Section Review

1. What forms of energy are involved in the following situations?
   a. a bicycle coasting along a level road
   b. heating water
   c. throwing a football
   d. winding the hairspring of a clock
2. How do the forms of energy in item 1 differ from one another? Be sure to discuss mechanical versus nonmechanical, kinetic versus potential, and gravitational versus elastic.
3. A pinball bangs against a bumper, giving the ball a speed of 42 cm/s. If the ball has a mass of 50.0 g, what is the ball's kinetic energy in joules?
4. A spoon is raised 21.0 cm above a table. If the spoon and its contents have a mass of 30.0 g, what is the gravitational potential energy associated with the spoon at that height relative to the surface of the table?
5. A 65 kg diver is poised at the edge of a 10.0 m high platform. Calculate the gravitational potential energy associated with the position of the diver. Assume the zero level is at the surface of the pool.
6. What is the kinetic energy of a 1250 kg car moving at 45.0 km/h?