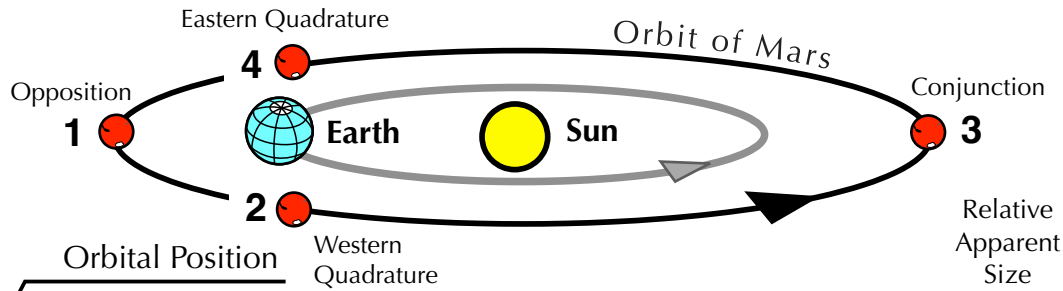
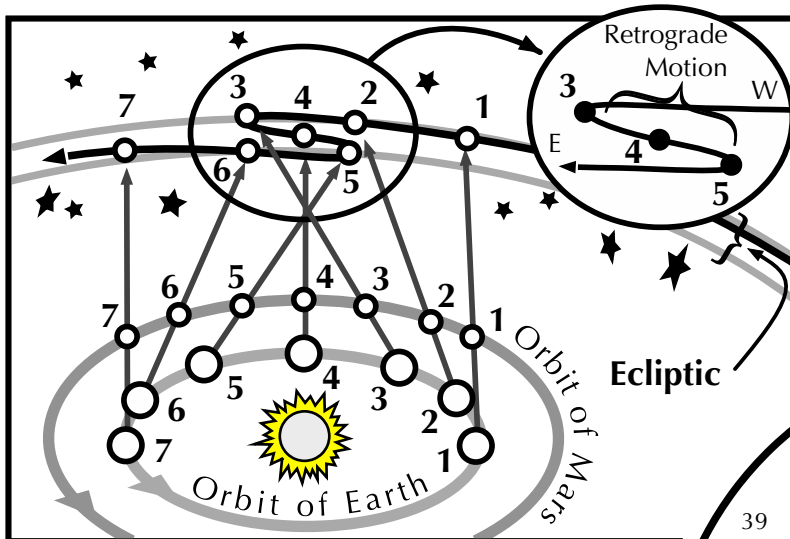
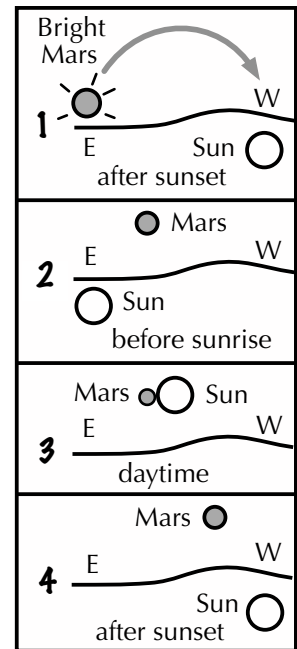


Mars: Orbital Aspects



- 1 When Mars is opposite the sun, it rises near sunset and is visible all night. It is closest to Earth and shines at its brightest. At Opposition.
- 2 When Mars lies ahead of Earth in their orbits, Mars is seen high in the east before sunrise. It is often said to be a "Morning Star." Mars shows a slight gibbous phase.
- 3 When Mars moves on the far side of the sun, it appears in the day sky near the sun and can't be seen. At Conjunction with the sun.
- 4 When the Earth lies ahead of Mars, it is seen high in the west after sunset and sets around midnight. Mars is often said to be an "Evening Star." It shows a slight gibbous phase.

Relative Apparent Size



Retrograde motion of Mars

For most of its orbit, Mars moves west to east in our sky. As seen from Earth, the nightly motion of Mars appears to reverse course for two months when Earth overtakes it. This east to west motion is called "retrograde." Then, it switches back to its original west to east direction.

Oppositions of Mars

Mars' elliptical orbit results in some approaches to Earth being closer than others. During these particularly close oppositions, Mars appears brighter in the sky (and larger in a telescope). Because of the orientation of its orbit, the closest oppositions happen in August and September, and the distant ones occur in February and March.

