Name: **Date**

PSC2122 Test 1 MP3 Motion: Speed and Velocity

Modified True/False

Indicate whether the sentence or statement is true or false. If false, change the underlined word or phrase to make the sentence or statement true.

____ 1. A cyclist travels 20 km in half an hour. Her average speed is <u>10 km/h</u>. _____

____ 2. Motion is measured relative to a <u>reference point</u>. _____

____ 3. If one toy car is traveling at 10 cm/s and another toy car is moving at 10 cm/s in the opposite direction, both cars have the same <u>velocity</u>. _____

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

____ 4. A place or object used for comparison to determine if something is in motion is called
   a. a position.
   b. a reference point.
   c. a constant.
   d. velocity.

____ 5. When an object's distance from another object is changing,
   a. it is in motion.
   b. it is speeding.
   c. it has a high velocity.
   d. it is accelerating.

____ 6. If the speed of an object does NOT change, the object is traveling at a(n)
   a. constant speed.
   b. average speed.
   c. increasing speed.
   d. decreasing speed.

____ 7. If you know the distance an object has traveled in a certain amount of time, you can determine
   a. the size of the object.
   b. the speed of the object.
   c. the location of the object.
   d. the velocity of the object.

____ 8. Speed equals distance divided by
   a. time.
   b. velocity.
   c. size.
   d. motion.

____ 9. If a bicyclist travels 30 kilometers in two hours, her average speed is
   a. 30 km/h.
   b. 60 km/h.
   c. 15 km/h.
   d. 2 km/h.

____ 10. A train that travels 100 kilometers in 4 hours is traveling at what average speed?
   a. 50 km/h
   b. 100 km/h
   c. 2 km/h
   d. 25 km/h

____ 11. If an object moves in the same direction and at a constant speed for 4 hours, which of the following is true?
   a. The object's speed changed during the 4 hours.
   b. The object's velocity did not change.
   c. The object accelerated during the 4 hours.
   d. The object decelerated during the 4 hours.

____ 12. If you know a car traveled 300 kilometers in 3 hours, you can find its
   a. acceleration.
   b. direction.
   c. average speed.
   d. velocity.

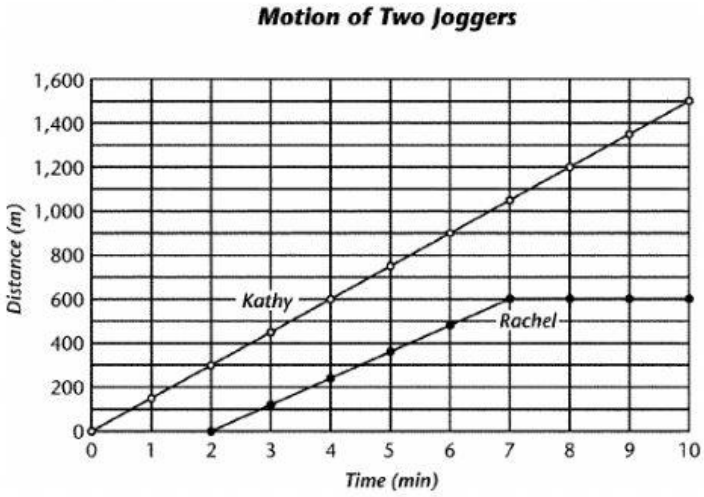
____ 13. When you know both the speed and the direction of an object's motion, you know the
   a. average speed of the object.
   b. acceleration of the object.
   c. distance the object has traveled.
   d. velocity of the object.

Completion

Complete each sentence or statement.

14. The distance traveled by a moving object per unit of time is called _____.
15. A reference point is assumed to be _____, or not moving.
16. The statement that the motion of a hurricane is 20 kilometers per hour in an easterly direction is a description of the hurricane's _____.
17. A change in an object's position relative to a reference point is called _____.
18. Speed that does not change is referred to as _____ speed.

Short Answer



19. How far did Kathy jog in the first 4 minutes?

Essay

20. Explain how to find the average speed of a car that travels 300 kilometers in 6 hours. Then find the average speed.