

In class we derived *Kepler's Third Law* which says that, if an object is in orbit, the *radius* of its orbit, R , can be found from the *period* of its orbit, P , from the following equation:

Kepler's Third Law: $P^2 = R^3$

The only requirement is that you measure R in AUs and P in Earth-years.

7. The radius of Neptune's orbit is 30 AU. Use Kepler's Third Law and a calculator to find the period, P , of Neptune's orbit. Be sure to *show your calculation below*, and then check your answer by looking ahead to Table 10.1, at the end of Chapter 10.

8. Use Kepler's Third Law and the information in Chapter 8 to estimate the orbital period of a typical asteroid in the asteroid belt.