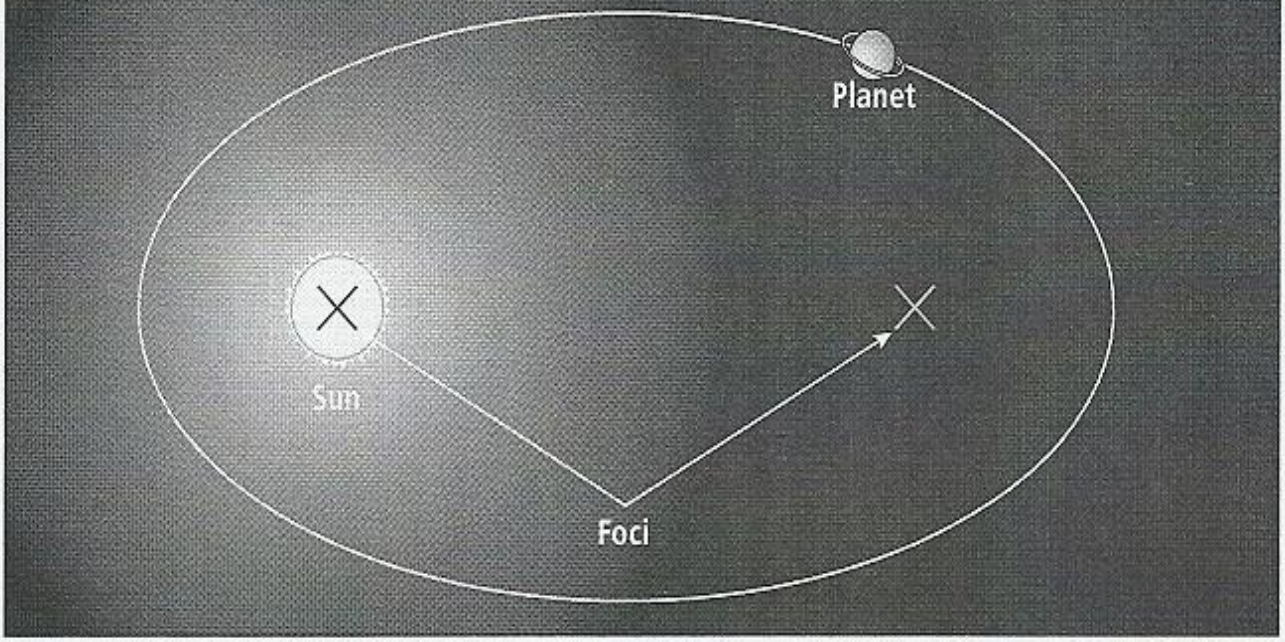
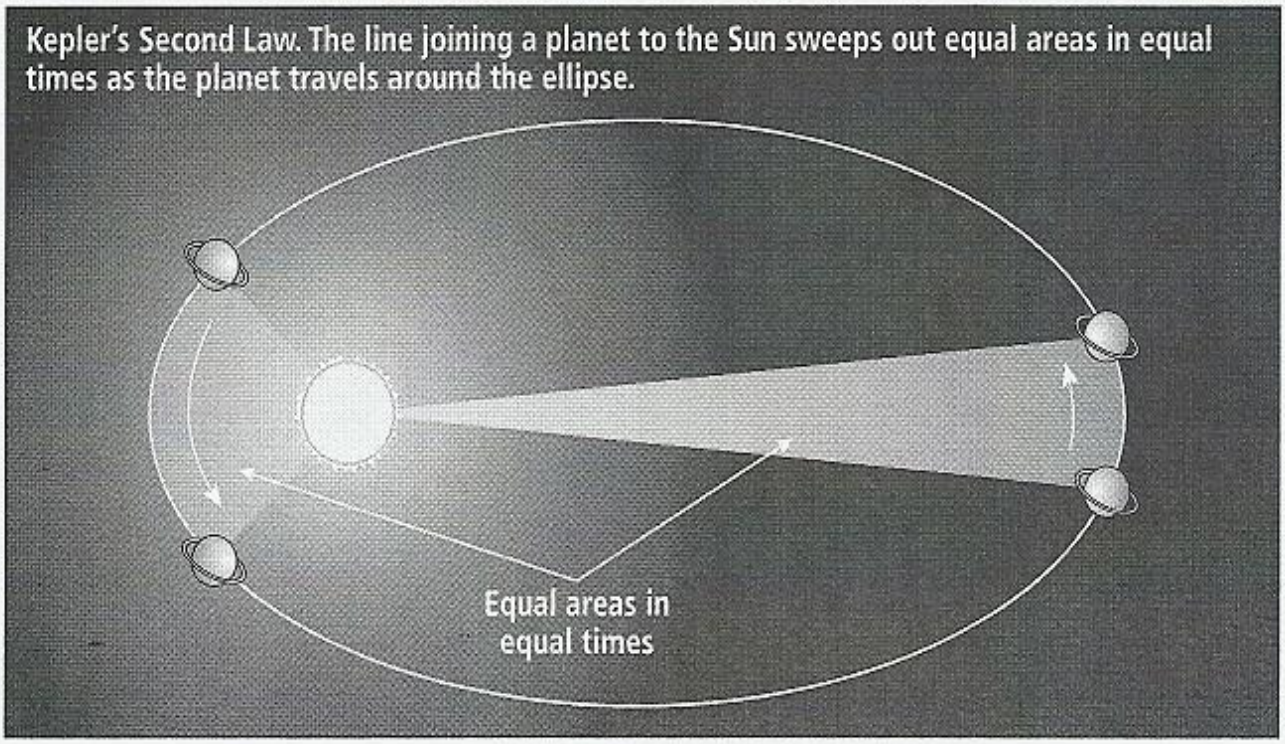
WS 8.7 KEPLER'S LAWS

Kepler's First Law. The orbits of the planets are ellipses, with the Sun at one focus of the ellipse.



Kepler's Second Law. The line joining a planet to the Sun sweeps out equal areas in equal times as the planet travels around the ellipse.



Kepler's Third Law. The square of a planet's orbital period equals the cube of the semimajor axis of the orbital ellipse.

$$P^2 = a^3$$

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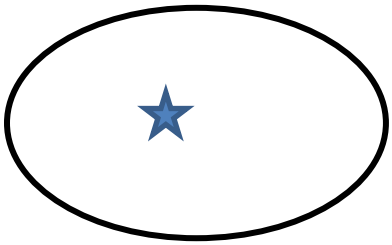
1) Name and describe the orbital shape expressed in Kepler's first law?
    a.

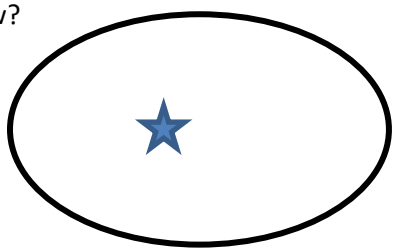
2) What are the center points of the orbital shape expressed in Kepler's first law called?
    a.

3) How are these related to the sun
    a.

4) What is the major axis of the orbital shapes expressed in Kepler's first law?
    a.



5) What is the semi major axis of the orbital shape expressed in Kepler's first law?
    a. Distance between Center to the outer diameter

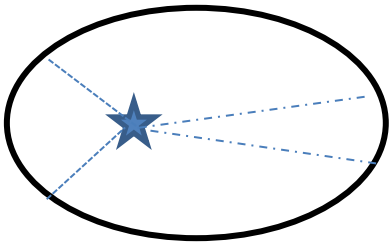


6) What is eccentricity?
    a.

7) How is eccentricity value determined?

8) Explain Kepler's second law?
    a.

    b.



9) Explain Kepler's third law?
    a.

10) What can the relationship describe in Kepler's third law we used to predict
    a.