Chapter 4

Kinetic Energy Problems

Name_____

Period____ Date_____

$KE = \frac{1}{2} \times M \times (V)^2$

*List all variables in the equation. Plug the numbers and units into the equation. Solve the equation and include units. Circle your answers!

1) What is the kinetic energy of a bicycle with a mass of 14 kilograms traveling with a velocity of 3 m/s north?

2) What is the kinetic energy of a baseball thrown with a velocity of 35 m/s, if the mass of the baseball is .146 kilograms?

3) A pigeon flies with a velocity of 5.1 m/s. If it has 46.8 Joules of kinetic energy, what is it's mass?

4) A car is traveling with a velocity of 30 m/s. If the kinetic energy of the car is 540,000 Joules, what is the mass of the car?

5) A 725 kilogram car has a kinetic energy of 302,000 Joules as it travels along a highway. What is the car's velocity?

6) The kinetic energy of a golf ball is measured to be 143.3 Joules. If the golf ball has a mass of .047 kilograms, what is the velocity of the golf ball?

7) A ping-pong ball has a mass of 2.45 grams. Suppose the ball is hit across the table with a velocity of 4 m/s. What is the kinetic energy of the ball?

8) Your science teacher runs down the hall with a velocity of .5 m/s. If his mass is 110 kilograms, what is his kinetic energy?