

Unit 1: Quiz 12
1-Dimensional Motion

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

____ 1. Suppose you take a trip that covers 180 km and takes 3 hours to make. Your average speed is ____.

- a. 30 km/h
- b. 60 km/h
- c. 180 km/h
- d. 360 km/h

____ 2. When an object falls to the ground, it accelerates. This acceleration is called the acceleration due to gravity and is symbolized by the letter ***g***. What is the value of ***g*** on the Earth's surface?

- a. 0 m/s^2
- b. about 5 m/s^2
- c. about 10 m/s^2
- d. about 98 m/s^2

____ 3. A car accelerates at 2 m/s^2 . Assuming the car started from rest, how much time will it need to accelerate to a speed of 20 m/s ?

- a. 2 seconds
- b. 10 seconds
- c. 20 seconds
- d. 40 seconds

____ 4. If a ball were equipped with a speedometer and allowed to fall freely on a planet where the acceleration due to gravity is 23 m/s^2 , the reading on the speedometer would increase by ____ each second.

- a. about 10 m/s
- b. 9.8 m/s
- c. 11.5 m/s
- d. 23 m/s

____ 5. A freely falling object starts from rest. After falling for 6 seconds, it will have a speed of about ____.

- a. 6 m/s
- b. 60 m/s
- c. 16 m/s
- d. 600 m/s

____ 6. If a projectile is fired straight up at a speed of 30 m/s, the total time to return to its starting point is about ____.

- a. 3 seconds
- b. 6 seconds
- c. 10 seconds
- d. none of the above

____ 7. Suppose a basketball player claims she has a hangtime of 2 seconds! This would mean she has a vertical leap of almost ____.

- a. 5 m
- b. 4 m
- c. 3 m
- d. 2 m