

## Physical Science Chapter 12

## Momentum Worksheet A

(Do not write on this sheet) Show the set up in the equation for each problem

Momentum = mass X velocity,

### Problems:

1. Find the momentum of a 25 kg object moving at 3.75 m/s.
2. A car has a mass of 1700 kg and is moving at a speed of 25 m/s. Find its momentum.
3. A meteorite has a velocity of 544 m/s and a mass of 45 kg. Find its momentum.
4. Find the momentum of an object traveling at 15 m/s if it has a mass of 2.8 kg.
5. A 23.5 kg object travels a distance of 85 m in 30 s. Find the momentum. (Hint: you must find speed first)
6. An object with a mass of 3.75 kg travels 45 m in 12 s. Find its momentum. (Hint: you must find speed first)
7. A 2 kg baseball has a momentum of 75 kg m/s. Find its speed.
8. Solve this multi-step problem:
  - a) A 12 kg object has a velocity of 37.5 m/s. What is its momentum?
  - b) How far does it get in 16 s?
9. A 90 kg astronaut is traveling through space a 4.5 m/s. Find his momentum.
10. If the astronaut from question #9 collides with a satellite and comes to a complete stop, where did his momentum go? Explain this in terms of conservation of momentum.