

Analemmatic Sundial

Latitude: 30.5° N/S

Earliest Sunrise: 4:56 a.m.    Latest Sunset: 7:04 p.m.  
 Semi-Major Axis (E-W): 1000 mm    Semi-Minor Axis (N-S): 507.5 mm  
 Sunrise/Sunset Markers: X = ± 724.8 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	507.5	507.5	0.0							
11:55	12:05	21.8	507.4	507.9	21.8	8:10	3:50	843.4	272.7	886.4	875.5
11:50	12:10	43.6	507.1	508.9	43.6	8:05	3:55	854.9	263.3	894.5	889.1
11:45	12:15	65.4	506.5	510.7	65.4	8:00	4:00	866.0	253.8	902.4	902.4
11:40	12:20	87.2	505.6	513.1	87.2	7:55	4:05	876.7	244.1	910.1	915.4
11:35	12:25	108.9	504.5	516.1	108.9	7:50	4:10	887.0	234.4	917.4	928.1
11:30	12:30	130.5	503.2	519.8	130.6	7:45	4:15	896.9	224.5	924.5	940.5
11:25	12:35	152.1	501.6	524.2	152.2	7:40	4:20	906.3	214.5	931.3	952.5
11:20	12:40	173.6	499.8	529.1	173.8	7:35	4:25	915.3	204.4	937.9	964.2
11:15	12:45	195.1	497.8	534.7	195.3	7:30	4:30	923.9	194.2	944.1	975.6
11:10	12:50	216.4	495.5	540.7	216.8	7:25	4:35	932.0	184.0	950.0	986.6
11:05	12:55	237.7	493.0	547.3	238.1	7:20	4:40	939.7	173.6	955.6	997.3
11:00	1:00	258.8	490.2	554.4	259.4	7:15	4:45	946.9	163.1	960.9	1007.6
10:55	1:05	279.8	487.3	561.9	280.6	7:10	4:50	953.7	152.6	965.9	1017.6
10:50	1:10	300.7	484.0	569.8	301.6	7:05	4:55	960.0	142.0	970.5	1027.3
10:45	1:15	321.4	480.6	578.2	322.6	7:00	5:00	965.9	131.4	974.8	1036.6
10:40	1:20	342.0	476.9	586.9	343.4	6:55	5:05	971.3	120.6	978.8	1045.6
10:35	1:25	362.4	473.0	595.9	364.1	6:50	5:10	976.3	109.9	982.5	1054.2
10:30	1:30	382.7	468.9	605.2	384.6	6:45	5:15	980.8	99.0	985.8	1062.5
10:25	1:35	402.7	464.6	614.8	405.0	6:40	5:20	984.8	88.1	988.7	1070.4
10:20	1:40	422.6	460.0	624.7	425.3	6:35	5:25	988.4	77.2	991.4	1078.0
10:15	1:45	442.3	455.2	634.7	445.4	6:30	5:30	991.4	66.2	993.7	1085.2
10:10	1:50	461.7	450.2	644.9	465.3	6:25	5:35	994.1	55.3	995.6	1092.1
10:05	1:55	481.0	445.0	655.2	485.0	6:20	5:40	996.2	44.2	997.2	1098.7
10:00	2:00	500.0	439.5	665.7	504.6	6:15	5:45	997.9	33.2	998.4	1104.9
9:55	2:05	518.8	433.9	676.3	524.0	6:10	5:50	999.0	22.1	999.3	1110.7
9:50	2:10	537.3	428.1	687.0	543.1	6:05	5:55	999.8	11.1	999.8	1116.2
9:45	2:15	555.6	422.0	697.7	562.1	6:00	6:00	1000.0	0.0	1000.0	1121.4
9:40	2:20	573.6	415.8	708.4	580.9	5:55	6:05	999.8	-11.1	999.8	1126.3
9:35	2:25	591.3	409.3	719.1	599.4	5:50	6:10	999.0	-22.1	999.3	1130.8
9:30	2:30	608.8	402.7	729.9	617.7	5:45	6:15	997.9	-33.2	998.4	1135.0
9:25	2:35	625.9	395.8	740.6	635.8	5:40	6:20	996.2	-44.2	997.2	1138.8
9:20	2:40	642.8	388.8	751.2	653.7	5:35	6:25	994.1	-55.3	995.6	1142.3
9:15	2:45	659.3	381.6	761.8	671.3	5:30	6:30	991.4	-66.2	993.7	1145.5
9:10	2:50	675.6	374.2	772.3	688.6	5:25	6:35	988.4	-77.2	991.4	1148.4
9:05	2:55	691.5	366.6	782.7	705.7	5:20	6:40	984.8	-88.1	988.7	1150.9
9:00	3:00	707.1	358.9	793.0	722.6	5:15	6:45	980.8	-99.0	985.8	1153.2
8:55	3:05	722.4	351.0	803.1	739.1	5:10	6:50	976.3	-109.9	982.5	1155.1
8:50	3:10	737.3	342.9	813.1	755.4	5:05	6:55	971.3	-120.6	978.8	1156.8
8:45	3:15	751.8	334.6	823.0	771.5	5:00	7:00	965.9	-131.4	974.8	1158.1
8:40	3:20	766.0	326.2	832.6	787.2	4:55	7:05	960.0	-142.0	970.5	1159.1
8:35	3:25	779.9	317.7	842.1	802.7	4:50	7:10	953.7	-152.6	965.9	1159.9
8:30	3:30	793.4	309.0	851.4	817.8	4:45	7:15	946.9	-163.1	960.9	1160.4
8:25	3:35	806.4	300.1	860.5	832.7						
8:20	3:40	819.2	291.1	869.3	847.3						
8:15	3:45	831.5	282.0	878.0	861.5						

## Analematic Sundial

Latitude: 30.5° N/S

## Date Scale

Semi-Major Axis (E-W): 1000 mm    Semi-Minor Axis (N-S): 507.5 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-365.6	-358.7	-356.5	-347.1	-344.3	-332.5	-329.2	-315.1	-311.4	-295.5	-291.3
February	-264.4	-245.1	-240.1	-219.6	-214.5	-193.1	-187.6	-165.5	-159.8	-137.1	-131.2
March	-113.9	-90.6	-84.6	-61.0	-55.1	-31.3	-25.4	-1.5	4.4	28.1	34.0
April	69.3	92.5	98.3	121.1	126.8	149.1	154.6	176.4	181.7	202.7	207.8
May	232.8	252.0	256.5	274.3	278.6	295.0	298.9	313.8	317.4	330.4	333.3
June	349.5	358.0	359.9	366.1	367.5	371.4	372.0	373.4	373.6	370.9	372.1
July	367.5	361.7	359.9	352.0	349.7	339.4	336.6	324.4	321.1	307.2	303.4
August	279.6	262.3	257.8	239.3	234.6	215.0	209.9	189.4	184.2	163.0	157.5
September	124.6	102.1	96.5	73.6	67.8	44.7	39.0	15.6	9.8	-13.7	-19.6
October	-48.8	-72.2	-78.0	-101.2	-106.9	-129.8	-135.5	-158.0	-163.6	-185.5	-190.9
November	-222.4	-242.5	-247.4	-266.4	-271.0	-288.6	-292.8	-308.8	-312.6	-326.8	-330.2
December	-345.0	-355.0	-357.1	-364.3	-365.9	-370.5	-371.4	-373.4	-373.6	-372.7	-372.1

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	365.6	358.7	356.5	347.1	344.3	332.5	329.2	315.1	311.4	295.5	291.3
February	264.4	245.1	240.1	219.6	214.5	193.1	187.6	165.5	159.8	137.1	131.2
March	113.9	90.6	84.6	61.0	55.1	31.3	25.4	1.5	-4.4	-28.1	-34.0
April	-69.3	-92.5	-98.3	-121.1	-126.8	-149.1	-154.6	-176.4	-181.7	-202.7	-207.8
May	-232.8	-252.0	-256.5	-274.3	-278.6	-295.0	-298.9	-313.8	-317.4	-330.4	-333.3
June	-349.5	-358.0	-359.9	-366.1	-367.5	-371.4	-372.0	-373.4	-373.6	-370.9	-372.1
July	-367.5	-361.7	-359.9	-352.0	-349.7	-339.4	-336.6	-324.4	-321.1	-307.2	-303.4
August	-279.6	-262.3	-257.8	-239.3	-234.6	-215.0	-209.9	-189.4	-184.2	-163.0	-157.5
September	-124.6	-102.1	-96.5	-73.6	-67.8	-44.7	-39.0	-15.6	-9.8	13.7	19.6
October	48.8	72.2	78.0	101.2	106.9	129.8	135.5	158.0	163.6	185.5	190.9
November	222.4	242.5	247.4	266.4	271.0	288.6	292.8	308.8	312.6	326.8	330.2
December	345.0	355.0	357.1	364.3	365.9	370.5	371.4	373.4	373.6	372.7	372.1

Southern Hemisphere

The shaded "Date" boxes identify the two extremes of the "Date Scale" that occur on the Summer and Winter Solstices.

A number of "Date Scale" configurations are available including the following "Date Line" combinations:

- |         |            |                    |
|---------|------------|--------------------|
| a) 1    | c) 1,10,20 | e) 1,5,10,15,20,25 |
| b) 1,15 | d) 1,11,21 | f) 1,6,11,16,21,26 |

## Analemmatic Sundial

Latitude: 30.5° N/S

Earliest Sunrise: 4:56 a.m.    Latest Sunset: 7:04 p.m.  
 Semi-Major Axis (E-W): 1500 mm    Semi-Minor Axis (N-S): 761.3 mm  
 Sunrise/Sunset Markers: X = ± 1087.1 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	761.3	761.3	0.0							
11:55	12:05	32.7	761.1	761.8	32.7	8:10	3:50	1265.1	409.1	1329.6	1313.2
11:50	12:10	65.4	760.6	763.4	65.4	8:05	3:55	1282.4	394.9	1341.8	1333.7
11:45	12:15	98.1	759.7	766.0	98.1	8:00	4:00	1299.0	380.7	1353.7	1353.7
11:40	12:20	130.7	758.4	769.6	130.8	7:55	4:05	1315.1	366.2	1365.1	1373.2
11:35	12:25	163.3	756.8	774.2	163.4	7:50	4:10	1330.5	351.5	1376.2	1392.2
11:30	12:30	195.8	754.8	779.8	195.9	7:45	4:15	1345.3	336.7	1386.8	1410.7
11:25	12:35	228.2	752.4	786.3	228.4	7:40	4:20	1359.5	321.7	1397.0	1428.8
11:20	12:40	260.5	749.7	793.7	260.7	7:35	4:25	1373.0	306.6	1406.8	1446.3
11:15	12:45	292.6	746.7	802.0	293.0	7:30	4:30	1385.8	291.3	1416.1	1463.3
11:10	12:50	324.7	743.3	811.1	325.2	7:25	4:35	1398.0	275.9	1425.0	1479.9
11:05	12:55	356.5	739.5	820.9	357.2	7:20	4:40	1409.5	260.4	1433.4	1495.9
11:00	1:00	388.2	735.4	831.6	389.1	7:15	4:45	1420.4	244.7	1441.3	1511.4
10:55	1:05	419.7	730.9	842.8	420.8	7:10	4:50	1430.6	228.9	1448.8	1526.4
10:50	1:10	451.1	726.1	854.8	452.4	7:05	4:55	1440.1	213.0	1455.7	1540.9
10:45	1:15	482.2	720.9	867.3	483.8	7:00	5:00	1448.9	197.0	1462.2	1554.9
10:40	1:20	513.0	715.4	880.3	515.1	6:55	5:05	1457.0	181.0	1468.2	1568.3
10:35	1:25	543.7	709.5	893.9	546.1	6:50	5:10	1464.4	164.8	1473.7	1581.3
10:30	1:30	574.0	703.4	907.9	576.9	6:45	5:15	1471.2	148.5	1478.7	1593.7
10:25	1:35	604.1	696.8	922.2	607.6	6:40	5:20	1477.2	132.2	1483.1	1605.6
10:20	1:40	633.9	690.0	937.0	637.9	6:35	5:25	1482.5	115.8	1487.1	1617.0
10:15	1:45	663.4	682.8	952.0	668.1	6:30	5:30	1487.2	99.4	1490.5	1627.8
10:10	1:50	692.6	675.3	967.3	697.9	6:25	5:35	1491.1	82.9	1493.4	1638.2
10:05	1:55	721.5	667.5	982.9	727.6	6:20	5:40	1494.3	66.4	1495.8	1648.0
10:00	2:00	750.0	659.3	998.6	756.9	6:15	5:45	1496.8	49.8	1497.6	1657.3
9:55	2:05	778.2	650.9	1014.5	786.0	6:10	5:50	1498.6	33.2	1498.9	1666.1
9:50	2:10	805.9	642.1	1030.4	814.7	6:05	5:55	1499.6	16.6	1499.7	1674.4
9:45	2:15	833.4	633.0	1046.5	843.2	6:00	6:00	1500.0	0.0	1500.0	1682.1
9:40	2:20	860.4	623.6	1062.6	871.3	5:55	6:05	1499.6	-16.6	1499.7	1689.4
9:35	2:25	887.0	614.0	1078.7	899.1	5:50	6:10	1498.6	-33.2	1498.9	1696.2
9:30	2:30	913.1	604.0	1094.8	926.6	5:45	6:15	1496.8	-49.8	1497.6	1702.4
9:25	2:35	938.9	593.7	1110.9	953.7	5:40	6:20	1494.3	-66.4	1495.8	1708.2
9:20	2:40	964.2	583.2	1126.8	980.5	5:35	6:25	1491.1	-82.9	1493.4	1713.5
9:15	2:45	989.0	572.4	1142.7	1006.9	5:30	6:30	1487.2	-99.4	1490.5	1718.3
9:10	2:50	1013.4	561.3	1158.4	1032.9	5:25	6:35	1482.5	-115.8	1487.1	1722.6
9:05	2:55	1037.3	549.9	1174.0	1058.6	5:20	6:40	1477.2	-132.2	1483.1	1726.4
9:00	3:00	1060.7	538.3	1189.5	1083.8	5:15	6:45	1471.2	-148.5	1478.7	1729.8
8:55	3:05	1083.5	526.5	1204.7	1108.7	5:10	6:50	1464.4	-164.8	1473.7	1732.7
8:50	3:10	1105.9	514.3	1219.7	1133.2	5:05	6:55	1457.0	-181.0	1468.2	1735.1
8:45	3:15	1127.8	502.0	1234.4	1157.2	5:00	7:00	1448.9	-197.0	1462.2	1737.2
8:40	3:20	1149.1	489.4	1248.9	1180.8	4:55	7:05	1440.1	-213.0	1455.7	1738.7
8:35	3:25	1169.8	476.5	1263.2	1204.0	4:50	7:10	1430.6	-228.9	1448.8	1739.9
8:30	3:30	1190.0	463.5	1277.1	1226.7	4:45	7:15	1420.4	-244.7	1441.3	1740.6
8:25	3:35	1209.7	450.2	1290.7	1249.0						
8:20	3:40	1228.7	436.7	1304.0	1270.9						
8:15	3:45	1247.2	423.0	1317.0	1292.3						

## Analematic Sundial

Latitude: 30.5° N/S

## Date Scale

Semi-Major Axis (E-W): 1500 mm    Semi-Minor Axis (N-S): 761.3 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-548.3	-538.0	-534.8	-520.6	-516.4	-498.7	-493.8	-472.7	-467.1	-443.3	-437.0
February	-396.6	-367.7	-360.1	-329.4	-321.8	-289.6	-281.3	-248.2	-239.8	-205.6	-196.8
March	-170.8	-135.8	-127.0	-91.5	-82.7	-46.9	-38.1	-2.3	6.5	42.2	51.0
April	104.0	138.8	147.5	181.6	190.2	223.7	231.8	264.6	272.6	304.1	311.7
May	349.2	377.9	384.8	411.5	417.9	442.5	448.3	470.7	476.0	495.6	500.0
June	524.3	536.9	539.8	549.1	551.3	557.1	558.0	560.1	560.4	556.3	558.2
July	551.3	542.5	539.8	528.0	524.5	509.1	504.9	486.6	481.7	460.7	455.1
August	419.4	393.4	386.8	358.9	351.9	322.5	314.8	284.2	276.4	244.4	236.3
September	186.9	153.2	144.7	110.3	101.7	67.1	58.5	23.5	14.7	-20.5	-29.3
October	-73.2	-108.3	-116.9	-151.8	-160.3	-194.8	-203.3	-237.0	-245.4	-278.3	-286.3
November	-333.5	-363.8	-371.1	-399.6	-406.5	-432.9	-439.2	-463.3	-468.9	-490.2	-495.3
December	-517.5	-532.4	-535.6	-546.5	-548.9	-555.8	-557.1	-560.1	-560.4	-559.0	-558.2

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	548.3	538.0	534.8	520.6	516.4	498.7	493.8	472.7	467.1	443.3	437.0
February	396.6	367.7	360.1	329.4	321.8	289.6	281.3	248.2	239.8	205.6	196.8
March	170.8	135.8	127.0	91.5	82.7	46.9	38.1	2.3	-6.5	-42.2	-51.0
April	-104.0	-138.8	-147.5	-181.6	-190.2	-223.7	-231.8	-264.6	-272.6	-304.1	-311.7
May	-349.2	-377.9	-384.8	-411.5	-417.9	-442.5	-448.3	-470.7	-476.0	-495.6	-500.0
June	-524.3	-536.9	-539.8	-549.1	-551.3	-557.1	-558.0	-560.1	-560.4	-556.3	-558.2
July	-551.3	-542.5	-539.8	-528.0	-524.5	-509.1	-504.9	-486.6	-481.7	-460.7	-455.1
August	-419.4	-393.4	-386.8	-358.9	-351.9	-322.5	-314.8	-284.2	-276.4	-244.4	-236.3
September	-186.9	-153.2	-144.7	-110.3	-101.7	-67.1	-58.5	-23.5	-14.7	20.5	29.3
October	73.2	108.3	116.9	151.8	160.3	194.8	203.3	237.0	245.4	278.3	286.3
November	333.5	363.8	371.1	399.6	406.5	432.9	439.2	463.3	468.9	490.2	495.3
December	517.5	532.4	535.6	546.5	548.9	555.8	557.1	560.1	560.4	559.0	558.2

Southern Hemisphere

The shaded "Date" boxes identify the two extremes of the "Date Scale" that occur on the Summer and Winter Solstices.

A number of "Date Scale" configurations are available including the following "Date Line" combinations:

- |         |            |                    |
|---------|------------|--------------------|
| a) 1    | c) 1,10,20 | e) 1,5,10,15,20,25 |
| b) 1,15 | d) 1,11,21 | f) 1,6,11,16,21,26 |

Analemmatic Sundial

Latitude: 30.5° N/S

Earliest Sunrise: 4:56 a.m.    Latest Sunset: 7:04 p.m.  
 Semi-Major Axis (E-W): 2000 mm    Semi-Minor Axis (N-S): 1015.1 mm  
 Sunrise/Sunset Markers: X = ± 1449.5 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	1015.1	1015.1	0.0							
11:55	12:05	43.6	1014.8	1015.8	43.6	8:10	3:50	1686.8	545.4	1772.8	1751.0
11:50	12:10	87.2	1014.1	1017.9	87.2	8:05	3:55	1709.8	526.6	1789.1	1778.2
11:45	12:15	130.8	1012.9	1021.3	130.8	8:00	4:00	1732.1	507.5	1804.9	1804.9
11:40	12:20	174.3	1011.2	1026.1	174.4	7:55	4:05	1753.5	488.2	1820.2	1830.9
11:35	12:25	217.7	1009.0	1032.3	217.8	7:50	4:10	1774.0	468.7	1834.9	1856.3
11:30	12:30	261.1	1006.4	1039.7	261.2	7:45	4:15	1793.7	449.0	1849.1	1881.0
11:25	12:35	304.2	1003.3	1048.4	304.5	7:40	4:20	1812.6	429.0	1862.7	1905.0
11:20	12:40	347.3	999.7	1058.3	347.6	7:35	4:25	1830.6	408.8	1875.7	1928.4
11:15	12:45	390.2	995.6	1069.3	390.7	7:30	4:30	1847.8	388.5	1888.1	1951.1
11:10	12:50	432.9	991.0	1081.4	433.5	7:25	4:35	1864.0	367.9	1900.0	1973.2
11:05	12:55	475.4	986.0	1094.6	476.3	7:20	4:40	1879.4	347.2	1911.2	1994.5
11:00	1:00	517.6	980.5	1108.7	518.8	7:15	4:45	1893.9	326.3	1921.8	2015.2
10:55	1:05	559.7	974.5	1123.8	561.1	7:10	4:50	1907.4	305.2	1931.7	2035.2
10:50	1:10	601.4	968.1	1139.7	603.2	7:05	4:55	1920.1	284.0	1941.0	2054.6
10:45	1:15	642.9	961.2	1156.4	645.1	7:00	5:00	1931.9	262.7	1949.6	2073.2
10:40	1:20	684.0	953.9	1173.8	686.8	6:55	5:05	1942.7	241.3	1957.6	2091.1
10:35	1:25	724.9	946.1	1191.8	728.2	6:50	5:10	1952.6	219.7	1964.9	2108.4
10:30	1:30	765.4	937.8	1210.5	769.3	6:45	5:15	1961.6	198.0	1971.5	2124.9
10:25	1:35	805.5	929.1	1229.7	810.1	6:40	5:20	1969.6	176.3	1977.5	2140.8
10:20	1:40	845.2	920.0	1249.3	850.6	6:35	5:25	1976.7	154.4	1982.7	2156.0
10:15	1:45	884.6	910.4	1269.4	890.7	6:30	5:30	1982.9	132.5	1987.3	2170.4
10:10	1:50	923.5	900.4	1289.8	930.6	6:25	5:35	1988.1	110.5	1991.2	2184.2
10:05	1:55	962.0	889.9	1310.5	970.1	6:20	5:40	1992.4	88.5	1994.4	2197.3
10:00	2:00	1000.0	879.1	1331.5	1009.2	6:15	5:45	1995.7	66.4	1996.8	2209.7
9:55	2:05	1037.5	867.8	1352.6	1047.9	6:10	5:50	1998.1	44.3	1998.6	2221.5
9:50	2:10	1074.6	856.1	1373.9	1086.3	6:05	5:55	1999.5	22.1	1999.6	2232.5
9:45	2:15	1111.1	844.0	1395.3	1124.2	6:00	6:00	2000.0	0.0	2000.0	2242.9
9:40	2:20	1147.2	831.5	1416.8	1161.7	5:55	6:05	1999.5	-22.1	1999.6	2252.5
9:35	2:25	1182.6	818.6	1438.3	1198.8	5:50	6:10	1998.1	-44.3	1998.6	2261.6
9:30	2:30	1217.5	805.3	1459.8	1235.5	5:45	6:15	1995.7	-66.4	1996.8	2269.9
9:25	2:35	1251.8	791.6	1481.2	1271.6	5:40	6:20	1992.4	-88.5	1994.4	2277.6
9:20	2:40	1285.6	777.6	1502.4	1307.3	5:35	6:25	1988.1	-110.5	1991.2	2284.6
9:15	2:45	1318.7	763.2	1523.6	1342.5	5:30	6:30	1982.9	-132.5	1987.3	2291.0
9:10	2:50	1351.2	748.4	1544.6	1377.2	5:25	6:35	1976.7	-154.4	1982.7	2296.8
9:05	2:55	1383.0	733.3	1565.4	1411.4	5:20	6:40	1969.6	-176.3	1977.5	2301.9
9:00	3:00	1414.2	717.8	1585.9	1445.1	5:15	6:45	1961.6	-198.0	1971.5	2306.4
8:55	3:05	1444.7	701.9	1606.2	1478.3	5:10	6:50	1952.6	-219.7	1964.9	2310.3
8:50	3:10	1474.6	685.8	1626.2	1510.9	5:05	6:55	1942.7	-241.3	1957.6	2313.5
8:45	3:15	1503.7	669.3	1645.9	1542.9	5:00	7:00	1931.9	-262.7	1949.6	2316.2
8:40	3:20	1532.1	652.5	1665.2	1574.4	4:55	7:05	1920.1	-284.0	1941.0	2318.3
8:35	3:25	1559.8	635.4	1684.2	1605.3	4:50	7:10	1907.4	-305.2	1931.7	2319.8
8:30	3:30	1586.7	617.9	1702.8	1635.7	4:45	7:15	1893.9	-326.3	1921.8	2320.8
8:25	3:35	1612.9	600.2	1721.0	1665.4						
8:20	3:40	1638.3	582.2	1738.7	1694.5						
8:15	3:45	1662.9	563.9	1756.0	1723.0						

## Analematic Sundial

Latitude: 30.5° N/S

## Date Scale

Semi-Major Axis (E-W): 2000 mm    Semi-Minor Axis (N-S): 1015.1 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-731.1	-717.3	-713.1	-694.1	-688.6	-665.0	-658.4	-630.3	-622.8	-591.0	-582.6
February	-528.8	-490.2	-480.2	-439.3	-429.0	-386.1	-375.1	-330.9	-319.7	-274.2	-262.5
March	-227.8	-181.1	-169.3	-122.0	-110.2	-62.6	-50.8	-3.0	8.7	56.3	68.0
April	138.7	185.1	196.6	242.2	253.5	298.3	309.1	352.8	363.5	405.5	415.6
May	465.6	503.9	513.1	548.6	557.3	590.0	597.7	627.6	634.7	660.8	666.7
June	699.0	715.9	719.8	732.2	735.0	742.9	743.9	746.8	747.1	741.8	744.3
July	735.0	723.3	719.8	704.0	699.4	678.8	673.3	648.8	642.2	614.3	606.9
August	559.3	524.6	515.7	478.5	469.2	430.0	419.8	378.9	368.5	325.9	315.0
September	249.2	204.3	193.0	147.1	135.6	89.4	78.0	31.3	19.6	-27.4	-39.1
October	-97.6	-144.4	-155.9	-202.4	-213.7	-259.7	-271.1	-316.0	-327.2	-371.0	-381.7
November	-444.7	-485.0	-494.8	-532.8	-542.0	-577.3	-585.6	-617.7	-625.2	-653.6	-660.5
December	-690.0	-709.9	-714.1	-728.6	-731.8	-741.1	-742.9	-746.8	-747.1	-745.4	-744.3

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	731.1	717.3	713.1	694.1	688.6	665.0	658.4	630.3	622.8	591.0	582.6
February	528.8	490.2	480.2	439.3	429.0	386.1	375.1	330.9	319.7	274.2	262.5
March	227.8	181.1	169.3	122.0	110.2	62.6	50.8	3.0	-8.7	-56.3	-68.0
April	-138.7	-185.1	-196.6	-242.2	-253.5	-298.3	-309.1	-352.8	-363.5	-405.5	-415.6
May	-465.6	-503.9	-513.1	-548.6	-557.3	-590.0	-597.7	-627.6	-634.7	-660.8	-666.7
June	-699.0	-715.9	-719.8	-732.2	-735.0	-742.9	-743.9	-746.8	-747.1	-741.8	-744.3
July	-735.0	-723.3	-719.8	-704.0	-699.4	-678.8	-673.3	-648.8	-642.2	-614.3	-606.9
August	-559.3	-524.6	-515.7	-478.5	-469.2	-430.0	-419.8	-378.9	-368.5	-325.9	-315.0
September	-249.2	-204.3	-193.0	-147.1	-135.6	-89.4	-78.0	-31.3	-19.6	27.4	39.1
October	97.6	144.4	155.9	202.4	213.7	259.7	271.1	316.0	327.2	371.0	381.7
November	444.7	485.0	494.8	532.8	542.0	577.3	585.6	617.7	625.2	653.6	660.5
December	690.0	709.9	714.1	728.6	731.8	741.1	742.9	746.8	747.1	745.4	744.3

Southern Hemisphere

The shaded "Date" boxes identify the two extremes of the "Date Scale" that occur on the Summer and Winter Solstices.

A number of "Date Scale" configurations are available including the following "Date Line" combinations:

- |         |            |                    |
|---------|------------|--------------------|
| a) 1    | c) 1,10,20 | e) 1,5,10,15,20,25 |
| b) 1,15 | d) 1,11,21 | f) 1,6,11,16,21,26 |

## Analemmatic Sundial

Latitude: 30.5° N/S

Earliest Sunrise: 4:56 a.m.    Latest Sunset: 7:04 p.m.  
 Semi-Major Axis (E-W): 2500 mm    Semi-Minor Axis (N-S): 1268.8 mm  
 Sunrise/Sunset Markers: X = ± 1811.9 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	1268.8	1268.8	0.0							
11:55	12:05	54.5	1268.5	1269.7	54.5	8:10	3:50	2108.5	681.8	2216.0	2188.7
11:50	12:10	109.0	1267.6	1272.3	109.1	8:05	3:55	2137.3	658.2	2236.3	2222.8
11:45	12:15	163.5	1266.1	1276.6	163.5	8:00	4:00	2165.1	634.4	2256.1	2256.1
11:40	12:20	217.9	1264.0	1282.7	217.9	7:55	4:05	2191.8	610.3	2275.2	2288.6
11:35	12:25	272.2	1261.3	1290.3	272.3	7:50	4:10	2217.5	585.9	2293.6	2320.3
11:30	12:30	326.3	1258.0	1299.6	326.5	7:45	4:15	2242.2	561.2	2311.3	2351.2
11:25	12:35	380.3	1254.1	1310.5	380.6	7:40	4:20	2265.8	536.2	2328.4	2381.3
11:20	12:40	434.1	1249.6	1322.8	434.5	7:35	4:25	2288.3	511.0	2344.6	2410.5
11:15	12:45	487.7	1244.5	1336.6	488.3	7:30	4:30	2309.7	485.6	2360.2	2438.9
11:10	12:50	541.1	1238.8	1351.8	541.9	7:25	4:35	2330.0	459.9	2375.0	2466.5
11:05	12:55	594.2	1232.5	1368.2	595.3	7:20	4:40	2349.2	434.0	2389.0	2493.2
11:00	1:00	647.0	1225.6	1385.9	648.5	7:15	4:45	2367.3	407.9	2402.2	2519.0
10:55	1:05	699.6	1218.2	1404.7	701.4	7:10	4:50	2384.3	381.5	2414.6	2544.0
10:50	1:10	751.8	1210.1	1424.6	754.1	7:05	4:55	2400.1	355.1	2426.2	2568.2
10:45	1:15	803.6	1201.5	1445.5	806.4	7:00	5:00	2414.8	328.4	2437.0	2591.5
10:40	1:20	855.1	1192.3	1467.2	858.5	6:55	5:05	2428.4	301.6	2447.0	2613.9
10:35	1:25	906.1	1182.6	1489.8	910.2	6:50	5:10	2440.7	274.6	2456.1	2635.5
10:30	1:30	956.7	1172.3	1513.1	961.6	6:45	5:15	2452.0	247.5	2464.4	2656.2
10:25	1:35	1006.9	1161.4	1537.1	1012.6	6:40	5:20	2462.0	220.3	2471.9	2676.0
10:20	1:40	1056.5	1150.0	1561.6	1063.2	6:35	5:25	2470.9	193.0	2478.4	2695.0
10:15	1:45	1105.7	1138.0	1586.7	1113.4	6:30	5:30	2478.6	165.6	2484.1	2713.0
10:10	1:50	1154.4	1125.5	1612.2	1163.2	6:25	5:35	2485.1	138.1	2489.0	2730.3
10:05	1:55	1202.5	1112.4	1638.1	1212.6	6:20	5:40	2490.5	110.6	2492.9	2746.7
10:00	2:00	1250.0	1098.9	1664.3	1261.5	6:15	5:45	2494.6	83.0	2496.0	2762.2
9:55	2:05	1296.9	1084.8	1690.8	1309.9	6:10	5:50	2497.6	55.3	2498.2	2776.8
9:50	2:10	1343.2	1070.1	1717.4	1357.9	6:05	5:55	2499.4	27.7	2499.6	2790.6
9:45	2:15	1388.9	1055.0	1744.2	1405.3	6:00	6:00	2500.0	0.0	2500.0	2803.6
9:40	2:20	1433.9	1039.4	1771.0	1452.2	5:55	6:05	2499.4	-27.7	2499.6	2815.7
9:35	2:25	1478.3	1023.3	1797.9	1498.5	5:50	6:10	2497.6	-55.3	2498.2	2826.9
9:30	2:30	1521.9	1006.6	1824.7	1544.3	5:45	6:15	2494.6	-83.0	2496.0	2837.4
9:25	2:35	1564.8	989.6	1851.4	1589.5	5:40	6:20	2490.5	-110.6	2492.9	2847.0
9:20	2:40	1607.0	972.0	1878.1	1634.2	5:35	6:25	2485.1	-138.1	2489.0	2855.8
9:15	2:45	1648.4	954.0	1904.5	1678.2	5:30	6:30	2478.6	-165.6	2484.1	2863.8
9:10	2:50	1689.0	935.5	1930.7	1721.6	5:25	6:35	2470.9	-193.0	2478.4	2871.0
9:05	2:55	1728.8	916.6	1956.7	1764.3	5:20	6:40	2462.0	-220.3	2471.9	2877.4
9:00	3:00	1767.8	897.2	1982.4	1806.4	5:15	6:45	2452.0	-247.5	2464.4	2883.0
8:55	3:05	1805.9	877.4	2007.8	1847.8	5:10	6:50	2440.7	-274.6	2456.1	2887.8
8:50	3:10	1843.2	857.2	2032.8	1888.6	5:05	6:55	2428.4	-301.6	2447.0	2891.9
8:45	3:15	1879.6	836.6	2057.4	1928.7	5:00	7:00	2414.8	-328.4	2437.0	2895.3
8:40	3:20	1915.1	815.6	2081.6	1968.0	4:55	7:05	2400.1	-355.1	2426.2	2897.9
8:35	3:25	1949.7	794.2	2105.3	2006.7	4:50	7:10	2384.3	-381.5	2414.6	2899.8
8:30	3:30	1983.4	772.4	2128.5	2044.6	4:45	7:15	2367.3	-407.9	2402.2	2901.0
8:25	3:35	2016.1	750.3	2151.2	2081.7						
8:20	3:40	2047.9	727.8	2173.4	2118.2						
8:15	3:45	2078.7	704.9	2195.0	2153.8						

## Analematic Sundial

Latitude: 30.5° N/S

## Date Scale

Semi-Major Axis (E-W): 2500 mm    Semi-Minor Axis (N-S): 1268.8 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-913.9	-896.7	-891.4	-867.7	-860.7	-831.2	-823.0	-787.9	-778.5	-738.8	-728.3
February	-661.0	-612.8	-600.2	-549.1	-536.3	-482.7	-468.9	-413.6	-399.6	-342.7	-328.1
March	-284.7	-226.4	-211.6	-152.5	-137.8	-78.2	-63.6	-3.8	10.9	70.3	85.0
April	173.3	231.3	245.8	302.7	316.9	372.8	386.4	441.0	454.3	506.8	519.5
May	582.0	629.9	641.3	685.8	696.6	737.5	747.2	784.4	793.4	826.0	833.3
June	873.8	894.9	899.7	915.2	918.8	928.6	929.9	933.5	933.9	927.2	930.4
July	918.8	904.2	899.7	879.9	874.2	848.5	841.6	811.0	802.8	767.9	758.6
August	699.1	655.7	644.6	598.2	586.5	537.5	524.7	473.6	460.6	407.4	393.8
September	311.6	255.3	241.2	183.9	169.5	111.8	97.4	39.1	24.4	-34.2	-48.9
October	-121.9	-180.5	-194.9	-253.0	-267.2	-324.6	-338.9	-395.0	-409.0	-463.8	-477.2
November	-555.9	-606.3	-618.5	-666.0	-677.5	-721.6	-732.0	-772.1	-781.5	-817.0	-825.6
December	-862.4	-887.4	-892.7	-910.8	-914.8	-926.4	-928.6	-933.5	-933.9	-931.7	-930.4

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	913.9	896.7	891.4	867.7	860.7	831.2	823.0	787.9	778.5	738.8	728.3
February	661.0	612.8	600.2	549.1	536.3	482.7	468.9	413.6	399.6	342.7	328.1
March	284.7	226.4	211.6	152.5	137.8	78.2	63.6	3.8	-10.9	-70.3	-85.0
April	-173.3	-231.3	-245.8	-302.7	-316.9	-372.8	-386.4	-441.0	-454.3	-506.8	-519.5
May	-582.0	-629.9	-641.3	-685.8	-696.6	-737.5	-747.2	-784.4	-793.4	-826.0	-833.3
June	-873.8	-894.9	-899.7	-915.2	-918.8	-928.6	-929.9	-933.5	-933.9	-927.2	-930.4
July	-918.8	-904.2	-899.7	-879.9	-874.2	-848.5	-841.6	-811.0	-802.8	-767.9	-758.6
August	-699.1	-655.7	-644.6	-598.2	-586.5	-537.5	-524.7	-473.6	-460.6	-407.4	-393.8
September	-311.6	-255.3	-241.2	-183.9	-169.5	-111.8	-97.4	-39.1	-24.4	34.2	48.9
October	121.9	180.5	194.9	253.0	267.2	324.6	338.9	395.0	409.0	463.8	477.2
November	555.9	606.3	618.5	666.0	677.5	721.6	732.0	772.1	781.5	817.0	825.6
December	862.4	887.4	892.7	910.8	914.8	926.4	928.6	933.5	933.9	931.7	930.4

Southern Hemisphere

The shaded "Date" boxes identify the two extremes of the "Date Scale" that occur on the Summer and Winter Solstices.

A number of "Date Scale" configurations are available including the following "Date Line" combinations:

- |         |            |                    |
|---------|------------|--------------------|
| a) 1    | c) 1,10,20 | e) 1,5,10,15,20,25 |
| b) 1,15 | d) 1,11,21 | f) 1,6,11,16,21,26 |