



Astrodienst Ephemeris Tables for the year 1987

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 1987
geocentric

JANUARY 1987

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
T 1	6 40 27	10♈ 1'13	22♈27	3♈11	24♎ 5	24♏45	17♏31	15♏23	23♏36	5♏41	9♎28	16°R50	16°Y30	4♏18	17°R23	T 1
F 2	6 44 24	11° 2'24	7♏37	4°45	24°59	25°27	17°40	15°30	23°39	5°43	9°29	16°Y39	16°26	4°25	17°II19	F 2
S 3	6 48 20	12° 3'35	22°25	6°20	25°53	26° 9	17°50	15°36	23°43	5°46	9°30	16°30	16°23	4°32	17°16	S 3
S 4	6 52 17	13° 4'45	6♏45	7°55	26°48	26°51	18° 0	15°43	23°47	5°48	9°32	16°24	16°20	4°38	17°13	S 4
M 5	6 56 13	14° 5'56	20°35	9°30	27°43	27°33	18° 9	15°49	23°50	5°50	9°33	16°20	16°17	4°45	17°10	M 5
T 6	7 0 10	15° 7'06	3°Y56	11° 5	28°39	28°15	18°19	15°56	23°53	5°53	9°34	16°19	16°14	4°52	17° 7	T 6
W 7	7 4 6	16° 8'15	16°50	12°41	29°35	28°56	18°30	16° 2	23°57	5°55	9°36	16°19	16°11	4°59	17° 4	W 7
T 8	7 8 3	17° 9'24	29°22	14°18	0♏33	29°38	18°40	16° 9	24° 0	5°57	9°37	16°18	16° 7	5° 5	17° 1	T 8
F 9	7 12 0	18°10'33	11♏38	15°54	1°30	0°Y20	18°50	16°15	24° 4	5°59	9°38	16°17	16° 4	5°12	16°58	F 9
S 10	7 15 56	19°11'41	23°42	17°32	2°28	1° 2	19° 1	16°22	24° 7	6° 1	9°39	16°13	16° 1	5°19	16°55	S 10
S 11	7 19 53	20°12'49	5♏38	19° 9	3°27	1°44	19°11	16°28	24°11	6° 4	9°40	16° 6	15°58	5°25	16°52	S 11
M12	7 23 49	21°13'57	17°30	20°47	4°26	2°26	19°22	16°34	24°14	6° 6	9°42	15°56	15°55	5°32	16°49	M12
T 13	7 27 46	22°15'04	29°21	22°26	5°26	3° 8	19°33	16°41	24°17	6° 8	9°43	15°44	15°52	5°39	16°46	T 13
W14	7 31 42	23°16'10	11♏14	24° 5	6°26	3°50	19°44	16°47	24°21	6°10	9°44	15°30	15°48	5°46	16°44	W14
T 15	7 35 39	24°17'16	23° 9	25°44	7°26	4°32	19°55	16°53	24°24	6°13	9°45	15°15	15°45	5°52	16°41	T 15
F 16	7 39 36	25°18'22	5♏ 8	27°24	8°27	5°14	20° 6	16°59	24°27	6°15	9°46	15° 0	15°42	5°59	16°38	F 16
S 17	7 43 32	26°19'27	17°12	29° 5	9°28	5°56	20°17	17° 5	24°30	6°17	9°47	14°47	15°39	6° 6	16°36	S 17
S 18	7 47 29	27°20'32	29°22	0♏46	10°30	6°38	20°29	17°11	24°34	6°19	9°47	14°37	15°36	6°13	16°33	S 18
M19	7 51 25	28°21'36	11♏40	2°27	11°32	7°20	20°40	17°17	24°37	6°21	9°48	14°30	15°32	6°19	16°31	M19
T 20	7 55 22	29°22'40	24° 8	4° 9	12°34	8° 2	20°52	17°23	24°40	6°23	9°49	14°26	15°29	6°26	16°29	T 20
W21	7 59 18	0♏23'44	6♏49	5°51	13°37	8°44	21° 3	17°29	24°43	6°25	9°50	14°24	15°26	6°33	16°26	W21
T 22	8 3 15	1°24'47	19°47	7°34	14°40	9°25	21°15	17°35	24°46	6°28	9°51	14°D24	15°23	6°39	16°24	T 22
F 23	8 7 11	2°25'50	3♏ 5	9°17	15°43	10° 7	21°27	17°40	24°49	6°30	9°51	14°R24	15°20	6°46	16°22	F 23
S 24	8 11 8	3°26'52	16°45	11° 1	16°47	10°49	21°39	17°46	24°52	6°32	9°52	14°23	15°17	6°53	16°20	S 24
S 25	8 15 5	4°27'54	0♏50	12°45	17°51	11°31	21°51	17°52	24°55	6°34	9°53	14°21	15°13	7° 0	16°18	S 25
M26	8 19 1	5°28'56	15°20	14°29	18°55	12°13	22° 3	17°57	24°58	6°36	9°53	14°15	15°10	7° 6	16°16	M26
T 27	8 22 58	6°29'57	0♏11	16°13	20° 0	12°55	22°15	18° 3	25° 1	6°38	9°54	14° 8	15° 7	7°13	16°14	T 27
W28	8 26 54	7°30'57	15°17	17°57	21° 5	13°37	22°28	18° 8	25° 4	6°40	9°55	13°58	15° 4	7°20	16°12	W28
T 29	8 30 51	8°31'57	0♏27	19°41	22°10	14°18	22°40	18°14	25° 7	6°42	9°55	13°48	15° 1	7°27	16°10	T 29
F 30	8 34 47	9°32'56	15°32	21°24	23°15	15° 0	22°52	18°19	25°10	6°44	9°56	13°38	14°58	7°33	16° 8	F 30
S 31	8 38 44	10°33'53	0♏22	23° 8	24°21	15°Y42	23° 5	18°24	25°13	6♏46	9♎56	13°Y29	14°Y54	7♏40	16°II 7	S 31

Day	☉	☽		♊		♋		♌		♍		♎		♏		♐		♑		♒		♓	♈	♉	♊	♋	♌
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	decl	decl	decl	lat
T 1	23s 4	26s29	4s59	24s34	1s10	15s14	3n40	2s31	0s28	6s 3	1s12	21s10	1n29	23s24	0s 7	22s19	1n 1	0n41	16n 8	6n37	6n29	28n24	17n11	5s42			
F 2	22 59	22 53	4 40	24 37	1 15	15 26	3 41	2 13	0 27	5 59	1 12	21 11	1 29	23 24	0 7	22 19	1 1	0 41	16 8	6 33	6 28	28 24	17 10	5 42			
S 3	22 54	17 53	4 4	24 38	1 20	15 38	3 42	1 55	0 25	5 55	1 12	21 11	1 29	23 24	0 7	22 18	1 1	0 41	16 9	6 29	6 27	28 24	17 10	5 41			
S 4	22 48	12 1	3 12	24 38	1 25	15 50	3 43	1 37	0 24	5 51	1 12	21 12	1 29	23 25	0 7	22 18	1 1	0 41	16 9	6 27	6 25	28 24	17 10	5 41			
M 5	22 42	5 45	2 11	24 36	1 30	16 2	3 43	1 20	0 23	5 47	1 12	21 13	1 29	23 25	0 7	22 18	1 1	0 41	16 10	6 26	6 24	28 24	17 10	5 41			
T 6	22 35	0n34	1 5	24 33	1 35	16 14	3 43	1 2	0 22	5 43	1 11	21 13	1 29	23 25	0 7	22 18	1 1	0 41	16 10	6 25	6 23	28 24	17 10	5 41			
W 7	22 28	6 39	0n 3	24 29	1 39	16 26	3 43	0 44	0 20	5 39	1 11	21 14	1 29	23 25	0 7	22 18	1 1	0 41	16 10	6 25	6 22	28 24	17 9	5 41			
T 8	22 21	12 19	1 8	24 23	1 43	16 38	3 43	0 26	0 19	5 34	1 11	21 15	1 29	23 25	0 7	22 18	1 1	0 42	16 11	6 25	6 21	28 24	17 9	5 41			
F 9	22 13	17 23	2 9	24 15	1 46	16 50	3 42	0 8	0 18	5 30	1 11	21 15	1 29	23 25	0 7	22 18	1 1	0 42	16 11	6 24	6 19	28 23	17 9	5 41			
S 10	22 4	21 40	3 3	24 7	1 50	17 2	3 42	0n10	0 17	5 26	1 11	21 16	1 29	23 26	0 7	22 18	1 1	0 42	16 12	6 23	6 18	28 23	17 9	5 41			
S 11	21 55	25 0	3 49	23 56	1 53	17 14	3 41	0 27	0 15	5 22	1 11	21 17	1 29	23 26	0 7	22 18	1 1	0 42	16 12	6 20	6 17	28 23	17 9	5 40			
M12	21 46	27 14	4 24	23 45	1 56	17 25	3 40	0 45	0 14	5 17	1 10	21 17	1 29	23 26	0 7	22 18	1 1	0 42	16 13	6 16	6 16	28 23	17 9	5 40			
T 13	21 36	28 14	4 47	23 31	1 58	17 37	3 39	1 3	0 13	5 13	1 10	21 18	1 29	23 26	0 7	22 18	1 1	0 42	16 13	6 12	6 14	28 23	17 9	5 40			
W14	21 26	27 55	4 58	23 17	2 1	17 48	3 38	1 21	0 12	5 8	1 10	21 18	1 29	23 26	0 7	22 17	1 1	0 42	16 14	6 6	6 13	28 23	17 9	5 40			
T 15	21 16	26 19	4 56	23 0	2 2	17 59	3 37	1 38	0 11	5 4	1 10	21 19	1 29	23 26	0 7	22 17	1 1	0 42	16 14	6 0	6 12	28 23	17 9	5 40			
F 16	21 5	23 32	4 41	22 42	2 4	18 10	3 35	1 56	0 10	4 59	1 10	21 20	1 29	23 27	0 7	22 17	1 1	0 43	16 15	5 55	6 11	28 22	17 8	5 40			
S 17	20 53	19 42	4 14	22 23	2 5	18 21	3 34	2 14	0 8	4 55	1 10	21 20	1 29	23 27	0 7	22 17	1 1	0 43	16 15	5 50	6 10	28 22	17 8	5 39			
S 18	20 42	15 2	3 34	22 2	2 6	18 32	3 32	2 31	0 7	4 50	1 10	21 21	1 29	23 27	0 7	22 17	1 1	0 43	16 16	5 46	6 8	28 22	17 8	5 39			
M19	20 30	9 43	2 44	21 39	2 6	18 42	3 30	2 49	0 6	4 46	1 9	21 21	1 29	23 27	0 7	22 17	1 1	0 43	16 16	5 43	6 7	28 22	17 8	5 39			
T 20	20 17	3 56	1 45	21 15	2 6	18 52	3 28	3 6	0 5	4 41	1 9	21 22	1 29	23 27	0 7	22 17	1 1	0 44	16 17	5 41	6 6	28 22	17 8	5 39			
W21	20 4	2s 6	0 40	20 50	2 5	19 2	3 26	3 24	0 4	4 36	1 9	21 22	1 29	23 27	0 7	22 17	1 1	0 44	16 17	5 41	6 5	28 22	17 8	5 38			
T 22	19 51	8 11	0s29	20 23	2 4	19 11	3 24	3 41	0 3	4 32	1 9	21 23	1 30	23 27	0 7	22 17	1 1	0 44	16 18	5 41	6 3	28 21	17 8	5 38			
F 23	19 37	14 4	1 37	19 54	2 2	19 21	3 21	3 59	0 2	4 27	1 9	21 23	1 30	23 28	0 7	22 16	1 1	0 44	16 18	5 41	6 2	28 21	17 8	5 38			
S 24	19 23	19 26	2 43	19 24	2 0	19 29	3 19	4 16	0 1	4 22	1 9	21 24	1 30	23 28	0 7	22 16	1 1	0 45	16 19	5 40	6 1	28 21	17 8	5 38			
S 25	19 9	23 55	3 40	18 52	1 57	19 38	3 16	4 33	0n 0	4 17	1 9	21 24	1 30	23 28	0 7	22 16	1 1	0 45	16 20	5 39	6 0	28 21	17 8	5 38			
M26	18 54	27 2	4 25	18 19	1 54	19 46	3 13	4 51	0 1	4 12	1 8	21 25	1 30	23 28	0 7	22 16	1 1	0 45	16 20	5 37	5 59	28 20	17 8	5 37			
T 27	18 39	28 20	4 53	17 44	1 50	19 54	3 11	5 8	0 2	4 7	1 8	21 25	1 30	23 28	0 7	22 16	1 1	0 46	16 21	5 34	5 57	28 20	17 9	5 37			
W28	18 24	27 34	5 2	17 8	1 46	20 1	3 8	5 25	0 3	4 2	1 8	21 25	1 30	23 28	0 7	22 16	1 1	0 46	16 21	5 31	5 56	28 20	17 9	5 37			
T 29	18 8	24 46	4 50	16 31	1 41	20 8	3 5	5 42	0 4	3 57	1 8	21 26	1 30	23 28	0 7	22 16	1 1	0 46	16 22	5 27	5 55	28 20	17 9	5 37			
F 30	17 52	20 16	4 17	15 52	1 35	20 15	3 2	5 59	0 5	3 52	1 8	21 26	1 30	23 28	0 7	22 16	1 1	0 47	16 22	5 23	5 54	28 19	17 9	5 36			
S 31	17s35	14s35	3s28	15s12	1s29	20s21	2n59	6n17	0n 6	3s47	1s 8	21s27	1n30	23s29	0s 7	22s16	1n 1	0n47	16n23	5n19	5n52	28n19	17n 9	5s36			

ASTRODIENST EPHEMERIS for the year 1987

geocentric

FEBRUARY 1987

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	8 42 40	11°34'50	14°48	24°50	25°26	16°24	23°17	18°29	25°16	6°48	9°56	13°R23	14°Y51	7°547	16°R 5	S 1
M 2	8 46 37	12°35'45	28°46	26°31	26°32	17° 6	23°30	18°35	25°19	6°50	9°57	13°Y20	14°48	7°53	16°II 3	M 2
T 3	8 50 34	13°36'39	12°Y15	28°11	27°39	17°47	23°43	18°40	25°21	6°52	9°57	13°D19	14°45	8° 0	16° 2	T 3
W 4	8 54 30	14°37'32	25°17	29°50	28°45	18°29	23°56	18°45	25°24	6°54	9°57	13°20	14°42	8° 7	16° 1	W 4
T 5	8 58 27	15°38'23	7°55	1°26	29°52	19°11	24° 9	18°50	25°27	6°55	9°58	13°20	14°38	8°14	15°59	T 5
F 6	9 2 23	16°39'13	20°14	3° 0	0°58	19°53	24°22	18°54	25°29	6°57	9°58	13°R21	14°35	8°20	15°58	F 6
S 7	9 6 20	17°40'01	2°II18	4°30	2° 5	20°34	24°35	18°59	25°32	6°59	9°58	13°19	14°32	8°27	15°57	S 7
S 8	9 10 16	18°40'48	14°14	5°57	3°12	21°16	24°48	19° 4	25°34	7° 1	9°58	13°16	14°29	8°34	15°56	S 8
M 9	9 14 13	19°41'34	26° 6	7°19	4°20	21°58	25° 1	19° 9	25°37	7° 3	9°58	13°10	14°26	8°40	15°55	M 9
T 10	9 18 9	20°42'18	7°557	8°36	5°27	22°39	25°14	19°13	25°39	7° 5	9°58	13° 2	14°23	8°47	15°54	T 10
W11	9 22 6	21°43'01	19°50	9°48	6°35	23°21	25°27	19°18	25°42	7° 6	9°59	12°52	14°19	8°54	15°53	W11
T 12	9 26 3	22°43'42	1°Ω50	10°53	7°43	24° 3	25°41	19°22	25°44	7° 8	9°R59	12°42	14°16	9° 1	15°52	T 12
F 13	9 29 59	23°44'21	13°56	11°51	8°51	24°44	25°54	19°26	25°47	7°10	9°58	12°32	14°13	9° 7	15°52	F 13
S 14	9 33 56	24°44'59	26°11	12°40	9°59	25°26	26° 7	19°31	25°49	7°12	9°58	12°24	14°10	9°14	15°51	S 14
S 15	9 37 52	25°45'36	8°II35	13°22	11° 7	26° 7	26°21	19°35	25°51	7°13	9°58	12°17	14° 7	9°21	15°50	S 15
M16	9 41 49	26°46'11	21° 8	13°54	12°16	26°49	26°34	19°39	25°53	7°15	9°58	12°12	14° 4	9°28	15°50	M16
T 17	9 45 45	27°46'45	3°Ω52	14°16	13°24	27°30	26°48	19°43	25°56	7°16	9°58	12°10	14° 0	9°34	15°50	T 17
W18	9 49 42	28°47'18	16°48	14°28	14°33	28°12	27° 2	19°47	25°58	7°18	9°58	12°D10	13°57	9°41	15°49	W18
T 19	9 53 38	29°47'49	29°58	14°R30	15°42	28°53	27°15	19°51	26° 0	7°20	9°58	12°11	13°54	9°48	15°49	T 19
F 20	9 57 35	0°48'19	13°II22	14°21	16°51	29°35	27°29	19°54	26° 2	7°21	9°57	12°12	13°51	9°54	15°49	F 20
S 21	10 1 32	1°48'48	27° 2	14° 2	18° 0	0°Ω16	27°43	19°58	26° 4	7°23	9°57	12°R13	13°48	10° 1	15°49	S 21
S 22	10 5 28	2°49'16	10°59	13°34	19° 9	0°57	27°57	20° 2	26° 6	7°24	9°57	12°13	13°44	10° 8	15°D49	S 22
M23	10 9 25	3°49'42	25°14	12°57	20°18	1°39	28°11	20° 5	26° 8	7°26	9°56	12°11	13°41	10°15	15°49	M23
T 24	10 13 21	4°50'07	9°Ω43	12°12	21°28	2°20	28°25	20° 9	26°10	7°27	9°56	12° 8	13°38	10°21	15°49	T 24
W25	10 17 18	5°50'31	24°23	11°20	22°38	3° 1	28°39	20°12	26°11	7°28	9°55	12° 3	13°35	10°28	15°49	W25
T 26	10 21 14	6°50'53	9°Ω 8	10°23	23°47	3°43	28°53	20°15	26°13	7°30	9°55	11°57	13°32	10°35	15°50	T 26
F 27	10 25 11	7°51'13	23°51	9°22	24°57	4°24	29° 7	20°19	26°15	7°31	9°54	11°52	13°29	10°41	15°50	F 27
S 28	10 29 7	8°51'32	8°Ω23	8°Ω19	26°Ω 7	5°Ω 5	29°Ω21	20°Ω22	26°Ω17	7°Ω33	9°Ω54	11°Y48	13°Y25	10°Ω48	15°II50	S 28

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
S 1	17s19	8s14	2s26	14s32	1s21	20s26	2n56	6n33	0n 7	3s42	1s 8	21s27	1n30	23s29	0s 7	22s15	1n 1
M 2	17 2	1 40	1 17	13 50	1 14	20 32	2 52	6 50	0 8	3 37	1 8	21 27	1 30	23 29	0 7	22 15	1 1
T 3	16 44	4n45	0 6	13 7	1 5	20 36	2 49	7 7	0 9	3 32	1 8	21 28	1 30	23 29	0 7	22 15	1 1
W 4	16 27	10 46	1n 4	12 24	0 56	20 41	2 46	7 24	0 10	3 27	1 7	21 28	1 30	23 29	0 7	22 15	1 1
T 5	16 9	16 10	2 8	11 40	0 45	20 45	2 42	7 41	0 11	3 21	1 7	21 28	1 30	23 29	0 7	22 15	1 1
F 6	15 51	20 46	3 4	10 57	0 34	20 48	2 39	7 57	0 12	3 16	1 7	21 29	1 30	23 29	0 7	22 15	1 1
S 7	15 32	24 24	3 51	10 13	0 23	20 51	2 35	8 14	0 13	3 11	1 7	21 29	1 30	23 29	0 7	22 15	1 1
S 8	15 14	26 56	4 28	9 29	0 10	20 53	2 31	8 30	0 14	3 6	1 7	21 29	1 30	23 29	0 7	22 15	1 1
M 9	14 55	28 15	4 52	8 47	0n 3	20 55	2 28	8 47	0 14	3 0	1 7	21 30	1 31	23 29	0 7	22 15	1 1
T 10	14 36	28 16	5 4	8 5	0 17	20 56	2 24	9 3	0 15	2 55	1 7	21 30	1 31	23 30	0 7	22 15	1 1
W11	14 16	26 58	5 3	7 25	0 32	20 57	2 20	9 19	0 16	2 50	1 7	21 30	1 31	23 30	0 7	22 14	1 1
T 12	13 56	24 27	4 49	6 46	0 47	20 57	2 16	9 36	0 17	2 44	1 7	21 31	1 31	23 30	0 7	22 14	1 1
F 13	13 37	20 49	4 21	6 10	1 2	20 57	2 12	9 52	0 18	2 39	1 7	21 31	1 31	23 30	0 7	22 14	1 1
S 14	13 16	16 16	3 42	5 36	1 18	20 56	2 8	10 8	0 19	2 34	1 7	21 31	1 31	23 30	0 7	22 14	1 1
S 15	12 56	11 0	2 51	5 6	1 34	20 55	2 4	10 23	0 20	2 28	1 6	21 31	1 31	23 30	0 7	22 14	1 1
M16	12 36	5 13	1 51	4 39	1 50	20 53	2 0	10 39	0 20	2 23	1 6	21 32	1 31	23 30	0 7	22 14	1 1
T 17	12 15	0s15	0 45	4 16	2 6	20 50	1 56	10 55	0 21	2 17	1 6	21 32	1 31	23 30	0 7	22 14	1 1
W18	11 54	7 0	0s25	3 57	2 21	20 47	1 52	11 11	0 22	2 12	1 6	21 32	1 31	23 30	0 7	22 14	1 1
T 19	11 33	12 56	1 35	3 43	2 36	20 44	1 48	11 26	0 23	2 6	1 6	21 32	1 31	23 30	0 7	22 14	1 1
F 20	11 11	18 24	2 41	3 33	2 50	20 39	1 44	11 41	0 23	2 1	1 6	21 33	1 31	23 30	0 7	22 13	1 1
S 21	10 50	23 3	3 39	3 28	3 2	20 35	1 40	11 57	0 24	1 55	1 6	21 33	1 31	23 31	0 7	22 13	1 1
S 22	10 28	26 29	4 26	3 29	3 14	20 29	1 36	12 12	0 25	1 50	1 6	21 33	1 31	23 31	0 7	22 13	1 1
M23	10 6	28 18	4 57	3 34	3 24	20 24	1 32	12 27	0 26	1 44	1 6	21 33	1 32	23 31	0 7	22 13	1 1
T 24	9 44	28 14	5 10	3 43	3 32	20 17	1 28	12 42	0 26	1 38	1 6	21 33	1 32	23 31	0 7	22 13	1 1
W25	9 22	26 13	5 3	3 57	3 38	20 10	1 24	12 57	0 27	1 33	1 6	21 33	1 32	23 31	0 7	22 13	1 1
T 26	9 0	22 25	4 36	4 15	3 41	20 3	1 20	13 12	0 28	1 27	1 6	21 34	1 32	23 31	0 7	22 13	1 1
F 27	8 38	17 13	3 51	4 37	3 43	19 54	1 15	13 26	0 29	1 21	1 6	21 34	1 32	23 31	0 8	22 13	1 1
S 28	8s15	11s 5	2s52	5s 1	3n42	19s46	1n11	13n41	0n29	1s16	1s 6	21s34	1n32	23s31	0s 8	22s13	1n 1

Julian Day Number = 2446827.5, Delta T = 55.36 sec

Ecliptic obliquity = 23°26'36, Nutation = - 0°00'03, out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 24°33'36, Lahiri = 23°40'36

ASTRODIENST EPHEMERIS for the year 1987

geocentric

APRIL 1987

00:00 UT

Day	Sid.t	☉	☽	♀	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	12 35 17	10°44'13	10°56	13°33	3°58	26°51	7°2	21°R10	26°R44	7°59	9°R21	11°Y30	11°Y44	14°523	16°II45	W 1	
T 2	12 39 14	11°43'27	23°37	14°46	5°10	27°31	7°16	21°R10	26°R44	7°59	9°R19	11°R30	11°41	14°30	16°47	T 2	
F 3	12 43 10	12°42'40	6°II 2	16° 1	6°22	28°12	7°31	21° 9	26°44	7°59	9°18	11°30	11°37	14°37	16°50	F 3	
S 4	12 47 7	13°41'49	18°13	17°19	7°34	28°52	7°45	21° 9	26°43	8° 0	9°16	11°30	11°34	14°44	16°53	S 4	
S 5	12 51 3	14°40'57	0°513	18°38	8°45	29°32	8° 0	21° 9	26°43	8° 0	9°15	11°30	11°31	14°50	16°56	S 5	
M 6	12 55 0	15°40'02	12° 8	19°59	9°57	0°II12	8°14	21° 8	26°43	8° 0	9°13	11°D30	11°28	14°57	16°59	M 6	
T 7	12 58 56	16°39'05	24° 1	21°22	11° 9	0°53	8°29	21° 7	26°43	8° 0	9°12	11°30	11°25	15° 4	17° 2	T 7	
W 8	13 2 53	17°38'06	5°II57	22°46	12°21	1°33	8°43	21° 7	26°42	8° 0	9°10	11°30	11°21	15°10	17° 6	W 8	
T 9	13 6 50	18°37'05	18° 1	24°12	13°33	2°13	8°58	21° 6	26°42	8° 0	9° 9	11°30	11°18	15°17	17° 9	T 9	
F 10	13 10 46	19°36'01	0°II17	25°40	14°45	2°53	9°12	21° 5	26°42	8°R 0	9° 7	11°31	11°15	15°24	17°12	F 10	
S 11	13 14 43	20°34'54	12°48	27°10	15°57	3°33	9°26	21° 4	26°41	8° 0	9° 6	11°32	11°12	15°31	17°16	S 11	
S 12	13 18 39	21°33'46	25°36	28°41	17° 9	4°13	9°41	21° 3	26°41	8° 0	9° 4	11°33	11° 9	15°37	17°19	S 12	
M13	13 22 36	22°32'35	8°II45	0°Y14	18°21	4°53	9°55	21° 2	26°40	8° 0	9° 2	11°R33	11° 6	15°44	17°23	M13	
T 14	13 26 32	23°31'23	22°12	1°49	19°34	5°33	10° 9	21° 0	26°39	8° 0	9° 1	11°33	11° 2	15°51	17°26	T 14	
W15	13 30 29	24°30'08	5°II57	3°25	20°46	6°13	10°24	20°59	26°39	8° 0	8°59	11°32	10°59	15°57	17°30	W15	
T 16	13 34 25	25°28'52	19°57	5° 2	21°58	6°53	10°38	20°58	26°38	8° 0	8°58	11°31	10°56	16° 4	17°33	T 16	
F 17	13 38 22	26°27'34	4°II8	6°42	23°10	7°33	10°52	20°56	26°37	7°59	8°56	11°29	10°53	16°11	17°37	F 17	
S 18	13 42 19	27°26'14	18°26	8°23	24°22	8°13	11° 6	20°54	26°36	7°59	8°54	11°27	10°50	16°18	17°41	S 18	
S 19	13 46 15	28°24'52	2°II47	10° 5	25°35	8°53	11°21	20°53	26°36	7°59	8°53	11°25	10°47	16°24	17°45	S 19	
M20	13 50 12	29°23'29	17° 6	11°50	26°47	9°33	11°35	20°51	26°35	7°59	8°51	11°24	10°43	16°31	17°48	M20	
T 21	13 54 8	0°II22'04	1°II20	13°35	27°59	10°12	11°49	20°49	26°34	7°58	8°49	11°D24	10°40	16°38	17°52	T 21	
W22	13 58 5	1°20'37	15°26	15°23	29°11	10°52	12° 3	20°47	26°33	7°58	8°48	11°24	10°37	16°45	17°56	W22	
T 23	14 2 1	2°19'09	29°24	17°12	0°Y24	11°32	12°17	20°45	26°32	7°57	8°46	11°25	10°34	16°51	18° 0	T 23	
F 24	14 5 58	3°17'39	13°II12	19° 3	1°36	12°12	12°31	20°42	26°31	7°57	8°44	11°27	10°31	16°58	18° 4	F 24	
S 25	14 9 54	4°16'08	26°49	20°55	2°48	12°51	12°45	20°40	26°29	7°57	8°43	11°28	10°27	17° 5	18° 8	S 25	
S 26	14 13 51	5°14'34	10°Y13	22°49	4° 1	13°31	12°59	20°38	26°28	7°56	8°41	11°R29	10°24	17°11	18°12	S 26	
M27	14 17 48	6°12'59	23°26	24°45	5°13	14°11	13°13	20°35	26°27	7°56	8°39	11°28	10°21	17°18	18°17	M27	
T 28	14 21 44	7°11'23	6°II25	26°43	6°26	14°50	13°27	20°33	26°26	7°55	8°38	11°26	10°18	17°25	18°21	T 28	
W29	14 25 41	8° 9'44	19°10	28°42	7°38	15°30	13°41	20°30	26°24	7°54	8°36	11°23	10°15	17°32	18°25	W29	
T 30	14 29 37	9° 8'04	1°II42	0°II42	8°Y51	16°II10	13°Y55	20°II27	26°II23	7°54	8°II34	11°Y19	10°Y12	17°538	18°II29	T 30	

Day	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	
W 1	4n15	17n35	2n36	8s17	1s58	10s46	0s46	20n14	0n48	1n48	1s 5	21s34	1n35	23s32	0s 8	22s10	1n 2
T 2	4 38	22 7	3 33	7 54	2 4	10 23	0 49	20 24	0 48	1 53	1 5	21 34	1 35	23 32	0 8	22 10	1 2
F 3	5 1	25 33	4 18	7 30	2 9	9 59	0 52	20 33	0 49	1 59	1 5	21 34	1 35	23 32	0 8	22 10	1 2
S 4	5 24	27 45	4 51	7 4	2 14	9 34	0 54	20 42	0 49	2 5	1 5	21 34	1 35	23 32	0 8	22 10	1 2
S 5	5 47	28 37	5 11	6 37	2 18	9 10	0 57	20 52	0 50	2 11	1 5	21 34	1 35	23 32	0 8	22 10	1 2
M 6	6 10	28 9	5 17	6 8	2 21	8 45	0 59	21 1	0 50	2 16	1 5	21 34	1 35	23 32	0 8	22 10	1 2
T 7	6 33	26 23	5 9	5 38	2 25	8 20	1 2	21 10	0 50	2 22	1 5	21 33	1 36	23 32	0 8	22 10	1 2
W 8	6 55	23 27	4 48	5 7	2 27	7 55	1 4	21 18	0 51	2 28	1 5	21 33	1 36	23 32	0 8	22 10	1 2
T 9	7 18	19 28	4 15	4 35	2 29	7 30	1 7	21 27	0 51	2 33	1 5	21 33	1 36	23 32	0 8	22 10	1 2
F 10	7 40	14 38	3 29	4 2	2 31	7 4	1 9	21 35	0 52	2 39	1 5	21 33	1 36	23 32	0 8	22 10	1 2
S 11	8 2	9 6	2 33	3 27	2 32	6 38	1 11	21 43	0 52	2 44	1 5	21 33	1 36	23 32	0 8	22 10	1 2
S 12	8 24	3 5	1 27	2 51	2 32	6 12	1 13	21 51	0 52	2 50	1 5	21 33	1 36	23 32	0 8	22 10	1 2
M13	8 46	3s14	0 16	2 14	2 32	5 46	1 16	21 59	0 53	2 56	1 5	21 33	1 36	23 32	0 8	22 10	1 2
T 14	9 8	9 33	0s59	1 36	2 32	5 19	1 18	22 6	0 53	3 1	1 5	21 32	1 36	23 32	0 8	22 10	1 2
W15	9 30	15 34	2 11	0 57	2 31	4 53	1 19	22 14	0 54	3 7	1 5	21 32	1 36	23 32	0 8	22 10	1 2
T 16	9 51	20 53	3 16	0 17	2 30	4 26	1 21	22 21	0 54	3 12	1 5	21 32	1 36	23 32	0 8	22 10	1 2
F 17	10 13	25 5	4 11	0n24	2 28	3 59	1 23	22 28	0 54	3 18	1 6	21 32	1 36	23 32	0 8	22 10	1 2
S 18	10 34	27 46	4 50	1 6	2 25	3 32	1 25	22 35	0 55	3 23	1 6	21 32	1 36	23 32	0 8	22 10	1 2
S 19	10 55	28 36	5 12	1 49	2 22	3 5	1 26	22 42	0 55	3 29	1 6	21 32	1 36	23 32	0 8	22 10	1 2
M20	11 16	27 32	5 14	2 33	2 18	2 37	1 28	22 48	0 55	3 34	1 6	21 31	1 37	23 32	0 8	22 10	1 2
T 21	11 36	24 41	4 56	3 18	2 14	2 10	1 29	22 54	0 56	3 40	1 6	21 31	1 37	23 32	0 8	22 10	1 2
W22	11 57	20 22	4 21	4 4	2 10	1 43	1 31	23 0	0 56	3 45	1 6	21 31	1 37	23 32	0 8	22 10	1 2
T 23	12 17	14 59	3 31	4 50	2 5	1 15	1 32	23 6	0 56	3 51	1 6	21 31	1 37	23 32	0 8	22 10	1 2
F 24	12 37	8 54	2 29	5 37	1 59	0 47	1 33	23 12	0 57	3 56	1 6	21 30	1 37	23 32	0 8	22 10	1 3
S 25	12 57	2 29	1 20	6 25	1 53	0 20	1 34	23 17	0 57	4 2	1 6	21 30	1 37	23 32	0 8	22 10	1 3
S 26	13 16	3n57	0 7	7 14	1 47	0n 8	1 35	23 23	0 57	4 7	1 6	21 30	1 37	23 32	0 8	22 10	1 3
M27	13 36	10 7	1n 5	8 3	1 40	0 36	1 36	23 28	0 58	4 12	1 6	21 30	1 37	23 32	0 8	22 10	1 3
T 28	13 55	15 45	2 13	8 52	1 32	1 4	1 37	23 33	0 58	4 18	1 6	21 30	1 37	23 32	0 8	22 10	1 3
W29	14 14	20 36	3 12	9 42	1 24	1 32	1 38	23 37	0 58	4 23	1 6	21 29	1 37	23 32	0 8	22 10	1 3
T 30	14n33	24n26	4n 1	10n32	1s16	2n 0	1s39	23n42	0n59	4n28	1s 6	21s29	1n37	23s32	0s 9	22s10	1n 3

Julian Day Number = 2446886.5, Delta T = 55.44 sec

Ecliptic obliquity = 23°26'37", Nutation = - 0°00'04", out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 24°33'44", Lahiri = 23°40'44"

ASTRODIENST EPHEMERIS for the year 1987
geocentric

MAY 1987

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
F 1	14 33 34	10♈ 6'21	14♌ 2	2♊44	10♋ 3	16♌49	14♍ 8	20♎R25	26♏R22	7♐R53	8♑R32	11♒R14	10♓ 8	17♈45	18♉34	F 1
S 2	14 37 30	11° 4'37	26°10	4°48	11°15	17°29	14°22	20♎22	26♏20	7♐52	8♑31	11♒ 9	10° 5	17°52	18°38	S 2
S 3	14 41 27	12° 2'51	8♌ 9	6°53	12°28	18° 8	14°36	20°19	26°19	7°52	8°29	11° 5	10° 2	17°59	18°42	S 3
M 4	14 45 23	13° 1'03	20° 3	8°59	13°40	18°48	14°50	20°16	26°17	7°51	8°27	11° 1	9°59	18° 5	18°47	M 4
T 5	14 49 20	13°59'13	1♌56	11° 7	14°53	19°27	15° 3	20°13	26°16	7°50	8°26	10°59	9°56	18°12	18°51	T 5
W 6	14 53 17	14°57'21	13°51	13°15	16° 5	20° 7	15°17	20°10	26°14	7°49	8°24	10°D58	9°53	18°19	18°56	W 6
T 7	14 57 13	15°55'27	25°53	15°24	17°18	20°46	15°30	20° 6	26°12	7°49	8°22	10°59	9°49	18°25	19° 0	T 7
F 8	15 1 10	16°53'31	8♎ 8	17°34	18°31	21°25	15°44	20° 3	26°11	7°48	8°21	11° 0	9°46	18°32	19° 5	F 8
S 9	15 5 6	17°51'33	20°40	19°45	19°43	22° 5	15°57	20° 0	26° 9	7°47	8°19	11° 2	9°43	18°39	19°10	S 9
S 10	15 9 3	18°49'33	3♌32	21°55	20°56	22°44	16°10	19°56	26° 7	7°46	8°17	11° 3	9°40	18°46	19°14	S 10
M 11	15 12 59	19°47'32	16°48	24° 5	22° 8	23°23	16°24	19°53	26° 5	7°45	8°16	11°R 3	9°37	18°52	19°19	M 11
T 12	15 16 56	20°45'29	0♌29	26°15	23°21	24° 3	16°37	19°49	26° 4	7°44	8°14	11° 1	9°33	18°59	19°24	T 12
W 13	15 20 52	21°43'24	14°34	28°25	24°33	24°42	16°50	19°46	26° 2	7°43	8°12	10°58	9°30	19° 6	19°29	W 13
T 14	15 24 49	22°41'17	28°59	0♌33	25°46	25°21	17° 3	19°42	26° 0	7°42	8°11	10°53	9°27	19°12	19°33	T 14
F 15	15 28 46	23°39'09	13♌38	2°40	26°59	26° 0	17°16	19°38	25°58	7°41	8° 9	10°47	9°24	19°19	19°38	F 15
S 16	15 32 42	24°37'00	28°24	4°45	28°11	26°40	17°29	19°35	25°56	7°40	8° 8	10°40	9°21	19°26	19°43	S 16
S 17	15 36 39	25°34'49	13♌ 9	6°49	29°24	27°19	17°42	19°31	25°54	7°39	8° 6	10°34	9°18	19°33	19°48	S 17
M 18	15 40 35	26°32'38	27°46	8°51	0♌37	27°58	17°55	19°27	25°52	7°38	8° 4	10°29	9°14	19°39	19°53	M 18
T 19	15 44 32	27°30'25	12♌ 9	10°50	1°49	28°37	18° 8	19°23	25°50	7°37	8° 3	10°27	9°11	19°46	19°58	T 19
W 20	15 48 28	28°28'11	26°17	12°48	3° 2	29°16	18°20	19°19	25°48	7°36	8° 1	10°D25	9° 8	19°53	20° 3	W 20
T 21	15 52 25	29°25'55	10♌ 7	14°42	4°15	29°55	18°33	19°15	25°46	7°35	8° 0	10°26	9° 5	20° 0	20° 8	T 21
F 22	15 56 21	0♌23'39	23°40	16°34	5°27	0♌34	18°46	19°11	25°44	7°33	7°58	10°27	9° 2	20° 6	20°13	F 22
S 23	16 0 18	1°21'22	6♌57	18°23	6°40	1°13	18°58	19° 7	25°42	7°32	7°57	10°R28	8°59	20°13	20°18	S 23
S 24	16 4 15	2°19'03	20° 0	20°10	7°53	1°52	19°11	19° 3	25°39	7°31	7°55	10°27	8°55	20°20	20°23	S 24
M 25	16 8 11	3°16'43	2♌51	21°53	9° 6	2°31	19°23	18°59	25°37	7°30	7°54	10°25	8°52	20°26	20°28	M 25
T 26	16 12 8	4°14'23	15°30	23°33	10°18	3°10	19°35	18°54	25°35	7°28	7°52	10°20	8°49	20°33	20°33	T 26
W 27	16 16 4	5°12'01	27°59	25°11	11°31	3°49	19°48	18°50	25°33	7°27	7°51	10°13	8°46	20°40	20°38	W 27
T 28	16 20 1	6° 9'38	10♌18	26°45	12°44	4°28	20° 0	18°46	25°30	7°26	7°49	10° 4	8°43	20°47	20°43	T 28
F 29	16 23 57	7° 7'14	22°28	28°16	13°57	5° 7	20°12	18°42	25°28	7°24	7°48	9°54	8°39	20°53	20°48	F 29
S 30	16 27 54	8° 4'49	4♌31	29°44	15°10	5°46	20°24	18°37	25°26	7°23	7°46	9°43	8°36	21° 0	20°53	S 30
S 31	16 31 51	9♌ 2'23	16♌27	1♌ 9	16♌22	6♌25	20♌36	18♌33	25♌24	7♌22	7♌45	9♌33	8♌33	21♌ 7	20♌58	S 31

Day	☉	☾		♊		♋		♌		♍		♎		♏		♐		♑	♒	♓	♈	♉		
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	lat	decl	lat
F 1	14n51	27n 5	4n38	11n22	1s 7	2n27	1s39	23n46	0n59	4n33	1s 6	21s29	1n37	23s32	0s 9	22s10	1n 3	1n40	16n52	4n27	4n 1	27n19	17n48	5s11
S 2	15 9	28 25	5 1	12 13	0 58	2 55	1 40	23 50	0 59	4 39	1 6	21 29	1 37	23 32	0 9	22 10	1 3	1 40	16 52	4 25	4 0	27 18	17 48	5 10
S 3	15 27	28 22	5 11	13 3	0 48	3 23	1 41	23 54	1 0	4 44	1 7	21 28	1 37	23 32	0 9	22 10	1 3	1 41	16 52	4 23	3 58	27 17	17 49	5 10
M 4	15 45	27 1	5 8	13 53	0 39	3 51	1 41	23 58	1 0	4 49	1 7	21 28	1 37	23 32	0 9	22 10	1 3	1 41	16 52	4 22	3 57	27 16	17 49	5 10
T 5	16 2	24 28	4 51	14 43	0 28	4 18	1 41	24 1	1 0	4 54	1 7	21 28	1 37	23 32	0 9	22 10	1 3	1 42	16 52	4 21	3 56	27 15	17 50	5 10
W 6	16 20	20 51	4 22	15 32	0 18	4 46	1 42	24 5	1 0	4 59	1 7	21 28	1 37	23 32	0 9	22 10	1 3	1 42	16 52	4 20	3 55	27 14	17 50	5 10
T 7	16 36	16 22	3 41	16 20	0 8	5 14	1 42	24 8	1 1	5 5	1 7	21 27	1 37	23 32	0 9	22 10	1 3	1 43	16 52	4 21	3 53	27 13	17 51	5 10
F 8	16 53	11 9	2 50	17 7	0n 3	5 41	1 42	24 11	1 1	5 10	1 7	21 27	1 37	23 32	0 9	22 10	1 3	1 43	16 52	4 21	3 52	27 12	17 51	5 10
S 9	17 9	5 22	1 49	17 53	0 13	6 8	1 42	24 13	1 1	5 15	1 7	21 27	1 37	23 32	0 9	22 10	1 3	1 43	16 52	4 22	3 51	27 11	17 52	5 9
S 10	17 26	0s47	0 41	18 38	0 24	6 36	1 42	24 16	1 1	5 20	1 7	21 26	1 38	23 32	0 9	22 10	1 3	1 44	16 52	4 22	3 50	27 10	17 52	5 9
M 11	17 41	7 5	0s31	19 21	0 34	7 3	1 42	24 18	1 2	5 25	1 7	21 26	1 38	23 32	0 9	22 10	1 3	1 44	16 51	4 22	3 48	27 9	17 53	5 9
T 12	17 57	13 16	1 44	20 2	0 45	7 30	1 42	24 20	1 2	5 30	1 7	21 26	1 38	23 32	0 9	22 10	1 3	1 44	16 51	4 22	3 47	27 7	17 53	5 9
W 13	18 12	18 56	2 52	20 42	0 55	7 57	1 41	24 22	1 2	5 35	1 7	21 26	1 38	23 32	0 9	22 10	1 3	1 45	16 51	4 20	3 46	27 6	17 53	5 9
T 14	18 27	23 40	3 50	21 19	1 4	8 23	1 41	24 24	1 2	5 40	1 8	21 25	1 38	23 32	0 9	22 10	1 3	1 45	16 51	4 18	3 45	27 5	17 54	5 9
F 15	18 41	26 59	4 35	21 54	1 13	8 50	1 41	24 26	1 3	5 44	1 8	21 25	1 38	23 32	0 9	22 10	1 3	1 45	16 51	4 16	3 44	27 4	17 54	5 9
S 16	18 56	28 27	5 1	22 26	1 22	9 16	1 40	24 27	1 3	5 49	1 8	21 25	1 38	23 32	0 9	22 10	1 3	1 46	16 51	4 13	3 42	27 3	17 55	5 9
S 17	19 10	27 54	5 8	22 56	1 30	9 42	1 40	24 28	1 3	5 54	1 8	21 24	1 38	23 32	0 9	22 10	1 3	1 46	16 50	4 11	3 41	27 2	17 55	5 9
M 18	19 23	25 25	4 54	23 24	1 38	10 8	1 39	24 29	1 3	5 59	1 8	21 24	1 38	23 32	0 9	22 11	1 3	1 46	16 50	4 9	3 40	27 1	17 56	5 9
T 19	19 36	21 21	4 22	23 48	1 45	10 34	1 38	24 30	1 4	6 4	1 8	21 24	1 38	23 31	0 9	22 11	1 3	1 46	16 50	4 8	3 39	26 59	17 56	5 9
W 20	19 49	16 8	3 35	24 11	1 51	11 0	1 38	24 30	1 4	6 8	1 8	21 24	1 38	23 31	0 9	22 11	1 3	1 47	16 50	4 8	3 37	26 58	17 57	5 8
T 21	20 2	10 11	2 36	24 30	1 57	11 25	1 37	24 31	1 4	6 13	1 8	21 23	1 38	23 31	0 9	22 11	1 3	1 47	16 49	4 8	3 36	26 57	17 57	5 8
F 22	20 14	3 53	1 29	24 47	2 2	11 50	1 36	24 31	1 4	6 18	1 8	21 23	1 38	23 31	0 9	22 11	1 3	1 47	16 49	4 8	3 35	26 56	17 57	5 8
S 23	20 26	2n28	0 19	25 2	2 6	12 15	1 35	24 31	1 4	6 22	1 9	21 23	1 38	23 31	0 9	22 11	1 3	1 47	16 49	4 9	3 34	26 55	17 58	5 8
S 24	20 38	8 37	0n51	25 14	2 9	12 40	1 34	24 30	1 5	6 27	1 9	21 22	1 38	23 31	0 9	22 11	1 3	1 48	16 49	4 8	3 32	26 53	17 58	5 8
M 25	20 49	14 18	1 57	25 23	2 12	13 4	1 33	24 30	1 5	6 32	1 9	21 22	1 38	23 31	0 9	22 11	1 3	1 48	16 48	4 7	3 31	26 52	17 59	5 8
T 26	21 0	19 18	2 56	25 31	2 14	13 28	1 32	24 29	1 5	6 36	1 9	21 22	1 38	23 31	0 9	22 11	1 3	1 48	16 48	4 6	3 30	26 51	17 59	5 8
W 27	21 10	23 23	3 46	25 36	2 14	13 51	1 30	24 28	1 5	6 41	1 9	21 21	1 37	23 31	0 9	22 11	1 3	1 48	16 48	4 3	3 28	26 50	17 59	5 8
T 28	21 20	26 21	4 24	25 39	2 15	14 15	1 29	24 27	1 5	6 45	1 9	21 21	1 37	23 31	0 9	22 11	1 3	1 48	16 47	3 59	3 27	26 49	18 0	5 8
F 29	21 30	28 3	4 50	25 40	2 14	14 38	1 28	24 26	1 5	6 49	1 9	21 21	1 37	23 31	0 9	22 11	1 3	1 48	16 47	3 55	3 26	26 47	18 0	5 8
S 30	21 40	28 24	5 3	25 39	2 12	15 0	1 26	24 25	1 6	6 54	1 10	21 20	1 37	23 31	0 9	22 11	1 3	1 49	16 47	3 51	3 25	26 46	18 0	5 8
S 31	21n49	27n25	5n 2	25n36	2n10	15n23	1s25	24n23	1n 6	6n58	1s10	21s20	1n37	23s31	0s 9	22s11	1n 3	1n49	16n47	3n47	3n23	26n45	18n 1	5s 8

Julian Day Number = 2446916.5, Delta T = 55.48 sec
Ecliptic obliquity = 23°26'36, Nutation = - 0°00'04, out-of-bounds declination in red
Ayanamsha: Fagan/Bradley = 24°33'48, Lahiri = 23°40'48

ASTRODIENST EPHEMERIS for the year 1987
geocentric

JUNE 1987

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	16 35 47	9II59'55	28☾19	2☾31	17☾35	7☾ 4	20☾48	18☾29	25☾21	7☾20	7☾44	9☾24	8☾30	21☾13	21II 3	M 1
T 2	16 39 44	10°57'26	10☾ 9	3°49	18°48	7°42	20°59	18☾24	25☾19	7☾19	7☾42	9☾17	8°27	21°20	21° 9	T 2
W 3	16 43 40	11°54'56	22° 3	5° 4	20° 1	8°21	21°11	18°20	25°17	7°18	7°41	9°13	8°24	21°27	21°14	W 3
T 4	16 47 37	12°52'24	4☾ 3	6°16	21°14	9° 0	21°23	18°15	25°14	7°16	7°40	9°11	8°20	21°34	21°19	T 4
F 5	16 51 33	13°49'51	16°15	7°24	22°27	9°39	21°34	18°11	25°12	7°15	7°38	9°D10	8°17	21°40	21°24	F 5
S 6	16 55 30	14°47'17	28°44	8°29	23°39	10°18	21°45	18° 7	25° 9	7°13	7°37	9°11	8°14	21°47	21°29	S 6
S 7	16 59 26	15°44'42	11☾34	9°30	24°52	10°56	21°57	18° 2	25° 7	7°12	7°36	9°R11	8°11	21°54	21°35	S 7
M 8	17 3 23	16°42'05	24°51	10°28	26° 5	11°35	22° 8	17°58	25° 5	7°10	7°35	9°10	8° 8	22° 0	21°40	M 8
T 9	17 7 19	17°39'28	8☾35	11°22	27°18	12°14	22°19	17°53	25° 2	7° 9	7°33	9° 7	8° 4	22° 7	21°45	T 9
W10	17 11 16	18°36'49	22°48	12°12	28°31	12°52	22°30	17°49	25° 0	7° 7	7°32	9° 2	8° 1	22°14	21°50	W10
T 11	17 15 13	19°34'10	7☾26	12°58	29°44	13°31	22°41	17°44	24°57	7° 6	7°31	8°54	7°58	22°21	21°55	T 11
F 12	17 19 9	20°31'30	22°24	13°41	0II57	14°10	22°52	17°40	24°55	7° 4	7°30	8°44	7°55	22°27	22° 1	F 12
S 13	17 23 6	21°28'49	7☾32	14°19	2°10	14°48	23° 2	17°35	24°52	7° 3	7°29	8°34	7°52	22°34	22° 6	S 13
S 14	17 27 2	22°26'07	22°39	14°53	3°23	15°27	23°13	17°31	24°50	7° 1	7°28	8°25	7°49	22°41	22°11	S 14
M15	17 30 59	23°23'25	7☾37	15°23	4°36	16° 6	23°24	17°27	24°48	7° 0	7°27	8°17	7°45	22°48	22°16	M15
T 16	17 34 55	24°20'43	22°16	15°48	5°49	16°44	23°34	17°22	24°45	6°58	7°26	8°11	7°42	22°54	22°22	T 16
W17	17 38 52	25°18'00	6☾33	16° 9	7° 2	17°23	23°44	17°18	24°43	6°56	7°25	8° 8	7°39	23° 1	22°27	W17
T 18	17 42 49	26°15'16	20°26	16°26	8°15	18° 1	23°54	17°13	24°40	6°55	7°24	8° 7	7°36	23° 8	22°32	T 18
F 19	17 46 45	27°12'33	3☾56	16°38	9°28	18°40	24° 4	17° 9	24°38	6°53	7°23	8° 7	7°33	23°14	22°37	F 19
S 20	17 50 42	28° 9'49	17° 5	16°46	10°41	19°18	24°14	17° 5	24°35	6°52	7°22	8° 7	7°30	23°21	22°43	S 20
S 21	17 54 38	29° 7'05	29°55	16°R49	11°54	19°57	24°24	17° 0	24°33	6°50	7°21	8° 5	7°26	23°28	22°48	S 21
M22	17 58 35	0☾ 4'21	12☾31	16°47	13° 7	20°35	24°34	16°56	24°30	6°48	7°20	8° 2	7°23	23°35	22°53	M22
T 23	18 2 31	1° 1'36	24°56	16°41	14°21	21°14	24°44	16°52	24°28	6°47	7°19	7°55	7°20	23°41	22°58	T 23
W24	18 6 28	1°58'52	7II10	16°31	15°34	21°52	24°53	16°48	24°26	6°45	7°19	7°46	7°17	23°48	23° 4	W24
T 25	18 10 24	2°56'07	19°18	16°16	16°47	22°31	25° 2	16°44	24°23	6°44	7°18	7°34	7°14	23°55	23° 9	T 25
F 26	18 14 21	3°53'22	1☾19	15°57	18° 0	23° 9	25°12	16°39	24°21	6°42	7°17	7°21	7°11	24° 1	23°14	F 26
S 27	18 18 18	4°50'36	13°15	15°35	19°13	23°48	25°21	16°35	24°18	6°40	7°16	7° 7	7° 7	24° 8	23°19	S 27
S 28	18 22 14	5°47'51	25° 8	15° 9	20°26	24°26	25°30	16°31	24°16	6°39	7°16	6°53	7° 4	24°15	23°24	S 28
M29	18 26 11	6°45'05	6☾58	14°40	21°40	25° 5	25°39	16°27	24°14	6°37	7°15	6°42	7° 1	24°22	23°30	M29
T 30	18 30 7	7☾42'18	18☾49	14☾ 9	22II53	25☾43	25☾47	16☾23	24☾11	6☾36	7☾14	6☾32	6☾58	24☾28	23II35	T 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
M 1	21n57	25n12	4n48	25n32	2n 7	15n45	1s24	24n21	1n 6	7n 2	1s10	21s20	1n37	23s31	0s 9	22s11	1n 3	1n49	16n46	3n43	3n22	26n43	18n 1	5s 8			
T 2	22 5	21 53	4 21	25 26	2 3	16 6	1 22	24 19	1 6	7 7	1 10	21 19	1 37	23 31	0 9	22 11	1 3	1 49	16 46	3 41	3 21	26 42	18 1	5 8			
W 3	22 13	17 41	3 44	25 18	1 58	16 27	1 20	24 17	1 6	7 11	1 10	21 19	1 37	23 31	0 9	22 11	1 3	1 49	16 45	3 39	3 20	26 41	18 2	5 8			
T 4	22 21	12 45	2 56	25 10	1 52	16 48	1 19	24 14	1 6	7 15	1 10	21 19	1 37	23 30	0 9	22 12	1 3	1 49	16 45	3 38	3 18	26 40	18 2	5 8			
F 5	22 28	7 15	1 59	25 0	1 46	17 9	1 17	24 12	1 7	7 19	1 10	21 18	1 37	23 30	0 9	22 12	1 3	1 49	16 45	3 38	3 17	26 38	18 2	5 8			
S 6	22 35	1 21	0 55	24 49	1 39	17 29	1 15	24 9	1 7	7 23	1 11	21 18	1 37	23 30	0 9	22 12	1 3	1 49	16 44	3 38	3 16	26 37	18 3	5 8			
S 7	22 41	4s46	0s13	24 37	1 31	17 48	1 13	24 6	1 7	7 27	1 11	21 18	1 37	23 30	0 9	22 12	1 3	1 49	16 44	3 38	3 15	26 36	18 3	5 8			
M 8	22 47	10 54	1 22	24 23	1 22	18 7	1 12	24 3	1 7	7 31	1 11	21 17	1 37	23 30	0 9	22 12	1 3	1 49	16 44	3 38	3 13	26 34	18 3	5 8			
T 9	22 52	16 43	2 29	24 10	1 12	18 26	1 10	24 0	1 7	7 35	1 11	21 17	1 37	23 30	0 9	22 12	1 3	1 49	16 43	3 37	3 12	26 33	18 3	5 8			
W10	22 57	21 51	3 30	23 55	1 2	18 44	1 8	23 56	1 7	7 39	1 11	21 17	1 37	23 30	0 9	22 12	1 3	1 49	16 43	3 35	3 11	26 32	18 4	5 8			
T 11	23 2	25 47	4 18	23 40	0 51	19 1	1 6	23 52	1 7	7 43	1 11	21 16	1 37	23 30	0 9	22 12	1 3	1 49	16 42	3 32	3 10	26 30	18 4	5 8			
F 12	23 6	28 2	4 49	23 24	0 39	19 19	1 4	23 48	1 7	7 47	1 11	21 16	1 37	23 30	0 9	22 12	1 3	1 49	16 42	3 28	3 8	26 29	18 4	5 9			
S 13	23 10	28 15	5 1	23 7	0 27	19 35	1 2	23 44	1 8	7 51	1 12	21 16	1 37	23 30	0 9	22 12	1 3	1 49	16 41	3 24	3 7	26 28	18 4	5 9			
S 14	23 14	26 21	4 52	22 51	0 14	19 51	1 0	23 40	1 8	7 55	1 12	21 15	1 36	23 30	0 9	22 12	1 3	1 49	16 41	3 20	3 6	26 26	18 5	5 9			
M15	23 17	22 36	4 23	22 34	0 1	20 7	0 58	23 36	1 8	7 58	1 12	21 15	1 36	23 30	0 9	22 12	1 3	1 49	16 41	3 17	3 5	26 25	18 5	5 9			
T 16	23 19	17 31	3 37	22 17	0s14	20 22	0 55	23 31	1 8	8 2	1 12	21 15	1 36	23 29	0 9	22 12	1 3	1 48	16 40	3 15	3 3	26 24	18 5	5 9			
W17	23 22	11 34	2 39	22 0	0 28	20 37	0 53	23 26	1 8	8 6	1 12	21 14	1 36	23 29	0 9	22 13	1 3	1 48	16 40	3 14	3 2	26 22	18 5	5 9			
T 18	23 23	5 12	1 32	21 43	0 44	20 51	0 51	23 21	1 8	8 9	1 12	21 14	1 36	23 29	0 9	22 13	1 3	1 48	16 39	3 13	3 1	26 21	18 5	5 9			
F 19	23 25	1n14	0 22	21 26	0 59	21 4	0 49	23 16	1 8	8 13	1 13	21 14	1 36	23 29	0 9	22 13	1 3	1 48	16 39	3 13	3 0	26 19	18 6	5 9			
S 20	23 26	7 26	0n47	21 9	1 15	21 17	0 47	23 11	1 8	8 16	1 13	21 13	1 36	23 29	0 9	22 13	1 3	1 48	16 38	3 13	2 58	26 18	18 6	5 9			
S 21	23 26	13 12	1 53	20 52	1 31	21 29	0 44	23 5	1 8	8 20	1 13	21 13	1 36	23 29	0 9	22 13	1 3	1 48	16 38	3 13	2 57	26 17	18 6	5 9			
M22	23 27	18 19	2 51	20 36	1 48	21 41	0 42	23 0	1 8	8 23	1 13	21 13	1 36	23 29	0 9	22 13	1 3	1 47	16 37	3 11	2 56	26 15	18 6	5 9			
T 23	23 26	22 34	3 40	20 21	2 4	21 52	0 40	22 54	1 9	8 26	1 13	21 13	1 36	23 29	0 9	22 13	1 3	1 47	16 37	3 9	2 55	26 14	18 6	5 10			
W24	23 26	25 45	4 18	20 6	2 21	22 3	0 37	22 48	1 9	8 30	1 14	21 12	1 35	23 29	0 9	22 13	1 3	1 47	16 36	3 5	2 53	26 12	18 6	5 10			
T 25	23 25	27 44	4 45	19 51	2 37	22 13	0 35	22 41	1 9	8 33	1 14	21 12	1 35	23 29	0 9	22 13	1 3	1 47	16 36	3 0	2 52	26 11	18 7	5 10			
F 26	23 23	28 24	4 58	19 38	2 53	22 22	0 32	22 35	1 9	8 36	1 14	21 12	1 35	23 29	0 9	22 13	1 3	1 46	16 35	2 55	2 51	26 9	18 7	5 10			
S 27	23 21	27 43	4 58	19 25	3 8	22 30	0 30	22 29	1 9	8 39	1 14	21 11	1 35	23 28	0 9	22 13	1 3	1 46	16 35	2 49	2 50	26 8	18 7	5 10			
S 28	23 19	25 46	4 45	19 13	3 23	22 38	0 28	22 22	1 9	8 42	1 14	21 11	1 35	23 28	0 9	22 14	1 3	1 46	16 34	2 44	2 48	26 6	18 7	5 10			
M29	23 16	22 43	4 19	19 2	3 37	22 46	0 25	22 15	1 9	8 45	1 15	21 11	1 35	23 28	0 9	22 14	1 3	1 46	16 34	2 40	2 47	26 5	18 7	5 10			
T 30	23n13	18n43	3n43	18n52	3s50	22n52	0s23	22n 8	1n 9	8n48	1s15	21s11	1n35	23s28	0s 9	22s14	1n 3	1n45	16n33	2n36	2n46	26n 3	18n 7	5s11			

ASTRODIENST EPHEMERIS for the year 1987

geocentric

JULY 1987

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	18 34 4	8 ⁵³ 39'32	0 ¹¹ 43	13 ⁵⁰ R35	24 ¹¹ II 6	26 ⁵² 21	25 ⁵⁷ 56	16 ⁰ R19	24 ⁸ R 9	6 ⁰ R34	7 ⁰ R14	6 ⁰ R26	6 ⁰ Y55	24 ⁵³ 35	23 ¹¹ II40	W 1
T 2	18 38 0	9 ⁰ 36'44	12 ⁰ 43	13 ⁵⁰ 0	25 ⁰ 19	27 ⁰ 0	26 ⁰ 5	16 ⁰ 15	24 ⁸ 6	6 ⁰ 32	7 ⁰ M13	6 ⁰ Y22	6 ⁰ 51	24 ⁴ 42	23 ⁴ 45	T 2
F 3	18 41 57	10 ⁰ 33'57	24 ⁰ 54	12 ⁰ 24	26 ⁰ 33	27 ⁰ 38	26 ⁰ 13	16 ⁰ 11	24 ⁰ 4	6 ⁰ 31	7 ⁰ 13	6 ⁰ 21	6 ⁰ 48	24 ⁴ 48	23 ⁵ 50	F 3
S 4	18 45 53	11 ⁰ 31'09	7 ⁰ 20	11 ⁰ 47	27 ⁰ 46	28 ⁰ 17	26 ⁰ 21	16 ⁰ 8	24 ⁰ 2	6 ⁰ 29	7 ⁰ 12	6 ⁰ 21	6 ⁰ 45	24 ⁴ 55	23 ⁵ 55	S 4
S 5	18 49 50	12 ⁰ 28'21	20 ⁰ 7	11 ⁰ 11	28 ⁰ 59	28 ⁰ 55	26 ⁰ 29	16 ⁰ 4	24 ⁰ 0	6 ⁰ 27	7 ⁰ 12	6 ⁰ 20	6 ⁰ 42	25 ⁰ 2	24 ⁰ 0	S 5
M 6	18 53 47	13 ⁰ 25'32	3 ⁰ M19	10 ⁰ 35	0 ⁰ 513	29 ⁰ 33	26 ⁰ 37	16 ⁰ 0	23 ⁰ 57	6 ⁰ 26	7 ⁰ 11	6 ⁰ 19	6 ⁰ 39	25 ⁰ 9	24 ⁰ 5	M 6
T 7	18 57 43	14 ⁰ 22'43	16 ⁰ 59	10 ⁰ 1	1 ⁰ 26	0 ⁰ 12	26 ⁰ 45	15 ⁰ 57	23 ⁰ 55	6 ⁰ 24	7 ⁰ 11	6 ⁰ 16	6 ⁰ 36	25 ⁰ 15	24 ⁰ 11	T 7
W 8	19 1 140	15 ⁰ 19'55	1 ⁰ 19	9 ⁰ 29	2 ⁰ 39	0 ⁰ 50	26 ⁰ 53	15 ⁰ 53	23 ⁰ 53	6 ⁰ 23	7 ⁰ 11	6 ⁰ 11	6 ⁰ 32	25 ⁰ 22	24 ⁰ 16	W 8
T 9	19 5 36	16 ⁰ 17'06	15 ⁰ 47	8 ⁰ 59	3 ⁰ 53	1 ⁰ 28	27 ⁰ 0	15 ⁰ 49	23 ⁰ 51	6 ⁰ 21	7 ⁰ 10	6 ⁰ 3	6 ⁰ 29	25 ⁰ 29	24 ⁰ 21	T 9
F 10	19 9 33	17 ⁰ 14'17	0 ⁰ 348	8 ⁰ 33	5 ⁰ 6	2 ⁰ 6	27 ⁰ 7	15 ⁰ 46	23 ⁰ 48	6 ⁰ 19	7 ⁰ 10	5 ⁰ 54	6 ⁰ 26	25 ⁰ 35	24 ⁰ 26	F 10
S 11	19 13 29	18 ⁰ 11'28	16 ⁰ 4	8 ⁰ 11	6 ⁰ 20	2 ⁰ 45	27 ⁰ 15	15 ⁰ 43	23 ⁰ 46	6 ⁰ 18	7 ⁰ 10	5 ⁰ 43	6 ⁰ 23	25 ⁰ 42	24 ⁰ 31	S 11
S 12	19 17 26	19 ⁰ 8'39	1 ⁰ 23	7 ⁰ 52	7 ⁰ 33	3 ⁰ 23	27 ⁰ 22	15 ⁰ 39	23 ⁰ 44	6 ⁰ 16	7 ⁰ 10	5 ⁰ 33	6 ⁰ 20	25 ⁰ 49	24 ⁰ 36	S 12
M13	19 21 23	20 ⁰ 5'51	16 ⁰ 35	7 ⁰ 38	8 ⁰ 47	4 ⁰ 1	27 ⁰ 29	15 ⁰ 36	23 ⁰ 42	6 ⁰ 15	7 ⁰ 9	5 ⁰ 25	6 ⁰ 17	25 ⁰ 56	24 ⁰ 40	M13
T 14	19 25 19	21 ⁰ 3'02	1 ⁰ 28	7 ⁰ 29	10 ⁰ 0	4 ⁰ 40	27 ⁰ 35	15 ⁰ 33	23 ⁰ 40	6 ⁰ 13	7 ⁰ 9	5 ⁰ 19	6 ⁰ 13	26 ⁰ 2	24 ⁰ 45	T 14
W15	19 29 16	22 ⁰ 0'15	15 ⁰ 58	7 ⁰ D24	11 ⁰ 14	5 ⁰ 18	27 ⁰ 42	15 ⁰ 30	23 ⁰ 38	6 ⁰ 12	7 ⁰ 9	5 ⁰ 16	6 ⁰ 10	26 ⁰ 9	24 ⁰ 50	W15
T 16	19 33 12	22 ⁰ 57'27	29 ⁰ 59	7 ⁰ 25	12 ⁰ 27	5 ⁰ 56	27 ⁰ 48	15 ⁰ 27	23 ⁰ 36	6 ⁰ 10	7 ⁰ 9	5 ⁰ D14	6 ⁰ 7	26 ⁰ 16	24 ⁰ 55	T 16
F 17	19 37 9	23 ⁰ 54'41	13 ⁰ Y34	7 ⁰ 32	13 ⁰ 41	6 ⁰ 34	27 ⁰ 55	15 ⁰ 24	23 ⁰ 34	6 ⁰ 9	7 ⁰ 9	5 ⁰ 15	6 ⁰ 4	26 ⁰ 22	25 ⁰ 0	F 17
S 18	19 41 5	24 ⁰ 51'55	26 ⁰ 44	7 ⁰ 43	14 ⁰ 54	7 ⁰ 12	28 ⁰ 1	15 ⁰ 21	23 ⁰ 32	6 ⁰ 7	7 ⁰ D 9	5 ⁰ R15	6 ⁰ 1	26 ⁰ 29	25 ⁰ 5	S 18
S 19	19 45 2	25 ⁰ 49'10	9 ⁰ 32	8 ⁰ 1	16 ⁰ 8	7 ⁰ 51	28 ⁰ 7	15 ⁰ 18	23 ⁰ 30	6 ⁰ 6	7 ⁰ 9	5 ⁰ 14	5 ⁰ 57	26 ⁰ 36	25 ⁰ 10	S 19
M20	19 48 58	26 ⁰ 46'25	22 ⁰ 2	8 ⁰ 24	17 ⁰ 22	8 ⁰ 29	28 ⁰ 13	15 ⁰ 15	23 ⁰ 28	6 ⁰ 4	7 ⁰ 9	5 ⁰ 11	5 ⁰ 54	26 ⁰ 43	25 ⁰ 14	M20
T 21	19 52 55	27 ⁰ 43'41	4 ⁰ II 18	8 ⁰ 52	18 ⁰ 35	9 ⁰ 7	28 ⁰ 18	15 ⁰ 12	23 ⁰ 26	6 ⁰ 3	7 ⁰ 9	5 ⁰ 6	5 ⁰ 51	26 ⁰ 49	25 ⁰ 19	T 21
W22	19 56 52	28 ⁰ 40'58	16 ⁰ 25	9 ⁰ 27	19 ⁰ 49	9 ⁰ 45	28 ⁰ 24	15 ⁰ 10	23 ⁰ 24	6 ⁰ 1	7 ⁰ 9	4 ⁰ 58	5 ⁰ 48	26 ⁰ 56	25 ⁰ 24	W22
T 23	20 0 48	29 ⁰ 38'16	28 ⁰ 24	10 ⁰ 6	21 ⁰ 3	10 ⁰ 24	28 ⁰ 29	15 ⁰ 7	23 ⁰ 22	6 ⁰ 0	7 ⁰ 9	4 ⁰ 48	5 ⁰ 45	27 ⁰ 3	25 ⁰ 28	T 23
F 24	20 4 45	0 ⁰ 135'35	10 ⁰ 52	10 ⁰ 52	22 ⁰ 16	11 ⁰ 2	28 ⁰ 34	15 ⁰ 5	23 ⁰ 20	5 ⁰ 58	7 ⁰ 10	4 ⁰ 37	5 ⁰ 42	27 ⁰ 10	25 ⁰ 33	F 24
S 25	20 8 41	1 ⁰ 32'54	22 ⁰ 11	11 ⁰ 43	23 ⁰ 30	11 ⁰ 40	28 ⁰ 39	15 ⁰ 2	23 ⁰ 19	5 ⁰ 57	7 ⁰ 10	4 ⁰ 25	5 ⁰ 38	27 ⁰ 16	25 ⁰ 38	S 25
S 26	20 12 38	2 ⁰ 30'14	4 ⁰ 2	12 ⁰ 39	24 ⁰ 44	12 ⁰ 18	28 ⁰ 44	15 ⁰ 0	23 ⁰ 17	5 ⁰ 55	7 ⁰ 10	4 ⁰ 14	5 ⁰ 35	27 ⁰ 23	25 ⁰ 42	S 26
M27	20 16 34	3 ⁰ 27'34	15 ⁰ 54	13 ⁰ 41	25 ⁰ 58	12 ⁰ 56	28 ⁰ 49	14 ⁰ 58	23 ⁰ 15	5 ⁰ 54	7 ⁰ 10	4 ⁰ 4	5 ⁰ 32	27 ⁰ 30	25 ⁰ 47	M27
T 28	20 20 31	4 ⁰ 24'55	27 ⁰ 48	14 ⁰ 47	27 ⁰ 11	13 ⁰ 35	28 ⁰ 53	14 ⁰ 56	23 ⁰ 14	5 ⁰ 53	7 ⁰ 11	3 ⁰ 56	5 ⁰ 29	27 ⁰ 36	25 ⁰ 51	T 28
W29	20 24 27	5 ⁰ 22'17	9 ⁰ 46	16 ⁰ 0	28 ⁰ 25	14 ⁰ 13	28 ⁰ 57	14 ⁰ 54	23 ⁰ 12	5 ⁰ 51	7 ⁰ 11	3 ⁰ 51	5 ⁰ 26	27 ⁰ 43	25 ⁰ 56	W29
T 30	20 28 24	6 ⁰ 19'39	21 ⁰ 51	17 ⁰ 17	29 ⁰ 39	14 ⁰ 51	29 ⁰ 1	14 ⁰ 52	23 ⁰ 10	5 ⁰ 50	7 ⁰ 11	3 ⁰ 48	5 ⁰ 23	27 ⁰ 50	26 ⁰ 0	T 30
F 31	20 32 21	7 ⁰ 17'01	4 ⁰ 2	18 ⁰ 39	0 ⁰ 153	15 ⁰ 129	29 ⁰ Y 5	14 ⁰ 150	23 ⁰ 19	5 ⁰ 49	7 ⁰ M12	3 ⁰ D47	5 ⁰ Y19	27 ⁰ 56	26 ⁰ II 4	F 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
W 1	23n10	13n58	2n56	18n44	4s 3	22n58	0s20	22n 1	1n 9	8n51	1s15	21s10	1n35	23s28	0s 9	22s14	1n 3	1n45	16n33	2n33	2n45	26n 2	18n 7	5s11							
T 2	23 6	8 39	2 1	18 36	4 14	23 4	0 18	21 54	1 9	8 54	1 15	21 10	1 34	23 28	0 9	22 14	1 3	1 45	16 32	2 32	2 43	26 0	18 7	5 11							
F 3	23 1	2 57	1 0	18 30	4 23	23 9	0 15	21 46	1 9	8 57	1 15	21 10	1 34	23 28	0 9	22 14	1 3	1 44	16 32	2 31	2 42	25 59	18 7	5 11							
S 4	22 57	3s 0	0s 5	18 24	4 32	23 13	0 13	21 38	1 9	9 0	1 16	21 10	1 34	23 28	0 9	22 14	1 3	1 44	16 31	2 31	2 41	25 57	18 7	5 11							
S 5	22 51	8 59	1 12	18 21	4 39	23 16	0 10	21 31	1 9	9 3	1 16	21 9	1 34	23 28	0 9	22 14	1 3	1 44	16 31	2 31	2 40	25 56	18 7	5 11							
M 6	22 46	14 46	2 17	18 18	4 44	23 19	0 8	21 23	1 9	9 5	1 16	21 9	1 34	23 28	0 9	22 14	1 3	1 43	16 30	2 31	2 38	25 54	18 7	5 12							
T 7	22 40	20 4	3 17	18 17	4 48	23 21	0 5	21 14	1 9	9 8	1 16	21 9	1 34	23 28	0 9	22 14	1 3	1 43	16 29	2 30	2 37	25 53	18 7	5 12							
W 8	22 34	24 25	4 7	18 17	4 50	23 22	0 3	21 6	1 9	9 10	1 16	21 9	1 34	23 27	0 9	22 14	1 3	1 42	16 29	2 27	2 36	25 51	18 7	5 12							
T 9	22 27	27 22	4 42	18 18	4 50	23 23	0 0	20 58	1 9	9 13	1 17	21 8	1 33	23 27	0 9	22 15	1 3	1 42	16 28	2 24	2 35	25 50	18 7	5 12							
F 10	22 20	28 26	5 0	18 21	4 49	23 23	0n 2	20 49	1 9	9 15	1 17	21 8	1 33	23 27	0 9	22 15	1 3	1 41	16 28	2 20	2 33	25 48	18 7	5 12							
S 11	22 12	27 22	4 56	18 25	4 47	23 22	0 4	20 41	1 9	9 18	1 17	21 8	1 33	23 27	0 9	22 15	1 3	1 41	16 27	2 16	2 32	25 47	18 7	5 13							
S 12	22 5	24 16	4 31	18 30	4 43	23 21	0 7	20 32	1 9	9 20	1 17	21 8	1 33	23 27	0 9	22 15	1 3	1 41	16 27	2 12	2 31	25 45	18 7	5 13							
M13	21 56	19 29	3 47	18 36	4 37	23 18	0 9	20 23	1 9	9 22	1 18	21 8	1 33	23 27	0 9	22 15	1 3	1 40	16 26	2 9	2 30	25 43	18 7	5 13							
T 14	21 48	13 35	2 49	18 44	4 31	23 16	0 12	20 14	1 9	9 24	1 18	21 7	1 33	23 27	0 9	22 15	1 3	1 40	16 26	2 7	2 28	25 42	18 7	5 13							
W15	21 39	7 5	1 40	18 52	4 23	23 12	0 14	20 4	1 9	9 27	1 18	21 7	1 32	23 27	0 9	22 15	1 3	1 39	16 25	2 5	2 27	25 40	18 7	5 14							
T 16	21 29	0 26	0 28	19 1	4 14	23 8	0 16	19 55	1 10	9 29	1 18	21 7	1 32	23 27	0 9	22 15	1 3	1 39	16 24	2 5	2 26	25 39	18 7	5 14							
F 17	21 20	6n 2	0n44	19 11	4 4	23 3	0 19	19 45	1 10	9 31	1 18	21 7	1 32	23 27	0 9	22 15	1 3	1 38	16 24	2 5	2 25	25 37	18 7	5 14							
S 18	21 10	12 2	1 51	19 21	3 53	22 58	0 21	19 36	1 10	9 33	1 19	21 7	1 32	23 26	0 9	22 15	1 3	1 37	16 23	2 5	2 23	25 35	18 7	5 14							
S 19	20 59	17 22	2 51	19 32	3 41	22 51	0 24	19 26	1 10	9 35	1 19	21 7	1 32	23 26	0 9	22 15	1 3	1 37	16 23	2 5	2 22	25 34	18 7	5 15							
M20	20 48	21 50	3 41	19 43	3 28	22 45	0 26	19 16	1 10	9 36	1 19	21 7	1 32	23 26	0 9	22 16	1 3	1 36	16 22	2 4	2 21	25 32	18 7	5 15							
T 21	20 37	25 16	4 20	19 54	3 15	22 37	0 28	19 6	1 10	9 38	1 19	21 6	1 31	23 26	0 9	22 16	1 3	1 36	16 21	2 2	2 19	25 31	18 7	5 15							
W22	20 26	27 30	4 47	20 5	3 2	22 29	0 30	18 56	1 9	9 40	1 20	21 6	1 31	23 26	0 9	22 16	1 3	1 35	16 21	1 59	2 18	25 29	18 6	5 16							
T 23	20 14	28 27	5 1	20 16	2 48	22 20	0 33	18 45	1 9	9 42	1 20	21 6	1 31	23 26	0 9	22 16	1 3	1 35	16 20	1 55	2 17	25 27	18 6	5 16							
F 24	20 2	28 3	5 1	20 27	2 33	22 10	0 35	18 35	1 9	9 43	1 20	21 6	1 31	23 26	0 9	22 16	1 3	1 34	16 20	1 50	2 16	25 26	18 6	5 16							
S 25	19 49	26 21	4 48	20 37	2 19	22 0	0 37	18 24	1 9	9 45	1 20	21 6	1 31	23 26	0 9	22 16	1 3	1 33	16 19	1 45	2 14	25 24	18 6	5 16							
S 26	19 36	23 30	4 23	20 47	2 4	21 49	0 39	18 13	1 9	9 46	1 21	21 6	1 30	23 26	0 9	22 16	1 3	1 33	16 19	1 41	2 13	25 22	18 6	5 17							
M27	19 23	19 40	3 47	20 56	1 49	21 38	0 41	18 3	1 9	9 48	1 21	21 6	1 30	23 26	0 9	22 16	1 3	1 32	16 18	1 37	2 12	25 21	18 6	5 17							
T 28	19 10	15 3	3 0	21 4	1 34	21 26	0 43	17 52	1 9	9 49	1 21	21 6	1 30	23 26	0 9	22 16	1 3	1 31	16 17	1 34	2 11	25 19	18 6	5 17							
W29	18 56	9 50	2 5	21 10	1 19	21 13	0 45	17 40	1 9	9 50	1 21	21 6	1 30	23 26	0 9	22 16	1 3	1 31	16 17	1 32	2 9	25 17	18 5	5 18							
T 30	18 42	4 12	1 3	21 15	1 5	21 0	0 47	17 29	1 9	9 51	1 22	21 6	1 30	23 25	0 9	22 16	1 3	1 30	16 16	1 31	2 8	25 16	18 5	5 18							
F 31	18n27	1s40	0s 2	21n19	0s50	20n46	0n49	17n18	1n 9	9n53	1s22	21s 6	1n30	23s25	0s 9	22s16	1n 3	1n29	16n16	1n30	2n 7	25n14	18n 5	5s18							

ASTRODIENST EPHEMERIS for the year 1987
geocentric

AUGUST 1987

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Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
S 1	20 36 17	8♌14'25	16♊36	20♉5	2♈7	16♌7	29♍9	14°R48	23°R 7	5°R47	7♍12	3♍48	5♍16	28♉3	26♈9	S 1
S 2	20 40 14	9°11'49	29°23	21°37	3°21	16°45	29°13	14°46	23°6	5°46	7°13	3°49	5°13	28°10	26°13	S 2
M 3	20 44 10	10° 9'13	12♋31	23°12	4°35	17°24	29°16	14°45	23° 5	5°45	7°13	3°R49	5°10	28°17	26°17	M 3
T 4	20 48 7	11° 6'38	26° 5	24°52	5°48	18° 2	29°19	14°43	23° 3	5°43	7°14	3°48	5° 7	28°23	26°21	T 4
W 5	20 52 3	12° 4'04	10♈6	26°35	7° 2	18°40	29°22	14°42	23° 2	5°42	7°14	3°45	5° 3	28°30	26°26	W 5
T 6	20 56 0	13° 1'31	24°34	28°22	8°16	19°18	29°25	14°41	23° 1	5°41	7°15	3°40	5° 0	28°37	26°30	T 6
F 7	20 59 56	13°58'58	9♉24	0♌12	9°30	19°56	29°27	14°39	22°59	5°40	7°16	3°33	4°57	28°43	26°34	F 7
S 8	21 3 53	14°56'26	24°32	2° 5	10°44	20°34	29°30	14°38	22°58	5°39	7°16	3°26	4°54	28°50	26°38	S 8
S 9	21 7 50	15°53'55	9♈47	4° 1	11°58	21°12	29°32	14°37	22°57	5°38	7°17	3°19	4°51	28°57	26°42	S 9
M10	21 11 46	16°51'25	24°58	5°58	13°12	21°51	29°34	14°36	22°56	5°36	7°18	3°14	4°48	29° 4	26°46	M10
T 11	21 15 43	17°48'56	9♈56	7°58	14°26	22°29	29°36	14°35	22°55	5°35	7°19	3°10	4°44	29°10	26°50	T 11
W12	21 19 39	18°46'29	24°32	9°58	15°41	23° 7	29°38	14°35	22°54	5°34	7°19	3° 8	4°41	29°17	26°53	W12
T 13	21 23 36	19°44'02	8♍43	12° 0	16°55	23°45	29°39	14°34	22°53	5°33	7°20	3°D 8	4°38	29°24	26°57	T 13
F 14	21 27 32	20°41'37	22°25	14° 2	18° 9	24°23	29°40	14°33	22°52	5°32	7°21	3° 9	4°35	29°30	27° 1	F 14
S 15	21 31 29	21°39'14	5♊40	16° 4	19°23	25° 1	29°41	14°33	22°51	5°31	7°22	3°10	4°32	29°37	27° 5	S 15
S 16	21 35 25	22°36'52	18°32	18° 7	20°37	25°39	29°42	14°33	22°50	5°30	7°23	3°R11	4°28	29°44	27° 8	S 16
M17	21 39 22	23°34'32	1♈3	20° 9	21°51	26°18	29°43	14°32	22°49	5°29	7°24	3°11	4°25	29°51	27°12	M17
T 18	21 43 19	24°32'13	13°18	22°11	23° 5	26°56	29°43	14°32	22°48	5°28	7°25	3° 9	4°22	29°57	27°15	T 18
W19	21 47 15	25°29'56	25°21	24°13	24°20	27°34	29°44	14°D32	22°48	5°27	7°26	3° 6	4°19	0♌4	27°19	W19
T 20	21 51 12	26°27'40	7♉17	26°13	25°34	28°12	29°R44	14°32	22°47	5°26	7°27	3° 1	4°16	0°11	27°22	T 20
F 21	21 55 8	27°25'26	19° 9	28°13	26°48	28°50	29°44	14°32	22°47	5°26	7°28	2°55	4°13	0°17	27°26	F 21
S 22	21 59 5	28°23'14	1♌0	0♍12	28° 2	29°28	29°43	14°32	22°46	5°25	7°29	2°48	4° 9	0°24	27°29	S 22
S 23	22 3 1	29°21'03	12°53	2° 9	29°17	0♍7	29°43	14°33	22°45	5°24	7°31	2°42	4° 6	0°31	27°32	S 23
M24	22 6 58	0♍18'53	24°49	4° 6	0♍31	0°45	29°42	14°33	22°45	5°23	7°32	2°37	4° 3	0°38	27°35	M24
T 25	22 10 54	1°16'45	6♍50	6° 1	1°45	1°23	29°41	14°34	22°45	5°22	7°33	2°33	4° 0	0°44	27°39	T 25
W26	22 14 51	2°14'39	18°58	7°55	3° 0	2° 1	29°40	14°34	22°44	5°22	7°34	2°31	3°57	0°51	27°42	W26
T 27	22 18 48	3°12'33	1♊14	9°48	4°14	2°39	29°39	14°35	22°44	5°21	7°36	2°D30	3°54	0°58	27°45	T 27
F 28	22 22 44	4°10'29	13°42	11°39	5°28	3°17	29°37	14°36	22°44	5°20	7°37	2°30	3°50	1° 4	27°48	F 28
S 29	22 26 41	5° 8'27	26°21	13°29	6°43	3°56	29°35	14°37	22°43	5°20	7°38	2°32	3°47	1°11	27°51	S 29
S 30	22 30 37	6° 6'26	9♍16	15°18	7°57	4°34	29°34	14°38	22°43	5°19	7°40	2°33	3°44	1°18	27°53	S 30
M31	22 34 34	7♍4'26	22♌29	17♍6	9♍12	5♍12	29°31	14°39	22°43	5♉19	7♍41	2°35	3°41	1♌24	27°56	M31

Day	☉	☽		♊		♋		♌		♍		♎		♏		♐		♑		♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	decl	decl	decl	decl	decl	decl	decl	decl	decl	decl	decl	decl	decl
S 1	18n13	7s34	1s 8	21n21	0s36	20n31	0n51	17n 7	1n 9	9n54	1s22	21s 6	1n29	23s25	0s 9	22s17	1n 2	1n29	16n15	1n31	2n 6	25n12	18n 5	5s19										
S 2	17 57	13 20	2 13	21 20	0 22	20 16	0 53	16 55	1 9	9 55	1 22	21 6	1 29	23 25	0 9	22 17	1 2	1 28	16 14	1 31	2 4	25 10	18 4	5 19										
M 3	17 42	18 39	3 13	21 18	0 9	20 1	0 55	16 43	1 9	9 56	1 23	21 6	1 29	23 25	0 9	22 17	1 2	1 27	16 14	1 31	2 3	25 9	18 4	5 19										
T 4	17 27	23 13	4 3	21 13	0n 4	19 44	0 57	16 32	1 9	9 57	1 23	21 6	1 29	23 25	0 9	22 17	1 2	1 27	16 13	1 31	2 2	25 7	18 4	5 20										
W 5	17 11	26 36	4 41	21 6	0 16	19 27	0 58	16 20	1 9	9 57	1 23	21 6	1 29	23 25	0 9	22 17	1 2	1 26	16 13	1 29	2 1	25 5	18 4	5 20										
T 6	16 54	28 23	5 3	20 56	0 28	19 10	1 0	16 8	1 9	9 58	1 23	21 6	1 28	23 25	0 9	22 17	1 2	1 25	16 12	1 27	1 59	25 3	18 4	5 20										
F 7	16 38	28 11	5 5	20 44	0 38	18 52	1 2	15 56	1 9	9 59	1 24	21 6	1 28	23 25	0 9	22 17	1 2	1 24	16 12	1 25	1 58	25 2	18 3	5 21										
S 8	16 21	25 55	4 47	20 29	0 49	18 34	1 3	15 43	1 9	9 59	1 24	21 6	1 28	23 25	0 9	22 17	1 2	1 24	16 11	1 22	1 57	25 0	18 3	5 21										
S 9	16 4	21 46	4 8	20 12	0 58	18 15	1 5	15 31	1 9	10 0	1 24	21 6	1 28	23 25	0 9	22 17	1 2	1 23	16 10	1 19	1 56	24 58	18 3	5 22										
M10	15 47	16 12	3 11	19 51	1 6	17 55	1 6	15 19	1 9	10 0	1 24	21 6	1 28	23 25	0 9	22 17	1 2	1 22	16 10	1 17	1 54	24 56	18 2	5 22										
T 11	15 30	9 44	2 2	19 29	1 14	17 35	1 8	15 6	1 9	10 1	1 25	21 6	1 27	23 25	0 9	22 17	1 2	1 21	16 9	1 15	1 53	24 55	18 2	5 22										
W12	15 12	2 53	0 46	19 3	1 21	17 14	1 9	14 54	1 9	10 1	1 25	21 7	1 27	23 25	0 9	22 17	1 2	1 20	16 9	1 15	1 52	24 53	18 2	5 23										
T 13	14 54	3n55	0n30	18 35	1 27	16 53	1 10	14 41	1 9	10 1	1 25	21 7	1 27	23 25	0 9	22 18	1 2	1 20	16 8	1 15	1 51	24 51	18 2	5 23										
F 14	14 36	10 19	1 43	18 5	1 32	16 32	1 12	14 28	1 9	10 2	1 25	21 7	1 27	23 25	0 9	22 18	1 2	1 19	16 8	1 15	1 49	24 49	18 1	5 23										
S 15	14 17	16 2	2 47	17 33	1 36	16 10	1 13	14 15	1 8	10 2	1 26	21 7	1 27	23 24	0 9	22 18	1 2	1 18	16 7	1 16	1 48	24 47	18 1	5 24										
S 16	13 59	20 53	3 41	16 59	1 40	15 48	1 14	14 3	1 8	10 2	1 26	21 7	1 26	23 24	0 9	22 18	1 2	1 17	16 6	1 16	1 47	24 46	18 1	5 24										
M17	13 40	24 40	4 23	16 23	1 42	15 25	1 15	13 50	1 8	10 2	1 26	21 7	1 26	23 24	0 9	22 18	1 2	1 16	16 6	1 16	1 45	24 44	18 0	5 25										
T 18	13 21	27 14	4 52	15 46	1 44	15 2	1 16	13 36	1 8	10 2	1 26	21 7	1 26	23 24	0 9	22 18	1 2	1 16	16 5	1 15	1 44	24 42	18 0	5 25										
W19	13 1	28 29	5 8	15 7	1 45	14 38	1 17	13 23	1 8	10 2	1 27	21 8	1 26	23 24	0 9	22 18	1 2	1 15	16 5	1 14	1 43	24 40	18 0	5 26										
T 20	12 42	28 24	5 9	14 26	1 46	14 14	1 18	13 10	1 8	10 1	1 27	21 8	1 25	23 24	0 9	22 18	1 2	1 14	16 4	1 12	1 42	24 38	17 59	5 26										
F 21	12 22	26 59	4 58	13 45	1 45	13 49	1 19	12 57	1 8	10 1	1 27	21 8	1 25	23 24	0 9	22 18	1 2	1 13	16 4	1 9	1 40	24 36	17 59	5 26										
S 22	12 2	24 23	4 34	13 2	1 45	13 24	1 20	12 43	1 8	10 1	1 27	21 8	1 25	23 24	0 9	22 18	1 2	1 12	16 3	1 7	1 39	24 34	17 58	5 27										
S 23	11 42	20 45	3 58	12 19	1 43	12 59	1 21	12 30	1 8	10 0	1 28	21 9	1 25	23 24	0 9	22 18	1 2	1 11	16 3	1 5	1 38	24 33	17 58	5 27										
M24	11 22	16 15	3 11	11 34	1 41	12 34	1 21	12 16	1 8	10 0	1 28	21 9	1 25	23 24	0 9	22 18	1 2	1 10	16 2	1 2	1 37	24 31	17 58	5 28										
T 25	11 1	11 6	2 16	10 50	1 38	12 8	1 22	12 2	1 8	9 59	1 28	21 9	1 24	23 24	0 9	22 18	1 2	1 10	16 2	1 1	1 35	24 29	17 57	5 28										
W26	10 41	5 30	1 13	10 4	1 35	11 42	1 23	11 48	1 7	9 59	1 28	21 9	1 24	23 24	0 9	22 18	1 2	1 9	16 1	1 0	1 34	24 27	17 57	5 29										
T 27	10 20	0s23	0 7	9 18	1 31	11 15	1 23	11 35	1 7	9 58	1 29	21 10	1 24	23 24	0 9	22 19	1 2	1 8	16 1	1 0	1 33	24 25	17 56	5 29										
F 28	9 59	6 20	1s 1	8 32	1 27	10 48	1 24	11 21	1 7	9 57	1 29	21 10	1 24	23 24	0 9	22 19	1 2	1 7	16 0	1 0	1 32	24 23	17 56	5 29										
S 29	9 38	12 9	2 7	7 46	1 23	10 21	1 24	11 7	1 7	9 57	1 29	21 10	1 24	23 24	0 9	22 19	1 2	1 6	15 59	1 0	1 30	24 21	17 56	5 30										
S 30	9 16	17 34	3 8	7 0	1 18	9 54	1 24	10 53	1 7	9 56	1 29	21 11	1 23	23 24	0 9	22 19	1 1	1 5	15 59	1 1	1 29	24 19	17 55	5 30										
M31	8n55	22s16	4s 1	6n13	1n13	9n26	1n25	10n39	1n 7	9n55	1s29	21s11	1n23	23s24	0s10	22s19	1n 1	1n 4	15n58	1n 1	1n28	24n17	17n55	5s31										

ASTRODIENST EPHEMERIS for the year 1987
geocentric

SEPTEMBER 1987

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	22 38 30	8♉ 2'28	6♊ 1	18♉ 52	10♉ 26	5♉ 50	29°R29	14♊ 40	22°R43	5°R18	7♉ 43	2°R35	3°Y38	1♉ 231	27°II59	T 1
W 2	22 42 27	9° 0'31	19°55	20°37	11°40	6°28	29°Y27	14°41	22°D43	5♊ 18	7°44	2°Y35	3°34	1°38	28° 2	W 2
T 3	22 46 23	9°58'36	4♊ 9	22°21	12°55	7° 7	29°24	14°42	22°R43	5°17	7°46	2°33	3°31	1°45	28° 4	T 3
F 4	22 50 20	10°56'41	18°42	24° 3	14° 9	7°45	29°21	14°44	22°43	5°17	7°47	2°31	3°28	1°51	28° 7	F 4
S 5	22 54 17	11°54'49	3♊ 30	25°45	15°24	8°23	29°18	14°45	22°43	5°16	7°49	2°29	3°25	1°58	28° 9	S 5
S 6	22 58 13	12°52'57	18°25	27°25	16°38	9° 1	29°15	14°47	22°44	5°16	7°50	2°26	3°22	2° 5	28°11	S 6
M 7	23 2 10	13°51'08	3♊ 21	29° 3	17°53	9°40	29°11	14°49	22°44	5°16	7°52	2°24	3°19	2°11	28°14	M 7
T 8	23 6 6	14°49'19	18° 8	0♉ 41	19° 7	10°18	29° 8	14°51	22°44	5°15	7°53	2°23	3°15	2°18	28°16	T 8
W 9	23 10 3	15°47'33	2°Y40	2°18	20°22	10°56	29° 4	14°53	22°44	5°15	7°55	2°D22	3°12	2°25	28°18	W 9
T 10	23 13 59	16°45'48	16°50	3°53	21°36	11°34	29° 0	14°55	22°45	5°15	7°57	2°23	3° 9	2°32	28°20	T 10
F 11	23 17 56	17°44'06	0♉ 36	5°27	22°51	12°12	28°55	14°57	22°45	5°14	7°58	2°24	3° 6	2°38	28°22	F 11
S 12	23 21 52	18°42'25	13°56	7° 0	24° 5	12°51	28°51	14°59	22°46	5°14	8° 0	2°25	3° 3	2°45	28°24	S 12
S 13	23 25 49	19°40'47	26°52	8°32	25°20	13°29	28°47	15° 1	22°46	5°14	8° 2	2°26	3° 0	2°52	28°26	S 13
M14	23 29 46	20°39'11	9♉ 27	10° 3	26°34	14° 7	28°42	15° 4	22°47	5°14	8° 4	2°26	2°56	2°58	28°28	M14
T 15	23 33 42	21°37'37	21°45	11°33	27°49	14°46	28°37	15° 6	22°48	5°14	8° 6	2°R27	2°53	3° 5	28°30	T 15
W16	23 37 39	22°36'05	3♉ 49	13° 1	29° 3	15°24	28°32	15° 9	22°48	5°14	8° 7	2°26	2°50	3°12	28°32	W16
T 17	23 41 35	23°34'35	15°45	14°29	0♉ 18	16° 2	28°27	15°12	22°49	5°D14	8° 9	2°26	2°47	3°18	28°33	T 17
F 18	23 45 32	24°33'08	27°37	15°55	1°33	16°41	28°21	15°14	22°50	5°14	8°11	2°25	2°44	3°25	28°35	F 18
S 19	23 49 28	25°31'42	9♉ 28	17°20	2°47	17°19	28°16	15°17	22°51	5°14	8°13	2°24	2°40	3°32	28°36	S 19
S 20	23 53 25	26°30'19	21°23	18°44	4° 2	17°57	28°10	15°20	22°52	5°14	8°15	2°23	2°37	3°39	28°38	S 20
M21	23 57 21	27°28'57	3♉ 25	20° 7	5°17	18°36	28° 4	15°23	22°53	5°14	8°17	2°22	2°34	3°45	28°39	M21
T 22	0 1 18	28°27'38	15°35	21°28	6°31	19°14	27°58	15°26	22°54	5°14	8°19	2°22	2°31	3°52	28°40	T 22
W23	0 5 15	29°26'20	27°56	22°48	7°46	19°52	27°52	15°29	22°55	5°14	8°21	2°D22	2°28	3°59	28°41	W23
T 24	0 9 11	0♉ 25'05	10♉ 29	24° 7	9° 0	20°31	27°46	15°33	22°56	5°15	8°23	2°22	2°25	4° 5	28°42	T 24
F 25	0 13 8	1°23'51	23°16	25°25	10°15	21° 9	27°39	15°36	22°57	5°15	8°25	2°22	2°21	4°12	28°43	F 25
S 26	0 17 4	2°22'40	6♉ 15	26°41	11°30	21°47	27°33	15°40	22°58	5°15	8°27	2°R22	2°18	4°19	28°44	S 26
S 27	0 21 1	3°21'30	19°28	27°55	12°44	22°26	27°26	15°43	22°59	5°15	8°29	2°22	2°15	4°25	28°45	S 27
M28	0 24 57	4°20'22	2♉ 56	29° 8	13°59	23° 4	27°19	15°47	23° 1	5°16	8°31	2°22	2°12	4°32	28°46	M28
T 29	0 28 54	5°19'16	16°36	0♉ 20	15°14	23°43	27°12	15°50	23° 2	5°16	8°33	2°22	2° 9	4°39	28°47	T 29
W30	0 32 50	6♉ 18'12	0♉ 30	1♉ 29	16°28	24°21	27°Y 5	15°54	23° 4	5♉ 16	8♉ 35	2°D21	2°Y 6	4♉ 46	28°II47	W30

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
T 1	8n33	25s56	4s41	5n26	1n 7	8n58	1n25	10n24	1n 7	9n54	1s30	21s11	1n23	23s24	0s10	22s19	1n 1	1n 3	15n58	1n 2	1n27	24n16	17n54	5s31			
W 2	8 12	28 10	5 7	4 40	1 2	8 30	1 25	10 10	1 7	9 53	1 30	21 12	1 23	23 24	0 10	22 19	1 1	1 2	15 57	1 2	1 25	24 14	17 54	5 32			
T 3	7 50	28 37	5 14	3 53	0 56	8 1	1 25	9 56	1 7	9 51	1 30	21 12	1 23	23 24	0 10	22 19	1 1	1 1	15 57	1 1	1 24	24 12	17 53	5 32			
F 4	7 28	27 7	5 2	3 7	0 49	7 33	1 25	9 42	1 6	9 50	1 30	21 12	1 22	23 24	0 10	22 19	1 1	1 1	15 57	1 0	1 23	24 10	17 53	5 33			
S 5	7 6	23 45	4 30	2 21	0 43	7 4	1 25	9 27	1 6	9 49	1 31	21 13	1 22	23 24	0 10	22 19	1 1	1 0	15 56	0 59	1 21	24 8	17 53	5 33			
S 6	6 43	18 47	3 39	1 35	0 36	6 35	1 25	9 13	1 6	9 48	1 31	21 13	1 22	23 24	0 10	22 19	1 1	0 59	15 56	0 58	1 20	24 6	17 52	5 34			
M 7	6 21	12 40	2 33	0 49	0 29	6 5	1 25	8 58	1 6	9 46	1 31	21 13	1 22	23 24	0 10	22 19	1 1	0 58	15 55	0 57	1 19	24 4	17 52	5 34			
T 8	5 59	5 53	1 18	0 4	0 22	5 36	1 24	8 43	1 6	9 45	1 31	21 14	1 22	23 24	0 10	22 19	1 1	0 57	15 55	0 57	1 18	24 2	17 51	5 35			
W 9	5 36	1n 5	0n 2	0s41	0 15	5 6	1 24	8 29	1 6	9 43	1 31	21 14	1 21	23 24	0 10	22 19	1 1	0 56	15 54	0 57	1 16	24 0	17 51	5 35			
T 10	5 14	7 50	1 19	1 26	0 8	4 37	1 24	8 14	1 6	9 41	1 32	21 15	1 21	23 24	0 10	22 19	1 1	0 55	15 54	0 57	1 15	23 58	17 50	5 36			
F 11	4 51	14 1	2 30	2 10	0 0	4 7	1 23	7 59	1 5	9 40	1 32	21 15	1 21	23 24	0 10	22 19	1 1	0 54	15 53	0 57	1 14	23 56	17 50	5 36			
S 12	4 28	19 22	3 30	2 54	0s 7	3 37	1 23	7 45	1 5	9 38	1 32	21 16	1 21	23 24	0 10	22 19	1 1	0 53	15 53	0 58	1 13	23 54	17 49	5 37			
S 13	4 5	23 38	4 18	3 37	0 15	3 7	1 22	7 30	1 5	9 36	1 32	21 16	1 21	23 24	0 10	22 20	1 1	0 52	15 52	0 58	1 11	23 52	17 49	5 37			
M14	3 42	26 40	4 51	4 20	0 23	2 36	1 21	7 15	1 5	9 34	1 32	21 17	1 20	23 24	0 10	22 20	1 1	0 51	15 52	0 58	1 10	23 50	17 48	5 38			
T 15	3 19	28 22	5 11	5 2	0 31	2 6	1 21	7 0	1 5	9 33	1 32	21 17	1 20	23 24	0 10	22 20	1 1	0 50	15 52	0 58	1 9	23 48	17 48	5 38			
W16	2 56	28 40	5 16	5 44	0 38	1 36	1 20	6 45	1 5	9 31	1 33	21 17	1 20	23 24	0 10	22 20	1 1	0 49	15 51	0 58	1 8	23 46	17 47	5 39			
T 17	2 33	27 37	5 8	6 25	0 46	1 5	1 19	6 30	1 4	9 29	1 33	21 18	1 20	23 24	0 10	22 20	1 1	0 48	15 51	0 58	1 6	23 44	17 47	5 39			
F 18	2 10	25 19	4 47	7 6	0 54	0 35	1 18	6 15	1 4	9 27	1 33	21 18	1 20	23 24	0 10	22 20	1 1	0 47	15 50	0 58	1 5	23 42	17 46	5 40			
S 19	1 47	21 57	4 13	7 46	1 2	0 4	1 17	6 0	1 4	9 24	1 33	21 19	1 19	23 25	0 10	22 20	1 1	0 46	15 50	0 57	1 4	23 40	17 46	5 40			
S 20	1 23	17 39	3 28	8 25	1 10	0s26	1 16	5 45	1 4	9 22	1 33	21 19	1 19	23 25	0 10	22 20	1 1	0 46	15 50	0 57	1 3	23 38	17 45	5 41			
M21	1 0	12 39	2 34	9 4	1 18	0 57	1 15	5 30	1 4	9 20	1 33	21 20	1 19	23 25	0 10	22 20	1 1	0 45	15 49	0 57	1 1	23 36	17 45	5 41			
T 22	0 37	7 6	1 32	9 42	1 25	1 27	1 14	5 14	1 4	9 18	1 34	21 20	1 19	23 25	0 10	22 20	1 1	0 44	15 49	0 56	1 0	23 34	17 44	5 42			
W23	0 13	1 12	0 25	10 19	1 33	1 58	1 13	4 59	1 3	9 15	1 34	21 21	1 19	23 25	0 10	22 20	1 0	0 43	15 48	0 56	0 59	23 32	17 44	5 43			
T 24	0s10	4s51	0s45	10 55	1 41	2 29	1 11	4 44	1 3	9 13	1 34	21 22	1 18	23 25	0 10	22 20	1 0	0 42	15 48	0 56	0 58	23 29	17 43	5 43			
F 25	0 33	10 48	1 53	11 31	1 48	2 59	1 10	4 29	1 3	9 11	1 34	21 22	1 18	23 25	0 10	22 20	1 0	0 41	15 48	0 56	0 56	23 27	17 43	5 44			
S 26	0 57	16 23	2 57	12 5	1 56	3 30	1 9	4 13	1 3	9 8	1 34	21 23	1 18	23 25	0 10	22 20	1 0	0 40	15 47	0 56	0 55	23 25	17 42	5 44			
S 27	1 20	21 20	3 53	12 39	2 3	4 0	1 7	3 58	1 3	9 6	1 34	21 23	1 18	23 25	0 10	22 20	1 0	0 39	15 47	0 56	0 54	23 23	17 42	5 45			
M28	1 44	25 16	4 36	13 12	2 10	4 30	1 6	3 43	1 3	9 3	1 34	21 24	1 18	23 25	0 10	22 20	1 0	0 38	15 47	0 56	0 52	23 21	17 41	5 45			
T 29	2 7	27 50	5 5	13 44	2 17	5 1	1 4	3 27	1 2	9 1	1 34	21 24	1 18	23 25	0 10	22 20	1 0	0 37	15 46	0 56	0 51	23 19	17 41	5 46			
W30	2s30	28s43	5s17	14s15	2s24	5s31	1n 3	3n12	1n 2	8n58	1s35	21s25	1n17	23s25	0s10	22s20	1n 0	0n36	15n46	0n56	0n50	23n17	17n40	5s46			

ASTRODIENST EPHEMERIS for the year 1987
geocentric

OCTOBER 1987

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
T 1	0 36 47	7♌17°10	14♊37	2♈37	17♌43	24♏59	26°R58	15♎58	23♏5	5♊17	8♈37	2♏21	2♏2	4♌52	28♏48	T 1
F 2	0 40 44	8°16'09	28°53	3°42	18°58	25°38	26°Y51	16° 2	23° 7	5°17	8°40	2°22	1°59	4°59	28°48	F 2
S 3	0 44 40	9°15'10	13°18	4°45	20°12	26°16	26°43	16° 6	23° 8	5°18	8°42	2°22	1°56	5° 6	28°49	S 3
S 4	0 48 37	10°14'12	27°48	5°46	21°27	26°55	26°36	16°10	23°10	5°18	8°44	2°23	1°53	5°12	28°49	S 4
M 5	0 52 33	11°13'16	12°17	6°45	22°42	27°33	26°28	16°14	23°11	5°19	8°46	2°23	1°50	5°19	28°49	M 5
T 6	0 56 30	12°12'23	26°41	7°40	23°57	28°12	26°21	16°19	23°13	5°20	8°48	2°R24	1°46	5°26	28°50	T 6
W 7	1 0 26	13°11'31	10°Y54	8°32	25°11	28°50	26°13	16°23	23°15	5°20	8°51	2°24	1°43	5°32	28°50	W 7
T 8	1 4 23	14°10'41	24°52	9°22	26°26	29°29	26° 5	16°27	23°17	5°21	8°53	2°23	1°40	5°39	28°R50	T 8
F 9	1 8 19	15° 9'53	8♊31	10° 7	27°41	0♌7	25°58	16°32	23°18	5°22	8°55	2°22	1°37	5°46	28°50	F 9
S 10	1 12 16	16° 9'08	21°50	10°49	28°55	0°46	25°50	16°36	23°20	5°22	8°57	2°20	1°34	5°53	28°49	S 10
S 11	1 16 12	17° 8'24	4♏47	11°26	0♈10	1°24	25°42	16°41	23°22	5°23	9° 0	2°18	1°31	5°59	28°49	S 11
M12	1 20 9	18° 7'43	17°25	11°58	1°25	2° 3	25°34	16°46	23°24	5°24	9° 2	2°16	1°27	6° 6	28°49	M12
T 13	1 24 6	19° 7'05	29°44	12°25	2°39	2°42	25°26	16°50	23°26	5°25	9° 4	2°14	1°24	6°13	28°49	T 13
W14	1 28 2	20° 6'28	11°50	12°47	3°54	3°20	25°18	16°55	23°28	5°26	9° 7	2°13	1°21	6°19	28°48	W14
T 15	1 31 59	21° 5'54	23°47	13° 2	5° 9	3°59	25°10	17° 0	23°30	5°26	9° 9	2°D13	1°18	6°26	28°48	T 15
F 16	1 35 55	22° 5'23	5♌39	13°11	6°23	4°37	25° 2	17° 5	23°32	5°27	9°11	2°14	1°15	6°33	28°47	F 16
S 17	1 39 52	23° 4'53	17°31	13°R12	7°38	5°16	24°54	17°10	23°35	5°28	9°14	2°15	1°11	6°39	28°46	S 17
S 18	1 43 48	24° 4'26	29°27	13° 6	8°53	5°55	24°45	17°15	23°37	5°29	9°16	2°17	1° 8	6°46	28°45	S 18
M19	1 47 45	25° 4'01	11°R2	12°52	10° 8	6°33	24°37	17°20	23°39	5°30	9°18	2°18	1° 5	6°53	28°45	M19
T 20	1 51 41	26° 3'38	2°51	12°29	11°22	7°12	24°29	17°26	23°41	5°31	9°21	2°19	1° 2	7° 0	28°44	T 20
W21	1 55 38	27° 3'17	6♌24	11°57	12°37	7°51	24°21	17°31	23°44	5°32	9°23	2°R20	0°59	7° 6	28°43	W21
T 22	1 59 35	28° 2'58	19°15	11°17	13°52	8°29	24°13	17°36	23°46	5°33	9°25	2°19	0°56	7°13	28°42	T 22
F 23	2 3 31	29° 2'42	2♈23	10°28	15° 6	9° 8	24° 5	17°42	23°49	5°35	9°28	2°16	0°52	7°20	28°40	F 23
S 24	2 7 28	0♈2'27	15°48	9°31	16°21	9°47	23°57	17°47	23°51	5°36	9°30	2°13	0°49	7°26	28°39	S 24
S 25	2 11 24	1° 2'15	29°27	8°27	17°36	10°26	23°49	17°53	23°54	5°37	9°33	2° 8	0°46	7°33	28°38	S 25
M26	2 15 21	2° 2'04	13°19	7°17	18°51	11° 4	23°41	17°58	23°56	5°38	9°35	2° 4	0°43	7°40	28°36	M26
T 27	2 19 17	3° 1'55	27°20	6° 3	20° 5	11°43	23°33	18° 4	23°59	5°39	9°38	1°59	0°40	7°46	28°35	T 27
W28	2 23 14	4° 1'48	11°R2	4°46	21°20	12°22	23°25	18°10	24° 1	5°41	9°40	1°56	0°37	7°53	28°33	W28
T 29	2 27 10	5° 1'43	25°36	3°30	22°35	13° 1	23°17	18°15	24° 4	5°42	9°42	1°54	0°33	8° 0	28°32	T 29
F 30	2 31 7	6° 1'39	9♌46	2°16	23°49	13°39	23°10	18°21	24° 7	5°43	9°45	1°D54	0°30	8° 7	28°30	F 30
S 31	2 35 4	7♈1'36	23°56	1♈7	25♈4	14♌18	23°Y2	18♎27	24♎9	5♊45	9♈47	1°Y55	0°Y27	8♌13	28♏28	S 31

Day	☉	☾		♊		♋		♌		♍		♎		♏		♐		♑		♒	♓	♈	♉	♊	♋	♌
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	decl	decl	decl	lat	
T 1	2s54	27s46	5s10	14s44	2s31	6s 1	1n 1	2n56	1n 2	8n55	1s35	21s25	1n17	23s25	0s10	22s20	1n 0	0n35	15n46	0n56	0n49	23n15	17n39	5s47		
F 2	3 17	25 1	4 44	15 13	2 37	6 31	0 59	2 41	1 2	8 53	1 35	21 26	1 17	23 25	0 10	22 20	1 0	0 34	15 45	0 56	0 47	23 13	17 39	5 47		
S 3	3 40	20 39	4 0	15 40	2 43	7 1	0 58	2 25	1 2	8 50	1 35	21 27	1 17	23 25	0 10	22 20	1 0	0 33	15 45	0 57	0 46	23 11	17 38	5 48		
S 4	4 3	15 4	3 0	16 6	2 49	7 30	0 56	2 10	1 1	8 47	1 35	21 27	1 17	23 26	0 10	22 20	1 0	0 32	15 45	0 57	0 45	23 8	17 38	5 48		
M 5	4 26	8 38	1 49	16 31	2 55	8 0	0 54	1 54	1 1	8 44	1 35	21 28	1 16	23 26	0 10	22 20	1 0	0 31	15 45	0 57	0 44	23 6	17 37	5 49		
T 6	4 50	1 48	0 32	16 54	3 0	8 29	0 52	1 39	1 1	8 42	1 35	21 28	1 16	23 26	0 10	22 20	1 0	0 31	15 44	0 57	0 42	23 4	17 37	5 50		
W 7	5 13	5n 2	0n47	17 16	3 4	8 58	0 50	1 23	1 1	8 39	1 35	21 29	1 16	23 26	0 10	22 20	1 0	0 30	15 44	0 57	0 41	23 2	17 36	5 50		
T 8	5 36	11 31	2 1	17 36	3 9	9 27	0 48	1 8	1 0	8 36	1 35	21 30	1 16	23 26	0 10	22 20	1 0	0 29	15 44	0 57	0 40	23 0	17 36	5 51		
F 9	5 58	17 18	3 7	17 54	3 12	9 56	0 46	0 52	1 0	8 33	1 35	21 30	1 16	23 26	0 10	22 20	1 0	0 28	15 44	0 56	0 39	22 58	17 35	5 51		
S 10	6 21	22 6	4 0	18 10	3 15	10 24	0 44	0 37	1 0	8 30	1 35	21 31	1 16	23 26	0 10	22 20	1 0	0 27	15 43	0 56	0 37	22 55	17 35	5 52		
S 11	6 44	25 41	4 40	18 24	3 18	10 52	0 42	0 21	1 0	8 27	1 35	21 32	1 15	23 26	0 10	22 20	1 0	0 26	15 43	0 55	0 36	22 53	17 34	5 52		
M12	7 7	27 55	5 5	18 36	3 20	11 21	0 40	0 6	1 0	8 25	1 35	21 32	1 15	23 26	0 10	22 20	1 0	0 25	15 43	0 54	0 35	22 51	17 34	5 53		
T 13	7 29	28 42	5 15	18 45	3 21	11 48	0 38	0s10	0 59	8 22	1 35	21 33	1 15	23 26	0 10	22 20	1 0	0 24	15 43	0 53	0 33	22 49	17 33	5 53		
W14	7 52	28 5	5 11	18 52	3 21	12 16	0 36	0 25	0 59	8 19	1 35	21 33	1 15	23 26	0 10	22 20	1 0	0 23	15 42	0 53	0 32	22 47	17 33	5 54		
T 15	8 14	26 10	4 54	18 56	3 20	12 43	0 33	0 41	0 59	8 16	1 35	21 34	1 15	23 27	0 10	22 20	1 0	0 22	15 42	0 53	0 31	22 45	17 32	5 54		
F 16	8 36	23 7	4 24	18 56	3 18	13 10	0 31	0 56	0 59	8 13	1 35	21 35	1 15	23 27	0 10	22 20	0 59	0 22	15 42	0 53	0 30	22 42	17 31	5 55		
S 17	8 58	19 7	3 42	18 54	3 14	13 36	0 29	1 12	0 58	8 10	1 35	21 35	1 14	23 27	0 10	22 20	0 59	0 21	15 42	0 54	0 28	22 40	17 31	5 55		
S 18	9 20	14 20	2 51	18 47	3 10	14 3	0 26	1 28	0 58	8 7	1 35	21 36	1 14	23 27	0 10	22 20	0 59	0 20	15 42	0 54	0 27	22 38	17 30	5 56		
M19	9 42	8 58	1 52	18 37	3 4	14 28	0 24	1 43	0 58	8 4	1 35	21 37	1 14	23 27	0 10	22 20	0 59	0 19	15 42	0 55	0 26	22 36	17 30	5 56		
T 20	10 4	3 9	0 47	18 23	2 56	14 54	0 22	1 59	0 58	8 1	1 35	21 37	1 14	23 27	0 10	22 20	0 59	0 18	15 41	0 55	0 25	22 33	17 29	5 57		
W21	10 26	2s53	0s22	18 4	2 47	15 19	0 19	2 14	0 57	7 58	1 35	21 38	1 14	23 27	0 10	22 20	0 59	0 17	15 41	0 56	0 23	22 31	17 29	5 57		
T 22	10 47	8 57	1 32	17 41	2 36	15 44	0 17	2 30	0 57	7 55	1 35	21 39	1 14	23 27	0 10	22 20	0 59	0 16	15 41	0 55	0 22	22 29	17 28	5 58		
F 23	11 8	14 46	2 37	17 13	2 23	16 8	0 14	2 45	0 57	7 52	1 35	21 39	1 14	23 27	0 10	22 20	0 59	0 16	15 41	0 54	0 21	22 27	17 28	5 58		
S 24	11 29	20 1	3 36	16 41	2 8	16 32	0 12	3 1	0 56	7 50	1 35	21 40	1 13	23 28	0 10	22 20	0 59	0 15	15 41	0 53	0 20	22 24	17 27	5 59		
S 25	11 50	24 19	4 23	16 5	1 52	16 56	0 9	3 16	0 56	7 47	1 35	21 40	1 13	23 28	0 10	22 20	0 59	0 14	15 41	0 51	0 18	22 22	17 27	6 0		
M26	12 11	27 17	4 56	15 26	1 34	17 19	0 7	3 31	0 56	7 44	1 34	21 41	1 13	23 28	0 10	22 20	0 59	0 13	15 41	0 49	0 17	22 20	17 26	6 0		
T 27	12 32	28 36	5 11	14 43	1 15	17 42	0 4	3 47	0 56	7 41	1 34	21 42	1 13	23 28	0 10	22 20	0 59	0 12	15 41	0 47	0 16	22 18	17 26	6 1		
W28	12 52	28 4	5 8	13 59	0 55	18 4	0 2	4 2	0 55	7 38	1 34	21 42	1 13	23 28	0 10	22 20	0 59	0 12	15 40	0 46	0 15	22 15	17 25	6 1		
T 29	13 12	25 42	4 46	13 14	0 35	18 26	0s 1	4 18	0 55	7 36	1 34	21 43	1 13	23 28	0 10	22 20	0 59	0 11	15 40	0 45	0 13	22 13	17 25	6 1		
F 30	13 32	21 46	4 7	12 29	0 14	18 47	0 3	4 33	0 55	7 33	1 34	21 44	1 13	23 28	0 10	22 20	0 59	0 10	15 40	0 45	0 12	22 11	17 24	6 2		
S 31	13s52	16s34	3s12	11s46	0n 7	19s 8	0s 6	4s48	0n55	7n30	1s34	21s44	1n12	23s28	0s10	22s20	0n59	0n 9	15n40	0n46	0n11	22n 9	17n24	6s 2		

ASTRODIENST EPHEMERIS for the year 1987
geocentric

NOVEMBER 1987

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	2 39 0	8♉1'35	8♉2	0°R 5	26♉19	14♉57	22°R54	18♉33	24♉12	5♉46	9♉50	1°Y56	0°Y24	8♉20	28°R27	S 1
M 2	2 42 57	9° 1'36	22° 4	29♉11	27°34	15°36	22°Y47	18°39	24°15	5°48	9°52	1°58	0°21	8°27	28♉25	M 2
T 3	2 46 53	10° 1'38	5°Y59	28°27	28°48	16°15	22°39	18°45	24°18	5°49	9°55	1°R58	0°17	8°33	28°23	T 3
W 4	2 50 50	11° 1'42	19°46	27°55	0♉3	16°54	22°32	18°51	24°21	5°50	9°57	1°57	0°14	8°40	28°21	W 4
T 5	2 54 46	12° 1'48	3♉22	27°34	1°18	17°33	22°25	18°57	24°24	5°52	9°59	1°53	0°11	8°47	28°19	T 5
F 6	2 58 43	13° 1'55	16°44	27°D25	2°32	18°11	22°18	19° 3	24°27	5°53	10° 2	1°48	0° 8	8°53	28°16	F 6
S 7	3 2 39	14° 2'05	29°51	27°27	3°47	18°50	22°11	19°10	24°29	5°55	10° 4	1°41	0° 5	9° 0	28°14	S 7
S 8	3 6 36	15° 2'16	12♉42	27°39	5° 2	19°29	22° 4	19°16	24°32	5°57	10° 7	1°33	0° 2	9° 7	28°12	S 8
M 9	3 10 33	16° 2'30	25°16	28° 3	6°16	20° 8	21°57	19°22	24°35	5°58	10° 9	1°25	29♉58	9°13	28°10	M 9
T 10	3 14 29	17° 2'45	7♉35	28°35	7°31	20°47	21°51	19°28	24°39	6° 0	10°11	1°18	29°55	9°20	28° 7	T 10
W11	3 18 26	18° 3'02	19°41	29°16	8°46	21°26	21°44	19°35	24°42	6° 1	10°14	1°12	29°52	9°27	28° 5	W11
T 12	3 22 22	19° 3'21	1♉37	0♉4	10° 0	22° 5	21°38	19°41	24°45	6° 3	10°16	1° 8	29°49	9°34	28° 2	T 12
F 13	3 26 19	20° 3'42	13°27	1° 0	11°15	22°44	21°31	19°48	24°48	6° 5	10°19	1° 6	29°46	9°40	28° 0	F 13
S 14	3 30 15	21° 4'05	25°18	2° 1	12°30	23°23	21°25	19°54	24°51	6° 7	10°21	1°D 6	29°43	9°47	27°57	S 14
S 15	3 34 12	22° 4'30	7♉13	3° 7	13°44	24° 2	21°19	20° 1	24°54	6° 8	10°24	1° 7	29°39	9°54	27°54	S 15
M16	3 38 8	23° 4'57	19°19	4°18	14°59	24°41	21°14	20° 7	24°57	6°10	10°26	1° 8	29°36	10° 0	27°51	M16
T 17	3 42 5	24° 5'25	1♉40	5°32	16°13	25°21	21° 8	20°14	25° 1	6°12	10°28	1°R 8	29°33	10° 7	27°49	T 17
W18	3 46 2	25° 5'55	14°19	6°50	17°28	26° 0	21° 3	20°20	25° 4	6°14	10°31	1° 7	29°30	10°14	27°46	W18
T 19	3 49 58	26° 6'27	27°22	8°10	18°43	26°39	20°57	20°27	25° 7	6°15	10°33	1° 4	29°27	10°20	27°43	T 19
F 20	3 53 55	27° 7'01	10♉47	9°33	19°57	27°18	20°52	20°34	25°10	6°17	10°35	0°59	29°23	10°27	27°40	F 20
S 21	3 57 51	28° 7'37	24°35	10°58	21°12	27°57	20°47	20°41	25°14	6°19	10°38	0°51	29°20	10°34	27°37	S 21
S 22	4 1 48	29° 8'14	8♉42	12°24	22°27	28°36	20°42	20°47	25°17	6°21	10°40	0°41	29°17	10°40	27°34	S 22
M23	4 5 44	0♉8'52	23° 3	13°52	23°41	29°15	20°38	20°54	25°20	6°23	10°42	0°31	29°14	10°47	27°30	M23
T 24	4 9 41	1° 9'32	7♉32	15°21	24°56	29°55	20°33	21° 1	25°24	6°25	10°45	0°22	29°11	10°54	27°27	T 24
W25	4 13 38	2°10'13	22° 3	16°51	26°10	0♉34	20°29	21° 8	25°27	6°27	10°47	0°14	29° 8	11° 1	27°24	W25
T 26	4 17 34	3°10'55	6♉28	18°22	27°25	1°13	20°25	21°15	25°31	6°29	10°49	0° 9	29° 4	11° 7	27°21	T 26
F 27	4 21 31	4°11'38	20°46	19°53	28°40	1°52	20°21	21°21	25°34	6°31	10°52	0° 6	29° 1	11°14	27°17	F 27
S 28	4 25 27	5°12'23	4♉52	21°24	29°54	2°32	20°18	21°28	25°38	6°33	10°54	0°D 5	28°58	11°21	27°14	S 28
S 29	4 29 24	6°13'08	18°47	22°56	1♉9	3°11	20°14	21°35	25°41	6°35	10°56	0° 5	28°55	11°27	27°11	S 29
M30	4 33 20	7♉13'53	2°Y30	24♉29	2♉23	3♉50	20°Y11	21♉42	25♉45	6♉37	10♉58	0°R 6	28♉52	11♉34	27♉7	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	14s11	10s31	2s 7	11s 5	0n26	19s28	0s 8	5s 3	0n54	7n27	1s34	21s45	1n12	23s29	0s10	22s20	0n59	0n 8	15n40	0n46	0n 9	22n 6	17n23	6s 3	
M 2	14 30	3 58	0 54	10 29	0 45	19 48	0 11	5 19	0 54	7 25	1 34	21 46	1 12	23 29	0 10	22 20	0 59	0 8	15 40	0 47	0 8	22 4	17 23	6 3	
T 3	14 50	2n43	0n22	9 58	1 2	20 7	0 13	5 34	0 54	7 22	1 33	21 46	1 12	23 29	0 10	22 20	0 59	0 7	15 40	0 47	0 7	22 2	17 22	6 4	
W 4	15 8	9 12	1 35	9 32	1 17	20 26	0 16	5 49	0 53	7 20	1 33	21 47	1 12	23 29	0 10	22 20	0 59	0 6	15 40	0 46	0 6	21 59	17 22	6 4	
T 5	15 27	15 10	2 42	9 11	1 31	20 44	0 19	6 4	0 53	7 17	1 33	21 48	1 12	23 29	0 10	22 20	0 59	0 6	15 40	0 45	0 4	21 57	17 21	6 5	
F 6	15 45	20 20	3 39	8 57	1 43	21 1	0 21	6 19	0 53	7 15	1 33	21 48	1 12	23 29	0 10	22 20	0 59	0 5	15 40	0 43	0 3	21 55	17 21	6 5	
S 7	16 3	24 24	4 22	8 48	1 53	21 18	0 24	6 34	0 52	7 12	1 33	21 49	1 12	23 29	0 10	22 20	0 59	0 4	15 40	0 40	0 2	21 52	17 20	6 6	
S 8	16 21	27 9	4 52	8 45	2 1	21 34	0 26	6 49	0 52	7 10	1 33	21 49	1 11	23 29	0 10	22 20	0 59	0 3	15 40	0 37	0 1	21 50	17 20	6 6	
M 9	16 38	28 28	5 6	8 48	2 8	21 50	0 29	7 4	0 52	7 8	1 32	21 50	1 11	23 30	0 10	22 20	0 59	0 3	15 40	0 34	0s 1	21 48	17 19	6 7	
T 10	16 56	28 19	5 6	8 55	2 12	22 5	0 31	7 19	0 51	7 5	1 32	21 51	1 11	23 30	0 10	22 20	0 59	0 2	15 40	0 31	0 2	21 45	17 19	6 7	
W11	17 13	26 49	4 52	9 6	2 16	22 19	0 34	7 34	0 51	7 3	1 32	21 51	1 11	23 30	0 10	22 20	0 59	0 1	15 40	0 29	0 3	21 43	17 18	6 7	
T 12	17 29	24 7	4 26	9 21	2 18	22 33	0 36	7 49	0 51	7 1	1 32	21 52	1 11	23 30	0 10	22 20	0 58	0 1	15 40	0 27	0 4	21 41	17 18	6 8	
F 13	17 46	20 26	3 48	9 39	2 19	22 46	0 39	8 4	0 50	6 59	1 31	21 52	1 11	23 30	0 10	22 20	0 58	0s 0	15 40	0 26	0 6	21 38	17 17	6 8	
S 14	18 2	15 55	3 1	10 1	2 18	22 59	0 41	8 19	0 50	6 57	1 31	21 53	1 11	23 30	0 10	22 20	0 58	0 1	15 40	0 26	0 7	21 36	17 17	6 9	
S 15	18 17	10 48	2 5	10 24	2 17	23 11	0 44	8 33	0 50	6 55	1 31	21 54	1 11	23 30	0 10	22 20	0 58	0 1	15 40	0 26	0 8	21 33	17 17	6 9	
M16	18 33	5 12	1 3	10 50	2 15	23 22	0 46	8 48	0 49	6 53	1 31	21 54	1 10	23 30	0 10	22 20	0 58	0 2	15 40	0 27	0 9	21 31	17 16	6 9	
T 17	18 48	0s42	0s 3	11 18	2 12	23 32	0 49	9 3	0 49	6 51	1 31	21 55	1 10	23 31	0 10	22 20	0 58	0 3	15 41	0 27	0 11	21 29	17 16	6 10	
W18	19 3	6 44	1 10	11 47	2 8	23 42	0 51	9 17	0 49	6 49	1 30	21 55	1 10	23 31	0 10	22 20	0 58	0 3	15 41	0 27	0 12	21 26	17 15	6 10	
T 19	19 17	12 39	2 16	12 16	2 4	23 51	0 54	9 32	0 48	6 47	1 30	21 56	1 10	23 31	0 10	22 20	0 58	0 4	15 41	0 26	0 13	21 24	17 15	6 11	
F 20	19 31	18 9	3 16	12 47	2 0	24 0	0 56	9 46	0 48	6 46	1 30	21 57	1 10	23 31	0 10	22 19	0 58	0 4	15 41	0 23	0 15	21 21	17 14	6 11	
S 21	19 45	22 53	4 6	13 18	1 54	24 7	0 58	10 0	0 48	6 44	1 30	21 57	1 10	23 31	0 10	22 19	0 58	0 5	15 41	0 20	0 16	21 19	17 14	6 11	
S 22	19 58	26 24	4 42	13 50	1 49	24 14	1 1	10 15	0 47	6 42	1 29	21 58	1 10	23 31	0 10	22 19	0 58	0 5	15 41	0 16	0 17	21 17	17 14	6 12	
M23	20 11	28 16	5 1	14 22	1 43	24 20	1 3	10 29	0 47	6 41	1 29	21 58	1 10	23 31	0 10	22 19	0 58	0 6	15 41	0 12	0 18	21 14	17 13	6 12	
T 24	20 24	28 15	5 1	14 54	1 37	24 26	1 5	10 43	0 46	6 39	1 29	21 59	1 10	23 31	0 10	22 19	0 58	0 7	15 41	0 9	0 20	21 12	17 13	6 12	
W25	20 36	26 17	4 42	15 26	1 31	24 30	1 7	10 57	0 46	6 38	1 29	21 59	1 10	23 32	0 10	22 19	0 58	0 7	15 42	0 6	0 21	21 9	17 13	6 13	
T 26	20 48	22 37	4 5	15 57	1 24	24 34	1 9	11 11	0 46	6 37	1 28	22 0	1 9	23 32	0 10	22 19	0 58	0 8	15 42	0 3	0 22	21 7	17 12	6 13	
F 27	20 59	17 38	3 13	16 28	1 17	24 38	1 11	11 25	0 45	6 36	1 28	22 1	1 9	23 32	0 10	22 19	0 58	0 8	15 42	0 2	0 23	21 4	17 12	6 13	
S 28	21 10	11 45	2 10	16 59	1 10	24 40	1 14	11 39	0 45	6 35	1 28	22 1	1 9	23 32	0 10	22 19	0 58	0 9	15 42	0 2	0 25	21 2	17 11	6 14	
S 29	21 21	5 21	1 0	17 29	1 3	24 42	1 16	11 53	0 44	6 34	1 27	22 2	1 9	23 32	0 10	22 19	0 58	0 9	15 42	0 2	0 26	21 0	17 11	6 14	
M30	21s31	1n11	0n13	17s59	0n56	24s43	1s18	12s 6	0n44	6n33	1s27	22s 2	1n 9	23s32	0s10	22s19	0n58	0s10	15n42	0n 2	0s27	20n57	17n11	6s14	

ASTRODIENST EPHEMERIS for the year 1987
geocentric

DECEMBER 1987

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	4 37 17	8♌14'40	16♍2	26♍2	3♋38	4♍29	20°R 8	21♌49	25♌48	6♋39	11♍1	0°R 5	28♌49	11♌41	27°R 4	T 1
W 2	4 41 13	9°15'28	29°24	27°34	4°52	5° 9	20°Y 5	21°56	25°52	6°41	11° 3	0°Y 1	28°45	11°47	27°II 0	W 2
T 3	4 45 10	10°16'17	12♋35	29° 7	6° 7	5°48	20° 2	22° 3	25°55	6°43	11° 5	29°♌55	28°42	11°54	26°57	T 3
F 4	4 49 7	11°17'07	25°35	0♌41	7°21	6°27	20° 0	22°10	25°59	6°45	11° 7	29°46	28°39	12° 1	26°53	F 4
S 5	4 53 3	12°17'58	8♏24	2°14	8°36	7° 7	19°57	22°17	26° 2	6°47	11° 9	29°34	28°36	12° 7	26°50	S 5
S 6	4 57 0	13°18'50	21° 1	3°47	9°50	7°46	19°55	22°24	26° 6	6°49	11°12	29°21	28°33	12°14	26°46	S 6
M 7	5 0 56	14°19'44	3♎26	5°21	11° 5	8°25	19°53	22°31	26° 9	6°51	11°14	29° 7	28°29	12°21	26°42	M 7
T 8	5 4 53	15°20'38	15°38	6°54	12°19	9° 5	19°52	22°38	26°13	6°54	11°16	28°54	28°26	12°27	26°39	T 8
W 9	5 8 49	16°21'33	27°41	8°27	13°34	9°44	19°50	22°45	26°16	6°56	11°18	28°43	28°23	12°34	26°35	W 9
T 10	5 12 46	17°22'30	9♏35	10° 1	14°48	10°24	19°49	22°52	26°20	6°58	11°20	28°35	28°20	12°41	26°31	T 10
F 11	5 16 42	18°23'28	21°24	11°35	16° 3	11° 3	19°48	23° 0	26°24	7° 0	11°22	28°29	28°17	12°48	26°28	F 11
S 12	5 20 39	19°24'26	3♏12	13° 8	17°17	11°43	19°47	23° 7	26°27	7° 2	11°24	28°26	28°14	12°54	26°24	S 12
S 13	5 24 36	20°25'26	15° 5	14°42	18°31	12°22	19°46	23°14	26°31	7° 4	11°26	28°25	28°10	13° 1	26°20	S 13
M14	5 28 32	21°26'27	27° 7	16°16	19°46	13° 2	19°46	23°21	26°35	7° 7	11°28	28°25	28° 7	13° 8	26°16	M14
T 15	5 32 29	22°27'29	9♌25	17°50	21° 0	13°41	19°46	23°28	26°38	7° 9	11°30	28°25	28° 4	13°14	26°13	T 15
W16	5 36 25	23°28'32	22° 4	19°24	22°14	14°21	19°D46	23°35	26°42	7°11	11°32	28°23	28° 1	13°21	26° 9	W16
T 17	5 40 22	24°29'36	5♍7	20°58	23°29	15° 0	19°46	23°42	26°45	7°13	11°34	28°19	27°58	13°28	26° 5	T 17
F 18	5 44 18	25°30'40	18°38	22°32	24°43	15°40	19°46	23°49	26°49	7°15	11°36	28°12	27°55	13°34	26° 1	F 18
S 19	5 48 15	26°31'46	2♌38	24° 6	25°57	16°19	19°47	23°56	26°53	7°18	11°38	28° 3	27°51	13°41	25°58	S 19
S 20	5 52 11	27°32'53	17° 2	25°41	27°11	16°59	19°48	24° 3	26°56	7°20	11°40	27°51	27°48	13°48	25°54	S 20
M21	5 56 8	28°34'00	1♌47	27°15	28°26	17°39	19°49	24°11	27° 0	7°22	11°41	27°39	27°45	13°54	25°50	M21
T 22	6 0 5	29°35'08	16°42	28°50	29°40	18°18	19°50	24°18	27° 4	7°24	11°43	27°27	27°42	14° 1	25°46	T 22
W23	6 4 1	0♋36'16	1♌40	0♋25	0♌54	18°58	19°52	24°25	27° 7	7°27	11°45	27°17	27°39	14° 8	25°42	W23
T 24	6 7 58	1°37'24	16°30	2° 0	2° 8	19°38	19°53	24°32	27°11	7°29	11°47	27°10	27°35	14°14	25°39	T 24
F 25	6 11 54	2°38'32	1♌6	3°36	3°22	20°17	19°55	24°39	27°15	7°31	11°49	27° 5	27°32	14°21	25°35	F 25
S 26	6 15 51	3°39'41	15°24	5°11	4°37	20°57	19°57	24°46	27°18	7°34	11°50	27° 4	27°29	14°28	25°31	S 26
S 27	6 19 47	4°40'49	29°22	6°47	5°51	21°37	20° 0	24°53	27°22	7°36	11°52	27° 3	27°26	14°34	25°27	S 27
M28	6 23 44	5°41'58	13°Y 1	8°24	7° 5	22°16	20° 2	25° 0	27°25	7°38	11°54	27° 3	27°23	14°41	25°24	M28
T 29	6 27 40	6°43'06	26°22	10° 0	8°19	22°56	20° 5	25° 7	27°29	7°40	11°55	27° 2	27°20	14°48	25°20	T 29
W30	6 31 37	7°44'14	9♏28	11°37	9°33	23°36	20° 8	25°14	27°33	7°43	11°57	27°58	27°16	14°55	25°16	W30
T 31	6 35 34	8♋45'23	22♋20	13♋14	10♌47	24♍16	20°Y11	25♌21	27♌36	7♋45	11♍58	26°♌52	27°♌13	15♌1	25°II13	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
T 1	21s41	7n36	1n24	18s28	0n49	24s43	1s19	12s20	0n44	6n32	1s27	22s 3	1n 9	23s32	0s10	22s19	0n58	0s10	15n43	0n 2	0s28	20n55	17n10	6s14	17n 4	6 15	17 4
W 2	21 51	13 35	2 29	18 56	0 42	24 42	1 21	12 34	0 43	6 31	1 27	22 3	1 9	23 32	0 10	22 19	0 58	0 10	15 43	0 0	0 30	20 52	17 10	6 15	17 10	6 15	17 10
T 3	22 0	18 52	3 25	19 24	0 35	24 41	1 23	12 47	0 43	6 30	1 26	22 4	1 9	23 33	0 10	22 19	0 58	0 11	15 43	0s 2	0 31	20 50	17 10	6 15	17 10	6 15	17 10
F 4	22 8	23 12	4 10	19 50	0 28	24 39	1 25	13 0	0 42	6 29	1 26	22 4	1 9	23 33	0 10	22 18	0 58	0 11	15 43	0 6	0 32	20 47	17 9	6 15	17 9	6 15	17 9
S 5	22 16	26 20	4 41	20 16	0 21	24 36	1 27	13 14	0 42	6 29	1 26	22 5	1 9	23 33	0 10	22 18	0 58	0 12	15 43	0 10	0 33	20 45	17 9	6 15	17 9	6 15	17 9
S 6	22 24	28 5	4 57	20 41	0 14	24 33	1 28	13 27	0 42	6 28	1 25	22 5	1 9	23 33	0 10	22 18	0 58	0 12	15 44	0 16	0 35	20 42	17 9	6 16	17 9	6 16	17 9
M 7	22 31	28 23	5 0	21 5	0 7	24 29	1 30	13 40	0 41	6 28	1 25	22 6	1 8	23 33	0 10	22 18	0 58	0 12	15 44	0 21	0 36	20 40	17 8	6 16	17 8	6 16	17 8
T 8	22 38	27 18	4 48	21 28	0s 0	24 23	1 32	13 53	0 41	6 28	1 25	22 6	1 8	23 33	0 10	22 18	0 58	0 13	15 44	0 26	0 37	20 37	17 8	6 16	17 8	6 16	17 8
W 9	22 45	24 56	4 24	21 50	0 7	24 18	1 33	14 6	0 40	6 27	1 24	22 6	1 8	23 33	0 10	22 18	0 58	0 13	15 44	0 31	0 39	20 35	17 8	6 16	17 8	6 16	17 8
T 10	22 51	21 31	3 48	22 11	0 14	24 11	1 34	14 19	0 40	6 27	1 24	22 7	1 8	23 33	0 10	22 18	0 58	0 13	15 45	0 34	0 40	20 32	17 8	6 16	17 8	6 16	17 8
F 11	22 56	17 15	3 2	22 31	0 21	24 4	1 36	14 31	0 39	6 27	1 24	22 7	1 8	23 33	0 10	22 18	0 58	0 14	15 45	0 36	0 41	20 30	17 7	6 17	17 7	6 17	17 7
S 12	23 1	12 20	2 9	22 50	0 27	23 56	1 37	14 44	0 39	6 27	1 24	22 8	1 8	23 34	0 10	22 18	0 58	0 14	15 45	0 37	0 42	20 27	17 7	6 17	17 7	6 17	17 7
S 13	23 6	6 57	1 10	23 7	0 34	23 47	1 38	14 56	0 38	6 27	1 23	22 8	1 8	23 34	0 10	22 18	0 58	0 14	15 46	0 38	0 44	20 25	17 7	6 17	17 7	6 17	17 7
M14	23 10	1 15	0 7	23 24	0 40	23 38	1 40	15 9	0 38	6 27	1 23	22 9	1 8	23 34	0 10	22 18	0 58	0 15	15 46	0 38	0 45	20 22	17 7	6 17	17 7	6 17	17 7
T 15	23 14	4s37	0s58	23 39	0 46	23 28	1 41	15 21	0 37	6 27	1 23	22 9	1 8	23 34	0 10	22 17	0 58	0 15	15 46	0 38	0 46	20 20	17 6	6 17	17 6	6 17	17 6
W16	23 17	10 28	2 2	23 53	0 52	23 17	1 42	15 33	0 37	6 28	1 22	22 9	1 8	23 34	0 10	22 17	0 58	0 15	15 47	0 39	0 47	20 17	17 6	6 17	17 6	6 17	17 6
T 17	23 20	16 4	3 1	24 6	0 58	23 5	1 43	15 45	0 37	6 28	1 22	22 10	1 8	23 34	0 10	22 17	0 58	0 15	15 47	0 40	0 49	20 15	17 6	6 17	17 6	6 17	17 6
F 18	23 22	21 5	3 52	24 18	1 4	22 53	1 44	15 57	0 36	6 28	1 22	22 10	1 8	23 34	0 10	22 17	0 58	0 16	15 47	0 43	0 50	20 12	17 6	6 17	17 6	6 17	17 6
S 19	23 24	25 7	4 31	24 28	1 10	22 40	1 45	16 9	0 36	6 29	1 21	22 11	1 8	23 34	0 10	22 17	0 58	0 16	15 48	0 47	0 51	20 9	17 6	6 18	17 6	6 18	17 6
S 20	23 25	27 42	4 55	24 37	1 15	22 27	1 45	16 21	0 35	6 30	1 21	22 11	1 8	23 34	0 10	22 17	0 58	0 16	15 48	0 51	0 52	20 7	17 5	6 18	17 5	6 18	17 5
M21	23 26	28 25	4 59	24 45	1 20	22 13	1 46	16 33	0 35	6 30	1 21	22 11	1 8	23 34	0 10	22 17	0 58	0 16	15 48	0 56	0 54	20 4	17 5	6 18	17 5	6 18	17 5
T 22	23 27	27 5	4 43	24 52	1 25	21 58	1 47	16 44	0 34	6 31	1 20	22 12	1 8	23 35	0 10	22 17	0 58	0 16	15 49	1 1	0 55	20 2	17 5	6 18	17 5	6 18	17 5
W23	23 27	23 50	4 8	24 57	1 30	21 42	1 47	16 56	0 34	6 32	1 20	22 12	1 7	23 35	0 10	22 17	0 58	0 17	15 49	1 5	0 56	19 59	17 5	6 18	17 5	6 18	17 5
T 24	23 26	19 1	3 16	25 0	1 35	21 26	1 48	17 7	0 33	6 33	1 20	22 12	1 7	23 35	0 10	22 16	0 58	0 17	15 49	1 8	0 57	19 57	17 5	6 18	17 5	6 18	17 5
F 25	23 25	13 9	2 12	25 3	1 39	21 9	1 48	17 18	0 33	6 34	1 19	22 13	1 7	23 35	0 10	22 16	0 58	0 17	15 50	1 9	0 59	19 54	17 4	6 18	17 4	6 18	17 4
S 26	23 24	6 42	1 1	25 3	1 43	20 52	1 48	17 29	0 32	6 35	1 19	22 13	1 7	23 35	0 10	22 16	0 58	0 17	15 50	1 10	1 0	19 51	17 4	6 18	17 4	6 18	17 4
S 27	23 22	0 4	0n12	25 3	1 47	20 34	1 49	17 40	0 31	6 36	1 19	22 13	1 7	23 35	0 10	22 16	0 58	0 17	15 50	1 10	1 1	19 49	17 4	6 18	17 4	6 18	17 4
M28	23 19	6n25	1 23	25 1	1 50	20 16	1 49	17 51	0 31	6 37	1 19	22 14	1 7	23 35	0 10	22 16	0 57	0 17	15 51	1 10	1 3	19 46	17 4	6 18	17 4	6 18	17 4
T 29	23 16	12 29	2 28	24 57	1 54	19 56	1 49	18 1	0 30	6 39	1 18	22 14	1 7	23 35	0 10	22 16	0 57	0 17	15 51	1 11	1 4	19 44	17 4	6 18	17 4	6 18	17 4
W30	23 13	17 52	3 24	24 52	1 57	19 37	1 49	18 12	0 30	6 40	1 18	22 14	1 7	23 35	0 10	22 16	0 57	0 17	15 52	1 12	1 5	19 41	17 4	6 18	17 4	6 18	17 4
T 31	23s 9	22n21	4n 8	24s46	1s59	19s17	1s49	18s22	0n29	6n41	1s18	22s15	1n 7	23s35	0s10	22s16	0n57	0s17	15n52	1s15	1s 6	19n38	17n 4	6s18	17n 4	6s18	17n 4