'	S 23°23.0'	206°18.2'	13.5'	S 6°24.6'	10.3'	56.0'
8	214°01.5'	299°58.6'	S 23°23.0'	220°50.7'	13.4'	S 6°14.3'	10.3'	56.1'
9	229°04.0'	314°58.3'	S 23°22.9'	235°23.1'	13.4'	S 6°03.9'	10.4'	56.1'
10	244°06.4'	329°58.0'	S 23°22.8'	249°55.5'	13.4'	S 5°53.6'	10.4'	56.1'
11	259°08.9'	344°57.7'	S 23°22.7'	264°27.9'	13.4'	S 5°43.1'	10.5'	56.2'
12	274°11.4'	359°57.3'	S 23°22.7'	279°00.3'	13.4'	S 5°32.7'	10.5'	56.2'
13	289°13.8'	14°57.0'	S 23°22.6'	293°32.7'	13.4'	S 5°22.2'	10.5'	56.2'
14	304°16.3'	29°56.7'	S 23°22.5'	308°05.1'	13.4'	S 5°11.7'	10.6'	56.2'
15	319°18.8'	44°56.4'	S 23°22.4'	322°37.4'	13.3'	S 5°01.1'	10.6'	56.3'
16	334°21.2'	59°56.1'	S 23°22.4'	337°09.8'	13.3'	S 4°50.5'	10.6'	56.3'
17	349°23.7'	74°55.8'	S 23°22.3'	351°42.1'	13.3'	S 4°39.9'	10.7'	56.3'
18	4°26.2'	89°55.5'	S 23°22.2'	6°14.4'	13.3'	S 4°29.2'	10.7'	56.4'
19	19°28.6'	104°55.2'	S 23°22.1'	20°46.7'	13.3'	S 4°18.5'	10.7'	56.4'
20	34°31.1'	119°54.9'	S 23°22.0'	35°18.9'	13.2'	S 4°07.8'	10.8'	56.4'
21	49°33.5'	134°54.6'	S 23°22.0'	49°51.2'	13.2'	S 3°57.1'	10.8'	56.5'
22	64°36.0'	149°54.3'	S 23°21.9'	64°23.4'	13.2'	S 3°46.3'	10.8'	56.5'
23	79°38.5'	164°53.9'	S 23°21.8'	78°55.6'	13.2'	S 3°35.5'	10.8'	56.5'

Tue Dec 26, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.1' SD = 16.3'		SD = 15.5'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	94°40.9'	179°53.6'	S 23°21.7'	93°27.8'	13.1'	S 3°24.6'	10.9'	56.6'
1	109°43.4'	194°53.3'	S 23°21.6'	107°59.9'	13.1'	S 3°13.7'	10.9'	56.6'
2	124°45.9'	209°53.0'	S 23°21.5'	122°32.0'	13.1'	S 3°02.8'	10.9'	56.6'
3	139°48.3'	224°52.7'	S 23°21.5'	137°04.1'	13.1'	S 2°51.9'	11.0'	56.7'
4	154°50.8'	239°52.4'	S 23°21.4'	151°36.2'	13.0'	S 2°40.9'	11.0'	56.7'
5	169°53.3'	254°52.1'	S 23°21.3'	166°08.2'	13.0'	S 2°30.0'	11.0'	56.7'
6	184°55.7'	269°51.8'	S 23°21.2'	180°40.2'	13.0'	S 2°18.9'	11.0'	56.8'
7	199°58.2'	284°51.5'	S 23°21.1'	195°12.2'	13.0'	S 2°07.9'	11.1'	56.8'
8	215°00.7'	299°51.2'	S 23°21.0'	209°44.2'	12.9'	S 1°56.9'	11.1'	56.9'
9	230°03.1'	314°50.9'	S 23°20.9'	224°16.1'	12.9'	S 1°45.8'	11.1'	56.9'
10	245°05.6'	329°50.6'	S 23°20.8'	238°48.0'	12.9'	S 1°34.7'	11.1'	56.9'
11	260°08.0'	344°50.2'	S 23°20.7'	253°19.9'	12.8'	S 1°23.6'	11.1'	57.0'
12	275°10.5'	359°49.9'	S 23°20.6'	267°51.7'	12.8'	S 1°12.4'	11.2'	57.0'
13	290°13.0'	14°49.6'	S 23°20.6'	282°23.5'	12.8'	S 1°01.2'	11.2'	57.0'
14	305°15.4'	29°49.3'	S 23°20.5'	296°55.2'	12.7'	S 0°50.1'	11.2'	57.1'
15	320°17.9'	44°49.0'	S 23°20.4'	311°26.9'	12.7'	S 0°38.9'	11.2'	57.1'
16	335°20.4'	59°48.7'	S 23°20.3'	325°58.6'	12.6'	S 0°27.6'	11.2'	57.1'
17	350°22.8'	74°48.4'	S 23°20.2'	340°30.3'	12.6'	S 0°16.4'	11.3'	57.2'
18	5°25.3'	89°48.1'	S 23°20.1'	355°01.9'	12.6'	S 0°05.2'	11.3'	57.2'
19	20°27.8'	104°47.8'	S 23°20.0'	9°33.4'	12.5'	N 0°06.1'	11.3'	57.2'
20	35°30.2'	119°47.5'	S 23°19.9'	24°05.0'	12.5'	N 0°17.4'	11.3'	57.3'
21	50°32.7'	134°47.2'	S 23°19.8'	38°36.4'	12.4'	N 0°28.7'	11.3'	57.3'
22	65°35.2'	149°46.9'	S 23°19.7'	53°07.9'	12.4'	N 0°40.0'	11.3'	57.4'
23	80°37.6'	164°46.5'	S 23°19.6'	67°39.3'	12.4'	N 0°51.3'	11.3'	57.4'

Wed Dec 27, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.1' SD = 16.3'		SD = 15.8'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	95°40.1'	179°46.2'	S 23°19.5'	82°10.6'	12.3'	N 1°02.6'	11.3'	57.4'
1	110°42.5'	194°45.9'	S 23°19.4'	96°41.9'	12.3'	N 1°14.0'	11.3'	57.5'
2	125°45.0'	209°45.6'	S 23°19.2'	111°13.2'	12.2'	N 1°25.3'	11.4'	57.5'
3	140°47.5'	224°45.3'	S 23°19.1'	125°44.4'	12.2'	N 1°36.7'	11.4'	57.6'
4	155°49.9'	239°45.0'	S 23°19.0'	140°15.6'	12.1'	N 1°48.0'	11.4'	57.6'
5	170°52.4'	254°44.7'	S 23°18.9'	154°46.7'	12.1'	N 1°59.4'	11.4'	57.6'
6	185°54.9'	269°44.4'	S 23°18.8'	169°17.8'	12.0'	N 2°10.8'	11.4'	57.7'
7	200°57.3'	284°44.1'	S 23°18.7'	183°48.8'	12.0'	N 2°22.2'	11.4'	57.7'
8	215°59.8'	299°43.8'	S 23°18.6'	198°19.7'	11.9'	N 2°33.6'	11.4'	57.7'
9	231°02.3'	314°43.5'	S 23°18.5'	212°50.6'	11.9'	N 2°44.9'	11.4'	57.8'
10	246°04.7'	329°43.2'	S 23°18.4'	227°21.5'	11.8'	N 2°56.3'	11.4'	57.8'
11	261°07.2'	344°42.9'	S 23°18.3'	241°52.3'	11.7'	N 3°07.7'	11.4'	57.9'
12	276°09.6'	359°42.6'	S 23°18.1'	256°23.0'	11.7'	N 3°19.1'	11.4'	57.9'
13	291°12.1'	14°42.3'	S 23°18.0'	270°53.7'	11.6'	N 3°30.5'	11.4'	57.9'
14	306°14.6'	29°41.9'	S 23°17.9'	285°24.4'	11.6'	N 3°41.9'	11.4'	58.0'
15	321°17.0'	44°41.6'	S 23°17.8'	299°55.0'	11.5'	N 3°53.3'	11.4'	58.0'
16	336°19.5'	59°41.3'	S 23°17.7'	314°25.5'	11.5'	N 4°04.6'	11.4'	58.1'
17	351°22.0'	74°41.0'	S 23°17.6'	328°55.9'	11.4'	N 4°16.0'	11.4'	58.1'
18	6°24.4'	89°40.7'	S 23°17.5'	343°26.3'	11.3'	N 4°27.4'	11.4'	58.1'
19	21°26.9'	104°40.4'	S 23°17.3'	357°56.7'	11.3'	N 4°38.8'	11.4'	58.2'
20	36°29.4'	119°40.1'	S 23°17.2'	12°26.9'	11.2'	N 4°50.1'	11.3'	58.2'
21	51°31.8'	134°39.8'	S 23°17.1'	26°57.1'	11.1'	N 5°01.4'	11.3'	58.3'
22	66°34.3'	149°39.5'	S 23°17.0'	41°27.3'	11.1'	N 5°12.8'	11.3'	58.3'
23	81°36.8'	164°39.2'	S 23°16.8'	55°57.4'	11.0'	N 5°24.1'	11.3'	58.3'

Thu Dec 28, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.1' SD = 16.3'		SD = 16.0'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	96°39.2'	179°38.9'	S 23°16.7'	70°27.4'	10.9'	N 5°35.4'	11.3'	58.4'
1	111°41.7'	194°38.6'	S 23°16.6'	84°57.3'	10.9'	N 5°46.7'	11.3'	58.4'
2	126°44.1'	209°38.3'	S 23°16.5'	99°27.2'	10.8'	N 5°58.0'	11.3'	58.5'
3	141°46.6'	224°38.0'	S 23°16.3'	113°57.0'	10.7'	N 6°09.3'	11.2'	58.5'
4	156°49.1'	239°37.7'	S 23°16.2'	128°26.8'	10.7'	N 6°20.5'	11.2'	58.5'
5	171°51.5'	254°37.4'	S 23°16.1'	142°56.4'	10.6'	N 6°31.7'	11.2'	58.6'
6	186°54.0'	269°37.1'	S 23°16.0'	157°26.0'	10.5'	N 6°42.9'	11.2'	58.6'
7	201°56.5'	284°36.8'	S 23°15.8'	171°55.6'	10.5'	N 6°54.1'	11.2'	58.7'
8	216°58.9'	299°36.4'	S 23°15.7'	186°25.0'	10.4'	N 7°05.3'	11.1'	58.7'
9	232°01.4'	314°36.1'	S 23°15.6'	200°54.4'	10.3'	N 7°16.4'	11.1'	58.7'
10	247°03.9'	329°35.8'	S 23°15.4'	215°23.7'	10.2'	N 7°27.6'	11.1'	58.8'
11	262°06.3'	344°35.5'	S 23°15.3'	229°53.0'	10.2'	N 7°38.7'	11.1'	58.8'
12	277°08.8'	359°35.2'	S 23°15.2'	244°22.1'	10.1'	N 7°49.7'	11.0'	58.8'
13	292°11.3'	14°34.9'	S 23°15.0'	258°51.2'	10.0'	N 8°00.8'	11.0'	58.9'
14	307°13.7'	29°34.6'	S 23°14.9'	273°20.2'	9.9'	N 8°11.8'	11.0'	58.9'
15	322°16.2'	44°34.3'	S 23°14.8'	287°49.1'	9.8'	N 8°22.8'	10.9'	59.0'
16	337°18.6'	59°34.0'	S 23°14.6'	302°18.0'	9.8'	N 8°33.7'	10.9'	59.0'
17	352°21.1'	74°33.7'	S 23°14.5'	316°46.7'	9.7'	N 8°44.6'	10.9'	59.0'
18	7°23.6'	89°33.4'	S 23°14.4'	331°15.4'	9.6'	N 8°55.5'	10.8'	59.1'
19	22°26.0'	104°33.1'	S 23°14.2'	345°44.0'	9.5'	N 9°06.3'	10.8'	59.1'
20	37°28.5'	119°32.8'	S 23°14.1'	0°12.6'	9.4'	N 9°17.2'	10.8'	59.2'
21	52°31.0'	134°32.5'	S 23°14.0'	14°41.0'	9.4'	N 9°27.9'	10.7'	59.2'
22	67°33.4'	149°32.2'	S 23°13.8'	29°09.4'	9.3'	N 9°38.7'	10.7'	59.2'
23	82°35.9'	164°31.9'	S 23°13.7'	43°37.7'	9.2'	N 9°49.3'	10.6'	59.3'

Fri Dec 29, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.2' SD = 16.3'		SD = 16.3'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	97°38.4'	179°31.6'	S 23°13.5'	58°05.8'	9.1'	N 9°60.0'	10.6'	59.3'
1	112°40.8'	194°31.3'	S 23°13.4'	72°34.0'	9.0'	N 10°10.6'	10.6'	59.4'
2	127°43.3'	209°31.0'	S 23°13.2'	87°02.0'	8.9'	N 10°21.2'	10.5'	59.4'
3	142°45.7'	224°30.7'	S 23°13.1'	101°29.9'	8.9'	N 10°31.7'	10.5'	59.4'
4	157°48.2'	239°30.4'	S 23°12.9'	115°57.8'	8.8'	N 10°42.1'	10.4'	59.5'
5	172°50.7'	254°30.1'	S 23°12.8'	130°25.5'	8.7'	N 10°52.6'	10.4'	59.5'
6	187°53.1'	269°29.8'	S 23°12.7'	144°53.2'	8.6'	N 11°02.9'	10.3'	59.5'
7	202°55.6'	284°29.5'	S 23°12.5'	159°20.8'	8.5'	N 11°13.2'	10.3'	59.6'
8	217°58.1'	299°29.2'	S 23°12.4'	173°48.3'	8.4'	N 11°23.5'	10.2'	59.6'
9	233°00.5'	314°28.9'	S 23°12.2'	188°15.7'	8.3'	N 11°33.7'	10.1'	59.7'
10	248°03.0'	329°28.6'	S 23°12.1'	202°43.0'	8.2'	N 11°43.8'	10.1'	59.7'
11	263°05.5'	344°28.3'	S 23°11.9'	217°10.3'	8.1'	N 11°53.9'	10.0'	59.7'
12	278°07.9'	359°28.0'	S 23°11.8'	231°37.4'	8.1'	N 12°04.0'	10.0'	59.8'
13	293°10.4'	14°27.6'	S 23°11.6'	246°04.5'	8.0'	N 12°13.9'	9.9'	59.8'
14	308°12.9'	29°27.3'	S 23°11.4'	260°31.4'	7.9'	N 12°23.8'	9.8'	59.8'
15	323°15.3'	44°27.0'	S 23°11.3'	274°58.3'	7.8'	N 12°33.7'	9.8'	59.9'
16	338°17.8'	59°26.7'	S 23°11.1'	289°25.1'	7.7'	N 12°43.4'	9.7'	59.9'
17	353°20.2'	74°26.4'	S 23°11.0'	303°51.8'	7.6'	N 12°53.2'	9.6'	60.0'
18	8°22.7'	89°26.1'	S 23°10.8'	318°18.4'	7.5'	N 13°02.8'	9.6'	60.0'
19	23°25.2'	104°25.8'	S 23°10.7'	332°44.9'	7.4'	N 13°12.4'	9.5'	60.0'
20	38°27.6'	119°25.5'	S 23°10.5'	347°11.3'	7.3'	N 13°21.9'	9.4'	60.1'
21	53°30.1'	134°25.2'	S 23°10.3'	1°37.6'	7.2'	N 13°31.3'	9.4'	60.1'
22	68°32.6'	149°24.9'	S 23°10.2'	16°03.8'	7.1'	N 13°40.6'	9.3'	60.1'
23	83°35.0'	164°24.6'	S 23°10.0'	30°30.0'	7.0'	N 13°49.9'	9.2'	60.2'

Sat Dec 30, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.2' SD = 16.3'		SD = 16.5'				
	GHA	GHA	dec	GHA	v	dec	d	HP
0	98°37.5'	179°24.3'	S 23°09.9'	44°56.0'	7.0'	N 13°59.1'	9.1'	60.2'
1	113°40.0'	194°24.0'	S 23°09.7'	59°22.0'	6.9'	N 14°08.2'	9.0'	60.2'
2	128°42.4'	209°23.7'	S 23°09.5'	73°47.8'	6.8'	N 14°17.3'	9.0'	60.3'
3	143°44.9'	224°23.4'	S 23°09.4'	88°13.6'	6.7'	N 14°26.2'	8.9'	60.3'
4	158°47.4'	239°23.1'	S 23°09.2'	102°39.3'	6.6'	N 14°35.1'	8.8'	60.3'
5	173°49.8'	254°22.8'	S 23°09.0'	117°04.8'	6.5'	N 14°43.9'	8.7'	60.4'
6	188°52.3'	269°22.5'	S 23°08.9'	131°30.3'	6.4'	N 14°52.6'	8.6'	60.4'
7	203°54.7'	284°22.2'	S 23°08.7'	145°55.7'	6.3'	N 15°01.2'	8.5'	60.4'
8	218°57.2'	299°21.9'	S 23°08.5'	160°21.0'	6.2'	N 15°09.7'	8.4'	60.5'
9	233°59.7'	314°21.6'	S 23°08.4'	174°46.3'	6.1'	N 15°18.1'	8.3'	60.5'
10	249°02.1'	329°21.3'	S 23°08.2'	189°11.4'	6.0'	N 15°26.4'	8.2'	60.5'
11	264°04.6'	344°21.0'	S 23°08.0'	203°36.4'	5.9'	N 15°34.7'	8.1'	60.6'
12	279°07.1'	359°20.7'	S 23°07.9'	218°01.4'	5.9'	N 15°42.8'	8.0'	60.6'
13	294°09.5'	14°20.4'	S 23°07.7'	232°26.2'	5.8'	N 15°50.9'	7.9'	60.6'
14	309°12.0'	29°20.1'	S 23°07.5'	246°51.0'	5.7'	N 15°58.8'	7.8'	60.6'
15	324°14.5'	44°19.8'	S 23°07.3'	261°15.7'	5.6'	N 16°06.6'	7.7'	60.7'
16	339°16.9'	59°19.5'	S 23°07.2'	275°40.2'	5.5'	N 16°14.4'	7.6'	60.7'
17	354°19.4'	74°19.2'	S 23°07.0'	290°04.7'	5.4'	N 16°22.0'	7.5'	60.7'
18	9°21.9'	89°18.9'	S 23°06.8'	304°29.2'	5.3'	N 16°29.5'	7.4'	60.8'
19	24°24.3'	104°18.6'	S 23°06.6'	318°53.5'	5.2'	N 16°37.0'	7.3'	60.8'
20	39°26.8'	119°18.3'	S 23°06.5'	333°17.7'	5.2'	N 16°44.3'	7.2'	60.8'
21	54°29.2'	134°18.0'	S 23°06.3'	347°41.9'	5.1'	N 16°51.5'	7.1'	60.8'
22	69°31.7'	149°17.7'	S 23°06.1'	2°06.0'	5.0'	N 16°58.6'	7.0'	60.9'
23	84°34.2'	164°17.5'	S 23°05.9'	16°29.9'	4.9'	N 17°05.5'	6.9'	60.9'

Sun Dec 31, 2017 UTC

UTC	Aries	Sun		Moon				
	GHA	d = 0.2' SD = 16.3'		SD = 16.7'				
		GHA	dec	GHA	v	dec	d	HP
0	99°36.6'	179°17.2'	S 23°05.7'	30°53.8'	4.8'	N 17°12.4'	6.7'	60.9'
1	114°39.1'	194°16.9'	S 23°05.6'	45°17.7'	4.7'	N 17°19.1'	6.6'	60.9'
2	129°41.6'	209°16.6'	S 23°05.4'	59°41.4'	4.7'	N 17°25.8'	6.5'	61.0'
3	144°44.0'	224°16.3'	S 23°05.2'	74°05.1'	4.6'	N 17°32.3'	6.4'	61.0'
4	159°46.5'	239°16.0'	S 23°05.0'	88°28.7'	4.5'	N 17°38.7'	6.3'	61.0'
5	174°49.0'	254°15.7'	S 23°04.8'	102°52.2'	4.4'	N 17°44.9'	6.1'	61.0'
6	189°51.4'	269°15.4'	S 23°04.6'	117°15.6'	4.4'	N 17°51.1'	6.0'	61.1'
7	204°53.9'	284°15.1'	S 23°04.4'	131°38.9'	4.3'	N 17°57.1'	5.9'	61.1'
8	219°56.4'	299°14.8'	S 23°04.3'	146°02.2'	4.2'	N 18°03.0'	5.8'	61.1'
9	234°58.8'	314°14.5'	S 23°04.1'	160°25.4'	4.1'	N 18°08.8'	5.6'	61.1'
10	250°01.3'	329°14.2'	S 23°03.9'	174°48.6'	4.1'	N 18°14.4'	5.5'	61.1'
11	265°03.7'	344°13.9'	S 23°03.7'	189°11.6'	4.0'	N 18°19.9'	5.4'	61.2'
12	280°06.2'	359°13.6'	S 23°03.5'	203°34.6'	3.9'	N 18°25.3'	5.2'	61.2'
13	295°08.7'	14°13.3'	S 23°03.3'	217°57.5'	3.9'	N 18°30.5'	5.1'	61.2'
14	310°11.1'	29°13.0'	S 23°03.1'	232°20.4'	3.8'	N 18°35.6'	5.0'	61.2'
15	325°13.6'	44°12.7'	S 23°02.9'	246°43.2'	3.7'	N 18°40.6'	4.8'	61.2'
16	340°16.1'	59°12.4'	S 23°02.7'	261°05.9'	3.7'	N 18°45.5'	4.7'	61.2'
17	355°18.5'	74°12.1'	S 23°02.5'	275°28.6'	3.6'	N 18°50.2'	4.6'	61.3'
18	10°21.0'	89°11.8'	S 23°02.3'	289°51.2'	3.5'	N 18°54.7'	4.4'	61.3'
19	25°23.5'	104°11.5'	S 23°02.1'	304°13.7'	3.5'	N 18°59.2'	4.3'	61.3'
20	40°25.9'	119°11.2'	S 23°01.9'	318°36.2'	3.4'	N 19°03.4'	4.1'	61.3'
21	55°28.4'	134°10.9'	S 23°01.7'	332°58.7'	3.4'	N 19°07.6'	4.0'	61.3'
22	70°30.8'	149°10.6'	S 23°01.5'	347°21.0'	3.3'	N 19°11.6'	3.9'	61.3'
23	85°33.3'	164°10.3'	S 23°01.3'	1°43.4'	3.3'	N 19°15.5'	3.7'	61.4'