Name:
Class:
Date:

Question #1

Which of the following quantities is a velocity?

A 25 m/s

B 3 g/L in weight

C 15 m/s^2

D 10 km/hr eastward

Question #2

Which of the following best defines acceleration?

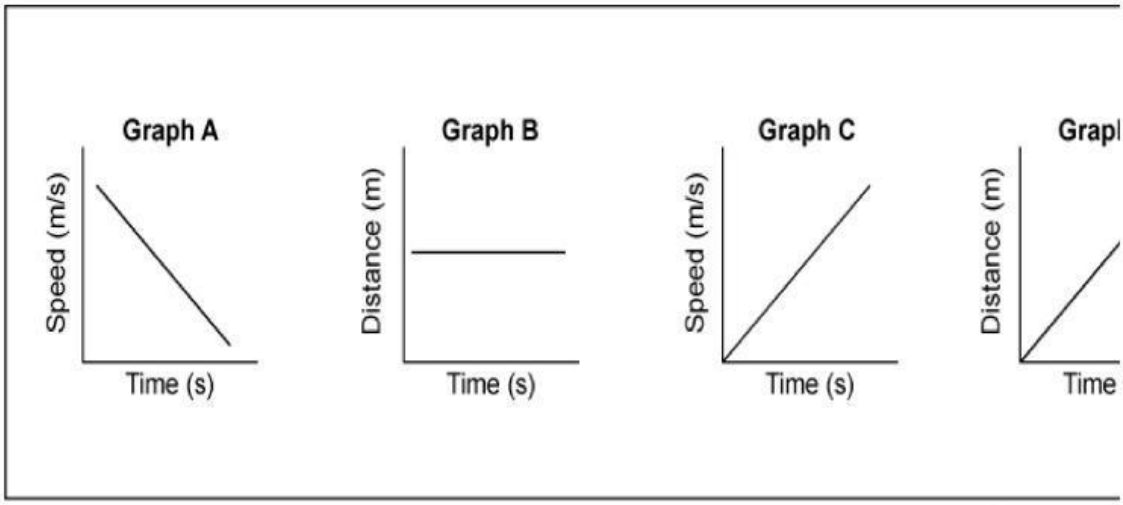
A The change in the distance divided by the change in time.

B The change in the position of an object.

C The change in the time it takes to move from one place to another.

D The change in the velocity divided by the change in time.

Directions: Use the graphs below, which describe the motions of cars on a straight road, to answer any questions that follow.



Question #3

Which graph represents a car with positive acceleration?

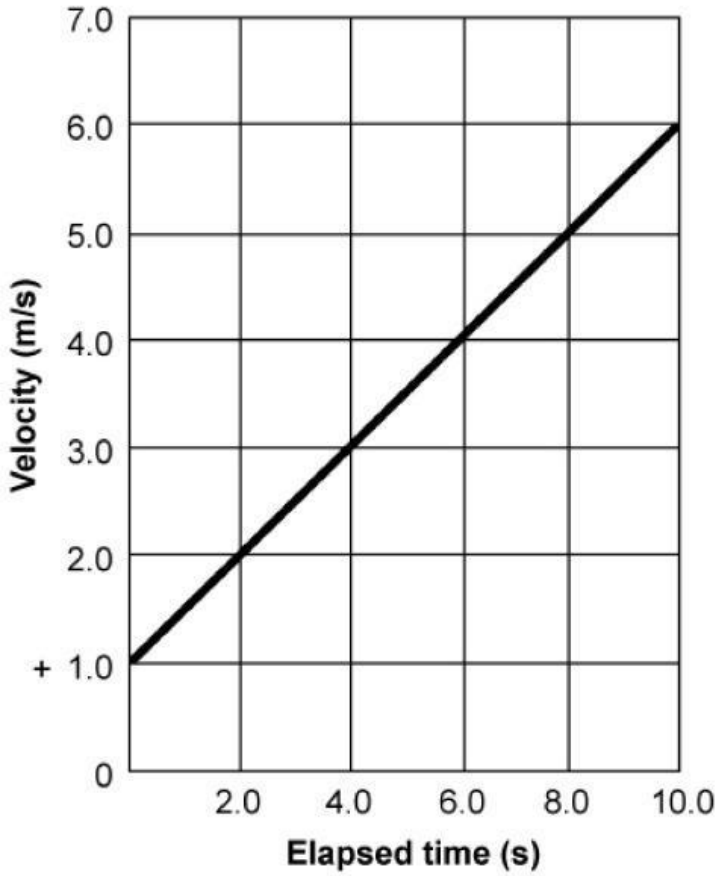
A Graph A

B Graph B

C Graph C

D Graph D

Directions: Use the graph below depicting the motion of a cyclist to answer any questions that follow.



Question #4

Which of the following best describes the acceleration of the cyclist?

A decreasing

B zero and constant

C constant but non-zero

D increasing

Question #5

Which of the following best describes the velocity of the cyclist?

A decreasing

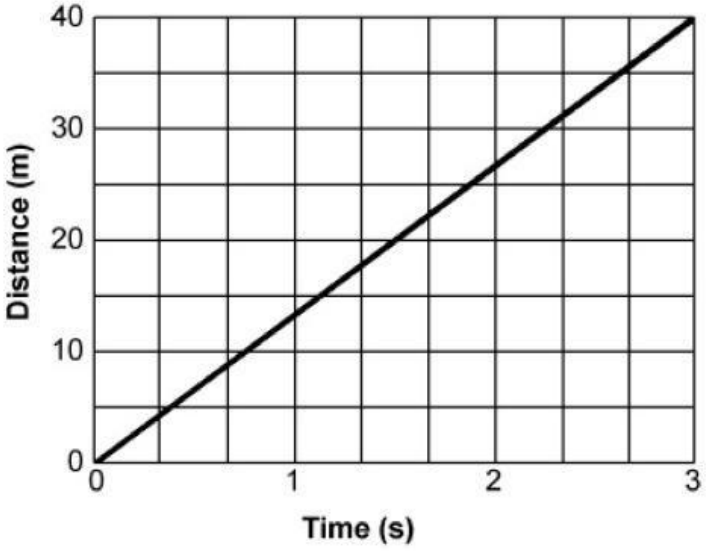
B zero and constant

C constant but non-zero

D increasing

Question #6

Review the graph below, which plots total distance traveled versus time of travel for a moving object.



Why do the values on the graph form a straight line?

A The speed is constant.

B The distance remains unchanged.

C The direction of motion stays the same.

D The speed gradually increases over time.

Question #7

A car travels 40 miles north in the first 40 minutes of a trip. The same car travels 30 miles west in the next 30 minutes of the trip. What can be said about the motion of the car?

A The car is traveling at a constant speed.

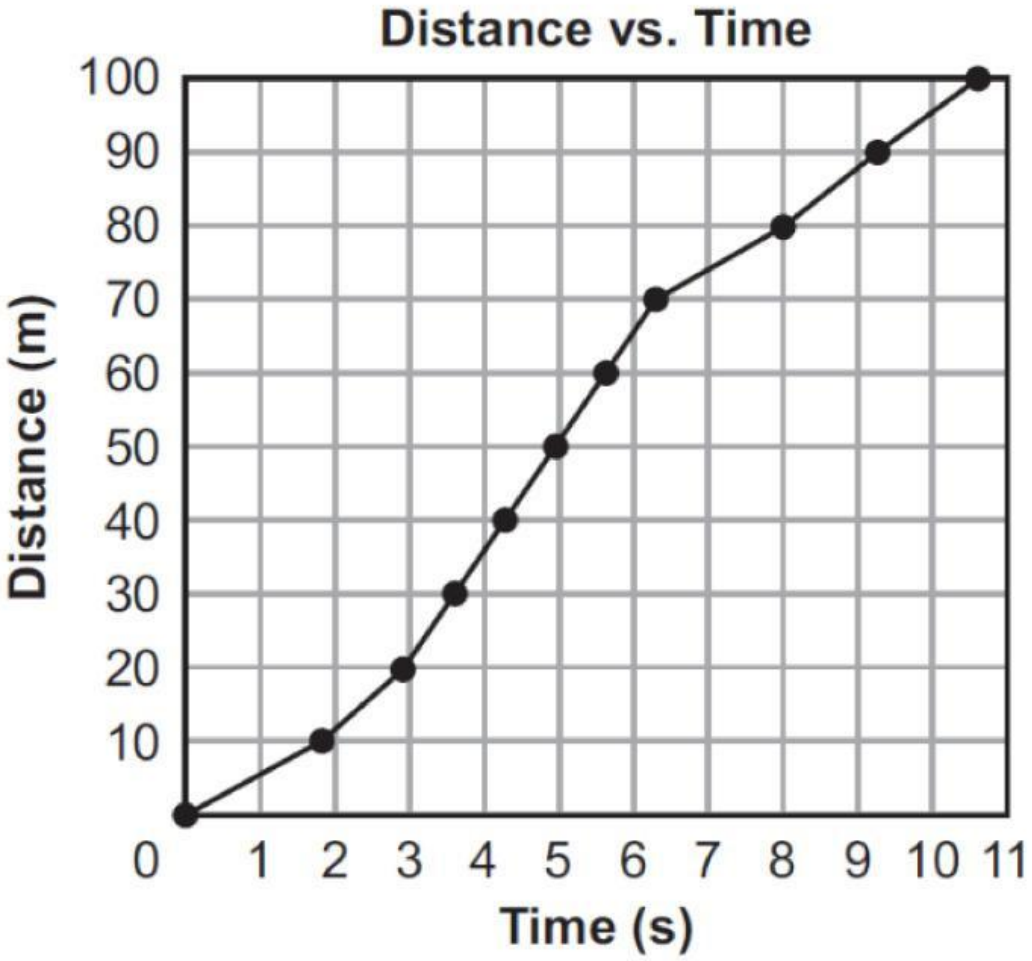
B The car is accelerating at a constant rate.

C The car is decreasing its speed.

D The car is moving at a constant velocity.

Question #8

A coach at a track meet measured the time of a runner every 10 meters (m) during a 100 m dash. The data for the runner are shown.



Which statement is the BEST analysis of the data for the runner?

A. The runner covers the first 80 m running at a constant speed and then slows down, reaching a minimum speed during the final 20 m.

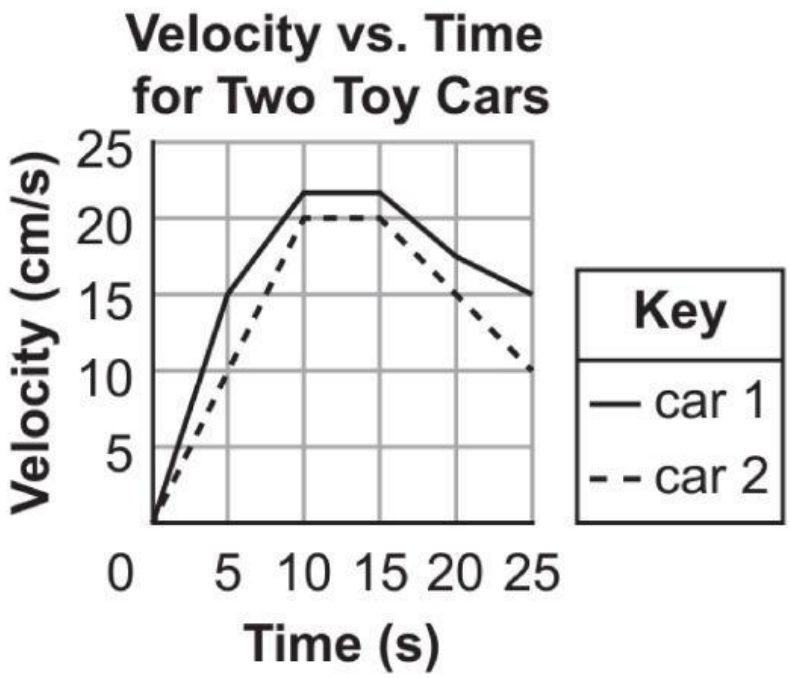
B. The runner starts slower and speeds up, reaching a constant speed between 20 and 80 m, and then speeds up again during the final 20 m.

C. The runner covers the first 70 m running at a constant speed and then speeds up, reaching a maximum speed during the final 30 m.

D. The runner starts slower and speeds up, reaching a maximum speed between 50 and 70 m, and then slows down during the final 30 m.

Question #9

Two toy cars move in the same direction with velocities that are shown in the graph.



Based on the information in the graph, which statement describes the motion of the two toy cars?

A Car 1 is traveling faster than car 2.

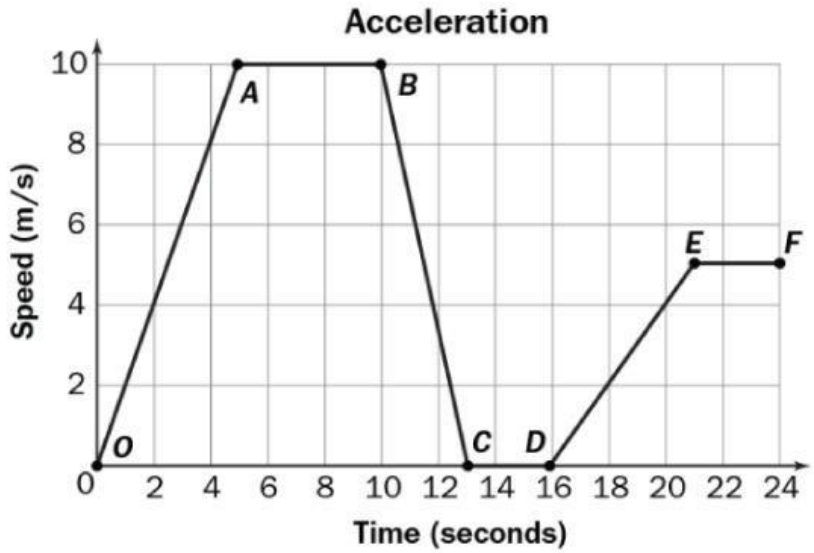
B Car 2 is traveling farther than car 1.

C Car 1 has constant velocity between 0 and 10 seconds.

D Car 2 is changing direction between 10 and 15 seconds.

Question #10

Students are exploring the relationship between velocity and acceleration . This graph shows the acceleration of a remote-controlled toy car.



Which statement is TRUE based on the graph?

A Segment BC and segment EF show constant speed

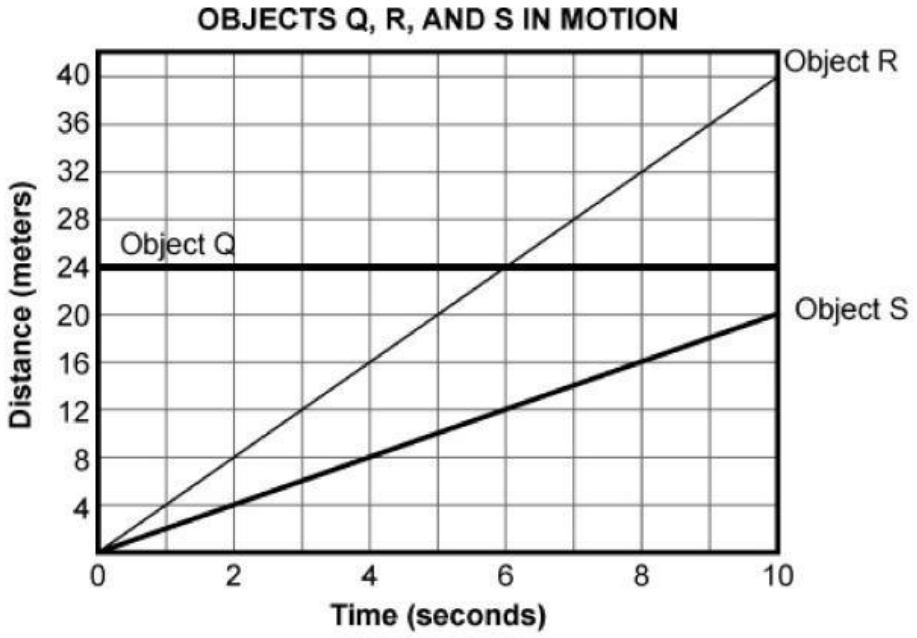
B Segment OA and segment BC show constant speed

C Segment AB and segment CD show positive acceleration

D Segment OA and segment DE show positive acceleration

Question #11

The graph shows the motion of three objects.

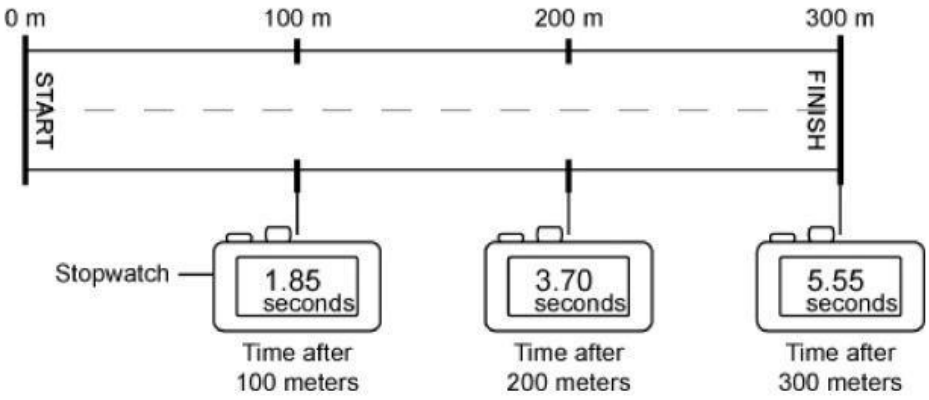


Order the objects by speed, starting with the object with the highest speed.

1	Q	
2	R	
3	S	

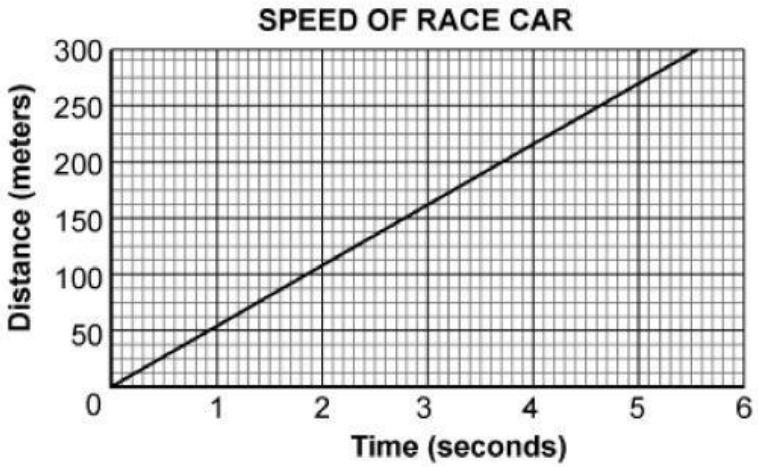
Question #12

The diagram shows the time it took for a race car to travel each 100-meter (m) segment along a 300-m track.

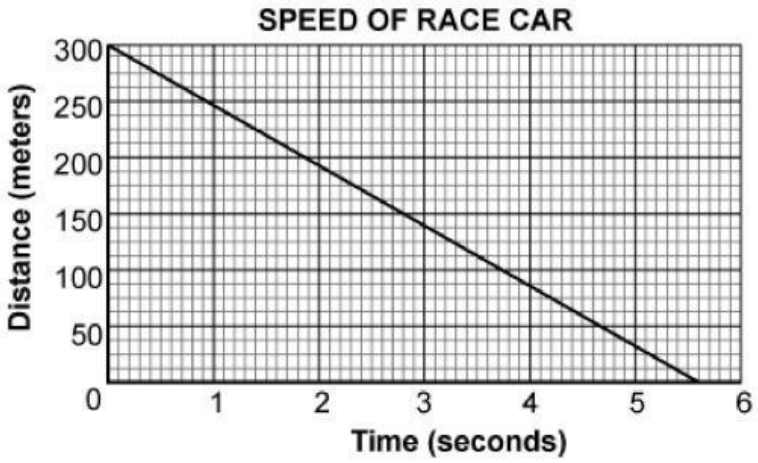


Which graph correctly shows the distance and time traveled by the race car?

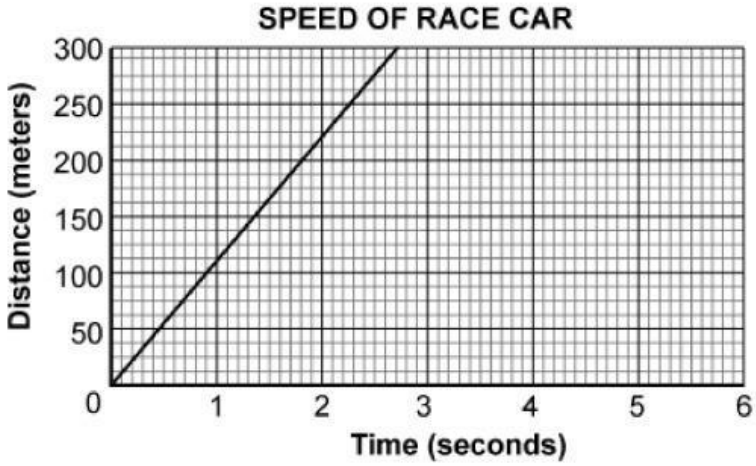
A



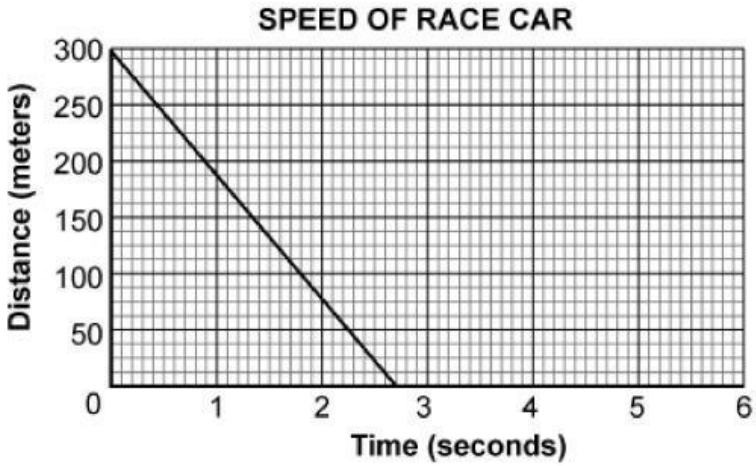
B



C

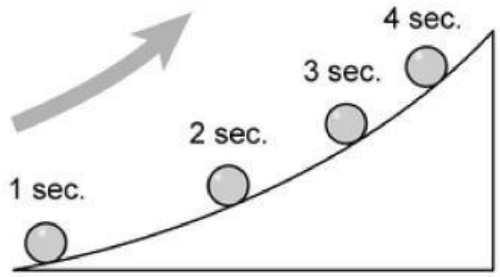


D



Question #13

The picture shows a ball rolling up a ramp.



Which statement best describes the motion of the ball?

A The ball's speed is increasing.

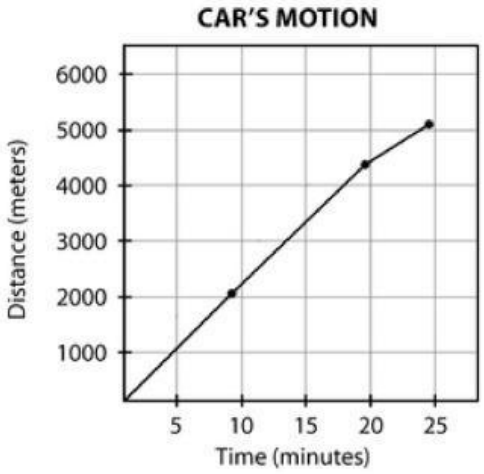
B The ball's speed is decreasing.

C The ball's motion is constant.

D The ball's motion is stopping.

Question #14

The driver of a car completes a trip. The graph displays data about the car's motion during the trip.



Which of the following statements about the car's motion is true?

A The total time for the car trip was 50 minutes.

B The car returned to where it had started the trip at the end of the trip.

C The car did not slow down during the trip.

D The car did not travel at a constant speed during the entire trip.

Question #15

A school bus drives north and then east through the city as it takes students to school. The bus crosses a city block every 10 seconds. If all the city blocks are the same length, what can be said about the motion of the bus?

A The bus is decelerating at a constant rate.

B The bus is accelerating at a constant rate.

C The bus is moving at a constant speed.

D The bus is moving at a constant velocity.