Worksheet: Momentum Test Review  
CHAPTER 8: Momentum

Directions: Answer the following questions concerning the conservation of momentum using the equations below. Show all of your work to receive credit.

\[ p = mv \qquad Ft = \Delta (mv) \qquad \text{impulse} = F \Delta t \]

\[ p_{\text{before}} = p_{\text{after}} \qquad \text{net momentum}_{\text{before}} = \text{net momentum}_{\text{after}} \]

\[ (m_1 v_1 + m_2 v_2)_{\text{before}} = (m_1 v_1 + m_2 v_2)_{\text{after}} \]

1. A cannon recoils from launching a cannonball. The speed of the cannon's recoil is small because the

2. A 2-kg ball has a momentum of 100 kg·m/s. What is the ball's speed?

3. Another name for “change in momentum” is ____________________.

4. The momentum of an object is defined as the object's ___________ x ________________.

5. A collision is considered elastic if

6. Momentum of a system is conserved only when

7. A 3 ball is thrown at 25 m/s. What is the ball's momentum?

8. The reason padded dashboards are used in cars is that they
9. A cannonball shot from a long-barrel cannon travels faster than one shot from a short-barrel cannon because the cannonball receives a greater _________________.

10. A ball is moving at 5 m/s and has a momentum of 30 kg·m/s. What is the ball's mass?

11. A cannon fires a cannonball. The speed of the cannonball will be the same as the speed of the recoiling cannon if?

12. A 2-kg ball is thrown at 5 m/s. What is the ball's momentum?

13. A ball is moving at 4 m/s and has a momentum of 24 kg·m/s. What is the ball's mass?

14. A 5-kg ball has a momentum of 50 kg·m/s. What is the ball's speed?

15. When these two freight cars of different mass collide and couple, what will be their resultant velocity?

5 Tons

2 m/s

Before

10 Tons

0 m/s

After

? m/s