



Astrodienst Ephemeris Tables for the year 1448

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 1448

geocentric

JANUARY 1448 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	7 14 11	19°3'46	6°27	23°49	19°35	0°21	24°15	26°R53	5°R 5	23°R37	0°R25	29°R57	0°Y53	3°235	19°R33	M 1
T 2	7 18 8	20°4'53	19°58	25°31	19°R37	0°53	24°21	26°250	5°2 2	23°36	0°24	29°54	0°49	3°42	19°32	T 2
W 3	7 22 4	21°6'00	3°59	27°14	19°37	1°25	24°26	26°47	5° 0	23°36	0°22	29°48	0°46	3°48	19°31	W 3
T 4	7 26 1	22°7'06	18°30	28°56	19°35	1°57	24°31	26°43	4°57	23°35	0°21	29°39	0°43	3°55	19°30	T 4
F 5	7 29 57	23°8'12	3°26	0°39	19°30	2°29	24°36	26°40	4°55	23°34	0°19	29°29	0°40	4° 2	19°29	F 5
S 6	7 33 54	24°9'17	18°39	2°22	19°22	3° 1	24°41	26°36	4°53	23°34	0°18	29°19	0°37	4° 9	19°28	S 6
S 7	7 37 50	25°10'21	3°59	4° 6	19°12	3°32	24°45	26°32	4°50	23°33	0°17	29° 9	0°34	4°15	19°27	S 7
M 8	7 41 47	26°11'25	19°14	5°49	19° 0	4° 4	24°50	26°29	4°48	23°32	0°15	29° 1	0°30	4°22	19°26	M 8
T 9	7 45 43	27°12'27	4°13	7°33	18°45	4°35	24°54	26°25	4°46	23°32	0°14	28°56	0°27	4°29	19°26	T 9
W10	7 49 40	28°13'28	18°49	9°17	18°27	5° 6	24°58	26°21	4°43	23°31	0°13	28°54	0°24	4°35	19°25	W10
T 11	7 53 37	29°14'28	2°Y58	11° 0	18° 7	5°37	25° 2	26°17	4°41	23°30	0°11	28°D54	0°21	4°42	19°24	T 11
F 12	7 57 33	0°15'27	16°41	12°43	17°45	6° 8	25° 6	26°13	4°39	23°29	0°10	28°54	0°18	4°49	19°24	F 12
S 13	8 1 30	1°16'24	29°58	14°25	17°21	6°39	25°10	26° 9	4°36	23°29	0° 8	28°R55	0°15	4°55	19°24	S 13
S 14	8 5 26	2°17'21	12°52	16° 6	16°54	7°10	25°13	26° 4	4°34	23°28	0° 7	28°54	0°11	5° 2	19°23	S 14
M15	8 9 23	3°18'16	25°28	17°46	16°25	7°40	25°16	26° 0	4°32	23°27	0° 6	28°52	0° 8	5° 9	19°23	M15
T 16	8 13 19	4°19'09	7°II50	19°25	15°55	8°11	25°19	25°56	4°30	23°26	0° 4	28°47	0° 5	5°16	19°23	T 16
W17	8 17 16	5°20'02	20° 0	21° 1	15°23	8°41	25°22	25°52	4°28	23°25	0° 3	28°39	0° 2	5°22	19°22	W17
T 18	8 21 12	6°20'53	2°3	22°35	14°49	9°11	25°25	25°47	4°26	23°24	0° 2	28°30	29°X59	5°29	19°22	T 18
F 19	8 25 9	7°21'43	13°59	24° 6	14°15	9°41	25°27	25°43	4°23	23°23	0° 0	28°20	29°55	5°36	19°D22	F 19
S 20	8 29 6	8°22'31	25°53	25°34	13°39	10°11	25°30	25°38	4°21	23°22	29°59	28° 9	29°52	5°42	19°22	S 20
S 21	8 33 2	9°23'18	7°II44	26°57	13° 2	10°40	25°32	25°34	4°19	23°21	29°57	28° 0	29°49	5°49	19°23	S 21
M22	8 36 59	10°24'04	19°35	28°16	12°25	11°10	25°34	25°29	4°17	23°20	29°56	27°52	29°46	5°56	19°23	M22
T 23	8 40 55	11°24'48	1°27	29°29	11°48	11°39	25°36	25°25	4°16	23°19	29°55	27°46	29°43	6° 2	19°23	T 23
W24	8 44 52	12°25'32	13°22	0°X36	11°10	12° 8	25°37	25°20	4°14	23°17	29°53	27°43	29°40	6° 9	19°23	W24
T 25	8 48 48	13°26'13	25°23	1°36	10°33	12°37	25°39	25°15	4°12	23°16	29°52	27°D41	29°36	6°16	19°24	T 25
F 26	8 52 45	14°26'54	7°32	2°28	9°56	13° 6	25°40	25°11	4°10	23°15	29°51	27°42	29°33	6°23	19°24	F 26
S 27	8 56 41	15°27'34	19°55	3°12	9°21	13°35	25°41	25° 6	4° 8	23°14	29°49	27°43	29°30	6°29	19°25	S 27
S 28	9 0 38	16°28'12	2°33	3°46	8°46	14° 3	25°42	25° 1	4° 6	23°13	29°48	27°45	29°27	6°36	19°25	S 28
M29	9 4 35	17°28'49	15°32	4°11	8°12	14°32	25°43	24°56	4° 5	23°11	29°47	27°R46	29°24	6°43	19°26	M29
T 30	9 8 31	18°29'26	28°55	4°26	7°40	15° 0	25°43	24°52	4° 3	23°10	29°45	27°45	29°21	6°49	19°27	T 30
W31	9 12 28	19°30'01	12°45	4°R30	7°10	15°28	25°43	24°47	4°2 2	23°9	29°44	27°43	29°17	6°56	19°28	W31

Delta T = 06m33s

Julian Calendar 1 Jan. 1448 == Greg. Calendar 10 Jan. 1448

FEBRUARY 1448 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	9 16 24	20°30'34	27°2	4°R25	6°R41	15°55	25°R44	24°R42	4°R 0	23°R 7	29°R43	27°R39	29°X14	7°2 3	19°29	T 1
F 2	9 20 21	21°31'07	11°343	4°X 8	6°14	16°23	25°43	24°37	3°58	23°6	29°42	27°X34	29°11	7° 9	19°30	F 2
S 3	9 24 17	22°31'38	26°45	3°42	5°50	16°50	25°43	24°32	3°57	23° 5	29°40	27°29	29° 8	7°16	19°31	S 3
S 4	9 28 14	23°32'08	11°58	3° 7	5°27	17°17	25°43	24°28	3°56	23° 3	29°39	27°24	29° 5	7°23	19°32	S 4
M 5	9 32 11	24°32'36	27°11	2°24	5° 7	17°44	25°42	24°23	3°54	23° 2	29°38	27°20	29° 1	7°29	19°33	M 5
T 6	9 36 7	25°33'02	12°16	1°33	4°49	18°11	25°41	24°18	3°53	23° 1	29°37	27°17	28°58	7°36	19°34	T 6
W 7	9 40 4	26°33'26	27° 2	0°36	4°34	18°37	25°40	24°13	3°51	22°59	29°35	27°D16	28°55	7°43	19°35	W 7
T 8	9 44 0	27°33'49	11°Y24	29°35	4°21	19° 3	25°39	24° 8	3°50	22°58	29°34	27°17	28°52	7°50	19°37	T 8
F 9	9 47 57	28°34'09	25°19	28°32	4°10	19°29	25°38	24° 3	3°49	22°56	29°33	27°18	28°49	7°56	19°38	F 9
S 10	9 51 53	29°34'28	8°46	27°27	4° 2	19°55	25°36	23°59	3°48	22°55	29°32	27°20	28°46	8° 3	19°40	S 10
S 11	9 55 50	0°X34'44	21°48	26°23	3°57	20°21	25°34	23°54	3°47	22°53	29°31	27°21	28°42	8°10	19°41	S 11
M12	9 59 46	1°34'59	4°II27	25°20	3°53	20°46	25°32	23°49	3°46	22°52	29°30	27°R22	28°39	8°16	19°43	M12
T 13	10 3 43	2°35'11	16°49	24°21	3°D53	21°11	25°30	23°44	3°45	22°50	29°28	27°21	28°36	8°23	19°45	T 13
W14	10 7 39	3°35'22	28°57	23°26	3°54	21°35	25°28	23°39	3°44	22°49	29°27	27°19	28°33	8°30	19°47	W14
T 15	10 11 36	4°35'30	10°55	22°37	3°58	22° 0	25°25	23°35	3°43	22°47	29°26	27°16	28°30	8°36	19°48	T 15
F 16	10 15 33	5°35'37	22°47	21°53	4° 5	22°24	25°23	23°30	3°42	22°46	29°25	27°12	28°27	8°43	19°50	F 16
S 17	10 19 29	6°35'41	4°38	21°16	4°13	22°48	25°20	23°25	3°41	22°44	29°24	27° 8	28°23	8°50	19°52	S 17
S 18	10 23 26	7°35'43	16°28	20°46	4°24	23°11	25°17	23°21	3°40	22°42	29°23	27° 5	28°20	8°56	19°54	S 18
M19	10 27 22	8°35'43	28°21	20°22	4°37	23°35	25°13	23°16	3°40	22°41	29°22	27° 2	28°17	9° 3	19°57	M19
T 20	10 31 19	9°35'41	10°19	20° 5	4°52	23°58	25°10	23°12	3°39	22°39	29°21	27° 1	28°14	9°10	19°59	T 20
W21	10 35 15	10°35'37	22°23	19°55	5° 9	24°20	25° 6	23° 7	3°39	22°38	29°20	27°D 0	28°11	9°17	20° 1	W21
T 22	10 39 12	11°35'32	4°36	19°D51	5°28	24°43	25° 3	23° 3	3°38	22°36	29°19	27° 0	28° 7	9°23	20° 3	T 22
F 23	10 43 8	12°35'24	16°59	19°54	5°49	25° 5	24°59	22°58	3°37	22°34	29°18	27° 1	28° 4	9°30	20° 6	F 23
S 24	10 47 5	13°35'15	29°33	20° 2	6°12	25°27	24°55	22°54	3°37	22°33	29°17	27° 2	28° 1	9°37	20° 8	S 24
S 25	10 51 2	14°35'03	12°22	20°17	6°37	25°48	24°50	22°50	3°37	22°31	29°16	27° 3	27°58	9°43	20°10	S 25
M26	10 54 58	15°34'51	25°27	20°36	7° 3	26° 9	24°46	22°45	3°36	22°30	29°15	27° 4	27°55	9°50	20°13	M26
T 27	10 58 55	16°34'36	8°51	21° 1	7°31	26°30	24°41	22°41	3°36	22°28	29°14	27° 5	27°52	9°57	20°16	T 27
W28	11 2 51	17°34'20	22°34	21°30	8° 0	26°50	24°37	22°37	3°36	22°26	29°14	27°R 5	27°48	10° 3	20°18	W28
T 29	11 6 48	18°34'02	6°38	22°38	8°31	27°10	24°32	22°33	3°36	22°25	29°13	27°X 4	27°45	10°10	20°21	T 29

Delta T = 06m33s

Julian Calendar

ASTRODIENST EPHEMERIS for the year 1448

geocentric

MARCH 1448 JC

00:00 UT

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

Delta T = 06m33s

Julian Calendar 1 March 1448 == Greg. Calendar 10 March 1448

APRIL 1448 JC

00:00 UT

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

Delta T = 06m33s

Julian Calendar

ASTRODIENST EPHEMERIS for the year 1448

geocentric

MAY 1448 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	15 11 14	19°8'10'35	22°4'34	4°11'6	5°4'8	29°R18	17°R27	21°R11	5°R4	21°R1	29°R10	25°R53	24°R28	17°R4	24°R27	W 1
T 2	15 15 11	20°8'20	6°8'16	5°59	6°14	29°M0	17°A22	21°13	5°7	21°M1	29°10	25°H48	24°25	17°11	24°31	T 2
F 3	15 19 7	21°6'03	19°46	7°49	7°20	28°41	17°16	21°15	5°9	21°0	29°11	25°41	24°22	17°18	24°36	F 3
S 4	15 23 4	22°3'46	3°11	9°36	8°26	28°22	17°11	21°17	5°12	20°59	29°12	25°31	24°19	17°24	24°41	S 4
S 5	15 27 0	23°1'27	15°59	11°20	9°33	28°2	17°6	21°19	5°15	20°59	29°13	25°21	24°16	17°31	24°45	S 5
M 6	15 30 57	23°59'07	28°41	13°1	10°39	27°42	17°1	21°22	5°18	20°58	29°14	25°11	24°12	17°38	24°50	M 6
T 7	15 34 54	24°56'45	11°56	14°40	11°46	27°22	16°56	21°24	5°21	20°58	29°15	25°3	24°9	17°44	24°55	T 7
W 8	15 38 50	25°54'22	23°16	16°14	12°52	27°1	16°52	21°26	5°24	20°57	29°15	24°56	24°6	17°51	24°59	W 8
T 9	15 42 47	26°51'57	5°15	17°46	13°59	26°41	16°47	21°29	5°27	20°57	29°16	24°51	24°3	17°58	25°4	T 9
F 10	15 46 43	27°49'31	17°7	19°15	15°6	26°20	16°43	21°32	5°30	20°56	29°17	24°49	24°0	18°4	25°9	F 10
S 11	15 50 40	28°47'03	28°57	20°40	16°14	25°59	16°39	21°34	5°33	20°56	29°18	24°D48	23°56	18°11	25°14	S 11
S 12	15 54 36	29°44'34	10°49	22°2	17°21	25°39	16°35	21°37	5°36	20°55	29°19	24°49	23°53	18°18	25°18	S 12
M13	15 58 33	0°42'04	22°50	23°21	18°28	25°18	16°31	21°40	5°39	20°55	29°20	24°R49	23°50	18°24	25°23	M13
T 14	16 2 29	1°39'32	5°4	24°37	19°36	24°57	16°27	21°43	5°42	20°55	29°21	24°49	23°47	18°31	25°28	T 14
W15	16 6 26	2°36'59	17°36	25°49	20°43	24°37	16°23	21°46	5°45	20°54	29°22	24°46	23°44	18°38	25°32	W15
T 16	16 10 23	3°34'25	0°29	26°57	21°51	24°17	16°20	21°50	5°49	20°54	29°23	24°42	23°41	18°44	25°37	T 16
F 17	16 14 19	4°31'49	13°45	28°2	22°59	23°56	16°17	21°53	5°52	20°54	29°24	24°35	23°37	18°51	25°42	F 17
S 18	16 18 16	5°29'13	27°23	29°4	24°7	23°37	16°14	21°56	5°55	20°54	29°26	24°25	23°34	18°58	25°46	S 18
S 19	16 22 12	6°26'36	11°22	0°5	25°15	23°17	16°11	22°0	5°58	20°54	29°27	24°15	23°31	19°4	25°51	S 19
M20	16 26 9	7°23'58	25°37	0°55	26°23	22°58	16°8	22°4	6°2	20°53	29°28	24°4	23°28	19°11	25°56	M20
T 21	16 30 5	8°21'19	10°52	1°46	27°31	22°39	16°6	22°7	6°5	20°53	29°29	23°54	23°25	19°18	26°0	T 21
W22	16 34 2	9°18'40	24°31	2°32	28°39	22°20	16°4	22°11	6°8	20°53	29°30	23°46	23°22	19°24	26°5	W22
T 23	16 37 58	10°15'59	8°57	3°14	29°48	22°2	16°1	22°15	6°12	20°D53	29°31	23°41	23°18	19°31	26°10	T 23
F 24	16 41 55	11°13'19	23°18	3°53	0°56	21°45	15°59	22°19	6°15	20°53	29°33	23°38	23°15	19°38	26°14	F 24
S 25	16 45 52	12°10'38	7°30	4°27	2°5	21°28	15°58	22°23	6°18	20°53	29°34	23°D37	23°12	19°44	26°19	S 25
S 26	16 49 48	13°7'56	21°31	4°56	3°14	21°11	15°56	22°27	6°22	20°53	29°35	23°R37	23°9	19°51	26°23	S 26
M27	16 53 45	14°5'14	5°21	5°22	4°23	20°56	15°54	22°31	6°25	20°53	29°36	23°37	23°6	19°58	26°28	M27
T 28	16 57 41	15°2'31	19°1	5°43	5°31	20°40	15°53	22°35	6°29	20°54	29°38	23°35	23°2	20°4	26°32	T 28
W29	17 1 38	15°59'49	2°30	6°0	6°40	20°26	15°52	22°40	6°32	20°54	29°39	23°31	22°59	20°11	26°37	W29
T 30	17 5 34	16°57'06	15°49	6°12	7°50	20°12	15°51	22°44	6°35	20°54	29°40	23°24	22°56	20°18	26°41	T 30
F 31	17 9 31	17°15'42	28°56	6°19	8°59	19°M58	15°A50	22°A49	6°39	20°M54	29°A42	23°H14	22°H53	20°A24	26°A46	F 31

Delta T = 06m32s

Julian Calendar 1 May 1448 == Greg. Calendar 10 May 1448

JUNE 1448 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	17 13 27	18°11'38	11°11'51	6°R22	10°R8	19°R46	15°R50	22°R53	6°R42	20°M54	29°R43	23°R2	22°H50	20°R31	26°R50	S 1
S 2	17 17 24	19°48'54	24°34	6°R21	11°17	19°M34	15°A50	22°58	6°46	20°55	29°45	22°H49	22°47	20°38	26°55	S 2
M 3	17 21 21	20°46'09	7°R3	6°14	12°27	19°23	15°49	23°3	6°49	20°55	29°46	22°36	22°43	20°44	26°59	M 3
T 4	17 25 17	21°43'24	19°19	6°4	13°36	19°13	15°D49	23°8	6°53	20°55	29°47	22°24	22°40	20°51	27°4	T 4
W 5	17 29 14	22°40'38	1°R24	5°50	14°46	19°4	15°50	23°12	6°56	20°56	29°49	22°14	22°37	20°58	27°8	W 5
T 6	17 33 10	23°37'52	13°20	5°31	15°55	18°55	15°50	23°17	7°0	20°56	29°50	22°7	22°34	21°4	27°13	T 6
F 7	17 37 7	24°35'05	25°9	5°9	17°5	18°47	15°50	23°22	7°4	20°57	29°52	22°3	22°31	21°11	27°17	F 7
S 8	17 41 3	25°32'17	6°M57	4°43	18°15	18°40	15°51	23°28	7°7	20°57	29°53	22°1	22°28	21°18	27°21	S 8
S 9	17 45 0	26°29'29	18°49	4°14	19°24	18°34	15°52	23°33	7°11	20°58	29°55	22°0	22°24	21°24	27°25	S 9
M10	17 48 56	27°26'40	0°A48	3°43	20°34	18°29	15°53	23°38	7°14	20°58	29°56	22°0	22°21	21°31	27°30	M10
T 11	17 52 53	28°23'51	13°2	3°9	21°44	18°25	15°54	23°43	7°18	20°59	29°58	22°0	22°18	21°38	27°34	T 11
W12	17 56 50	29°21'02	25°34	2°35	22°54	18°21	15°56	23°49	7°22	20°59	29°59	21°57	22°15	21°44	27°38	W12
T 13	18 0 46	0°18'12	8°M31	1°59	24°4	18°18	15°57	23°54	7°25	21°0	0°R1	21°53	22°12	21°51	27°42	T 13
F 14	18 4 43	1°15'22	21°53	1°22	25°14	18°16	15°59	24°0	7°29	21°1	0°2	21°46	22°8	21°58	27°47	F 14
S 15	18 8 39	2°12'31	5°A43	0°46	26°24	18°15	16°1	24°5	7°32	21°1	0°4	21°37	22°5	22°4	27°51	S 15
S 16	18 12 36	3°9'41	19°57	0°11	27°35	18°D15	16°3	24°11	7°36	21°2	0°5	21°27	22°2	22°11	27°55	S 16
M17	18 16 32	4°6'50	4°R32	29°M38	28°45	18°16	16°6	24°17	7°40	21°3	0°7	21°16	21°59	22°18	27°59	M17
T 18	18 20 29	5°4'00	19°21	29°6	29°55	18°17	16°8	24°22	7°43	21°4	0°9	21°6	21°56	22°24	28°3	T 18
W19	18 24 26	6°1'09	4°A13	28°37	1°H6	18°19	16°11	24°28	7°47	21°5	0°10	20°58	21°53	22°31	28°7	W19
T 20	18 28 22	6°58'19	19°3	28°12	2°16	18°23	16°14	24°34	7°51	21°5	0°12	20°52	21°49	22°38	28°11	T 20
F 21	18 32 19	7°55'29	3°H41	27°49	3°27	18°26	16°16	24°40	7°54	21°6	0°13	20°49	21°46	22°44	28°15	F 21
S 22	18 36 15	8°52'39	18°4	27°31	4°38	18°31	16°20	24°46	7°58	21°7	0°15	20°D48	21°43	22°51	28°19	S 22
S 23	18 40 12	9°49'50	2°M10	27°18	5°48	18°36	16°23	24°52	8°1	21°8	0°17	20°48	21°40	22°58	28°23	S 23
M24	18 44 8	10°47'01	15°58	27°9	6°59	18°43	16°26	24°58	8°5	21°9	0°18	20°R48	21°37	23°4	28°26	M24
T 25	18 48 5	11°44'13	29°29	27°D5	8°10	18°50	16°30	25°4	8°9	21°10	0°20	20°47	21°34	23°11	28°30	T 25
W26	18 52 1	12°41'26	12°R44	27°6	9°21	18°57	16°34	25°11	8°12	21°11	0°22	20°44	21°30	23°18	28°34	W26
T 27	18 55 58	13°38'39	25°45	27°12	10°32	19°6	16°38	25°17	8°16	21°12	0°23	20°38	21°27	23°24	28°38	T 27
F 28	18 59 55	14°35'53	8°M33	27°24	11°43	19°15	16°42	25°23	8°20	21°13	0°25	20°29	21°24	23°31	28°41	F 28
S 29	19 3 51	15°33'07	21°10	27°41	12°54	19°25	16°46	25°30	8°23	21°15	0°27	20°19	21°21	23°38	28°45	S 29
S 30	19 7 48	16°30'22	3°R35	28°M4	14°M5	19°M36	16°A51	25°R36	8°R27	21°M16	0°R28	20°H8	21°H18	23°R44	28°R49	S 30

Delta T = 06m32s

Julian Calendar

ASTRODIENST EPHEMERIS for the year 1448

geocentric

JULY 1448 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	19 11 44	17°27'37"	15°50'	28°11'32"	15°11'16"	19°14'47"	16°55'	25°02'42"	8°30'	21°17'17"	0°02'30"	19°R56	21°14'14"	23°02'51"	28°08'52"	M 1
T 2	19 15 41	18°24'53"	27°56'	29° 6'	16°27'	19°59'	17° 0'	25°49'	8°34'	21°18'	0°32'	19°R46	21°11'	23°58'	28°56'	T 2
W 3	19 19 37	19°22'09"	9°02'54"	29°45'	17°39'	20°12'	17° 5'	25°56'	8°38'	21°19'	0°34'	19°38'	21° 8'	24° 4'	28°59'	W 3
T 4	19 23 34	20°19'26"	21°45'	0°03'30"	18°50'	20°26'	17°10'	26° 2'	8°41'	21°21'	0°35'	19°32'	21° 5'	24°11'	29° 2'	T 4
F 5	19 27 30	21°16'43"	3°17'32"	1°20'	20° 2'	20°40'	17°15'	26° 9'	8°45'	21°22'	0°37'	19°28'	21° 2'	24°18'	29° 6'	F 5
S 6	19 31 27	22°14'00"	15°19'	2°16'	21°13'	20°55'	17°21'	26°16'	8°48'	21°23'	0°39'	19°D26	20°59'	24°24'	29° 9'	S 6
S 7	19 35 24	23°11'18"	27° 9'	3°16'	22°25'	21°10'	17°26'	26°22'	8°52'	21°24'	0°40'	19°27'	20°55'	24°31'	29°12'	S 7
M 8	19 39 20	24° 8'36"	9°02'54"	4°22'	23°36'	21°26'	17°32'	26°29'	8°55'	21°26'	0°42'	19°28'	20°52'	24°38'	29°16'	M 8
T 9	19 43 17	25° 5'55"	21°20'	5°33'	24°48'	21°43'	17°38'	26°36'	8°59'	21°27'	0°44'	19°R28	20°49'	24°44'	29°19'	T 9
W10	19 47 13	26° 3'14"	3°17'51"	6°49'	25°59'	22° 0'	17°44'	26°43'	9° 2'	21°29'	0°46'	19°28'	20°46'	24°51'	29°22'	W10
T 11	19 51 10	27° 0'34"	16°45'	8°10'	27°11'	22°18'	17°50'	26°50'	9° 6'	21°30'	0°47'	19°26'	20°43'	24°58'	29°25'	T 11
F 12	19 55 6	27°57'54"	0°02'54"	9°36'	28°23'	22°37'	17°56'	26°57'	9° 9'	21°32'	0°49'	19°22'	20°40'	25° 4'	29°28'	F 12
S 13	19 59 3	28°55'15"	13°56'	11° 6'	29°35'	22°56'	18° 3'	27° 4'	9°13'	21°33'	0°51'	19°17'	20°36'	25°11'	29°31'	S 13
S 14	20 2 59	29°52'36"	28°14'	12°40'	0°04'47"	23°15'	18° 9'	27°11'	9°16'	21°35'	0°53'	19°10'	20°33'	25°18'	29°34'	S 14
M15	20 6 56	0°02'49'59"	12°35'56"	14°19'	1°59'	23°36'	18°16'	27°18'	9°20'	21°36'	0°54'	19° 2'	20°30'	25°24'	29°37'	M15
T 16	20 10 53	1°47'22"	27°56'	16° 1'	3°11'	23°56'	18°23'	27°25'	9°23'	21°38'	0°56'	18°55'	20°27'	25°31'	29°40'	T 16
W17	20 14 49	2°44'46"	13°05'55"	17°47'	4°23'	24°18'	18°29'	27°32'	9°27'	21°39'	0°58'	18°50'	20°24'	25°38'	29°43'	W17
T 18	20 18 46	3°42'11"	28°13'	19°37'	5°35'	24°39'	18°37'	27°39'	9°30'	21°41'	1° 0'	18°46'	20°20'	25°44'	29°45'	T 18
F 19	20 22 42	4°39'36"	13°11'10"	21°29'	6°47'	25° 2'	18°44'	27°46'	9°33'	21°43'	1° 1'	18°D45	20°17'	25°51'	29°48'	F 19
S 20	20 26 39	5°37'04"	27°50'	23°24'	7°59'	25°24'	18°51'	27°53'	9°37'	21°44'	1° 3'	18°45'	20°14'	25°58'	29°51'	S 20
S 21	20 30 35	6°34'32"	12°07'58"	25°21'	9°11'	25°48'	18°59'	28° 1'	9°40'	21°46'	1° 5'	18°46'	20°11'	26° 4'	29°53'	S 21
M22	20 34 32	7°32'02"	26° 3'	27°20'	10°24'	26°11'	19° 6'	28° 8'	9°44'	21°48'	1° 7'	18°47'	20° 8'	26°11'	29°56'	M22
T 23	20 38 28	8°29'33"	9°02'54"	29°20'	11°36'	26°36'	19°14'	28°15'	9°47'	21°49'	1° 8'	18°R48	20° 5'	26°18'	29°58'	T 23
W24	20 42 25	9°27'06"	22°46'	1°02'22"	12°49'	27° 0'	19°22'	28°22'	9°50'	21°51'	1°10'	18°47'	20° 1'	26°24'	0°02'11"	W24
T 25	20 46 22	10°24'40"	5°11'38"	3°24'	14° 1'	27°25'	19°30'	28°30'	9°53'	21°53'	1°12'	18°45'	19°58'	26°31'	0° 3'	T 25
F 26	20 50 18	11°22'16"	18°15'	5°27'	15°14'	27°51'	19°38'	28°37'	9°57'	21°55'	1°14'	18°40'	19°55'	26°38'	0° 5'	F 26
S 27	20 54 15	12°19'53"	0°02'38"	7°30'	16°26'	28°17'	19°46'	28°44'	10° 0'	21°56'	1°15'	18°35'	19°52'	26°44'	0° 7'	S 27
S 28	20 58 11	13°17'32"	12°50'	9°33'	17°39'	28°43'	19°54'	28°52'	10° 3'	21°58'	1°17'	18°29'	19°49'	26°51'	0° 9'	S 28
M29	21 2 8	14°15'12"	24°53'	11°36'	18°52'	29°10'	20° 3'	28°59'	10° 6'	22° 0'	1°19'	18°22'	19°46'	26°58'	0°12'	M29
T 30	21 6 4	15°12'53"	13°38'	13°38'	20° 4'	29°37'	20°11'	29° 7'	10° 9'	22° 2'	1°20'	18°17'	19°42'	27° 4'	0°14'	T 30
W31	21 10 1	16°10'36"	18°02'40"	15°03'39"	21°02'17"	0°02'54"	20°02'20"	29°02'14"	10°02'12"	22°02'4"	1°02'22"	18°12'	19°39'	27°02'11"	0°16'	W31

Delta T = 06m32s

Julian Calendar 1 July 1448 == Greg. Calendar 10 July 1448

AUGUST 1448 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	21 13 58	17°02'18"	0°17'28"	17°02'39"	22°03'40"	0°02'33"	20°02'29"	29°02'22"	10°02'16"	22°02'6"	1°02'24"	18°R 9	19°R36	27°02'17"	0°02'17"	T 1
F 2	21 17 54	18° 6'05"	12°15'	19°39'	23°43'	1° 2'	20°37'	29°29'	10°19'	22° 8'	1°26"	18°R 8	19°33'	27°24"	0°19'	F 2
S 3	21 21 51	19° 3'52"	24° 4'	21°37'	24°56'	1°30'	20°46'	29°36'	10°22'	22° 9'	1°27"	18°D 8	19°30'	27°31"	0°21"	S 3
S 4	21 25 47	20° 1'39"	5°02'57"	23°35'	26° 9'	2° 0'	20°56'	29°44'	10°25'	22°11'	1°29"	18° 9	19°26'	27°37"	0°23"	S 4
M 5	21 29 44	20°59'28"	17°58'	25°31'	27°22'	2°29'	21° 5'	29°51'	10°28'	22°13'	1°31"	18°11'	19°23'	27°44"	0°24"	M 5
T 6	21 33 40	21°57'19"	0°17'12"	27°26'	28°35'	2°59'	21°14'	29°59'	10°31'	22°15'	1°32"	18°12'	19°20'	27°51"	0°26"	T 6
W 7	21 37 37	22°55'10"	12°42'	29°19'	29°48'	3°29'	21°23'	0°17'7"	10°33'	22°17'	1°34"	18°14'	19°17'	27°57"	0°28"	W 7
T 8	21 41 33	23°53'03"	25°33'	1°17'11"	1°02'1"	4° 0'	21°33'	0°14'	10°36'	22°19'	1°35"	18°R14	19°14'	28° 4'	0°29"	T 8
F 9	21 45 30	24°50'57"	8°02'49"	3° 2'	2°15'	4°31'	21°43'	0°22'	10°39'	22°21'	1°37"	18°13'	19°11'	28°11"	0°30"	F 9
S 10	21 49 26	25°48'53"	22°31'	4°52'	3°28'	5° 2'	21°52'	0°29'	10°42'	22°23'	1°39"	18°12'	19° 7'	28°17"	0°32"	S 10
S 11	21 53 23	26°46'50"	6°03'41"	6°40'	4°41'	5°34'	22° 2'	0°37'	10°45'	22°25'	1°40"	18° 9	19° 4'	28°24"	0°33"	S 11
M12	21 57 20	27°44'48"	21°17'	8°27'	5°55'	6° 6'	22°12'	0°44'	10°48'	22°27'	1°42"	18° 7	19° 1'	28°31"	0°34"	M12
T 13	22 1 16	28°42'48"	6°02'13"	10°13'	7° 8'	6°38'	22°22'	0°52'	10°50'	22°30'	1°44"	18° 4	18°58'	28°37"	0°35"	T 13
W14	22 5 13	29°40'49"	21°23'	11°58'	8°22'	7°10'	22°32'	1° 0'	10°53'	22°32'	1°45"	18° 2	18°55'	28°44"	0°36"	W14
T 15	22 9 9	0°17'38'52"	6°13'37"	13°41'	9°35'	7°43'	22°42'	1° 7'	10°56'	22°34'	1°47"	18° 1	18°51'	28°51"	0°37"	T 15
F 16	22 13 6	1°36'56"	21°45'	15°23'	10°49'	8°16'	22°53'	1°15'	10°58'	22°36'	1°48"	18°D 1	18°48'	28°57"	0°38"	F 16
S 17	22 17 2	2°35'02"	6°17'39"	17° 3'	12° 2'	8°50'	23° 3'	1°22'	11° 1'	22°38'	1°50"	18° 1	18°45'	29° 4'	0°39"	S 17
S 18	22 20 59	3°33'10"	21°11'	18°43'	13°16'	9°23'	23°13'	1°30'	11° 3'	22°40'	1°51"	18° 2	18°42'	29°11"	0°40"	S 18
M19	22 24 55	4°31'20"	5°02'17"	20°21'	14°30'	9°57'	23°24'	1°37'	11° 6'	22°42'	1°53"	18° 3	18°39'	29°17"	0°41"	M19
T 20	22 28 52	5°29'32"	18°58'	21°58'	15°43'	10°31'	23°34'	1°45'	11° 8'	22°44'	1°54"	18° 4	18°36'	29°24"	0°41"	T 20
W21	22 32 49	6°27'47"	2°11'13"	23°34'	16°57'	11° 6'	23°45'	1°53'	11°11'	22°46'	1°56"	18°R 5	18°32'	29°31"	0°42"	W21
T 22	22 36 45	7°26'03"	15° 4'	25° 9'	18°11'	11°41'	23°56'	2° 0'	11°13'	22°49'	1°57"	18° 5	18°29'	29°37"	0°43"	T 22
F 23	22 40 42	8°24'22"	27°37'	26°42'	19°25'	12°15'	24° 7'	2° 8'	11°16'	22°51'	1°59"	18° 4	18°26'	29°44"	0°43"	F 23
S 24	22 44 38	9°22'42"	9°02'53"	28°15'	20°39'	12°51'	24°18'	2°15'	11°18'	22°53'	2° 0'	18° 3	18°23'	29°51"	0°43"	S 24
S 25	22 48 35	10°21'05"	21°57'	29°46'	21°53'	13°26'	24°29'	2°23'	11°20'	22°55'	2° 2'	18° 2	18°20'	29°57"	0°44"	S 25
M26	22 52 31	11°19'30"	3°02'52"	1°02'16"	23° 7'	14° 2'	24°40'	2°30'	11°22'	22°57'	2° 3'	18° 1	18°17'	0°17'4"	0°44"	M26
T 27	22 56 28	12°17'56"	15°43'	2°45'	24°21'	14°38'	24°51'	2°38'	11°25'	23° 0'	2° 5'	18° 0	18°13'	0°10"	0°44"	T 27
W28	23 0 24	13°16'25"	27°30'	4°13'	25°35'	15°14'	25° 2'	2°45'	11°27'	23° 2'	2° 6'	18° 0	18°10'	0°17"	0°44"	W28
T 29	23 4 21	14°14'56"	9°17'18"	5°40'	26°49'	15°50'	25°14'	2°53'	11°29'	23° 4'	2° 7'	17°59'	18° 7	0°24"	0°R44"	T 29
F 30	23 8 18	15°13'28"	21° 8'	7° 5'	28° 3'	16°27'	25°25'	3° 0'	11°31'	23° 6'	2° 9'	17°D59	18° 4	0°30"	0°44"	F 30
S 31	23 12 14	16°12'03"	3°02'53"	8°02'29"	29°02'18"	17°02'54"	25°02'36"	3°17'8"	11°02'33"	23°17'8"	2°10'22"	18°R 0	18°R 1	0°17'37"	0°11'44"	S 31

Delta T = 06m32s

Julian Calendar

ASTRODIENST EPHEMERIS for the year 1448

geocentric

SEPTEMBER 1448 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	23 16 11	17 ¹⁰ 13'39	15 ¹⁰ 4	9 ¹⁰ 52	0 ¹⁰ 32	17 ¹⁰ 41	25 ¹⁰ 48	3 ¹⁰ 15	11 ¹⁰ 35	23 ¹⁰ 11	2 ¹⁰ 11	18 ¹⁰ 0	17 ¹⁰ 57	0 ¹⁰ 44	0 ¹⁰ 44	S 1
M 2	23 20 7	18 ¹⁰ 9'17	27 ¹⁰ 15	11 ¹⁰ 14	1 ¹⁰ 46	18 ¹⁰ 18	25 ¹⁰ 59	3 ¹⁰ 23	11 ¹⁰ 37	23 ¹⁰ 13	2 ¹⁰ 13	18 ¹⁰ R 0	17 ¹⁰ 54	0 ¹⁰ 50	0 ¹⁰ 44	M 2
T 3	23 24 4	19 ¹⁰ 7'57	9 ¹⁰ 36	12 ¹⁰ 34	3 ¹⁰ 0	18 ¹⁰ 55	26 ¹⁰ 11	3 ¹⁰ 30	11 ¹⁰ 39	23 ¹⁰ 15	2 ¹⁰ 14	18 ¹⁰ 0	17 ¹⁰ 51	0 ¹⁰ 57	0 ¹⁰ 43	T 3
W 4	23 28 0	20 ¹⁰ 6'39	22 ¹⁰ 12	13 ¹⁰ 54	4 ¹⁰ 15	19 ¹⁰ 33	26 ¹⁰ 23	3 ¹⁰ 37	11 ¹⁰ 40	23 ¹⁰ 17	2 ¹⁰ 15	17 ¹⁰ 59	17 ¹⁰ 48	1 ¹⁰ 4	0 ¹⁰ 43	W 4
T 5	23 31 57	21 ¹⁰ 5'23	5 ¹⁰ 7	15 ¹⁰ 11	5 ¹⁰ 29	20 ¹⁰ 11	26 ¹⁰ 35	3 ¹⁰ 45	11 ¹⁰ 42	23 ¹⁰ 20	2 ¹⁰ 16	17 ¹⁰ 59	17 ¹⁰ 45	1 ¹⁰ 10	0 ¹⁰ 42	T 5
F 6	23 35 53	22 ¹⁰ 4'08	18 ¹⁰ 18	16 ¹⁰ 28	6 ¹⁰ 44	20 ¹⁰ 49	26 ¹⁰ 46	3 ¹⁰ 52	11 ¹⁰ 44	23 ¹⁰ 22	2 ¹⁰ 18	17 ¹⁰ D59	17 ¹⁰ 42	1 ¹⁰ 17	0 ¹⁰ 42	F 6
S 7	23 39 50	23 ¹⁰ 2'55	1 ¹⁰ 52	17 ¹⁰ 42	7 ¹⁰ 58	21 ¹⁰ 27	26 ¹⁰ 58	3 ¹⁰ 59	11 ¹⁰ 46	23 ¹⁰ 24	2 ¹⁰ 19	17 ¹⁰ 59	17 ¹⁰ 38	1 ¹⁰ 24	0 ¹⁰ 41	S 7
S 8	23 43 47	24 ¹⁰ 1'44	15 ¹⁰ 50	18 ¹⁰ 56	9 ¹⁰ 12	22 ¹⁰ 6	27 ¹⁰ 10	4 ¹⁰ 7	11 ¹⁰ 47	23 ¹⁰ 26	2 ¹⁰ 20	17 ¹⁰ 59	17 ¹⁰ 35	1 ¹⁰ 30	0 ¹⁰ 41	S 8
M 9	23 47 43	25 ¹⁰ 0'35	0 ¹⁰ 10	20 ¹⁰ 7	10 ¹⁰ 27	22 ¹⁰ 44	27 ¹⁰ 22	4 ¹⁰ 14	11 ¹⁰ 49	23 ¹⁰ 28	2 ¹⁰ 21	18 ¹⁰ 0	17 ¹⁰ 32	1 ¹⁰ 37	0 ¹⁰ 40	M 9
T 10	23 51 40	25 ¹⁰ 59'27	14 ¹⁰ 50	21 ¹⁰ 17	11 ¹⁰ 42	23 ¹⁰ 23	27 ¹⁰ 34	4 ¹⁰ 21	11 ¹⁰ 51	23 ¹⁰ 31	2 ¹⁰ 22	18 ¹⁰ 1	17 ¹⁰ 29	1 ¹⁰ 44	0 ¹⁰ 39	T 10
W 11	23 55 36	26 ¹⁰ 58'21	29 ¹⁰ 45	22 ¹⁰ 24	12 ¹⁰ 56	24 ¹⁰ 2	27 ¹⁰ 46	4 ¹⁰ 28	11 ¹⁰ 52	23 ¹⁰ 33	2 ¹⁰ 24	18 ¹⁰ 1	17 ¹⁰ 26	1 ¹⁰ 50	0 ¹⁰ 38	W 11
T 12	23 59 33	27 ¹⁰ 57'17	14 ¹⁰ 49	23 ¹⁰ 30	14 ¹⁰ 11	24 ¹⁰ 41	27 ¹⁰ 59	4 ¹⁰ 36	11 ¹⁰ 53	23 ¹⁰ 35	2 ¹⁰ 25	18 ¹⁰ R 2	17 ¹⁰ 23	1 ¹⁰ 57	0 ¹⁰ 37	T 12
F 13	0 3 29	28 ¹⁰ 56'15	29 ¹⁰ 53	24 ¹⁰ 34	15 ¹⁰ 25	25 ¹⁰ 20	28 ¹⁰ 11	4 ¹⁰ 43	11 ¹⁰ 55	23 ¹⁰ 37	2 ¹⁰ 26	18 ¹⁰ 1	17 ¹⁰ 19	2 ¹⁰ 4	0 ¹⁰ 36	F 13
S 14	0 7 26	29 ¹⁰ 55'14	14 ¹⁰ 48	25 ¹⁰ 35	16 ¹⁰ 40	26 ¹⁰ 0	28 ¹⁰ 23	4 ¹⁰ 50	11 ¹⁰ 56	23 ¹⁰ 40	2 ¹⁰ 27	18 ¹⁰ 1	17 ¹⁰ 16	2 ¹⁰ 10	0 ¹⁰ 35	S 14
S 15	0 11 22	0 ¹⁰ 54'16	29 ¹⁰ 26	26 ¹⁰ 33	17 ¹⁰ 55	26 ¹⁰ 39	28 ¹⁰ 35	4 ¹⁰ 57	11 ¹⁰ 58	23 ¹⁰ 42	2 ¹⁰ 28	17 ¹⁰ 59	17 ¹⁰ 13	2 ¹⁰ 17	0 ¹⁰ 34	S 15
M 16	0 15 19	1 ¹⁰ 53'21	13 ¹⁰ 41	27 ¹⁰ 29	19 ¹⁰ 9	27 ¹⁰ 19	28 ¹⁰ 48	5 ¹⁰ 4	11 ¹⁰ 59	23 ¹⁰ 44	2 ¹⁰ 29	17 ¹⁰ 58	17 ¹⁰ 10	2 ¹⁰ 23	0 ¹⁰ 33	M 16
T 17	0 19 16	2 ¹⁰ 52'27	27 ¹⁰ 31	28 ¹⁰ 22	20 ¹⁰ 24	27 ¹⁰ 59	29 ¹⁰ 0	5 ¹⁰ 11	12 ¹⁰ 0	23 ¹⁰ 46	2 ¹⁰ 30	17 ¹⁰ 56	17 ¹⁰ 7	2 ¹⁰ 30	0 ¹⁰ 31	T 17
W 18	0 23 12	3 ¹⁰ 51'36	10 ¹⁰ 53	29 ¹⁰ 12	21 ¹⁰ 39	28 ¹⁰ 39	29 ¹⁰ 13	5 ¹⁰ 18	12 ¹⁰ 1	23 ¹⁰ 48	2 ¹⁰ 31	17 ¹⁰ 54	17 ¹⁰ 3	2 ¹⁰ 37	0 ¹⁰ 30	W 18
T 19	0 27 9	4 ¹⁰ 50'48	23 ¹⁰ 49	29 ¹⁰ 58	22 ¹⁰ 54	29 ¹⁰ 19	29 ¹⁰ 25	5 ¹⁰ 25	12 ¹⁰ 2	23 ¹⁰ 51	2 ¹⁰ 32	17 ¹⁰ 53	17 ¹⁰ 0	2 ¹⁰ 43	0 ¹⁰ 29	T 19
F 20	0 31 5	5 ¹⁰ 50'01	6 ¹⁰ 523	0 ¹⁰ 40	24 ¹⁰ 9	29 ¹⁰ 59	29 ¹⁰ 38	5 ¹⁰ 32	12 ¹⁰ 3	23 ¹⁰ 53	2 ¹⁰ 33	17 ¹⁰ D53	16 ¹⁰ 57	2 ¹⁰ 50	0 ¹⁰ 27	F 20
S 21	0 35 2	6 ¹⁰ 49'17	18 ¹⁰ 38	1 ¹⁰ 18	25 ¹⁰ 23	0 ¹⁰ 40	29 ¹⁰ 50	5 ¹⁰ 39	12 ¹⁰ 4	23 ¹⁰ 55	2 ¹⁰ 34	17 ¹⁰ 53	16 ¹⁰ 54	2 ¹⁰ 57	0 ¹⁰ 25	S 21
S 22	0 38 58	7 ¹⁰ 48'36	0 ¹⁰ 40	1 ¹⁰ 51	26 ¹⁰ 38	1 ¹⁰ 20	0 ¹⁰ 3	5 ¹⁰ 46	12 ¹⁰ 5	23 ¹⁰ 57	2 ¹⁰ 35	17 ¹⁰ 54	16 ¹⁰ 51	3 ¹⁰ 3	0 ¹⁰ 24	S 22
M 23	0 42 55	8 ¹⁰ 47'56	12 ¹⁰ 32	2 ¹⁰ 19	27 ¹⁰ 53	2 ¹⁰ 1	0 ¹⁰ 15	5 ¹⁰ 52	12 ¹⁰ 6	23 ¹⁰ 59	2 ¹⁰ 35	17 ¹⁰ 56	16 ¹⁰ 48	3 ¹⁰ 10	0 ¹⁰ 22	M 23
T 24	0 46 51	9 ¹⁰ 47'19	24 ¹⁰ 20	2 ¹⁰ 42	29 ¹⁰ 8	2 ¹⁰ 42	0 ¹⁰ 28	5 ¹⁰ 59	12 ¹⁰ 7	24 ¹⁰ 2	2 ¹⁰ 36	17 ¹⁰ 57	16 ¹⁰ 44	3 ¹⁰ 17	0 ¹⁰ 20	T 24
W 25	0 50 48	10 ¹⁰ 46'44	6 ¹⁰ 7	2 ¹⁰ 59	0 ¹⁰ 23	3 ¹⁰ 23	0 ¹⁰ 41	6 ¹⁰ 6	12 ¹⁰ 8	24 ¹⁰ 4	2 ¹⁰ 37	17 ¹⁰ 59	16 ¹⁰ 41	3 ¹⁰ 23	0 ¹⁰ 19	W 25
T 26	0 54 45	11 ¹⁰ 46'12	17 ¹⁰ 58	3 ¹⁰ 9	1 ¹⁰ 38	4 ¹⁰ 4	0 ¹⁰ 54	6 ¹⁰ 12	12 ¹⁰ 9	24 ¹⁰ 6	2 ¹⁰ 38	17 ¹⁰ R59	16 ¹⁰ 38	3 ¹⁰ 30	0 ¹⁰ 17	T 26
F 27	0 58 41	12 ¹⁰ 45'41	29 ¹⁰ 54	3 ¹⁰ R12	2 ¹⁰ 53	4 ¹⁰ 45	1 ¹⁰ 6	6 ¹⁰ 19	12 ¹⁰ 9	24 ¹⁰ 8	2 ¹⁰ 39	17 ¹⁰ 59	16 ¹⁰ 35	3 ¹⁰ 37	0 ¹⁰ 15	F 27
S 28	1 2 38	13 ¹⁰ 45'13	11 ¹⁰ 58	3 ¹⁰ 7	4 ¹⁰ 8	5 ¹⁰ 27	1 ¹⁰ 19	6 ¹⁰ 26	12 ¹⁰ 10	24 ¹⁰ 10	2 ¹⁰ 39	17 ¹⁰ 57	16 ¹⁰ 32	3 ¹⁰ 43	0 ¹⁰ 13	S 28
S 29	1 6 34	14 ¹⁰ 44'46	24 ¹⁰ 13	2 ¹⁰ 55	5 ¹⁰ 23	6 ¹⁰ 8	1 ¹⁰ 32	6 ¹⁰ 32	12 ¹⁰ 10	24 ¹⁰ 12	2 ¹⁰ 40	17 ¹⁰ 54	16 ¹⁰ 28	3 ¹⁰ 50	0 ¹⁰ 11	S 29
M 30	1 10 31	15 ¹⁰ 44'22	6 ¹⁰ 39	2 ¹⁰ 34	6 ¹⁰ 38	6 ¹⁰ 50	1 ¹⁰ 45	6 ¹⁰ 39	12 ¹⁰ 11	24 ¹⁰ 14	2 ¹⁰ 41	17 ¹⁰ 49	16 ¹⁰ 25	3 ¹⁰ 57	0 ¹⁰ 11	M 30

Delta T = 06m32s

Julian Calendar 1 Sept. 1448 == Greg. Calendar 10 Sept. 1448

OCTOBER 1448 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	1 14 27	16 ¹⁰ 44'00	19 ¹⁰ 17	2 ¹⁰ R 5	7 ¹⁰ 54	7 ¹⁰ 32	1 ¹⁰ 58	6 ¹⁰ 45	12 ¹⁰ 11	24 ¹⁰ 17	2 ¹⁰ 42	17 ¹⁰ R44	16 ¹⁰ 22	4 ¹⁰ 3	0 ¹⁰ R 6	T 1
W 2	1 18 24	17 ¹⁰ 43'39	2 ¹⁰ 7	1 ¹⁰ 27	9 ¹⁰ 9	8 ¹⁰ 14	2 ¹⁰ 11	6 ¹⁰ 51	12 ¹⁰ 12	24 ¹⁰ 19	2 ¹⁰ 42	17 ¹⁰ 39	16 ¹⁰ 19	4 ¹⁰ 10	0 ¹⁰ II 4	W 2
T 3	1 22 20	18 ¹⁰ 43'21	15 ¹⁰ 12	0 ¹⁰ 41	10 ¹⁰ 24	8 ¹⁰ 56	2 ¹⁰ 24	6 ¹⁰ 58	12 ¹⁰ 12	24 ¹⁰ 21	2 ¹⁰ 43	17 ¹⁰ 35	16 ¹⁰ 16	4 ¹⁰ 17	0 ¹⁰ 2	T 3
F 4	1 26 17	19 ¹⁰ 43'04	28 ¹⁰ 31	29 ¹⁰ 46	11 ¹⁰ 39	9 ¹⁰ 38	2 ¹⁰ 37	7 ¹⁰ 4	12 ¹⁰ 13	24 ¹⁰ 23	2 ¹⁰ 43	17 ¹⁰ 32	16 ¹⁰ 13	4 ¹⁰ 23	29 ¹⁰ 59	F 4
S 5	1 30 14	20 ¹⁰ 42'49	12 ¹⁰ 3	28 ¹⁰ 44	12 ¹⁰ 54	10 ¹⁰ 20	2 ¹⁰ 50	7 ¹⁰ 10	12 ¹⁰ 13	24 ¹⁰ 25	2 ¹⁰ 44	17 ¹⁰ 30	16 ¹⁰ 9	4 ¹⁰ 30	29 ¹⁰ 57	S 5
S 6	1 34 10	21 ¹⁰ 42'36	25 ¹⁰ 54	27 ¹⁰ 36	14 ¹⁰ 9	11 ¹⁰ 2	3 ¹⁰ 3	7 ¹⁰ 16	12 ¹⁰ 13	24 ¹⁰ 27	2 ¹⁰ 45	17 ¹⁰ D30	16 ¹⁰ 6	4 ¹⁰ 36	29 ¹⁰ 55	S 6
M 7	1 38 7	22 ¹⁰ 42'24	9 ¹⁰ 59	26 ¹⁰ 23	15 ¹⁰ 24	11 ¹⁰ 45	3 ¹⁰ 16	7 ¹⁰ 22	12 ¹⁰ 13	24 ¹⁰ 29	2 ¹⁰ 45	17 ¹⁰ 31	16 ¹⁰ 3	4 ¹⁰ 43	29 ¹⁰ 52	M 7
T 8	1 42 3	23 ¹⁰ 42'14	24 ¹⁰ 18	25 ¹⁰ 7	16 ¹⁰ 40	12 ¹⁰ 27	3 ¹⁰ 29	7 ¹⁰ 28	12 ¹⁰ 13	24 ¹⁰ 31	2 ¹⁰ 46	17 ¹⁰ 32	16 ¹⁰ 0	4 ¹⁰ 50	29 ¹⁰ 50	T 8
W 9	1 46 0	24 ¹⁰ 42'06	8 ¹⁰ 51	23 ¹⁰ 51	17 ¹⁰ 55	13 ¹⁰ 10	3 ¹⁰ 42	7 ¹⁰ 34	12 ¹⁰ R13	24 ¹⁰ 33	2 ¹⁰ 46	17 ¹⁰ 33	15 ¹⁰ 57	4 ¹⁰ 56	29 ¹⁰ 47	W 9
T 10	1 49 56	25 ¹⁰ 41'59	23 ¹⁰ 31	22 ¹⁰ 37	19 ¹⁰ 10	13 ¹⁰ 52	3 ¹⁰ 55	7 ¹⁰ 40	12 ¹⁰ 13	24 ¹⁰ 35	2 ¹⁰ 46	17 ¹⁰ R34	15 ¹⁰ 54	5 ¹⁰ 3	29 ¹⁰ 45	T 10
F 11	1 53 53	26 ¹⁰ 41'54	8 ¹⁰ 41	21 ¹⁰ 26	20 ¹⁰ 25	14 ¹⁰ 35	4 ¹⁰ 8	7 ¹⁰ 46	12 ¹⁰ 13	24 ¹⁰ 37	2 ¹⁰ 47	17 ¹⁰ 32	15 ¹⁰ 50	5 ¹⁰ 10	29 ¹⁰ 42	F 11
S 12	1 57 49	27 ¹⁰ 41'51	22 ¹⁰ 56	20 ¹⁰ 22	21 ¹⁰ 41	15 ¹⁰ 18	4 ¹⁰ 21	7 ¹⁰ 52	12 ¹⁰ 13	24 ¹⁰ 39	2 ¹⁰ 47	17 ¹⁰ 28	15 ¹⁰ 47	5 ¹⁰ 16	29 ¹⁰ 39	S 12
S 13	2 1 46	28 ¹⁰ 41'50	7 ¹⁰ 26	19 ¹⁰ 26	22 ¹⁰ 56	16 ¹⁰ 1	4 ¹⁰ 35	7 ¹⁰ 58	12 ¹⁰ 13	24 ¹⁰ 41	2 ¹⁰ 48	17 ¹⁰ 23	15 ¹⁰ 44	5 ¹⁰ 23	29 ¹⁰ 36	S 13
M 14	2 5 42	29 ¹⁰ 41'51	21 ¹⁰ 38	18 ¹⁰ 40	24 ¹⁰ 11	16 ¹⁰ 44	4 ¹⁰ 48	8 ¹⁰ 3	12 ¹⁰ 13	24 ¹⁰ 43	2 ¹⁰ 48	17 ¹⁰ 16	15 ¹⁰ 41	5 ¹⁰ 30	29 ¹⁰ 33	M 14
T 15	2 9 39	0 ¹⁰ 41'54	5 ¹⁰ II 29	18 ¹⁰ 4	25 ¹⁰ 26	17 ¹⁰ 27	5 ¹⁰ 1	8 ¹⁰ 9	12 ¹⁰ 12	24 ¹⁰ 45	2 ¹⁰ 48	17 ¹⁰ 9	15 ¹⁰ 38	5 ¹⁰ 36	29 ¹⁰ 31	T 15
W 16	2 13 36	1 ¹⁰ 41'59	18 ¹⁰ 55	17 ¹⁰ 40	26 ¹⁰ 42	18 ¹⁰ 10	5 ¹⁰ 14	8 ¹⁰ 14	12 ¹⁰ 12	24 ¹⁰ 46	2 ¹⁰ 48	17 ¹⁰ 2	15 ¹⁰ 34	5 ¹⁰ 43	29 ¹⁰ 28	W 16
T 17	2 17 32	2 ¹⁰ 42'06	1 ¹⁰ 55	17 ¹⁰ 27	27 ¹⁰ 57	18 ¹⁰ 53	5 ¹⁰ 27	8 ¹⁰ 20	12 ¹⁰ 12	24 ¹⁰ 48	2 ¹⁰ 49	16 ¹⁰ 56	15 ¹⁰ 31	5 ¹⁰ 50	29 ¹⁰ 25	T 17
F 18	2 21 29	3 ¹⁰ 42'16	14 ¹⁰ 32	17 ¹⁰ D26	29 ¹⁰ 12	19 ¹⁰ 37	5 ¹⁰ 41	8 ¹⁰ 25	12 ¹⁰ 11	24 ¹⁰ 50	2 ¹⁰ 49	16 ¹⁰ 52	15 ¹⁰ 28	5 ¹⁰ 56	29 ¹⁰ 22	F 18
S 19	2 25 25	4 ¹⁰ 42'27	26 ¹⁰ 50	17 ¹⁰ 36	0 ¹⁰ 128	20 ¹⁰ 20	5 ¹⁰ 54	8 ¹⁰ 31	12 ¹⁰ 11	24 ¹⁰ 52	2 ¹⁰ 49	16 ¹⁰ 50	15 ¹⁰ 25	6 ¹⁰ 3	29 ¹⁰ 19	S 19
S 20	2 29 22	5 ¹⁰ 42'40	8 ¹⁰ 52	17 ¹⁰ 56	1 ¹⁰ 43	21 ¹⁰ 3	6 ¹⁰ 7	8 ¹⁰ 36	12 ¹⁰ 10	24 ¹⁰ 54	2 ¹⁰ 49	16 ¹⁰ D50	15 ¹⁰ 22	6 ¹⁰ 10	29 ¹⁰ 16	S 20
M 21	2 33 18	6 ¹⁰ 42'56	20 ¹⁰ 44	18 ¹⁰ 26	2 ¹⁰ 58	21 ¹⁰ 47	6 ¹⁰ 20	8 ¹⁰ 41	12 ¹⁰ 9	24 ¹⁰ 56	2 ¹⁰ 49	16 ¹⁰ 51	15 ¹⁰ 19	6 ¹⁰ 16	29 ¹⁰ 13	M 21
T 22	2 37 15	7 ¹⁰ 43'13	2 ¹⁰ 32	19 ¹⁰ 5	4 ¹⁰ 14	22 ¹⁰ 31	6 ¹⁰ 33	8 ¹⁰ 46	12 ¹⁰ 9	24 ¹⁰ 57	2 ¹⁰ 50	16 ¹⁰ 52	15 ¹⁰ 15	6 ¹⁰ 23	29 ¹⁰ 9	T 22
W 23	2 41 12	8 ¹⁰ 43'32	14 ¹⁰ 20	19 ¹⁰ 51	5 ¹⁰ 29	23 ¹⁰ 14	6 ¹⁰ 47	8 ¹⁰ 51	12 ¹⁰ 8	24 ¹⁰ 59	2 ¹⁰ 50	16 ¹⁰ R53	15 ¹⁰ 12	6 ¹⁰ 29	29 ¹⁰ 6	W 23
T 24	2 45 8	9 ¹⁰ 43'54	2 ¹⁰ 13	20 ¹⁰ 45	6 ¹⁰ 45	23 ¹⁰ 58	7 ¹⁰ 0	8 ¹⁰ 56	12 ¹⁰ 7	25 ¹⁰ 1	2 ¹⁰ 50	16 ¹⁰ 52	15 ¹⁰ 9	6 ¹⁰ 36	29 ¹⁰ 3	T 24
F 25	2 49 5	10 ¹⁰ 44'17	8 ¹⁰ 16	21 ¹⁰ 45	8 ¹⁰ 0	24 ¹⁰ 42	7 ¹⁰ 13	9 ¹⁰ 1	12 ¹⁰ 7	25 ¹⁰ 3	2 ¹⁰ R50	16 ¹⁰ 50	15 ¹⁰ 6	6 ¹⁰ 43	29 ¹⁰ 0	F 25
S 26	2 53 1	11 ¹⁰ 44'42	20 ¹⁰ 31	22 ¹⁰ 50	9 ¹⁰ 15	25 ¹⁰ 26	7 ¹⁰ 26	9 ¹⁰ 6	12 ¹⁰ 6	25 ¹⁰ 4	2 ¹⁰ 50	16 ¹⁰ 45	15 ¹⁰ 3	6 ¹⁰ 49	28 ¹⁰ 57	S 26
S 27	2 56 58	12 ¹⁰ 45'09	3 ¹⁰ 10	24 ¹⁰ 0	10 ¹⁰ 31	26 ¹⁰ 10	7 ¹⁰ 39	9 ¹⁰ 10	12 ¹⁰ 5	25 ¹⁰ 6	2 ¹⁰ 50	16 ¹⁰ 37	15 ¹⁰ 0	6 ¹⁰ 56	28 ¹⁰ 53	S 27
M 28	3 0 54	13 ¹⁰ 45'37	15 ¹⁰ 45	25 ¹⁰ 14	11 ¹⁰ 46	26 ¹⁰ 54	7 ¹⁰ 53	9 ¹⁰ 15	12 ¹⁰ 4	25 ¹⁰ 7	2 ¹⁰ 50	16 ¹⁰ 28	14 ¹⁰ 56	7 ¹⁰ 3	28 ¹⁰ 50	M 28
T 29	3 4 51	14 ¹⁰ 46'08	28 ¹⁰ 45	26 ¹⁰ 31	13 ¹⁰ 2	27 ¹⁰ 38	8 ¹⁰ 6	9 ¹⁰ 20	12 ¹⁰ 3	25 ¹⁰ 9	2 ¹⁰ 50	16 ¹⁰ 17	14 ¹⁰ 53	7 ¹⁰ 9	28 ¹⁰ 47	T 29
W 30	3 8 47	15 ¹⁰ 46'40	11 ¹⁰ 58	27 ¹⁰ 52	14 ¹⁰ 17	28 ¹⁰ 22	8 ¹⁰ 19	9 ¹⁰ 24	12 ¹⁰ 2	25 ¹⁰ 11	2 ¹⁰ 49	16 ¹⁰ 7	14 ¹⁰ 50	7 ¹⁰ 16	28 ¹⁰ 43	W 30
T 31	3 12 44	16 ¹⁰ 47'13	25 ¹⁰ 24	29 ¹⁰ 14	15 ¹⁰ 133	29 ¹⁰ 3	8 ¹⁰ 132	9 ¹⁰ 28	12 ¹⁰ 1	25 ¹⁰ 12	2 ¹⁰ 49	15 ¹⁰ 57	14 ¹⁰ 47	7 ¹⁰ 23	28 ¹⁰ 40	T 31

ASTRODIENST EPHEMERIS for the year 1448

geocentric

NOVEMBER 1448 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	3 16 41	17 ¹⁴ 47'48	9 ³ 1	0 ¹¹ 39	16 ¹¹ 48	29 ³ 50	8 ¹¹ 45	9 ¹¹ 33	11 ¹ R59	25 ¹¹ 14	2 ¹ R49	15 ¹ R49	14 ¹ 44	7 ¹¹ 29	28 ¹ R36	F 1
S 2	3 20 37	18 ¹⁴ 48'24	22 ² 46	2 ¹ 6	18 ¹ 3	0 ¹¹ 34	8 ¹ 58	9 ¹ 37	11 ¹ 58	25 ¹ 15	2 ¹ Q49	15 ¹ 43	14 ¹ 40	7 ¹ 36	28 ¹ R33	S 2
S 3	3 24 34	19 ¹⁴ 49'01	6 ¹¹ 39	3 ¹ 33	19 ¹ 19	1 ¹ 19	9 ¹ 12	9 ¹ 41	11 ¹ 57	25 ¹ 17	2 ¹ 49	15 ¹ 40	14 ¹ 37	7 ¹ 43	28 ¹ 30	S 3
M 4	3 28 30	20 ¹⁴ 49'39	20 ¹ 39	5 ¹ 3	20 ¹ 34	2 ¹ 3	9 ¹ 25	9 ¹ 45	11 ¹ 56	25 ¹ 18	2 ¹ 48	15 ¹ D40	14 ¹ 34	7 ¹ 49	28 ¹ 26	M 4
T 5	3 32 27	21 ¹⁴ 50'19	4 ¹¹ 45	6 ¹ 33	21 ¹ 50	2 ¹ 47	9 ¹ 38	9 ¹ 49	11 ¹ 54	25 ¹ 20	2 ¹ 48	15 ¹ 40	14 ¹ 31	7 ¹ 56	28 ¹ 23	T 5
W 6	3 36 23	22 ¹⁴ 50'59	18 ¹ 57	8 ¹ 3	23 ¹ 5	3 ¹ 32	9 ¹ 51	9 ¹ 53	11 ¹ 53	25 ¹ 21	2 ¹ 48	15 ¹ R40	14 ¹ 28	8 ¹ 3	28 ¹ 19	W 6
T 7	3 40 20	23 ¹⁴ 51'41	3 ¹¹ 12	9 ¹ 35	24 ¹ 21	4 ¹ 16	10 ¹ 4	9 ¹ 57	11 ¹ 51	25 ¹ 22	2 ¹ 48	15 ¹ 39	14 ¹ 25	8 ¹ 9	28 ¹ 16	T 7
F 8	3 44 16	24 ¹⁴ 52'23	17 ¹ 29	11 ¹ 7	25 ¹ 36	5 ¹ 1	10 ¹ 17	10 ¹ 0	11 ¹ 50	25 ¹ 24	2 ¹ 47	15 ¹ 35	14 ¹ 21	8 ¹ 16	28 ¹ 12	F 8
S 9	3 48 13	25 ¹⁴ 53'07	1 ¹¹ 44	12 ¹ 39	26 ¹ 52	5 ¹ 45	10 ¹ 30	10 ¹ 4	11 ¹ 48	25 ¹ 25	2 ¹ 47	15 ¹ 29	14 ¹ 18	8 ¹ 22	28 ¹ 9	S 9
S 10	3 52 10	26 ¹⁴ 53'53	15 ¹ 52	14 ¹ 12	28 ¹ 7	6 ¹ 30	10 ¹ 43	10 ¹ 7	11 ¹ 47	25 ¹ 26	2 ¹ 46	15 ¹ 20	14 ¹ 15	8 ¹ 29	28 ¹ 5	S 10
M 11	3 56 6	27 ¹⁴ 54'39	29 ¹ 47	15 ¹ 45	29 ¹ 22	7 ¹ 14	10 ¹ 56	10 ¹ 11	11 ¹ 45	25 ¹ 28	2 ¹ 46	15 ¹ 8	14 ¹ 12	8 ¹ 36	28 ¹ 2	M 11
T 12	4 0 3	28 ¹⁴ 55'27	13 ¹¹ 26	17 ¹ 18	0 ¹¹ 38	7 ¹ 59	11 ¹ 9	10 ¹ 14	11 ¹ 43	25 ¹ 29	2 ¹ 46	14 ¹ 56	14 ¹ 9	8 ¹ 42	27 ¹ 58	T 12
W 13	4 3 59	29 ¹⁴ 56'16	26 ¹ 46	18 ¹ 52	1 ¹ 53	8 ¹ 44	11 ¹ 22	10 ¹ 17	11 ¹ 42	25 ¹ 30	2 ¹ 45	14 ¹ 44	14 ¹ 6	8 ¹ 49	27 ¹ 55	W 13
T 14	4 7 56	0 ¹¹ 57'06	9 ¹¹ 43	20 ¹ 25	3 ¹ 9	9 ¹ 28	11 ¹ 35	10 ¹ 20	11 ¹ 40	25 ¹ 31	2 ¹ 45	14 ¹ 33	14 ¹ 2	8 ¹ 56	27 ¹ 51	T 14
F 15	4 11 52	1 ¹¹ 57'58	22 ¹ 20	21 ¹ 59	4 ¹ 24	10 ¹ 13	11 ¹ 47	10 ¹ 23	11 ¹ 38	25 ¹ 32	2 ¹ 44	14 ¹ 24	13 ¹ 59	9 ¹ 2	27 ¹ 48	F 15
S 16	4 15 49	2 ¹¹ 58'51	4 ¹¹ 39	23 ¹ 32	5 ¹ 40	10 ¹ 58	12 ¹ 0	10 ¹ 26	11 ¹ 36	25 ¹ 33	2 ¹ 43	14 ¹ 19	13 ¹ 56	9 ¹ 9	27 ¹ 44	S 16
S 17	4 19 45	3 ¹¹ 59'45	16 ¹ 42	25 ¹ 6	6 ¹ 55	11 ¹ 42	12 ¹ 13	10 ¹ 29	11 ¹ 35	25 ¹ 35	2 ¹ 43	14 ¹ 15	13 ¹ 53	9 ¹ 16	27 ¹ 41	S 17
M 18	4 23 42	5 ¹¹ 0'41	28 ¹ 34	26 ¹ 40	8 ¹ 11	12 ¹ 27	12 ¹ 26	10 ¹ 31	11 ¹ 33	25 ¹ 36	2 ¹ 42	14 ¹ 14	13 ¹ 50	9 ¹ 22	27 ¹ 37	M 18
T 19	4 27 39	6 ¹¹ 1'37	10 ¹¹ 22	28 ¹ 13	9 ¹ 26	13 ¹ 12	12 ¹ 38	10 ¹ 34	11 ¹ 31	25 ¹ 37	2 ¹ 42	14 ¹ 14	13 ¹ 46	9 ¹ 29	27 ¹ 34	T 19
W 20	4 31 35	7 ¹¹ 2'35	22 ¹ 11	29 ¹ 47	10 ¹ 42	13 ¹ 57	12 ¹ 51	10 ¹ 36	11 ¹ 29	25 ¹ 38	2 ¹ 41	14 ¹ 14	13 ¹ 43	9 ¹ 36	27 ¹ 30	W 20
T 21	4 35 32	8 ¹¹ 3'35	4 ¹¹ 5	1 ¹¹ 21	11 ¹ 57	14 ¹ 42	13 ¹ 4	10 ¹ 39	11 ¹ 27	25 ¹ 39	2 ¹ 40	14 ¹ 13	13 ¹ 40	9 ¹ 42	27 ¹ 27	T 21
F 22	4 39 28	9 ¹¹ 4'35	16 ¹ 11	2 ¹ 55	13 ¹ 13	15 ¹ 27	13 ¹ 16	10 ¹ 41	11 ¹ 25	25 ¹ 39	2 ¹ 40	14 ¹ 9	13 ¹ 37	9 ¹ 49	27 ¹ 24	F 22
S 23	4 43 25	10 ¹¹ 5'37	28 ¹ 33	4 ¹ 28	14 ¹ 28	16 ¹ 11	13 ¹ 29	10 ¹ 43	11 ¹ 23	25 ¹ 40	2 ¹ 39	14 ¹ 3	13 ¹ 34	9 ¹ 55	27 ¹ 20	S 23
S 24	4 47 21	11 ¹¹ 6'39	11 ¹¹ 13	6 ¹ 2	15 ¹ 44	16 ¹ 56	13 ¹ 41	10 ¹ 45	11 ¹ 20	25 ¹ 41	2 ¹ 38	13 ¹ 54	13 ¹ 31	10 ¹ 2	27 ¹ 17	S 24
M 25	4 51 18	12 ¹¹ 7'43	24 ¹ 13	7 ¹ 36	16 ¹ 59	17 ¹ 41	13 ¹ 54	10 ¹ 47	11 ¹ 18	25 ¹ 42	2 ¹ 37	13 ¹ 42	13 ¹ 27	10 ¹ 9	27 ¹ 13	M 25
T 26	4 55 14	13 ¹¹ 8'48	7 ¹¹ 34	9 ¹ 10	18 ¹ 14	18 ¹ 26	14 ¹ 6	10 ¹ 49	11 ¹ 16	25 ¹ 43	2 ¹ 37	13 ¹ 29	13 ¹ 24	10 ¹ 15	27 ¹ 10	T 26
W 27	4 59 11	14 ¹¹ 9'53	21 ¹ 12	10 ¹ 44	19 ¹ 30	19 ¹ 11	14 ¹ 19	10 ¹ 51	11 ¹ 14	25 ¹ 44	2 ¹ 36	13 ¹ 16	13 ¹ 21	10 ¹ 22	27 ¹ 7	W 27
T 28	5 3 8	15 ¹¹ 10'59	5 ¹¹ 3	12 ¹ 19	20 ¹ 45	19 ¹ 56	14 ¹ 31	10 ¹ 53	11 ¹ 12	25 ¹ 44	2 ¹ 35	13 ¹ 3	13 ¹ 18	10 ¹ 29	27 ¹ 3	T 28
F 29	5 7 4	16 ¹¹ 12'06	19 ¹ 8	13 ¹ 53	22 ¹ 1	20 ¹ 41	14 ¹ 43	10 ¹ 54	11 ¹ 9	25 ¹ 45	2 ¹ 34	12 ¹ 53	13 ¹ 15	10 ¹ 35	27 ¹ 0	F 29
S 30	5 11 1	17 ¹¹ 13'13	3 ¹¹ 17	15 ¹ 27	23 ¹ 16	21 ¹ 26	14 ¹ 55	10 ¹ 55	11 ¹ 5	25 ¹ 46	2 ¹ 33	12 ¹ 46	13 ¹ 12	10 ¹ 42	26 ¹ 57	S 30

Delta T = 06m31s

Julian Calendar 1 Nov. 1448 == Greg. Calendar 10 Nov. 1448

DECEMBER 1448 JC

00:00 UT

Day	Sid.t	☉	☾	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	5 14 57	18 ²¹ 14'21	17 ²² 28	17 ²¹ 2	24 ²⁴ 32	22 ²² 11	15 ¹⁸ 8	10 ¹⁰ 57	11 ¹¹ R 5	25 ²⁵ 46	2 ² R32	12 ¹² R42	13 ¹³ 8	10 ¹⁰ 49	26 ²⁶ R54	S 1
M 2	5 18 54	19 ¹⁹ 15'28	1 ¹ 37	18 ¹⁸ 37	25 ²⁵ 47	22 ²² 56	15 ¹⁵ 20	10 ¹⁰ 58	11 ¹¹ 5 2	25 ²⁵ 47	2 ² Q31	12 ¹² 40	13 ¹³ 5	10 ¹⁰ 55	26 ²⁶ 51	M 2
T 3	5 22 50	20 ²⁰ 16'36	15 ¹⁵ 44	20 ²⁰ 11	27 ²⁷ 3	23 ²³ 41	15 ¹⁵ 32	10 ¹⁰ 59	11 ¹¹ 0	25 ²⁵ 47	2 ² 30	12 ¹² 40	13 ¹³ 2	11 ¹¹ 2	26 ²⁶ 47	T 3
W 4	5 26 47	21 ²¹ 17'44	29 ²⁹ 47	21 ²¹ 46	28 ²⁸ 18	24 ²⁴ 26	15 ¹⁵ 44	11 ¹¹ 0	10 ¹⁰ 58	25 ²⁵ 48	2 ² 29	12 ¹² 40	12 ¹² 59	11 ¹¹ 9	26 ²⁶ 44	W 4
T 5	5 30 43	22 ²² 18'52	13 ¹³ 46	23 ²³ 22	29 ²⁹ 34	25 ²⁵ 11	15 ¹⁵ 55	11 ¹¹ 1	10 ¹⁰ 55	25 ²⁵ 49	2 ² 28	12 ¹² 38	12 ¹² 56	11 ¹¹ 15	26 ²⁶ 41	T 5
F 6	5 34 40	23 ²³ 20'01	27 ²⁷ 40	24 ²⁴ 57	0 ⁰ 349	25 ²⁵ 56	16 ¹⁶ 7	11 ¹¹ 2	10 ¹⁰ 53	25 ²⁵ 49	2 ² 27	12 ¹² 34	12 ¹² 52	11 ¹¹ 22	26 ²⁶ 38	F 6
S 7	5 38 37	24 ²⁴ 21'09	11 ¹¹ 28	26 ²⁶ 33	2 ² 4	26 ²⁶ 41	16 ¹⁶ 19	11 ¹¹ 2	10 ¹⁰ 50	25 ²⁵ 49	2 ² 26	12 ¹² 28	12 ¹² 49	11 ¹¹ 29	26 ²⁶ 35	S 7
S 8	5 42 33	25 ²⁵ 22'18	25 ²⁵ 8	28 ²⁸ 9	3 ³ 20	27 ²⁷ 26	16 ¹⁶ 31	11 ¹¹ 3	10 ¹⁰ 48	25 ²⁵ 50	2 ² 25	12 ¹² 18	12 ¹² 46	11 ¹¹ 35	26 ²⁶ 32	S 8
M 9	5 46 30	26 ²⁶ 23'27	8 ⁸ 38	29 ²⁹ 45	4 ⁴ 35	28 ²⁸ 11	16 ¹⁶ 42	11 ¹¹ 3	10 ¹⁰ 45	25 ²⁵ 50	2 ² 24	12 ¹² 6	12 ¹² 43	11 ¹¹ 42	26 ²⁶ 29	M 9
T 10	5 50 26	27 ²⁷ 24'36	21 ²¹ 55	1 ¹ 31	5 ⁵ 51	28 ²⁸ 56	16 ¹⁶ 54	11 ¹¹ 4	10 ¹⁰ 43	25 ²⁵ 50	2 ² 23	11 ¹¹ 53	12 ¹² 40	11 ¹¹ 48	26 ²⁶ 26	T 10
W 11	5 54 23	28 ²⁸ 25'45	4 ⁴ 58	2 ² 58	7 ⁷ 6	29 ²⁹ 41	17 ¹⁷ 6	11 ¹¹ 4	10 ¹⁰ 40	25 ²⁵ 51	2 ² 22	11 ¹¹ 40	12 ¹² 37	11 ¹¹ 55	26 ²⁶ 24	W 11
T 12	5 58 19	29 ²⁹ 26'55	17 ¹⁷ 44	4 ⁴ 35	8 ⁸ 21	0 ⁰ 26	17 ¹⁷ 17	11 ¹¹ R 4	10 ¹⁰ 38	25 ²⁵ 51	2 ² 21	11 ¹¹ 29	12 ¹² 33	12 ¹² 2	26 ²⁶ 21	T 12
F 13	6 2 16	0 ⁰ 28'05	0 ⁰ 14	6 ⁶ 12	9 ⁹ 37	1 ¹ 11	17 ¹⁷ 28	11 ¹¹ 4	10 ¹⁰ 35	25 ²⁵ 51	2 ² 20	11 ¹¹ 20	12 ¹² 30	12 ¹² 8	26 ²⁶ 18	F 13
S 14	6 6 13	1 ¹ 29'14	12 ¹² 28	7 ⁷ 49	10 ¹⁰ 52	1 ¹ 56	17 ¹⁷ 40	11 ¹¹ 4	10 ¹⁰ 33	25 ²⁵ 51	2 ² 19	11 ¹¹ 13	12 ¹² 27	12 ¹² 15	26 ²⁶ 15	S 14
S 15	6 10 9	2 ² 30'25	24 ²⁴ 29	9 ⁹ 27	12 ¹² 8	2 ² 41	17 ¹⁷ 51	11 ¹¹ 4	10 ¹⁰ 30	25 ²⁵ 52	2 ² 18	11 ¹¹ 9	12 ¹² 24	12 ¹² 22	26 ²⁶ 13	S 15
M 16	6 14 6	3 ³ 31'35	6 ⁶ 21	11 ¹¹ 5	13 ¹³ 23	3 ³ 26	18 ¹⁸ 2	11 ¹¹ 3	10 ¹⁰ 28	25 ²⁵ 52	2 ² 16	11 ¹¹ D 8	12 ¹² 21	12 ¹² 28	26 ²⁶ 10	M 16
T 17	6 18 2	4 ⁴ 32'45	18 ¹⁸ 9	12 ¹² 43	14 ¹⁴ 38	4 ⁴ 11	18 ¹⁸ 13	11 ¹¹ 3	10 ¹⁰ 25	25 ²⁵ 52	2 ² 15	11 ¹¹ 8	12 ¹² 18	12 ¹² 35	26 ²⁶ 8	T 17
W 18	6 21 59	5 ⁵ 33'56	29 ²⁹ 57	14 ¹⁴ 22	15 ¹⁵ 54	4 ⁴ 56	18 ¹⁸ 24	11 ¹¹ 2	10 ¹⁰ 22	25 ²⁵ 52	2 ² 14	11 ¹¹ R 8	12 ¹² 14	12 ¹² 42	26 ²⁶ 5	W 18
T 19	6 25 55	6 ⁶ 35'07	11 ¹¹ 251	16 ¹⁶ 0	17 ¹⁷ 9	5 ⁵ 41	18 ¹⁸ 35	11 ¹¹ 2	10 ¹⁰ 20	25 ²⁵ R52	2 ² 13	11 ¹¹ 8	12 ¹² 11	12 ¹² 48	26 ²⁶ 3	T 19
F 20	6 29 52	7 ⁷ 36'18	23 ²³ 56	17 ¹⁷ 39	18 ¹⁸ 24	6 ⁶ 25	18 ¹⁸ 46	11 ¹¹ 1	10 ¹⁰ 17	25 ²⁵ 52	2 ² 12	11 ¹¹ 7	12 ¹² 8	12 ¹² 55	26 ²⁶ 0	F 20
S 21	6 33 48	8 ⁸ 37'29	6 ⁶ 18	19 ¹⁹ 17	19 ¹⁹ 40	7 ⁷ 10	18 ¹⁸ 56	11 ¹¹ 0	10 ¹⁰ 15	25 ²⁵ 52	2 ² 10	11 ¹¹ 3	12 ¹² 5	13 ¹³ 2	25 ²⁵ 58	S 21
S 22	6 37 45	9 ⁹ 38'41	19 ¹⁹ 1	20 ²⁰ 56	20 ²⁰ 55	7 ⁷ 55	19 ¹⁹ 7	10 ¹⁰ 59	10 ¹⁰ 12	25 ²⁵ 52	2 ² 9	10 ¹⁰ 57	12 ¹² 2	13 ¹³ 8	25 ²⁵ 56	S 22
M 23	6 41 42	10 ¹⁰ 39'52	2 ² 8	22 ²² 35	22 ²² 10	8 ⁸ 40	19 ¹⁹ 18	10 ¹⁰ 58	10 ¹⁰ 9	25 ²⁵ 52	2 ² 8	10 ¹⁰ 48	11 ¹¹ 58	13 ¹³ 15	25 ²⁵ 54	M 23
T 24	6 45 38	11 ¹¹ 41'04	15 ¹⁵ 40	24 ²⁴ 13	23 ²³ 26	9 ⁹ 25	19 ¹⁹ 28	10 ¹⁰ 57	10 ¹⁰ 7	25 ²⁵ 51	2 ² 7	10 ¹⁰ 39	11 ¹¹ 55	13 ¹³ 22	25 ²⁵ 51	T 24
W 25	6 49 35	12 ¹² 42'15	29 ²⁹ 35	25 ²⁵ 51	24 ²⁴ 41	10 ¹⁰ 10	19 ¹⁹ 38	10 ¹⁰ 55	10 ¹⁰ 4	25 ²⁵ 51	2 ² 5	10 ¹⁰ 28	11 ¹¹ 52	13 ¹³ 28	25 ²⁵ 49	W 25
T 26	6 53 31	13 ¹³ 43'26	13 ¹³ 350	27 ²⁷ 29	25 ²⁵ 56	10 ¹⁰ 55	19 ¹⁹ 49	10 ¹⁰ 54	10 ¹⁰ 2	25 ²⁵ 51	2 ² 4	10 ¹⁰ 19	11 ¹¹ 49	13 ¹³ 35	25 ²⁵ 47	T 26
F 27	6 57 28	14 ¹⁴ 44'36	28 ²⁸ 19	29 ²⁹ 5	27 ²⁷ 12	11 ¹¹ 40	19 ¹⁹ 59	10 ¹⁰ 52	9 ⁹ 59	25 ²⁵ 51	2 ² 3	10 ¹⁰ 11	11 ¹¹ 46	13 ¹³ 41	25 ²⁵ 45	F 27
S 28	7 1 24	15 ¹⁵ 45'46	12 ¹² 556	0 ⁰ 441	28 ²⁸ 27	12 ¹² 24	20 ²⁰ 9	10 ¹⁰ 51	9 ⁹ 56	25 ²⁵ 50	2 ² 1	10 ¹⁰ 5	11 ¹¹ 43	13 ¹³ 48	25 ²⁵ 44	S 28
S 29	7 5 21	16 ¹⁶ 46'55	27 ²⁷ 33	2 ² 16	29 ²⁹ 42	13 ¹³ 9	20 ²⁰ 19	10 ¹⁰ 49	9 ⁹ 54	25 ²⁵ 50	2 ² 0	10 ¹⁰ 2	11 ¹¹ 39	13 ¹³ 55	25 ²⁵ 42	S 29
M 30	7 9 17	17 ¹⁷ 48'04	12 ¹² 5	3 ³ 50	0 ⁰ 57	13 ¹³ 54	20 ²⁰ 29	10 ¹⁰ 47	9 ⁹ 51	25 ²⁵ 50	1 ¹ 59	10 ¹⁰ D 2	11 ¹¹ 36	14 ¹⁴ 1	25 ²⁵ 40	M 30
T 31	7 13 14	18 ¹⁸ 34'912	26 ²⁶ 27	5 ⁵ 221	2 ² 213	14 ¹⁴ 39	20 ²⁰ 38	10 ¹⁰ 45	9 ⁹ 549	25 ²⁵ 49	1 ¹ 57	10 ¹⁰ 2	11 ¹¹ 33	14 ¹⁴ 8	25 ²⁵ 38	T 31