



Astrodienst Ephemeris Tables for the year 1617

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 1617

geocentric

JANUARY 1617 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	6 42 53	10°52'13	20°18' 8	19°17' 9	4°49' 8	8°38' 38	10°23' 23	3°R21	12°R23	5°15' 15	7°R45	1°R19	2°39' 39	9°13' 13	14°23' 23	S 1
M 2	6 46 50	11°53'24	21°27' 27	20°26' 6	6° 4' 4	8°43' 43	10°37' 37	3°R21	12°R20	5°15' 15	7°R44	1°R17	2°36' 36	9°20' 20	14°27' 27	M 2
T 3	6 50 47	12°54'35	15° 8' 8	21°44' 44	7°19' 19	8°48' 48	10°51' 51	3°20' 20	12°17' 17	5°15' 15	7°44' 44	1°13' 13	2°32' 32	9°26' 26	14°31' 31	T 3
W 4	6 54 43	13°55'46	28°12' 12	23° 3' 3	8°33' 33	8°52' 52	11° 5' 5	3°D20	12°15' 15	5°15' 15	7°43' 43	1° 6' 6	2°29' 29	9°33' 33	14°35' 35	W 4
T 5	6 58 40	14°56'57	11°17' 41	24°23' 23	9°48' 48	8°55' 55	11°19' 19	3°20' 20	12°12' 12	5°15' 15	7°43' 43	0°59' 59	2°26' 26	9°40' 40	14°39' 39	T 5
F 6	7 2 36	15°58'08	25°36' 36	25°45' 45	11° 3' 3	8°58' 58	11°33' 33	3°20' 20	12°10' 10	5°R15' 15	7°43' 43	0°51' 51	2°23' 23	9°46' 46	14°43' 43	F 6
S 7	7 6 33	16°59'18	9°35' 52	27° 8' 8	12°18' 18	9° 0' 0	11°47' 47	3°21' 21	12° 7' 7	5°15' 15	7°42' 42	0°43' 43	2°20' 20	9°53' 53	14°47' 47	S 7
S 8	7 10 29	18° 0'29	24°25' 25	28°31' 31	13°32' 32	9° 1' 1	12° 1' 1	3°21' 21	12° 4' 4	5°15' 15	7°42' 42	0°37' 37	2°17' 17	10° 0' 0	14°51' 51	S 8
M 9	7 14 26	19° 1'38	9°37' 37	29°56' 56	14°47' 47	9°R 1' 1	12°15' 15	3°21' 21	12° 2' 2	5°15' 15	7°42' 42	0°33' 33	2°13' 13	10° 6' 6	14°55' 55	M 9
T 10	7 18 23	20° 2'47	23°52' 52	1°32' 21	16° 1' 1	9° 1' 1	12°29' 29	3°22' 22	11°59' 59	5°15' 15	7°42' 42	0°D32' 32	2°10' 10	10°13' 13	14°59' 59	T 10
W 11	7 22 19	21° 3'55	8°32' 32	2°47' 47	17°16' 16	8°59' 59	12°43' 43	3°23' 23	11°57' 57	5°15' 15	7°41' 41	0°32' 32	2° 7' 7	10°20' 20	15° 3' 3	W 11
T 12	7 26 16	22° 5'03	23° 2' 2	4°14' 14	18°30' 30	8°57' 57	12°57' 57	3°24' 24	11°54' 54	5°14' 14	7°41' 41	0°33' 33	2° 4' 4	10°26' 26	15° 7' 7	T 12
F 13	7 30 12	23° 6'09	7°19' 19	5°41' 41	19°45' 45	8°55' 55	13°11' 11	3°24' 24	11°52' 52	5°14' 14	7°41' 41	0°34' 34	2° 1' 1	10°33' 33	15°12' 12	F 13
S 14	7 34 9	24° 7'15	21°20' 20	7° 9' 9	20°59' 59	8°51' 51	13°25' 25	3°26' 26	11°49' 49	5°14' 14	7°41' 41	0°R35' 35	1°58' 58	10°40' 40	15°16' 16	S 14
S 15	7 38 5	25° 8'20	5° 6' 6	8°38' 38	22°14' 14	8°47' 47	13°39' 39	3°27' 27	11°47' 47	5°14' 14	7°41' 41	0°35' 35	1°54' 54	10°46' 46	15°20' 20	S 15
M 16	7 42 2	26° 9'23	18°36' 36	10° 8' 8	23°28' 28	8°42' 42	13°52' 52	3°28' 28	11°44' 44	5°13' 13	7°40' 40	0°33' 33	1°51' 51	10°53' 53	15°24' 24	M 16
T 17	7 45 58	27°10'26	1°15' 52	11°38' 38	24°43' 43	8°36' 36	14° 6' 6	3°29' 29	11°42' 42	5°13' 13	7°40' 40	0°29' 29	1°48' 48	10°59' 59	15°29' 29	T 17
W 18	7 49 55	28°11'28	14°54' 54	13° 9' 9	25°57' 57	8°29' 29	14°20' 20	3°31' 31	11°39' 39	5°13' 13	7°40' 40	0°24' 24	1°45' 45	11° 6' 6	15°33' 33	W 18
T 19	7 53 52	29°12'29	27°43' 43	14°41' 41	27°11' 11	8°21' 21	14°34' 34	3°32' 32	11°37' 37	5°12' 12	7°40' 40	0°19' 19	1°42' 42	11°13' 13	15°37' 37	T 19
F 20	7 57 48	0°13'29	10°19' 19	16°13' 13	28°25' 25	8°13' 13	14°48' 48	3°34' 34	11°34' 34	5°12' 12	7°40' 40	0°13' 13	1°38' 38	11°19' 19	15°41' 41	F 20
S 21	8 1 45	1°14'28	22°43' 43	17°46' 46	29°40' 40	8° 4' 4	15° 1' 1	3°36' 36	11°32' 32	5°11' 11	7°D40' 40	0° 8' 8	1°35' 35	11°26' 26	15°46' 46	S 21
S 22	8 5 41	2°15'25	4°15' 57	19°19' 19	0°15' 54	7°54' 54	15°15' 15	3°38' 38	11°29' 29	5°11' 11	7°40' 40	0° 5' 5	1°32' 32	11°33' 33	15°50' 50	S 22
M 23	8 9 38	3°16'22	17° 1' 1	20°53' 53	2° 8' 8	7°44' 44	15°29' 29	3°40' 40	11°27' 27	5°10' 10	7°40' 40	0° 2' 2	1°29' 29	11°39' 39	15°55' 55	M 23
T 24	8 13 34	4°17'18	28°56' 56	22°28' 28	3°22' 22	7°32' 32	15°42' 42	3°42' 42	11°25' 25	5° 9' 9	7°40' 40	0°D 2' 2	1°26' 26	11°46' 46	15°59' 59	T 24
W 25	8 17 31	5°18'13	10°17' 46	24° 3' 3	4°36' 36	7°20' 20	15°56' 56	3°44' 44	11°22' 22	5° 9' 9	7°40' 40	0° 2' 2	1°23' 23	11°53' 53	16° 3' 3	W 25
T 26	8 21 27	6°19'07	22°34' 34	25°39' 39	5°50' 50	7° 7' 7	16°10' 10	3°47' 47	11°20' 20	5° 8' 8	7°40' 40	0° 3' 3	1°19' 19	11°59' 59	16° 8' 8	T 26
F 27	8 25 24	7°20'00	4°12' 22	27°16' 16	7° 4' 4	6°53' 53	16°23' 23	3°49' 49	11°18' 18	5° 8' 8	7°41' 41	0° 5' 5	1°16' 16	12° 6' 6	16°12' 12	F 27
S 28	8 29 21	8°20'53	16°15' 15	28°54' 54	8°18' 18	6°39' 39	16°37' 37	3°52' 52	11°16' 16	5° 7' 7	7°41' 41	0° 7' 7	1°13' 13	12°13' 13	16°16' 16	S 28
S 29	8 33 17	9°21'44	28°17' 17	0°13' 32	9°32' 32	6°23' 23	16°50' 50	3°54' 54	11°13' 13	5° 6' 6	7°41' 41	0° 8' 8	1°10' 10	12°19' 19	16°21' 21	S 29
M 30	8 37 14	10°22'35	10°17' 34	2°11' 11	10°46' 46	6° 8' 8	17° 4' 4	3°57' 57	11°11' 11	5° 5' 5	7°41' 41	0°R 9' 9	1° 7' 7	12°26' 26	16°25' 25	M 30
T 31	8 41 10	11°23'25	23°17' 17	3°15' 51	11°15' 59	5°17' 51	17°17' 17	4° 0' 0	11°10' 10	5° 5' 5	7°R41' 41	0°R 8' 8	1°R 4' 4	12°33' 33	16°30' 30	T 31

Delta T = 69.40 sec

Greg. Calendar

FEBRUARY 1617 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	8 45 7	12°24'13	6°17' 8	5°31' 31	13°13' 13	5°R34' 34	17°30' 30	4° 3' 3	11°R 7' 7	5°R 4' 4	7°R42' 42	0°R 7' 7	1°R 0' 0	12°39' 39	16°34' 34	W 1
T 2	8 49 3	13°25'01	19°33' 33	7°13' 13	14°27' 27	5°16' 16	17°44' 44	4° 6' 6	11°R 5' 5	5°R 3' 3	7°42' 42	0°R 5' 5	0°57' 57	12°46' 46	16°39' 39	T 2
F 3	8 53 0	14°25'48	3°32' 26	8°55' 55	15°41' 41	4°57' 57	17°57' 57	4° 9' 9	11° 3' 3	5° 2' 2	7°42' 42	0° 3' 3	0°54' 54	12°52' 52	16°43' 43	F 3
S 4	8 56 56	15°26'34	17°45' 45	10°38' 38	16°54' 54	4°38' 38	18°10' 10	4°12' 12	11° 1' 1	5° 1' 1	7°42' 42	0° 1' 1	0°51' 51	12°59' 59	16°47' 47	S 4
S 5	9 0 53	16°27'18	2°22' 26	12°21' 21	18° 8' 8	4°18' 18	18°23' 23	4°16' 16	10°59' 59	5° 0' 0	7°43' 43	29°59' 59	0°48' 48	13° 6' 6	16°52' 52	S 5
M 6	9 4 50	17°28'01	17°23' 23	14° 6' 6	19°21' 21	3°58' 58	18°37' 37	4°19' 19	10°57' 57	4°59' 59	7°43' 43	29°58' 58	0°44' 44	13°12' 12	16°56' 56	M 6
T 7	9 8 46	18°28'43	2°12' 29	15°51' 51	20°35' 35	3°37' 37	18°50' 50	4°23' 23	10°55' 55	4°58' 58	7°43' 43	29°D58' 58	0°41' 41	13°19' 19	17° 1' 1	T 7
W 8	9 12 43	19°29'23	17°33' 33	17°38' 38	21°48' 48	3°15' 15	19° 3' 3	4°26' 26	10°53' 53	4°57' 57	7°44' 44	29°58' 58	0°38' 38	13°26' 26	17° 5' 5	W 8
T 9	9 16 39	20°30'01	2°17' 27	19°25' 25	23° 1' 1	2°54' 54	19°16' 16	4°30' 30	10°51' 51	4°56' 56	7°44' 44	29°59' 59	0°35' 35	13°32' 32	17°10' 10	T 9
F 10	9 20 36	21°30'38	17° 5' 5	21°12' 12	24°15' 15	2°31' 31	19°29' 29	4°34' 34	10°49' 49	4°55' 55	7°45' 45	29°59' 59	0°32' 32	13°39' 39	17°14' 14	F 10
S 11	9 24 32	22°31'13	1°18' 22	23° 1' 1	25°28' 28	2° 9' 9	19°42' 42	4°38' 38	10°47' 47	4°54' 54	7°45' 45	0°R 0' 0	0°29' 29	13°46' 46	17°18' 18	S 11
S 12	9 28 29	23°31'46	15°15' 15	24°51' 51	26°41' 41	1°46' 46	19°54' 54	4°42' 42	10°46' 46	4°53' 53	7°45' 45	0° 1' 1	0°25' 25	13°52' 52	17°23' 23	S 12
M 13	9 32 25	24°32'18	28°46' 46	26°41' 41	27°54' 54	1°23' 23	20° 7' 7	4°46' 46	10°44' 44	4°52' 52	7°46' 46	0°R 1' 1	0°22' 22	13°59' 59	17°27' 27	M 13
T 14	9 36 22	25°32'47	11°15' 55	28°32' 32	29° 7' 7	0°59' 59	20°20' 20	4°50' 50	10°42' 42	4°50' 50	7°46' 46	0° 1' 1	0°19' 19	14° 6' 6	17°32' 32	T 14
W 15	9 40 19	26°33'15	24°45' 45	0°12' 24	0°17' 20	0°36' 36	20°33' 33	4°55' 55	10°41' 41	4°49' 49	7°47' 47	0° 0' 0	0°16' 16	14°12' 12	17°36' 36	W 15
T 16	9 44 15	27°33'40	7°19' 19	2°16' 16	1°33' 33	0°12' 12	20°45' 45	4°59' 59	10°39' 39	4°48' 48	7°48' 48	29°59' 59	0°13' 13	14°19' 19	17°40' 40	T 16
F 17	9 48 12	28°34'04	19°39' 39	4° 9' 9	2°46' 46	29°14' 49	20°58' 58	5° 3' 3	10°38' 38	4°47' 47	7°48' 48	29°59' 59	0°10' 10	14°26' 26	17°45' 45	F 17
S 18	9 52 8	29°34'26	1°14' 48	6° 2' 2	3°59' 59	29°25' 25	21°10' 10	5° 8' 8	10°36' 36	4°46' 46	7°49' 49	29°D59' 59	0° 6' 6	14°32' 32	17°49' 49	S 18
S 19	9 56 5	0°13'46	13°48' 48	7°55' 55	5°11' 11	29° 1' 1	21°23' 23	5°13' 13	10°35' 35	4°44' 44	7°49' 49	29°59' 59	0° 3' 3	14°39' 39	17°54' 54	S 19
M 20	10 0 1	1°35'05	25°42' 42	9°49' 49	6°24' 24	28°37' 37	21°35' 35	5°17' 17	10°34' 34	4°43' 43	7°50' 50	29°R59' 59	29°59' 59	14°46' 46	17°58' 58	M 20
T 21	10 3 58	2°35'21	7°17' 33	11°42' 42	7°36' 36	28°13' 13	21°47' 47	5°22' 22	10°32' 32	4°42' 42	7°51' 51	29°59' 59	29°57' 57	14°52' 52	18° 2' 2	T 21
W 22	10 7 54	3°35'36	19°21' 21	13°35' 35	8°49' 49	27°50' 50	21°59' 59	5°27' 27	10°31' 31	4°40' 40	7°51' 51	29°59' 59	29°54' 54	14°59' 59	18° 6' 6	W 22
T 23	10 11 51	4°35'49	1°19' 9	15°28' 28	10° 1' 1	27°26' 26	22°12' 12	5°32' 32	10°30' 30	4°39' 39	7°52' 52	29°59' 59	29°50' 50	15° 5' 5	18°11' 11	T 23
F 24	10 15 48	5°36'00	13° 0' 0	17°20' 20	11°13' 13	27° 3' 3	22°24' 24	5°37' 37	10°28' 28	4°38' 38	7°53' 53	29°58' 58	29°47' 47	15°12' 12	18°15' 15	F 24
S 25	10 19 44	6°36'09	24°57' 57	19°10' 10	12°26' 26	26°40' 40	22°36' 36	5°42' 42	10°27' 27	4°36' 36	7°53' 53	29°57' 57	29°44' 44	15°19' 19	18°19' 19	S 25
S 26	10 23 41	7°36'17	7°11' 2	20°59' 59	13°38' 38	26°18' 18	22°47' 47	5°48' 48	10°26' 26	4°35' 35	7°54' 54	29°56' 56	29°41' 41	15°25' 25	18°24' 24	S 26
M 27	10 27 37	8°36'24	19°20' 20	22°46' 46	14°50' 50	25°55' 55	22°59' 59	5°53' 53	10°25' 25	4°33' 33	7°55' 55	29°56' 56	29°38' 38	15°32' 32	18°28' 28	M 27
T 28	10 31 34	9°13'6	1°17' 53	24°13' 30	16°17' 2	25°13' 33	23°11' 11	5°58' 58	10°24' 24	4°32' 32	7°56' 56	29°55' 55	29°35' 35	15°39' 39	18°32' 32	T 28

ASTRODIENST EPHEMERIS for the year 1617

geocentric

MARCH 1617 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	10 35 30	10 ^h 36'32"	14 ^h 46'	26 ^h 11'	17 ^h 14'	25 ^h R12	23 ^h 23'	6 ^h 8'	10 ^h R23	4 ^h R30	7 ^h 56'	29 ^h D55	29 ^h 31'	15 ^h 45'	18 ^h 36'	W 1
T 2	10 39 27	11 ^h 36'34"	28° 2'	27°49'	18°25'	24 ^h 51'	23°34'	6° 9'	10 ^h 22'	4 ^h 29'	7°57'	29 ^h 55'	29°28'	15°52'	18°40'	T 2
F 3	10 43 23	12 ^h 36'34"	11 ^h 34'	29°23'	19°37'	24°30'	23°46'	6°15'	10°22'	4°27'	7°58'	29°56'	29°25'	15°59'	18°44'	F 3
S 4	10 47 20	13 ^h 36'32"	25°52'	0 ^h 52'	20°49'	24°10'	23°57'	6°20'	10°21'	4°26'	7°59'	29°57'	29°22'	16° 5'	18°49'	S 4
S 5	10 51 17	14 ^h 36'29"	10 ^h 26'	2°16'	22° 0'	23°50'	24° 9'	6°26'	10°20'	4°24'	8° 0'	29°58'	29°19'	16°12'	18°53'	S 5
M 6	10 55 13	15 ^h 36'24"	25°20'	3°34'	23°11'	23°31'	24°20'	6°32'	10°19'	4°23'	8° 1'	29°R59	29°16'	16°19'	18°57'	M 6
T 7	10 59 10	16 ^h 36'17"	10 ^h 29'	4°46'	24°23'	23°13'	24°31'	6°38'	10°19'	4°21'	8° 2'	29°59'	29°12'	16°25'	19° 1'	T 7
W 8	11 3 6	17 ^h 36'08"	25°43'	5°52'	25°34'	22°55'	24°42'	6°44'	10°18'	4°20'	8° 2'	29°58'	29° 9'	16°32'	19° 5'	W 8
T 9	11 7 3	18 ^h 35'57"	10 ^h 53'	6°51'	26°45'	22°38'	24°53'	6°50'	10°18'	4°18'	8° 3'	29°56'	29° 6'	16°39'	19° 9'	T 9
F 10	11 10 59	19°35'43"	25°48'	7°42'	27°56'	22°22'	25° 4'	6°56'	10°17'	4°17'	8° 4'	29°53'	29° 3'	16°45'	19°13'	F 10
S 11	11 14 56	20°35'28"	10 ^h 22'	8°26'	29° 7'	22° 6'	25°15'	7° 2'	10°17'	4°15'	8° 5'	29°50'	29° 0'	16°52'	19°17'	S 11
S 12	11 18 52	21°35'10"	24°30'	9° 1'	0 ^h 18'	21°51'	25°25'	7° 8'	10°16'	4°13'	8° 6'	29°48'	28°56'	16°59'	19°21'	S 12
M13	11 22 49	22°34'51"	8 ^h 11'	9°29'	1°29'	21°37'	25°36'	7°14'	10°16'	4°12'	8° 7'	29°46'	28°53'	17° 5'	19°25'	M13
T 14	11 26 46	23°34'29"	21°22'	9°48'	2°39'	21°23'	25°46'	7°21'	10°16'	4°10'	8° 8'	29°D46	28°50'	17°12'	19°28'	T 14
W15	11 30 42	24°34'04"	4 ^h 11'	9°59'	3°50'	21°11'	25°57'	7°27'	10°16'	4° 9'	8° 9'	29°46'	28°47'	17°18'	19°32'	W15
T 16	11 34 39	25°33'37"	16°39'	10°R 2	5° 0'	20°59'	26° 7'	7°33'	10°15'	4° 7'	8°10'	29°47'	28°44'	17°25'	19°36'	T 16
F 17	11 38 35	26°33'08"	28°51'	9°58'	6°10'	20°47'	26°17'	7°40'	10°15'	4° 5'	8°11'	29°49'	28°41'	17°32'	19°40'	F 17
S 18	11 42 32	27°32'37"	10 ^h 51'	9°45'	7°20'	20°37'	26°27'	7°46'	10°D15	4° 4'	8°12'	29°51'	28°37'	17°38'	19°43'	S 18
S 19	11 46 28	28°32'03"	22°44'	9°25'	8°30'	20°27'	26°37'	7°53'	10°15'	4° 2'	8°14'	29°52'	28°34'	17°45'	19°47'	S 19
M20	11 50 25	29°31'27"	4 ^h 32'	8°59'	9°40'	20°19'	26°47'	7°59'	10°15'	4° 0'	8°15'	29°R52	28°31'	17°52'	19°51'	M20
T 21	11 54 21	0 ^h 30'49"	16°19'	8°26'	10°50'	20°11'	26°57'	8° 6'	10°15'	3°59'	8°16'	29°51'	28°28'	17°58'	19°54'	T 21
W22	11 58 18	1°30'09"	28° 8'	7°49'	11°59'	20° 3'	27° 6'	8°13'	10°16'	3°57'	8°17'	29°48'	28°25'	18° 5'	19°58'	W22
T 23	12 2 15	2°29'27"	10 ^h 11'	7° 7'	13° 9'	19°57'	27°16'	8°20'	10°16'	3°55'	8°18'	29°43'	28°21'	18°12'	20° 1'	T 23
F 24	12 6 11	3°28'42"	21°59'	6°21'	14°18'	19°51'	27°25'	8°26'	10°16'	3°54'	8°19'	29°38'	28°18'	18°18'	20° 5'	F 24
S 25	12 10 8	4°27'56"	4 ^h 11'	5°33'	15°27'	19°46'	27°34'	8°33'	10°16'	3°52'	8°20'	29°31'	28°15'	18°25'	20° 8'	S 25
S 26	12 14 4	5°27'08"	16°18'	4°43'	16°36'	19°42'	27°43'	8°40'	10°17'	3°50'	8°21'	29°25'	28°12'	18°32'	20°12'	S 26
M27	12 18 1	6°26'17"	28°43'	3°53'	17°45'	19°39'	27°52'	8°47'	10°17'	3°49'	8°23'	29°19'	28° 9'	18°38'	20°15'	M27
T 28	12 21 57	7°25'26"	11 ^h 21'	3° 4'	18°54'	19°36'	28° 1'	8°54'	10°18'	3°47'	8°24'	29°15'	28° 6'	18°45'	20°19'	T 28
W29	12 25 54	8°24'32"	24°15'	2°16'	20° 2'	19°34'	28°10'	9° 1'	10°18'	3°45'	8°25'	29°12'	28° 2'	18°52'	20°22'	W29
T 30	12 29 50	9°23'37"	7 ^h 27'	1°30'	21°11'	19°33'	28°19'	9° 8'	10°19'	3°44'	8°26'	29°D11	27°59'	18°58'	20°25'	T 30
F 31	12 33 47	10 ^h 22'39"	20 ^h 35'	0 ^h 48'	22 ^h 19'	19°D33	28 ^h 27'	9 ^h 15'	10 ^h 20'	3 ^h 42'	8 ^h 27'	29 ^h 11'	27 ^h 56'	19 ^h 51'	20 ^h 28'	F 31

Delta T = 69.25 sec

Greg. Calendar

APRIL 1617 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	12 37 44	11 ^h 21'40"	4 ^h 54'	0°R 9	23 ^h 27'	19 ^h 33'	28 ^h 35'	9 ^h 22'	10 ^h 20'	3°R41	8 ^h 29'	29 ^h 13'	27 ^h 53'	19 ^h 12'	20 ^h 32'	S 1
S 2	12 41 40	12°20'40"	19°12'	29 ^h 34'	24°35'	19°34'	28°44'	9°30'	10°21'	3 ^h 39'	8°30'	29°14'	27°50'	19°18'	20°35'	S 2
M 3	12 45 37	13°19'37"	3 ^h 50'	29° 4'	25°43'	19°36'	28°52'	9°37'	10°22'	3°37'	8°31'	29°R14	27°47'	19°25'	20°38'	M 3
T 4	12 49 33	14°18'32"	18°46'	28°39'	26°50'	19°38'	29° 0'	9°44'	10°23'	3°36'	8°32'	29°13'	27°43'	19°32'	20°41'	T 4
W 5	12 53 30	15°17'26"	3 ^h 52'	28°19'	27°58'	19°42'	29° 8'	9°51'	10°24'	3°34'	8°34'	29° 9'	27°40'	19°38'	20°44'	W 5
T 6	12 57 26	16°16'18"	18°59'	28° 4'	29° 5'	19°46'	29°15'	9°59'	10°25'	3°32'	8°35'	29° 3'	27°37'	19°45'	20°47'	T 6
F 7	13 1 23	17°15'07"	3 ^h 58'	27°55'	0 ^h 12'	19°50'	29°23'	10° 6'	10°26'	3°31'	8°36'	28°56'	27°34'	19°52'	20°50'	F 7
S 8	13 5 19	18°13'55"	18°39'	27°D51	1°19'	19°56'	29°30'	10°13'	10°27'	3°29'	8°37'	28°49'	27°31'	19°58'	20°52'	S 8
S 9	13 9 16	19°12'40"	2 ^h 55'	27°52'	2°25'	20° 1'	29°37'	10°21'	10°28'	3°28'	8°39'	28°41'	27°27'	20° 5'	20°55'	S 9
M10	13 13 12	20°11'24"	16°43'	27°59'	3°32'	20° 8'	29°45'	10°28'	10°29'	3°26'	8°40'	28°35'	27°24'	20°11'	20°58'	M10
T 11	13 17 9	21°10'05"	0 ^h 3	28°10'	4°38'	20°15'	29°52'	10°36'	10°30'	3°24'	8°41'	28°31'	27°21'	20°18'	21° 1'	T 11
W12	13 21 6	22° 8'44"	12°55'	28°26'	5°44'	20°23'	29°58'	10°43'	10°32'	3°23'	8°43'	28°29'	27°18'	20°25'	21° 3'	W12
T 13	13 25 2	23° 7'20"	25°25'	28°47'	6°50'	20°32'	0 ^h 5	10°51'	10°33'	3°21'	8°44'	28°D28	27°15'	20°31'	21° 6'	T 13
F 14	13 28 59	24° 5'55"	7 ^h 26'	29°13'	7°56'	20°41'	0°11'	10°58'	10°34'	3°20'	8°45'	28°29'	27°12'	20°38'	21° 9'	F 14
S 15	13 32 55	25° 4'27"	19°34'	29°43'	9° 1'	20°50'	0°18'	11° 6'	10°36'	3°18'	8°47'	28°30'	27° 8'	20°45'	21°11'	S 15
S 16	13 36 52	26° 2'57"	1 ^h 24'	0 ^h 17'	10° 6'	21° 1'	0°24'	11°13'	10°37'	3°17'	8°48'	28°R30	27° 5'	20°51'	21°13'	S 16
M17	13 40 48	27° 1'25"	13°11'	0°55'	11°11'	21°12'	0°30'	11°21'	10°39'	3°15'	8°49'	28°29'	27° 2'	20°58'	21°16'	M17
T 18	13 44 45	27°59'50"	24°58'	1°36'	12°16'	21°23'	0°36'	11°29'	10°40'	3°14'	8°51'	28°25'	26°59'	21° 5'	21°18'	T 18
W19	13 48 41	28°58'14"	6 ^h 51'	2°22'	13°20'	21°35'	0°42'	11°36'	10°42'	3°12'	8°52'	28°19'	26°56'	21°11'	21°20'	W19
T 20	13 52 38	29°56'35"	18°50'	3°11'	14°24'	21°47'	0°47'	11°44'	10°43'	3°11'	8°53'	28°11'	26°52'	21°18'	21°23'	T 20
F 21	13 56 35	0 ^h 54'55"	0 ^h 58'	4° 3'	15°28'	22° 0'	0°53'	11°52'	10°45'	3°10'	8°55'	28° 1'	26°49'	21°25'	21°25'	F 21
S 22	14 0 31	1°53'13"	13°15'	4°58'	16°31'	22°14'	0°58'	11°59'	10°47'	3° 8'	8°56'	27°49'	26°46'	21°31'	21°27'	S 22
S 23	14 4 28	2°51'29"	25°44'	5°56'	17°35'	22°28'	1° 3'	12° 7'	10°49'	3° 7'	8°57'	27°38'	26°43'	21°38'	21°29'	S 23
M24	14 8 24	3°49'44"	8 ^h 24'	6°58'	18°38'	22°42'	1° 8'	12°15'	10°51'	3° 5'	8°59'	27°27'	26°40'	21°45'	21°31'	M24
T 25	14 12 21	4°47'57"	21°15'	8° 2'	19°40'	22°57'	1°13'	12°22'	10°53'	3° 4'	9° 0'	27°18'	26°37'	21°51'	21°33'	T 25
W26	14 16 17	5°46'09"	4 ^h 19'	9° 9'	20°43'	23°13'	1°17'	12°30'	10°54'	3° 3'	9° 1'	27°12'	26°33'	21°58'	21°35'	W26
T 27	14 20 14	6°44'19"	17°36'	10°18'	21°45'	23°29'	1°22'	12°38'	10°56'	3° 1'	9° 3'	27° 8'	26°30'	22° 5'	21°37'	T 27
F 28	14 24 10	7°42'27"	1 ^h 8'	11°30'	22°47'	23°45'	1°26'	12°45'	10°58'	3° 0'	9° 4'	27° 7'	26°27'	22°11'	21°39'	F 28
S 29	14 28 7	8°40'34"	14°56'	12°44'	23°48'	24° 2'	1°30'	12°53'	11° 1'	2°59'	9° 5'	27°D 7	26°24'	22°18'	21°40'	S 29
S 30	14 32 4	9 ^h 38'40"	29 ^h 1	14 ^h 1	24 ^h 49'	24 ^h 19'	1 ^h 34'	13 ^h 1	11 ^h 3	2 ^h 57'	9 ^h 7'	27°R 7	26 ^h 21'	22 ^h 25'	21 ^h 42'	S 30

Delta T = 69.16 sec

Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1617
geocentric

MAY 1617 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	14 36 0	10♂36'44	13♂22	15♂20	25♂50	24♂37	1♂38	13♂9	11♂5	2♂56	9♂8	27♂6	26♂18	22♂31	21♂44	M 1
T 2	14 39 57	11°34'46	27°58	16°41	26°50	24°55	1°41	13°16	11°7	2♂55	9°10	27♂3	26°14	22°38	21°45	T 2
W 3	14 43 53	12°32'48	12♂44	18°5	27°51	25°13	1°44	13°24	11°9	2°54	9°11	26°57	26°11	22°45	21°47	W 3
T 4	14 47 50	13°30'48	27°33	19°31	28°50	25°32	1°48	13°32	11°12	2°53	9°12	26°49	26°8	22°51	21°48	T 4
F 5	14 51 46	14°28'46	12♂17	20°59	29°49	25°51	1°51	13°40	11°14	2°51	9°14	26°39	26°5	22°58	21°49	F 5
S 6	14 55 43	15°26'43	26°49	22°29	0♂48	26°11	1°53	13°48	11°16	2°50	9°15	26°28	26°2	23°5	21°51	S 6
S 7	14 59 39	16°24'39	11♂2	24°1	1°47	26°31	1°56	13°55	11°19	2°49	9°16	26°17	25°58	23°11	21°52	S 7
M 8	15 3 36	17°22'32	24°49	25°36	2°45	26°52	1°58	14°3	11°21	2°48	9°18	26°7	25°55	23°18	21°53	M 8
T 9	15 7 33	18°20'24	8♂10	27°12	3°42	27°13	2°1	14°11	11°24	2°47	9°19	26°0	25°52	23°25	21°54	T 9
W10	15 11 29	19°18'15	21°5	28°51	4°39	27°34	2°3	14°19	11°26	2°46	9°20	25°55	25°49	23°31	21°55	W10
T 11	15 15 26	20°16'03	3♂37	0♂31	5°36	27°55	2°5	14°26	11°29	2°45	9°22	25°52	25°46	23°38	21°56	T 11
F 12	15 19 22	21°13'50	15°50	2°14	6°32	28°17	2°6	14°34	11°31	2°44	9°23	25°52	25°43	23°45	21°57	F 12
S 13	15 23 19	22°11'35	27°49	3°59	7°28	28°39	2°8	14°42	11°34	2°43	9°24	25°51	25°39	23°51	21°58	S 13
S 14	15 27 15	23°9'19	9♂40	5°46	8°23	29°2	2°9	14°49	11°37	2°42	9°26	25°51	25°36	23°58	21°59	S 14
M15	15 31 12	24°7'00	21°29	7°35	9°17	29°25	2°10	14°57	11°39	2°41	9°27	25°49	25°33	24°5	22°0	M15
T 16	15 35 8	25°4'41	3♂19	9°26	10°11	29°48	2°11	15°5	11°42	2°40	9°28	25°45	25°30	24°11	22°0	T 16
W17	15 39 5	26°2'19	15°15	11°19	11°5	0♂11	2°12	15°13	11°45	2°40	9°30	25°38	25°27	24°18	22°1	W17
T 18	15 43 2	26°59'57	27°21	13°15	11°57	0°35	2°13	15°20	11°48	2°39	9°31	25°29	25°24	24°25	22°1	T 18
F 19	15 46 58	27°57'33	9♂40	15°12	12°50	0°59	2°13	15°28	11°50	2°38	9°32	25°18	25°20	24°31	22°2	F 19
S 20	15 50 55	28°55'07	22°12	17°11	13°41	1°23	2°R13	15°35	11°53	2°37	9°34	25°5	25°17	24°38	22°2	S 20
S 21	15 54 51	29°52'41	4♂58	19°12	14°32	1°48	2°13	15°43	11°56	2°37	9°35	24°52	25°14	24°45	22°3	S 21
M22	15 58 48	0♂50'13	17°57	21°15	15°22	2°13	2°13	15°51	11°59	2°36	9°36	24°40	25°11	24°51	22°3	M22
T 23	16 2 44	1°47'44	1♂9	23°20	16°11	2°38	2°13	15°58	12°2	2°35	9°37	24°30	25°8	24°58	22°3	T 23
W24	16 6 41	2°45'15	14°32	25°27	17°0	3°4	2°12	16°6	12°5	2°34	9°39	24°23	25°4	25°5	22°4	W24
T 25	16 10 38	3°42'44	28°5	27°34	17°47	3°29	2°11	16°13	12°8	2°34	9°40	24°18	25°1	25°11	22°4	T 25
F 26	16 14 34	4°40'13	11♂47	29°43	18°34	3°55	2°10	16°21	12°11	2°33	9°41	24°16	24°58	25°18	22°R 4	F 26
S 27	16 18 31	5°37'40	25°40	1♂54	19°20	4°21	2°9	16°28	12°14	2°33	9°42	24°D16	24°55	25°25	22°4	S 27
S 28	16 22 27	6°35'07	9♂41	4°5	20°6	4°48	2°8	16°36	12°17	2°32	9°44	24°R16	24°52	25°31	22°4	S 28
M29	16 26 24	7°32'34	23°52	6°16	20°50	5°15	2°6	16°43	12°20	2°32	9°45	24°15	24°49	25°38	22°3	M29
T 30	16 30 20	8°29'59	8♂10	8°28	21°34	5°42	2°5	16°51	12°24	2°31	9°46	24°12	24°45	25°45	22°3	T 30
W31	16 34 17	9♂27'24	22♂33	10♂40	22♂16	6♂9	2♂3	16♂58	12♂27	2♂31	9♂47	24♂7	24♂42	25♂51	22♂3	W31

Delta T = 69.08 sec

Greg. Calendar

JUNE 1617 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	16 38 13	10♂24'49	6♂58	12♂52	22♂57	6♂36	2°R 1	17♂6	12♂30	2°R30	9♂49	23°R59	24♂39	25♂58	22°R 3	T 1
F 2	16 42 10	11°22'13	21°18	15°4	23°38	7°4	1♂58	17°13	12°33	2♂30	9°50	23♂50	24°36	26°5	22♂2	F 2
S 3	16 46 7	12°19'36	5♂28	17°14	24°17	7°32	1°56	17°20	12°36	2°30	9°51	23°39	24°33	26°11	22°2	S 3
S 4	16 50 3	13°16'58	19°23	19°24	24°55	8°0	1°53	17°27	12°40	2°29	9°52	23°28	24°30	26°18	22°1	S 4
M 5	16 54 0	14°14'20	2♂58	21°32	25°32	8°28	1°50	17°35	12°43	2°29	9°53	23°19	24°26	26°25	22°1	M 5
T 6	16 57 56	15°11'40	16°12	23°40	26°8	8°57	1°47	17°42	12°46	2°29	9°54	23°11	24°23	26°31	22°0	T 6
W 7	17 1 53	16°9'00	29°3	25°45	26°43	9°25	1°44	17°49	12°50	2°29	9°56	23°6	24°20	26°38	22°0	W 7
T 8	17 5 49	17°6'19	11♂33	27°49	27°16	9°54	1°41	17°56	12°53	2°28	9°57	23°4	24°17	26°45	21°59	T 8
F 9	17 9 46	18°3'37	23°46	29°51	27°48	10°24	1°37	18°3	12°56	2°28	9°58	23°D 3	24°14	26°51	21°58	F 9
S 10	17 13 42	19°0'54	5♂47	1♂50	28°18	10°53	1°34	18°10	13°0	2°28	9°59	23°4	24°10	26°58	21°57	S 10
S 11	17 17 39	19°58'10	17°39	3°48	28°47	11°22	1°30	18°17	13°3	2°28	10°0	23°R 4	24°7	27°5	21°56	S 11
M12	17 21 36	20°55'26	29°28	5°44	29°15	11°52	1°26	18°24	13°7	2°28	10°1	23°4	24°4	27°11	21°55	M12
T 13	17 25 32	21°52'40	11♂21	7°37	29°40	12°22	1°21	18°31	13°10	2°D28	10°2	23°2	24°1	27°18	21°54	T 13
W14	17 29 29	22°49'54	23°21	9°28	0♂4	12°52	1°17	18°38	13°13	2°28	10°3	23°58	23°58	27°25	21°53	W14
T 15	17 33 25	23°47'07	5♂32	11°17	0°27	13°22	1°13	18°45	13°17	2°28	10°4	22°51	23°55	27°31	21°52	T 15
F 16	17 37 22	24°44'20	17°59	13°4	0°47	13°53	1°8	18°52	13°20	2°28	10°5	22°43	23°51	27°38	21°51	F 16
S 17	17 41 18	25°41'32	0♂42	14°48	1°6	14°24	1°3	18°59	13°24	2°28	10°6	22°34	23°48	27°45	21°49	S 17
S 18	17 45 15	26°38'44	13°44	16°30	1°23	14°54	0°58	19°5	13°27	2°28	10°7	22°24	23°45	27°51	21°48	S 18
M19	17 49 11	27°35'55	27°2	18°10	1°38	15°25	0°53	19°12	13°31	2°28	10°8	22°15	23°42	27°58	21°47	M19
T 20	17 53 8	28°33'06	10♂37	19°48	1°51	15°57	0°48	19°19	13°35	2°29	10°9	22°8	23°39	28°5	21°45	T 20
W21	17 57 5	29°30'17	24°23	21°23	2°2	16°28	0°42	19°25	13°38	2°29	10°10	22°3	23°36	28°11	21°44	W21
T 22	18 1 1	0♂27'28	8♂20	22°55	2°11	16°59	0°36	19°32	13°42	2°29	10°11	22°0	23°32	28°18	21°42	T 22
F 23	18 4 58	1°24'38	22°23	24°26	2°17	17°31	0°31	19°38	13°45	2°29	10°12	21°D59	23°29	28°25	21°41	F 23
S 24	18 8 54	2°21'49	6♂31	25°54	2°22	18°3	0°25	19°45	13°49	2°30	10°13	22°0	23°26	28°31	21°39	S 24
S 25	18 12 51	3°18'59	20°41	27°19	2°R24	18°35	0°19	19°51	13°52	2°30	10°14	22°1	23°23	28°38	21°37	S 25
M26	18 16 47	4°16'10	4♂51	28°42	2°24	19°7	0°13	19°57	13°56	2°31	10°15	22°R 1	23°20	28°45	21°35	M26
T 27	18 20 44	5°13'21	19°1	0♂3	2°21	19°39	0°6	20°4	14°0	2°31	10°16	22°0	23°16	28°51	21°34	T 27
W28	18 24 40	6°10'33	3♂8	1°21	2°16	20°12	0°0	20°10	14°3	2°31	10°16	21°58	23°13	28°58	21°32	W28
T 29	18 28 37	7°7'45	17°10	2°37	2°9	20°44	29♂54	20°16	14°7	2°32	10°17	21°53	23°10	29°5	21°30	T 29
F 30	18 32 34	8♂45'7	1♂4	3♂50	1♂59	21♂17	29♂47	20♂22	14♂11	2♂32	10♂18	21♂47	23♂7	29♂11	21♂28	F 30

Delta T = 69.00 sec

Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1617
geocentric

JULY 1617 GC

00:00 UT

Day	Sid.t	☉	☾	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	18 36 30	9 ⁵⁵ 2'09	14 ¹¹ 48	5 ⁰ 0	1 ⁰ R47	21 ¹⁷ 50	29 ⁰ R40	20 ⁸ 28	14 ¹⁵ 14	2 ² 33	10 ⁸ 19	21 ⁰ R40	23 ² 4	29 ¹⁷ 18	21 ⁰ R26	S 1
S 2	18 40 27	9 ⁵⁹ 22	28 ⁰ 18	6 ⁰ 8	1 ⁰ L33	22 ² 23	29 ² 33	20 ² 34	14 ¹ 18	2 ² 34	10 ² 20	21 ² 33	23 ⁰ 1	29 ² 25	21 ² 24	S 2
M 3	18 44 23	10 ⁵⁶ 34	11 ⁵³ 32	7 ¹ 12	1 ¹ 16	22 ² 56	29 ² 27	20 ² 40	14 ² 21	2 ² 34	10 ² 20	21 ² 28	22 ² 57	29 ² 31	21 ² 22	M 3
T 4	18 48 20	11 ⁵³ 47	24 ⁰ 30	8 ¹ 14	0 ⁵ 7	23 ² 29	29 ² 20	20 ² 46	14 ² 25	2 ² 35	10 ² 21	21 ² 23	22 ² 54	29 ² 38	21 ² 19	T 4
W 5	18 52 16	12 ⁵¹ 00	7 ⁰ 9	9 ¹ 13	0 ³ 6	24 ² 3	29 ² 12	20 ² 52	14 ² 29	2 ² 36	10 ² 22	21 ² 20	22 ² 51	29 ² 45	21 ² 17	W 5
T 6	18 56 13	13 ⁴⁸ 13	19 ⁰ 33	10 ¹ 9	0 ¹ 3	24 ² 36	29 ² 5	20 ² 58	14 ² 32	2 ² 36	10 ² 23	21 ² D19	22 ² 48	29 ² 51	21 ² 15	T 6
F 7	19 0 10	14 ⁴⁵ 26	1 ¹⁷ 43	11 ¹ 1	29 ² 47	25 ² 10	28 ² 58	21 ² 3	14 ² 36	2 ² 37	10 ² 23	21 ² 20	22 ² 45	29 ² 58	21 ² 13	F 7
S 8	19 4 6	15 ⁴² 40	13 ⁴¹	11 ⁵ 0	29 ² 20	25 ² 44	28 ² 51	21 ² 9	14 ² 40	2 ² 38	10 ² 24	21 ² 21	22 ² 42	0 ² 5	21 ² 10	S 8
S 9	19 8 3	16 ³⁹ 53	25 ³ 34	12 ⁰ 36	28 ² 51	26 ² 18	28 ² 43	21 ² 14	14 ² 43	2 ² 39	10 ² 25	21 ² 23	22 ² 38	0 ² 11	21 ² 8	S 9
M10	19 11 59	17 ³⁷ 06	7 ² 24	13 ¹ 18	28 ² 20	26 ² 52	28 ² 36	21 ² 20	14 ² 47	2 ² 39	10 ² 25	21 ² 24	22 ² 35	0 ² 18	21 ² 6	M10
T 11	19 15 56	18 ³⁴ 19	19 ¹ 16	13 ¹ 56	27 ² 47	27 ² 26	28 ² 28	21 ² 25	14 ² 51	2 ² 40	10 ² 26	21 ² R25	22 ² 32	0 ² 25	21 ² 3	T 11
W12	19 19 52	19 ³¹ 33	1 ¹⁸ 17	14 ² 30	27 ² 13	28 ² 1	28 ² 21	21 ² 30	14 ² 54	2 ² 41	10 ² 27	21 ² 24	22 ² 29	0 ² 31	21 ² 1	W12
T 13	19 23 49	20 ²⁸ 47	13 ³ 30	15 ² 1	26 ² 38	28 ² 35	28 ² 13	21 ² 36	14 ² 58	2 ² 42	10 ² 27	21 ² 22	22 ² 26	0 ² 38	20 ² 58	T 13
F 14	19 27 45	21 ²⁶ 01	26 ⁰ 0	15 ² 27	26 ² 2	29 ² 10	28 ² 6	21 ² 41	15 ² 2	2 ² 43	10 ² 28	21 ² 19	22 ² 22	0 ² 45	20 ² 56	F 14
S 15	19 31 42	22 ²³ 16	8 ² 49	15 ² 48	25 ² 25	29 ² 45	27 ² 58	21 ² 46	15 ² 5	2 ² 44	10 ² 28	21 ² 15	22 ² 19	0 ² 51	20 ² 53	S 15
S 16	19 35 39	23 ²⁰ 30	22 ⁰ 0	16 ² 5	24 ² 48	0 ² 20	27 ² 50	21 ² 51	15 ² 9	2 ² 45	10 ² 29	21 ² 10	22 ² 16	0 ² 58	20 ² 50	S 16
M17	19 39 35	24 ¹⁷ 46	5 ² 32	16 ² 18	24 ² 11	0 ² 55	27 ² 42	21 ² 56	15 ² 12	2 ² 46	10 ² 29	21 ² 6	22 ² 13	1 ² 5	20 ² 48	M17
T 18	19 43 32	25 ¹⁵ 01	19 ² 25	16 ² 26	23 ² 33	1 ³ 30	27 ² 35	22 ² 1	15 ² 16	2 ² 47	10 ² 30	21 ² 3	22 ² 10	1 ² 11	20 ² 45	T 18
W19	19 47 28	26 ¹² 18	3 ² 34	16 ² R28	22 ² 56	2 ² 5	27 ² 27	22 ² 6	15 ² 20	2 ² 48	10 ² 30	21 ² 1	22 ² 7	1 ² 18	20 ² 42	W19
T 20	19 51 25	27 ⁹ 35	17 ⁵ 36	16 ² 26	22 ² 19	2 ² 41	27 ² 19	22 ² 10	15 ² 23	2 ² 49	10 ² 31	21 ² D 0	22 ² 3	1 ² 25	20 ² 39	T 20
F 21	19 55 21	28 ⁶ 52	2 ² 26	16 ² 19	21 ² 43	3 ² 16	27 ² 11	22 ² 15	15 ² 27	2 ² 50	10 ² 31	21 ² 0	22 ² 0	1 ² 31	20 ² 37	F 21
S 22	19 59 18	29 ⁴ 11	16 ² 57	16 ² 6	21 ² 8	3 ² 52	27 ² 4	22 ² 20	15 ² 30	2 ² 52	10 ² 31	21 ² 1	21 ² 57	1 ² 38	20 ² 34	S 22
S 23	20 3 14	0 ⁰ 1'31	1 ¹ 25	15 ² 49	20 ² 34	4 ² 27	26 ² 56	22 ² 24	15 ² 34	2 ² 53	10 ² 32	21 ² 3	21 ² 54	1 ² 45	20 ² 31	S 23
M24	20 7 11	0 ⁵⁸ 51	15 ² 47	15 ² 27	20 ² 1	5 ² 3	26 ² 48	22 ² 28	15 ² 38	2 ² 54	10 ² 32	21 ² 4	21 ² 51	1 ² 52	20 ² 28	M24
T 25	20 11 8	1 ⁵⁶ 13	29 ² 59	15 ² 0	19 ² 30	5 ² 39	26 ² 40	22 ² 33	15 ² 41	2 ² 55	10 ² 33	21 ² R 4	21 ² 48	1 ² 58	20 ² 25	T 25
W26	20 15 4	2 ⁵³ 36	13 ² 59	14 ² 28	19 ² 1	6 ² 15	26 ² 33	22 ² 37	15 ² 45	2 ² 57	10 ² 33	21 ² 4	21 ² 44	2 ² 5	20 ² 22	W26
T 27	20 19 1	3 ⁵¹ 00	27 ² 46	13 ² 53	18 ² 33	6 ² 51	26 ² 25	22 ² 41	15 ² 48	2 ² 58	10 ² 33	21 ² 3	21 ² 41	2 ² 12	20 ² 19	T 27
F 28	20 22 57	4 ⁴⁸ 26	11 ¹ 20	13 ² 14	18 ² 8	7 ² 28	26 ² 17	22 ² 45	15 ² 52	2 ² 59	10 ² 33	21 ² 1	21 ² 38	2 ² 18	20 ² 16	F 28
S 29	20 26 54	5 ⁴⁵ 52	24 ² 40	12 ² 32	17 ² 44	8 ² 4	26 ² 10	22 ² 49	15 ² 55	3 ² 1	10 ² 34	20 ² 59	21 ² 35	2 ² 25	20 ² 13	S 29
S 30	20 30 50	6 ⁴³ 20	7 ² 45	11 ² 47	17 ² 23	8 ² 41	26 ² 2	22 ² 53	15 ² 59	3 ² 2	10 ² 34	20 ² 57	21 ² 32	2 ² 32	20 ² 10	S 30
M31	20 34 47	7 ⁰ 40'49	20 ² 37	11 ² 0	17 ² 4	9 ² 17	25 ² 55	22 ² 57	16 ² 2	3 ² 4	10 ² 34	20 ² 56	21 ² 28	2 ² 38	20 ² 7	M31

Delta T = 68.92 sec

Greg. Calendar

AUGUST 1617 GC

00:00 UT

Day	Sid.t	☉	☾	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	20 38 43	8♂38'19	3♂14	10♂R14	16♂R47	9♂54	25♂R47	23♂ 1	16♂ 6	3♂ 5	10♂R34	20♂R54	21♂25	2♂45	20♂R 4	T 1
W 2	20 42 40	9°35'50	15°39	9♂27	16♂33	10°31	25♂40	23° 4	16° 9	3° 6	10°35	20♂D54	21°22	2°52	20♂ 1	W 2
T 3	20 46 37	10°33'22	27°52	8°41	16°21	11° 8	25°33	23° 8	16°12	3° 8	10°35	20♂54	21°19	2°58	19°58	T 3
F 4	20 50 33	11°30'55	9♂55	7°56	16°11	11°45	25°26	23°11	16°16	3° 9	10°35	20♂54	21°16	3° 5	19°55	F 4
S 5	20 54 30	12°28'29	21°50	7°14	16° 4	12°22	25°18	23°14	16°19	3°11	10°35	20°55	21°13	3°12	19°52	S 5
S 6	20 58 26	13°26'04	3♂41	6°36	15°59	12°59	25°11	23°18	16°23	3°13	10°35	20°56	21° 9	3°18	19°49	S 6
M 7	21 2 23	14°23'40	15°30	6° 1	15°57	13°37	25° 4	23°21	16°26	3°14	10°35	20°57	21° 6	3°25	19°46	M 7
T 8	21 6 19	15°21'17	27°23	5°32	15♂D57	14°14	24°57	23°24	16°29	3°16	10°35	20°57	21° 3	3°32	19°43	T 8
W 9	21 10 16	16°18'55	9♂22	5° 8	15°59	14°52	24°51	23°27	16°32	3°17	10°35	20°57	21° 0	3°38	19°40	W 9
T 10	21 14 12	17°16'34	21°34	4°51	16° 3	15°30	24°44	23°30	16°36	3°19	10♂R35	20♂R57	20°57	3°45	19°37	T 10
F 11	21 18 9	18°14'15	4♂ 1	4°40	16°10	16° 7	24°38	23°32	16°39	3°21	10°35	20°57	20°54	3°52	19°34	F 11
S 12	21 22 6	19°11'56	16°49	4♂D36	16°18	16°45	24°31	23°35	16°42	3°22	10°35	20°57	20°50	3°58	19°30	S 12
S 13	21 26 2	20° 9'38	0♂ 0	4°39	16°29	17°23	24°25	23°38	16°45	3°24	10°35	20°57	20°47	4° 5	19°27	S 13
M14	21 29 59	21° 7'22	13°37	4°50	16°42	18° 1	24°19	23°40	16°49	3°26	10°35	20♂D57	20°44	4°12	19°24	M14
T 15	21 33 55	22° 5'07	27°38	5° 9	16°57	18°39	24°13	23°43	16°52	3°28	10°35	20°57	20°41	4°18	19°21	T 15
W16	21 37 52	23° 2'53	12♂ 2	5°35	17°14	19°18	24° 7	23°45	16°55	3°29	10°35	20°57	20°38	4°25	19°18	W16
T 17	21 41 48	24° 0'40	26°44	6° 9	17°33	19°56	24° 1	23°47	16°58	3°31	10°35	20♂R57	20°34	4°32	19°15	T 17
F 18	21 45 45	24°58'29	11♂37	6°50	17°54	20°35	23°55	23°49	17° 1	3°33	10°35	20°57	20°31	4°39	19°12	F 18
S 19	21 49 41	25°56'19	26°33	7°39	18°16	21°13	23°50	23°51	17° 4	3°35	10°34	20°57	20°28	4°45	19° 9	S 19
S 20	21 53 38	26°54'11	11♂25	8°34	18°40	21°52	23°44	23°53	17° 7	3°37	10°34	20°56	20°25	4°52	19° 6	S 20
M21	21 57 35	27°52'05	26° 6	9°37	19° 6	22°31	23°39	23°55	17°10	3°39	10°34	20°55	20°22	4°59	19° 3	M21
T 22	22 1 31	28°50'00	10♂30	10°46	19°33	23° 9	23°34	23°56	17°13	3°41	10°34	20°55	20°19	5° 5	19° 0	T 22
W23	22 5 28	29°47'58	24°34	12° 1	20° 2	23°48	23°29	23°58	17°16	3°42	10°34	20♂D54	20°15	5°12	18°57	W23
T 24	22 9 24	0♂45'57	8♂16	13°22	20°33	24°27	23°24	23°59	17°19	3°44	10°33	20°54	20°12	5°19	18°53	T 24
F 25	22 13 21	1°43'59	21°39	14°49	21° 5	25° 6	23°20	24° 1	17°22	3°46	10°33	20°55	20° 9	5°25	18°50	F 25
S 26	22 17 17	2°42'02	4♂43	16°20	21°38	25°46	23°15	24° 2	17°25	3°48	10°33	20°56	20° 6	5°32	18°47	S 26
S 27	22 21 14	3°40'08	17°29	17°56	22°13	26°25	23°11	24° 3	17°27	3°50	10°32	20°57	20° 3	5°39	18°45	S 27
M28	22 25 10	4°38'15	0♂ 2	19°36	22°49	27° 4	23° 7	24° 4	17°30	3°52	10°32	20°58	20° 0	5°45	18°42	M28
T 29	22 29 7	5°36'24	12°22	21°19	23°26	27°44	23° 3	24° 5	17°33	3°54	10°32	20°59	19°56	5°52	18°39	T 29
W30	22 33 4	6°34'34	24°32	23° 5	24° 4	28°24	22°59	24° 6	17°36	3°56	10°31	20♂R59	19°53	5°59	18°36	W30
T 31	22 37 0	7♂32'47	6♂34	24♂53	24♂44	29♂ 3	22♂56	24♂ 6	17♂38	3♂58	10♂31	20♂58	19♂50	6♂ 5	18♂33	T 31

ASTRODIENST EPHEMERIS for the year 1617

geocentric

SEPTEMBER 1617 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	22 40 57	8 ^h 31'01"	18 ^h 29'	26 ^h 43'	25 ^h 25'	29 ^h 43'	22 ^h R52	24 ^h 8'	17 ^h 41'	4 ^h 0'	10 ^h R30	20 ^h R57	19 ^h 47'	6 ^h 12'	18 ^h R30	F 1
S 2	22 44 53	9 ^h 29'17"	0 ^h 21'	28 ^h 35'	26 ^h 6'	0 ^h 23'	22 ^h 349	24 ^h 7'	17 ^h 43'	4 ^h 2'	10 ^h 30	20 ^h 54	19 ^h 44'	6 ^h 19'	18 ^h 27'	S 2
S 3	22 48 50	10 ^h 27'35"	12 ^h 10'	0 ^h 28'	26 ^h 49'	1 ^h 3'	22 ^h 46'	24 ^h 8'	17 ^h 46'	4 ^h 4'	10 ^h 29'	20 ^h 51'	19 ^h 40'	6 ^h 25'	18 ^h 24'	S 3
M 4	22 52 46	11 ^h 25'54"	24 ^h 0'	2 ^h 22'	27 ^h 33'	1 ^h 43'	22 ^h 43'	24 ^h 8'	17 ^h 48'	4 ^h 7'	10 ^h 29'	20 ^h 48'	19 ^h 37'	6 ^h 32'	18 ^h 22'	M 4
T 5	22 56 43	12 ^h 24'15"	5 ^h 15'3"	4 ^h 16'	28 ^h 17'	2 ^h 23'	22 ^h 40'	24 ^h 8'	17 ^h 51'	4 ^h 9'	10 ^h 28'	20 ^h 45'	19 ^h 34'	6 ^h 39'	18 ^h 19'	T 5
W 6	23 0 39	13 ^h 22'38"	17 ^h 53'	6 ^h 11'	29 ^h 3'	3 ^h 3'	22 ^h 38'	24 ^h R 8	17 ^h 53'	4 ^h 11'	10 ^h 28'	20 ^h 42'	19 ^h 31'	6 ^h 46'	18 ^h 16'	W 6
T 7	23 4 36	14 ^h 21'03"	0 ^h 27'	8 ^h 5'	29 ^h 49'	3 ^h 44'	22 ^h 36'	24 ^h 8'	17 ^h 56'	4 ^h 13'	10 ^h 27'	20 ^h 40'	19 ^h 28'	6 ^h 52'	18 ^h 13'	T 7
F 8	23 8 33	15 ^h 19'29"	12 ^h 26'	10 ^h 0'	0 ^h 237	4 ^h 24'	22 ^h 33'	24 ^h 8'	17 ^h 58'	4 ^h 15'	10 ^h 27'	20 ^h D39	19 ^h 25'	6 ^h 59'	18 ^h 11'	F 8
S 9	23 12 29	16 ^h 17'56"	25 ^h 9'	11 ^h 54'	1 ^h 25'	5 ^h 5'	22 ^h 32'	24 ^h 8'	18 ^h 0'	4 ^h 17'	10 ^h 26'	20 ^h 39'	19 ^h 21'	7 ^h 6'	18 ^h 8'	S 9
S 10	23 16 26	17 ^h 16'26"	8 ^h 314	13 ^h 47'	2 ^h 14'	5 ^h 45'	22 ^h 30'	24 ^h 7'	18 ^h 3'	4 ^h 19'	10 ^h 26'	20 ^h 41'	19 ^h 18'	7 ^h 12'	18 ^h 6'	S 10
M 11	23 20 22	18 ^h 14'57"	21 ^h 45'	15 ^h 40'	3 ^h 3'	6 ^h 26'	22 ^h 28'	24 ^h 7'	18 ^h 5'	4 ^h 21'	10 ^h 25'	20 ^h 42'	19 ^h 15'	7 ^h 19'	18 ^h 3'	M 11
T 12	23 24 19	19 ^h 13'29"	5 ^h 43'	17 ^h 32'	3 ^h 54'	7 ^h 7'	22 ^h 27'	24 ^h 6'	18 ^h 7'	4 ^h 24'	10 ^h 24'	20 ^h 43'	19 ^h 12'	7 ^h 26'	18 ^h 0'	T 12
W 13	23 28 15	20 ^h 12'04"	20 ^h 7'	19 ^h 23'	4 ^h 45'	7 ^h 47'	22 ^h 26'	24 ^h 5'	18 ^h 9'	4 ^h 26'	10 ^h 24'	20 ^h R44	19 ^h 9'	7 ^h 32'	17 ^h 58'	W 13
T 14	23 32 12	21 ^h 10'40"	4 ^h 55'	21 ^h 14'	5 ^h 37'	8 ^h 28'	22 ^h 25'	24 ^h 5'	18 ^h 11'	4 ^h 28'	10 ^h 23'	20 ^h 43'	19 ^h 6'	7 ^h 39'	17 ^h 56'	T 14
F 15	23 36 8	22 ^h 9'17"	20 ^h 1'	23 ^h 3'	6 ^h 29'	9 ^h 9'	22 ^h 24'	24 ^h 4'	18 ^h 13'	4 ^h 30'	10 ^h 22'	20 ^h 41'	19 ^h 2'	7 ^h 46'	17 ^h 53'	F 15
S 16	23 40 5	23 ^h 7'57"	5 ^h 15'	24 ^h 52'	7 ^h 22'	9 ^h 50'	22 ^h 24'	24 ^h 3'	18 ^h 15'	4 ^h 32'	10 ^h 22'	20 ^h 38'	18 ^h 59'	7 ^h 52'	17 ^h 51'	S 16
S 17	23 44 2	24 ^h 6'39"	20 ^h 27'	26 ^h 39'	8 ^h 16'	10 ^h 31'	22 ^h 23'	24 ^h 1'	18 ^h 17'	4 ^h 35'	10 ^h 21'	20 ^h 33'	18 ^h 56'	7 ^h 59'	17 ^h 48'	S 17
M 18	23 47 58	25 ^h 5'23"	5 ^h 28'	28 ^h 26'	9 ^h 11'	11 ^h 13'	22 ^h D23	24 ^h 0'	18 ^h 19'	4 ^h 37'	10 ^h 20'	20 ^h 28'	18 ^h 53'	8 ^h 6'	17 ^h 46'	M 18
T 19	23 51 55	26 ^h 4'09"	20 ^h 8'	0 ^h 12'	10 ^h 6'	11 ^h 54'	22 ^h 23'	23 ^h 59'	18 ^h 21'	4 ^h 39'	10 ^h 20'	20 ^h 24'	18 ^h 50'	8 ^h 13'	17 ^h 44'	T 19
W 20	23 55 51	27 ^h 2'58"	4 ^h 12'	1 ^h 56'	11 ^h 1'	12 ^h 35'	22 ^h 23'	23 ^h 57'	18 ^h 23'	4 ^h 41'	10 ^h 19'	20 ^h 20'	18 ^h 46'	8 ^h 19'	17 ^h 42'	W 20
T 21	23 59 48	28 ^h 1'49"	18 ^h 12'	3 ^h 40'	11 ^h 57'	13 ^h 17'	22 ^h 24'	23 ^h 56'	18 ^h 25'	4 ^h 43'	10 ^h 18'	20 ^h 18'	18 ^h 43'	8 ^h 26'	17 ^h 40'	T 21
F 22	0 3 44	29 ^h 0'42"	1 ^h 33'	5 ^h 23'	12 ^h 54'	13 ^h 59'	22 ^h 24'	23 ^h 54'	18 ^h 27'	4 ^h 46'	10 ^h 17'	20 ^h D18	18 ^h 40'	8 ^h 33'	17 ^h 38'	F 22
S 23	0 7 41	29 ^h 59'38"	14 ^h 30'	7 ^h 5'	13 ^h 51'	14 ^h 40'	22 ^h 25'	23 ^h 52'	18 ^h 28'	4 ^h 48'	10 ^h 16'	20 ^h 19'	18 ^h 37'	8 ^h 39'	17 ^h 36'	S 23
S 24	0 11 37	0 ^h 58'36"	27 ^h 7'	8 ^h 46'	14 ^h 49'	15 ^h 22'	22 ^h 26'	23 ^h 50'	18 ^h 30'	4 ^h 50'	10 ^h 16'	20 ^h 20'	18 ^h 34'	8 ^h 46'	17 ^h 34'	S 24
M 25	0 15 34	1 ^h 57'36"	9 ^h 12'	10 ^h 27'	15 ^h 47'	16 ^h 4'	22 ^h 27'	23 ^h 48'	18 ^h 31'	4 ^h 52'	10 ^h 15'	20 ^h 22'	18 ^h 31'	8 ^h 53'	17 ^h 32'	M 25
T 26	0 19 31	2 ^h 56'38"	21 ^h 35'	12 ^h 6'	16 ^h 46'	16 ^h 46'	22 ^h 29'	23 ^h 46'	18 ^h 33'	4 ^h 55'	10 ^h 14'	20 ^h R22	18 ^h 27'	8 ^h 59'	17 ^h 30'	T 26
W 27	0 23 27	3 ^h 55'43"	3 ^h 35'	13 ^h 44'	17 ^h 45'	17 ^h 28'	22 ^h 30'	23 ^h 44'	18 ^h 35'	4 ^h 57'	10 ^h 13'	20 ^h 21'	18 ^h 24'	9 ^h 6'	17 ^h 28'	W 27
T 28	0 27 24	4 ^h 54'49"	15 ^h 28'	15 ^h 22'	18 ^h 45'	18 ^h 10'	22 ^h 32'	23 ^h 42'	18 ^h 36'	4 ^h 59'	10 ^h 12'	20 ^h 18'	18 ^h 21'	9 ^h 13'	17 ^h 26'	T 28
F 29	0 31 20	5 ^h 53'58"	27 ^h 19'	16 ^h 59'	19 ^h 45'	18 ^h 52'	22 ^h 34'	23 ^h 39'	18 ^h 37'	5 ^h 1'	10 ^h 11'	20 ^h 13'	18 ^h 18'	9 ^h 19'	17 ^h 24'	F 29
S 30	0 35 17	6 ^h 53'09"	9 ^h 9'	18 ^h 35'	20 ^h 45'	19 ^h 34'	22 ^h 36'	23 ^h 37'	18 ^h 39'	5 ^h 4'	10 ^h 10'	20 ^h 5'	18 ^h 15'	9 ^h 26'	17 ^h 23'	S 30

Delta T = 68.76 sec

Greg. Calendar

OCTOBER 1617 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	0 39 13	7 ^h 52'22"	20 ^h 59'	20 ^h 10'	21 ^h 46'	20 ^h 16'	22 ^h 39'	23 ^h R34	18 ^h 40'	5 ^h 6'	10 ^h R 9	19 ^h R57	18 ^h 11'	9 ^h 33'	17 ^h R21	S 1
M 2	0 43 10	8 ^h 51'37"	2 ^h 15'2"	21 ^h 45'	22 ^h 47'	20 ^h 59'	22 ^h 41'	23 ^h 32'	18 ^h 41'	5 ^h 8'	10 ^h 8'	19 ^h 47'	18 ^h 8'	9 ^h 39'	17 ^h 20'	M 2
T 3	0 47 6	9 ^h 50'54"	14 ^h 50'	23 ^h 18'	23 ^h 49'	21 ^h 41'	22 ^h 44'	23 ^h 29'	18 ^h 42'	5 ^h 10'	10 ^h 7'	19 ^h 37'	18 ^h 5'	9 ^h 46'	17 ^h 18'	T 3
W 4	0 51 3	10 ^h 50'13"	26 ^h 53'	24 ^h 51'	24 ^h 50'	22 ^h 24'	22 ^h 47'	23 ^h 26'	18 ^h 44'	5 ^h 12'	10 ^h 7'	19 ^h 29'	18 ^h 2'	9 ^h 53'	17 ^h 17'	W 4
T 5	0 54 59	11 ^h 49'34"	9 ^h 27'	26 ^h 24'	25 ^h 53'	23 ^h 6'	22 ^h 50'	23 ^h 23'	18 ^h 45'	5 ^h 15'	10 ^h 6'	19 ^h 22'	17 ^h 59'	10 ^h 0'	17 ^h 15'	T 5
F 6	0 58 56	12 ^h 48'57"	21 ^h 29'	27 ^h 55'	26 ^h 55'	23 ^h 49'	22 ^h 53'	23 ^h 20'	18 ^h 46'	5 ^h 17'	10 ^h 5'	19 ^h 17'	17 ^h 56'	10 ^h 6'	17 ^h 14'	F 6
S 7	1 2 53	13 ^h 48'21"	4 ^h 39'	29 ^h 26'	27 ^h 58'	24 ^h 32'	22 ^h 57'	23 ^h 17'	18 ^h 47'	5 ^h 19'	10 ^h 4'	19 ^h 15'	17 ^h 52'	10 ^h 13'	17 ^h 13'	S 7
S 8	1 6 49	14 ^h 47'48"	17 ^h 7'	0 ^h 15'6"	29 ^h 2'	25 ^h 15'	23 ^h 1'	23 ^h 14'	18 ^h 48'	5 ^h 21'	10 ^h 3'	19 ^h D14	17 ^h 49'	10 ^h 20'	17 ^h 11'	S 8
M 9	1 10 46	15 ^h 47'16"	0 ^h 28'	2 ^h 25'	0 ^h 15'	25 ^h 58'	23 ^h 4'	23 ^h 10'	18 ^h 49'	5 ^h 24'	10 ^h 2'	19 ^h 15'	17 ^h 46'	10 ^h 26'	17 ^h 10'	M 9
T 10	1 14 42	16 ^h 46'46"	14 ^h 15'	3 ^h 54'	1 ^h 9'	26 ^h 41'	23 ^h 8'	23 ^h 7'	18 ^h 49'	5 ^h 26'	10 ^h 1'	19 ^h R16	17 ^h 43'	10 ^h 33'	17 ^h 9'	T 10
W 11	1 18 39	17 ^h 46'17"	28 ^h 28'	5 ^h 22'	2 ^h 13'	27 ^h 24'	23 ^h 13'	23 ^h 4'	18 ^h 50'	5 ^h 28'	10 ^h 0'	19 ^h 16'	17 ^h 40'	10 ^h 40'	17 ^h 8'	W 11
T 12	1 22 35	18 ^h 45'51"	13 ^h 8'	6 ^h 49'	3 ^h 18'	28 ^h 7'	23 ^h 17'	23 ^h 0'	18 ^h 51'	5 ^h 30'	9 ^h 59'	19 ^h 13'	17 ^h 37'	10 ^h 46'	17 ^h 7'	T 12
F 13	1 26 32	19 ^h 45'26"	28 ^h 9'	8 ^h 15'	4 ^h 23'	28 ^h 50'	23 ^h 22'	22 ^h 56'	18 ^h 52'	5 ^h 32'	9 ^h 58'	19 ^h 9'	17 ^h 33'	10 ^h 53'	17 ^h 6'	F 13
S 14	1 30 28	20 ^h 45'03"	13 ^h 14'	9 ^h 40'	5 ^h 28'	29 ^h 33'	23 ^h 26'	22 ^h 53'	18 ^h 52'	5 ^h 35'	9 ^h 56'	19 ^h 2'	17 ^h 30'	11 ^h 0'	17 ^h 5'	S 14
S 15	1 34 25	21 ^h 44'42"	28 ^h 43'	11 ^h 5'	6 ^h 33'	0 ^h 17'	23 ^h 31'	22 ^h 49'	18 ^h 53'	5 ^h 37'	9 ^h 55'	18 ^h 53'	17 ^h 27'	11 ^h 7'	17 ^h 5'	S 15
M 16	1 38 22	22 ^h 44'23"	13 ^h 35'	12 ^h 29'	7 ^h 39'	1 ^h 0'	23 ^h 37'	22 ^h 45'	18 ^h 53'	5 ^h 39'	9 ^h 54'	18 ^h 43'	17 ^h 24'	11 ^h 13'	17 ^h 4'	M 16
T 17	1 42 18	23 ^h 44'06"	28 ^h 47'	13 ^h 52'	8 ^h 45'	1 ^h 43'	23 ^h 42'	22 ^h 41'	18 ^h 54'	5 ^h 41'	9 ^h 53'	18 ^h 33'	17 ^h 21'	11 ^h 20'	17 ^h 3'	T 17
W 18	1 46 15	24 ^h 43'52"	13 ^h 11'	15 ^h 14'	9 ^h 51'	2 ^h 27'	23 ^h 47'	22 ^h 37'	18 ^h 54'	5 ^h 43'	9 ^h 52'	18 ^h 26'	17 ^h 17'	11 ^h 27'	17 ^h 3'	W 18
T 19	1 50 11	25 ^h 43'40"	27 ^h 12'	16 ^h 35'	10 ^h 57'	3 ^h 11'	23 ^h 53'	22 ^h 33'	18 ^h 55'	5 ^h 45'	9 ^h 51'	18 ^h 20'	17 ^h 14'	11 ^h 33'	17 ^h 2'	T 19
F 20	1 54 8	26 ^h 43'30"	10 ^h 540'	17 ^h 56'	12 ^h 4'	3 ^h 54'	23 ^h 59'	22 ^h 29'	18 ^h 55'	5 ^h 47'	9 ^h 50'	18 ^h 17'	17 ^h 11'	11 ^h 40'	17 ^h 1'	F 20
S 21	1 58 4	27 ^h 43'22"	23 ^h 40'	19 ^h 15'	13 ^h 11'	4 ^h 38'	24 ^h 5'	22 ^h 25'	18 ^h 55'	5 ^h 50'	9 ^h 49'	18 ^h D15	17 ^h 8'	11 ^h 47'	17 ^h 1'	S 21
S 22	2 2 1	28 ^h 43'16"	6 ^h 15'	20 ^h 32'	14 ^h 18'	5 ^h 22'	24 ^h 11'	22 ^h 21'	18 ^h 55'	5 ^h 52'	9 ^h 48'	18 ^h 16'	17 ^h 5'	11 ^h 53'	17 ^h 1'	S 22
M 23	2 5 57	29 ^h 43'13"	18 ^h 32'	21 ^h 49'	15 ^h 26'	6 ^h 6'	24 ^h 17'	22 ^h 16'	18 ^h 55'	5 ^h 54'	9 ^h 47'	18 ^h R16	17 ^h 2'	12 ^h 0'	17 ^h 0'	M 23
T 24	2 9 54	0 ^h 143'12"	0 ^h 135'	23 ^h 4'	16 ^h 33'	6 ^h 50'	24 ^h 24'	22 ^h 12'	18 ^h 55'	5 ^h 56'	9 ^h 46'	18 ^h 15'	16 ^h 58'	12 ^h 7'	17 ^h 0'	T 24
W 25	2 13 51	1 ^h 43'13"	12 ^h 30'	24 ^h 18'	17 ^h 41'	7 ^h 34'	24 ^h 30'	22 ^h 8'	18 ^h R55'	5 ^h 58'	9 ^h 45'	18 ^h 12'	16 ^h 55'	12 ^h 13'	17 ^h 0'	W 25
T 26	2 17 47	2 ^h 43'16"	24 ^h 19'	25 ^h 30'	18 ^h 49'	8 ^h 18'	24 ^h 37'	22 ^h 3'	18 ^h 55'	6 ^h 0'	9 ^h 43'	18 ^h 7'	16 ^h 52'	12 ^h 20'	17 ^h 0'	T 26
F 27	2 21 44	3 ^h 43'21"	6 ^h 8'	26 ^h 40'	19 ^h 57'	9 ^h 2'	24 ^h 44'	21 ^h 59'	18 ^h 55'	6 ^h 2'	9 ^h 42'	17 ^h 59'	16 ^h 49'	12 ^h 27'	17 ^h D 0'	F 27
S 28	2 25 40	4 ^h 43'28"	17 ^h 58'	27 ^h 48'	21 ^h 5'	9 ^h 47'	24 ^h 51'	21 ^h 54'	18 ^h 55'	6 ^h 4'	9 ^h 41'	17 ^h 48'	16 ^h 46'	12 ^h 34'	17 ^h 0'	S 28
S 29	2 29 37	5 ^h 43'37"	21 ^h 53'	28 ^h 53'	22 ^h 14'	10 ^h 31'	24 ^h 58'	21 ^h 50'	18 ^h 55'	6 ^h 6'	9 ^h 40'	17 ^h 35'	16 ^h 42'	12 ^h 40'	17 ^h 0'	S 29
M 30	2 33 33	6 ^h 43'48"	29 ^h 53'	29 ^h 56'	23 ^h 23'	11 ^h 15'	25 ^h 6'	21 ^h 45'	18 ^h 55'	6 ^h 8'	9 ^h 39'	17 ^h 20'	16 ^h 39'	12 ^h 47'	17 ^h 0'	M 30
T 31	2 37 30	7 ^h 144'01"	23 ^h 159'	0 ^h 156'	24 ^h 132'	12 ^h 10'	25 ^h 13'	21 ^h 440'	18 ^h 554'	6 ^h 110'	9 ^h 38'	17 ^h 6'	16 ^h 336'	12 ^h 154'	17 ^h 0'	T 31

ASTRODIENST EPHEMERIS for the year 1617
geocentric

NOVEMBER 1617 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	2 41 26	8♂44'15	6♂12	1♂53	25♂41	12♂44	25♂21	21°R36	18°R54	6♂12	9°R37	16°R53	16♂33	13♂0	17♂1	W 1
T 2	2 45 23	9°44'32	18°34	2°47	26°50	13°29	25°29	21♂31	18♂54	6°14	9♂36	16♂42	16°30	13°7	17°1	T 2
F 3	2 49 20	10°44'50	1♂36	3°36	28°0	14°13	25°37	21°26	18°53	6°16	9°34	16°34	16°27	13°14	17°1	F 3
S 4	2 53 16	11°45'09	13°50	4°21	29°9	14°58	25°45	21°21	18°53	6°18	9°33	16°29	16°23	13°20	17°2	S 4
S 5	2 57 13	12°45'30	26°49	5°0	0♂19	15°43	25°53	21°17	18°52	6°20	9°32	16°26	16°20	13°27	17°3	S 5
M 6	3 1 9	13°45'52	10♂6	5°34	1°29	16°28	26°1	21°12	18°52	6°21	9°31	16°26	16°17	13°34	17°3	M 6
T 7	3 5 6	14°46'16	23°42	6°2	2°39	17°13	26°10	21°7	18°51	6°23	9°30	16°26	16°14	13°41	17°4	T 7
W 8	3 9 2	15°46'41	7♂42	6°22	3°49	17°58	26°19	21°2	18°50	6°25	9°29	16°25	16°11	13°47	17°5	W 8
T 9	3 12 59	16°47'07	22°4	6°35	4°59	18°43	26°28	20°57	18°49	6°27	9°28	16°22	16°8	13°54	17°5	T 9
F 10	3 16 55	17°47'35	6♂47	6°R39	6°10	19°28	26°36	20°52	18°48	6°29	9°27	16°16	16°4	14°1	17°6	F 10
S 11	3 20 52	18°48'04	21°46	6°34	7°21	20°13	26°46	20°47	18°48	6°31	9°25	16°8	16°1	14°7	17°7	S 11
S 12	3 24 49	19°48'34	6♂52	6°19	8°31	20°58	26°55	20°42	18°47	6°32	9°24	15°57	15°58	14°14	17°8	S 12
M13	3 28 45	20°49'07	21°56	5°54	9°42	21°43	27°4	20°37	18°46	6°34	9°23	15°46	15°55	14°21	17°9	M13
T 14	3 32 42	21°49'40	6♂48	5°19	10°53	22°29	27°14	20°33	18°45	6°36	9°22	15°34	15°52	14°28	17°10	T 14
W15	3 36 38	22°50'15	21°18	4°33	12°4	23°14	27°23	20°28	18°44	6°37	9°21	15°24	15°48	14°34	17°12	W15
T 16	3 40 35	23°50'52	5♂21	3°37	13°16	23°59	27°33	20°23	18°42	6°39	9°20	15°16	15°45	14°41	17°13	T 16
F 17	3 44 31	24°51'31	18°55	2°32	14°27	24°45	27°43	20°18	18°41	6°41	9°19	15°11	15°42	14°48	17°14	F 17
S 18	3 48 28	25°52'11	2♂1	1°19	15°38	25°30	27°53	20°13	18°40	6°42	9°18	15°9	15°39	14°54	17°16	S 18
S 19	3 52 24	26°52'53	14°42	0°0	16°50	26°16	28°3	20°8	18°39	6°44	9°17	15°D9	15°36	15°1	17°17	S 19
M20	3 56 21	27°53'36	27°1	28♂39	18°2	27°1	28°13	20°3	18°37	6°46	9°16	15°R9	15°33	15°8	17°18	M20
T 21	4 0 18	28°54'21	9♂5	27°17	19°14	27°47	28°23	19°58	18°36	6°47	9°15	15°8	15°29	15°14	17°20	T 21
W22	4 4 14	29°55'08	21°0	25°57	20°26	28°33	28°34	19°54	18°35	6°49	9°14	15°6	15°26	15°21	17°22	W22
T 23	4 8 11	0♂55'56	2♂49	24°42	21°38	29°19	28°44	19°49	18°33	6°50	9°13	15°2	15°23	15°28	17°23	T 23
F 24	4 12 7	1°56'45	14°39	23°34	22°50	0♂5	28°55	19°44	18°32	6°52	9°11	14°55	15°20	15°35	17°25	F 24
S 25	4 16 4	2°57'36	26°31	22°35	24°2	0°50	29°6	19°39	18°30	6°53	9°10	14°45	15°17	15°41	17°27	S 25
S 26	4 20 0	3°58'29	8♂31	21°47	25°14	1°36	29°16	19°35	18°28	6°54	9°9	14°33	15°14	15°48	17°29	S 26
M27	4 23 57	4°59'22	20°39	21°10	26°27	2°22	29°27	19°30	18°27	6°56	9°8	14°19	15°10	15°55	17°31	M27
T 28	4 27 53	6°0'17	2♂57	20°44	27°39	3°8	29°38	19°25	18°25	6°57	9°7	14°6	15°7	16°1	17°33	T 28
W29	4 31 50	7°1'13	15°25	20°30	28°52	3°54	29°50	19°21	18°23	6°58	9°6	13°54	15°4	16°8	17°35	W29
T 30	4 35 47	8♂2'10	28♂4	20°D27	0♂4	4♂41	0♂1	19♂16	18♂22	7♂0	9♂5	13♂43	15♂1	16♂15	17♂37	T 30

Delta T = 68.60 sec

Greg. Calendar

DECEMBER 1617 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	4 39 43	9♂3'08	10♂53	20♂34	1♂17	5♂27	0♂12	19°R12	18°R20	7♂1	9°R5	13°R36	14♂58	16♂21	17♂39	F 1
S 2	4 43 40	10°4'07	23°53	20°50	2°30	6°13	0°24	19♂7	18♂18	7°2	9♂4	13♂32	14°54	16°28	17°41	S 2
S 3	4 47 36	11°5'07	7♂4	21°16	3°43	6°59	0°35	19°3	18°16	7°3	9°3	13°30	14°51	16°35	17°43	S 3
M 4	4 51 33	12°6'07	20°28	21°49	4°56	7°46	0°47	18°59	18°14	7°5	9°2	13°D30	14°48	16°42	17°46	M 4
T 5	4 55 29	13°7'08	4♂5	22°29	6°9	8°32	0°59	18°54	18°12	7°6	9°1	13°31	14°45	16°48	17°48	T 5
W 6	4 59 26	14°8'09	17°58	23°15	7°22	9°18	1°10	18°50	18°10	7°7	9°0	13°R31	14°42	16°55	17°50	W 6
T 7	5 3 22	15°9'10	2♂7	24°7	8°35	10°5	1°22	18°46	18°8	7°8	8°59	13°29	14°39	17°2	17°53	T 7
F 8	5 7 19	16°10'13	16°29	25°4	9°48	10°51	1°34	18°42	18°6	7°9	8°58	13°26	14°35	17°8	17°55	F 8
S 9	5 11 16	17°11'15	1♂3	26°5	11°1	11°38	1°46	18°38	18°4	7°10	8°57	13°20	14°32	17°15	17°58	S 9
S 10	5 15 12	18°12'19	15°43	27°10	12°14	12°24	1°59	18°34	18°2	7°11	8°56	13°12	14°29	17°22	18°1	S 10
M11	5 19 9	19°13'23	0♂23	28°18	13°28	13°11	2°11	18°30	18°0	7°12	8°56	13°3	14°26	17°29	18°3	M11
T 12	5 23 5	20°14'27	14°55	29°28	14°41	13°58	2°23	18°26	17°57	7°13	8°55	12°54	14°23	17°35	18°6	T 12
W13	5 27 5	21°15'32	29°12	0♂42	15°55	14°44	2°35	18°23	17°55	7°14	8°54	12°46	14°20	17°42	18°9	W13
T 14	5 30 58	22°16'38	13♂8	1°57	17°8	15°31	2°48	18°19	17°53	7°15	8°53	12°40	14°16	17°49	18°12	T 14
F 15	5 34 55	23°17'44	26°41	3°14	18°22	16°18	3°0	18°15	17°51	7°16	8°52	12°37	14°13	17°55	18°15	F 15
S 16	5 38 52	24°18'51	9♂48	4°33	19°35	17°4	3°13	18°12	17°48	7°17	8°52	12°D36	14°10	18°2	18°17	S 16
S 17	5 42 48	25°19'58	22°32	5°53	20°49	17°51	3°26	18°9	17°46	7°17	8°51	12°36	14°7	18°9	18°20	S 17
M18	5 46 45	26°21'06	4♂56	7°15	22°3	18°38	3°38	18°5	17°44	7°18	8°50	12°37	14°4	18°16	18°23	M18
T 19	5 50 41	27°22'15	17°4	8°38	23°16	19°25	3°51	18°2	17°41	7°19	8°50	12°39	14°0	18°22	18°26	T 19
W20	5 54 38	28°23'24	29°1	10°2	24°30	20°12	4°4	17°59	17°39	7°19	8°49	12°R39	13°57	18°29	18°30	W20
T 21	5 58 34	29°24'34	10♂52	11°26	25°44	20°59	4°17	17°56	17°36	7°20	8°48	12°38	13°54	18°36	18°33	T 21
F 22	6 2 31	0♂25'44	22°43	12°52	26°58	21°46	4°30	17°53	17°34	7°21	8°48	12°36	13°51	18°42	18°36	F 22
S 23	6 6 27	1°26'55	4♂38	14°18	28°12	22°33	4°43	17°50	17°32	7°21	8°47	12°31	13°48	18°49	18°39	S 23
S 24	6 10 24	2°28'07	16°41	15°45	29°26	23°20	4°56	17°47	17°29	7°22	8°46	12°25	13°45	18°56	18°42	S 24
M25	6 14 21	3°29'18	28°56	17°13	0♂40	24°7	5°10	17°45	17°27	7°22	8°46	12°18	13°41	19°3	18°46	M25
T 26	6 18 17	4°30'30	11♂24	18°41	1°54	24°54	5°23	17°42	17°24	7°23	8°45	12°10	13°38	19°9	18°49	T 26
W27	6 22 14	5°31'43	24°6	20°9	3°8	25°41	5°36	17°40	17°22	7°23	8°45	12°4	13°35	19°16	18°52	W27
T 28	6 26 10	6°32'55	7♂3	21°39	4°22	26°28	5°49	17°37	17°19	7°24	8°44	11°58	13°32	19°23	18°56	T 28
F 29	6 30 7	7°34'07	20°15	23°8	5°36	27°15	6°3	17°35	17°16	7°24	8°43	11°54	13°29	19°29	18°59	F 29
S 30	6 34 3	8°35'19	3♂38	24°38	6°50	28°2	6°16	17°33	17°14	7°24	8°43	11°52	13°26	19°36	19°3	S 30
S 31	6 38 0	9♂36'31	17♂14	26♂9	8♂4	28♂50	6♂30	17♂31	17♂11	7♂25	8♂42	11°D52	13♂22	19♂43	19♂6	S 31

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