KINETIC AND POTENTIAL ENERGY WORKSHEET

Determine whether the objects in the following problems have kinetic or potential energy. Then choose the correct formula to use:

$$E_K = 1/2\ mv^2 \text{ OR } E_P = mgh$$

1. You serve a volleyball with a mass of 2.1 kg. The ball leaves your hand with a speed of 30 m/s. The ball has _____ energy. Calculate it.

2. A baby carriage is sitting at the top of a hill that is 21 m high. The carriage with the baby has a mass of 5 kg. The carriage has _____ energy. Calculate it.

3. A car is traveling with a velocity of 40 m/s and has a mass of 1120 kg. The car has_____ energy. Calculate it.

4. A cinder block is sitting on a platform 20 m high. It's mass is 10 kg. The block has_____ energy. Calculate it.

5. There is a bell at the top of a tower that is 45 m high. The bell's mass is 19 kg. The bell has _____ energy. Calculate it.

6. A roller coaster is at the top of a 72 m hill and has a mass of 500 kg. The coaster (at this moment) has _____ energy. Calculate it.