Kinetic and Potential Energy Problems

$$KE = \tfrac{1}{2}\, mv^2 \qquad\qquad PE = mgh$$

1. What is the gravitational potential energy of a 60 kg person standing on the roof of a 10-story building. (Each story is 3 m high.)

2. What is the same person's potential energy if standing on the 5th floor?

3. What is the same person's potential energy if standing on the 8th floor?

4. Calculate the kinetic energy of a 45 g golf ball traveling at 20 m/s. (Be careful about the units in this one.)

5. Calculate the kinetic energy of a 140 g baseball traveling at 40 m/s.

6. Calculate the kinetic energy of a 210 g softball traveling at 35 m/s.