



Astrodienst Ephemeris Tables for the year 1590

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 D5EPX

ASTRODIENST EPHEMERIS for the year 1590

geocentric

JANUARY 1590 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	6 41 3	10°24'53	21°27	18°29	19°28	29°30	16°18	8°R43	17°38	5°R10	11°V13	13°R38	14°Ω53	20°Ω32	9°R45	M 1
T 2	6 45 0	11°26'04	15°35	18°45	20°21	0°H16	16°23	8°II39	17°40	5°Ω 9	11°13	13°Ω35	14°49	20°39	9°Ω44	T 2
W 3	6 48 57	12°27'15	29°10	19°27	21°33	1° 2	16°29	8°36	17°42	5° 7	11°13	13°30	14°46	20°45	9°43	W 3
T 4	6 52 53	13°28'26	13°12	20°13	22°45	1°49	16°34	8°32	17°44	5° 5	11°13	13°26	14°43	20°52	9°42	T 4
F 5	6 56 50	14°29'37	27°39	21° 4	23°57	2°35	16°39	8°29	17°46	5° 4	11°14	13°21	14°40	20°59	9°41	F 5
S 6	7 0 46	15°30'48	12°34	21°59	25° 9	3°21	16°44	8°25	17°48	5° 2	11°14	13°17	14°37	21° 5	9°40	S 6
S 7	7 4 43	16°31'59	27°21	22°57	26°21	4° 7	16°49	8°22	17°50	5° 1	11°14	13°15	14°33	21°12	9°39	S 7
M 8	7 8 39	17°33'09	12°21	23°58	27°33	4°53	16°53	8°19	17°52	4°59	11°14	13°D14	14°30	21°19	9°39	M 8
T 9	7 12 36	18°34'18	27°15	25° 2	28°45	5°39	16°58	8°15	17°54	4°58	11°15	13°15	14°27	21°25	9°38	T 9
W10	7 16 33	19°35'26	11°57	26° 9	29°57	6°25	17° 2	8°12	17°56	4°56	11°15	13°16	14°24	21°32	9°38	W10
T 11	7 20 29	20°36'34	26°22	27°18	1°H 8	7°11	17° 6	8° 9	17°58	4°54	11°15	13°18	14°21	21°38	9°37	T 11
F 12	7 24 26	21°37'41	10°V27	28°29	2°20	7°57	17°10	8° 6	18° 0	4°53	11°16	13°19	14°18	21°45	9°37	F 12
S 13	7 28 22	22°38'47	24°10	29°42	3°31	8°43	17°13	8° 4	18° 2	4°51	11°16	13°R19	14°14	21°52	9°36	S 13
S 14	7 32 19	23°39'52	7°B34	0°B57	4°43	9°29	17°17	8° 1	18° 5	4°49	11°17	13°18	14°11	21°58	9°36	S 14
M15	7 36 15	24°40'56	20°39	2°13	5°54	10°15	17°20	7°58	18° 7	4°48	11°17	13°17	14° 8	22° 5	9°36	M15
T 16	7 40 12	25°41'59	3°II28	3°30	7° 5	11° 1	17°23	7°56	18° 9	4°46	11°17	13°15	14° 5	22°12	9°35	T 16
W17	7 44 8	26°43'02	16° 3	4°49	8°16	11°47	17°26	7°53	18°12	4°44	11°18	13°12	14° 2	22°18	9°35	W17
T 18	7 48 5	27°44'03	28°25	6° 9	9°27	12°33	17°29	7°51	18°14	4°43	11°18	13° 9	13°59	22°25	9°D35	T 18
F 19	7 52 2	28°45'04	10°B36	7°31	10°37	13°19	17°32	7°49	18°17	4°41	11°19	13° 7	13°55	22°32	9°35	F 19
S 20	7 55 58	29°46'03	22°39	8°53	11°48	14° 5	17°34	7°47	18°19	4°39	11°20	13° 6	13°52	22°38	9°35	S 20
S 21	7 59 55	0°27'02	4°Ω35	10°17	12°58	14°51	17°36	7°45	18°22	4°38	11°20	13° 5	13°49	22°45	9°35	S 21
M22	8 3 51	1°47'59	16°26	11°41	14° 9	15°37	17°38	7°43	18°24	4°36	11°21	13°D 5	13°46	22°52	9°36	M22
T 23	8 7 48	2°48'56	28°14	13° 6	15°19	16°22	17°40	7°41	18°27	4°34	11°21	13° 5	13°43	22°58	9°36	T 23
W24	8 11 44	3°49'52	10°II 2	14°33	16°29	17° 8	17°42	7°39	18°30	4°33	11°22	13° 6	13°39	23° 5	9°36	W24
T 25	8 15 41	4°50'47	21°52	16° 0	17°39	17°54	17°44	7°38	18°32	4°31	11°23	13° 7	13°36	23°12	9°37	T 25
F 26	8 19 37	5°51'41	3°Ω48	17°28	18°49	18°40	17°45	7°36	18°35	4°29	11°23	13° 8	13°33	23°18	9°37	F 26
S 27	8 23 34	6°52'34	15°54	18°57	19°58	19°25	17°46	7°35	18°38	4°28	11°24	13° 8	13°30	23°25	9°38	S 27
S 28	8 27 31	7°53'27	28°13	20°26	21° 8	20°11	17°47	7°34	18°41	4°26	11°25	13° 9	13°27	23°31	9°38	S 28
M29	8 31 27	8°54'18	10°II52	21°56	22°17	20°56	17°48	7°33	18°43	4°24	11°25	13°R 9	13°24	23°38	9°39	M29
T 30	8 35 24	9°55'09	23°52	23°28	23°26	21°42	17°48	7°32	18°46	4°23	11°26	13° 9	13°20	23°45	9°40	T 30
W31	8 39 20	10°55'59	7°V18	25°B 0	24°H35	22°H28	17°Ω49	7°II31	18°H49	4°Ω21	11°V27	13°Ω 9	13°Ω17	23°Ω51	9°Ω40	W31

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat
M 1	23s 5	7s32	5n 7	20s26	2n32	16s48	1s46	12s36	1s 0	5s12	1n19	20n 7	1s42	5s35	0s45	18n56
T 2	23 0	11 33	5 13	20 38	2 24	16 23	1 44	12 19	0 59	5 14	1 20	20 7	1 42	5 34	0 45	18 56
W 3	22 54	15 6	5 2	20 49	2 15	15 58	1 43	12 2	0 58	5 16	1 20	20 6	1 42	5 34	0 45	18 56
T 4	22 48	17 56	4 32	21 2	2 6	15 33	1 41	11 45	0 58	5 18	1 20	20 6	1 42	5 33	0 45	18 57
F 5	22 42	19 43	3 45	21 14	1 57	15 8	1 39	11 28	0 57	5 19	1 20	20 6	1 42	5 32	0 45	18 57
S 6	22 35	20 14	2 42	21 27	1 48	14 42	1 37	11 10	0 56	5 21	1 21	20 5	1 41	5 31	0 45	18 57
S 7	22 28	19 19	1 26	21 39	1 39	14 15	1 36	10 53	0 55	5 23	1 21	20 5	1 41	5 30	0 45	18 58
M 8	22 20	17 3	0 5	21 52	1 30	13 49	1 33	10 35	0 54	5 24	1 21	20 5	1 41	5 30	0 45	18 58
T 9	22 12	13 39	1s17	22 4	1 20	13 22	1 31	10 17	0 53	5 26	1 21	20 4	1 41	5 29	0 45	18 59
W10	22 3	9 26	2 32	22 15	1 11	12 54	1 29	9 59	0 53	5 27	1 21	20 4	1 41	5 28	0 45	18 59
T 11	21 54	4 45	3 36	22 26	1 2	12 27	1 27	9 41	0 52	5 28	1 22	20 4	1 40	5 27	0 45	18 59
F 12	21 45	0n 4	4 26	22 36	0 53	11 59	1 24	9 24	0 51	5 30	1 22	20 4	1 40	5 26	0 45	19 0
S 13	21 35	4 46	4 59	22 46	0 44	11 30	1 22	9 5	0 50	5 31	1 22	20 3	1 40	5 25	0 45	19 0
S 14	21 25	9 6	5 14	22 54	0 35	11 2	1 19	8 47	0 49	5 32	1 22	20 3	1 40	5 24	0 45	19 1
M15	21 14	12 55	5 13	23 2	0 26	10 33	1 16	8 29	0 49	5 33	1 23	20 3	1 39	5 23	0 44	19 1
T 16	21 3	16 2	4 57	23 9	0 18	10 4	1 13	8 11	0 48	5 34	1 23	20 3	1 39	5 22	0 44	19 1
W17	20 51	18 21	4 26	23 15	0 9	9 35	1 11	7 53	0 47	5 35	1 23	20 3	1 39	5 21	0 44	19 2
T 18	20 40	19 46	3 43	23 20	0 1	9 5	1 7	7 34	0 46	5 36	1 24	20 2	1 39	5 20	0 44	19 2
F 19	20 27	20 14	2 51	23 24	0s 7	8 36	1 4	7 16	0 45	5 36	1 24	20 2	1 39	5 19	0 44	19 3
S 20	20 15	19 46	1 51	23 26	0 15	8 6	1 1	6 58	0 44	5 37	1 24	20 2	1 38	5 18	0 44	19 3
S 21	20 2	18 24	0 47	23 28	0 23	7 36	0 58	6 39	0 44	5 38	1 24	20 2	1 38	5 17	0 44	19 4
M22	19 48	16 14	0n19	23 29	0 30	7 5	0 55	6 21	0 43	5 38	1 25	20 2	1 38	5 16	0 44	19 4
T 23	19 34	13 25	1 23	23 28	0 37	6 35	0 51	6 2	0 42	5 39	1 25	20 2	1 38	5 15	0 44	19 4
W24	19 20	10 3	2 24	23 26	0 44	6 5	0 48	5 43	0 41	5 39	1 25	20 2	1 37	5 14	0 44	19 5
T 25	19 6	6 17	3 19	23 23	0 51	5 34	0 44	5 25	0 40	5 39	1 25	20 2	1 37	5 13	0 44	19 5
F 26	18 51	2 15	4 6	23 18	0 58	5 3	0 40	5 6	0 40	5 40	1 26	20 2	1 37	5 12	0 44	19 6
S 27	18 36	1s55	4 43	23 12	1 4	4 32	0 36	4 47	0 39	5 40	1 26	20 2	1 37	5 11	0 44	19 6
S 28	18 20	6 5	5 7	23 5	1 10	4 1	0 33	4 29	0 38	5 40	1 26	20 2	1 36	5 10	0 44	19 6
M29	18 4	10 5	5 18	22 57	1 16	3 30	0 29	4 10	0 37	5 40	1 26	20 2	1 36	5 9	0 44	19 7
T 30	17 48	13 44	5 13	22 47	1 21	2 59	0 25	3 51	0 36	5 40	1 27	20 2	1 36	5 8	0 44	19 7
W31	17s32	16s48	4n50	22s36	1s27	2s28	0s20	3s32	0s35	5s40	1n27	20n 2	1s36	5s 7	0s44	19n 8

Julian Day Number = 2301795.5, Delta T = 103.33 sec
 Ecliptic obliquity = 23°29'26", Nutation = - 0°00'12", out-of-bounds declination in red
 Ayanamsha: Fagan/Bradley = 19°01'06", Lahiri = 18°08'06"Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1590

geocentric

FEBRUARY 1590 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	8 43 17	11°56'48	21°11	26°32	25°44	23°13	17°R49	7°R30	18°52	4°R19	11°V28	13°R 8	13°Ω14	23°Ω58	9°841	T 1
F 2	8 47 13	12°57'36	5°32	28° 6	26°53	23°59	17°A49	7°II29	18°55	4°Ω18	11°29	13°D 8	13°11	24° 5	9°42	F 2
S 3	8 51 10	13°58'23	20°16	29°40	28° 1	24°44	17°49	7°29	18°58	4°16	11°29	13°Ω 8	13° 8	24°11	9°43	S 3
S 4	8 55 6	14°59'08	5°18	1°15	29°10	25°29	17°48	7°28	19° 1	4°14	11°30	13° 8	13° 5	24°18	9°44	S 4
M 5	8 59 3	15°59'52	20°29	2°51	0°V18	26°15	17°48	7°28	19° 4	4°13	11°31	13°R 8	13° 1	24°25	9°45	M 5
T 6	9 3 0	17° 0'35	5°42	4°28	1°26	27° 0	17°47	7°28	19° 7	4°11	11°32	13° 8	12°58	24°31	9°47	T 6
W 7	9 6 56	18° 1'17	20°44	6° 6	2°34	27°46	17°46	7°D27	19°10	4° 9	11°33	13° 8	12°55	24°38	9°48	W 7
T 8	9 10 53	19° 1'56	5°V29	7°44	3°41	28°31	17°45	7°27	19°13	4° 8	11°34	13° 7	12°52	24°45	9°49	T 8
F 9	9 14 49	20° 2'34	19°51	9°23	4°49	29°16	17°43	7°28	19°16	4° 6	11°35	13° 7	12°49	24°51	9°50	F 9
S 10	9 18 46	21° 3'10	3°A47	11° 3	5°56	0°V 1	17°42	7°28	19°19	4° 4	11°36	13° 6	12°45	24°58	9°52	S 10
S 11	9 22 42	22° 3'45	17°16	12°44	7° 3	0°46	17°40	7°28	19°22	4° 3	11°37	13°D 6	12°42	25° 5	9°53	S 11
M12	9 26 39	23° 4'17	0°II21	14°26	8° 9	1°32	17°38	7°29	19°25	4° 1	11°38	13° 6	12°39	25°11	9°55	M12
T 13	9 30 35	24° 4'48	13° 4	16° 9	9°16	2°17	17°36	7°29	19°28	4° 0	11°39	13° 6	12°36	25°18	9°57	T 13
W14	9 34 32	25° 5'17	25°29	17°53	10°22	3° 2	17°34	7°30	19°32	3°58	11°40	13° 7	12°33	25°24	9°58	W14
T 15	9 38 29	26° 5'44	7°E39	19°37	11°28	3°47	17°31	7°31	19°35	3°57	11°41	13° 8	12°30	25°31	10° 0	T 15
F 16	9 42 25	27° 6'09	19°40	21°23	12°34	4°32	17°29	7°32	19°38	3°55	11°42	13°10	12°26	25°38	10° 2	F 16
S 17	9 46 22	28° 6'33	1°Ω33	23°10	13°39	5°17	17°26	7°33	19°41	3°54	11°43	13°11	12°23	25°44	10° 4	S 17
S 18	9 50 18	29° 6'54	13°22	24°57	14°44	6° 2	17°23	7°34	19°45	3°52	11°44	13°R11	12°20	25°51	10° 6	S 18
M19	9 54 15	0°H 7'14	25°10	26°46	15°49	6°46	17°20	7°35	19°48	3°51	11°45	13°10	12°17	25°58	10° 8	M19
T 20	9 58 11	1° 7'32	6°V58	28°35	16°54	7°31	17°17	7°36	19°51	3°49	11°46	13° 9	12°14	26° 4	10°10	T 20
W21	10 2 8	2° 7'48	18°50	0°H25	17°58	8°16	17°13	7°38	19°54	3°48	11°48	13° 7	12°11	26°11	10°12	W21
T 22	10 6 4	3° 8'03	0°A46	2°17	19° 2	9° 1	17° 9	7°39	19°58	3°46	11°49	13° 4	12° 7	26°18	10°14	T 22
F 23	10 10 1	4° 8'15	12°49	4° 9	20° 5	9°45	17° 5	7°41	20° 1	3°45	11°50	13° 0	12° 4	26°24	10°16	F 23
S 24	10 13 57	5° 8'27	25° 1	6° 2	21° 9	10°30	17° 1	7°43	20° 4	3°43	11°51	12°57	12° 1	26°31	10°18	S 24
S 25	10 17 54	6° 8'36	7°V25	7°56	22°12	11°15	16°57	7°45	20° 8	3°42	11°52	12°54	11°58	26°38	10°21	S 25
M26	10 21 51	7° 8'44	20° 4	9°51	23°14	11°59	16°53	7°47	20°11	3°41	11°53	12°51	11°55	26°44	10°23	M26
T 27	10 25 47	8° 8'51	3°A 1	11°46	24°17	12°44	16°48	7°49	20°15	3°39	11°55	12°D50	11°51	26°51	10°25	T 27
W28	10 29 44	9°H 8'56	16°A19	13°H42	25°V19	13°V28	16°A44	7°II51	20°H18	3°Ω38	11°V56	12°Ω50	11°Ω48	26°Ω58	10°Ω28	W28

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat
T 1	17s15	19s 2	4n11	22s23	1s31	1s57	0s16	3s14	0s35	5s40	1n27	20n 2	1s35	5s 5	0s44	19n 8
F 2	16 58	20 8	3 15	22 9	1 36	1 25	0 12	2 55	0 34	5 40	1 27	20 3	1 35	5 4	0 44	19 8
S 3	16 40	19 55	2 4	21 54	1 40	0 54	0 8	2 36	0 33	5 39	1 28	20 3	1 35	5 3	0 44	19 9
S 4	16 23	18 17	0 44	21 37	1 45	0 23	0 3	2 17	0 32	5 39	1 28	20 3	1 35	5 2	0 44	19 9
M 5	16 5	15 20	0s41	21 19	1 48	0n 8	0n 1	1 59	0 31	5 38	1 28	20 3	1 34	5 1	0 44	19 10
T 6	15 46	11 20	2 2	21 0	1 52	0 40	0 6	1 40	0 31	5 38	1 28	20 3	1 34	4 59	0 44	19 10
W 7	15 28	6 39	3 14	20 38	1 55	1 11	0 10	1 21	0 30	5 37	1 29	20 4	1 34	4 58	0 44	19 11
T 8	15 9	1 40	4 12	20 16	1 57	1 42	0 15	1 2	0 29	5 37	1 29	20 4	1 34	4 57	0 44	19 11
F 9	14 50	3n16	4 52	19 52	2 0	2 13	0 20	0 43	0 28	5 36	1 29	20 4	1 33	4 56	0 44	19 11
S 10	14 31	7 53	5 14	19 27	2 2	2 44	0 25	0 25	0 27	5 35	1 29	20 4	1 33	4 55	0 44	19 12
S 11	14 11	11 57	5 17	19 0	2 3	3 15	0 30	0 6	0 27	5 34	1 30	20 5	1 33	4 53	0 44	19 12
M12	13 51	15 19	5 4	18 31	2 5	3 46	0 35	0n13	0 26	5 33	1 30	20 5	1 33	4 52	0 44	19 12
T 13	13 31	17 51	4 36	18 1	2 6	4 17	0 40	0 31	0 25	5 32	1 30	20 5	1 32	4 51	0 44	19 13
W14	13 11	19 30	3 55	17 30	2 6	4 48	0 45	0 50	0 24	5 31	1 30	20 6	1 32	4 50	0 44	19 13
T 15	12 51	20 12	3 5	16 57	2 6	5 18	0 50	1 9	0 23	5 30	1 31	20 6	1 32	4 48	0 44	19 14
F 16	12 30	19 57	2 7	16 23	2 5	5 49	0 55	1 27	0 23	5 29	1 31	20 6	1 32	4 47	0 44	19 14
S 17	12 9	18 49	1 4	15 47	2 5	6 19	1 0	1 46	0 22	5 27	1 31	20 7	1 31	4 46	0 44	19 14
S 18	11 48	16 52	0n 1	15 10	2 3	6 49	1 5	2 4	0 21	5 26	1 31	20 7	1 31	4 44	0 44	19 15
M19	11 27	14 12	1 6	14 31	2 1	7 19	1 11	2 23	0 20	5 25	1 31	20 8	1 31	4 43	0 44	19 15
T 20	11 6	10 57	2 8	13 51	1 59	7 49	1 16	2 41	0 20	5 23	1 32	20 8	1 31	4 42	0 44	19 15
W21	10 44	7 15	3 5	13 9	1 56	8 19	1 21	3 0	0 19	5 22	1 32	20 9	1 30	4 40	0 44	19 16
T 22	10 23	3 16	3 54	12 26	1 53	8 48	1 27	3 18	0 18	5 20	1 32	20 9	1 30	4 39	0 44	19 16
F 23	10 1	0s53	4 33	11 42	1 49	9 18	1 32	3 37	0 17	5 18	1 32	20 10	1 30	4 38	0 44	19 17
S 24	9 39	5 3	5 0	10 56	1 44	9 47	1 38	3 55	0 17	5 17	1 33	20 10	1 30	4 36	0 44	19 17
S 25	9 17	9 4	5 13	10 9	1 39	10 15	1 43	4 13	0 16	5 15	1 33	20 11	1 29	4 35	0 44	19 17
M26	8 54	12 47	5 12	9 20	1 34	10 44	1 49	4 31	0 15	5 13	1 33	20 11	1 29	4 34	0 44	19 18
T 27	8 32	15 58	4 56	8 31	1 28	11 12	1 54	4 49	0 14	5 11	1 33	20 12	1 29	4 32	0 44	19 18
W28	8s 9	18s26	4n23	7s40	1s21	11n40	2n 0	5n 7	0s13	5s 9	1n33	20n13	1s29	4s31	0s44	19n18

Julian Day Number = 2301826.5, Delta T = 103.20 sec
 Ecliptic obliquity = 23°29'27", Nutation = - 0°00'11", out-of-bounds declination in red
 Ayanamsha: Fagan/Bradley = 19°01'10", Lahiri = 18°08'11"Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1590
geocentric

MARCH 1590 GC

00:00 UT

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

Day	☉	☾		♂		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂	
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ASTRODIENST EPHEMERIS for the year 1590
geocentric

APRIL 1590 GC

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S 1	12 35 53	10°45'02	22°26'26	21°R28	23°8'33	6°8'48	13°R12	9°II54	22°7'7	3°R 9	12°V39	11°R25	10°Ω 7	0°m30	12°8'10	S 1
M 2	12 39 50	11°53'01	7°H11	21°V 4	24°13	7°31	13°A 4	10° 0	22°10	3°Ω 9	12°41	11°Ω23	10° 3	0°37	12°14	M 2
T 3	12 43 46	12°51'59	22° 5	20°34	24°51	8°13	12°56	10° 5	22°13	3° 8	12°42	11°18	10° 0	0°44	12°18	T 3
W 4	12 47 43	13°50'54	7°V 1	20° 0	25°29	8°56	12°49	10°10	22°16	3° 8	12°44	11°11	9°57	0°50	12°22	W 4
T 5	12 51 40	14°49'48	21°49	19°22	26° 4	9°39	12°41	10°16	22°20	3° 8	12°45	11° 1	9°54	0°57	12°26	T 5
F 6	12 55 36	15°48'39	6°B22	18°41	26°39	10°22	12°33	10°21	22°23	3° 8	12°46	10°51	9°51	1° 4	12°30	F 6
S 7	12 59 33	16°47'28	20°32	17°58	27°12	11° 5	12°26	10°27	22°26	3° 7	12°48	10°41	9°48	1°10	12°34	S 7
S 8	13 3 29	17°46'16	4°II15	17°14	27°44	11°47	12°18	10°33	22°29	3° 7	12°49	10°33	9°44	1°17	12°38	S 8
M 9	13 7 26	18°45'01	17°31	16°30	28°14	12°30	12°10	10°39	22°33	3° 7	12°51	10°26	9°41	1°24	12°42	M 9
T 10	13 11 22	19°43'43	0°B21	15°45	28°43	13°13	12° 3	10°44	22°36	3° 7	12°52	10°22	9°38	1°30	12°46	T 10
W11	13 15 19	20°42'24	12°47	15° 2	29°10	13°55	11°55	10°50	22°39	3° 7	12°54	10°21	9°35	1°37	12°50	W11
T 12	13 19 15	21°41'02	24°56	14°21	29°36	14°38	11°48	10°56	22°42	3° 7	12°55	10°D20	9°32	1°44	12°54	T 12
F 13	13 23 12	22°39'38	6°Ω53	13°42	29°59	15°20	11°40	11° 2	22°45	3° 7	12°56	10°R21	9°28	1°50	12°58	F 13
S 14	13 27 9	23°38'12	18°42	13° 7	0°II21	16° 3	11°33	11° 9	22°48	3°D 7	12°58	10°20	9°25	1°57	13° 2	S 14
S 15	13 31 5	24°36'44	0°m29	12°35	0°41	16°45	11°25	11°15	22°51	3° 7	12°59	10°19	9°22	2° 4	13° 6	S 15
M16	13 35 2	25°35'13	12°19	12° 8	1° 0	17°27	11°18	11°21	22°54	3° 7	13° 1	10°15	9°19	2°10	13°10	M16
T 17	13 38 58	26°33'41	24°15	11°45	1°16	18° 9	11°11	11°27	22°57	3° 7	13° 2	10° 8	9°16	2°17	13°14	T 17
W18	13 42 55	27°32'06	6°A21	11°26	1°30	18°52	11° 4	11°34	23° 0	3° 7	13° 3	9°58	9°13	2°24	13°18	W18
T 19	13 46 51	28°30'29	18°39	11°13	1°42	19°34	10°56	11°40	23° 3	3° 7	13° 5	9°47	9° 9	2°30	13°22	T 19
F 20	13 50 48	29°28'51	1°m 9	11° 4	1°52	20°16	10°49	11°46	23° 6	3° 7	13° 6	9°34	9° 6	2°37	13°27	F 20
S 21	13 54 44	0°B27'10	13°52	11°D 0	2° 0	20°58	10°43	11°53	23° 9	3° 7	13° 8	9°21	9° 3	2°43	13°31	S 21
S 22	13 58 41	1°25'28	26°48	11° 2	2° 5	21°40	10°36	11°59	23°12	3° 8	13° 9	9° 9	9° 0	2°50	13°35	S 22
M23	14 2 38	2°23'44	9°A55	11° 8	2° 8	22°22	10°29	12° 6	23°15	3° 8	13°10	8°59	8°57	2°57	13°39	M23
T 24	14 6 34	3°21'59	23°14	11°19	2°R 9	23° 4	10°22	12°13	23°17	3° 8	13°12	8°52	8°53	3° 3	13°43	T 24
W25	14 10 31	4°20'12	6°B43	11°34	2° 7	23°46	10°16	12°19	23°20	3° 9	13°13	8°47	8°50	3°10	13°48	W25
T 26	14 14 27	5°18'24	20°24	11°54	2° 3	24°28	10° 9	12°26	23°23	3° 9	13°14	8°45	8°47	3°17	13°52	T 26
F 27	14 18 24	6°16'34	4°A16	12°19	1°57	25°10	10° 3	12°33	23°26	3° 9	13°16	8°45	8°44	3°23	13°56	F 27
S 28	14 22 20	7°14'42	18°19	12°48	1°48	25°51	9°57	12°40	23°28	3°10	13°17	8°45	8°41	3°30	14° 0	S 28
S 29	14 26 17	8°12'49	2°H34	13°21	1°37	26°33	9°51	12°47	23°31	3°10	13°18	8°44	8°38	3°37	14° 5	S 29
M30	14 30 13	9°10'55	16°H58	13°V58	1°II23	27°B15	9°A45	12°II54	23°H34	3°Ω11	13°V20	8°Ω40	8°Ω34	3°m43	14°B 9	M30

Day	☉	☾		♂		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
S 1	4n19	14s59	0s59	11n23	3n14	23n24	4n51	13n57	0n 9	3s44	1n37	20n39	1s21	3s48	0s44	19n25	0s 5	10s28	16s48	17n23	17n45	13n 0	13n34	2s 3	
M 2	4 42	10 57	2 13	11 9	3 9	23 38	4 55	14 12	0 10	3 41	1 37	20 39	1 21	3 47	0 44	19 25	0 5	10 27	16 48	17 24	17 46	12 58	13 35	2 3	
T 3	5 6	6 12	3 19	10 52	3 3	23 52	5 0	14 27	0 10	3 38	1 37	20 40	1 21	3 46	0 44	19 25	0 4	10 27	16 48	17 26	17 47	12 57	13 36	2 3	
W 4	5 28	1 4	4 12	10 32	2 55	24 5	5 4	14 41	0 11	3 35	1 37	20 41	1 21	3 44	0 44	19 26	0 4	10 26	16 48	17 28	17 48	12 55	13 37	2 3	
T 5	5 51	4n 5	4 47	10 9	2 46	24 17	5 7	14 55	0 12	3 32	1 37	20 42	1 21	3 43	0 44	19 26	0 4	10 26	16 48	17 30	17 48	12 53	13 39	2 3	
F 6	6 14	8 54	5 3	9 44	2 35	24 29	5 11	15 9	0 12	3 29	1 37	20 43	1 20	3 42	0 44	19 26	0 4	10 25	16 48	17 33	17 49	12 52	13 40	2 3	
S 7	6 37	13 7	4 59	9 16	2 23	24 41	5 15	15 23	0 13	3 26	1 37	20 44	1 20	3 41	0 44	19 26	0 4	10 24	16 48	17 36	17 50	12 50	13 41	2 3	
S 8	6 59	16 29	4 38	8 47	2 10	24 51	5 18	15 37	0 14	3 23	1 37	20 45	1 20	3 39	0 44	19 26	0 4	10 24	16 48	17 38	17 51	12 49	13 42	2 3	
M 9	7 22	18 52	4 3	8 16	1 55	25 1	5 21	15 51	0 14	3 20	1 37	20 46	1 20	3 38	0 44	19 26	0 4	10 23	16 48	17 40	17 52	12 47	13 43	2 3	
T 10	7 44	20 13	3 16	7 45	1 40	25 11	5 24	16 4	0 15	3 17	1 37	20 47	1 20	3 37	0 44	19 26	0 4	10 23	16 48	17 41	17 53	12 45	13 44	2 3	
W11	8 6	20 32	2 21	7 14	1 24	25 20	5 27	16 18	0 16	3 14	1 36	20 48	1 19	3 36	0 44	19 26	0 4	10 22	16 49	17 41	17 54	12 44	13 46	2 4	
T 12	8 28	19 51	1 21	6 43	1 8	25 28	5 29	16 31	0 16	3 12	1 36	20 49	1 19	3 34	0 44	19 26	0 4	10 22	16 49	17 41	17 54	12 42	13 47	2 4	
F 13	8 50	18 18	0 18	6 13	0 51	25 35	5 32	16 44	0 17	3 9	1 36	20 50	1 19	3 33	0 44	19 26	0 4	10 21	16 49	17 41	17 55	12 41	13 48	2 4	
S 14	9 12	15 57	0n44	5 43	0 35	25 42	5 34	16 57	0 17	3 6	1 36	20 51	1 19	3 32	0 44	19 26	0 4	10 21	16 49	17 41	17 56	12 39	13 49	2 4	
S 15	9 33	12 58	1 45	5 16	0 18	25 48	5 35	17 10	0 18	3 3	1 36	20 53	1 19	3 31	0 44	19 26	0 4	10 20	16 49	17 42	17 57	12 37	13 50	2 4	
M16	9 55	9 26	2 41	4 50	0 1	25 53	5 37	17 22	0 19	3 0	1 36	20 54	1 19	3 30	0 44	19 26	0 4	10 20	16 49	17 43	17 58	12 36	13 51	2 4	
T 17	10 16	5 31	3 31	4 26	0s15	25 58	5 38	17 35	0 19	2 58	1 36	20 55	1 18	3 28	0 44	19 26	0 4	10 20	16 49	17 45	17 59	12 34	13 53	2 4	
W18	10 37	1 19	4 11	4 4	0 31	26 2	5 39	17 47	0 20	2 55	1 36	20 56	1 18	3 27	0 44	19 26	0 4	10 19	16 49	17 47	17 59	12 32	13 54	2 4	
T 19	10 58	2s59	4 41	3 44	0 46	26 4	5 39	17 59	0 20	2 52	1 36	20 57	1 18	3 26	0 44	19 26	0 4	10 19	16 49	17 50	18 0	12 31	13 55	2 4	
F 20	11 19	7 15	4 57	3 28	1 1	26 7	5 39	18 11	0 21	2 50	1 36	20 58	1 18	3 25	0 44	19 26	0 4	10 18	16 49	17 54	18 1	12 29	13 56	2 4	
S 21	11 39	11 16	5 0	3 13	1 15	26 8	5 39	18 23	0 22	2 47	1 36	20 59	1 18	3 24	0 44	19 26	0 4	10 18	16 49	17 57	18 2	12 27	13 57	2 4	
S 22	12 0	14 50	4 47	3 2	1 28	26 8	5 38	18 35	0 22	2 44	1 35	21 0	1 18	3 23	0 44	19 26	0 4	10 17	16 49	18 0	18 3	12 26	13 59	2 4	
M23	12 20	17 43	4 18	2 52	1 40	26 8	5 37	18 46	0 23	2 42	1 35	21 1	1 17	3 22	0 44	19 26	0 4	10 17	16 49	18 3	18 4	12 24	14 0	2 4	
T 24	12 40	19 43	3 36	2 46	1 52	26 6	5 35	18 57	0 23	2 39	1 35	21 2	1 17	3 20	0 44	19 26	0 4	10 17	16 50	18 5	18 4	12 22	14 1	2 4	
W25	13 0	20 39	2 41	2 42	2 3	26 4	5 33	19 8	0 24	2 37	1 35	21 3	1 17	3 19	0 44	19 26	0 4	10 16	16 50	18 6	18 5	12 21	14 2	2 4	
T 26	13 19	20 22	1 35	2 41	2 13	26 0	5 30	19 19	0 24	2 35	1 35	21 4	1 17	3 18	0 44	19 26	0 4	10 16	16 50	18 7	18 6	12 19	14 3	2 4	
F 27	13 38	18 51	0 24	2 42	2 30	25 56	5 27	19 30	0 25	2 32	1 35	21 5	1 17	3 17	0 44	19 26	0 4	10 15	16 50	18 7	18 7	12 17	14 5	2 4	
S 28	13 58	16 10	0s50	2 45	2 22	25 51	5 23	19 41	0 26	2 30	1 35	21 6	1 17	3 16	0 44	19 25	0 4	10 15	16 50	18 7	18 8	12 16	14 6	2 4	
S 29	14 16	12 29	2 2	2 51	2 38	25 44	5 19	19 51	0 26	2 28	1 34	21 7	1 16	3 15	0 44	19 25	0 4	10 15	16 50	18 7	18 9	12 14	14 7	2 5	
M30	14n35	8s 2	3s 7	2n59	2s45	25n36	5n14	20n 1	0n27	2s26	1n34	21n 8	1s16	3s14	0s44	19n25	0s 4	10s14	16s50	18n 8	18n 9	12n12	14n 8	2s 5	

ASTRODIENST EPHEMERIS for the year 1590
geocentric

MAY 1590 GC

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
T 1	14 34 10	10♌ 8'59	1♑28	14♑39	1°R 7	27♌56	9°R39	13♐ 1	23♋36	3♌11	13♑21	8°R35	8♌31	3♑50	14♌13	T 1
W 2	14 38 7	11° 7'02	16° 0	15°24	0♐49	28°38	9♌33	13° 8	23°39	3°12	13°22	8♌26	8°28	3°57	14°18	W 2
T 3	14 42 3	12° 5'03	0♌27	16°12	0°28	29°20	9°28	13°15	23°42	3°13	13°24	8°15	8°25	4° 3	14°22	T 3
F 4	14 46 0	13° 3'03	14°42	17° 3	0° 5	0♐ 1	9°22	13°22	23°44	3°13	13°25	8° 3	8°22	4°10	14°26	F 4
S 5	14 49 56	14° 1'02	28°40	17°58	29♌40	0°43	9°17	13°29	23°47	3°14	13°26	7°52	8°19	4°17	14°30	S 5
S 6	14 53 53	14°58'58	12♐16	18°56	29°13	1°24	9°12	13°36	23°49	3°15	13°27	7°41	8°15	4°23	14°35	S 6
M 7	14 57 49	15°56'53	25°28	19°57	28°44	2° 5	9° 7	13°44	23°51	3°15	13°29	7°33	8°12	4°30	14°39	M 7
T 8	15 1 46	16°54'46	8♌17	21° 0	28°13	2°47	9° 2	13°51	23°54	3°16	13°30	7°28	8° 9	4°37	14°43	T 8
W 9	15 5 42	17°52'38	20°45	22° 7	27°41	3°28	8°57	13°58	23°56	3°17	13°31	7°25	8° 6	4°43	14°48	W 9
T 10	15 9 39	18°50'28	2♌55	23°17	27° 7	4° 9	8°53	14° 6	23°58	3°18	13°32	7°D24	8° 3	4°50	14°52	T 10
F 11	15 13 36	19°48'16	14°53	24°29	26°32	4°51	8°48	14°13	24° 1	3°19	13°33	7°R24	7°59	4°57	14°56	F 11
S 12	15 17 32	20°46'02	26°44	25°44	25°55	5°32	8°44	14°20	24° 3	3°19	13°35	7°24	7°56	5° 3	15° 1	S 12
S 13	15 21 29	21°43'47	8♑33	27° 1	25°19	6°13	8°40	14°28	24° 5	3°20	13°36	7°23	7°53	5°10	15° 5	S 13
M14	15 25 25	22°41'30	20°25	28°21	24°41	6°54	8°36	14°35	24° 7	3°21	13°37	7°20	7°50	5°17	15° 9	M14
T 15	15 29 22	23°39'11	2♌26	29°43	24° 3	7°35	8°32	14°43	24° 9	3°22	13°38	7°14	7°47	5°23	15°13	T 15
W16	15 33 18	24°36'51	14°38	1♌ 8	23°26	8°16	8°29	14°50	24°12	3°23	13°39	7° 6	7°44	5°30	15°18	W16
T 17	15 37 15	25°34'29	27° 6	2°35	22°48	8°57	8°25	14°58	24°14	3°24	13°40	6°56	7°40	5°37	15°22	T 17
F 18	15 41 11	26°32'06	9♌50	4° 5	22°11	9°38	8°22	15° 5	24°16	3°25	13°41	6°45	7°37	5°43	15°26	F 18
S 19	15 45 8	27°29'42	22°51	5°37	21°34	10°19	8°19	15°13	24°18	3°27	13°43	6°33	7°34	5°50	15°30	S 19
S 20	15 49 4	28°27'16	6♌ 7	7°11	20°58	11° 0	8°16	15°20	24°19	3°28	13°44	6°22	7°31	5°57	15°35	S 20
M21	15 53 1	29°24'49	19°37	8°48	20°24	11°40	8°13	15°28	24°21	3°29	13°45	6°14	7°28	6° 3	15°39	M21
T 22	15 56 58	0♐22'22	3♌19	10°27	19°51	12°21	8°11	15°36	24°23	3°30	13°46	6° 7	7°25	6°10	15°43	T 22
W23	16 0 54	1°19'53	17°10	12° 9	19°19	13° 2	8° 8	15°43	24°25	3°31	13°47	6° 3	7°21	6°17	15°47	W23
T 24	16 4 51	2°17'23	1♌ 7	13°52	18°49	13°42	8° 6	15°51	24°27	3°32	13°48	6°D 2	7°18	6°23	15°51	T 24
F 25	16 8 47	3°14'53	15° 9	15°39	18°21	14°23	8° 4	15°59	24°29	3°34	13°49	6° 2	7°15	6°30	15°56	F 25
S 26	16 12 44	4°12'21	29°16	17°27	17°55	15° 4	8° 2	16° 7	24°30	3°35	13°50	6°R 3	7°12	6°37	16° 0	S 26
S 27	16 16 40	5° 9'49	13♌25	19°18	17°31	15°44	8° 1	16°14	24°32	3°36	13°51	6° 2	7° 9	6°43	16° 4	S 27
M28	16 20 37	6° 7'16	27°36	21°11	17° 9	16°25	7°59	16°22	24°33	3°38	13°52	6° 1	7° 5	6°50	16° 8	M28
T 29	16 24 34	7° 4'43	11♑46	23° 6	16°50	17° 5	7°58	16°30	24°35	3°39	13°53	5°57	7° 2	6°57	16°12	T 29
W30	16 28 30	8° 2'09	25°53	25° 3	16°32	17°46	7°57	16°38	24°36	3°40	13°54	5°50	6°59	7° 3	16°16	W30
T 31	16 32 27	8♐59'34	9♌53	27♌ 3	16♌18	18♐26	7♌56	16♐45	24♌38	3♌42	13♑54	5♌42	6♌56	7♑10	16♌20	T 31

Day	☉	☾		♊		♋		♌		♍		♎		♏		♐		♑		♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
T 1	14n54	3s 5	4s 0	3n10	2s51	25n28	5n 9	20n11	0n27	2s23	1n34	21n 9	1s16	3s13	0s44	19n25	0s 4	10s14	16s50	18n 9	18n10	12n11	14n 9	2s 5									
W 2	15 12	2n 2	4 38	3 22	2 56	25 18	5 3	20 21	0 28	2 21	1 34	21 10	1 16	3 12	0 44	19 25	0 4	10 14	16 51	18 12	18 11	12 9	14 11	2 5									
T 3	15 30	7 0	4 58	3 37	3 0	25 7	4 56	20 31	0 28	2 19	1 34	21 11	1 16	3 11	0 44	19 25	0 4	10 13	16 51	18 14	18 12	12 7	14 12	2 5									
F 4	15 47	11 31	4 59	3 53	3 4	24 55	4 49	20 40	0 29	2 17	1 33	21 12	1 16	3 10	0 44	19 25	0 4	10 13	16 51	18 18	18 13	12 6	14 13	2 5									
S 5	16 5	15 20	4 41	4 11	3 7	24 42	4 41	20 49	0 29	2 15	1 33	21 13	1 16	3 9	0 44	19 25	0 4	10 13	16 51	18 21	18 14	12 4	14 14	2 5									
S 6	16 22	18 13	4 8	4 31	3 9	24 27	4 33	20 58	0 30	2 14	1 33	21 14	1 15	3 8	0 44	19 25	0 4	10 12	16 51	18 23	18 14	12 2	14 15	2 5									
M 7	16 39	20 2	3 23	4 53	3 10	24 12	4 24	21 7	0 30	2 12	1 33	21 15	1 15	3 7	0 44	19 24	0 4	10 12	16 51	18 25	18 15	12 0	14 16	2 5									
T 8	16 55	20 46	2 28	5 16	3 11	23 56	4 14	21 16	0 31	2 10	1 33	21 16	1 15	3 6	0 44	19 24	0 4	10 12	16 52	18 27	18 16	11 59	14 18	2 5									
W 9	17 12	20 27	1 27	5 41	3 11	23 38	4 4	21 24	0 31	2 8	1 32	21 17	1 15	3 5	0 44	19 24	0 4	10 11	16 52	18 27	18 17	11 57	14 19	2 5									
T 10	17 28	19 10	0 24	6 7	3 10	23 20	3 53	21 33	0 32	2 7	1 32	21 18	1 15	3 5	0 44	19 24	0 4	10 11	16 52	18 28	18 18	11 55	14 20	2 5									
F 11	17 44	17 2	0n40	6 35	3 9	23 0	3 41	21 41	0 33	2 5	1 32	21 19	1 15	3 4	0 44	19 24	0 4	10 11	16 52	18 28	18 19	11 54	14 21	2 6									
S 12	17 59	14 13	1 41	7 4	3 7	22 40	3 29	21 49	0 33	2 4	1 32	21 20	1 15	3 3	0 44	19 23	0 4	10 11	16 52	18 28	18 19	11 52	14 22	2 6									
S 13	18 14	10 49	2 37	7 34	3 4	22 19	3 17	21 57	0 34	2 2	1 32	21 21	1 15	3 2	0 44	19 23	0 4	10 10	16 53	18 28	18 20	11 50	14 23	2 6									
M14	18 29	6 59	3 27	8 6	3 1	21 57	3 4	22 4	0 34	2 1	1 31	21 22	1 14	3 1	0 44	19 23	0 4	10 10	16 53	18 29	18 21	11 48	14 25	2 6									
T 15	18 44	2 50	4 9	8 38	2 57	21 35	2 51	22 11	0 35	2 0	1 31	21 23	1 14	3 0	0 44	19 23	0 4	10 10	16 53	18 30	18 22	11 47	14 26	2 6									
W16	18 58	1s29	4 40	9 12	2 53	21 13	2 38	22 19	0 35	1 59	1 31	21 24	1 14	3 0	0 45	19 23	0 4	10 10	16 53	18 32	18 23	11 45	14 27	2 6									
T 17	19 12	5 50	4 58	9 46	2 48	20 50	2 24	22 25	0 36	1 58	1 31	21 25	1 14	2 59	0 45	19 22	0 4	10 9	16 54	18 35	18 23	11 43	14 28	2 6									
F 18	19 25	10 1	5 2	10 22	2 42	20 26	2 10	22 32	0 36	1 56	1 30	21 26	1 14	2 58	0 45	19 22	0 4	10 9	16 54	18 38	18 24	11 41	14 29	2 6									
S 19	19 39	13 50	4 50	10 58	2 36	20 3	1 56	22 39	0 37	1 55	1 30	21 27	1 14	2 57	0 45	19 22	0 4	10 9	16 54	18 41	18 25	11 40	14 30	2 6									
S 20	19 52	17 3	4 23	11 35	2 29	19 40	1 41	22 45	0 37	1 55	1 30	21 28	1 14	2 57	0 45	19 22	0 4	10 9	16 54	18 43	18 26	11 38	14 31	2 6									
M21	20 4	19 25	3 41	12 13	2 22	19 17	1 27	22 51	0 37	1 54	1 30	21 29	1 14	2 56	0 45	19 21	0 4	10 9	16 55	18 45	18 27	11 36	14 32	2 7									
T 22	20 16	20 42	2 45	12 51	2 15	18 54	1 13	22 57	0 38	1 53	1 29	21 30	1 14	2 55	0 45	19 21	0 4	10 9	16 55	18 47	18 28	11 34	14 33	2 7									
W23	20 28	20 45	1 39	13 30	2 7	18 32	0 59	23 3	0 38	1 52	1 29	21 30	1 13	2 54	0 45	19 21	0 4	10 8	16 55	18 48	18 28	11 33	14 35	2 7									
T 24	20 40	19 32	0 26	14 10	1 58	18 10	0 45	23 8	0 39	1 52	1 29	21 31	1 13	2 54	0 45	19 21	0 4	10 8	16 55	18 48	18 29	11 31	14 36	2 7									
F 25	20 51	17 6	0s49	14 49	1 49	17 49	0 31	23 14	0 39	1 51	1 29	21 32	1 13	2 53	0 45	19 20	0 4	10 8	16 56	18 48	18 30	11 29	14 37	2 7									
S 26	21 2	13 38	2 1	15 29	1 40	17 29	0 17	23 19	0 40	1 51	1 28	21 33	1 13	2 52	0 45	19 20	0 4	10 8	16 56	18 48	18 31	11 27	14 38	2 7									
S 27	21 12	9 23	3 6	16 8	1 30	17 9	0 3	23 24	0 40	1 50	1 28	21 34	1 13	2 52	0 45	19 20	0 4	10 8	16 56	18 48	18 32	11 26	14 39	2 7									
M28	21 23	4 37	4 0	16 48	1 20	16 50	0s10	23 28	0 41	1 50	1 28	21 35	1 13	2 51	0 45	19 19	0 4	10 8	16 56	18 49	18 32	11 24	14 40	2 7									
T 29	21 32	0n23	4 39	17 28	1 10	16 32	0 23	23 33	0 41	1 49	1 28	21 36	1 13	2 51	0 45	19 19	0 4	10 8	16 57	18 50	18 33	11 22	14 41	2 8									
W30	21 42	5 21	5 1	18 7	1 0	16 15	0 35	23 37	0 42	1 49	1 27	21 37	1 13	2 50	0 45	19 19	0 4	10 8	16 57	18 51	18 34	11 20	14 42	2 8									
T 31	21n51	10n 0	5s 4	18n45	0s49	16n 0	0s47	23n41	0n42	1s49	1n27	21n38	1s13	2s50	0s45	19n18	0s 4	10s 7	16s57	18n53	18n35	11n18	14n43	2s 8									

ASTRODIENST EPHEMERIS for the year 1590

geocentric

JUNE 1590 GC

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Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	16 36 23	9II56'58	23843	298 5	16°R 5	19II 7	7°R55	16II53	24839	3843	13V55	5°R33	6853	7817	16824	F 1
S 2	16 40 20	10°54'22	7II18	1II 8	15855	19°47	7854	17° 1	24°41	3°45	13°56	5824	6°50	7°23	16°28	S 2
S 3	16 44 16	11°51'45	20°37	3°13	15°47	20°27	7°54	17° 9	24°42	3°46	13°57	5°16	6°46	7°30	16°32	S 3
M 4	16 48 13	12°49'07	3836	5°20	15°42	21° 8	7°54	17°17	24°43	3°48	13°58	5°10	6°43	7°37	16°36	M 4
T 5	16 52 9	13°46'28	16°17	7°29	15°39	21°48	7°D54	17°24	24°45	3°49	13°59	5° 6	6°40	7°43	16°40	T 5
W 6	16 56 6	14°43'48	28°40	9°38	15°D39	22°28	7°54	17°32	24°46	3°51	14° 0	5° 4	6°37	7°50	16°44	W 6
T 7	17 0 3	15°41'08	10848	11°49	15°40	23° 8	7°54	17°40	24°47	3°53	14° 0	5°D 4	6°34	7°57	16°48	T 7
F 8	17 3 59	16°38'26	22°46	14° 0	15°45	23°48	7°54	17°48	24°48	3°54	14° 1	5° 5	6°31	8° 3	16°52	F 8
S 9	17 7 56	17°35'44	4837	16°11	15°51	24°28	7°55	17°56	24°49	3°56	14° 2	5° 6	6°27	8°10	16°56	S 9
S 10	17 11 52	18°33'00	16°27	18°23	15°59	25° 8	7°56	18° 4	24°50	3°58	14° 3	5°R 7	6°24	8°17	17° 0	S 10
M11	17 15 49	19°30'16	28°21	20°35	16°10	25°48	7°57	18°11	24°51	3°59	14° 3	5° 7	6°21	8°23	17° 3	M11
T 12	17 19 45	20°27'31	10823	22°47	16°22	26°28	7°58	18°19	24°52	4° 1	14° 4	5° 5	6°18	8°30	17° 7	T 12
W13	17 23 42	21°24'45	22°39	24°57	16°37	27° 8	8° 0	18°27	24°53	4° 3	14° 5	5° 1	6°15	8°37	17°11	W13
T 14	17 27 38	22°21'59	5812	27° 7	16°53	27°48	8° 1	18°35	24°54	4° 4	14° 5	4°55	6°11	8°43	17°15	T 14
F 15	17 31 35	23°19'11	18° 4	29°16	17°12	28°28	8° 3	18°43	24°54	4° 6	14° 6	4°49	6° 8	8°50	17°18	F 15
S 16	17 35 32	24°16'24	1818	1924	17°32	29° 8	8° 5	18°51	24°55	4° 8	14° 7	4°42	6° 5	8°57	17°22	S 16
S 17	17 39 28	25°13'36	14°51	3°30	17°54	29°48	8° 7	18°58	24°56	4°10	14° 7	4°36	6° 2	9° 3	17°26	S 17
M18	17 43 25	26°10'47	28°43	5°34	18°18	0828	8° 9	19° 6	24°56	4°12	14° 8	4°31	5°59	9°10	17°29	M18
T 19	17 47 21	27° 7'58	12349	7°37	18°43	1° 7	8°12	19°14	24°57	4°13	14° 8	4°28	5°56	9°17	17°33	T 19
W20	17 51 18	28° 5'09	27° 5	9°38	19°10	1°47	8°14	19°22	24°57	4°15	14° 9	4°26	5°52	9°23	17°36	W20
T 21	17 55 14	29° 2'20	11827	11°37	19°38	2°27	8°17	19°30	24°58	4°17	14° 9	4°D26	5°49	9°30	17°40	T 21
F 22	17 59 11	29°59'31	25°50	13°34	20° 8	3° 6	8°20	19°37	24°58	4°19	14°10	4°27	5°46	9°37	17°43	F 22
S 23	18 3 7	0856'41	10810	15°29	20°40	3°46	8°23	19°45	24°59	4°21	14°10	4°28	5°43	9°43	17°47	S 23
S 24	18 7 4	1°53'52	24°25	17°23	21°12	4°26	8°26	19°53	24°59	4°23	14°11	4°29	5°40	9°50	17°50	S 24
M25	18 11 1	2°51'03	8V33	19°14	21°46	5° 5	8°30	20° 1	24°59	4°25	14°11	4°R29	5°37	9°57	17°54	M25
T 26	18 14 57	3°48'15	22°32	21° 2	22°22	5°45	8°33	20° 8	25° 0	4°27	14°12	4°28	5°33	10° 3	17°57	T 26
W27	18 18 54	4°45'26	6821	22°49	22°58	6°24	8°37	20°16	25° 0	4°29	14°12	4°26	5°30	10°10	18° 0	W27
T 28	18 22 50	5°42'38	19°58	24°34	23°36	7° 4	8°41	20°24	25° 0	4°31	14°12	4°22	5°27	10°17	18° 4	T 28
F 29	18 26 47	6°39'50	3II22	26°17	24°15	7°43	8°45	20°31	25° 0	4°33	14°13	4°18	5°24	10°23	18° 7	F 29
S 30	18 30 43	7837'02	16II32	27857	24855	8823	8849	20II39	25°R 0	4835	14V13	4814	5821	10830	18810	S 30

Day	☉	☽		♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	decl	decl	lat
F 1	21n59	14n 3	4s50	19n23	0s38	15n45	0s59	23n45	0n43	1s49	1n27	21n38	1s13	2s49	0s45	19n18	0s 4	10s 7	16s57	18n55	18n36	11n17	14n44	2s 8
S 2	22 8	17 18	4 20	19 59	0 27	15 31	1 10	23 49	0 43	1 49	1 27	21 39	1 12	2 48	0 45	19 18	0 4	10 7	16 58	18 58	18 36	11 15	14 45	2 8
S 3	22 16	19 34	3 36	20 35	0 16	15 18	1 21	23 52	0 43	1 49	1 26	21 40	1 12	2 48	0 45	19 17	0 4	10 7	16 58	19 0	18 37	11 13	14 46	2 8
M 4	22 23	20 46	2 41	21 9	0 5	15 7	1 32	23 55	0 44	1 49	1 26	21 41	1 12	2 48	0 45	19 17	0 4	10 7	16 58	19 1	18 38	11 11	14 47	2 8
T 5	22 30	20 51	1 39	21 42	0n 5	14 56	1 42	23 58	0 44	1 50	1 26	21 42	1 12	2 47	0 45	19 17	0 4	10 7	16 59	19 2	18 39	11 9	14 48	2 9
W 6	22 37	19 55	0 34	22 12	0 16	14 47	1 51	24 1	0 45	1 50	1 25	21 43	1 12	2 47	0 45	19 16	0 4	10 7	16 59	19 2	18 40	11 8	14 49	2 9
T 7	22 43	18 3	0n31	22 41	0 26	14 39	2 1	24 4	0 45	1 50	1 25	21 43	1 12	2 46	0 45	19 16	0 4	10 7	16 59	19 2	18 40	11 6	14 50	2 9
F 8	22 49	15 26	1 34	23 8	0 36	14 31	2 9	24 6	0 46	1 51	1 25	21 44	1 12	2 46	0 45	19 16	0 4	10 7	17 0	19 2	18 41	11 4	14 51	2 9
S 9	22 55	12 12	2 33	23 32	0 46	14 25	2 18	24 8	0 46	1 51	1 25	21 45	1 12	2 45	0 45	19 15	0 4	10 7	17 0	19 2	18 42	11 2	14 52	2 9
S 10	23 0	8 30	3 25	23 54	0 55	14 20	2 26	24 10	0 46	1 52	1 24	21 46	1 12	2 45	0 45	19 15	0 4	10 7	17 0	19 2	18 43	11 0	14 53	2 9
M11	23 4	4 27	4 8	24 13	1 4	14 16	2 33	24 12	0 47	1 52	1 24	21 46	1 12	2 45	0 45	19 15	0 4	10 7	17 1	19 2	18 44	10 59	14 54	2 10
T 12	23 9	0 12	4 41	24 30	1 12	14 12	2 40	24 14	0 47	1 53	1 24	21 47	1 12	2 44	0 45	19 14	0 4	10 7	17 1	19 2	18 44	10 57	14 55	2 10
W13	23 13	4s 9	5 2	24 43	1 20	14 10	2 47	24 15	0 48	1 54	1 24	21 48	1 12	2 44	0 45	19 14	0 4	10 7	17 1	19 3	18 45	10 55	14 55	2 10
T 14	23 16	8 25	5 9	24 54	1 27	14 9	2 53	24 16	0 48	1 55	1 23	21 49	1 12	2 44	0 45	19 13	0 4	10 7	17 2	19 5	18 46	10 53	14 56	2 10
F 15	23 19	12 25	5 1	25 2	1 33	14 8	2 59	24 17	0 48	1 56	1 23	21 49	1 11	2 43	0 46	19 13	0 4	10 7	17 2	19 6	18 47	10 51	14 57	2 10
S 16	23 22	15 56	4 37	25 7	1 38	14 8	3 5	24 18	0 49	1 57	1 23	21 50	1 11	2 43	0 46	19 13	0 4	10 7	17 2	19 8	18 48	10 49	14 58	2 10
S 17	23 24	18 42	3 57	25 10	1 43	14 9	3 10	24 19	0 49	1 58	1 22	21 51	1 11	2 43	0 46	19 12	0 3	10 8	17 3	19 9	18 48	10 48	14 59	2 11
M18	23 26	20 27	3 2	25 9	1 47	14 11	3 15	24 19	0 50	1 59	1 22	21 52	1 11	2 43	0 46	19 12	0 3	10 8	17 3	19 10	18 49	10 46	15 0	2 11
T 19	23 28	20 58	1 55	25 6	1 50	14 14	3 20	24 19	0 50	2 0	1 22	21 52	1 11	2 43	0 46	19 11	0 3	10 8	17 3	19 11	18 50	10 44	15 1	2 11
W20	23 29	20 8	0 40	25 1	1 53	14 17	3 24	24 19	0 50	2 1	1 22	21 53	1 11	2 42	0 46	19 11	0 3	10 8	17 4	19 12	18 51	10 42	15 1	2 11
T 21	23 29	18 0	0s38	24 53	1 54	14 21	3 28	24 19	0 51	2 3	1 21	21 54	1 11	2 42	0 46	19 10	0 3	10 8	17 4	19 12	18 51	10 40	15 2	2 11
F 22	23 29	14 44	1 54	24 43	1 56	14 25	3 32	24 18	0 51	2 4	1 21	21 54	1 11	2 42	0 46	19 10	0 3	10 8	17 4	19 11	18 52	10 38	15 3	2 11
S 23	23 29	10 35	3 3	24 30	1 56	14 30	3 35	24 18	0 51	2 6	1 21	21 55	1 11	2 42	0 46	19 10	0 3	10 8	17 5	19 11	18 53	10 37	15 4	2 12
S 24	23 29	5 53	4 0	24 16	1 56	14 36	3 38	24 17	0 52	2 7	1 21	21 56	1 11	2 42	0 46	19 9	0 3	10 8	17 5	19 11	18 54	10 35	15 5	2 12
M25	23 28	0 55	4 42	24 0	1 55	14 42	3 41	24 16	0 52	2 9	1 20	21 56	1 11	2 42	0 46	19 9	0 3	10 9	17 5	19 11	18 55	10 33	15 5	2 12
T 26	23 26	4n 3	5 6	23 42	1 53	14 48	3 43	24 14	0 53	2 10	1 20	21 57	1 11	2 42	0 46	19 8	0 3	10 9	17 6	19 11	18 55	10 31	15 6	2 12
W27	23 24	8 44	5 13	23 22	1 51	14 55	3 45	24 13	0 53	2 12	1 20	21 57	1 11	2 42	0 46	19 8	0 3	10 9	17 6	19 12	18 56	10 29	15 7	2 12
T 28	23 22	12 55	5 1	23 1	1 48	15 3	3 47	24 11	0 53	2 14	1 20	21 58	1 11	2 42	0 46	19 7	0 3	10 9	17 6	19 13	18 57	10 27	15 8	2 13
F 29	23 19	16 23	4 34	22 39	1 44	15 11	3 49	24 9	0 54	2 16	1 19	21 59	1 11	2 42	0 46	19 7	0 3	10 9	17 7	19 14	18 58	10 25	15 8	2 13
S 30	23n16	18n58	3s52	22n15	1n40	15n19	3s50	24n 7	0n54	2s18	1n19	21n59	1s11	2s42	0s46	19n 6	0s 3	10s10	17s 7	19n15	18n58	10n23	15n 9	2s13

ASTRODIENST EPHEMERIS for the year 1590
geocentric

JULY 1590 GC

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Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
S 1	18 34 40	8°34'14"	29°11'28"	29°36'36"	25°8'36"	9°52'2"	8°54'24"	20°11'46"	25°R 0	4°L237	14°V13	4°R10	5°L17	10°M37	18°R13	S 1
M 2	18 38 36	9°31'27"	12°59'9"	1°L12	26°18'	9°41'	8°58'	20°54'	25°H 0	4°39'	14°14'	4°L 8	5°14'	10°43'	18°16'	M 2
T 3	18 42 33	10°28'39"	24°37'	2°46'	27°1'	10°21'	9°3'	21°2'	25°0'	4°41'	14°14'	4°6'	5°11'	10°50'	18°19'	T 3
W 4	18 46 30	11°25'52"	6°L51	4°18'	27°45'	11°0'	9°8'	21°9'	25°0'	4°43'	14°14'	4°D 6	5°8'	10°57'	18°22'	W 4
T 5	18 50 26	12°23'05"	18°54'	5°48'	28°30'	11°39'	9°13'	21°17'	24°59'	4°45'	14°14'	4°6'	5°5'	11°3'	18°25'	T 5
F 6	18 54 23	13°20'18"	0°M49	7°16'	29°15'	12°19'	9°18'	21°24'	24°59'	4°47'	14°15'	4°8'	5°2'	11°10'	18°28'	F 6
S 7	18 58 19	14°17'30"	12°39'	8°41'	0°II 2	12°58'	9°23'	21°32'	24°59'	4°49'	14°15'	4°9'	4°58'	11°17'	18°31'	S 7
S 8	19 2 16	15°14'43"	24°29'	10°5'	0°49'	13°37'	9°29'	21°39'	24°59'	4°51'	14°15'	4°11'	4°55'	11°23'	18°34'	S 8
M 9	19 6 12	16°11'56"	6°L22	11°26'	1°37'	14°16'	9°35'	21°46'	24°58'	4°53'	14°15'	4°12'	4°52'	11°30'	18°37'	M 9
T 10	19 10 9	17°9'09"	18°24'	12°45'	2°25'	14°55'	9°40'	21°54'	24°58'	4°56'	14°15'	4°R12	4°49'	11°37'	18°39'	T 10
W 11	19 14 5	18°6'22"	0°M39	14°1'	3°15'	15°35'	9°46'	22°1'	24°57'	4°58'	14°15'	4°12'	4°46'	11°43'	18°42'	W 11
T 12	19 18 2	19°3'36"	13°12'	15°15'	4°5'	16°14'	9°52'	22°8'	24°57'	5°0'	14°15'	4°10'	4°42'	11°50'	18°45'	T 12
F 13	19 21 59	20°0'49"	26°6'	16°27'	4°56'	16°53'	9°58'	22°16'	24°56'	5°2'	14°15'	4°9'	4°39'	11°57'	18°47'	F 13
S 14	19 25 55	20°58'03"	9°L23	17°36'	5°47'	17°32'	10°5'	22°23'	24°55'	5°4'	14°15'	4°7'	4°36'	12°3'	18°50'	S 14
S 15	19 29 52	21°55'17"	23°5'	18°43'	6°39'	18°11'	10°11'	22°30'	24°55'	5°6'	14°R15	4°6'	4°33'	12°10'	18°52'	S 15
M 16	19 33 48	22°52'32"	7°L10	19°47'	7°32'	18°50'	10°18'	22°37'	24°54'	5°9'	14°15'	4°4'	4°30'	12°17'	18°55'	M 16
T 17	19 37 45	23°49'47"	21°34'	20°48'	8°25'	19°29'	10°25'	22°44'	24°53'	5°11'	14°15'	4°4'	4°27'	12°23'	18°57'	T 17
W 18	19 41 41	24°47'03"	6°L33	21°46'	9°19'	20°8'	10°32'	22°52'	24°53'	5°13'	14°15'	4°D 3	4°23'	12°30'	18°59'	W 18
T 19	19 45 38	25°44'19"	21°1'	22°41'	10°13'	20°46'	10°39'	22°59'	24°52'	5°15'	14°15'	4°4'	4°20'	12°37'	19°2'	T 19
F 20	19 49 34	26°41'36"	5°H48	23°33'	11°8'	21°25'	10°46'	23°6'	24°51'	5°17'	14°15'	4°4'	4°17'	12°43'	19°4'	F 20
S 21	19 53 31	27°38'54"	20°30'	24°22'	12°3'	22°4'	10°53'	23°13'	24°50'	5°20'	14°15'	4°5'	4°14'	12°50'	19°6'	S 21
S 22	19 57 28	28°36'13"	5°V 1	25°7'	12°59'	22°43'	11°0'	23°19'	24°49'	5°22'	14°15'	4°5'	4°11'	12°57'	19°8'	S 22
M 23	20 1 24	29°33'33"	19°17'	25°49'	13°55'	23°22'	11°8'	23°26'	24°48'	5°24'	14°15'	4°6'	4°8'	13°3'	19°10'	M 23
T 24	20 5 21	0°L30'54"	3°L15	26°27'	14°52'	24°1'	11°16'	23°33'	24°47'	5°26'	14°15'	4°R 6	4°4'	13°10'	19°12'	T 24
W 25	20 9 17	1°28'17"	16°54'	27°1'	15°50'	24°39'	11°23'	23°40'	24°46'	5°28'	14°14'	4°6'	4°1'	13°17'	19°14'	W 25
T 26	20 13 14	2°25'40"	0°II16	27°31'	16°47'	25°18'	11°31'	23°47'	24°44'	5°31'	14°14'	4°5'	3°58'	13°24'	19°16'	T 26
F 27	20 17 10	3°23'05"	13°21'	27°57'	17°45'	25°57'	11°39'	23°53'	24°43'	5°33'	14°14'	4°5'	3°55'	13°30'	19°18'	F 27
S 28	20 21 7	4°20'31"	26°10'	28°18'	18°44'	26°36'	11°47'	24°0'	24°42'	5°35'	14°14'	4°D 5	3°52'	13°37'	19°20'	S 28
S 29	20 25 3	5°17'58"	8°L45	28°35'	19°43'	27°14'	11°56'	24°7'	24°41'	5°37'	14°13'	4°5'	3°48'	13°44'	19°22'	S 29
M 30	20 29 0	6°15'26"	21°8'	28°47'	20°42'	27°53'	12°4'	24°13'	24°39'	5°40'	14°13'	4°6'	3°45'	13°50'	19°23'	M 30
T 31	20 32 57	7°L12'55"	3°L21	28°L54	21°II42	28°L32	12°L12	24°II20	24°H38	5°L42	14°V13	4°R 6	3°L42	13°M57	19°R25	T 31

Day	☉	☾		♊		♋		♌		♍		♎		♏		♐		♑		♒		♓		♈	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
S 1	23n13	20n30	2s59	21n50	1n35	15n27	3s51	24n 5	0n54	2s20	1n19	22n 0	1s11	2s42	0s46	19n 6	0s 3	10s10	17s 7	19n15	18n59	10n22	15n10	2s13	
M 2	23 9	20 59	1 58	21 24	1 30	15 36	3 52	24 3	0 55	2 22	1 19	22 0	1 11	2 42	0 46	19 5	0 3	10 10	17 8	19 16	19 0	10 20	15 10	2 13	
T 3	23 5	20 24	0 52	20 57	1 24	15 45	3 53	24 0	0 55	2 24	1 18	22 1	1 11	2 42	0 46	19 5	0 3	10 10	17 8	19 16	19 1	10 18	15 11	2 13	
W 4	23 0	18 51	0n15	20 29	1 18	15 54	3 54	23 57	0 55	2 26	1 18	22 1	1 10	2 42	0 46	19 4	0 3	10 10	17 8	19 16	19 2	10 16	15 12	2 14	
T 5	22 55	16 28	1 21	20 0	1 11	16 4	3 54	23 54	0 56	2 28	1 18	22 2	1 10	2 42	0 46	19 4	0 3	10 11	17 9	19 16	19 2	10 14	15 12	2 14	
F 6	22 49	13 25	2 22	19 31	1 4	16 13	3 54	23 51	0 56	2 30	1 18	22 2	1 10	2 42	0 46	19 3	0 3	10 11	17 9	19 16	19 3	10 12	15 13	2 14	
S 7	22 43	9 52	3 17	19 2	0 56	16 23	3 54	23 48	0 56	2 33	1 17	22 3	1 10	2 42	0 46	19 3	0 3	10 11	17 10	19 16	19 4	10 10	15 13	2 14	
S 8	22 37	5 55	4 4	18 31	0 48	16 33	3 54	23 44	0 57	2 35	1 17	22 3	1 10	2 43	0 46	19 2	0 3	10 11	17 10	19 15	19 5	10 8	15 14	2 15	
M 9	22 30	1 45	4 40	18 1	0 39	16 43	3 54	23 40	0 57	2 37	1 17	22 4	1 10	2 43	0 46	19 2	0 3	10 12	17 10	19 15	19 5	10 6	15 14	2 15	
T 10	22 23	2s32	5 4	17 30	0 30	16 53	3 53	23 36	0 57	2 40	1 17	22 4	1 10	2 43	0 46	19 1	0 3	10 12	17 11	19 15	19 6	10 5	15 15	2 15	
W 11	22 16	6 48	5 16	16 59	0 21	17 3	3 52	23 32	0 58	2 43	1 16	22 5	1 10	2 43	0 46	19 1	0 3	10 12	17 11	19 15	19 7	10 3	15 16	2 15	
T 12	22 8	10 52	5 12	16 28	0 11	17 13	3 52	23 28	0 58	2 45	1 16	22 5	1 10	2 43	0 46	19 0	0 3	10 13	17 11	19 15	19 8	10 1	15 16	2 15	
F 13	22 0	14 34	4 54	15 57	0 1	17 23	3 51	23 23	0 58	2 48	1 16	22 6	1 10	2 44	0 47	19 0	0 3	10 13	17 12	19 16	19 8	9 59	15 17	2 16	
S 14	21 51	17 39	4 19	15 26	0s10	17 33	3 49	23 18	0 59	2 50	1 16	22 6	1 10	2 44	0 47	18 59	0 3	10 13	17 12	19 16	19 9	9 57	15 17	2 16	
S 15	21 42	19 51	3 28	14 55	0 21	17 43	3 48	23 14	0 59	2 53	1 15	22 7	1 10	2 44	0 47	18 59	0 3	10 14	17 12	19 16	19 10	9 55	15 17	2 16	
M 16	21 33	20 54	2 24	14 25	0 32	17 53	3 46	23 9	0 59	2 56	1 15	22 7	1 10	2 45	0 47	18 58	0 3	10 14	17 13	19 17	19 11	9 53	15 18	2 16	
T 17	21 23	20 38	1 9	13 55	0 43	18 3	3 45	23 3	1 0	2 59	1 15	22 7	1 10	2 45	0 47	18 58	0 3	10 14	17 13	19 17	19 11	9 51	15 18	2 16	
W 18	21 13	18 57	0s12	13 25	0 55	18 13	3 43	22 58	1 0	3 2	1 15	22 8	1 10	2 45	0 47	18 57	0 3	10 15	17 13	19 17	19 12	9 49	15 19	2 17	
T 19	21 3	15 59	1 33	12 56	1 7	18 23	3 41	22 52	1 0	3 5	1 14	22 8	1 10	2 46	0 47	18 57	0 3	10 15	17 14	19 17	19 13	9 47	15 19	2 17	
F 20	20 52	11 59	2 47	12 27	1 19	18 32	3 39	22 47	1 0	3 8	1 14	22 9	1 10	2 46	0 47	18 56	0 3	10 15	17 14	19 17	19 14	9 45	15 20	2 17	
S 21	20 41	7 18	3 50	12 0	1 31	18 42	3 37	22 41	1 1	3 11	1 14	22 9	1 10	2 46	0 47	18 56	0 3	10 16	17 15	19 17	19 15	9 43	15 20	2 17	
S 22	20 29	2 15	4 38	11 33	1 44	18 51	3 35	22 35	1 1	3 14	1 14	22 9	1 10	2 47	0 47	18 55	0 3	10 16	17 15	19 17	19 15	9 41	15 20	2 18	
M 23	20 17	2n50	5 7	11 7	1 56	19 0	3 32	22 28	1 1	3 17	1 14	22 10	1 10	2 47	0 47	18 55	0 3	10 16	17 15	19 16	19 16	9 40	15 21	2 18	
T 24	20 5	7 39	5 17	10 42	2 9	19 9	3 30	22 22	1 2	3 20	1 13	22 10	1 10	2 48	0 47	18 54	0 3	10 17	17 16	19 16	19 17	9 38	15 21	2 18	
W 25	19 52	11 58	5 10	10 19	2 22	19 18	3 27	22 15	1 2	3 24	1 13	22 10	1 10	2 48	0 47	18 54	0 3	10 17	17 16	19 16	19 18	9 36	15 21	2 18	
T 26	19 40	15 36	4 45	9 57	2 34	19 26	3 25	22 8	1 2	3 27	1 13	22 11	1 10	2 49	0 47	18 53	0 3	10 18	17 16	19 17	19 18	9 34	15 22	2 19	
F 27	19 26	18 23	4 6	9 36	2 47	19 34	3 22	22 1	1 2	3 30	1 13	22 11	1 10	2 49	0 47	18 53	0 3	10 18	17 17	19 17	19 19	9 32	15 22	2 19	
S 28	19 13	20 11	3 15	9 17	2 59	19 42	3 19	21 54	1 3	3 34	1 13	22 11	1 10	2 50	0 47	18 52	0 3	10 18	17 17	19 17	19 20	9 30	15 22	2 19	
S 29	18 59	20 56	2 16	9 0	3 12	19 50	3 16	21 47	1 3	3 37	1 12	22 12	1 10	2 50	0 47	18 51	0 3	10 19	17 17	19 17	19 21	9 28	15 22	2 19	
M 30	18 45	20 39	1 11	8 44	3 24	19 57	3 13	21 40	1 3	3 40	1 12	22 12	1 10	2 51	0 47	18 51	0 3	10 19	17 18	19 16	19 21	9 26	15 23	2 19	
T 31	18n30	19n23	0s 4	8n31	3s35	20n 4	3s10	21n32	1n 3	3s44	1n12	22n12	1s10	2s51	0s47	18n50	0s 3	10s20	17s18	19n16	19n22	9n24	15n23	2s20	

ASTRODIENST EPHEMERIS for the year 1590

geocentric

AUGUST 1590 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	20 36 53	8♌10°25	15♌24	28♌R55	22♌II42	29♌☉10	12♌♂21	24♌II26	24♌R37	5♌♂44	14♌R12	4♌R 6	3♌♂39	14♌♂ 4	19♌♂26	W 1
T 2	20 40 50	9° 7'56	27°21	28♌♂52	23°42	29°49	12°30	24°32	24♌♂35	5°46	14♌♂12	4♌♂ 5	3°36	14°10	19°28	T 2
F 3	20 44 46	10° 5'28	9♌♂12	28°43	24°43	0♌♂28	12°39	24°39	24°34	5°48	14°12	4° 5	3°33	14°17	19°29	F 3
S 4	20 48 43	11° 3'01	21° 1	28°29	25°44	1° 6	12°47	24°45	24°32	5°51	14°11	4° 4	3°29	14°24	19°31	S 4
S 5	20 52 39	12° 0'35	2♌♂51	28° 9	26°45	1°45	12°56	24°51	24°31	5°53	14°11	4° 3	3°26	14°30	19°32	S 5
M 6	20 56 36	12°58'10	14°44	27°44	27°46	2°23	13° 6	24°57	24°29	5°55	14°10	4° 2	3°23	14°37	19°33	M 6
T 7	21 0 32	13°55'46	26°46	27°14	28°48	3° 2	13°15	25° 3	24°27	5°57	14°10	4° 1	3°20	14°44	19°35	T 7
W 8	21 4 29	14°53'23	8♌♂59	26°39	29°51	3°40	13°24	25° 9	24°26	6° 0	14° 9	4° 0	3°17	14°50	19°36	W 8
T 9	21 8 26	15°51'01	21°28	26° 0	0♌♂53	4°19	13°34	25°15	24°24	6° 2	14° 9	4°D 0	3°14	14°57	19°37	T 9
F 10	21 12 22	16°48'40	4♌♂18	25°17	1°56	4°57	13°43	25°21	24°22	6° 4	14° 8	4° 1	3°10	15° 4	19°38	F 10
S 11	21 16 19	17°46'20	17°31	24°30	2°59	5°35	13°53	25°27	24°21	6° 6	14° 8	4° 2	3° 7	15°10	19°39	S 11
S 12	21 20 15	18°44'01	1♌♂11	23°41	4° 2	6°14	14° 3	25°33	24°19	6° 8	14° 7	4° 3	3° 4	15°17	19°40	S 12
M13	21 24 12	19°41'43	15°17	22°49	5° 6	6°52	14°12	25°38	24°17	6°10	14° 7	4° 4	3° 1	15°24	19°41	M13
T 14	21 28 8	20°39'26	29°48	21°57	6°10	7°31	14°22	25°44	24°15	6°13	14° 6	4°R 4	2°58	15°30	19°41	T 14
W15	21 32 5	21°37'11	14♌♂39	21° 5	7°14	8° 9	14°32	25°50	24°13	6°15	14° 5	4° 4	2°54	15°37	19°42	W15
T 16	21 36 1	22°34'57	29°44	20°15	8°18	8°47	14°42	25°55	24°11	6°17	14° 5	4° 3	2°51	15°44	19°43	T 16
F 17	21 39 58	23°32'45	14♌♂53	19°26	9°22	9°26	14°53	26° 0	24° 9	6°19	14° 4	4° 1	2°48	15°50	19°43	F 17
S 18	21 43 55	24°30'34	29°57	18°41	10°27	10° 4	15° 3	26° 6	24° 7	6°21	14° 3	3°59	2°45	15°57	19°44	S 18
S 19	21 47 51	25°28'25	14♌♂47	18° 0	11°32	10°42	15°13	26°11	24° 5	6°23	14° 3	3°56	2°42	16° 4	19°44	S 19
M20	21 51 48	26°26'17	29°17	17°24	12°38	11°20	15°24	26°16	24° 3	6°26	14° 2	3°54	2°39	16°10	19°45	M20
T 21	21 55 44	27°24'11	13♌♂23	16°54	13°43	11°59	15°34	26°21	24° 1	6°28	14° 1	3°52	2°35	16°17	19°45	T 21
W22	21 59 41	28°22'08	27° 3	16°31	14°49	12°37	15°45	26°26	23°59	6°30	14° 0	3°D51	2°32	16°24	19°45	W22
T 23	22 3 37	29°20'06	10♌♂20	16°16	15°55	13°15	15°55	26°31	23°57	6°32	14° 0	3°52	2°29	16°31	19°46	T 23
F 24	22 7 34	0♌♂18'06	23°14	16°D 8	17° 1	13°53	16° 6	26°36	23°55	6°34	13°59	3°53	2°26	16°37	19°46	F 24
S 25	22 11 30	1°16'08	5♌♂50	16° 8	18° 7	14°31	16°17	26°41	23°53	6°36	13°58	3°55	2°23	16°44	19°46	S 25
S 26	22 15 27	2°14'12	18°11	16°17	19°14	15°10	16°28	26°46	23°51	6°38	13°57	3°56	2°20	16°51	19°R46	S 26
M27	22 19 24	3°12'18	0♌♂20	16°34	20°20	15°48	16°39	26°50	23°48	6°40	13°57	3°R57	2°16	16°57	19°46	M27
T 28	22 23 20	4°10'25	12°21	16°59	21°27	16°26	16°50	26°55	23°46	6°42	13°56	3°57	2°13	17° 4	19°46	T 28
W29	22 27 17	5° 8'35	24°15	17°33	22°34	17° 4	17° 1	26°59	23°44	6°44	13°55	3°55	2°10	17°11	19°46	W29
T 30	22 31 13	6° 6'46	6♌♂ 6	18°15	23°41	17°42	17°12	27° 4	23°42	6°46	13°54	3°52	2° 7	17°17	19°45	T 30
F 31	22 35 10	7♌♂ 4'59	17♌♂56	19♌♂ 5	24♌♂49	18♌♂20	17♌♂♂24	27♌♂II 8	23♌♂♂39	6♌♂48	13♌♂♂53	3♌♂♂47	2♌♂♂ 4	17♌♂♂24	19♌♂♂45	F 31

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	lat
W 1	18n16	17n15	1n 2	8n20	3s46	20n11	3s 7	21n24	1n 4	3s47	1n12	22n12	1s10	2s52	0s47	18n50
T 2	18 1	14 23	2 6	8 11	3 57	20 17	3 4	21 17	1 4	3 51	1 12	22 13	1 10	2 53	0 47	18 49
F 3	17 45	10 57	3 3	8 5	4 7	20 23	3 0	21 9	1 4	3 55	1 11	22 13	1 10	2 53	0 47	18 49
S 4	17 30	7 7	3 52	8 1	4 16	20 29	2 57	21 0	1 5	3 58	1 11	22 13	1 10	2 54	0 47	18 48
S 5	17 14	3 1	4 31	8 0	4 24	20 34	2 53	20 52	1 5	4 2	1 11	22 13	1 10	2 54	0 47	18 48
M 6	16 57	1s13	4 59	8 2	4 31	20 39	2 50	20 44	1 5	4 6	1 11	22 14	1 10	2 55	0 47	18 47
T 7	16 41	5 27	5 14	8 7	4 37	20 43	2 46	20 35	1 5	4 9	1 11	22 14	1 10	2 56	0 47	18 47
W 8	16 24	9 32	5 16	8 14	4 42	20 47	2 42	20 26	1 5	4 13	1 10	22 14	1 10	2 56	0 47	18 46
T 9	16 7	13 18	5 2	8 25	4 45	20 51	2 39	20 17	1 6	4 17	1 10	22 14	1 10	2 57	0 47	18 46
F 10	15 50	16 34	4 34	8 38	4 46	20 54	2 35	20 8	1 6	4 21	1 10	22 15	1 10	2 58	0 47	18 45
S 11	15 32	19 5	3 50	8 53	4 46	20 56	2 31	19 59	1 6	4 25	1 10	22 15	1 10	2 59	0 47	18 44
S 12	15 15	20 37	2 52	9 12	4 43	20 58	2 27	19 50	1 6	4 29	1 10	22 15	1 10	2 59	0 47	18 44
M13	14 57	20 55	1 42	9 32	4 39	21 0	2 23	19 40	1 7	4 33	1 9	22 15	1 10	3 0	0 47	18 43
T 14	14 38	19 51	0 24	9 54	4 33	21 1	2 20	19 31	1 7	4 37	1 9	22 15	1 10	3 1	0 47	18 43
W15	14 20	17 24	0s58	10 18	4 25	21 2	2 16	19 21	1 7	4 41	1 9	22 15	1 10	3 2	0 47	18 42
T 16	14 1	13 44	2 17	10 43	4 16	21 3	2 12	19 11	1 7	4 45	1 9	22 16	1 10	3 2	0 47	18 42
F 17	13 42	9 8	3 27	11 9	4 4	21 2	2 8	19 1	1 8	4 49	1 9	22 16	1 10	3 3	0 48	18 41
S 18	13 23	4 1	4 21	11 36	3 51	21 2	2 3	18 51	1 8	4 53	1 9	22 16	1 10	3 4	0 48	18 41
S 19	13 3	1n16	4 58	12 2	3 37	21 0	1 59	18 41	1 8	4 57	1 8	22 16	1 10	3 5	0 48	18 40
M20	12 44	6 21	5 14	12 28	3 21	20 59	1 55	18 30	1 8	5 1	1 8	22 16	1 10	3 6	0 48	18 40
T 21	12 24	10 57	5 11	12 52	3 4	20 56	1 51	18 20	1 8	5 6	1 8	22 16	1 10	3 6	0 48	18 39
W22	12 4	14 51	4 50	13 16	2 47	20 54	1 47	18 9	1 9	5 10	1 8	22 16	1 10	3 7	0 48	18 39
T 23	11 44	17 52	4 14	13 38	2 29	20 50	1 43	17 59	1 9	5 14	1 8	22 16	1 10	3 8	0 48	18 38
F 24	11 23	19 54	3 25	13 58	2 10	20 46	1 39	17 48	1 9	5 18	1 8	22 16	1 10	3 9	0 48	18 38
S 25	11 3	20 53	2 28	14 15	1 52	20 42	1 35	17 37	1 9	5 23	1 8	22 17	1 10	3 10	0 48	18 37
S 26	10 42	20 50	1 26	14 31	1 33	20 37	1 30	17 26	1 9	5 27	1 7	22 17	1 10	3 11	0 48	18 37
M27	10 21	19 48	0 20	14 43	1 15	20 32	1 26	17 15	1 10	5 31	1 7	22 17	1 10	3 12	0 48	18 36
T 28	10 0	17 52	0n46	14 52	0 57	20 26	1 22	17 3	1 10	5 36	1 7	22 17	1 11	3 13	0 48	18 36
W29	9 39	15 11	1 49	14 59	0 40	20 19	1 18	16 52	1 10	5 40	1 7	22 17	1 11	3 13	0 48	18 35
T 30	9 17	11 52	2 47	15 2	0 23	20 12	1 14	16 40	1 10	5 45	1 7	22 17	1 11	3 14	0 48	18 35
F 31	8n56	8n 7	3n37	15n 1	0s 7	20n 4	1s 9	16n29	1n10	5s49	1n 7	22n17	1s11	3s15	0s48	18n34

Julian Day Number = 2302007.5, Delta T = 102.42 sec
 Ecliptic obliquity = 23°29'28", Nutation = - 0°00'13", out-of-bounds declination in red
 Ayanamsha: Fagan/Bradley = 19°01'35", Lahiri = 18°08'36"Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1590
geocentric

SEPTEMBER 1590 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	22 39 6	8 ^h 3'13	29 ^m 45	20 ^h 2	25 ^m 56	18 ^h 58	17 ^h 35	27 ^h 12	23 ^h R37	6 ^h 50	13 ^h R52	3 ^h R41	2 ^h 0	17 ^m 31	19 ^h R45	S 1
S 2	22 43 3	9° 1'29	11 ^h 37	21° 6	27° 4	19°36	17°47	27°16	23 ^h 35	6°52	13 ^h 51	3 ^h 34	1°57	17°37	19 ^h 44	S 2
M 3	22 46 59	9°59'47	23°34	22°18	28°12	20°14	17°58	27°20	23°32	6°54	13°50	3°28	1°54	17°44	19°44	M 3
T 4	22 50 56	10°58'07	5 ^m 38	23°35	29°20	20°52	18°10	27°24	23°30	6°56	13°49	3°23	1°51	17°51	19°43	T 4
W 5	22 54 53	11°56'28	17°51	24°58	0 ^h 28	21°30	18°21	27°28	23°28	6°58	13°48	3°18	1°48	17°57	19°42	W 5
T 6	22 58 49	12°54'51	0 ^h 19	26°26	1°37	22° 8	18°33	27°32	23°25	7° 0	13°48	3°16	1°45	18° 4	19°42	T 6
F 7	23 2 46	13°53'15	13° 4	27°58	2°45	22°46	18°45	27°36	23°23	7° 2	13°47	3°D15	1°41	18°11	19°41	F 7
S 8	23 6 42	14°51'41	26°10	29°35	3°54	23°24	18°56	27°39	23°21	7° 3	13°46	3°15	1°38	18°17	19°40	S 8
S 9	23 10 39	15°50'09	9 ^h 34	1 ^m 15	5° 3	24° 2	19° 8	27°43	23°18	7° 5	13°45	3°17	1°35	18°24	19°39	S 9
M10	23 14 35	16°48'38	23°38	2°57	6°12	24°40	19°20	27°46	23°16	7° 7	13°44	3°18	1°32	18°31	19°38	M10
T 11	23 18 32	17°47'09	8 ^h 2	4°42	7°21	25°18	19°32	27°49	23°13	7° 9	13°43	3°R18	1°29	18°38	19°37	T 11
W12	23 22 28	18°45'42	22°51	6°29	8°30	25°56	19°44	27°53	23°11	7°11	13°42	3°17	1°25	18°44	19°36	W12
T 13	23 26 25	19°44'16	7 ^h 58	8°18	9°40	26°34	19°56	27°56	23° 9	7°12	13°41	3°13	1°22	18°51	19°35	T 13
F 14	23 30 22	20°42'53	23°15	10° 7	10°49	27°12	20° 8	27°59	23° 6	7°14	13°39	3° 8	1°19	18°58	19°34	F 14
S 15	23 34 18	21°41'31	8 ^h 31	11°58	11°59	27°50	20°21	28° 2	23° 4	7°16	13°38	3° 1	1°16	19° 4	19°33	S 15
S 16	23 38 15	22°40'11	23°36	13°49	13° 9	28°27	20°33	28° 4	23° 1	7°18	13°37	2°53	1°13	19°11	19°31	S 16
M17	23 42 11	23°38'53	8 ^h 20	15°40	14°19	29° 5	20°45	28° 7	22°59	7°19	13°36	2°46	1°10	19°18	19°30	M17
T 18	23 46 8	24°37'38	22°38	17°31	15°29	29°43	20°57	28°10	22°57	7°21	13°35	2°40	1° 6	19°24	19°29	T 18
W19	23 50 4	25°36'25	6 ^h 12	19°22	16°39	0 ^h 21	21°10	28°12	22°54	7°22	13°34	2°36	1° 3	19°31	19°27	W19
T 20	23 54 1	26°35'15	19°45	21°12	17°49	0°59	21°22	28°15	22°52	7°24	13°33	2°35	1° 0	19°38	19°26	T 20
F 21	23 57 57	27°34'06	2 ^h 38	23° 2	19° 0	1°37	21°35	28°17	22°49	7°26	13°32	2°D35	0°57	19°44	19°24	F 21
S 22	0 1 54	28°33'00	15°10	24°52	20°11	2°14	21°47	28°19	22°47	7°27	13°31	2°35	0°54	19°51	19°22	S 22
S 23	0 5 50	29°31'57	27°24	26°41	21°21	2°52	22° 0	28°21	22°45	7°29	13°30	2°R36	0°51	19°58	19°21	S 23
M24	0 9 47	0 ^h 30'55	9 ^h 26	28°29	22°32	3°30	22°12	28°23	22°42	7°30	13°29	2°36	0°47	20° 4	19°19	M24
T 25	0 13 44	1°29'56	21°19	0 ^h 17	23°43	4° 8	22°25	28°25	22°40	7°32	13°27	2°34	0°44	20°11	19°17	T 25
W26	0 17 40	2°28'59	3 ^h 9	2° 4	24°54	4°45	22°37	28°27	22°37	7°33	13°26	2°30	0°41	20°18	19°15	W26
T 27	0 21 37	3°28'04	14°58	3°50	26° 5	5°23	22°50	28°28	22°35	7°35	13°25	2°23	0°38	20°25	19°13	T 27
F 28	0 25 33	4°27'11	26°48	5°35	27°17	6° 1	23° 3	28°30	22°33	7°36	13°24	2°13	0°35	20°31	19°11	F 28
S 29	0 29 30	5°26'20	8 ^h 41	7°19	28°28	6°38	23°15	28°31	22°30	7°37	13°23	2° 2	0°31	20°38	19° 9	S 29
S 30	0 33 26	6 ^h 25'32	20 ^h 39	9 ^h 3	29 ^h 40	7 ^h 16	23 ^h 28	28 ^h 33	22 ^h 28	7 ^h 39	13 ^h 22	1 ^h 49	0 ^h 28	20 ^h 45	19 ^h 7	S 30

Day	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat
S 1	8n34	4n 3	4n18	14n58	0n 8	19n56	1s 5	16n17	1n11	5s54	1n 7	22n17	1s11	3s16	0s48	18n34
S 2	8 12	0s11	4 48	14 51	0 22	19 47	1 1	16 5	1 11	5 58	1 6	22 17	1 11	3 17	0 48	18 33
M 3	7 50	4 26	5 6	14 40	0 35	19 38	0 57	15 53	1 11	6 3	1 6	22 17	1 11	3 18	0 48	18 33
T 4	7 28	8 33	5 10	14 26	0 47	19 28	0 53	15 41	1 11	6 7	1 6	22 17	1 11	3 19	0 48	18 32
W 5	7 6	12 23	5 1	14 9	0 58	19 18	0 49	15 29	1 11	6 12	1 6	22 17	1 11	3 20	0 48	18 32
T 6	6 44	15 45	4 37	13 48	1 8	19 7	0 45	15 17	1 11	6 16	1 6	22 17	1 11	3 21	0 48	18 31
F 7	6 21	18 28	3 59	13 25	1 17	18 56	0 41	15 5	1 12	6 21	1 6	22 17	1 11	3 22	0 48	18 31
S 8	5 59	20 19	3 8	12 58	1 25	18 44	0 37	14 53	1 12	6 25	1 6	22 17	1 11	3 23	0 48	18 30
S 9	5 36	21 4	2 5	12 29	1 31	18 31	0 32	14 40	1 12	6 30	1 6	22 17	1 11	3 24	0 48	18 30
M10	5 13	20 34	0 52	11 57	1 37	18 18	0 29	14 28	1 12	6 35	1 5	22 17	1 11	3 25	0 48	18 30
T 11	4 50	18 43	0s26	11 23	1 41	18 5	0 25	14 15	1 12	6 39	1 5	22 17	1 11	3 26	0 48	18 29
W12	4 27	15 34	1 44	10 46	1 45	17 51	0 21	14 2	1 12	6 44	1 5	22 17	1 11	3 27	0 48	18 29
T 13	4 4	11 19	2 56	10 8	1 48	17 36	0 17	13 49	1 13	6 48	1 5	22 17	1 11	3 27	0 48	18 28
F 14	3 41	6 18	3 56	9 28	1 49	17 21	0 13	13 37	1 13	6 53	1 5	22 17	1 11	3 28	0 48	18 28
S 15	3 18	0 54	4 40	8 47	1 50	17 5	0 9	13 24	1 13	6 58	1 5	22 17	1 11	3 29	0 48	18 27
S 16	2 55	4n29	5 3	8 5	1 50	16 49	0 5	13 11	1 13	7 3	1 5	22 17	1 11	3 30	0 48	18 27
M17	2 32	9 29	5 6	7 21	1 50	16 33	0 2	12 58	1 13	7 7	1 5	22 17	1 11	3 31	0 48	18 26
T 18	2 8	13 49	4 49	6 37	1 49	16 16	0n 2	12 44	1 13	7 12	1 5	22 17	1 11	3 32	0 48	18 26
W19	1 45	17 14	4 16	5 51	1 47	15 58	0 6	12 31	1 13	7 17	1 4	22 17	1 11	3 33	0 48	18 26
T 20	1 22	19 37	3 29	5 6	1 45	15 40	0 9	12 18	1 14	7 21	1 4	22 17	1 11	3 34	0 48	18 25
F 21	0 58	20 54	2 34	4 19	1 42	15 22	0 13	12 4	1 14	7 26	1 4	22 17	1 11	3 35	0 48	18 25
S 22	0 35	21 6	1 32	3 33	1 38	15 3	0 16	11 51	1 14	7 31	1 4	22 17	1 12	3 36	0 48	18 25
S 23	0 11	20 16	0 28	2 46	1 34	14 44	0 20	11 37	1 14	7 36	1 4	22 17	1 12	3 37	0 48	18 24
M24	0s12	18 31	0n37	1 59	1 30	14 24	0 23	11 24	1 14	7 40	1 4	22 17	1 12	3 38	0 48	18 24
T 25	0 36	15 59	1 39	1 12	1 26	14 4	0 27	11 10	1 14	7 45	1 4	22 17	1 12	3 39	0 48	18 23
W26	0 59	12 47	2 36	0 25	1 21	13 43	0 30	10 56	1 14	7 50	1 4	22 17	1 12	3 40	0 48	18 23
T 27	1 23	9 6	3 26	0s22	1 16	13 22	0 33	10 43	1 15	7 55	1 4	22 17	1 12	3 41	0 48	18 23
F 28	1 46	5 3	4 7	1 9	1 10	13 1	0 36	10 29	1 15	7 59	1 4	22 17	1 12	3 42	0 48	18 22
S 29	2 10	0 48	4 38	1 55	1 5	12 39	0 39	10 15	1 15	8 4	1 4	22 17	1 12	3 43	0 48	18 22
S 30	2s33	3s30	4n57	2s42	0n59	12n17	0n42	10n 1	1n15	8s 9	1n 4	22n17	1s12	3s43	0s48	18n22

Julian Day Number = 2302038.5, Delta T = 102.29 sec
Ecliptic obliquity = 23°29'29", Nutation = - 0°00'14", out-of-bounds declination in red
Ayanamsha: Fagan/Bradley = 19°01'39", Lahiri = 18°08'40"Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1590

geocentric

OCTOBER 1590 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	0 37 23	7♂24'45	2♂44	10♂46	0♂51	7♂54	23♂41	28♂34	22°R26	7♂40	13°R21	1°R37	0♂25	20♂51	19°R 5	M 1
T 2	0 41 19	8°24'01	14°55	12°28	2° 3	8°31	23°54	28°35	22°R23	7°41	13°R19	1♂26	0°22	20°58	19°R 3	T 2
W 3	0 45 16	9°23'18	27°16	14° 9	3°15	9° 9	24° 7	28°36	22°21	7°43	13°18	1°17	0°19	21° 5	19° 1	W 3
T 4	0 49 13	10°22'37	9♂48	15°49	4°27	9°47	24°20	28°37	22°19	7°44	13°17	1°10	0°16	21°11	18°58	T 4
F 5	0 53 9	11°21'58	22°33	17°29	5°39	10°24	24°32	28°38	22°17	7°45	13°16	1° 6	0°12	21°18	18°56	F 5
S 6	0 57 6	12°21'21	5♂36	19° 8	6°51	11° 2	24°45	28°38	22°14	7°46	13°15	1° 5	0° 9	21°25	18°54	S 6
S 7	1 1 2	13°20'46	18°59	20°46	8° 3	11°39	24°58	28°39	22°12	7°47	13°14	1°D 5	0° 6	21°31	18°51	S 7
M 8	1 4 59	14°20'12	2♂44	22°24	9°15	12°17	25°11	28°39	22°10	7°49	13°13	1°R 5	0° 3	21°38	18°49	M 8
T 9	1 8 55	15°19'40	16°54	24° 0	10°27	12°55	25°24	28°39	22° 8	7°50	13°11	1° 4	29°59	21°45	18°46	T 9
W10	1 12 52	16°19'10	1♂28	25°37	11°40	13°32	25°37	28°40	22° 6	7°51	13°10	1° 1	29°57	21°52	18°44	W10
T 11	1 16 48	17°18'42	16°22	27°12	12°52	14°10	25°50	28°R40	22° 4	7°52	13° 9	0°56	29°53	21°58	18°41	T 11
F 12	1 20 45	18°18'15	1♂29	28°47	14° 5	14°47	26° 3	28°40	22° 1	7°53	13° 8	0°47	29°50	22° 5	18°38	F 12
S 13	1 24 42	19°17'51	16°41	0♂21	15°17	15°25	26°16	28°40	21°59	7°54	13° 7	0°37	29°47	22°12	18°36	S 13
S 14	1 28 38	20°17'28	1♂47	1°54	16°30	16° 2	26°29	28°39	21°57	7°55	13° 6	0°26	29°44	22°18	18°33	S 14
M15	1 32 35	21°17'08	16°36	3°27	17°43	16°40	26°42	28°39	21°55	7°56	13° 4	0°15	29°41	22°25	18°30	M15
T 16	1 36 31	22°16'49	1♂0	5° 0	18°56	17°17	26°56	28°39	21°53	7°56	13° 3	0° 5	29°37	22°32	18°27	T 16
W17	1 40 28	23°16'33	14°56	6°31	20° 9	17°55	27° 9	28°38	21°51	7°57	13° 2	29°58	29°34	22°38	18°25	W17
T 18	1 44 24	24°16'20	28°21	8° 2	21°22	18°32	27°22	28°37	21°49	7°58	13° 1	29°54	29°31	22°45	18°22	T 18
F 19	1 48 21	25°16'08	11♂19	9°33	22°35	19° 9	27°35	28°36	21°48	7°59	13° 0	29°52	29°28	22°52	18°19	F 19
S 20	1 52 17	26°15'59	23°52	11° 3	23°48	19°47	27°48	28°36	21°46	8° 0	12°59	29°52	29°25	22°58	18°16	S 20
S 21	1 56 14	27°15'52	6♂7	12°32	25° 2	20°24	28° 1	28°35	21°44	8° 0	12°58	29°51	29°22	23° 5	18°13	S 21
M22	2 0 11	28°15'47	18° 7	14° 1	26°15	21° 2	28°14	28°33	21°42	8° 1	12°57	29°51	29°18	23°12	18°10	M22
T 23	2 4 7	29°15'44	29°59	15°30	27°29	21°39	28°27	28°32	21°40	8° 2	12°55	29°48	29°15	23°19	18° 7	T 23
W24	2 8 4	0♂15'44	11♂48	16°57	28°42	22°16	28°40	28°31	21°39	8° 2	12°54	29°43	29°12	23°25	18° 4	W24
T 25	2 12 0	1°15'45	23°37	18°24	29°56	22°54	28°54	28°29	21°37	8° 3	12°53	29°34	29° 9	23°32	18° 1	T 25
F 26	2 15 57	2°15'49	5♂30	19°51	1♂9	23°31	29° 7	28°28	21°35	8° 3	12°52	29°23	29° 6	23°39	17°58	F 26
S 27	2 19 53	3°15'55	17°29	21°17	2°23	24° 8	29°20	28°26	21°34	8° 4	12°51	29°10	29° 2	23°45	17°55	S 27
S 28	2 23 50	4°16'02	29°36	22°42	3°37	24°46	29°33	28°24	21°32	8° 4	12°50	28°56	28°59	23°52	17°52	S 28
M29	2 27 46	5°16'12	11♂53	24° 6	4°51	25°23	29°46	28°22	21°30	8° 5	12°49	28°41	28°56	23°59	17°48	M29
T 30	2 31 43	6°16'23	24°18	25°30	6° 4	26° 0	29°59	28°20	21°29	8° 5	12°48	28°28	28°53	24° 5	17°45	T 30
W31	2 35 39	7♂16'36	6♂53	26♂53	7♂18	26♂37	0♂12	28♂18	21♂27	8♂6	12♂47	28♂17	28♂50	24♂12	17♂42	W31

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	lat
M 1	2s57	7s43	5n 2	3s28	0n53	11n54	0n45	9n47	1n15	8s14	1n 3	22n17	1s12	3s44	0s48	18n21
T 2	3 20	11 39	4 54	4 13	0 47	11 31	0 48	9 33	1 15	8 19	1 3	22 17	1 12	3 45	0 48	18 21
W 3	3 44	15 10	4 32	4 58	0 40	11 8	0 51	9 19	1 15	8 23	1 3	22 17	1 12	3 46	0 48	18 21
T 4	4 7	18 4	3 57	5 43	0 34	10 44	0 54	9 5	1 15	8 28	1 3	22 17	1 12	3 47	0 48	18 20
F 5	4 30	20 8	3 9	6 28	0 27	10 20	0 57	8 51	1 15	8 33	1 3	22 17	1 12	3 48	0 48	18 20
S 6	4 54	21 12	2 11	7 11	0 21	9 56	0 59	8 37	1 16	8 38	1 3	22 17	1 12	3 49	0 48	18 20
S 7	5 17	21 5	1 4	7 55	0 14	9 32	1 2	8 22	1 16	8 43	1 3	22 17	1 12	3 50	0 48	18 19
M 8	5 40	19 44	0s 9	8 38	0 7	9 7	1 4	8 8	1 16	8 47	1 3	22 17	1 12	3 51	0 48	18 19
T 9	6 3	17 7	1 23	9 20	0 0	8 42	1 7	7 54	1 16	8 52	1 3	22 17	1 12	3 51	0 48	18 19
W10	6 26	13 22	2 34	10 1	0s 7	8 16	1 9	7 39	1 16	8 57	1 3	22 17	1 12	3 52	0 48	18 19
T 11	6 49	8 42	3 35	10 43	0 14	7 50	1 11	7 25	1 16	9 2	1 3	22 17	1 12	3 53	0 47	18 18
F 12	7 12	3 25	4 23	11 23	0 20	7 24	1 14	7 10	1 16	9 7	1 3	22 17	1 12	3 54	0 47	18 18
S 13	7 34	2n 5	4 52	12 3	0 27	6 58	1 16	6 56	1 16	9 11	1 3	22 17	1 12	3 55	0 47	18 18
S 14	7 57	7 25	5 1	12 42	0 34	6 32	1 18	6 41	1 16	9 16	1 3	22 17	1 12	3 55	0 47	18 18
M15	8 19	12 13	4 49	13 20	0 41	6 5	1 20	6 27	1 16	9 21	1 3	22 17	1 12	3 56	0 47	18 17
T 16	8 42	16 11	4 19	13 58	0 48	5 38	1 22	6 12	1 16	9 26	1 3	22 17	1 13	3 57	0 47	18 17
W17	9 4	19 6	3 34	14 35	0 54	5 11	1 23	5 58	1 16	9 30	1 3	22 16	1 13	3 58	0 47	18 17
T 18	9 26	20 50	2 38	15 11	1 1	4 44	1 25	5 43	1 17	9 35	1 2	22 16	1 13	3 58	0 47	18 17
F 19	9 48	21 24	1 36	15 46	1 8	4 16	1 27	5 28	1 17	9 40	1 2	22 16	1 13	3 59	0 47	18 17
S 20	10 10	20 51	0 32	16 21	1 14	3 49	1 28	5 14	1 17	9 45	1 2	22 16	1 13	4 0	0 47	18 16
S 21	10 31	19 19	0n33	16 55	1 20	3 21	1 30	4 59	1 17	9 49	1 2	22 16	1 13	4 1	0 47	18 16
M22	10 53	16 56	1 35	17 27	1 26	2 53	1 31	4 44	1 17	9 54	1 2	22 16	1 13	4 1	0 47	18 16
T 23	11 14	13 52	2 32	17 59	1 33	2 25	1 32	4 30	1 17	9 59	1 2	22 16	1 13	4 2	0 47	18 16
W24	11 35	10 16	3 22	18 31	1 38	1 57	1 34	4 15	1 17	10 3	1 2	22 16	1 13	4 3	0 47	18 16
T 25	11 56	6 16	4 4	19 1	1 44	1 29	1 35	4 0	1 17	10 8	1 2	22 16	1 13	4 3	0 47	18 16
F 26	12 17	2 1	4 34	19 30	1 50	1 0	1 36	3 45	1 17	10 13	1 2	22 16	1 13	4 4	0 47	18 16
S 27	12 38	2s21	4 53	19 58	1 55	0 32	1 37	3 31	1 17	10 17	1 2	22 16	1 13	4 5	0 47	18 15
S 28	12 58	6 41	5 0	20 26	2 0	0 3	1 38	3 16	1 17	10 22	1 2	22 16	1 13	4 5	0 47	18 15
M29	13 18	10 48	4 52	20 52	2 5	0s25	1 39	3 1	1 17	10 27	1 2	22 16	1 13	4 6	0 47	18 15
T 30	13 38	14 31	4 30	21 17	2 10	0 54	1 39	2 46	1 17	10 31	1 2	22 16	1 13	4 6	0 47	18 15
W31	13s58	17s38	3n55	21s41	2s15	1s22	1n40	2n32	1n17	10s36	1n 2	22n16	1s13	4s 7	0s47	18n15

Julian Day Number = 2302068.5, Delta T = 102.16 sec
 Ecliptic obliquity = 23°29'29", Nutation = - 0°00'16", out-of-bounds declination in red
 Ayanamsha: Fagan/Bradley = 19°01'44", Lahiri = 18°08'44"Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1590

geocentric

NOVEMBER 1590 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	2 39 36	8♉16°51	19♊39	28♉15	8♉32	27♉15	0♉25	28°R16	21°R26	8♉ 6	12°R46	28°R 9	28♉47	24♉19	17°R39	T 1	
F 2	2 43 33	9°17'07	2♊35	29°35	9°46	27°52	0°38	28♉14	21°R25	8° 6	12°R45	28♉ 4	28°43	24°26	17♉36	F 2	
S 3	2 47 29	10°17'25	15°45	0♊55	11° 0	28°29	0°51	28°11	21°23	8° 7	12°44	28° 2	28°40	24°32	17°32	S 3	
S 4	2 51 26	11°17'45	29° 8	2°14	12°15	29° 6	1° 5	28° 9	21°22	8° 7	12°43	28°D 1	28°37	24°39	17°29	S 4	
M 5	2 55 22	12°18'06	12♊49	3°31	13°29	29°43	1°18	28° 6	21°21	8° 7	12°42	28°R 2	28°34	24°46	17°26	M 5	
T 6	2 59 19	13°18'28	26°47	4°47	14°43	0♊21	1°31	28° 4	21°19	8° 7	12°41	28° 1	28°31	24°52	17°23	T 6	
W 7	3 3 15	14°18'51	11♊ 3	6° 1	15°57	0°58	1°44	28° 1	21°18	8° 7	12°40	27°58	28°28	24°59	17°19	W 7	
T 8	3 7 12	15°19'16	25°36	7°13	17°11	1°35	1°57	27°58	21°17	8° 8	12°39	27°53	28°24	25° 6	17°16	T 8	
F 9	3 11 8	16°19'43	10♊21	8°24	18°26	2°12	2° 9	27°55	21°16	8° 8	12°38	27°46	28°21	25°12	17°13	F 9	
S 10	3 15 5	17°20'10	25°12	9°31	19°40	2°49	2°22	27°52	21°15	8° 8	12°37	27°36	28°18	25°19	17°10	S 10	
S 11	3 19 2	18°20'39	10♊ 0	10°37	20°55	3°26	2°35	27°49	21°14	8°R 8	12°36	27°25	28°15	25°26	17° 6	S 11	
M12	3 22 58	19°21'10	24°37	11°39	22° 9	4° 3	2°48	27°45	21°13	8° 8	12°35	27°14	28°12	25°33	17° 3	M12	
T 13	3 26 55	20°21'43	8♉55	12°37	23°24	4°40	3° 1	27°42	21°12	8° 8	12°34	27° 5	28° 8	25°39	17° 0	T 13	
W14	3 30 51	21°22'17	22°49	13°32	24°38	5°17	3°14	27°39	21°11	8° 7	12°33	26°58	28° 5	25°46	16°57	W14	
T 15	3 34 48	22°22'52	6♉17	14°23	25°53	5°54	3°27	27°35	21°10	8° 7	12°33	26°53	28° 2	25°53	16°53	T 15	
F 16	3 38 44	23°23'30	19°18	15° 9	27° 7	6°31	3°39	27°31	21°10	8° 7	12°32	26°51	27°59	25°59	16°50	F 16	
S 17	3 42 41	24°24'09	1♉56	15°49	28°22	7° 8	3°52	27°28	21° 9	8° 7	12°31	26°D51	27°56	26° 6	16°47	S 17	
S 18	3 46 37	25°24'50	14°14	16°22	29°37	7°45	4° 5	27°24	21° 8	8° 7	12°30	26°52	27°53	26°13	16°44	S 18	
M19	3 50 34	26°25'32	26°17	16°49	0♉51	8°22	4°18	27°20	21° 8	8° 6	12°29	26°R52	27°49	26°19	16°40	M19	
T 20	3 54 31	27°26'16	8♉11	17° 8	2° 6	8°59	4°30	27°16	21° 7	8° 6	12°29	26°52	27°46	26°26	16°37	T 20	
W21	3 58 27	28°27'01	20° 1	17°19	3°21	9°36	4°43	27°12	21° 7	8° 6	12°28	26°49	27°43	26°33	16°34	W21	
T 22	4 2 24	29°27'48	1♉52	17°R20	4°36	10°13	4°55	27° 8	21° 6	8° 5	12°27	26°44	27°40	26°40	16°31	T 22	
F 23	4 6 20	0♊28°37	13°48	17°11	5°51	10°49	5° 8	27° 4	21° 6	8° 5	12°26	26°37	27°37	26°46	16°28	F 23	
S 24	4 10 17	1°29'27	25°52	16°52	7° 5	11°26	5°20	27° 0	21° 5	8° 5	12°26	26°27	27°34	26°53	16°25	S 24	
S 25	4 14 13	2°30'18	8♉ 8	16°21	8°20	12° 3	5°33	26°56	21° 5	8° 4	12°25	26°17	27°30	27° 0	16°21	S 25	
M26	4 18 10	3°31'11	20°37	15°40	9°35	12°40	5°45	26°51	21° 5	8° 4	12°24	26° 6	27°27	27° 6	16°18	M26	
T 27	4 22 6	4°32'05	3♊18	14°47	10°50	13°17	5°57	26°47	21° 5	8° 3	12°24	25°57	27°24	27°13	16°15	T 27	
W28	4 26 3	5°33'00	16°13	13°45	12° 5	13°53	6°10	26°43	21° 4	8° 3	12°23	25°49	27°21	27°20	16°12	W28	
T 29	4 30 0	6°33'56	29°20	12°35	13°20	14°30	6°22	26°38	21° 4	8° 2	12°22	25°43	27°18	27°27	16° 9	T 29	
F 30	4 33 56	7♊34°53	12♉38	11♊17	14♉35	15♉ 7	6♉34	26♉34	21♉ 4	8♉ 1	12°R22	25♉40	27♉14	27♉33	16♉ 6	F 30	

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
T 1	14s18	19s58	3n 8	22s 4	2s19	1s51	1n41	2n17	1n17	10s40	1n 2	22n16	1s13	4s 7	0s47	18n15	0s 2
F 2	14 37	21 18	2 10	22 26	2 23	2 20	1 41	2 2	1 17	10 45	1 2	22 16	1 13	4 8	0 47	18 15	0 2
S 3	14 56	21 29	1 5	22 46	2 26	2 48	1 42	1 47	1 17	10 50	1 2	22 16	1 13	4 8	0 47	18 15	0 2
S 4	15 15	20 28	0s 6	23 5	2 29	3 17	1 42	1 32	1 17	10 54	1 2	22 16	1 13	4 9	0 47	18 15	0 2
M 5	15 34	18 14	1 18	23 23	2 32	3 46	1 42	1 18	1 17	10 59	1 2	22 16	1 13	4 9	0 47	18 15	0 2
T 6	15 52	14 54	2 26	23 40	2 34	4 14	1 42	1 3	1 17	11 3	1 2	22 16	1 13	4 10	0 47	18 15	0 2
W 7	16 10	10 38	3 27	23 55	2 36	4 43	1 42	0 48	1 17	11 8	1 2	22 16	1 13	4 10	0 47	18 15	0 2
T 8	16 28	5 40	4 16	24 9	2 38	5 11	1 42	0 33	1 17	11 12	1 2	22 16	1 13	4 11	0 47	18 15	0 2
F 9	16 45	0 19	4 48	24 21	2 38	5 40	1 42	0 18	1 17	11 17	1 2	22 15	1 13	4 11	0 47	18 15	0 2
S 10	17 3	5n 5	5 2	24 32	2 39	6 8	1 42	0 4	1 17	11 21	1 2	22 15	1 13	4 11	0 47	18 15	0 2
S 11	17 20	10 11	4 55	24 42	2 38	6 36	1 42	0s11	1 17	11 26	1 2	22 15	1 13	4 12	0 47	18 15	0 2
M12	17 36	14 37	4 29	24 49	2 37	7 4	1 42	0 26	1 17	11 30	1 2	22 15	1 13	4 12	0 47	18 15	0 2
T 13	17 53	18 7	3 46	24 55	2 35	7 32	1 41	0 40	1 17	11 34	1 2	22 15	1 13	4 12	0 47	18 15	0 2
W14	18 9	20 27	2 51	25 0	2 32	8 0	1 41	0 55	1 17	11 39	1 2	22 15	1 13	4 13	0 46	18 15	0 2
T 15	18 24	21 33	1 47	25 2	2 29	8 28	1 40	1 10	1 17	11 43	1 2	22 15	1 13	4 13	0 46	18 15	0 2
F 16	18 40	21 26	0 40	25 3	2 24	8 55	1 40	1 25	1 17	11 47	1 2	22 15	1 13	4 13	0 46	18 15	0 2
S 17	18 55	20 13	0n27	25 2	2 19	9 22	1 39	1 39	1 17	11 52	1 2	22 15	1 13	4 14	0 46	18 15	0 2
S 18	19 9	18 3	1 31	24 59	2 12	9 49	1 38	1 54	1 17	11 56	1 2	22 15	1 13	4 14	0 46	18 15	0 2
M19	19 24	15 8	2 31	24 53	2 4	10 16	1 38	2 8	1 17	12 0	1 2	22 15	1 13	4 14	0 46	18 15	0 2
T 20	19 38	11 39	3 22	24 46	1 54	10 43	1 37	2 23	1 17	12 4	1 2	22 15	1 13	4 14	0 46	18 15	0 2
W21	19 51	7 43	4 5	24 36	1 43	11 9	1 36	2 37	1 17	12 9	1 2	22 15	1 13	4 14	0 46	18 15	0 2
T 22	20 5	3 30	4 37	24 24	1 31	11 36	1 35	2 52	1 17	12 13	1 2	22 15	1 13	4 14	0 46	18 15	0 2
F 23	20 18	0s53	4 58	24 9	1 17	12 1	1 34	3 6	1 17	12 17	1 2	22 15	1 13	4 15	0 46	18 15	0 2
S 24	20 30	5 17	5 5	23 52	1 2	12 27	1 33	3 21	1 17	12 21	1 2	22 15	1 13	4 15	0 46	18 15	0 2
S 25	20 42	9 32	4 59	23 33	0 45	12 52	1 31	3 35	1 17	12 25	1 2	22 15	1 13	4 15	0 46	18 16	0 2
M26	20 54	13 28	4 38	23 10	0 27	13 17	1 30	3 50	1 17	12 29	1 2	22 15	1 13	4 15	0 46	18 16	0 2
T 27	21 6	16 53	4 3	22 46	0 8	13 42	1 29	4 4	1 17	12 33	1 3	22 14	1 13	4 15	0 46	18 16	0 2
W28	21 17	19 32	3 16	22 19	0n12	14 7	1 27	4 18	1 17	12 37	1 3	22 14	1 13	4 15	0 46	18 16	0 2
T 29	21 27	21 12	2 17	21 50	0 32	14 31	1 26	4 33	1 17	12 41	1 3	22 14	1 13	4 15	0 46	18 16	0 2
F 30	21s37	21s44	1n10	21s19	0n52	14s54	1n24	4s47	1n17	12s45	1n 3	22n14	1s13	4s15	0s46	18n16	0s 2

Julian Day Number = 2302099.5, Delta T = 102.03 sec
 Ecliptic obliquity = 23°29'29", Nutation = - 0°00'17", out-of-bounds declination in red
 Ayanamsha: Fagan/Bradley = 19°01'48", Lahiri = 18°08'48"Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1590

geocentric

DECEMBER 1590 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	4 37 53	8♂35°51	26☾ 6	9°R56	15♂M50	15♂43	6♂M46	26°R29	21°D 4	8°R 1	12°R21	25°D39	27☾11	27♂M40	16°R 3	S 1
S 2	4 41 49	9°36'49	9♀45	8♂33	17° 5	16°20	6°58	26♂I24	21♂ 4	8♂ 0	12°Y21	25☾40	27° 8	27°47	16♂ 0	S 2
M 3	4 45 46	10°37'49	23°33	7°11	18°20	16°57	7°10	26°20	21° 4	7°59	12°20	25°41	27° 5	27°53	15°57	M 3
T 4	4 49 42	11°38'49	7♂31	5°54	19°35	17°33	7°22	26°15	21° 4	7°59	12°20	25°R42	27° 2	28° 0	15°55	T 4
W 5	4 53 39	12°39'49	21°38	4°43	20°51	18°10	7°34	26°10	21° 5	7°58	12°19	25°42	26°59	28° 7	15°52	W 5
T 6	4 57 35	13°40'50	5Y°54	3°40	22° 6	18°46	7°46	26° 6	21° 5	7°57	12°19	25°40	26°55	28°13	15°49	T 6
F 7	5 1 32	14°41'51	20°14	2°47	23°21	19°23	7°58	26° 1	21° 5	7°56	12°18	25°36	26°52	28°20	15°46	F 7
S 8	5 5 29	15°42'53	4♂37	2° 5	24°36	19°59	8°10	25°56	21° 6	7°55	12°18	25°30	26°49	28°27	15°43	S 8
S 9	5 9 25	16°43'56	18°56	1°34	25°51	20°36	8°21	25°51	21° 6	7°54	12°17	25°24	26°46	28°34	15°41	S 9
M10	5 13 22	17°44'59	3♂I 7	1°14	27° 6	21°12	8°33	25°46	21° 6	7°53	12°17	25°18	26°43	28°40	15°38	M10
T11	5 17 18	18°46'03	17° 4	1°D 5	28°21	21°48	8°44	25°41	21° 7	7°52	12°17	25°12	26°40	28°47	15°36	T11
W12	5 21 15	19°47'07	0☾44	1° 6	29°37	22°25	8°56	25°36	21° 7	7°51	12°16	25° 8	26°36	28°54	15°33	W12
T13	5 25 11	20°48'12	14° 3	1°17	0♂M52	23° 1	9° 7	25°31	21° 8	7°50	12°16	25° 6	26°33	29° 0	15°30	T13
F14	5 29 8	21°49'18	27° 0	1°36	2° 7	23°37	9°19	25°26	21° 9	7°49	12°16	25°D 5	26°30	29° 7	15°28	F14
S15	5 33 5	22°50'24	9♂M38	2° 4	3°22	24°14	9°30	25°22	21° 9	7°48	12°15	25° 6	26°27	29°14	15°26	S15
S16	5 37 1	23°51'31	21°58	2°38	4°37	24°50	9°41	25°17	21°10	7°47	12°15	25° 8	26°24	29°21	15°23	S16
M17	5 40 58	24°52'39	4♂M 4	3°19	5°53	25°26	9°52	25°12	21°11	7°46	12°15	25°10	26°20	29°27	15°21	M17
T18	5 44 54	25°53'47	16° 0	4° 5	7° 8	26° 2	10° 3	25° 7	21°12	7°45	12°15	25°11	26°17	29°34	15°19	T18
W19	5 48 51	26°54'56	27°52	4°56	8°23	26°38	10°14	25° 2	21°13	7°44	12°14	25°R12	26°14	29°41	15°16	W19
T20	5 52 47	27°56'06	9♂M44	5°52	9°38	27°14	10°25	24°57	21°14	7°43	12°14	25°11	26°11	29°47	15°14	T20
F21	5 56 44	28°57'16	21°41	6°52	10°54	27°50	10°36	24°52	21°15	7°41	12°14	25° 9	26° 8	29°54	15°12	F21
S22	6 0 40	29°58'26	3♂M48	7°55	12° 9	28°26	10°46	24°47	21°16	7°40	12°14	25° 6	26° 5	0♂ 1	15°10	S22
S23	6 4 37	0☾59'37	16° 8	9° 1	13°24	29° 2	10°57	24°42	21°17	7°39	12°14	25° 2	26° 1	0° 7	15° 8	S23
M24	6 8 34	2° 0'49	28°44	10°10	14°40	29°38	11° 7	24°37	21°18	7°38	12°14	24°58	25°58	0°14	15° 6	M24
T25	6 12 30	3° 2'01	11♂38	11°21	15°55	0♂M14	11°18	24°32	21°19	7°36	12°14	24°54	25°55	0°21	15° 4	T25
W26	6 16 27	4° 3'13	24°50	12°34	17°10	0°50	11°28	24°27	21°21	7°35	12°14	24°51	25°52	0°28	15° 2	W26
T27	6 20 23	5° 4'25	8♂19	13°49	18°26	1°26	11°38	24°22	21°22	7°34	12°D14	24°49	25°49	0°34	15° 0	T27
F28	6 24 20	6° 5'37	22° 3	15° 6	19°41	2° 2	11°48	24°17	21°23	7°32	12°14	24°D49	25°46	0°41	14°59	F28
S29	6 28 16	7° 6'49	5♂M59	16°25	20°56	2°38	11°59	24°13	21°25	7°31	12°14	24°49	25°42	0°48	14°57	S29
S30	6 32 13	8° 8'01	20° 5	17°44	22°12	3°13	12° 8	24° 8	21°26	7°29	12°14	24°50	25°39	0°54	14°55	S30
M31	6 36 9	9☾ 9'12	4♂15	19♂ 5	23♂27	3♂M49	12♂18	24♂I 3	21♂28	7♂28	12Y°14	24☾51	25☾36	1♂ 1	14♂54	M31

Day	☉	☾		♂		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
S 1	21s47	21s 1	0s 2	20s48	1n12	15s18	1n23	5s 1	1n17	12s49	1n 3	22n14	1s12	4s15	0s46	18n17	0s 2	11s 5	17s22	21n 3	20n46	5n 2	14n 5	2s43	
S 2	21 56	19 4	1 15	20 17	1 31	15 41	1 21	5 15	1 17	12 53	1 3	22 14	1 12	4 15	0 46	18 17	0 2	11 5	17 21	21 3	20 47	5 0	14 4	2 43	
M 3	22 5	15 59	2 25	19 46	1 49	16 3	1 20	5 29	1 17	12 57	1 3	22 14	1 12	4 15	0 46	18 17	0 2	11 5	17 21	21 3	20 47	4 58	14 3	2 43	
T 4	22 14	11 58	3 27	19 18	2 4	16 25	1 18	5 43	1 17	13 1	1 3	22 14	1 12	4 15	0 46	18 17	0 2	11 5	17 21	21 3	20 48	4 55	14 2	2 43	
W 5	22 22	7 15	4 17	18 52	2 18	16 47	1 16	5 57	1 17	13 5	1 3	22 14	1 12	4 15	0 46	18 17	0 2	11 5	17 20	21 3	20 48	4 53	14 1	2 43	
T 6	22 30	2 7	4 52	18 30	2 29	17 8	1 14	6 11	1 17	13 8	1 3	22 14	1 12	4 14	0 46	18 18	0 2	11 5	17 20	21 3	20 49	4 51	14 1	2 43	
F 7	22 37	3n10	5 8	18 11	2 38	17 29	1 12	6 25	1 16	13 12	1 3	22 14	1 12	4 14	0 46	18 18	0 2	11 4	17 20	21 4	20 50	4 49	14 0	2 43	
S 8	22 43	8 17	5 6	17 56	2 45	17 49	1 10	6 39	1 16	13 16	1 3	22 14	1 12	4 14	0 46	18 18	0 2	11 4	17 19	21 5	20 50	4 46	13 59	2 43	
S 9	22 50	12 56	4 44	17 45	2 49	18 9	1 8	6 53	1 16	13 19	1 3	22 14	1 12	4 14	0 45	18 18	0 2	11 4	17 19	21 6	20 51	4 44	13 58	2 43	
M10	22 56	16 49	4 5	17 39	2 52	18 29	1 6	7 7	1 16	13 23	1 3	22 14	1 12	4 14	0 45	18 19	0 2	11 4	17 19	21 7	20 52	4 42	13 57	2 43	
T11	23 1	19 40	3 12	17 36	2 52	18 47	1 4	7 20	1 16	13 27	1 3	22 13	1 12	4 13	0 45	18 19	0 2	11 4	17 18	21 8	20 52	4 39	13 57	2 43	
W12	23 6	21 20	2 9	17 37	2 52	19 6	1 2	7 34	1 16	13 30	1 3	22 13	1 12	4 13	0 45	18 19	0 2	11 4	17 18	21 9	20 53	4 37	13 56	2 43	
T13	23 10	21 45	1 0	17 42	2 49	19 24	1 0	7 48	1 16	13 34	1 3	22 13	1 12	4 13	0 45	18 19	0 2	11 3	17 18	21 10	20 53	4 35	13 55	2 43	
F14	23 14	20 58	0n10	17 49	2 46	19 41	0 58	8 1	1 16	13 37	1 3	22 13	1 12	4 13	0 45	18 20	0 2	11 3	17 17	21 10	20 54	4 33	13 54	2 43	
S15	23 18	19 9	1 19	17 59	2 42	19 58	0 56	8 15	1 16	13 41	1 4	22 13	1 11	4 12	0 45	18 20	0 2	11 3	17 17	21 10	20 55	4 30	13 54	2 43	
S16	23 21	16 27	2 22	18 10	2 37	20 14	0 54	8 28	1 15	13 44	1 4	22 13	1 11	4 12	0 45	18 20	0 2	11 3	17 17	21 9	20 55	4 28	13 53	2 43	
M17	23 23	13 6	3 17	18 24	2 31	20 29	0 51	8 41	1 15	13 48	1 4	22 13	1 11	4 12	0 45	18 21	0 2	11 2	17 16	21 9	20 56	4 26	13 52	2 43	
T18	23 26	9 16	4 4	18 39	2 24	20 44	0 49	8 55	1 15	13 51	1 4	22 13	1 11	4 11	0 45	18 21	0 2	11 2	17 16	21 9	20 56	4 23	13 52	2 43	
W19	23 27	5 7	4 39	18 55	2 17	20 59	0 47	9 8	1 15	13 55	1 4	22 13	1 11	4 11	0 45	18 21	0 2	11 2	17 15	21 9	20 57	4 21	13 51	2 43	
T20	23 28	0 46	5 3	19 12	2 10	21 13	0 44	9 21	1 15	13 58	1 4	22 13	1 11	4 10	0 45	18 21	0 2	11 2	17 15	21 9	20 58	4 19	13 51	2 43	
F21	23 29	3s37	5 13	19 30	2 2	21 26	0 42	9 34	1 15	14 1	1 4	22 13	1 11	4 10	0 45	18 22	0 1	11 1	17 15	21 9	20 58	4 16	13 50	2 43	
S22	23 29	7 57	5 10	19 48	1 54	21 39	0 40	9 47	1 15	14 4	1 4	22 13	1 11	4 10	0 45	18 22	0 1	11 1	17 14	21 10	20 59	4 14	13 49	2 43	
S23	23 29	12 1	4 53	20 6	1 46	21 50	0 37	10 0	1 14	14 8	1 4	22 13	1 11	4 9	0 45	18 22	0 1	11 1	17 14	21 10	20 59	4 12	13 49	2 43	
M24	23 29	15 40	4 21	20 24	1 38	22 2	0 35	10 13	1 14	14 11	1 4	22 12	1 10	4 9	0 45	18 23	0 1	11 1	17 14	21 11	21 0	4 9	13 48	2 43	
T25	23 27	18 40	3 36	20 42	1 30	22 12	0 32	10 25	1 14	14 14	1 4	22 12	1 10	4 8	0 45	18 23	0 1	11 0	17 13	21 12	21 1	4 7	13 48	2 43	
W26	23 26	20 46	2 38	21 0	1 21	22 22	0 30	10 38	1 14	14 17	1 4	22 12	1 10	4 7	0 45	18 23	0 1	11 0	17 13	21 12	21 1	4 5	13 47	2 43	
T27	23 24	21 44	1 30	21 18	1 13	22 32	0 27	10 51	1 14	14 20	1 5	22 12	1 10	4 7	0 45	18 24	0 1	11 0	17 13	21 13	21 2	4 3	13 47	2 43	
F28	23 21	21 26	0 15	21 35	1 5	22 40	0 25	11 3	1 14	14 23	1 5	22 12	1 10	4 6	0 45	18 24	0 1	10 59	17 12	21 13	21 2	4 0	13 46	2 43	
S29	23 18	19 48	1s 1	21 52	0 56	22 48	0 22	11 16	1 13	14 26	1 5	22 12	1 10	4 6	0 45	18 25	0 1	10 59	17 12	21 13	21 3	3 58	13 46	2 42	
S30	23 14	16 57	2 15	22 8	0 48	22 56	0 20	11 28	1 13	14 29	1 5	22 12	1 10	4 5	0 45	18 25	0 1	10 59	17 11	21 12	21 4	3 56	13 46	2 42	
M31	23s10	13s 5	3s21	22s23	0n40	23s 2	0n17	11s40	1n13	14s32	1n 5	22n12	1s10	4s 5	0s45	18n25	0s 1	10s58	17s11	21n12	21n 4	3n53	13n45	2s42	