

## Motion Study Guide:

Test Date: Friday, October 3<sup>rd</sup>

One notecard (front and back) can be used on test.

To specify the position of an object, you need to know

A person on a moving train sees a car that appears to be stopped. A person outside the train sees both the car and the train moving. This example shows

Which tells you how quickly an object changes position?

To find the speed of an object in motion, you need to measure

One example of a vector is

A flat, or horizontal, line on a distance-time graph means that the speed is

Motion is a change in

Elena is riding her bicycle. She begins pedaling harder. What do you predict will happen?

Speed in a specific direction is

Which statement is TRUE of momentum?

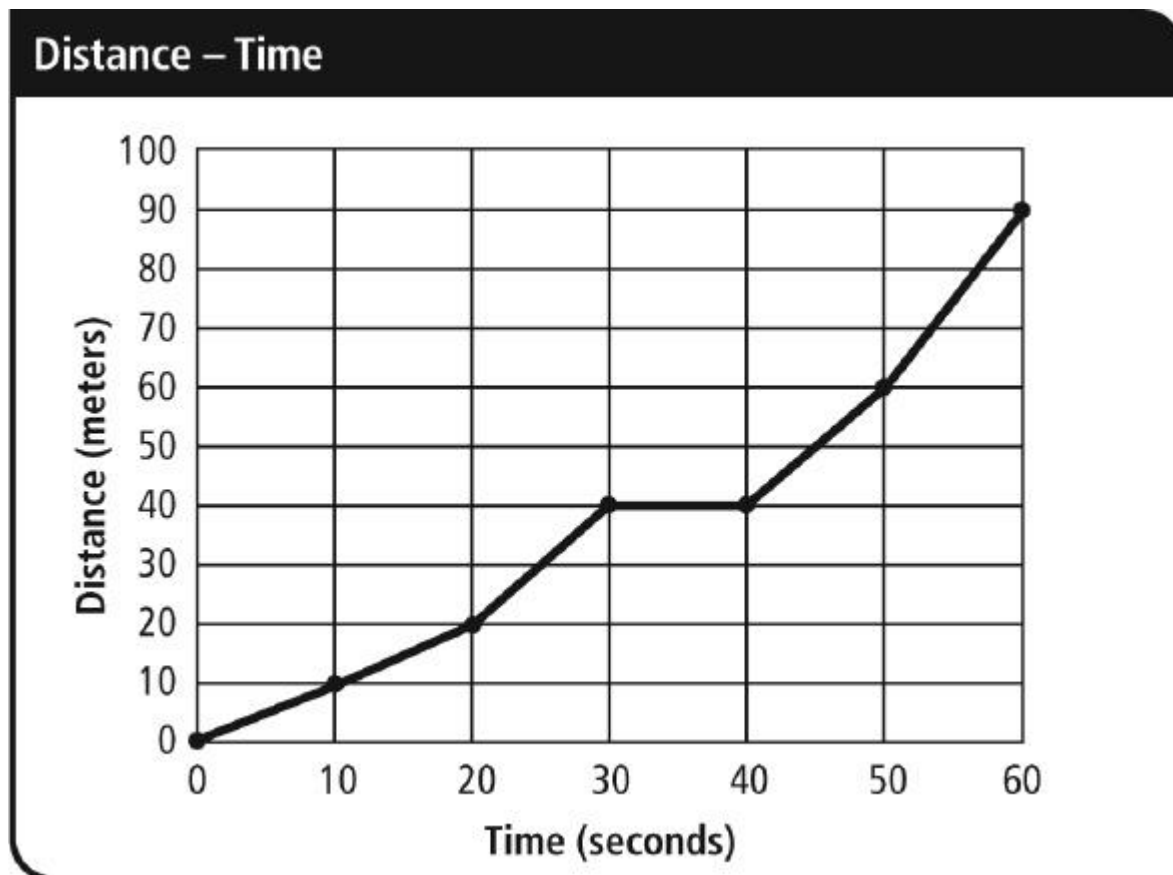
Sara walked north at 100 m/s. Han had a different velocity but the same speed. He could have walked

Jess drives at a steady velocity. Her acceleration is

On a velocity-time graph, a line that is slanted down from left to right shows

Drew watches a car that appears to be moving forward. Which of the following could be true?

Use the graph below to answer the questions 15 - 17.



In the graph above what is the average speed of the object traveling?

In the graph above what happens to the object between the 30 - 40 second interval?

In the graph above when is the object's speed the greatest?

If momentum is conserved, then the total momentum after a collision is equal to

Which is an example of zero acceleration?

Melanie is accelerating as she skates on the ice. However, the speed at which she is skating has not changed. A possible explanation for this is that Melanie

Roger observed an airplane flying overhead. He measured its speed and noted that it moved from north to south. Roger determined the plane's

On a roller coaster, the cars first climb a hill at a decreasing speed. Then the cars speed up as they go down the hill, before coasting at a steady speed on a straight track. Finally, the cars slow down as the ride ends. The cars have zero acceleration while

**Use the table below to answer the next two questions**

<b>VELOCITIES OF TWO CARS RECORDED DURING AN AUTOMOBILE RACE</b>				
<b>Time</b>	<b>20 s</b>	<b>40 s</b>	<b>60 s</b>	<b>80 s</b>
Car A	30 m/s	35 m/s	40 m/s	35 m/s
Car B	25 m/s	35 m/s	40 m/s	50 m/s

Both Car A and Car B have the same rate of acceleration during the 40 - 60 second interval. What is their rate of acceleration during this period?

What is Car A's acceleration during the 60 - 80 second interval?

A small SUV that has a mass of 1,486 kg travels east, at a velocity of 35 m/s? What is the vehicle's momentum?