**Gravity Creates Problems**

**AP Physics**

The Earth is about 1.5 x 1011 meters from the sun. Use this to estimate the mass of the Sun.

A satellite of mass *m* is moving in a circular orbit around the Earth with constant speed *v*. If it is a height *h* above the Earth’s surface, find an expression for the satellite’s speed in terms of the given information and known constants. Assume that the Earth has mass ME and radius RE.

A satellite is in a geosynchronous orbit around the Earth. It is directly over the equator, and travels a circular path. What is its height above the Earth’s surface?