Student Name: _____ Date: _____

Lesson Check: Position and Motion

1) In order to determine an object's location, you need a _____.

- **A)** time
- **B)** reference point
- **C)** speed
- **D)** displacement

2) Motion can be described through a change in _____.

- **A)** speed
- **B)** distance
- **C)** position
- **D)** time

3) To determine if an object has changed position, you need to know its position relative to another object. _____

- True
- False

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4) Which of the following is the least useful object to use as a point of reference for describing the location of the parked car?

- **A)** the bird
- **B)** the streetlight
- **C)** the store
- **D)** the tree

5) Distance, a reference point, and a reference _____ are all needed to determine the position of an object.

6) A train traveled 250 kilometers (km) from its starting point in 5 hours (h). If the train continues at the same average speed for another 4 hours, how far will it have traveled from its starting point?

- **A)** 200 km
- **B)** 250 km
- **C)** 450 km
- **D)** 500 km

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7) If you ride your bike around the block, returning to the exact point where you started, your displacement is _____ m?

8) You are in a car going 70 km/h and another car passes you going in the opposite direction at 70 km/h. Do both cars have the same velocity? Explain.

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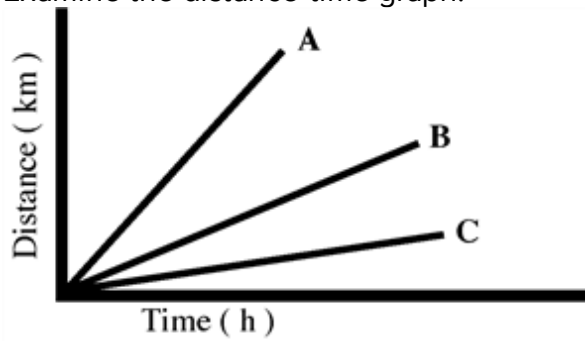
9) Examine the distance-time graph.



a. Which line represents travel at the fastest speed? Justify your answer.

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b. Describe the line that should be added for an object that is not moving with respect to the chosen frame of reference.

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10) A driver needs to make a delivery to an office that is 30 km away. The driver has traveled for 45 minutes west down a straight road at 50 km/h.

a. Has the driver traveled far enough to reach the office? Support your response.

b. Assume the driver has gone far enough and is traveling on the correct road. If he has not yet seen the business, what should he do to make the delivery? Explain your reasoning.

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