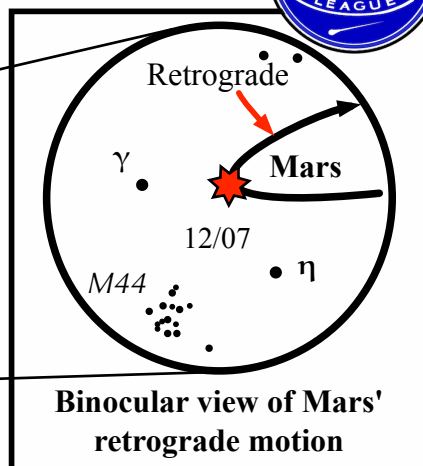
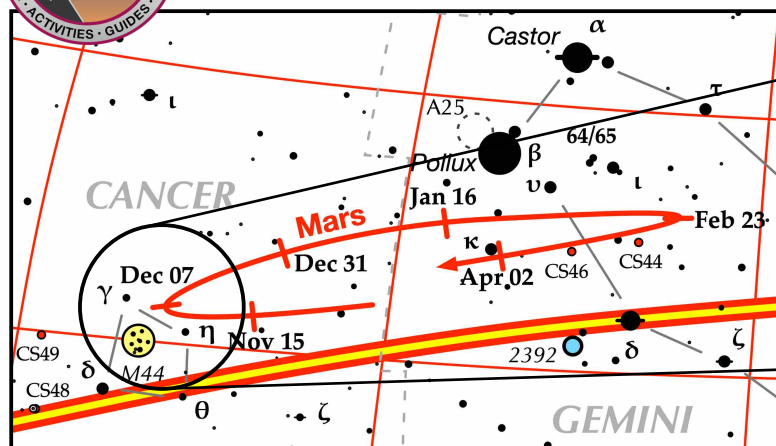




Observing Project: Retrograde Motion of Mars

See this for yourself!



Binocular view of Mars' retrograde motion

Relative apparent size of Mars



94% illuminated

Dec. 7, 2024

Magnitude: -0.6

Diameter: 12 seconds

Distance: 71 million miles

100% illuminated



Opposition

Jan. 16, 2025

Magnitude: -1.4

Diameter: 15 seconds

Distance: 60 million miles

94% illuminated



Feb. 23, 2025

Magnitude: -0.4

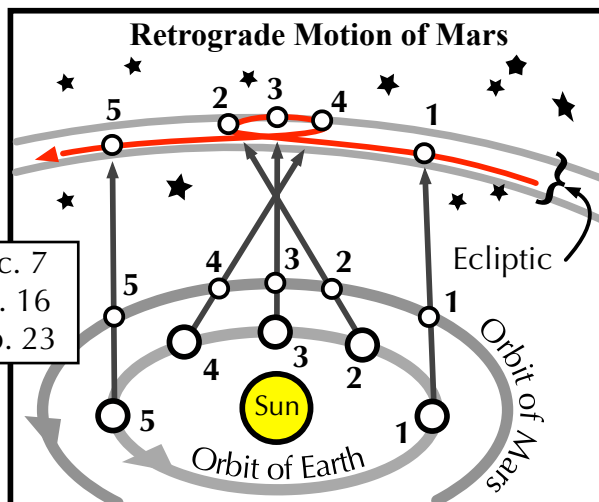
Diameter: 11 seconds

Distance: 76 million miles

Over the next four months, observe Mars using binoculars on every clear night, then plot its changing position among the background stars.

Mars nears M44, the Beehive star cluster, in central Cancer in early December. It reaches its closest point to it on December 7, after which it enters retrograde motion, inching westward each evening until February 23, 2025. Mars then lies in central Gemini.

Mars will also be growing in angular size as Earth slowly overtakes it on January 16, 2025. (Actually, the two planets are closest on January 11. The discrepancy is due to Mars' elliptical orbit.) At this time, it shows its largest angular size – 15 arc seconds – until April 2031. By February 23, the Red Planet ceases moving westward nightly, shifting its direction eastward (called prograde motion).



Mars at its brightest, largest & closest:

Jan. 11, 2025

-1.4 mag., 15 arc seconds, 59.8 million miles
It won't come any closer until Apr 11, 2031.

Why do this activity? This planetary dance can only be explained if both Earth and Mars orbit our sun following definable elliptical paths. Our view from Earth clearly shows this to those people who take the time to look carefully enough.