

Homework #3
AS101 Summer 2006
Dr. Withers

Assigned: 2006.05.24
Due: 2006.05.25, start of class

- 1) Read Chapter 3
- 2) The Moon takes $27 \frac{1}{3}$ days to complete one orbit of Earth. How far away from Earth is the Moon (in km) and how fast is the Moon going as it orbits Earth (in km per hour)? Show all your calculations.
- 3) If an asteroid's closest distance from the Sun is 4 AU and its greatest distance from the Sun is 8 AU, what is its semi-major axis and what is its eccentricity?
- 4) Why did astronomers hope that careful measurements of the positions of stars in the sky would tell them whether Earth orbited the Sun or the Sun orbited Earth?
- 5) List three observations that convinced people from the time of Copernicus, Tycho, Kepler, and Galileo that the heavens were not "perfect and unchanging"