

## Momentum

### Post-assessment 2

1. A 3 kg ball moves at 4 m/s. What is its momentum?
  - a) 3 kg·m/s
  - b) 4 kg·m/s
  - c) 7 kg·m/s
  - d) 12 kg·m/s
2. A 1,000 kg car is moving at 10 m/s. A 2,000 kg truck is moving at 5 m/s. Which has more momentum?
  - a) The car
  - b) The truck
  - c) Both have the same momentum
  - d) Not enough information
3. Which of the following changes will **increase** an object's momentum?
  - a) Decreasing its mass
  - b) Decreasing its velocity
  - c) Increasing its velocity
  - d) Keeping the mass and velocity constant
4. What does the equation  $F = \frac{dp}{dt}$  imply?
  - a) Force is the rate of change of momentum
  - b) Momentum is constant regardless of force
  - c) Force and momentum are unrelated
  - d) None of the above
5. If a 10 kg object has a momentum of 30 kg·m/s, what is its velocity?
  - a) 2 m/s
  - b) 3 m/s
  - c) 5 m/s
  - d) 10 m/s
6. If the force on an object increases, what happens to its momentum?
  - a) It stays the same
  - b) It decreases
  - c) It increases
  - d) It disappears

7. Which of the following real-world examples involves momentum conservation?
- a) A parked car
  - b) A rocket launch
  - c) A still ball
  - d) A person sitting