

Fri Dec 1, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.7	
	v = -0.8' d = 0.7'		v = 2.0' d = 0.2'		v = 2.2' d = 0.0'		v = 1.0' d = 0.6'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	192°33.4'	S 19°19.3'	211°04.4'	S 14°10.8'	162°27.8'	S 22°28.9'	226°44.2'	S 8°36.0'
1	207°32.6'	S 19°20.1'	226°06.3'	S 14°10.9'	177°29.9'	S 22°28.9'	241°45.1'	S 8°36.5'
2	222°31.8'	S 19°20.8'	241°08.3'	S 14°11.1'	192°32.1'	S 22°28.9'	256°46.1'	S 8°37.1'
3	237°31.1'	S 19°21.6'	256°10.2'	S 14°11.2'	207°34.2'	S 22°29.0'	271°47.1'	S 8°37.7'
4	252°30.3'	S 19°22.4'	271°12.2'	S 14°11.4'	222°36.4'	S 22°29.0'	286°48.1'	S 8°38.3'
5	267°29.5'	S 19°23.1'	286°14.2'	S 14°11.6'	237°38.5'	S 22°29.0'	301°49.1'	S 8°38.9'
6	282°28.8'	S 19°23.9'	301°16.1'	S 14°11.7'	252°40.7'	S 22°29.0'	316°50.1'	S 8°39.4'
7	297°28.0'	S 19°24.6'	316°18.1'	S 14°11.9'	267°42.9'	S 22°29.0'	331°51.1'	S 8°40.0'
8	312°27.2'	S 19°25.4'	331°20.0'	S 14°12.0'	282°45.0'	S 22°29.0'	346°52.1'	S 8°40.6'
9	327°26.4'	S 19°26.1'	346°22.0'	S 14°12.2'	297°47.2'	S 22°29.0'	1°53.0'	S 8°41.2'
10	342°25.7'	S 19°26.9'	1°24.0'	S 14°12.3'	312°49.3'	S 22°29.0'	16°54.0'	S 8°41.8'
11	357°24.9'	S 19°27.6'	16°25.9'	S 14°12.5'	327°51.5'	S 22°29.0'	31°55.0'	S 8°42.4'
12	12°24.1'	S 19°28.4'	31°27.9'	S 14°12.7'	342°53.6'	S 22°29.0'	46°56.0'	S 8°42.9'
13	27°23.3'	S 19°29.1'	46°29.9'	S 14°12.8'	357°55.8'	S 22°29.0'	61°57.0'	S 8°43.5'
14	42°22.6'	S 19°29.9'	61°31.8'	S 14°13.0'	12°58.0'	S 22°29.1'	76°58.0'	S 8°44.1'
15	57°21.8'	S 19°30.6'	76°33.8'	S 14°13.1'	28°00.1'	S 22°29.1'	91°59.0'	S 8°44.7'
16	72°21.0'	S 19°31.4'	91°35.7'	S 14°13.3'	43°02.3'	S 22°29.1'	106°60.0'	S 8°45.3'
17	87°20.2'	S 19°32.1'	106°37.7'	S 14°13.4'	58°04.4'	S 22°29.1'	122°00.9'	S 8°45.8'
18	102°19.5'	S 19°32.9'	121°39.7'	S 14°13.6'	73°06.6'	S 22°29.1'	137°01.9'	S 8°46.4'
19	117°18.7'	S 19°33.6'	136°41.6'	S 14°13.7'	88°08.7'	S 22°29.1'	152°02.9'	S 8°47.0'
20	132°17.9'	S 19°34.3'	151°43.6'	S 14°13.9'	103°10.9'	S 22°29.1'	167°03.9'	S 8°47.6'
21	147°17.1'	S 19°35.1'	166°45.5'	S 14°14.1'	118°13.0'	S 22°29.1'	182°04.9'	S 8°48.2'
22	162°16.3'	S 19°35.8'	181°47.5'	S 14°14.2'	133°15.2'	S 22°29.1'	197°05.9'	S 8°48.8'
23	177°15.6'	S 19°36.6'	196°49.5'	S 14°14.4'	148°17.3'	S 22°29.1'	212°06.9'	S 8°49.3'

Sat Dec 2, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.7	
	v = -0.8' d = 0.7'		v = 2.0' d = 0.2'		v = 2.2' d = 0.0'		v = 1.0' d = 0.6'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	192°14.8'	S 19°37.3'	211°51.4'	S 14°14.5'	163°19.5'	S 22°29.1'	227°07.8'	S 8°49.9'
1	207°14.0'	S 19°38.0'	226°53.4'	S 14°14.7'	178°21.7'	S 22°29.1'	242°08.8'	S 8°50.5'
2	222°13.2'	S 19°38.8'	241°55.4'	S 14°14.8'	193°23.8'	S 22°29.2'	257°09.8'	S 8°51.1'
3	237°12.4'	S 19°39.5'	256°57.3'	S 14°15.0'	208°26.0'	S 22°29.2'	272°10.8'	S 8°51.7'
4	252°11.7'	S 19°40.2'	271°59.3'	S 14°15.2'	223°28.1'	S 22°29.2'	287°11.8'	S 8°52.2'
5	267°10.9'	S 19°41.0'	287°01.2'	S 14°15.3'	238°30.3'	S 22°29.2'	302°12.8'	S 8°52.8'
6	282°10.1'	S 19°41.7'	302°03.2'	S 14°15.5'	253°32.4'	S 22°29.2'	317°13.8'	S 8°53.4'
7	297°09.3'	S 19°42.4'	317°05.2'	S 14°15.6'	268°34.6'	S 22°29.2'	332°14.7'	S 8°54.0'
8	312°08.5'	S 19°43.2'	332°07.1'	S 14°15.8'	283°36.7'	S 22°29.2'	347°15.7'	S 8°54.6'
9	327°07.7'	S 19°43.9'	347°09.1'	S 14°15.9'	298°38.9'	S 22°29.2'	2°16.7'	S 8°55.1'
10	342°07.0'	S 19°44.6'	2°11.0'	S 14°16.1'	313°41.1'	S 22°29.2'	17°17.7'	S 8°55.7'
11	357°06.2'	S 19°45.3'	17°13.0'	S 14°16.2'	328°43.2'	S 22°29.2'	32°18.7'	S 8°56.3'
12	12°05.4'	S 19°46.1'	32°15.0'	S 14°16.4'	343°45.4'	S 22°29.2'	47°19.7'	S 8°56.9'
13	27°04.6'	S 19°46.8'	47°16.9'	S 14°16.6'	358°47.5'	S 22°29.2'	62°20.7'	S 8°57.5'
14	42°03.8'	S 19°47.5'	62°18.9'	S 14°16.7'	13°49.7'	S 22°29.2'	77°21.6'	S 8°58.0'
15	57°03.0'	S 19°48.2'	77°20.9'	S 14°16.9'	28°51.8'	S 22°29.3'	92°22.6'	S 8°58.6'
16	72°02.2'	S 19°49.0'	92°22.8'	S 14°17.0'	43°54.0'	S 22°29.3'	107°23.6'	S 8°59.2'
17	87°01.4'	S 19°49.7'	107°24.8'	S 14°17.2'	58°56.1'	S 22°29.3'	122°24.6'	S 8°59.8'
18	102°00.6'	S 19°50.4'	122°26.7'	S 14°17.3'	73°58.3'	S 22°29.3'	137°25.6'	S 9°00.3'
19	116°59.9'	S 19°51.1'	137°28.7'	S 14°17.5'	89°00.4'	S 22°29.3'	152°26.6'	S 9°00.9'
20	131°59.1'	S 19°51.8'	152°30.7'	S 14°17.6'	104°02.6'	S 22°29.3'	167°27.6'	S 9°01.5'
21	146°58.3'	S 19°52.6'	167°32.6'	S 14°17.8'	119°04.8'	S 22°29.3'	182°28.5'	S 9°02.1'
22	161°57.5'	S 19°53.3'	182°34.6'	S 14°18.0'	134°06.9'	S 22°29.3'	197°29.5'	S 9°02.7'
23	176°56.7'	S 19°54.0'	197°36.6'	S 14°18.1'	149°09.1'	S 22°29.3'	212°30.5'	S 9°03.2'

Sun Dec 3, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.7	
	v = -0.8' d = 0.7'		v = 2.0' d = 0.2'		v = 2.2' d = 0.0'		v = 1.0' d = 0.6'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	191°55.9'	S 19°54.7'	212°38.5'	S 14°18.3'	164°11.2'	S 22°29.3'	227°31.5'	S 9°03.8'
1	206°55.1'	S 19°55.4'	227°40.5'	S 14°18.4'	179°13.4'	S 22°29.3'	242°32.5'	S 9°04.4'
2	221°54.3'	S 19°56.1'	242°42.5'	S 14°18.6'	194°15.5'	S 22°29.3'	257°33.5'	S 9°05.0'
3	236°53.5'	S 19°56.8'	257°44.4'	S 14°18.7'	209°17.7'	S 22°29.4'	272°34.4'	S 9°05.5'
4	251°52.7'	S 19°57.5'	272°46.4'	S 14°18.9'	224°19.8'	S 22°29.4'	287°35.4'	S 9°06.1'
5	266°51.9'	S 19°58.3'	287°48.3'	S 14°19.0'	239°22.0'	S 22°29.4'	302°36.4'	S 9°06.7'
6	281°51.1'	S 19°59.0'	302°50.3'	S 14°19.2'	254°24.1'	S 22°29.4'	317°37.4'	S 9°07.3'
7	296°50.3'	S 19°59.7'	317°52.3'	S 14°19.3'	269°26.3'	S 22°29.4'	332°38.4'	S 9°07.9'
8	311°49.5'	S 20°00.4'	332°54.2'	S 14°19.5'	284°28.4'	S 22°29.4'	347°39.4'	S 9°08.4'
9	326°48.7'	S 20°01.1'	347°56.2'	S 14°19.7'	299°30.6'	S 22°29.4'	2°40.3'	S 9°09.0'
10	341°47.9'	S 20°01.8'	2°58.2'	S 14°19.8'	314°32.8'	S 22°29.4'	17°41.3'	S 9°09.6'
11	356°47.1'	S 20°02.5'	18°00.1'	S 14°20.0'	329°34.9'	S 22°29.4'	32°42.3'	S 9°10.2'
12	11°46.3'	S 20°03.2'	33°02.1'	S 14°20.1'	344°37.1'	S 22°29.4'	47°43.3'	S 9°10.7'
13	26°45.5'	S 20°03.9'	48°04.1'	S 14°20.3'	359°39.2'	S 22°29.4'	62°44.3'	S 9°11.3'
14	41°44.7'	S 20°04.6'	63°06.0'	S 14°20.4'	14°41.4'	S 22°29.4'	77°45.3'	S 9°11.9'
15	56°43.9'	S 20°05.3'	78°08.0'	S 14°20.6'	29°43.5'	S 22°29.4'	92°46.2'	S 9°12.5'
16	71°43.1'	S 20°06.0'	93°10.0'	S 14°20.7'	44°45.7'	S 22°29.5'	107°47.2'	S 9°13.0'
17	86°42.3'	S 20°06.7'	108°11.9'	S 14°20.9'	59°47.8'	S 22°29.5'	122°48.2'	S 9°13.6'
18	101°41.5'	S 20°07.4'	123°13.9'	S 14°21.0'	74°50.0'	S 22°29.5'	137°49.2'	S 9°14.2'
19	116°40.7'	S 20°08.1'	138°15.8'	S 14°21.2'	89°52.1'	S 22°29.5'	152°50.2'	S 9°14.8'
20	131°39.9'	S 20°08.8'	153°17.8'	S 14°21.4'	104°54.3'	S 22°29.5'	167°51.2'	S 9°15.4'
21	146°39.1'	S 20°09.5'	168°19.8'	S 14°21.5'	119°56.4'	S 22°29.5'	182°52.1'	S 9°15.9'
22	161°38.3'	S 20°10.2'	183°21.7'	S 14°21.7'	134°58.6'	S 22°29.5'	197°53.1'	S 9°16.5'
23	176°37.5'	S 20°10.9'	198°23.7'	S 14°21.8'	150°00.8'	S 22°29.5'	212°54.1'	S 9°17.1'

Mon Dec 4, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.7	
	v = -0.8' d = 0.7'		v = 2.0' d = 0.2'		v = 2.2' d = 0.0'		v = 1.0' d = 0.6'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	191°36.7'	S 20°11.5'	213°25.7'	S 14°22.0'	165°02.9'	S 22°29.5'	227°55.1'	S 9°17.7'
1	206°35.9'	S 20°12.2'	228°27.6'	S 14°22.1'	180°05.1'	S 22°29.5'	242°56.1'	S 9°18.2'
2	221°35.1'	S 20°12.9'	243°29.6'	S 14°22.3'	195°07.2'	S 22°29.5'	257°57.1'	S 9°18.8'
3	236°34.3'	S 20°13.6'	258°31.6'	S 14°22.4'	210°09.4'	S 22°29.5'	272°58.0'	S 9°19.4'
4	251°33.5'	S 20°14.3'	273°33.5'	S 14°22.6'	225°11.5'	S 22°29.6'	287°59.0'	S 9°20.0'
5	266°32.7'	S 20°15.0'	288°35.5'	S 14°22.7'	240°13.7'	S 22°29.6'	303°00.0'	S 9°20.5'
6	281°31.9'	S 20°15.7'	303°37.5'	S 14°22.9'	255°15.8'	S 22°29.6'	318°01.0'	S 9°21.1'
7	296°31.1'	S 20°16.3'	318°39.4'	S 14°23.0'	270°18.0'	S 22°29.6'	333°02.0'	S 9°21.7'
8	311°30.3'	S 20°17.0'	333°41.4'	S 14°23.2'	285°20.1'	S 22°29.6'	348°02.9'	S 9°22.3'
9	326°29.5'	S 20°17.7'	348°43.4'	S 14°23.4'	300°22.3'	S 22°29.6'	3°03.9'	S 9°22.8'
10	341°28.6'	S 20°18.4'	3°45.3'	S 14°23.5'	315°24.4'	S 22°29.6'	18°04.9'	S 9°23.4'
11	356°27.8'	S 20°19.1'	18°47.3'	S 14°23.7'	330°26.6'	S 22°29.6'	33°05.9'	S 9°24.0'
12	11°27.0'	S 20°19.8'	33°49.3'	S 14°23.8'	345°28.7'	S 22°29.6'	48°06.9'	S 9°24.5'
13	26°26.2'	S 20°20.4'	48°51.2'	S 14°24.0'	0°30.9'	S 22°29.6'	63°07.9'	S 9°25.1'
14	41°25.4'	S 20°21.1'	63°53.2'	S 14°24.1'	15°33.0'	S 22°29.6'	78°08.8'	S 9°25.7'
15	56°24.6'	S 20°21.8'	78°55.2'	S 14°24.3'	30°35.2'	S 22°29.6'	93°09.8'	S 9°26.3'
16	71°23.8'	S 20°22.5'	93°57.1'	S 14°24.4'	45°37.4'	S 22°29.6'	108°10.8'	S 9°26.8'
17	86°23.0'	S 20°23.1'	108°59.1'	S 14°24.6'	60°39.5'	S 22°29.6'	123°11.8'	S 9°27.4'
18	101°22.2'	S 20°23.8'	124°01.1'	S 14°24.7'	75°41.7'	S 22°29.7'	138°12.8'	S 9°28.0'
19	116°21.3'	S 20°24.5'	139°03.0'	S 14°24.9'	90°43.8'	S 22°29.7'	153°13.7'	S 9°28.6'
20	131°20.5'	S 20°25.1'	154°05.0'	S 14°25.0'	105°46.0'	S 22°29.7'	168°14.7'	S 9°29.1'
21	146°19.7'	S 20°25.8'	169°07.0'	S 14°25.2'	120°48.1'	S 22°29.7'	183°15.7'	S 9°29.7'
22	161°18.9'	S 20°26.5'	184°08.9'	S 14°25.3'	135°50.3'	S 22°29.7'	198°16.7'	S 9°30.3'
23	176°18.1'	S 20°27.1'	199°10.9'	S 14°25.5'	150°52.4'	S 22°29.7'	213°17.7'	S 9°30.9'

Tue Dec 5, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.7	
	v = -0.8' d = 0.7'		v = 2.0' d = 0.2'		v = 2.2' d = 0.0'		v = 1.0' d = 0.6'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	191°17.3'	S 20°27.8'	214°12.9'	S 14°25.7'	165°54.6'	S 22°29.7'	228°18.6'	S 9°31.4'
1	206°16.4'	S 20°28.5'	229°14.8'	S 14°25.8'	180°56.7'	S 22°29.7'	243°19.6'	S 9°32.0'
2	221°15.6'	S 20°29.1'	244°16.8'	S 14°26.0'	195°58.9'	S 22°29.7'	258°20.6'	S 9°32.6'
3	236°14.8'	S 20°29.8'	259°18.8'	S 14°26.1'	211°01.0'	S 22°29.7'	273°21.6'	S 9°33.1'
4	251°14.0'	S 20°30.5'	274°20.7'	S 14°26.3'	226°03.2'	S 22°29.7'	288°22.6'	S 9°33.7'
5	266°13.2'	S 20°31.1'	289°22.7'	S 14°26.4'	241°05.3'	S 22°29.7'	303°23.6'	S 9°34.3'
6	281°12.3'	S 20°31.8'	304°24.7'	S 14°26.6'	256°07.5'	S 22°29.7'	318°24.5'	S 9°34.9'
7	296°11.5'	S 20°32.5'	319°26.6'	S 14°26.7'	271°09.6'	S 22°29.8'	333°25.5'	S 9°35.4'
8	311°10.7'	S 20°33.1'	334°28.6'	S 14°26.9'	286°11.8'	S 22°29.8'	348°26.5'	S 9°36.0'
9	326°09.9'	S 20°33.8'	349°30.6'	S 14°27.0'	301°13.9'	S 22°29.8'	3°27.5'	S 9°36.6'
10	341°09.1'	S 20°34.4'	4°32.5'	S 14°27.2'	316°16.1'	S 22°29.8'	18°28.5'	S 9°37.1'
11	356°08.2'	S 20°35.1'	19°34.5'	S 14°27.3'	331°18.2'	S 22°29.8'	33°29.4'	S 9°37.7'
12	11°07.4'	S 20°35.7'	34°36.5'	S 14°27.5'	346°20.4'	S 22°29.8'	48°30.4'	S 9°38.3'
13	26°06.6'	S 20°36.4'	49°38.4'	S 14°27.6'	1°22.5'	S 22°29.8'	63°31.4'	S 9°38.9'
14	41°05.8'	S 20°37.0'	64°40.4'	S 14°27.8'	16°24.7'	S 22°29.8'	78°32.4'	S 9°39.4'
15	56°05.0'	S 20°37.7'	79°42.4'	S 14°27.9'	31°26.9'	S 22°29.8'	93°33.4'	S 9°40.0'
16	71°04.1'	S 20°38.3'	94°44.3'	S 14°28.1'	46°29.0'	S 22°29.8'	108°34.3'	S 9°40.6'
17	86°03.3'	S 20°39.0'	109°46.3'	S 14°28.2'	61°31.2'	S 22°29.8'	123°35.3'	S 9°41.1'
18	101°02.5'	S 20°39.6'	124°48.3'	S 14°28.4'	76°33.3'	S 22°29.8'	138°36.3'	S 9°41.7'
19	116°01.7'	S 20°40.3'	139°50.2'	S 14°28.5'	91°35.5'	S 22°29.8'	153°37.3'	S 9°42.3'
20	131°00.8'	S 20°40.9'	154°52.2'	S 14°28.7'	106°37.6'	S 22°29.8'	168°38.2'	S 9°42.9'
21	145°60.0'	S 20°41.6'	169°54.2'	S 14°28.8'	121°39.8'	S 22°29.9'	183°39.2'	S 9°43.4'
22	160°59.2'	S 20°42.2'	184°56.1'	S 14°29.0'	136°41.9'	S 22°29.9'	198°40.2'	S 9°44.0'
23	175°58.3'	S 20°42.9'	199°58.1'	S 14°29.2'	151°44.1'	S 22°29.9'	213°41.2'	S 9°44.6'

Wed Dec 6, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.7	
	v = -0.8' d = 0.6'		v = 2.0' d = 0.2'		v = 2.2' d = 0.0'		v = 1.0' d = 0.6'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	190°57.5'	S 20°43.5'	215°00.1'	S 14°29.3'	166°46.2'	S 22°29.9'	228°42.2'	S 9°45.1'
1	205°56.7'	S 20°44.1'	230°02.1'	S 14°29.5'	181°48.4'	S 22°29.9'	243°43.1'	S 9°45.7'
2	220°55.9'	S 20°44.8'	245°04.0'	S 14°29.6'	196°50.5'	S 22°29.9'	258°44.1'	S 9°46.3'
3	235°55.0'	S 20°45.4'	260°06.0'	S 14°29.8'	211°52.7'	S 22°29.9'	273°45.1'	S 9°46.8'
4	250°54.2'	S 20°46.1'	275°08.0'	S 14°29.9'	226°54.8'	S 22°29.9'	288°46.1'	S 9°47.4'
5	265°53.4'	S 20°46.7'	290°09.9'	S 14°30.1'	241°57.0'	S 22°29.9'	303°47.1'	S 9°48.0'
6	280°52.5'	S 20°47.3'	305°11.9'	S 14°30.2'	256°59.1'	S 22°29.9'	318°48.0'	S 9°48.6'
7	295°51.7'	S 20°48.0'	320°13.9'	S 14°30.4'	272°01.3'	S 22°29.9'	333°49.0'	S 9°49.1'
8	310°50.9'	S 20°48.6'	335°15.8'	S 14°30.5'	287°03.4'	S 22°29.9'	348°50.0'	S 9°49.7'
9	325°50.0'	S 20°49.2'	350°17.8'	S 14°30.7'	302°05.6'	S 22°29.9'	3°51.0'	S 9°50.3'
10	340°49.2'	S 20°49.9'	5°19.8'	S 14°30.8'	317°07.7'	S 22°29.9'	18°51.9'	S 9°50.8'
11	355°48.4'	S 20°50.5'	20°21.7'	S 14°31.0'	332°09.9'	S 22°30.0'	33°52.9'	S 9°51.4'
12	10°47.5'	S 20°51.1'	35°23.7'	S 14°31.1'	347°12.0'	S 22°30.0'	48°53.9'	S 9°52.0'
13	25°46.7'	S 20°51.8'	50°25.7'	S 14°31.3'	2°14.2'	S 22°30.0'	63°54.9'	S 9°52.5'
14	40°45.9'	S 20°52.4'	65°27.7'	S 14°31.4'	17°16.3'	S 22°30.0'	78°55.9'	S 9°53.1'
15	55°45.0'	S 20°53.0'	80°29.6'	S 14°31.6'	32°18.5'	S 22°30.0'	93°56.8'	S 9°53.7'
16	70°44.2'	S 20°53.6'	95°31.6'	S 14°31.7'	47°20.6'	S 22°30.0'	108°57.8'	S 9°54.2'
17	85°43.4'	S 20°54.3'	110°33.6'	S 14°31.9'	62°22.8'	S 22°30.0'	123°58.8'	S 9°54.8'
18	100°42.5'	S 20°54.9'	125°35.5'	S 14°32.0'	77°24.9'	S 22°30.0'	138°59.8'	S 9°55.4'
19	115°41.7'	S 20°55.5'	140°37.5'	S 14°32.2'	92°27.1'	S 22°30.0'	154°00.7'	S 9°55.9'
20	130°40.9'	S 20°56.1'	155°39.5'	S 14°32.3'	107°29.2'	S 22°30.0'	169°01.7'	S 9°56.5'
21	145°40.0'	S 20°56.7'	170°41.4'	S 14°32.5'	122°31.4'	S 22°30.0'	184°02.7'	S 9°57.1'
22	160°39.2'	S 20°57.4'	185°43.4'	S 14°32.6'	137°33.5'	S 22°30.0'	199°03.7'	S 9°57.6'
23	175°38.3'	S 20°58.0'	200°45.4'	S 14°32.8'	152°35.7'	S 22°30.0'	214°04.7'	S 9°58.2'

Thu Dec 7, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.7	
	v = -0.8' d = 0.6'		v = 2.0' d = 0.1'		v = 2.2' d = 0.0'		v = 1.0' d = 0.6'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	190°37.5'	S 20°58.6'	215°47.4'	S 14°32.9'	167°37.8'	S 22°30.0'	229°05.6'	S 9°58.8'
1	205°36.7'	S 20°59.2'	230°49.3'	S 14°33.1'	182°40.0'	S 22°30.1'	244°06.6'	S 9°59.4'
2	220°35.8'	S 20°59.8'	245°51.3'	S 14°33.2'	197°42.1'	S 22°30.1'	259°07.6'	S 9°59.9'
3	235°35.0'	S 21°00.4'	260°53.3'	S 14°33.4'	212°44.3'	S 22°30.1'	274°08.6'	S 10°00.5'
4	250°34.1'	S 21°01.1'	275°55.2'	S 14°33.5'	227°46.4'	S 22°30.1'	289°09.5'	S 10°01.1'
5	265°33.3'	S 21°01.7'	290°57.2'	S 14°33.7'	242°48.6'	S 22°30.1'	304°10.5'	S 10°01.6'
6	280°32.5'	S 21°02.3'	305°59.2'	S 14°33.8'	257°50.7'	S 22°30.1'	319°11.5'	S 10°02.2'
7	295°31.6'	S 21°02.9'	321°01.2'	S 14°34.0'	272°52.9'	S 22°30.1'	334°12.5'	S 10°02.8'
8	310°30.8'	S 21°03.5'	336°03.1'	S 14°34.1'	287°55.0'	S 22°30.1'	349°13.4'	S 10°03.3'
9	325°29.9'	S 21°04.1'	351°05.1'	S 14°34.3'	302°57.2'	S 22°30.1'	4°14.4'	S 10°03.9'
10	340°29.1'	S 21°04.7'	6°07.1'	S 14°34.4'	317°59.3'	S 22°30.1'	19°15.4'	S 10°04.4'
11	355°28.2'	S 21°05.3'	21°09.0'	S 14°34.6'	333°01.5'	S 22°30.1'	34°16.4'	S 10°05.0'
12	10°27.4'	S 21°05.9'	36°11.0'	S 14°34.7'	348°03.6'	S 22°30.1'	49°17.3'	S 10°05.6'
13	25°26.5'	S 21°06.5'	51°13.0'	S 14°34.9'	3°05.8'	S 22°30.1'	64°18.3'	S 10°06.1'
14	40°25.7'	S 21°07.1'	66°15.0'	S 14°35.0'	18°07.9'	S 22°30.1'	79°19.3'	S 10°06.7'
15	55°24.8'	S 21°07.7'	81°16.9'	S 14°35.2'	33°10.1'	S 22°30.1'	94°20.3'	S 10°07.3'
16	70°24.0'	S 21°08.3'	96°18.9'	S 14°35.3'	48°12.2'	S 22°30.2'	109°21.3'	S 10°07.8'
17	85°23.2'	S 21°08.9'	111°20.9'	S 14°35.5'	63°14.4'	S 22°30.2'	124°22.2'	S 10°08.4'
18	100°22.3'	S 21°09.5'	126°22.8'	S 14°35.6'	78°16.5'	S 22°30.2'	139°23.2'	S 10°09.0'
19	115°21.5'	S 21°10.1'	141°24.8'	S 14°35.8'	93°18.7'	S 22°30.2'	154°24.2'	S 10°09.5'
20	130°20.6'	S 21°10.7'	156°26.8'	S 14°35.9'	108°20.8'	S 22°30.2'	169°25.2'	S 10°10.1'
21	145°19.8'	S 21°11.3'	171°28.8'	S 14°36.1'	123°23.0'	S 22°30.2'	184°26.1'	S 10°10.7'
22	160°18.9'	S 21°11.9'	186°30.7'	S 14°36.2'	138°25.1'	S 22°30.2'	199°27.1'	S 10°11.2'
23	175°18.1'	S 21°12.5'	201°32.7'	S 14°36.4'	153°27.3'	S 22°30.2'	214°28.1'	S 10°11.8'

Fri Dec 8, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.6	
	v = -0.9' d = 0.6'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 1.0' d = 0.6'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	190°17.2'	S 21°13.1'	216°34.7'	S 14°36.5'	168°29.4'	S 22°30.2'	229°29.1'	S 10°12.4'
1	205°16.4'	S 21°13.7'	231°36.7'	S 14°36.7'	183°31.6'	S 22°30.2'	244°30.0'	S 10°12.9'
2	220°15.5'	S 21°14.3'	246°38.6'	S 14°36.8'	198°33.7'	S 22°30.2'	259°31.0'	S 10°13.5'
3	235°14.7'	S 21°14.9'	261°40.6'	S 14°37.0'	213°35.9'	S 22°30.2'	274°32.0'	S 10°14.1'
4	250°13.8'	S 21°15.4'	276°42.6'	S 14°37.1'	228°38.0'	S 22°30.2'	289°33.0'	S 10°14.6'
5	265°13.0'	S 21°16.0'	291°44.5'	S 14°37.3'	243°40.2'	S 22°30.2'	304°33.9'	S 10°15.2'
6	280°12.1'	S 21°16.6'	306°46.5'	S 14°37.4'	258°42.3'	S 22°30.2'	319°34.9'	S 10°15.7'
7	295°11.2'	S 21°17.2'	321°48.5'	S 14°37.6'	273°44.5'	S 22°30.3'	334°35.9'	S 10°16.3'
8	310°10.4'	S 21°17.8'	336°50.5'	S 14°37.7'	288°46.6'	S 22°30.3'	349°36.9'	S 10°16.9'
9	325°09.5'	S 21°18.4'	351°52.4'	S 14°37.9'	303°48.8'	S 22°30.3'	4°37.8'	S 10°17.4'
10	340°08.7'	S 21°18.9'	6°54.4'	S 14°38.0'	318°50.9'	S 22°30.3'	19°38.8'	S 10°18.0'
11	355°07.8'	S 21°19.5'	21°56.4'	S 14°38.2'	333°53.1'	S 22°30.3'	34°39.8'	S 10°18.6'
12	10°07.0'	S 21°20.1'	36°58.4'	S 14°38.3'	348°55.2'	S 22°30.3'	49°40.7'	S 10°19.1'
13	25°06.1'	S 21°20.7'	52°00.3'	S 14°38.5'	3°57.4'	S 22°30.3'	64°41.7'	S 10°19.7'
14	40°05.3'	S 21°21.3'	67°02.3'	S 14°38.6'	18°59.5'	S 22°30.3'	79°42.7'	S 10°20.2'
15	55°04.4'	S 21°21.8'	82°04.3'	S 14°38.8'	34°01.7'	S 22°30.3'	94°43.7'	S 10°20.8'
16	70°03.5'	S 21°22.4'	97°06.3'	S 14°38.9'	49°03.8'	S 22°30.3'	109°44.6'	S 10°21.4'
17	85°02.7'	S 21°23.0'	112°08.2'	S 14°39.0'	64°06.0'	S 22°30.3'	124°45.6'	S 10°21.9'
18	100°01.8'	S 21°23.6'	127°10.2'	S 14°39.2'	79°08.1'	S 22°30.3'	139°46.6'	S 10°22.5'
19	115°01.0'	S 21°24.1'	142°12.2'	S 14°39.3'	94°10.3'	S 22°30.3'	154°47.6'	S 10°23.1'
20	130°00.1'	S 21°24.7'	157°14.2'	S 14°39.5'	109°12.4'	S 22°30.3'	169°48.5'	S 10°23.6'
21	144°59.2'	S 21°25.3'	172°16.1'	S 14°39.6'	124°14.6'	S 22°30.3'	184°49.5'	S 10°24.2'
22	159°58.4'	S 21°25.8'	187°18.1'	S 14°39.8'	139°16.7'	S 22°30.4'	199°50.5'	S 10°24.7'
23	174°57.5'	S 21°26.4'	202°20.1'	S 14°39.9'	154°18.9'	S 22°30.4'	214°51.5'	S 10°25.3'

Sat Dec 9, 2017 UTC

UTC	Venus -3.8 v = -0.9' d = 0.6'		Jupiter -1.6 v = 2.0' d = 0.1'		Saturn +0.5 v = 2.1' d = 0.0'		Mars +1.6 v = 1.0' d = 0.6'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	189°56.7'	S 21°27.0'	217°22.0'	S 14°40.1'	169°21.0'	S 22°30.4'	229°52.4'	S 10°25.9'
1	204°55.8'	S 21°27.5'	232°24.0'	S 14°40.2'	184°23.2'	S 22°30.4'	244°53.4'	S 10°26.4'
2	219°54.9'	S 21°28.1'	247°26.0'	S 14°40.4'	199°25.3'	S 22°30.4'	259°54.4'	S 10°27.0'
3	234°54.1'	S 21°28.7'	262°28.0'	S 14°40.5'	214°27.5'	S 22°30.4'	274°55.3'	S 10°27.6'
4	249°53.2'	S 21°29.2'	277°29.9'	S 14°40.7'	229°29.6'	S 22°30.4'	289°56.3'	S 10°28.1'
5	264°52.3'	S 21°29.8'	292°31.9'	S 14°40.8'	244°31.8'	S 22°30.4'	304°57.3'	S 10°28.7'
6	279°51.5'	S 21°30.3'	307°33.9'	S 14°41.0'	259°33.9'	S 22°30.4'	319°58.3'	S 10°29.2'
7	294°50.6'	S 21°30.9'	322°35.9'	S 14°41.1'	274°36.1'	S 22°30.4'	334°59.2'	S 10°29.8'
8	309°49.8'	S 21°31.5'	337°37.9'	S 14°41.3'	289°38.2'	S 22°30.4'	350°00.2'	S 10°30.4'
9	324°48.9'	S 21°32.0'	352°39.8'	S 14°41.4'	304°40.4'	S 22°30.4'	5°01.2'	S 10°30.9'
10	339°48.0'	S 21°32.6'	7°41.8'	S 14°41.6'	319°42.5'	S 22°30.4'	20°02.2'	S 10°31.5'
11	354°47.2'	S 21°33.1'	22°43.8'	S 14°41.7'	334°44.7'	S 22°30.4'	35°03.1'	S 10°32.0'
12	9°46.3'	S 21°33.7'	37°45.8'	S 14°41.9'	349°46.8'	S 22°30.4'	50°04.1'	S 10°32.6'
13	24°45.4'	S 21°34.2'	52°47.7'	S 14°42.0'	4°49.0'	S 22°30.4'	65°05.1'	S 10°33.2'
14	39°44.6'	S 21°34.8'	67°49.7'	S 14°42.1'	19°51.1'	S 22°30.5'	80°06.0'	S 10°33.7'
15	54°43.7'	S 21°35.3'	82°51.7'	S 14°42.3'	34°53.3'	S 22°30.5'	95°07.0'	S 10°34.3'
16	69°42.8'	S 21°35.9'	97°53.7'	S 14°42.4'	49°55.4'	S 22°30.5'	110°08.0'	S 10°34.8'
17	84°41.9'	S 21°36.4'	112°55.6'	S 14°42.6'	64°57.6'	S 22°30.5'	125°09.0'	S 10°35.4'
18	99°41.1'	S 21°37.0'	127°57.6'	S 14°42.7'	79°59.7'	S 22°30.5'	140°09.9'	S 10°36.0'
19	114°40.2'	S 21°37.5'	142°59.6'	S 14°42.9'	95°01.9'	S 22°30.5'	155°10.9'	S 10°36.5'
20	129°39.3'	S 21°38.1'	158°01.6'	S 14°43.0'	110°04.0'	S 22°30.5'	170°11.9'	S 10°37.1'
21	144°38.5'	S 21°38.6'	173°03.5'	S 14°43.2'	125°06.2'	S 22°30.5'	185°12.8'	S 10°37.6'
22	159°37.6'	S 21°39.1'	188°05.5'	S 14°43.3'	140°08.3'	S 22°30.5'	200°13.8'	S 10°38.2'
23	174°36.7'	S 21°39.7'	203°07.5'	S 14°43.5'	155°10.5'	S 22°30.5'	215°14.8'	S 10°38.7'

Sun Dec 10, 2017 UTC

UTC	Venus -3.8 v = -0.9' d = 0.5'		Jupiter -1.6 v = 2.0' d = 0.1'		Saturn +0.5 v = 2.1' d = 0.0'		Mars +1.6 v = 1.0' d = 0.6'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	189°35.9'	S 21°40.2'	218°09.5'	S 14°43.6'	170°12.6'	S 22°30.5'	230°15.8'	S 10°39.3'
1	204°35.0'	S 21°40.8'	233°11.4'	S 14°43.8'	185°14.7'	S 22°30.5'	245°16.7'	S 10°39.9'
2	219°34.1'	S 21°41.3'	248°13.4'	S 14°43.9'	200°16.9'	S 22°30.5'	260°17.7'	S 10°40.4'
3	234°33.2'	S 21°41.8'	263°15.4'	S 14°44.1'	215°19.0'	S 22°30.5'	275°18.7'	S 10°41.0'
4	249°32.4'	S 21°42.4'	278°17.4'	S 14°44.2'	230°21.2'	S 22°30.5'	290°19.6'	S 10°41.5'
5	264°31.5'	S 21°42.9'	293°19.4'	S 14°44.4'	245°23.3'	S 22°30.5'	305°20.6'	S 10°42.1'
6	279°30.6'	S 21°43.4'	308°21.3'	S 14°44.5'	260°25.5'	S 22°30.5'	320°21.6'	S 10°42.7'
7	294°29.7'	S 21°44.0'	323°23.3'	S 14°44.6'	275°27.6'	S 22°30.6'	335°22.6'	S 10°43.2'
8	309°28.9'	S 21°44.5'	338°25.3'	S 14°44.8'	290°29.8'	S 22°30.6'	350°23.5'	S 10°43.8'
9	324°28.0'	S 21°45.0'	353°27.3'	S 14°44.9'	305°31.9'	S 22°30.6'	5°24.5'	S 10°44.3'
10	339°27.1'	S 21°45.5'	8°29.2'	S 14°45.1'	320°34.1'	S 22°30.6'	20°25.5'	S 10°44.9'
11	354°26.2'	S 21°46.1'	23°31.2'	S 14°45.2'	335°36.2'	S 22°30.6'	35°26.4'	S 10°45.4'
12	9°25.4'	S 21°46.6'	38°33.2'	S 14°45.4'	350°38.4'	S 22°30.6'	50°27.4'	S 10°46.0'
13	24°24.5'	S 21°47.1'	53°35.2'	S 14°45.5'	5°40.5'	S 22°30.6'	65°28.4'	S 10°46.5'
14	39°23.6'	S 21°47.6'	68°37.2'	S 14°45.7'	20°42.7'	S 22°30.6'	80°29.3'	S 10°47.1'
15	54°22.7'	S 21°48.2'	83°39.1'	S 14°45.8'	35°44.8'	S 22°30.6'	95°30.3'	S 10°47.7'
16	69°21.8'	S 21°48.7'	98°41.1'	S 14°46.0'	50°47.0'	S 22°30.6'	110°31.3'	S 10°48.2'
17	84°21.0'	S 21°49.2'	113°43.1'	S 14°46.1'	65°49.1'	S 22°30.6'	125°32.3'	S 10°48.8'
18	99°20.1'	S 21°49.7'	128°45.1'	S 14°46.2'	80°51.3'	S 22°30.6'	140°33.2'	S 10°49.3'
19	114°19.2'	S 21°50.3'	143°47.0'	S 14°46.4'	95°53.4'	S 22°30.6'	155°34.2'	S 10°49.9'
20	129°18.3'	S 21°50.8'	158°49.0'	S 14°46.5'	110°55.6'	S 22°30.6'	170°35.2'	S 10°50.4'
21	144°17.4'	S 21°51.3'	173°51.0'	S 14°46.7'	125°57.7'	S 22°30.6'	185°36.1'	S 10°51.0'
22	159°16.6'	S 21°51.8'	188°53.0'	S 14°46.8'	140°59.9'	S 22°30.6'	200°37.1'	S 10°51.6'
23	174°15.7'	S 21°52.3'	203°55.0'	S 14°47.0'	156°02.0'	S 22°30.6'	215°38.1'	S 10°52.1'

Mon Dec 11, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.6	
	v = -0.9' d = 0.5'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 1.0' d = 0.6'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	189°14.8'	S 21°52.8'	218°56.9'	S 14°47.1'	171°04.2'	S 22°30.7'	230°39.0'	S 10°52.7'
1	204°13.9'	S 21°53.3'	233°58.9'	S 14°47.3'	186°06.3'	S 22°30.7'	245°40.0'	S 10°53.2'
2	219°13.0'	S 21°53.8'	249°00.9'	S 14°47.4'	201°08.4'	S 22°30.7'	260°41.0'	S 10°53.8'
3	234°12.2'	S 21°54.4'	264°02.9'	S 14°47.6'	216°10.6'	S 22°30.7'	275°41.9'	S 10°54.3'
4	249°11.3'	S 21°54.9'	279°04.9'	S 14°47.7'	231°12.7'	S 22°30.7'	290°42.9'	S 10°54.9'
5	264°10.4'	S 21°55.4'	294°06.8'	S 14°47.8'	246°14.9'	S 22°30.7'	305°43.9'	S 10°55.4'
6	279°09.5'	S 21°55.9'	309°08.8'	S 14°48.0'	261°17.0'	S 22°30.7'	320°44.9'	S 10°56.0'
7	294°08.6'	S 21°56.4'	324°10.8'	S 14°48.1'	276°19.2'	S 22°30.7'	335°45.8'	S 10°56.5'
8	309°07.7'	S 21°56.9'	339°12.8'	S 14°48.3'	291°21.3'	S 22°30.7'	350°46.8'	S 10°57.1'
9	324°06.8'	S 21°57.4'	354°14.8'	S 14°48.4'	306°23.5'	S 22°30.7'	5°47.8'	S 10°57.7'
10	339°06.0'	S 21°57.9'	9°16.7'	S 14°48.6'	321°25.6'	S 22°30.7'	20°48.7'	S 10°58.2'
11	354°05.1'	S 21°58.4'	24°18.7'	S 14°48.7'	336°27.8'	S 22°30.7'	35°49.7'	S 10°58.8'
12	9°04.2'	S 21°58.9'	39°20.7'	S 14°48.9'	351°29.9'	S 22°30.7'	50°50.7'	S 10°59.3'
13	24°03.3'	S 21°59.4'	54°22.7'	S 14°49.0'	6°32.1'	S 22°30.7'	65°51.6'	S 10°59.9'
14	39°02.4'	S 21°59.9'	69°24.7'	S 14°49.2'	21°34.2'	S 22°30.7'	80°52.6'	S 11°00.4'
15	54°01.5'	S 22°00.4'	84°26.6'	S 14°49.3'	36°36.4'	S 22°30.7'	95°53.6'	S 11°01.0'
16	69°00.6'	S 22°00.9'	99°28.6'	S 14°49.4'	51°38.5'	S 22°30.7'	110°54.5'	S 11°01.5'
17	83°59.7'	S 22°01.4'	114°30.6'	S 14°49.6'	66°40.7'	S 22°30.7'	125°55.5'	S 11°02.1'
18	98°58.9'	S 22°01.9'	129°32.6'	S 14°49.7'	81°42.8'	S 22°30.8'	140°56.5'	S 11°02.6'
19	113°58.0'	S 22°02.4'	144°34.6'	S 14°49.9'	96°45.0'	S 22°30.8'	155°57.4'	S 11°03.2'
20	128°57.1'	S 22°02.8'	159°36.5'	S 14°50.0'	111°47.1'	S 22°30.8'	170°58.4'	S 11°03.7'
21	143°56.2'	S 22°03.3'	174°38.5'	S 14°50.2'	126°49.3'	S 22°30.8'	185°59.4'	S 11°04.3'
22	158°55.3'	S 22°03.8'	189°40.5'	S 14°50.3'	141°51.4'	S 22°30.8'	201°00.3'	S 11°04.8'
23	173°54.4'	S 22°04.3'	204°42.5'	S 14°50.4'	156°53.5'	S 22°30.8'	216°01.3'	S 11°05.4'

Tue Dec 12, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.6	
	v = -0.9' d = 0.5'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 1.0' d = 0.6'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	188°53.5'	S 22°04.8'	219°44.5'	S 14°50.6'	171°55.7'	S 22°30.8'	231°02.3'	S 11°06.0'
1	203°52.6'	S 22°05.3'	234°46.4'	S 14°50.7'	186°57.8'	S 22°30.8'	246°03.2'	S 11°06.5'
2	218°51.7'	S 22°05.8'	249°48.4'	S 14°50.9'	201°60.0'	S 22°30.8'	261°04.2'	S 11°07.1'
3	233°50.8'	S 22°06.2'	264°50.4'	S 14°51.0'	217°02.1'	S 22°30.8'	276°05.2'	S 11°07.6'
4	248°49.9'	S 22°06.7'	279°52.4'	S 14°51.2'	232°04.3'	S 22°30.8'	291°06.1'	S 11°08.2'
5	263°49.0'	S 22°07.2'	294°54.4'	S 14°51.3'	247°06.4'	S 22°30.8'	306°07.1'	S 11°08.7'
6	278°48.2'	S 22°07.7'	309°56.4'	S 14°51.5'	262°08.6'	S 22°30.8'	321°08.1'	S 11°09.3'
7	293°47.3'	S 22°08.2'	324°58.3'	S 14°51.6'	277°10.7'	S 22°30.8'	336°09.0'	S 11°09.8'
8	308°46.4'	S 22°08.6'	340°00.3'	S 14°51.7'	292°12.9'	S 22°30.8'	351°10.0'	S 11°10.4'
9	323°45.5'	S 22°09.1'	355°02.3'	S 14°51.9'	307°15.0'	S 22°30.8'	6°11.0'	S 11°10.9'
10	338°44.6'	S 22°09.6'	10°04.3'	S 14°52.0'	322°17.2'	S 22°30.8'	21°11.9'	S 11°11.5'
11	353°43.7'	S 22°10.1'	25°06.3'	S 14°52.2'	337°19.3'	S 22°30.8'	36°12.9'	S 11°12.0'
12	8°42.8'	S 22°10.5'	40°08.2'	S 14°52.3'	352°21.5'	S 22°30.8'	51°13.9'	S 11°12.6'
13	23°41.9'	S 22°11.0'	55°10.2'	S 14°52.5'	7°23.6'	S 22°30.9'	66°14.8'	S 11°13.1'
14	38°41.0'	S 22°11.5'	70°12.2'	S 14°52.6'	22°25.8'	S 22°30.9'	81°15.8'	S 11°13.7'
15	53°40.1'	S 22°11.9'	85°14.2'	S 14°52.7'	37°27.9'	S 22°30.9'	96°16.8'	S 11°14.2'
16	68°39.2'	S 22°12.4'	100°16.2'	S 14°52.9'	52°30.0'	S 22°30.9'	111°17.7'	S 11°14.8'
17	83°38.3'	S 22°12.9'	115°18.2'	S 14°53.0'	67°32.2'	S 22°30.9'	126°18.7'	S 11°15.3'
18	98°37.4'	S 22°13.3'	130°20.1'	S 14°53.2'	82°34.3'	S 22°30.9'	141°19.7'	S 11°15.9'
19	113°36.5'	S 22°13.8'	145°22.1'	S 14°53.3'	97°36.5'	S 22°30.9'	156°20.6'	S 11°16.4'
20	128°35.6'	S 22°14.3'	160°24.1'	S 14°53.5'	112°38.6'	S 22°30.9'	171°21.6'	S 11°17.0'
21	143°34.7'	S 22°14.7'	175°26.1'	S 14°53.6'	127°40.8'	S 22°30.9'	186°22.6'	S 11°17.5'
22	158°33.8'	S 22°15.2'	190°28.1'	S 14°53.7'	142°42.9'	S 22°30.9'	201°23.5'	S 11°18.1'
23	173°32.9'	S 22°15.6'	205°30.1'	S 14°53.9'	157°45.1'	S 22°30.9'	216°24.5'	S 11°18.6'

Wed Dec 13, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.6	
	v = -0.9' d = 0.4'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 1.0' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	188°32.0'	S 22°16.1'	220°32.0'	S 14°54.0'	172°47.2'	S 22°30.9'	231°25.5'	S 11°19.2'
1	203°31.1'	S 22°16.6'	235°34.0'	S 14°54.2'	187°49.4'	S 22°30.9'	246°26.4'	S 11°19.7'
2	218°30.2'	S 22°17.0'	250°36.0'	S 14°54.3'	202°51.5'	S 22°30.9'	261°27.4'	S 11°20.3'
3	233°29.3'	S 22°17.5'	265°38.0'	S 14°54.5'	217°53.7'	S 22°30.9'	276°28.4'	S 11°20.8'
4	248°28.4'	S 22°17.9'	280°40.0'	S 14°54.6'	232°55.8'	S 22°30.9'	291°29.3'	S 11°21.4'
5	263°27.5'	S 22°18.4'	295°42.0'	S 14°54.7'	247°58.0'	S 22°30.9'	306°30.3'	S 11°21.9'
6	278°26.6'	S 22°18.8'	310°43.9'	S 14°54.9'	263°00.1'	S 22°30.9'	321°31.2'	S 11°22.5'
7	293°25.7'	S 22°19.3'	325°45.9'	S 14°55.0'	278°02.2'	S 22°30.9'	336°32.2'	S 11°23.0'
8	308°24.8'	S 22°19.7'	340°47.9'	S 14°55.2'	293°04.4'	S 22°30.9'	351°33.2'	S 11°23.6'
9	323°23.9'	S 22°20.2'	355°49.9'	S 14°55.3'	308°06.5'	S 22°31.0'	6°34.1'	S 11°24.1'
10	338°23.0'	S 22°20.6'	10°51.9'	S 14°55.5'	323°08.7'	S 22°31.0'	21°35.1'	S 11°24.6'
11	353°22.1'	S 22°21.1'	25°53.9'	S 14°55.6'	338°10.8'	S 22°31.0'	36°36.1'	S 11°25.2'
12	8°21.1'	S 22°21.5'	40°55.9'	S 14°55.7'	353°13.0'	S 22°31.0'	51°37.0'	S 11°25.7'
13	23°20.2'	S 22°22.0'	55°57.8'	S 14°55.9'	8°15.1'	S 22°31.0'	66°38.0'	S 11°26.3'
14	38°19.3'	S 22°22.4'	70°59.8'	S 14°56.0'	23°17.3'	S 22°31.0'	81°39.0'	S 11°26.8'
15	53°18.4'	S 22°22.8'	86°01.8'	S 14°56.2'	38°19.4'	S 22°31.0'	96°39.9'	S 11°27.4'
16	68°17.5'	S 22°23.3'	101°03.8'	S 14°56.3'	53°21.6'	S 22°31.0'	111°40.9'	S 11°27.9'
17	83°16.6'	S 22°23.7'	116°05.8'	S 14°56.5'	68°23.7'	S 22°31.0'	126°41.9'	S 11°28.5'
18	98°15.7'	S 22°24.2'	131°07.8'	S 14°56.6'	83°25.9'	S 22°31.0'	141°42.8'	S 11°29.0'
19	113°14.8'	S 22°24.6'	146°09.7'	S 14°56.7'	98°28.0'	S 22°31.0'	156°43.8'	S 11°29.6'
20	128°13.9'	S 22°25.0'	161°11.7'	S 14°56.9'	113°30.1'	S 22°31.0'	171°44.7'	S 11°30.1'
21	143°13.0'	S 22°25.5'	176°13.7'	S 14°57.0'	128°32.3'	S 22°31.0'	186°45.7'	S 11°30.7'
22	158°12.1'	S 22°25.9'	191°15.7'	S 14°57.2'	143°34.4'	S 22°31.0'	201°46.7'	S 11°31.2'
23	173°11.2'	S 22°26.3'	206°17.7'	S 14°57.3'	158°36.6'	S 22°31.0'	216°47.6'	S 11°31.8'

Thu Dec 14, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.6	
	v = -0.9' d = 0.4'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 1.0' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	188°10.3'	S 22°26.8'	221°19.7'	S 14°57.4'	173°38.7'	S 22°31.0'	231°48.6'	S 11°32.3'
1	203°09.3'	S 22°27.2'	236°21.7'	S 14°57.6'	188°40.9'	S 22°31.0'	246°49.6'	S 11°32.8'
2	218°08.4'	S 22°27.6'	251°23.7'	S 14°57.7'	203°43.0'	S 22°31.0'	261°50.5'	S 11°33.4'
3	233°07.5'	S 22°28.0'	266°25.6'	S 14°57.9'	218°45.2'	S 22°31.0'	276°51.5'	S 11°33.9'
4	248°06.6'	S 22°28.5'	281°27.6'	S 14°58.0'	233°47.3'	S 22°31.0'	291°52.4'	S 11°34.5'
5	263°05.7'	S 22°28.9'	296°29.6'	S 14°58.2'	248°49.5'	S 22°31.1'	306°53.4'	S 11°35.0'
6	278°04.8'	S 22°29.3'	311°31.6'	S 14°58.3'	263°51.6'	S 22°31.1'	321°54.4'	S 11°35.6'
7	293°03.9'	S 22°29.7'	326°33.6'	S 14°58.4'	278°53.8'	S 22°31.1'	336°55.3'	S 11°36.1'
8	308°03.0'	S 22°30.2'	341°35.6'	S 14°58.6'	293°55.9'	S 22°31.1'	351°56.3'	S 11°36.7'
9	323°02.1'	S 22°30.6'	356°37.6'	S 14°58.7'	308°58.0'	S 22°31.1'	6°57.3'	S 11°37.2'
10	338°01.1'	S 22°31.0'	11°39.5'	S 14°58.9'	324°00.2'	S 22°31.1'	21°58.2'	S 11°37.8'
11	353°00.2'	S 22°31.4'	26°41.5'	S 14°59.0'	339°02.3'	S 22°31.1'	36°59.2'	S 11°38.3'
12	7°59.3'	S 22°31.8'	41°43.5'	S 14°59.1'	354°04.5'	S 22°31.1'	52°00.1'	S 11°38.8'
13	22°58.4'	S 22°32.2'	56°45.5'	S 14°59.3'	9°06.6'	S 22°31.1'	67°01.1'	S 11°39.4'
14	37°57.5'	S 22°32.7'	71°47.5'	S 14°59.4'	24°08.8'	S 22°31.1'	82°02.1'	S 11°39.9'
15	52°56.6'	S 22°33.1'	86°49.5'	S 14°59.6'	39°10.9'	S 22°31.1'	97°03.0'	S 11°40.5'
16	67°55.6'	S 22°33.5'	101°51.5'	S 14°59.7'	54°13.1'	S 22°31.1'	112°04.0'	S 11°41.0'
17	82°54.7'	S 22°33.9'	116°53.5'	S 14°59.8'	69°15.2'	S 22°31.1'	127°05.0'	S 11°41.6'
18	97°53.8'	S 22°34.3'	131°55.4'	S 14°60.0'	84°17.4'	S 22°31.1'	142°05.9'	S 11°42.1'
19	112°52.9'	S 22°34.7'	146°57.4'	S 15°00.1'	99°19.5'	S 22°31.1'	157°06.9'	S 11°42.6'
20	127°52.0'	S 22°35.1'	161°59.4'	S 15°00.3'	114°21.7'	S 22°31.1'	172°07.8'	S 11°43.2'
21	142°51.1'	S 22°35.5'	177°01.4'	S 15°00.4'	129°23.8'	S 22°31.1'	187°08.8'	S 11°43.7'
22	157°50.1'	S 22°35.9'	192°03.4'	S 15°00.5'	144°25.9'	S 22°31.1'	202°09.8'	S 11°44.3'
23	172°49.2'	S 22°36.3'	207°05.4'	S 15°00.7'	159°28.1'	S 22°31.1'	217°10.7'	S 11°44.8'

Fri Dec 15, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.6	
	v = -0.9' d = 0.4'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 1.0' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	187°48.3'	S 22°36.7'	222°07.4'	S 15°00.8'	174°30.2'	S 22°31.1'	232°11.7'	S 11°45.4'
1	202°47.4'	S 22°37.1'	237°09.4'	S 15°01.0'	189°32.4'	S 22°31.1'	247°12.6'	S 11°45.9'
2	217°46.5'	S 22°37.5'	252°11.4'	S 15°01.1'	204°34.5'	S 22°31.1'	262°13.6'	S 11°46.4'
3	232°45.6'	S 22°37.9'	267°13.3'	S 15°01.2'	219°36.7'	S 22°31.1'	277°14.6'	S 11°47.0'
4	247°44.6'	S 22°38.3'	282°15.3'	S 15°01.4'	234°38.8'	S 22°31.2'	292°15.5'	S 11°47.5'
5	262°43.7'	S 22°38.7'	297°17.3'	S 15°01.5'	249°41.0'	S 22°31.2'	307°16.5'	S 11°48.1'
6	277°42.8'	S 22°39.1'	312°19.3'	S 15°01.7'	264°43.1'	S 22°31.2'	322°17.4'	S 11°48.6'
7	292°41.9'	S 22°39.5'	327°21.3'	S 15°01.8'	279°45.3'	S 22°31.2'	337°18.4'	S 11°49.2'
8	307°41.0'	S 22°39.9'	342°23.3'	S 15°01.9'	294°47.4'	S 22°31.2'	352°19.4'	S 11°49.7'
9	322°40.0'	S 22°40.3'	357°25.3'	S 15°02.1'	309°49.5'	S 22°31.2'	7°20.3'	S 11°50.2'
10	337°39.1'	S 22°40.7'	12°27.3'	S 15°02.2'	324°51.7'	S 22°31.2'	22°21.3'	S 11°50.8'
11	352°38.2'	S 22°41.1'	27°29.3'	S 15°02.4'	339°53.8'	S 22°31.2'	37°22.3'	S 11°51.3'
12	7°37.3'	S 22°41.5'	42°31.2'	S 15°02.5'	354°56.0'	S 22°31.2'	52°23.2'	S 11°51.9'
13	22°36.3'	S 22°41.8'	57°33.2'	S 15°02.6'	9°58.1'	S 22°31.2'	67°24.2'	S 11°52.4'
14	37°35.4'	S 22°42.2'	72°35.2'	S 15°02.8'	25°00.3'	S 22°31.2'	82°25.1'	S 11°52.9'
15	52°34.5'	S 22°42.6'	87°37.2'	S 15°02.9'	40°02.4'	S 22°31.2'	97°26.1'	S 11°53.5'
16	67°33.6'	S 22°43.0'	102°39.2'	S 15°03.1'	55°04.6'	S 22°31.2'	112°27.0'	S 11°54.0'
17	82°32.7'	S 22°43.4'	117°41.2'	S 15°03.2'	70°06.7'	S 22°31.2'	127°28.0'	S 11°54.6'
18	97°31.7'	S 22°43.8'	132°43.2'	S 15°03.3'	85°08.9'	S 22°31.2'	142°29.0'	S 11°55.1'
19	112°30.8'	S 22°44.1'	147°45.2'	S 15°03.5'	100°11.0'	S 22°31.2'	157°29.9'	S 11°55.6'
20	127°29.9'	S 22°44.5'	162°47.2'	S 15°03.6'	115°13.1'	S 22°31.2'	172°30.9'	S 11°56.2'
21	142°29.0'	S 22°44.9'	177°49.2'	S 15°03.8'	130°15.3'	S 22°31.2'	187°31.8'	S 11°56.7'
22	157°28.0'	S 22°45.3'	192°51.1'	S 15°03.9'	145°17.4'	S 22°31.2'	202°32.8'	S 11°57.3'
23	172°27.1'	S 22°45.7'	207°53.1'	S 15°04.0'	160°19.6'	S 22°31.2'	217°33.8'	S 11°57.8'

Sat Dec 16, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.6	
	v = -0.9' d = 0.4'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 1.0' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	187°26.2'	S 22°46.0'	222°55.1'	S 15°04.2'	175°21.7'	S 22°31.2'	232°34.7'	S 11°58.3'
1	202°25.3'	S 22°46.4'	237°57.1'	S 15°04.3'	190°23.9'	S 22°31.2'	247°35.7'	S 11°58.9'
2	217°24.3'	S 22°46.8'	252°59.1'	S 15°04.4'	205°26.0'	S 22°31.2'	262°36.6'	S 11°59.4'
3	232°23.4'	S 22°47.1'	268°01.1'	S 15°04.6'	220°28.2'	S 22°31.3'	277°37.6'	S 11°60.0'
4	247°22.5'	S 22°47.5'	283°03.1'	S 15°04.7'	235°30.3'	S 22°31.3'	292°38.6'	S 12°00.5'
5	262°21.5'	S 22°47.9'	298°05.1'	S 15°04.9'	250°32.5'	S 22°31.3'	307°39.5'	S 12°01.0'
6	277°20.6'	S 22°48.2'	313°07.1'	S 15°05.0'	265°34.6'	S 22°31.3'	322°40.5'	S 12°01.6'
7	292°19.7'	S 22°48.6'	328°09.1'	S 15°05.1'	280°36.7'	S 22°31.3'	337°41.4'	S 12°02.1'
8	307°18.8'	S 22°49.0'	343°11.1'	S 15°05.3'	295°38.9'	S 22°31.3'	352°42.4'	S 12°02.6'
9	322°17.8'	S 22°49.3'	358°13.1'	S 15°05.4'	310°41.0'	S 22°31.3'	7°43.4'	S 12°03.2'
10	337°16.9'	S 22°49.7'	13°15.0'	S 15°05.6'	325°43.2'	S 22°31.3'	22°44.3'	S 12°03.7'
11	352°16.0'	S 22°50.1'	28°17.0'	S 15°05.7'	340°45.3'	S 22°31.3'	37°45.3'	S 12°04.3'
12	7°15.0'	S 22°50.4'	43°19.0'	S 15°05.8'	355°47.5'	S 22°31.3'	52°46.2'	S 12°04.8'
13	22°14.1'	S 22°50.8'	58°21.0'	S 15°06.0'	10°49.6'	S 22°31.3'	67°47.2'	S 12°05.3'
14	37°13.2'	S 22°51.1'	73°23.0'	S 15°06.1'	25°51.8'	S 22°31.3'	82°48.1'	S 12°05.9'
15	52°12.3'	S 22°51.5'	88°25.0'	S 15°06.2'	40°53.9'	S 22°31.3'	97°49.1'	S 12°06.4'
16	67°11.3'	S 22°51.8'	103°27.0'	S 15°06.4'	55°56.1'	S 22°31.3'	112°50.1'	S 12°06.9'
17	82°10.4'	S 22°52.2'	118°29.0'	S 15°06.5'	70°58.2'	S 22°31.3'	127°51.0'	S 12°07.5'
18	97°09.5'	S 22°52.5'	133°31.0'	S 15°06.7'	86°00.3'	S 22°31.3'	142°52.0'	S 12°08.0'
19	112°08.5'	S 22°52.9'	148°33.0'	S 15°06.8'	101°02.5'	S 22°31.3'	157°52.9'	S 12°08.5'
20	127°07.6'	S 22°53.2'	163°35.0'	S 15°06.9'	116°04.6'	S 22°31.3'	172°53.9'	S 12°09.1'
21	142°06.7'	S 22°53.6'	178°37.0'	S 15°07.1'	131°06.8'	S 22°31.3'	187°54.8'	S 12°09.6'
22	157°05.7'	S 22°53.9'	193°39.0'	S 15°07.2'	146°08.9'	S 22°31.3'	202°55.8'	S 12°10.2'
23	172°04.8'	S 22°54.3'	208°41.0'	S 15°07.3'	161°11.1'	S 22°31.3'	217°56.8'	S 12°10.7'



Sun Dec 17, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.6	
	v = -0.9' d = 0.3'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 1.0' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	187°03.9'	S 22°54.6'	223°42.9'	S 15°07.5'	176°13.2'	S 22°31.3'	232°57.7'	S 12°11.2'
1	202°02.9'	S 22°55.0'	238°44.9'	S 15°07.6'	191°15.4'	S 22°31.3'	247°58.7'	S 12°11.8'
2	217°02.0'	S 22°55.3'	253°46.9'	S 15°07.8'	206°17.5'	S 22°31.3'	262°59.6'	S 12°12.3'
3	232°01.1'	S 22°55.7'	268°48.9'	S 15°07.9'	221°19.7'	S 22°31.3'	278°00.6'	S 12°12.8'
4	247°00.1'	S 22°56.0'	283°50.9'	S 15°08.0'	236°21.8'	S 22°31.3'	293°01.5'	S 12°13.4'
5	261°59.2'	S 22°56.3'	298°52.9'	S 15°08.2'	251°23.9'	S 22°31.4'	308°02.5'	S 12°13.9'
6	276°58.3'	S 22°56.7'	313°54.9'	S 15°08.3'	266°26.1'	S 22°31.4'	323°03.5'	S 12°14.4'
7	291°57.3'	S 22°57.0'	328°56.9'	S 15°08.4'	281°28.2'	S 22°31.4'	338°04.4'	S 12°15.0'
8	306°56.4'	S 22°57.4'	343°58.9'	S 15°08.6'	296°30.4'	S 22°31.4'	353°05.4'	S 12°15.5'
9	321°55.4'	S 22°57.7'	359°00.9'	S 15°08.7'	311°32.5'	S 22°31.4'	8°06.3'	S 12°16.0'
10	336°54.5'	S 22°58.0'	14°02.9'	S 15°08.9'	326°34.7'	S 22°31.4'	23°07.3'	S 12°16.6'
11	351°53.6'	S 22°58.3'	29°04.9'	S 15°09.0'	341°36.8'	S 22°31.4'	38°08.2'	S 12°17.1'
12	6°52.6'	S 22°58.7'	44°06.9'	S 15°09.1'	356°39.0'	S 22°31.4'	53°09.2'	S 12°17.6'
13	21°51.7'	S 22°59.0'	59°08.9'	S 15°09.3'	11°41.1'	S 22°31.4'	68°10.2'	S 12°18.2'
14	36°50.8'	S 22°59.3'	74°10.9'	S 15°09.4'	26°43.2'	S 22°31.4'	83°11.1'	S 12°18.7'
15	51°49.8'	S 22°59.7'	89°12.9'	S 15°09.5'	41°45.4'	S 22°31.4'	98°12.1'	S 12°19.2'
16	66°48.9'	S 22°60.0'	104°14.9'	S 15°09.7'	56°47.5'	S 22°31.4'	113°13.0'	S 12°19.8'
17	81°48.0'	S 23°00.3'	119°16.9'	S 15°09.8'	71°49.7'	S 22°31.4'	128°14.0'	S 12°20.3'
18	96°47.0'	S 23°00.6'	134°18.9'	S 15°09.9'	86°51.8'	S 22°31.4'	143°14.9'	S 12°20.8'
19	111°46.1'	S 23°01.0'	149°20.8'	S 15°10.1'	101°54.0'	S 22°31.4'	158°15.9'	S 12°21.4'
20	126°45.1'	S 23°01.3'	164°22.8'	S 15°10.2'	116°56.1'	S 22°31.4'	173°16.8'	S 12°21.9'
21	141°44.2'	S 23°01.6'	179°24.8'	S 15°10.4'	131°58.3'	S 22°31.4'	188°17.8'	S 12°22.4'
22	156°43.3'	S 23°01.9'	194°26.8'	S 15°10.5'	147°00.4'	S 22°31.4'	203°18.8'	S 12°23.0'
23	171°42.3'	S 23°02.2'	209°28.8'	S 15°10.6'	162°02.5'	S 22°31.4'	218°19.7'	S 12°23.5'

Mon Dec 18, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.6	
	v = -0.9' d = 0.3'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 1.0' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	186°41.4'	S 23°02.6'	224°30.8'	S 15°10.8'	177°04.7'	S 22°31.4'	233°20.7'	S 12°24.0'
1	201°40.4'	S 23°02.9'	239°32.8'	S 15°10.9'	192°06.8'	S 22°31.4'	248°21.6'	S 12°24.6'
2	216°39.5'	S 23°03.2'	254°34.8'	S 15°11.0'	207°09.0'	S 22°31.4'	263°22.6'	S 12°25.1'
3	231°38.6'	S 23°03.5'	269°36.8'	S 15°11.2'	222°11.1'	S 22°31.4'	278°23.5'	S 12°25.6'
4	246°37.6'	S 23°03.8'	284°38.8'	S 15°11.3'	237°13.3'	S 22°31.4'	293°24.5'	S 12°26.2'
5	261°36.7'	S 23°04.1'	299°40.8'	S 15°11.4'	252°15.4'	S 22°31.4'	308°25.4'	S 12°26.7'
6	276°35.7'	S 23°04.4'	314°42.8'	S 15°11.6'	267°17.6'	S 22°31.4'	323°26.4'	S 12°27.2'
7	291°34.8'	S 23°04.7'	329°44.8'	S 15°11.7'	282°19.7'	S 22°31.4'	338°27.3'	S 12°27.8'
8	306°33.8'	S 23°05.0'	344°46.8'	S 15°11.9'	297°21.9'	S 22°31.4'	353°28.3'	S 12°28.3'
9	321°32.9'	S 23°05.3'	359°48.8'	S 15°12.0'	312°24.0'	S 22°31.5'	8°29.3'	S 12°28.8'
10	336°32.0'	S 23°05.6'	14°50.8'	S 15°12.1'	327°26.1'	S 22°31.5'	23°30.2'	S 12°29.4'
11	351°31.0'	S 23°05.9'	29°52.8'	S 15°12.3'	342°28.3'	S 22°31.5'	38°31.2'	S 12°29.9'
12	6°30.1'	S 23°06.2'	44°54.8'	S 15°12.4'	357°30.4'	S 22°31.5'	53°32.1'	S 12°30.4'
13	21°29.1'	S 23°06.5'	59°56.8'	S 15°12.5'	12°32.6'	S 22°31.5'	68°33.1'	S 12°30.9'
14	36°28.2'	S 23°06.8'	74°58.8'	S 15°12.7'	27°34.7'	S 22°31.5'	83°34.0'	S 12°31.5'
15	51°27.2'	S 23°07.1'	90°00.8'	S 15°12.8'	42°36.9'	S 22°31.5'	98°35.0'	S 12°32.0'
16	66°26.3'	S 23°07.4'	105°02.8'	S 15°12.9'	57°39.0'	S 22°31.5'	113°35.9'	S 12°32.5'
17	81°25.4'	S 23°07.7'	120°04.8'	S 15°13.1'	72°41.2'	S 22°31.5'	128°36.9'	S 12°33.1'
18	96°24.4'	S 23°08.0'	135°06.8'	S 15°13.2'	87°43.3'	S 22°31.5'	143°37.8'	S 12°33.6'
19	111°23.5'	S 23°08.3'	150°08.8'	S 15°13.3'	102°45.4'	S 22°31.5'	158°38.8'	S 12°34.1'
20	126°22.5'	S 23°08.6'	165°10.8'	S 15°13.5'	117°47.6'	S 22°31.5'	173°39.7'	S 12°34.6'
21	141°21.6'	S 23°08.9'	180°12.8'	S 15°13.6'	132°49.7'	S 22°31.5'	188°40.7'	S 12°35.2'
22	156°20.6'	S 23°09.2'	195°14.8'	S 15°13.7'	147°51.9'	S 22°31.5'	203°41.7'	S 12°35.7'
23	171°19.7'	S 23°09.5'	210°16.8'	S 15°13.9'	162°54.0'	S 22°31.5'	218°42.6'	S 12°36.2'

Tue Dec 19, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.6	
	v = -0.9' d = 0.3'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 1.0' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	186°18.7'	S 23°09.8'	225°18.8'	S 15°14.0'	177°56.2'	S 22°31.5'	233°43.6'	S 12°36.8'
1	201°17.8'	S 23°10.1'	240°20.8'	S 15°14.1'	192°58.3'	S 22°31.5'	248°44.5'	S 12°37.3'
2	216°16.8'	S 23°10.3'	255°22.8'	S 15°14.3'	208°00.5'	S 22°31.5'	263°45.5'	S 12°37.8'
3	231°15.9'	S 23°10.6'	270°24.8'	S 15°14.4'	223°02.6'	S 22°31.5'	278°46.4'	S 12°38.3'
4	246°14.9'	S 23°10.9'	285°26.8'	S 15°14.6'	238°04.7'	S 22°31.5'	293°47.4'	S 12°38.9'
5	261°14.0'	S 23°11.2'	300°28.8'	S 15°14.7'	253°06.9'	S 22°31.5'	308°48.3'	S 12°39.4'
6	276°13.1'	S 23°11.5'	315°30.8'	S 15°14.8'	268°09.0'	S 22°31.5'	323°49.3'	S 12°39.9'
7	291°12.1'	S 23°11.7'	330°32.8'	S 15°15.0'	283°11.2'	S 22°31.5'	338°50.2'	S 12°40.5'
8	306°11.2'	S 23°12.0'	345°34.8'	S 15°15.1'	298°13.3'	S 22°31.5'	353°51.2'	S 12°41.0'
9	321°10.2'	S 23°12.3'	0°36.8'	S 15°15.2'	313°15.5'	S 22°31.5'	8°52.1'	S 12°41.5'
10	336°09.3'	S 23°12.6'	15°38.8'	S 15°15.4'	328°17.6'	S 22°31.5'	23°53.1'	S 12°42.0'
11	351°08.3'	S 23°12.8'	30°40.8'	S 15°15.5'	343°19.8'	S 22°31.5'	38°54.0'	S 12°42.6'
12	6°07.4'	S 23°13.1'	45°42.8'	S 15°15.6'	358°21.9'	S 22°31.5'	53°55.0'	S 12°43.1'
13	21°06.4'	S 23°13.4'	60°44.8'	S 15°15.8'	13°24.0'	S 22°31.5'	68°55.9'	S 12°43.6'
14	36°05.5'	S 23°13.7'	75°46.8'	S 15°15.9'	28°26.2'	S 22°31.5'	83°56.9'	S 12°44.1'
15	51°04.5'	S 23°13.9'	90°48.8'	S 15°16.0'	43°28.3'	S 22°31.5'	98°57.8'	S 12°44.7'
16	66°03.6'	S 23°14.2'	105°50.8'	S 15°16.2'	58°30.5'	S 22°31.6'	113°58.8'	S 12°45.2'
17	81°02.6'	S 23°14.5'	120°52.8'	S 15°16.3'	73°32.6'	S 22°31.6'	128°59.7'	S 12°45.7'
18	96°01.7'	S 23°14.7'	135°54.8'	S 15°16.4'	88°34.8'	S 22°31.6'	144°00.7'	S 12°46.2'
19	111°00.7'	S 23°15.0'	150°56.8'	S 15°16.6'	103°36.9'	S 22°31.6'	159°01.6'	S 12°46.8'
20	125°59.8'	S 23°15.2'	165°58.8'	S 15°16.7'	118°39.1'	S 22°31.6'	174°02.6'	S 12°47.3'
21	140°58.8'	S 23°15.5'	181°00.8'	S 15°16.8'	133°41.2'	S 22°31.6'	189°03.6'	S 12°47.8'
22	155°57.9'	S 23°15.8'	196°02.8'	S 15°17.0'	148°43.3'	S 22°31.6'	204°04.5'	S 12°48.4'
23	170°56.9'	S 23°16.0'	211°04.8'	S 15°17.1'	163°45.5'	S 22°31.6'	219°05.5'	S 12°48.9'

Wed Dec 20, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.6	
	v = -1.0' d = 0.2'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	185°56.0'	S 23°16.3'	226°06.8'	S 15°17.2'	178°47.6'	S 22°31.6'	234°06.4'	S 12°49.4'
1	200°55.0'	S 23°16.5'	241°08.8'	S 15°17.4'	193°49.8'	S 22°31.6'	249°07.4'	S 12°49.9'
2	215°54.1'	S 23°16.8'	256°10.8'	S 15°17.5'	208°51.9'	S 22°31.6'	264°08.3'	S 12°50.4'
3	230°53.1'	S 23°17.0'	271°12.8'	S 15°17.6'	223°54.1'	S 22°31.6'	279°09.3'	S 12°51.0'
4	245°52.1'	S 23°17.3'	286°14.8'	S 15°17.8'	238°56.2'	S 22°31.6'	294°10.2'	S 12°51.5'
5	260°51.2'	S 23°17.5'	301°16.8'	S 15°17.9'	253°58.4'	S 22°31.6'	309°11.2'	S 12°52.0'
6	275°50.2'	S 23°17.8'	316°18.8'	S 15°18.0'	269°00.5'	S 22°31.6'	324°12.1'	S 12°52.5'
7	290°49.3'	S 23°18.0'	331°20.8'	S 15°18.2'	284°02.6'	S 22°31.6'	339°13.1'	S 12°53.1'
8	305°48.3'	S 23°18.3'	346°22.8'	S 15°18.3'	299°04.8'	S 22°31.6'	354°14.0'	S 12°53.6'
9	320°47.4'	S 23°18.5'	1°24.8'	S 15°18.4'	314°06.9'	S 22°31.6'	9°15.0'	S 12°54.1'
10	335°46.4'	S 23°18.8'	16°26.8'	S 15°18.6'	329°09.1'	S 22°31.6'	24°15.9'	S 12°54.6'
11	350°45.5'	S 23°19.0'	31°28.8'	S 15°18.7'	344°11.2'	S 22°31.6'	39°16.9'	S 12°55.2'
12	5°44.5'	S 23°19.3'	46°30.8'	S 15°18.8'	359°13.4'	S 22°31.6'	54°17.8'	S 12°55.7'
13	20°43.6'	S 23°19.5'	61°32.8'	S 15°19.0'	14°15.5'	S 22°31.6'	69°18.8'	S 12°56.2'
14	35°42.6'	S 23°19.7'	76°34.8'	S 15°19.1'	29°17.7'	S 22°31.6'	84°19.7'	S 12°56.7'
15	50°41.7'	S 23°20.0'	91°36.8'	S 15°19.2'	44°19.8'	S 22°31.6'	99°20.7'	S 12°57.3'
16	65°40.7'	S 23°20.2'	106°38.8'	S 15°19.4'	59°22.0'	S 22°31.6'	114°21.6'	S 12°57.8'
17	80°39.7'	S 23°20.5'	121°40.8'	S 15°19.5'	74°24.1'	S 22°31.6'	129°22.6'	S 12°58.3'
18	95°38.8'	S 23°20.7'	136°42.9'	S 15°19.6'	89°26.2'	S 22°31.6'	144°23.5'	S 12°58.8'
19	110°37.8'	S 23°20.9'	151°44.9'	S 15°19.8'	104°28.4'	S 22°31.6'	159°24.5'	S 12°59.3'
20	125°36.9'	S 23°21.2'	166°46.9'	S 15°19.9'	119°30.5'	S 22°31.6'	174°25.4'	S 12°59.9'
21	140°35.9'	S 23°21.4'	181°48.9'	S 15°20.0'	134°32.7'	S 22°31.6'	189°26.4'	S 13°00.4'
22	155°35.0'	S 23°21.6'	196°50.9'	S 15°20.1'	149°34.8'	S 22°31.6'	204°27.3'	S 13°00.9'
23	170°34.0'	S 23°21.8'	211°52.9'	S 15°20.3'	164°37.0'	S 22°31.6'	219°28.3'	S 13°01.4'

Thu Dec 21, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.6	
	v = -1.0' d = 0.2'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	185°33.0'	S 23°22.1'	226°54.9'	S 15°20.4'	179°39.1'	S 22°31.6'	234°29.2'	S 13°01.9'
1	200°32.1'	S 23°22.3'	241°56.9'	S 15°20.5'	194°41.3'	S 22°31.6'	249°30.2'	S 13°02.5'
2	215°31.1'	S 23°22.5'	256°58.9'	S 15°20.7'	209°43.4'	S 22°31.6'	264°31.1'	S 13°03.0'
3	230°30.2'	S 23°22.7'	272°00.9'	S 15°20.8'	224°45.5'	S 22°31.6'	279°32.1'	S 13°03.5'
4	245°29.2'	S 23°23.0'	287°02.9'	S 15°20.9'	239°47.7'	S 22°31.6'	294°33.0'	S 13°04.0'
5	260°28.3'	S 23°23.2'	302°04.9'	S 15°21.1'	254°49.8'	S 22°31.7'	309°33.9'	S 13°04.6'
6	275°27.3'	S 23°23.4'	317°06.9'	S 15°21.2'	269°52.0'	S 22°31.7'	324°34.9'	S 13°05.1'
7	290°26.3'	S 23°23.6'	332°08.9'	S 15°21.3'	284°54.1'	S 22°31.7'	339°35.8'	S 13°05.6'
8	305°25.4'	S 23°23.8'	347°10.9'	S 15°21.5'	299°56.3'	S 22°31.7'	354°36.8'	S 13°06.1'
9	320°24.4'	S 23°24.1'	2°12.9'	S 15°21.6'	314°58.4'	S 22°31.7'	9°37.7'	S 13°06.6'
10	335°23.5'	S 23°24.3'	17°14.9'	S 15°21.7'	330°00.6'	S 22°31.7'	24°38.7'	S 13°07.2'
11	350°22.5'	S 23°24.5'	32°16.9'	S 15°21.9'	345°02.7'	S 22°31.7'	39°39.6'	S 13°07.7'
12	5°21.6'	S 23°24.7'	47°19.0'	S 15°22.0'	0°04.8'	S 22°31.7'	54°40.6'	S 13°08.2'
13	20°20.6'	S 23°24.9'	62°21.0'	S 15°22.1'	15°07.0'	S 22°31.7'	69°41.5'	S 13°08.7'
14	35°19.6'	S 23°25.1'	77°23.0'	S 15°22.2'	30°09.1'	S 22°31.7'	84°42.5'	S 13°09.2'
15	50°18.7'	S 23°25.3'	92°25.0'	S 15°22.4'	45°11.3'	S 22°31.7'	99°43.4'	S 13°09.7'
16	65°17.7'	S 23°25.5'	107°27.0'	S 15°22.5'	60°13.4'	S 22°31.7'	114°44.4'	S 13°10.3'
17	80°16.8'	S 23°25.7'	122°29.0'	S 15°22.6'	75°15.6'	S 22°31.7'	129°45.3'	S 13°10.8'
18	95°15.8'	S 23°26.0'	137°31.0'	S 15°22.8'	90°17.7'	S 22°31.7'	144°46.3'	S 13°11.3'
19	110°14.8'	S 23°26.2'	152°33.0'	S 15°22.9'	105°19.9'	S 22°31.7'	159°47.2'	S 13°11.8'
20	125°13.9'	S 23°26.4'	167°35.0'	S 15°23.0'	120°22.0'	S 22°31.7'	174°48.2'	S 13°12.3'
21	140°12.9'	S 23°26.6'	182°37.0'	S 15°23.2'	135°24.1'	S 22°31.7'	189°49.1'	S 13°12.9'
22	155°12.0'	S 23°26.8'	197°39.0'	S 15°23.3'	150°26.3'	S 22°31.7'	204°50.1'	S 13°13.4'
23	170°11.0'	S 23°27.0'	212°41.0'	S 15°23.4'	165°28.4'	S 22°31.7'	219°51.0'	S 13°13.9'

Fri Dec 22, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.6	
	v = -1.0' d = 0.2'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	185°10.0'	S 23°27.2'	227°43.0'	S 15°23.6'	180°30.6'	S 22°31.7'	234°52.0'	S 13°14.4'
1	200°09.1'	S 23°27.4'	242°45.0'	S 15°23.7'	195°32.7'	S 22°31.7'	249°52.9'	S 13°14.9'
2	215°08.1'	S 23°27.5'	257°47.1'	S 15°23.8'	210°34.9'	S 22°31.7'	264°53.8'	S 13°15.4'
3	230°07.1'	S 23°27.7'	272°49.1'	S 15°23.9'	225°37.0'	S 22°31.7'	279°54.8'	S 13°16.0'
4	245°06.2'	S 23°27.9'	287°51.1'	S 15°24.1'	240°39.2'	S 22°31.7'	294°55.7'	S 13°16.5'
5	260°05.2'	S 23°28.1'	302°53.1'	S 15°24.2'	255°41.3'	S 22°31.7'	309°56.7'	S 13°17.0'
6	275°04.3'	S 23°28.3'	317°55.1'	S 15°24.3'	270°43.4'	S 22°31.7'	324°57.6'	S 13°17.5'
7	290°03.3'	S 23°28.5'	332°57.1'	S 15°24.5'	285°45.6'	S 22°31.7'	339°58.6'	S 13°18.0'
8	305°02.3'	S 23°28.7'	347°59.1'	S 15°24.6'	300°47.7'	S 22°31.7'	354°59.5'	S 13°18.5'
9	320°01.4'	S 23°28.9'	3°01.1'	S 15°24.7'	315°49.9'	S 22°31.7'	10°00.5'	S 13°19.1'
10	335°00.4'	S 23°29.1'	18°03.1'	S 15°24.9'	330°52.0'	S 22°31.7'	25°01.4'	S 13°19.6'
11	349°59.4'	S 23°29.2'	33°05.1'	S 15°25.0'	345°54.2'	S 22°31.7'	40°02.4'	S 13°20.1'
12	4°58.5'	S 23°29.4'	48°07.1'	S 15°25.1'	0°56.3'	S 22°31.7'	55°03.3'	S 13°20.6'
13	19°57.5'	S 23°29.6'	63°09.2'	S 15°25.2'	15°58.5'	S 22°31.7'	70°04.3'	S 13°21.1'
14	34°56.6'	S 23°29.8'	78°11.2'	S 15°25.4'	31°00.6'	S 22°31.7'	85°05.2'	S 13°21.6'
15	49°55.6'	S 23°30.0'	93°13.2'	S 15°25.5'	46°02.7'	S 22°31.7'	100°06.1'	S 13°22.1'
16	64°54.6'	S 23°30.1'	108°15.2'	S 15°25.6'	61°04.9'	S 22°31.7'	115°07.1'	S 13°22.7'
17	79°53.7'	S 23°30.3'	123°17.2'	S 15°25.8'	76°07.0'	S 22°31.7'	130°08.0'	S 13°23.2'
18	94°52.7'	S 23°30.5'	138°19.2'	S 15°25.9'	91°09.2'	S 22°31.7'	145°09.0'	S 13°23.7'
19	109°51.7'	S 23°30.7'	153°21.2'	S 15°26.0'	106°11.3'	S 22°31.7'	160°09.9'	S 13°24.2'
20	124°50.8'	S 23°30.8'	168°23.2'	S 15°26.2'	121°13.5'	S 22°31.7'	175°10.9'	S 13°24.7'
21	139°49.8'	S 23°31.0'	183°25.2'	S 15°26.3'	136°15.6'	S 22°31.7'	190°11.8'	S 13°25.2'
22	154°48.8'	S 23°31.2'	198°27.3'	S 15°26.4'	151°17.8'	S 22°31.7'	205°12.8'	S 13°25.7'
23	169°47.9'	S 23°31.3'	213°29.3'	S 15°26.5'	166°19.9'	S 22°31.7'	220°13.7'	S 13°26.3'

## Sat Dec 23, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.6	
	v = -1.0' d = 0.2'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	184°46.9'	S 23°31.5'	228°31.3'	S 15°26.7'	181°22.0'	S 22°31.7'	235°14.7'	S 13°26.8'
1	199°46.0'	S 23°31.7'	243°33.3'	S 15°26.8'	196°24.2'	S 22°31.8'	250°15.6'	S 13°27.3'
2	214°45.0'	S 23°31.8'	258°35.3'	S 15°26.9'	211°26.3'	S 22°31.8'	265°16.5'	S 13°27.8'
3	229°44.0'	S 23°32.0'	273°37.3'	S 15°27.1'	226°28.5'	S 22°31.8'	280°17.5'	S 13°28.3'
4	244°43.1'	S 23°32.2'	288°39.3'	S 15°27.2'	241°30.6'	S 22°31.8'	295°18.4'	S 13°28.8'
5	259°42.1'	S 23°32.3'	303°41.3'	S 15°27.3'	256°32.8'	S 22°31.8'	310°19.4'	S 13°29.3'
6	274°41.1'	S 23°32.5'	318°43.3'	S 15°27.4'	271°34.9'	S 22°31.8'	325°20.3'	S 13°29.9'
7	289°40.2'	S 23°32.7'	333°45.4'	S 15°27.6'	286°37.1'	S 22°31.8'	340°21.3'	S 13°30.4'
8	304°39.2'	S 23°32.8'	348°47.4'	S 15°27.7'	301°39.2'	S 22°31.8'	355°22.2'	S 13°30.9'
9	319°38.2'	S 23°33.0'	3°49.4'	S 15°27.8'	316°41.3'	S 22°31.8'	10°23.2'	S 13°31.4'
10	334°37.3'	S 23°33.1'	18°51.4'	S 15°28.0'	331°43.5'	S 22°31.8'	25°24.1'	S 13°31.9'
11	349°36.3'	S 23°33.3'	33°53.4'	S 15°28.1'	346°45.6'	S 22°31.8'	40°25.0'	S 13°32.4'
12	4°35.3'	S 23°33.4'	48°55.4'	S 15°28.2'	1°47.8'	S 22°31.8'	55°26.0'	S 13°32.9'
13	19°34.4'	S 23°33.6'	63°57.4'	S 15°28.3'	16°49.9'	S 22°31.8'	70°26.9'	S 13°33.4'
14	34°33.4'	S 23°33.7'	78°59.4'	S 15°28.5'	31°52.1'	S 22°31.8'	85°27.9'	S 13°33.9'
15	49°32.4'	S 23°33.9'	94°01.5'	S 15°28.6'	46°54.2'	S 22°31.8'	100°28.8'	S 13°34.5'
16	64°31.5'	S 23°34.0'	109°03.5'	S 15°28.7'	61°56.4'	S 22°31.8'	115°29.8'	S 13°35.0'
17	79°30.5'	S 23°34.2'	124°05.5'	S 15°28.9'	76°58.5'	S 22°31.8'	130°30.7'	S 13°35.5'
18	94°29.5'	S 23°34.3'	139°07.5'	S 15°29.0'	92°00.6'	S 22°31.8'	145°31.6'	S 13°36.0'
19	109°28.6'	S 23°34.5'	154°09.5'	S 15°29.1'	107°02.8'	S 22°31.8'	160°32.6'	S 13°36.5'
20	124°27.6'	S 23°34.6'	169°11.5'	S 15°29.2'	122°04.9'	S 22°31.8'	175°33.5'	S 13°37.0'
21	139°26.6'	S 23°34.7'	184°13.5'	S 15°29.4'	137°07.1'	S 22°31.8'	190°34.5'	S 13°37.5'
22	154°25.7'	S 23°34.9'	199°15.6'	S 15°29.5'	152°09.2'	S 22°31.8'	205°35.4'	S 13°38.0'
23	169°24.7'	S 23°35.0'	214°17.6'	S 15°29.6'	167°11.4'	S 22°31.8'	220°36.4'	S 13°38.5'

## Sun Dec 24, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.6	
	v = -1.0' d = 0.1'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	184°23.7'	S 23°35.2'	229°19.6'	S 15°29.7'	182°13.5'	S 22°31.8'	235°37.3'	S 13°39.0'
1	199°22.8'	S 23°35.3'	244°21.6'	S 15°29.9'	197°15.7'	S 22°31.8'	250°38.2'	S 13°39.6'
2	214°21.8'	S 23°35.4'	259°23.6'	S 15°30.0'	212°17.8'	S 22°31.8'	265°39.2'	S 13°40.1'
3	229°20.8'	S 23°35.6'	274°25.6'	S 15°30.1'	227°19.9'	S 22°31.8'	280°40.1'	S 13°40.6'
4	244°19.8'	S 23°35.7'	289°27.6'	S 15°30.3'	242°22.1'	S 22°31.8'	295°41.1'	S 13°41.1'
5	259°18.9'	S 23°35.8'	304°29.7'	S 15°30.4'	257°24.2'	S 22°31.8'	310°42.0'	S 13°41.6'
6	274°17.9'	S 23°35.9'	319°31.7'	S 15°30.5'	272°26.4'	S 22°31.8'	325°43.0'	S 13°42.1'
7	289°16.9'	S 23°36.1'	334°33.7'	S 15°30.6'	287°28.5'	S 22°31.8'	340°43.9'	S 13°42.6'
8	304°16.0'	S 23°36.2'	349°35.7'	S 15°30.8'	302°30.7'	S 22°31.8'	355°44.8'	S 13°43.1'
9	319°15.0'	S 23°36.3'	4°37.7'	S 15°30.9'	317°32.8'	S 22°31.8'	10°45.8'	S 13°43.6'
10	334°14.0'	S 23°36.5'	19°39.7'	S 15°31.0'	332°35.0'	S 22°31.8'	25°46.7'	S 13°44.1'
11	349°13.1'	S 23°36.6'	34°41.7'	S 15°31.1'	347°37.1'	S 22°31.8'	40°47.7'	S 13°44.6'
12	4°12.1'	S 23°36.7'	49°43.8'	S 15°31.3'	2°39.2'	S 22°31.8'	55°48.6'	S 13°45.1'
13	19°11.1'	S 23°36.8'	64°45.8'	S 15°31.4'	17°41.4'	S 22°31.8'	70°49.6'	S 13°45.7'
14	34°10.2'	S 23°36.9'	79°47.8'	S 15°31.5'	32°43.5'	S 22°31.8'	85°50.5'	S 13°46.2'
15	49°09.2'	S 23°37.1'	94°49.8'	S 15°31.7'	47°45.7'	S 22°31.8'	100°51.4'	S 13°46.7'
16	64°08.2'	S 23°37.2'	109°51.8'	S 15°31.8'	62°47.8'	S 22°31.8'	115°52.4'	S 13°47.2'
17	79°07.2'	S 23°37.3'	124°53.8'	S 15°31.9'	77°50.0'	S 22°31.8'	130°53.3'	S 13°47.7'
18	94°06.3'	S 23°37.4'	139°55.9'	S 15°32.0'	92°52.1'	S 22°31.8'	145°54.3'	S 13°48.2'
19	109°05.3'	S 23°37.5'	154°57.9'	S 15°32.2'	107°54.3'	S 22°31.8'	160°55.2'	S 13°48.7'
20	124°04.3'	S 23°37.6'	169°59.9'	S 15°32.3'	122°56.4'	S 22°31.8'	175°56.1'	S 13°49.2'
21	139°03.4'	S 23°37.7'	185°01.9'	S 15°32.4'	137°58.5'	S 22°31.8'	190°57.1'	S 13°49.7'
22	154°02.4'	S 23°37.8'	200°03.9'	S 15°32.5'	153°00.7'	S 22°31.8'	205°58.0'	S 13°50.2'
23	169°01.4'	S 23°38.0'	215°05.9'	S 15°32.7'	168°02.8'	S 22°31.8'	220°59.0'	S 13°50.7'

Mon Dec 25, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.5	
	v = -1.0' d = 0.1'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	184°00.5'	S 23°38.1'	230°08.0'	S 15°32.8'	183°05.0'	S 22°31.8'	235°59.9'	S 13°51.2'
1	198°59.5'	S 23°38.2'	245°10.0'	S 15°32.9'	198°07.1'	S 22°31.8'	251°00.8'	S 13°51.7'
2	213°58.5'	S 23°38.3'	260°12.0'	S 15°33.0'	213°09.3'	S 22°31.8'	266°01.8'	S 13°52.2'
3	228°57.5'	S 23°38.4'	275°14.0'	S 15°33.2'	228°11.4'	S 22°31.8'	281°02.7'	S 13°52.7'
4	243°56.6'	S 23°38.5'	290°16.0'	S 15°33.3'	243°13.6'	S 22°31.8'	296°03.7'	S 13°53.2'
5	258°55.6'	S 23°38.6'	305°18.1'	S 15°33.4'	258°15.7'	S 22°31.8'	311°04.6'	S 13°53.8'
6	273°54.6'	S 23°38.7'	320°20.1'	S 15°33.5'	273°17.8'	S 22°31.8'	326°05.6'	S 13°54.3'
7	288°53.7'	S 23°38.8'	335°22.1'	S 15°33.7'	288°20.0'	S 22°31.8'	341°06.5'	S 13°54.8'
8	303°52.7'	S 23°38.9'	350°24.1'	S 15°33.8'	303°22.1'	S 22°31.8'	356°07.4'	S 13°55.3'
9	318°51.7'	S 23°39.0'	5°26.1'	S 15°33.9'	318°24.3'	S 22°31.8'	11°08.4'	S 13°55.8'
10	333°50.8'	S 23°39.1'	20°28.1'	S 15°34.0'	333°26.4'	S 22°31.8'	26°09.3'	S 13°56.3'
11	348°49.8'	S 23°39.1'	35°30.2'	S 15°34.2'	348°28.6'	S 22°31.8'	41°10.3'	S 13°56.8'
12	3°48.8'	S 23°39.2'	50°32.2'	S 15°34.3'	3°30.7'	S 22°31.8'	56°11.2'	S 13°57.3'
13	18°47.8'	S 23°39.3'	65°34.2'	S 15°34.4'	18°32.9'	S 22°31.8'	71°12.1'	S 13°57.8'
14	33°46.9'	S 23°39.4'	80°36.2'	S 15°34.5'	33°35.0'	S 22°31.8'	86°13.1'	S 13°58.3'
15	48°45.9'	S 23°39.5'	95°38.2'	S 15°34.7'	48°37.2'	S 22°31.8'	101°14.0'	S 13°58.8'
16	63°44.9'	S 23°39.6'	110°40.3'	S 15°34.8'	63°39.3'	S 22°31.8'	116°14.9'	S 13°59.3'
17	78°44.0'	S 23°39.7'	125°42.3'	S 15°34.9'	78°41.4'	S 22°31.8'	131°15.9'	S 13°59.8'
18	93°43.0'	S 23°39.8'	140°44.3'	S 15°35.0'	93°43.6'	S 22°31.8'	146°16.8'	S 14°00.3'
19	108°42.0'	S 23°39.8'	155°46.3'	S 15°35.2'	108°45.7'	S 22°31.8'	161°17.8'	S 14°00.8'
20	123°41.0'	S 23°39.9'	170°48.3'	S 15°35.3'	123°47.9'	S 22°31.9'	176°18.7'	S 14°01.3'
21	138°40.1'	S 23°40.0'	185°50.4'	S 15°35.4'	138°50.0'	S 22°31.9'	191°19.6'	S 14°01.8'
22	153°39.1'	S 23°40.1'	200°52.4'	S 15°35.5'	153°52.2'	S 22°31.9'	206°20.6'	S 14°02.3'
23	168°38.1'	S 23°40.2'	215°54.4'	S 15°35.7'	168°54.3'	S 22°31.9'	221°21.5'	S 14°02.8'

Tue Dec 26, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.5	
	v = -1.0' d = 0.1'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	183°37.1'	S 23°40.2'	230°56.4'	S 15°35.8'	183°56.5'	S 22°31.9'	236°22.5'	S 14°03.3'
1	198°36.2'	S 23°40.3'	245°58.4'	S 15°35.9'	198°58.6'	S 22°31.9'	251°23.4'	S 14°03.8'
2	213°35.2'	S 23°40.4'	261°00.5'	S 15°36.0'	214°00.7'	S 22°31.9'	266°24.3'	S 14°04.3'
3	228°34.2'	S 23°40.5'	276°02.5'	S 15°36.2'	229°02.9'	S 22°31.9'	281°25.3'	S 14°04.8'
4	243°33.3'	S 23°40.5'	291°04.5'	S 15°36.3'	244°05.0'	S 22°31.9'	296°26.2'	S 14°05.3'
5	258°32.3'	S 23°40.6'	306°06.5'	S 15°36.4'	259°07.2'	S 22°31.9'	311°27.2'	S 14°05.8'
6	273°31.3'	S 23°40.7'	321°08.6'	S 15°36.5'	274°09.3'	S 22°31.9'	326°28.1'	S 14°06.3'
7	288°30.3'	S 23°40.7'	336°10.6'	S 15°36.7'	289°11.5'	S 22°31.9'	341°29.0'	S 14°06.8'
8	303°29.4'	S 23°40.8'	351°12.6'	S 15°36.8'	304°13.6'	S 22°31.9'	356°30.0'	S 14°07.3'
9	318°28.4'	S 23°40.9'	6°14.6'	S 15°36.9'	319°15.8'	S 22°31.9'	11°30.9'	S 14°07.8'
10	333°27.4'	S 23°40.9'	21°16.6'	S 15°37.0'	334°17.9'	S 22°31.9'	26°31.8'	S 14°08.3'
11	348°26.5'	S 23°41.0'	36°18.7'	S 15°37.2'	349°20.0'	S 22°31.9'	41°32.8'	S 14°08.8'
12	3°25.5'	S 23°41.0'	51°20.7'	S 15°37.3'	4°22.2'	S 22°31.9'	56°33.7'	S 14°09.3'
13	18°24.5'	S 23°41.1'	66°22.7'	S 15°37.4'	19°24.3'	S 22°31.9'	71°34.7'	S 14°09.8'
14	33°23.5'	S 23°41.2'	81°24.7'	S 15°37.5'	34°26.5'	S 22°31.9'	86°35.6'	S 14°10.3'
15	48°22.6'	S 23°41.2'	96°26.8'	S 15°37.7'	49°28.6'	S 22°31.9'	101°36.5'	S 14°10.8'
16	63°21.6'	S 23°41.3'	111°28.8'	S 15°37.8'	64°30.8'	S 22°31.9'	116°37.5'	S 14°11.3'
17	78°20.6'	S 23°41.3'	126°30.8'	S 15°37.9'	79°32.9'	S 22°31.9'	131°38.4'	S 14°11.8'
18	93°19.6'	S 23°41.4'	141°32.8'	S 15°38.0'	94°35.1'	S 22°31.9'	146°39.3'	S 14°12.3'
19	108°18.7'	S 23°41.4'	156°34.9'	S 15°38.1'	109°37.2'	S 22°31.9'	161°40.3'	S 14°12.8'
20	123°17.7'	S 23°41.5'	171°36.9'	S 15°38.3'	124°39.4'	S 22°31.9'	176°41.2'	S 14°13.3'
21	138°16.7'	S 23°41.5'	186°38.9'	S 15°38.4'	139°41.5'	S 22°31.9'	191°42.2'	S 14°13.8'
22	153°15.7'	S 23°41.6'	201°40.9'	S 15°38.5'	154°43.6'	S 22°31.9'	206°43.1'	S 14°14.3'
23	168°14.8'	S 23°41.6'	216°42.9'	S 15°38.6'	169°45.8'	S 22°31.9'	221°44.0'	S 14°14.8'

Wed Dec 27, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.5	
	v = -1.0' d = 0.0'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	183°13.8'	S 23°41.7'	231°45.0'	S 15°38.8'	184°47.9'	S 22°31.9'	236°45.0'	S 14°15.3'
1	198°12.8'	S 23°41.7'	246°47.0'	S 15°38.9'	199°50.1'	S 22°31.9'	251°45.9'	S 14°15.8'
2	213°11.9'	S 23°41.8'	261°49.0'	S 15°39.0'	214°52.2'	S 22°31.9'	266°46.8'	S 14°16.3'
3	228°10.9'	S 23°41.8'	276°51.0'	S 15°39.1'	229°54.4'	S 22°31.9'	281°47.8'	S 14°16.8'
4	243°09.9'	S 23°41.8'	291°53.1'	S 15°39.3'	244°56.5'	S 22°31.9'	296°48.7'	S 14°17.3'
5	258°08.9'	S 23°41.9'	306°55.1'	S 15°39.4'	259°58.7'	S 22°31.9'	311°49.6'	S 14°17.8'
6	273°08.0'	S 23°41.9'	321°57.1'	S 15°39.5'	275°00.8'	S 22°31.9'	326°50.6'	S 14°18.3'
7	288°07.0'	S 23°42.0'	336°59.1'	S 15°39.6'	290°03.0'	S 22°31.9'	341°51.5'	S 14°18.8'
8	303°06.0'	S 23°42.0'	352°01.2'	S 15°39.7'	305°05.1'	S 22°31.9'	356°52.5'	S 14°19.3'
9	318°05.0'	S 23°42.0'	7°03.2'	S 15°39.9'	320°07.2'	S 22°31.9'	11°53.4'	S 14°19.8'
10	333°04.1'	S 23°42.1'	22°05.2'	S 15°40.0'	335°09.4'	S 22°31.9'	26°54.3'	S 14°20.3'
11	348°03.1'	S 23°42.1'	37°07.2'	S 15°40.1'	350°11.5'	S 22°31.9'	41°55.3'	S 14°20.8'
12	3°02.1'	S 23°42.1'	52°09.3'	S 15°40.2'	5°13.7'	S 22°31.9'	56°56.2'	S 14°21.3'
13	18°01.1'	S 23°42.2'	67°11.3'	S 15°40.4'	20°15.8'	S 22°31.9'	71°57.1'	S 14°21.7'
14	33°00.2'	S 23°42.2'	82°13.3'	S 15°40.5'	35°18.0'	S 22°31.9'	86°58.1'	S 14°22.2'
15	47°59.2'	S 23°42.2'	97°15.4'	S 15°40.6'	50°20.1'	S 22°31.9'	101°59.0'	S 14°22.7'
16	62°58.2'	S 23°42.2'	112°17.4'	S 15°40.7'	65°22.3'	S 22°31.9'	116°59.9'	S 14°23.2'
17	77°57.3'	S 23°42.3'	127°19.4'	S 15°40.8'	80°24.4'	S 22°31.9'	132°00.9'	S 14°23.7'
18	92°56.3'	S 23°42.3'	142°21.4'	S 15°41.0'	95°26.6'	S 22°31.9'	147°01.8'	S 14°24.2'
19	107°55.3'	S 23°42.3'	157°23.5'	S 15°41.1'	110°28.7'	S 22°31.9'	162°02.7'	S 14°24.7'
20	122°54.3'	S 23°42.3'	172°25.5'	S 15°41.2'	125°30.8'	S 22°31.9'	177°03.7'	S 14°25.2'
21	137°53.4'	S 23°42.3'	187°27.5'	S 15°41.3'	140°33.0'	S 22°31.9'	192°04.6'	S 14°25.7'
22	152°52.4'	S 23°42.4'	202°29.5'	S 15°41.5'	155°35.1'	S 22°31.9'	207°05.5'	S 14°26.2'
23	167°51.4'	S 23°42.4'	217°31.6'	S 15°41.6'	170°37.3'	S 22°31.9'	222°06.5'	S 14°26.7'

Thu Dec 28, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.5	
	v = -1.0' d = 0.0'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	182°50.4'	S 23°42.4'	232°33.6'	S 15°41.7'	185°39.4'	S 22°31.9'	237°07.4'	S 14°27.2'
1	197°49.5'	S 23°42.4'	247°35.6'	S 15°41.8'	200°41.6'	S 22°31.9'	252°08.3'	S 14°27.7'
2	212°48.5'	S 23°42.4'	262°37.7'	S 15°41.9'	215°43.7'	S 22°31.9'	267°09.3'	S 14°28.2'
3	227°47.5'	S 23°42.4'	277°39.7'	S 15°42.1'	230°45.9'	S 22°31.9'	282°10.2'	S 14°28.7'
4	242°46.5'	S 23°42.4'	292°41.7'	S 15°42.2'	245°48.0'	S 22°31.9'	297°11.1'	S 14°29.2'
5	257°45.6'	S 23°42.4'	307°43.7'	S 15°42.3'	260°50.2'	S 22°31.9'	312°12.1'	S 14°29.6'
6	272°44.6'	S 23°42.4'	322°45.8'	S 15°42.4'	275°52.3'	S 22°31.9'	327°13.0'	S 14°30.1'
7	287°43.6'	S 23°42.5'	337°47.8'	S 15°42.5'	290°54.4'	S 22°31.9'	342°13.9'	S 14°30.6'
8	302°42.7'	S 23°42.5'	352°49.8'	S 15°42.7'	305°56.6'	S 22°31.9'	357°14.9'	S 14°31.1'
9	317°41.7'	S 23°42.5'	7°51.9'	S 15°42.8'	320°58.7'	S 22°31.9'	12°15.8'	S 14°31.6'
10	332°40.7'	S 23°42.5'	22°53.9'	S 15°42.9'	336°00.9'	S 22°31.9'	27°16.8'	S 14°32.1'
11	347°39.7'	S 23°42.5'	37°55.9'	S 15°43.0'	351°03.0'	S 22°31.9'	42°17.7'	S 14°32.6'
12	2°38.8'	S 23°42.5'	52°57.9'	S 15°43.1'	6°05.2'	S 22°31.9'	57°18.6'	S 14°33.1'
13	17°37.8'	S 23°42.5'	67°60.0'	S 15°43.3'	21°07.3'	S 22°31.9'	72°19.6'	S 14°33.6'
14	32°36.8'	S 23°42.5'	83°02.0'	S 15°43.4'	36°09.5'	S 22°31.9'	87°20.5'	S 14°34.1'
15	47°35.8'	S 23°42.5'	98°04.0'	S 15°43.5'	51°11.6'	S 22°31.9'	102°21.4'	S 14°34.6'
16	62°34.9'	S 23°42.4'	113°06.1'	S 15°43.6'	66°13.8'	S 22°31.9'	117°22.3'	S 14°35.0'
17	77°33.9'	S 23°42.4'	128°08.1'	S 15°43.8'	81°15.9'	S 22°31.9'	132°23.3'	S 14°35.5'
18	92°32.9'	S 23°42.4'	143°10.1'	S 15°43.9'	96°18.0'	S 22°31.9'	147°24.2'	S 14°36.0'
19	107°31.9'	S 23°42.4'	158°12.2'	S 15°44.0'	111°20.2'	S 22°31.9'	162°25.1'	S 14°36.5'
20	122°31.0'	S 23°42.4'	173°14.2'	S 15°44.1'	126°22.3'	S 22°31.9'	177°26.1'	S 14°37.0'
21	137°30.0'	S 23°42.4'	188°16.2'	S 15°44.2'	141°24.5'	S 22°31.9'	192°27.0'	S 14°37.5'
22	152°29.0'	S 23°42.4'	203°18.2'	S 15°44.4'	156°26.6'	S 22°31.9'	207°27.9'	S 14°38.0'
23	167°28.0'	S 23°42.4'	218°20.3'	S 15°44.5'	171°28.8'	S 22°31.9'	222°28.9'	S 14°38.5'

Fri Dec 29, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.5	
	v = -1.0' d = 0.0'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	182°27.1'	S 23°42.4'	233°22.3'	S 15°44.6'	186°30.9'	S 22°31.9'	237°29.8'	S 14°39.0'
1	197°26.1'	S 23°42.3'	248°24.3'	S 15°44.7'	201°33.1'	S 22°31.9'	252°30.7'	S 14°39.5'
2	212°25.1'	S 23°42.3'	263°26.4'	S 15°44.8'	216°35.2'	S 22°31.9'	267°31.7'	S 14°39.9'
3	227°24.2'	S 23°42.3'	278°28.4'	S 15°45.0'	231°37.4'	S 22°31.9'	282°32.6'	S 14°40.4'
4	242°23.2'	S 23°42.3'	293°30.4'	S 15°45.1'	246°39.5'	S 22°31.9'	297°33.5'	S 14°40.9'
5	257°22.2'	S 23°42.3'	308°32.5'	S 15°45.2'	261°41.6'	S 22°31.9'	312°34.5'	S 14°41.4'
6	272°21.2'	S 23°42.2'	323°34.5'	S 15°45.3'	276°43.8'	S 22°31.9'	327°35.4'	S 14°41.9'
7	287°20.3'	S 23°42.2'	338°36.5'	S 15°45.4'	291°45.9'	S 22°31.9'	342°36.3'	S 14°42.4'
8	302°19.3'	S 23°42.2'	353°38.6'	S 15°45.5'	306°48.1'	S 22°31.9'	357°37.3'	S 14°42.9'
9	317°18.3'	S 23°42.2'	8°40.6'	S 15°45.7'	321°50.2'	S 22°31.9'	12°38.2'	S 14°43.4'
10	332°17.3'	S 23°42.1'	23°42.6'	S 15°45.8'	336°52.4'	S 22°31.9'	27°39.1'	S 14°43.8'
11	347°16.4'	S 23°42.1'	38°44.7'	S 15°45.9'	351°54.5'	S 22°31.9'	42°40.1'	S 14°44.3'
12	2°15.4'	S 23°42.1'	53°46.7'	S 15°46.0'	6°56.7'	S 22°31.9'	57°41.0'	S 14°44.8'
13	17°14.4'	S 23°42.0'	68°48.7'	S 15°46.1'	21°58.8'	S 22°31.9'	72°41.9'	S 14°45.3'
14	32°13.5'	S 23°42.0'	83°50.8'	S 15°46.3'	37°01.0'	S 22°31.9'	87°42.9'	S 14°45.8'
15	47°12.5'	S 23°42.0'	98°52.8'	S 15°46.4'	52°03.1'	S 22°31.9'	102°43.8'	S 14°46.3'
16	62°11.5'	S 23°41.9'	113°54.8'	S 15°46.5'	67°05.3'	S 22°31.9'	117°44.7'	S 14°46.8'
17	77°10.5'	S 23°41.9'	128°56.9'	S 15°46.6'	82°07.4'	S 22°31.9'	132°45.6'	S 14°47.3'
18	92°09.6'	S 23°41.9'	143°58.9'	S 15°46.7'	97°09.5'	S 22°31.9'	147°46.6'	S 14°47.7'
19	107°08.6'	S 23°41.8'	159°00.9'	S 15°46.9'	112°11.7'	S 22°31.9'	162°47.5'	S 14°48.2'
20	122°07.6'	S 23°41.8'	174°03.0'	S 15°47.0'	127°13.8'	S 22°31.9'	177°48.4'	S 14°48.7'
21	137°06.6'	S 23°41.7'	189°05.0'	S 15°47.1'	142°16.0'	S 22°31.9'	192°49.4'	S 14°49.2'
22	152°05.7'	S 23°41.7'	204°07.0'	S 15°47.2'	157°18.1'	S 22°31.9'	207°50.3'	S 14°49.7'
23	167°04.7'	S 23°41.6'	219°09.1'	S 15°47.3'	172°20.3'	S 22°31.9'	222°51.2'	S 14°50.2'

Sat Dec 30, 2017 UTC

UTC	Venus -3.8		Jupiter -1.6		Saturn +0.5		Mars +1.5	
	v = -1.0' d = 0.1'		v = 2.0' d = 0.1'		v = 2.1' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	182°03.7'	S 23°41.6'	234°11.1'	S 15°47.5'	187°22.4'	S 22°31.9'	237°52.2'	S 14°50.7'
1	197°02.8'	S 23°41.5'	249°13.1'	S 15°47.6'	202°24.6'	S 22°31.9'	252°53.1'	S 14°51.1'
2	212°01.8'	S 23°41.5'	264°15.2'	S 15°47.7'	217°26.7'	S 22°31.9'	267°54.0'	S 14°51.6'
3	227°00.8'	S 23°41.4'	279°17.2'	S 15°47.8'	232°28.9'	S 22°31.9'	282°54.9'	S 14°52.1'
4	241°59.8'	S 23°41.4'	294°19.2'	S 15°47.9'	247°31.0'	S 22°31.9'	297°55.9'	S 14°52.6'
5	256°58.9'	S 23°41.3'	309°21.3'	S 15°48.0'	262°33.2'	S 22°31.9'	312°56.8'	S 14°53.1'
6	271°57.9'	S 23°41.3'	324°23.3'	S 15°48.2'	277°35.3'	S 22°31.9'	327°57.7'	S 14°53.6'
7	286°56.9'	S 23°41.2'	339°25.4'	S 15°48.3'	292°37.4'	S 22°31.9'	342°58.7'	S 14°54.0'
8	301°55.9'	S 23°41.2'	354°27.4'	S 15°48.4'	307°39.6'	S 22°31.9'	357°59.6'	S 14°54.5'
9	316°55.0'	S 23°41.1'	9°29.4'	S 15°48.5'	322°41.7'	S 22°31.9'	13°00.5'	S 14°55.0'
10	331°54.0'	S 23°41.1'	24°31.5'	S 15°48.6'	337°43.9'	S 22°31.9'	28°01.5'	S 14°55.5'
11	346°53.0'	S 23°41.0'	39°33.5'	S 15°48.8'	352°46.0'	S 22°31.9'	43°02.4'	S 14°56.0'
12	1°52.1'	S 23°40.9'	54°35.5'	S 15°48.9'	7°48.2'	S 22°31.9'	58°03.3'	S 14°56.5'
13	16°51.1'	S 23°40.9'	69°37.6'	S 15°49.0'	22°50.3'	S 22°31.9'	73°04.2'	S 14°56.9'
14	31°50.1'	S 23°40.8'	84°39.6'	S 15°49.1'	37°52.5'	S 22°31.9'	88°05.2'	S 14°57.4'
15	46°49.1'	S 23°40.7'	99°41.6'	S 15°49.2'	52°54.6'	S 22°31.9'	103°06.1'	S 14°57.9'
16	61°48.2'	S 23°40.7'	114°43.7'	S 15°49.3'	67°56.8'	S 22°31.9'	118°07.0'	S 14°58.4'
17	76°47.2'	S 23°40.6'	129°45.7'	S 15°49.5'	82°58.9'	S 22°31.9'	133°08.0'	S 14°58.9'
18	91°46.2'	S 23°40.5'	144°47.8'	S 15°49.6'	98°01.1'	S 22°31.9'	148°08.9'	S 14°59.3'
19	106°45.3'	S 23°40.5'	159°49.8'	S 15°49.7'	113°03.2'	S 22°31.9'	163°09.8'	S 14°59.8'
20	121°44.3'	S 23°40.4'	174°51.8'	S 15°49.8'	128°05.4'	S 22°31.9'	178°10.7'	S 15°00.3'
21	136°43.3'	S 23°40.3'	189°53.9'	S 15°49.9'	143°07.5'	S 22°31.9'	193°11.7'	S 15°00.8'
22	151°42.3'	S 23°40.2'	204°55.9'	S 15°50.0'	158°09.6'	S 22°31.9'	208°12.6'	S 15°01.3'
23	166°41.4'	S 23°40.2'	219°57.9'	S 15°50.2'	173°11.8'	S 22°31.9'	223°13.5'	S 15°01.8'

Sun Dec 31, 2017 UTC

UTC	Venus -3.8 v = -1.0' d = 0.1'		Jupiter -1.6 v = 2.0' d = 0.1'		Saturn +0.5 v = 2.1' d = 0.0'		Mars +1.5 v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	181°40.4'	S 23°40.1'	234°60.0'	S 15°50.3'	188°13.9'	S 22°31.9'	238°14.4'	S 15°02.2'
1	196°39.4'	S 23°40.0'	250°02.0'	S 15°50.4'	203°16.1'	S 22°31.9'	253°15.4'	S 15°02.7'
2	211°38.5'	S 23°39.9'	265°04.1'	S 15°50.5'	218°18.2'	S 22°31.9'	268°16.3'	S 15°03.2'
3	226°37.5'	S 23°39.9'	280°06.1'	S 15°50.6'	233°20.4'	S 22°31.9'	283°17.2'	S 15°03.7'
4	241°36.5'	S 23°39.8'	295°08.1'	S 15°50.7'	248°22.5'	S 22°31.9'	298°18.2'	S 15°04.2'
5	256°35.5'	S 23°39.7'	310°10.2'	S 15°50.9'	263°24.7'	S 22°31.9'	313°19.1'	S 15°04.6'
6	271°34.6'	S 23°39.6'	325°12.2'	S 15°51.0'	278°26.8'	S 22°31.9'	328°20.0'	S 15°05.1'
7	286°33.6'	S 23°39.5'	340°14.3'	S 15°51.1'	293°29.0'	S 22°31.9'	343°20.9'	S 15°05.6'
8	301°32.6'	S 23°39.4'	355°16.3'	S 15°51.2'	308°31.1'	S 22°31.9'	358°21.9'	S 15°06.1'
9	316°31.7'	S 23°39.3'	10°18.3'	S 15°51.3'	323°33.3'	S 22°31.9'	13°22.8'	S 15°06.6'
10	331°30.7'	S 23°39.2'	25°20.4'	S 15°51.4'	338°35.4'	S 22°31.9'	28°23.7'	S 15°07.0'
11	346°29.7'	S 23°39.2'	40°22.4'	S 15°51.6'	353°37.6'	S 22°31.9'	43°24.6'	S 15°07.5'
12	1°28.8'	S 23°39.1'	55°24.5'	S 15°51.7'	8°39.7'	S 22°31.9'	58°25.6'	S 15°08.0'
13	16°27.8'	S 23°39.0'	70°26.5'	S 15°51.8'	23°41.8'	S 22°31.9'	73°26.5'	S 15°08.5'
14	31°26.8'	S 23°38.9'	85°28.5'	S 15°51.9'	38°44.0'	S 22°31.9'	88°27.4'	S 15°08.9'
15	46°25.8'	S 23°38.8'	100°30.6'	S 15°52.0'	53°46.1'	S 22°31.9'	103°28.4'	S 15°09.4'
16	61°24.9'	S 23°38.7'	115°32.6'	S 15°52.1'	68°48.3'	S 22°31.9'	118°29.3'	S 15°09.9'
17	76°23.9'	S 23°38.6'	130°34.7'	S 15°52.3'	83°50.4'	S 22°31.9'	133°30.2'	S 15°10.4'
18	91°22.9'	S 23°38.5'	145°36.7'	S 15°52.4'	98°52.6'	S 22°31.9'	148°31.1'	S 15°10.9'
19	106°22.0'	S 23°38.4'	160°38.7'	S 15°52.5'	113°54.7'	S 22°31.9'	163°32.1'	S 15°11.3'
20	121°21.0'	S 23°38.3'	175°40.8'	S 15°52.6'	128°56.9'	S 22°31.9'	178°33.0'	S 15°11.8'
21	136°20.0'	S 23°38.2'	190°42.8'	S 15°52.7'	143°59.0'	S 22°31.9'	193°33.9'	S 15°12.3'
22	151°19.1'	S 23°38.1'	205°44.9'	S 15°52.8'	159°01.2'	S 22°31.9'	208°34.8'	S 15°12.8'
23	166°18.1'	S 23°38.0'	220°46.9'	S 15°52.9'	174°03.3'	S 22°31.9'	223°35.8'	S 15°13.2'