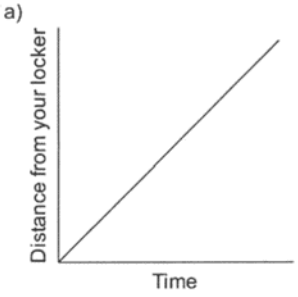
Interpreting Graphical Information

Introductory Exercises

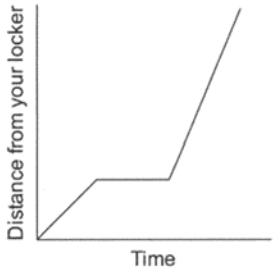
1. The following exercises are designed to help you learn how to ***interpret*** graphs. (That is, the exercises should help you to understand the ***meaning*** of graphical information.)

(i) Shown below are four graphs that describe how ***distance from your locker*** changes over ***time***. Below the graphs, you will find three stories describing walking from your locker to your class. ***Two*** of the stories correspond to ***two*** of the graphs. Match the graphs with the stories.

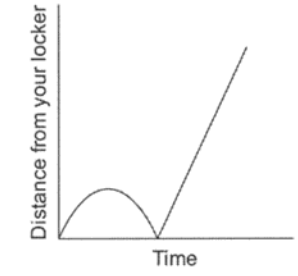
a)



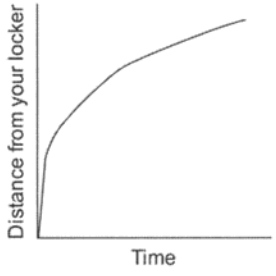
b)



c)



d)



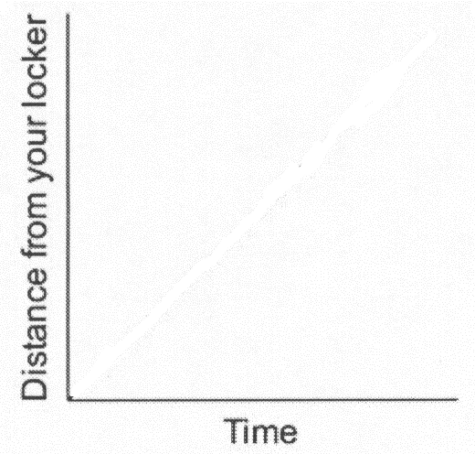
A. I started walking to class then suddenly realized that I had forgotten my notebook. I quickly returned to my locker then walked to class at a constant speed.

B. I was rushing to get to class. When I realized that I had plenty of time, I slowed down a little.

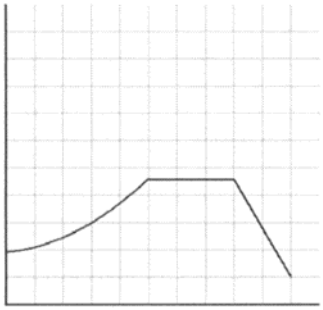
C. I was walking at a slow, steady rate to class. When I realized that I was late for class, I ran at a fast pace.

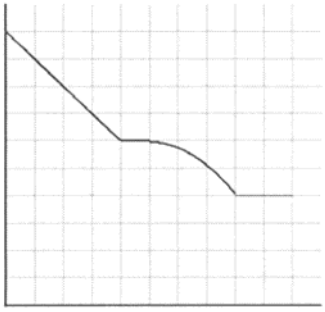
(ii) Write stories for the other two graphs.

(iii) Sketch a graph for the third story.



2. Write stories for each of the following graphs.





As you create your story:

- Focus on the rate of change of each section of the graph
- Determine whether the rate of change is constant, varying from fast to slower or slow to faster or zero.

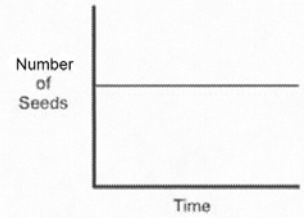
Criteria Does your story include:	Yes ✓
• the description of an action? (e.g., distance travelled by bicycle, change of height of water in a container, the change of height of a flag on a pole)	
• the starting position of the action?	
• the ending position of the action?	
• the total time taken for the action?	
• the direction or change for each section of the action?	
• the time(s) of any changes in direction or changes in the action?	
• the amount of change and time taken for each section of the action?	
• an interesting story that ties all sections of the graph together?	

3. Sunflower Seed Graphs

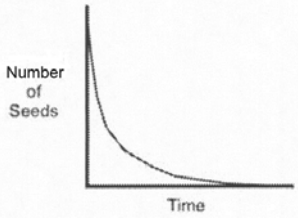
Ian and his friends were sitting on a deck and eating sunflower seeds. Each person had a bowl with the same number of seeds. The graphs below all show the number of sunflower seeds remaining in the person's bowl over a period of time.

Write sentences that describe what may have happened for each person.

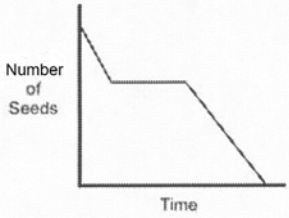
a)



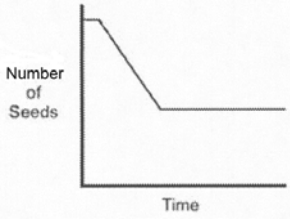
b)



c)



d)

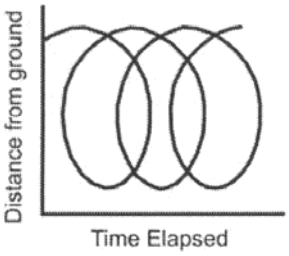


4. Multiple Choice

Indicate which graph matches the statement. Give reasons for your answer.

1. A bicycle valve's distance from the ground as a boy rides at a constant speed.

a)



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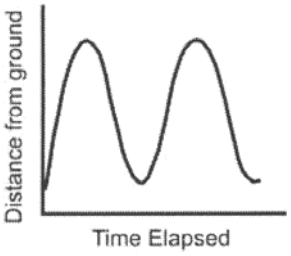

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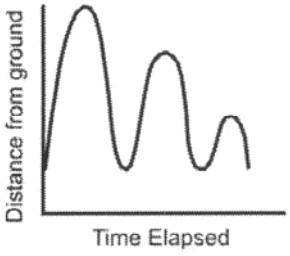

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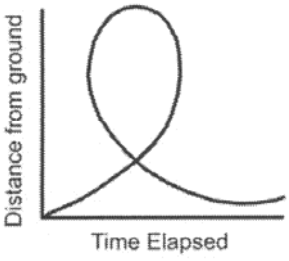
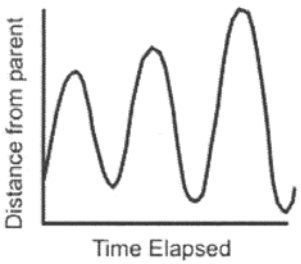
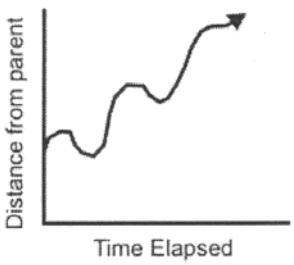


2. A child swings on a swing, as a parent watches from the front of the swing.

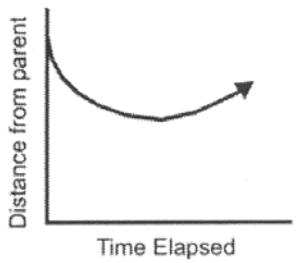
a)



b)



c)



d)