



# Astrodienst Ephemeris Tables for the year 1633

tropical geocentric zodiac

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

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

## ASTRODIENST EPHEMERIS for the year 1633

geocentric

JANUARY 1633 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	6 43 22	10°38'59"	11°28'	20°21'	6°6'	23°41'	16°18'	5°45'	29°44'	9°40'	22°59'	23°32'	23°11'	0°13'	17°33'	S 1
S 2	6 47 19	12° 0'08"	24° 3'	22° 0'	7°21'	24°28'	16°18'	5°51'	29°44'	9°41'	22°59'	23°28'	23° 8'	0°19'	17°33'	S 2
M 3	6 51 15	13° 1'18"	6°54'	23°39'	8°36'	25°15'	16°15'	5°57'	29°44'	9°43'	22°58'	23°27'	23° 4'	0°26'	17°33'	M 3
T 4	6 55 12	14° 2'28"	20° 7'	25°18'	9°50'	26° 2'	16°14'	6° 3'	29°44'	9°44'	22°57'	23°27'	23° 1'	0°33'	17°34'	T 4
W 5	6 59 8	15° 3'37"	3°14'	26°57'	11° 5'	26°49'	16°12'	6°10'	29°44'	9°45'	22°57'	23°27'	22°58'	0°40'	17°34'	W 5
T 6	7 3 5	16° 4'47"	17°47'	28°35'	12°19'	27°36'	16°12'	6°16'	29°44'	9°46'	22°56'	23°25'	22°55'	0°46'	17°34'	T 6
F 7	7 7 1	17° 5'57"	2°17'	0°14'	13°34'	28°23'	16°11'	6°22'	29°44'	9°47'	22°55'	23°21'	22°52'	0°53'	17°35'	F 7
S 8	7 10 58	18° 7'06"	17°10'	1°52'	14°49'	29°11'	16°10'	6°27'	29°44'	9°48'	22°55'	23°14'	22°48'	1° 0'	17°36'	S 8
S 9	7 14 55	19° 8'16"	2°31'	3°29'	16° 3'	29°58'	16°10'	6°33'	29°44'	9°49'	22°54'	23° 4'	22°45'	1° 6'	17°36'	S 9
M10	7 18 51	20° 9'25"	17°39'	5° 5'	17°18'	0°45'	16°10'	6°39'	29°43'	9°50'	22°54'	22°53'	22°42'	1°13'	17°37'	M10
T 11	7 22 48	21°10'33"	2°52'	6°40'	18°32'	1°32'	16°10'	6°45'	29°43'	9°51'	22°53'	22°41'	22°39'	1°20'	17°38'	T 11
W12	7 26 44	22°11'41"	17°51'	8°14'	19°46'	2°19'	16°10'	6°51'	29°42'	9°52'	22°53'	22°30'	22°36'	1°27'	17°39'	W12
T 13	7 30 41	23°12'48"	2°25'	9°45'	21° 1'	3° 7'	16°11'	6°56'	29°42'	9°53'	22°52'	22°21'	22°33'	1°33'	17°40'	T 13
F 14	7 34 37	24°13'55"	16°30'	11°14'	22°15'	3°54'	16°12'	7° 2'	29°41'	9°54'	22°52'	22°15'	22°29'	1°40'	17°41'	F 14
S 15	7 38 34	25°15'00"	0°15'	12°41'	23°29'	4°41'	16°12'	7° 7'	29°41'	9°55'	22°51'	22°11'	22°26'	1°47'	17°42'	S 15
S 16	7 42 30	26°16'04"	13°11'	14° 4'	24°44'	5°29'	16°14'	7°13'	29°40'	9°56'	22°51'	22°10'	22°23'	1°53'	17°43'	S 16
M17	7 46 27	27°17'07"	25°52'	15°23'	25°58'	6°16'	16°15'	7°18'	29°39'	9°57'	22°50'	22°10'	22°20'	2° 0'	17°44'	M17
T 18	7 50 24	28°18'10"	8°13'	16°38'	27°12'	7° 3'	16°16'	7°23'	29°39'	9°58'	22°50'	22°10'	22°17'	2° 7'	17°45'	T 18
W19	7 54 20	29°19'11"	20°19'	17°48'	28°26'	7°51'	16°18'	7°29'	29°38'	9°58'	22°50'	22° 8'	22°14'	2°14'	17°46'	W19
T 20	7 58 17	0°20'11"	2°11'	18°51'	29°40'	8°38'	16°20'	7°34'	29°37'	9°59'	22°49'	22° 4'	22°10'	2°20'	17°48'	T 20
F 21	8 2 13	1°21'10"	14° 6'	19°47'	0°54'	9°25'	16°22'	7°39'	29°36'	10° 0'	22°49'	21°58'	22° 7'	2°27'	17°49'	F 21
S 22	8 6 10	2°22'08"	25°56'	20°36'	2° 9'	10°13'	16°25'	7°44'	29°35'	10° 0'	22°49'	21°48'	22° 4'	2°34'	17°50'	S 22
S 23	8 10 6	3°23'05"	7°47'	21°16'	3°23'	11° 0'	16°27'	7°49'	29°34'	10° 1'	22°48'	21°36'	22° 1'	2°40'	17°52'	S 23
M24	8 14 3	4°24'01"	19°43'	21°46'	4°36'	11°48'	16°30'	7°54'	29°33'	10° 2'	22°48'	21°22'	21°58'	2°47'	17°53'	M24
T 25	8 17 59	5°24'56"	1°45'	22° 7'	5°50'	12°35'	16°33'	7°59'	29°32'	10° 2'	22°48'	21° 8'	21°54'	2°54'	17°55'	T 25
W26	8 21 56	6°25'49"	13°53'	22°R17'	7° 4'	13°22'	16°36'	8° 4'	29°30'	10° 3'	22°48'	20°54'	21°51'	3° 1'	17°57'	W26
T 27	8 25 53	7°26'42"	26° 9'	22°15'	8°18'	14°10'	16°39'	8° 8'	29°29'	10° 3'	22°47'	20°42'	21°48'	3° 7'	17°58'	T 27
F 28	8 29 49	8°27'34"	8°13'	22° 3'	9°32'	14°57'	16°43'	8°13'	29°28'	10° 4'	22°47'	20°32'	21°45'	3°14'	18° 0'	F 28
S 29	8 33 46	9°28'24"	21° 7'	21°40'	10°46'	15°45'	16°47'	8°18'	29°27'	10° 4'	22°47'	20°26'	21°42'	3°21'	18° 2'	S 29
S 30	8 37 42	10°29'14"	3°51'	21° 6'	11°59'	16°32'	16°50'	8°22'	29°25'	10° 4'	22°47'	20°22'	21°39'	3°27'	18° 4'	S 30
M31	8 41 39	11°30'02"	16°49'	20°22'	13°13'	17°20'	16°55'	8°27'	29°24'	10° 5'	22°47'	20°D21'	21°13'	3°34'	18° 6'	M31

Delta T = 55.60 sec

Greg. Calendar

FEBRUARY 1633 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	8 45 35	12°30'50"	0°11'	19°R29'	14°26'	18°27'	16°59'	8°31'	29°R22'	10° 5'	22°R47'	20°19'	21°13'	3°41'	18° 8'	T 1
W 2	8 49 32	13°31'36"	13°35'	18°29'	15°40'	18°54'	17° 3'	8°35'	29°21'	10° 5'	22°R47'	20°R22'	21°29'	3°48'	18°10'	W 2
T 3	8 53 28	14°32'22"	27°27'	17°24'	16°53'	19°42'	17° 8'	8°39'	29°19'	10° 6'	22°47'	20°21'	21°26'	3°54'	18°12'	T 3
F 4	8 57 25	15°33'07"	11°41'	16°15'	18° 7'	20°29'	17°13'	8°44'	29°18'	10° 6'	22°47'	20°18'	21°23'	4° 1'	18°14'	F 4
S 5	9 1 22	16°33'51"	26°14'	15° 4'	19°20'	21°17'	17°18'	8°48'	29°16'	10° 6'	22°D47'	20°13'	21°20'	4° 8'	18°16'	S 5
S 6	9 5 18	17°34'34"	11°3'	13°53'	20°33'	22° 4'	17°23'	8°52'	29°14'	10° 6'	22°47'	20° 5'	21°16'	4°15'	18°18'	S 6
M 7	9 9 15	18°35'15"	26° 1'	12°45'	21°47'	22°52'	17°28'	8°55'	29°13'	10° 6'	22°47'	19°56'	21°13'	4°21'	18°20'	M 7
T 8	9 13 11	19°35'56"	10°58'	11°40'	23° 0'	23°39'	17°34'	8°59'	29°11'	10° 6'	22°47'	19°46'	21°10'	4°28'	18°23'	T 8
W 9	9 17 8	20°36'34"	25°47'	10°40'	24°13'	24°27'	17°39'	9° 3'	29° 9'	10° 6'	22°47'	19°37'	21° 7'	4°35'	18°25'	W 9
T 10	9 21 4	21°37'11"	10°17'	9°46'	25°26'	25°14'	17°45'	9° 6'	29° 7'	10°R 6'	22°47'	19°29'	21° 4'	4°41'	18°27'	T 10
F 11	9 25 1	22°37'47"	24°23'	8°59'	26°39'	26° 1'	17°51'	9°10'	29° 5'	10° 6'	22°47'	19°24'	21° 0'	4°48'	18°30'	F 11
S 12	9 28 57	23°38'21"	8°19'	8°19'	27°52'	26°49'	17°58'	9°13'	29° 3'	10° 6'	22°47'	19°21'	20°57'	4°55'	18°32'	S 12
S 13	9 32 54	24°38'53"	21°14'	7°47'	29° 5'	27°36'	18° 4'	9°17'	29° 1'	10° 6'	22°47'	19°D21'	20°54'	5° 2'	18°35'	S 13
M14	9 36 51	25°39'23"	4°1'	7°23'	0°18'	28°24'	18°10'	9°20'	28°59'	10° 6'	22°47'	19°21'	20°51'	5° 8'	18°37'	M14
T 15	9 40 47	26°39'51"	16°27'	7° 6'	1°30'	29°11'	18°17'	9°23'	28°57'	10° 6'	22°48'	19°23'	20°48'	5°15'	18°40'	T 15
W16	9 44 44	27°40'18"	28°37'	6°56'	2°43'	29°59'	18°24'	9°26'	28°55'	10° 6'	22°48'	19°R23'	20°45'	5°22'	18°42'	W16
T 17	9 48 40	28°40'42"	10°35'	6°D54'	3°56'	0°46'	18°31'	9°29'	28°53'	10° 6'	22°48'	19°22'	20°41'	5°28'	18°45'	T 17
F 18	9 52 37	29°41'05"	22°27'	6°58'	5° 8'	1°33'	18°38'	9°32'	28°51'	10° 5'	22°48'	19°19'	20°38'	5°35'	18°48'	F 18
S 19	9 56 33	0°41'26"	4°18'	7° 9'	6°20'	2°21'	18°46'	9°35'	28°49'	10° 5'	22°49'	19°14'	20°35'	5°42'	18°51'	S 19
S 20	10 0 30	1°41'44"	16°11'	7°26'	7°33'	3° 8'	18°53'	9°38'	28°47'	10° 5'	22°49'	19° 7'	20°32'	5°49'	18°53'	S 20
M21	10 4 26	2°42'01"	28°11'	7°48'	8°45'	3°55'	19° 1'	9°40'	28°44'	10° 4'	22°49'	18°59'	20°29'	5°55'	18°56'	M21
T 22	10 8 23	3°42'16"	10°19'	8°15'	9°57'	4°43'	19° 8'	9°43'	28°42'	10° 4'	22°50'	18°50'	20°26'	6° 2'	18°59'	T 22
W23	10 12 20	4°42'29"	22°37'	8°47'	11° 9'	5°30'	19°16'	9°45'	28°40'	10° 3'	22°50'	18°41'	20°22'	6° 9'	19° 2'	W23
T 24	10 16 16	5°42'40"	5°17'	9°24'	12°21'	6°17'	19°24'	9°48'	28°38'	10° 3'	22°50'	18°34'	20°19'	6°15'	19° 5'	T 24
F 25	10 20 13	6°42'50"	17°48'	10° 5'	13°33'	7° 4'	19°32'	9°50'	28°35'	10° 2'	22°51'	18°28'	20°16'	6°22'	19° 8'	F 25
S 26	10 24 9	7°42'57"	0°41'	10°50'	14°45'	7°52'	19°41'	9°52'	28°33'	10° 2'	22°51'	18°25'	20°13'	6°29'	19°11'	S 26
S 27	10 28 6	8°43'03"	13°46'	11°38'	15°57'	8°39'	19°49'	9°54'	28°30'	10° 1'	22°52'	18°D23'	20°10'	6°36'	19°14'	S 27
M28	10 32 2	9°43'07"	27°2'	12°30'	17° 8'	9°26'	19°58'	9°56'	28°28'	10° 1'	22°52'	18°19'	20° 6'	6°34'	19°17'	M28

Delta T = 55.53 sec

Greg. Calendar

## ASTRODIENST EPHEMERIS for the year 1633

geocentric

MARCH 1633 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	10 35 59	10 <sup>h</sup> 43'09"	10 <sup>m</sup> 30	13 <sup>s</sup> 25	18 <sup>h</sup> 20	10 <sup>h</sup> 13	20 <sup>h</sup> 8	9 <sup>h</sup> 58	28 <sup>h</sup> 26	10 <sup>h</sup> 0	22 <sup>h</sup> 53	18 <sup>h</sup> 25	20 <sup>h</sup> 3	6 <sup>h</sup> 49	19 <sup>h</sup> 20	T 1
W 2	10 39 55	11 <sup>h</sup> 43'10"	24 <sup>m</sup> 11	14 <sup>s</sup> 23	19 <sup>h</sup> 31	11 <sup>h</sup> 0	20 <sup>h</sup> 15	10 <sup>h</sup> 0	28 <sup>h</sup> 23	10 <sup>h</sup> 0	22 <sup>h</sup> 53	18 <sup>h</sup> 26	20 <sup>h</sup> 0	6 <sup>h</sup> 56	19 <sup>h</sup> 23	W 2
T 3	10 43 52	12 <sup>h</sup> 43'10"	8 <sup>m</sup> 4	15 <sup>s</sup> 23	20 <sup>h</sup> 43	11 <sup>h</sup> 48	20 <sup>h</sup> 24	10 <sup>h</sup> 2	28 <sup>h</sup> 21	9 <sup>h</sup> 59	22 <sup>h</sup> 54	18 <sup>h</sup> 27	19 <sup>h</sup> 57	7 <sup>h</sup> 2	19 <sup>h</sup> 26	T 3
F 4	10 47 49	13 <sup>h</sup> 43'07"	22 <sup>m</sup> 11	16 <sup>s</sup> 26	21 <sup>h</sup> 54	12 <sup>h</sup> 35	20 <sup>h</sup> 33	10 <sup>h</sup> 3	28 <sup>h</sup> 18	9 <sup>h</sup> 58	22 <sup>h</sup> 54	18 <sup>h</sup> 27	19 <sup>h</sup> 54	7 <sup>h</sup> 9	19 <sup>h</sup> 30	F 4
S 5	10 51 45	14 <sup>h</sup> 43'04"	6 <sup>m</sup> 28	17 <sup>s</sup> 32	23 <sup>h</sup> 5	13 <sup>h</sup> 22	20 <sup>h</sup> 43	10 <sup>h</sup> 5	28 <sup>h</sup> 16	9 <sup>h</sup> 57	22 <sup>h</sup> 55	18 <sup>h</sup> 25	19 <sup>h</sup> 51	7 <sup>h</sup> 16	19 <sup>h</sup> 33	S 5
S 6	10 55 42	15 <sup>h</sup> 42'58"	20 <sup>m</sup> 54	18 <sup>s</sup> 40	24 <sup>h</sup> 16	14 <sup>h</sup> 9	20 <sup>h</sup> 52	10 <sup>h</sup> 6	28 <sup>h</sup> 13	9 <sup>h</sup> 57	22 <sup>h</sup> 56	18 <sup>h</sup> 22	19 <sup>h</sup> 47	7 <sup>h</sup> 23	19 <sup>h</sup> 36	S 6
M 7	10 59 38	16 <sup>h</sup> 42'51"	5 <sup>m</sup> 24	19 <sup>s</sup> 50	25 <sup>h</sup> 27	14 <sup>h</sup> 56	21 <sup>h</sup> 2	10 <sup>h</sup> 7	28 <sup>h</sup> 11	9 <sup>h</sup> 56	22 <sup>h</sup> 56	18 <sup>h</sup> 18	19 <sup>h</sup> 44	7 <sup>h</sup> 29	19 <sup>h</sup> 39	M 7
T 8	11 3 35	17 <sup>h</sup> 42'42"	19 <sup>m</sup> 54	21 <sup>s</sup> 2	26 <sup>h</sup> 38	15 <sup>h</sup> 43	21 <sup>h</sup> 11	10 <sup>h</sup> 8	28 <sup>h</sup> 8	9 <sup>h</sup> 55	22 <sup>h</sup> 57	18 <sup>h</sup> 13	19 <sup>h</sup> 41	7 <sup>h</sup> 36	19 <sup>h</sup> 43	T 8
W 9	11 7 31	18 <sup>h</sup> 42'31"	4 <sup>m</sup> 17	22 <sup>s</sup> 16	27 <sup>h</sup> 48	16 <sup>h</sup> 30	21 <sup>h</sup> 21	10 <sup>h</sup> 10	28 <sup>h</sup> 6	9 <sup>h</sup> 54	22 <sup>h</sup> 58	18 <sup>h</sup> 8	19 <sup>h</sup> 38	7 <sup>h</sup> 43	19 <sup>h</sup> 46	W 9
T 10	11 11 28	19 <sup>h</sup> 42'18"	18 <sup>m</sup> 27	23 <sup>s</sup> 31	28 <sup>h</sup> 59	17 <sup>h</sup> 17	21 <sup>h</sup> 31	10 <sup>h</sup> 11	28 <sup>h</sup> 3	9 <sup>h</sup> 53	22 <sup>h</sup> 58	18 <sup>h</sup> 5	19 <sup>h</sup> 35	7 <sup>h</sup> 50	19 <sup>h</sup> 49	T 10
F 11	11 15 24	20 <sup>h</sup> 42'03"	2 <sup>m</sup> 19	24 <sup>s</sup> 49	0 <sup>h</sup> 8	18 <sup>h</sup> 4	21 <sup>h</sup> 41	10 <sup>h</sup> 11	28 <sup>h</sup> 1	9 <sup>h</sup> 52	22 <sup>h</sup> 59	18 <sup>h</sup> 3	19 <sup>h</sup> 32	7 <sup>h</sup> 56	19 <sup>h</sup> 53	F 11
S 12	11 19 21	21 <sup>h</sup> 41'46"	15 <sup>m</sup> 50	26 <sup>s</sup> 8	1 <sup>h</sup> 20	18 <sup>h</sup> 51	21 <sup>h</sup> 51	10 <sup>h</sup> 12	27 <sup>h</sup> 58	9 <sup>h</sup> 52	23 <sup>h</sup> 0	18 <sup>h</sup> D 2	19 <sup>h</sup> 28	8 <sup>h</sup> 3	19 <sup>h</sup> 56	S 12
S 13	11 23 18	22 <sup>h</sup> 41'27"	29 <sup>m</sup> 0	27 <sup>s</sup> 29	2 <sup>h</sup> 30	19 <sup>h</sup> 38	22 <sup>h</sup> 1	10 <sup>h</sup> 13	27 <sup>h</sup> 55	9 <sup>h</sup> 51	23 <sup>h</sup> 0	18 <sup>h</sup> 2	19 <sup>h</sup> 25	8 <sup>h</sup> 10	20 <sup>h</sup> 0	S 13
M14	11 27 14	23 <sup>h</sup> 41'06"	11 <sup>m</sup> 48	28 <sup>s</sup> 51	3 <sup>h</sup> 40	20 <sup>h</sup> 25	22 <sup>h</sup> 11	10 <sup>h</sup> 13	27 <sup>h</sup> 53	9 <sup>h</sup> 50	23 <sup>h</sup> 1	18 <sup>h</sup> 3	19 <sup>h</sup> 22	8 <sup>h</sup> 16	20 <sup>h</sup> 3	M14
T 15	11 31 11	24 <sup>h</sup> 40'43"	24 <sup>m</sup> 16	0 <sup>s</sup> 15	4 <sup>h</sup> 50	21 <sup>h</sup> 12	22 <sup>h</sup> 22	10 <sup>h</sup> 14	27 <sup>h</sup> 50	9 <sup>h</sup> 49	23 <sup>h</sup> 2	18 <sup>h</sup> 5	19 <sup>h</sup> 19	8 <sup>h</sup> 23	20 <sup>h</sup> 7	T 15
W16	11 35 7	25 <sup>h</sup> 40'17"	6 <sup>m</sup> 29	1 <sup>s</sup> 41	6 <sup>h</sup> 0	21 <sup>h</sup> 58	22 <sup>h</sup> 32	10 <sup>h</sup> 14	27 <sup>h</sup> 48	9 <sup>h</sup> 48	23 <sup>h</sup> 3	18 <sup>h</sup> 7	19 <sup>h</sup> 16	8 <sup>h</sup> 30	20 <sup>h</sup> 10	W16
T 17	11 39 4	26 <sup>h</sup> 39'49"	18 <sup>m</sup> 31	3 <sup>s</sup> 8	7 <sup>h</sup> 10	22 <sup>h</sup> 45	22 <sup>h</sup> 43	10 <sup>h</sup> 15	27 <sup>h</sup> 45	9 <sup>h</sup> 46	23 <sup>h</sup> 3	18 <sup>h</sup> 8	19 <sup>h</sup> 12	8 <sup>h</sup> 37	20 <sup>h</sup> 14	T 17
F 18	11 43 0	27 <sup>h</sup> 39'19"	0 <sup>m</sup> 25	4 <sup>s</sup> 37	8 <sup>h</sup> 19	23 <sup>h</sup> 32	22 <sup>h</sup> 53	10 <sup>h</sup> 15	27 <sup>h</sup> 42	9 <sup>h</sup> 45	23 <sup>h</sup> 4	18 <sup>h</sup> R 8	19 <sup>h</sup> 9	8 <sup>h</sup> 43	20 <sup>h</sup> 17	F 18
S 19	11 46 57	28 <sup>h</sup> 38'46"	12 <sup>m</sup> 18	6 <sup>s</sup> 7	9 <sup>h</sup> 29	24 <sup>h</sup> 19	23 <sup>h</sup> 4	10 <sup>h</sup> R15	27 <sup>h</sup> 40	9 <sup>h</sup> 44	23 <sup>h</sup> 5	18 <sup>h</sup> 7	19 <sup>h</sup> 6	8 <sup>h</sup> 50	20 <sup>h</sup> 21	S 19
S 20	11 50 53	29 <sup>h</sup> 38'11"	24 <sup>m</sup> 13	7 <sup>s</sup> 38	10 <sup>h</sup> 38	25 <sup>h</sup> 5	23 <sup>h</sup> 15	10 <sup>h</sup> 15	27 <sup>h</sup> 37	9 <sup>h</sup> 43	23 <sup>h</sup> 6	18 <sup>h</sup> 6	19 <sup>h</sup> 3	8 <sup>h</sup> 57	20 <sup>h</sup> 24	S 20
M21	11 54 50	0 <sup>h</sup> 37'34"	6 <sup>m</sup> 21	9 <sup>s</sup> 11	11 <sup>h</sup> 47	25 <sup>h</sup> 52	23 <sup>h</sup> 26	10 <sup>h</sup> 15	27 <sup>h</sup> 35	9 <sup>h</sup> 42	23 <sup>h</sup> 7	18 <sup>h</sup> 3	19 <sup>h</sup> 0	9 <sup>h</sup> 3	20 <sup>h</sup> 28	M21
T 22	11 58 47	1 <sup>h</sup> 36'55"	18 <sup>m</sup> 27	10 <sup>s</sup> 45	12 <sup>h</sup> 56	26 <sup>h</sup> 39	23 <sup>h</sup> 37	10 <sup>h</sup> 15	27 <sup>h</sup> 32	9 <sup>h</sup> 41	23 <sup>h</sup> 8	18 <sup>h</sup> 1	18 <sup>h</sup> 57	9 <sup>h</sup> 10	20 <sup>h</sup> 32	T 22
W23	12 2 43	2 <sup>h</sup> 36'13"	0 <sup>m</sup> 53	12 <sup>s</sup> 20	14 <sup>h</sup> 5	27 <sup>h</sup> 25	23 <sup>h</sup> 48	10 <sup>h</sup> 14	27 <sup>h</sup> 29	9 <sup>h</sup> 40	23 <sup>h</sup> 9	17 <sup>h</sup> 58	18 <sup>h</sup> 53	9 <sup>h</sup> 17	20 <sup>h</sup> 35	W23
T 24	12 6 40	3 <sup>h</sup> 35'29"	13 <sup>m</sup> 34	13 <sup>s</sup> 57	15 <sup>h</sup> 14	28 <sup>h</sup> 12	23 <sup>h</sup> 59	10 <sup>h</sup> 14	27 <sup>h</sup> 27	9 <sup>h</sup> 38	23 <sup>h</sup> 10	17 <sup>h</sup> 56	18 <sup>h</sup> 50	9 <sup>h</sup> 24	20 <sup>h</sup> 39	T 24
F 25	12 10 36	4 <sup>h</sup> 34'43"	26 <sup>m</sup> 31	15 <sup>s</sup> 36	16 <sup>h</sup> 23	28 <sup>h</sup> 58	24 <sup>h</sup> 11	10 <sup>h</sup> 13	27 <sup>h</sup> 24	9 <sup>h</sup> 37	23 <sup>h</sup> 11	17 <sup>h</sup> 55	18 <sup>h</sup> 47	9 <sup>h</sup> 30	20 <sup>h</sup> 43	F 25
S 26	12 14 33	5 <sup>h</sup> 33'54"	9 <sup>m</sup> 45	17 <sup>s</sup> 15	17 <sup>h</sup> 31	29 <sup>h</sup> 45	24 <sup>h</sup> 22	10 <sup>h</sup> 13	27 <sup>h</sup> 22	9 <sup>h</sup> 36	23 <sup>h</sup> 11	17 <sup>h</sup> 54	18 <sup>h</sup> 44	9 <sup>h</sup> 37	20 <sup>h</sup> 46	S 26
S 27	12 18 29	6 <sup>h</sup> 33'04"	23 <sup>m</sup> 14	18 <sup>s</sup> 56	18 <sup>h</sup> 39	0 <sup>h</sup> 31	24 <sup>h</sup> 34	10 <sup>h</sup> 12	27 <sup>h</sup> 19	9 <sup>h</sup> 35	23 <sup>h</sup> 12	17 <sup>h</sup> D54	18 <sup>h</sup> 41	9 <sup>h</sup> 44	20 <sup>h</sup> 50	S 27
M28	12 22 26	7 <sup>h</sup> 32'12"	6 <sup>m</sup> 56	20 <sup>s</sup> 39	19 <sup>h</sup> 47	1 <sup>h</sup> 18	24 <sup>h</sup> 45	10 <sup>h</sup> 11	27 <sup>h</sup> 16	9 <sup>h</sup> 33	23 <sup>h</sup> 13	17 <sup>h</sup> 55	18 <sup>h</sup> 37	9 <sup>h</sup> 50	20 <sup>h</sup> 54	M28
T 29	12 26 22	8 <sup>h</sup> 31'18"	20 <sup>m</sup> 50	22 <sup>s</sup> 23	20 <sup>h</sup> 55	2 <sup>h</sup> 4	24 <sup>h</sup> 57	10 <sup>h</sup> 10	27 <sup>h</sup> 14	9 <sup>h</sup> 32	23 <sup>h</sup> 14	17 <sup>h</sup> 55	18 <sup>h</sup> 34	9 <sup>h</sup> 57	20 <sup>h</sup> 57	T 29
W30	12 30 19	9 <sup>h</sup> 30'22"	4 <sup>m</sup> 52	24 <sup>s</sup> 8	22 <sup>h</sup> 3	2 <sup>h</sup> 50	25 <sup>h</sup> 9	10 <sup>h</sup> 9	27 <sup>h</sup> 11	9 <sup>h</sup> 31	23 <sup>h</sup> 15	17 <sup>h</sup> 56	18 <sup>h</sup> 31	10 <sup>h</sup> 4	21 <sup>h</sup> 1	W30
T 31	12 34 16	10 <sup>h</sup> 29'24"	19 <sup>m</sup> 7	25 <sup>s</sup> 55	23 <sup>h</sup> 8	3 <sup>h</sup> 37	25 <sup>h</sup> 21	10 <sup>h</sup> 8	27 <sup>h</sup> 9	9 <sup>h</sup> 29	23 <sup>h</sup> 16	17 <sup>h</sup> 57	18 <sup>h</sup> 28	10 <sup>h</sup> 11	21 <sup>h</sup> 5	T 31

Delta T = 55.48 sec

Greg. Calendar

APRIL 1633 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	12 38 12	11°28'25	3°32'12	27°43'43	24°18'18	4°23'23	25°32'32	10°R 7	27°R 6	9°R28	23°18'18	17°57'57	18°25'25	10°24'17	21°9'9	F 1
S 2	12 42 9	12°27'24	17°26'26	29°33'33	25°25'25	5°9'9	25°44'44	10°7'6	27°4'4	9°12'26	23°19'19	17°R57	18°22'22	10°24'24	21°12'12	S 2
S 3	12 46 5	13°26'21	1°38'38	1°24'24	26°32'32	5°55'55	25°56'56	10°4'4	27°1'1	9°25'25	23°20'20	17°57'57	18°18'18	10°31'31	21°16'16	S 3
M 4	12 50 2	14°25'16	15°46'46	3°17'17	27°39'39	6°41'41	26°9'9	10°3'3	26°59'59	9°24'24	23°21'21	17°57'57	18°15'15	10°38'38	21°20'20	M 4
T 5	12 53 58	15°24'10	29°48'48	5°11'11	28°45'45	7°27'27	26°21'21	10°1'1	26°57'57	9°22'22	23°22'22	17°56'56	18°12'12	10°44'44	21°24'24	T 5
W 6	12 57 55	16°23'01	13°42'42	7°7'7	29°52'52	8°14'14	26°33'33	10°0'0	26°54'54	9°21'21	23°23'23	17°56'56	18°9'9	10°51'51	21°27'27	W 6
T 7	13 1 51	17°21'51	27°23'23	9°4'4	0°58'58	9°0'0	26°45'45	9°58'58	26°52'52	9°19'19	23°24'24	17°56'56	18°6'6	10°58'58	21°31'31	T 7
F 8	13 5 48	18°20'39	10°52'52	11°2'2	2°4'4	9°46'46	26°58'58	9°56'56	26°49'49	9°18'18	23°25'25	17°56'56	18°3'3	11°4'4	21°35'35	F 8
S 9	13 9 44	19°19'25	24°4'4	13°2'2	3°10'10	10°31'31	27°10'10	9°54'54	26°47'47	9°16'16	23°26'26	17°56'56	17°59'59	11°11'11	21°39'39	S 9
S 10	13 13 41	20°18'09	7°8'8	15°3'3	4°15'15	11°17'17	27°23'23	9°52'52	26°45'45	9°15'15	23°27'27	17°56'56	17°56'56	11°18'18	21°43'43	S 10
M11	13 17 38	21°16'51	19°42'42	17°6'6	5°21'21	12°3'3	27°35'35	9°50'50	26°42'42	9°13'13	23°29'29	17°56'56	17°53'53	11°25'25	21°46'46	M11
T 12	13 21 34	22°15'31	2°11'11	19°10'10	6°26'26	12°49'49	27°48'48	9°48'48	26°40'40	9°12'12	23°30'30	17°55'55	17°50'50	11°31'31	21°50'50	T 12
W13	13 25 31	23°14'09	14°19'19	21°15'15	7°31'31	13°35'35	28°1'1	9°45'45	26°38'38	9°10'10	23°31'31	17°54'54	17°47'47	11°38'38	21°54'54	W13
T 14	13 29 27	24°12'45	26°21'21	23°21'21	8°35'35	14°21'21	28°14'14	9°43'43	26°36'36	9°9'9	23°32'32	17°54'54	17°43'43	11°45'45	21°58'58	T 14
F 15	13 33 24	25°11'18	8°17'17	25°27'27	9°40'40	15°6'6	28°26'26	9°41'41	26°33'33	9°7'7	23°33'33	17°53'53	17°40'40	11°52'52	22°1'1	F 15
S 16	13 37 20	26°9'49	20°9'9	27°35'35	10°44'44	15°52'52	28°39'39	9°38'38	26°31'31	9°5'5	23°35'35	17°53'53	17°37'37	11°58'58	22°5'5	S 16
S 17	13 41 17	27°8'19	2°14'14	29°43'43	11°47'47	16°37'37	28°52'52	9°35'35	26°29'29	9°4'4	23°36'36	17°D53	17°34'34	12°5'5	22°9'9	S 17
M18	13 45 13	28°6'46	14°6'6	1°51'51	12°51'51	17°23'23	29°5'5	9°33'33	26°27'27	9°2'2	23°37'37	17°53'53	17°31'31	12°12'12	22°13'13	M18
T 19	13 49 10	29°5'10	26°19'19	3°59'59	13°54'54	18°8'8	29°18'18	9°30'30	26°25'25	9°1'1	23°38'38	17°54'54	17°28'28	12°18'18	22°17'17	T 19
W20	13 53 7	0°8'33	8°47'47	6°7'7	14°57'57	18°54'54	29°31'31	9°27'27	26°23'23	8°59'59	23°40'40	17°55'55	17°24'24	12°25'25	22°20'20	W20
T 21	13 57 3	1°1'54	21°34'34	8°15'15	16°0'0	19°39'39	29°44'44	9°24'24	26°21'21	8°57'57	23°41'41	17°56'56	17°21'21	12°32'32	22°24'24	T 21
F 22	14 1 0	2°0'12	4°42'42	10°21'21	17°2'2	20°25'25	29°58'58	9°21'21	26°19'19	8°56'56	23°42'42	17°57'57	17°18'18	12°39'39	22°28'28	F 22
S 23	14 4 56	2°58'29	18°11'11	12°26'26	18°4'4	21°10'10	0°11'11	9°18'18	26°17'17	8°54'54	23°43'43	17°R57	17°15'15	12°45'45	22°32'32	S 23
S 24	14 8 53	3°56'43	2°11'11	14°30'30	19°6'6	21°55'55	0°24'24	9°15'15	26°15'15	8°53'53	23°45'45	17°57'57	17°12'12	12°52'52	22°35'35	S 24
M25	14 12 49	4°54'56	16°10'10	16°32'32	20°7'7	22°40'40	0°37'37	9°12'12	26°13'13	8°51'51	23°46'46	17°56'56	17°9'9	12°59'59	22°39'39	M25
T 26	14 16 46	5°53'08	0°32'32	18°32'32	21°8'8	23°25'25	0°51'51	9°8'8	26°11'11	8°49'49	23°47'47	17°54'54	17°5'5	13°5'5	22°43'43	T 26
W27	14 20 42	6°51'17	15°2'2	20°30'30	22°9'9	24°10'10	1°4'4	9°5'5	26°10'10	8°48'48	23°49'49	17°51'51	17°2'2	13°12'12	22°47'47	W27
T 28	14 24 39	7°49'26	29°35'35	22°25'25	23°9'9	24°56'56	1°17'17	9°2'2	26°8'8	8°46'46	23°50'50	17°49'49	16°59'59	13°19'19	22°50'50	T 28
F 29	14 28 36	8°47'43	14°3'43	24°17'17	24°9'9	25°41'41	1°31'31	8°58'58	26°6'6	8°44'44	23°51'51	17°47'47	16°56'56	13°26'26	22°54'54	F 29
S 30	14 32 32	9°45'38	28°32'32	26°8'6	25°11'11	26°25'25	1°44'44	8°55'55	26°4'5	8°14'43	23°52'52	17°45'45	16°53'53	13°32'32	22°58'58	S 30

# ASTRODIENST EPHEMERIS for the year 1633

## geocentric

MAY 1633 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	14 36 29	10♈43'42	12♊36	27♋52	26♌7	27♍10	1♎58	8°R51	26°R 3	8°R41	23♏54	17°D45	16°V49	13♐39	23♑1	S 1
M 2	14 40 25	11°41'44	26°34	29°35	27° 6	27°55	2°11	8♐47	26°R 1	8♐40	23°55	17°V46	16°46	13°46	23° 5	M 2
T 3	14 44 22	12°39'46	10♋17	1♌15	28° 4	28°40	2°25	8°44	26° 0	8°38	23°56	17°47	16°43	13°53	23° 9	T 3
W 4	14 48 18	13°37'45	23°47	2°50	29° 2	29°25	2°39	8°40	25°58	8°36	23°58	17°48	16°40	13°59	23°12	W 4
T 5	14 52 15	14°35'44	7♍4	4°23	29°59	0♎9	2°52	8°36	25°57	8°35	23°59	17°50	16°37	14° 6	23°16	T 5
F 6	14 56 11	15°33'41	20° 7	5°51	0♏56	0°54	3° 6	8°32	25°55	8°33	24° 0	17°R50	16°34	14°13	23°19	F 6
S 7	15 0 8	16°31'36	2♏58	7°16	1°52	1°39	3°20	8°28	25°54	8°31	24° 2	17°49	16°30	14°19	23°23	S 7
S 8	15 4 5	17°29'31	15°37	8°37	2°48	2°23	3°33	8°24	25°53	8°30	24° 3	17°47	16°27	14°26	23°27	S 8
M 9	15 8 1	18°27'23	28° 4	9°54	3°44	3° 8	3°47	8°20	25°52	8°28	24° 4	17°43	16°24	14°33	23°30	M 9
T 10	15 11 58	19°25'14	10♌21	11° 7	4°38	3°52	4° 1	8°16	25°50	8°27	24° 6	17°38	16°21	14°40	23°34	T 10
W 11	15 15 54	20°23'04	22°28	12°16	5°33	4°37	4°15	8°12	25°49	8°25	24° 7	17°32	16°18	14°46	23°37	W 11
T 12	15 19 51	21°20'52	4♍27	13°22	6°26	5°21	4°28	8° 8	25°48	8°23	24° 9	17°26	16°15	14°53	23°41	T 12
F 13	15 23 47	22°18'39	16°21	14°23	7°19	6° 5	4°42	8° 4	25°47	8°22	24°10	17°21	16°11	15° 0	23°44	F 13
S 14	15 27 44	23°16'24	28°13	15°19	8°12	6°49	4°56	8° 0	25°46	8°20	24°11	17°17	16° 8	15° 7	23°47	S 14
S 15	15 31 41	24°14'07	10♎7	16°12	9° 4	7°34	5°10	7°56	25°45	8°19	24°13	17°14	16° 5	15°13	23°51	S 15
M 16	15 35 37	25°11'49	22° 7	17° 0	9°55	8°18	5°24	7°51	25°44	8°17	24°14	17°D13	16° 2	15°20	23°54	M 16
T 17	15 39 34	26° 9'29	4♎17	17°44	10°45	9° 2	5°38	7°47	25°43	8°16	24°15	17°13	15°59	15°27	23°58	T 17
W 18	15 43 30	27° 7'07	16°43	18°24	11°35	9°46	5°51	7°43	25°42	8°14	24°17	17°15	15°55	15°33	24° 1	W 18
T 19	15 47 27	28° 4'44	29°30	18°59	12°24	10°30	6° 5	7°38	25°41	8°13	24°18	17°16	15°52	15°40	24° 4	T 19
F 20	15 51 23	29° 2'20	12♏39	19°29	13°12	11°14	6°19	7°34	25°41	8°11	24°19	17°R17	15°49	15°47	24° 7	F 20
S 21	15 55 20	29°59'54	26°15	19°55	13°59	11°57	6°33	7°30	25°40	8°10	24°21	17°17	15°46	15°54	24°11	S 21
S 22	15 59 16	0♐57'26	10♍18	20°16	14°46	12°41	6°47	7°25	25°39	8° 8	24°22	17°15	15°43	16° 0	24°14	S 22
M 23	16 3 13	1°54'58	24°44	20°32	15°31	13°25	7° 1	7°21	25°39	8° 7	24°23	17°11	15°40	16° 7	24°17	M 23
T 24	16 7 9	2°52'28	9♐29	20°44	16°16	14° 8	7°15	7°16	25°38	8° 5	24°25	17° 5	15°36	16°14	24°20	T 24
W 25	16 11 6	3°49'58	24°25	20°51	17° 0	14°52	7°29	7°12	25°38	8° 4	24°26	16°58	15°33	16°20	24°23	W 25
T 26	16 15 3	4°47'26	9♏24	20°R53	17°43	15°36	7°43	7° 8	25°37	8° 2	24°28	16°51	15°30	16°27	24°26	T 26
F 27	16 18 59	5°44'54	24°15	20°51	18°25	16°19	7°57	7° 3	25°37	8° 1	24°29	16°45	15°27	16°34	24°30	F 27
S 28	16 22 56	6°42'20	8♏53	20°44	19° 5	17° 3	8°11	6°59	25°37	7°59	24°30	16°40	15°24	16°41	24°33	S 28
S 29	16 26 52	7°39'46	23°12	20°33	19°45	17°46	8°25	6°54	25°36	7°58	24°32	16°38	15°21	16°47	24°36	S 29
M 30	16 30 49	8°37'12	7♋10	20°18	20°24	18°29	8°39	6°50	25°36	7°57	24°33	16°D37	15°17	16°54	24°39	M 30
T 31	16 34 45	9♐34'36	20♋47	19♐59	21♏1	19♏13	8♐53	6♐45	25°36	7♐55	24°34	16°V37	15°V14	17♏1	24°V41	T 31

Delta T = 55.35 sec

Greg. Calendar

JUNE 1633 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	16 38 42	10♐32'00	4♑4	19°R37	21♑37	19♒56	9♐7	6°R41	25°R36	7°R54	24♒35	16°V38	15°V11	17♑8	24°V44	W 1
T 2	16 42 39	11°29'24	17° 3	19♐12	22°12	20°39	9°21	6♐36	25°R36	7♐53	24°37	16°R38	15° 8	17°14	24°47	T 2
F 3	16 46 35	12°26'47	29°48	18°44	22°46	21°22	9°35	6°32	25°D36	7°51	24°38	16°38	15° 5	17°21	24°50	F 3
S 4	16 50 32	13°24'09	12♒21	18°14	23°18	22° 5	9°49	6°28	25°36	7°50	24°39	16°35	15° 1	17°28	24°53	S 4
S 5	16 54 28	14°21'30	24°43	17°42	23°49	22°48	10° 2	6°23	25°36	7°49	24°41	16°29	14°58	17°34	24°56	S 5
M 6	16 58 25	15°18'51	6♐57	17° 9	24°19	23°31	10°16	6°19	25°36	7°48	24°42	16°21	14°55	17°41	24°58	M 6
T 7	17 2 21	16°16'12	19° 3	16°35	24°47	24°14	10°30	6°15	25°36	7°47	24°43	16°11	14°52	17°48	25° 1	T 7
W 8	17 6 18	17°13'31	1♑3	16° 1	25°13	24°57	10°44	6°10	25°37	7°45	24°45	16° 0	14°49	17°55	25° 4	W 8
T 9	17 10 14	18°10'50	12°58	15°28	25°38	25°40	10°58	6° 6	25°37	7°44	24°46	15°49	14°46	18° 1	25° 6	T 9
F 10	17 14 11	19° 8'09	24°50	14°56	26° 1	26°22	11°12	6° 2	25°37	7°43	24°47	15°38	14°42	18° 8	25° 9	F 10
S 11	17 18 8	20° 5'26	6♎41	14°26	26°22	27° 5	11°26	5°57	25°38	7°42	24°48	15°29	14°39	18°15	25°11	S 11
S 12	17 22 4	21° 2'43	18°34	13°58	26°42	27°48	11°40	5°53	25°38	7°41	24°50	15°22	14°36	18°22	25°14	S 12
M 13	17 26 1	21°59'59	0♎33	13°32	27° 0	28°30	11°54	5°49	25°39	7°40	24°51	15°17	14°33	18°28	25°16	M 13
T 14	17 29 57	22°57'14	12°41	13°10	27°15	29°13	12° 7	5°45	25°39	7°39	24°52	15°15	14°30	18°35	25°19	T 14
W 15	17 33 54	23°54'28	25° 4	12°51	27°29	29°55	12°21	5°41	25°40	7°38	24°53	15°D14	14°27	18°42	25°21	W 15
T 16	17 37 50	24°51'42	7♏46	12°36	27°41	0♐38	12°35	5°37	25°41	7°37	24°54	15°15	14°23	18°48	25°23	T 16
F 17	17 41 47	25°48'55	20°52	12°24	27°50	1°20	12°49	5°33	25°41	7°36	24°56	15°R15	14°20	18°55	25°26	F 17
S 18	17 45 43	26°46'07	4♎26	12°18	27°58	2° 2	13° 2	5°29	25°42	7°35	24°57	15°13	14°17	19° 2	25°28	S 18
S 19	17 49 40	27°43'19	18°29	12°D15	28° 3	2°44	13°16	5°25	25°43	7°34	24°58	15°10	14°14	19° 9	25°30	S 19
M 20	17 53 37	28°40'30	3♐0	12°18	28° 6	3°26	13°30	5°21	25°44	7°33	24°59	15° 4	14°11	19°15	25°32	M 20
T 21	17 57 33	29°37'41	17°55	12°25	28°R 7	4° 9	13°43	5°17	25°45	7°32	25° 0	14°56	14° 7	19°22	25°34	T 21
W 22	18 1 30	0♑34'52	3♏6	12°37	28° 5	4°51	13°57	5°13	25°46	7°31	25° 1	14°46	14° 4	19°29	25°36	W 22
T 23	18 5 26	1°32'02	18°23	12°53	28° 1	5°33	14°11	5° 9	25°47	7°31	25° 3	14°36	14° 1	19°35	25°38	T 23
F 24	18 9 23	2°29'13	3♏33	13°15	27°54	6°14	14°24	5° 6	25°48	7°30	25° 4	14°26	13°58	19°42	25°40	F 24
S 25	18 13 19	3°26'23	18°28	13°41	27°45	6°56	14°38	5° 2	25°49	7°29	25° 5	14°18	13°55	19°49	25°42	S 25
S 26	18 17 16	4°23'34	3♋1	14°12	27°34	7°38	14°51	4°58	25°50	7°28	25° 6	14°13	13°52	19°56	25°44	S 26
M 27	18 21 13	5°20'44	17° 7	14°48	27°20	8°20	15° 5	4°55	25°52	7°28	25° 7	14°11	13°48	20° 2	25°46	M 27
T 28	18 25 9	6°17'55	0♑46	15°29	27° 4	9° 2	15°18	4°51	25°53	7°27	25° 8	14°10	13°45	20° 9	25°48	T 28
W 29	18 29 6	7°15'06	14° 0	16°14	26°46	9°43	15°32	4°48	25°54	7°26	25° 9	14°10	13°42	20°16	25°50	W 29
T 30	18 33 2	8♑12'17	26°V53	17♐4	26♑26	10♐25	15♐45	4♐45	25°56	7♐26	25°10	14°V 9	13°V39	20♑23	25°V51	T 30

Delta T = 55.28 sec

Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1633  
geocentric

JULY 1633 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	18 36 59	9♉ 9'29	9♉28	17♊59	26°R 3	11♊ 6	15♊58	4°R41	25♊57	7°R25	25♊11	14°R 7	13♊36	20♊29	25♊53	F 1
S 2	18 40 55	10° 6'41	21°50	18°58	25♊38	11°48	16°12	4♊38	25°59	7♊25	25°12	14°Y 3	13°33	20°36	25°54	S 2
S 3	18 44 52	11° 3'54	4♊ 1	20° 1	25°11	12°29	16°25	4°35	26° 0	7°24	25°13	13°56	13°29	20°43	25°56	S 3
M 4	18 48 48	12° 1'06	16° 4	21° 9	24°43	13°11	16°38	4°32	26° 2	7°24	25°14	13°46	13°26	20°49	25°57	M 4
T 5	18 52 45	12°58'19	28° 2	22°21	24°12	13°52	16°51	4°29	26° 4	7°23	25°15	13°34	13°23	20°56	25°59	T 5
W 6	18 56 42	13°55'33	9♉57	23°38	23°40	14°33	17° 4	4°26	26° 5	7°23	25°16	13°21	13°20	21° 3	26° 0	W 6
T 7	19 0 38	14°52'46	21°49	24°59	23° 7	15°14	17°18	4°23	26° 7	7°22	25°17	13° 7	13°17	21°10	26° 2	T 7
F 8	19 4 35	15°50'00	3♊40	26°23	22°32	15°55	17°31	4°20	26° 9	7°22	25°18	12°53	13°13	21°16	26° 3	F 8
S 9	19 8 31	16°47'14	15°33	27°52	21°57	16°36	17°44	4°18	26°11	7°22	25°19	12°42	13°10	21°23	26° 4	S 9
S 10	19 12 28	17°44'28	27°28	29°25	21°20	17°17	17°57	4°15	26°12	7°21	25°20	12°33	13° 7	21°30	26° 5	S 10
M 11	19 16 24	18°41'43	9♊29	1♉ 2	20°43	17°58	18° 9	4°13	26°14	7°21	25°21	12°27	13° 4	21°37	26° 6	M 11
T 12	19 20 21	19°38'57	21°39	2°42	20° 6	18°39	18°22	4°10	26°16	7°21	25°22	12°23	13° 1	21°43	26° 7	T 12
W 13	19 24 17	20°36'12	4♊ 1	4°26	19°28	19°20	18°35	4° 8	26°18	7°21	25°22	12°22	12°58	21°50	26° 8	W 13
T 14	19 28 14	21°33'27	16°41	6°13	18°51	20° 1	18°48	4° 5	26°20	7°20	25°23	12°22	12°54	21°57	26° 9	T 14
F 15	19 32 11	22°30'42	29°43	8° 4	18°14	20°42	19° 0	4° 3	26°23	7°20	25°24	12°22	12°51	22° 3	26°10	F 15
S 16	19 36 7	23°27'58	13♊11	9°57	17°38	21°22	19°13	4° 1	26°25	7°20	25°25	12°21	12°48	22°10	26°11	S 16
S 17	19 40 4	24°25'14	27° 7	11°53	17° 2	22° 3	19°26	3°59	26°27	7°20	25°26	12°17	12°45	22°17	26°12	S 17
M 18	19 44 0	25°22'30	11♊32	13°52	16°28	22°43	19°38	3°57	26°29	7°20	25°26	12°12	12°42	22°24	26°12	M 18
T 19	19 47 57	26°19'46	26°22	15°52	15°55	23°24	19°51	3°55	26°31	7°D20	25°27	12° 4	12°39	22°30	26°13	T 19
W 20	19 51 53	27°17'04	11♊32	17°54	15°23	24° 4	20° 3	3°53	26°34	7°20	25°28	11°54	12°35	22°37	26°14	W 20
T 21	19 55 50	28°14'21	26°51	19°58	14°53	24°45	20°15	3°52	26°36	7°20	25°29	11°44	12°32	22°44	26°14	T 21
F 22	19 59 46	29°11'40	12♊ 9	22° 3	14°25	25°25	20°28	3°50	26°39	7°20	25°29	11°35	12°29	22°50	26°15	F 22
S 23	20 3 43	0♊ 8'59	27°13	24° 8	13°58	26° 5	20°40	3°49	26°41	7°20	25°30	11°27	12°26	22°57	26°15	S 23
S 24	20 7 40	1° 6'19	11♊56	26°14	13°34	26°45	20°52	3°47	26°43	7°20	25°31	11°22	12°23	23° 4	26°16	S 24
M 25	20 11 36	2° 3'40	26°11	28°21	13°12	27°25	21° 4	3°46	26°46	7°20	25°31	11°19	12°19	23°11	26°16	M 25
T 26	20 15 33	3° 1'02	9♊58	0♊27	12°52	28° 6	21°16	3°45	26°49	7°21	25°32	11°D18	12°16	23°17	26°16	T 26
W 27	20 19 29	3°58'25	23°17	2°32	12°34	28°46	21°28	3°43	26°51	7°21	25°33	11°18	12°13	23°24	26°17	W 27
T 28	20 23 26	4°55'50	6♊11	4°37	12°19	29°25	21°40	3°42	26°54	7°21	25°33	11°R19	12°10	23°31	26°17	T 28
F 29	20 27 22	5°53'15	18°45	6°42	12° 6	0♉ 5	21°52	3°41	26°56	7°21	25°34	11°18	12° 7	23°38	26°17	F 29
S 30	20 31 19	6°50'42	1♊ 3	8°45	11°56	0°45	22° 3	3°41	26°59	7°22	25°34	11°15	12° 4	23°44	26°17	S 30
S 31	20 35 15	7♊48'11	13♊ 9	10♊48	11♉47	1♉25	22♊15	3♊40	27♊ 2	7♊22	25♊35	11°Y10	12°Y 0	23♉51	26°R17	S 31

Delta T = 55.22 sec

Greg. Calendar

AUGUST 1633 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	20 39 12	8♊45'40	25♊ 7	12♊49	11°R42	2♉ 5	22♊26	3°R39	27♊ 5	7♊23	25♊35	11°R 2	11°Y57	23♉58	26°R17	M 1
T 2	20 43 9	9°43'19	7♉ 0	14°49	11♉39	2°44	22°38	3♊39	27° 8	7°23	25°36	10°Y53	11°54	24° 4	26°Y17	T 2
W 3	20 47 5	10°40'43	18°52	16°47	11°D38	3°24	22°49	3°38	27°10	7°23	25°36	10°42	11°51	24°11	26°17	W 3
T 4	20 51 2	11°38'16	0♊44	18°45	11°39	4° 4	23° 1	3°38	27°13	7°24	25°37	10°30	11°48	24°18	26°16	T 4
F 5	20 54 58	12°35'50	12°38	20°40	11°43	4°43	23°12	3°37	27°16	7°24	25°37	10°20	11°45	24°25	26°16	F 5
S 6	20 58 55	13°33'26	24°35	22°35	11°48	5°23	23°23	3°37	27°19	7°25	25°38	10°10	11°41	24°31	26°16	S 6
S 7	21 2 51	14°31'02	6♊37	24°27	11°57	6° 2	23°34	3°37	27°22	7°26	25°38	10° 3	11°38	24°38	26°15	S 7
M 8	21 6 48	15°28'40	18°46	26°19	12° 7	6°41	23°45	3°D37	27°25	7°26	25°38	9°59	11°35	24°45	26°15	M 8
T 9	21 10 44	16°26'18	1♊ 4	28° 9	12°19	7°20	23°56	3°37	27°28	7°27	25°39	9°56	11°32	24°51	26°14	T 9
W 10	21 14 41	17°23'58	13°33	29°57	12°33	8° 0	24° 7	3°37	27°31	7°28	25°39	9°D56	11°29	24°58	26°14	W 10
T 11	21 18 38	18°21'39	26°17	1♊44	12°49	8°39	24°17	3°38	27°34	7°28	25°39	9°57	11°25	25° 5	26°13	T 11
F 12	21 22 34	19°19'21	9♊20	3°30	13° 8	9°18	24°28	3°38	27°38	7°29	25°40	9°58	11°22	25°12	26°12	F 12
S 13	21 26 31	20°17'04	22°44	5°14	13°27	9°57	24°38	3°39	27°41	7°30	25°40	9°R58	11°19	25°18	26°12	S 13
S 14	21 30 27	21°14'48	6♊33	6°56	13°49	10°36	24°49	3°39	27°44	7°31	25°40	9°57	11°16	25°25	26°11	S 14
M 15	21 34 24	22°12'33	20°46	8°38	14°13	11°15	24°59	3°40	27°47	7°31	25°40	9°54	11°13	25°32	26°10	M 15
T 16	21 38 20	23°10'20	5♉22	10°18	14°38	11°53	25° 9	3°41	27°50	7°32	25°41	9°49	11°10	25°38	26° 9	T 16
W 17	21 42 17	24° 8'07	20°16	11°56	15° 5	12°32	25°19	3°41	27°54	7°33	25°41	9°43	11° 6	25°45	26° 8	W 17
T 18	21 46 13	25° 5'56	5♉22	13°33	15°33	13°11	25°29	3°42	27°57	7°34	25°41	9°37	11° 3	25°52	26° 7	T 18
F 19	21 50 10	26° 3'46	20°30	15° 9	16° 3	13°49	25°39	3°44	28° 0	7°35	25°41	9°30	11° 0	25°59	26° 6	F 19
S 20	21 54 7	27° 1'38	5♊30	16°43	16°34	14°28	25°49	3°45	28° 4	7°36	25°41	9°25	10°57	26° 5	26° 5	S 20
S 21	21 58 3	27°59'31	20°12	18°16	17° 7	15° 7	25°58	3°46	28° 7	7°37	25°41	9°22	10°54	26°12	26° 4	S 21
M 22	22 2 0	28°57'26	4♊32	19°48	17°41	15°45	26° 8	3°47	28°10	7°38	25°42	9°D21	10°50	26°19	26° 3	M 22
T 23	22 5 56	29°55'22	18°24	21°18	18°16	16°23	26°17	3°49	28°14	7°39	25°42	9°21	10°47	26°26	26° 2	T 23
W 24	22 9 53	0♊53'21	1♊49	22°47	18°53	17° 2	26°27	3°50	28°17	7°40	25°42	9°22	10°44	26°32	26° 0	W 24
T 25	22 13 49	1°51'21	14°48	24°14	19°31	17°40	26°36	3°52	28°21	7°41	25°42	9°24	10°41	26°39	25°59	T 25
F 26	22 17 46	2°49'23	27°26	25°40	20°10	18°18	26°45	3°54	28°24	7°43	25°R42	9°R25	10°38	26°46	25°57	F 26
S 27	22 21 42	3°47'28	9♊45	27° 5	20°50	18°56	26°54	3°55	28°28	7°44	25°42	9°25	10°35	26°52	25°56	S 27
S 28	22 25 39	4°45'34	21°51	28°28	21°31	19°34	27° 3	3°57	28°31	7°45	25°42	9°23	10°31	26°59	25°54	S 28
M 29	22 29 36	5°43'42	3♉48	29°50	22°13	20°12	27°11	3°59	28°35	7°46	25°42	9°20	10°28	27° 6	25°53	M 29
T 30	22 33 32	6°41'52	15°41	1♊10	22°56	20°50	27°20	4° 1	28°38	7°48	25°41	9°16	10°25	27°13	25°51	T 30
W 31	22 37 29	7♊40'04	27♉32	2♊29	23♉41	21♉28	27♊28	4♊ 4	28♊42	7♊49	25♊41	9°Y11	10°Y22	27♉19	25°Y50	W 31

Delta T = 55.15 sec

Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1633  
geocentric

SEPTEMBER 1633 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	22 41 25	8♉38'18	9♏26	3♊46	24♊26	22♊6	27♏37	4♊6	28♉46	7♏50	25°R41	9°R 5	10°Y19	27♊26	25°R48	T 1
F 2	22 45 22	9°36'34	21°24	5° 2	25°12	22°44	27°45	4° 8	28°49	7°52	25♊41	9°Y 0	10°16	27°33	25°Y46	F 2
S 3	22 49 18	10°34'52	3♉29	6°16	25°59	23°21	27°53	4°11	28°53	7°53	25°41	8°55	10°12	27°39	25°44	S 3
S 4	22 53 15	11°33'11	15°42	7°28	26°47	23°59	28° 1	4°13	28°57	7°54	25°41	8°52	10° 9	27°46	25°43	S 4
M 5	22 57 11	12°31'33	28° 4	8°38	27°35	24°37	28° 9	4°16	29° 0	7°56	25°41	8°50	10° 6	27°53	25°41	M 5
T 6	23 1 8	13°29'56	10♊37	9°46	28°25	25°14	28°16	4°19	29° 4	7°57	25°40	8°D50	10° 3	28° 0	25°39	T 6
W 7	23 5 5	14°28'20	23°22	10°52	29°15	25°52	28°24	4°22	29° 8	7°59	25°40	8°51	10° 0	28° 6	25°37	W 7
T 8	23 9 1	15°26'47	6♏20	11°56	0♏ 5	26°29	28°31	4°24	29°11	8° 0	25°40	8°52	9°56	28°13	25°35	T 8
F 9	23 12 58	16°25'15	19°33	12°58	0°57	27° 6	28°38	4°27	29°15	8° 2	25°39	8°53	9°53	28°20	25°33	F 9
S 10	23 16 54	17°23'45	3♊ 3	13°57	1°49	27°43	28°46	4°31	29°19	8° 3	25°39	8°55	9°50	28°26	25°31	S 10
S 11	23 20 51	18°22'17	16°49	14°54	2°42	28°20	28°52	4°34	29°22	8° 5	25°39	8°R55	9°47	28°33	25°28	S 11
M12	23 24 47	19°20'50	0♊53	15°48	3°35	28°57	28°59	4°37	29°26	8° 7	25°38	8°55	9°44	28°40	25°26	M12
T 13	23 28 44	20°19'25	15°13	16°38	4°29	29°34	29° 6	4°40	29°30	8° 8	25°38	8°54	9°41	28°47	25°24	T 13
W14	23 32 40	21°18'01	29°47	17°26	5°24	0♏11	29°12	4°44	29°34	8°10	25°38	8°52	9°37	28°53	25°22	W14
T 15	23 36 37	22°16'39	14♊29	18° 9	6°19	0°48	29°19	4°47	29°37	8°12	25°37	8°50	9°34	29° 0	25°19	T 15
F 16	23 40 34	23°15'19	29°14	18°49	7°15	1°25	29°25	4°51	29°41	8°13	25°37	8°48	9°31	29° 7	25°17	F 16
S 17	23 44 30	24°14'01	13♊54	19°25	8°11	2° 2	29°31	4°55	29°45	8°15	25°36	8°46	9°28	29°13	25°15	S 17
S 18	23 48 27	25°12'44	28°22	19°57	9° 8	2°38	29°37	4°58	29°49	8°17	25°36	8°45	9°25	29°20	25°12	S 18
M19	23 52 23	26°11'30	12°Y33	20°23	10° 5	3°15	29°42	5° 2	29°52	8°18	25°35	8°D45	9°22	29°27	25°10	M19
T 20	23 56 20	27°10'18	26°22	20°45	11° 3	3°51	29°48	5° 6	29°56	8°20	25°35	8°45	9°18	29°34	25° 7	T 20
W21	0 0 16	28° 9'07	9♊48	21° 0	12° 2	4°28	29°53	5°10	29°59	8°22	25°34	8°46	9°15	29°40	25° 5	W21
T 22	0 4 13	29° 8'00	22°51	21°10	13° 0	5° 4	29°58	5°14	0♊ 4	8°24	25°34	8°47	9°12	29°47	25° 2	T 22
F 23	0 8 9	0♊ 6'54	5♏32	21°R14	14° 0	5°40	0♊ 3	5°18	0° 8	8°26	25°33	8°48	9° 9	29°54	25° 0	F 23
S 24	0 12 6	1° 5'51	17°55	21°10	14°59	6°16	0° 8	5°23	0°11	8°28	25°33	8°49	9° 6	0♊ 0	24°57	S 24
S 25	0 16 3	2° 4'50	0♊ 3	21° 0	15°59	6°53	0°13	5°27	0°15	8°29	25°32	8°R49	9° 2	0° 7	24°55	S 25
M26	0 19 59	3° 3'51	12° 1	20°42	17° 0	7°29	0°17	5°31	0°19	8°31	25°32	8°49	8°59	0°14	24°52	M26
T 27	0 23 56	4° 2'55	23°54	20°16	18° 1	8° 5	0°22	5°36	0°23	8°33	25°31	8°48	8°56	0°21	24°49	T 27
W28	0 27 52	5° 2'01	5♏47	19°42	19° 2	8°40	0°26	5°40	0°26	8°35	25°30	8°48	8°53	0°27	24°47	W28
T 29	0 31 49	6° 1'09	17°42	19° 1	20° 4	9°16	0°30	5°45	0°30	8°37	25°30	8°48	8°50	0°34	24°44	T 29
F 30	0 35 45	7♊ 0'20	29♏45	18♊13	21♏ 6	9♏52	0♊33	5♊49	0♊34	8♏39	25♊29	8°Y47	8°Y47	0♊41	24°Y41	F 30

Delta T = 55.09 sec

Greg. Calendar

OCTOBER 1633 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	0 39 42	7♊59'32	11♉57	17°R17	22♏ 8	10♏27	0♊37	5♊54	0♊38	8♏41	25°R28	8°R47	8°Y43	0♏47	24°R39	S 1
S 2	0 43 38	8°58'47	24°22	16♊16	23°11	11° 3	0°40	5°59	0°42	8°43	25♊28	8°D47	8°40	0°54	24°Y36	S 2
M 3	0 47 35	9°58'04	7♊ 0	15° 9	24°14	11°38	0°44	6° 4	0°45	8°45	25°27	8°R47	8°37	1° 1	24°33	M 3
T 4	0 51 31	10°57'23	19°53	14° 0	25°17	12°14	0°47	6° 9	0°49	8°47	25°26	8°Y47	8°34	1° 8	24°30	T 4
W 5	0 55 28	11°56'44	3♏ 1	12°48	26°21	12°49	0°50	6°14	0°53	8°49	25°25	8°47	8°31	1°14	24°27	W 5
T 6	0 59 25	12°56'07	16°22	11°37	27°25	13°24	0°52	6°19	0°57	8°51	25°24	8°47	8°27	1°21	24°24	T 6
F 7	1 3 21	13°55'32	29°57	10°28	28°29	13°59	0°55	6°24	1° 0	8°53	25°24	8°46	8°24	1°28	24°22	F 7
S 8	1 7 18	14°54'59	13♊43	9°23	29°34	14°34	0°57	6°29	1° 4	8°55	25°23	8°45	8°21	1°34	24°19	S 8
S 9	1 11 14	15°54'28	27°39	8°24	0♉39	15° 9	0°59	6°34	1° 8	8°57	25°22	8°45	8°18	1°41	24°16	S 9
M10	1 15 11	16°53'58	11♊44	7°33	1°44	15°44	1° 1	6°40	1°11	9° 0	25°21	8°D44	8°15	1°48	24°13	M10
T 11	1 19 7	17°53'30	25°55	6°52	2°49	16°19	1° 3	6°45	1°15	9° 2	25°20	8°44	8°12	1°55	24°10	T 11
W12	1 23 4	18°53'04	10♊11	6°20	3°55	16°53	1° 4	6°51	1°19	9° 4	25°19	8°45	8° 8	2° 1	24° 7	W12
T 13	1 27 1	19°52'40	24°28	5°59	5° 1	17°28	1° 5	6°56	1°22	9° 6	25°19	8°46	8° 5	2° 8	24° 4	T 13
F 14	1 30 57	20°52'17	8♊45	5°D50	6° 7	18° 2	1° 7	7° 2	1°26	9° 8	25°18	8°47	8° 2	2°15	24° 1	F 14
S 15	1 34 54	21°51'56	22°56	5°52	7°14	18°36	1° 7	7° 7	1°30	9°10	25°17	8°48	7°59	2°21	23°58	S 15
S 16	1 38 50	22°51'37	6°Y59	6° 4	8°20	19°11	1° 8	7°13	1°33	9°12	25°16	8°R48	7°56	2°28	23°56	S 16
M17	1 42 47	23°51'20	20°50	6°27	9°27	19°45	1° 9	7°19	1°37	9°15	25°15	8°48	7°53	2°35	23°53	M17
T 18	1 46 43	24°51'05	4♊25	7° 0	10°34	20°19	1° 9	7°24	1°40	9°17	25°14	8°47	7°49	2°42	23°50	T 18
W19	1 50 40	25°50'52	17°43	7°42	11°41	20°53	1°R 9	7°30	1°44	9°19	25°13	8°45	7°46	2°48	23°47	W19
T 20	1 54 36	26°50'41	0♏42	8°32	12°49	21°27	1° 9	7°36	1°47	9°21	25°12	8°42	7°43	2°55	23°44	T 20
F 21	1 58 33	27°50'32	13°22	9°29	13°57	22° 0	1° 9	7°42	1°51	9°23	25°11	8°39	7°40	3° 2	23°41	F 21
S 22	2 2 29	28°50'26	25°46	10°32	15° 5	22°34	1° 8	7°48	1°54	9°26	25°10	8°36	7°37	3° 8	23°38	S 22
S 23	2 6 26	29°50'21	7♊55	11°42	16°13	23° 7	1° 8	7°54	1°58	9°28	25° 9	8°34	7°33	3°15	23°35	S 23
M24	2 10 23	0♏50'19	19°54	12°56	17°21	23°41	1° 7	8° 0	2° 1	9°30	25° 8	8°32	7°30	3°22	23°32	M24
T 25	2 14 19	1°50'19	1♏48	14°14	18°30	24°14	1° 6	8° 6	2° 5	9°32	25° 7	8°D32	7°27	3°28	23°29	T 25
W26	2 18 16	2°50'21	13°39	15°36	19°39	24°47	1° 4	8°12	2° 8	9°35	25° 6	8°32	7°24	3°35	23°26	W26
T 27	2 22 12	3°50'26	25°35	17° 1	20°48	25°20	1° 3	8°19	2°12	9°37	25° 5	8°34	7°21	3°42	23°24	T 27
F 28	2 26 9	4°50'32	7♉39	18°29	21°57	25°53	1° 1	8°25	2°15	9°39	25° 4	8°35	7°18	3°49	23°21	F 28
S 29	2 30 5	5°50'40	19°55	19°58	23° 6	26°26	0°59	8°31	2°18	9°41	25° 3	8°37	7°14	3°55	23°18	S 29
S 30	2 34 2	6°50'51	2♊28	21°29	24°15	26°59	0°57	8°37	2°21	9°44	25° 2	8°R38	7°11	4° 2	23°15	S 30
M31	2 37 58	7♏51'03	15♊19	23♊ 2	25♉25	27♏31	0♊55	8♊44	2♊25	9♏46	25♊ 1	8°Y38	7°Y 8	4♏ 9	23°Y12	M31

Delta T = 55.03 sec

Greg. Calendar

## ASTRODIENST EPHEMERIS for the year 1633

geocentric

NOVEMBER 1633 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	2 41 55	8♉51°17'	28♊31	24♊36	26♉35	28♊3	0°R52	8♉50	2♊28	9♉48	25°R 0	8°R37	7°V 5	4♊15	23°R 9	T 1
W 2	2 45 52	9°51'34"	12♉2	26°10'	27°45'	28°36'	0♊50	8°57'	2°31'	9°50'	24♊59	8°V34	7° 2	4°22'	23°V 7	W 2
T 3	2 49 48	10°51'52"	25°52'	27°46'	28°55'	29° 8'	0°47'	9° 3'	2°34'	9°53'	24°58'	8°29'	6°59'	4°29'	23° 4	T 3
F 4	2 53 45	11°52'11"	9♉55	29°22'	0♊5	29°40'	0°44'	9°10'	2°38'	9°55'	24°56'	8°24'	6°55'	4°36'	23° 1	F 4
S 5	2 57 41	12°52'33"	24° 8'	0♉58	1°15'	0♉12	0°40'	9°16'	2°41'	9°57'	24°55'	8°19'	6°52'	4°42'	22°58'	S 5
S 6	3 1 38	13°52'56"	8♊25	2°34'	2°26'	0°43'	0°37'	9°23'	2°44'	9°59'	24°54'	8°14'	6°49'	4°49'	22°56'	S 6
M 7	3 5 34	14°53'20"	22°44'	4°10'	3°36'	1°15'	0°33'	9°30'	2°47'	10° 2'	24°53'	8°10'	6°46'	4°56'	22°53'	M 7
T 8	3 9 31	15°53'46"	6♊58	5°47'	4°47'	1°47'	0°29'	9°36'	2°50'	10° 4'	24°52'	8° 8'	6°43'	5° 2'	22°50'	T 8
W 9	3 13 28	16°54'13"	21° 8'	7°24'	5°58'	2°18'	0°25'	9°43'	2°53'	10° 6'	24°51'	8°D 8	6°39'	5° 9'	22°48'	W 9
T 10	3 17 24	17°54'41"	5♉9	9° 0'	7° 9'	2°49'	0°21'	9°50'	2°56'	10° 8'	24°50'	8° 9'	6°36'	5°16'	22°45'	T 10
F 11	3 21 21	18°55'11"	19° 3'	10°36'	8°20'	3°20'	0°17'	9°56'	2°59'	10°10'	24°49'	8°10'	6°33'	5°23'	22°43'	F 11
S 12	3 25 17	19°55'42"	2°V48	12°13'	9°31'	3°51'	0°12'	10° 3'	3° 2'	10°13'	24°48'	8°R11	6°30'	5°29'	22°40'	S 12
S 13	3 29 14	20°56'14"	16°23'	13°49'	10°43'	4°21'	0° 7'	10°10'	3° 4'	10°15'	24°46'	8°11'	6°27'	5°36'	22°38'	S 13
M14	3 33 10	21°56'47"	29°47'	15°25'	11°54'	4°52'	0° 3'	10°17'	3° 7'	10°17'	24°45'	8° 9'	6°24'	5°43'	22°35'	M14
T 15	3 37 7	22°57'22"	13♊0	17° 1'	13° 6'	5°22'	29♉57	10°24'	3°10'	10°19'	24°44'	8° 5'	6°20'	5°49'	22°33'	T 15
W16	3 41 3	23°57'59"	26° 1'	18°36'	14°17'	5°53'	29°52'	10°30'	3°13'	10°22'	24°43'	7°58'	6°17'	5°56'	22°30'	W16
T 17	3 45 0	24°58'37"	8♉48	20°12'	15°29'	6°23'	29°47'	10°37'	3°16'	10°24'	24°42'	7°50'	6°14'	6° 3'	22°28'	T 17
F 18	3 48 57	25°59'16"	21°21'	21°47'	16°41'	6°52'	29°41'	10°44'	3°18'	10°26'	24°41'	7°41'	6°11'	6° 9'	22°26'	F 18
S 19	3 52 53	26°59'57"	3♊41	23°22'	17°53'	7°22'	29°36'	10°51'	3°21'	10°28'	24°40'	7°31'	6° 8'	6°16'	22°23'	S 19
S 20	3 56 50	28° 0'40"	15°48'	24°57'	19° 5'	7°52'	29°30'	10°58'	3°23'	10°30'	24°39'	7°23'	6° 5'	6°23'	22°21'	S 20
M21	4 0 46	29° 1'24"	27°46'	26°32'	20°17'	8°21'	29°24'	11° 5'	3°26'	10°32'	24°37'	7°16'	6° 1'	6°30'	22°19'	M21
T 22	4 4 43	0♉2'09"	9♊38	28° 7'	21°30'	8°50'	29°17'	11°12'	3°28'	10°35'	24°36'	7°11'	5°58'	6°36'	22°17'	T 22
W23	4 8 39	1° 2'56"	21°28'	29°41'	22°42'	9°19'	29°11'	11°19'	3°31'	10°37'	24°35'	7° 9'	5°55'	6°43'	22°15'	W23
T 24	4 12 36	2° 3'45"	3♉22	1♉16	23°55'	9°48'	29° 5'	11°26'	3°33'	10°39'	24°34'	7°D 8	5°52'	6°50'	22°13'	T 24
F 25	4 16 32	3° 4'35"	15°23'	2°50'	25° 7'	10°17'	28°58'	11°33'	3°36'	10°41'	24°33'	7° 9'	5°49'	6°56'	22°10'	F 25
S 26	4 20 29	4° 5'26"	27°38'	4°24'	26°20'	10°45'	28°51'	11°40'	3°38'	10°43'	24°32'	7°10'	5°45'	7° 3'	22° 8'	S 26
S 27	4 24 26	5° 6'19"	10♊12	5°59'	27°33'	11°13'	28°45'	11°47'	3°40'	10°45'	24°31'	7°R10	5°42'	7°10'	22° 6'	S 27
M28	4 28 22	6° 7'13"	23° 8'	7°33'	28°45'	11°41'	28°38'	11°54'	3°43'	10°47'	24°30'	7° 9'	5°39'	7°16'	22° 5'	M28
T 29	4 32 19	7° 8'08"	6♉29	9° 7'	29°58'	12° 9'	28°30'	12° 1'	3°45'	10°49'	24°28'	7° 5'	5°36'	7°23'	22° 3'	T 29
W30	4 36 15	8♉9'05"	20♉17	10♉41	1♉11	12♉37	28♉23	12♉8	3♊47	10♉51	24♊27	6°V59	5°V33	7♊30	22°V 1	W30

Delta T = 54.96 sec

Greg. Calendar

DECEMBER 1633 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	4 40 12	9♉10'03"	4♉28	12♉15	2♉24	13♉4	28°R16	12♉15	3♊49	10♉54	24°R26	6°R50	5°V30	7♊37	21°R59	T 1
F 2	4 44 8	10°11'02"	18°58'	13°50'	3°37'	13°31'	28♉9	12°22'	3°51'	10°56'	24♊25	6°V40	5°26'	7°43'	21°V57	F 2
S 3	4 48 5	11°12'02"	3♊41	15°24'	4°50'	13°58'	28° 1'	12°30'	3°53'	10°58'	24°24'	6°30'	5°23'	7°50'	21°56'	S 3
S 4	4 52 1	12°13'03"	18°27'	16°58'	6° 4'	14°25'	27°54'	12°37'	3°55'	11° 0'	24°23'	6°20'	5°20'	7°57'	21°54'	S 4
M 5	4 55 58	13°14'05"	3♊9	18°32'	7°17'	14°51'	27°46'	12°44'	3°57'	11° 2'	24°22'	6°12'	5°17'	8° 3'	21°53'	M 5
T 6	4 59 55	14°15'07"	17°41'	20° 7'	8°30'	15°17'	27°38'	12°51'	3°59'	11° 4'	24°21'	6° 7'	5°14'	8°10'	21°51'	T 6
W 7	5 3 51	15°16'09"	1♉57	21°41'	9°44'	15°43'	27°30'	12°58'	4° 1'	11° 5'	24°20'	6° 4'	5°11'	8°17'	21°50'	W 7
T 8	5 7 48	16°17'12"	15°58'	23°15'	10°57'	16° 9'	27°23'	13° 5'	4° 2'	11° 7'	24°19'	6°D 3	5° 7'	8°24'	21°48'	T 8
F 9	5 11 44	17°18'15"	29°41'	24°50'	12°11'	16°34'	27°15'	13°12'	4° 4'	11° 9'	24°18'	6°R 4	5° 4'	8°30'	21°47'	F 9
S 10	5 15 41	18°19'19"	13°V 9	26°25'	13°24'	16°59'	27° 7'	13°19'	4° 6'	11°11'	24°17'	6° 4'	5° 1'	8°37'	21°45'	S 10
S 11	5 19 37	19°20'23"	26°24'	27°59'	14°38'	17°24'	26°59'	13°26'	4° 7'	11°13'	24°16'	6° 2'	4°58'	8°44'	21°44'	S 11
M12	5 23 34	20°21'28"	9♊25	29°34'	15°51'	17°49'	26°51'	13°33'	4° 9'	11°15'	24°15'	5°58'	4°55'	8°50'	21°43'	M12
T 13	5 27 30	21°22'33"	22°16	1♊9	17° 5'	18°13'	26°43'	13°40'	4°10'	11°17'	24°14'	5°50'	4°51'	8°57'	21°42'	T 13
W14	5 31 27	22°23'38"	4♉57	2°44'	18°19'	18°37'	26°34'	13°47'	4°12'	11°19'	24°13'	5°40'	4°48'	9° 4'	21°41'	W14
T 15	5 35 24	23°24'44"	17°27'	4°18'	19°32'	19° 1'	26°26'	13°54'	4°13'	11°20'	24°12'	5°28'	4°45'	9°10'	21°40'	T 15
F 16	5 39 20	24°25'51"	29°48'	5°53'	20°46'	19°24'	26°18'	14° 1'	4°15'	11°22'	24°11'	5°13'	4°42'	9°17'	21°39'	F 16
S 17	5 43 17	25°26'58"	11♊59	7°28'	22° 0'	19°47'	26°10'	14° 8'	4°16'	11°24'	24°10'	4°59'	4°39'	9°24'	21°38'	S 17
S 18	5 47 13	26°28'05"	24° 1'	9° 3'	23°14'	20°10'	26° 2'	14°15'	4°17'	11°26'	24° 9'	4°45'	4°36'	9°31'	21°37'	S 18
M19	5 51 10	27°29'13"	5♊56	10°37'	24°28'	20°33'	25°54'	14°22'	4°18'	11°27'	24° 8'	4°34'	4°32'	9°37'	21°36'	M19
T 20	5 55 6	28°30'22"	17°46'	12°11'	25°42'	20°55'	25°46'	14°29'	4°19'	11°29'	24° 7'	4°25'	4°29'	9°44'	21°35'	T 20
W21	5 59 3	29°31'30"	29°35'	13°45'	26°56'	21°17'	25°37'	14°36'	4°20'	11°31'	24° 6'	4°19'	4°26'	9°51'	21°35'	W21
T 22	6 3 0	0♊32'40"	11♉26	15°18'	28°10'	21°38'	25°29'	14°43'	4°21'	11°32'	24° 5'	4°16'	4°23'	9°57'	21°34'	T 22
F 23	6 6 56	1°33'49"	23°24'	16°51'	29°24'	21°59'	25°21'	14°50'	4°22'	11°34'	24° 4'	4°15'	4°20'	10° 4'	21°34'	F 23
S 24	6 10 53	2°35'00"	5♊35	18°23'	0♉38	22°20'	25°13'	14°57'	4°23'	11°36'	24° 4'	4°15'	4°17'	10°11'	21°33'	S 24
S 25	6 14 49	3°36'10"	18° 4'	19°54'	1°52'	22°41'	25° 5'	15° 3'	4°24'	11°37'	24° 3'	4°15'	4°13'	10°17'	21°33'	S 25
M26	6 18 46	4°37'21"	0♉57	21°23'	3° 7'	23° 1'	24°57'	15°10'	4°25'	11°39'	24° 2'	4°13'	4°10'	10°24'	21°32'	M26
T 27	6 22 42	5°38'33"	14°16'	22°51'	4°21'	23°20'	24°49'	15°17'	4°26'	11°40'	24° 1'	4° 9'	4° 7'	10°31'	21°32'	T 27
W28	6 26 39	6°39'45"	28° 6'	24°18'	5°35'	23°40'	24°42'	15°24'	4°26'	11°42'	24° 0'	4° 2'	4° 4'	10°37'	21°32'	W28
T 29	6 30 35	7°40'57"	12♉25	25°42'	6°49'	23°59'	24°34'	15°31'	4°27'	11°43'	24° 0'	3°52'	4° 1'	10°44'	21°31'	T 29
F 30	6 34 32	8°42'09"	27° 9'	27° 4'	8° 4'	24°17'	24°26'	15°37'	4°28'	11°45'	23°59'	3°41'	3°57'	10°51'	21°31'	F 30
S 31	6 38 29	9♊43'21"	12♊10	28♊22	9♉18	24♉35	24♉18	15♉44	4♊28	11♉46	23♊58	3°V29	3°V54	10♊58	21°V31	S 31

Delta T = 54.90 sec

Greg. Calendar