



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

1 A car having an initial velocity of **12 meters per second** east slows uniformly to **2 meters per second** east in 4.0 seconds. The **acceleration** of the car during this **4.0-second interval** is

- A 2.5 m/s<sup>2</sup> west
- B 2.5 m/s<sup>2</sup> east
- C 6.0 m/s<sup>2</sup> west
- D 6.0 m/s<sup>2</sup> east



2 An airplane originally at rest on a runway **accelerates uniformly** at **6.0 meters per second<sup>2</sup>** for **12 seconds**. During this 12-second interval, the airplane travels a **distance** of approximately

- A 72 m
- B 220 m
- C 430 m
- D 860 m



3 A softball player leaves the batter's box, overruns first base by 3.0 meters, and then returns to first base. Compared to the total distance traveled by the player, the **magnitude** of the player's **total displacement** from the batter's box is

- A smaller



4 A football player kicks a ball with an initial velocity of **25 meters per second** at an angle of **53°** above the horizontal. The **vertical component** of the **initial velocity** of the ball is

- A 25 m/s
- B 20 m/s



5

A  
D  
o  
t  
r  
g  
A  
E  
C  
D



## PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

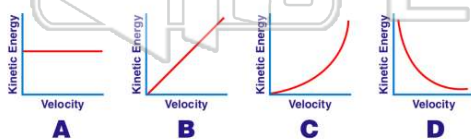
7

- B weight and force
- C speed and time
- D displacement and distance

- B zero acceleration
- C zero potential energy
- D zero kinetic energy

9

Which graph best represents the relationship between the **kinetic energy** of a moving object and its **velocity**?



10

An object with an initial speed of **4.0 meters per second** accelerates uniformly at **2.0 meters per second<sup>2</sup>** in the direction of its motion for a distance of **5.0 meters**. What is the **final speed** of the object?

- A 6.0 m/s
- B 10 m/s
- C 14 m/s
- D 36 m/s



## ANSWER KEY

A car having an initial velocity of **12 meters per second** east slows uniformly to **2 meters per second** east in 4.0 seconds. The **acceleration** of the car during this **4.0-second interval** is

- A 2.5 m/s<sup>2</sup> west
- B 2.5 m/s<sup>2</sup> east
- C 6.0 m/s<sup>2</sup> west
- D 6.0 m/s<sup>2</sup> east



(a)

An airplane originally at rest on a runway **accelerates uniformly** at **6.0 meters per second<sup>2</sup>** for **12 seconds**. During this 12-second interval, the airplane travels a **distance** of approximately

- A 72 m
- B 220 m
- C 430 m
- D 860 m



(c)

A softball player leaves the batter's box, overruns first base by 3.0 meters, and then returns to first base. Compared to the total distance traveled by the player, the **magnitude** of the player's **total displacement** from the batter's box is

- A smaller
- B larger



(a)

A football player kicks a ball with an initial velocity of **25 meters per second** at an angle of **53°** above the horizontal. The **vertical component** of the **initial velocity** of the ball is

- A 25 m/s
- B 20 m/s
- C 15 m/s



(b)



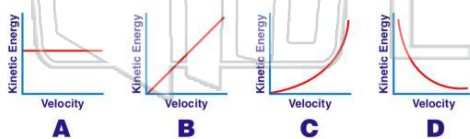
## PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

- C speed and time
- D displacement and distance

- D zero kinetic energy

Which graph best represents the relationship between the **kinetic energy** of a moving object and its **velocity**?



(c)

An object with an initial speed of **4.0 meters per second** accelerates uniformly at **2.0 meters per second<sup>2</sup>** in the direction of its motion for a distance of **5.0 meters**. What is the **final speed** of the object?

- A 6.0 m/s
- B 10 m/s
- C 14 m/s
- D 36 m/s

(a)