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Kepler's Laws of Planetary Motion

Kepler's laws describe the motion of planets around the Sun. The first law states that the orbit of a planet is an ellipse with the Sun at one of the two foci. The second law states that a line segment joining a planet and the Sun sweeps out equal areas during equal intervals of time. The third law states that the square of the orbital period of a planet is directly proportional to the cube of the semi-major axis of its orbit.

Kepler's First Law		
Statement	True/False	Answer
Planets move in elliptical orbits with the Sun at one focus.	True	True
Planets move in circular orbits.	False	False
Planets move in elliptical orbits with Earth at one focus.	False	False

Kepler's Second Law		
Statement	True/False	Answer
A line segment joining a planet and the Sun sweeps out equal areas in equal intervals of time.	True	True
A planet moves faster when it is closer to the Sun.	True	True
A planet moves slower when it is further from the Sun.	True	True

Kepler's Third Law		
Statement	True/False	Answer
The square of the orbital period of a planet is proportional to the cube of the semi-major axis of its orbit.	True	True
The square of the orbital period of a planet is proportional to the square of the semi-major axis of its orbit.	False	False
The square of the orbital period of a planet is proportional to the cube of the distance from the Sun.	True	True

Kepler's First Law		
Statement	True/False	Answer
Planets move in elliptical orbits with the Sun at one focus.	True	True
Planets move in circular orbits.	False	False
Planets move in elliptical orbits with Earth at one focus.	False	False

Kepler's Second Law		
Statement	True/False	Answer
A line segment joining a planet and the Sun sweeps out equal areas in equal intervals of time.	True	True
A planet moves faster when it is closer to the Sun.	True	True
A planet moves slower when it is further from the Sun.	True	True