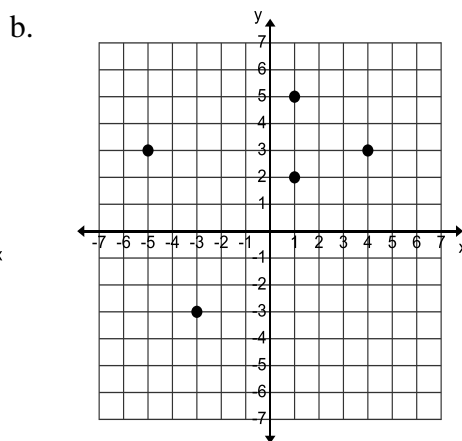
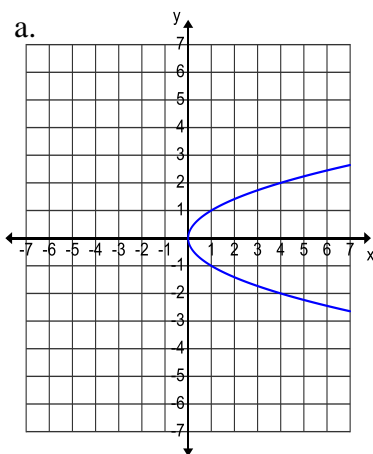


Complete the following worksheet on a separate sheet of paper.

1. Look in your notes and write definitions of the following terms:
  - function
  - domain
  - range
2. Explain how to use the vertical line test to determine whether a graph represents a function.
3. Does a vertical line represent a function? Explain. Does a horizontal line represent a function? Explain.
4. For each situation, find the domain and range, and determine if the situation represents a function:



c.

| $x$ | $y$ |
|-----|-----|
| -3  | -4  |
| 2   | 2   |
| 5   | 8   |
| 3   | 2   |

5. Describe the difference between a continuous function and a discrete function. Which of the above situations in problem #4 are discrete situations?
6. Consider the equation  $y = 2x + 5$ , what is the domain and range of this function?
7. For each set of ordered pairs, determine whether they represent a function and state the domain and range.
  - a.  $(-2, 3), (4, 1), (3, -1), (0, -1), (4, 0)$
  - b.  $(-3, 3), (-1, 2), (0, 3), (5, 0), (1, 8)$
8. Sketch a graph of a function that fits each description.
  - a. continuous and always increasing with a slower and slower rate of change
  - b. linear, discrete, and decreasing

9. Consider the equation  $y = x^2 - 3$ .

a. Complete this table of values for the equation.

|     |    |    |    |   |   |   |   |
|-----|----|----|----|---|---|---|---|
| $x$ | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| $y$ |    |    |    |   |   |   |   |

b. Use the values in the table to sketch a graph of the equation.

c. Decide whether the equation represents a function, and explain how you decided.

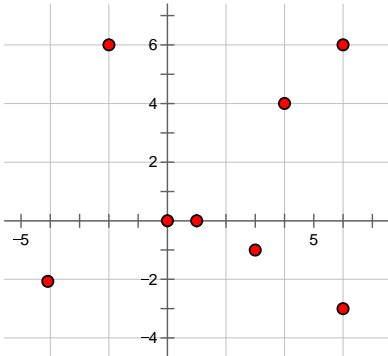
d. What is the domain and range?

10. Identify the independent and dependent variables in each relationship.

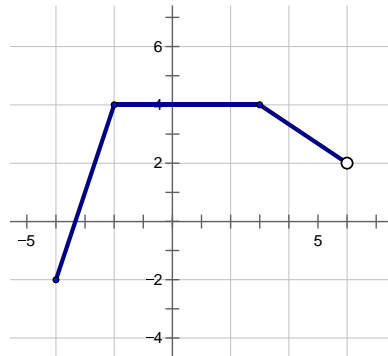
- The relationship between the number of minutes spent on a long-distance call and the cost of the call
- The relationship between the amount of flour used for a cookie recipe and the number of cookies made
- The score a student earns on a test depends on the number of correct answers they get

11. Find the domain and range of the following graphs.

a.



b.



c.

