Chapter 12 Pretest

1. What is relative motion?
2. What is the difference between distance and displacement?
3. How is average speed calculated?
4. On a distance-time graph, what does the slope represent?
5. What is velocity?
6. How is acceleration related to velocity?

ANSWERS

1. Relative motion is movement in relation to a frame of reference.
2. Distance is the length of a path between two points. Displacement is the direction from the starting point and the length of a straight line from the starting point to the ending point.
3. Total distance is divided by total time.
4. The slope represents the speed.
5. Velocity is speed with direction.
6. Acceleration is change in velocity, that is, any change in speed, direction, or both.

7. A backpack falls out of an open window. The backpack starts from rest and hits the ground 1.0 second later with a velocity of 9.8 m/s. What is the average acceleration of the backpack?

   a. 9.8 m/s

   b. 9.8 m

   c. 9.8 m/s^2

   d. all of the above

8. How are mass and weight different?

ANSWERS
7. c
8. Mass is a measure of inertia; weight is the measure of the force of gravity acting on an object.