



Astrodienst Ephemeris Tables for the year 1588

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 1588

geocentric

JANUARY 1588 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	6 39 2	9°53'38	13°57	28°50	12°56	11°48	16°R 5	9°R29	9°57	0°R38	9°10	22°R37	23°35	29°8 2	0°R24	F 1
S 2	6 42 59	10°54'49	27°44	29°59	14°11	12°36	15°L59	9°827	9°59	0°L36	9°10	22°32	23°32	29°9	0°824	S 2
S 3	6 46 55	11°56'00	11°2	1°4	15°26	13°23	15°54	9°26	10°1	0°35	9°10	22°29	23°29	29°15	0°23	S 3
M 4	6 50 52	12°57'10	23°53	2°3	16°42	14°10	15°48	9°26	10°3	0°33	9°10	22°D29	23°26	29°22	0°23	M 4
T 5	6 54 48	13°58'20	6°V22	2°55	17°57	14°57	15°43	9°25	10°5	0°32	9°10	22°29	23°23	29°29	0°22	T 5
W 6	6 58 45	14°59'29	18°33	3°39	19°13	15°45	15°37	9°24	10°8	0°30	9°11	22°R29	23°19	29°36	0°22	W 6
T 7	7 2 42	16°0'37	0°832	4°15	20°28	16°32	15°31	9°24	10°10	0°28	9°11	22°28	23°16	29°42	0°22	T 7
F 8	7 6 38	17°1'45	12°23	4°42	21°44	17°19	15°25	9°23	10°12	0°27	9°11	22°24	23°13	29°49	0°22	F 8
S 9	7 10 35	18°2'53	24°13	4°59	22°59	18°7	15°18	9°23	10°15	0°25	9°12	22°19	23°10	29°56	0°22	S 9
S 10	7 14 31	19°3'59	6°II 5	5°R 4	24°14	18°54	15°12	9°23	10°17	0°23	9°12	22°10	23°7	0°II 2	0°D22	S 10
M 11	7 18 28	20°5'06	18°2	4°59	25°30	19°41	15°5	9°D23	10°20	0°22	9°12	21°59	23°4	0°9	0°22	M 11
T 12	7 22 24	21°6'11	0°8 7	4°41	26°45	20°28	14°59	9°23	10°22	0°20	9°13	21°48	23°0	0°16	0°22	T 12
W 13	7 26 21	22°7'16	12°21	4°12	28°1	21°15	14°52	9°23	10°25	0°18	9°13	21°36	22°57	0°23	0°22	W 13
T 14	7 30 17	23°8'20	24°45	3°31	29°16	22°3	14°45	9°23	10°27	0°17	9°14	21°24	22°54	0°29	0°22	T 14
F 15	7 34 14	24°9'23	7°L20	2°41	0°31	22°50	14°38	9°23	10°30	0°15	9°14	21°15	22°51	0°36	0°22	F 15
S 16	7 38 11	25°10'26	20°6	1°41	1°47	23°37	14°31	9°24	10°32	0°13	9°15	21°8	22°48	0°43	0°23	S 16
S 17	7 42 7	26°11'28	3°II 2	0°33	3°2	24°24	14°24	9°24	10°35	0°12	9°15	21°4	22°44	0°49	0°23	S 17
M 18	7 46 4	27°12'30	16°10	29°21	4°17	25°12	14°16	9°25	10°38	0°10	9°16	21°D 2	22°41	0°56	0°23	M 18
T 19	7 50 0	28°13'30	29°29	28°5	5°33	25°59	14°9	9°26	10°40	0°8	9°16	21°3	22°38	1°3	0°24	T 19
W 20	7 53 57	29°14'31	13°L 2	26°48	6°48	26°46	14°2	9°27	10°43	0°7	9°17	21°4	22°35	1°10	0°25	W 20
T 21	7 57 53	0°15'31	26°49	25°33	8°3	27°33	13°54	9°28	10°46	0°5	9°18	21°R 4	22°32	1°16	0°25	T 21
F 22	8 1 50	1°16'30	10°L51	24°22	9°19	28°20	13°47	9°29	10°49	0°3	9°18	21°4	22°29	1°23	0°26	F 22
S 23	8 5 46	2°17'29	25°6	23°16	10°34	29°7	13°39	9°30	10°52	0°2	9°19	21°2	22°25	1°30	0°27	S 23
S 24	8 9 43	3°18'27	9°L34	22°16	11°49	29°55	13°31	9°32	10°54	29°59	9°20	20°57	22°22	1°36	0°28	S 24
M 25	8 13 40	4°19'24	24°10	21°24	13°4	0°42	13°23	9°33	10°57	29°58	9°20	20°51	22°19	1°43	0°28	M 25
T 26	8 17 36	5°20'21	8°L49	20°40	14°20	1°29	13°16	9°35	11°0	29°56	9°21	20°44	22°16	1°50	0°29	T 26
W 27	8 21 33	6°21'17	23°22	20°5	15°35	2°16	13°8	9°37	11°3	29°55	9°22	20°36	22°13	1°57	0°30	W 27
T 28	8 25 29	7°22'11	7°L43	19°39	16°50	3°3	13°0	9°38	11°6	29°53	9°22	20°30	22°10	2°3	0°31	T 28
F 29	8 29 26	8°23'05	21°47	19°21	18°5	3°50	12°52	9°40	11°9	29°51	9°23	20°25	22°6	2°10	0°33	F 29
S 30	8 33 22	9°23'57	5°L28	19°11	19°20	4°37	12°44	9°42	11°12	29°50	9°24	20°21	22°3	2°17	0°34	S 30
S 31	8 37 19	10°24'48	18°L46	19°D 9	20°L36	5°L24	12°L36	9°L44	11°L15	29°L48	9°L25	20°D20	22°L0	2°II23	0°L35	S 31

Delta T = 106.51 sec

Greg. Calendar

FEBRUARY 1588 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	8 41 15	11°25'37	1°V39	19°L15	21°L51	6°L11	12°R28	9°L47	11°L18	29°R46	9°V26	20°M21	21°M57	2°II30	0°L36	M 1
T 2	8 45 12	12°26'25	14°12	19°27	23°6	6°58	12°L20	9°49	11°22	29°L45	9°27	20°22	21°54	2°37	0°38	T 2
W 3	8 49 9	13°27'12	26°27	19°46	24°21	7°45	12°12	9°52	11°25	29°43	9°27	20°24	21°50	2°44	0°39	W 3
T 4	8 53 5	14°27'56	8°L30	20°11	25°36	8°32	12°4	9°54	11°28	29°42	9°28	20°25	21°47	2°50	0°41	T 4
F 5	8 57 2	15°28'40	20°24	20°41	26°51	9°19	11°56	9°57	11°31	29°40	9°29	20°R25	21°44	2°57	0°42	F 5
S 6	9 0 58	16°29'21	2°II15	21°16	28°6	10°6	11°48	10°0	11°34	29°38	9°30	20°24	21°41	3°4	0°44	S 6
S 7	9 4 55	17°30'02	14°9	21°56	29°21	10°53	11°40	10°2	11°37	29°37	9°31	20°21	21°38	3°10	0°45	S 7
M 8	9 8 51	18°30'40	26°8	22°40	0°L36	11°40	11°32	10°5	11°41	29°35	9°32	20°17	21°35	3°17	0°47	M 8
T 9	9 12 48	19°31'17	8°L17	23°27	1°51	12°27	11°25	10°9	11°44	29°34	9°33	20°12	21°31	3°24	0°49	T 9
W 10	9 16 44	20°31'52	20°39	24°19	3°6	13°13	11°17	10°12	11°47	29°32	9°34	20°6	21°28	3°31	0°51	W 10
T 11	9 20 41	21°32'25	3°L15	25°13	4°21	14°0	11°9	10°15	11°50	29°30	9°35	20°1	21°25	3°37	0°53	T 11
F 12	9 24 38	22°32'57	16°6	26°11	5°36	14°47	11°1	10°18	11°54	29°29	9°36	19°57	21°22	3°44	0°55	F 12
S 13	9 28 34	23°33'27	29°12	27°11	6°51	15°34	10°54	10°22	11°57	29°27	9°37	19°54	21°19	3°51	0°57	S 13
S 14	9 32 31	24°33'56	12°M32	28°14	8°6	16°20	10°46	10°25	12°0	29°26	9°38	19°53	21°16	3°57	0°59	S 14
M 15	9 36 27	25°34'23	26°5	29°19	9°21	17°7	10°39	10°29	12°4	29°24	9°39	19°D53	21°12	4°4	1°1	M 15
T 16	9 40 24	26°34'49	9°L48	0°L27	10°36	17°54	10°31	10°33	12°7	29°23	9°40	19°54	21°9	4°11	1°3	T 16
W 17	9 44 20	27°35'13	23°41	1°36	11°51	18°40	10°24	10°37	12°10	29°21	9°41	19°55	21°6	4°18	1°5	W 17
T 18	9 48 17	28°35'36	7°L41	2°48	13°5	19°27	10°17	10°41	12°14	29°20	9°43	19°56	21°3	4°24	1°7	T 18
F 19	9 52 13	29°35'57	21°48	4°1	14°20	20°13	10°9	10°45	12°17	29°19	9°44	19°57	21°0	4°31	1°10	F 19
S 20	9 56 10	0°L36'17	5°L59	5°16	15°35	21°0	10°2	10°49	12°20	29°17	9°45	19°R57	20°56	4°38	1°12	S 20
S 21	10 0 7	1°36'36	20°12	6°33	16°50	21°46	9°55	10°53	12°24	29°16	9°46	19°57	20°53	4°44	1°14	S 21
M 22	10 4 3	2°36'53	4°L25	7°52	18°4	22°33	9°49	10°57	12°27	29°14	9°47	19°55	20°50	4°51	1°17	M 22
T 23	10 8 0	3°37'09	18°35	9°12	19°19	23°19	9°42	11°2	12°31	29°13	9°48	19°53	20°47	4°58	1°19	T 23
W 24	10 11 56	4°37'23	2°L38	10°33	20°34	24°5	9°35	11°6	12°34	29°12	9°50	19°51	20°44	5°5	1°22	W 24
T 25	10 15 53	5°37'36	16°31	11°56	21°48	24°52	9°29	11°11	12°37	29°10	9°51	19°49	20°41	5°11	1°24	T 25
F 26	10 19 49	6°37'46	0°L10	13°20	23°3	25°38	9°22	11°16	12°41	29°9	9°52	19°47	20°37	5°18	1°27	F 26
S 27	10 23 46	7°37'55	13°33	14°45	24°18	26°24	9°16	11°20	12°44	29°8	9°53	19°D47	20°34	5°25	1°30	S 27
S 28	10 27 42	8°38'02	26°38	16°12	25°32	27°11	9°10	11°25	12°48	29°7	9°55	19°47	20°31	5°32	1°33	S 28
M 29	10 31 39	9°L38'07	9°V26	17°L39	26°L47	27°L57	9°L4	11°L30	12°L51	29°L5	9°V56	19°M47	20°M28	5°II38	1°L35	M 29

Delta T = 106.37 sec

Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1588

geocentric

MARCH 1588 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	10 35 35	10°38'10"	21°56'	19°39'	28°11'	28°43'	8°R58	11°35'	12°54'	29°R 4	9°57'	19°48'	20°25'	5°45'	1°38'	T 1
W 2	10 39 32	11°38'11"	4°12'	20°39'	29°16'	29°29'	8°52'	11°40'	12°58'	29°3	9°58'	19°49'	20°21'	5°52'	1°41'	W 2
T 3	10 43 29	12°38'10"	16°16'	22°10'	0°Y30	0°Y15	8°46'	11°45'	13°1'	29°2	10°0'	19°50'	20°18'	5°58'	1°44'	T 3
F 4	10 47 25	13°38'06"	28°12'	23°43'	1°45'	1°1'	8°41'	11°51'	13°5'	29°1	10°1'	19°50'	20°15'	6°5'	1°47'	F 4
S 5	10 51 22	14°38'01"	10°11'	25°17'	2°59'	1°47'	8°36'	11°56'	13°8'	29°0	10°2'	19°R51	20°12'	6°12'	1°50'	S 5
S 6	10 55 18	15°37'53"	21°58'	26°52'	4°13'	2°33'	8°31'	12°1'	13°12'	28°59'	10°4'	19°51'	20°9'	6°19'	1°53'	S 6
M 7	10 59 15	16°37'43"	3°58'	28°28'	5°28'	3°19'	8°26'	12°7'	13°15'	28°58'	10°5'	19°51'	20°6'	6°25'	1°56'	M 7
T 8	11 3 11	17°37'31"	16°8'	0°H 6	6°42'	4°5'	8°21'	12°12'	13°19'	28°57'	10°6'	19°50'	20°2'	6°32'	1°59'	T 8
W 9	11 7 8	18°37'17"	28°32'	1°44'	7°56'	4°51'	8°16'	12°18'	13°22'	28°56'	10°8'	19°50'	19°59'	6°39'	2°2'	W 9
T 10	11 11 4	19°37'00"	11°12'	3°24'	9°10'	5°36'	8°12'	12°23'	13°25'	28°55'	10°9'	19°D50	19°56'	6°45'	2°5'	T 10
F 11	11 15 1	20°36'41"	24°15'	5°5'	10°25'	6°22'	8°7'	12°29'	13°29'	28°54'	10°10'	19°50'	19°53'	6°52'	2°9'	F 11
S 12	11 18 58	21°36'20"	7°37'	6°48'	11°39'	7°8'	8°3'	12°35'	13°32'	28°53'	10°12'	19°50'	19°50'	6°59'	2°12'	S 12
S 13	11 22 54	22°35'57"	21°18'	8°31'	12°53'	7°54'	7°59'	12°41'	13°36'	28°52'	10°13'	19°R50	19°47'	7°6'	2°15'	S 13
M14	11 26 51	23°35'31"	5°17'	10°16'	14°7'	8°39'	7°55'	12°47'	13°39'	28°51'	10°14'	19°50'	19°43'	7°12'	2°18'	M14
T 15	11 30 47	24°35'04"	19°29'	12°2'	15°21'	9°25'	7°52'	12°53'	13°42'	28°50'	10°16'	19°50'	19°40'	7°19'	2°22'	T 15
W16	11 34 44	25°34'35"	3°15'	13°49'	16°35'	10°10'	7°48'	12°59'	13°46'	28°50'	10°17'	19°49'	19°37'	7°26'	2°25'	W16
T 17	11 38 40	26°34'04"	18°16'	15°38'	17°49'	10°56'	7°45'	13°5'	13°49'	28°49'	10°19'	19°48'	19°34'	7°32'	2°29'	T 17
F 18	11 42 37	27°33'32"	2°17'	17°27'	19°3'	11°41'	7°42'	13°11'	13°53'	28°48'	10°20'	19°48'	19°31'	7°39'	2°32'	F 18
S 19	11 46 33	28°32'57"	17°1'	19°19'	20°17'	12°26'	7°39'	13°17'	13°56'	28°47'	10°21'	19°47'	19°27'	7°46'	2°35'	S 19
S 20	11 50 30	29°32'21"	1°13'	21°11'	21°30'	13°12'	7°36'	13°24'	13°59'	28°47'	10°23'	19°D47	19°24'	7°53'	2°39'	S 20
M21	11 54 27	0°Y31'43"	15°15'	23°5'	22°44'	13°57'	7°34'	13°30'	14°3'	28°46'	10°24'	19°47'	19°21'	7°59'	2°42'	M21
T 22	11 58 23	1°31'04"	29°5'	25°0'	23°58'	14°42'	7°32'	13°36'	14°6'	28°46'	10°26'	19°48'	19°18'	8°6'	2°46'	T 22
W23	12 2 20	2°30'22"	12°33'	26°56'	25°12'	15°28'	7°29'	13°43'	14°9'	28°45'	10°27'	19°49'	19°15'	8°13'	2°50'	W23
T 24	12 6 16	3°29'39"	26°8'	28°54'	26°25'	16°13'	7°27'	13°49'	14°13'	28°44'	10°28'	19°50'	19°12'	8°19'	2°53'	T 24
F 25	12 10 13	4°28'53"	9°H 21	0°Y53	27°39'	16°58'	7°26'	13°56'	14°16'	28°44'	10°30'	19°51'	19°8'	8°26'	2°57'	F 25
S 26	12 14 9	5°28'06"	22°20'	2°53'	28°53'	17°43'	7°24'	14°3'	14°19'	28°43'	10°31'	19°R51	19°5'	8°33'	3°1'	S 26
S 27	12 18 6	6°27'17"	5°Y 6	4°54'	0°H 6	18°28'	7°23'	14°9'	14°22'	28°43'	10°33'	19°51'	19°2'	8°40'	3°4'	S 27
M28	12 22 2	7°26'26"	17°40'	6°56'	1°20'	19°13'	7°21'	14°16'	14°26'	28°43'	10°34'	19°49'	18°59'	8°46'	3°8'	M28
T 29	12 25 59	8°25'32"	0°H 2	8°59'	2°33'	19°58'	7°20'	14°23'	14°29'	28°42'	10°36'	19°47'	18°56'	8°53'	3°12'	T 29
W30	12 29 55	9°24'37"	12°12'	11°3'	3°47'	20°43'	7°20'	14°30'	14°32'	28°42'	10°37'	19°44'	18°52'	9°0'	3°15'	W30
T 31	12 33 52	10°Y23'39"	24°H 14	13°Y 7	5°H 0	21°Y28	7°19'	14°H 36	14°H 35	28°H 42	10°Y39	19°H 40	18°H 49	9°H 7	3°H 19	T 31

Delta T = 106.25 sec

Greg. Calendar

APRIL 1588 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	12 37 49	11°Y22'39"	6°H 10	15°Y12	6°H 14	22°Y12	7°R18	14°H 43	14°H 38	28°R41	10°Y40	19°R37	18°H 46	9°H 13	3°H 23	F 1
S 2	12 41 45	12°21'37"	18°2'	17°17'	7°27'	22°57'	7°18	14°50'	14°42'	28°H 41	10°41'	19°H 34	18°43'	9°20'	3°27'	S 2
S 3	12 45 42	13°20'33"	29°55'	19°22'	8°40'	23°42'	7°D18	14°57'	14°45'	28°41'	10°43'	19°33'	18°40'	9°27'	3°31'	S 3
M 4	12 49 38	14°19'26"	11°H 53	21°27'	9°53'	24°26'	7°18	15°4'	14°48'	28°41'	10°44'	19°D32	18°37'	9°33'	3°35'	M 4
T 5	12 53 35	15°18'17"	24°1'	23°31'	11°7'	25°11'	7°18	15°11'	14°51'	28°41'	10°46'	19°32'	18°33'	9°40'	3°38'	T 5
W 6	12 57 31	16°17'06"	6°H 23	25°35'	12°20'	25°55'	7°19	15°19'	14°54'	28°40'	10°47'	19°33'	18°30'	9°47'	3°42'	W 6
T 7	13 1 28	17°15'52"	19°4'	27°37'	13°33'	26°40'	7°20	15°26'	14°57'	28°40'	10°49'	19°35'	18°27'	9°54'	3°46'	T 7
F 8	13 5 24	18°14'37"	2°H 7	29°37'	14°46'	27°24'	7°20	15°33'	15°0'	28°40'	10°50'	19°36'	18°24'	10°0'	3°50'	F 8
S 9	13 9 21	19°13'18"	15°35'	1°H 36	15°59'	28°9'	7°22	15°40'	15°3'	28°D40	10°51'	19°R37	18°21'	10°7'	3°54'	S 9
S 10	13 13 18	20°11'58"	29°28'	3°33'	17°12'	28°53'	7°23	15°47'	15°6'	28°40'	10°53'	19°37'	18°18'	10°14'	3°58'	S 10
M11	13 17 14	21°10'36"	13°H 45	5°26'	18°25'	29°37'	7°24	15°55'	15°9'	28°40'	10°54'	19°35'	18°14'	10°20'	4°2'	M11
T 12	13 21 11	22°9'12"	28°21'	7°17'	19°38'	0°H 21	7°26	16°2'	15°12'	28°40'	10°56'	19°32'	18°11'	10°27'	4°6'	T 12
W13	13 25 7	23°7'45"	13°H 10	9°5'	20°50'	1°6'	7°28	16°9'	15°15'	28°41'	10°57'	19°28'	18°8'	10°34'	4°10'	W13
T 14	13 29 4	24°6'18"	28°3'	10°50'	22°3'	1°50'	7°30	16°17'	15°18'	28°41'	10°58'	19°23'	18°5'	10°41'	4°14'	T 14
F 15	13 33 0	25°4'48"	12°H 53	12°30'	23°16'	2°34'	7°32	16°24'	15°20'	28°41'	11°0'	19°18'	18°2'	10°47'	4°18'	F 15
S 16	13 36 57	26°3'17"	27°32'	14°7'	24°28'	3°18'	7°34	16°32'	15°23'	28°41'	11°1'	19°14'	17°58'	10°54'	4°22'	S 16
S 17	13 40 53	27°1'44"	11°H 54	15°40'	25°41'	4°2'	7°36	16°39'	15°26'	28°41'	11°3'	19°11'	17°55'	11°1'	4°26'	S 17
M18	13 44 50	28°0'09"	25°57'	17°8'	26°53'	4°46'	7°39	16°47'	15°29'	28°42'	11°4'	19°D10	17°52'	11°8'	4°30'	M18
T 19	13 48 47	28°58'33"	9°H 41	18°32'	28°6'	5°30'	7°42	16°54'	15°31'	28°42'	11°5'	19°10'	17°49'	11°14'	4°34'	T 19
W20	13 52 43	29°56'55"	23°5'	19°52'	29°18'	6°13'	7°45	17°2'	15°34'	28°42'	11°7'	19°12'	17°46'	11°21'	4°38'	W20
T 21	13 56 40	0°H 55'16"	6°H 12	21°7'	0°H 31	6°57'	7°48	17°9'	15°37'	28°43'	11°8'	19°13'	17°43'	11°28'	4°42'	T 21
F 22	14 0 36	1°53'35"	19°3'	22°17'	1°43'	7°41'	7°52	17°17'	15°39'	28°43'	11°10'	19°R14	17°39'	11°34'	4°46'	F 22
S 23	14 4 33	2°51'53"	1°Y 42	23°22'	2°55'	8°25'	7°55	17°24'	15°42'	28°44'	11°11'	19°13'	17°36'	11°41'	4°50'	S 23
S 24	14 8 29	3°50'08"	14°10'	24°23'	4°8'	9°8'	7°59	17°32'	15°45'	28°44'	11°12'	19°10'	17°33'	11°48'	4°54'	S 24
M25	14 12 26	4°48'23"	26°28'	25°19'	5°20'	9°52'	8°3'	17°40'	15°47'	28°45'	11°14'	19°5'	17°30'	11°55'	4°58'	M25
T 26	14 16 22	5°46'35"	8°H 38	26°9'	6°32'	10°35'	8°7'	17°47'	15°50'	28°45'	11°15'	18°58'	17°27'	12°1'	5°2'	T 26
W27	14 20 19	6°44'46"	20°41'	26°54'	7°44'	11°19'	8°11'	17°55'	15°52'	28°46'	11°16'	18°50'	17°24'	12°8'	5°6'	W27
T 28	14 24 15	7°42'55"	2°H 38	27°35'	8°56'	12°2'	8°15	18°3'	15°55'	28°46'	11°18'	18°40'	17°20'	12°15'	5°10'	T 28
F 29	14 28 12	8°41'02"	14°32'	28°10'	10°8'	12°45'	8°20	18°10'	15°57'	28°47'	11°19'	18°31'	17°17'	12°21'	5°15'	F 29
S 30	14 32 9	9°H 39'07"	26°H 23	28°H 40	11°H 20	13°H 29	8°H 25	18°H 18	15°H 59	28°H 48	11°Y20	18°H 23	17°H 14	12°H 28	5°H 19	S 30

Delta T = 106.11 sec

Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1588
geocentric

MAY 1588 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	14 36 5	10♈37'11	8♌16	29♋4	12♈32	14♈12	8♌29	18♈26	16♈2	28♌48	11♈21	18♈16	17♈11	12♈35	5♈23	S 1
M 2	14 40 2	11°35'12	20°12	29°24	13°43	14°55	8°34	18°34	16° 4	28°49	11°23	18♈11	17° 8	12°42	5°27	M 2
T 3	14 43 58	12°33'12	2♌18	29°38	14°55	15°38	8°40	18°41	16° 6	28°50	11°24	18° 9	17° 4	12°48	5°31	T 3
W 4	14 47 55	13°31'10	14°36	29°47	16° 7	16°22	8°45	18°49	16° 8	28°51	11°25	18°D 8	17° 1	12°55	5°35	W 4
T 5	14 51 51	14°29'06	27°13	29°R51	17°18	17° 5	8°50	18°57	16°11	28°51	11°27	18° 9	16°58	13° 2	5°39	T 5
F 6	14 55 48	15°27'00	10♈12	29°50	18°30	17°48	8°56	19° 5	16°13	28°52	11°28	18°10	16°55	13° 9	5°43	F 6
S 7	14 59 44	16°24'52	23°38	29°44	19°41	18°30	9° 2	19°12	16°15	28°53	11°29	18°R10	16°52	13°15	5°47	S 7
S 8	15 3 41	17°22'43	7♌32	29°33	20°53	19°13	9° 8	19°20	16°17	28°54	11°30	18° 8	16°49	13°22	5°51	S 8
M 9	15 7 38	18°20'32	21°54	29°18	22° 4	19°56	9°14	19°28	16°19	28°55	11°31	18° 5	16°45	13°29	5°55	M 9
T 10	15 11 34	19°18'19	6♈41	28°59	23°15	20°39	9°20	19°36	16°21	28°56	11°33	17°58	16°42	13°35	5°59	T 10
W11	15 15 31	20°16'05	21°46	28°37	24°26	21°22	9°26	19°43	16°23	28°57	11°34	17°50	16°39	13°42	6° 3	W11
T 12	15 19 27	21°13'49	7♌0	28°11	25°37	22° 4	9°33	19°51	16°25	28°58	11°35	17°41	16°36	13°49	6° 7	T 12
F 13	15 23 24	22°11'32	22°11	27°42	26°48	22°47	9°40	19°59	16°27	28°59	11°36	17°32	16°33	13°56	6°11	F 13
S 14	15 27 20	23° 9'14	7♌9	27°11	27°59	23°30	9°46	20° 7	16°28	29° 0	11°37	17°24	16°29	14° 2	6°15	S 14
S 15	15 31 17	24° 6'55	21°47	26°38	29°10	24°12	9°53	20°15	16°30	29° 1	11°38	17°18	16°26	14° 9	6°18	S 15
M16	15 35 13	25° 4'35	6♈0	26° 5	0♌21	24°55	10° 0	20°22	16°32	29° 3	11°39	17°15	16°23	14°16	6°22	M16
T 17	15 39 10	26° 2'14	19°47	25°30	1°32	25°37	10° 7	20°30	16°34	29° 4	11°40	17°13	16°20	14°23	6°26	T 17
W18	15 43 7	26°59'52	3♈9	24°56	2°42	26°19	10°15	20°38	16°35	29° 5	11°42	17°D13	16°17	14°29	6°30	W18
T 19	15 47 3	27°57'28	16° 8	24°22	3°53	27° 2	10°22	20°46	16°37	29° 6	11°43	17°R14	16°14	14°36	6°34	T 19
F 20	15 51 0	28°55'04	28°49	23°50	5° 3	27°44	10°30	20°53	16°38	29° 8	11°44	17°13	16°10	14°43	6°38	F 20
S 21	15 54 56	29°52'39	11♈15	23°19	6°14	28°26	10°37	21° 1	16°40	29° 9	11°45	17°11	16° 7	14°49	6°42	S 21
S 22	15 58 53	0♈50'13	23°30	22°51	7°24	29° 9	10°45	21° 9	16°41	29°10	11°46	17° 6	16° 4	14°56	6°45	S 22
M23	16 2 49	1°47'46	5♈36	22°25	8°34	29°51	10°53	21°16	16°43	29°12	11°47	16°58	16° 1	15° 3	6°49	M23
T 24	16 6 46	2°45'18	17°37	22° 3	9°45	0♈33	11° 1	21°24	16°44	29°13	11°48	16°48	15°58	15°10	6°53	T 24
W25	16 10 42	3°42'49	29°33	21°44	10°55	1°15	11° 9	21°32	16°46	29°14	11°49	16°35	15°55	15°16	6°57	W25
T 26	16 14 39	4°40'19	11♈26	21°29	12° 5	1°57	11°18	21°40	16°47	29°16	11°50	16°22	15°51	15°23	7° 0	T 26
F 27	16 18 36	5°37'48	23°18	21°17	13°15	2°39	11°26	21°47	16°48	29°17	11°51	16° 8	15°48	15°30	7° 4	F 27
S 28	16 22 32	6°35'16	5♌10	21°10	14°24	3°21	11°35	21°55	16°49	29°19	11°51	15°56	15°45	15°36	7° 8	S 28
S 29	16 26 29	7°32'43	17° 4	21°D 7	15°34	4° 3	11°43	22° 2	16°50	29°20	11°52	15°45	15°42	15°43	7°11	S 29
M30	16 30 25	8°30'08	29° 2	21° 9	16°44	4°44	11°52	22°10	16°52	29°22	11°53	15°38	15°39	15°50	7°15	M30
T 31	16 34 22	9♈27'33	11♈9	21♈15	17♌53	5♈26	12♌1	22♈18	16♈53	29♌23	11♈54	15♈33	15♈35	15♈57	7♈19	T 31

Delta T = 105.98 sec Greg. Calendar

JUNE 1588 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	16 38 18	10♈24'56	23♌27	21♈26	19♌3	6♈8	12♌10	22♈25	16♈54	29♌25	11♈55	15°R30	15♈32	16♈3	7♈22	W 1
T 2	16 42 15	11°22'19	6♈1	21°41	20°12	6°49	12°19	22°33	16°55	29°26	11°56	15♈29	15°29	16°10	7°26	T 2
F 3	16 46 11	12°19'40	18°56	22° 1	21°21	7°31	12°28	22°40	16°56	29°28	11°57	15°29	15°26	16°17	7°29	F 3
S 4	16 50 8	13°17'00	2♌15	22°25	22°30	8°13	12°37	22°48	16°56	29°30	11°57	15°29	15°23	16°24	7°33	S 4
S 5	16 54 5	14°14'19	16° 3	22°53	23°39	8°54	12°47	22°55	16°57	29°31	11°58	15°27	15°20	16°30	7°36	S 5
M 6	16 58 1	15°11'37	0♈19	23°26	24°48	9°36	12°56	23° 2	16°58	29°33	11°59	15°22	15°16	16°37	7°40	M 6
T 7	17 1 58	16° 8'54	15° 3	24° 3	25°57	10°17	13° 6	23°10	16°59	29°35	12° 0	15°15	15°13	16°44	7°43	T 7
W 8	17 5 54	17° 6'11	0♈9	24°44	27° 6	10°58	13°15	23°17	16°59	29°36	12° 0	15° 6	15°10	16°50	7°46	W 8
T 9	17 9 51	18° 3'27	15°27	25°29	28°14	11°40	13°25	23°25	17° 0	29°38	12° 1	14°55	15° 7	16°57	7°50	T 9
F 10	17 13 47	19° 0'42	0♈47	26°18	29°23	12°21	13°35	23°32	17° 1	29°40	12° 2	14°45	15° 4	17° 4	7°53	F 10
S 11	17 17 44	19°57'57	15°57	27°11	0♌31	13° 2	13°45	23°39	17° 1	29°42	12° 3	14°36	15° 1	17°11	7°56	S 11
S 12	17 21 41	20°55'11	0♈47	28° 8	1°39	13°43	13°55	23°46	17° 2	29°44	12° 3	14°28	14°57	17°17	8° 0	S 12
M13	17 25 37	21°52'25	19° 9	2°47	14°24	14° 5	23°54	17° 2	29°45	12° 4	14°24	14°54	17°24	8° 3	M13	
T 14	17 29 34	22°49'38	29° 6	0♈13	3°55	15° 5	14°15	24° 1	17° 3	29°47	12° 4	14°21	14°51	17°31	8° 6	T 14
W15	17 33 30	23°46'52	12♈33	1°21	5° 3	15°46	14°26	24° 8	17° 3	29°49	12° 5	14°D21	14°48	17°38	8° 9	W15
T 16	17 37 27	24°44'05	25°33	2°33	6°11	16°27	14°36	24°15	17° 3	29°51	12° 6	14°R21	14°45	17°44	8°12	T 16
F 17	17 41 23	25°41'19	8♈12	3°48	7°18	17° 8	14°46	24°22	17° 3	29°53	12° 6	14°20	14°41	17°51	8°15	F 17
S 18	17 45 20	26°38'32	20°34	5° 7	8°25	17°49	14°57	24°29	17° 4	29°55	12° 7	14°18	14°38	17°58	8°18	S 18
S 19	17 49 16	27°35'45	2♈43	6°29	9°33	18°30	15° 8	24°36	17° 4	29°57	12° 7	14°14	14°35	18° 4	8°21	S 19
M20	17 53 13	28°32'58	14°43	7°55	10°40	19°11	15°18	24°43	17° 4	29°59	12° 8	14° 7	14°32	18°11	8°24	M20
T 21	17 57 9	29°30'11	26°38	9°24	11°47	19°52	15°29	24°50	17° 4	0♌1	12° 8	13°57	14°29	18°18	8°27	T 21
W22	18 1 6	0♌27'24	8♈30	10°56	12°54	20°33	15°40	24°57	17°R 4	0° 3	12° 9	13°45	14°26	18°25	8°30	W22
T 23	18 5 3	1°24'37	20°22	12°32	14° 0	21°13	15°51	25° 4	17° 4	0° 5	12° 9	13°32	14°22	18°31	8°33	T 23
F 24	18 8 59	2°21'50	2♌15	14°11	15° 7	21°54	16° 2	25°10	17° 4	0° 7	12° 9	13°19	14°19	18°38	8°36	F 24
S 25	18 12 56	3°19'02	14°10	15°53	16°13	22°34	16°13	25°17	17° 4	0° 9	12°10	13° 8	14°16	18°45	8°38	S 25
S 26	18 16 52	4°16'15	26°10	17°39	17°19	23°15	16°24	25°24	17° 3	0°11	12°10	12°58	14°13	18°51	8°41	S 26
M27	18 20 49	5°13'27	8♌15	19°27	18°25	23°55	16°35	25°30	17° 3	0°13	12°10	12°50	14°10	18°58	8°44	M27
T 28	18 24 45	6°10'40	20°28	21°18	19°31	24°36	16°47	25°37	17° 3	0°15	12°11	12°45	14° 7	19° 5	8°46	T 28
W29	18 28 42	7° 7'52	2♈52	23°12	20°37	25°16	16°58	25°43	17° 3	0°17	12°11	12°43	14° 3	19°12	8°49	W29
T 30	18 32 39	8♌5'04	15♈30	25♈9	21♌42	25♈57	17♌9	25♈50	17♈2	0♌19	12°Y11	12°D43	14♈0	19♈18	8♈51	T 30

Delta T = 105.84 sec Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1588

geocentric

JULY 1588 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	18 36 35	9°59'27	28°25'	27°11'	22°47'	26°37'	17°21'	25°56'	17°R 2	0°21'	12°12'	12°43'	13°57'	19°25'	8°54'	F 1
S 2	18 40 32	9°59'27	11°42'	29° 9'	23°52'	27°17'	17°32'	26° 3'	17°R 1	0°23'	12°12'	12°R44	13°54'	19°32'	8°56'	S 2
S 3	18 44 28	10°56'38	25°22'	18°13'	24°57'	27°58'	17°44'	26° 9'	17° 1'	0°25'	12°12'	12°43'	13°51'	19°39'	8°59'	S 3
M 4	18 48 25	11°53'49	9°11'29	3°17'	26° 2'	28°38'	17°56'	26°15'	17° 0'	0°27'	12°12'	12°40'	13°47'	19°45'	9° 1'	M 4
T 5	18 52 21	12°51'00	24° 0'	5°24'	27° 6'	29°18'	18° 7'	26°21'	17° 0'	0°30'	12°12'	12°35'	13°44'	19°52'	9° 3'	T 5
W 6	18 56 18	13°48'11	8°47'53	7°31'	28°11'	29°58'	18°19'	26°28'	16°59'	0°32'	12°13'	12°28'	13°41'	19°59'	9° 5'	W 6
T 7	19 0 14	14°45'23	24° 0'	9°39'	29°15'	0°38'	18°31'	26°34'	16°58'	0°34'	12°13'	12°20'	13°38'	20° 5'	9° 8'	T 7
F 8	19 4 11	15°42'34	9°31'12	11°48'	0°18'	1°18'	18°43'	26°40'	16°58'	0°36'	12°13'	12°11'	13°35'	20°12'	9°10'	F 8
S 9	19 8 8	16°39'46	24°19'	13°57'	1°22'	1°58'	18°55'	26°46'	16°57'	0°38'	12°13'	12° 4'	13°32'	20°19'	9°12'	S 9
S 10	19 12 4	17°36'58	9°10'	16° 6'	2°25'	2°38'	19° 7'	26°51'	16°56'	0°40'	12°13'	11°58'	13°28'	20°26'	9°14'	S 10
M 11	19 16 1	18°34'11	23°38'	18°15'	3°28'	3°18'	19°19'	26°57'	16°55'	0°43'	12°13'	11°55'	13°25'	20°32'	9°16'	M 11
T 12	19 19 57	19°31'24	7°39'	20°23'	4°31'	3°58'	19°31'	27° 3'	16°54'	0°45'	12°R13	11°D53	13°22'	20°39'	9°18'	T 12
W 13	19 23 54	20°28'38	21°11'	22°30'	5°33'	4°38'	19°43'	27° 9'	16°53'	0°47'	12°13'	11°54'	13°19'	20°46'	9°20'	W 13
T 14	19 27 50	21°25'53	4°17'	24°36'	6°35'	5°17'	19°55'	27°14'	16°52'	0°49'	12°13'	11°55'	13°16'	20°53'	9°22'	T 14
F 15	19 31 47	22°23'08	16°59'	26°41'	7°37'	5°57'	20° 7'	27°20'	16°51'	0°51'	12°13'	11°R56	13°13'	20°59'	9°23'	F 15
S 16	19 35 43	23°20'24	29°23'	28°45'	8°39'	6°37'	20°20'	27°25'	16°50'	0°54'	12°13'	11°56'	13° 9'	21° 6'	9°25'	S 16
S 17	19 39 40	24°17'42	11°32'	0°48'	9°40'	7°17'	20°32'	27°31'	16°49'	0°56'	12°13'	11°54'	13° 6'	21°13'	9°27'	S 17
M 18	19 43 37	25°15'00	23°31'	2°49'	10°41'	7°56'	20°44'	27°36'	16°48'	0°58'	12°13'	11°50'	13° 3'	21°19'	9°28'	M 18
T 19	19 47 33	26°12'19	5°11'24	4°48'	11°42'	8°36'	20°57'	27°42'	16°46'	1° 0'	12°12'	11°45'	13° 0'	21°26'	9°30'	T 19
W 20	19 51 30	27° 9'39	17°15'	6°46'	12°42'	9°15'	21° 9'	27°47'	16°45'	1° 2'	12°12'	11°38'	12°57'	21°33'	9°31'	W 20
T 21	19 55 26	28° 6'59	29° 8'	8°42'	13°43'	9°55'	21°21'	27°52'	16°44'	1° 5'	12°12'	11°30'	12°53'	21°40'	9°33'	T 21
F 22	19 59 23	29° 4'21	11°54'	10°37'	14°42'	10°34'	21°34'	27°57'	16°42'	1° 7'	12°12'	11°22'	12°50'	21°46'	9°34'	F 22
S 23	20 3 19	0°41'43	23° 6'	12°30'	15°42'	11°14'	21°47'	28° 2'	16°41'	1° 9'	12°12'	11°15'	12°47'	21°53'	9°36'	S 23
S 24	20 7 16	0°59'07	5°11'14	14°22'	16°41'	11°53'	21°59'	28° 7'	16°40'	1°11'	12°11'	11° 9'	12°44'	22° 0'	9°37'	S 24
M 25	20 11 12	1°56'31	17°31'	16°11'	17°39'	12°33'	22°12'	28°12'	16°38'	1°14'	12°11'	11° 4'	12°41'	22° 6'	9°38'	M 25
T 26	20 15 9	2°53'56	29°58'	17°59'	18°38'	13°12'	22°24'	28°17'	16°37'	1°16'	12°11'	11° 2'	12°38'	22°13'	9°39'	T 26
W 27	20 19 6	3°51'21	12°35'	19°46'	19°36'	13°51'	22°37'	28°21'	16°35'	1°18'	12°11'	11°D 1	12°34'	22°20'	9°40'	W 27
T 28	20 23 2	4°48'48	25°26'	21°31'	20°33'	14°30'	22°50'	28°26'	16°34'	1°20'	12°10'	11° 2'	12°31'	22°27'	9°42'	T 28
F 29	20 26 59	5°46'15	8°41'51	23°14'	21°30'	15°10'	23° 2'	28°30'	16°32'	1°22'	12°10'	11° 4'	12°28'	22°33'	9°43'	F 29
S 30	20 30 55	6°43'43	21°53'	24°55'	22°27'	15°49'	23°15'	28°35'	16°30'	1°25'	12°10'	11° 5'	12°25'	22°40'	9°43'	S 30
S 31	20 34 52	7°41'11	5°11'33	26°13'5	23°11'23	16°28'28	23°12'28	28°39'39	16°29'29	1°27'27	12°10' 9	11°R 6	12°22'22	22°47'47	9°44'44	S 31

Delta T = 105.71 sec

Greg. Calendar

AUGUST 1588 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	20 38 48	8°38'40	19°11'32	28°14'	24°18'	17°57'	23°41'	28°43'	16°R27	1°12'29	12°R 9	11°R 5	12°18'	22°11'53	9°45'	M 1
T 2	20 42 45	9°36'10	3°11'50	29°50'	25°14'	17°46'	23°54'	28°48'	16°R25	1°31'	12°R 8	11°R 4	12°15'	23° 0'	9°46'	T 2
W 3	20 46 41	10°33'41	18°25'	1°11'26	26° 8'	18°25'	24° 6'	28°52'	16°23'	1°34'	12° 8'	11° 1'	12°12'	23° 7'	9°47'	W 3
T 4	20 50 38	11°31'13	3°31'10	2°59'	27° 2'	19° 4'	24°19'	28°56'	16°22'	1°36'	12° 7'	10°57'	12° 9'	23°14'	9°47'	T 4
F 5	20 54 35	12°28'46	18° 1'	4°31'	27°56'	19°43'	24°32'	29° 0'	16°20'	1°38'	12° 7'	10°53'	12° 6'	23°20'	9°48'	F 5
S 6	20 58 31	13°26'20	2°49'49	6° 1'	28°49'	20°22'	24°45'	29° 3'	16°18'	1°40'	12° 6'	10°49'	12° 3'	23°27'	9°48'	S 6
S 7	21 2 28	14°23'55	17°26'	7°30'	29°41'	21° 1'	24°58'	29° 7'	16°16'	1°42'	12° 6'	10°47'	11°59'	23°34'	9°49'	S 7
M 8	21 6 24	15°21'31	1°46'	8°57'	0°43'33	21°39'	25°11'	29°11'	16°14'	1°44'	12° 5'	10°45'	11°56'	23°41'	9°49'	M 8
T 9	21 10 21	16°19'08	15°44'	10°22'	1°24'	22°18'	25°24'	29°14'	16°12'	1°47'	12° 5'	10°D45	11°53'	23°47'	9°50'	T 9
W 10	21 14 17	17°16'47	29°17'	11°46'	2°14'	22°57'	25°37'	29°18'	16°10'	1°49'	12° 4'	10°46'	11°50'	23°54'	9°50'	W 10
T 11	21 18 14	18°14'28	12°17'26	13° 8'	3° 4'	23°36'	25°50'	29°21'	16° 8'	1°51'	12° 4'	10°47'	11°47'	24° 1'	9°50'	T 11
F 12	21 22 10	19°12'10	25°12'	14°28'	3°53'	24°14'	26° 3'	29°25'	16° 6'	1°53'	12° 3'	10°49'	11°44'	24° 7'	9°50'	F 12
S 13	21 26 7	20° 9'53	7°39'	15°47'	4°41'	24°53'	26°16'	29°28'	16° 4'	1°55'	12° 2'	10°50'	11°40'	24°14'	9°50'	S 13
S 14	21 30 4	21° 7'38	19°50'	17° 4'	5°29'	25°32'	26°29'	29°31'	16° 2'	1°57'	12° 2'	10°R50	11°37'	24°21'	9°R51	S 14
M 15	21 34 0	22° 5'25	1°11'51	18°19'	6°16'	26°10'	26°42'	29°34'	16° 0'	2° 0'	12° 1'	10°50'	11°34'	24°28'	9°51'	M 15
T 16	21 37 57	23° 3'14	13°45'	19°31'	7° 2'	26°49'	26°55'	29°37'	15°57'	2° 2'	12° 0'	10°49'	11°31'	24°34'	9°50'	T 16
W 17	21 41 53	24° 1'04	25°37'	20°42'	7°47'	27°27'	27° 8'	29°40'	15°55'	2° 4'	12° 0'	10°47'	11°28'	24°41'	9°50'	W 17
T 18	21 45 50	24°58'56	7°32'32	21°51'	8°31'	28° 6'	27°21'	29°42'	15°53'	2° 6'	11°59'	10°45'	11°24'	24°48'	9°50'	T 18
F 19	21 49 46	25°56'50	19°32'	22°58'	9°15'	28°44'	27°34'	29°45'	15°51'	2° 8'	11°58'	10°43'	11°21'	24°54'	9°50'	F 19
S 20	21 53 43	26°54'46	1°11'40	24° 2'	9°57'	29°23'	27°47'	29°47'	15°49'	2°10'	11°58'	10°40'	11°18'	25° 1'	9°50'	S 20
S 21	21 57 39	27°52'43	13°59'	25° 4'	10°38'	0°11' 1	28° 0'	29°50'	15°46'	2°12'	11°57'	10°39'	11°15'	25° 8'	9°49'	S 21
M 22	22 1 36	28°50'42	26°31'	26° 3'	11°19'	0°39'	28°13'	29°52'	15°44'	2°14'	11°56'	10°38'	11°12'	25°15'	9°49'	M 22
T 23	22 5 33	29°48'42	9°11'15	27° 0'	11°58'	1°18'	28°26'	29°54'	15°42'	2°16'	11°55'	10°D37	11° 9'	25°21'	9°48'	T 23
W 24	22 9 29	0°11'46'44	22°13'	27°54'	12°36'	1°56'	28°39'	29°56'	15°40'	2°18'	11°54'	10°38'	11° 5'	25°28'	9°48'	W 24
T 25	22 13 26	1°44'47	5°41'25	28°45'	13°13'	2°34'	28°52'	29°58'	15°37'	2°20'	11°54'	10°38'	11° 2'	25°35'	9°47'	T 25
F 26	22 17 22	2°42'52	18°49'	29°32'	13°49'	3°12'	29° 5'	0°11' 0	15°35'	2°22'	11°53'	10°39'	10°59'	25°41'	9°46'	F 26
S 27	22 21 19	3°40'58	2°11'27	0°41'17	14°24'	3°50'	29°18'	0° 2'	15°33'	2°24'	11°52'	10°40'	10°56'	25°48'	9°46'	S 27
S 28	22 25 15	4°39'06	16°17'	0°57'	14°57'	4°28'	29°31'	0° 4'	15°30'	2°26'	11°51'	10°40'	10°53'	25°55'	9°45'	S 28
M 29	22 29 12	5°37'15	0°11'18	1°34'	15°29'	5° 6'	29°44'	0° 5'	15°28'	2°28'	11°50'	10°R40	10°50'	26° 2'	9°44'	M 29
T 30	22 33 8	6°35'26	14°29'	2° 7'	16° 0'	5°44'	29°57'	0° 7'	15°26'	2°30'	11°49'	10°40'	10°46'	26° 8'	9°43'	T 30
W 31	22 37 5	7°33'38	28°11'47	2°41'35	16°41'29	6°12'22	0°11'10	0°11' 8	15°23'	2°32'	11°48'	10°R40	10°43'	26°11'15	9°42'42	W 31

Delta T = 105.58 sec

Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1588

geocentric

SEPTEMBER 1588 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	22 41 1	8 ^h 31'52	13 ^h 11	2 ^h 58	16 ^h 56	7 ^h 0	0 ^h 23	0 ^h 9	15 ^h R21	2 ^h 23	11 ^h R47	10 ^h R40	10 ^h 40	26 ^h 22	9 ^h R41	T 1
F 2	22 44 58	9 ^h 30'07	27 ^h 35	3 ^h 17	17 ^h 22	7 ^h 38	0 ^h 36	0 ^h 11	15 ^h R18	2 ^h 36	11 ^h R46	10 ^h 40	10 ^h 37	26 ^h 29	9 ^h R40	F 2
S 3	22 48 55	10 ^h 28'24	11 ^h 55	3 ^h 30	17 ^h 47	8 ^h 16	0 ^h 49	0 ^h 12	15 ^h 16	2 ^h 37	11 ^h 45	10 ^h D40	10 ^h 34	26 ^h 35	9 ^h 39	S 3
S 4	22 52 51	11 ^h 26'42	26 ^h 8	3 ^h 37	18 ^h 9	8 ^h 54	1 ^h 2	0 ^h 13	15 ^h 14	2 ^h 39	11 ^h 44	10 ^h 40	10 ^h 30	26 ^h 42	9 ^h 38	S 4
M 5	22 56 48	12 ^h 25'02	10 ^h 8	3 ^h R39	18 ^h 30	9 ^h 32	1 ^h 15	0 ^h 13	15 ^h 11	2 ^h 41	11 ^h 43	10 ^h R40	10 ^h 27	26 ^h 49	9 ^h 37	M 5
T 6	23 0 44	13 ^h 23'24	23 ^h 51	3 ^h 34	18 ^h 49	10 ^h 10	1 ^h 28	0 ^h 14	15 ^h 9	2 ^h 43	11 ^h 42	10 ^h 40	10 ^h 24	26 ^h 55	9 ^h 35	T 6
W 7	23 4 41	14 ^h 21'48	7 ^h 16	3 ^h 23	19 ^h 6	10 ^h 47	1 ^h 41	0 ^h 15	15 ^h 6	2 ^h 45	11 ^h 41	10 ^h 40	10 ^h 21	27 ^h 2	9 ^h 34	W 7
T 8	23 8 37	15 ^h 20'14	20 ^h 21	3 ^h 5	19 ^h 21	11 ^h 25	1 ^h 54	0 ^h 15	15 ^h 4	2 ^h 46	11 ^h 40	10 ^h 39	10 ^h 18	27 ^h 9	9 ^h 32	T 8
F 9	23 12 34	16 ^h 18'41	3 ^h 8	2 ^h 40	19 ^h 35	12 ^h 3	2 ^h 7	0 ^h 16	15 ^h 2	2 ^h 48	11 ^h 39	10 ^h 38	10 ^h 15	27 ^h 16	9 ^h 31	F 9
S 10	23 16 30	17 ^h 17'11	15 ^h 34	2 ^h 8	19 ^h 46	12 ^h 40	2 ^h 20	0 ^h 16	14 ^h 59	2 ^h 50	11 ^h 38	10 ^h 38	10 ^h 11	27 ^h 22	9 ^h 29	S 10
S 11	23 20 27	18 ^h 15'44	27 ^h 47	1 ^h 30	19 ^h 55	13 ^h 18	2 ^h 32	0 ^h 16	14 ^h 57	2 ^h 51	11 ^h 37	10 ^h 37	10 ^h 8	27 ^h 29	9 ^h 28	S 11
M 12	23 24 24	19 ^h 14'18	9 ^h 49	0 ^h 45	20 ^h 2	13 ^h 56	2 ^h 45	0 ^h R16	14 ^h 54	2 ^h 53	11 ^h 36	10 ^h 36	10 ^h 5	27 ^h 36	9 ^h 26	M 12
T 13	23 28 20	20 ^h 12'54	21 ^h 44	29 ^h 54	20 ^h 6	14 ^h 33	2 ^h 58	0 ^h 16	14 ^h 52	2 ^h 55	11 ^h 35	10 ^h D36	10 ^h 2	27 ^h 42	9 ^h 25	T 13
W 14	23 32 17	21 ^h 11'33	3 ^h 36	28 ^h 58	20 ^h 9	15 ^h 11	3 ^h 11	0 ^h 16	14 ^h 50	2 ^h 56	11 ^h 34	10 ^h 37	9 ^h 59	27 ^h 49	9 ^h 23	W 14
T 15	23 36 13	22 ^h 10'14	15 ^h 32	27 ^h 58	20 ^h R 9	15 ^h 48	3 ^h 23	0 ^h 16	14 ^h 47	2 ^h 58	11 ^h 33	10 ^h 37	9 ^h 55	27 ^h 56	9 ^h 21	T 15
F 16	23 40 10	23 ^h 8'58	27 ^h 33	26 ^h 54	20 ^h 7	16 ^h 26	3 ^h 36	0 ^h 15	14 ^h 45	3 ^h 0	11 ^h 32	10 ^h 38	9 ^h 52	28 ^h 3	9 ^h 19	F 16
S 17	23 44 6	24 ^h 7'43	9 ^h 46	25 ^h 49	20 ^h 2	17 ^h 3	3 ^h 49	0 ^h 15	14 ^h 43	3 ^h 1	11 ^h 31	10 ^h 40	9 ^h 49	28 ^h 9	9 ^h 17	S 17
S 18	23 48 3	25 ^h 6'31	22 ^h 14	24 ^h 44	19 ^h 55	17 ^h 40	4 ^h 1	0 ^h 14	14 ^h 40	3 ^h 3	11 ^h 30	10 ^h 41	9 ^h 46	28 ^h 16	9 ^h 15	S 18
M 19	23 51 59	26 ^h 5'20	4 ^h 58	23 ^h 40	19 ^h 46	18 ^h 18	4 ^h 14	0 ^h 14	14 ^h 38	3 ^h 4	11 ^h 29	10 ^h R41	9 ^h 43	28 ^h 23	9 ^h 13	M 19
T 20	23 55 56	27 ^h 4'12	18 ^h 0	22 ^h 38	19 ^h 34	18 ^h 55	4 ^h 26	0 ^h 13	14 ^h 35	3 ^h 6	11 ^h 28	10 ^h 41	9 ^h 40	28 ^h 29	9 ^h 11	T 20
W 21	23 59 53	28 ^h 3'06	1 ^h 20	21 ^h 42	19 ^h 20	19 ^h 32	4 ^h 39	0 ^h 12	14 ^h 33	3 ^h 7	11 ^h 26	10 ^h 40	9 ^h 36	28 ^h 36	9 ^h 9	W 21
T 22	0 3 49	29 ^h 2'02	14 ^h 58	20 ^h 52	19 ^h 4	20 ^h 9	4 ^h 51	0 ^h 11	14 ^h 31	3 ^h 9	11 ^h 25	10 ^h 39	9 ^h 33	28 ^h 43	9 ^h 7	T 22
F 23	0 7 46	0 ^h 1'00	28 ^h 50	20 ^h 9	18 ^h 45	20 ^h 47	5 ^h 4	0 ^h 10	14 ^h 29	3 ^h 10	11 ^h 24	10 ^h 36	9 ^h 30	28 ^h 50	9 ^h 5	F 23
S 24	0 11 42	0 ^h 59'59	12 ^h 53	19 ^h 35	18 ^h 24	21 ^h 24	5 ^h 16	0 ^h 8	14 ^h 26	3 ^h 11	11 ^h 23	10 ^h 33	9 ^h 27	28 ^h 56	9 ^h 3	S 24
S 25	0 15 39	1 ^h 59'01	27 ^h 3	19 ^h 10	18 ^h 1	22 ^h 1	5 ^h 28	0 ^h 7	14 ^h 24	3 ^h 13	11 ^h 22	10 ^h 31	9 ^h 24	29 ^h 3	9 ^h 0	S 25
M 26	0 19 35	2 ^h 58'05	11 ^h 18	18 ^h 55	17 ^h 36	22 ^h 38	5 ^h 41	0 ^h 6	14 ^h 22	3 ^h 14	11 ^h 21	10 ^h 28	9 ^h 21	29 ^h 10	8 ^h 58	M 26
T 27	0 23 32	3 ^h 57'10	25 ^h 32	18 ^h D51	17 ^h 9	23 ^h 15	5 ^h 53	0 ^h 4	14 ^h 20	3 ^h 15	11 ^h 20	10 ^h 27	9 ^h 17	29 ^h 16	8 ^h 56	T 27
W 28	0 27 28	4 ^h 56'17	9 ^h 35	18 ^h 58	16 ^h 40	23 ^h 52	6 ^h 5	0 ^h 2	14 ^h 17	3 ^h 17	11 ^h 18	10 ^h D27	9 ^h 14	29 ^h 23	8 ^h 53	W 28
T 29	0 31 25	5 ^h 55'26	23 ^h 52	19 ^h 14	16 ^h 9	24 ^h 29	6 ^h 17	0 ^h 1	14 ^h 15	3 ^h 18	11 ^h 17	10 ^h 28	9 ^h 11	29 ^h 30	8 ^h 51	T 29
F 30	0 35 21	6 ^h 54'36	7 ^h 54	19 ^h 41	15 ^h 37	25 ^h 0	6 ^h 29	29 ^h 59	14 ^h R13	3 ^h 21	11 ^h R16	10 ^h 29	9 ^h 8	29 ^h 37	8 ^h 49	F 30

Delta T = 105.44 sec

Greg. Calendar

OCTOBER 1588 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	0 39 18	7♂53'48	21≈47	20♐17	15°R 3	25♂42	6♐41	29°R57	14°R11	3♂20	11°R15	10♐31	9♐ 5	29♐43	8°R46	S 1
S 2	0 43 15	8°53'02	5♐32	21° 2	14♂29	26°19	6°53	29♂55	14♐ 9	3°21	11°Y14	10°R32	9° 1	29°50	8♂43	S 2
M 3	0 47 11	9°52'18	19° 5	21°55	13°53	26°56	7° 5	29°53	14° 7	3°22	11°13	10°32	8°58	29°57	8°41	M 3
T 4	0 51 8	10°51'36	2°Y27	22°56	13°17	27°33	7°17	29°50	14° 5	3°24	11°12	10°30	8°55	0♂ 3	8°38	T 4
W 5	0 55 4	11°50'56	15°34	24° 3	12°40	28° 9	7°29	29°48	14° 2	3°25	11°10	10°27	8°52	0°10	8°36	W 5
T 6	0 59 1	12°50'18	28°28	25°17	12° 3	28°46	7°41	29°45	14° 0	3°26	11° 9	10°22	8°49	0°17	8°33	T 6
F 7	1 2 57	13°49'42	11♂ 6	26°35	11°26	29°23	7°52	29°43	13°58	3°27	11° 8	10°16	8°46	0°24	8°30	F 7
S 8	1 6 54	14°49'08	23°30	27°58	10°50	29°59	8° 4	29°40	13°56	3°28	11° 7	10°10	8°42	0°30	8°27	S 8
S 9	1 10 50	15°48'36	5♐41	29°25	10°14	0♐36	8°16	29°37	13°55	3°29	11° 6	10° 4	8°39	0°37	8°25	S 9
M10	1 14 47	16°48'07	17°42	0♂55	9°39	1°12	8°27	29°35	13°53	3°30	11° 5	9°59	8°36	0°44	8°22	M10
T 11	1 18 44	17°47'40	29°36	2°27	9° 5	1°49	8°39	29°32	13°51	3°30	11° 3	9°56	8°33	0°50	8°19	T 11
W12	1 22 40	18°47'16	11♂27	4° 2	8°32	2°25	8°50	29°29	13°49	3°31	11° 2	9°54	8°30	0°57	8°16	W12
T 13	1 26 37	19°46'53	23°21	5°39	8° 1	3° 2	9° 1	29°26	13°47	3°32	11° 1	9°D54	8°27	1° 4	8°13	T 13
F 14	1 30 33	20°46'33	5♂21	7°17	7°31	3°38	9°13	29°22	13°45	3°33	11° 0	9°55	8°23	1°11	8°10	F 14
S 15	1 34 30	21°46'15	17°34	8°56	7° 3	4°14	9°24	29°19	13°44	3°34	10°59	9°56	8°20	1°17	8° 8	S 15
S 16	1 38 26	22°46'00	0♐ 3	10°36	6°38	4°50	9°35	29°16	13°42	3°34	10°58	9°58	8°17	1°24	8° 5	S 16
M17	1 42 23	23°45'46	12°53	12°16	6°14	5°27	9°46	29°12	13°40	3°35	10°57	9°R58	8°14	1°31	8° 2	M17
T 18	1 46 19	24°45'35	26° 7	13°57	5°52	6° 3	9°57	29° 9	13°39	3°36	10°55	9°57	8°11	1°37	7°59	T 18
W19	1 50 16	25°45'26	9♂44	15°38	5°33	6°39	10° 8	29° 5	13°37	3°36	10°54	9°53	8° 7	1°44	7°56	W19
T 20	1 54 13	26°45'19	23°45	17°19	5°16	7°15	10°19	29° 1	13°35	3°37	10°53	9°48	8° 4	1°51	7°53	T 20
F 21	1 58 9	27°45'14	8♐ 4	19° 0	5° 1	7°51	10°29	28°58	13°34	3°37	10°52	9°41	8° 1	1°58	7°50	F 21
S 22	2 2 6	28°45'11	22°36	20°41	4°49	8°27	10°40	28°54	13°32	3°38	10°51	9°33	7°58	2° 4	7°47	S 22
S 23	2 6 2	29°45'10	7♂15	22°22	4°39	9° 3	10°50	28°50	13°31	3°38	10°50	9°25	7°55	2°11	7°43	S 23
M24	2 9 59	0♐45'10	21°52	24° 2	4°31	9°39	11° 1	28°46	13°29	3°39	10°49	9°18	7°52	2°18	7°40	M24
T 25	2 13 55	1°45'13	6♂23	25°42	4°26	10°14	11°11	28°42	13°28	3°39	10°48	9°13	7°48	2°24	7°37	T 25
W26	2 17 52	2°45'16	20°41	27°22	4°24	10°50	11°22	28°38	13°27	3°40	10°47	9°11	7°45	2°31	7°34	W26
T 27	2 21 48	3°45'22	4≈46	29° 2	4°D24	11°26	11°32	28°33	13°25	3°40	10°46	9°D10	7°42	2°38	7°31	T 27
F 28	2 25 45	4°45'29	18°35	0♐41	4°26	12° 2	11°42	28°29	13°24	3°40	10°45	9°11	7°39	2°44	7°28	F 28
S 29	2 29 42	5°45'37	2♐10	2°19	4°31	12°37	11°52	28°25	13°23	3°41	10°44	9°R11	7°36	2°51	7°25	S 29
S 30	2 33 38	6°45'47	15°32	3°58	4°38	13°13	12° 2	28°21	13°22	3°41	10°42	9°11	7°32	2°58	7°22	S 30
M31	2 37 35	7♐45'58	28♐42	5♐36	4♂47	13♐48	12♐12	28♂16	13♐21	3♂41	10°Y41	9♐10	7♐29	3♂ 5	7♂19	M31

ASTRODIENST EPHEMERIS for the year 1588

geocentric

NOVEMBER 1588 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	2 41 31	8♈46'11	11♈40	7♈13	4♈59	14♈24	12♈21	28♈12	13♈20	3♈24	10♈40	9♈5	7♈26	3♈11	7♈16	T 1
W 2	2 45 28	9♈46'26	24°27	8°50	5°12	14°59	12°31	28♈7	13♈19	3°41	10♈39	8♈58	7°23	3°18	7♈13	W 2
T 3	2 49 24	10°46'43	7♈4	10°27	5°28	15°34	12°40	28°3	13°18	3°42	10°38	8°48	7°20	3°25	7°9	T 3
F 4	2 53 21	11°47'01	19°30	12°3	5°46	16°10	12°50	27°58	13°17	3°42	10°37	8°37	7°17	3°31	7°6	F 4
S 5	2 57 17	12°47'21	1♈45	13°39	6°5	16°45	12°59	27°53	13°16	3°42	10°37	8°24	7°13	3°38	7°3	S 5
S 6	3 1 14	13°47'43	13°51	15°15	6°27	17°20	13°8	27°49	13°15	3°42	10°36	8°12	7°10	3°45	7°0	S 6
M 7	3 5 10	14°48'06	25°49	16°50	6°51	17°55	13°17	27°44	13°14	3°42	10°35	8°1	7°7	3°52	6°57	M 7
T 8	3 9 7	15°48'32	7♈41	18°26	7°16	18°30	13°26	27°39	13°14	3°42	10°34	7°53	7°4	3°58	6°54	T 8
W 9	3 13 4	16°48'59	19°30	20°0	7°43	19°5	13°35	27°34	13°13	3°42	10°33	7°46	7°1	4°5	6°51	W 9
T 10	3 17 0	17°49'28	1♈21	21°35	8°12	19°40	13°44	27°30	13°12	3°41	10°32	7°43	6°58	4°12	6°48	T 10
F 11	3 20 57	18°49'59	13°19	23°9	8°42	20°15	13°52	27°25	13°12	3°41	10°31	7°41	6°54	4°18	6°45	F 11
S 12	3 24 53	19°50'32	25°27	24°43	9°14	20°50	14°1	27°20	13°11	3°41	10°30	7°D41	6°51	4°25	6°42	S 12
S 13	3 28 50	20°51'06	7♈53	26°17	9°48	21°25	14°9	27°15	13°11	3°41	10°29	7°R41	6°48	4°32	6°39	S 13
M14	3 32 46	21°51'43	20°41	27°51	10°23	21°59	14°18	27°10	13°10	3°41	10°28	7°41	6°45	4°39	6°36	M14
T 15	3 36 43	22°52'21	3♈55	29°24	10°59	22°34	14°26	27°5	13°10	3°40	10°28	7°38	6°42	4°45	6°33	T 15
W16	3 40 39	23°53'00	17°37	0♈57	11°37	23°9	14°34	27°0	13°9	3°40	10°27	7°33	6°38	4°52	6°30	W16
T 17	3 44 36	24°53'42	1♈48	2°30	12°16	23°43	14°41	26°55	13°9	3°40	10°26	7°25	6°35	4°59	6°27	T 17
F 18	3 48 33	25°54'25	16°24	4°3	12°56	24°17	14°49	26°51	13°9	3°39	10°25	7°15	6°32	5°5	6°24	F 18
S 19	3 52 29	26°55'09	1♈19	5°36	13°37	24°52	14°57	26°46	13°9	3°39	10°25	7°3	6°29	5°12	6°21	S 19
S 20	3 56 26	27°55'55	16°24	7°9	14°19	25°26	15°4	26°41	13°8	3°38	10°24	6°52	6°26	5°19	6°18	S 20
M21	4 0 22	28°56'42	1♈27	8°41	15°3	26°0	15°12	26°36	13°8	3°38	10°23	6°41	6°23	5°25	6°16	M21
T 22	4 4 19	29°57'30	16°20	10°13	15°48	26°34	15°19	26°31	13°D 8	3°37	10°22	6°33	6°19	5°32	6°13	T 22
W23	4 8 15	0♈58'19	0♈56	11°46	16°33	27°9	15°26	26°26	13°8	3°37	10°22	6°28	6°16	5°39	6°10	W23
T 24	4 12 12	1°59'09	15°10	13°18	17°20	27°42	15°33	26°21	13°8	3°36	10°21	6°26	6°13	5°46	6°7	T 24
F 25	4 16 8	3°0'00	29°2	14°49	18°7	28°16	15°39	26°16	13°9	3°35	10°20	6°25	6°10	5°52	6°5	F 25
S 26	4 20 5	4°0'52	12♈32	16°21	18°56	28°50	15°46	26°11	13°9	3°35	10°20	6°25	6°7	5°59	6°2	S 26
S 27	4 24 2	5°1'44	25°43	17°53	19°45	29°24	15°53	26°6	13°9	3°34	10°19	6°24	6°4	6°6	5°59	S 27
M28	4 27 58	6°2'38	8♈37	19°24	20°35	29°58	15°59	26°2	13°9	3°33	10°19	6°21	6°0	6°12	5°57	M28
T 29	4 31 55	7°3'32	21°18	20°55	21°26	0♈31	16°5	25°57	13°10	3°33	10°18	6°16	5°57	6°19	5°54	T 29
W30	4 35 51	8♈4'27	3♈48	22♈26	22♈18	1♈5	16♈11	25♈52	13♈10	3♈22	10°17	6♈7	5♈54	6♈26	5♈52	W30

Delta T = 105.17 sec

Greg. Calendar

DECEMBER 1588 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	4 39 48	9♈5'23	16♈8	23♈56	23♈10	1♈38	16♈17	25°R47	13♈10	3°R31	10°R17	5°R56	5♈51	6♈33	5°R49	T 1
F 2	4 43 44	10°6'20	28°21	25°26	24°3	2°11	16°23	25♈43	13°11	3♈20	10°16	5♈42	5°48	6°39	5♈47	F 2
S 3	4 47 41	11°7'17	10♈26	26°56	24°57	2°45	16°28	25°38	13°11	3°29	10°16	5°27	5°44	6°46	5°44	S 3
S 4	4 51 37	12°8'16	22°25	28°24	25°52	3°18	16°33	25°33	13°12	3°28	10°15	5°12	5°41	6°53	5°42	S 4
M 5	4 55 34	13°9'16	4♈19	29°53	26°47	3°51	16°39	25°29	13°13	3°28	10°15	4°59	5°38	6°59	5°40	M 5
T 6	4 59 31	14°10'16	16°9	1♈20	27°43	4°24	16°44	25°24	13°13	3°27	10°15	4°48	5°35	7°6	5°37	T 6
W 7	5 3 27	15°11'18	27°58	2°47	28°39	4°57	16°49	25°20	13°14	3°26	10°14	4°40	5°32	7°13	5°35	W 7
T 8	5 7 24	16°12'20	9♈49	4°12	29°36	5°30	16°53	25°15	13°15	3°25	10°14	4°34	5°29	7°19	5°33	T 8
F 9	5 11 20	17°13'23	21°45	5°36	0♈34	6°2	16°58	25°11	13°16	3°24	10°13	4°32	5°25	7°26	5°31	F 9
S 10	5 15 17	18°14'27	3♈52	6°58	1°32	6°35	17°2	25°7	13°16	3°22	10°13	4°D31	5°22	7°33	5°29	S 10
S 11	5 19 13	19°15'32	16°13	8°19	2°30	7°8	17°7	25°2	13°17	3°21	10°13	4°R31	5°19	7°40	5°27	S 11
M12	5 23 10	20°16'38	28°55	9°37	3°29	7°40	17°11	24°58	13°18	3°20	10°13	4°31	5°16	7°46	5°25	M12
T 13	5 27 6	21°17'45	12♈2	10°53	4°29	8°12	17°15	24°54	13°19	3°19	10°12	4°29	5°13	7°53	5°23	T 13
W14	5 31 3	22°18'53	25°38	12°6	5°29	8°44	17°18	24°50	13°20	3°18	10°12	4°25	5°10	8°0	5°21	W14
T 15	5 35 0	23°20'01	9♈44	13°15	6°30	9°17	17°22	24°46	13°22	3°17	10°12	4°19	5°6	8°6	5°19	T 15
F 16	5 38 56	24°21'11	24°20	14°20	7°31	9°49	17°25	24°42	13°23	3°16	10°12	4°10	5°3	8°13	5°17	F 16
S 17	5 42 53	25°22'21	9♈20	15°21	8°32	10°20	17°28	24°38	13°24	3°14	10°11	3°59	5°0	8°20	5°16	S 17
S 18	5 46 49	26°23'31	24°35	16°16	9°34	10°52	17°31	24°34	13°25	3°13	10°11	3°48	4°57	8°26	5°14	S 18
M19	5 50 46	27°24'42	9♈54	17°4	10°36	11°24	17°34	24°30	13°27	3°12	10°11	3°39	4°54	8°33	5°12	M19
T 20	5 54 42	28°25'53	25°6	17°46	11°38	11°55	17°37	24°27	13°28	3°10	10°11	3°31	4°50	8°40	5°11	T 20
W21	5 58 39	29°27'04	10♈1	18°20	12°41	12°27	17°39	24°23	13°29	3°9	10°11	3°26	4°47	8°47	5°9	W21
T 22	6 2 36	0♈28'15	24°33	18°45	13°44	12°58	17°41	24°20	13°31	3°8	10°11	3°24	4°44	8°53	5°8	T 22
F 23	6 6 32	1°29'26	8♈37	19°0	14°48	13°29	17°43	24°16	13°32	3°6	10°11	3°D24	4°41	9°0	5°6	F 23
S 24	6 10 29	2°30'37	22°15	19°R 4	15°51	14°0	17°45	24°13	13°34	3°5	10°11	3°25	4°38	9°7	5°5	S 24
S 25	6 14 25	3°31'48	5♈27	18°57	16°56	14°31	17°47	24°10	13°36	3°4	10°D11	3°R25	4°35	9°13	5°4	S 25
M26	6 18 22	4°32'58	18°19	18°39	18°0	15°2	17°48	24°7	13°37	3°2	10°11	3°24	4°31	9°20	5°3	M26
T 27	6 22 18	5°34'08	0♈53	18°8	19°5	15°32	17°50	24°3	13°39	3°1	10°11	3°21	4°28	9°27	5°2	T 27
W28	6 26 15	6°35'18	13°13	17°26	20°10	16°3	17°51	24°1	13°41	2°59	10°11	3°15	4°25	9°33	5°0	W28
T 29	6 30 11	7°36'28	25°22	16°33	21°15	16°33	17°52	23°58	13°43	2°58	10°11	3°7	4°22	9°40	4°59	T 29
F 30	6 34 8	8°37'38	7♈24	15°31	22°20	17°3	17°52	23°55	13°44	2°56	10°11	2°57	4°19	9°47	4°58	F 30
S 31	6 38 5	9♈38'47	19♈21	14♈20	23♈26	17♈33	17♈53	23♈52	13♈46	2♈55	10°11	2♈46	4♈16	9♈54	4♈58	S 31

Delta T = 105.04 sec

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