



Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

1 A runner starts from rest and **accelerates uniformly** to a speed of 8.0 meters per second in 4.0 seconds. The **magnitude of the acceleration** of the runner is

- A 0.50 m/s<sup>2</sup>
- B 2.0 m/s<sup>2</sup>
- C 9.8 m/s<sup>2</sup>
- D 32 m/s<sup>2</sup>



3 In the diagram, a **force, F**, is applied to the handle of a lawnmower inclined at **angle q** to the ground. The **magnitude of the horizontal component of force F** depends on

- A the magnitude of force F, only
- B the measure of angle q, only
- C both the magnitude of force F and the measure of angle q



2 A cart moving across a level surface accelerates uniformly at **1.0 meter per second<sup>2</sup>** for **2.0 seconds**.

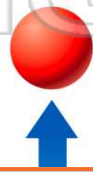
What **additional information** is required to determine the **distance** traveled by the cart during this 2.0-second interval?

- A coefficient of friction between the cart and the surface
- B mass of the cart
- C net force acting on the cart
- D initial velocity of the cart

4 A ball is thrown **straight up** with a speed of **12 meters per second** near the surface of Earth.

What is the **maximum height** reached by the ball? [Neglect air friction.]

- A 15 m
- B 7.3 m



5

**PREVIEW**

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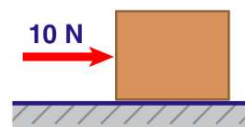
7 The speed of the object

- A decreases
- B increases
- C remains the same



constant velocity?

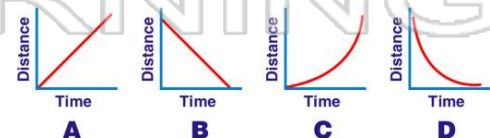
- A less than 10 N
- B greater than 10 N
- C 10 N



9 Which terms both represent **scalar quantities**?

- A displacement and velocity
- B distance and speed
- C displacement and speed
- D distance and velocity

10 Which graph best represents the motion of an object whose **speed is increasing**?





## ANSWER KEY

A runner starts from rest and **accelerates uniformly** to a speed of 8.0 meters per second in 4.0 seconds. **The magnitude of the acceleration of the runner is**

- A 0.50 m/s<sup>2</sup>
- B 2.0 m/s<sup>2</sup>
- C 9.8 m/s<sup>2</sup>
- D 32 m/s<sup>2</sup>



(b)

A cart moving across a level surface accelerates uniformly at **1.0 meter per second<sup>2</sup> for 2.0 seconds.**

What **additional information** is required to **determine the distance traveled** by the cart during this 2.0-second interval?

- A coefficient of friction between the cart and the surface
- B mass of the cart
- C net force acting on the cart
- D initial velocity of the cart

(d)

In the diagram, a **force, F**, is applied to the handle of a lawnmower inclined at **angle q** to the ground.

**The magnitude of the horizontal component of force F depends on**

- A the magnitude of force F, only
- B the measure of angle q, only
- C both the magnitude of force F and the measure of angle q
- D neither the magnitude of force F nor the

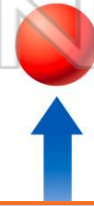


(c)

A ball is thrown **straight up** with a speed of **12 meters per second** near the surface of Earth.

What is the **maximum height** reached by the ball? [Neglect air friction.]

- A 15 m
- B 7.3 m
- C 1.2 m



(b)



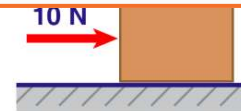
## PREVIEW

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- A decreases
- B increases
- C remains the same



- A less than 10 N
- B greater than 10 N
- C 10 N

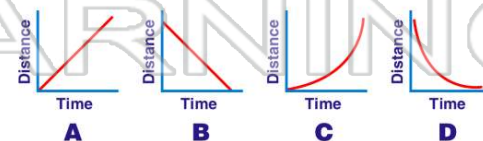


Which terms both represent **scalar quantities**?

- A displacement and velocity
- B distance and speed
- C displacement and speed
- D distance and velocity

(b)

Which graph best represents the motion of an object whose **speed is increasing**?



(c)