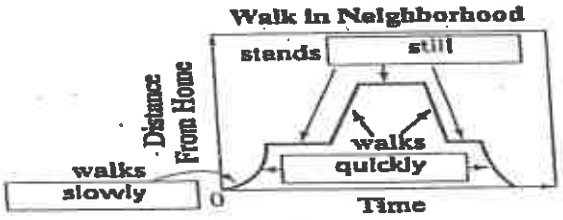
Name: _____ Math 8

INTERPRETING GRAPHS AND CREATING GRAPHS

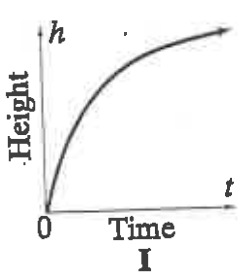
Model Problem:

1 Interpreting Graphs This graph shows someone taking a walk in the neighborhood. Describe what it shows by labeling each part.

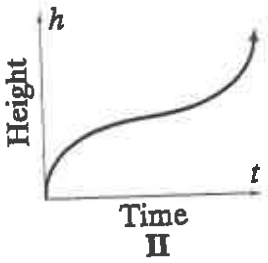


Exercises:

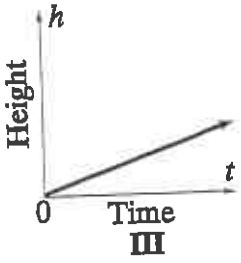
1. **Relating Graphs to Situations** Suppose you pour water into the container at a steady rate. Which graph shows the change in the height of the liquid in the container over time? Explain.



I

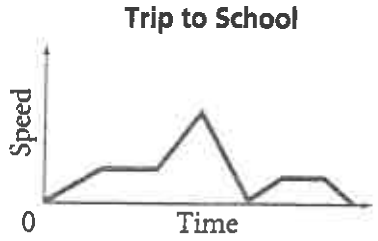


II



III

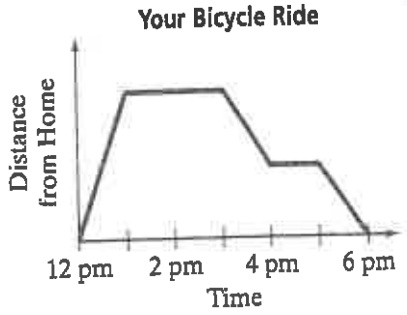
Problems 2 – 3, the graph below shows the speed a student traveled on the way to school.



2. Circle the sections of the graph that show the speed decreasing.

3. What do the flat parts of the graph represent?

Problems 4 – 6, the graph below shows the relationship between time and distance from home.

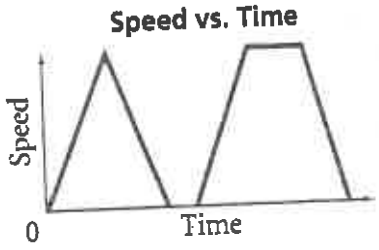


4. What do the flat parts of the graph represent?

5. What do the sections from 3 P.M. to 4 P.M. and from 5 P.M. to 6 P.M. represent?

6. What does the section from 12 P.M. to 1 P.M. represent?

Problems 7 – 9, the graph shows the relationship between time and speed for an airplane.

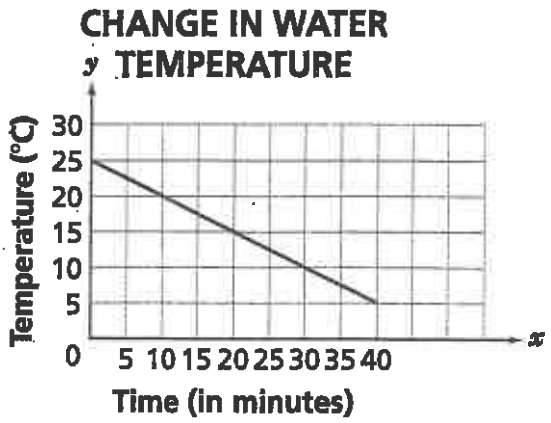


7. Label the sections of the graph that show the speed increasing with an i.

8. Label the sections of the graph that show the plane not moving with an n.

9. Label the sections of the graph that show the plane moving at a constant speed with an c.

10. The graph below shows the change in water temperature of a glass of tap water placed into a freezer.



Use information in the graph to determine how many **total minutes** it takes the water to reach 0°C.

Answer _____ minutes

On the lines below, explain how you determined your answer.

_____

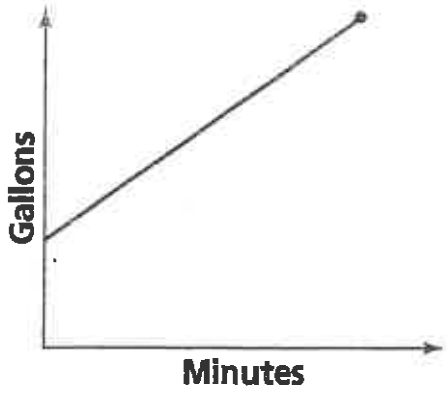
_____

_____

_____

_____

11. On the lines below, describe a situation that could be represented by the graph shown below.

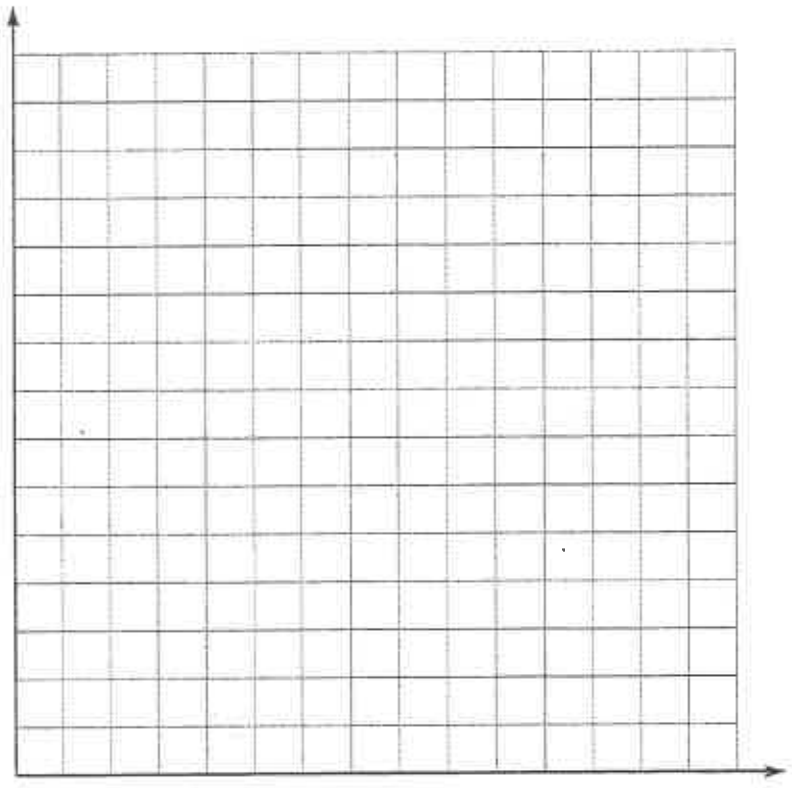


On the lines below, explain the reason the graph does not pass through the origin in the situation you described.

12. A pool is being filled with water. It already contains 100 gallons of water and it continues to be filled at a constant rate. Complete the table below to show the number of gallons of water in the pool after 3 minutes and after 4 minutes.

Time in Minutes (m)	Gallons of Water (g)
0	100
1	120
2	140
3	
4	

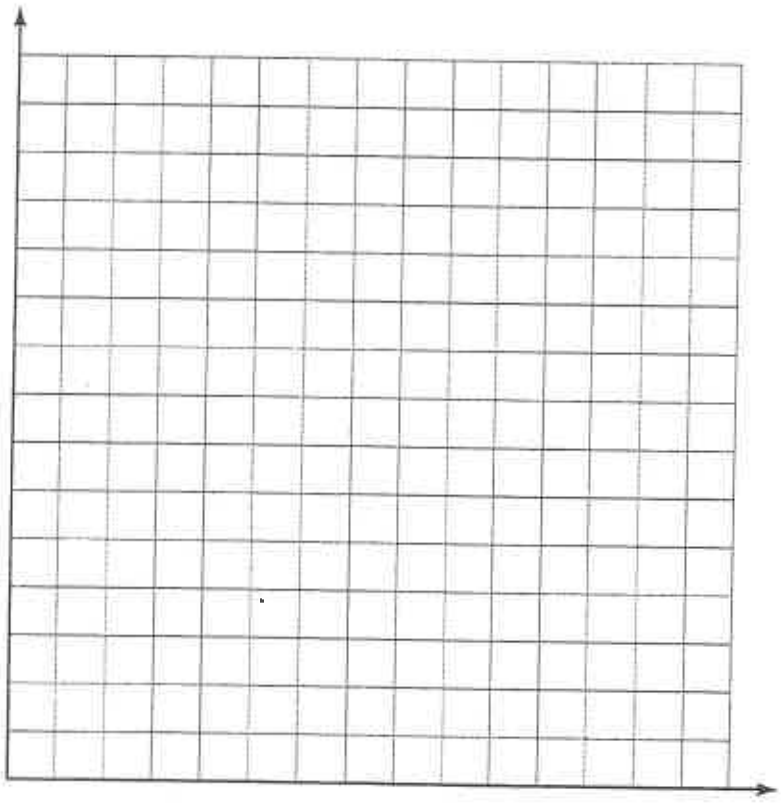
Plot the ordered pairs from the table onto the graph paper below. Then draw a line segment connecting the points.



13. Melinda makes hats to give as gifts. She needs 2 days to complete each hat. On the grid below, create a line graph that shows the relationship between the number of days it takes Melinda to make hats and the number of hats she completes.

Be sure to

- title your graph
- label the axes
- graph all the data

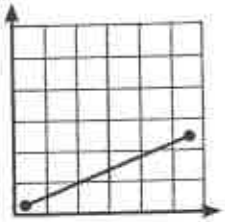


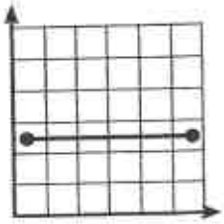
How many hats will Melinda make in 14 days?

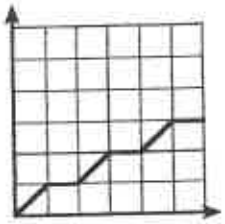
Answer _____ hats

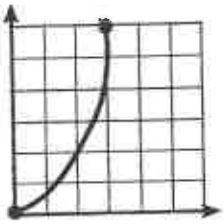
14. Which sketch of a graph would match the situation:

Every day, the number of Japanese beetles doubled.

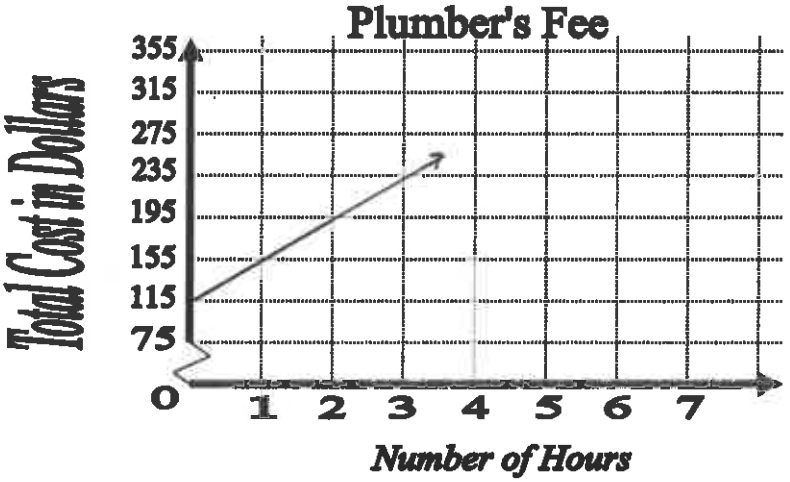
A 

B 

C 

D 

15. The chart below shows how much a plumber charges for a service call depending on the number of hours it takes him to fix the problem.



Part A: What is the rate of change? _____

Part B: What is the initial value? _____

Part C: If the rate of change continues, what will the plumber's fee be after 6 hours?

Part D: Explain what the rate of change means in the context of the problem?

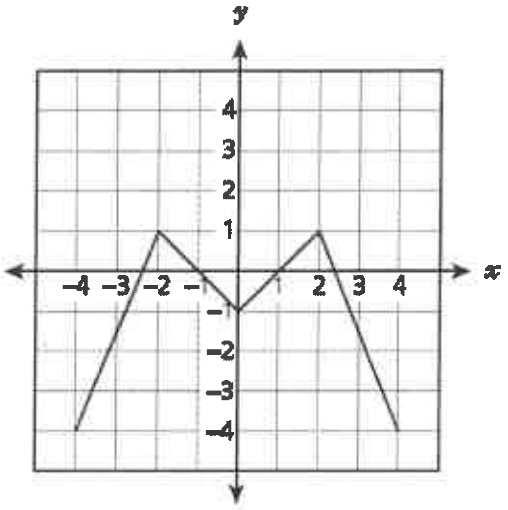
_____

_____

_____

16.

A function of x is shown on the coordinate plane.



Over which intervals is the function increasing?

A $-4 < x < -2$ and $-1 < x < 1$

B $-4 < x < -2$ and $0 < x < 2$

C $-2 < x < 0$ and $2 < x < 4$

D $-2 < x < -1$ and $2 < x < 4$