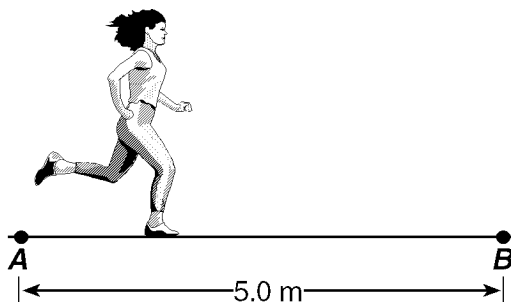


- 1) An object has a constant acceleration of $2.0 \text{ meters per second}^2$. The time required for the object to accelerate from $8.0 \text{ meters per second}$ to $28 \text{ meters per second}$ is
- A) $10. \text{ s}$ B) 16 s C) $20. \text{ s}$ D) 4.0 s
- 2) A jogger accelerates at a constant rate as she travels 5.0 meters along a straight track from point A to point B , as shown in the diagram below.



If her speed was $2.0 \text{ meters per second}$ at point A and will be $3.0 \text{ meters per second}$ at point B , how long will it take her to go from A to B ?

- A) 2.0 s B) 3.5 s C) 1.0 s D) 4.2 s
- 3) A flashing light of constant 0.20-second period is situated on a lab cart. The diagram below represents a photograph of the light as the cart moves across a tabletop.

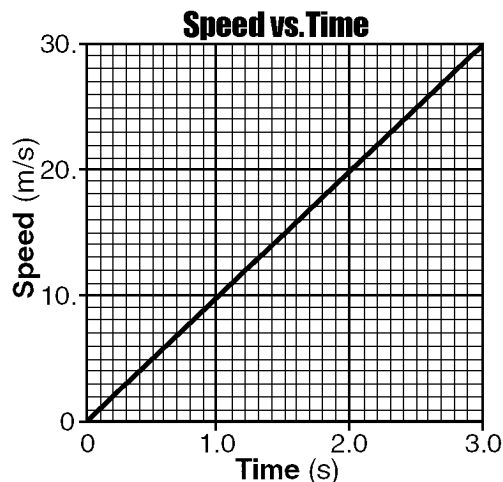


How much time has elapsed as the cart moved from position A to position B ?

- A) 4.0 s B) 1.0 s C) 5.0 s D) 0.80 s
- 4) Oil drips at 0.4-second intervals from a car that has an oil leak. Which pattern *best* represents the spacing of oil drops as the car accelerates uniformly from rest?
- A) • • • • • • • C) • • • • • • • • • •
- B) • • • • D) • • • • • • • •
- 5) A child riding a bicycle at $15 \text{ meters per second}$ decelerates at the rate of $3.0 \text{ meters per second}^2$ for 4.0 seconds . What is the child's speed at the end of the 4.0 seconds ?
- A) 12 m/s B) 7.0 m/s C) 27 m/s D) 3.0 m/s
- 6) An object, starting from rest, accelerates at a rate of $3.0 \text{ meters per second squared}$ for 6.0 seconds . The velocity of the object at the end of this time is
- A) 2.0 m/s B) 0.50 m/s C) 18 m/s D) 3.0 m/s
- 7) A car moving at a speed of $8.0 \text{ meters per second}$ enters a highway and accelerates at $3.0 \text{ meters per second}^2$. How fast will the car be moving after it has accelerated for 56 meters ?

- A) $20. \text{ m/s}$ B) 4.0 m/s C) 24 m/s D) 18 m/s

- 8) A race car traveling at 10. meters per second accelerates at the rate of $1.5 \text{ meters per second}^2$ while traveling a distance of 600. meters. The final speed of the race car is approximately
- A) 150 m/s B) 1,900 m/s C) 44 m/s D) 910 m/s
- 9) An object accelerates uniformly from rest to a speed of 50. meters per second in 5.0 seconds. The average speed of the object during the 5.0-second interval is
- A) 10. m/s B) 50. m/s C) 5.0 m/s D) 25 m/s
- 10) The graph below represents the relationship between speed and time for a car moving in a straight line.



- The magnitude of the car's acceleration is
- A) 0.10 m/s^2 B) $10. \text{ m/s}^2$ C) 0.01 m/s^2 D) 1.0 m/s^2
- 11) A skier starting from rest skis straight down a slope 50. meters long in 5.0 seconds. What is the magnitude of the acceleration of the skier?
- A) 5.0 m/s^2 B) $20. \text{ m/s}^2$ C) 9.8 m/s^2 D) 4.0 m/s^2
- 12) If an object's velocity changes from 25 meters per second to 15 meters per second in 2.0 seconds, the magnitude of the object's acceleration is
- A) 7.5 m/s^2 B) 5.0 m/s^2 C) $20. \text{ m/s}^2$ D) 13 m/s^2
- 13) The velocity of a car changes from 60. meters per second north to 45 meters per second north in 5.0 seconds. The magnitude of the car's acceleration is
- A) 53 m/s^2 B) 15 m/s^2 C) 3.0 m/s^2 D) 9.8 m/s^2
- 14) An object originally moving at a speed of 20. meters per second accelerates uniformly for 5.0 seconds to a final speed of 50. meters per second. What is the acceleration of the object?
- A) 6.0 m/s^2 B) 14 m/s^2 C) 4.0 m/s^2 D) $10. \text{ m/s}^2$