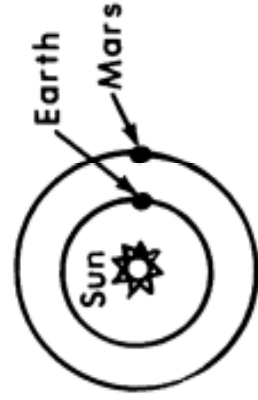


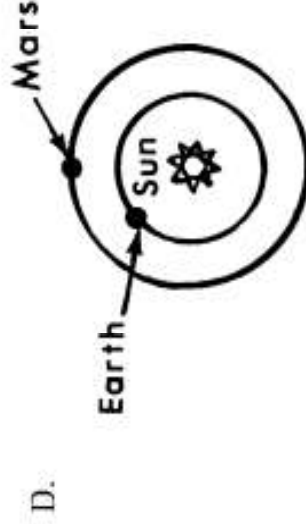
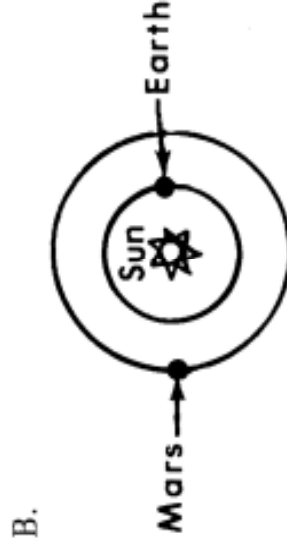
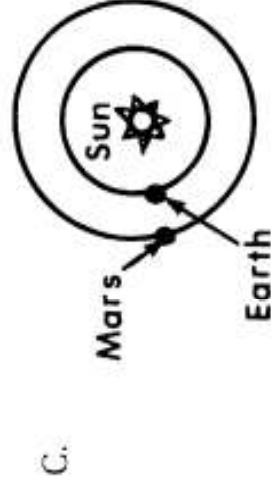
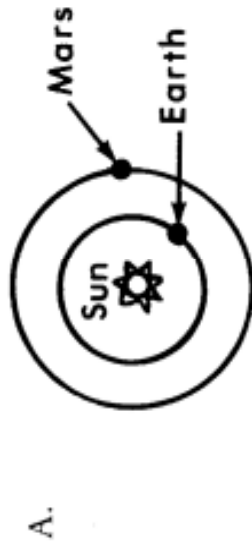
EVALUATION QUESTIONS

- It is fortunate that Kepler chose to study the orbit of Mars rather than the orbit of another visible planet because
 - only Mars was close enough to be seen with the instruments on hand at that time.
 - Brahe's notes on the other planets were skimpy.
 - with the data available, only Mars' orbit was eccentric enough.
 - the periods of earth and Mars are close enough to allow continual viewing.
- When Kepler used the method of triangulation to determine the orbit of Mars,
 - he observed the position of Mars on successive earth years.
 - he used the position of Mars at opposition and then again one Mars year later.
 - he relied on observations of Mars at opposition.
 - he used data giving the position of Mars every four months.

3.

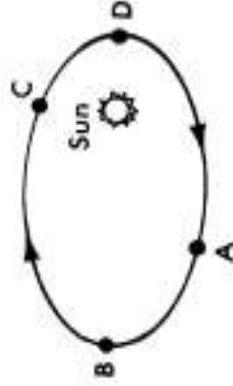


Examine the diagram above of Mars and earth in opposition. Which of the drawings below could depict a situation one Mars year later?



4. Two of Jupiter's moons are being observed. One is seen passing the other. It can be concluded that the moon which overtakes and passes the other is
- A. closer to the planet.
 - B. farther from the planet.
 - C. more massive than the other moon.
 - D. less massive than the other moon.
5. Kepler and Tycho complemented each others' genius. Kepler was known mostly for genius in the area of
- A. mathematics.
 - B. astronomical observations.
 - C. astronomical measurements.
 - D. determining star positions.

6. If the figure indicates the path of Halley's comet, at what point would the speed of the comet be the greatest?



- A. point A
 - B. point B
 - C. point C
 - D. point D
7. If the eccentricity of Mars' orbit about the sun were to approach zero, what would the new appearance of the orbit be?
- A. An ellipse.
 - B. A circle.
 - C. A parabola.
 - D. A hyperbola.

8. The separation of the foci of an ellipse that describes a planet's orbit determines

- A. the eccentricity of the orbit.
- B. the period of the orbit.
- C. the size of the orbit.
- D. all of the above.

9. One of the things indicated by Kepler's second law is that

- A. all the planets move fastest in January.
- B. the planets orbit the sun with constant speeds.
- C. a planet moves faster when it is closer to the sun.
- D. a planet moves slower when it is closer to the sun.

10. Two planets orbit a star in circular orbits. One planet has a period of one year. The other planet is twice as far from the star and has a period that is

- A. greater than two years.
- B. equal to two years.