Name:_____

Class: AM/PM (circle one)

Energy Homework #2

1. Determine the amount of potential energy of a 5.0-N book that is moved to three different shelves on a bookcase. The height of each shelf is 1.0 m, 1.5 m, and 2.0 m.

2. You are on in-line skates at the top of a small hill. Your potential energy is equal to 1,000. J. The last time you checked, your mass was 60.0 kg.
a. What is the height of the hill?

b. If you start rolling down this hill, your potential energy will be converted to kinetic energy. Assume no energy transferred to friction, what is your velocity at the bottom of the hill?

3. A 1.0-kg ball is thrown into the air with an initial velocity of 30. m/s.
a. How much kinetic energy does the ball have?

b. How much potential energy does the ball have when it reaches the top of its ascent? Assume no energy transferred to air resistance.

c. How high into the air did the ball travel?