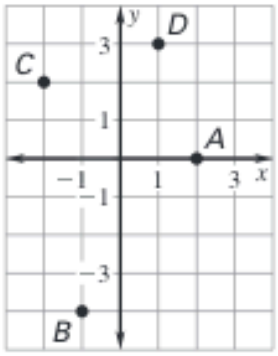
Algebra I

Review 3.1 - 3.3

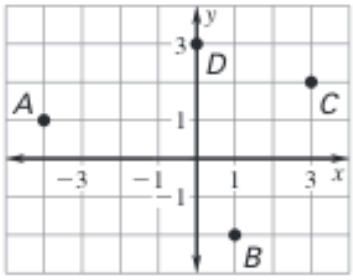
Name _____

Give the coordinates of the points labeled *A*, *B*, *C*, and *D*.

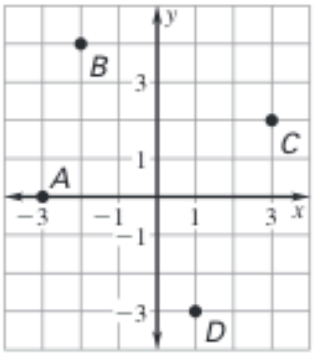
1.



2.

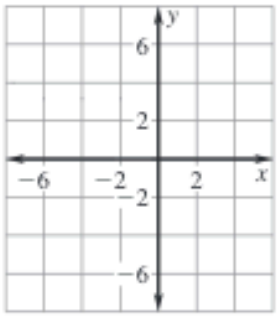


3.

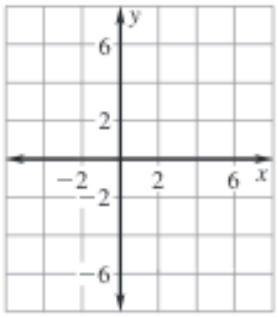


Plot the point in a coordinate plane. *Describe* the location of the point.

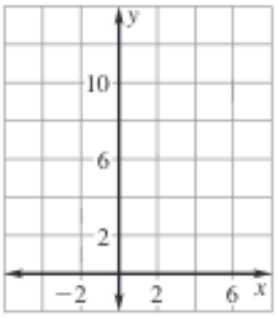
4. $A(-4, 3)$



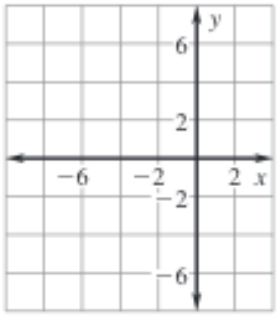
5. $P(5, -6)$



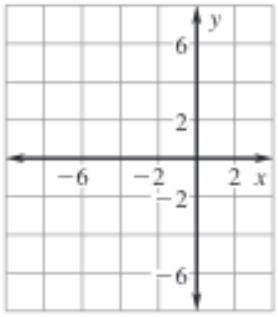
6. $Q(0, 7)$



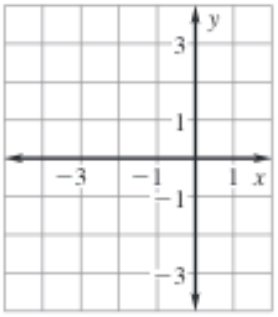
7. $B(-7, -5)$



8. $W(-5, 0)$

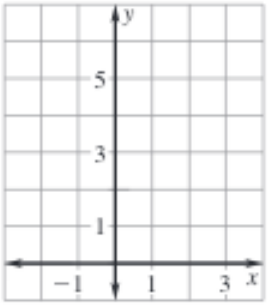


9. $V(-3, -3)$

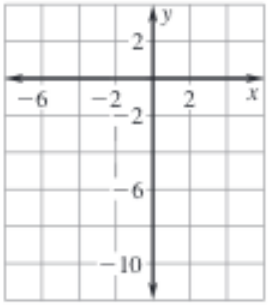


Graph the function with the given domain. Then identify the range of the function.

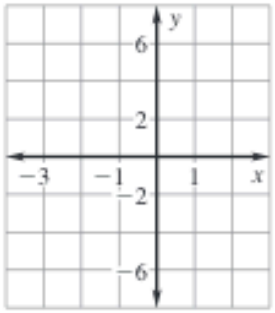
10. $y = x + 4$; domain: $-2, -1, 0, 1, 2$



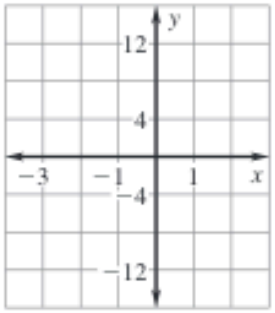
11. $y = 2x - 5$; domain: $-2, -1, 0, 1, 2$



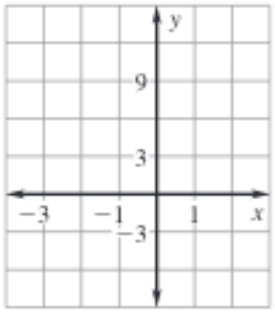
12. $y = 3x - 1$; domain: $-2, -1, 0, 1, 2$



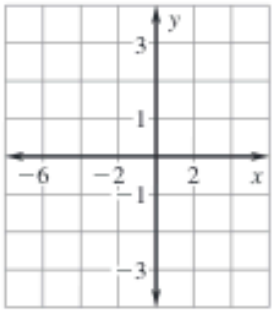
13. $y = 6x - 2$; domain: $-2, -1, 0, 1, 2$



14. $y = 4x + 3$; domain: $-2, -1, 0, 1, 2$



15. $y = \frac{1}{2}x + 1$; domain: $-4, -2, 0, 2, 4$

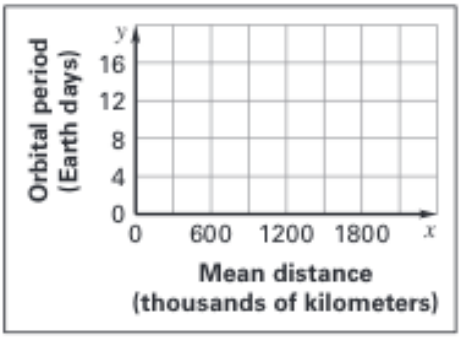


Without plotting the point, tell whether it is in Quadrant I, Quadrant II, Quadrant III, or Quadrant IV. *Explain* your reasoning.

16. $(-4, -2)$ **17.** $(9, -2)$ **18.** $(-1, 8)$

19. Jupiter's Moons The table shows some of the moons of Jupiter, their mean distances from Jupiter (in thousand kilometers), and their orbital periods (in Earth days). Graph the data from the table. Does the graph represent a function? Why or why not?

Moon	Io	Thebe	Ganymede	Callisto	Europa
Mean distance (thousand kilometers)	422	222	1070	1883	671
Orbital period (Earth days)	1.8	0.7	7.2	16.7	3.6



LESSON 3.2

Decide which of the two points lies on the graph of the line.

1. $2x + y = 10$

a. $(4, 3)$ **b.** $(-4, 18)$

2. $x - 3y = 12$

a. $(9, 1)$ **b.** $(6, -2)$

3. $2y - x = 9$

a. $(5, 1)$ **b.** $(1, 5)$

Solve the equation for *y*.

4. $-6x + y = 11$

5. $8x + 2y = 10$

6. $6x - 3y = -9$

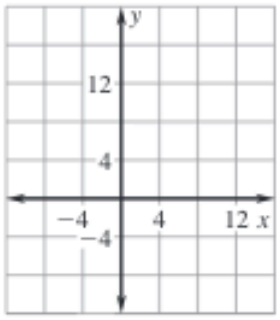
7. $-4x + 2y = 16$

8. $10x - 5y = 25$

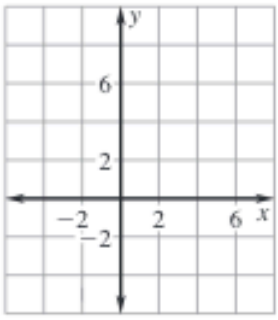
9. $3x + 2y = -8$

Graph the equation.

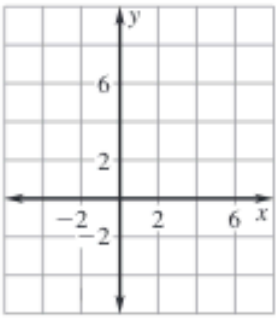
10. $y + x = 14$



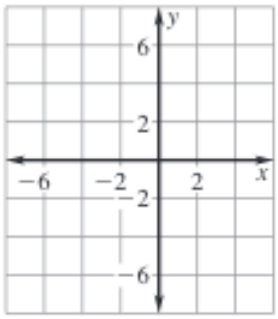
11. $y - 5x = 2$



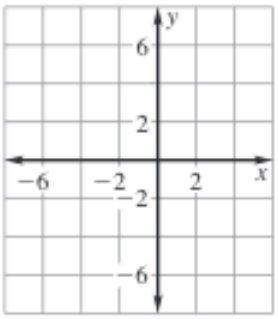
12. $2y - 4x = 10$



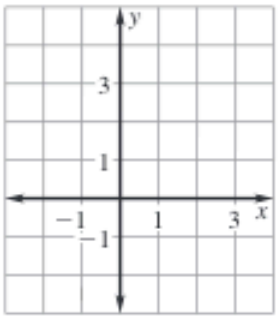
13. $x = -6$



14. $y = 4$

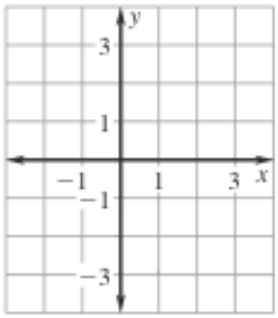


15. $3x - 2y = 0$

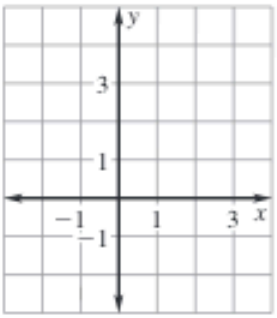


Graph the function with the given domain. Then identify the range of the function.

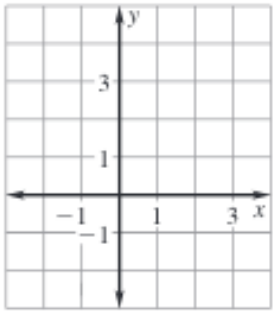
16. $y = 2x - 2$; domain: $x \geq 0$



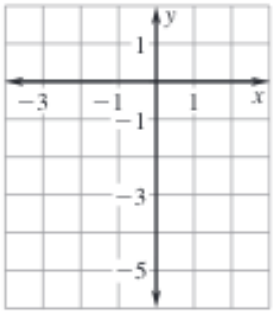
17. $y = -3x + 1$; domain: $x \leq 0$



18. $y = 3$; domain: $x \leq 2$



19. $y = -1$; domain: $x \geq -1$

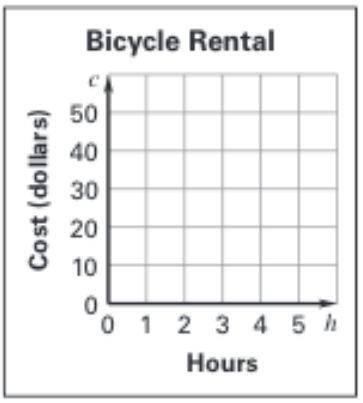


Identify the range of the function with the given domain.

20. $x + 3y = -8$; domain $x \geq 0$

21. $6x - 3y = 9$; domain: $x \leq 1$

22. Bicycle Rental A bicycle rental shop rents bicycles for $8 per hour. The total cost c (in dollars) for renting a bicycle h hours is given by the function $c = 8h$. Once you get to the rental shop, you figure you can rent a bicycle for at most 5 hours. Graph the function and identify its domain and range. What is the most that you will pay for renting the bicycle?



LESSON
3.3

Find the *x*-intercept and the *y*-intercept of the graph of the equation.

1. $x + y = 1$

2. $x - y = -5$

3. $6x - 3y = -3$

4. $5x + 10y = 30$

5. $9y - 5x = 20$

6. $8x - 2y = 16$

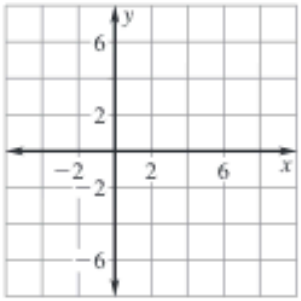
7. $7x + 8y = 18$

8. $2y - 12x = -6$

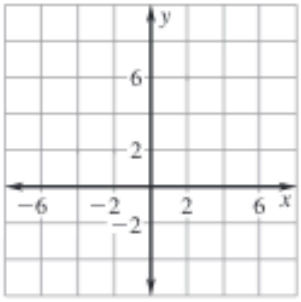
9. $2x - 0.5y = 8$

Draw the line that has the given intercepts.

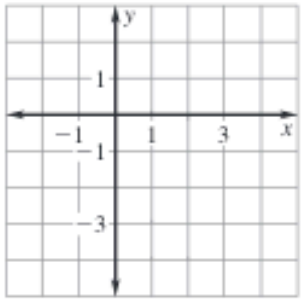
10. x-intercept: 5
y-intercept: 4



11. x-intercept: -1
y-intercept: 6

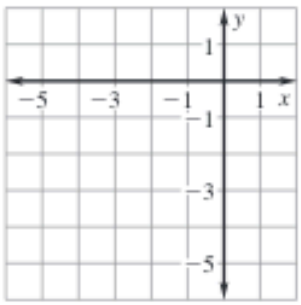


12. x-intercept: 2
y-intercept: -3

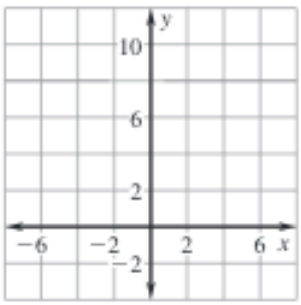


Graph the equation. Label the points where the line crosses the axes.

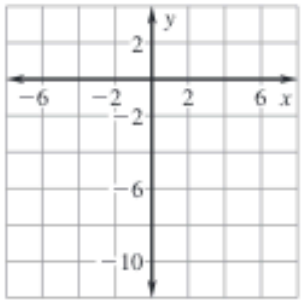
13. $y = -x - 4$



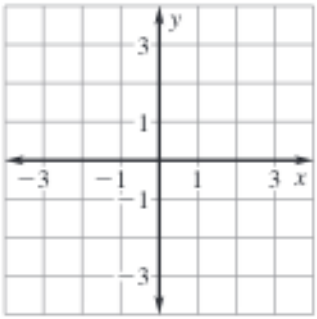
14. $y = 6 + 3x$



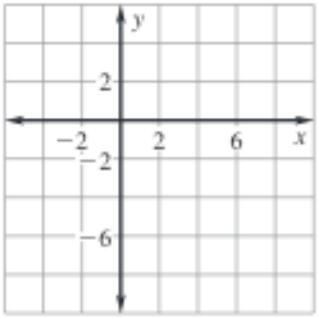
15. $y = 8x - 7$



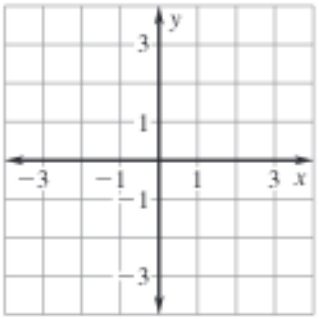
16. $y = 1 - 3x$



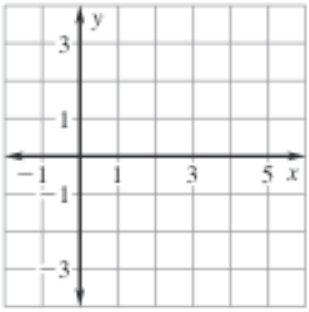
17. $7x - 7y = 42$



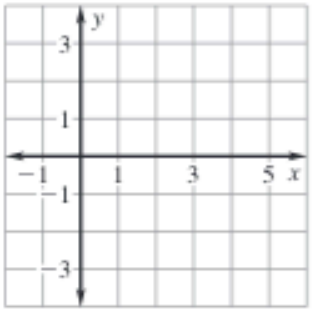
18. $3y + 2x = -5$



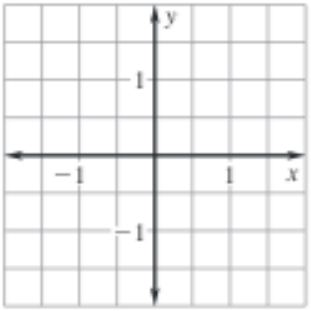
19. $4x - 9y = 16$



20. $y = 0.5x - 2$



21. $y = 3x + 0.2$



Match the equation with its intercepts.

22. $7y = 28 - 4x$

A. x-intercept: 4
y-intercept: -7

23. $7x = 4y + 28$

B. x-intercept: -4
y-intercept: 7

24. $4y = 7x + 28$

C. x-intercept: 7
y-intercept: 4

25. Rabbit Hutch The bottom of a rabbit cage is a rectangle with a perimeter of 118 inches. Let x be the cage's width (in inches) and let y be its length (in inches).

a. Write an equation for the perimeter.

b. Find the intercepts of the graph of the equation you wrote. Then graph the equation.