

**CH 5**

**Review Questions 3-5, 16-17 (DUE 1/24)**

3. If you drop a feather and a steel hammer at the same moment, they should hit the ground at the same instant. Why doesn't this work on Earth, and why does it work on the moon?
4. What is the difference between mass and weight?
5. What is the difference between speed and velocity?
16. Why would science be impossible if some natural events happened without causes?
17. Why is it important that a theory make testable predictions?

**Problems 1-5 (DUE 1/24)**

1. Compared with the strength of Earth's gravity at its surface,
  - a) How much weaker is gravity at a distance of 10 Earth radii from Earth's center?
  - B) At 20 Earth radii?
2. Compare the force of lunar gravity on the surface of the moon with the force of Earth's gravity at Earth's surface (mathematically).
3. If a small lead ball falls from a high tower on Earth,
  - a) What will be its velocity after 2 seconds?
  - b) After 4 seconds?
4. What is the circular velocity of an Earth satellite 1000. km above Earth's surface?
5. For satellite 36,000 km above Earth's surface, what is the
  - a) Circular velocity?
  - b) Orbital period? (*Note:* Earth's average radius is 6371 km.)