

Name:

Period:

# Kinetic Energy

$$KE = \frac{1}{2} m v^2$$

1. A man pushes an 800kg car from rest a distance of 100m and gets it rolling at 3m/s. How much KE does the car gain?

2. How much KE does a bullet have if it has a mass of 0.5g and is traveling at a speed of 250m/s?

3. The KE of a 1.4kg cart that is moving at 0.5m/s is \_\_\_\_\_.

4. If the mass of the cart above is doubled and the speed stays the same the KE will be \_\_\_\_\_.

5. Using a complete sentence state the relationship between speed and KE.

6. A 7000g cart starts at rest. How fast will it be moving after it is given 1000J of kinetic energy?

7. The cart in the previous problem is given another 1000J of kinetic energy. Find its new speed.

8. A 2000kg car is initially traveling at 8m/s. The car slows down to 5m/s. How much kinetic energy did the car lose?

9. A 20N force pulls a 4kg cart at an angle of 37°. How much kinetic energy will it have after it has traveled 12 m?

