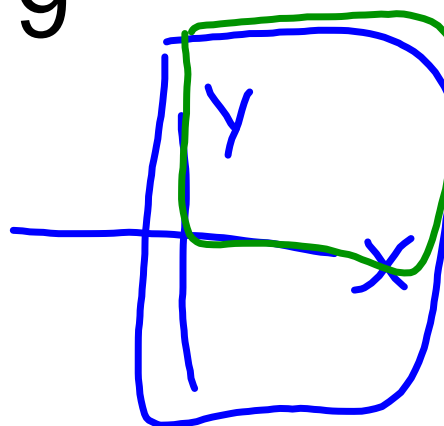


Nov 19, 2019

Graphing Velocity Intro



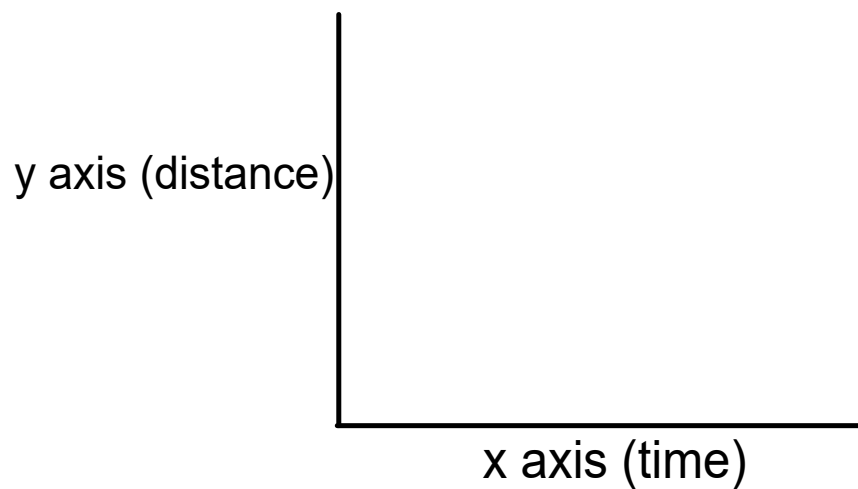
**Test next Tuesday!!!**

# Distance- Time Graphs

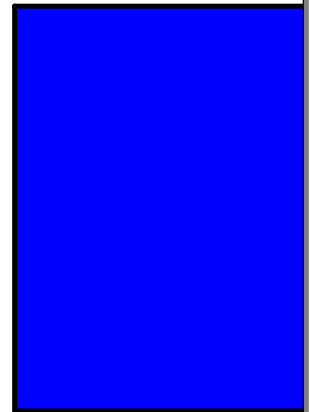
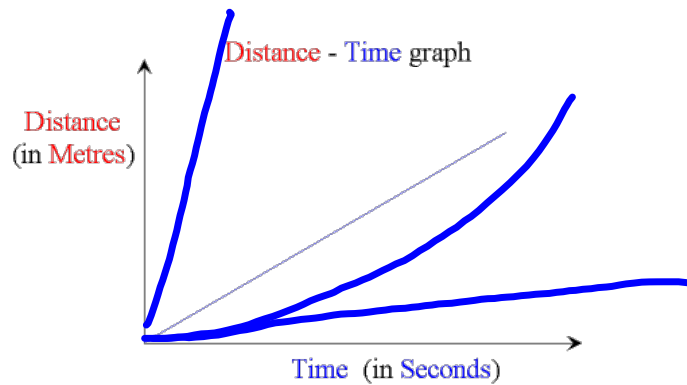
shows the relationship between distance and time.

distance is plotted on the y axis

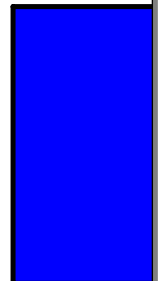
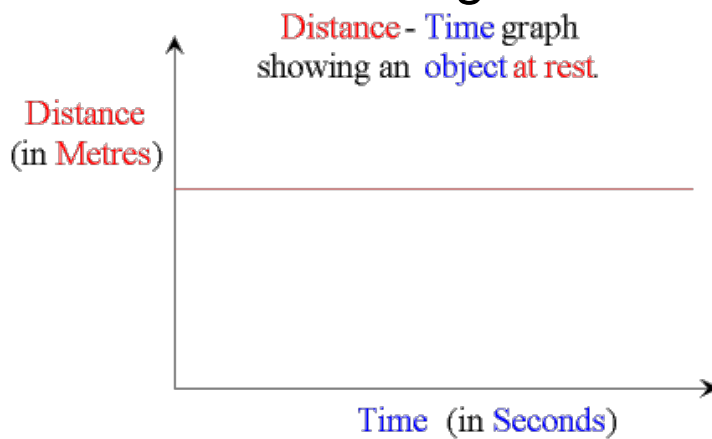
time is plotted on the x axis



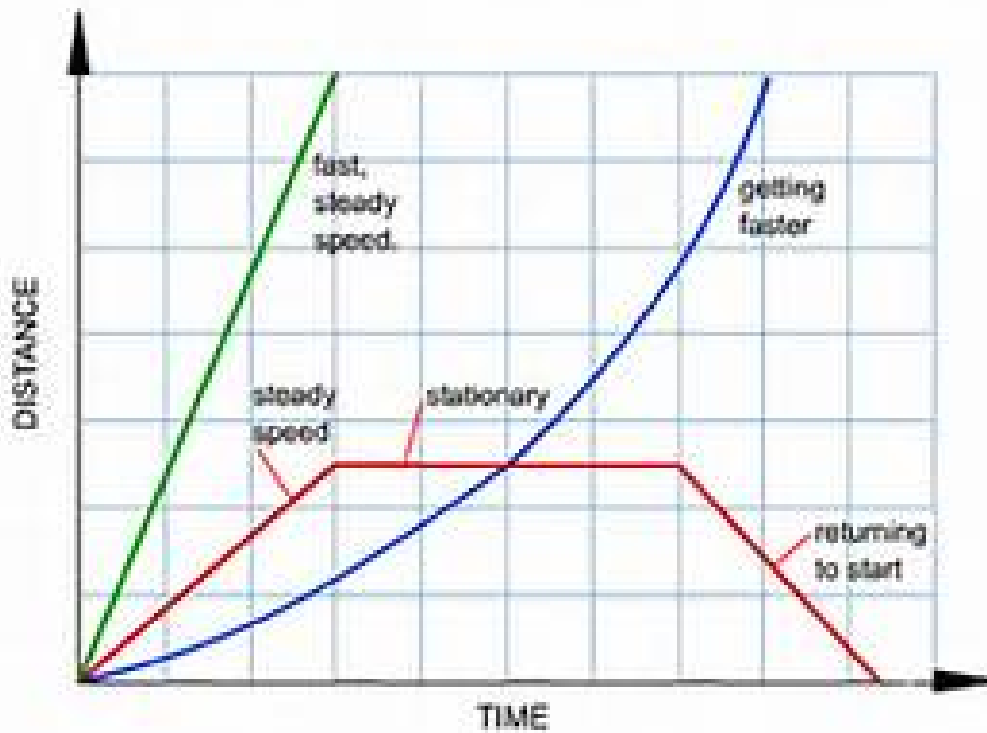
Sketch what you think a distance time graph looks like for an object in motion:



Sketch what you think a distance time graph looks like for an object that is not moving:



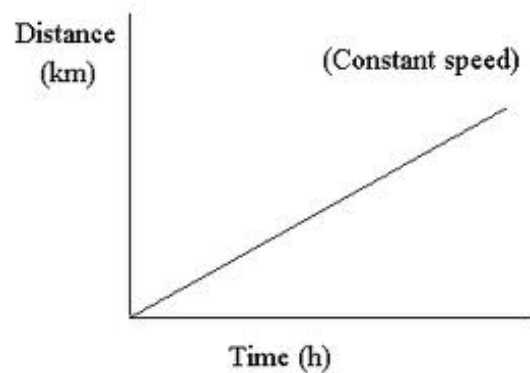
more examples of graphs for objects in motion



## Constant vs Non-Constant Velocity

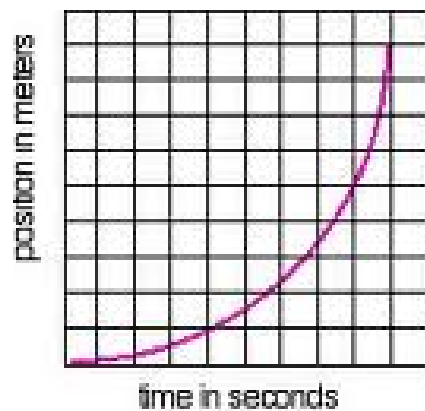
### Constant Velocity

If the speed of an object remains the same, it will show as a straight line on a distance-time graph



### Non-Constant Velocity

If the speed of an object changes (non-constant), it will show as a curve on a distance-time graph.



## Calculating Speed

To calculate the actual speed on a distance time graph you calculate the slope. Slope can be calculated using the following formula.

$$v = \frac{d_2 - d_1}{t_2 - t_1}$$

The steeper the slope the faster the object is travelling.

# Calculating Speed From a Graph

use the following formula:

$$v = \frac{d_2 - d_1}{t_2 - t_1}$$

To calculate the speed of the red line:

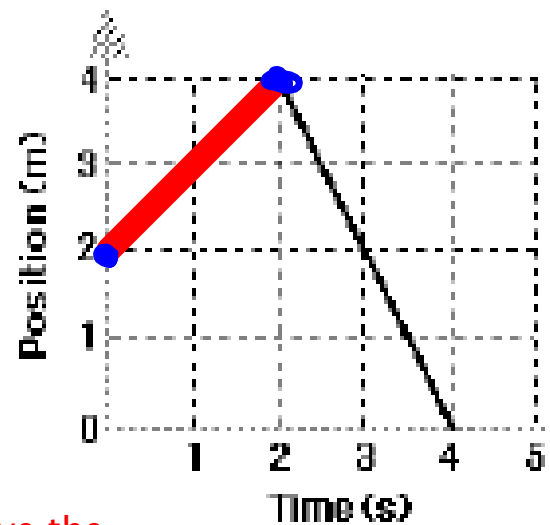
1st locate your two points

$$d_1 = 2\text{m} \quad d_2 = 4\text{m}$$

$$t_1 = 0\text{s} \quad t_2 = 2\text{s}$$

2nd put your points into the equation and solve the equation by subtracting the top and then the bottom and then dividing

$$V = \frac{d_2 - d_1}{t_2 - t_1} = \frac{4\text{m} - 2\text{m}}{2\text{s} - 0\text{s}} = \frac{2\text{m}}{2\text{s}} = \underline{1\text{m/s}}$$



# Graphing WS #1,2



## Attachments

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average speed ex 1.notebook

average speed ex 2 answers.notebook