

In-class activity 7

Assemble Your Group

1. Find your assigned group members, and sign in below.

Team member: _____

Team member: _____

Team member: _____

Team member: _____

Planetary Models of Motion

2. (Cf. Seeds and Backman, *ASTRO3*, Brooks/Cole Cengage Learning (2018), pp. 40-41, Fig. 2, Fig 3-b, and p. 39, Fig. 3-2.) Shown at right is a chart showing the changing positions of Mars in the night sky over several months in 2016.

- (a) Indicate the dates (A)-(C) when Mars is undergoing prograde or retrograde motion.

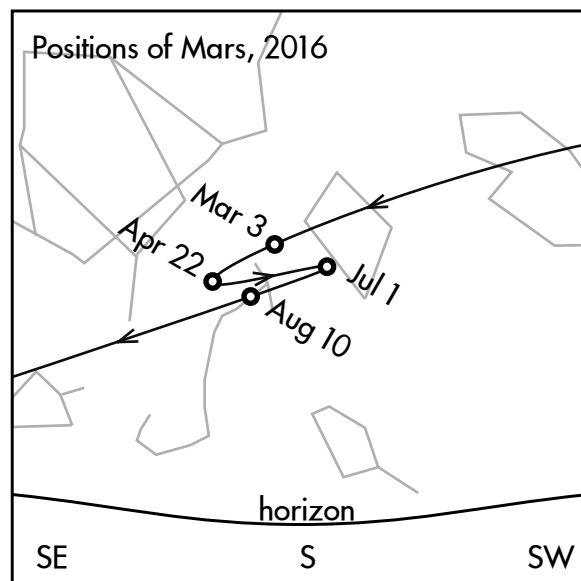
(A) March 3 to April 22.

(B) April 22 to July 1.

(C) July 1 to August 10.

Prograde date(s): _____.

Retrograde date(s): _____.

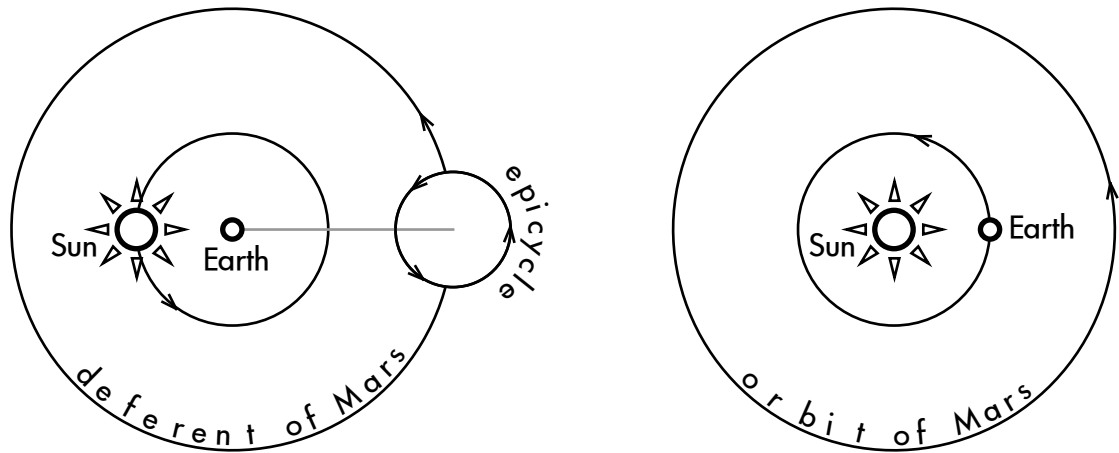


- (b) Estimate the approximate number of days in 2016 when Mars is undergoing prograde or retrograde motion.

Prograde days in 2016: _____.

Retrograde days in 2016: _____.

- (c) For each of these two models of planetary motion below, label it either "Ptolemaic" or "Copernican," and then draw Mars' location when it is observed to be in the middle of its retrograde motion.



Observing Retrograde Motion

2. Two students are discussing whether Jupiter could be undergoing retrograde or prograde motion.

Student 1: I watched Jupiter over a few hours last night. It was in the east part of the sky and gradually moved towards the west with the rest of the stars in the sky, so it must have been undergoing retrograde motion.

Student 2: I don't think you can tell whether Jupiter was undergoing either prograde or retrograde motion just by watching it for a few hours in a single night.

Do you agree or disagree with either or both of the students? Explain your reasoning.

Student(s) you agree with: _____.

Student(s) you disagree with: _____.

Explanation: