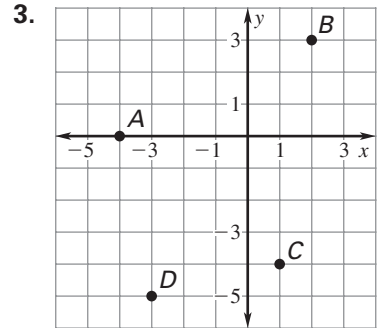
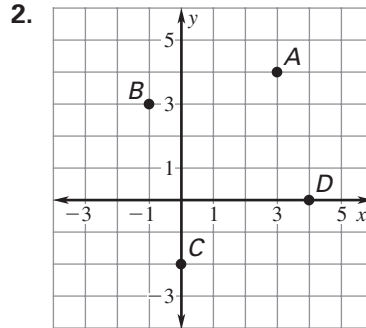
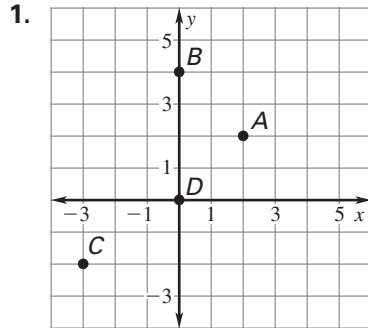


Practice A

For use with pages 203_208

Write the ordered pairs that correspond to the points labeled **A**, **B**, **C**, and **D** in the coordinate plane.



Plot and label the ordered pairs in a coordinate plane.

4. (2, 2), (2, 4), (2, 5)

5. (3, 2), (2, 1), (4, 0)

6. (-3, 1), (-4, 1), (2, -1)

7. (-5, -2), (-5, 0), (-3, 2)

8. (0, 2), (3, -3), (-1, -3)

9. (-1, 1), (0, -2), (3, 4)

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

10. (3, 4)

11. (5, -2)

12. (2, -5)

13. (-1, -3)

14. (-4, 3)

15. (-2, -2)

16. (6, 1)

17. (-2, 4)

18. **Hourly Pay** The table shows the number of hours worked and the corresponding pay in dollars. Make a scatter plot of the data. Let each ordered pair have the form (h, d) .

| | | | | | |
|----------|------|------|-------|-------|-------|
| <i>h</i> | 1 | 2 | 3 | 5 | 8 |
| <i>d</i> | 4.50 | 9.00 | 13.50 | 22.50 | 36.00 |

19. **Yards to Feet** The table shows some measurements in yards and the corresponding measurement in feet. Make a scatter plot of the data. Let each ordered pair have the form (y, f) .

| | | | | | |
|----------|---|----|----|----|----|
| <i>y</i> | 1 | 5 | 10 | 15 | 20 |
| <i>f</i> | 3 | 15 | 30 | 45 | 60 |

20. **Basketball** The following table shows the heights (in inches) of players on a high school basketball team and how many players are each height. Make a scatter plot of the data. Use the horizontal axis to represent the height.

| | | | | | | | | | |
|---------------------------|----|----|----|----|----|----|----|----|----|
| Height (in inches) | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 |
| Number of players | 1 | 0 | 2 | 5 | 3 | 2 | 0 | 0 | 1 |

Practice A

For use with pages 209–215

Decide which of the two points is a solution of the equation.

- | | | |
|---------------------------------------|---|---|
| 1. $x + y = 8$ a. (2, 4) b. (2, 6) | 2. $2x + y = 8$ a. (2, 2) b. (3, 2) | 3. $y - x = 2$ a. (5, 3) b. (3, 5) |
| 4. $x = 4$ a. (4, 2) b. (2, 4) | 5. $y = -3$ a. (-3, 2) b. (3, -3) | 6. $y = 0$ a. (0, 3) b. (-1, 0) |
| 7. $y = x - 2$ a. (4, 6) b. (6, 4) | 8. $y = x + 3$ a. (-2, 1) b. (1, -2) | 9. $y = -3x + 1$ a. (0, 1) b. (1, 4) |

Find three different ordered pairs that are solutions of the equation.

- | | | |
|------------------|-------------------|--------------------|
| 10. $y = x - 5$ | 11. $x = -2$ | 12. $y = 1$ |
| 13. $y = -x + 4$ | 14. $y = -3x - 4$ | 15. $y = 2(x + 4)$ |

Rewrite the equation in function form.

- | | | |
|--------------------|---------------------|--------------------|
| 16. $-x + y = 6$ | 17. $x + y = -2$ | 18. $-x + y = -2$ |
| 19. $-2x + y = -4$ | 20. $3x - y = 1$ | 21. $-2x + y = 0$ |
| 22. $4x + 2y = 1$ | 23. $-9x + 3y = -6$ | 24. $-2x - 4y = 3$ |

Use a table of values to graph the equation.

- | | | |
|-----------------|----------------------------|----------------------------|
| 25. $y = x + 3$ | 26. $y = x - 2$ | 27. $y = 2x + 3$ |
| 28. $y = -x$ | 29. $y = \frac{2}{3}x + 6$ | 30. $y = \frac{1}{2}x + 4$ |
| 31. $y = 2 - x$ | 32. $y = 3(x + 1)$ | 33. $y = -2(x + 3)$ |

Summer Income Use the following information.

You earn \$15 an hour mowing lawns and \$10 an hour washing windows. You want to make \$400 in one week. An algebraic model for your earnings is $15x + 10y = 400$, where x is the number of hours mowing lawns and y is the number of hours washing windows.

34. What are your earnings for 3 hours of mowing and 5 hours of window washing?
35. Solve the equation for y .
36. Sketch a graph of the equation.

Practice A

For use with pages 216–221

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

- | | | |
|------------------------|------------------------|---------------------|
| 1. $x = 0, (0, -2)$ | 2. $y = 1, (3, 1)$ | 3. $x = 4, (-4, 4)$ |
| 4. $x = -2, (2, -2)$ | 5. $y = -3, (5, -3)$ | 6. $y = 7, (8, 7)$ |
| 7. $x = -10, (-10, 8)$ | 8. $y = -11, (-11, 6)$ | 9. $y = 8, (8, 8)$ |
| 10. $x = 5, (5, -5)$ | | |

Find three ordered pairs that are solutions of the equation.

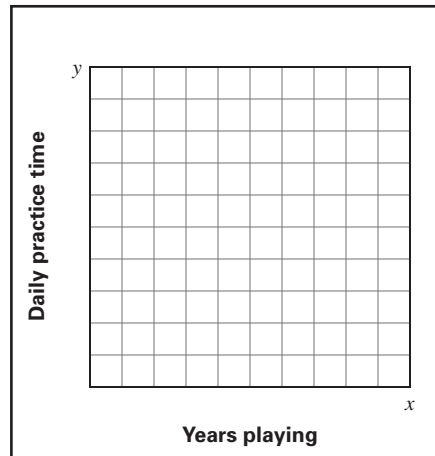
- | | | |
|--------------|--------------|--------------|
| 11. $x = -2$ | 12. $y = -6$ | 13. $y = 2$ |
| 14. $x = 0$ | 15. $y = 7$ | 16. $x = 5$ |
| 17. $y = 3$ | 18. $x = -1$ | 19. $y = 10$ |

Graph the equation.

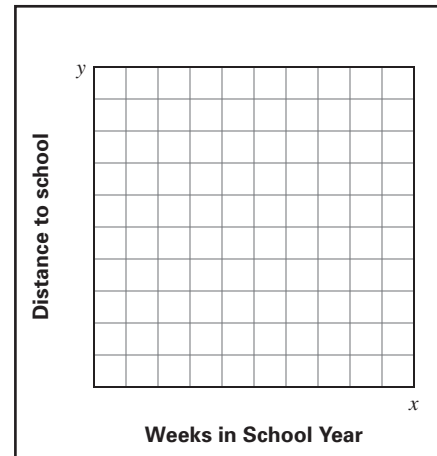
- | | | |
|-------------|--------------|--------------|
| 20. $x = 1$ | 21. $y = -3$ | 22. $x = -7$ |
| 23. $y = 5$ | 24. $x = 8$ | 25. $y = 3$ |

Write and graph the equation that represents the following:

26. Jordan has been practicing the piano daily for 30 minutes for the past 2 years.

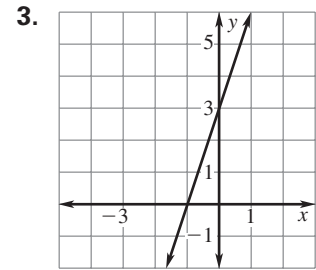
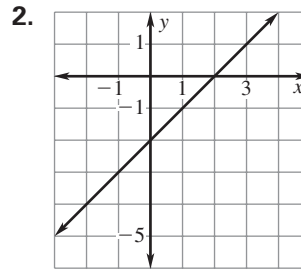
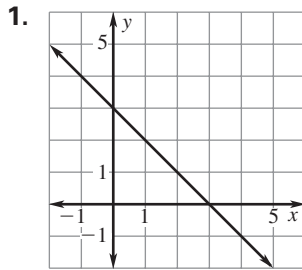


27. Desiree walks $1\frac{1}{2}$ miles to school twice a week for the 40-week school year.



Practice A

For use with pages 217–221

Use the graph to find the x -intercept and the y -intercept of the line.Find the x -intercept of the graph of the equation.

4. $x + y = 5$

5. $x - y = -6$

6. $x - 3y = 7$

7. $-3x + y = 15$

8. $2x - 10y = -30$

9. $6x + 12y = 36$

Find the y -intercept of the graph of the equation.

10. $y = -3x - 4$

11. $y = \frac{1}{2}x + 6$

12. $y = 3 - 2x$

13. $-3x + 6y = 18$

14. $4x + 4y = -16$

15. $5x - 10y = -40$

Graph the line that has the given intercepts.

16. x -intercept: 2
 y -intercept: 2

17. x -intercept: 3
 y -intercept: -1

18. x -intercept: -3
 y -intercept: 5

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

20. x -intercept: -8
 y -intercept: 4

21. x -intercept: 10
 y -intercept: -6

Find the x -intercept and the y -intercept of the line. Graph the equation. Label the points where the line crosses the axes.

22. $y = x + 3$

23. $y = x - 4$

24. $y = 1 + x$

25. $y = 2 - x$

26. $y = 2x - 4$

27. $y = 3x + 5$

28. $-3x + 5y = 15$

29. $-4x + 2y = -4$

30. $7x - 5y = 35$

Ticket Sales Use the following information.

You sold tickets to the school play. Advanced tickets were \$4. Tickets bought at the door were \$5. Total ticket sales were \$400. Let x represent the number of advanced tickets sold and y represent the number of tickets sold at the door.

31. Graph the linear function $4x + 5y = 400$.

32. Label the x -intercept and the y -intercept. What does each represent in the situation?

Club Membership Use the following information.

The Spanish Club is open to juniors and seniors. There are now 18 members in the club. Let x represent the number of junior members and y represent the number of senior members.

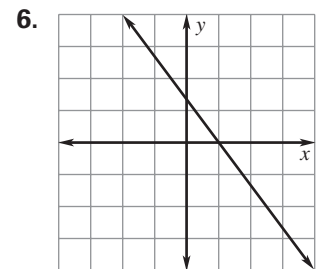
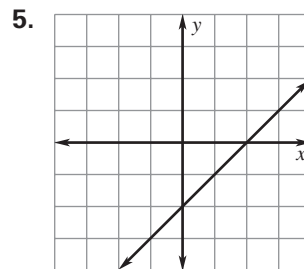
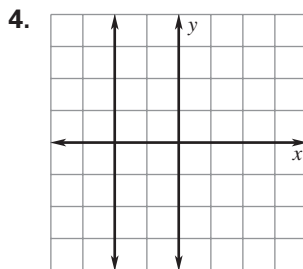
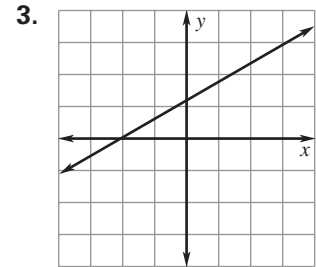
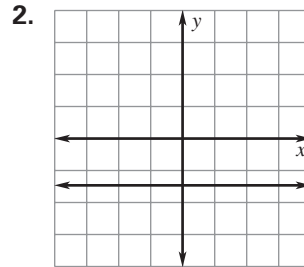
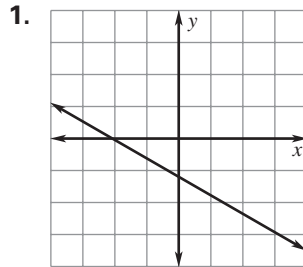
33. Graph the linear function $x + y = 18$.

34. Label the x -intercept and the y -intercept. What does each represent in the situation?

Practice A

For use with pages 228–235

State whether the slope of the line is *positive*, *negative*, *zero*, or *undefined*.



Plot the points and draw a line through them. Without calculating, state whether the slope of the line is *positive*, *negative*, *zero*, or *undefined*.

7. $(2, 4), (5, 2)$

8. $(2, -5), (2, 4)$

9. $(4, 1), (6, 7)$

10. $(-3, 5), (2, 5)$

11. $(1, -4), (-2, 3)$

12. $(-4, 2), (0, 5)$

13. $(2, -3), (-4, -3)$

14. $(-5, 1), (5, -1)$

15. $(-1, 3), (-1, -2)$

Find the slope of the line passing through the given points.

16. $(1, 5), (2, 9)$

17. $(2, 4), (1, 1)$

18. $(4, 1), (2, 7)$

19. $(2, 3), (4, 3)$

20. $(0, 4), (-2, 8)$

21. $(6, -8), (6, 4)$

22. $(3, 7), (-9, -5)$

23. $(-2, 3), (4, -1)$

24. $(-5, 2), (2, -4)$

25. $(3, -1), (-6, -1)$

26. $(-3, -9), (-3, -1)$

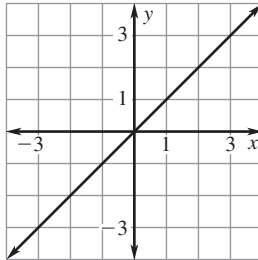
27. $(-3, -2), (-1, -7)$

Practice A

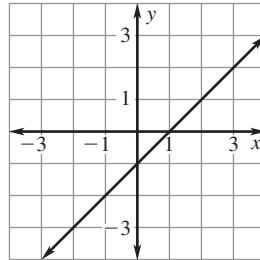
For use with pages 236–241

Determine if the graph represents a direct variation model. If yes, find the constant of variation and the slope.

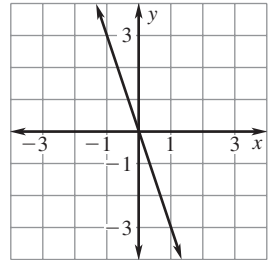
1. $y = x$



2. $y = x - 1$



3. $y = -3x$



Graph the equation. Find the constant of variation and the slope of the direct variation model.

4. $y = 2x$

5. $y = 3x$

6. $y = 4x$

7. $y = -x$

8. $y = -2x$

9. $y = \frac{1}{3}x$

The variables x and y vary directly. Use the given values to write an equation that relates x and y .

10. $x = 1, y = 2$

11. $x = 1, y = 3$

12. $x = 2, y = 4$

13. $x = 3, y = 12$

14. $x = 2, y = -2$

15. $x = -3, y = 15$

16. $x = -4, y = -28$

17. $x = 2, y = 1$

18. $x = 4, y = 1$

In Exercises 19 and 20, find an equation that relates the two variables.

19. **Circumference and Radius** The circumference C of a circle varies directly with the length of the radius r . When the circumference is 8π , the radius is 4.

20. **Showers** The gallons G of water used to take a shower varies directly with the number of minutes M in the shower. A 6 minute shower uses 36 gallons of water.

Salary Use the following information.

You work a different number of hours each day. The table shows your total pay p and the number of hours h you worked.

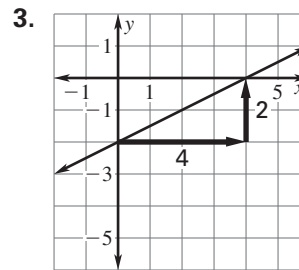
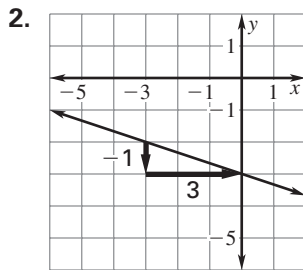
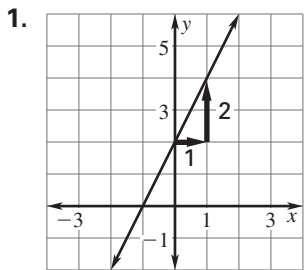
21. Complete the table by finding the ratio of your total pay each day to the number of hours you worked that day.
22. Write the model that relates the variables p and h .
23. If you work 8 hours on the fifth day, what will your total pay be?

| | | | | |
|-------------------------------------|------|------|------|------|
| Total pay, p | \$20 | \$15 | \$30 | \$25 |
| Hours worked, h | 4 | 3 | 6 | 5 |
| Ratio | | | | |

Practice A

For use with pages 241–247

Find the slope and y -intercept of the line whose graph is shown.



Find the slope and y -intercept of the graph of the equation.

4. $y = 7x + 3$

5. $y = 5x - 1$

6. $y = 7$

7. $y = -2x$

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

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

Graph the equation. If necessary, write the equation in slope-intercept form first.

10. $y = x + 1$

11. $y = x - 6$

12. $y = 3x$

13. $y = -2x$

14. $y = 2x - 3$

15. $y = -5x - 2$

16. $y = 4$

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

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

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

20. $-3x + y = 8$

21. $x + y = 5$

Decide whether the graphs of the two equations are parallel lines.

22. $y = x + 3, y = x + 6$

23. $y = 2x - 3, y = -2x + 3$

24. $y = 4x - 1, y = 1 - 4x$

25. $3y = x - 12, 6y = 2x + 12$

Jogging Use the following information.

Howard decides to start jogging every day at the track. The first week he jogs 4 laps. He adds 1 lap each week for 8 weeks. Let l represent the number of laps Howard runs and let t represent the time in weeks since he began jogging.

26. Make a table of values to record the number of laps Howard jogs from week 0, 1, 2, 3, ..., 7.

27. Plot the ordered pairs. Draw a line through the points.

28. Find the slope. What does it represent?

Telephone Calls Use the following information.

The cost of a long-distance telephone call is \$.50 for the first minute and \$.10 for each additional minute. Let c represent the total cost of a call that lasts t minutes.

29. Make a table of values to record the costs of calls that last 1, 2, 3, 4, 5, and 6 minutes.

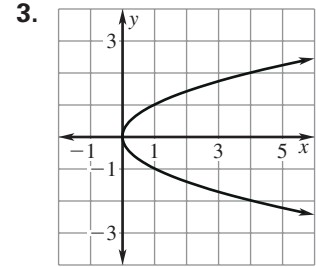
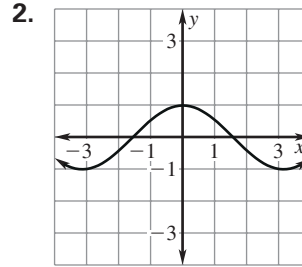
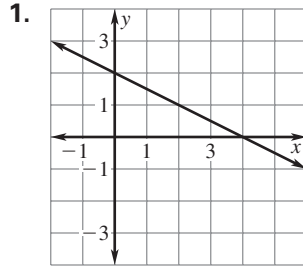
30. Plot the ordered pairs. Draw a line through the points.

31. Find the slope. What does it represent?

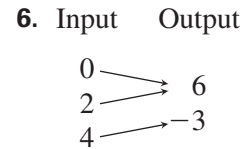
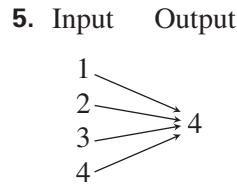
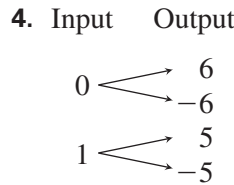
Practice A

For use with pages 252-258

Decide whether the graph represents y as a function of x . Explain your reasoning.



Decide whether the relation is a function. If it is a function, give the domain and the range.



Evaluate the function when $x = 3$, $x = 0$, and $x = -2$,

- 7. $f(x) = x$
- 8. $h(x) = x + 7$
- 9. $g(x) = x - 2$
- 10. $g(x) = 3x$
- 11. $g(x) = 4x - 1$
- 12. $h(x) = 1.2x$
- 13. $f(x) = 1.5x - 2$
- 14. $h(x) = -4x + \frac{1}{2}$
- 15. $f(x) = \frac{1}{3}x + \frac{2}{3}$

Graph the function.

- 16. $f(x) = x - 7$
- 17. $g(x) = 5x$
- 18. $h(x) = 2x + 1$
- 19. $g(x) = -4$
- 20. $f(x) = \frac{1}{2}x - 4$
- 21. $h(x) = -\frac{2}{5}x + 1$

Decide whether the relation is a function. If it is a function, give the domain and the range.

22.

| Input Year | Output Attendance |
|------------|-------------------|
| 1996 | 215 |
| 1997 | 297 |
| 1998 | 412 |
| 1999 | 690 |
| 2000 | 1043 |

23.

| Input Temperature ($^{\circ}F$) | Output Date |
|-----------------------------------|-------------|
| 72° | June 8 |
| 74° | June 9 |
| 68° | June 10 |
| 70° | June 11 |
| 70° | June 12 |

24.

| Input Area Code | Output ZIP code |
|-----------------|-----------------|
| 907 | 99801 |
| 916 | 94203 |
| 916 | 94204 |
| 850 | 32306 |
| 217 | 62706 |