

KINETIC AND POTENTIAL ENERGY WORKSHEET

Determine whether the the objects in the following problems have kinetic or potential energy.

Then choose the correct formula to use:

$$E_k = 1/2 m v^2 \quad \text{OR} \quad E_p = Wt. \times ht.$$

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 weighs 12 N. 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 weighs 79 N. The block has _____ energy. Calculate it.
5. There is a bell at the top of a tower that is 45 m high. The bell weighs 190 N. The bell has _____ energy. Calculate it.
6. A roller coaster is at the top of a 72 m hill and weighs 966 N. The coaster (at this moment) has _____ energy. Calculate it.