



# Astrodienst Ephemeris Tables for the year 2280

tropical geocentric zodiac

contains Sun, Moon, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, True Node, Moon's Node, Lilith, Chiron

Programming  
Dieter Koch and Alois Treindl  
based on Swiss Ephemeris  
Code D5EPH

ASTRODIENST EPHEMERIS for the year 2280  
geocentric

JANUARY 2280

00:00 UT

Day	Sid.t	☉	☾	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	6 40 36	9♂53'54	9♂42	12°R51	20♂ 3	24♂36	15♂24	3♂49	10°R17	22♂40	15♂40	19°R14	19♂36	16♂ 8	26°R11	T 1
F 2	6 44 33	10°55'03	24° 8	11♂30	21°18	25°23	15°37	3°55	10♂15	22°40	15°42	19♂13	19°33	16°15	26♂ 9	F 2
S 3	6 48 30	11°56'13	8♂53	10° 8	22°33	26° 9	15°50	4° 1	10°13	22°41	15°44	19°12	19°30	16°21	26° 7	S 3
S 4	6 52 26	12°57'22	23°50	8°48	23°48	26°56	16° 2	4° 7	10°11	22°42	15°45	19°D12	19°27	16°28	26° 5	S 4
M 5	6 56 23	13°58'32	8♂51	7°31	25° 4	27°43	16°15	4°13	10° 9	22°43	15°47	19°13	19°24	16°35	26° 3	M 5
T 6	7 0 19	14°59'42	23°47	6°21	26°19	28°30	16°28	4°19	10° 7	22°43	15°48	19°13	19°21	16°41	26° 1	T 6
W 7	7 4 16	16° 0'52	8♂31	5°19	27°34	29°16	16°40	4°25	10° 5	22°44	15°50	19°13	19°17	16°48	25°59	W 7
T 8	7 8 12	17° 2'01	22°58	4°27	28°49	0♂ 3	16°53	4°31	10° 3	22°44	15°52	19°14	19°14	16°55	25°57	T 8
F 9	7 12 9	18° 3'10	7♂ 4	3°44	0♂ 4	0°50	17° 5	4°37	10° 1	22°45	15°53	19°14	19°11	17° 1	25°56	F 9
S 10	7 16 5	19° 4'19	20°48	3°11	1°20	1°37	17°18	4°43	9°59	22°45	15°55	19°14	19° 8	17° 8	25°54	S 10
S 11	7 20 2	20° 5'27	4♂11	2°49	2°35	2°24	17°30	4°48	9°57	22°46	15°57	19°14	19° 5	17°15	25°52	S 11
M12	7 23 59	21° 6'35	17°14	2°36	3°50	3°11	17°42	4°54	9°56	22°46	15°58	19°14	19° 1	17°21	25°51	M12
T 13	7 27 55	22° 7'43	29°59	2°D33	5° 5	3°58	17°55	5° 0	9°54	22°47	16° 0	19°14	18°58	17°28	25°49	T 13
W14	7 31 52	23° 8'50	12♂30	2°39	6°21	4°45	18° 7	5° 5	9°52	22°47	16° 2	19°15	18°55	17°35	25°48	W14
T 15	7 35 48	24° 9'57	24°49	2°52	7°36	5°32	18°19	5°11	9°51	22°47	16° 3	19°15	18°52	17°41	25°47	T 15
F 16	7 39 45	25°11'04	6♂58	3°13	8°51	6°19	18°31	5°16	9°49	22°48	16° 5	19°15	18°49	17°48	25°46	F 16
S 17	7 43 41	26°12'10	18°58	3°41	10° 6	7° 6	18°43	5°22	9°48	22°48	16° 7	19°R16	18°46	17°55	25°44	S 17
S 18	7 47 38	27°13'16	0♂53	4°15	11°22	7°53	18°55	5°27	9°46	22°48	16° 9	19°15	18°42	18° 1	25°43	S 18
M19	7 51 34	28°14'22	12°44	4°54	12°37	8°40	19° 7	5°32	9°45	22°48	16°10	19°15	18°39	18° 8	25°42	M19
T 20	7 55 31	29°15'27	24°33	5°39	13°52	9°27	19°19	5°37	9°43	22°49	16°12	19°14	18°36	18°15	25°41	T 20
W21	7 59 28	0♂16'32	6♂22	6°27	15° 7	10°14	19°31	5°42	9°42	22°49	16°14	19°12	18°33	18°21	25°40	W21
T 22	8 3 24	1°17'36	18°14	7°20	16°23	11° 1	19°42	5°47	9°41	22°49	16°16	19°10	18°30	18°28	25°39	T 22
F 23	8 7 21	2°18'40	0♂13	8°16	17°38	11°48	19°54	5°52	9°39	22°49	16°18	19° 8	18°27	18°35	25°39	F 23
S 24	8 11 17	3°19'44	12°20	9°16	18°53	12°36	20° 5	5°57	9°38	22°R49	16°19	19° 7	18°23	18°41	25°38	S 24
S 25	8 15 14	4°20'47	24°42	10°19	20° 8	13°23	20°17	6° 2	9°37	22°49	16°21	19° 6	18°20	18°48	25°37	S 25
M26	8 19 10	5°21'50	7♂21	11°24	21°24	14°10	20°28	6° 7	9°36	22°49	16°23	19°D 6	18°17	18°55	25°37	M26
T 27	8 23 7	6°22'53	20°21	12°31	22°39	14°57	20°40	6°12	9°35	22°49	16°25	19° 6	18°14	19° 1	25°36	T 27
W28	8 27 3	7°23'56	3♂47	13°41	23°54	15°45	20°51	6°16	9°34	22°49	16°27	19° 7	18°11	19° 8	25°36	W28
T 29	8 31 0	8°24'58	17°39	14°52	25° 9	16°32	21° 2	6°21	9°33	22°49	16°28	19° 9	18° 7	19°15	25°35	T 29
F 30	8 34 57	9°26'00	1♂58	16° 6	26°25	17°19	21°13	6°25	9°32	22°48	16°30	19°10	18° 4	19°21	25°35	F 30
S 31	8 38 53	10°27'01	16♂42	17♂21	27♂40	18° 7	21♂24	6♂30	9♂31	22♂48	16°32	19°R10	18° 1	19♂28	25♂35	S 31

Delta T = 263.88 sec

FEBRUARY 2280

00:00 UT

Day	Sid.t	☉	☾	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	8 42 50	11°28'01	1♂45	18♂37	28♂55	18°54	21♂35	6♂34	9°R30	22°R48	16°34	19°R10	17♂58	19♂35	25°R34	S 1
M 2	8 46 46	12°29'00	16°59	19°55	0♂11	19°41	21°46	6°38	9♂29	22°48	16°36	19♂ 8	17°55	19°41	25♂34	M 2
T 3	8 50 43	13°29'59	2♂13	21°15	1°26	20°29	21°56	6°42	9°29	22°47	16°38	19° 6	17°52	19°48	25°D34	T 3
W 4	8 54 39	14°30'56	17°19	22°35	2°41	21°16	22° 7	6°46	9°28	22°47	16°40	19° 2	17°48	19°55	25°34	W 4
T 5	8 58 36	15°31'53	2♂ 6	23°57	3°56	22° 3	22°18	6°50	9°27	22°47	16°41	18°58	17°45	20° 1	25°34	T 5
F 6	9 2 32	16°32'47	16°28	25°20	5°12	22°51	22°28	6°54	9°27	22°46	16°43	18°55	17°42	20° 8	25°34	F 6
S 7	9 6 29	17°33'41	0♂23	26°44	6°27	23°38	22°38	6°58	9°26	22°46	16°45	18°53	17°39	20°15	25°35	S 7
S 8	9 10 26	18°34'34	13°50	28° 8	7°42	24°26	22°48	7° 2	9°26	22°45	16°47	18°D51	17°36	20°21	25°35	S 8
M 9	9 14 22	19°35'25	26°52	29°34	8°57	25°13	22°59	7° 5	9°25	22°45	16°49	18°51	17°33	20°28	25°35	M 9
T 10	9 18 19	20°36'14	9♂32	1♂ 1	10°12	26° 1	23° 9	7° 9	9°25	22°44	16°51	18°53	17°29	20°35	25°36	T 10
W11	9 22 15	21°37'02	21°53	2°29	11°28	26°48	23°19	7°12	9°25	22°44	16°52	18°54	17°26	20°41	25°36	W11
T 12	9 26 12	22°37'49	4♂ 1	3°57	12°43	27°35	23°28	7°16	9°24	22°43	16°54	18°56	17°23	20°48	25°37	T 12
F 13	9 30 8	23°38'35	15°59	5°27	13°58	28°23	23°38	7°19	9°24	22°42	16°56	18°R57	17°20	20°55	25°37	F 13
S 14	9 34 5	24°39'19	27°51	6°57	15°13	29°10	23°48	7°22	9°24	22°42	16°58	18°57	17°17	21° 1	25°38	S 14
S 15	9 38 1	25°40'01	9♂40	8°28	16°28	29°58	23°57	7°25	9°24	22°41	17° 0	18°55	17°13	21° 8	25°39	S 15
M16	9 41 58	26°40'43	21°29	10° 0	17°44	0♂45	24° 7	7°29	9°24	22°40	17° 2	18°50	17°10	21°15	25°40	M16
T 17	9 45 55	27°41'22	3♂19	11°33	18°59	1°33	24°16	7°31	9°D24	22°40	17° 3	18°45	17° 7	21°21	25°40	T 17
W18	9 49 51	28°42'01	15°13	13° 6	20°14	2°20	24°25	7°34	9°24	22°39	17° 5	18°37	17° 4	21°28	25°41	W18
T 19	9 53 48	29°42'38	27°11	14°41	21°29	3° 8	24°34	7°37	9°24	22°38	17° 7	18°29	17° 1	21°35	25°42	T 19
F 20	9 57 44	0♂43'14	9♂16	16°16	22°44	3°55	24°43	7°40	9°24	22°37	17° 9	18°21	16°58	21°41	25°44	F 20
S 21	10 1 41	1°43'48	21°30	17°52	23°59	4°42	24°52	7°42	9°24	22°36	17°11	18°14	16°54	21°48	25°45	S 21
S 22	10 5 37	2°44'21	3♂56	19°30	25°14	5°30	25° 0	7°45	9°24	22°35	17°12	18° 8	16°51	21°55	25°46	S 22
M23	10 9 34	3°44'54	16°35	21° 8	26°30	6°17	25° 9	7°47	9°25	22°34	17°14	18° 5	16°48	22° 1	25°47	M23
T 24	10 13 30	4°45'24	29°31	22°46	27°45	7° 5	25°17	7°49	9°25	22°33	17°16	18°D 3	16°45	22° 8	25°48	T 24
W25	10 17 27	5°45'54	12♂47	24°26	29° 0	7°52	25°26	7°52	9°26	22°32	17°18	18° 3	16°42	22°15	25°50	W25
T 26	10 21 24	6°46'23	26°27	26° 7	0♂15	8°40	25°34	7°54	9°26	22°31	17°19	18° 4	16°38	22°21	25°51	T 26
F 27	10 25 20	7°46'50	10♂31	27°49	1°30	9°27	25°42	7°56	9°27	22°30	17°21	18° 5	16°35	22°28	25°53	F 27
S 28	10 29 17	8°47'16	25° 0	29°31	2°45	10°14	25°50	7°57	9°27	22°29	17°23	18°R 5	16°32	22°35	25°55	S 28
S 29	10 33 13	9♂47'40	9♂51	1♂15	4♂ 0	11♂ 2	25♂57	7♂59	9♂28	22♂28	17°25	18♂ 3	16♂29	22♂41	25♂56	S 29

Delta T = 264.01 sec

ASTRODIENST EPHEMERIS for the year 2280  
geocentric

MARCH 2280

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	10 37 10	10 <sup>h</sup> 48'03"	24 <sup>h</sup> 58'58"	3 <sup>h</sup> 00'	5 <sup>h</sup> 15'	11 <sup>h</sup> 49'	26 <sup>h</sup> 57'	8 <sup>h</sup> 11'	9 <sup>h</sup> 29'	22 <sup>h</sup> 27'	17 <sup>h</sup> 26'	17 <sup>h</sup> 59'	16 <sup>h</sup> 26'	22 <sup>h</sup> 04'	25 <sup>h</sup> 58'	M 1
T 2	10 41 6	11 <sup>h</sup> 48'24"	10 <sup>h</sup> 12'	4 <sup>h</sup> 45'	6 <sup>h</sup> 30'	12 <sup>h</sup> 37'	26 <sup>h</sup> 13'	8 <sup>h</sup> 3'	9 <sup>h</sup> 29'	22 <sup>h</sup> 26'	17 <sup>h</sup> 28'	17 <sup>h</sup> 52'	16 <sup>h</sup> 23'	22 <sup>h</sup> 55'	26 <sup>h</sup> 0'	T 2
W 3	10 45 3	12 <sup>h</sup> 48'44"	25 <sup>h</sup> 22'	6 <sup>h</sup> 32'	7 <sup>h</sup> 45'	13 <sup>h</sup> 24'	26 <sup>h</sup> 20'	8 <sup>h</sup> 4'	9 <sup>h</sup> 30'	22 <sup>h</sup> 25'	17 <sup>h</sup> 30'	17 <sup>h</sup> 44'	16 <sup>h</sup> 19'	23 <sup>h</sup> 1'	26 <sup>h</sup> 2'	W 3
T 4	10 48 59	13 <sup>h</sup> 49'01"	10 <sup>h</sup> 19'	8 <sup>h</sup> 19'	9 <sup>h</sup> 0'	14 <sup>h</sup> 11'	26 <sup>h</sup> 27'	8 <sup>h</sup> 5'	9 <sup>h</sup> 31'	22 <sup>h</sup> 24'	17 <sup>h</sup> 31'	17 <sup>h</sup> 35'	16 <sup>h</sup> 16'	23 <sup>h</sup> 8'	26 <sup>h</sup> 3'	T 4
F 5	10 52 56	14 <sup>h</sup> 49'17"	24 <sup>h</sup> 54'	10 <sup>h</sup> 8'	10 <sup>h</sup> 15'	14 <sup>h</sup> 59'	26 <sup>h</sup> 34'	8 <sup>h</sup> 7'	9 <sup>h</sup> 32'	22 <sup>h</sup> 22'	17 <sup>h</sup> 33'	17 <sup>h</sup> 26'	16 <sup>h</sup> 13'	23 <sup>h</sup> 15'	26 <sup>h</sup> 5'	F 5
S 6	10 56 53	15 <sup>h</sup> 49'31"	9 <sup>h</sup> 0'	11 <sup>h</sup> 57'	11 <sup>h</sup> 30'	15 <sup>h</sup> 46'	26 <sup>h</sup> 41'	8 <sup>h</sup> 8'	9 <sup>h</sup> 33'	22 <sup>h</sup> 21'	17 <sup>h</sup> 35'	17 <sup>h</sup> 19'	16 <sup>h</sup> 10'	23 <sup>h</sup> 21'	26 <sup>h</sup> 7'	S 6
S 7	11 0 49	16 <sup>h</sup> 49'43"	22 <sup>h</sup> 37'	13 <sup>h</sup> 48'	12 <sup>h</sup> 45'	16 <sup>h</sup> 33'	26 <sup>h</sup> 48'	8 <sup>h</sup> 9'	9 <sup>h</sup> 34'	22 <sup>h</sup> 20'	17 <sup>h</sup> 36'	17 <sup>h</sup> 14'	16 <sup>h</sup> 7'	23 <sup>h</sup> 28'	26 <sup>h</sup> 10'	S 7
M 8	11 4 46	17 <sup>h</sup> 49'53"	5 <sup>h</sup> 11'	15 <sup>h</sup> 40'	14 <sup>h</sup> 0'	17 <sup>h</sup> 21'	26 <sup>h</sup> 55'	8 <sup>h</sup> 10'	9 <sup>h</sup> 35'	22 <sup>h</sup> 19'	17 <sup>h</sup> 38'	17 <sup>h</sup> 11'	16 <sup>h</sup> 4'	23 <sup>h</sup> 35'	26 <sup>h</sup> 12'	M 8
T 9	11 8 42	18 <sup>h</sup> 50'01"	18 <sup>h</sup> 26'	17 <sup>h</sup> 32'	15 <sup>h</sup> 15'	18 <sup>h</sup> 8'	27 <sup>h</sup> 1'	8 <sup>h</sup> 11'	9 <sup>h</sup> 36'	22 <sup>h</sup> 17'	17 <sup>h</sup> 40'	17 <sup>h</sup> 01'	16 <sup>h</sup> 0'	23 <sup>h</sup> 41'	26 <sup>h</sup> 14'	T 9
W10	11 12 39	19 <sup>h</sup> 50'07"	0 <sup>h</sup> 54'	19 <sup>h</sup> 26'	16 <sup>h</sup> 30'	18 <sup>h</sup> 55'	27 <sup>h</sup> 7'	8 <sup>h</sup> 12'	9 <sup>h</sup> 37'	22 <sup>h</sup> 16'	17 <sup>h</sup> 41'	17 <sup>h</sup> 11'	15 <sup>h</sup> 57'	23 <sup>h</sup> 48'	26 <sup>h</sup> 16'	W10
T 11	11 16 35	20 <sup>h</sup> 50'10"	12 <sup>h</sup> 52'	21 <sup>h</sup> 20'	17 <sup>h</sup> 45'	19 <sup>h</sup> 43'	27 <sup>h</sup> 13'	8 <sup>h</sup> 12'	9 <sup>h</sup> 38'	22 <sup>h</sup> 15'	17 <sup>h</sup> 43'	17 <sup>h</sup> 01'	15 <sup>h</sup> 54'	23 <sup>h</sup> 55'	26 <sup>h</sup> 18'	T 11
F 12	11 20 32	21 <sup>h</sup> 50'12"	24 <sup>h</sup> 47'	23 <sup>h</sup> 16'	19 <sup>h</sup> 0'	20 <sup>h</sup> 30'	27 <sup>h</sup> 20'	8 <sup>h</sup> 13'	9 <sup>h</sup> 39'	22 <sup>h</sup> 13'	17 <sup>h</sup> 45'	17 <sup>h</sup> 12'	15 <sup>h</sup> 51'	24 <sup>h</sup> 1'	26 <sup>h</sup> 21'	F 12
S 13	11 24 28	22 <sup>h</sup> 50'11"	6 <sup>h</sup> 03'	25 <sup>h</sup> 12'	20 <sup>h</sup> 15'	21 <sup>h</sup> 17'	27 <sup>h</sup> 25'	8 <sup>h</sup> 13'	9 <sup>h</sup> 41'	22 <sup>h</sup> 12'	17 <sup>h</sup> 46'	17 <sup>h</sup> 9'	15 <sup>h</sup> 48'	24 <sup>h</sup> 8'	26 <sup>h</sup> 23'	S 13
S 14	11 28 25	23 <sup>h</sup> 50'09"	18 <sup>h</sup> 23'	27 <sup>h</sup> 9'	21 <sup>h</sup> 30'	22 <sup>h</sup> 4'	27 <sup>h</sup> 31'	8 <sup>h</sup> 14'	9 <sup>h</sup> 42'	22 <sup>h</sup> 11'	17 <sup>h</sup> 48'	17 <sup>h</sup> 5'	15 <sup>h</sup> 44'	24 <sup>h</sup> 15'	26 <sup>h</sup> 26'	S 14
M15	11 32 22	24 <sup>h</sup> 50'04"	0 <sup>h</sup> 12'	29 <sup>h</sup> 6'	22 <sup>h</sup> 45'	22 <sup>h</sup> 51'	27 <sup>h</sup> 37'	8 <sup>h</sup> 14'	9 <sup>h</sup> 44'	22 <sup>h</sup> 9'	17 <sup>h</sup> 49'	16 <sup>h</sup> 58'	15 <sup>h</sup> 41'	24 <sup>h</sup> 21'	26 <sup>h</sup> 28'	M15
T 16	11 36 18	25 <sup>h</sup> 49'57"	12 <sup>h</sup> 6'	1 <sup>h</sup> 14'	23 <sup>h</sup> 59'	23 <sup>h</sup> 39'	27 <sup>h</sup> 42'	8 <sup>h</sup> 14'	9 <sup>h</sup> 45'	22 <sup>h</sup> 8'	17 <sup>h</sup> 51'	16 <sup>h</sup> 48'	15 <sup>h</sup> 38'	24 <sup>h</sup> 28'	26 <sup>h</sup> 31'	T 16
W17	11 40 15	26 <sup>h</sup> 49'48"	24 <sup>h</sup> 7'	3 <sup>h</sup> 2'	25 <sup>h</sup> 14'	24 <sup>h</sup> 26'	27 <sup>h</sup> 47'	8 <sup>h</sup> 14'	9 <sup>h</sup> 46'	22 <sup>h</sup> 6'	17 <sup>h</sup> 52'	16 <sup>h</sup> 36'	15 <sup>h</sup> 35'	24 <sup>h</sup> 35'	26 <sup>h</sup> 33'	W17
T 18	11 44 11	27 <sup>h</sup> 49'38"	6 <sup>h</sup> 15'	5 <sup>h</sup> 0'	26 <sup>h</sup> 29'	25 <sup>h</sup> 13'	27 <sup>h</sup> 52'	8 <sup>h</sup> 14'	9 <sup>h</sup> 48'	22 <sup>h</sup> 5'	17 <sup>h</sup> 54'	16 <sup>h</sup> 23'	15 <sup>h</sup> 32'	24 <sup>h</sup> 42'	26 <sup>h</sup> 36'	T 18
F 19	11 48 8	28 <sup>h</sup> 49'25"	18 <sup>h</sup> 33'	6 <sup>h</sup> 59'	27 <sup>h</sup> 44'	26 <sup>h</sup> 0'	27 <sup>h</sup> 57'	8 <sup>h</sup> 14'	9 <sup>h</sup> 50'	22 <sup>h</sup> 3'	17 <sup>h</sup> 55'	16 <sup>h</sup> 9'	15 <sup>h</sup> 29'	24 <sup>h</sup> 48'	26 <sup>h</sup> 39'	F 19
S 20	11 52 4	29 <sup>h</sup> 49'10"	1 <sup>h</sup> 0'	8 <sup>h</sup> 57'	28 <sup>h</sup> 59'	26 <sup>h</sup> 47'	28 <sup>h</sup> 2'	8 <sup>h</sup> 14'	9 <sup>h</sup> 51'	22 <sup>h</sup> 2'	17 <sup>h</sup> 57'	15 <sup>h</sup> 57'	15 <sup>h</sup> 25'	24 <sup>h</sup> 55'	26 <sup>h</sup> 42'	S 20
S 21	11 56 1	0 <sup>h</sup> 48'54"	13 <sup>h</sup> 37'	10 <sup>h</sup> 54'	0 <sup>h</sup> 13'	27 <sup>h</sup> 34'	28 <sup>h</sup> 7'	8 <sup>h</sup> 13'	9 <sup>h</sup> 53'	22 <sup>h</sup> 1'	17 <sup>h</sup> 58'	15 <sup>h</sup> 47'	15 <sup>h</sup> 22'	25 <sup>h</sup> 2'	26 <sup>h</sup> 45'	S 21
M22	11 59 57	1 <sup>h</sup> 48'36"	26 <sup>h</sup> 25'	12 <sup>h</sup> 50'	1 <sup>h</sup> 28'	28 <sup>h</sup> 21'	28 <sup>h</sup> 11'	8 <sup>h</sup> 13'	9 <sup>h</sup> 55'	21 <sup>h</sup> 59'	18 <sup>h</sup> 0'	15 <sup>h</sup> 40'	15 <sup>h</sup> 19'	25 <sup>h</sup> 8'	26 <sup>h</sup> 47'	M22
T 23	12 3 54	2 <sup>h</sup> 48'16"	9 <sup>h</sup> 27'	14 <sup>h</sup> 45'	2 <sup>h</sup> 43'	29 <sup>h</sup> 8'	28 <sup>h</sup> 15'	8 <sup>h</sup> 12'	9 <sup>h</sup> 56'	21 <sup>h</sup> 57'	18 <sup>h</sup> 1'	15 <sup>h</sup> 36'	15 <sup>h</sup> 16'	25 <sup>h</sup> 15'	26 <sup>h</sup> 50'	T 23
W24	12 7 50	3 <sup>h</sup> 47'55"	22 <sup>h</sup> 44'	16 <sup>h</sup> 38'	3 <sup>h</sup> 58'	29 <sup>h</sup> 55'	28 <sup>h</sup> 19'	8 <sup>h</sup> 12'	9 <sup>h</sup> 58'	21 <sup>h</sup> 56'	18 <sup>h</sup> 2'	15 <sup>h</sup> 34'	15 <sup>h</sup> 13'	25 <sup>h</sup> 22'	26 <sup>h</sup> 53'	W24
T 25	12 11 47	4 <sup>h</sup> 47'32"	6 <sup>h</sup> 18'	18 <sup>h</sup> 29'	5 <sup>h</sup> 12'	0 <sup>h</sup> 42'	28 <sup>h</sup> 23'	8 <sup>h</sup> 11'	10 <sup>h</sup> 0'	21 <sup>h</sup> 54'	18 <sup>h</sup> 4'	15 <sup>h</sup> 03'	15 <sup>h</sup> 10'	25 <sup>h</sup> 28'	26 <sup>h</sup> 56'	T 25
F 26	12 15 44	5 <sup>h</sup> 47'07"	20 <sup>h</sup> 11'	20 <sup>h</sup> 18'	6 <sup>h</sup> 27'	1 <sup>h</sup> 29'	28 <sup>h</sup> 27'	8 <sup>h</sup> 10'	10 <sup>h</sup> 2'	21 <sup>h</sup> 53'	18 <sup>h</sup> 5'	15 <sup>h</sup> 03'	15 <sup>h</sup> 6'	25 <sup>h</sup> 35'	26 <sup>h</sup> 59'	F 26
S 27	12 19 40	6 <sup>h</sup> 46'41"	4 <sup>h</sup> 23'	22 <sup>h</sup> 4'	7 <sup>h</sup> 42'	2 <sup>h</sup> 16'	28 <sup>h</sup> 30'	8 <sup>h</sup> 9'	10 <sup>h</sup> 4'	21 <sup>h</sup> 51'	18 <sup>h</sup> 6'	15 <sup>h</sup> 32'	15 <sup>h</sup> 3'	25 <sup>h</sup> 42'	27 <sup>h</sup> 3'	S 27
S 28	12 23 37	7 <sup>h</sup> 46'13"	18 <sup>h</sup> 55'	23 <sup>h</sup> 46'	8 <sup>h</sup> 56'	3 <sup>h</sup> 3'	28 <sup>h</sup> 34'	8 <sup>h</sup> 8'	10 <sup>h</sup> 6'	21 <sup>h</sup> 50'	18 <sup>h</sup> 8'	15 <sup>h</sup> 29'	15 <sup>h</sup> 0'	25 <sup>h</sup> 48'	27 <sup>h</sup> 6'	S 28
M29	12 27 33	8 <sup>h</sup> 45'43"	3 <sup>h</sup> 41'	25 <sup>h</sup> 24'	10 <sup>h</sup> 11'	3 <sup>h</sup> 50'	28 <sup>h</sup> 37'	8 <sup>h</sup> 7'	10 <sup>h</sup> 8'	21 <sup>h</sup> 48'	18 <sup>h</sup> 9'	15 <sup>h</sup> 24'	14 <sup>h</sup> 57'	25 <sup>h</sup> 55'	27 <sup>h</sup> 9'	M29
T 30	12 31 30	9 <sup>h</sup> 45'11"	18 <sup>h</sup> 37'	26 <sup>h</sup> 58'	11 <sup>h</sup> 26'	4 <sup>h</sup> 36'	28 <sup>h</sup> 40'	8 <sup>h</sup> 6'	10 <sup>h</sup> 10'	21 <sup>h</sup> 46'	18 <sup>h</sup> 10'	15 <sup>h</sup> 15'	14 <sup>h</sup> 54'	26 <sup>h</sup> 2'	27 <sup>h</sup> 12'	T 30
W31	12 35 26	10 <sup>h</sup> 44'37"	3 <sup>h</sup> 34'	28 <sup>h</sup> 27'	12 <sup>h</sup> 40'	5 <sup>h</sup> 23'	28 <sup>h</sup> 43'	8 <sup>h</sup> 5'	10 <sup>h</sup> 12'	21 <sup>h</sup> 45'	18 <sup>h</sup> 12'	15 <sup>h</sup> 4'	14 <sup>h</sup> 50'	26 <sup>h</sup> 0'	27 <sup>h</sup> 16'	W31

Delta T = 264.14 sec

APRIL 2280

00:00 UT

Day	Sid.t	☉	☾	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	12 39 23	11°44'01"	18°23'	29°51'	13°55'	6°10'	28°45'	8°R 3	10°11'14	21°R43	18°13'	14°R52	14°47'	26°15'	27°19'	T 1
F 2	12 43 19	12°43'23"	2°54'	1°8' 9	15°10'	6°57'	28°48'	8°X 2	10°17'	21°142	18°14'	14°41'	14°44'	26°22'	27°22'	F 2
S 3	12 47 16	13°42'43"	17° 2	2°22'	16°24'	7°43'	28°50'	8° 0	10°19'	21°40'	18°15'	14°31'	14°41'	26°28'	27°26'	S 3
S 4	12 51 13	14°42'01"	0°11'42	3°29'	17°39'	8°30'	28°52'	7°58'	10°21'	21°38'	18°16'	14°23'	14°38'	26°35'	27°29'	S 4
M 5	12 55 9	15°41'17"	13°54'	4°29'	18°53'	9°17'	28°54'	7°56'	10°23'	21°37'	18°17'	14°18'	14°35'	26°42'	27°33'	M 5
T 6	12 59 6	16°40'30"	26°41'	5°23'	20° 8	10° 3	28°56'	7°55'	10°26'	21°35'	18°19'	14°16'	14°31'	26°48'	27°36'	T 6
W 7	13 3 2	17°39'41"	9°5' 5	6°11'	21°22'	10°50'	28°57'	7°53'	10°28'	21°33'	18°20'	14°15'	14°28'	26°55'	27°40'	W 7
T 8	13 6 59	18°38'50"	21°12'	6°51'	22°37'	11°36'	28°59'	7°51'	10°31'	21°32'	18°21'	14°15'	14°25'	27° 2	27°43'	T 8
F 9	13 10 55	19°37'57"	3°0' 8	7°24'	23°51'	12°23'	29° 0	7°48'	10°33'	21°30'	18°22'	14°15'	14°22'	27° 8	27°47'	F 9
S 10	13 14 52	20°37'01"	14°58'	7°51'	25° 5	13° 9	29° 1	7°46'	10°36'	21°29'	18°23'	14°13'	14°19'	27°15'	27°51'	S 10
S 11	13 18 48	21°36'03"	26°46'	8°11'	26°20'	13°55'	29° 2	7°44'	10°38'	21°27'	18°24'	14° 8	14°15'	27°22'	27°55'	S 11
M12	13 22 45	22°35'02"	8°13'38	8°23'	27°34'	14°42'	29° 2	7°41'	10°41'	21°25'	18°25'	14° 1	14°12'	27°28'	27°58'	M12
T 13	13 26 42	23°34'00"	20°37'	8°R29	28°49'	15°28'	29° 3	7°39'	10°43'	21°24'	18°26'	13°51'	14° 9	27°35'	28° 2	T 13
W14	13 30 38	24°32'55"	2°45'45	8°28'	0°3' 3	16°14'	29° 3	7°36'	10°46'	21°22'	18°27'	13°40'	14° 6	27°42'	28° 6	W14
T 15	13 34 35	25°31'48"	15° 5	8°21'	1°17'	17° 1	29°R 3	7°34'	10°49'	21°20'	18°28'	13°26'	14° 3	27°49'	28°10'	T 15
F 16	13 38 31	26°30'39"	27°37'	8° 8	2°31'	17°47'	29° 3	7°31'	10°51'	21°19'	18°29'	13°13'	14° 0	27°55'	28°14'	F 16
S 17	13 42 28	27°29'29"	10°11'21	7°48'	3°46'	18°33'	29° 2	7°28'	10°54'	21°17'	18°29'	13° 1	13°56'	28° 2	28°18'	S 17
S 18	13 46 24	28°28'16"	23°17'	7°24'	5° 0	19°19'	29° 2	7°25'	10°57'	21°15'	18°30'	12°51'	13°53'	28° 9	28°22'	S 18
M19	13 50 21	29°27'01"	6°12'55	6°55'	6°14'	20° 5	29° 1	7°22'	11° 0	21°14'	18°31'	12°44'	13°50'	28°15'	28°26'	M19
T 20	13 54 17	0°25'45	19°43'	6°22'	7°28'	20°51'	29° 0	7°19'	11° 3	21°12'	18°32'	12°39'	13°47'	28°22'	28°30'	T 20
W21	13 58 14	1°24'27"	3°3'12	5°46'	8°43'	21°37'	28°59'	7°16'	11° 6	21°11'	18°33'	12°37'	13°44'	28°29'	28°34'	W21
T 22	14 2 11	2°23'08"	16°52'	5° 6	9°57'	22°23'	28°58'	7°13'	11° 8	21° 9	18°33'	12°D37	13°41'	28°35'	28°38'	T 22
F 23	14 6 7	3°21'46"	0°44'55	4°25'	11°11'	23° 9	28°57'	7°10'	11°11'	21° 7	18°34'	12°R37	13°37'	28°42'	28°42'	F 23
S 24	14 10 4	4°20'23"	14°49'	3°43'	12°25'	23°55'	28°55'	7° 6	11°14'	21° 6	18°35'	12°37'	13°34'	28°49'	28°46'	S 24
S 25	14 14 0	5°18'59"	29° 6	3° 1	13°39'	24°41'	28°53'	7° 3	11°17'	21° 4	18°35'	12°35'	13°31'	28°55'	28°50'	S 25
M26	14 17 57	6°17'33	13°13'31	2°19'	14°53'	25°27'	28°51'	6°59'	11°20'	21° 3	18°36'	12°30'	13°28'	29° 2	28°54'	M26
T 27	14 21 53	7°16'05"	28° 3	1°38'	16° 7	26°12'	28°49'	6°56'	11°23'	21° 1	18°37'	12°23'	13°25'	29° 9	28°58'	T 27
W28	14 25 50	8°14'35"	12°Y34	0°59'	17°21'	26°58'	28°47'	6°52'	11°26'	20°59'	18°37'	12°14'	13°21'	29°15'	29° 2	W28
T 29	14 29 46	9°13'04"	26°59'	0°23'	18°35'	27°44'	28°44'	6°49'	11°30'	20°58'	18°38'	12° 4	13°18'	29°22'	29° 7	T 29
F 30	14 33 43	10°8'11'31	11°8'12	29°Y49	19°8'49	28°Y29	28°41'	6°45'	11°11'33	20°15'56	18°38'	11°45'54	13°45'15	29°12'29	29°8'11	F 30

ASTRODIENST EPHEMERIS for the year 2280  
geocentric

MAY 2280

00:00 UT

Day	Sid.t	☉	☾	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	14 37 40	11♌ 9°56	25♌ 6	29°R20	21♌ 3	29°V15	28°R38	6°R41	11♌36	20°R55	18°♌39	11°R46	13°♌12	29°♌35	29♌15	S 1
S 2	14 41 36	12° 8'20	8♌39	28°V54	22°17	0♌ 0	28°♌35	6°♌37	11°39	20°♌53	18°39	11°♌39	13° 9	29°42	29°19	S 2
M 3	14 45 33	13° 6'41	21°47	28°32	23°31	0°46	28°32	6°33	11°42	20°52	18°40	11°35	13° 6	29°49	29°24	M 3
T 4	14 49 29	14° 5'01	4♌33	28°15	24°45	1°31	28°29	6°30	11°45	20°50	18°40	11°33	13° 2	29°56	29°28	T 4
W 5	14 53 26	15° 3'18	16°59	28° 3	25°59	2°17	28°25	6°26	11°49	20°49	18°41	11°D33	12°59	0°♌ 2	29°32	W 5
T 6	14 57 22	16° 1'34	29° 9	27°55	27°13	3° 2	28°21	6°22	11°52	20°47	18°41	11°34	12°56	0° 9	29°37	T 6
F 7	15 1 19	16°59'47	11♌ 7	27°D53	28°27	3°47	28°17	6°17	11°55	20°46	18°41	11°35	12°53	0°16	29°41	F 7
S 8	15 5 15	17°57'58	22°58	27°55	29°41	4°32	28°13	6°13	11°58	20°44	18°42	11°R35	12°50	0°22	29°45	S 8
S 9	15 9 12	18°56'08	4♌49	28° 1	0♌55	5°18	28° 9	6° 9	12° 2	20°43	18°42	11°33	12°47	0°29	29°50	S 9
M10	15 13 9	19°54'15	16°43	28°13	2° 9	6° 3	28° 4	6° 5	12° 5	20°42	18°42	11°30	12°43	0°36	29°54	M10
T 11	15 17 5	20°52'21	28°46	28°29	3°22	6°48	28° 0	6° 1	12° 8	20°40	18°42	11°24	12°40	0°42	29°58	T 11
W12	15 21 2	21°50'25	11♌ 0	28°50	4°36	7°33	27°55	5°57	12°12	20°39	18°43	11°17	12°37	0°49	0♌ 3	W12
T 13	15 24 58	22°48'26	23°29	29°15	5°50	8°18	27°50	5°52	12°15	20°38	18°43	11° 9	12°34	0°56	0° 7	T 13
F 14	15 28 55	23°46'27	6♌14	29°44	7° 4	9° 3	27°45	5°48	12°18	20°36	18°43	11° 0	12°31	1° 2	0°12	F 14
S 15	15 32 51	24°44'25	19°16	0♌17	8°17	9°47	27°40	5°44	12°22	20°35	18°43	10°52	12°27	1° 9	0°16	S 15
S 16	15 36 48	25°42'22	2♌32	0°54	9°31	10°32	27°35	5°39	12°25	20°34	18°43	10°46	12°24	1°16	0°20	S 16
M17	15 40 44	26°40'18	16° 2	1°35	10°45	11°17	27°29	5°35	12°29	20°32	18°43	10°41	12°21	1°22	0°25	M17
T 18	15 44 41	27°38'12	29°44	2°20	11°58	12° 2	27°23	5°31	12°32	20°31	18°43	10°39	12°18	1°29	0°29	T 18
W19	15 48 38	28°36'05	13♌36	3° 8	13°12	12°46	27°18	5°26	12°35	20°30	18°R43	10°D39	12°15	1°36	0°34	W19
T 20	15 52 34	29°33'56	27°35	4° 0	14°25	13°31	27°12	5°22	12°39	20°29	18°43	10°39	12°12	1°43	0°38	T 20
F 21	15 56 31	0♌31'46	11♌40	4°55	15°39	14°16	27° 6	5°17	12°42	20°28	18°43	10°41	12° 8	1°49	0°42	F 21
S 22	16 0 27	1°29'36	25°49	5°53	16°53	15° 0	27° 0	5°13	12°46	20°26	18°43	10°R42	12° 5	1°56	0°47	S 22
S 23	16 4 24	2°27'24	10♌ 0	6°55	18° 6	15°45	26°54	5° 8	12°49	20°25	18°43	10°42	12° 2	2° 3	0°51	S 23
M24	16 8 20	3°25'10	24°12	7°59	19°20	16°29	26°47	5° 4	12°53	20°24	18°43	10°40	11°59	2° 9	0°56	M24
T 25	16 12 17	4°22'56	8°V23	9° 6	20°33	17°13	26°41	4°59	12°56	20°23	18°43	10°37	11°56	2°16	1° 0	T 25
W26	16 16 13	5°20'41	22°28	10°16	21°47	17°58	26°34	4°55	13° 0	20°22	18°43	10°32	11°53	2°23	1° 5	W26
T 27	16 20 10	6°18'25	6♌26	11°29	23° 0	18°42	26°27	4°51	13° 3	20°21	18°43	10°27	11°49	2°29	1° 9	T 27
F 28	16 24 7	7°16'07	20°12	12°45	24°14	19°26	26°21	4°46	13° 7	20°20	18°42	10°22	11°46	2°36	1°13	F 28
S 29	16 28 3	8°13'48	3♌43	14° 3	25°27	20°10	26°14	4°42	13°10	20°19	18°42	10°17	11°43	2°43	1°18	S 29
S 30	16 32 0	9°11'29	16°56	15°24	26°40	20°54	26° 7	4°37	13°14	20°18	18°42	10°14	11°40	2°49	1°22	S 30
M31	16 35 56	10♌ 9'08	29♌52	16♌48	27♌54	21♌38	26°♌ 0	4°♌33	13♌17	20°♌17	18°♌42	10°♌12	11°♌37	2°♌56	1°♌27	M31

Delta T = 264.40 sec

JUNE 2280

00:00 UT

Day	Sid.t	☉	☾	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	16 39 53	11♌ 6'45	12°♌30	18♌14	29♌ 7	22°♌22	25°R53	4°R28	13♌21	20°R16	18°R41	10°D12	11°♌33	3°♌ 3	1♌31	T 1
W 2	16 43 49	12° 4'22	24°52	19°42	0♌21	23° 6	25°♌46	4°♌24	13°24	20°♌15	18°♌41	10°♌13	11°30	3°10	1°36	W 2
T 3	16 47 46	13° 1'57	7♌ 1	21°13	1°34	23°50	25°38	4°19	13°28	20°14	18°40	10°14	11°27	3°16	1°40	T 3
F 4	16 51 42	13°59'31	18°59	22°47	2°47	24°34	25°31	4°15	13°31	20°14	18°40	10°16	11°24	3°23	1°44	F 4
S 5	16 55 39	14°57'03	0°♌52	24°23	4° 0	25°18	25°24	4°11	13°35	20°13	18°40	10°17	11°21	3°30	1°49	S 5
S 6	16 59 36	15°54'34	12°43	26° 2	5°14	26° 1	25°16	4° 6	13°39	20°12	18°39	10°R18	11°18	3°36	1°53	S 6
M 7	17 3 32	16°52'04	24°39	27°43	6°27	26°45	25° 9	4° 2	13°42	20°11	18°39	10°18	11°14	3°43	1°57	M 7
T 8	17 7 29	17°49'32	6♌42	29°26	7°40	27°29	25° 1	3°58	13°46	20°10	18°38	10°16	11°11	3°50	2° 2	T 8
W 9	17 11 25	18°46'59	18°59	1♌12	8°53	28°12	24°54	3°54	13°49	20°10	18°38	10°14	11° 8	3°56	2° 6	W 9
T 10	17 15 22	19°44'25	1♌32	3° 0	10° 6	28°56	24°46	3°49	13°53	20° 9	18°37	10°12	11° 5	4° 3	2°10	T 10
F 11	17 19 18	20°41'50	14°25	4°51	11°20	29°39	24°39	3°45	13°56	20° 9	18°37	10° 9	11° 2	4°10	2°15	F 11
S 12	17 23 15	21°39'14	27°37	6°44	12°33	0♌22	24°31	3°41	14° 0	20° 8	18°36	10° 6	10°59	4°16	2°19	S 12
S 13	17 27 11	22°36'38	11♌10	8°40	13°46	1° 6	24°23	3°37	14° 3	20° 7	18°35	10° 4	10°55	4°23	2°23	S 13
M14	17 31 8	23°34'00	25° 2	10°37	14°59	1°49	24°16	3°33	14° 7	20° 7	18°35	10° 3	10°52	4°30	2°27	M14
T 15	17 35 5	24°31'21	9♌ 9	12°37	16°12	2°32	24° 8	3°29	14°10	20° 6	18°34	10°D 2	10°49	4°37	2°32	T 15
W16	17 39 1	25°28'42	23°27	14°39	17°25	3°15	24° 0	3°25	14°14	20° 6	18°33	10° 3	10°46	4°43	2°36	W16
T 17	17 42 58	26°26'02	7°♌52	16°43	18°38	3°58	23°53	3°21	14°17	20° 5	18°33	10° 3	10°43	4°50	2°40	T 17
F 18	17 46 54	27°23'22	22°19	18°49	19°51	4°41	23°45	3°17	14°21	20° 5	18°32	10° 4	10°39	4°57	2°44	F 18
S 19	17 50 51	28°20'41	6♌43	20°56	21° 4	5°24	23°37	3°13	14°24	20° 5	18°31	10° 5	10°36	5° 3	2°48	S 19
S 20	17 54 47	29°18'00	21° 1	23° 4	22°17	6° 7	23°30	3° 9	14°27	20° 4	18°31	10° 6	10°33	5°10	2°52	S 20
M21	17 58 44	0♌15'18	5°V11	25°14	23°30	6°50	23°22	3° 6	14°31	20° 4	18°30	10°R 6	10°30	5°17	2°56	M21
T 22	18 2 40	1°12'36	19°10	27°25	24°42	7°33	23°15	3° 2	14°34	20° 4	18°29	10° 5	10°27	5°23	3° 0	T 22
W23	18 6 37	2° 9'54	2♌56	29°36	25°55	8°15	23° 7	2°58	14°38	20° 3	18°28	10° 5	10°24	5°30	3° 4	W23
T 24	18 10 34	3° 7'12	16°30	19°48	27° 8	8°58	23° 0	2°55	14°41	20° 3	18°27	10° 4	10°20	5°37	3° 9	T 24
F 25	18 14 30	4° 4'30	29°50	4° 0	28°21	9°41	22°52	2°51	14°44	20° 3	18°26	10° 3	10°17	5°44	3°13	F 25
S 26	18 18 27	5° 1'47	12♌56	6°11	29°34	10°23	22°45	2°48	14°48	20° 3	18°25	10° 3	10°14	5°50	3°16	S 26
S 27	18 22 23	5°59'04	25°47	8°22	0♌47	11° 6	22°38	2°44	14°51	20° 3	18°25	10° 2	10°11	5°57	3°20	S 27
M28	18 26 20	6°56'21	8°♌25	10°33	1°59	11°48	22°30	2°41	14°55	20° 2	18°24	10°D 2	10° 8	6° 4	3°24	M28
T 29	18 30 16	7°53'37	20°50	12°42	3°12	12°31	22°23	2°38	14°58	20° 2	18°23	10° 2	10° 5	6°10	3°28	T 29
W30	18 34 13	8°50'53	3♌ 4	14°51	4♌25	13♌13	22°♌16	2°♌35	15♌ 1	20°♌ 2	18°♌22	10°♌ 2	10°♌ 1	6°♌17	3°♌32	W30

Delta T = 264.53 sec

## ASTRODIENST EPHEMERIS for the year 2280

geocentric

JULY 2280

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	18 38 9	9 <sup>58</sup> 48'08	15 <sup>02</sup> 7	16 <sup>58</sup> 58	5 <sup>02</sup> 37	13 <sup>11</sup> 55	22 <sup>09</sup> 9	2 <sup>09</sup> 32	15 <sup>11</sup> 4	20 <sup>10</sup> 2	18 <sup>09</sup> 21	10 <sup>09</sup> 2	9 <sup>58</sup> 58	6 <sup>10</sup> 24	3 <sup>11</sup> 36	T 1
F 2	18 42 6	10 <sup>04</sup> 52'23	27 <sup>03</sup> 3	19 <sup>03</sup> 3	6 <sup>50</sup>	14 <sup>38</sup>	22 <sup>09</sup> 2	2 <sup>09</sup> 29	15 <sup>08</sup>	20 <sup>10</sup> 2	18 <sup>09</sup> 20	10 <sup>09</sup> 2	9 <sup>55</sup>	6 <sup>30</sup>	3 <sup>40</sup>	F 2
S 3	18 46 3	11 <sup>04</sup> 23'38	8 <sup>10</sup> 55	21 <sup>07</sup>	8 <sup>03</sup>	15 <sup>20</sup>	21 <sup>55</sup>	2 <sup>26</sup>	15 <sup>11</sup>	20 <sup>02</sup>	18 <sup>19</sup>	10 <sup>02</sup>	9 <sup>52</sup>	6 <sup>37</sup>	3 <sup>43</sup>	S 3
S 4	18 49 59	12 <sup>03</sup> 39'52	20 <sup>46</sup>	23 <sup>09</sup>	9 <sup>15</sup>	16 <sup>02</sup>	21 <sup>49</sup>	2 <sup>23</sup>	15 <sup>14</sup>	20 <sup>02</sup>	18 <sup>18</sup>	10 <sup>02</sup>	9 <sup>49</sup>	6 <sup>44</sup>	3 <sup>47</sup>	S 4
M 5	18 53 56	13 <sup>03</sup> 37'05	2 <sup>41</sup>	25 <sup>10</sup>	10 <sup>28</sup>	16 <sup>44</sup>	21 <sup>42</sup>	2 <sup>20</sup>	15 <sup>17</sup>	20 <sup>03</sup>	18 <sup>17</sup>	10 <sup>02</sup>	9 <sup>45</sup>	6 <sup>51</sup>	3 <sup>51</sup>	M 5
T 6	18 57 52	14 <sup>03</sup> 34'18	14 <sup>44</sup>	27 <sup>08</sup>	11 <sup>40</sup>	17 <sup>26</sup>	21 <sup>35</sup>	2 <sup>17</sup>	15 <sup>21</sup>	20 <sup>03</sup>	18 <sup>16</sup>	10 <sup>02</sup>	9 <sup>42</sup>	6 <sup>57</sup>	3 <sup>54</sup>	T 6
W 7	19 1 49	15 <sup>03</sup> 31'31	27 <sup>00</sup>	29 <sup>05</sup>	12 <sup>53</sup>	18 <sup>08</sup>	21 <sup>29</sup>	2 <sup>15</sup>	15 <sup>24</sup>	20 <sup>03</sup>	18 <sup>14</sup>	10 <sup>02</sup>	9 <sup>39</sup>	7 <sup>04</sup>	3 <sup>58</sup>	W 7
T 8	19 5 45	16 <sup>02</sup> 28'44	9 <sup>11</sup> 32	0 <sup>02</sup> 59	14 <sup>05</sup>	18 <sup>50</sup>	21 <sup>22</sup>	2 <sup>12</sup>	15 <sup>27</sup>	20 <sup>03</sup>	18 <sup>13</sup>	10 <sup>02</sup>	9 <sup>36</sup>	7 <sup>11</sup>	4 <sup>02</sup>	T 8
F 9	19 9 42	17 <sup>02</sup> 25'56	22 <sup>24</sup>	2 <sup>52</sup>	15 <sup>17</sup>	19 <sup>31</sup>	21 <sup>16</sup>	2 <sup>09</sup>	15 <sup>30</sup>	20 <sup>03</sup>	18 <sup>12</sup>	10 <sup>03</sup>	9 <sup>33</sup>	7 <sup>17</sup>	4 <sup>05</sup>	F 9
S 10	19 13 38	18 <sup>02</sup> 23'08	5 <sup>07</sup> 40	4 <sup>42</sup>	16 <sup>30</sup>	20 <sup>13</sup>	21 <sup>10</sup>	2 <sup>07</sup>	15 <sup>33</sup>	20 <sup>04</sup>	18 <sup>11</sup>	10 <sup>04</sup>	9 <sup>30</sup>	7 <sup>24</sup>	4 <sup>09</sup>	S 10
S 11	19 17 35	19 <sup>02</sup> 20'20	19 <sup>21</sup>	6 <sup>31</sup>	17 <sup>42</sup>	20 <sup>55</sup>	21 <sup>04</sup>	2 <sup>05</sup>	15 <sup>36</sup>	20 <sup>04</sup>	18 <sup>10</sup>	10 <sup>04</sup>	9 <sup>26</sup>	7 <sup>31</sup>	4 <sup>12</sup>	S 11
M 12	19 21 32	20 <sup>01</sup> 17'32	3 <sup>35</sup> 25	8 <sup>18</sup>	18 <sup>54</sup>	21 <sup>37</sup>	20 <sup>58</sup>	2 <sup>03</sup>	15 <sup>39</sup>	20 <sup>04</sup>	18 <sup>09</sup>	10 <sup>05</sup>	9 <sup>23</sup>	7 <sup>37</sup>	4 <sup>16</sup>	M 12
T 13	19 25 28	21 <sup>01</sup> 14'44	17 <sup>51</sup>	10 <sup>02</sup>	20 <sup>07</sup>	22 <sup>18</sup>	20 <sup>53</sup>	2 <sup>00</sup>	15 <sup>42</sup>	20 <sup>05</sup>	18 <sup>08</sup>	10 <sup>05</sup>	9 <sup>20</sup>	7 <sup>44</sup>	4 <sup>19</sup>	T 13
W 14	19 29 25	22 <sup>01</sup> 11'56	2 <sup>33</sup> 32	11 <sup>45</sup>	21 <sup>19</sup>	23 <sup>00</sup>	20 <sup>47</sup>	1 <sup>58</sup>	15 <sup>45</sup>	20 <sup>05</sup>	18 <sup>06</sup>	10 <sup>04</sup>	9 <sup>17</sup>	7 <sup>51</sup>	4 <sup>22</sup>	W 14
T 15	19 33 21	23 <sup>00</sup> 08	17 <sup>23</sup>	13 <sup>25</sup>	22 <sup>31</sup>	23 <sup>41</sup>	20 <sup>41</sup>	1 <sup>56</sup>	15 <sup>48</sup>	20 <sup>06</sup>	18 <sup>05</sup>	10 <sup>03</sup>	9 <sup>14</sup>	7 <sup>58</sup>	4 <sup>26</sup>	T 15
F 16	19 37 18	24 <sup>00</sup> 6'20	2 <sup>38</sup> 15	15 <sup>04</sup>	23 <sup>43</sup>	24 <sup>22</sup>	20 <sup>36</sup>	1 <sup>54</sup>	15 <sup>51</sup>	20 <sup>06</sup>	18 <sup>04</sup>	10 <sup>01</sup>	9 <sup>11</sup>	8 <sup>04</sup>	4 <sup>29</sup>	F 16
S 17	19 41 14	25 <sup>00</sup> 3'33	17 <sup>01</sup>	16 <sup>40</sup>	24 <sup>55</sup>	25 <sup>04</sup>	20 <sup>31</sup>	1 <sup>53</sup>	15 <sup>54</sup>	20 <sup>07</sup>	18 <sup>03</sup>	10 <sup>00</sup>	9 <sup>07</sup>	8 <sup>11</sup>	4 <sup>32</sup>	S 17
S 18	19 45 11	26 <sup>00</sup> 0'46	1 <sup>07</sup> 35	18 <sup>14</sup>	26 <sup>07</sup>	25 <sup>45</sup>	20 <sup>26</sup>	1 <sup>51</sup>	15 <sup>57</sup>	20 <sup>07</sup>	18 <sup>02</sup>	9 <sup>58</sup>	9 <sup>04</sup>	8 <sup>18</sup>	4 <sup>35</sup>	S 18
M 19	19 49 8	26 <sup>58</sup> 0'00	15 <sup>52</sup>	19 <sup>47</sup>	27 <sup>19</sup>	26 <sup>26</sup>	20 <sup>21</sup>	1 <sup>49</sup>	16 <sup>00</sup>	20 <sup>08</sup>	18 <sup>00</sup>	9 <sup>57</sup>	9 <sup>01</sup>	8 <sup>24</sup>	4 <sup>39</sup>	M 19
T 20	19 53 4	27 <sup>55</sup> 1'5	29 <sup>50</sup>	21 <sup>17</sup>	28 <sup>32</sup>	27 <sup>08</sup>	20 <sup>16</sup>	1 <sup>48</sup>	16 <sup>03</sup>	20 <sup>08</sup>	17 <sup>59</sup>	9 <sup>57</sup>	8 <sup>58</sup>	8 <sup>31</sup>	4 <sup>42</sup>	T 20
W 21	19 57 1	28 <sup>52</sup> 3'30	13 <sup>38</sup> 28	22 <sup>45</sup>	29 <sup>43</sup>	27 <sup>49</sup>	20 <sup>12</sup>	1 <sup>46</sup>	16 <sup>06</sup>	20 <sup>09</sup>	17 <sup>58</sup>	9 <sup>57</sup>	8 <sup>55</sup>	8 <sup>38</sup>	4 <sup>45</sup>	W 21
T 22	20 0 57	29 <sup>49</sup> 4'45	26 <sup>46</sup>	24 <sup>12</sup>	0 <sup>10</sup> 55	28 <sup>30</sup>	20 <sup>07</sup>	1 <sup>45</sup>	16 <sup>08</sup>	20 <sup>10</sup>	17 <sup>57</sup>	9 <sup>58</sup>	8 <sup>51</sup>	8 <sup>45</sup>	4 <sup>48</sup>	T 22
F 23	20 4 54	0 <sup>02</sup> 47'02	9 <sup>11</sup> 47	25 <sup>36</sup>	2 <sup>07</sup>	29 <sup>11</sup>	20 <sup>03</sup>	1 <sup>44</sup>	16 <sup>11</sup>	20 <sup>10</sup>	17 <sup>55</sup>	10 <sup>00</sup>	8 <sup>48</sup>	8 <sup>51</sup>	4 <sup>51</sup>	F 23
S 24	20 8 50	1 <sup>44</sup> 1'9	22 <sup>33</sup>	26 <sup>58</sup>	3 <sup>19</sup>	29 <sup>52</sup>	19 <sup>59</sup>	1 <sup>42</sup>	16 <sup>14</sup>	20 <sup>11</sup>	17 <sup>54</sup>	10 <sup>01</sup>	8 <sup>45</sup>	8 <sup>58</sup>	4 <sup>54</sup>	S 24
S 25	20 12 47	2 <sup>41</sup> 3'7	5 <sup>58</sup>	28 <sup>17</sup>	4 <sup>31</sup>	0 <sup>03</sup> 33	19 <sup>55</sup>	1 <sup>41</sup>	16 <sup>17</sup>	20 <sup>12</sup>	17 <sup>53</sup>	10 <sup>02</sup>	8 <sup>42</sup>	9 <sup>05</sup>	4 <sup>57</sup>	S 25
M 26	20 16 43	3 <sup>38</sup> 5'55	17 <sup>25</sup>	29 <sup>35</sup>	5 <sup>43</sup>	1 <sup>13</sup>	19 <sup>51</sup>	1 <sup>40</sup>	16 <sup>19</sup>	20 <sup>12</sup>	17 <sup>51</sup>	10 <sup>02</sup>	8 <sup>39</sup>	9 <sup>11</sup>	4 <sup>59</sup>	M 26
T 27	20 20 40	4 <sup>36</sup> 1'4	29 <sup>37</sup>	0 <sup>10</sup> 50	6 <sup>55</sup>	1 <sup>54</sup>	19 <sup>47</sup>	1 <sup>39</sup>	16 <sup>22</sup>	20 <sup>13</sup>	17 <sup>50</sup>	10 <sup>01</sup>	8 <sup>36</sup>	9 <sup>18</sup>	5 <sup>02</sup>	T 27
W 28	20 24 37	5 <sup>33</sup> 3'34	11 <sup>02</sup> 40	2 <sup>03</sup>	8 <sup>06</sup>	2 <sup>35</sup>	19 <sup>44</sup>	1 <sup>39</sup>	16 <sup>24</sup>	20 <sup>14</sup>	17 <sup>49</sup>	9 <sup>58</sup>	8 <sup>32</sup>	9 <sup>25</sup>	5 <sup>05</sup>	W 28
T 29	20 28 33	6 <sup>30</sup> 5'4	23 <sup>37</sup>	3 <sup>13</sup>	9 <sup>18</sup>	3 <sup>15</sup>	19 <sup>41</sup>	1 <sup>38</sup>	16 <sup>27</sup>	20 <sup>15</sup>	17 <sup>47</sup>	9 <sup>54</sup>	8 <sup>29</sup>	9 <sup>31</sup>	5 <sup>08</sup>	T 29
F 30	20 32 30	7 <sup>28</sup> 1'5	7 <sup>02</sup> 30	4 <sup>22</sup>	10 <sup>30</sup>	3 <sup>56</sup>	19 <sup>38</sup>	1 <sup>37</sup>	16 <sup>30</sup>	20 <sup>16</sup>	17 <sup>46</sup>	9 <sup>50</sup>	8 <sup>26</sup>	9 <sup>38</sup>	5 <sup>10</sup>	F 30
S 31	20 36 26	8 <sup>02</sup> 25'36	17 <sup>10</sup> 21	5 <sup>10</sup> 27	11 <sup>10</sup> 41	4 <sup>53</sup> 37	19 <sup>35</sup>	1 <sup>37</sup>	16 <sup>32</sup>	20 <sup>17</sup>	17 <sup>45</sup>	9 <sup>50</sup>	8 <sup>23</sup>	9 <sup>45</sup>	5 <sup>11</sup> 13	S 31

Delta T = 264.66 sec

AUGUST 2280

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	20 40 23	9♂22'57	29♐12	6♐30	12♐53	5♏17	19♍R32	1♍R36	16♐34	20♏18	17♍R43	9♍R40	8♏20	9♐52	5♐15	S 1
M 2	20 44 19	10♂20'20	11♏7	7♂30	14♂4	5♂57	19♏29	1♏36	16♂37	20♍19	17♏42	9♏36	8♍16	9♂58	5♍18	M 2
T 3	20 48 16	11♍17'42	23♂8	8♂27	15♍16	6♂38	19♂27	1♂36	16♂39	20♂20	17♍41	9♂33	8♍13	10♂5	5♂20	T 3
W 4	20 52 12	12♍15'05	5♐12	9♂21	16♂27	7♍18	19♂25	1♂36	16♂42	20♂21	17♂39	9♂32	8♍10	10♍12	5♂23	W 4
T 5	20 56 9	13♍12'29	17♍50	10♍12	17♂38	7♂58	19♂23	1♍D36	16♂44	20♂22	17♂38	9♍D32	8♂7	10♍18	5♂25	T 5
F 6	21 0 6	14♂9'53	0♏38	11♂0	18♂50	8♂38	19♂21	1♂36	16♂46	20♂23	17♂37	9♂33	8♂4	10♂25	5♂27	F 6
S 7	21 4 2	15♂7'18	13♂50	11♂45	20♂1	9♂19	19♂19	1♂36	16♂48	20♂24	17♂35	9♂34	8♂1	10♂32	5♂29	S 7
S 8	21 7 59	16♂4'44	27♂28	12♂25	21♍12	9♂59	19♂18	1♂36	16♂51	20♂25	17♂34	9♂36	7♂57	10♂39	5♂31	S 8
M 9	21 11 55	17♂2'11	11♏34	13♂2	22♂23	10♂39	19♂16	1♂37	16♂53	20♂27	17♂32	9♍R36	7♂54	10♂45	5♂34	M 9
T 10	21 15 52	17♂59'38	26♂5	13♂35	23♂34	11♍19	19♍15	1♂37	16♂55	20♂28	17♂31	9♂35	7♂51	10♂52	5♂36	T 10
W 11	21 19 48	18♂57'06	10♏59	14♂4	24♂45	11♍58	19♍14	1♂38	16♂57	20♂29	17♂30	9♂32	7♂48	10♂59	5♂38	W 11
T 12	21 23 45	19♂54'34	26♂7	14♂29	25♂56	12♂38	19♍14	1♂38	16♂59	20♂30	17♂28	9♂28	7♂45	11♂5	5♂39	T 12
F 13	21 27 41	20♂52'04	11♏20	14♂49	27♂7	13♍18	19♍13	1♂39	17♂1	20♂32	17♂27	9♂22	7♂42	11♍12	5♂41	F 13
S 14	21 31 38	21♂49'35	26♂27	15♂4	28♍18	13♂58	19♍13	1♂40	17♂3	20♂33	17♂26	9♂16	7♂38	11♍19	5♂43	S 14
S 15	21 35 35	22♂47'08	11♍19	15♍14	29♂29	14♂37	19♍12	1♂41	17♂5	20♂34	17♂24	9♂10	7♂35	11♂25	5♂45	S 15
M 16	21 39 31	23♂44'41	25♂50	15♍R19	0♏39	15♍17	19♍D12	1♂42	17♂7	20♂36	17♂23	9♂6	7♂32	11♂32	5♂47	M 16
T 17	21 43 28	24♂42'16	9♏54	15♍19	1♂50	15♂56	19♍13	1♂43	17♂8	20♂37	17♂22	9♂3	7♂29	11♂39	5♂48	T 17
W 18	21 47 24	25♂39'53	23♂33	15♍13	3♂1	16♂36	19♍13	1♂44	17♂10	20♂39	17♂20	9♍D2	7♂26	11♂46	5♂50	W 18
T 19	21 51 21	26♂37'31	6♐46	15♂2	4♍11	17♂15	19♍13	1♂46	17♂12	20♂40	17♂19	9♂2	7♂22	11♂52	5♂51	T 19
F 20	21 55 17	27♂35'11	19♂38	14♂46	5♂22	17♂54	19♍14	1♂47	17♂14	20♂41	17♂18	9♂3	7♂19	11♂59	5♂53	F 20
S 21	21 59 14	28♂32'52	2♏11	14♂23	6♂32	18♂34	19♍15	1♂49	17♂15	20♂43	17♂16	9♂5	7♂16	12♂6	5♂54	S 21
S 22	22 3 10	29♂30'34	14♂30	13♂56	7♂42	19♍13	19♍16	1♂50	17♂17	20♂44	17♂15	9♍R5	7♂13	12♍12	5♂55	S 22
M 23	22 7 7	0♐28'19	26♂38	13♂23	8♂53	19♂52	19♍17	1♂52	17♂18	20♂46	17♂14	9♂3	7♂10	12♍19	5♂57	M 23
T 24	22 11 4	1♂26'04	8♏38	12♂45	10♂3	20♂31	19♍19	1♂54	17♂20	20♂48	17♂12	8♂59	7♂7	12♂26	5♂58	T 24
W 25	22 15 0	2♂23'51	20♂34	12♂2	11♍13	21♍10	19♍21	1♂56	17♂21	20♂49	17♂11	8♂53	7♂3	12♂33	5♂59	W 25
T 26	22 18 57	3♂21'40	2♐26	11♍16	12♂23	21♂49	19♍22	1♂58	17♂23	20♂51	17♂10	8♂44	7♂0	12♂39	6♂0	T 26
F 27	22 22 53	4♂19'29	14♂17	10♂26	13♂33	22♂28	19♍24	2♂0	17♂24	20♂53	17♂8	8♂34	6♂57	12♂46	6♂1	F 27
S 28	22 26 50	5♂17'21	26♂8	9♂34	14♂43	23♂7	19♍27	2♂2	17♂25	20♂54	17♂7	8♂23	6♂54	12♂53	6♂2	S 28
S 29	22 30 46	6♍15'13	8♏2	8♂40	15♂53	23♂46	19♍29	2♂4	17♂27	20♂56	17♂6	8♂12	6♂51	12♂59	6♂3	S 29
M 30	22 34 43	7♍13'07	19♍59	7♂46	17♂3	24♂24	19♍32	2♂7	17♂28	20♂58	17♂5	8♂3	6♂48	13♂6	6♂4	M 30
T 31	22 38 39	8♐11'02	2♐3	6♐52	18♏13	25♏3	19♏34	2♏9	17♐29	20♏59	17♏3	7♏55	6♏44	13♐13	6♐5	T 31

ASTRODIENST EPHEMERIS for the year 2280  
geocentric

SEPTEMBER 2280

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	22 42 36	9♉ 8'58	14♌16	6°R 0	19♌22	25♌41	19♌37	2♌12	17♌30	21♌1	17°R 2	7°R50	6♌41	13♉20	6♌5	W 1
T 2	22 46 32	10° 6'56	26°43	5♉11	20°32	26°20	19°40	2°14	17°31	21° 3	17° 1	7♌47	6°38	13°26	6° 6	T 2
F 3	22 50 29	11° 4'55	9♌27	4°26	21°41	26°58	19°44	2°17	17°32	21° 5	17° 0	7°D46	6°35	13°33	6° 6	F 3
S 4	22 54 26	12° 2'56	22°32	3°46	22°51	27°37	19°47	2°20	17°33	21° 6	16°58	7°46	6°32	13°40	6° 7	S 4
S 5	22 58 22	13° 0'58	6♌2	3°12	24° 0	28°15	19°51	2°23	17°34	21° 8	16°57	7°R47	6°28	13°46	6° 7	S 5
M 6	23 2 19	13°59'01	20° 0	2°44	25° 9	28°53	19°54	2°26	17°35	21°10	16°56	7°46	6°25	13°53	6° 8	M 6
T 7	23 6 15	14°57'05	4♌25	2°24	26°18	29°32	19°58	2°29	17°36	21°12	16°55	7°44	6°22	14° 0	6° 8	T 7
W 8	23 10 12	15°55'11	19°16	2°12	27°27	0♌10	20° 3	2°32	17°37	21°14	16°54	7°39	6°19	14° 7	6° 8	W 8
T 9	23 14 8	16°53'19	4♌26	2°D 9	28°36	0°48	20° 7	2°35	17°37	21°16	16°53	7°31	6°16	14°13	6° 8	T 9
F 10	23 18 5	17°51'28	19°46	2°14	29°45	1°26	20°11	2°38	17°38	21°18	16°51	7°22	6°13	14°20	6° 8	F 10
S 11	23 22 1	18°49'38	5♌3	2°28	0♌54	2° 4	20°16	2°42	17°39	21°20	16°50	7°12	6° 9	14°27	6°R 8	S 11
S 12	23 25 58	19°47'51	20° 8	2°50	2° 2	2°41	20°21	2°45	17°39	21°22	16°49	7° 2	6° 6	14°33	6° 8	S 12
M13	23 29 55	20°46'05	4♌51	3°22	3°11	3°19	20°26	2°49	17°40	21°24	16°48	6°54	6° 3	14°40	6° 8	M13
T 14	23 33 51	21°44'22	19° 6	4° 1	4°19	3°57	20°31	2°52	17°40	21°26	16°47	6°48	6° 0	14°47	6° 8	T 14
W15	23 37 48	22°42'40	2♌51	4°50	5°28	4°34	20°36	2°56	17°41	21°28	16°46	6°45	5°57	14°53	6° 8	W15
T 16	23 41 44	23°41'01	16° 8	5°45	6°36	5°12	20°42	3° 0	17°41	21°30	16°45	6°43	5°54	15° 0	6° 8	T 16
F 17	23 45 41	24°39'24	28°59	6°48	7°44	5°50	20°47	3° 4	17°41	21°32	16°44	6°D43	5°50	15° 7	6° 7	F 17
S 18	23 49 37	25°37'49	11♌28	7°58	8°52	6°27	20°53	3° 8	17°42	21°34	16°43	6°R43	5°47	15°14	6° 7	S 18
S 19	23 53 34	26°36'16	23°42	9°15	10° 0	7° 4	20°59	3°12	17°42	21°36	16°42	6°42	5°44	15°20	6° 6	S 19
M20	23 57 30	27°34'45	5♌43	10°36	11° 8	7°42	21° 5	3°16	17°42	21°38	16°41	6°39	5°41	15°27	6° 6	M20
T 21	0 1 27	28°33'16	17°38	12° 3	12°15	8°19	21°11	3°20	17°42	21°40	16°40	6°33	5°38	15°34	6° 5	T 21
W22	0 5 24	29°31'49	29°29	13°35	13°23	8°56	21°17	3°25	17°42	21°42	16°39	6°25	5°34	15°40	6° 4	W22
T 23	0 9 20	0♌30'24	11♉20	15°10	14°30	9°33	21°24	3°29	17°R42	21°44	16°38	6°13	5°31	15°47	6° 4	T 23
F 24	0 13 17	1°29'01	23°12	16°49	15°38	10°10	21°31	3°33	17°42	21°46	16°37	6° 0	5°28	15°54	6° 3	F 24
S 25	0 17 13	2°27'40	5♌6	18°30	16°45	10°47	21°37	3°38	17°42	21°48	16°36	5°46	5°25	16° 1	6° 2	S 25
S 26	0 21 10	3°26'21	17° 6	20°14	17°52	11°24	21°44	3°42	17°42	21°50	16°36	5°31	5°22	16° 7	6° 1	S 26
M27	0 25 6	4°25'04	29°10	22° 0	18°59	12° 1	21°52	3°47	17°42	21°53	16°35	5°19	5°19	16°14	6° 0	M27
T 28	0 29 3	5°23'49	11♌22	23°47	20° 5	12°37	21°59	3°52	17°41	21°55	16°34	5° 8	5°15	16°21	5°59	T 28
W29	0 32 59	6°22'35	23°42	25°35	21°12	13°14	22° 6	3°57	17°41	21°57	16°33	5° 0	5°12	16°27	5°58	W29
T 30	0 36 56	7♌21'24	6♌13	27♉23	22♌18	13♌51	22♌14	4♌1	17♌41	21♌59	16♌32	4♌55	5♌9	16♉34	5♌56	T 30

Delta T = 264.93 sec

OCTOBER 2280

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	0 40 52	8♌20'14	18♌59	29♉13	23♌25	14♌27	22♌21	4♌6	17°R40	22♌1	16°R32	4°R53	5♌6	16♉41	5°R55	F 1
S 2	0 44 49	9°19'06	2♌2	1♌2	24°31	15° 4	22°29	4°11	17♌40	22° 3	16° 31	4♌53	5° 3	16°48	5♌54	S 2
S 3	0 48 46	10°17'59	15°26	2°51	25°37	15°40	22°37	4°16	17°39	22° 6	16°30	4°53	4°59	16°54	5°52	S 3
M 4	0 52 42	11°16'55	29°13	4°41	26°42	16°16	22°45	4°22	17°39	22° 8	16°30	4°52	4°56	17° 1	5°51	M 4
T 5	0 56 39	12°15'52	13♌25	6°30	27°48	16°52	22°53	4°27	17°38	22°10	16°29	4°49	4°53	17° 8	5°49	T 5
W 6	1 0 35	13°14'50	28° 2	8°18	28°53	17°28	23° 2	4°32	17°37	22°12	16°28	4°44	4°50	17°14	5°48	W 6
T 7	1 4 32	14°13'51	12♌58	10° 6	29°59	18° 4	23°10	4°37	17°37	22°14	16°28	4°36	4°47	17°21	5°46	T 7
F 8	1 8 28	15°12'53	28° 7	11°54	1♌4	18°40	23°19	4°43	17°36	22°17	16°27	4°26	4°44	17°28	5°44	F 8
S 9	1 12 25	16°11'57	13♌18	13°41	2° 8	19°16	23°27	4°48	17°35	22°19	16°27	4°15	4°40	17°35	5°43	S 9
S 10	1 16 21	17°11'03	28°22	15°27	3°13	19°52	23°36	4°54	17°34	22°21	16°26	4° 4	4°37	17°41	5°41	S 10
M11	1 20 18	18°10'11	13♌7	17°12	4°17	20°27	23°45	4°59	17°33	22°23	16°26	3°55	4°34	17°48	5°39	M11
T 12	1 24 15	19° 9'22	27°27	18°57	5°21	21° 3	23°54	5° 5	17°32	22°26	16°25	3°48	4°31	17°55	5°37	T 12
W13	1 28 11	20° 8'35	11♌19	20°41	6°25	21°38	24° 4	5°10	17°31	22°28	16°25	3°44	4°28	18° 2	5°35	W13
T 14	1 32 8	21° 7'50	24°41	22°24	7°29	22°14	24°13	5°16	17°30	22°30	16°24	3°42	4°25	18° 8	5°33	T 14
F 15	1 36 4	22° 7'07	7♌37	24° 7	8°32	22°49	24°22	5°22	17°29	22°32	16°24	3°D42	4°21	18°15	5°31	F 15
S 16	1 40 1	23° 6'27	20° 9	25°48	9°36	23°24	24°32	5°28	17°28	22°34	16°23	3°R42	4°18	18°22	5°29	S 16
S 17	1 43 57	24° 5'49	2♌23	27°29	10°38	24° 0	24°41	5°34	17°27	22°37	16°23	3°42	4°15	18°28	5°27	S 17
M18	1 47 54	25° 5'13	14°25	29°10	11°41	24°35	24°51	5°39	17°26	22°39	16°23	3°40	4°12	18°35	5°24	M18
T 19	1 51 50	26° 4'39	26°18	0♌49	12°43	25°10	25° 1	5°45	17°24	22°41	16°22	3°36	4° 9	18°42	5°22	T 19
W20	1 55 47	27° 4'08	8♉9	2°28	13°46	25°44	25°11	5°51	17°23	22°43	16°22	3°29	4° 5	18°49	5°20	W20
T 21	1 59 44	28° 3'39	20° 0	4° 6	14°47	26°19	25°21	5°58	17°22	22°46	16°22	3°20	4° 2	18°55	5°17	T 21
F 22	2 3 40	29° 3'12	1♌54	5°44	15°49	26°54	25°31	6° 4	17°20	22°48	16°22	3° 9	3°59	19° 2	5°15	F 22
S 23	2 7 37	0♌2'47	13°55	7°21	16°50	27°28	25°42	6°10	17°19	22°50	16°21	2°56	3°56	19° 9	5°12	S 23
S 24	2 11 33	1° 2'24	26° 3	8°57	17°51	28° 3	25°52	6°16	17°17	22°52	16°21	2°44	3°53	19°15	5°10	S 24
M25	2 15 30	2° 2'03	8♌19	10°33	18°52	28°37	26° 2	6°22	17°16	22°55	16°21	2°33	3°50	19°22	5° 7	M25
T 26	2 19 26	3° 1'45	20°44	12° 8	19°52	29°11	26°13	6°29	17°14	22°57	16°21	2°24	3°46	19°29	5° 4	T 26
W27	2 23 23	4° 1'28	3♌19	13°42	20°52	29°46	26°24	6°35	17°13	22°59	16°21	2°18	3°43	19°36	5° 2	W27
T 28	2 27 19	5° 1'13	16° 4	15°16	21°51	0♉20	26°34	6°41	17°11	23° 1	16°21	2°14	3°40	19°42	4°59	T 28
F 29	2 31 16	6° 1'00	29° 1	16°50	22°50	0°54	26°45	6°48	17° 9	23° 3	16°D21	2°D13	3°37	19°49	4°56	F 29
S 30	2 35 13	7° 0'48	12♌12	18°22	23°49	1°27	26°56	6°54	17° 8	23° 6	16°21	2°13	3°34	19°56	4°54	S 30
S 31	2 39 9	8♌0'39	25♌38	19♌55	24♌47	2♉1	27♌7	7♌1	17♌6	23♌8	16° 21	2♌14	3♌31	20♉2	4♌51	S 31

Delta T = 265.06 sec

ASTRODIENST EPHEMERIS for the year 2280  
geocentric

NOVEMBER 2280

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	2 43 6	9♐ 0'31	9♐22	21♐27	25♐45	2♐35	27♐19	7♐ 7	17°R 4	23♐10	16♐21	2°R14	3♐27	20♐ 9	4°R48	M 1
T 2	2 47 2	10° 0'24	23°24	22°58	26°42	3° 8	27°30	7°14	17°II 2	23°12	16°21	2♐14	3°24	20°16	4°II45	T 2
W 3	2 50 59	11° 0'19	7♐43	24°29	27°39	3°42	27°41	7°20	17° 0	23°14	16°21	2°11	3°21	20°23	4°42	W 3
T 4	2 54 55	12° 0'16	22°18	25°59	28°35	4°15	27°52	7°27	16°58	23°16	16°21	2° 6	3°18	20°29	4°39	T 4
F 5	2 58 52	13° 0'14	7♐ 3	27°29	29°31	4°48	28° 4	7°34	16°56	23°19	16°22	1°59	3°15	20°36	4°36	F 5
S 6	3 2 48	14° 0'14	21°53	28°58	0♐26	5°21	28°16	7°40	16°54	23°21	16°22	1°51	3°11	20°43	4°33	S 6
S 7	3 6 45	15° 0'16	6♐37	0♐27	1°21	5°54	28°27	7°47	16°52	23°23	16°22	1°44	3° 8	20°49	4°30	S 7
M 8	3 10 42	16° 0'19	21°10	1°55	2°15	6°27	28°39	7°54	16°50	23°25	16°22	1°37	3° 5	20°56	4°27	M 8
T 9	3 14 38	17° 0'25	5♐23	3°22	3° 8	6°59	28°51	8° 1	16°48	23°27	16°22	1°33	3° 2	21° 3	4°24	T 9
W10	3 18 35	18° 0'32	19°13	4°50	4° 1	7°32	29° 3	8° 7	16°46	23°29	16°23	1°30	2°59	21°10	4°21	W10
T 11	3 22 31	19° 0'42	2♐37	6°16	4°54	8° 4	29°14	8°14	16°44	23°31	16°23	1°D29	2°56	21°16	4°17	T 11
F 12	3 26 28	20° 0'53	15°36	7°42	5°45	8°37	29°26	8°21	16°42	23°33	16°23	1°30	2°52	21°23	4°14	F 12
S 13	3 30 24	21° 1'06	28°12	9° 7	6°36	9° 9	29°39	8°28	16°40	23°35	16°24	1°32	2°49	21°30	4°11	S 13
S 14	3 34 21	22° 1'22	10♐30	10°32	7°26	9°41	29°51	8°35	16°37	23°37	16°24	1°33	2°46	21°37	4° 8	S 14
M15	3 38 17	23° 1'39	22°35	11°56	8°15	10°13	0♐ 3	8°42	16°35	23°39	16°25	1°R34	2°43	21°43	4° 4	M15
T 16	3 42 14	24° 1'58	4♐30	13°19	9° 4	10°44	0°15	8°49	16°33	23°41	16°25	1°33	2°40	21°50	4° 1	T 16
W17	3 46 11	25° 2'19	16°22	14°41	9°52	11°16	0°28	8°56	16°31	23°43	16°26	1°31	2°36	21°57	3°58	W17
T 18	3 50 7	26° 2'42	2♐14	16° 2	10°39	11°47	0°40	9° 3	16°28	23°45	16°26	1°27	2°33	22° 3	3°55	T 18
F 19	3 54 4	27° 3'07	10♐12	17°22	11°25	12°19	0°52	9°10	16°26	23°47	16°27	1°22	2°30	22°10	3°51	F 19
S 20	3 58 0	28° 3'34	22°17	18°40	12°10	12°50	1° 5	9°17	16°24	23°49	16°27	1°15	2°27	22°17	3°48	S 20
S 21	4 1 57	29° 4'02	4♐33	19°58	12°54	13°21	1°18	9°24	16°21	23°51	16°28	1° 9	2°24	22°24	3°45	S 21
M22	4 5 53	0♐ 4'32	17° 1	21°14	13°37	13°52	1°30	9°31	16°19	23°53	16°29	1° 4	2°21	22°30	3°41	M22
T 23	4 9 50	1° 5'04	29°43	22°27	14°19	14°22	1°43	9°38	16°16	23°55	16°29	0°59	2°17	22°37	3°38	T 23
W24	4 13 46	2° 5'38	12♐37	23°39	15° 0	14°53	1°56	9°45	16°14	23°57	16°30	0°57	2°14	22°44	3°35	W24
T 25	4 17 43	3° 6'13	25°44	24°49	15°40	15°23	2° 9	9°52	16°11	23°58	16°31	0°D55	2°11	22°50	3°31	T 25
F 26	4 21 40	4° 6'49	9♐ 4	25°56	16°18	15°53	2°21	9°59	16° 9	24° 0	16°31	0°55	2° 8	22°57	3°28	F 26
S 27	4 25 36	5° 7'26	22°35	27° 0	16°56	16°23	2°34	10° 6	16° 7	24° 2	16°32	0°57	2° 5	23° 4	3°25	S 27
S 28	4 29 33	6° 8'05	6♐17	28° 1	17°32	16°53	2°47	10°13	16° 4	24° 4	16°33	0°58	2° 2	23°11	3°21	S 28
M29	4 33 29	7° 8'45	20° 9	28°58	18° 6	17°23	3° 0	10°20	16° 2	24° 6	16°34	1° 0	1°58	23°17	3°18	M29
T 30	4 37 26	8♐ 9'26	4♐11	29♐50	18♐40	17♐52	3♐13	10♐27	15°II 59	24♐ 7	16♐35	1°R 0	1°55	23♐24	3°II15	T 30

Delta T = 265.19 sec

DECEMBER 2280

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	4 41 22	9♐10'08	18♐21	0♐38	19♐12	18♐22	3♐27	10♐35	15°R57	24♐ 9	16♐35	1°R 0	1°52	23♐31	3°R11	W 1
T 2	4 45 19	10°10'51	2♐38	1°20	19°42	18°51	3°40	10°42	15°II54	24°11	16°36	0°59	1°49	23°38	3°II 8	T 2
F 3	4 49 15	11°11'34	16°58	1°56	20°11	19°20	3°53	10°49	15°51	24°12	16°37	0°57	1°46	23°44	3° 5	F 3
S 4	4 53 12	12°12'19	1♐18	2°25	20°38	19°48	4° 6	10°56	15°49	24°14	16°38	0°54	1°42	23°51	3° 1	S 4
S 5	4 57 9	13°13'05	15°34	2°45	21° 3	20°17	4°19	11° 3	15°46	24°16	16°39	0°52	1°39	23°58	2°58	S 5
M 6	5 1 5	14°13'52	29°40	2°58	21°26	20°45	4°33	11°10	15°44	24°17	16°40	0°49	1°36	24° 4	2°55	M 6
T 7	5 5 2	15°14'40	13♐32	3°R 0	21°48	21°13	4°46	11°17	15°41	24°19	16°41	0°48	1°33	24°11	2°51	T 7
W 8	5 8 58	16°15'29	27° 8	2°53	22° 8	21°41	5° 0	11°24	15°39	24°20	16°42	0°D47	1°30	24°18	2°48	W 8
T 9	5 12 55	17°16'20	10♐23	2°34	22°26	22° 9	5°13	11°31	15°36	24°22	16°43	0°48	1°27	24°25	2°45	T 9
F 10	5 16 51	18°17'11	23°19	2° 4	22°41	22°36	5°26	11°38	15°34	24°23	16°44	0°48	1°23	24°31	2°42	F 10
S 11	5 20 48	19°18'04	5♐56	1°24	22°55	23° 4	5°40	11°46	15°31	24°25	16°46	0°49	1°20	24°38	2°39	S 11
S 12	5 24 45	20°18'58	18°16	0°32	23° 7	23°31	5°53	11°53	15°29	24°26	16°47	0°50	1°17	24°45	2°35	S 12
M13	5 28 41	21°19'53	0♐27	29♐30	23°16	23°57	6° 7	12° 0	15°26	24°28	16°48	0°51	1°14	24°51	2°32	M13
T 14	5 32 38	22°20'50	10°23	28°19	23°23	24°24	6°21	12° 7	15°24	24°29	16°49	0°52	1°11	24°58	2°29	T 14
W15	5 36 34	23°21'47	24°13	27° 2	23°28	24°50	6°34	12°14	15°21	24°31	16°50	0°R52	1° 8	25° 5	2°26	W15
T 16	5 40 31	24°22'46	6♐ 6	25°40	23°R30	25°16	6°48	12°21	15°19	24°32	16°51	0°52	1° 4	25°12	2°23	T 16
F 17	5 44 27	25°23'45	18° 4	24°17	23°30	25°42	7° 1	12°28	15°16	24°33	16°53	0°52	1° 1	25°18	2°20	F 17
S 18	5 48 24	26°24'46	0♐11	22°56	23°27	26° 8	7°15	12°35	15°14	24°35	16°54	0°51	0°58	25°25	2°17	S 18
S 19	5 52 20	27°25'48	12°31	21°38	23°22	26°33	7°29	12°42	15°11	24°36	16°55	0°50	0°55	25°32	2°14	S 19
M20	5 56 17	28°26'50	25° 7	20°26	23°15	26°58	7°43	12°49	15° 9	24°37	16°56	0°50	0°52	25°39	2°11	M20
T 21	6 0 14	29°27'54	8♐ 0	19°23	23° 5	27°23	7°56	12°56	15° 6	24°38	16°58	0°50	0°48	25°45	2° 8	T 21
W22	6 4 10	0♐28'59	21°13	18°30	22°52	27°47	8°10	13° 3	15° 4	24°39	16°59	0°D50	0°45	25°52	2° 5	W22
T 23	6 8 7	1°30'04	4♐43	17°47	22°37	28°12	8°24	13° 9	15° 1	24°40	17° 1	0°R50	0°42	25°59	2° 3	T 23
F 24	6 12 3	2°31'09	18°30	17°15	22°20	28°36	8°38	13°16	14°59	24°42	17° 2	0°50	0°39	26° 5	2° 0	F 24
S 25	6 16 0	3°32'16	2♐30	16°54	22° 1	28°59	8°51	13°23	14°57	24°43	17° 3	0°50	0°36	26°12	1°57	S 25
S 26	6 19 56	4°33'22	16°39	16°44	21°39	29°22	9° 5	13°30	14°54	24°44	17° 5	0°49	0°33	26°19	1°54	S 26
M27	6 23 53	5°34'29	0♐54	16°D43	21°14	29°45	9°19	13°37	14°52	24°45	17° 6	0°49	0°29	26°26	1°52	M27
T 28	6 27 49	6°35'36	15°10	16°52	20°48	0♐ 8	9°33	13°43	14°50	24°46	17° 8	0°48	0°26	26°32	1°49	T 28
W29	6 31 46	7°36'43	29°25	17°10	20°20	0°30	9°47	13°50	14°47	24°47	17° 9	0°48	0°23	26°39	1°47	W29
T 30	6 35 43	8°37'50	13♐36	17°35	19°50	0°52	10° 0	13°57	14°45	24°48	17°11	0°D48	0°20	26°46	1°44	T 30
F 31	6 39 39	9♐38'57	27♐40	18♐ 8	19♐18	1♐14	10♐14	14♐ 4	14°II43	24♐48	17°12	0°548	0°517	26♐53	1°II42	F 31

Delta T = 265.32 sec