

1. A student walks 160 m in 150 s. The student stops for 30 s and then walks 210 m farther in 140 s. What is the average speed of the entire walk?

A 0.53 m/s
B 0.80 m/s
C 1.2 m/s
D 1.3 m/s

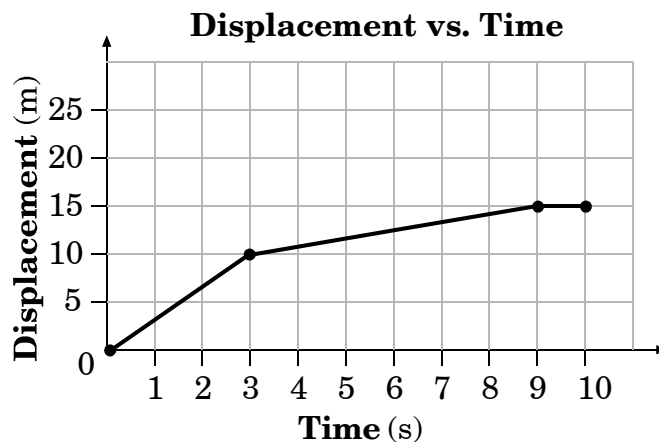
2. This table gives the position of a car as a function of time.

Time (s)	Position (m)
0	5
1	9
2	13
3	13
4	15
5	20

What is the average velocity during the interval 2 s to 3 s?

A 0 m/s
B 2 m/s
C 3 m/s
D 4 m/s

3. Consider this displacement vs. time graph representing the motion of a bicyclist.



What is the average velocity of the bicyclist between 0 and 3 seconds?

- A 3.3 m/s
- B 5.0 m/s
- C 7.5 m/s
- D 10. m/s
-
4. If the acceleration of a truck over a given time interval is zero, how does the instantaneous velocity of that truck at any instant during that interval compare to its average velocity over the interval?
- A Instantaneous velocity would be greater than average velocity.
- B Instantaneous velocity would be less than average velocity.
- C Instantaneous velocity would equal average velocity.
- D Instantaneous velocity will vary in value compared to average velocity.

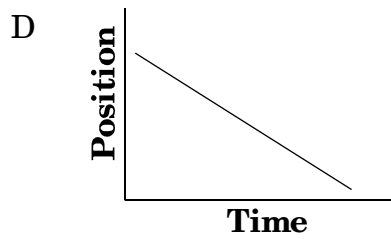
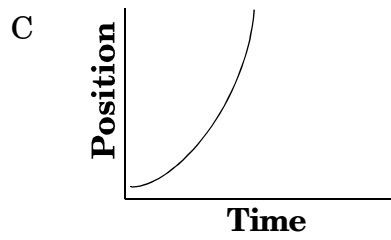
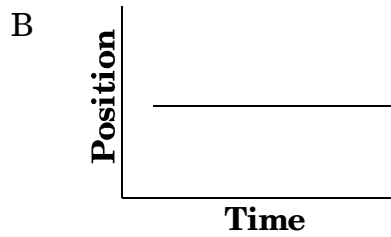
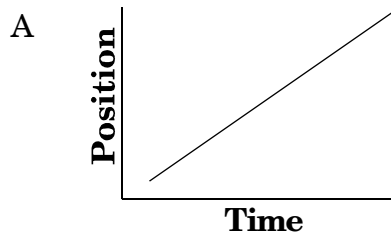
5. A car travels from A to B at a constant 100 km/hr.



Which of the following changes?

- A speed
- B velocity
- C frame of reference
- D speed and velocity
-
6. A person walks 10 km due east, then 30 km at 60° N of E. What is the shortest route back to his starting point?
- A 36 km at 46° S of W
- B 36 km at 46° N of E
- C 40 km at 46° S of W
- D 40 km at 46° N of W
7. An airplane went from 120 m/s to 180 m/s in 4.0 seconds. What was its acceleration?
- A 15 m/s/s
- B 30. m/s/s
- C 45 m/s/s
- D 60. m/s/s

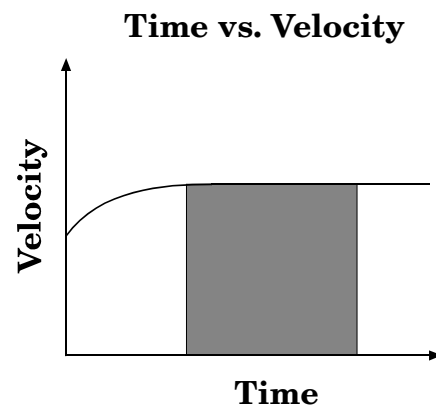
8. Which position vs. time graph indicates an object undergoing uniformly accelerated motion?



9. A rocket lifts vertically off the launching pad and reaches a final velocity of 450 m/s in 15 seconds. What is its acceleration?

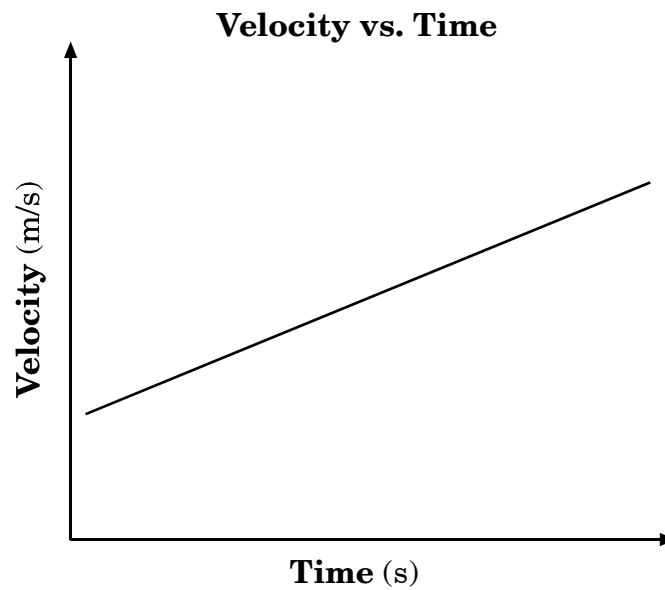
- A 30. m/s/s
 B 45 m/s/s
 C 60. m/s/s
 D 450 m/s/s

10. What does the area bound by this velocity curve and time axis represent?



- A acceleration
 B displacement
 C position
 D velocity

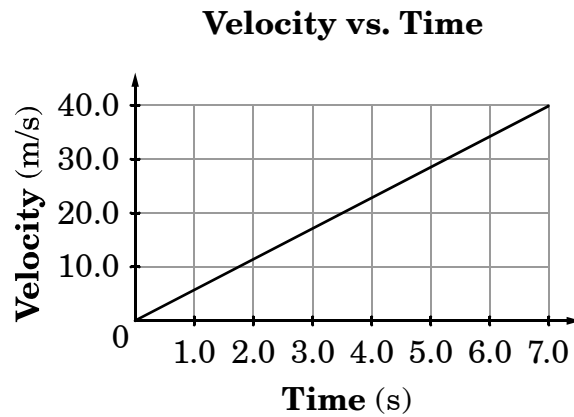
11. This is a velocity vs. time graph for a moving car.



What does the slope of the line on this graph represent?

- A displacement
- B average velocity
- C acceleration
- D momentum

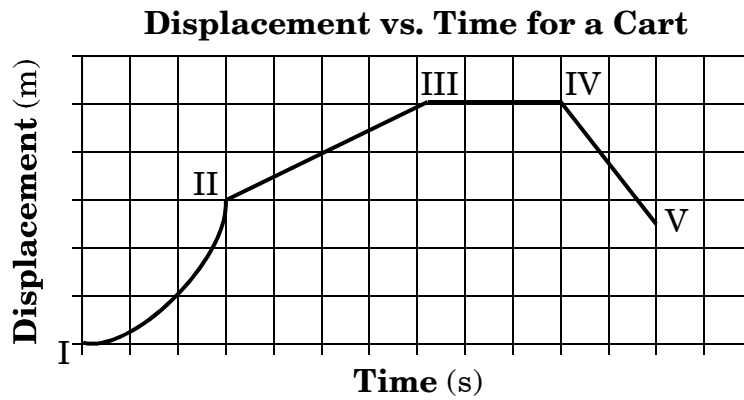
12. The graph represents the velocity of a car.



What is the displacement of the car during the time interval shown?

- A 0.18 m
- B 5.7 m
- C 140 m
- D 280 m

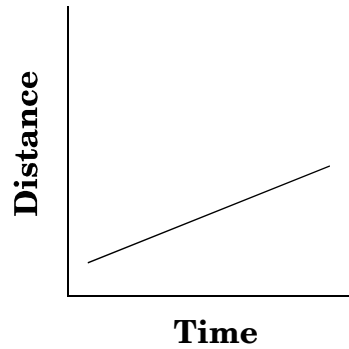
13. This displacement-time graph below represents the motion of a cart along a straight line.



During which interval was the cart accelerating?

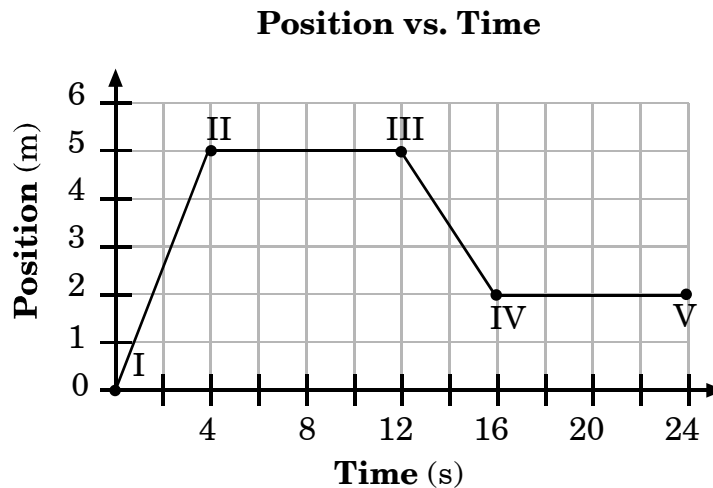
- A I–II
- B II–III
- C III–IV
- D IV–V

14. Based on this graph, which is constant?



- A displacement
- B position
- C time
- D velocity

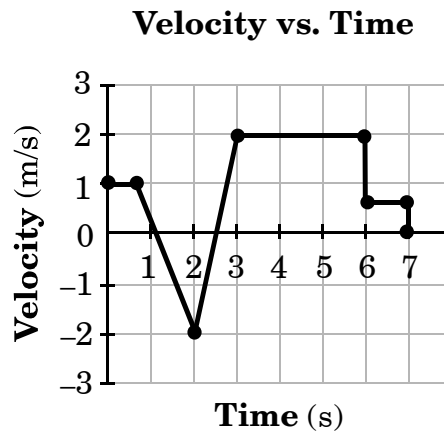
15. This graph shows the position of a car along a straight path as a function of time.



What is the car's velocity at 2.0 sec?

- A 1.25 m/s
- B 2.50 m/s
- C 5.00 m/s
- D 10.0 m/s

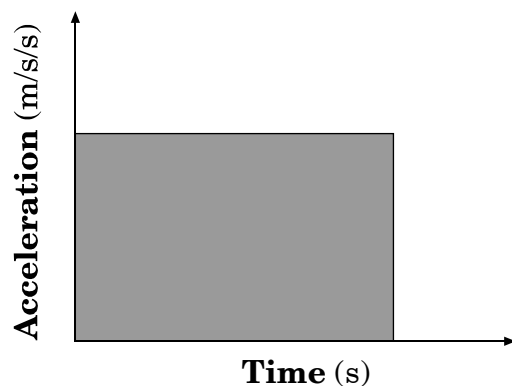
16. This is a velocity vs. time graph of an object.



What is the velocity of the object at $t = 3\text{s}$?

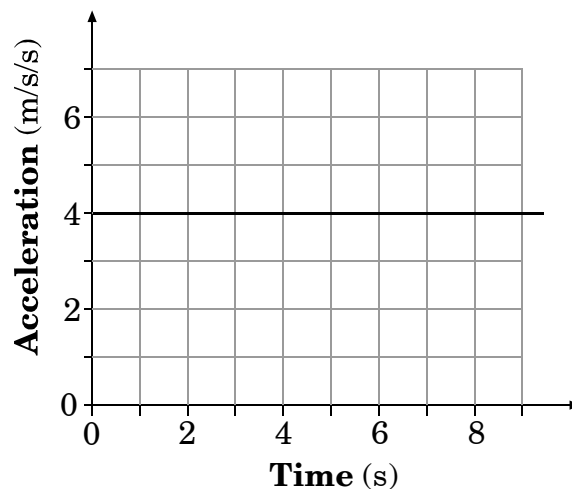
- A -2 m/s
- B 0 m/s
- C 1 m/s
- D 2 m/s

17. What does the shaded area of the acceleration vs. time graph indicate?



- A total displacement
- B change in velocity
- C instantaneous velocity
- D average displacement

18. This is an acceleration vs. time graph of an object.



If the object's initial velocity is 0 m/s, what is the velocity of an object at $t = 8.0$ s?

- A 0.50 m/s
- B 2.0 m/s
- C 12 m/s
- D 32 m/s

End of Goal 2 Sample Items

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