

NAME: _____

Kepler's Third Law Worksheet

Period of the Moon around the Earth is 27 days	Distance from Sun to Saturn is 1.427×10^{12} meters
Period of Venus around the Sun is 0.615 years	Distance from Earth to Sun is 1.5×10^{11} meters
Period of Earth around the Sun is 1 yr	Distance from Earth to Moon 3.8×10^8 meters

1. Mars has a period around the sun of 686 days. What is its average distance from the sun?

1.9 years

2. Find the distance from the Earth's center of a geosynchronous satellite (satellite period = 1 day)?

4.3×10^7 meters

3. An asteroid revolves around the sun with an average orbital radius twice that of Earth's. Predict the period of the asteroid in Earth years.

2.8 years

4. On average, Neptune is 4.5×10^{12} meters from the sun. Predict the time required for Neptune to circle the sun.

5. Find the period of a satellite that is in orbit 6.7×10^6 meters from the center of the earth?

88.6 minutes = 1.48 hours = .062 days = 1.7×10^{-4} years