KEPLER/NEWTON EXERCISES

Kepler's Law 2: Calculate the YEAR of the following planets

$$P^2 = D^3$$

A. Mercury 's (Period)^2 = Mercury's (Distance)^3

Mercury 's (Period)^2 = (0.4 AU)^3

Mercury 's (Period)^2 = _____

Mercury 's Period = _____

B. Saturn's (Period)^2 = Saturn's (Distance)^3

Saturn's (Period)^2 = (_____)^3

Saturn's (Period)^2 = _____

Saturn's Period = _____

C. Pluto's (Period)^2 = Pluto's (Distance)^3

Pluto's (Period)^2 = (_____)^3

Pluto's (Period)^2 = _____

Pluto's Period = _____

Newton's Universal Law of Gravitation: Calculate the Gravitational Force

A. **If Mass increases, then Grav. Force _____ directly.**

If Mass doubles, then gravitational force _____.

If Mass triples, then gravitational force _____.

If Mass increases by half, then gravitational force _____.

B. If Distance increases, then Grav. Force_____ indirectly.

If Distance doubles, then Gravitational Force _____.

If Distance triples, then Gravitational Force _____.

If Distance increases by four, then Gravitational Force _____.