

For the points P and Q, find the distance d(P, Q).

1) P(-5, -1), Q(5, 4) 1) _____

For the points P and Q, find the coordinates of the midpoint of the segment PQ.

2) P(3, -9), Q(-9, 1) 2) _____

3) P($11\sqrt{3}$, $\sqrt{11}$), Q($-\sqrt{3}$, $4\sqrt{11}$) 3) _____

Determine whether the three points are the vertices of a right triangle.

4) (-7, 4), (-3, 4), (-3, 12) 4) _____

Determine whether the three points are collinear.

5) (4, 3), (3, 6), (1, 4) 5) _____

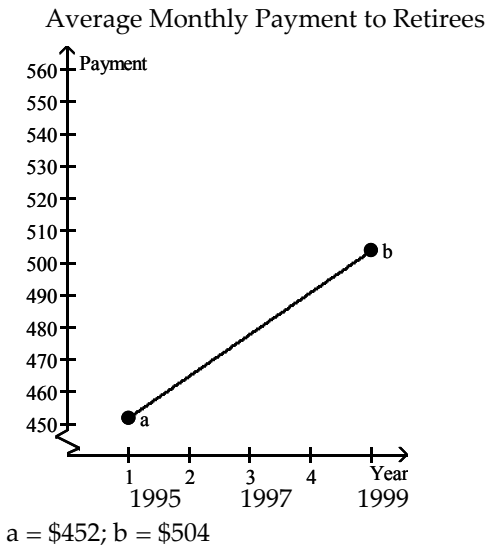
Find the coordinates of the other endpoint of the segment, given its midpoint and one endpoint.

6) midpoint (-6, -6), endpoint (-2, -1) 6) _____

7) midpoint (-12, 1), endpoint (-7, -1) 7) _____

Solve the problem.

8) The graph shows an idealized linear relationship for the average monthly payment to retirees from 1995 to 1999. Use the midpoint formula to estimate the average payment in 1997. 8) _____



Determine whether the given point is on the graph of the equation.

9) $4x + 2y^2 = -26$; (-7, 1) 9) _____

10) $y = \frac{7}{x}$; $\left(6, \frac{6}{7}\right)$ 10) _____

Graph the equation by plotting points.

11) $y = \sqrt{x+3}$

11) _____

12) $y = x^2 - 2$

12) _____

13) $y = |x| + 4$

13) _____

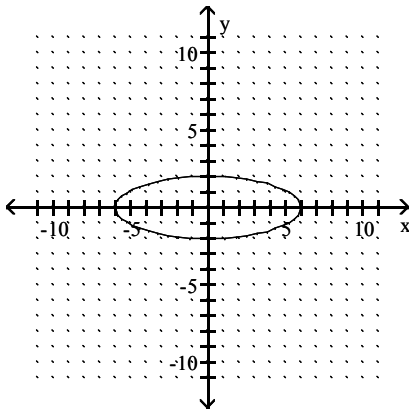
14) $y = x^3 + 2$

14) _____

Write the x- and y-intercepts of the graph.

15)

15) _____



Find the x- and y-intercepts of the graph of the equation.

16) $16y - 4x = -8$

16) _____

17) $4x^2 + y^2 = 4$

17) _____

18) $y = x^2 + 13x + 42$

18) _____

19) $\frac{x}{4} + \frac{y}{6} = 3$

19) _____

20) $x = y^2 - 2y - 24$

20) _____

21) $y = \sqrt{9 - x^2}$

21) _____

Test the equation for symmetry with respect to the x-axis, the y-axis, and the origin.

22) $y = 3x^2 - 3$

22) _____

A) y-axis only

B) x-axis, y-axis, origin

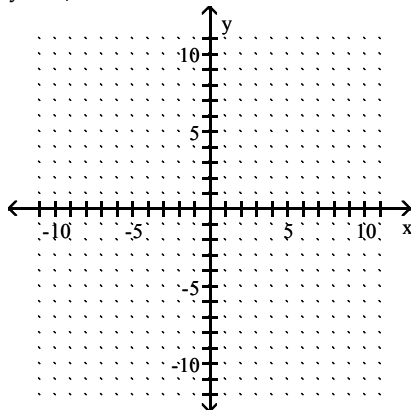
C) x-axis only

D) Origin only

Graph the equation by plotting points.

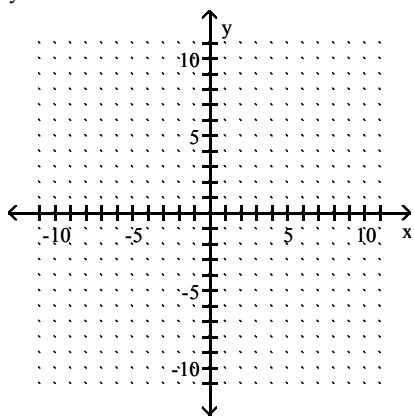
23) $y = \sqrt{x+6}$

23) _____



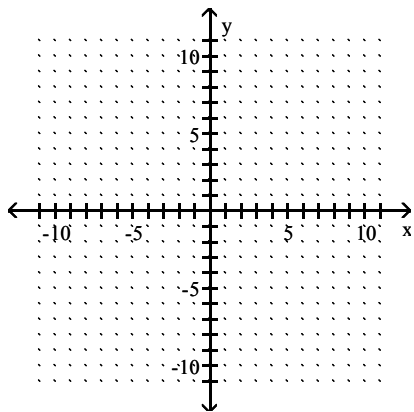
24) $y = x^2 + 2$

24) _____

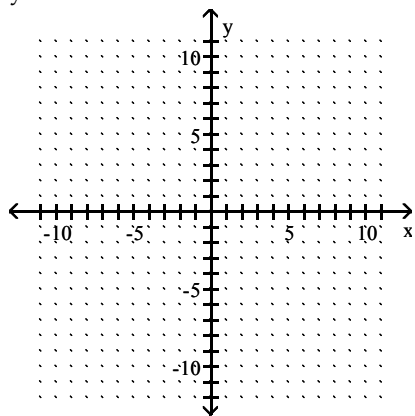


25) $y = |x| - 4$

25) _____



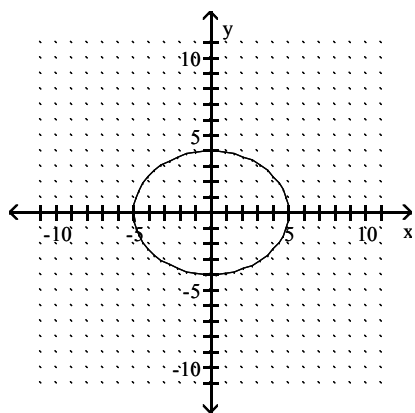
26) $y = x^3 + 3$



26) _____

Write the x- and y-intercepts of the graph.

27)



27) _____

Find the x- and y-intercepts of the graph of the equation.

28) $6y - 2x = -8$

28) _____

29) $16x^2 + y^2 = 16$

29) _____

30) $y = x^2 + 15x + 54$

30) _____

31) $\frac{x}{5} + \frac{y}{2} = 3$

31) _____

32) $x = y^2 + 5y + 6$

32) _____

33) $y = \sqrt{49 - x^2}$

33) _____

Test the equation for symmetry with respect to the x-axis, the y-axis, and the origin.

34) $5x = 5y^2 + 3$

34) _____

35) $x^2 + y^2 = 6$

35) _____

36) $x^2 + xy^2 = -4$

36) _____

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

37) (9, 3) and (4, 2)

37) _____

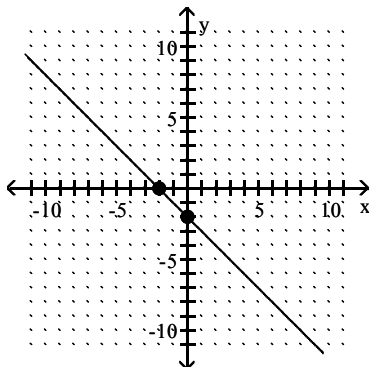
38) (9, -8), (6, -8)

38) _____

Find the slope of the line.

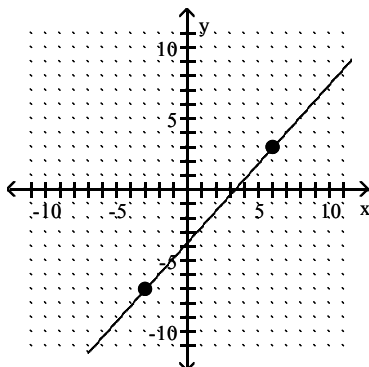
39)

39) _____



40)

40) _____



Find an equation in slope-intercept form of the line that passes through the given point and has slope m.

41) (0, 6); $m = \frac{3}{5}$

41) _____

42) (0, 4); $m = -\frac{2}{3}$

42) _____

43) (9, 0); $m = -7$

43) _____

44) (5, 4); $m = -\frac{4}{9}$

44) _____

Sketch the graph of the line by locating the second point with the rise-and-run method.

45) Through $(10, 0)$, $m = -\frac{1}{2}$ 45) _____

46) Through $(-4, -10)$, $m = 4$ 46) _____

47) Through $(-4, -10)$, $m = -\frac{1}{2}$ 47) _____

Find an equation in slope-intercept form for the nonvertical lines. Write the vertical lines in the form $x = h$.

48) Passing through $(-2, -8)$ and $(0, 9)$ 48) _____

49) Passing through $(7, 0)$ and $(-4, 2)$ 49) _____

50) Passing through $(10, -1)$ and $(10, -6)$ 50) _____

Use the given conditions to find an equation in slope-intercept form of each of the nonvertical lines. Write vertical lines in the form $x = h$.

51) A vertical line through $(-5.42, 1.62)$ 51) _____

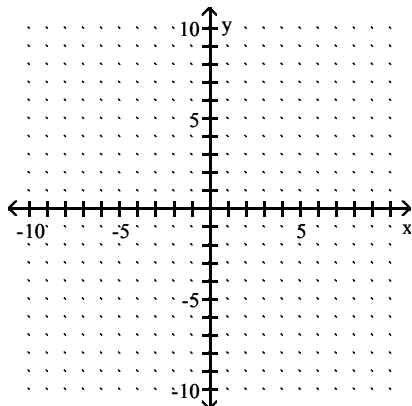
52) Perpendicular to $x = 1$; passing through $(-10, 8)$ 52) _____

53) Parallel to $y = 0$; passing through $(-6, -5)$ 53) _____

54) A horizontal line through $(2.59, 3.35)$ 54) _____

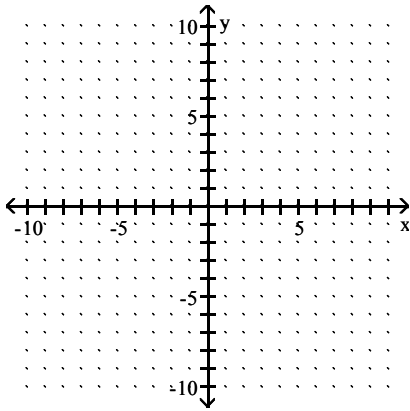
Find the slope and the y-intercept from the equation of the line. Sketch a graph of the equation.

55) $y = 4x - 7$ 55) _____



56) $3x + 4y = 21$

56) _____



Determine whether the pair of lines is parallel, perpendicular, or neither.

57) $3x - 4y = 3$
 $8x + 6y = 3$

57) _____

58) $3x - 2y = 9$
 $2x + 3y = 9$

58) _____

59) $4x - 12y = -7$
 $32x + 16y = -7$

59) _____

Solve the problem.

60) To convert a temperature from degrees Celsius to degrees Fahrenheit, you multiply the temperature in degrees Celsius by 1.8 and then add 32 to the result. Find a linear equation to convert from degrees Celsius to degrees Fahrenheit.

60) _____

61) The cost for labor associated with fixing a washing machine is computed as follows: There is a fixed charge of \$20 for the repairman to come to the house, to which a charge of \$19 per hour is added. Find an equation that can be used to determine the labor cost, C , of a repair that takes x hours.

61) _____

62) In a certain city, the cost of a taxi ride is computed as follows: There is a fixed charge of \$2.10 as soon as you get in the taxi, to which a charge of \$1.65 per mile is added. Find an equation that can be used to determine the cost, C , of an x -mile taxi ride.

62) _____

63) The average value of a certain type of automobile was \$15,900 in 1991 and depreciated to \$7500 in 1994. Let y be the average value of the automobile in the year x , where $x = 0$ represents 1991. Write a linear equation that models the value of the automobile in terms of the year x .

63) _____

64) A vendor has learned that, by pricing carmel apples at \$1.50, sales will reach 128 carmel apples per day. Raising the price to \$2.50 will cause the sales to fall to 88 carmel apples per day. Let y be the number of carmel apples the vendor sells at x dollars each. Write a linear equation that models the number of carmel apples sold per day when the price is x dollars each.

64) _____

Graph the circle.

65) $x^2 + y^2 = 81$

65) _____

66) $(x - 3)^2 + (y + 4)^2 = 4$

66) _____

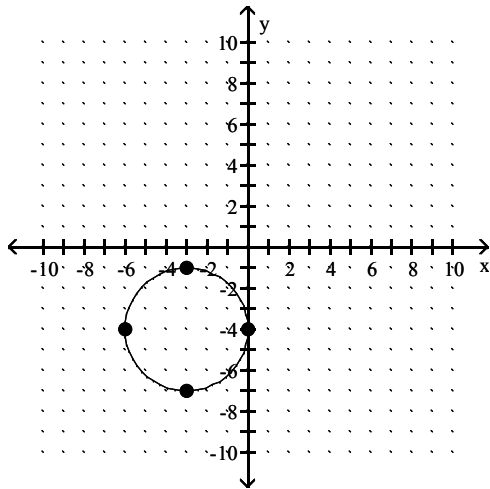
67) $(x + 4)^2 + y^2 = 16$

67) _____

Use the graph to determine the equation of the circle in center-radius form.

68)

68) _____



Solve the problem.

69) The locations of three receiving stations and the distances to the epicenter of an earthquake are contained in the following three equations: $(x - 5)^2 + (y + 1)^2 = 16$, $(x - 3)^2 + (y + 5)^2 = 4$, $(x - 11)^2 + (y + 13)^2 = 100$. Determine the location of the epicenter.

69) _____

70) Find the center-radius form of the equation of a circle with center $(4, 8)$ and tangent to the x-axis.

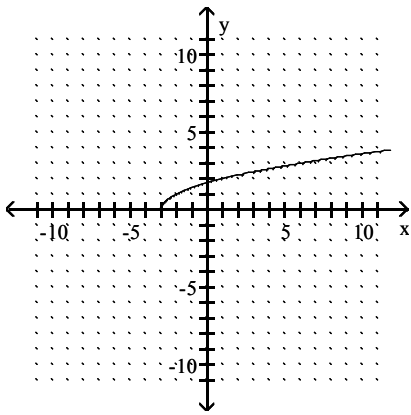
70) _____

71) Find the equation of a circle with center at $(-5, 3)$, passing through the point $(1, 11)$. Write it in center-radius form.

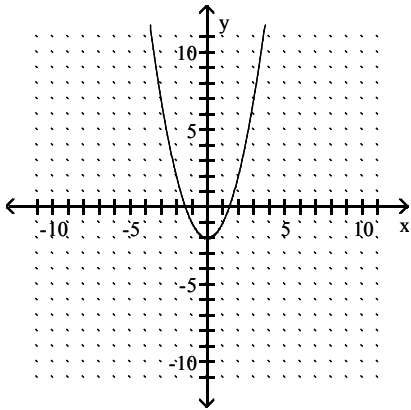
71) _____

Answer Key
 Testname: PP2

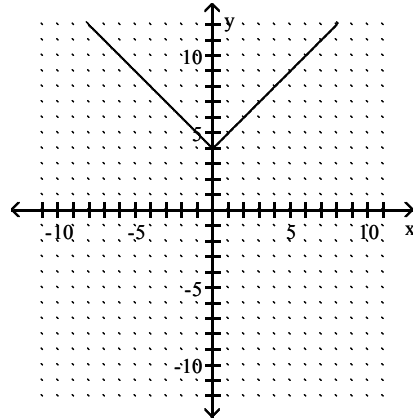
- 1) $5\sqrt{5}$
- 2) $(-3, -4)$
- 3) $\left(5\sqrt{3}, \frac{5\sqrt{11}}{2}\right)$
- 4) Yes
- 5) No
- 6) $(-10, -11)$
- 7) $(-17, 3)$
- 8) \$478
- 9) Yes
- 10) No
- 11)



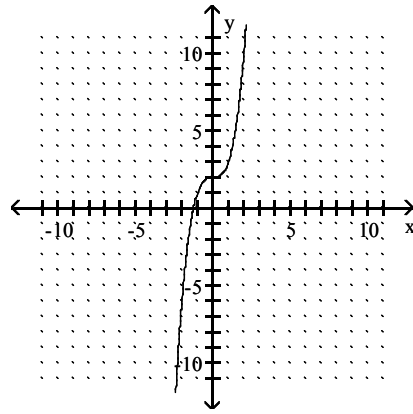
12)



13)



14)



15) x-intercepts: 6, -6; y-intercepts: 2, -2

16) x-intercept: 2; y-intercept: $-\frac{1}{2}$

17) x-intercepts: -1, 1; y-intercepts: -2, 2

18) x-intercepts: -6, -7; y-intercept: 42

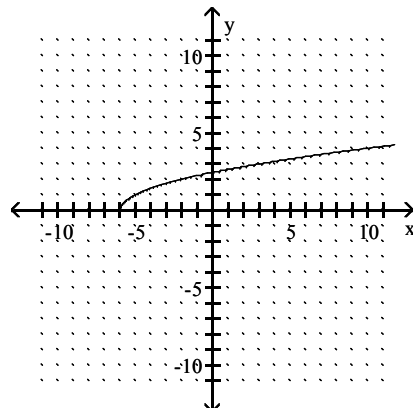
19) x-intercept: 12; y-intercept: 18

20) x-intercept: -24; y-intercepts: 6, -4

21) x-intercepts: -3, 3; y-intercept: 3

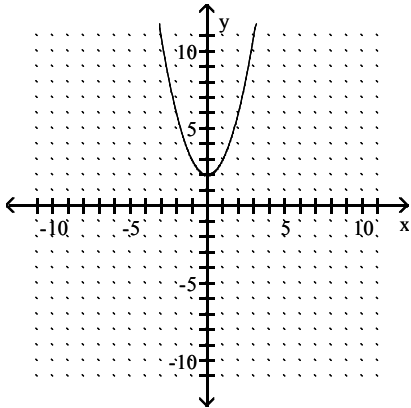
22) A

23)

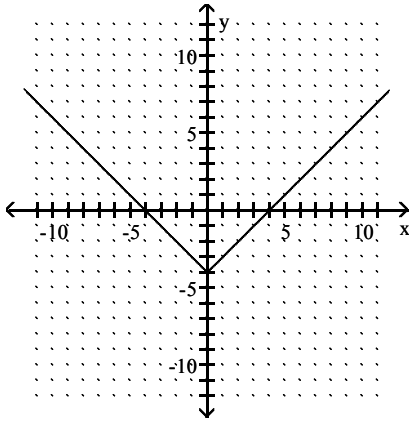


Answer Key
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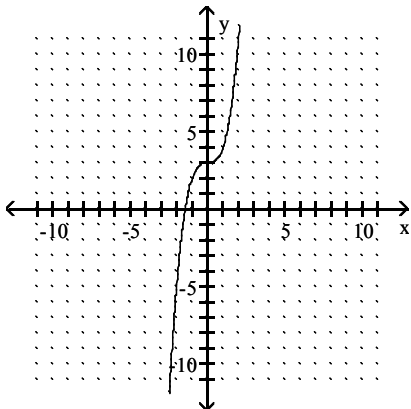
24)



25)



26)



27) x-intercepts: 5, -5; y-intercepts: 4, -4

28) x-intercept: 4; y-intercept: $-\frac{4}{3}$

29) x-intercepts: -1, 1; y-intercepts: -4, 4

30) x-intercepts: -6, -9; y-intercept: 54

31) x-intercept: 15; y-intercept: 6

32) x-intercept: 6; y-intercepts: -3, -2

33) x-intercepts: -7, 7; y-intercept: 7

34) x-axis only

35) x-axis, y-axis, origin

36) x-axis only

37) $\frac{1}{5}$

38) 0

39) -1

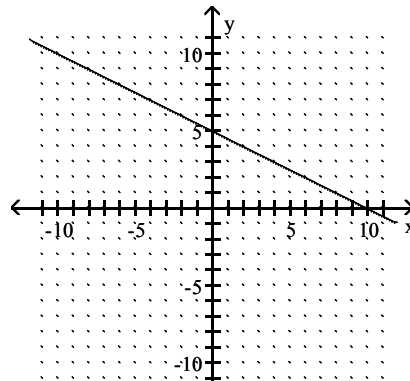
40) $\frac{10}{9}$

41) $y = \frac{3}{5}x + 6$

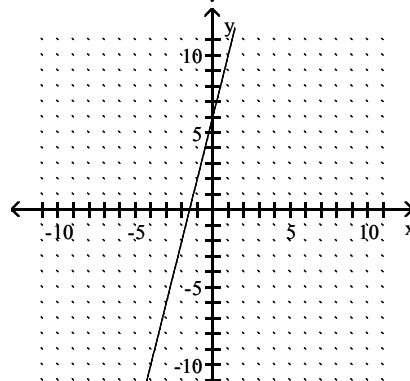
42) $y = -\frac{2}{3}x + 4$

43) $y = -7x + 63$

44) $y = -\frac{4}{9}x + \frac{56}{9}$

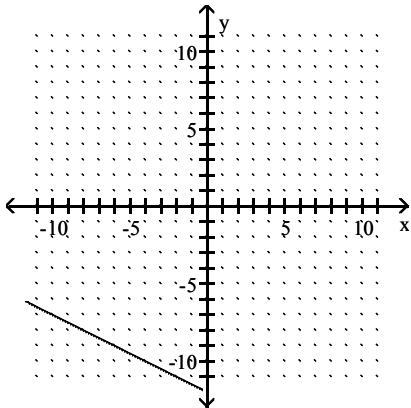


45)



46)

47)



48) $y = \frac{17}{2}x + 9$

49) $y = -\frac{2}{11}x + \frac{14}{11}$

50) $x = 10$

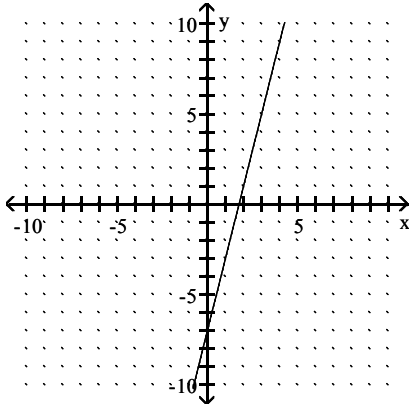
51) $x = -5.42$

52) $y = 8$

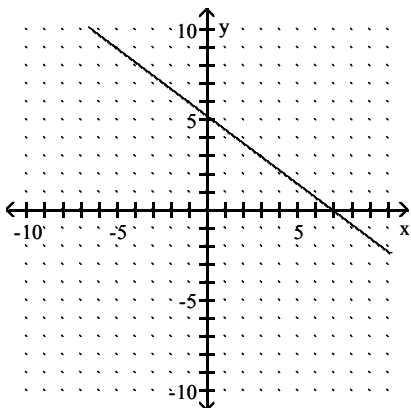
53) $y = -5$

54) $y = 3.35$

55) $m = 4$, y -intercept = -7



56) $m = -\frac{3}{4}$; y -intercept = $\frac{21}{4}$



57) Perpendicular

58) Perpendicular

59) Neither

60) $F = 1.8c + 32$

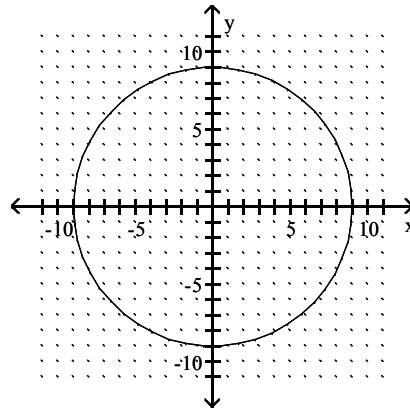
61) $C = 20 + 19x$

62) $C = 2.10 + 1.65x$

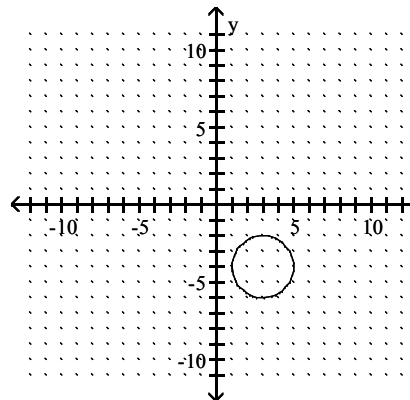
63) $y = -2800x + 15,900$

64) $y = -40x + 188$

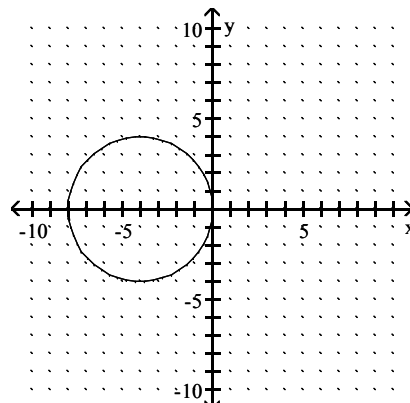
65)



66)



67)



68) $(x + 3)^2 + (y + 4)^2 = 9$

69) at $(5, -5)$

70) $(x - 4)^2 + (y - 8)^2 = 64$

71) $(x + 5)^2 + (y - 3)^2 = 100$