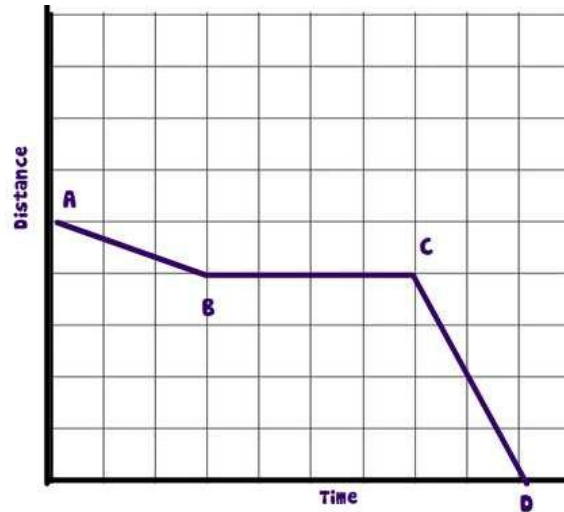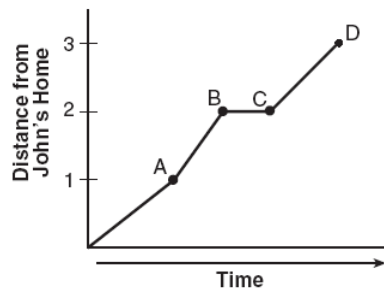**Model Problems**
An Airplane is descending to land at the airport. During its descent it had to fly in circles until the landing was cleared of other planes. Explain what is occurring during each of the segments.

1)

2) John left his home and walked 3 blocks to his school, as shown in the accompanying graph.

What is one possible interpretation of the section of the graph from point *B* to point *C*?
(1)   John arrived at school and stayed throughout the day.
(2)   John waited before crossing a busy street.
(3)   John returned home to get his mathematics homework.
(4)   John reached the top of a hill and began walking on level ground.
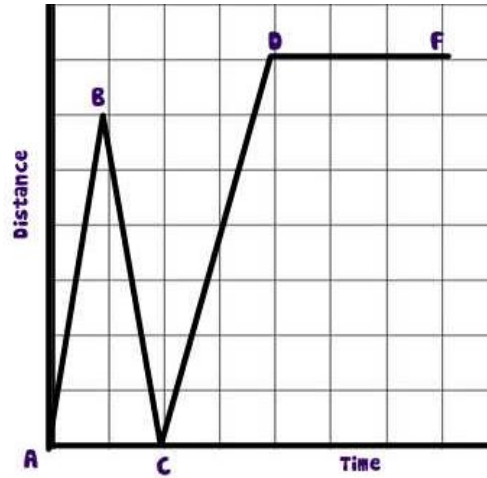
Practice Problems

3)

Jen left her house and drove to school in the morning, as shown in the accompanying graph. On her drive to school she realized that she forgot her bookbag and had to return home before driving back to school for a 3 hour class. Explain what is happening during _____ each part of the graph below
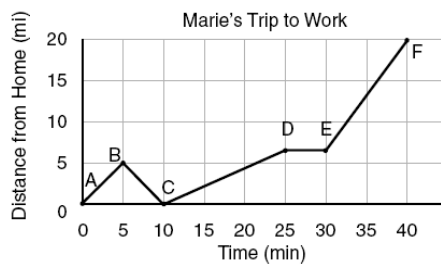
AB

BC

CD

DF

4) The accompanying graph shows Marie's distance from home (*A*) to work (*F*) at various times during her drive.

a   Marie left her briefcase at home and had to return to get it. State which point represents when she turned back around to go home and explain how you arrived at that conclusion.

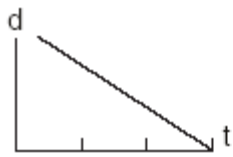*b*   Marie also had to wait at the railroad tracks for a train to pass. How long did she wait?

5) A bug travels up a tree, from the ground, over a 30-second interval. It travels fast at first and then slows down. It stops for 10 seconds, then proceeds slowly, speeding up as it goes. Which sketch best illustrates the bug's distance (*d*) from the ground over the 30-second interval (*t*)?
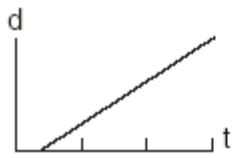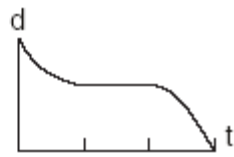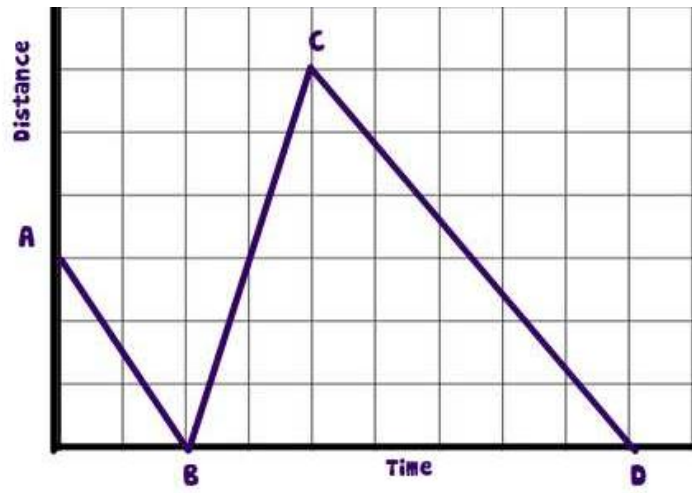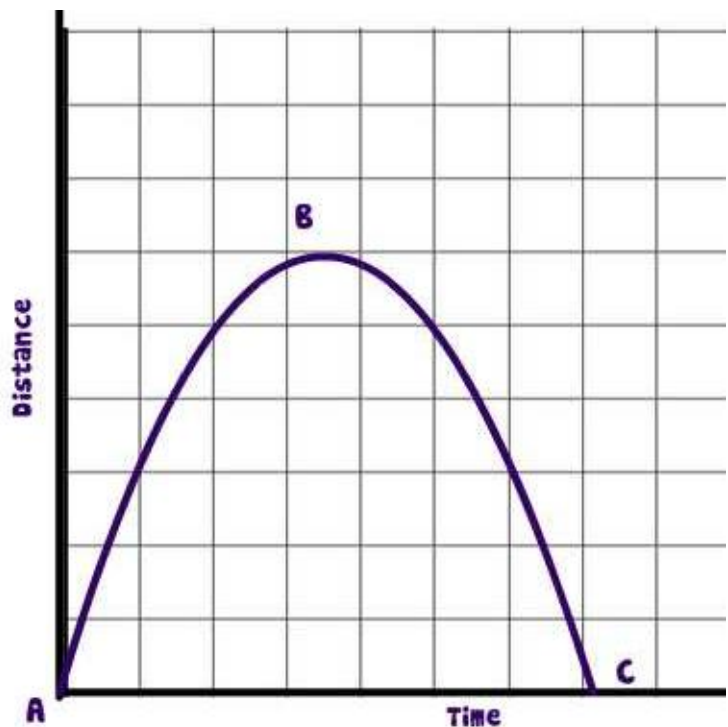

(1)
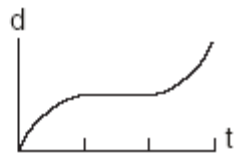
(3)

(2)

(4)

Open Interpretation

Make up a narrative that could explain the distance vs time graphs below. Explain what is happening for each segment

6)

7)

→Once I have checked these problems do the activity at www.mathwarehouse.com/graphs3

       Show me the distance vs time graph that you create on that web page

→ Then with a partner complete the interactive activity here : www.mathwarehouse.com/graphs4

Part II Create a distance vs Time Graph

1) A helicopter left the landing pad at the top of a skyscraper and then quickly flew downwards towards the ground and maintained a 5 foot distance above the ground for a while before it had to fly up above a small hill and land at the bottom of the far side of the hill.

Draw a distance vs time graph that depicts the journey of the helicopter . The distance represent how high the helicopter is above the ground.
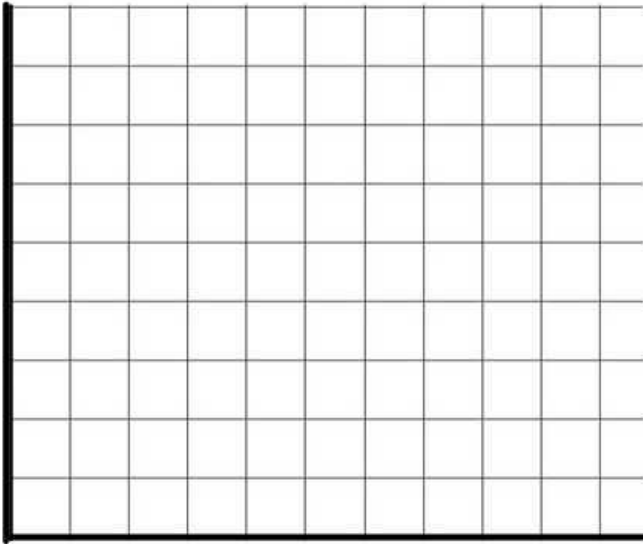
2) Draw a distance vs time graph of a dog that is tied to a 4 foot rope and travels in 1 complete circle
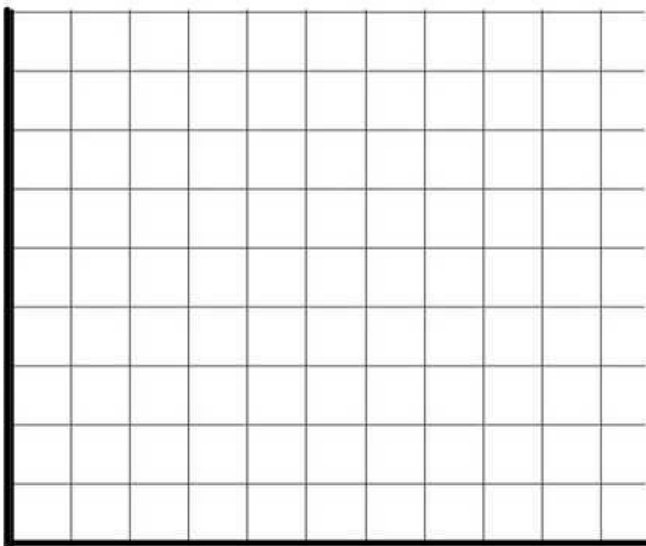
3) You leave Math class to walk to the *nearest* bathroom. Draw a distance vs time graph illustrating the distance you travel to the *nearest* bathroom at your actual school
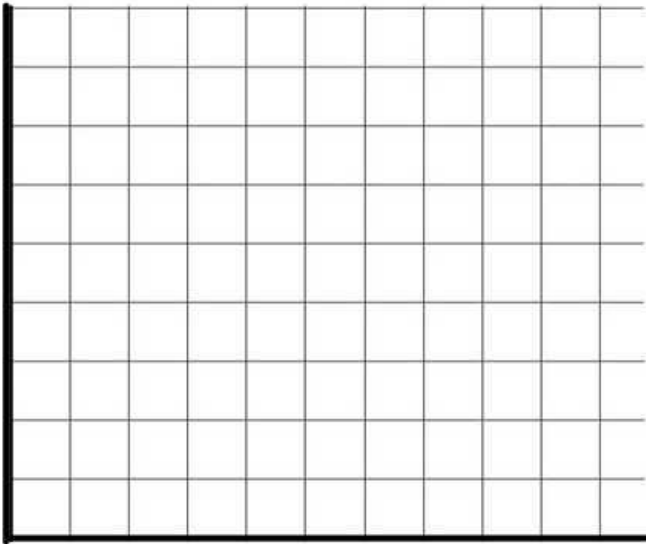
4) You leave Math class to walk to the *furthest* bathroom. Draw a distance vs time graph illustrating the distance you travel to the *furthest* bathroom at your actual school