

Name \_\_\_\_\_ Period \_\_\_\_ Date \_\_\_\_\_

**KE, PE Practice**

1. How much work is required to lift a 2.4 kg book from a shelf that is 1.2 m high to a shelf that is 1.9m high? \_\_\_\_\_
  
2. If 150 J of work is exerted to lift a .5 kg toy, how high would the toy be after the work? \_\_\_\_\_
  
3. What is the Potential Energy of a cannonball with mass of 6 kg at a height of 3 m? \_\_\_\_\_
  
4. A 1600 kg car travels at a speed of 15 m/s. What is its kinetic energy? \_\_\_\_\_
  
5. Bob and his bike have a total mass of 45 kg. Bob rides his bike 1.8 km in 9 min with constant velocity. What is Bob's kinetic energy? \_\_\_\_\_
  
6. A jet car has a mass of 1900 kg and is powered by an engine that can provide 2100 N for a distance of 509 m.
  - a. Find the work done on the car \_\_\_\_\_
  - b. Find the change in KE \_\_\_\_\_
  - c. Find final speed if no friction \_\_\_\_\_
  
7. A 55 kg rock is at the edge of a 100 m cliff.
  - a. What is the rock's PE? \_\_\_\_\_
  - b. If the rock falls, what is KE just before it hits the ground? \_\_\_\_\_
  - c. What is the velocity of the rock just as it hits the ground? \_\_\_\_\_
  
8. A 600 kg piano has a potential energy of 141,120 J. If dropped, what is its velocity just before it hits the ground? \_\_\_\_\_ How high was it? \_\_\_\_\_
  
9. Kelli weighs 400 N and she is on a swing that hangs 0.3 m above the ground. Her brother pulls her back on the swing until she is .9 m above the ground. Once released, how fast should she be moving at the bottom of her swing? \_\_\_\_\_  
If she is only moving 2.1 m/s at the bottom of her swing, how much work was done by friction? \_\_\_\_\_
  
10. Megan's mass is 28 kg. She climbs the 4.8 m ladder of a slide. When she slides, she gets up to 3.2 m/s at the bottom of the slide. How much work was done by friction on Megan? \_\_\_\_\_