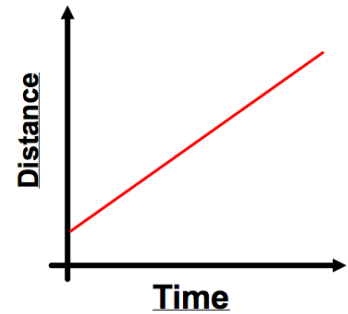


## Section 2.6 – Distance Time Graphs

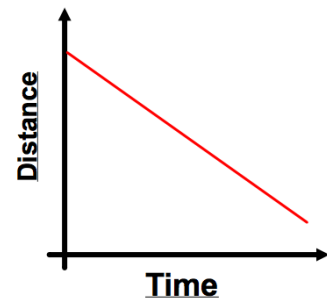
MPM1D

### Part 1: Intro to Distance-Time Graphs

A *distance-time graph* shows an object's distance from a fixed point over a period of time. A rising line shows that distance from a point \_\_\_\_\_ as time increases.



A falling line shows that distance from a point \_\_\_\_\_ as time increases.



A horizontal line shows that distance from a point remains \_\_\_\_\_.



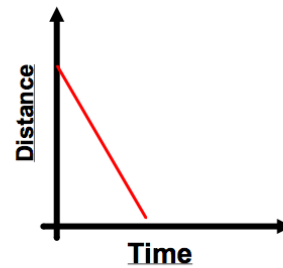
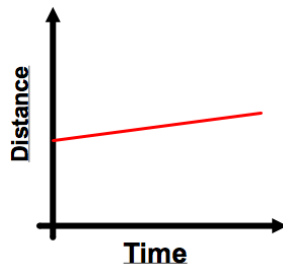
## Part 2: Rate of Movement

The **speed** of a person affects the steepness of the graph.

The steeper the line is, the \_\_\_\_\_ the rate of movement.

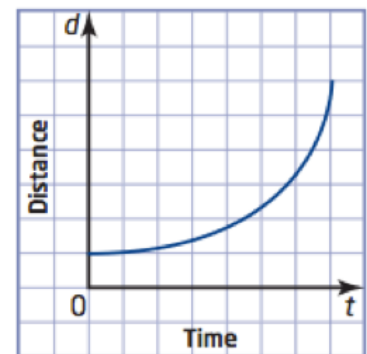
Remember:

Which graph represents slow movement? Which one represent fast movement?

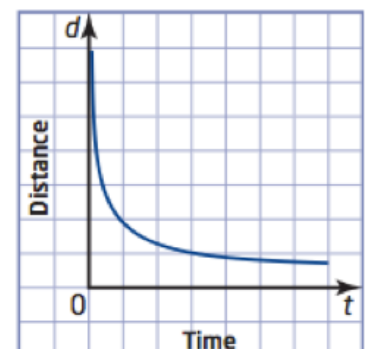


## **Changes of Rate of Movement**

A curve may represent an increase in rate of movement  
(\_\_\_\_\_)

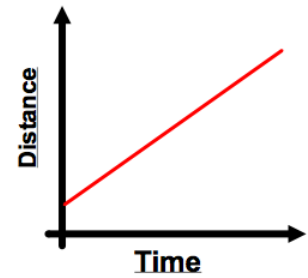


A curve may represent a decrease in rate of movement  
(\_\_\_\_\_)



A straight line represents an object moving at a

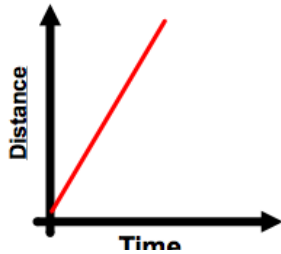
\_\_\_\_\_ or \_\_\_\_\_.



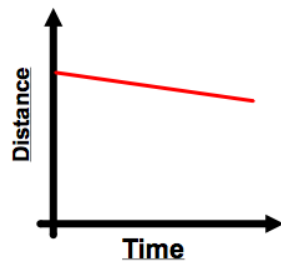
### Part 3: Practice Describing Distance Time Graphs

1) A person walks in front of a motion sensor. Describe the motion that would produce each of the following graphs:

a)



b)



c)



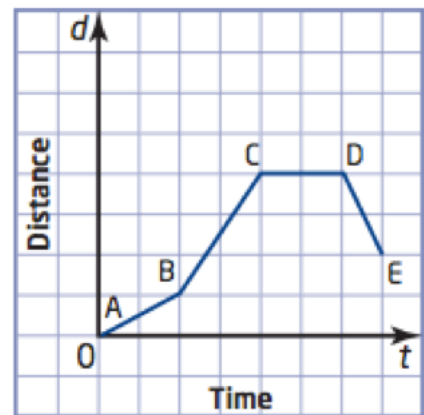
2) Describe the following graph that represents a person's distance from home over a period of time:

AB:

BC:

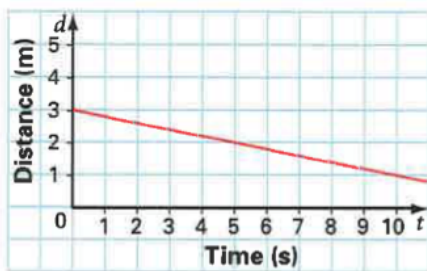
CD:

DE:

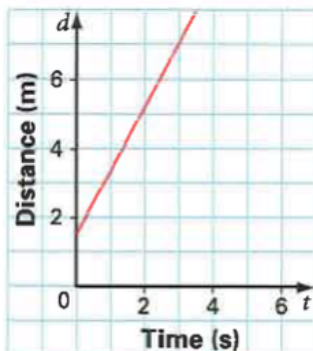


3) Describe the motion represented by each of the following graphs:

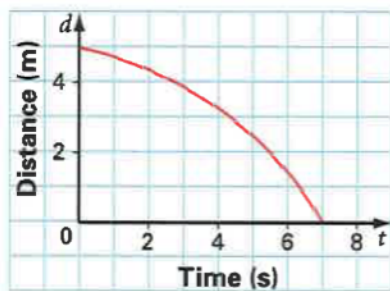
a)



b)

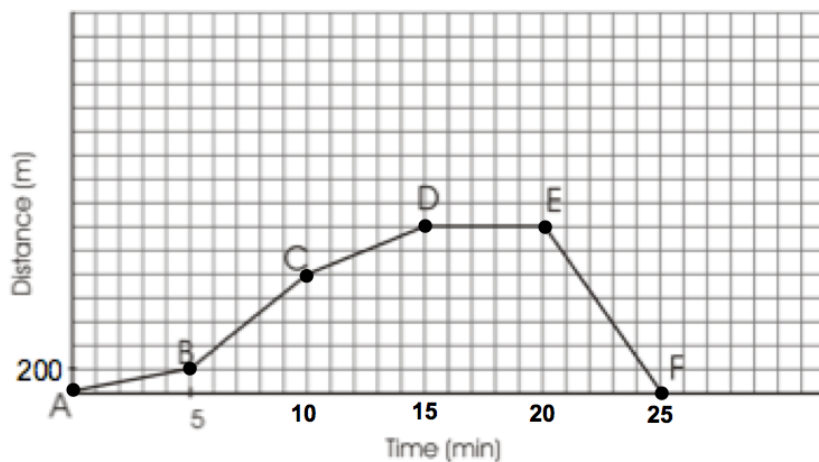


c)





4) Chris walks each day as part of his daily exercise. The graph shows his distance from home as he walks his route.



Using the graph, give an explanation of what is occurring over Chris' walk. Include information about time, distance, direction and speed during each segment

**AB:**

**BC:**

**CD:**

**DE:**

**EF:**

#### **Part 4: Creating a Distance Time Graph**

**5)** Create a graph that shows Mr. Jensen's **distance from his own team's net** while he is playing hockey based on the following scenario:

Mr. Jensen starts with the puck in his own end and skates away from his net towards the other teams end at a steady pace. At center ice he gets the puck stolen from him. Mr. Jensen is furious and stops for a couple seconds to slam his stick on the ice in frustration. He then decides to chase down the guy who stole the puck from him. He accelerates back towards his own net and steals the puck. He then slams on the brakes and skates at a fast steady pace away from his net towards the other team's net. He is so fast that he gets a breakaway and scores (bar down of course).

