

Name: _____

Date: _____

Period: _____

Unit P4 Review (Energy)

$$W = Fd$$

$$KE = \frac{1}{2}mv^2$$

$$PE = mgh$$

$$g = 9.8 \text{ m/s}^2$$

1. Define the following terms

(a) work

(b) energy

(c) kinetic energy

(d) potential energy

2. What are the units for energy?

3. What are the four types of **potential energy**?

4. Calculate the work done if 5 N of force is used to push a grocery cart 3 m.

Knowns/Unknowns

Plug & Chug

Answer w/ Units

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5. What is the kinetic energy of the wrecking ball with a mass of 200 kg if it swings with a velocity of 15 m/s?

Knowns/Unknowns

Plug & Chug

Answer w/ Units

6. What two things are needed in order for work to be done?

7. Decide if work is being done in each of the following situations. Explain.

(a) You push very hard against a stationary wall.

(b) When the light turns green, a car accelerates forward for three blocks.

(c) A woman holds a child on her shoulders to watch a parade.

(d) A woman lifts a child to her shoulders.

8. Explain what the term “energy is conserved” means.

9. When does an object have zero kinetic energy?

10. When does an object have zero gravitational potential energy?

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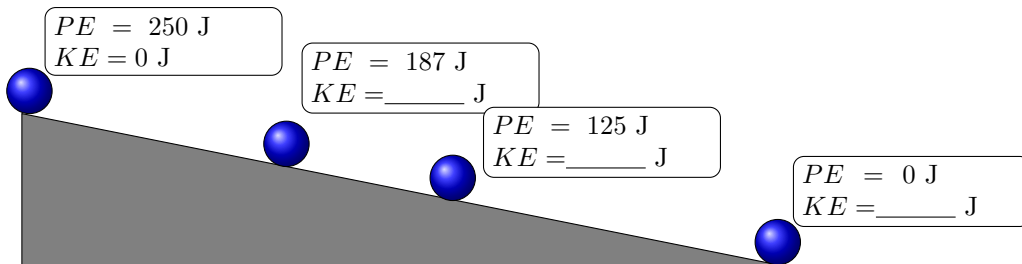
11. You drop a ball. Explain what kinds of energy it has in each of the following cases:

(a) Before it falls (while it's still in your hand)

(b) While it is falling

(c) Just before it hits the ground

12. Fill in the missing kinetic energy values for the following marble rolling down a ramp:



13. What is the gravitational potential energy of a wrecking ball that is hung 20 meters above ground if it has a mass of 200 kg?

Knowns/Unknowns

Plug & Chug

Answer w/ Units

14. A force of 13 N is applied on a cart. If 125 J of work is done, how far did you push the cart?

Knowns/Unknowns

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