

**Additional Exercises 3.1**  
**Form I**  
 Graphing Linear Equations in Two Variables

Plot the given points in a rectangular coordinate system and then state the quadrant in which each point lies.

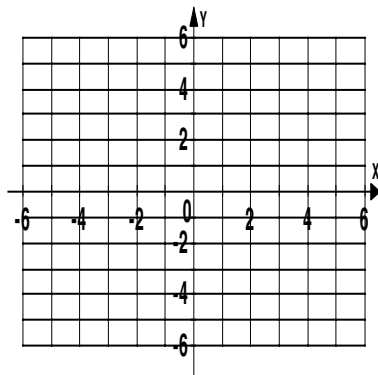
1.  $(3, 5)$

2.  $(-4, 1)$

3.  $(-1, -2)$

4.  $(2, 3)$

5.  $(3, -4)$



1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

Determine whether the ordered pair is a solution of the given equation.

6.  $(2, -2)$   
 $y = x - 4$

6. \_\_\_\_\_

7.  $(-1, -4)$   
 $x - y = 3$

7. \_\_\_\_\_

8.  $(2, 0)$   
 $2x - y = -4$

8. \_\_\_\_\_

Find five solutions of each equation. Select integers for  $x$ , starting with  $-2$  and ending with  $2$ .

9.  $y = 3x$

9. \_\_\_\_\_

10.  $y = 2x + 5$

10. \_\_\_\_\_

11.  $y = -3x - 4$

11. \_\_\_\_\_

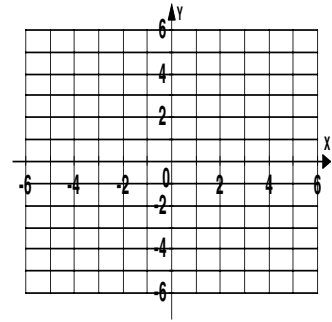
Name \_\_\_\_\_

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Graph each linear equation in two variables. Find at least five solutions in your table of values for each equation.

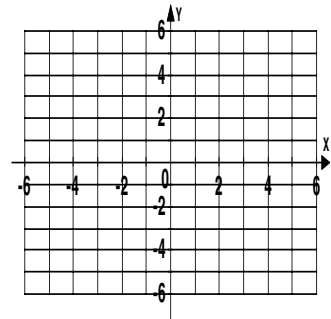
12.  $y = 2x$

12.



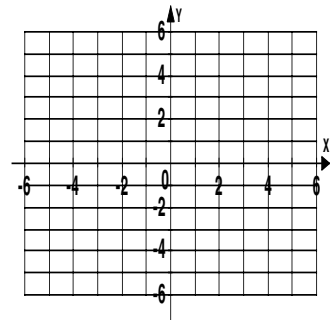
13.  $y = -x - 1$

13.



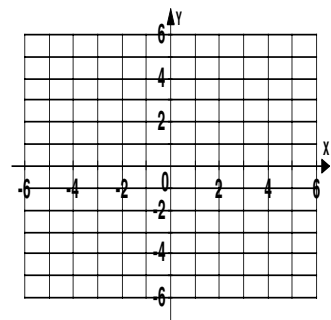
14.  $y = 4x + 3$

14.



15.  $y = \frac{1}{3}x - 5$

15.

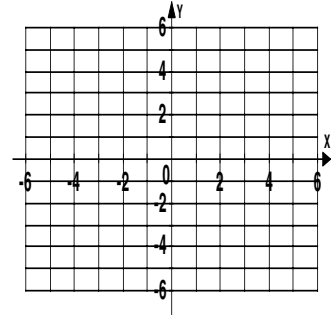


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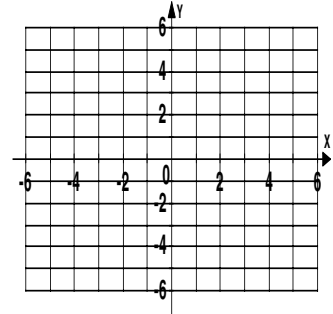
16.  $y = 3$

16.



17.  $x = 2$

17.



18. The linear equation in two variables  $y = 0.10x + 175$  models the total weekly cost,  $y$ , in dollars, for renting and driving it  $x$  miles. the equation indicates that the rental company charges a fixed amount of \$175 for the week plus a cost of \$0.10 for each mile the car is driven. Find the solution of  $y = 0.10x + 175$  using 185 for  $x$ .

18. \_\_\_\_\_

19. The linear equation in two variables  $y = 32x$  models the speed,  $y$ , in feet per second, of a ball dropped from a tower  $x$  seconds after it is dropped. The equation indicates that the speed of the ball increases by 32 feet per second for every second that passes. Find a solution of  $y = 32x$  using 3 for  $x$ .

19. \_\_\_\_\_

20. The linear equation in two variables  $y = 124 - 8x$  models the amount of water,  $y$ , in ounces, remaining in a leaky bucket  $x$  minutes after the bucket is filled. The equation indicates that the bucket initially contains 124 ounces of water and loses 8 ounces each minute. Find the amount of water left in the bucket after 3 minutes, 5 minutes, 10 minutes, and 15 minutes.

20. \_\_\_\_\_

**Additional Exercises 3.1**  
**Form II**  
 Graphing Linear Equations in Two Variables

Plot the given points in a rectangular coordinate system and then state the quadrant in which each point lies.

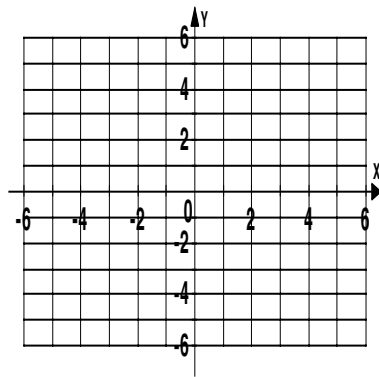
1.  $(1, -5)$

2.  $(-2, 4)$

3.  $(-3, -3)$

4.  $(6, 1)$

5.  $(-4, 2)$



1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

Determine whether the ordered pair is a solution of the given equation.

6.  $(3, 1)$   
 $y = x - 4$

6. \_\_\_\_\_

7.  $(3, -5)$   
 $x - y = 2$

7. \_\_\_\_\_

8.  $(1, 2)$   
 $2x + 3y = 8$

8. \_\_\_\_\_

Find five solutions of each equation. Select integers for  $x$ , starting with  $-2$  and ending with  $2$ .

9.  $y = -8x$

9. \_\_\_\_\_

10.  $y = -3x + 6$

10. \_\_\_\_\_

11.  $y = -6x - 3$

11. \_\_\_\_\_

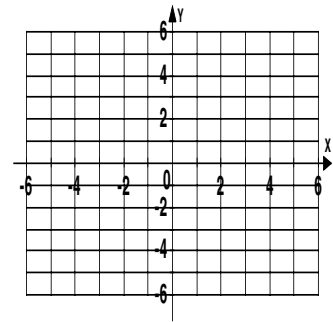
Name \_\_\_\_\_

Date \_\_\_\_\_

Graph each linear equation in two variables. Find at least five solutions in your table of values for each equation.

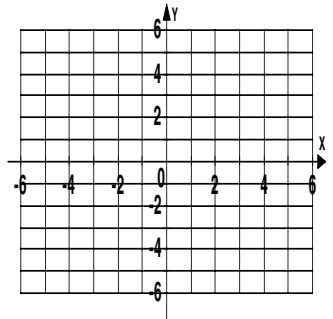
12.  $y = -3x$

12.



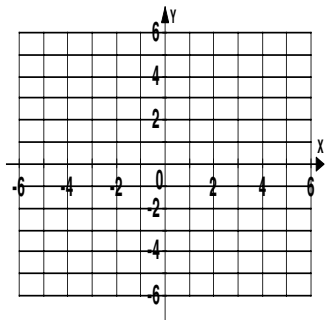
13.  $y = 2x - 4$

13.



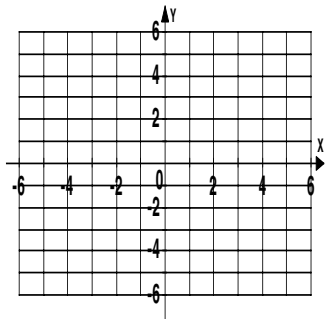
14.  $y = \frac{4}{5}x + 1$

14.



15.  $y = -\frac{2}{3}x - 3$

15.

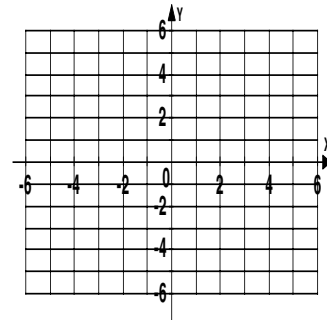


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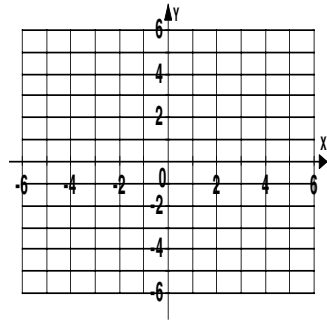
16.  $y = 5x$

16.



17.  $y = -1$

17.



Solve the problem.

18. The linear equation in two variables  $y = 0.05x + 12.95$  models the total monthly charge,  $y$ , in dollars, for a long distance telephone customer who talked for  $x$  minutes long distance. The equation indicates that the customer is charged a fixed amount of \$12.95 per month plus a charge of \$0.05 for each minute of long distance. Find the solution of  $y = 0.05x + 12.95$  using 205 for  $x$ .

18. \_\_\_\_\_

19. The linear equation in two variables  $y = 500x + 2993$  models the altitude above sea level,  $y$ , in feet, of an airplane  $x$  minutes after taking off from a high plateau. The equation indicates that the airplane's altitude is initially 2993 feet above sea level and increases 500 feet each minute. Find a solution of  $y = 500x + 2993$  using 2 for  $x$ .

19. \_\_\_\_\_

20. The linear equation in two variables  $y = 2x + 40$  models the total cost,  $y$ , in dollars, for towing a car  $x$  miles. The equation indicates that the towing company charges a fixed amount of \$40 to send a truck to pickup the car plus a cost \$2 for each mile the car is towed. Find the cost of towing a car 10 miles, 25 miles and 50 miles.

20. \_\_\_\_\_

**Additional Exercises 3.1**  
**Form III**  
 Graphing Linear Equations in Two Variables

Plot the given points in a rectangular coordinate system and then state the quadrant in which each point lies.

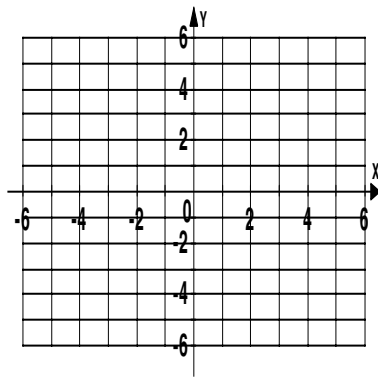
1.  $(4, -1)$

2.  $(-2, -3)$

3.  $(3, 2)$

4.  $(2, -3)$

5.  $(-1, 4)$



1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

Determine whether each ordered pair is a solution of the given equation.

6.  $x + 2y = 0$ ;  $\left(-\frac{1}{2}, \frac{1}{4}\right)$ ,  $(-4, 2)$

6. \_\_\_\_\_

7.  $x - 4 = 0$ ;  $(-4, 0)$ ,  $(4, 3)$

7. \_\_\_\_\_

8.  $2x - 3y = 12$ ;  $(6, -4)$ ,  $(-6, -4)$

8. \_\_\_\_\_

Find five solutions of each equation. Select integers for  $x$ , starting with  $-2$  and ending with  $2$ .

9.  $y = \frac{2}{3}x$

9. \_\_\_\_\_

10.  $y = -3 - 4$

10. \_\_\_\_\_

11.  $y = \frac{3}{2}x + 4$

11. \_\_\_\_\_

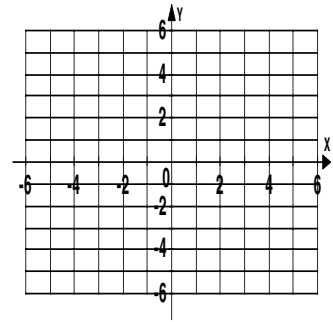
Name \_\_\_\_\_

Date \_\_\_\_\_

Graph the linear equation in two variables.

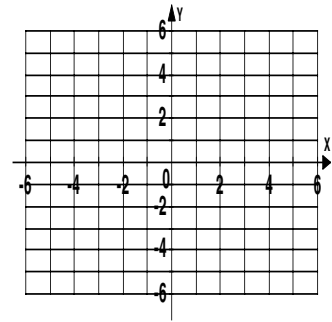
12.  $y = \frac{1}{3}x - 2$

12.



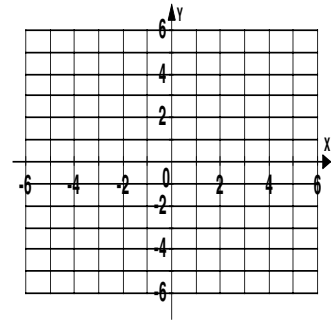
13.  $y = -2$

13.



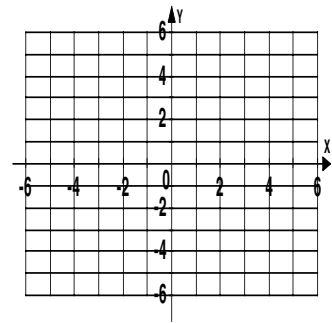
14.  $y = -\frac{3}{2}x + 1$

14.



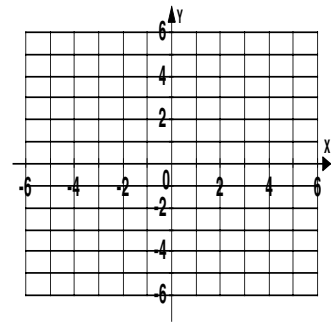
15.  $y = \frac{1}{4}x$

15.



16.  $y = -\frac{1}{2}x - 2$

16.



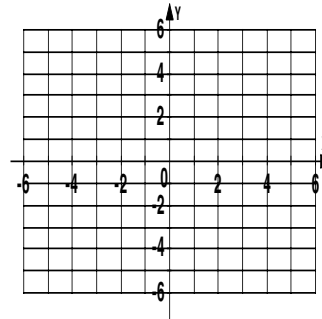


Name \_\_\_\_\_

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17.  $y = \frac{5}{2}x + 1$

17.



Solve the problem.

18. The linear equation in two variables  $y = 0.25x + 150$  models the total weekly cost,  $y$ , in dollars, for renting and driving it  $x$  miles. the equation indicates that the rental company charges a fixed amount of \$150 for the week plus a cost of \$0.25 for each mile the car is driven. Find the solution of  $y = 0.25x + 150$  using 215 for  $x$ .

18. \_\_\_\_\_

19. The linear equation in two variables  $y = 33.5x$  models the speed,  $y$ , in feet per second, of a ball dropped from a tower  $x$  seconds after it is dropped. The equation indicates that the speed of the ball increases by 33.5 feet per second for every second that passes. Find a solution of  $y = 33.5x$  using 4 for  $x$ .

19. \_\_\_\_\_

20. The linear equation in two variables  $y = 3x + 80$  models the total cost,  $y$ , in dollars, for towing a car  $x$  miles. The equation indicates that the towing company charges a fixed amount of \$80 to send a truck to pickup the car plus a cost \$3 for each mile the car is towed. Find the cost to tow a car 5 miles, 15 miles, 25 miles and 85 miles.

20. \_\_\_\_\_