Vocabulary Review

coordinate plane (p. 241)
distance (p. 246)
function (p. 251)
horizontal line (p. 246)

line of reflection (p. 245)
linear function (p. 255)
ordered pair (p. 241)
origin (p. 241)

reflection (p. 245)
quadrants (p. 241)
vertical line (p.246)

Choose the vocabulary term that correctly completes each sentence.

1. A(n) __?__ assigns one output value to each input value. [ ]

2. A __?__ extends up and down. [ ]

3. __?__ are the regions of the coordinate plane. [ ]

4. The point $(0,0)$ is called the __?__. [ ]

Skills and Concepts

Lesson 7-1

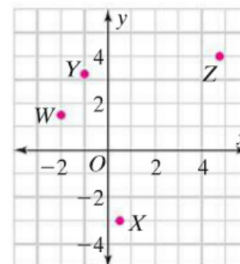• To name and graph points on a coordinate plane

[ ]

A **coordinate plane** is formed by the intersection of an x-axis and a y-axis at the **origin**. An **ordered pair** identifies the location of a point.

Graph each point on the same coordinate plane. See margin. 1–4.

1. $A(0,6)$ 2. $B(5,-4)$ 3. $C(6,1)$ 4. $D(-2,-3)$

Name the coordinates of each point on the coordinate plane.

5. W [ ]

6. X [ ]

7. Y [ ]

8. Z [ ]

If two points on a horizontal line are on opposite sides of the y-axis, the **distance** between the points is the sum of the absolute values of the x-coordinates. If the points are on the same side of the y-axis, the distance between the points is the difference of the absolute values of the x-coordinates. Similarly, the distance between two points on a vertical line is the sum (opposite sides of x-axis) or the difference (same side of x-axis) of the absolute values of the y-coordinates.

Find the distance between the two points.

9. $(3, -6)$ and $(-2, -6)$ ▢

10. $(4.5, 2)$ and $(4.5, 0)$ ▢

11. An architect uses a rectangle with coordinates $(-1, 4), (5, 4)$, and $(5, -3)$, and $(-1, -3)$ to represent a bedroom in a house. What is the perimeter of the bedroom? Each unit of length represents 1 yard.
▢

12. What are the coordinates of the new point when you reflect $(3, -2)$ across
    a. the x-axis? ▢
    b. the y-axis? ▢

A **function** assigns exactly one output value to each input value.

Complete the function table.

13. Output = Input + 9

Input	Output
16	▪	▢
-24	▪	▢
13	▪	▢

14. Output = $(-3) \bullet$ Input

Input	Output
-12	▪	▢
-1	▪	▢
4	▪	▢

15. Identify the independent and dependent variables: how far you run, the time you spend running. ▢

A function is a **linear function** if its graph is a line.

x	y
−3	−1
0	2
2	4

16. Graph the data in the table at the right. Determine whether the relationship is a linear function.

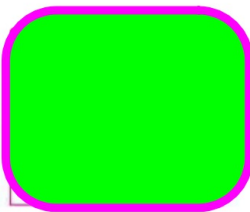**17.** Make a table and graph some points of the function $y = 2x$.
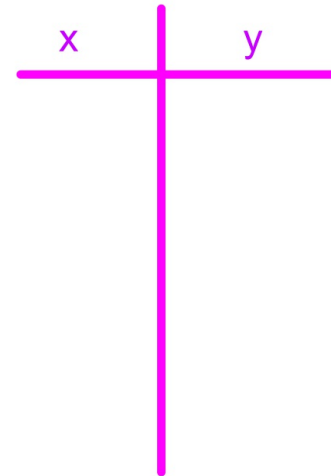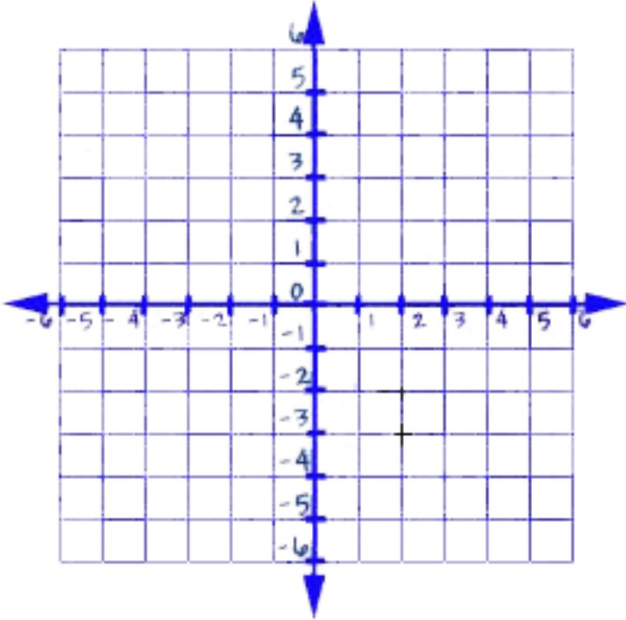
x	y

Tables, graphs, and equations can represent functions.

18. Michael rides his bike at a rate of 7 miles per hour. Make a table showing the relationship between time and distance. How far does Michael ride in 5 hours?

18.

19. Cupcakes cost $1.50 each. Make a graph showing the relationship between cupcakes and cost. How much will it cost to buy 12 cupcakes?

20. Jessie earns $5 an hour babysitting for her cousin. Write an equation showing the relationship between time and money earned. How much will Jessie earn if he babysits for $3\frac{1}{2}$ hours?

test is tomorrow