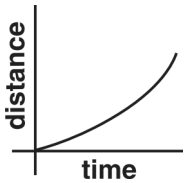
PvT Practice Problems

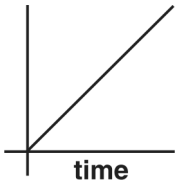
DO NOT WRITE IN THIS PACKET

1. An object moves away from a motion detector with a constant speed. Which graph *best* represents the motion of the object?

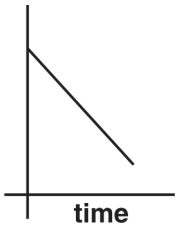
A.



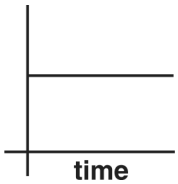
B.



C.

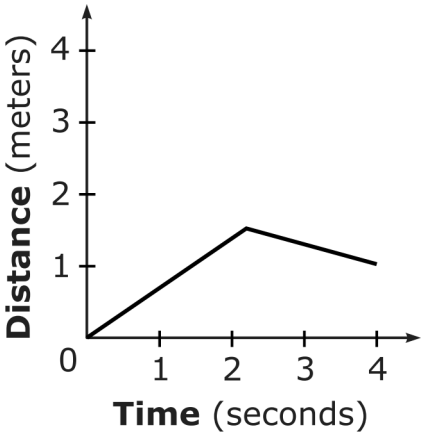


D.

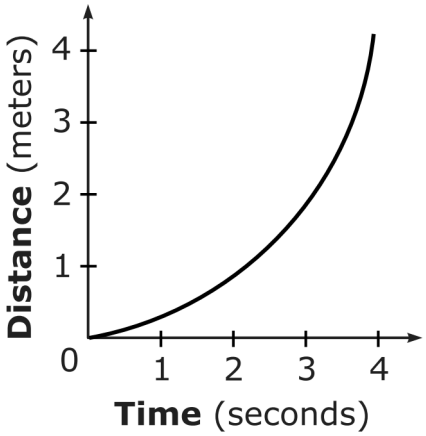


2. Which graph represents a moving object with a constant speed throughout its entire travel time?

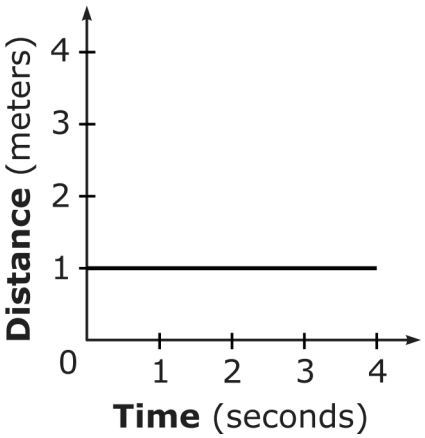
A.



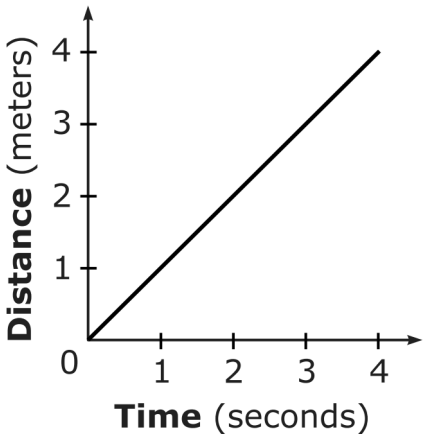
B.



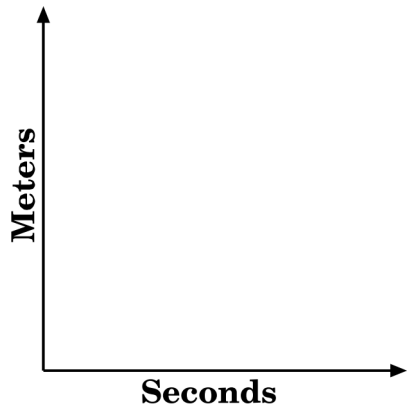
C.



D.



3. This type of graph is used to describe something about an object.



What could this graph describe?

A. friction **B.** volume **C.** mass **D.** speed

4. Use the graph below to answer the question.

A student drew a graph that shows the motion of a car as it traveled down a street. When was the car stopped at a stoplight?

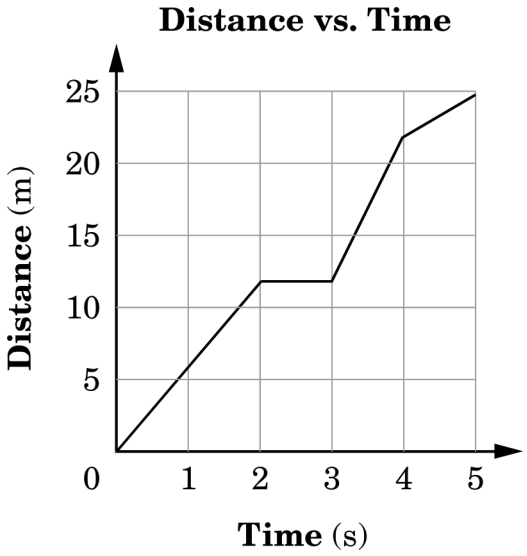
A. between 1 and 3 minutes

B. between 3 and 5 minutes

C. between 5 and 8 minutes

D. between 8 and 10 minutes

5. This graph shows the motion of an animal.



When does the animal remain still?

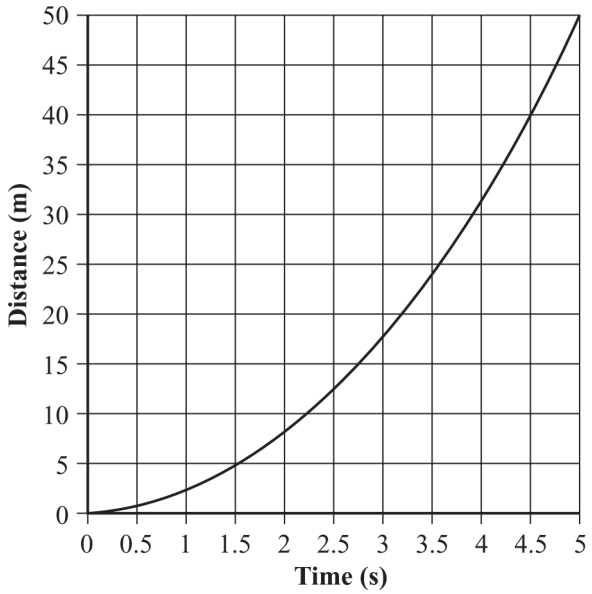
A. between second 1 and second 2

B. between second 2 and second 3

C. between second 3 and second 4

D. between second 4 and second 5

6. The distance vs. time graph below shows data collected as a remote-controlled car moved across a level parking lot.



According to the graph, which of the following conclusions about the car's motion is supported?

A. The car is accelerating.

B. The car is stopping and starting.

C. The car is traveling at a constant velocity.

D. The car is moving through an obstacle course.

7. A dog runs 6 meters in one second. By the end of the next second, the dog has traveled an additional 4 meters. Which *best* describes the motion of the dog during the two seconds?

A. The dog slows down.

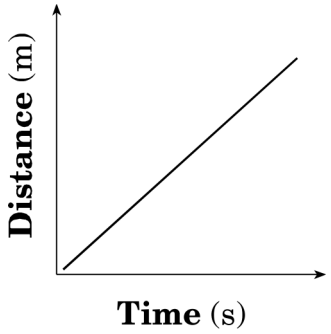
B. The dog comes to a stop.

C. The dog changes in mass.

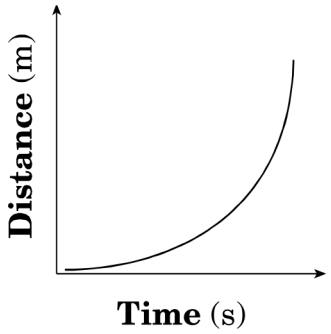
D. The dog changes direction.

8. Which graph represents a car with a positive acceleration?

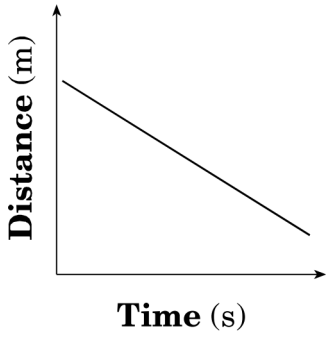
A.



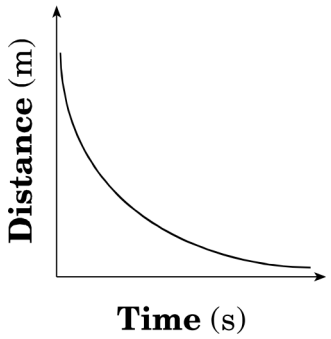
B.



C.



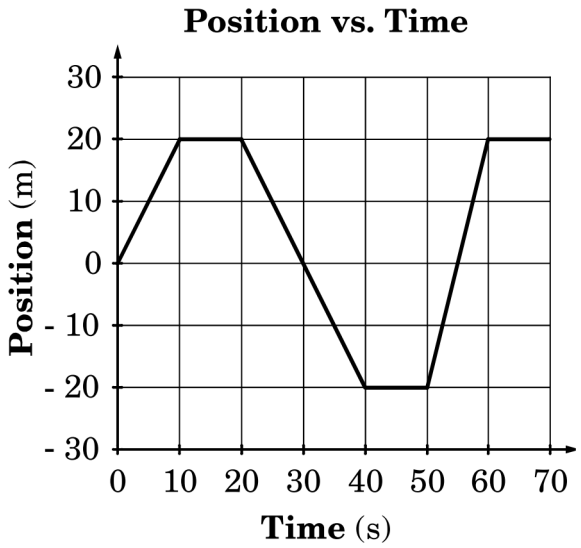
D.



9. A runner records the distance and time he ran around a track. What can be determined from this data?

A. direction **B.** force **C.** speed

10. The graph represents the motion of a car moving linearly.

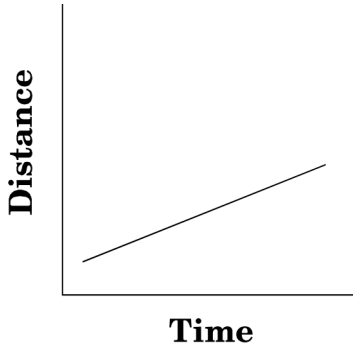


When is the car moving backwards?

A. 0 s to 10 s **B.** 20 s to 40 s

C. 40 s to 50 s **D.** 50 s to 60 s

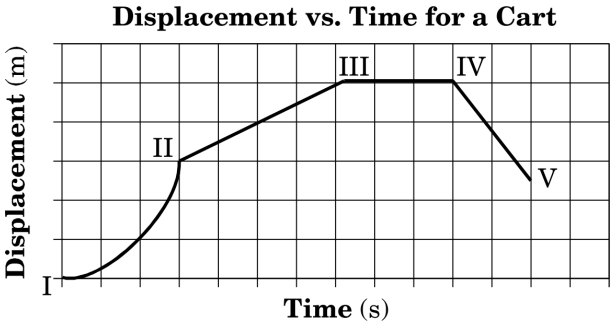
11. Based on this graph, which is constant?



A. displacement **B.** position

C. time **D.** velocity

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



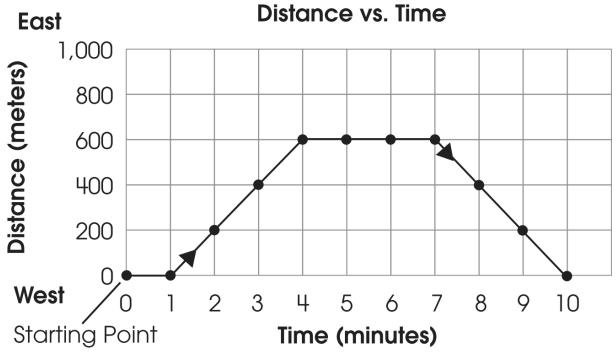
During which interval was the cart accelerating?

A. I–II **B.** II–III **C.** III–IV **D.** IV–V

13. Use the information below to answer the following question(s).

Motion Diagram

The graph below shows the position of a car in motion along an east-west road over a period of 10 minutes. The car's position is recorded at 1-minute intervals. At time = 0, the car's position is at the starting point.



What is the car's motion relative to the starting point at time = 8 minutes?

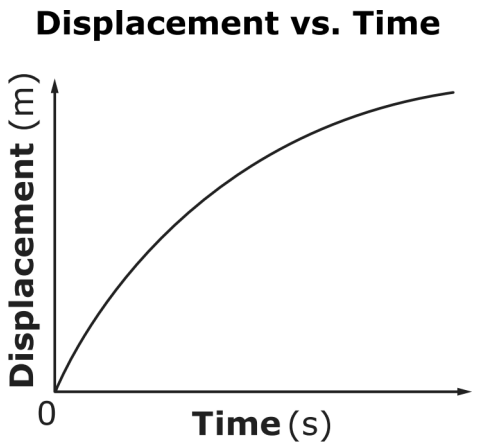
A. at rest at the starting point

B. in motion at the starting point

C. moving toward the starting point

D. moving away from the starting point

14. The graph below represents the displacement of an object over time.



Which *best* describes the velocity of the object?

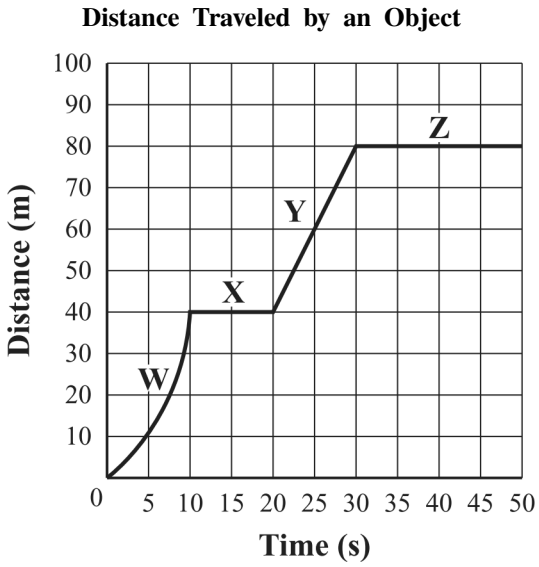
A. The velocity increases at a constant rate.

B. The velocity remains the same.

C. The velocity decreases at a constant rate.

D. The velocity remains at zero.

15. The graph below shows the distance an object traveled over time.



Which line segment represents the time interval during which the object was moving at a positive constant speed?

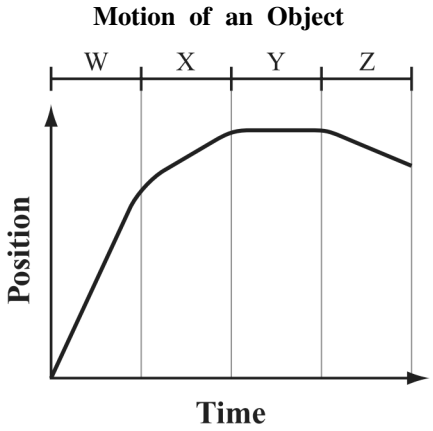
A. segment W

B. segment X

C. segment Y

D. segment Z

16. The graph below represents the motion of an object over four time intervals, W, X, Y, and Z.



Over which time interval is the object moving the fastest?

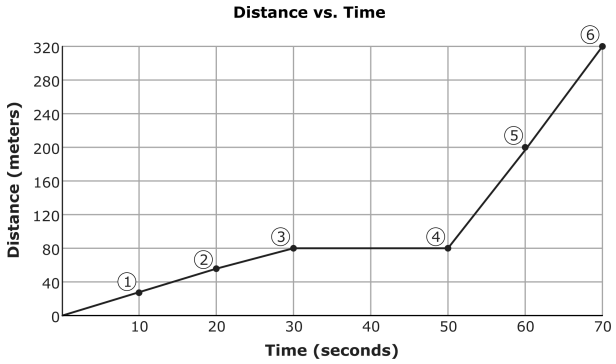
A. interval W

B. interval X

C. interval Y

D. interval Z

17. This graph represents the changing motion of a horse.



Which *best* explains the motion of the horse between (3) and (4) on the graph?

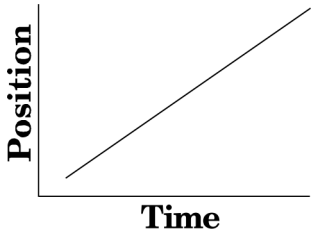
A. The horse is moving faster and faster.

B. The horse is not moving.

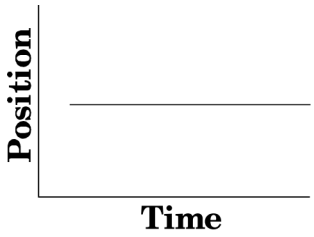
C. The horse is slowing down.

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

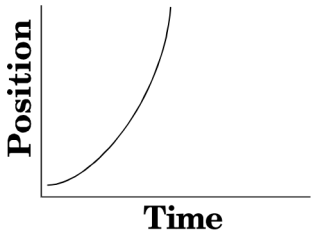
A.



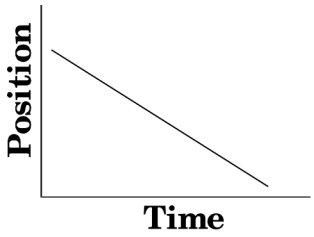
B.



C.

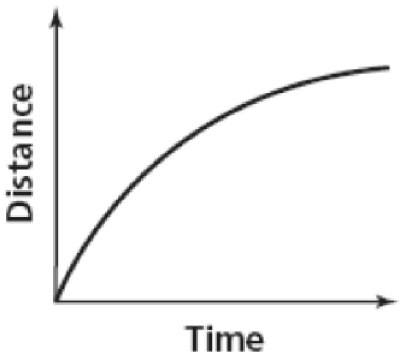


D.

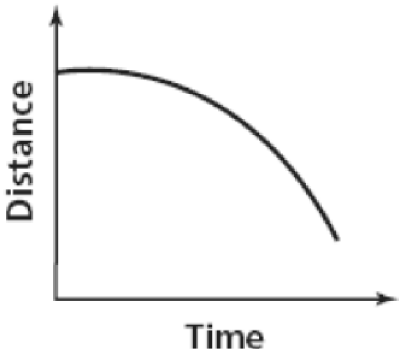


19. After a baseball is thrown up into the air, it will eventually fall back down to Earth. Which graph *best* demonstrates the relationship between time and distance from Earth as the baseball falls?

A.

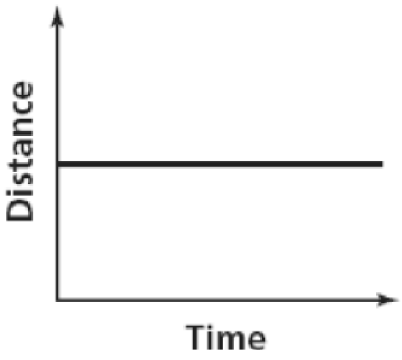


B.



C.

D.



20. A car moves along a road that has markers every kilometer. Over time, it passes the markers in shorter periods of time. Which *best* describes the motion of the car?

A. The car is keeping the same direction.

B. The car is maintaining the same speed.

C. The car is increasing speed.

D. The car is changing direction.

21. A girl walked for 30 minutes. She noticed that she traveled farther in the first 15 minutes of her walk than in the second 15 minutes.

What can she conclude about her walk?

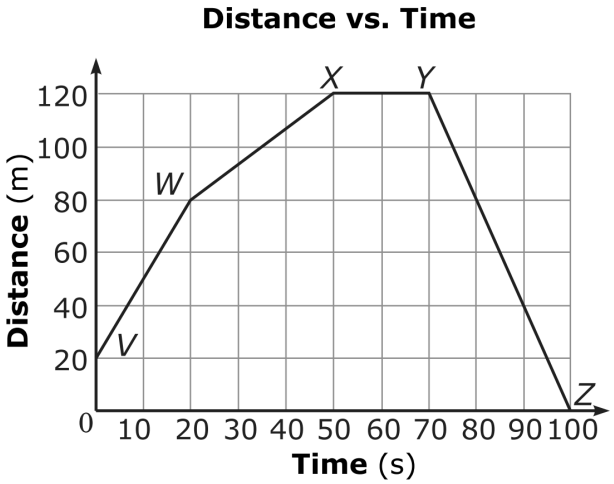
A. She walked over many hills.

B. Her average speed was faster during the first half of her walk.

C. She walked in two different directions.

D. She was walking at a constant speed.

22. The graph below shows the distance traveled by an object over 100 seconds.



What happened to the motion of the object between $t = 50$ s and $t = 70$ s?

A. The object increased its speed.

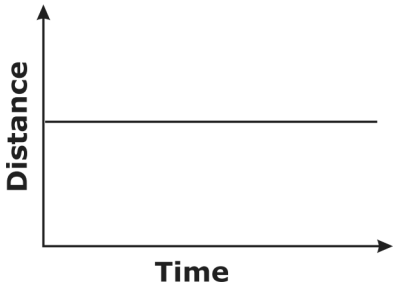
B. The object decreased its speed.

C. The object stopped moving.

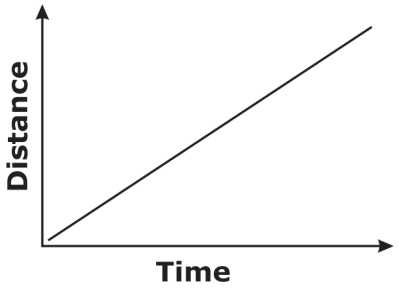
D. The object changed directions.

23. Which graph represents an object that is decreasing in speed?

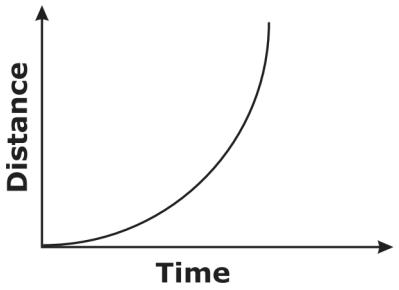
A.



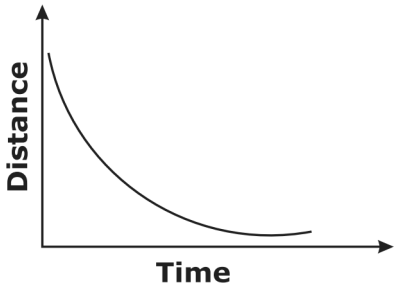
B.



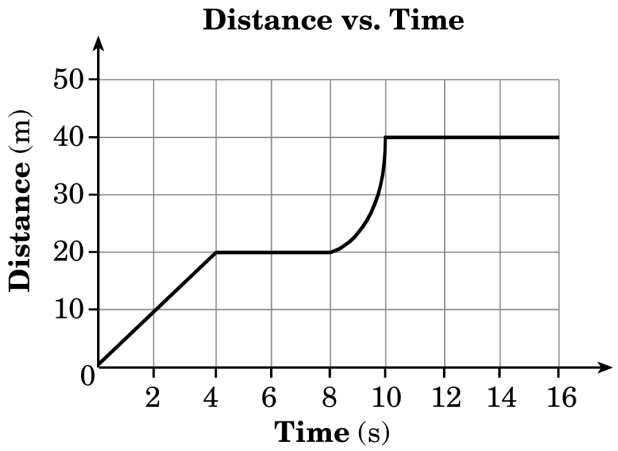
C.



D.



24. This graph shows the motion of a person riding a bicycle.

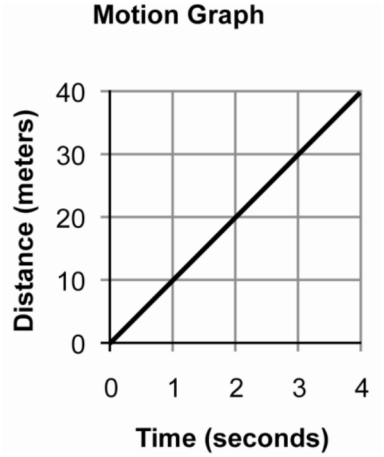


Which time period shows the acceleration of the bicycle?

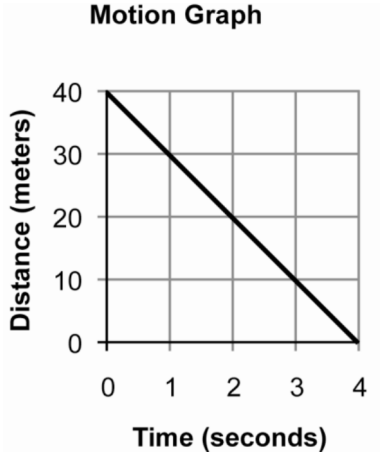
A. 0–4 s **B.** 4–8 s **C.** 8–10 s **D.** 10–16 s

25. Mrs. Wilson's science class is graphing the movement of vehicles passing their school. Which line graph shows a vehicle slowing down?

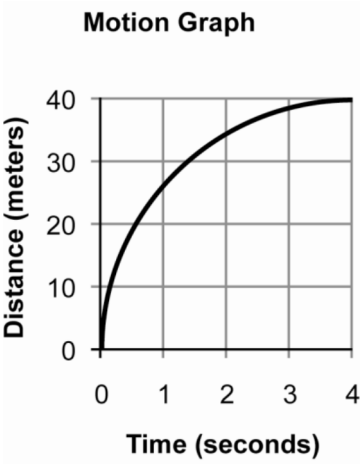
A.



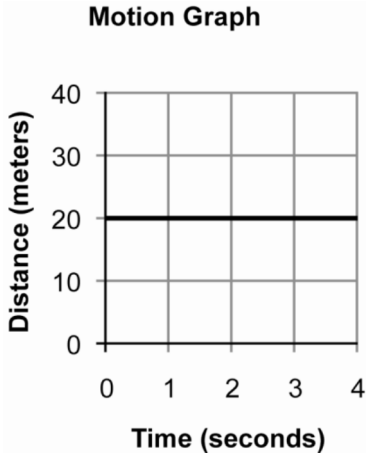
B.



C.



D.



PvT Practice Problems 1/20/2020

1.
Answer: B
Points: 1

2.
Answer: D
Objective: 7.P.1
Points: 1

3.
Answer: D
Points: 1

4.
Answer: C
Objective: LA PS-E-B3
Points: 1

5.
Answer: B
Points: 1

6.
Answer: A
Objective: MA 1.4
Points: 1

7.
Answer: A
Objective: 4.01
Points: 1

8.
Answer: B
Objective: 2.01
Points: 1

9.
Answer: C
Points: 1

10.
Answer: B
Points: 1

11.
Answer: D
Objective: 2.04
Points: 1

12.
Answer: A
Objective: 2.04
Points: 1

13.
Answer: C
Objective: OH 8.B
Points: 1

14.
Answer: C
Objective: Phy.1
Points: 1

15.
Answer: C
Objective: MA 1.3
Points: 1

16.
Answer: A
Objective: MA 1.3
Points: 1

17.
Answer: B
Points: 1

18.
Answer: C
Objective: 2.03
Points: 1

19.
Answer: B
Points: 1

20.
Answer: C
Points: 1

21.
Answer: B
Objective: 5.P.1
Points: 1

22.
Answer: C
Objective: 7.P.1
Points: 1

23.
Answer: D
Objective: 5.P.1
Points: 1

24.
Answer: C
Objective: 2.01
Points: 1

25.
Answer: C
Objective: LA PS-M-B1
Points: 1