

SWISS EPHEMERIS for the year 1277

JANUARY 1277 JC

00:00 UT

| Day  | Sid.t   | ☉        | ☽     | ♀     | ♁      | ♂     | ♃    | ♅    | ♁      | ♁     | ♁     | ♁     | ♁    | ♁    | ♁     |
|------|---------|----------|-------|-------|--------|-------|------|------|--------|-------|-------|-------|------|------|-------|
| F 1  | 7 11 53 | 18°34'02 | 19♐34 | 23♋55 | 17°R 9 | 20♌24 | 5♄31 | 5♌56 | 19°R 2 | 7°R25 | 13♋15 | 9♏44  | 8♏15 | 5♍25 | 9♎27  |
| S 2  | 7 15 49 | 19°35'08 | 3♌19  | 25°37 | 16♋33  | 21° 3 | 5°33 | 5°59 | 19♏0   | 7♎24  | 13°17 | 9°R46 | 8°12 | 5°32 | 9°31  |
| S 3  | 7 19 46 | 20°36'14 | 16°54 | 27°20 | 15°56  | 21°42 | 5°35 | 6° 3 | 18°58  | 7°23  | 13°19 | 9°45  | 8° 9 | 5°38 | 9°35  |
| M 4  | 7 23 42 | 21°37'19 | 0♋18  | 29° 3 | 15°21  | 22°21 | 5°37 | 6° 6 | 18°56  | 7°22  | 13°21 | 9°44  | 8° 6 | 5°45 | 9°40  |
| T 5  | 7 27 39 | 22°38'23 | 13°32 | 0♌47  | 14°47  | 23° 0 | 5°40 | 6° 9 | 18°54  | 7°21  | 13°23 | 9°39  | 8° 2 | 5°52 | 9°44  |
| W 6  | 7 31 35 | 23°39'26 | 26°32 | 2°31  | 14°14  | 23°38 | 5°42 | 6°13 | 18°52  | 7°20  | 13°25 | 9°33  | 7°59 | 5°59 | 9°48  |
| T 7  | 7 35 32 | 24°40'29 | 9♌19  | 4°15  | 13°42  | 24°17 | 5°45 | 6°16 | 18°50  | 7°19  | 13°27 | 9°25  | 7°56 | 6° 5 | 9°53  |
| F 8  | 7 39 29 | 25°41'31 | 21°52 | 5°59  | 13°12  | 24°56 | 5°49 | 6°19 | 18°48  | 7°17  | 13°29 | 9°16  | 7°53 | 6°12 | 9°57  |
| S 9  | 7 43 25 | 26°42'31 | 4♌11  | 7°43  | 12°44  | 25°35 | 5°52 | 6°22 | 18°46  | 7°16  | 13°31 | 9° 7  | 7°50 | 6°19 | 10° 1 |
| S 10 | 7 47 22 | 27°43'30 | 16°19 | 9°26  | 12°18  | 26°13 | 5°56 | 6°24 | 18°44  | 7°15  | 13°33 | 8°59  | 7°47 | 6°25 | 10° 6 |
| M11  | 7 51 18 | 28°44'29 | 28°16 | 11° 9 | 11°54  | 26°52 | 5°59 | 6°27 | 18°42  | 7°14  | 13°35 | 8°52  | 7°43 | 6°32 | 10°10 |
| T 12 | 7 55 15 | 29°45'25 | 10♍ 8 | 12°52 | 11°32  | 27°31 | 6° 3 | 6°30 | 18°41  | 7°13  | 13°37 | 8°48  | 7°40 | 6°39 | 10°15 |
| W13  | 7 59 11 | 0♌46'21  | 21°59 | 14°33 | 11°12  | 28°10 | 6° 7 | 6°32 | 18°39  | 7°11  | 13°39 | 8°45  | 7°37 | 6°46 | 10°19 |
| T 14 | 8 3 8   | 1°47'15  | 3♌52  | 16°14 | 10°55  | 28°48 | 6°12 | 6°35 | 18°37  | 7°10  | 13°40 | 8°D45 | 7°34 | 6°52 | 10°24 |
| F 15 | 8 7 4   | 2°48'08  | 15°54 | 17°52 | 10°40  | 29°27 | 6°16 | 6°37 | 18°36  | 7° 9  | 13°42 | 8°46  | 7°31 | 6°59 | 10°28 |
| S 16 | 8 11 1  | 3°49'00  | 28° 9 | 19°29 | 10°27  | 0♌ 6  | 6°21 | 6°39 | 18°34  | 7° 7  | 13°44 | 8°47  | 7°27 | 7° 6 | 10°32 |
| S 17 | 8 14 58 | 4°49'50  | 10♏43 | 21° 3 | 10°17  | 0°45  | 6°26 | 6°42 | 18°32  | 7° 6  | 13°46 | 8°R47 | 7°24 | 7°12 | 10°37 |
| M18  | 8 18 54 | 5°50'38  | 23°40 | 22°34 | 10°10  | 1°23  | 6°31 | 6°44 | 18°31  | 7° 5  | 13°48 | 8°46  | 7°21 | 7°19 | 10°41 |
| T 19 | 8 22 51 | 6°51'25  | 7♄ 2  | 24° 2 | 10° 4  | 2° 2  | 6°36 | 6°46 | 18°29  | 7° 3  | 13°50 | 8°42  | 7°18 | 7°26 | 10°46 |
| W20  | 8 26 47 | 7°52'11  | 20°50 | 25°26 | 10° 2  | 2°41  | 6°41 | 6°47 | 18°28  | 7° 2  | 13°52 | 8°37  | 7°15 | 7°32 | 10°50 |
| T 21 | 8 30 44 | 8°52'56  | 5♌ 2  | 26°44 | 10°D 2 | 3°19  | 6°47 | 6°49 | 18°27  | 7° 1  | 13°54 | 8°28  | 7°12 | 7°39 | 10°55 |
| F 22 | 8 34 40 | 9°53'39  | 19°32 | 27°57 | 10° 4  | 3°58  | 6°53 | 6°51 | 18°25  | 6°59  | 13°56 | 8°19  | 7° 8 | 7°46 | 10°59 |
| S 23 | 8 38 37 | 10°54'20 | 4♏14  | 29° 4 | 10° 9  | 4°37  | 6°59 | 6°52 | 18°24  | 6°58  | 13°57 | 8° 8  | 7° 5 | 7°53 | 11° 4 |
| S 24 | 8 42 33 | 11°55'00 | 19° 0 | 0♌ 4  | 10°16  | 5°15  | 7° 5 | 6°54 | 18°23  | 6°56  | 13°59 | 7°59  | 7° 2 | 7°59 | 11° 8 |
| M25  | 8 46 30 | 12°55'39 | 3♌41  | 0°56  | 10°25  | 5°54  | 7°11 | 6°55 | 18°22  | 6°55  | 14° 1 | 7°51  | 6°59 | 8° 6 | 11°12 |
| T 26 | 8 50 27 | 13°56'17 | 18°13 | 1°39  | 10°37  | 6°33  | 7°17 | 6°57 | 18°20  | 6°53  | 14° 3 | 7°46  | 6°56 | 8°13 | 11°17 |
| W27  | 8 54 23 | 14°56'54 | 2♌29  | 2°13  | 10°50  | 7°11  | 7°24 | 6°58 | 18°19  | 6°52  | 14° 5 | 7°44  | 6°52 | 8°19 | 11°21 |
| T 28 | 8 58 20 | 15°57'29 | 16°30 | 2°38  | 11° 6  | 7°50  | 7°31 | 6°59 | 18°18  | 6°50  | 14° 6 | 7°D43 | 6°49 | 8°26 | 11°26 |
| F 29 | 9 2 16  | 16°58'04 | 0♌13  | 2°53  | 11°24  | 8°29  | 7°37 | 7° 0 | 18°17  | 6°49  | 14° 8 | 7°43  | 6°46 | 8°33 | 11°30 |
| S 30 | 9 6 13  | 17°58'37 | 13°41 | 2°R57 | 11°44  | 9° 7  | 7°45 | 7° 0 | 18°16  | 6°47  | 14°10 | 7°R43 | 6°43 | 8°39 | 11°35 |
| S 31 | 9 10 9  | 18°59'09 | 26♌56 | 2♌51  | 12♋ 5  | 9♌46  | 7♄52 | 7♌ 1 | 18♏15  | 6♏46  | 14♋12 | 7♏42  | 6♏40 | 8♍46 | 11♎39 |

Delta T = 08m38s

Julian Calendar 1 Jan. 1277 == Greg. Calendar 8 Jan. 1277

FEBRUARY 1277 JC

00:00 UT

| Day  | Sid.t    | ☉        | ☽      | ♀      | ♁     | ♂     | ♃     | ♅     | ♁      | ♁     | ♁     | ♁     | ♁    | ♁     | ♁     |
|------|----------|----------|--------|--------|-------|-------|-------|-------|--------|-------|-------|-------|------|-------|-------|
| M 1  | 9 14 6   | 19°59'39 | 9♋57   | 2°R35  | 12♋29 | 10♌24 | 7♄59  | 7♌ 2  | 18°R14 | 6°R44 | 14♋13 | 7°R38 | 6♏37 | 8♍53  | 11♎44 |
| T 2  | 9 18 2   | 21° 0'08 | 22°48  | 2♌ 9   | 12°54 | 11° 3 | 8° 7  | 7° 2  | 18♏14  | 6♏42  | 14°15 | 7♏31  | 6°33 | 9° 0  | 11°48 |
| W 3  | 9 21 59  | 22° 0'36 | 5♌29   | 1°34   | 13°21 | 11°42 | 8°14  | 7° 3  | 18°13  | 6°41  | 14°17 | 7°21  | 6°30 | 9° 6  | 11°52 |
| T 4  | 9 25 56  | 23° 1'02 | 17°59  | 0°51   | 13°49 | 12°20 | 8°22  | 7° 3  | 18°12  | 6°39  | 14°18 | 7° 8  | 6°27 | 9°13  | 11°57 |
| F 5  | 9 29 52  | 24° 1'26 | 0♌19   | 0° 0   | 14°20 | 12°59 | 8°30  | 7° 3  | 18°12  | 6°38  | 14°20 | 6°55  | 6°24 | 9°20  | 12° 1 |
| S 6  | 9 33 49  | 25° 1'48 | 12°30  | 29♌ 4  | 14°51 | 13°37 | 8°38  | 7° 3  | 18°11  | 6°36  | 14°22 | 6°40  | 6°21 | 9°26  | 12° 6 |
| S 7  | 9 37 45  | 26° 2'09 | 24°32  | 28° 4  | 15°24 | 14°16 | 8°46  | 7°R 4 | 18°10  | 6°34  | 14°23 | 6°27  | 6°18 | 9°33  | 12°10 |
| M 8  | 9 41 42  | 27° 2'27 | 6♍26   | 27° 0  | 15°59 | 14°54 | 8°55  | 7° 3  | 18°10  | 6°33  | 14°25 | 6°16  | 6°14 | 9°40  | 12°14 |
| T 9  | 9 45 38  | 28° 2'44 | 18°16  | 25°56  | 16°34 | 15°33 | 9° 3  | 7° 3  | 18° 9  | 6°31  | 14°26 | 6° 7  | 6°11 | 9°46  | 12°19 |
| W10  | 9 49 35  | 29° 2'58 | 0♌ 5   | 24°52  | 17°12 | 16°11 | 9°12  | 7° 3  | 18° 9  | 6°29  | 14°28 | 6° 1  | 6° 8 | 9°53  | 12°23 |
| T 11 | 9 53 31  | 0♌ 3'11  | 11°56  | 23°50  | 17°50 | 16°50 | 9°21  | 7° 3  | 18° 9  | 6°28  | 14°30 | 5°58  | 6° 5 | 10° 0 | 12°27 |
| F 12 | 9 57 28  | 1° 3'22  | 23°55  | 22°52  | 18°29 | 17°28 | 9°30  | 7° 2  | 18° 8  | 6°26  | 14°31 | 5°57  | 6° 2 | 10° 7 | 12°32 |
| S 13 | 10 1 25  | 2° 3'30  | 6♏ 7   | 21°57  | 19°10 | 18° 6 | 9°39  | 7° 1  | 18° 8  | 6°24  | 14°32 | 5°57  | 5°58 | 10°13 | 12°36 |
| S 14 | 10 5 21  | 3° 3'37  | 18°38  | 21° 8  | 19°52 | 18°45 | 9°48  | 7° 1  | 18° 8  | 6°23  | 14°34 | 5°57  | 5°55 | 10°20 | 12°40 |
| M15  | 10 9 18  | 4° 3'41  | 1♄31   | 20°24  | 20°34 | 19°23 | 9°57  | 7° 0  | 18° 8  | 6°21  | 14°35 | 5°55  | 5°52 | 10°27 | 12°44 |
| T 16 | 10 13 14 | 5° 3'43  | 14°52  | 19°47  | 21°18 | 20° 1 | 10° 6 | 6°59  | 18° 8  | 6°19  | 14°37 | 5°51  | 5°49 | 10°33 | 12°48 |
| W17  | 10 17 11 | 6° 3'43  | 28°43  | 19°17  | 22° 3 | 20°40 | 10°16 | 6°58  | 18°D 8 | 6°18  | 14°38 | 5°45  | 5°46 | 10°40 | 12°53 |
| T 18 | 10 21 7  | 7° 3'41  | 13♏ 3  | 18°53  | 22°49 | 21°18 | 10°26 | 6°57  | 18° 8  | 6°16  | 14°40 | 5°35  | 5°43 | 10°47 | 12°57 |
| F 19 | 10 25 4  | 8° 3'37  | 27°47  | 18°36  | 23°35 | 21°56 | 10°35 | 6°56  | 18° 8  | 6°14  | 14°41 | 5°24  | 5°39 | 10°53 | 13° 1 |
| S 20 | 10 29 0  | 9° 3'30  | 12♏48  | 18°26  | 24°23 | 22°34 | 10°45 | 6°54  | 18° 8  | 6°13  | 14°42 | 5°13  | 5°36 | 11° 0 | 13° 5 |
| S 21 | 10 32 57 | 10° 3'22 | 27° 57 | 18°D22 | 25°11 | 23°13 | 10°55 | 6°53  | 18° 8  | 6°11  | 14°44 | 5° 2  | 5°33 | 11° 7 | 13° 9 |
| M22  | 10 36 54 | 11° 3'12 | 13♌ 3  | 18°24  | 26° 0 | 23°51 | 11° 5 | 6°52  | 18° 9  | 6° 9  | 14°45 | 4°53  | 5°30 | 11°14 | 13°13 |
| T 23 | 10 40 50 | 12° 2'59 | 27°57  | 18°32  | 26°50 | 24°29 | 11°16 | 6°50  | 18° 9  | 6° 8  | 14°46 | 4°46  | 5°27 | 11°20 | 13°17 |
| W24  | 10 44 47 | 13° 2'46 | 12♌31  | 18°46  | 27°40 | 25° 7 | 11°26 | 6°48  | 18° 9  | 6° 6  | 14°47 | 4°43  | 5°24 | 11°27 | 13°21 |
| T 25 | 10 48 43 | 14° 2'30 | 26°42  | 19° 6  | 28°32 | 25°45 | 11°36 | 6°46  | 18°10  | 6° 4  | 14°49 | 4°41  | 5°20 | 11°34 | 13°25 |
| F 26 | 10 52 40 | 15° 2'13 | 10♌30  | 19°30  | 29°23 | 26°23 | 11°47 | 6°45  | 18°10  | 6° 3  | 14°50 | 4°41  | 5°17 | 11°40 | 13°29 |
| S 27 | 10 56 36 | 16° 1'54 | 23°56  | 19°59  | 0♌16  | 27° 1 | 11°57 | 6°43  | 18°11  | 6° 1  | 14°51 | 4°41  | 5°14 | 11°47 | 13°33 |
| S 28 | 11 0 33  | 17♌ 1'34 | 7♋ 2   | 20♌33  | 1♌ 9  | 27♌39 | 12♋ 8 | 6♌41  | 18♏11  | 6♏ 0  | 14♋52 | 4♏40  | 5♏11 | 11♍54 | 13♎37 |

Delta T = 08m38s

Julian Calendar

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SWISS EPHEMERIS for the year 1277

MARCH 1277 JC

00:00 UT

| Day  | Sid.t    | ☉        | ☽     | ♀     | ♁     | ♂     | ♃     | ♄     | ♅     | ♆     | ♇     | ♈     | ♉    | ♊     | ♋     | ♌ | ♍ | ♎ | ♏ | ♐ | ♑ | ♒ | ♓ |
|------|----------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|---|---|---|---|---|---|---|---|
| M 1  | 11 4 29  | 18♌ 1'12 | 19♌52 | 21♌11 | 2♌ 3  | 28♌17 | 12♌19 | 6°R38 | 18♌12 | 5°R58 | 14♌53 | 4°R36 | 5♌ 8 | 12♌ 0 | 13♌41 |   |   |   |   |   |   |   |   |
| T 2  | 11 8 26  | 19° 0'48 | 2♌27  | 21°52 | 2°58  | 28°55 | 12°30 | 6♌36  | 18°12 | 5♌56  | 14°54 | 4♌29  | 5° 4 | 12° 7 | 13°45 |   |   |   |   |   |   |   |   |
| W 3  | 11 12 23 | 20° 0'22 | 14°52 | 22°38 | 3°53  | 29°33 | 12°41 | 6°34  | 18°13 | 5°55  | 14°55 | 4°20  | 5° 1 | 12°14 | 13°48 |   |   |   |   |   |   |   |   |
| T 4  | 11 16 19 | 20°59'54 | 27° 7 | 23°27 | 4°48  | 0♌11  | 12°52 | 6°31  | 18°14 | 5°53  | 14°56 | 4° 8  | 4°58 | 12°21 | 13°52 |   |   |   |   |   |   |   |   |
| F 5  | 11 20 16 | 21°59'24 | 9♌15  | 24°19 | 5°44  | 0°49  | 13° 3 | 6°29  | 18°15 | 5°51  | 14°57 | 3°55  | 4°55 | 12°27 | 13°56 |   |   |   |   |   |   |   |   |
| S 6  | 11 24 12 | 22°58'52 | 21°15 | 25°14 | 6°41  | 1°27  | 13°15 | 6°26  | 18°16 | 5°50  | 14°58 | 3°41  | 4°52 | 12°34 | 14° 0 |   |   |   |   |   |   |   |   |
| S 7  | 11 28 9  | 23°58'18 | 3♌11  | 26°12 | 7°38  | 2° 5  | 13°26 | 6°24  | 18°17 | 5°48  | 14°59 | 3°29  | 4°49 | 12°41 | 14° 3 |   |   |   |   |   |   |   |   |
| M 8  | 11 32 5  | 24°57'41 | 15° 2 | 27°13 | 8°35  | 2°42  | 13°38 | 6°21  | 18°18 | 5°47  | 15° 0 | 3°18  | 4°45 | 12°47 | 14° 7 |   |   |   |   |   |   |   |   |
| T 9  | 11 36 2  | 25°57'03 | 26°51 | 28°17 | 9°33  | 3°20  | 13°49 | 6°18  | 18°19 | 5°45  | 15° 1 | 3° 9  | 4°42 | 12°54 | 14°11 |   |   |   |   |   |   |   |   |
| W10  | 11 39 58 | 26°56'23 | 8♌40  | 29°23 | 10°31 | 3°58  | 14° 1 | 6°15  | 18°20 | 5°44  | 15° 2 | 3° 4  | 4°39 | 13° 1 | 14°14 |   |   |   |   |   |   |   |   |
| T 11 | 11 43 55 | 27°55'40 | 20°32 | 0♌31  | 11°30 | 4°35  | 14°13 | 6°12  | 18°21 | 5°42  | 15° 3 | 3° 1  | 4°36 | 13° 7 | 14°18 |   |   |   |   |   |   |   |   |
| F 12 | 11 47 52 | 28°54'55 | 2♌31  | 1°42  | 12°29 | 5°13  | 14°24 | 6° 9  | 18°22 | 5°41  | 15° 4 | 3°D 0 | 4°33 | 13°14 | 14°21 |   |   |   |   |   |   |   |   |
| S 13 | 11 51 48 | 29°54'08 | 14°42 | 2°54  | 13°29 | 5°50  | 14°36 | 6° 6  | 18°23 | 5°39  | 15° 5 | 3° 0  | 4°29 | 13°21 | 14°25 |   |   |   |   |   |   |   |   |
| S 14 | 11 55 45 | 0♌53'18  | 27°10 | 4° 9  | 14°28 | 6°28  | 14°48 | 6° 3  | 18°25 | 5°38  | 15° 5 | 3°R 1 | 4°26 | 13°27 | 14°28 |   |   |   |   |   |   |   |   |
| M15  | 11 59 41 | 1°52'26  | 9♌59  | 5°26  | 15°29 | 7° 5  | 15° 0 | 6° 0  | 18°26 | 5°36  | 15° 6 | 3° 1  | 4°23 | 13°34 | 14°31 |   |   |   |   |   |   |   |   |
| T 16 | 12 3 38  | 2°51'32  | 23°14 | 6°44  | 16°29 | 7°43  | 15°12 | 5°56  | 18°27 | 5°35  | 15° 7 | 2°59  | 4°20 | 13°41 | 14°35 |   |   |   |   |   |   |   |   |
| W17  | 12 7 34  | 3°50'36  | 6♌58  | 8° 5  | 17°30 | 8°20  | 15°25 | 5°53  | 18°29 | 5°33  | 15° 7 | 2°55  | 4°17 | 13°48 | 14°38 |   |   |   |   |   |   |   |   |
| T 18 | 12 11 31 | 4°49'37  | 21°12 | 9°27  | 18°31 | 8°57  | 15°37 | 5°49  | 18°30 | 5°32  | 15° 8 | 2°48  | 4°14 | 13°54 | 14°41 |   |   |   |   |   |   |   |   |
| F 19 | 12 15 27 | 5°48'35  | 5♌54  | 10°51 | 19°33 | 9°34  | 15°49 | 5°46  | 18°32 | 5°30  | 15° 9 | 2°41  | 4°10 | 14° 1 | 14°44 |   |   |   |   |   |   |   |   |
| S 20 | 12 19 24 | 6°47'32  | 20°57 | 12°17 | 20°35 | 10°12 | 16° 2 | 5°42  | 18°33 | 5°29  | 15° 9 | 2°32  | 4° 7 | 14° 8 | 14°47 |   |   |   |   |   |   |   |   |
| S 21 | 12 23 21 | 7°46'26  | 6♌13  | 13°45 | 21°37 | 10°49 | 16°14 | 5°39  | 18°35 | 5°28  | 15°10 | 2°24  | 4° 4 | 14°14 | 14°50 |   |   |   |   |   |   |   |   |
| M22  | 12 27 17 | 8°45'18  | 21°31 | 15°14 | 22°39 | 11°26 | 16°26 | 5°35  | 18°37 | 5°26  | 15°10 | 2°17  | 4° 1 | 14°21 | 14°54 |   |   |   |   |   |   |   |   |
| T 23 | 12 31 14 | 9°44'08  | 6♌40  | 16°45 | 23°42 | 12° 3 | 16°39 | 5°31  | 18°39 | 5°25  | 15°11 | 2°12  | 3°58 | 14°28 | 14°57 |   |   |   |   |   |   |   |   |
| W24  | 12 35 10 | 10°42'57 | 21°30 | 18°17 | 24°45 | 12°40 | 16°52 | 5°27  | 18°40 | 5°24  | 15°11 | 2°10  | 3°55 | 14°34 | 14°59 |   |   |   |   |   |   |   |   |
| T 25 | 12 39 7  | 11°41'44 | 5♌57  | 19°51 | 25°48 | 13°17 | 17° 4 | 5°23  | 18°42 | 5°22  | 15°12 | 2°D 9 | 3°51 | 14°41 | 15° 2 |   |   |   |   |   |   |   |   |
| F 26 | 12 43 3  | 12°40'29 | 19°57 | 21°27 | 26°51 | 13°53 | 17°17 | 5°19  | 18°44 | 5°21  | 15°12 | 2°10  | 3°48 | 14°48 | 15° 5 |   |   |   |   |   |   |   |   |
| S 27 | 12 47 0  | 13°39'12 | 3♌30  | 23° 4 | 27°55 | 14°30 | 17°30 | 5°15  | 18°46 | 5°20  | 15°13 | 2°11  | 3°45 | 14°54 | 15° 8 |   |   |   |   |   |   |   |   |
| S 28 | 12 50 56 | 14°37'53 | 16°39 | 24°43 | 28°59 | 15° 7 | 17°43 | 5°11  | 18°48 | 5°19  | 15°13 | 2°R12 | 3°42 | 15° 1 | 15°11 |   |   |   |   |   |   |   |   |
| M29  | 12 54 53 | 15°36'33 | 29°27 | 26°24 | 0♌ 3  | 15°44 | 17°56 | 5° 7  | 18°50 | 5°18  | 15°13 | 2°11  | 3°39 | 15° 8 | 15°14 |   |   |   |   |   |   |   |   |
| T 30 | 12 58 50 | 16°35'11 | 11♌57 | 28° 6 | 1° 7  | 16°20 | 18° 9 | 5° 3  | 18°52 | 5°16  | 15°14 | 2° 8  | 3°35 | 15°15 | 15°16 |   |   |   |   |   |   |   |   |
| W31  | 13 2 46  | 17°33'48 | 24♌14 | 29♌50 | 2♌12  | 16°57 | 18°22 | 4♌59  | 18°54 | 5♌15  | 15°14 | 2♌ 3  | 3♌32 | 15°21 | 15♌19 |   |   |   |   |   |   |   |   |

Delta T = 08m38s Julian Calendar 1 March 1277 == Greg. Calendar 8 March 1277

APRIL 1277 JC

00:00 UT

| Day  | Sid.t    | ☉        | ☽     | ♀     | ♁     | ♂     | ♃     | ♄     | ♅     | ♆     | ♇      | ♈     | ♉    | ♊     | ♋     | ♌ | ♍ | ♎ | ♏ | ♐ | ♑ | ♒ | ♓ |
|------|----------|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|------|-------|-------|---|---|---|---|---|---|---|---|
| T 1  | 13 6 43  | 18♌32'22 | 6♌20  | 1♌35  | 3♌17  | 17♌33 | 18♌35 | 4°R55 | 18♌56 | 5°R14 | 15♌14  | 1°R56 | 3♌29 | 15♌28 | 15♌21 |   |   |   |   |   |   |   |   |
| F 2  | 13 10 39 | 19°30'55 | 18°19 | 3°22  | 4°22  | 18° 9 | 18°48 | 4♌50  | 18°58 | 5♌13  | 15°14  | 1♌48  | 3°26 | 15°35 | 15°24 |   |   |   |   |   |   |   |   |
| S 3  | 13 14 36 | 20°29'26 | 0♌12  | 5°11  | 5°27  | 18°46 | 19° 1 | 4°46  | 19° 0 | 5°12  | 15°15  | 1°40  | 3°23 | 15°41 | 15°26 |   |   |   |   |   |   |   |   |
| S 4  | 13 18 32 | 21°27'55 | 12° 3 | 7° 1  | 6°32  | 19°22 | 19°14 | 4°42  | 19° 3 | 5°11  | 15°15  | 1°33  | 3°20 | 15°48 | 15°29 |   |   |   |   |   |   |   |   |
| M 5  | 13 22 29 | 22°26'23 | 23°52 | 8°53  | 7°38  | 19°58 | 19°28 | 4°38  | 19° 5 | 5°10  | 15°15  | 1°26  | 3°16 | 15°55 | 15°31 |   |   |   |   |   |   |   |   |
| T 6  | 13 26 25 | 23°24'48 | 5♌43  | 10°46 | 8°43  | 20°34 | 19°41 | 4°33  | 19° 7 | 5° 9  | 15°15  | 1°22  | 3°13 | 16° 1 | 15°33 |   |   |   |   |   |   |   |   |
| W 7  | 13 30 22 | 24°23'12 | 17°35 | 12°42 | 9°49  | 21°10 | 19°54 | 4°29  | 19°10 | 5° 8  | 15°15  | 1°19  | 3°10 | 16° 8 | 15°36 |   |   |   |   |   |   |   |   |
| T 8  | 13 34 18 | 25°21'33 | 29°33 | 14°38 | 10°55 | 21°45 | 20° 8 | 4°24  | 19°12 | 5° 7  | 15°15  | 1°D18 | 3° 7 | 16°15 | 15°38 |   |   |   |   |   |   |   |   |
| F 9  | 13 38 15 | 26°19'53 | 11♌39 | 16°37 | 12° 1 | 22°21 | 20°21 | 4°20  | 19°15 | 5° 6  | 15°R15 | 1°18  | 3° 4 | 16°21 | 15°40 |   |   |   |   |   |   |   |   |
| S 10 | 13 42 12 | 27°18'10 | 23°55 | 18°37 | 13° 8 | 22°57 | 20°35 | 4°15  | 19°17 | 5° 5  | 15°15  | 1°20  | 3° 1 | 16°28 | 15°42 |   |   |   |   |   |   |   |   |
| S 11 | 13 46 8  | 28°16'26 | 6♌26  | 20°39 | 14°14 | 23°32 | 20°48 | 4°11  | 19°20 | 5° 4  | 15°15  | 1°21  | 2°57 | 16°35 | 15°44 |   |   |   |   |   |   |   |   |
| M12  | 13 50 5  | 29°14'40 | 19°16 | 22°42 | 15°21 | 24° 8 | 21° 2 | 4° 6  | 19°22 | 5° 3  | 15°15  | 1°23  | 2°54 | 16°41 | 15°46 |   |   |   |   |   |   |   |   |
| T 13 | 13 54 1  | 0♌12'51  | 2♌27  | 24°46 | 16°27 | 24°43 | 21°15 | 4° 2  | 19°25 | 5° 3  | 15°15  | 1°R23 | 2°51 | 16°48 | 15°48 |   |   |   |   |   |   |   |   |
| W14  | 13 57 58 | 1°11'01  | 16° 4 | 26°52 | 17°34 | 25°18 | 21°29 | 3°57  | 19°27 | 5° 2  | 15°15  | 1°22  | 2°48 | 16°55 | 15°50 |   |   |   |   |   |   |   |   |
| T 15 | 14 1 54  | 2° 9'08  | 0♌ 7  | 28°59 | 18°41 | 25°53 | 21°42 | 3°53  | 19°30 | 5° 1  | 15°15  | 1°20  | 2°45 | 17° 1 | 15°51 |   |   |   |   |   |   |   |   |
| F 16 | 14 5 51  | 3° 7'13  | 14°36 | 1♌ 7  | 19°48 | 26°28 | 21°56 | 3°48  | 19°33 | 5° 0  | 15°14  | 1°17  | 2°41 | 17° 8 | 15°53 |   |   |   |   |   |   |   |   |
| S 17 | 14 9 47  | 4° 5'17  | 29°26 | 3°16  | 20°56 | 27° 3 | 22°10 | 3°44  | 19°35 | 5° 0  | 15°14  | 1°13  | 2°38 | 17°15 | 15°55 |   |   |   |   |   |   |   |   |
| S 18 | 14 13 44 | 5° 3'18  | 14♌32 | 5°26  | 22° 3 | 27°37 | 22°24 | 3°39  | 19°38 | 4°59  | 15°14  | 1°10  | 2°35 | 17°22 | 15°56 |   |   |   |   |   |   |   |   |
| M19  | 14 17 41 | 6° 1'18  | 29°43 | 7°36  | 23°11 | 28°12 | 22°37 | 3°35  | 19°41 | 4°58  | 15°14  | 1° 7  | 2°32 | 17°28 | 15°58 |   |   |   |   |   |   |   |   |
| T 20 | 14 21 37 | 6°59'16  | 14♌52 | 9°46  | 24°18 | 28°46 | 22°51 | 3°30  | 19°44 | 4°58  | 15°13  | 1° 5  | 2°29 | 17°35 | 15°59 |   |   |   |   |   |   |   |   |
| W21  | 14 25 34 | 7°57'13  | 29°47 | 11°56 | 25°26 | 29°21 | 23° 5 | 3°26  | 19°47 | 4°57  | 15°13  | 1°D 4 | 2°26 | 17°42 | 16° 1 |   |   |   |   |   |   |   |   |
| T 22 | 14 29 30 | 8°55'08  | 14♌22 | 14° 6 | 26°34 | 29°55 | 23°19 | 3°21  | 19°50 | 4°57  | 15°13  | 1° 5  | 2°22 | 17°48 | 16° 2 |   |   |   |   |   |   |   |   |
| F 23 | 14 33 27 | 9°53'02  | 28°32 | 16°15 | 27°42 | 0♌29  | 23°32 | 3°17  | 19°52 | 4°56  | 15°12  | 1° 6  | 2°19 | 17°55 | 16° 3 |   |   |   |   |   |   |   |   |
| S 24 | 14 37 23 | 10°50'54 | 12♌15 | 18°24 | 28°50 | 1° 3  | 23°46 | 3°13  | 19°55 | 4°56  | 15°12  | 1° 7  | 2°16 | 18° 2 | 16° 5 |   |   |   |   |   |   |   |   |
| S 25 | 14 41 20 | 11°48'45 | 25°32 | 20°31 | 29°58 | 1°37  | 24° 0 | 3° 8  | 19°58 | 4°55  | 15°11  | 1° 8  | 2°13 | 18° 8 | 16° 6 |   |   |   |   |   |   |   |   |
| M26  | 14 45 16 | 12°46'35 | 8♌24  | 22°37 | 1♌ 6  | 2°10  | 24°14 | 3° 4  | 20° 1 | 4°55  | 15°11  | 1°R 9 | 2°10 | 18°15 | 16° 7 |   |   |   |   |   |   |   |   |
| T 27 | 14 49 13 | 13°44'24 | 20°56 | 24°41 | 2°15  | 2°44  | 24°28 | 2°59  | 20° 4 | 4°54  | 15°10  | 1° 9  | 2° 7 | 18°22 | 16° 8 |   |   |   |   |   |   |   |   |
| W28  | 14 53 10 | 14°42'11 | 3♌12  | 26°43 | 3°23  | 3°17  | 24°42 | 2°55  | 20° 8 | 4°54  | 15°10  | 1° 8  | 2° 3 | 18°28 | 16° 9 |   |   |   |   |   |   |   |   |
| T 29 | 14 57 6  | 15°39'57 |       |       |       |       |       |       |       |       |        |       |      |       |       |   |   |   |   |   |   |   |   |

SWISS EPHEMERIS for the year 1277

MAY 1277 JC

00:00 UT

| Day  | Sid.t    | ☉        | ☽     | ♀     | ♂     | ♂     | ♂     | ♂     | ♂     | ♂     | ♂      | ♂     | ♂    | ♂     | ♂      |
|------|----------|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|------|-------|--------|
| S 1  | 15 4 59  | 17♌35'26 | 9♍0   | 2♋36  | 6♍49  | 4♌56  | 25♌24 | 2°R42 | 20♋17 | 4°R53 | 15°R 8 | 1°R 2 | 1♋54 | 18♍48 | 16♌12  |
| S 2  | 15 8 56  | 18°33'09 | 20°49 | 4°29  | 7°58  | 5°29  | 25°38 | 2♋38  | 20°20 | 4♍53  | 15°R 8 | 1♋0   | 1°51 | 18°55 | 16°12  |
| M 3  | 15 12 52 | 19°30'50 | 2♌40  | 6°18  | 9° 7  | 6° 1  | 25°52 | 2°33  | 20°23 | 4°53  | 15° 7  | 0°59  | 1°47 | 19° 2 | 16°13  |
| T 4  | 15 16 49 | 20°28'31 | 14°34 | 8° 5  | 10°16 | 6°34  | 26° 6 | 2°29  | 20°26 | 4°52  | 15° 6  | 0°58  | 1°44 | 19° 8 | 16°14  |
| W 5  | 15 20 45 | 21°26'10 | 26°35 | 9°49  | 11°25 | 7° 6  | 26°20 | 2°25  | 20°30 | 4°52  | 15° 5  | 0°D57 | 1°41 | 19°15 | 16°14  |
| T 6  | 15 24 42 | 22°23'47 | 8♋43  | 11°30 | 12°34 | 7°37  | 26°34 | 2°21  | 20°33 | 4°52  | 15° 5  | 0°57  | 1°38 | 19°22 | 16°15  |
| F 7  | 15 28 39 | 23°21'24 | 21° 1 | 13° 8 | 13°43 | 8° 9  | 26°48 | 2°17  | 20°36 | 4°52  | 15° 4  | 0°58  | 1°35 | 19°29 | 16°15  |
| S 8  | 15 32 35 | 24°18'59 | 3♌31  | 14°43 | 14°52 | 8°41  | 27° 2 | 2°13  | 20°39 | 4°52  | 15° 3  | 0°59  | 1°32 | 19°35 | 16°16  |
| S 9  | 15 36 32 | 25°16'33 | 16°14 | 16°15 | 16° 2 | 9°12  | 27°16 | 2° 9  | 20°43 | 4°D52 | 15° 2  | 0°59  | 1°28 | 19°42 | 16°16  |
| M10  | 15 40 28 | 26°14'05 | 29°13 | 17°44 | 17°11 | 9°43  | 27°30 | 2° 5  | 20°46 | 4°52  | 15° 2  | 1° 0  | 1°25 | 19°49 | 16°16  |
| T 11 | 15 44 25 | 27°11'36 | 12♌29 | 19° 9 | 18°21 | 10°13 | 27°44 | 2° 1  | 20°49 | 4°52  | 15° 1  | 1° 0  | 1°22 | 19°55 | 16°16  |
| W12  | 15 48 21 | 28° 9'06 | 26° 4 | 20°31 | 19°30 | 10°44 | 27°58 | 1°57  | 20°53 | 4°52  | 15° 0  | 1°R 0 | 1°19 | 20° 2 | 16°16  |
| T 13 | 15 52 18 | 29° 6'34 | 10♍0  | 21°50 | 20°40 | 11°14 | 28°12 | 1°53  | 20°56 | 4°52  | 14°59  | 1° 0  | 1°16 | 20° 9 | 16°R16 |
| F 14 | 15 56 14 | 0♋4'01   | 24°14 | 23° 6 | 21°49 | 11°44 | 28°26 | 1°50  | 21° 0 | 4°53  | 14°58  | 1° 0  | 1°12 | 20°15 | 16°16  |
| S 15 | 16 0 11  | 1° 1'26  | 8♌46  | 24°18 | 22°59 | 12°14 | 28°40 | 1°46  | 21° 3 | 4°53  | 14°57  | 1°D 0 | 1° 9 | 20°22 | 16°16  |
| S 16 | 16 4 8   | 1°58'51  | 23°30 | 25°27 | 24° 9 | 12°44 | 28°54 | 1°43  | 21° 6 | 4°53  | 14°56  | 1° 0  | 1° 6 | 20°29 | 16°16  |
| M17  | 16 8 4   | 2°56'14  | 8♋22  | 26°32 | 25°19 | 13°13 | 29° 8 | 1°39  | 21°10 | 4°53  | 14°55  | 1° 0  | 1° 3 | 20°35 | 16°16  |
| T 18 | 16 12 1  | 3°53'36  | 23°14 | 27°34 | 26°29 | 13°42 | 29°22 | 1°36  | 21°13 | 4°54  | 14°54  | 1° 0  | 1° 0 | 20°42 | 16°16  |
| W19  | 16 15 57 | 4°50'57  | 7♌59  | 28°32 | 27°39 | 14°11 | 29°36 | 1°32  | 21°17 | 4°54  | 14°53  | 1°R 0 | 0°57 | 20°49 | 16°15  |
| T 20 | 16 19 54 | 5°48'18  | 22°29 | 29°27 | 28°49 | 14°39 | 29°50 | 1°29  | 21°20 | 4°54  | 14°52  | 1° 0  | 0°53 | 20°55 | 16°15  |
| F 21 | 16 23 50 | 6°45'38  | 6♌39  | 0♌17  | 29°59 | 15° 7 | 0♋4   | 1°26  | 21°24 | 4°55  | 14°51  | 1° 0  | 0°50 | 21° 2 | 16°15  |
| S 22 | 16 27 47 | 7°42'57  | 20°26 | 1° 4  | 1♌9   | 15°35 | 0°17  | 1°22  | 21°27 | 4°55  | 14°50  | 0°59  | 0°47 | 21° 9 | 16°14  |
| S 23 | 16 31 44 | 8°40'15  | 3♌47  | 1°47  | 2°19  | 16° 3 | 0°31  | 1°19  | 21°31 | 4°56  | 14°49  | 0°58  | 0°44 | 21°15 | 16°13  |
| M24  | 16 35 40 | 9°37'33  | 16°45 | 2°26  | 3°30  | 16°30 | 0°45  | 1°16  | 21°34 | 4°56  | 14°48  | 0°57  | 0°41 | 21°22 | 16°13  |
| T 25 | 16 39 37 | 10°34'51 | 29°21 | 3° 0  | 4°40  | 16°57 | 0°59  | 1°13  | 21°38 | 4°57  | 14°47  | 0°57  | 0°38 | 21°29 | 16°12  |
| W26  | 16 43 33 | 11°32'08 | 11♌38 | 3°31  | 5°50  | 17°23 | 1°13  | 1°10  | 21°41 | 4°57  | 14°46  | 0°D56 | 0°34 | 21°35 | 16°11  |
| T 27 | 16 47 30 | 12°29'24 | 23°42 | 3°57  | 7° 1  | 17°50 | 1°27  | 1° 7  | 21°45 | 4°58  | 14°45  | 0°57  | 0°31 | 21°42 | 16°11  |
| F 28 | 16 51 26 | 13°26'40 | 5♍37  | 4°18  | 8°11  | 18°16 | 1°41  | 1° 5  | 21°49 | 4°58  | 14°43  | 0°57  | 0°28 | 21°49 | 16°10  |
| S 29 | 16 55 23 | 14°23'56 | 17°27 | 4°36  | 9°22  | 18°41 | 1°55  | 1° 2  | 21°52 | 4°59  | 14°42  | 0°58  | 0°25 | 21°55 | 16° 9  |
| S 30 | 16 59 19 | 15°21'12 | 29°17 | 4°48  | 10°33 | 19° 6 | 2° 8  | 0°59  | 21°56 | 5° 0  | 14°41  | 1° 0  | 0°22 | 22° 2 | 16° 8  |
| M31  | 17 3 16  | 16♋18'27 | 11♌10 | 4♌57  | 11♌43 | 19°31 | 2♋22  | 0♋57  | 21°59 | 5♍0   | 14°40  | 1♋1   | 0♋18 | 22°9  | 16° 7  |

Delta T = 08m37s Julian Calendar 1 May 1277 == Greg. Calendar 8 May 1277

JUNE 1277 JC

00:00 UT

| Day  | Sid.t    | ☉        | ☽     | ♀      | ♂     | ♂     | ♂    | ♂     | ♂     | ♂    | ♂      | ♂     | ♂     | ♂      | ♂      |
|------|----------|----------|-------|--------|-------|-------|------|-------|-------|------|--------|-------|-------|--------|--------|
| T 1  | 17 7 12  | 17♋15'42 | 23♌10 | 5°R 0  | 12♌54 | 19°35 | 2♋36 | 0°R54 | 22♋3  | 5♍1  | 14°R38 | 1♋2   | 0♋15  | 22°Y15 | 16°R 6 |
| W 2  | 17 11 9  | 18°12'57 | 5♋20  | 4♌59   | 14° 5 | 20°19 | 2°50 | 0♋52  | 22° 6 | 5° 2 | 14°R37 | 1°R 2 | 0°12  | 22°22  | 16° 4  |
| T 3  | 17 15 6  | 19°10'11 | 17°42 | 4°54   | 15°16 | 20°43 | 3° 3 | 0°50  | 22°10 | 5° 3 | 14°36  | 1° 1  | 0° 9  | 22°29  | 16° 3  |
| F 4  | 17 19 2  | 20° 7'25 | 0♌17  | 4°44   | 16°26 | 21° 6 | 3°17 | 0°48  | 22°14 | 5° 3 | 14°35  | 0°59  | 0° 6  | 22°36  | 16° 2  |
| S 5  | 17 22 59 | 21° 4'39 | 13° 6 | 4°30   | 17°37 | 21°28 | 3°31 | 0°46  | 22°17 | 5° 4 | 14°33  | 0°57  | 0° 3  | 22°42  | 16° 1  |
| S 6  | 17 26 55 | 22° 1'52 | 26°10 | 4°12   | 18°48 | 21°51 | 3°44 | 0°44  | 22°21 | 5° 5 | 14°32  | 0°54  | 29♌59 | 22°49  | 15°59  |
| M 7  | 17 30 52 | 22°59'04 | 9♋27  | 3°50   | 19°59 | 22°12 | 3°58 | 0°42  | 22°24 | 5° 6 | 14°31  | 0°51  | 29°56 | 22°56  | 15°58  |
| T 8  | 17 34 48 | 23°56'17 | 22°58 | 3°25   | 21°10 | 22°33 | 4°11 | 0°40  | 22°28 | 5° 7 | 14°29  | 0°48  | 29°53 | 23° 2  | 15°56  |
| W 9  | 17 38 45 | 24°53'28 | 6♍42  | 2°56   | 22°22 | 22°54 | 4°25 | 0°38  | 22°32 | 5° 8 | 14°28  | 0°46  | 29°50 | 23° 9  | 15°55  |
| T 10 | 17 42 42 | 25°50'39 | 20°38 | 2°25   | 23°33 | 23°14 | 4°38 | 0°36  | 22°35 | 5° 9 | 14°27  | 0°D45 | 29°47 | 23°16  | 15°53  |
| F 11 | 17 46 38 | 26°47'50 | 4♌45  | 1°52   | 24°44 | 23°34 | 4°52 | 0°35  | 22°39 | 5°10 | 14°25  | 0°45  | 29°44 | 23°22  | 15°51  |
| S 12 | 17 50 35 | 27°45'00 | 19° 1 | 1°17   | 25°55 | 23°53 | 5° 5 | 0°33  | 22°42 | 5°11 | 14°24  | 0°46  | 29°40 | 23°29  | 15°50  |
| S 13 | 17 54 31 | 28°42'10 | 3♋24  | 0°41   | 27° 6 | 24°12 | 5°19 | 0°32  | 22°46 | 5°12 | 14°23  | 0°48  | 29°37 | 23°36  | 15°48  |
| M14  | 17 58 28 | 29°39'19 | 17°51 | 0° 4   | 28°18 | 24°30 | 5°32 | 0°31  | 22°50 | 5°13 | 14°21  | 0°49  | 29°34 | 23°42  | 15°46  |
| T 15 | 18 2 24  | 0♌36'28  | 2♌18  | 29♋28  | 29°29 | 24°48 | 5°45 | 0°30  | 22°53 | 5°14 | 14°20  | 0°R49 | 29°31 | 23°49  | 15°44  |
| W16  | 18 6 21  | 1°33'38  | 16°41 | 28°52  | 0♋41  | 25° 5 | 5°58 | 0°29  | 22°57 | 5°16 | 14°18  | 0°48  | 29°28 | 23°56  | 15°42  |
| T 17 | 18 10 17 | 2°30'47  | 0♌53  | 28°18  | 1°52  | 25°22 | 6°12 | 0°28  | 23° 0 | 5°17 | 14°17  | 0°46  | 29°24 | 24° 2  | 15°40  |
| F 18 | 18 14 14 | 3°27'56  | 14°51 | 27°46  | 3° 3  | 25°38 | 6°25 | 0°27  | 23° 4 | 5°18 | 14°16  | 0°42  | 29°21 | 24° 9  | 15°38  |
| S 19 | 18 18 11 | 4°25'05  | 28°30 | 27°17  | 4°15  | 25°53 | 6°38 | 0°26  | 23° 7 | 5°19 | 14°14  | 0°37  | 29°18 | 24°16  | 15°36  |
| S 20 | 18 22 7  | 5°22'15  | 11♌49 | 26°50  | 5°27  | 26° 8 | 6°51 | 0°25  | 23°11 | 5°21 | 14°13  | 0°32  | 29°15 | 24°22  | 15°34  |
| M21  | 18 26 4  | 6°19'25  | 24°46 | 26°27  | 6°38  | 26°22 | 7° 4 | 0°25  | 23°14 | 5°22 | 14°11  | 0°27  | 29°12 | 24°29  | 15°32  |
| T 22 | 18 30 0  | 7°16'35  | 7♌23  | 26° 8  | 7°50  | 26°35 | 7°17 | 0°24  | 23°18 | 5°23 | 14°10  | 0°22  | 29° 9 | 24°36  | 15°30  |
| W23  | 18 33 57 | 8°13'46  | 19°42 | 25°54  | 9° 2  | 26°48 | 7°30 | 0°24  | 23°21 | 5°25 | 14° 8  | 0°19  | 29° 5 | 24°42  | 15°27  |
| T 24 | 18 37 53 | 9°10'57  | 1°Y47 | 25°44  | 10°14 | 27° 0 | 7°43 | 0°23  | 23°25 | 5°26 | 14° 7  | 0°17  | 29° 2 | 24°49  | 15°25  |
| F 25 | 18 41 50 | 10° 8'08 | 13°42 | 25°D39 | 11°25 | 27°12 | 7°56 | 0°23  | 23°28 | 5°27 | 14° 6  | 0°D17 | 28°59 | 24°56  | 15°23  |
| S 26 | 18 45 46 | 11° 5'21 | 25°32 | 25°39  | 12°37 | 27°23 | 8° 8 | 0°23  | 23°32 | 5°29 | 14° 4  | 0°18  | 28°56 | 25° 2  | 15°20  |
| S 27 | 18 49 43 | 12° 2'33 | 7♌23  | 25°45  | 13°49 | 27°33 | 8°21 | 0°D23 | 23°35 | 5°30 | 14° 3  | 0°19  | 28°53 | 25° 9  | 15°18  |
| M28  | 18 53 40 | 12°59'47 | 19°18 | 25°56  | 15° 1 | 27°42 | 8°34 | 0°23  | 23°39 | 5°32 | 14° 1  | 0°21  | 28°50 | 25°16  | 15°15  |
| T 29 | 18 57 36 | 13°57'01 | 1♋24  | 26°13  | 16°13 | 27°51 | 8°46 | 0°23  | 23°42 | 5°33 | 14° 0  | 0°R21 | 28°46 | 25°22  | 15°13  |
| W30  | 19 1 33  | 14♌54'16 | 13♋43 | 26♋35  | 17♋25 | 27°35 | 8♋59 | 0♋23  | 23°46 | 5♍35 | 13°R58 | 0♋20  | 28°43 | 25°Y29 | 15°10  |

Delta T = 08m37s Julian Calendar created from Swiss Ephemeris, Copyright Astrodiens AG [10.1.2003]

SWISS EPHEMERIS for the year 1277

JULY 1277 JC

00:00 UT

| Day  | Sid.t    | ☉        | ☽        | ♀        | ♁        | ♂        | ♃       | ♅       | ♁        | ♁       | ♁        | ♁       | ♁        | ♁        | ♁       | ♁ |
|------|----------|----------|----------|----------|----------|----------|---------|---------|----------|---------|----------|---------|----------|----------|---------|---|
| T 1  | 19 5 29  | 15°51'32 | 26°11'18 | 27°11'3  | 18°11'37 | 28°8'6   | 9°11'11 | 0°11'24 | 23°11'49 | 5°11'36 | 13°11'57 | 0°11'17 | 28°11'40 | 25°11'36 | 15°11'8 |   |
| F 2  | 19 9 26  | 16°48'48 | 9°58'11  | 27°36'6  | 19°50'28 | 28°12'12 | 9°24'0  | 0°24'0  | 23°52'23 | 5°38'53 | 13°55'13 | 0°11'12 | 28°37'28 | 25°42'15 | 15°5'5  |   |
| S 3  | 19 13 22 | 17°46'05 | 22°22'2  | 28°15'2  | 21°2'28  | 28°17'9  | 9°36'0  | 0°25'0  | 23°56'5  | 5°40'13 | 13°54'0  | 0°6'28  | 28°34'25 | 25°49'15 | 15°2'0  |   |
| S 4  | 19 17 19 | 18°43'22 | 5°59'49  | 28°59'22 | 22°14'28 | 28°22'9  | 9°48'0  | 0°25'23 | 23°59'5  | 5°41'13 | 13°53'29 | 0°58'28 | 28°30'25 | 25°56'15 | 15°0'0  |   |
| M 5  | 19 21 15 | 19°40'40 | 19°32'29 | 29°49'23 | 23°26'28 | 28°26'10 | 10°1'0  | 0°26'24 | 24°3'5   | 5°43'13 | 13°51'29 | 0°50'28 | 28°27'26 | 26°2'14  | 14°57'0 |   |
| T 6  | 19 25 12 | 20°37'58 | 3°11'25  | 29°44'0  | 24°39'28 | 28°30'10 | 10°13'0 | 0°27'24 | 24°6'5   | 5°45'13 | 13°50'29 | 0°43'28 | 28°24'26 | 26°9'14  | 14°54'0 |   |
| W 7  | 19 29 9  | 21°35'17 | 17°27'1  | 29°45'1  | 25°51'28 | 28°32'10 | 10°25'0 | 0°28'24 | 24°9'5   | 5°46'13 | 13°48'29 | 0°37'28 | 28°21'26 | 26°16'14 | 14°52'0 |   |
| T 8  | 19 33 5  | 22°32'36 | 1°34'2   | 29°51'2  | 27°3'28  | 28°34'10 | 10°37'0 | 0°29'24 | 24°12'5  | 5°48'13 | 13°47'29 | 0°33'28 | 28°18'26 | 26°22'14 | 14°49'0 |   |
| F 9  | 19 37 2  | 23°29'55 | 15°44'4  | 29°52'28 | 28°16'28 | 28°35'10 | 10°49'0 | 0°30'24 | 24°16'5  | 5°50'13 | 13°45'29 | 0°31'28 | 28°15'26 | 26°29'14 | 14°46'0 |   |
| S 10 | 19 40 58 | 24°27'15 | 29°53'5  | 29°58'28 | 28°R35   | 11°1'0   | 0°31'24 | 0°31'24 | 24°19'5  | 5°51'13 | 13°44'29 | 0°31'28 | 28°11'26 | 26°36'14 | 14°43'0 |   |
| S 11 | 19 44 55 | 25°24'36 | 14°11'2  | 6°39'0   | 0°54'1   | 28°34'11 | 11°13'0 | 0°33'24 | 24°22'5  | 5°53'13 | 13°43'29 | 0°31'28 | 28°8'26  | 26°42'14 | 14°40'0 |   |
| M12  | 19 48 51 | 26°21'57 | 28°8'4   | 1°53'0   | 28°32'11 | 28°32'11 | 11°24'0 | 0°34'24 | 24°25'5  | 5°55'13 | 13°41'29 | 0°31'28 | 28°5'26  | 26°49'14 | 14°37'0 |   |
| T 13 | 19 52 48 | 27°19'19 | 12°11'9  | 9°34'0   | 3°6'28   | 28°30'11 | 11°36'0 | 0°36'24 | 24°28'5  | 5°57'13 | 13°40'29 | 0°31'28 | 28°2'26  | 26°56'14 | 14°34'0 |   |
| W14  | 19 56 45 | 28°16'41 | 26°7'11  | 11°9'4   | 4°19'28  | 28°27'11 | 11°48'0 | 0°37'24 | 24°32'5  | 5°59'13 | 13°38'29 | 0°29'27 | 27°59'27 | 27°2'14  | 14°31'0 |   |
| T 15 | 20 0 41  | 29°14'04 | 9°35'12  | 12°48'5  | 5°31'28  | 28°23'11 | 11°59'0 | 0°39'24 | 24°35'6  | 6°1'13  | 13°37'29 | 0°24'27 | 27°56'27 | 27°9'14  | 14°28'0 |   |
| F 16 | 20 4 38  | 0°11'28  | 23°32'14 | 30'6     | 6°44'28  | 28°19'12 | 12°10'0 | 0°41'24 | 24°38'6  | 6°2'13  | 13°36'29 | 0°16'27 | 27°52'27 | 27°16'14 | 14°25'0 |   |
| S 17 | 20 8 34  | 1°8'53   | 6°55'16  | 16'16    | 7°57'28  | 28°14'12 | 12°22'0 | 0°43'24 | 24°41'6  | 6°4'13  | 13°34'29 | 0°6'27  | 27°49'27 | 27°22'14 | 14°22'0 |   |
| S 18 | 20 12 31 | 2°6'19   | 20°1'18  | 6'9      | 9°10'28  | 28°7'12  | 12°33'0 | 0°45'24 | 24°44'6  | 6°6'13  | 13°33'28 | 0°56'27 | 27°46'27 | 27°29'14 | 14°19'0 |   |
| M19  | 20 16 27 | 3°3'46   | 2°51'19  | 58'10    | 10°23'28 | 28°1'12  | 12°44'0 | 0°47'24 | 24°47'6  | 6°8'13  | 13°31'28 | 0°45'27 | 27°43'27 | 27°36'14 | 14°16'0 |   |
| T 20 | 20 20 24 | 4°1'14   | 15°23'21 | 53'11    | 11°36'27 | 27°53'12 | 12°55'0 | 0°49'24 | 24°50'6  | 6°10'13 | 13°30'28 | 0°36'27 | 27°40'27 | 27°42'14 | 14°13'0 |   |
| W21  | 20 24 20 | 4°58'44  | 27°39'23 | 50'12    | 12°49'27 | 27°45'13 | 13°6'0  | 0°51'24 | 24°53'6  | 6°12'13 | 13°29'28 | 0°28'27 | 27°36'27 | 27°49'14 | 14°10'0 |   |
| T 22 | 20 28 17 | 5°56'14  | 9°47'25  | 49'14    | 2'27     | 27°36'13 | 13°17'0 | 0°53'24 | 24°56'6  | 6°14'13 | 13°27'28 | 0°22'27 | 27°33'27 | 27°56'14 | 14°7'0  |   |
| F 23 | 20 32 14 | 6°53'47  | 21°36'27 | 49'15    | 15'15    | 27°26'13 | 13°28'0 | 0°56'24 | 24°59'6  | 6°16'13 | 13°26'28 | 0°19'27 | 27°30'28 | 28°2'14  | 14°4'0  |   |
| S 24 | 20 36 10 | 7°51'20  | 3°26'29  | 50'16    | 16'28    | 27°16'13 | 13°39'0 | 0°58'25 | 25°2'6   | 6°18'13 | 13°25'28 | 0°18'27 | 27°27'28 | 28°9'14  | 14°1'0  |   |
| S 25 | 20 40 7  | 8°48'55  | 15°16'1  | 53'17    | 17°41'27 | 27°5'13  | 13°49'0 | 1°1'25  | 25°4'6   | 6°20'13 | 13°24'28 | 0°18'27 | 27°24'28 | 28°16'13 | 13°58'0 |   |
| M26  | 20 44 3  | 9°46'32  | 27°12'3  | 55'18    | 18°54'26 | 26°53'14 | 14°0'0  | 1°4'25  | 25°7'6   | 6°22'13 | 13°22'28 | 0°18'27 | 27°21'28 | 28°22'13 | 13°55'0 |   |
| T 27 | 20 48 0  | 10°44'10 | 9°11'2   | 58'20    | 20°7'26  | 26°41'14 | 14°10'0 | 1°7'25  | 25°10'6  | 6°24'13 | 13°21'28 | 0°17'27 | 27°17'28 | 28°29'13 | 13°52'0 |   |
| W28  | 20 51 56 | 11°41'50 | 21°44'8  | 1'21     | 21°21'26 | 26°28'14 | 14°20'0 | 1°10'25 | 25°13'6  | 6°26'13 | 13°20'28 | 0°16'27 | 27°14'28 | 28°36'13 | 13°49'0 |   |
| T 29 | 20 55 53 | 12°39'31 | 4°28'10  | 3'22     | 22°34'26 | 26°15'14 | 14°31'0 | 1°12'25 | 25°15'6  | 6°28'13 | 13°19'28 | 0°15'27 | 27°11'28 | 28°42'13 | 13°46'0 |   |
| F 30 | 20 59 49 | 13°37'14 | 17°34'12 | 5'23     | 23°47'26 | 26°1'14  | 14°41'0 | 1°16'25 | 25°18'6  | 6°30'13 | 13°17'28 | 0°14'27 | 27°8'28  | 28°49'13 | 13°42'0 |   |
| S 31 | 21 3 46  | 14°34'58 | 1°3'14   | 6'14     | 25°1'25  | 25°47'14 | 14°51'0 | 1°19'25 | 25°21'6  | 6°32'13 | 13°16'27 | 0°14'28 | 27°5'28  | 28°56'13 | 13°39'0 |   |

Delta T = 08m37s Julian Calendar 1 July 1277 == Greg. Calendar 8 July 1277

AUGUST 1277 JC

00:00 UT

| Day  | Sid.t    | ☉        | ☽        | ♀     | ♁        | ♂        | ♃       | ♅       | ♁        | ♁       | ♁        | ♁       | ♁        | ♁     | ♁       | ♁ |
|------|----------|----------|----------|-------|----------|----------|---------|---------|----------|---------|----------|---------|----------|-------|---------|---|
| S 1  | 21 7 43  | 15°32'44 | 14°53'16 | 6'26  | 6°14'25  | 25°R33   | 15°11'1 | 1°11'22 | 25°11'23 | 6°34'13 | 13°R15   | 27°R43  | 27°R2    | 29°V2 | 13°R36  |   |
| M 2  | 21 11 39 | 16°30'31 | 29°2'18  | 5'27  | 27°28'25 | 25°18'15 | 15°10'0 | 1°25'25 | 25°26'6  | 6°37'13 | 13°14'27 | 0°32'26 | 26°58'29 | 9'13  | 13°33'0 |   |
| T 3  | 21 15 36 | 17°28'19 | 13°22'20 | 3'28  | 28°41'25 | 25°3'15  | 15°20'0 | 1°29'25 | 25°28'6  | 6°39'13 | 13°13'27 | 0°21'26 | 26°55'29 | 16'13 | 13°30'0 |   |
| W 4  | 21 19 32 | 18°26'09 | 27°49'22 | 0'29  | 29°55'24 | 24°47'15 | 15°30'0 | 1°32'25 | 25°31'6  | 6°41'13 | 13°12'27 | 0°12'26 | 26°52'29 | 22'13 | 13°27'0 |   |
| T 5  | 21 23 29 | 19°24'00 | 12°16'23 | 56'1  | 1°8      | 24°31'15 | 15°39'0 | 1°36'25 | 25°33'6  | 6°43'13 | 13°10'27 | 0°6'26  | 26°49'29 | 29'13 | 13°24'0 |   |
| F 6  | 21 27 25 | 20°21'52 | 26°38'25 | 50'2  | 22'24    | 24°16'15 | 15°48'0 | 1°39'25 | 25°36'6  | 6°45'13 | 13°9'27  | 0°2'26  | 26°46'29 | 36'13 | 13°21'0 |   |
| S 7  | 21 31 22 | 21°19'45 | 10°53'27 | 43'3  | 36'24    | 24°0'15  | 15°58'0 | 1°43'25 | 25°38'6  | 6°47'13 | 13°8'27  | 0°1'26  | 26°42'29 | 42'13 | 13°18'0 |   |
| S 8  | 21 35 18 | 22°17'40 | 24°57'29 | 35'4  | 49'23    | 23°44'16 | 16°7'0  | 1°47'25 | 25°41'6  | 6°49'13 | 13°7'27  | 0°0'26  | 26°39'29 | 49'13 | 13°14'0 |   |
| M 9  | 21 39 15 | 23°15'36 | 8°52'1   | 26'1  | 26'6     | 23°28'16 | 16°16'0 | 1°51'25 | 25°43'6  | 6°52'13 | 13°6'27  | 0°0'26  | 26°36'29 | 56'13 | 13°11'0 |   |
| T 10 | 21 43 12 | 24°13'33 | 22°37'3  | 15'7  | 17'23    | 23°12'16 | 16°25'0 | 1°55'25 | 25°45'6  | 6°54'13 | 13°5'26  | 0°59'26 | 26°33'0  | 2'13  | 13°8'0  |   |
| W11  | 21 47 8  | 25°11'32 | 6°12'5   | 3'8   | 31'22    | 22°56'16 | 16°35'0 | 1°59'25 | 25°47'6  | 6°56'13 | 13°4'26  | 0°55'26 | 26°30'0  | 9'13  | 13°5'0  |   |
| T 12 | 21 51 5  | 26°9'32  | 19°36'6  | 50'9  | 45'22    | 22°40'16 | 16°42'0 | 2°3'25  | 25°50'6  | 6°58'13 | 13°3'26  | 0°48'26 | 26°27'0  | 16'13 | 13°2'0  |   |
| F 13 | 21 55 1  | 27°7'34  | 2°49'8   | 36'10 | 58'22    | 22°24'16 | 16°50'0 | 2°7'25  | 25°52'7  | 7°0'13  | 13°2'26  | 0°39'26 | 26°23'0  | 22'12 | 12°59'0 |   |
| S 14 | 21 58 58 | 28°5'37  | 15°51'10 | 20'12 | 22°9'16  | 22°9'16  | 16°59'0 | 2°11'25 | 25°54'7  | 7°3'13  | 13°1'26  | 0°27'26 | 26°20'0  | 29'12 | 12°56'0 |   |
| S 15 | 22 2 54  | 29°3'42  | 28°40'12 | 3'13  | 26'13    | 21°54'17 | 17°7'0  | 2°16'25 | 25°56'7  | 7°5'13  | 13°0'26  | 0°14'26 | 26°17'0  | 36'12 | 12°53'0 |   |
| M16  | 22 6 51  | 0°1'48   | 11°16'13 | 44'14 | 40'21    | 21°39'17 | 17°15'0 | 2°20'25 | 25°58'7  | 7°7'13  | 13°0'26  | 0°1'26  | 26°14'0  | 42'12 | 12°51'0 |   |
| T 17 | 22 10 47 | 0°59'56  | 23°38'15 | 25'15 | 54'21    | 21°24'17 | 17°23'0 | 2°25'26 | 26°0'7   | 7°9'13  | 12°59'25 | 0°48'26 | 26°11'0  | 49'12 | 12°48'0 |   |
| W18  | 22 14 44 | 1°58'06  | 5°47'17  | 4'17  | 9'21     | 21°10'17 | 17°31'0 | 2°29'26 | 26°2'7   | 7°11'13 | 12°58'25 | 0°38'26 | 26°8'0   | 56'12 | 12°45'0 |   |
| T 19 | 22 18 40 | 2°56'18  | 17°47'18 | 42'18 | 23'20    | 20°56'17 | 17°38'0 | 2°34'26 | 26°4'7   | 7°14'13 | 12°57'25 | 0°31'26 | 26°4'1   | 2'12  | 12°42'0 |   |
| F 20 | 22 22 37 | 3°54'32  | 29°38'20 | 19'19 | 37'20    | 20°43'17 | 17°46'0 | 2°39'26 | 26°6'7   | 7°16'13 | 12°56'25 | 0°26'26 | 26°1'1   | 9'12  | 12°39'0 |   |
| S 21 | 22 26 34 | 4°52'48  | 11°26'21 | 55'20 | 51'20    | 20°30'17 | 17°53'0 | 2°43'26 | 26°7'7   | 7°18'13 | 12°55'25 | 0°24'26 | 25°58'1  | 15'12 | 12°36'0 |   |
| S 22 | 22 30 30 | 5°51'06  | 23°14'23 | 30'22 | 5'20     | 20°17'18 | 18°1'0  | 2°48'26 | 26°9'7   | 7°20'13 | 12°55'25 | 0°23'26 | 25°55'1  | 22'12 | 12°33'0 |   |
| M23  | 22 34 27 | 6°49'27  | 5°11'25  | 3'23  | 19'20    | 20°6'18  | 18°8'0  | 2°53'26 | 26°11'7  | 7°23'13 | 12°54'25 | 0°23'26 | 25°52'1  | 29'12 | 12°31'0 |   |
| T 24 | 22 38 23 | 7°47'49  | 17°16'26 | 35'24 | 34'19    | 19°54'18 | 18°15'0 | 2°58'26 | 26°12'7  | 7°25'13 | 12°53'25 | 0°23'26 | 25°48'1  | 35'12 | 12°28'0 |   |
| W25  | 22 42 20 | 8°46'14  | 29°39'28 | 7'25  | 48'19    | 19°44'18 | 18°21'0 | 3°3'26  | 26°14'7  | 7°27'13 | 12°53'25 | 0°21'26 | 25°45'1  | 42'12 | 12°25'0 |   |
| T 26 | 22 46 16 | 9°44'40  | 12°25'29 | 37'27 | 3'19     | 19°34'18 | 18°28'0 | 3°8'26  | 26°16'7  | 7°29'13 | 12°52'25 | 0°17'26 | 25°42'1  | 49'12 | 12°23'0 |   |
| F 27 | 22 50 13 | 10°43'09 | 25°36'1  | 5'18  | 17'19    | 19°24'18 | 18°35'0 | 3°13'26 | 26°17'7  | 7°31'13 | 12°51'25 | 0°11'26 | 25°39'1  | 55'12 | 12°20'0 |   |
| S 28 | 22 54 10 | 11°41'40 | 9°13'2   | 33'29 | 31'19    | 19°16'18 | 18°41'0 | 3°19'26 | 26°19'7  | 7°34'13 | 12°51'25 | 0°2'26  | 25°36'2  | 2'12  | 12°17'0 |   |
| S 29 | 22 58 6  | 12°40'13 | 23°18'4  | 0'0   | 46'19    | 19°8'18  | 18°47'0 | 3°24'26 | 26°20'7  | 7°36'13 | 12°50'24 | 0°52'25 | 25°33    |       |         |   |

SWISS EPHEMERIS for the year 1277

SEPTEMBER 1277 JC

00:00 UT

| Day  | Sid.t    | ☉                     | ☽                   | ♀                  | ♁                   | ♂                   | ♃                    | ♄                  | ♅                    | ♆                  | ♇                   | ♈                   | ♉                   | ♊                  | ♋                   | ♌ | ♍ | ♎ | ♏ | ♐ | ♑ | ♒ | ♓ |
|------|----------|-----------------------|---------------------|--------------------|---------------------|---------------------|----------------------|--------------------|----------------------|--------------------|---------------------|---------------------|---------------------|--------------------|---------------------|---|---|---|---|---|---|---|---|
| W 1  | 23 9 56  | 15 <sup>h</sup> 36'04 | 7 <sup>h</sup> 19   | 8 <sup>h</sup> 13  | 4 <sup>h</sup> 29   | 18 <sup>h</sup> R48 | 19 <sup>h</sup> II 5 | 3 <sup>h</sup> M40 | 26 <sup>h</sup> II24 | 7 <sup>h</sup> M43 | 12 <sup>h</sup> R49 | 24 <sup>h</sup> R22 | 25 <sup>h</sup> U23 | 2 <sup>h</sup> U29 | 12 <sup>h</sup> R 7 |   |   |   |   |   |   |   |   |
| T 2  | 23 13 52 | 16 <sup>h</sup> 34'45 | 22 <sup>h</sup> 10  | 9 <sup>h</sup> 34  | 5 <sup>h</sup> 44   | 18 <sup>h</sup> ≈43 | 19 <sup>h</sup> 10   | 3 <sup>h</sup> 46  | 26 <sup>h</sup> 25   | 7 <sup>h</sup> 45  | 12 <sup>h</sup> U48 | 24 <sup>h</sup> U16 | 25 <sup>h</sup> 20  | 2 <sup>h</sup> 35  | 12 <sup>h</sup> ≈ 5 |   |   |   |   |   |   |   |   |
| F 3  | 23 17 49 | 17 <sup>h</sup> 33'27 | 6 <sup>h</sup> M53  | 10 <sup>h</sup> 55 | 6 <sup>h</sup> 59   | 18 <sup>h</sup> 39  | 19 <sup>h</sup> 16   | 3 <sup>h</sup> 51  | 26 <sup>h</sup> 26   | 7 <sup>h</sup> 47  | 12 <sup>h</sup> 48  | 24 <sup>h</sup> 12  | 25 <sup>h</sup> 17  | 2 <sup>h</sup> 42  | 12 <sup>h</sup> 3   |   |   |   |   |   |   |   |   |
| S 4  | 23 21 45 | 18 <sup>h</sup> 32'12 | 21 <sup>h</sup> 23  | 12 <sup>h</sup> 14 | 8 <sup>h</sup> 13   | 18 <sup>h</sup> 36  | 19 <sup>h</sup> 21   | 3 <sup>h</sup> 57  | 26 <sup>h</sup> 28   | 7 <sup>h</sup> 49  | 12 <sup>h</sup> 47  | 24 <sup>h</sup> D11 | 25 <sup>h</sup> 14  | 2 <sup>h</sup> 49  | 12 <sup>h</sup> 0   |   |   |   |   |   |   |   |   |
| S 5  | 23 25 42 | 19 <sup>h</sup> 30'58 | 5 <sup>h</sup> U36  | 13 <sup>h</sup> 32 | 9 <sup>h</sup> 28   | 18 <sup>h</sup> 33  | 19 <sup>h</sup> 26   | 4 <sup>h</sup> 3   | 26 <sup>h</sup> 29   | 7 <sup>h</sup> 51  | 12 <sup>h</sup> 47  | 24 <sup>h</sup> 12  | 25 <sup>h</sup> 10  | 2 <sup>h</sup> 55  | 11 <sup>h</sup> 58  |   |   |   |   |   |   |   |   |
| M 6  | 23 29 38 | 20 <sup>h</sup> 29'46 | 19 <sup>h</sup> 31  | 14 <sup>h</sup> 48 | 10 <sup>h</sup> 43  | 18 <sup>h</sup> 31  | 19 <sup>h</sup> 31   | 4 <sup>h</sup> 9   | 26 <sup>h</sup> 30   | 7 <sup>h</sup> 54  | 12 <sup>h</sup> 47  | 24 <sup>h</sup> R12 | 25 <sup>h</sup> 7   | 3 <sup>h</sup> 2   | 11 <sup>h</sup> 56  |   |   |   |   |   |   |   |   |
| T 7  | 23 33 35 | 21 <sup>h</sup> 28'35 | 3 <sup>h</sup> U 9  | 16 <sup>h</sup> 3  | 11 <sup>h</sup> 57  | 18 <sup>h</sup> 30  | 19 <sup>h</sup> 35   | 4 <sup>h</sup> 14  | 26 <sup>h</sup> 31   | 7 <sup>h</sup> 56  | 12 <sup>h</sup> 46  | 24 <sup>h</sup> 11  | 25 <sup>h</sup> 4   | 3 <sup>h</sup> 9   | 11 <sup>h</sup> 54  |   |   |   |   |   |   |   |   |
| W 8  | 23 37 32 | 22 <sup>h</sup> 27'27 | 16 <sup>h</sup> 31  | 17 <sup>h</sup> 16 | 13 <sup>h</sup> 12  | 18 <sup>h</sup> D30 | 19 <sup>h</sup> 40   | 4 <sup>h</sup> 20  | 26 <sup>h</sup> 32   | 7 <sup>h</sup> 58  | 12 <sup>h</sup> 46  | 24 <sup>h</sup> 9   | 25 <sup>h</sup> 1   | 3 <sup>h</sup> 15  | 11 <sup>h</sup> 52  |   |   |   |   |   |   |   |   |
| T 9  | 23 41 28 | 23 <sup>h</sup> 26'20 | 29 <sup>h</sup> 38  | 18 <sup>h</sup> 28 | 14 <sup>h</sup> 27  | 18 <sup>h</sup> 31  | 19 <sup>h</sup> 44   | 4 <sup>h</sup> 26  | 26 <sup>h</sup> 32   | 8 <sup>h</sup> 0   | 12 <sup>h</sup> 46  | 24 <sup>h</sup> 4   | 24 <sup>h</sup> 58  | 3 <sup>h</sup> 22  | 11 <sup>h</sup> 50  |   |   |   |   |   |   |   |   |
| F 10 | 23 45 25 | 24 <sup>h</sup> 25'15 | 12 <sup>h</sup> ≈33 | 19 <sup>h</sup> 38 | 15 <sup>h</sup> 42  | 18 <sup>h</sup> 32  | 19 <sup>h</sup> 48   | 4 <sup>h</sup> 32  | 26 <sup>h</sup> 33   | 8 <sup>h</sup> 2   | 12 <sup>h</sup> 45  | 23 <sup>h</sup> 56  | 24 <sup>h</sup> 54  | 3 <sup>h</sup> 29  | 11 <sup>h</sup> 48  |   |   |   |   |   |   |   |   |
| S 11 | 23 49 21 | 25 <sup>h</sup> 24'11 | 25 <sup>h</sup> 15  | 20 <sup>h</sup> 46 | 16 <sup>h</sup> 56  | 18 <sup>h</sup> 35  | 19 <sup>h</sup> 52   | 4 <sup>h</sup> 38  | 26 <sup>h</sup> 34   | 8 <sup>h</sup> 4   | 12 <sup>h</sup> 45  | 23 <sup>h</sup> 47  | 24 <sup>h</sup> 51  | 3 <sup>h</sup> 35  | 11 <sup>h</sup> 46  |   |   |   |   |   |   |   |   |
| S 12 | 23 53 18 | 26 <sup>h</sup> 23'10 | 7 <sup>h</sup> U45  | 21 <sup>h</sup> 51 | 18 <sup>h</sup> 11  | 18 <sup>h</sup> 38  | 19 <sup>h</sup> 56   | 4 <sup>h</sup> 44  | 26 <sup>h</sup> 35   | 8 <sup>h</sup> 7   | 12 <sup>h</sup> 45  | 23 <sup>h</sup> 36  | 24 <sup>h</sup> 48  | 3 <sup>h</sup> 42  | 11 <sup>h</sup> 44  |   |   |   |   |   |   |   |   |
| M13  | 23 57 14 | 27 <sup>h</sup> 22'10 | 20 <sup>h</sup> 5   | 22 <sup>h</sup> 55 | 19 <sup>h</sup> 26  | 18 <sup>h</sup> 42  | 20 <sup>h</sup> 0    | 4 <sup>h</sup> 50  | 26 <sup>h</sup> 35   | 8 <sup>h</sup> 9   | 12 <sup>h</sup> 45  | 23 <sup>h</sup> 26  | 24 <sup>h</sup> 45  | 3 <sup>h</sup> 49  | 11 <sup>h</sup> 42  |   |   |   |   |   |   |   |   |
| T 14 | 0 1 11   | 28 <sup>h</sup> 21'13 | 2 <sup>h</sup> U15  | 23 <sup>h</sup> 56 | 20 <sup>h</sup> 41  | 18 <sup>h</sup> 46  | 20 <sup>h</sup> 3    | 4 <sup>h</sup> 56  | 26 <sup>h</sup> 36   | 8 <sup>h</sup> 11  | 12 <sup>h</sup> 45  | 23 <sup>h</sup> 16  | 24 <sup>h</sup> 42  | 3 <sup>h</sup> 55  | 11 <sup>h</sup> 40  |   |   |   |   |   |   |   |   |
| W15  | 0 5 7    | 29 <sup>h</sup> 20'18 | 14 <sup>h</sup> 16  | 24 <sup>h</sup> 55 | 21 <sup>h</sup> 56  | 18 <sup>h</sup> 52  | 20 <sup>h</sup> 7    | 5 <sup>h</sup> 3   | 26 <sup>h</sup> 37   | 8 <sup>h</sup> 13  | 12 <sup>h</sup> 45  | 23 <sup>h</sup> 8   | 24 <sup>h</sup> 39  | 4 <sup>h</sup> 2   | 11 <sup>h</sup> 38  |   |   |   |   |   |   |   |   |
| T 16 | 0 9 4    | 0 <sup>h</sup> U19'24 | 26 <sup>h</sup> 10  | 25 <sup>h</sup> 51 | 23 <sup>h</sup> 11  | 18 <sup>h</sup> 58  | 20 <sup>h</sup> 10   | 5 <sup>h</sup> 9   | 26 <sup>h</sup> 37   | 8 <sup>h</sup> 15  | 12 <sup>h</sup> 45  | 23 <sup>h</sup> 2   | 24 <sup>h</sup> 35  | 4 <sup>h</sup> 9   | 11 <sup>h</sup> 37  |   |   |   |   |   |   |   |   |
| F 17 | 0 13 1   | 1 <sup>h</sup> 18'33  | 7 <sup>h</sup> U58  | 26 <sup>h</sup> 44 | 24 <sup>h</sup> 26  | 19 <sup>h</sup> 5   | 20 <sup>h</sup> 12   | 5 <sup>h</sup> 15  | 26 <sup>h</sup> 37   | 8 <sup>h</sup> 17  | 12 <sup>h</sup> 45  | 22 <sup>h</sup> 58  | 24 <sup>h</sup> 32  | 4 <sup>h</sup> 15  | 11 <sup>h</sup> 35  |   |   |   |   |   |   |   |   |
| S 18 | 0 16 57  | 2 <sup>h</sup> 17'45  | 19 <sup>h</sup> 45  | 27 <sup>h</sup> 34 | 25 <sup>h</sup> 41  | 19 <sup>h</sup> 12  | 20 <sup>h</sup> 15   | 5 <sup>h</sup> 21  | 26 <sup>h</sup> 38   | 8 <sup>h</sup> 19  | 12 <sup>h</sup> D45 | 22 <sup>h</sup> D57 | 24 <sup>h</sup> 29  | 4 <sup>h</sup> 22  | 11 <sup>h</sup> 33  |   |   |   |   |   |   |   |   |
| S 19 | 0 20 54  | 3 <sup>h</sup> 16'58  | 1 <sup>h</sup> II33 | 28 <sup>h</sup> 20 | 26 <sup>h</sup> 56  | 19 <sup>h</sup> 21  | 20 <sup>h</sup> 18   | 5 <sup>h</sup> 28  | 26 <sup>h</sup> 38   | 8 <sup>h</sup> 21  | 12 <sup>h</sup> 45  | 22 <sup>h</sup> 57  | 24 <sup>h</sup> 26  | 4 <sup>h</sup> 29  | 11 <sup>h</sup> 32  |   |   |   |   |   |   |   |   |
| M20  | 0 24 50  | 4 <sup>h</sup> 16'14  | 13 <sup>h</sup> 27  | 29 <sup>h</sup> 3  | 28 <sup>h</sup> 11  | 19 <sup>h</sup> 30  | 20 <sup>h</sup> 20   | 5 <sup>h</sup> 34  | 26 <sup>h</sup> 39   | 8 <sup>h</sup> 23  | 12 <sup>h</sup> 45  | 22 <sup>h</sup> 58  | 24 <sup>h</sup> 23  | 4 <sup>h</sup> 35  | 11 <sup>h</sup> 30  |   |   |   |   |   |   |   |   |
| T 21 | 0 28 47  | 5 <sup>h</sup> 15'32  | 25 <sup>h</sup> 32  | 29 <sup>h</sup> 41 | 29 <sup>h</sup> 26  | 19 <sup>h</sup> 39  | 20 <sup>h</sup> 22   | 5 <sup>h</sup> 41  | 26 <sup>h</sup> 39   | 8 <sup>h</sup> 25  | 12 <sup>h</sup> 45  | 23 <sup>h</sup> 0   | 24 <sup>h</sup> 19  | 4 <sup>h</sup> 42  | 11 <sup>h</sup> 29  |   |   |   |   |   |   |   |   |
| W22  | 0 32 43  | 6 <sup>h</sup> 14'53  | 7 <sup>h</sup> U53  | 0 <sup>h</sup> M14 | 0 <sup>h</sup> U41  | 19 <sup>h</sup> 50  | 20 <sup>h</sup> 24   | 5 <sup>h</sup> 47  | 26 <sup>h</sup> 39   | 8 <sup>h</sup> 27  | 12 <sup>h</sup> 45  | 23 <sup>h</sup> R 0 | 24 <sup>h</sup> 16  | 4 <sup>h</sup> 48  | 11 <sup>h</sup> 27  |   |   |   |   |   |   |   |   |
| T 23 | 0 36 40  | 7 <sup>h</sup> 14'16  | 20 <sup>h</sup> 35  | 0 <sup>h</sup> 42  | 1 <sup>h</sup> 56   | 20 <sup>h</sup> 1   | 20 <sup>h</sup> 26   | 5 <sup>h</sup> 54  | 26 <sup>h</sup> 39   | 8 <sup>h</sup> 29  | 12 <sup>h</sup> 45  | 22 <sup>h</sup> 59  | 24 <sup>h</sup> 13  | 4 <sup>h</sup> 55  | 11 <sup>h</sup> 26  |   |   |   |   |   |   |   |   |
| F 24 | 0 40 36  | 8 <sup>h</sup> 13'41  | 3 <sup>h</sup> U42  | 1 <sup>h</sup> 5   | 3 <sup>h</sup> 11   | 20 <sup>h</sup> 13  | 20 <sup>h</sup> 27   | 6 <sup>h</sup> 0   | 26 <sup>h</sup> 39   | 8 <sup>h</sup> 31  | 12 <sup>h</sup> 45  | 22 <sup>h</sup> 56  | 24 <sup>h</sup> 10  | 5 <sup>h</sup> 2   | 11 <sup>h</sup> 25  |   |   |   |   |   |   |   |   |
| S 25 | 0 44 33  | 9 <sup>h</sup> 13'09  | 17 <sup>h</sup> 17  | 1 <sup>h</sup> 22  | 4 <sup>h</sup> 26   | 20 <sup>h</sup> 26  | 20 <sup>h</sup> 29   | 6 <sup>h</sup> 7   | 26 <sup>h</sup> R39  | 8 <sup>h</sup> 33  | 12 <sup>h</sup> 45  | 22 <sup>h</sup> 52  | 24 <sup>h</sup> 7   | 5 <sup>h</sup> 8   | 11 <sup>h</sup> 24  |   |   |   |   |   |   |   |   |
| S 26 | 0 48 30  | 10 <sup>h</sup> 12'39 | 1 <sup>h</sup> U22  | 1 <sup>h</sup> 32  | 5 <sup>h</sup> 41   | 20 <sup>h</sup> 39  | 20 <sup>h</sup> 30   | 6 <sup>h</sup> 13  | 26 <sup>h</sup> 39   | 8 <sup>h</sup> 35  | 12 <sup>h</sup> 46  | 22 <sup>h</sup> 46  | 24 <sup>h</sup> 4   | 5 <sup>h</sup> 15  | 11 <sup>h</sup> 22  |   |   |   |   |   |   |   |   |
| M27  | 0 52 26  | 11 <sup>h</sup> 12'11 | 15 <sup>h</sup> 53  | 1 <sup>h</sup> R35 | 6 <sup>h</sup> 56   | 20 <sup>h</sup> 53  | 20 <sup>h</sup> 31   | 6 <sup>h</sup> 20  | 26 <sup>h</sup> 39   | 8 <sup>h</sup> 37  | 12 <sup>h</sup> 46  | 22 <sup>h</sup> 39  | 24 <sup>h</sup> 0   | 5 <sup>h</sup> 22  | 11 <sup>h</sup> 21  |   |   |   |   |   |   |   |   |
| T 28 | 0 56 23  | 12 <sup>h</sup> 11'45 | 0 <sup>h</sup> U45  | 1 <sup>h</sup> 31  | 8 <sup>h</sup> 11   | 21 <sup>h</sup> 7   | 20 <sup>h</sup> 31   | 6 <sup>h</sup> 27  | 26 <sup>h</sup> 39   | 8 <sup>h</sup> 39  | 12 <sup>h</sup> 46  | 22 <sup>h</sup> 33  | 23 <sup>h</sup> 57  | 5 <sup>h</sup> 28  | 11 <sup>h</sup> 20  |   |   |   |   |   |   |   |   |
| W29  | 1 0 19   | 13 <sup>h</sup> 11'22 | 15 <sup>h</sup> 51  | 1 <sup>h</sup> 18  | 9 <sup>h</sup> 26   | 21 <sup>h</sup> 22  | 20 <sup>h</sup> 32   | 6 <sup>h</sup> 34  | 26 <sup>h</sup> 39   | 8 <sup>h</sup> 41  | 12 <sup>h</sup> 46  | 22 <sup>h</sup> 27  | 23 <sup>h</sup> 54  | 5 <sup>h</sup> 35  | 11 <sup>h</sup> 19  |   |   |   |   |   |   |   |   |
| T 30 | 1 4 16   | 14 <sup>h</sup> 11'00 | 1 <sup>h</sup> M 1  | 0 <sup>h</sup> M57 | 10 <sup>h</sup> U42 | 21 <sup>h</sup> ≈38 | 20 <sup>h</sup> II32 | 6 <sup>h</sup> M40 | 26 <sup>h</sup> II38 | 8 <sup>h</sup> M43 | 12 <sup>h</sup> U47 | 22 <sup>h</sup> U24 | 23 <sup>h</sup> U51 | 5 <sup>h</sup> U42 | 11 <sup>h</sup> ≈18 |   |   |   |   |   |   |   |   |

Delta T = 08m37s

Julian Calendar 1 Sept. 1277 == Greg. Calendar 8 Sept. 1277

OCTOBER 1277 JC

00:00 UT

| Day  | Sid.t   | ☉                      | ☽                    | ♀                   | ♁                   | ♂                   | ♃                    | ♄                  | ♅                    | ♆                  | ♇                   | ♈                   | ♉                   | ♊                  | ♋                   | ♌ | ♍ | ♎ | ♏ | ♐ | ♑ | ♒ | ♓ |
|------|---------|------------------------|----------------------|---------------------|---------------------|---------------------|----------------------|--------------------|----------------------|--------------------|---------------------|---------------------|---------------------|--------------------|---------------------|---|---|---|---|---|---|---|---|
| F 1  | 1 8 12  | 15 <sup>h</sup> U10'40 | 16 <sup>h</sup> M 5  | 0 <sup>h</sup> R28  | 11 <sup>h</sup> U57 | 21 <sup>h</sup> ≈54 | 20 <sup>h</sup> R32  | 6 <sup>h</sup> M47 | 26 <sup>h</sup> R38  | 8 <sup>h</sup> M45 | 12 <sup>h</sup> U47 | 22 <sup>h</sup> U22 | 23 <sup>h</sup> U48 | 5 <sup>h</sup> U48 | 11 <sup>h</sup> R18 |   |   |   |   |   |   |   |   |
| S 2  | 1 12 9  | 16 <sup>h</sup> 10'23  | 0 <sup>h</sup> U54   | 29 <sup>h</sup> U49 | 13 <sup>h</sup> 12  | 22 <sup>h</sup> 11  | 20 <sup>h</sup> II32 | 6 <sup>h</sup> 54  | 26 <sup>h</sup> II38 | 8 <sup>h</sup> 47  | 12 <sup>h</sup> 48  | 22 <sup>h</sup> 22  | 23 <sup>h</sup> 45  | 5 <sup>h</sup> 55  | 11 <sup>h</sup> ≈17 |   |   |   |   |   |   |   |   |
| S 3  | 1 16 5  | 17 <sup>h</sup> 10'07  | 15 <sup>h</sup> 24   | 29 <sup>h</sup> 2   | 14 <sup>h</sup> 27  | 22 <sup>h</sup> 29  | 20 <sup>h</sup> 32   | 7 <sup>h</sup> 1   | 26 <sup>h</sup> 37   | 8 <sup>h</sup> 49  | 12 <sup>h</sup> 48  | 22 <sup>h</sup> 24  | 23 <sup>h</sup> 41  | 6 <sup>h</sup> 2   | 11 <sup>h</sup> 16  |   |   |   |   |   |   |   |   |
| M 4  | 1 20 2  | 18 <sup>h</sup> 9'53   | 29 <sup>h</sup> 30   | 28 <sup>h</sup> 7   | 15 <sup>h</sup> 42  | 22 <sup>h</sup> 47  | 20 <sup>h</sup> 32   | 7 <sup>h</sup> 8   | 26 <sup>h</sup> 37   | 8 <sup>h</sup> 51  | 12 <sup>h</sup> 49  | 22 <sup>h</sup> 25  | 23 <sup>h</sup> 38  | 6 <sup>h</sup> 8   | 11 <sup>h</sup> 15  |   |   |   |   |   |   |   |   |
| T 5  | 1 23 59 | 19 <sup>h</sup> 9'41   | 13 <sup>h</sup> U13  | 27 <sup>h</sup> 5   | 16 <sup>h</sup> 58  | 23 <sup>h</sup> 5   | 20 <sup>h</sup> 31   | 7 <sup>h</sup> 14  | 26 <sup>h</sup> 36   | 8 <sup>h</sup> 52  | 12 <sup>h</sup> 49  | 22 <sup>h</sup> R26 | 23 <sup>h</sup> 35  | 6 <sup>h</sup> 15  | 11 <sup>h</sup> 15  |   |   |   |   |   |   |   |   |
| W 6  | 1 27 55 | 20 <sup>h</sup> 9'30   | 26 <sup>h</sup> 34   | 25 <sup>h</sup> 56  | 18 <sup>h</sup> 13  | 23 <sup>h</sup> 25  | 20 <sup>h</sup> 30   | 7 <sup>h</sup> 21  | 26 <sup>h</sup> 36   | 8 <sup>h</sup> 54  | 12 <sup>h</sup> 50  | 22 <sup>h</sup> 26  | 23 <sup>h</sup> 32  | 6 <sup>h</sup> 22  | 11 <sup>h</sup> 14  |   |   |   |   |   |   |   |   |
| T 7  | 1 31 52 | 21 <sup>h</sup> 9'21   | 9 <sup>h</sup> ≈35   | 24 <sup>h</sup> 43  | 19 <sup>h</sup> 28  | 23 <sup>h</sup> 44  | 20 <sup>h</sup> 29   | 7 <sup>h</sup> 28  | 26 <sup>h</sup> 35   | 8 <sup>h</sup> 56  | 12 <sup>h</sup> 50  | 22 <sup>h</sup> 25  | 23 <sup>h</sup> 29  | 6 <sup>h</sup> 28  | 11 <sup>h</sup> 14  |   |   |   |   |   |   |   |   |
| F 8  | 1 35 48 | 22 <sup>h</sup> 9'14   | 22 <sup>h</sup> 18   | 23 <sup>h</sup> 27  | 20 <sup>h</sup> 43  | 24 <sup>h</sup> 5   | 20 <sup>h</sup> 28   | 7 <sup>h</sup> 35  | 26 <sup>h</sup> 35   | 8 <sup>h</sup> 58  | 12 <sup>h</sup> 51  | 22 <sup>h</sup> 22  | 23 <sup>h</sup> 25  | 6 <sup>h</sup> 35  | 11 <sup>h</sup> 14  |   |   |   |   |   |   |   |   |
| S 9  | 1 39 45 | 23 <sup>h</sup> 9'09   | 4 <sup>h</sup> U46   | 22 <sup>h</sup> 11  | 21 <sup>h</sup> 59  | 24 <sup>h</sup> 25  | 20 <sup>h</sup> 26   | 7 <sup>h</sup> 42  | 26 <sup>h</sup> 34   | 8 <sup>h</sup> 59  | 12 <sup>h</sup> 51  | 22 <sup>h</sup> 18  | 23 <sup>h</sup> 22  | 6 <sup>h</sup> 42  | 11 <sup>h</sup> 13  |   |   |   |   |   |   |   |   |
| S 10 | 1 43 41 | 24 <sup>h</sup> 9'05   | 17 <sup>h</sup> 2    | 20 <sup>h</sup> 56  | 23 <sup>h</sup> 14  | 24 <sup>h</sup> 47  | 20 <sup>h</sup> 25   | 7 <sup>h</sup> 49  | 26 <sup>h</sup> 33   | 9 <sup>h</sup> 1   | 12 <sup>h</sup> 52  | 22 <sup>h</sup> 13  | 23 <sup>h</sup> 19  | 6 <sup>h</sup> 48  | 11 <sup>h</sup> 13  |   |   |   |   |   |   |   |   |
| M11  | 1 47 38 | 25 <sup>h</sup> 9'03   | 29 <sup>h</sup> 9    | 19 <sup>h</sup> 46  | 24 <sup>h</sup> 29  | 25 <sup>h</sup> 8   | 20 <sup>h</sup> 23   | 7 <sup>h</sup> 56  | 26 <sup>h</sup> 32   | 9 <sup>h</sup> 3   | 12 <sup>h</sup> 53  | 22 <sup>h</sup> 8   | 23 <sup>h</sup> 16  | 6 <sup>h</sup> 55  | 11 <sup>h</sup> 13  |   |   |   |   |   |   |   |   |
| T 12 | 1 51 34 | 26 <sup>h</sup> 9'02   | 11 <sup>h</sup> U 9  | 18 <sup>h</sup> 42  | 25 <sup>h</sup> 44  | 25 <sup>h</sup> 31  | 20 <sup>h</sup> 21   | 8 <sup>h</sup> 3   | 26 <sup>h</sup> 32   | 9 <sup>h</sup> 4   | 12 <sup>h</sup> 53  | 22 <sup>h</sup> 3   | 23 <sup>h</sup> 13  | 7 <sup>h</sup> 2   | 11 <sup>h</sup> 13  |   |   |   |   |   |   |   |   |
| W13  | 1 55 31 | 27 <sup>h</sup> 9'04   | 23 <sup>h</sup> 1    | 17 <sup>h</sup> 46  | 27 <sup>h</sup> 0   | 25 <sup>h</sup> 53  | 20 <sup>h</sup> 18   | 8 <sup>h</sup> 10  | 26 <sup>h</sup> 31   | 9 <sup>h</sup> 6   | 12 <sup>h</sup> 54  | 22 <sup>h</sup> 0   | 23 <sup>h</sup> 10  | 7 <sup>h</sup> 8   | 11 <sup>h</sup> 12  |   |   |   |   |   |   |   |   |
| T 14 | 1 59 27 | 28 <sup>h</sup> 9'07   | 4 <sup>h</sup> U51   | 17 <sup>h</sup> 0   | 28 <sup>h</sup> 15  | 26 <sup>h</sup> 16  | 20 <sup>h</sup> 16   | 8 <sup>h</sup> 17  | 26 <sup>h</sup> 30   | 9 <sup>h</sup> 8   | 12 <sup>h</sup> 55  | 21 <sup>h</sup> 57  | 23 <sup>h</sup> 6   | 7 <sup>h</sup> 15  | 11 <sup>h</sup> D12 |   |   |   |   |   |   |   |   |
| F 15 | 2 3 24  | 29 <sup>h</sup> 9'13   | 16 <sup>h</sup> 38   | 16 <sup>h</sup> 24  | 29 <sup>h</sup> 30  | 26 <sup>h</sup> 40  | 20 <sup>h</sup> 13   | 8 <sup>h</sup> 24  | 26 <sup>h</sup> 29   | 9 <sup>h</sup> 9   | 12 <sup>h</sup> 56  | 21 <sup>h</sup> D56 | 23 <sup>h</sup> 3   | 7 <sup>h</sup> 21  | 11 <sup>h</sup> 13  |   |   |   |   |   |   |   |   |
| S 16 | 2 7 21  | 0 <sup>h</sup> M 9'20  | 28 <sup>h</sup> 26   | 16 <sup>h</sup> 1   | 0 <sup>h</sup> M46  | 27 <sup>h</sup> 4   | 20 <sup>h</sup> 10   | 8 <sup>h</sup> 31  | 26 <sup>h</sup> 28   | 9 <sup>h</sup> 11  | 12 <sup>h</sup> 56  | 21 <sup>h</sup> 56  | 23 <sup>h</sup> 0   | 7 <sup>h</sup> 28  | 11 <sup>h</sup> 13  |   |   |   |   |   |   |   |   |
| S 17 | 2 11 17 | 1 <sup>h</sup> 9'30    | 10 <sup>h</sup> II17 | 15 <sup>h</sup> 48  | 2 <sup>h</sup> 1    | 27 <sup>h</sup> 28  | 20 <sup>h</sup> 7    | 8 <sup>h</sup> 3   |                      |                    |                     |                     |                     |                    |                     |   |   |   |   |   |   |   |   |

SWISS EPHEMERIS for the year 1277

NOVEMBER 1277 JC

00:00 UT

| Day | Sid.t   | ☉        | ☽     | ♀     | ♁     | ♂     | ♃      | ♅     | ♁      | ♁    | ♁     | ♁      | ♁     | ♁     | ♁     |
|-----|---------|----------|-------|-------|-------|-------|--------|-------|--------|------|-------|--------|-------|-------|-------|
| M 1 | 3 10 26 | 16♌15'46 | 8♋28  | 29♎3  | 20♌51 | 4♉15  | 19°R 0 | 10♌25 | 26°R 4 | 9♎32 | 13♋13 | 21♎56  | 22♎9  | 9♎14  | 11♎23 |
| T 2 | 3 14 22 | 17°16'24 | 22°24 | 0♌29  | 22°7  | 4°45  | 18♌54  | 10°32 | 26♌2   | 9°33 | 13°14 | 21°57  | 22°6  | 9°21  | 11°25 |
| W 3 | 3 18 19 | 18°17'04 | 5♌52  | 1°56  | 23°22 | 5°15  | 18°48  | 10°39 | 26°1   | 9°34 | 13°16 | 21°57  | 22°3  | 9°28  | 11°26 |
| T 4 | 3 22 15 | 19°17'44 | 18°56 | 3°25  | 24°38 | 5°45  | 18°42  | 10°47 | 25°59  | 9°35 | 13°17 | 21°R57 | 22°0  | 9°34  | 11°27 |
| F 5 | 3 26 12 | 20°18'26 | 1♋37  | 4°55  | 25°53 | 6°16  | 18°35  | 10°54 | 25°57  | 9°36 | 13°18 | 21°57  | 21°57 | 9°41  | 11°29 |
| S 6 | 3 30 8  | 21°19'09 | 14°0  | 6°26  | 27°8  | 6°46  | 18°29  | 11°1  | 25°55  | 9°37 | 13°20 | 21°57  | 21°53 | 9°48  | 11°30 |
| S 7 | 3 34 5  | 22°19'52 | 26°9  | 7°57  | 28°24 | 7°17  | 18°22  | 11°8  | 25°53  | 9°38 | 13°21 | 21°D57 | 21°50 | 9°54  | 11°32 |
| M 8 | 3 38 1  | 23°20'37 | 8♎8   | 9°29  | 29°39 | 7°48  | 18°16  | 11°15 | 25°51  | 9°39 | 13°22 | 21°57  | 21°47 | 10°1  | 11°33 |
| T 9 | 3 41 58 | 24°21'24 | 20°0  | 11°1  | 0♌54  | 8°20  | 18°9   | 11°22 | 25°49  | 9°40 | 13°24 | 21°58  | 21°44 | 10°8  | 11°35 |
| W10 | 3 45 54 | 25°22'11 | 1♉48  | 12°34 | 2°10  | 8°51  | 18°2   | 11°29 | 25°47  | 9°41 | 13°25 | 21°58  | 21°41 | 10°14 | 11°37 |
| T11 | 3 49 51 | 26°22'59 | 13°36 | 14°6  | 3°25  | 9°23  | 17°55  | 11°36 | 25°45  | 9°42 | 13°27 | 21°58  | 21°37 | 10°21 | 11°38 |
| F12 | 3 53 48 | 27°23'49 | 25°25 | 15°39 | 4°41  | 9°55  | 17°48  | 11°43 | 25°42  | 9°43 | 13°28 | 21°R58 | 21°34 | 10°28 | 11°40 |
| S13 | 3 57 44 | 28°24'40 | 7♌19  | 17°13 | 5°56  | 10°28 | 17°40  | 11°50 | 25°40  | 9°43 | 13°30 | 21°58  | 21°31 | 10°34 | 11°42 |
| S14 | 4 1 41  | 29°25'32 | 19°18 | 18°46 | 7°11  | 11°0  | 17°33  | 11°57 | 25°38  | 9°44 | 13°31 | 21°57  | 21°28 | 10°41 | 11°44 |
| M15 | 4 5 37  | 0♌26'25  | 1♉25  | 20°19 | 8°27  | 11°33 | 17°26  | 12°3  | 25°36  | 9°45 | 13°33 | 21°56  | 21°25 | 10°48 | 11°46 |
| T16 | 4 9 34  | 1°27'20  | 13°43 | 21°53 | 9°42  | 12°5  | 17°18  | 12°10 | 25°33  | 9°45 | 13°34 | 21°55  | 21°22 | 10°54 | 11°48 |
| W17 | 4 13 30 | 2°28'16  | 26°12 | 23°26 | 10°57 | 12°38 | 17°10  | 12°17 | 25°31  | 9°46 | 13°36 | 21°53  | 21°18 | 11°1  | 11°50 |
| T18 | 4 17 27 | 3°29'13  | 8♎56  | 25°0  | 12°13 | 13°11 | 17°3   | 12°24 | 25°29  | 9°47 | 13°37 | 21°52  | 21°15 | 11°8  | 11°52 |
| F19 | 4 21 24 | 4°30'11  | 21°57 | 26°33 | 13°28 | 13°45 | 16°55  | 12°31 | 25°27  | 9°47 | 13°39 | 21°51  | 21°12 | 11°14 | 11°55 |
| S20 | 4 25 20 | 5°31'10  | 5♎17  | 28°7  | 14°43 | 14°18 | 16°47  | 12°38 | 25°24  | 9°48 | 13°41 | 21°D51 | 21°9  | 11°21 | 11°57 |
| S21 | 4 29 17 | 6°32'11  | 18°59 | 29°41 | 15°59 | 14°52 | 16°39  | 12°44 | 25°22  | 9°48 | 13°42 | 21°51  | 21°6  | 11°27 | 11°59 |
| M22 | 4 33 13 | 7°33'13  | 3♎3   | 1♌14  | 17°14 | 15°26 | 16°31  | 12°51 | 25°19  | 9°49 | 13°44 | 21°52  | 21°2  | 11°34 | 12°2  |
| T23 | 4 37 10 | 8°34'16  | 17°28 | 2°48  | 18°30 | 16°0  | 16°23  | 12°58 | 25°17  | 9°49 | 13°46 | 21°53  | 20°59 | 11°41 | 12°4  |
| W24 | 4 41 6  | 9°35'20  | 2♌12  | 4°22  | 19°45 | 16°34 | 16°15  | 13°4  | 25°14  | 9°49 | 13°47 | 21°54  | 20°56 | 11°47 | 12°7  |
| T25 | 4 45 3  | 10°36'25 | 17°9  | 5°56  | 21°0  | 17°8  | 16°7   | 13°11 | 25°12  | 9°50 | 13°49 | 21°R55 | 20°53 | 11°54 | 12°9  |
| F26 | 4 48 59 | 11°37'31 | 2♌12  | 7°30  | 22°16 | 17°42 | 15°59  | 13°18 | 25°10  | 9°50 | 13°51 | 21°55  | 20°50 | 12°1  | 12°12 |
| S27 | 4 52 56 | 12°38'38 | 17°13 | 9°4   | 23°31 | 18°17 | 15°51  | 13°24 | 25°7   | 9°50 | 13°53 | 21°54  | 20°47 | 12°7  | 12°14 |
| S28 | 4 56 53 | 13°39'45 | 2♋2   | 10°38 | 24°46 | 18°51 | 15°43  | 13°31 | 25°5   | 9°51 | 13°54 | 21°51  | 20°43 | 12°14 | 12°17 |
| M29 | 5 0 49  | 14°40'54 | 16°33 | 12°12 | 26°2  | 19°26 | 15°34  | 13°37 | 25°2   | 9°51 | 13°56 | 21°48  | 20°40 | 12°21 | 12°20 |
| T30 | 5 4 46  | 15°42'02 | 0♌38  | 13♌47 | 27♌17 | 20♉1  | 15♌26  | 13♌44 | 24♌59  | 9♎51 | 13♋58 | 21♎45  | 20♎37 | 12♎27 | 12♎23 |

Delta T = 08m36s

Julian Calendar 1 Nov. 1277 == Greg. Calendar 8 Nov. 1277

DECEMBER 1277 JC

00:00 UT

| Day | Sid.t   | ☉        | ☽     | ♀     | ♁     | ♂     | ♃      | ♅     | ♁      | ♁     | ♁     | ♁      | ♁     | ♁     | ♁     |
|-----|---------|----------|-------|-------|-------|-------|--------|-------|--------|-------|-------|--------|-------|-------|-------|
| W 1 | 5 8 42  | 16♌43'11 | 14♌17 | 15♌21 | 28♌32 | 20♉36 | 15°R18 | 13♌50 | 24°R57 | 9♎51  | 14♋0  | 21°R41 | 20♎34 | 12♎34 | 12♎25 |
| T 2 | 5 12 39 | 17°44'20 | 27°28 | 16°56 | 29°48 | 21°11 | 15♌10  | 13°56 | 24♌54  | 9°51  | 14°2  | 21♎39  | 20°31 | 12°41 | 12°28 |
| F 3 | 5 16 35 | 18°45'29 | 10♉14 | 18°31 | 1♋3   | 21°47 | 15°2   | 14°3  | 24°52  | 9°51  | 14°3  | 21°37  | 20°28 | 12°47 | 12°31 |
| S 4 | 5 20 32 | 19°46'38 | 22°39 | 20°6  | 2°18  | 22°22 | 14°54  | 14°9  | 24°49  | 9°R51 | 14°5  | 21°D37 | 20°24 | 12°54 | 12°34 |
| S 5 | 5 24 28 | 20°47'48 | 4♎47  | 21°42 | 3°34  | 22°58 | 14°45  | 14°15 | 24°47  | 9°51  | 14°7  | 21°38  | 20°21 | 13°1  | 12°37 |
| M 6 | 5 28 25 | 21°48'57 | 16°43 | 23°17 | 4°49  | 23°33 | 14°37  | 14°21 | 24°44  | 9°51  | 14°9  | 21°39  | 20°18 | 13°7  | 12°40 |
| T 7 | 5 32 22 | 22°50'07 | 28°32 | 24°53 | 6°4   | 24°9  | 14°29  | 14°27 | 24°42  | 9°51  | 14°11 | 21°41  | 20°15 | 13°14 | 12°44 |
| W 8 | 5 36 18 | 23°51'16 | 10♎19 | 26°29 | 7°20  | 24°45 | 14°21  | 14°33 | 24°39  | 9°51  | 14°13 | 21°43  | 20°12 | 13°20 | 12°47 |
| T 9 | 5 40 15 | 24°52'26 | 22°7  | 28°5  | 8°35  | 25°21 | 14°14  | 14°39 | 24°36  | 9°51  | 14°15 | 21°R43 | 20°8  | 13°27 | 12°50 |
| F10 | 5 44 11 | 25°53'36 | 4♌1   | 29°42 | 9°50  | 25°57 | 14°6   | 14°45 | 24°34  | 9°51  | 14°17 | 21°42  | 20°5  | 13°34 | 12°53 |
| S11 | 5 48 8  | 26°54'46 | 16°2  | 1♋19  | 11°5  | 26°33 | 13°58  | 14°51 | 24°31  | 9°51  | 14°18 | 21°40  | 20°2  | 13°40 | 12°56 |
| S12 | 5 52 4  | 27°55'56 | 28°14 | 2°56  | 12°21 | 27°9  | 13°50  | 14°57 | 24°29  | 9°50  | 14°20 | 21°35  | 19°59 | 13°47 | 13°0  |
| M13 | 5 56 1  | 28°57'07 | 10♎36 | 4°33  | 13°36 | 27°45 | 13°43  | 15°3  | 24°26  | 9°50  | 14°22 | 21°29  | 19°56 | 13°54 | 13°3  |
| T14 | 5 59 57 | 29°58'17 | 23°11 | 6°11  | 14°51 | 28°22 | 13°35  | 15°9  | 24°23  | 9°50  | 14°24 | 21°22  | 19°53 | 14°0  | 13°7  |
| W15 | 6 3 54  | 0♋59'28  | 5♎57  | 7°49  | 16°6  | 28°58 | 13°28  | 15°14 | 24°21  | 9°49  | 14°26 | 21°15  | 19°49 | 14°7  | 13°10 |
| T16 | 6 7 51  | 2°0'38   | 18°57 | 9°27  | 17°21 | 29°35 | 13°20  | 15°20 | 24°18  | 9°49  | 14°28 | 21°8   | 19°46 | 14°14 | 13°14 |
| F17 | 6 11 47 | 3°1'49   | 2♎9   | 11°6  | 18°37 | 0♎11  | 13°13  | 15°26 | 24°16  | 9°49  | 14°30 | 21°3   | 19°43 | 14°20 | 13°17 |
| S18 | 6 15 44 | 4°3'00   | 15°34 | 12°44 | 19°52 | 0°48  | 13°6   | 15°31 | 24°13  | 9°48  | 14°32 | 20°59  | 19°40 | 14°27 | 13°21 |
| S19 | 6 19 40 | 5°4'11   | 29°13 | 14°23 | 21°7  | 1°25  | 12°59  | 15°37 | 24°11  | 9°48  | 14°34 | 20°D57 | 19°37 | 14°34 | 13°24 |
| M20 | 6 23 37 | 6°5'22   | 13♎7  | 16°2  | 22°22 | 2°1   | 12°52  | 15°42 | 24°8   | 9°47  | 14°36 | 20°57  | 19°34 | 14°40 | 13°28 |
| T21 | 6 27 33 | 7°6'33   | 27°14 | 17°41 | 23°37 | 2°38  | 12°45  | 15°47 | 24°6   | 9°47  | 14°38 | 20°58  | 19°30 | 14°47 | 13°32 |
| W22 | 6 31 30 | 8°7'44   | 11♌35 | 19°20 | 24°52 | 3°15  | 12°38  | 15°53 | 24°3   | 9°46  | 14°40 | 21°0   | 19°27 | 14°54 | 13°35 |
| T23 | 6 35 27 | 9°8'56   | 26°7  | 20°59 | 26°8  | 3°52  | 12°32  | 15°58 | 24°1   | 9°45  | 14°42 | 21°R0  | 19°24 | 15°0  | 13°39 |
| F24 | 6 39 23 | 10°10'07 | 10♌46 | 22°38 | 27°23 | 4°29  | 12°25  | 16°3  | 23°58  | 9°45  | 14°44 | 20°58  | 19°21 | 15°7  | 13°43 |
| S25 | 6 43 20 | 11°11'18 | 25°26 | 24°16 | 28°38 | 5°6   | 12°19  | 16°8  | 23°56  | 9°44  | 14°46 | 20°54  | 19°18 | 15°13 | 13°47 |
| S26 | 6 47 16 | 12°12'29 | 10♋3  | 25°54 | 29°53 | 5°43  | 12°13  | 16°13 | 23°53  | 9°43  | 14°48 | 20°48  | 19°14 | 15°20 | 13°50 |
| M27 | 6 51 13 | 13°13'40 | 24°23 | 27°31 | 1♉8   | 6°21  | 12°7   | 16°18 | 23°51  | 9°43  | 14°50 | 20°39  | 19°11 | 15°27 | 13°54 |
| T28 | 6 55 9  | 14°14'50 | 8♌27  | 29°7  | 2°23  | 6°58  | 12°1   | 16°23 | 23°49  | 9°42  | 14°52 | 20°30  | 19°8  | 15°33 | 13°58 |
| W29 | 6 59 6  | 15°15'59 | 22°7  | 0♌42  | 3°38  | 7°35  | 11°55  | 16°27 | 23°46  | 9°41  | 14°54 | 20°21  | 19°5  | 15°40 | 14°2  |
| T30 | 7 3 2   | 16°17'07 | 5♉23  | 2°16  | 4°53  | 8°13  | 11°49  | 16°32 | 23°44  | 9°40  | 14°56 | 20°12  | 19°2  | 15°47 | 14°6  |
| F31 | 7 6 59  | 17♋18'15 | 18♉13 | 3♌48  | 6♉8   | 8♎50  | 11♌44  | 16♌37 | 23♌42  | 9♎40  | 14♋58 | 20♎6   | 18♎59 | 15♎53 | 14♌10 |

Delta T = 08m36s

Julian Calendar

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