

Conversions from arcseconds to arcminutes and arcseconds

	0"	6"	12"	18"	24"	30"	36"	42"	48"	54"
0'	0"	6"	12"	18"	24"	30"	36"	42"	48"	54"
1'	60"	66"	72"	78"	84"	90"	96"	102"	108"	114"
2'	120"	126"	132"	138"	144"	150"	156"	162"	168"	174"
3'	180"	186"	192"	198"	204"	210"	216"	222"	228"	234"
4'	240"	246"	252"	258"	264"	270"	276"	282"	288"	294"
5'	300"	306"	312"	318"	324"	330"	336"	342"	348"	354"
6'	360"	366"	372"	378"	384"	390"	396"	402"	408"	414"
7'	420"	426"	432"	438"	444"	450"	456"	462"	468"	474"
8'	480"	486"	492"	498"	504"	510"	516"	522"	528"	534"
9'	540"	546"	552"	558"	564"	570"	576"	582"	588"	594"
10'	600"	606"	612"	618"	624"	630"	636"	642"	648"	654"
11'	660"	666"	672"	678"	684"	690"	696"	702"	708"	714"
12'	720"	726"	732"	738"	744"	750"	756"	762"	768"	774"
13'	780"	786"	792"	798"	804"	810"	816"	822"	828"	834"
14'	840"	846"	852"	858"	864"	870"	876"	882"	888"	894"
15'	900"	906"	912"	918"	924"	930"	936"	942"	948"	954"
16'	960"	966"	972"	978"	984"	990"	996"	1002"	1008"	1014"
17'	1020"	1026"	1032"	1038"	1044"	1050"	1056"	1062"	1068"	1074"
18'	1080"	1086"	1092"	1098"	1104"	1110"	1116"	1122"	1128"	1134"
19'	1140"	1146"	1152"	1158"	1164"	1170"	1176"	1182"	1188"	1194"
20'	1200"	1206"	1212"	1218"	1224"	1230"	1236"	1242"	1248"	1254"
21'	1260"	1266"	1272"	1278"	1284"	1290"	1296"	1302"	1308"	1314"
22'	1320"	1326"	1332"	1338"	1344"	1350"	1356"	1362"	1368"	1374"
23'	1380"	1386"	1392"	1398"	1404"	1410"	1416"	1422"	1428"	1434"
24'	1440"	1446"	1452"	1458"	1464"	1470"	1476"	1482"	1488"	1494"
25'	1500"	1506"	1512"	1518"	1524"	1530"	1536"	1542"	1548"	1554"
26'	1560"	1566"	1572"	1578"	1584"	1590"	1596"	1602"	1608"	1614"
27'	1620"	1626"	1632"	1638"	1644"	1650"	1656"	1662"	1668"	1674"
28'	1680"	1686"	1692"	1698"	1704"	1710"	1716"	1722"	1728"	1734"
29'	1740"	1746"	1752"	1758"	1764"	1770"	1776"	1782"	1788"	1794"
30'	1800"	1806"	1812"	1818"	1824"	1830"	1836"	1842"	1848"	1854"
31'	1860"	1866"	1872"	1878"	1884"	1890"	1896"	1902"	1908"	1914"
32'	1920"	1926"	1932"	1938"	1944"	1950"	1956"	1962"	1968"	1974"
33'	1980"	1986"	1992"	1998"	2004"	2010"	2016"	2022"	2028"	2034"
34'	2040"	2046"	2052"	2058"	2064"	2070"	2076"	2082"	2088"	2094"
35'	2100"	2106"	2112"	2118"	2124"	2130"	2136"	2142"	2148"	2154"
36'	2160"	2166"	2172"	2178"	2184"	2190"	2196"	2202"	2208"	2214"
37'	2220"	2226"	2232"	2238"	2244"	2250"	2256"	2262"	2268"	2274"
38'	2280"	2286"	2292"	2298"	2304"	2310"	2316"	2322"	2328"	2334"
39'	2340"	2346"	2352"	2358"	2364"	2370"	2376"	2382"	2388"	2394"
40'	2400"	2406"	2412"	2418"	2424"	2430"	2436"	2442"	2448"	2454"
41'	2460"	2466"	2472"	2478"	2484"	2490"	2496"	2502"	2508"	2514"
42'	2520"	2526"	2532"	2538"	2544"	2550"	2556"	2562"	2568"	2574"
43'	2580"	2586"	2592"	2598"	2604"	2610"	2616"	2622"	2628"	2634"
44'	2640"	2646"	2652"	2658"	2664"	2670"	2676"	2682"	2688"	2694"
45'	2700"	2706"	2712"	2718"	2724"	2730"	2736"	2742"	2748"	2754"
46'	2760"	2766"	2772"	2778"	2784"	2790"	2796"	2802"	2808"	2814"
47'	2820"	2826"	2832"	2838"	2844"	2850"	2856"	2862"	2868"	2874"
48'	2880"	2886"	2892"	2898"	2904"	2910"	2916"	2922"	2928"	2934"
49'	2940"	2946"	2952"	2958"	2964"	2970"	2976"	2982"	2988"	2994"
50'	3000"	3006"	3012"	3018"	3024"	3030"	3036"	3042"	3048"	3054"
51'	3060"	3066"	3072"	3078"	3084"	3090"	3096"	3102"	3108"	3114"
52'	3120"	3126"	3132"	3138"	3144"	3150"	3156"	3162"	3168"	3174"
53'	3180"	3186"	3192"	3198"	3204"	3210"	3216"	3222"	3228"	3234"
54'	3240"	3246"	3252"	3258"	3264"	3270"	3276"	3282"	3288"	3294"
55'	3300"	3306"	3312"	3318"	3324"	3330"	3336"	3342"	3348"	3354"
56'	3360"	3366"	3372"	3378"	3384"	3390"	3396"	3402"	3408"	3414"
57'	3420"	3426"	3432"	3438"	3444"	3450"	3456"	3462"	3468"	3474"
58'	3480"	3486"	3492"	3498"	3504"	3510"	3516"	3522"	3528"	3534"
59'	3540"	3546"	3552"	3558"	3564"	3570"	3576"	3582"	3588"	3594"

Rigel, epoch 2000

M	SHA	dec
1	+281:21:32	0
2	+281:21:37	5
3	+281:21:44	12
4	+281:21:52	20
5	+281:21:55	23
6	+281:21:53	21
7	+281:21:45	13
8	+281:21:33	1
9	+281:21:20	-12
10	+281:21:08	-24
11	+281:20:57	-35
12	+281:20:50	-42

Corrections d1 (add if date is after epoch, subtract if before)

Y	1	2	3	4	5	6	7	8	9	10
sha	-43.29	-86.58	-129.87	-173.16	-216.45	-259.74	-303.03	-346.32	-389.61	-432.90
dec	+3.95	+7.90	+11.84	+15.79	+19.74	+23.69	+27.64	+31.58	+35.53	+39.48

Example: For year 2034 correctio for SHA is $(-129.87 * 10) + (-173.16) = -1299 - 173 = -1462$

Corrections d2 (subtract)

Year	1800	1805	1810	1815	1820	1825	1830	1835	1840	1845
SHA	+8	+8	+7	+6	+6	+5	+5	+4	+4	+3
dec	+55	+51	+47	+43	+39	+35	+32	+28	+25	+22
Year	1850	1855	1860	1865	1870	1875	1880	1885	1890	1895
SHA	+3	+2	+2	+2	+1	+1	+0	-0	-0	-1
dec	+19	+16	+13	+10	+7	+5	+2	-0	-3	-5
Year	1900	1905	1910	1915	1920	1925	1930	1935	1940	1945
SHA	-1	-1	-2	-2	-2	-2	-3	-3	-3	-3
dec	-7	-9	-11	-13	-14	-16	-17	-19	-20	-21
Year	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995
SHA	-3	-4	-4	-4	-4	-4	-4	-4	-4	-4
dec	-22	-23	-24	-25	-26	-26	-27	-27	-27	-27
Year	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045
SHA	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4
dec	-27	-27	-27	-27	-27	-26	-26	-25	-24	-23
Year	2050	2055	2060	2065	2070	2075	2080	2085	2090	2095
SHA	-3	-3	-3	-3	-3	-2	-2	-2	-2	-1
dec	-22	-21	-20	-19	-17	-16	-14	-13	-11	-9
Year	2100	2105	2110	2115	2120	2125	2130	2135	2140	2145
SHA	-1	-1	-0	-0	+0	+1	+1	+2	+2	+2
dec	-7	-5	-3	-0	+2	+5	+7	+10	+13	+16
Year	2150	2155	2160	2165	2170	2175	2180	2185	2190	2195
SHA	+3	+3	+4	+4	+5	+5	+6	+7	+7	+8
dec	+19	+22	+25	+29	+32	+36	+39	+43	+47	+51

Corrections d3 (subtract)

Year	1800	1801	1802	1803	1804	1805	1806	1807	1808	1809
SHA	-8	-3	+2	+7	+11	+14	+15	+15	+13	+9
dec	-7	-8	-9	-9	-8	-6	-3	+0	+3	+6
Year	1810	1811	1812	1813	1814	1815	1816	1817	1818	1819
SHA	+5	-1	-6	-10	-13	-15	-15	-13	-10	-6
dec	+8	+9	+9	+8	+6	+4	+1	-2	-5	-7
Year	1820	1821	1822	1823	1824	1825	1826	1827	1828	1829
SHA	-1	+4	+9	+12	+15	+15	+14	+11	+7	+3
dec	-9	-9	-9	-7	-5	-2	+1	+4	+7	+8
Year	1830	1831	1832	1833	1834	1835	1836	1837	1838	1839
SHA	-3	-7	-11	-14	-15	-15	-12	-9	-4	+1
dec	+9	+9	+8	+6	+3	-0	-3	-6	-8	-9
Year	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849
SHA	+6	+10	+13	+15	+15	+13	+10	+6	+1	-4
dec	-9	-8	-6	-4	-1	+3	+5	+8	+9	+9
Year	1850	1851	1852	1853	1854	1855	1856	1857	1858	1859
SHA	-9	-13	-15	-15	-14	-11	-7	-2	+3	+8
dec	+9	+7	+4	+2	-2	-5	-7	-9	-9	-9
Year	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869
SHA	+12	+14	+15	+15	+12	+8	+4	-1	-6	-11
dec	-7	-5	-2	+1	+4	+6	+8	+9	+9	+8
Year	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879
SHA	-14	-15	-15	-13	-10	-5	-0	+5	+9	+13
dec	+6	+3	+0	-3	-6	-8	-9	-9	-8	-7
Year	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889
SHA	+15	+15	+14	+11	+7	+2	-3	-8	-12	-15
dec	-4	-1	+2	+5	+7	+9	+9	+7	+7	+5
Year	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899
SHA	-15	-15	-12	-8	-3	+2	+7	+11	+14	+15
dec	+2	-1	-4	-6	-8	-9	-9	-8	-6	-3
Year	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
SHA	+15	+13	+9	+5	-0	-5	-10	-13	-15	-15
dec	+0	+3	+6	+8	+9	+9	+8	+6	+4	+1
Year	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
SHA	-14	-11	-6	-1	+4	+8	+12	+15	+15	+14
dec	-2	-5	-7	-9	-9	-9	-7	-5	-2	+1
Year	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
SHA	+12	+8	+3	-2	-7	-11	-14	-15	-15	-13

dec	+4	+7	+8	+9	+9	+8	+6	+3	-0	-3
Year	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
SHA	-9	-5	+1	+6	+10	+13	+15	+15	+14	+10
dec	-6	-8	-9	-9	-8	-6	-4	-1	+2	+5
Year	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
SHA	+6	+1	-4	-9	-12	-15	-15	-14	-11	-7
dec	+8	+9	+9	+9	+7	+4	+2	-2	-4	-7
Year	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
SHA	-3	+3	+7	+11	+14	+15	+15	+12	+9	+4
dec	-9	-9	-9	-7	-5	-2	+1	+4	+6	+8
Year	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
SHA	-1	-6	-10	-13	-15	-15	-13	-10	-6	-1
dec	+9	+9	+8	+6	+3	+0	-3	-6	-8	-9
Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
SHA	+4	+9	+13	+15	+15	+14	+11	+7	+2	-3
dec	-9	-8	-7	-4	-1	+2	+5	+7	+9	+9
Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
SHA	-8	-12	-14	-15	-14	-12	-8	-4	+1	+6
dec	+9	+7	+5	+2	-1	-4	-6	-8	-9	-9
Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
SHA	+10	+13	+15	+15	+13	+10	+5	+0	-5	-9
dec	-8	-6	-3	-0	+3	+6	+8	+9	+9	+8
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
SHA	-13	-15	-15	-14	-11	-7	-2	+3	+8	+12
dec	+6	+4	+1	-2	-5	-7	-9	-9	-9	-7
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
SHA	+14	+15	+14	+12	+8	+3	-2	-7	-11	-13
dec	-5	-2	+1	+4	+7	+8	+9	+9	+8	+6
Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
SHA	-15	-14	-13	-9	-5	+0	+5	+9	+13	+15
dec	+3	-0	-3	-6	-8	-9	-9	-8	-6	-4
Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
SHA	+15	+13	+10	+6	+1	-4	-8	-12	-14	-15
dec	-1	+2	+5	+7	+9	+9	+9	+7	+4	+2
Year	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049
SHA	-14	-11	-7	-3	+2	+7	+11	+13	+15	+14
dec	-2	-4	-7	-9	-9	-9	-7	-5	-2	+1
Year	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059
SHA	+12	+9	+4	-1	-5	-10	-13	-14	-14	-13
dec	+4	+6	+8	+9	+9	+8	+6	+3	+0	-3
Year	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
SHA	-10	-6	-1	+4	+8	+12	+14	+14	+13	+11
dec	-6	-8	-9	-9	-8	-7	-4	-1	+2	+5
Year	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079
SHA	+7	+2	-2	-7	-11	-13	-14	-14	-12	-8
dec	+7	+9	+9	+9	+7	+5	+2	-1	-4	-6
Year	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089
SHA	-4	+1	+6	+10	+13	+14	+14	+12	+9	+5
dec	-8	-9	-9	-8	-6	-3	-0	+3	+6	+8
Year	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
SHA	+1	-4	-8	-12	-14	-14	-13	-10	-6	-2
dec	+9	+9	+8	+6	+4	+1	-2	-5	-7	-9
Year	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109
SHA	+3	+7	+11	+13	+14	+13	+11	+8	+3	-1
dec	-9	-9	-7	-5	-2	+1	+4	+7	+8	+9
Year	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119
SHA	-6	-10	-12	-14	-14	-12	-9	-5	-0	+4
dec	+9	+8	+6	+3	-0	-3	-6	-8	-9	-9
Year	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129
SHA	+9	+12	+13	+14	+12	+10	+6	+2	-3	-7
dec	-8	-6	-4	-1	+2	+5	+7	+9	+9	+9
Year	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139
SHA	-11	-13	-14	-13	-11	-7	-3	+2	+6	+10
dec	+7	+5	+2	-2	-4	-7	-9	-9	-9	-8
Year	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149
SHA	+12	+13	+13	+11	+8	+4	-0	-5	-9	-11
dec	-5	-2	+1	+4	+6	+8	+9	+9	+8	+6
Year	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159
SHA	-13	-13	-12	-9	-5	-1	+3	+7	+11	+13
dec	+3	+0	-3	-5	-8	-9	-9	-8	-7	-4
Year	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169
SHA	+13	+12	+10	+7	+2	-2	-6	-10	-12	-13
dec	-1	+2	+5	+7	+9	+9	+9	+7	+5	+2
Year	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179
SHA	-13	-11	-8	-4	+1	+5	+9	+11	+13	+13
dec	-1	-4	-6	-8	-9	-9	-8	-6	-3	-0
Year	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189
SHA	+11	+9	+5	+1	-4	-7	-10	-12	-13	-12
dec	+3	+6	+8	+9	+9	+8	+7	+4	+1	-2
Year	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199
SHA	-9	-6	-2	+2	+6	+9	+12	+13	+12	+10
dec	-5	-7	-9	-9	-9	-7	-5	-2	+1	+4