

Chapter 12

Use with Section 2

REINFORCEMENT

● What is momentum?

Complete the following sentences by filling in the blank with the appropriate word or phrase.

1. Inertia measures an object's tendency to remain _____ or stay in _____.
2. Two quantities that are used to describe momentum are _____ and _____.

In the spaces provided, write your answers to the following questions relating to the bowling ball and baseball shown in the figure below.

Mass = 7 kg

Velocity = 1 m/s



Mass = 0.15 kg

Velocity = 46.7 m/s

3. If a bat has hit each ball with exactly the same amount of force, will the resulting momentum of the two balls be different or the same? Why? _____

4. Show that the momentum for each ball is the same. Use the formula $p = mass \times velocity$ to calculate the momentum for each ball using the quantities given. Show all work.

5. What would have to change if you wanted the momentum of the bowling ball to be greater than the momentum of the baseball? _____

Complete the following statements so that the law of conservation of momentum is maintained.

6. A skateboarder jumps off a moving skateboard. After the skateboarder jumps, the skateboard moves _____.
7. When a cue ball hits a rack of pool balls, the cue ball loses momentum as the other balls _____.