

Student Name: \_\_\_\_\_

Date: \_\_\_\_\_

Period #: \_\_\_\_\_

Unit 1: Quiz 11  
**1-Dimensional Motion**

**Identify the choice that best completes the statement or answers the question. Write your response on the space provided.**

\_\_\_\_ 1. A train travels 6 meters in the 1<sup>st</sup> second of travel, another 6 meters in the 2<sup>nd</sup> second of travel, and 6 meters again during the 3<sup>rd</sup> second. Its acceleration is \_\_\_\_.

- a.  $0 \text{ m/s}^2$
- b.  $6 \text{ m/s}^2$
- c.  $12 \text{ m/s}^2$
- d.  $18 \text{ m/s}^2$

\_\_\_\_ 2. A car starts from rest and after 7 seconds it is moving at 42 m/s. What is the car's average acceleration?

- a.  $0.17 \text{ m/s}^2$
- b.  $1.67 \text{ m/s}^2$
- c.  $6 \text{ m/s}^2$
- d.  $7 \text{ m/s}^2$

\_\_\_\_ 3. As an object falls freely in a vacuum, its \_\_\_\_.

- a. velocity increases
- b. acceleration increases
- c. both (a) and (b)
- d. none of the above

\_\_\_\_ 4. In the absence of air resistance, objects fall at constant \_\_\_\_.

- a. speed
- b. velocity
- c. acceleration
- d. distances each successive second

\_\_\_\_ 5. A ball is thrown upwards and caught at the same height as it comes back down. In the absence of air resistance, the speed of the ball just before it is caught would be \_\_\_\_.

- a. less than the speed it had when thrown upwards
- b. more than the speed it had when thrown upwards
- c. the same speed it had when thrown upwards
- d. 0 m/s

\_\_\_\_ 6. Suppose an object is in free fall. Each second, the object falls \_\_\_\_.

- a. the same distance as in the second before
- b. a larger distance than in the second before
- c. with the same instantaneous speed
- d. with the same average speed

\_\_\_\_ 7. A ball tossed vertically upwards rises, reaches its highest point, and then falls back to its starting point. During this time the acceleration of the ball is always \_\_\_\_.

- a. in the direction of the motion
- b. opposite its velocity
- c. directed downward
- d. directed upward

\_\_\_\_ 8. When a basketball player jumps, once the feet are off the floor, the jumper's acceleration \_\_\_\_.

- a. varies with body orientation
- b. depends on launch speed
- c. is usually greater for taller players
- d. is always equal to  $g$