Describing Motion — Intro to Motion Diagrams and Plotting

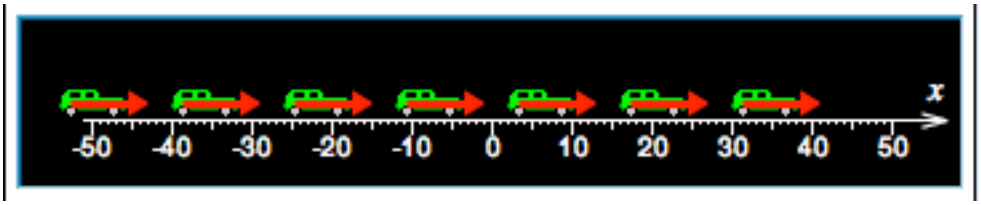


Figure 1

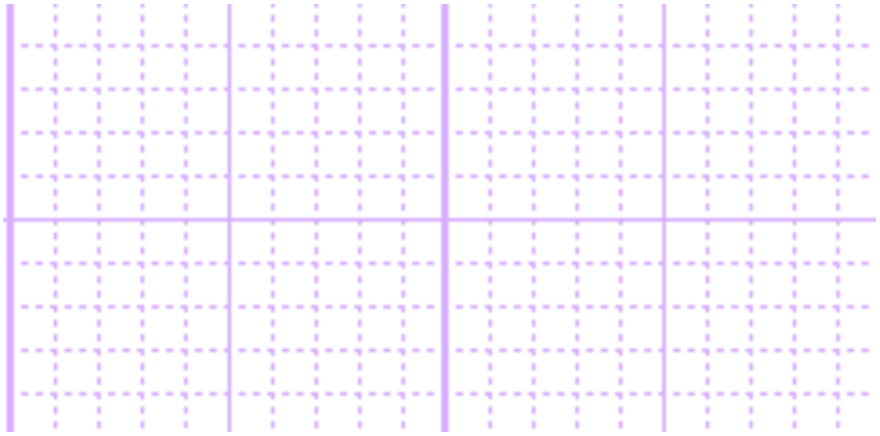
Describe the motion of the car in **Figure 1**. Include information about its initial position, direction of motion and if the car is speeding up, slowing down or moving at a constant speed. Briefly explain how you know.

Assuming that the motion diagram shows the position of the car at uniform intervals of two seconds, create a data table of the position (x) of the car as a function of time (t).

t (sec)	x (m)

Plot the position of the car as a function of time. What information does the shape of the plot reveal? How would you calculate this value?

x (m)



t (sec)

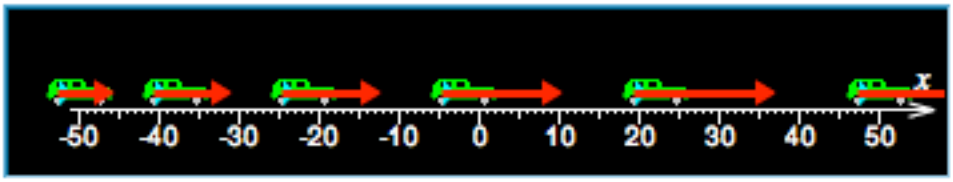


Figure 2

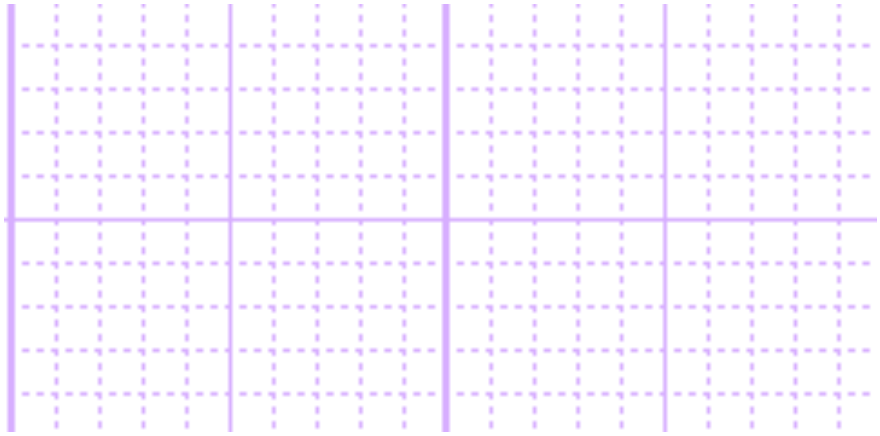
Describe the motion of the car in **Figure 2**. Include information about its initial position, direction of motion and if the car is speeding up, slowing down or moving at a constant speed. Briefly explain how you know.

Assuming that the motion diagram shows the position of the car at uniform intervals of two seconds, create a data table of the position (x) of the car as a function of time (t).

t (sec)	x (m)

Plot the position of the car as a function of time. How would you connect the points in this example? What information does the shape of this plot reveal?

x (m)



t (sec)

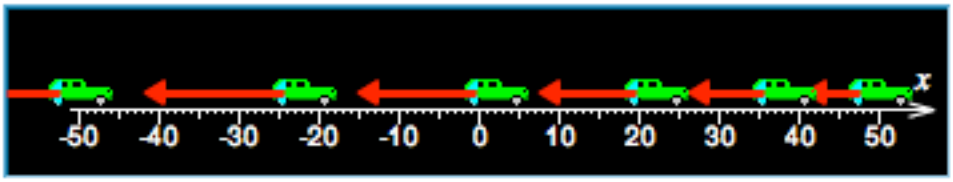


Figure 3

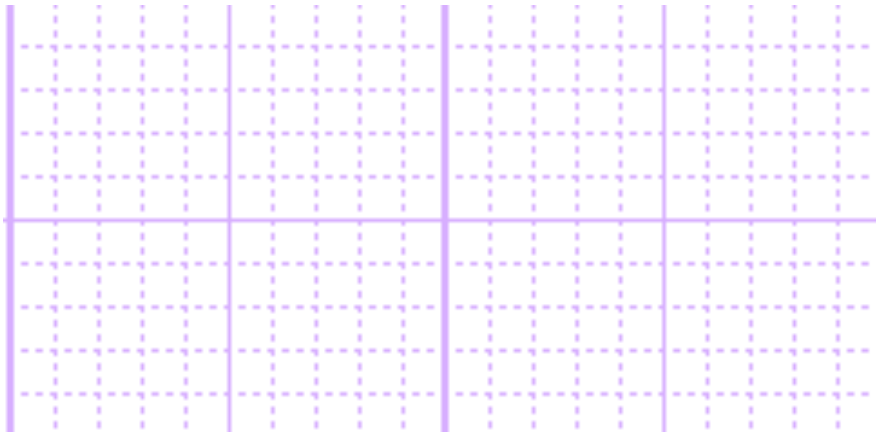
Describe the motion of the car in **Figure 3**. Include information about its initial position, direction of motion and if the car is speeding up, slowing down or moving at a constant speed. Briefly explain how you know.

Assuming that the motion diagram shows the position of the car at uniform intervals of two seconds, create a data table of the position (x) of the car as a function of time (t).

t (sec)	x (m)

Plot the position of the car as a function of time. How would you connect the points in this example? What information does the shape of this plot reveal? How is this plot different from that associated with **Figure 2**?

x (m)



t (sec)

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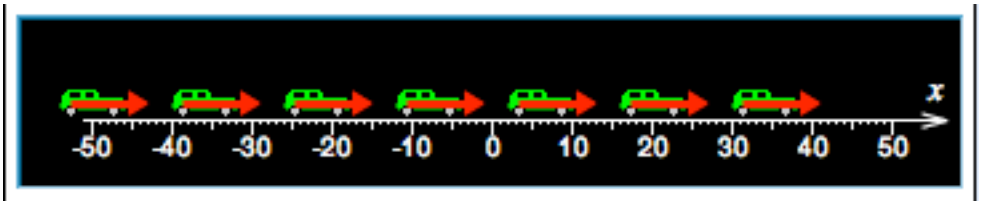


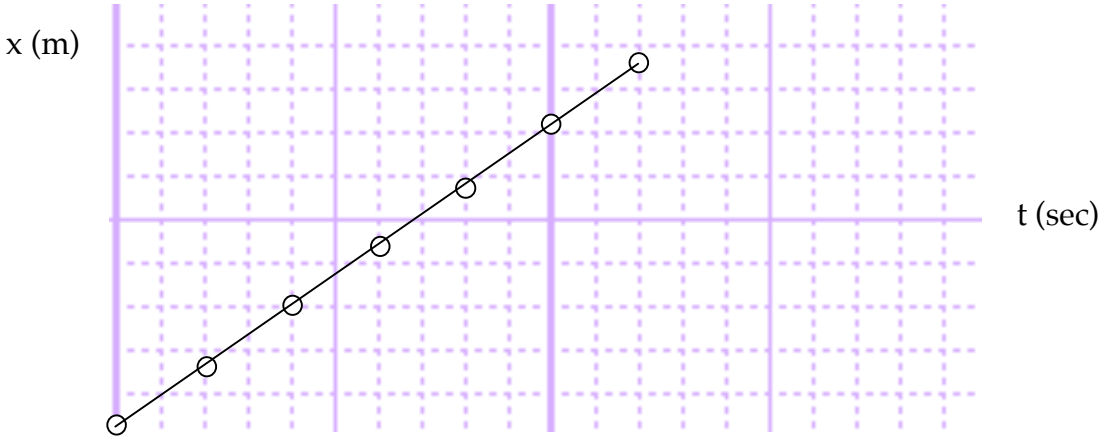
Figure 4

Describe the motion of the car in **Figure 1**. Include information about its initial position, direction of motion and if the car is speeding up, slowing down or moving at a constant speed. Briefly explain how you know.

Assuming that the motion diagram shows the position of the car at uniform intervals of two seconds, create a data table of the position (x) of the car as a function of time (t).

t (sec)	x (m)

Plot the position of the car as a function of time. What information does the shape of the plot reveal? How would you calculate this value?



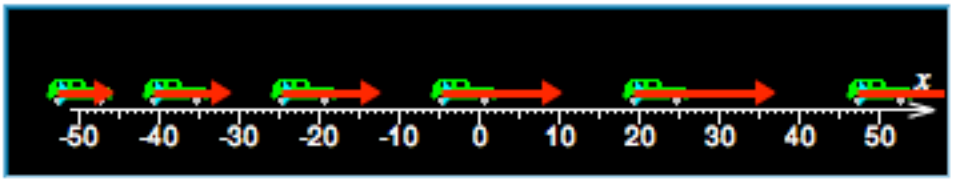


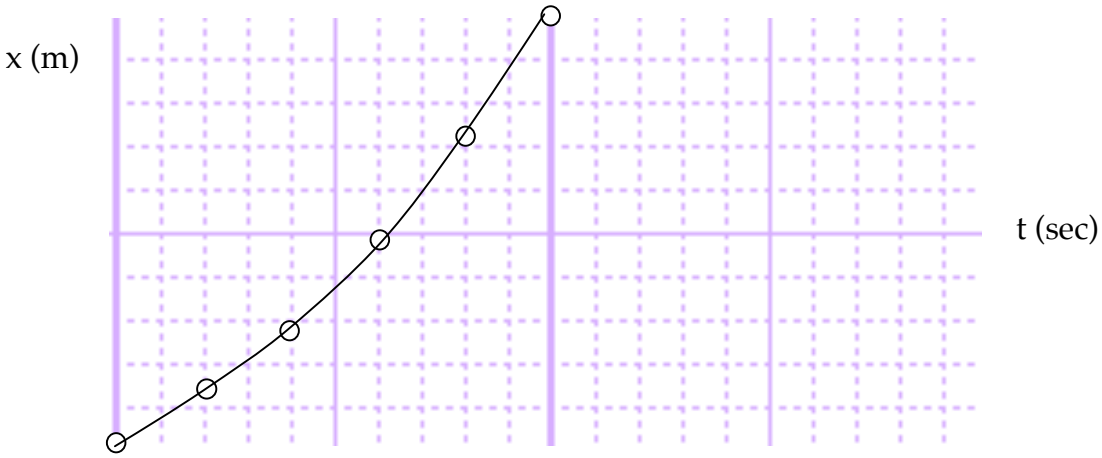
Figure 5

Describe the motion of the car in **Figure 2**. Include information about its initial position, direction of motion and if the car is speeding up, slowing down or moving at a constant speed. Briefly explain how you know.

Assuming that the motion diagram shows the position of the car at uniform intervals of two seconds, create a data table of the position (x) of the car as a function of time (t).

t (sec)	x (m)

Plot the position of the car as a function of time. How would you connect the points in this example? What information does the shape of this plot reveal?



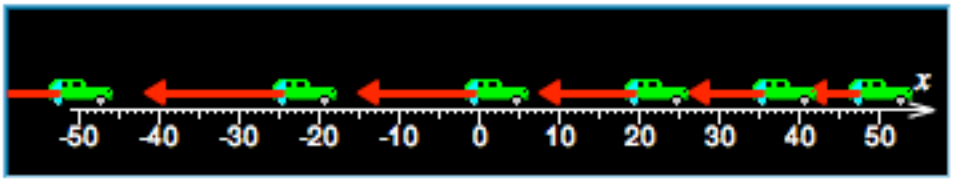


Figure 6

Describe the motion of the car in **Figure 3**. Include information about its initial position, direction of motion and if the car is speeding up, slowing down or moving at a constant speed. Briefly explain how you know.

Assuming that the motion diagram shows the position of the car at uniform intervals of two seconds, create a data table of the position (x) of the car as a function of time (t).

t (sec)	x (m)

Plot the position of the car as a function of time. How would you connect the points in this example? What information does the shape of this plot reveal? How is this plot different from that associated with **Figure 2**?