

# Kinematic Equations Review 2

⚠ This is a preview of the draft version of the quiz

Started: Sep 25 at 9:14am

## Quiz Instructions

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### Question 1

1 pts

An object dropped from rest on planet earth ( $g=10 \text{ m/s}^2$ ) travels 60 meters. What is the speed of the object in m/s after falling those 60 meters?

### Question 2

1 pts

An object with initial velocity of  $+6 \text{ m/s}$  accelerates uniformly at  $+4 \text{ m/s}^2$  for a distance of 100 meters. What is the final speed in m/s of the object after the 100 meters?

**Question 3****1 pts**

A skier starts from rest and skis down a hill side of length 300 meters in 30 seconds. What is the average acceleration magnitude of the skier?

**Question 4****1 pts**

A ball is thrown straight down with an initial velocity of  $-15$  m/s. Assume  $g = -10$  m/s/s. What is the speed in m/s of the ball after 5 seconds?

**Question 5****1 pts**

An astronaut on Planet Z drops a hammer initially at rest a distance of 200 meters. It takes the hammer 10 seconds to hit the ground. What is the acceleration magnitude in m/s/s on Planet Z?

**Question 6****1 pts**

An object with mass 200 kg is dropped on a Planet K which has no atmosphere and an acceleration of gravity  $-3.5$  m/s/s. What is the speed of the object after 8 seconds if dropped from rest?

**Question 7****1 pts**

An object on Planet L with acceleration of  $-3.5$  m/s/s and no atmosphere is dropped for 20 seconds. How far will the object travel in meters during those 20 seconds?

**Question 8****1 pts**

An object has initial velocity 30 m/s and reaches a velocity of 50 m/s in a time of 4 seconds. What is the average velocity in m/s of the object?

**Question 9****1 pts**

The area between the velocity-time curve and the time axis is displacement. If the area is above the time axis, the displacement is positive. If the area is below the time axis, the displacement is negative.

 True False**Question 10****1 pts**

Johnny begins walking at a constant velocity of 3 m/s for 10 seconds. If Johnny turns around 180 degrees and walks back the way he came at -2 m/s, how many seconds would pass before he reaches the position at which he started?

**Question 11****1 pts**

Johnny begins jogging at a constant velocity of 6 m/s for 60 seconds. If Johnny turns around 180 degrees and walks back the way he came at -3 m/s, how many seconds would pass before he reaches the position at which he started?

**Question 12****1 pts**

Johnny begins at rest and accelerates at a constant rate of +3 m/s/s for 10 seconds. If Johnny turns around 180 degrees and walks back the way he came at a constant velocity of -5 m/s, how many seconds would pass before he reaches the position at which he started?

**Question 13****1 pts**

The area between the speed-time curve and the time axis is distance.

- True
- False

**Question 14****1 pts**

The slope of the acceleration-time graph is velocity.

True

False

**Question 15****1 pts**

The area between the position-time graph and the time axis is acceleration.

True

False

**Question 16****1 pts**

Objects rolling down an inclined plane (aka ramp) with negligible friction have a constant acceleration.

True

False

**Question 17****1 pts**

Which is a unit for acceleration? Choose all that apply.

 miles/hour/second cm/s/s m/s/s mph m/s feet cm/s meters**Question 18****1 pts**

When acceleration is constant, the slope of the distance - 'time squared' graph is equal to \_\_\_\_\_.

  $.5 * \text{average velocity}$  average acceleration

.5 \* average acceleration average velocity**Question 19****1 pts**

The average velocity during an interval of time (e.g. 4 seconds to 6 seconds) is equal to the instantaneous velocity of the midpoint of that time interval (e.g. 3 seconds).

 True False**Question 20****1 pts**

When acceleration is constant, the overall shape of the distance - 'time squared' graph is

\_\_\_\_\_.

 an upward curve becoming steeper a horizontal flat line a downward sloping diagonal a downward curve becoming flatter



an upward sloping diagonal

Not saved

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