

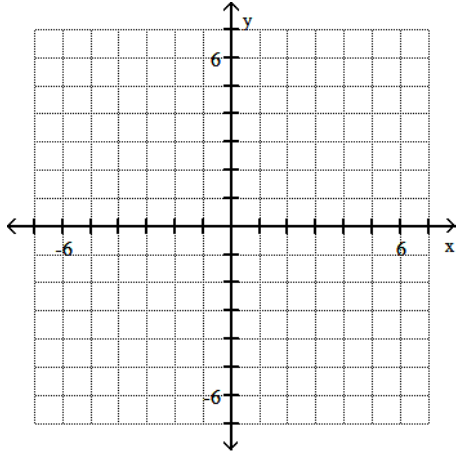
Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

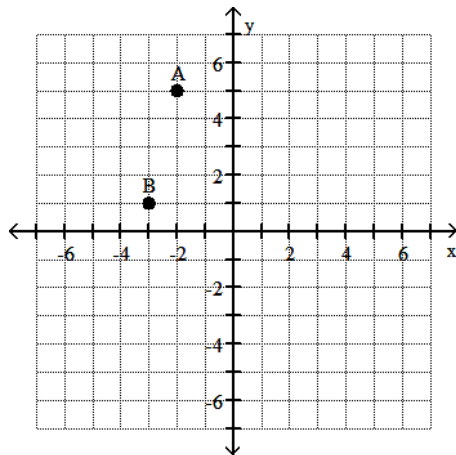
Plot the two points given by the ordered pairs.

1) $A(2, 5)$, $B(-3, 1)$

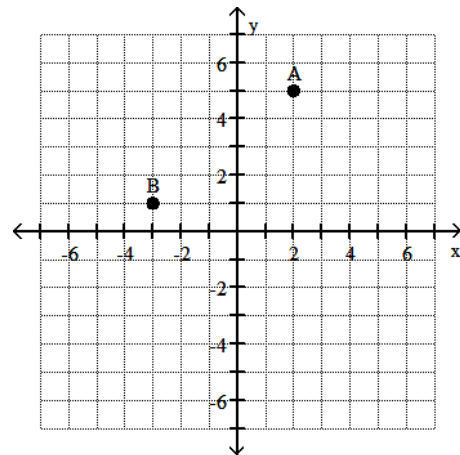
1) _____



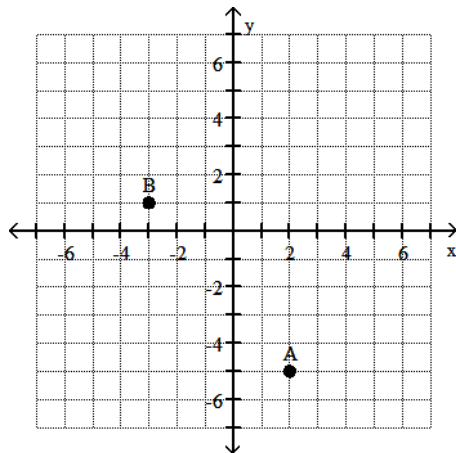
A)



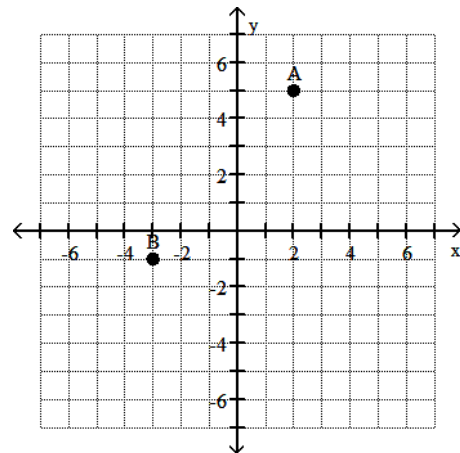
B)



C)

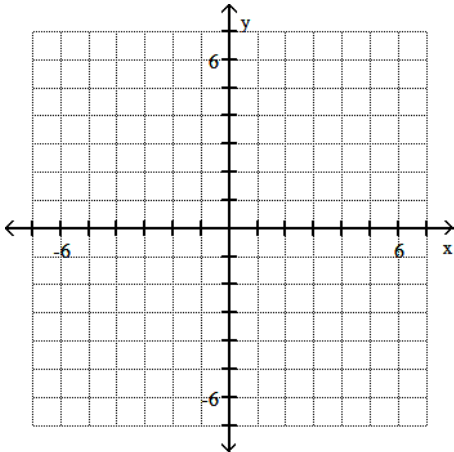


D)

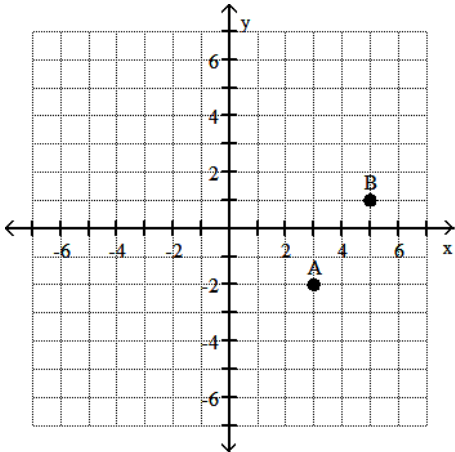


2) $A(3, -2), B(-5, 1)$

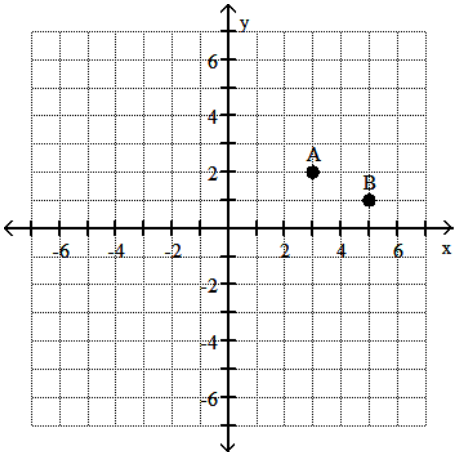
2) _____



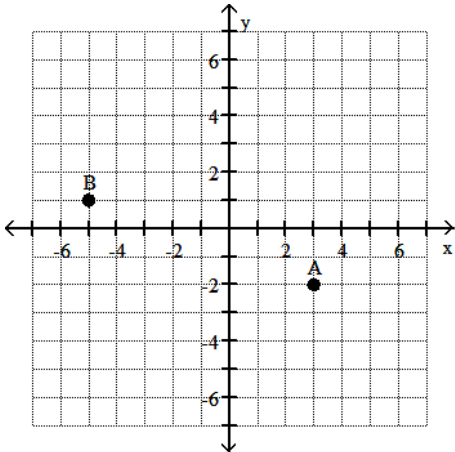
A)



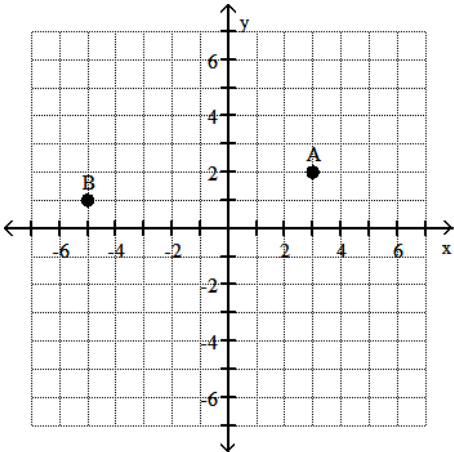
B)



C)

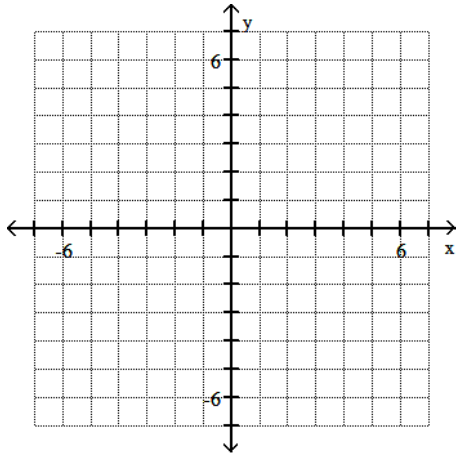


D)

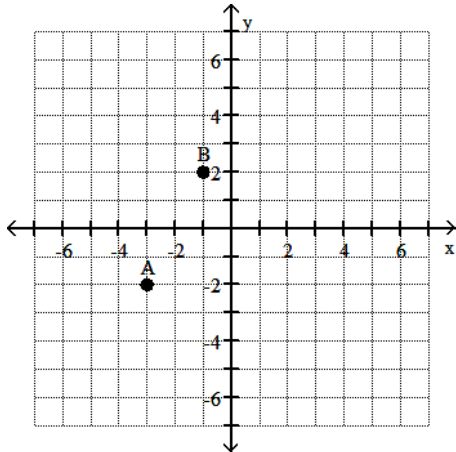


3) $A(-3, -2)$, $B(-1, 2)$

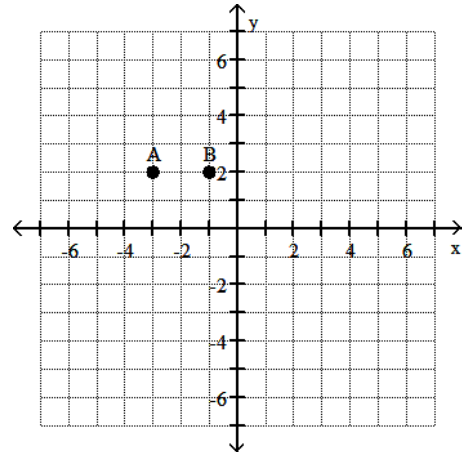
3) _____



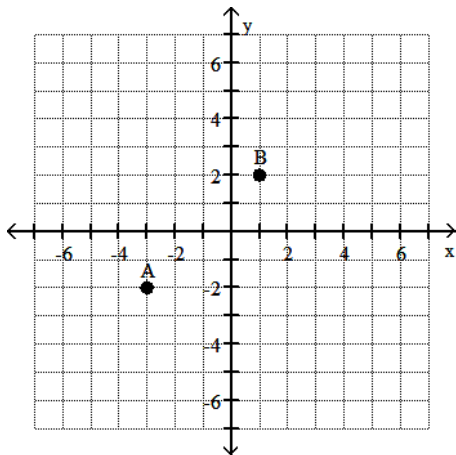
A)



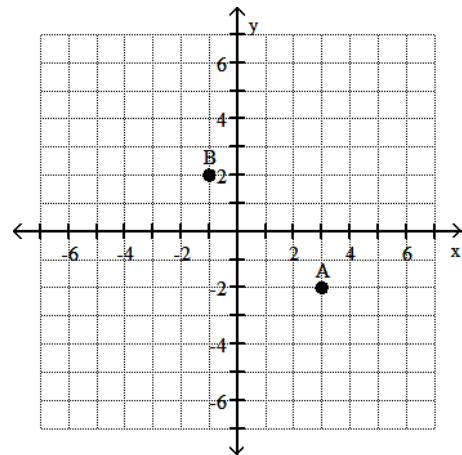
B)



C)

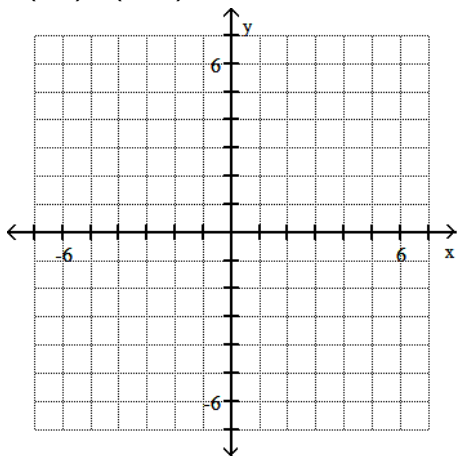


D)

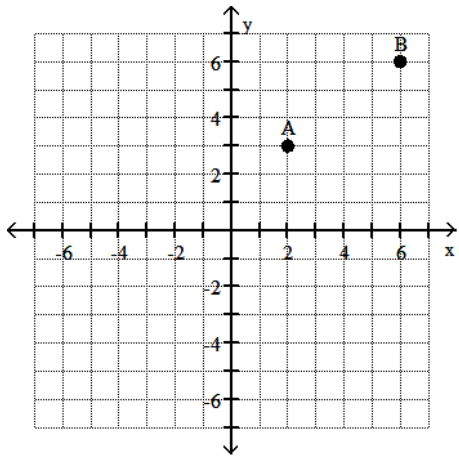


4) A(2, 3), B(6, -6)

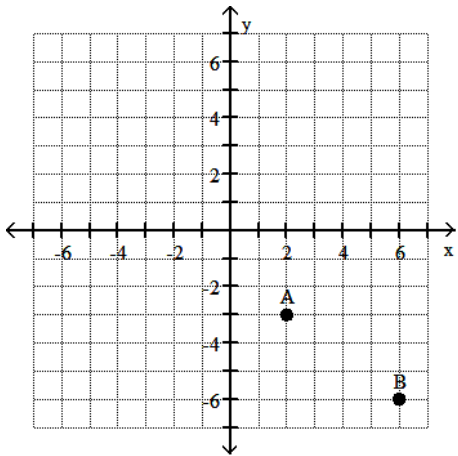
4) _____



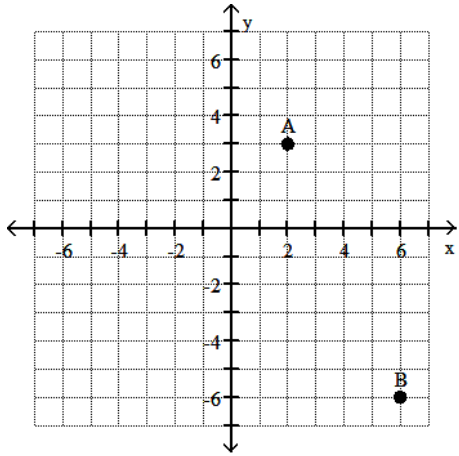
A)



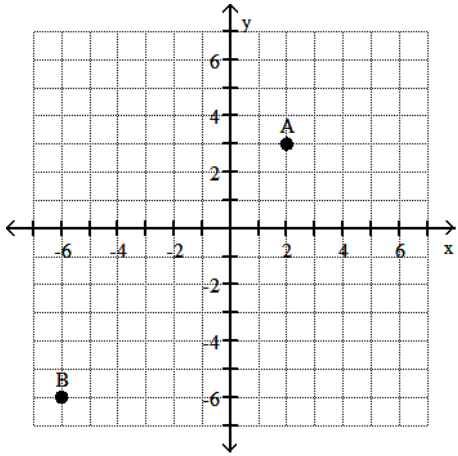
B)



C)

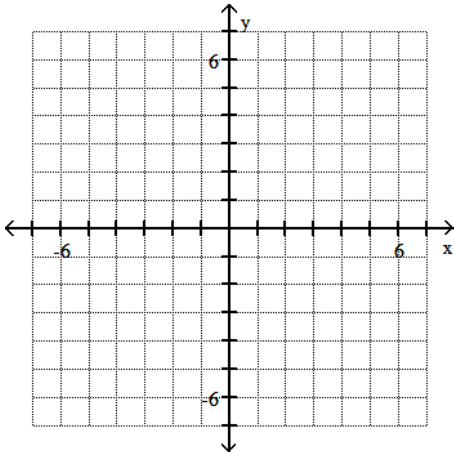


D)

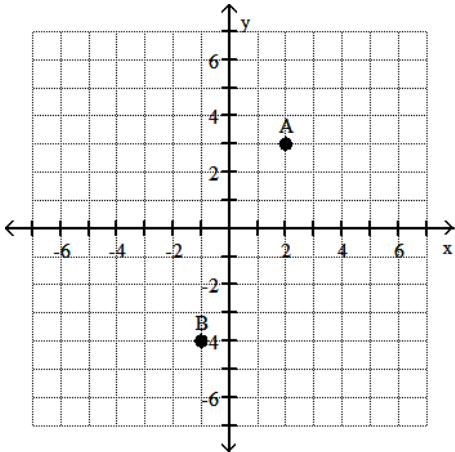


5) A(2, 3), B(-1, -4)

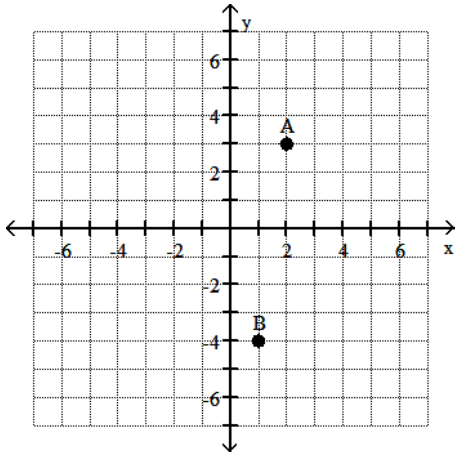
5) _____



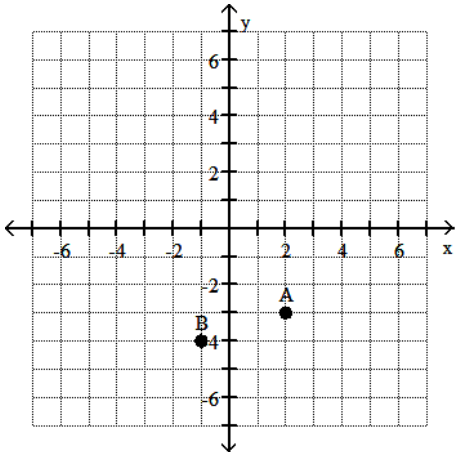
A)



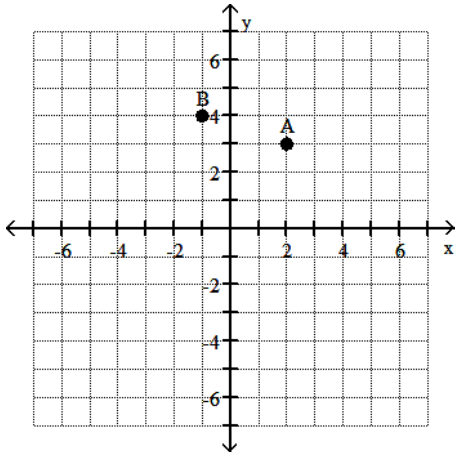
B)



C)

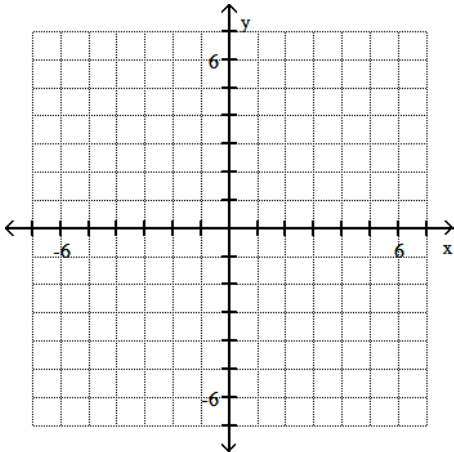


D)

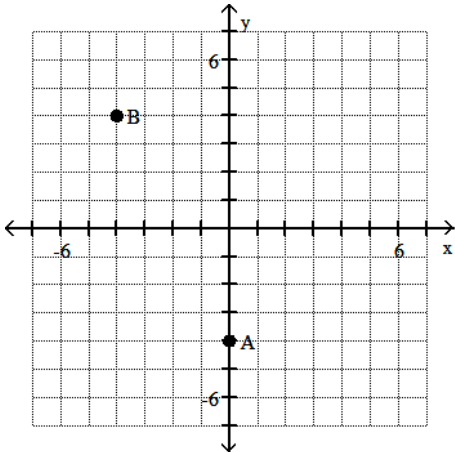


6) $A(0, -4), B(-4, 4)$

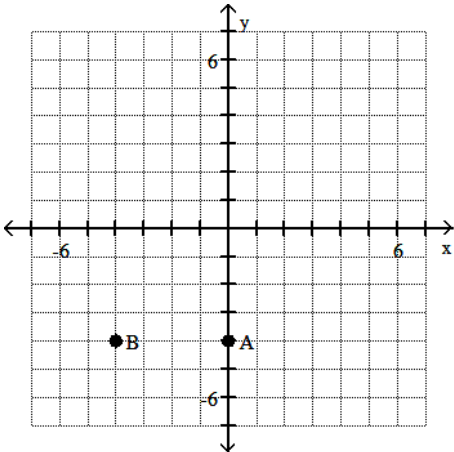
6) _____



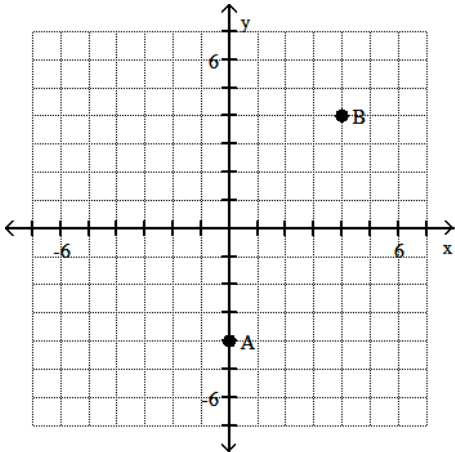
A)



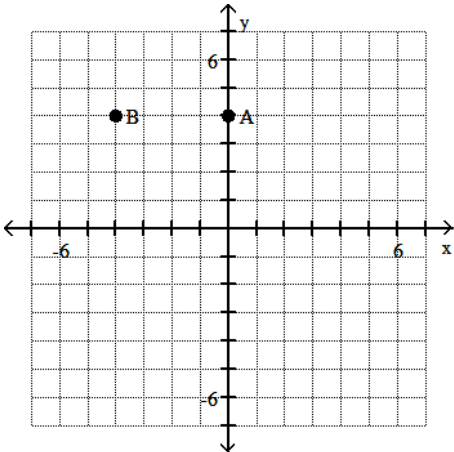
B)



C)

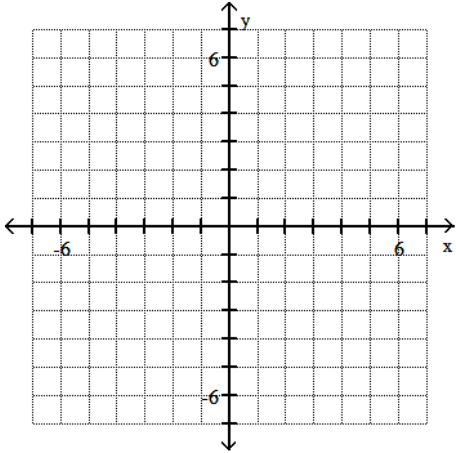


D)

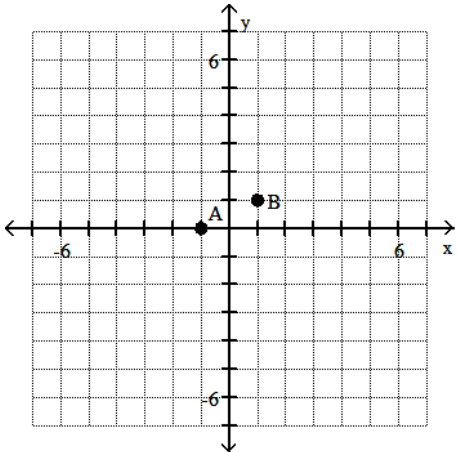


7) $A(1, 0)$, $B(-1, 1)$

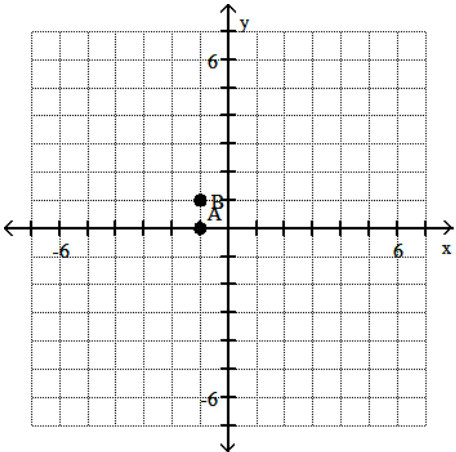
7) _____



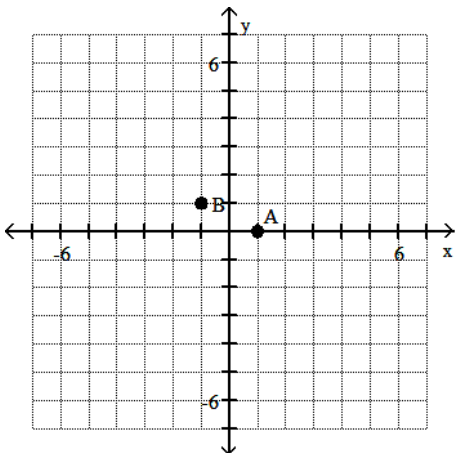
A)



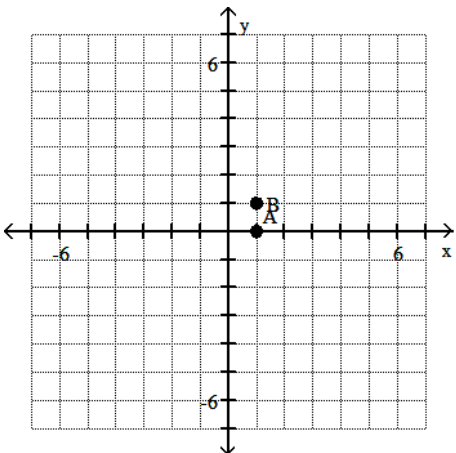
B)



C)

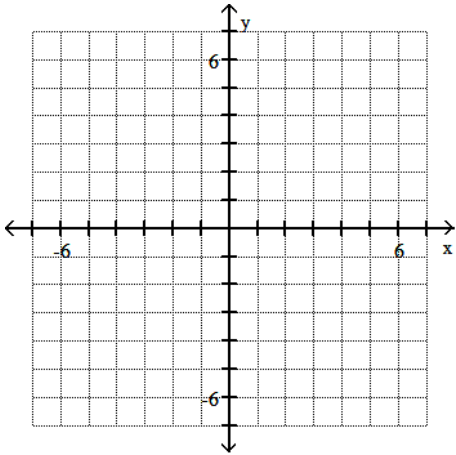


D)

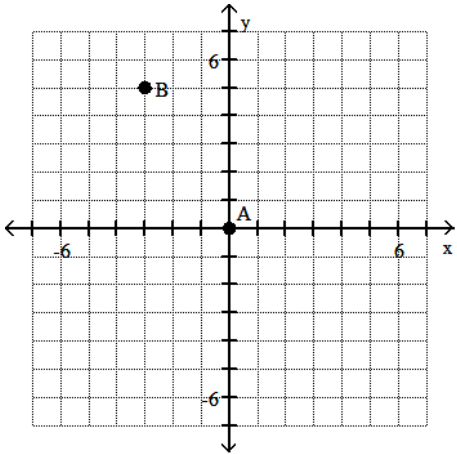


8) $A(0, 0)$, $B(3, 5)$

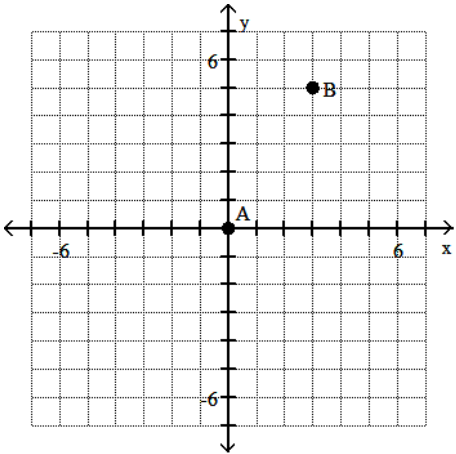
8) _____



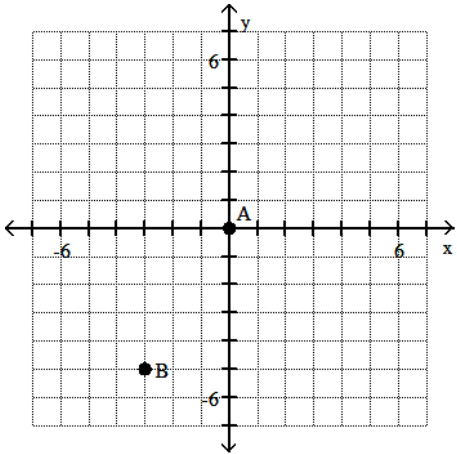
A)



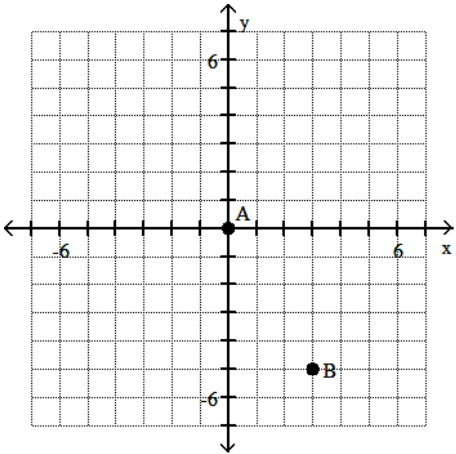
B)



C)

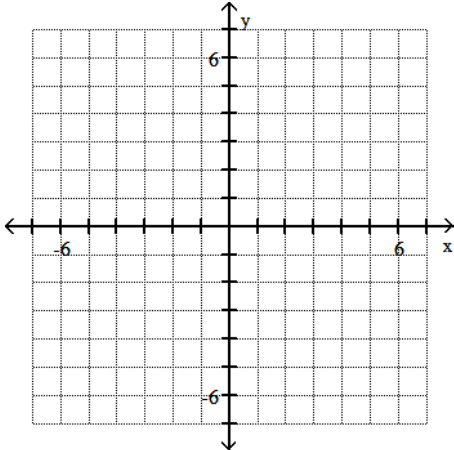


D)

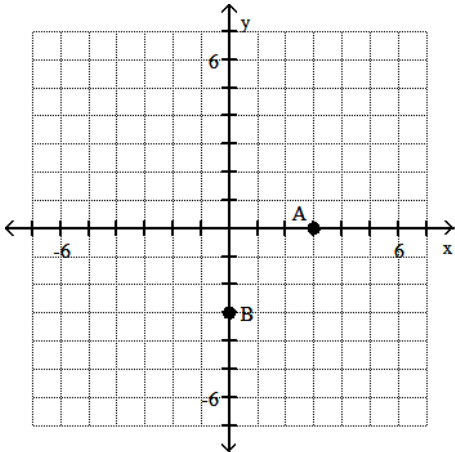


9) $A(-3, 0)$, $B(0, 3)$

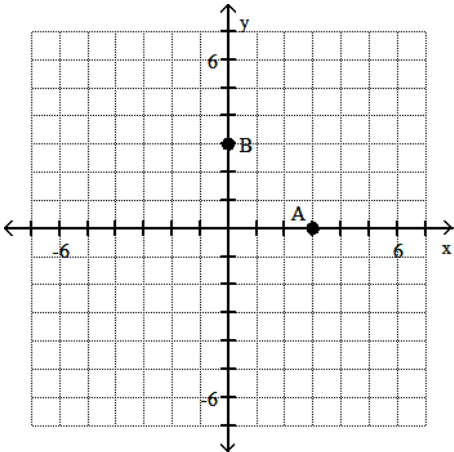
9) _____



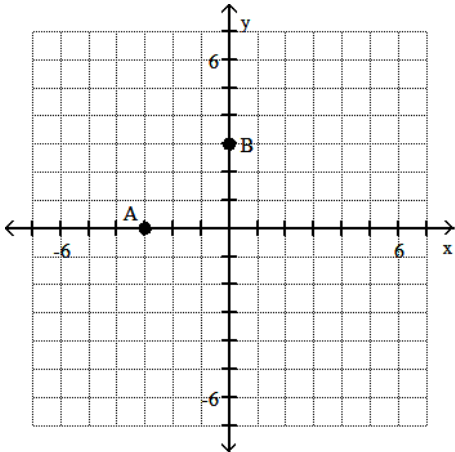
A)



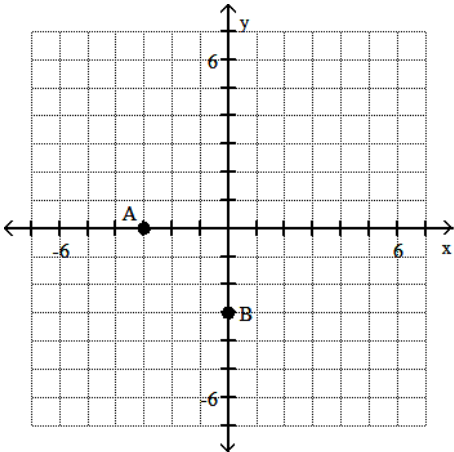
B)



C)



D)

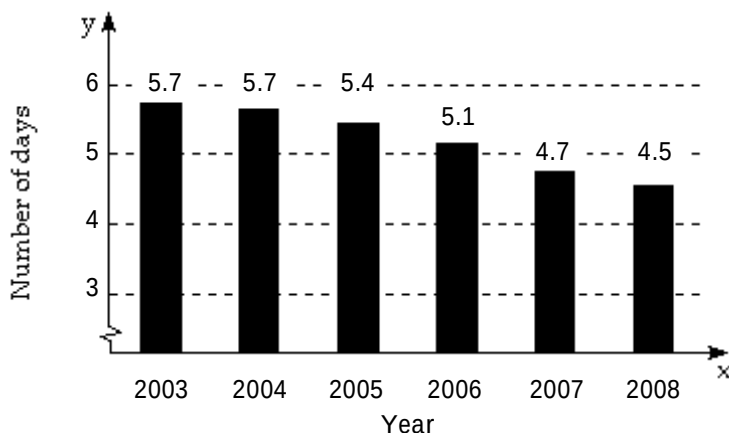


Express the data in the graph as ordered pairs, letting the first coordinate represent the year and the second coordinate the amount.

10) Spring Vacation:

10) _____

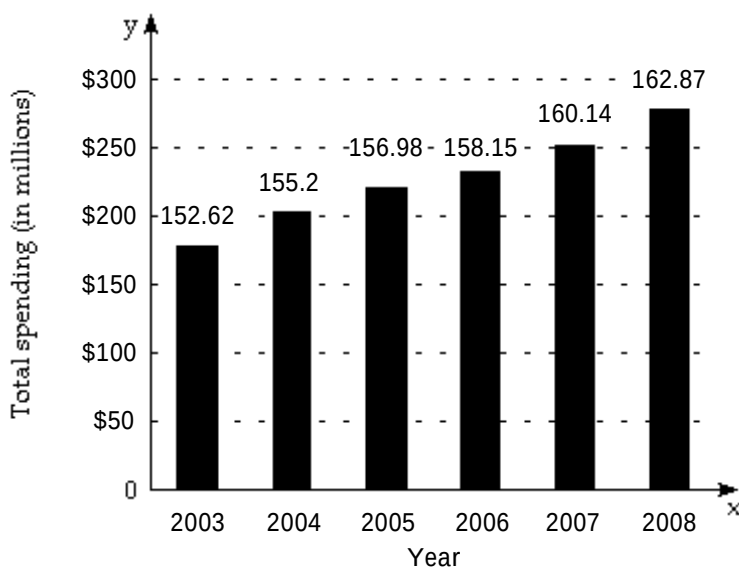
The length of the average spring vacation is decreasing.



- A) (2003, 5.7), (2004, 5.7), (2005, 5.1), (2006, 5.4), (2007, 4.7), (2008, 4.5)
 B) (2003, 5.7), (2004, 5.7), (2005, 5.4), (2006, 5.1), (2007, 4.7), (2008, 4.5)
 C) (5.7, 2003), (5.7, 2004), (5.4, 2005), (5.1, 2006), (4.7, 2007), (4.5, 2008)
 D) (5.7, 2003), (5.7, 2004), (5.4, 2005), (5.1, 2006), (4.5, 2007), (4.7, 2008)

11) Total Advertisement Spending for Soccer Tournament

11) _____



- A) (152.62, 2003), (155.2, 2004), (156.98, 2005), (158.15, 2006), (160.14, 2007), (162.87, 2008)
 B) (2003, 152.62), (2004, 155.2), (2005, 156.98), (2006, 158.15), (2007, 160.14), (2008, 162.87)
 C) (1, 152.62), (2, 155.2), (3, 156.98), (4, 158.15), (5, 160.14), (6, 162.87)
 D) (2003, 155.2), (2004, 152.62), (2005, 156.98), (2006, 160.14), (2007, 158.15), (2008, 162.87)

Use substitution to determine whether the given ordered pair is a solution of the given equation.

12) (6, 17); $y = 4x - 7$

12) _____

A) Yes

B) No

13) $(2, 4); y = -2x + 8$

A) Yes

B) No

13) _____

14) $(4, 2); 2x + 2y = 12$

A) Yes

B) No

14) _____

15) $(2, 5); 5x - 3y = 25$

A) Yes

B) No

15) _____

16) $\left(0, \frac{2}{3}\right); 3x + 3y = 7$

A) Yes

B) No

16) _____

17) $\left(\frac{1}{3}, \frac{3}{4}\right); 6x - 4y = -1$

A) Yes

B) No

17) _____

18) $\left(\frac{7}{3}, \frac{9}{4}\right); 6x - 4y = 3$

A) Yes

B) No

18) _____

19) $(0, 5); x^2 + y^2 = 25$

A) Yes

B) No

19) _____

20) $(2.7, 4.8); x^2 + y^2 = 25$

A) Yes

B) No

20) _____

21) $(1, 2); 4x + 3y^2 = 16$

A) Yes

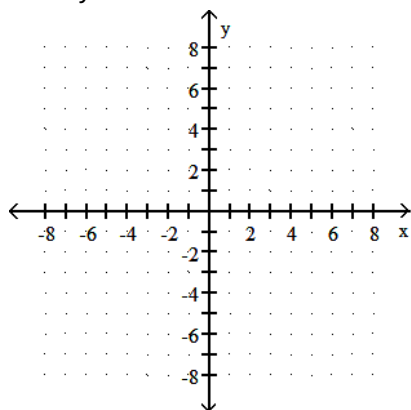
B) No

21) _____

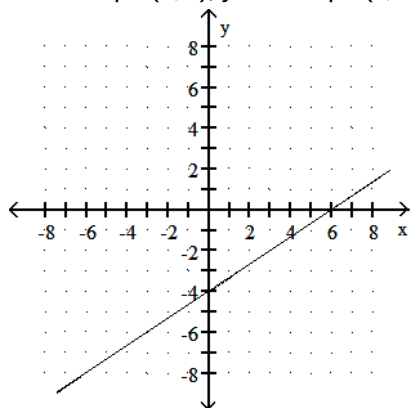
Find the intercepts and then graph the line.

22) $3x + 2y = 12$

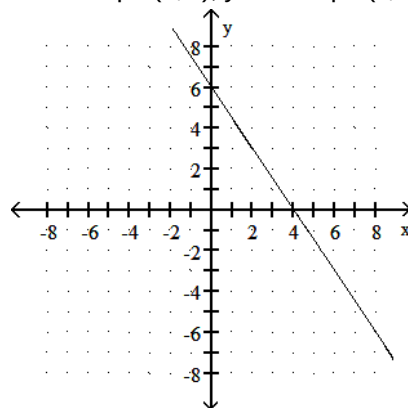
22) _____



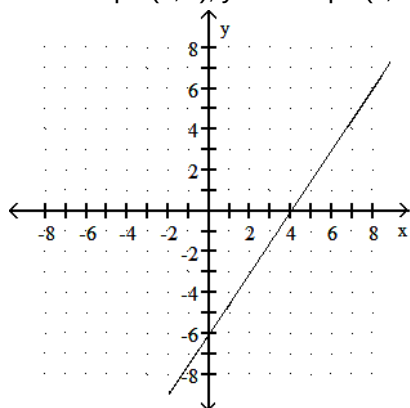
A) x-intercept: (6, 0); y-intercept: (0, -4)



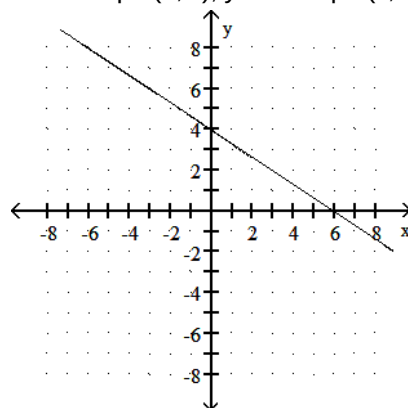
B) x-intercept: (4, 0); y-intercept: (0, 6)



C) x-intercept: (4, 0); y-intercept: (0, -6)

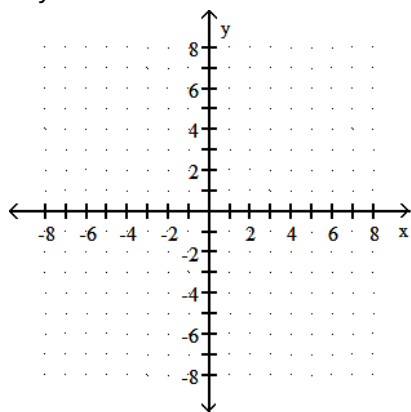


D) x-intercept: (6, 0); y-intercept: (0, 4)

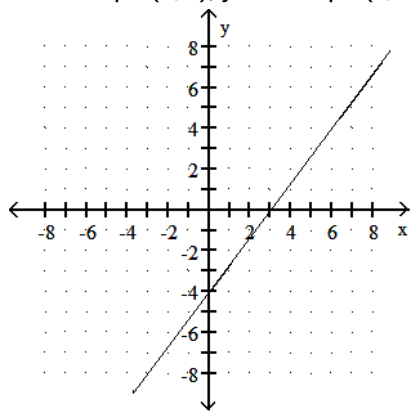


23) $-3y - 4x = 12$

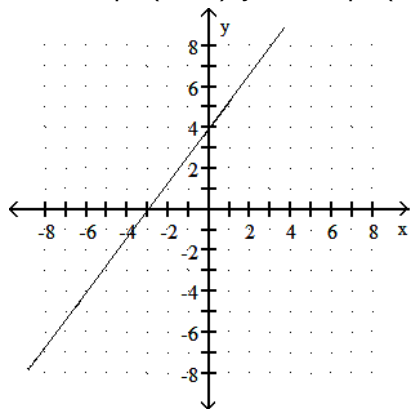
23) _____



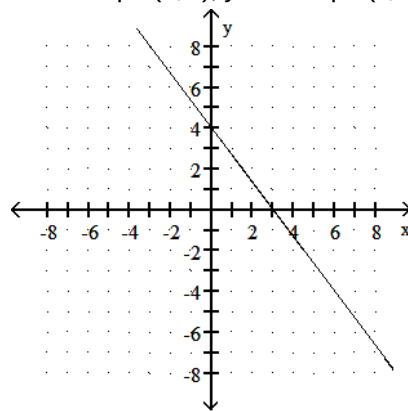
A) x-intercept: (3, 0); y-intercept: (0, -4)



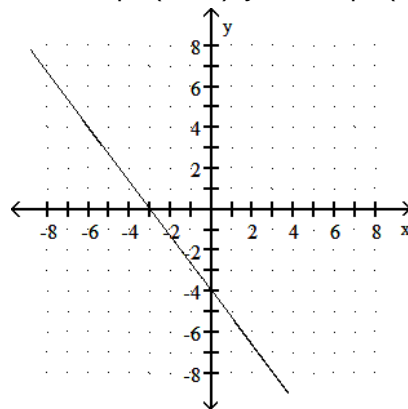
C) x-intercept: (-3, 0); y-intercept: (0, 4)



B) x-intercept: (3, 0); y-intercept: (0, 4)

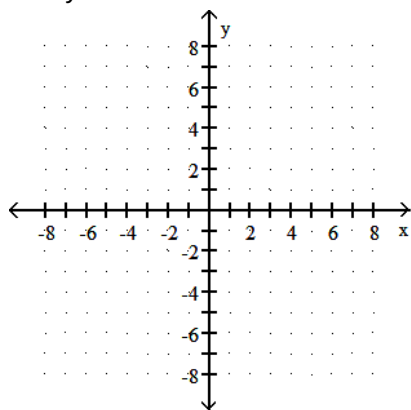


D) x-intercept: (-3, 0); y-intercept: (0, -4)

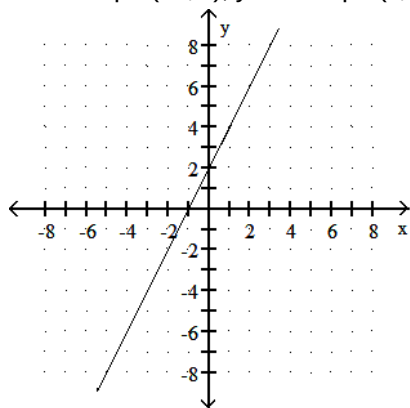


24) $2x + y = 2$

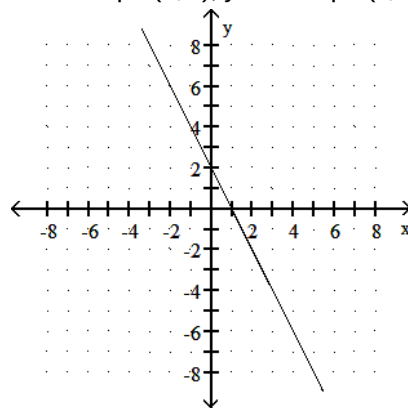
24) _____



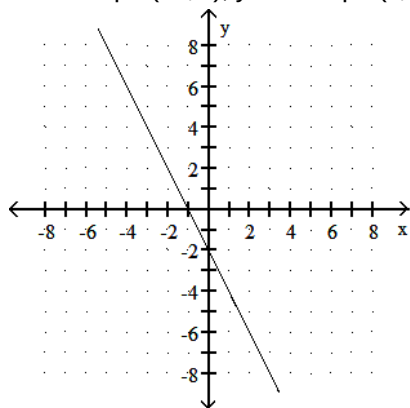
A) x-intercept: $(-1, 0)$; y-intercept: $(0, 2)$



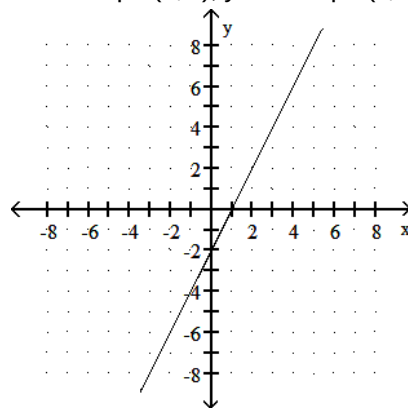
B) x-intercept: $(1, 0)$; y-intercept: $(0, 2)$



C) x-intercept: $(-1, 0)$; y-intercept: $(0, -2)$

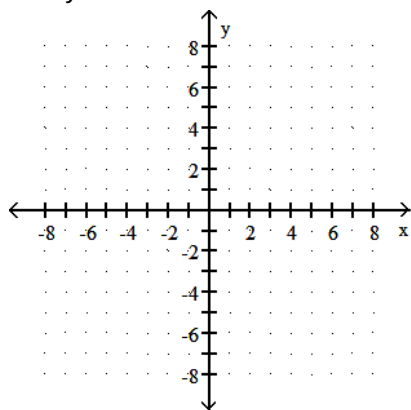


D) x-intercept: $(1, 0)$; y-intercept: $(0, -2)$

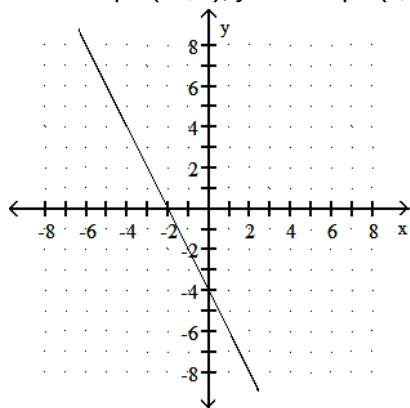


25) $2x - y = -4$

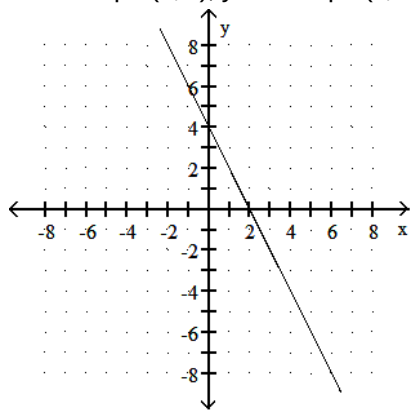
25) _____



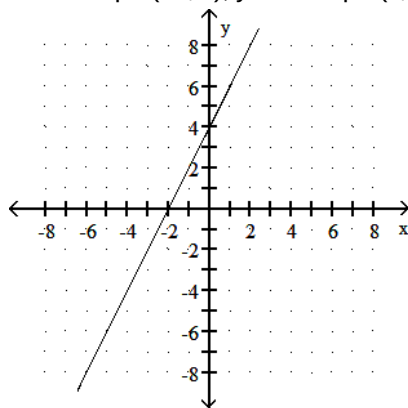
A) x-intercept: $(-2, 0)$; y-intercept: $(0, -4)$



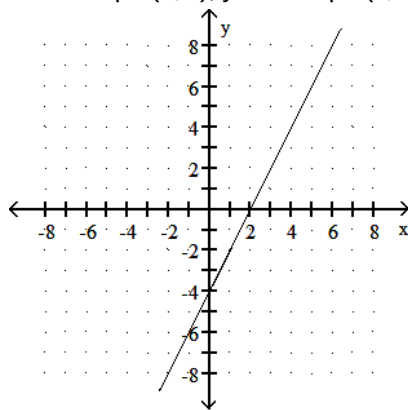
C) x-intercept: $(2, 0)$; y-intercept: $(0, 4)$



B) x-intercept: $(-2, 0)$; y-intercept: $(0, 4)$



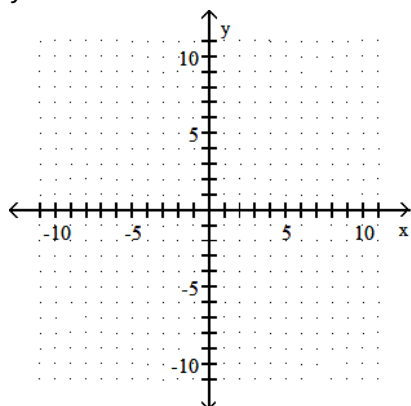
D) x-intercept: $(2, 0)$; y-intercept: $(0, -4)$



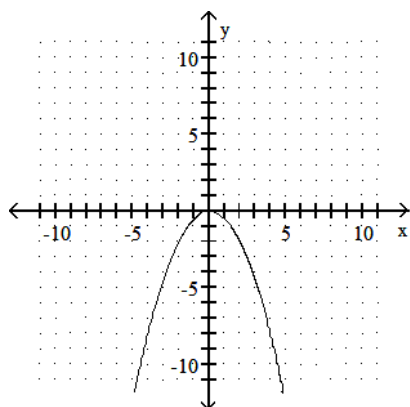
Graph the equation.

26) $y = -2x^2$

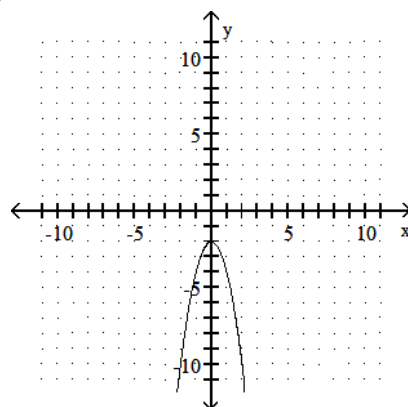
26) _____



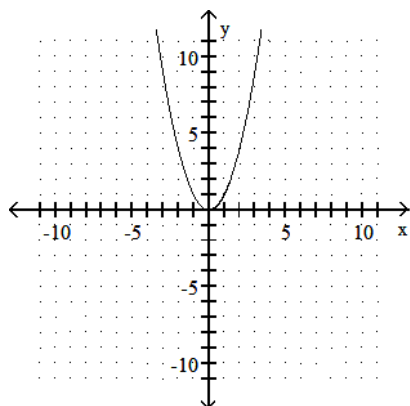
A)



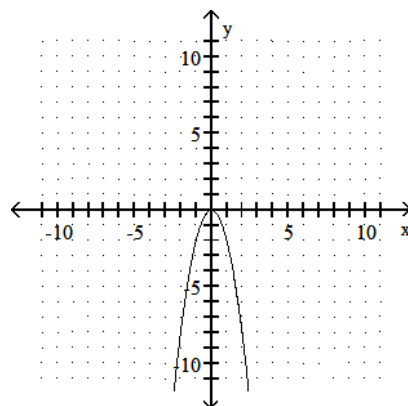
B)



C)

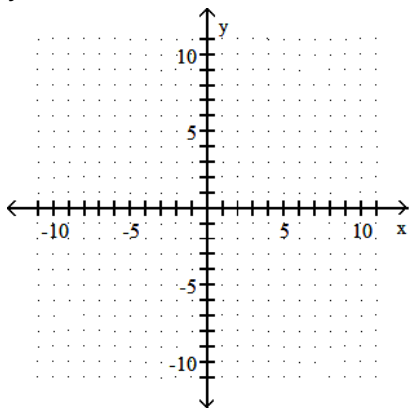


D)

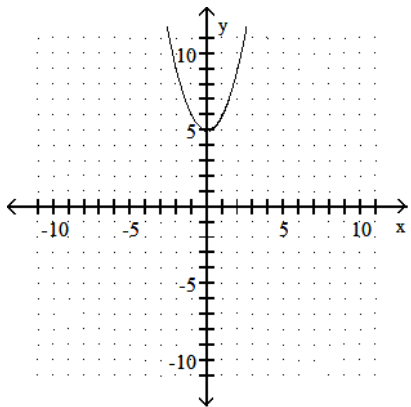


27) $y = x^2 + 5$

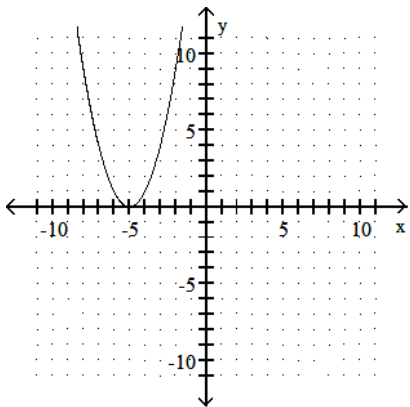
27) _____



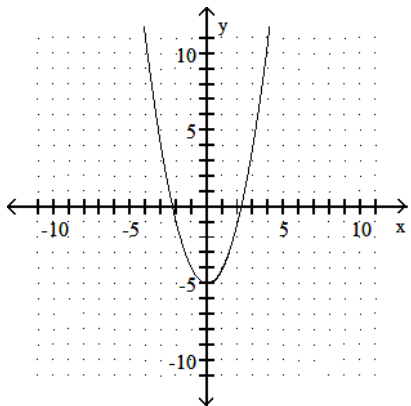
A)



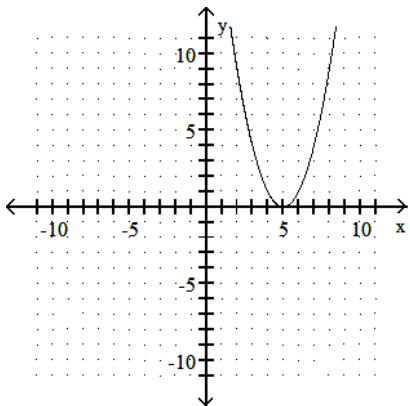
B)



C)

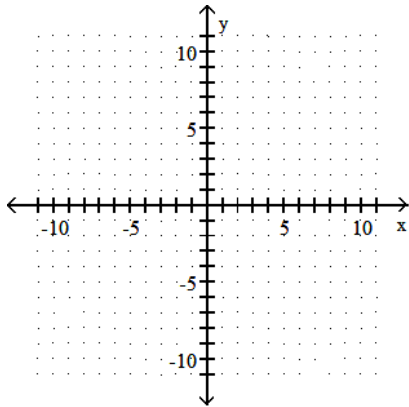


D)

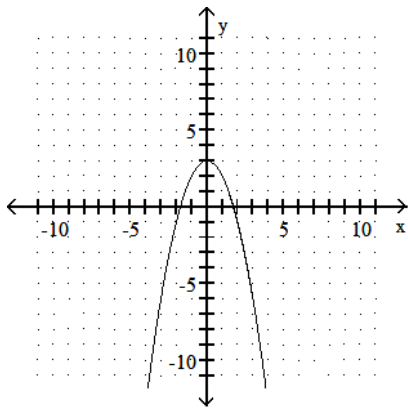


28) $y = -x^2 + 3$

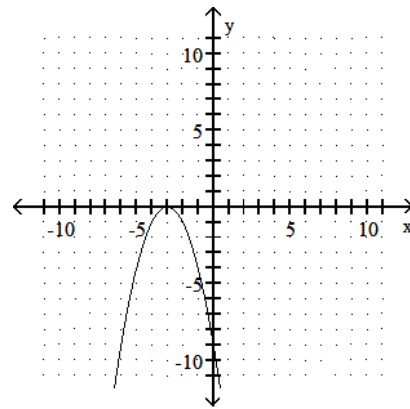
28) _____



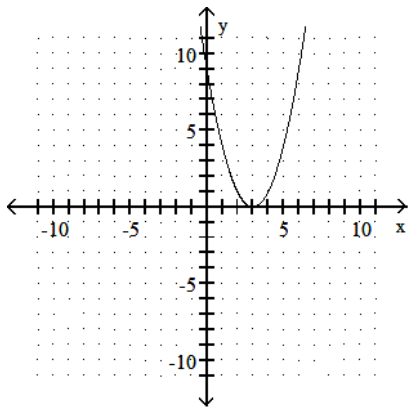
A)



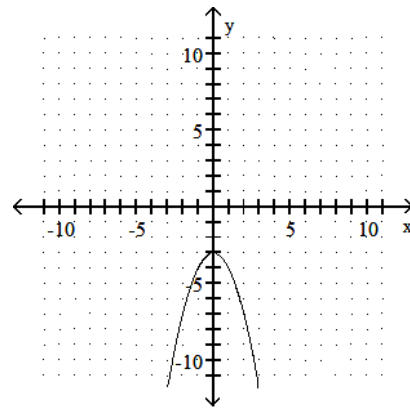
B)



C)

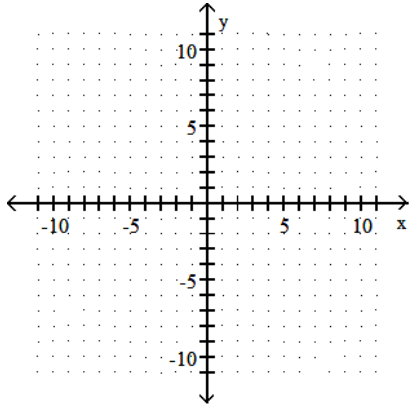


D)

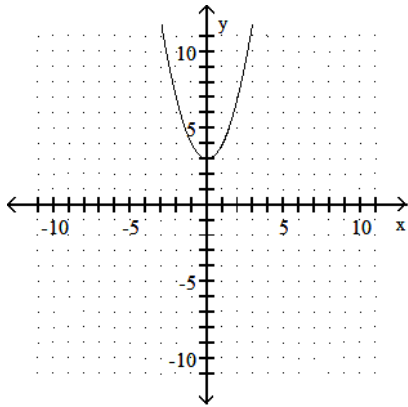


29) $y = x^2 + 3$

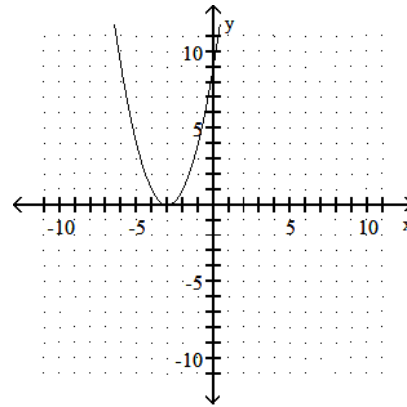
29) _____



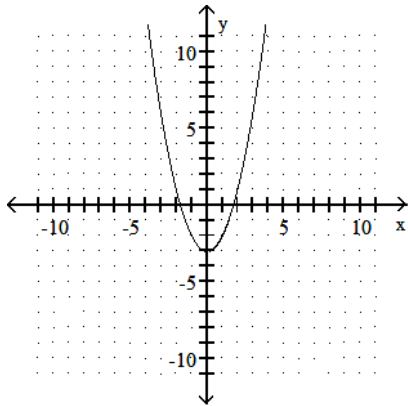
A)



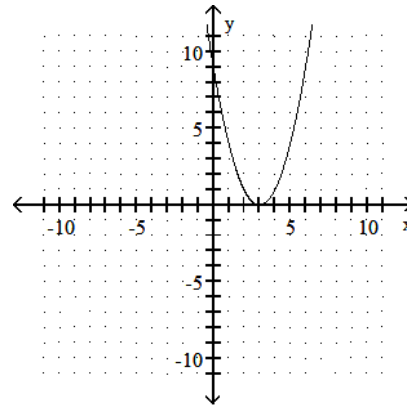
B)



C)

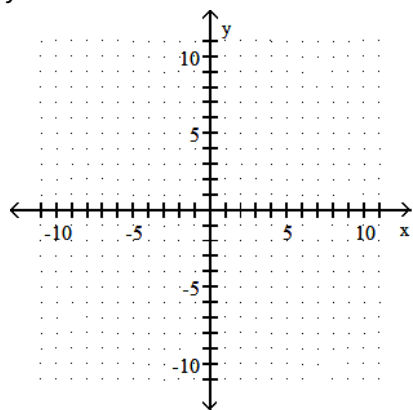


D)

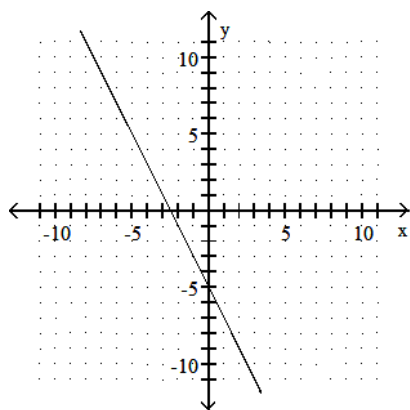


30) $y = 2x - 5$

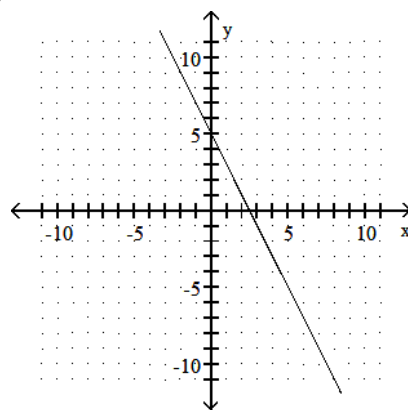
30) _____



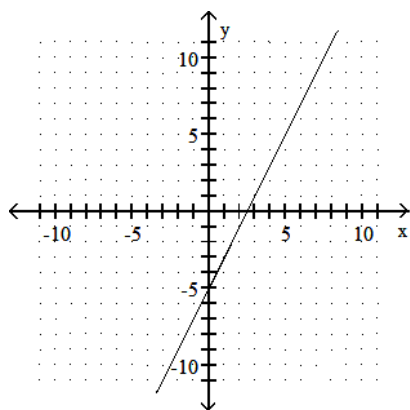
A)



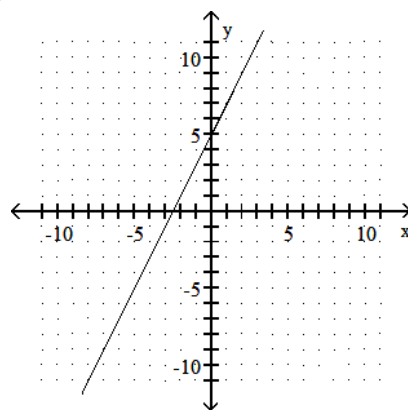
B)



C)

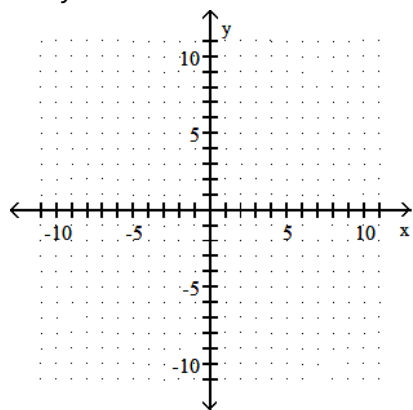


D)

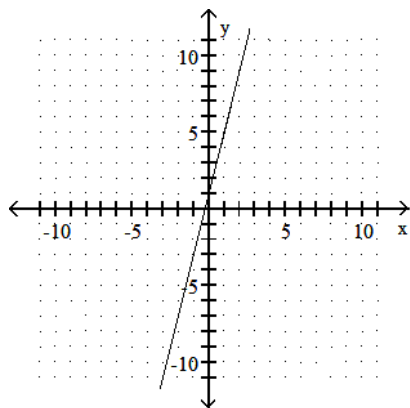


31) $4x + y = -1$

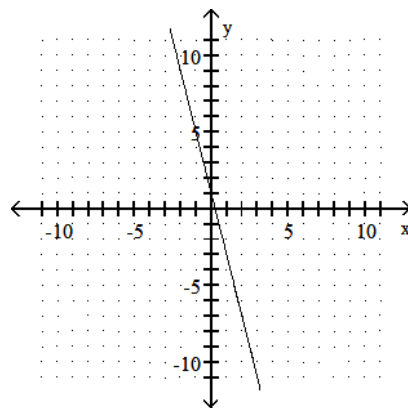
31) _____



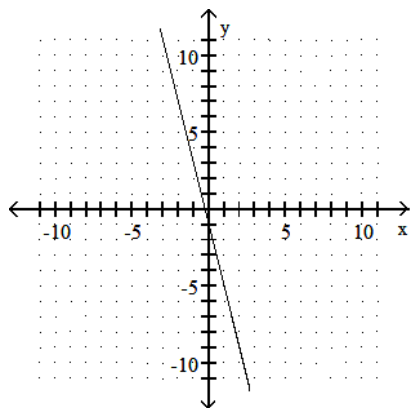
A)



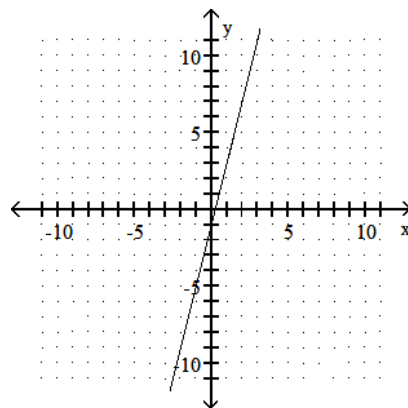
B)



C)

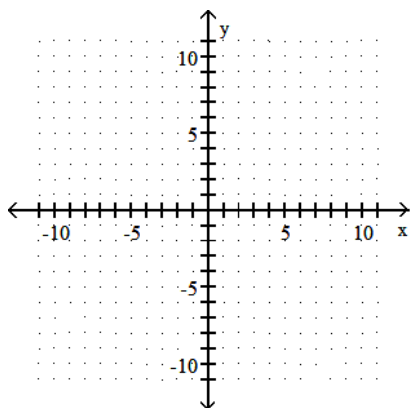


D)

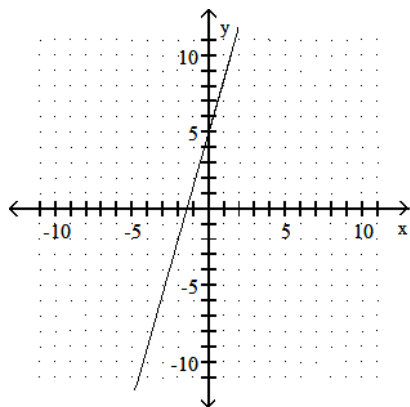


32) $y = \frac{7}{2}x - 5$

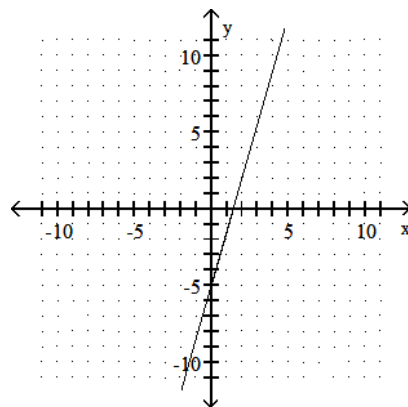
32) _____



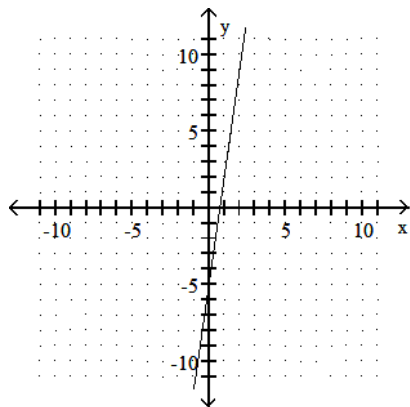
A)



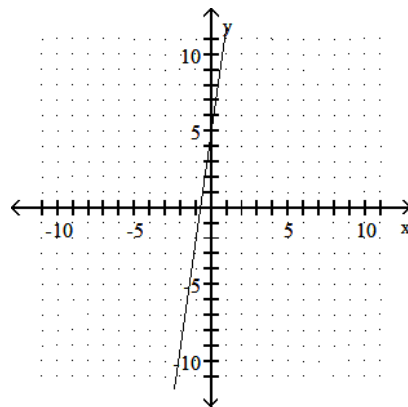
B)



C)

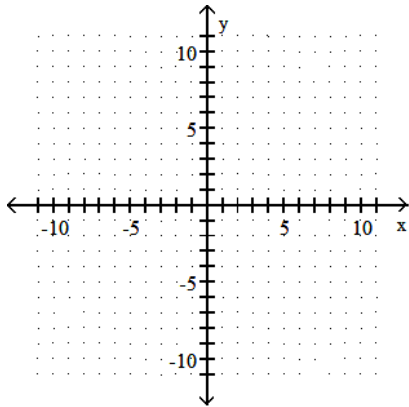


D)

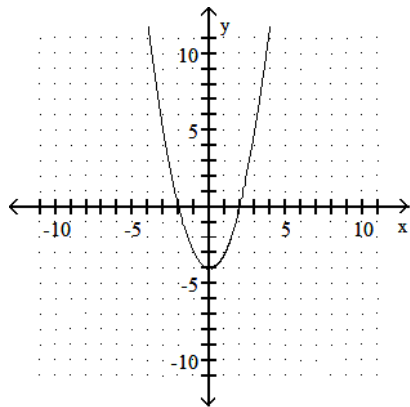


33) $y = x^2 + 6x + 5$

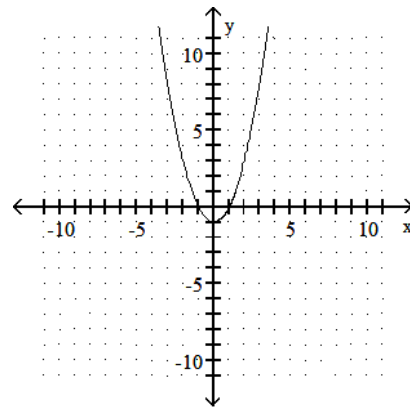
33) _____



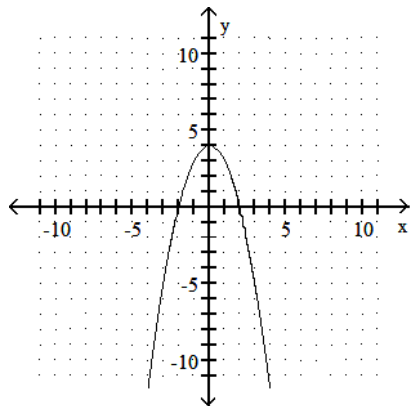
A)



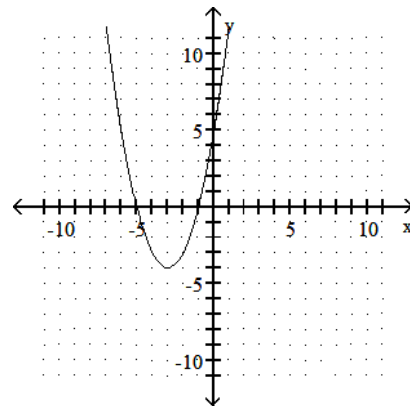
B)



C)

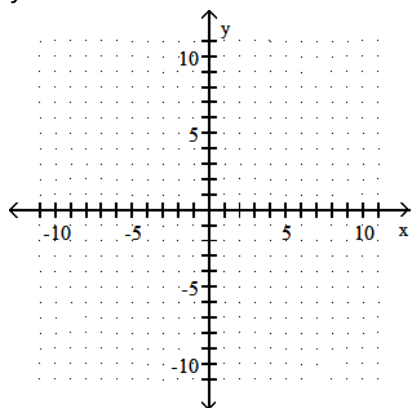


D)

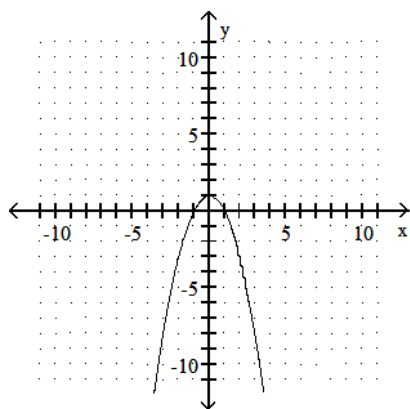


34) $y = x^2 - 6x + 8$

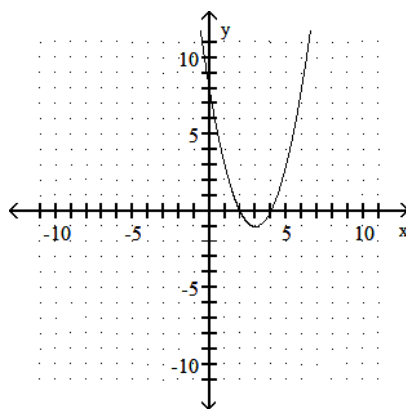
34) _____



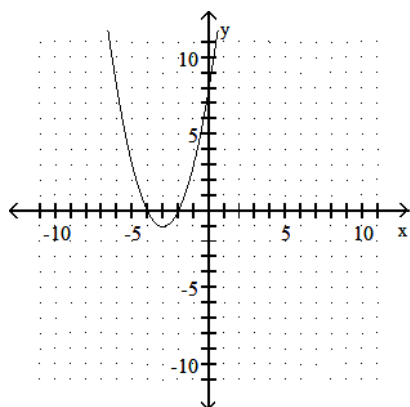
A)



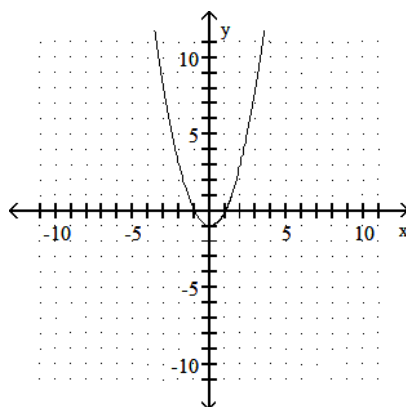
B)



C)



D)



Find the distance between the pair of points. Give an exact answer, and where appropriate, an approximation to three decimal places.

35) $(0, 0)$ and (a, b)

35) _____

A) $a^2 + b^2$

B) $a + b$

C) $\sqrt{a^2 + b^2}$

D) $\sqrt{a + b}$

36) $\left(-\frac{7}{8}, 2\right)$ and $\left(-\frac{7}{8}, \frac{1}{2}\right)$

36) _____

A) $\frac{5}{2}$

B) $\frac{25}{4}$

C) $\frac{3}{2}$

D) $\frac{7}{2}$

- 37) (2, 4) and (4, 7) 37) _____
 A) $\sqrt{26}$, 5.099 B) $\sqrt{10}$, 3.162 C) $\sqrt{13}$, 3.606 D) $\sqrt{2}$, 1.414
- 38) (-3, 7) and (-8, 14) 38) _____
 A) $\sqrt{12}$, 3.464 B) $\sqrt{148}$, 12.166 C) $\sqrt{74}$, 8.602 D) $\sqrt{24}$, 4.899
- 39) (-3, 8) and (6, 20) 39) _____
 A) 225 B) 15 C) $\sqrt{450}$, 21.213 D) 21
- 40) (-2.3, 1.0) and (-4.5, 2.8) 40) _____
 A) 10.288 B) 8.127 C) 2.843 D) 7.790
- 41) (-3.4, 2.7) and (3.1, -12.9) 41) _____
 A) $\sqrt{201.11}$, 14.181 B) $\sqrt{528.97}$, 22.999 C) 16.9 D) 33.8

Find the requested measurement.

- 42) The points (-2, -3) and (-2, 2) are the endpoints of the diameter of a circle. Find the length of the radius of the circle. 42) _____
 A) 2 B) 3.5 C) 2.5 D) 3
- 43) The point (-2, -3) is on a circle that has center (10, -3). Find the length of the diameter of the circle. 43) _____
 A) 24 B) 12 C) 23 D) 24.5
- 44) The point (-2, -3) is on a circle that has center (-2, 8). Find the length of the diameter of the circle. 44) _____
 A) 22 B) 5.5 C) 21 D) 22.5

Use the distance formula and the Pythagorean theorem to determine whether the set of points could be vertices of a right triangle.

- 45) (-6, 4), (3, 4), (3, 8) 45) _____
 A) Yes B) No
- 46) (7, -1), (9, 3), (11, 2) 46) _____
 A) Yes B) No
- 47) (-7, 8), (-1, 10), (3, -2) 47) _____
 A) Yes B) No
- 48) (-1, 5), (5, 7), (4, 2) 48) _____
 A) Yes B) No
- 49) (3, -7), (9, -5), (15, -12) 49) _____
 A) Yes B) No
- 50) (1, 11), (12, 0), (14, 2) 50) _____
 A) Yes B) No

Find the midpoint of the segment having the given endpoints.

51) (8, 4) and (2, 7)

A) $\left(5, \frac{11}{2}\right)$

B) (6, -3)

C) $\left(\frac{11}{2}, 5\right)$

D) (10, 11)

51) _____

52) (4, -4) and (-2, -6)

A) (2, -10)

B) (1, -5)

C) (6, 2)

D) (3, 1)

52) _____

53) (7, 1) and (-16, -16)

A) $\left(\frac{23}{2}, \frac{17}{2}\right)$

B) (-9, -15)

C) $\left(-\frac{9}{2}, -\frac{15}{2}\right)$

D) (9, 15)

53) _____

54) (-0.9, -0.3) and (2.2, -2.3)

A) (0.65, -1.3)

B) (1.55, -1)

C) (-1, 1.55)

D) (-1.3, 0.65)

54) _____

55) (1, 8) and (3, 9)

A) (4, 17)

B) $\left(-1, -\frac{1}{2}\right)$

C) (-2, -1)

D) $\left(2, \frac{17}{2}\right)$

55) _____

56) (-2, -1) and (9, 3)

A) $\left(\frac{7}{2}, 1\right)$

B) (7, 2)

C) (-11, -4)

D) $\left(-\frac{11}{2}, -2\right)$

56) _____

57) (7, 7) and (4, 8)

A) (3, -1)

B) $\left(\frac{11}{2}, \frac{15}{2}\right)$

C) $\left(\frac{3}{2}, -\frac{1}{2}\right)$

D) (11, 15)

57) _____

58) $\left(\frac{9}{2}, -\frac{9}{2}\right)$ and $\left(-\frac{7}{2}, -\frac{7}{2}\right)$

A) (256, 4)

B) $\left(\frac{1}{2}, -4\right)$

C) (4, 256)

D) $\left(4, -\frac{1}{2}\right)$

58) _____

Answer the question.

59) The points (-6, 5) and (4, 5) are the points at which a particular diameter of a circle intersects the circle. What are the coordinates of the center of the circle?

A) (0, 6)

B) (0, 5)

C) (-1, 6)

D) (-1, 5)

59) _____

60) The points $(\sqrt{3}, -2)$ and $(2\sqrt{3}, 3)$ are the points at which a particular diameter of a circle intersects the circle. What are the coordinates of the center of the circle?

A) $\left(\frac{5\sqrt{3}}{2}, \frac{-1}{2}\right)$

B) $\left(\frac{3\sqrt{3}}{2}, \frac{-1}{2}\right)$

C) $\left(\frac{5\sqrt{3}}{2}, \frac{1}{2}\right)$

D) $\left(\frac{3\sqrt{3}}{2}, \frac{1}{2}\right)$

60) _____

61) The points (-6, -1) and (6, 5) are the points at which the diagonal of a square intersects the square. What are the coordinates of the center of the square?

A) (0, 3)

B) (1, 2)

C) (0, 2)

D) (1, 3)

61) _____

- 62) The points $(\sqrt{3}, -2)$ and $(2\sqrt{3}, 13)$ are the points at which the diagonal of a square intersects the square. What are the coordinates of the center of the square? 62) _____
 A) $\left(\frac{3\sqrt{3}}{2}, \frac{11}{2}\right)$ B) $\left(\frac{5\sqrt{3}}{2}, \frac{11}{2}\right)$ C) $\left(\frac{5\sqrt{3}}{2}, \frac{9}{2}\right)$ D) $\left(\frac{3\sqrt{3}}{2}, \frac{9}{2}\right)$
- 63) The points $(-3, 6)$, $(0, 9)$, $(2, 1)$, and $(5, 4)$ are the vertices of a quadrilateral. Is the quadrilateral a rectangle? 63) _____
 A) Yes B) No
- 64) The points $(1, 11)$, $(4, 9)$, $(6, 1)$, and $(9, 4)$ are the vertices of a quadrilateral. Is the quadrilateral a rectangle? 64) _____
 A) Yes B) No
- 65) Graph the rectangle with vertices $(3, 5)$, $(6, 8)$, $(8, 0)$, and $(11, 3)$. Are the midpoints of the sides of the rectangle the vertices of a rectangle? 65) _____
 A) Yes B) No
- 66) Graph the rectangle with vertices $(4, 2)$, $(7, 5)$, $(9, -3)$, and $(12, 0)$. Are the midpoints of the sides the vertices of a square? 66) _____
 A) Yes B) No
- Find an equation for the circle.
- 67) Center at $(3, 0)$, radius 9 67) _____
 A) $(x + 3)^2 + y^2 = 81$ B) $(x - 3)^2 + y^2 = 81$
 C) $x^2 + (y - 3)^2 = 9$ D) $x^2 + (y + 3)^2 = 9$
- 68) Center at $(0, 1)$, radius 3 68) _____
 A) $(x + 1)^2 + y^2 = 9$ B) $x^2 + (y - 1)^2 = 9$ C) $(x - 1)^2 + y^2 = 9$ D) $x^2 + (y + 1)^2 = 3$
- 69) Center at $(-1, -4)$, radius $\sqrt{5}$ 69) _____
 A) $(x - 4)^2 + (y - 1)^2 = 25$ B) $(x + 4)^2 + (y + 1)^2 = 25$
 C) $(x + 1)^2 + (y + 4)^2 = 5$ D) $(x - 1)^2 + (y - 4)^2 = 5$
- 70) Center $(24, 5)$, containing the origin 70) _____
 A) $(x - 24)^2 + (y - 5)^2 = 601$ B) $(x - 5)^2 + (y - 24)^2 = 25$
 C) $(x - 5)^2 + (y - 24)^2 = 601$ D) $(x - 24)^2 + (y - 5)^2 = 25$
- 71) Center $(17, 20)$, tangent (touching at one point) to the x-axis 71) _____
 A) $(x - 20)^2 + (y - 17)^2 = 20$ B) $(x - 17)^2 + (y - 20)^2 = 400$
 C) $(x - 20)^2 + (y - 17)^2 = 289$ D) $(x - 17)^2 + (y - 20)^2 = 289$
- 72) Endpoints of a diameter $(-5, 3)$, $(-5, -3)$ 72) _____
 A) $x^2 + (y - 3)^2 = 25$ B) $(x - 3)^2 + y^2 = 25$
 C) $(x + 5)^2 + y^2 = 9$ D) $(x + 5)^2 + y^2 = 3$

73) Endpoints of a diameter (-2, -3), (4, -7)

A) $(x - 1)^2 + y^2 = 4$

C) $(x + 5)^2 + (y - 1)^2 = 13$

B) $(x - 1)^2 + (y + 5)^2 = 13$

D) $x^2 + (y + 5)^2 = 9$

73) _____

74) Center at (3, -2), diameter of length 6.2

A) $(x - 3)^2 + (y - 2)^2 = 3.1$

C) $(x - 3)^2 + (y + 2)^2 = 9.61$

B) $(x + 3)^2 - (y + 2)^2 = 38.44$

D) $(x + 3)^2 + (y - 2)^2 = 9.61$

74) _____

75) The points (2, 8), (3, 5), (5, 9), and (6, 6) are vertices of an inscribed square.

A) $(x - 4)^2 - (y - 7)^2 = \sqrt{5}$

C) $(x + 4)^2 + (y + 7)^2 = 5$

B) $(x - 4)^2 + (y - 7)^2 = 5$

D) $(x - 4)^2 + (y - 7)^2 = \sqrt{5}$

75) _____

76) Center at (2, -3), radius of length $\frac{2}{3}$

A) $(x - 2)^2 + (y - 3)^2 = \frac{4}{9}$

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

B) $(x - 2)^2 + (y + 3)^2 = \frac{4}{9}$

D) $(x + 2)^2 + (y - 3)^2 = \frac{9}{4}$

76) _____

Find the center and radius of the circle.

77) $(x - 9)^2 + y^2 = 121$

A) (0, 9); 11

B) (0, -9); 121

C) (9, 0); 11

D) (-9, 0); 121

77) _____

78) $(x + 7)^2 + (y + 6)^2 = 81$

A) (-6, -7); 81

B) (-7, -6); 9

C) (7, 6); 9

D) (6, 7); 81

78) _____

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

A) (0, 0); 2

B) (2, 2); 4

C) (0, 2); 4

D) (0, 0); 4

79) _____

80) $(x - 4)^2 + y^2 = 49$

A) (4, 0); 7

B) (0, -4); 7

C) (0, 4); 49

D) (-4, 0); 49

80) _____

81) $x^2 + (y - 6)^2 = 81$

A) (0, -6); 9

B) (6, 0); 81

C) (0, 6); 9

D) (-6, 0); 81

81) _____

82) $(x + 4)^2 + (y - 4)^2 = 4$

A) (-4, 4); 4

B) (4, -4); 4

C) (-4, 4); 2

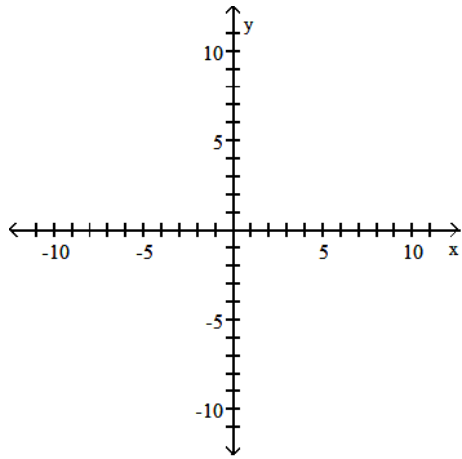
D) (4, -4); 2

82) _____

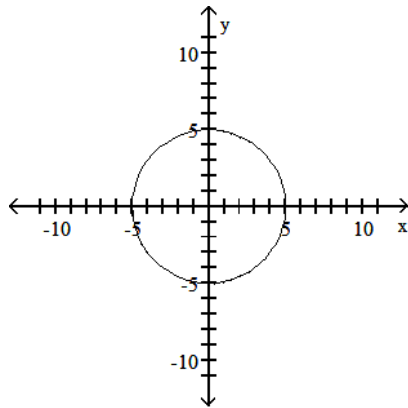
Graph the circle using the given equation.

83) $x^2 + y^2 = 25$

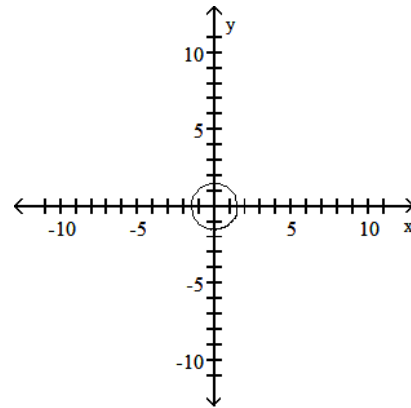
83) _____



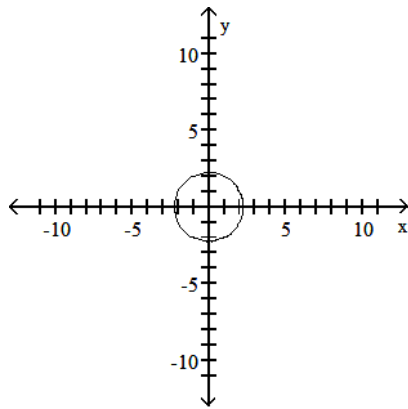
A)



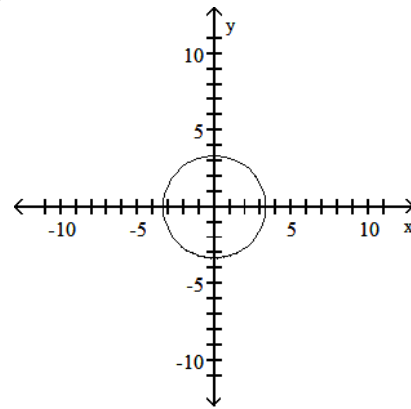
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C)

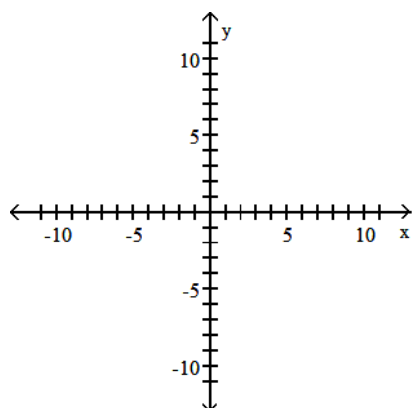


D)

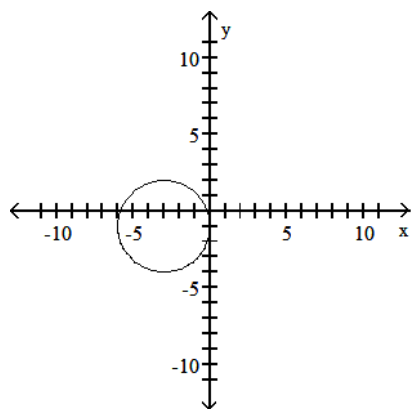


84) $(x - 3)^2 + (y - 1)^2 = 9$

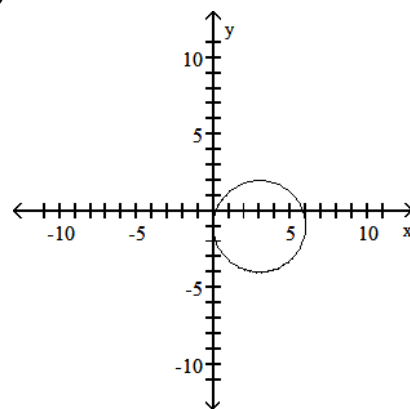
84) _____



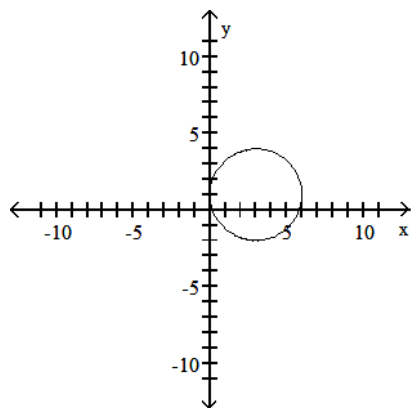
A)



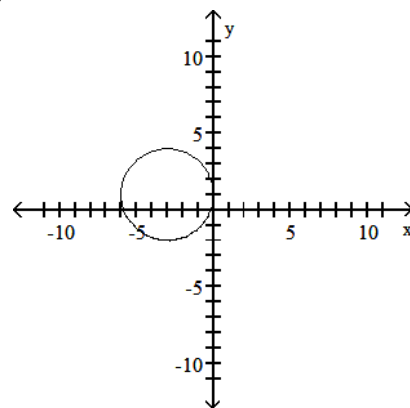
B)



C)

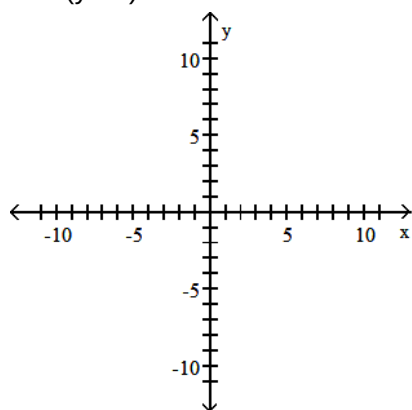


D)

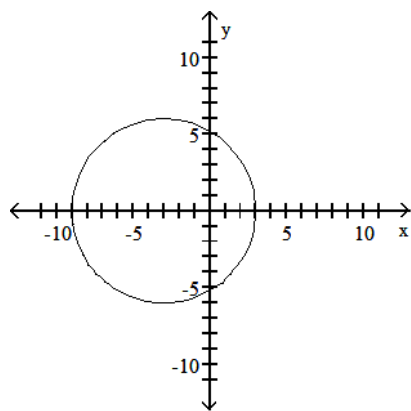


85) $x^2 + (y - 3)^2 = 36$

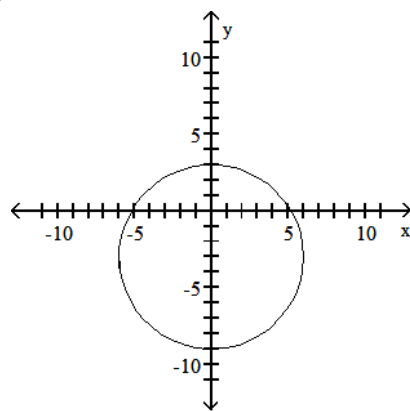
85) _____



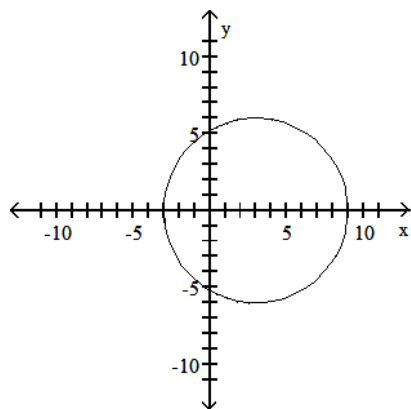
A)



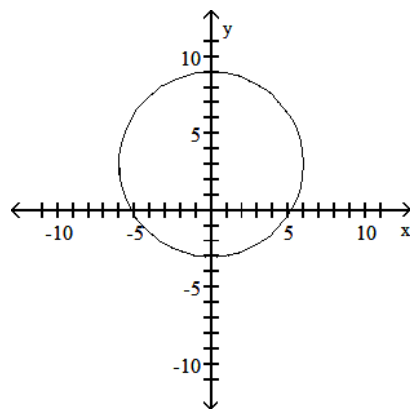
B)



C)

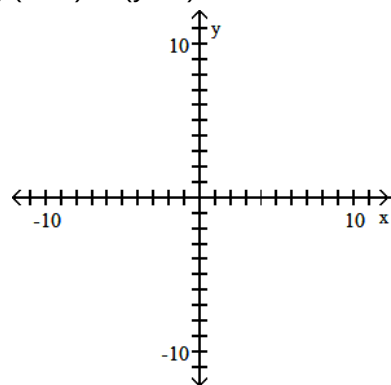


D)

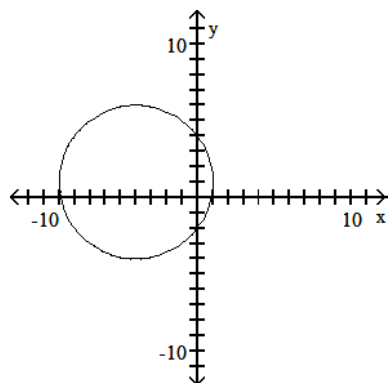


86) $(x - 4)^2 + (y + 1)^2 = 25$

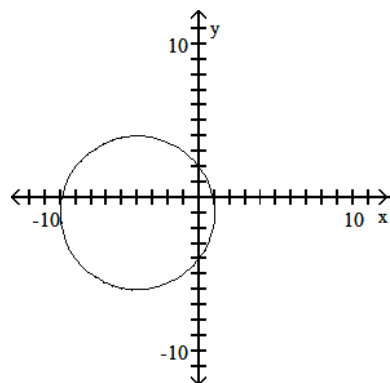
86) _____



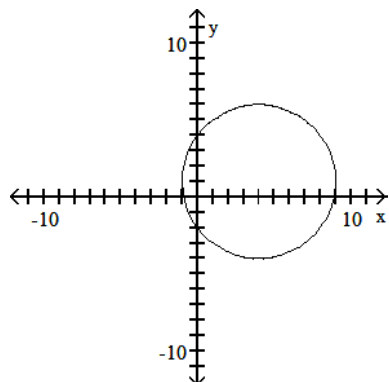
A)



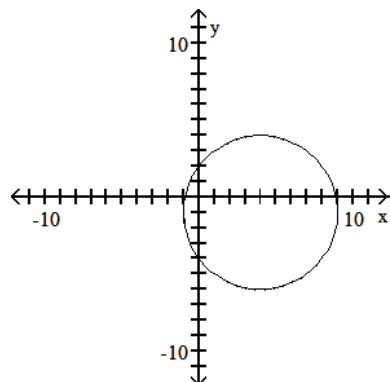
B)



C)

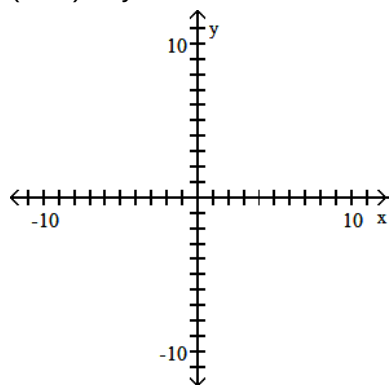


D)

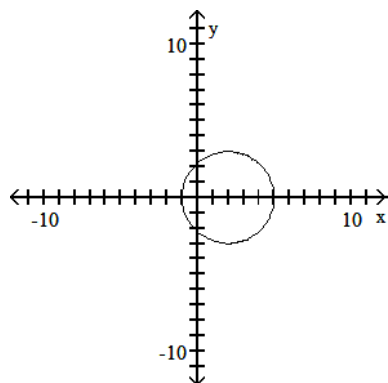


87) $(x - 2)^2 + y^2 = 9$

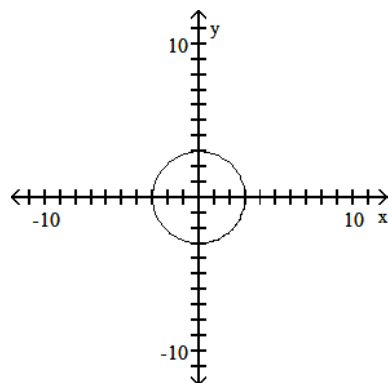
87) _____



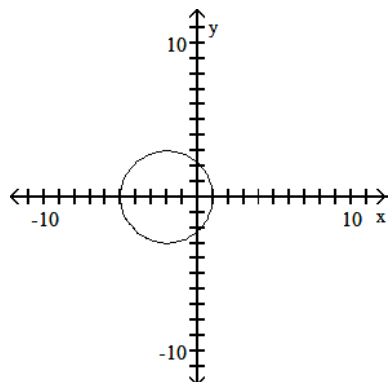
A)



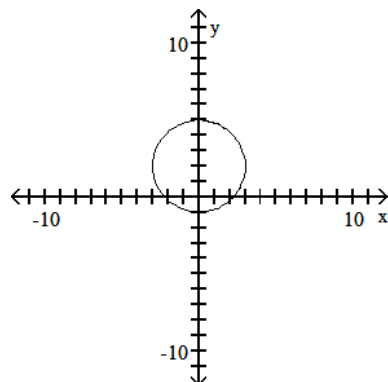
B)



C)



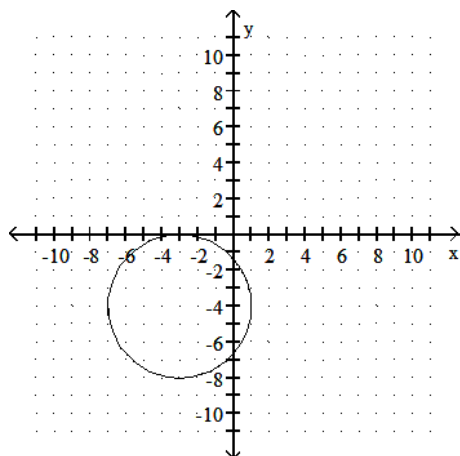
D)



Find the equation of the circle. Express the equation in standard form

88)

88) _____



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

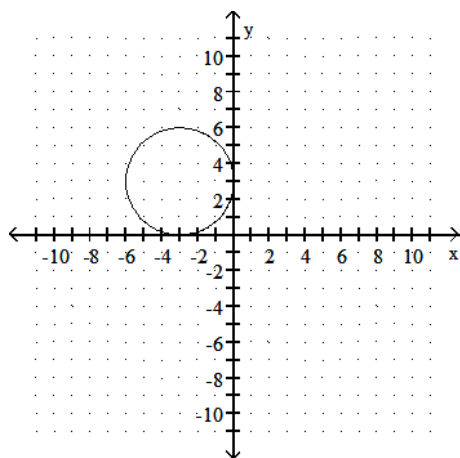
B) $(x - 3)^2 + (y + 4)^2 = 4^2$

C) $(x + 3)^2 + (y + 4)^2 = 4^2$

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

89)

89) _____



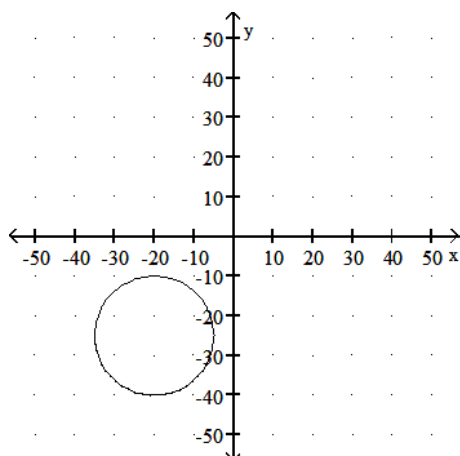
A) $(x + 3)^2 + (y + 3)^2 = 3^2$

B) $(x - 3)^2 + (y + 3)^2 = 3^2$

C) $(x - 3)^2 + (y - 3)^2 = 3^2$

D) $(x + 3)^2 + (y - 3)^2 = 3^2$

90)



A) $(x - 25)^2 + (y - 20)^2 = 15^2$

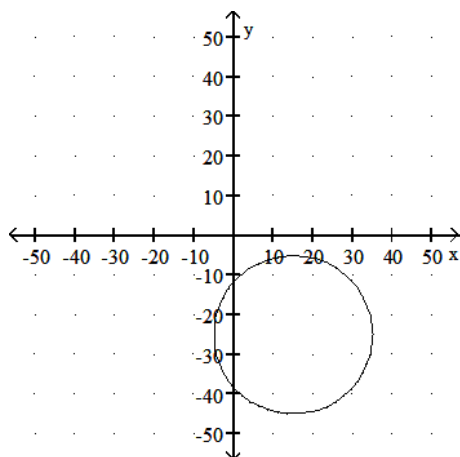
C) $(x - 20)^2 + (y - 25)^2 = 4^2$

B) $(x + 20)^2 + (y + 25)^2 = 15^2$

D) $(x - 25)^2 + (y + 20)^2 = 15^2$

90) _____

91)



A) $(x - 15)^2 + (y - 25)^2 = 20^2$

C) $(x - 25)^2 + (y - 15)^2 = 20^2$

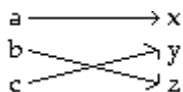
B) $(x - 25)^2 + (y + 15)^2 = 20^2$

D) $(x - 15)^2 + (y + 25)^2 = 20^2$

91) _____

Is the following correspondence a function?

92)

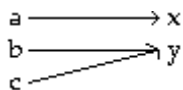


A) Yes

B) No

92) _____

93)

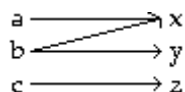


A) Yes

B) No

93) _____

94)

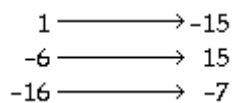


A) Yes

B) No

94) _____

95)

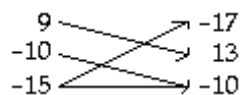


A) Yes

B) No

95) _____

96)

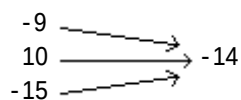


A) Yes

B) No

96) _____

97)

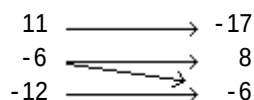


A) Yes

B) No

97) _____

98)



A) Yes

B) No

98) _____

99) Domain: All students attending Laughlin Community College

Correspondence: Each student's Social Security Number

Range: A set of Social Security Numbers

A) Yes

B) No

99) _____

100) Domain: All students attending the University of Ohio

Correspondence: Each student's teachers

Range: A set of teachers

A) Yes

B) No

100) _____

101)

Name	Test Score
Bob L.	87
Susan H.	83
Jim H.	76
Bruce B.	96

A) Yes

B) No

101) _____

Tell whether or not the relation is a function.

- 102) $\{(-3,1), (2,4), (4,-2), (8,4), (10,5)\}$ 102) _____
 A) Yes B) No
- 103) $\{(-3,-4), (-2,9), (2,-8), (2,9)\}$ 103) _____
 A) Yes B) No
- 104) $\{(-9,6), (-9,-9), (2,7), (6,-9), (7,-9)\}$ 104) _____
 A) Yes B) No
- 105) $\{(3,7), (3,-4), (6,-8), (9,1), (11,-5)\}$ 105) _____
 A) Yes B) No
- 106) $\{(-4,7), (-3,-7), (4,8), (7,-7)\}$ 106) _____
 A) Yes B) No
- 107) $\{(-7,-7), (-7,-5), (-1,-6), (6,-1), (10,-7)\}$ 107) _____
 A) Yes B) No
- 108) $\{(-8,9), (-3,-5), (-1,-8), (3,1)\}$ 108) _____
 A) Yes B) No
- 109) $\{(-4,-6), (-1,-5), (1,-8), (1,-2)\}$ 109) _____
 A) Yes B) No
- 110) $\{(-3,5), (-1,6), (3,-5), (6,8)\}$ 110) _____
 A) Yes B) No
- 111) $\{(-2,-3), (2,3), (6,-5), (7,8), (11,9)\}$ 111) _____
 A) Yes B) No

Determine the domain and range of the relation.

- 112) $\{(8,7), (6,4), (-7,8), (10,3), (-1,-2)\}$ 112) _____
 A) Domain: $\{8, 8, 3, -7, -2\}$; Range: $\{6, 7, -1, 4, 10\}$
 B) Domain: $\{7, 4, 8, 3, -2\}$; Range: $\{6, -1, 10, 8, -7\}$
 C) Domain: $\{6, -1, 10, 8, -7\}$; Range: $\{7, 4, 8, 3, -2\}$
 D) Domain: $\{6, 7, -1, 4, 10\}$; Range: $\{8, 8, 3, -7, -2\}$
- 113) $\{(-3,4), (11,7), (1,-2), (1,-1)\}$ 113) _____
 A) Domain: $\{-3, 1, 11, -1\}$; Range: $\{4, -2, 7, -1\}$
 B) Domain: $\{4, -2, 7, -1\}$; Range: $\{-3, 1, 11\}$
 C) Domain: $\{-3, 1, 11\}$; Range: $\{4, -2, 7, -1\}$
 D) Domain: $\{-3, 1, 11, 1\}$; Range: $\{4, -2, 7, -1\}$
- 114) $\{(7,-6), (7,-5), (-5,3), (-4,-2), (-9,1)\}$ 114) _____
 A) Domain: $\{7, -7, -5, -9, -4\}$; Range: $\{-5, 3, 1, -2, -6\}$
 B) Domain: $\{7, 7, -5, -9, -4\}$; Range: $\{-5, 3, 1, -2, -6\}$
 C) Domain: $\{-5, 3, 1, -2, -6\}$; Range: $\{7, 7, -5, -9, -4\}$
 D) Domain: $\{7, -5, -9, -4\}$; Range: $\{-5, 3, 1, -2, -6\}$

- 115) $\{(7, 3), (3, 6), (11, 5), (11, 9)\}$ 115) _____
 A) Domain: $\{3, 6, 5, 9\}$; Range: $\{7, 3, 11\}$ B) Domain: $\{7, 3, 11, 11\}$; Range: $\{3, 6, 5, 9\}$
 C) Domain: $\{7, 3, 11\}$; Range: $\{3, 6, 5, 9\}$ D) Domain: $\{7, 3, 11, -11\}$; Range: $\{3, 6, 5, 9\}$

- 116) $\{(8, 5), (-7, -1), (2, 6), (3, -9)\}$ 116) _____
 A) Domain: $\{-9, 6, -1, 5\}$; Range: $\{3, 2, -7, 8\}$
 B) Domain: $\{3, 2, -7, 8\}$; Range: $\{-9, -9, 6, -1, 5\}$
 C) Domain: $\{3, 2, -7, 8\}$; Range: $\{-9, 6, -1, 5\}$
 D) Domain: $\{3, 2, -7, 8\}$; Range: $\{-9, 2, 6, -1, 5\}$

Evaluate as requested.

- 117) Given that $f(x) = x^2 + 2x - 5$, find $f(-4)$. 117) _____
 A) 29 B) 13 C) 3 D) 19

- 118) Given that $f(x) = 4x^2 - 3x + 9$, find $f(-x)$. 118) _____
 A) $-4x^2 + 4x + 9$ B) $3x^2 + 4x + 8$ C) $-4x^2 + 3x - 9$ D) $4x^2 + 3x + 9$

- 119) Given that $g(x) = 3x^3$, find $g(6 + h)$. 119) _____
 A) $648 + 324h + 54h^2 + 3h^3$ B) $216 + 108h + 54h^2 + 4h^3$
 C) $-648 + 324h - 9h^2 + h^3$ D) $648 - 324h + 36h^2 - 3h^3$

- 120) Given that $f(x) = 4|x| + 2x$, find $f(6y)$. 120) _____
 A) $23|y| + 14y$ B) $4|y| + 2y$ C) $24|y| + 12y$ D) $6|y| + 6y$

- 121) Given that $f(x) = \frac{x}{7-x}$, find $f\left(-\frac{4}{5}\right)$. 121) _____
 A) $\frac{39}{4}$ B) $-\frac{4}{39}$ C) $\frac{4}{39}$ D) $-\frac{39}{4}$

- 122) Given that $g(x) = \frac{x-5}{x+6}$, find $g(-13.25)$. 122) _____
 A) 1 B) $\frac{3}{7}$ C) $-\frac{3}{7}$ D) $\frac{73}{29}$

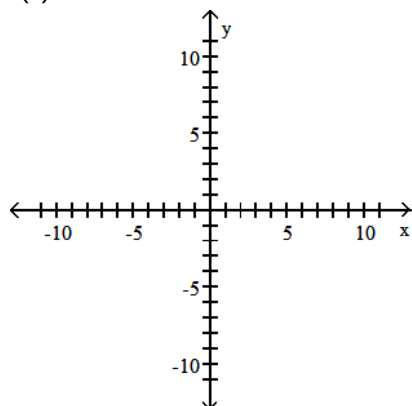
- 123) Given that $g(x) = \frac{x}{\sqrt{9-x^2}}$, find $g(-3)$. 123) _____
 A) does not exist B) 3 C) 1 D) 0

- 124) Given that $h(x) = 6x - \sqrt{x^2 - 4}$, find $h(-x)$. 124) _____
 A) $-6x - \sqrt{4 - x^2}$ B) $-6x + \sqrt{x^2 - 4}$ C) $6x - \sqrt{x^2 - 4}$ D) $-6x - \sqrt{x^2 - 4}$

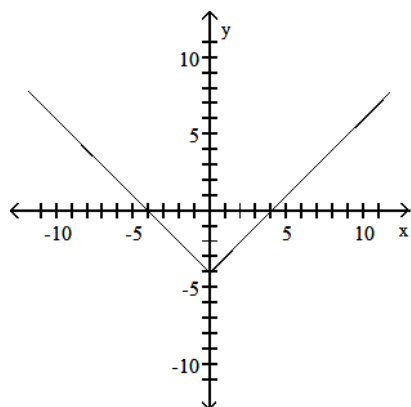
Graph the function.

125) $f(x) = x^2 - 4$

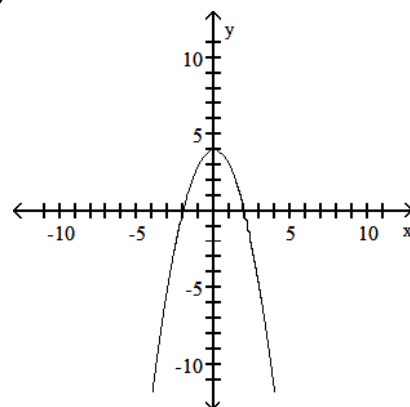
125) _____



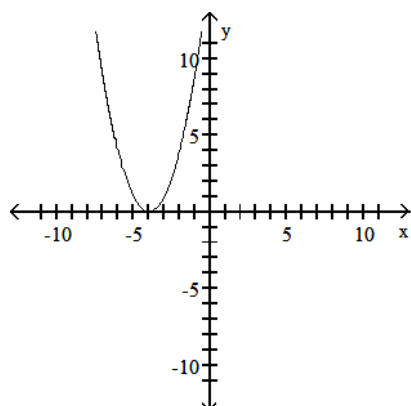
A)



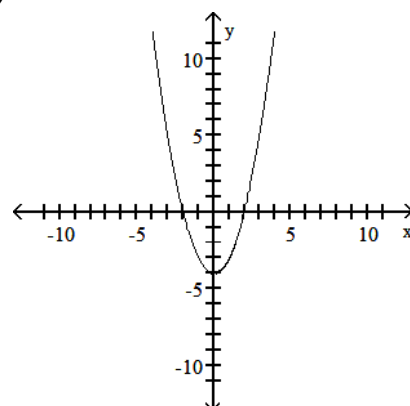
B)



C)

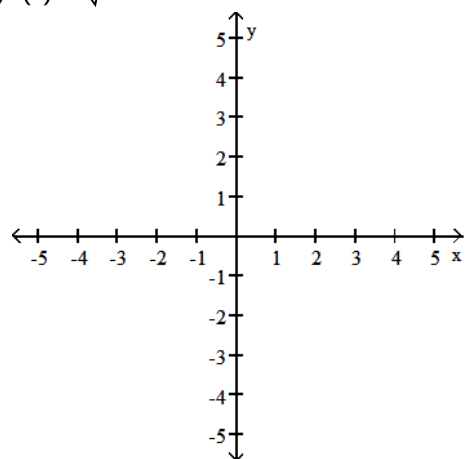


D)

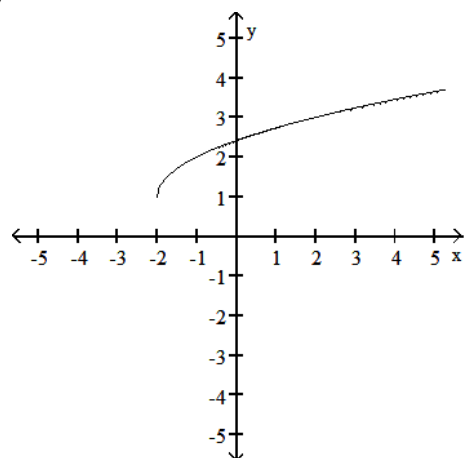


126) $f(x) = \sqrt{x+2} + 1$

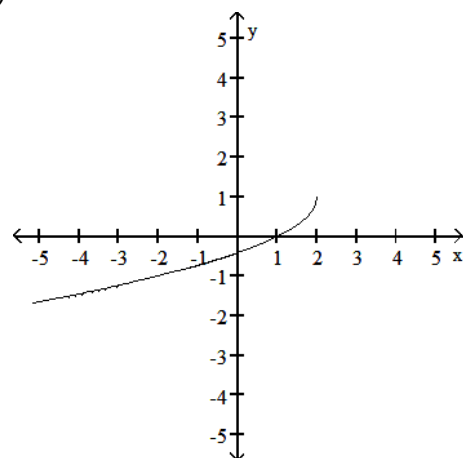
126) _____



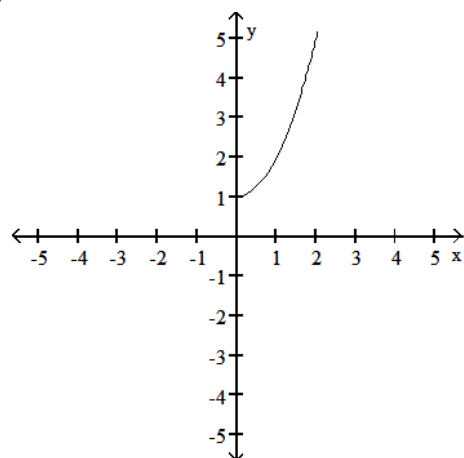
A)



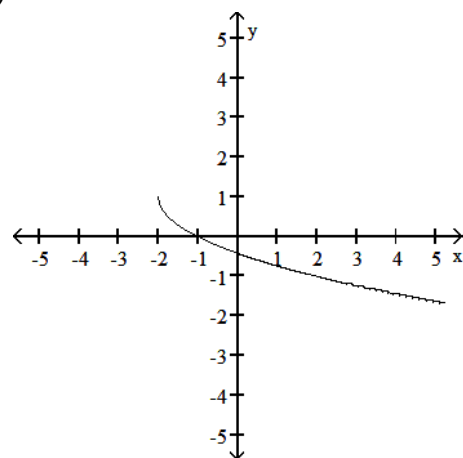
B)



C)

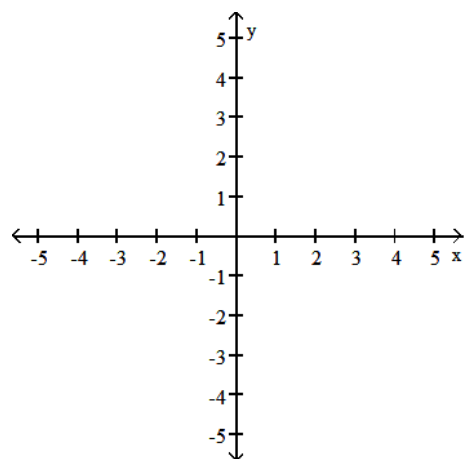


D)

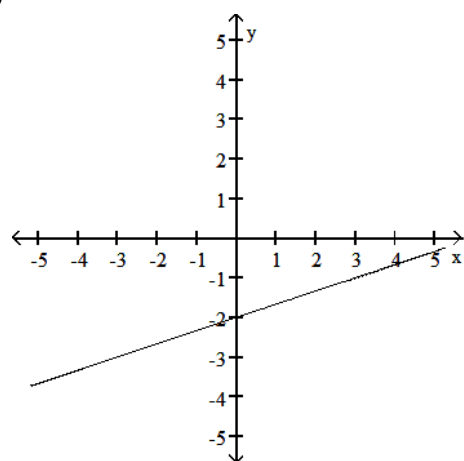


127) $f(x) = \frac{1}{3}x - 2$

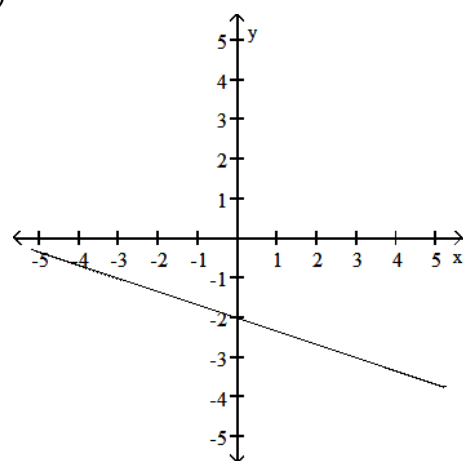
127) _____



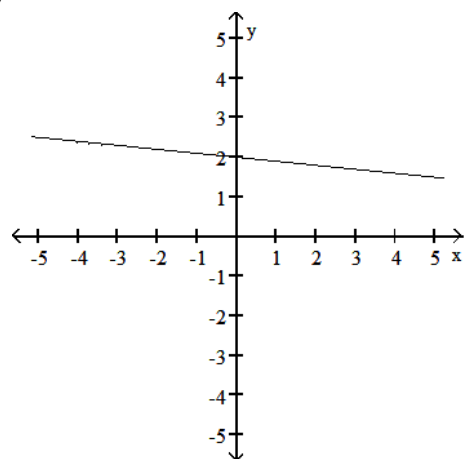
A)



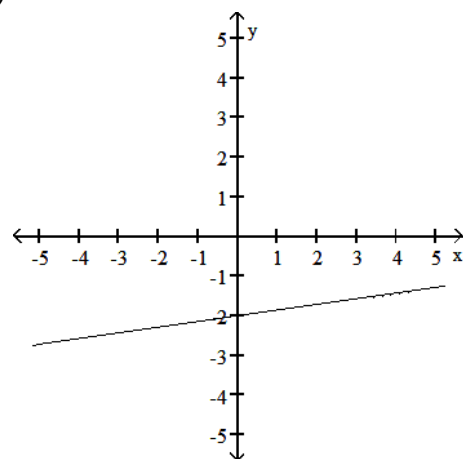
B)



C)

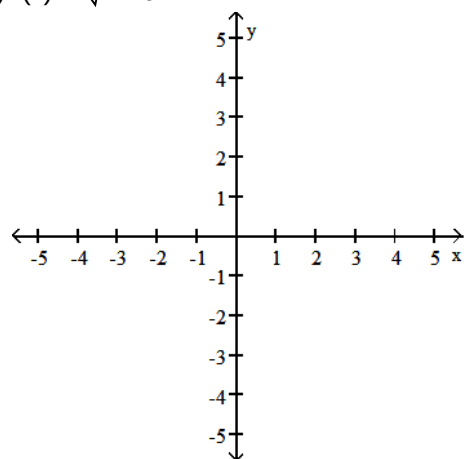


D)

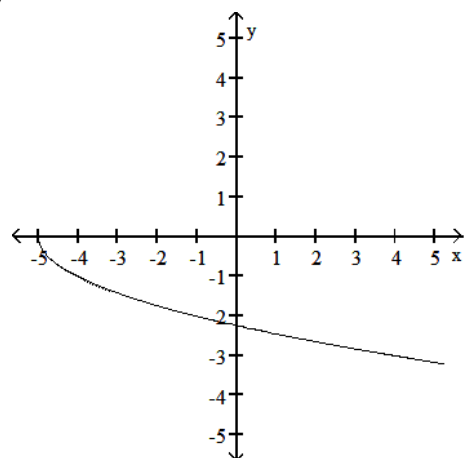


128) $f(x) = \sqrt{x+5}$

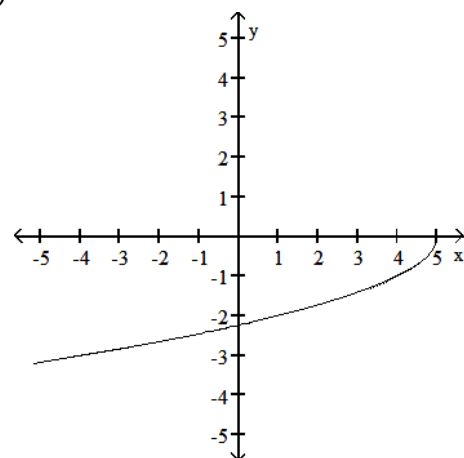
128) _____



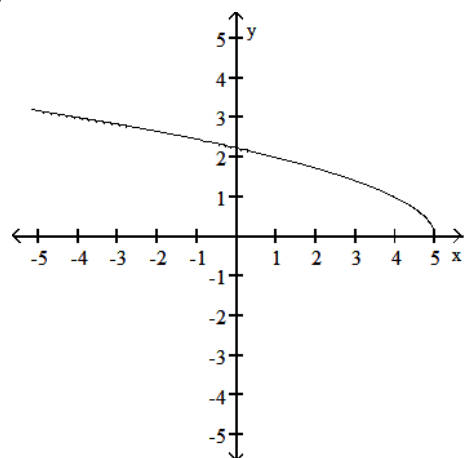
A)



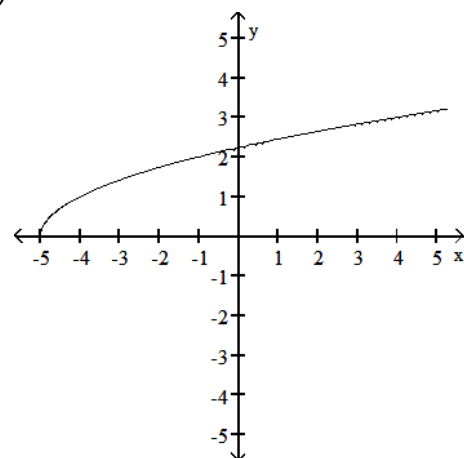
B)



C)



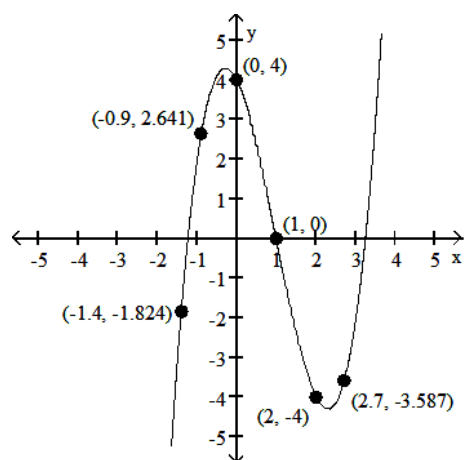
D)



Evaluate as requested.

129) A graph of a function f is shown below. Find $f(0)$.

129) _____



A) 2.1

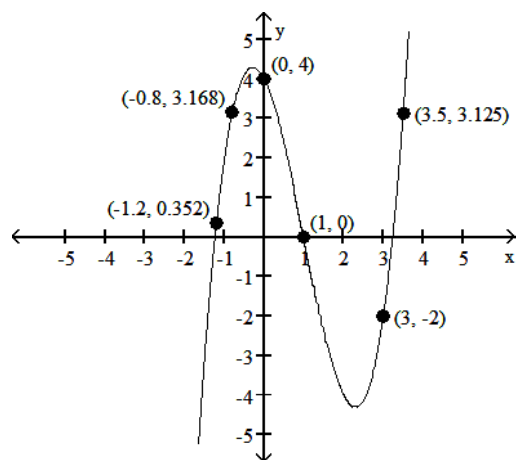
B) -1.34

C) 4

D) 1

130) A graph of a function g is shown below. Find $g(0)$.

130) _____



A) 4

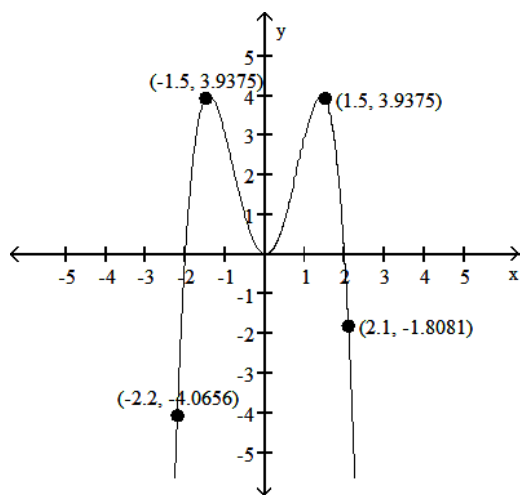
B) 3

C) 4.238

D) -2.5

131) A graph of a function g is shown below. Find $g(1.5)$.

131) _____



A) -4.0656

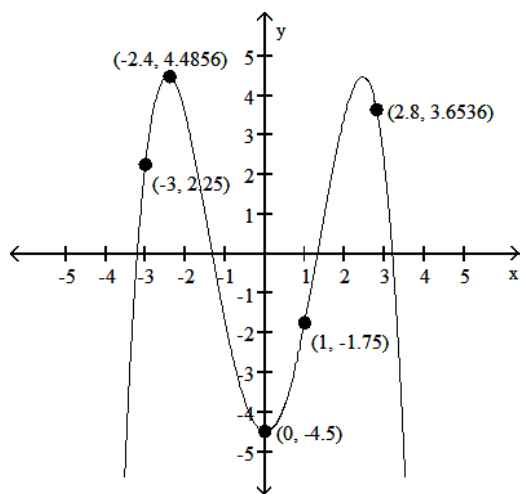
B) 2.1

C) 3.9375

D) -1.5

132) A graph of a function g is shown below. Find $g(-3)$.

132) _____



A) -4.5

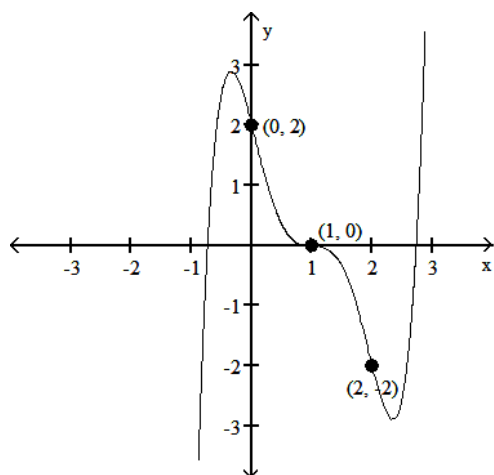
B) -2.4

C) 2.25

D) 2.8

133) A graph of a function f is shown below. Find $f(0)$.

133) _____



A) 1

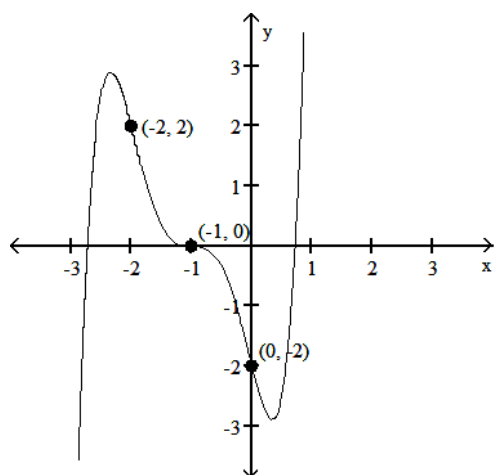
B) -2

C) -1

D) 2

134) A graph of a function g is shown below. Find $g(0)$.

134) _____



A) 2

B) -2

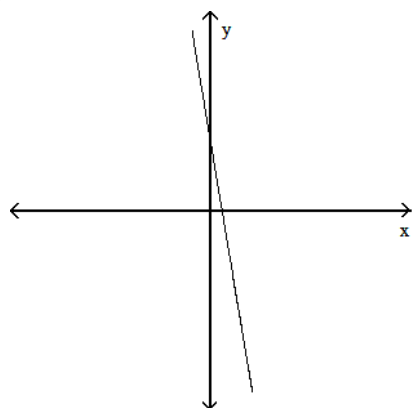
C) -1

D) 1

Determine whether the graph is the graph of a function.

135)

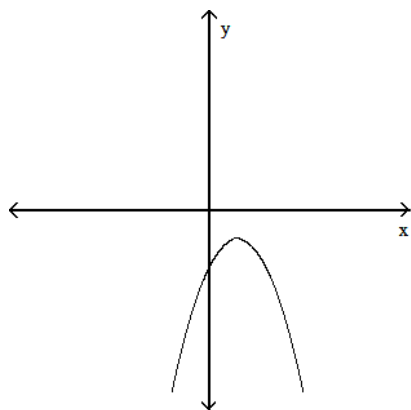
135) _____



A) Yes

B) No

136)

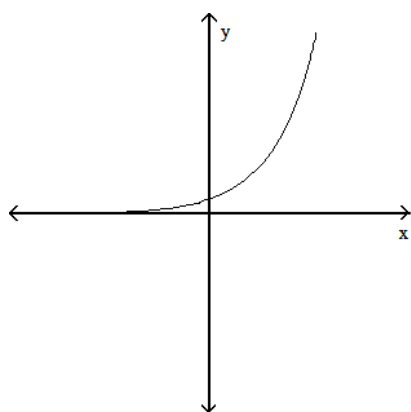


A) Yes

B) No

136) _____

137)

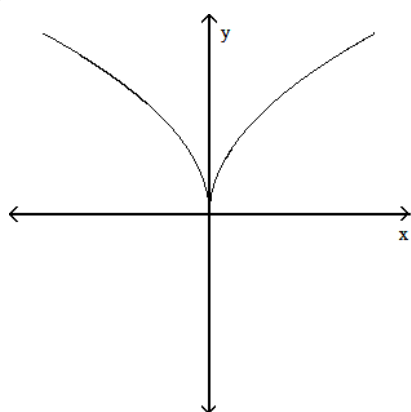


A) Yes

B) No

137) _____

138)

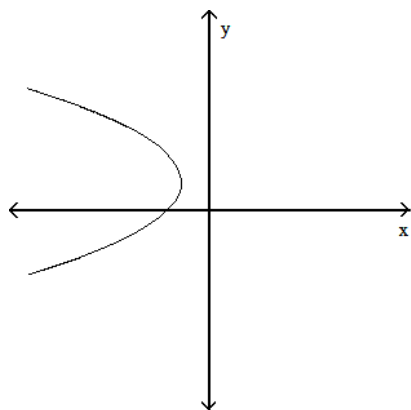


A) Yes

B) No

138) _____

139)

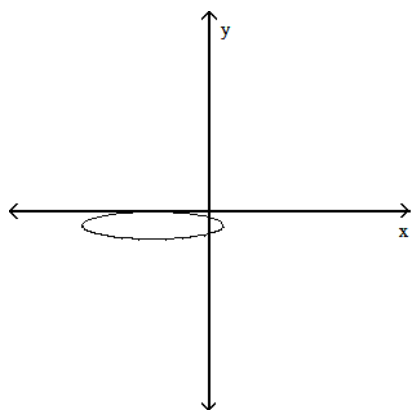


A) Yes

B) No

139) _____

140)

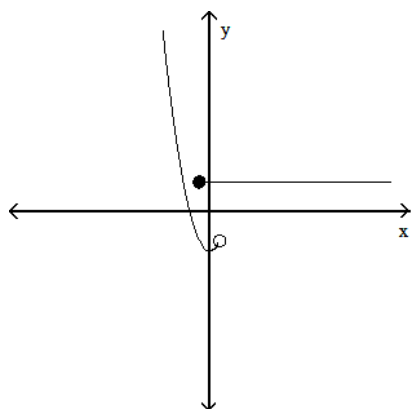


A) Yes

B) No

140) _____

141)

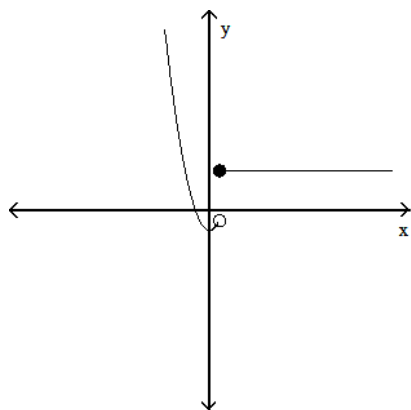


A) Yes

B) No

141) _____

142)

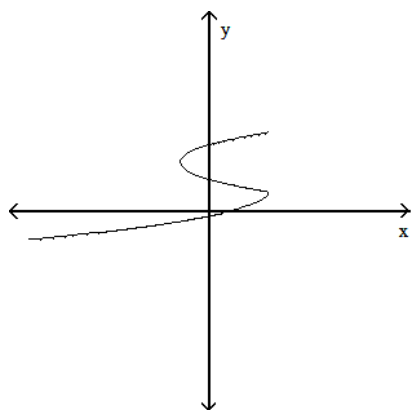


A) Yes

B) No

142) _____

143)



A) Yes

B) No

143) _____

Find the domain of the function.

144) $f(x) = 8x - 2$

- A) $\{x \mid x \neq 0\}$, or $(-\infty, 0) \cup (0, \infty)$
 C) $\{x \mid x > 0\}$, or $(0, \infty)$

- B) all real numbers, or $(-\infty, \infty)$
 D) $\{x \mid x > 2\}$, or $(2, \infty)$

144) _____

145) $f(x) = \frac{x}{x-9}$

- A) $\{x \mid x > 0\}$, or $(0, \infty)$
 C) $\{x \mid x \neq -9\}$, or $(-\infty, -9) \cup (-9, \infty)$

- B) $\{x \mid x \neq 9\}$, or $(-\infty, 9) \cup (9, \infty)$
 D) $\{x \mid x < 0\}$, or $(-\infty, 0)$

145) _____

146) $f(x) = |4x - 5|$

- A) $\left\{x \mid x \neq \frac{5}{4}\right\}$, or $\left(-\infty, \frac{5}{4}\right) \cup \left(\frac{5}{4}, \infty\right)$
 C) all real numbers, or $(-\infty, \infty)$

- B) $\left\{x \mid x > \frac{5}{4}\right\}$, or $\left(\frac{5}{4}, \infty\right)$
 D) $\left\{x \mid x < \frac{5}{4}\right\}$, or $\left(-\infty, \frac{5}{4}\right)$

146) _____

147) $f(x) = 7 - \frac{3}{x}$

- A) $\{x \mid x > 7\}$, or $(7, \infty)$
 C) all real numbers, or $(-\infty, \infty)$

- B) $\{x \mid x \neq 0\}$, or $(-\infty, 0) \cup (0, \infty)$
 D) $\{x \mid x < 3\}$, or $(-\infty, 3)$

147) _____

148) $f(x) = \frac{8}{x^2}$ 148) _____

- A) $\{x | x < 2\}$, or $(-\infty, 2)$
 C) all real numbers, or $(-\infty, \infty)$

- B) $\{x | x \neq 0\}$, or $(-\infty, 0) \cup (0, \infty)$
 D) $\{x | x > 8\}$, or $(8, \infty)$

149) $f(x) = \frac{2}{x+7}$ 149) _____

- A) $\{x | x < 7\}$, or $(-\infty, 7)$
 C) all real numbers, or $(-\infty, \infty)$

- B) $\{x | x \neq -7\}$, or $(-\infty, -7) \cup (-7, \infty)$
 D) $\{x | x \neq 0\}$, or $(-\infty, 0) \cup (0, \infty)$

150) $f(x) = \frac{1}{x^2 + 2x - 15}$ 150) _____

- A) $\{x | x \neq -5 \text{ and } x \neq 3\}$, or $(-\infty, -5) \cup (-5, 3) \cup (3, \infty)$
 B) $\{x | x \neq -5\}$, or $(-\infty, -5) \cup (-5, \infty)$
 C) all real numbers, or $(-\infty, \infty)$
 D) $\{x | x \neq 3\}$, or $(-\infty, 3) \cup (3, \infty)$

151) $f(x) = \frac{x^4 - 4x^3 + 3}{3x^2 - 14x - 49}$ 151) _____

- A) $\left\{x | x \neq -\frac{7}{3} \text{ and } x \neq 7\right\}$, or $\left(-\infty, -\frac{7}{3}\right) \cup \left(-\frac{7}{3}, 7\right) \cup (7, \infty)$
 B) $\left\{x | x \neq -\frac{7}{3}\right\}$, or $\left(-\infty, -\frac{7}{3}\right) \cup \left(-\frac{7}{3}, \infty\right)$
 C) $\left\{x | x \neq -7 \text{ and } x \neq \frac{7}{3}\right\}$, or $(-\infty, -7) \cup \left(-7, \frac{7}{3}\right) \cup \left(\frac{7}{3}, \infty\right)$
 D) $\{x | x \neq 7\}$, or $(-\infty, 7) \cup (7, \infty)$

152) $f(x) = \sqrt{2-x}$ 152) _____

- A) all real numbers, or $(-\infty, \infty)$
 C) $\{x | x \leq 2\}$, or $(-\infty, 2]$

- B) $\{x | x > \sqrt{2}\}$, or $(\sqrt{2}, \infty)$
 D) $\{x | x \neq 2\}$, or $(-\infty, 2) \cup (2, \infty)$

153) $f(x) = x^2 + 7$ 153) _____

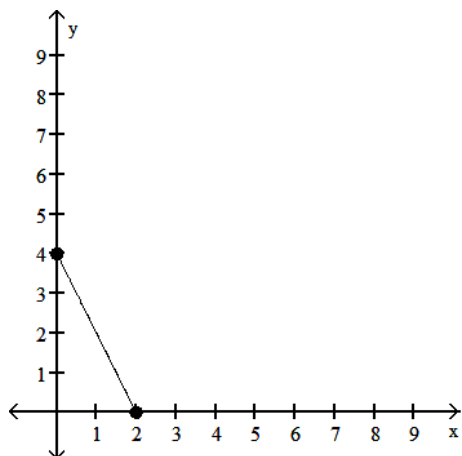
- A) $\{x | x > -7\}$, or $(-7, \infty)$
 C) $\{x | x \geq -7\}$, or $[-7, \infty)$

- B) all real numbers, or $(-\infty, \infty)$
 D) $\{x | x \neq -7\}$, or $(-\infty, -7) \cup (-7, \infty)$

Find the domain and range of the function represented in the graph.

154)

154) _____

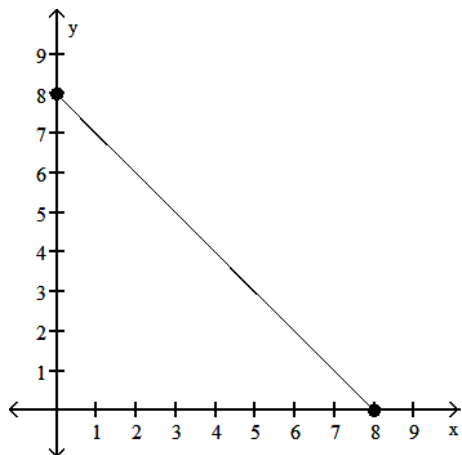


- A) Domain: $[0, 7]$; Range: $[0, 5]$
C) Domain: $[0, 4]$; Range: $[0, 2]$

- B) Domain: $[0, 2]$; Range: $[0, 4]$
D) Domain: $(-\infty, 2]$; Range: $[4, \infty]$

155)

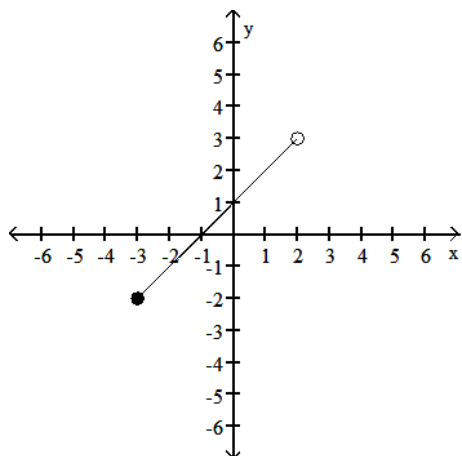
155) _____



- A) Domain: $(0, 8)$; Range: $(0, 8)$
C) Domain: $[-8, 0]$; Range: $[0, 8)$

- B) Domain: $[0, 8]$; Range: $[0, 8]$
D) Domain: $(0, 8]$; Range: $(-8, \infty)$

156)

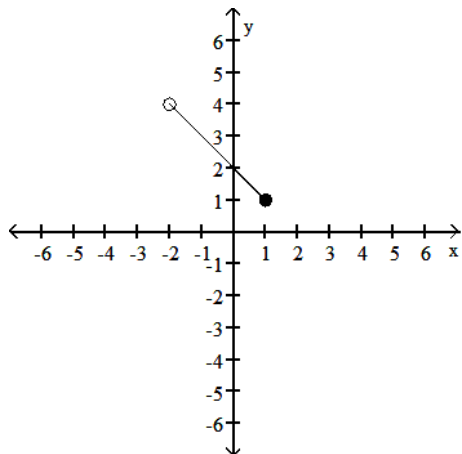


- A) Domain: $[-2, 3]$; Range: $[-3, 2]$
 C) Domain: $(-3, 2]$; Range: $(-2, 3]$

- B) Domain: $(-\infty, 3]$; Range: $(2, \infty)$
 D) Domain: $[-3, 2]$; Range: $[-2, 3)$

156) _____

157)

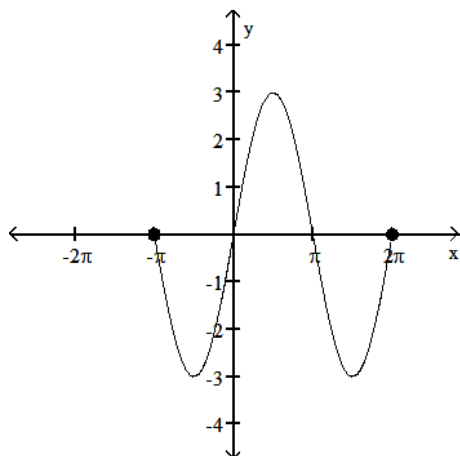


- A) Domain: $[-2, 1]$; Range: $[1, 4]$
 C) Domain: $(-1, 2]$; Range: $[2, 4)$

- B) Domain: $[-2, 1]$; Range: $[-1, 6)$
 D) Domain: $(-2, 1]$; Range: $[1, 4)$

157) _____

158)

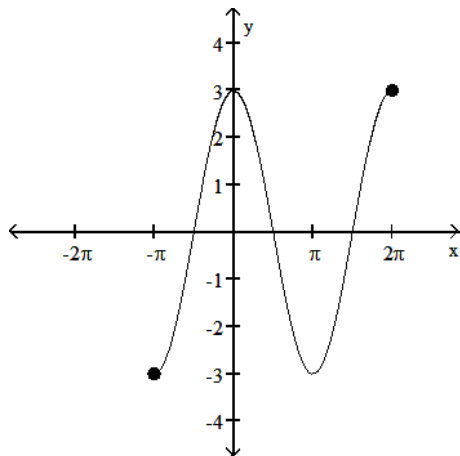


- A) Domain: $[-3, 3]$; Range: $[-\pi, 2\pi]$
 C) Domain: $[\pi, 2\pi]$; Range: $[-4, 2]$

- B) Domain: $[-\pi, 2\pi]$; Range: $[-3, 3]$
 D) Domain: $[0, 2\pi]$; Range: $[0, 3]$

158) _____

159)



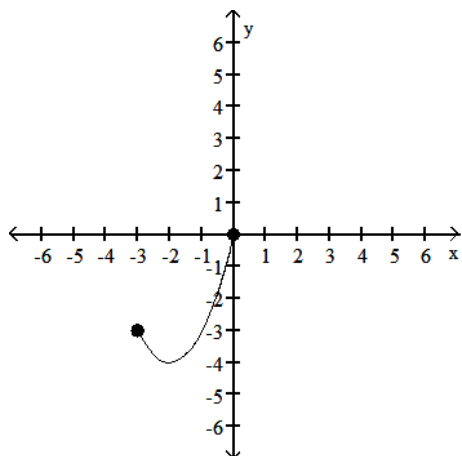
- A) Domain: $[-2\pi, 2\pi]$; Range: $[-4, 4]$
 C) Domain: $[-3, 3]$; Range: $[-\pi, 2\pi]$

- B) Domain: $[-\pi, 2\pi]$; Range: $[0, 3]$
 D) Domain: $[-\pi, 2\pi]$; Range: $[-3, 3]$

159) _____

160)

160) _____

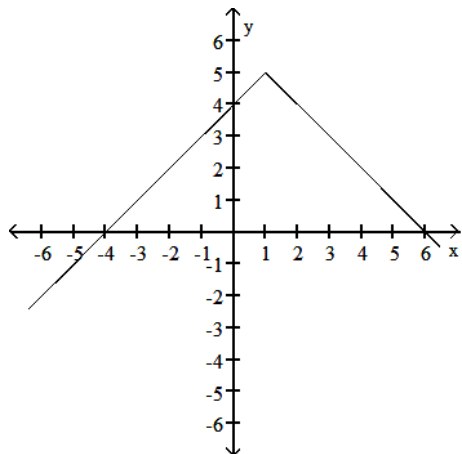


- A) Domain: $(-\infty, 0]$; Range: $[0, 3]$
 C) Domain: $[0, 3]$; Range: $(-\infty, 0]$

- B) Domain: $[-3, 0]$; Range: $[-4, 0]$
 D) Domain: $[-4, 0]$; Range: $[-3, 0]$

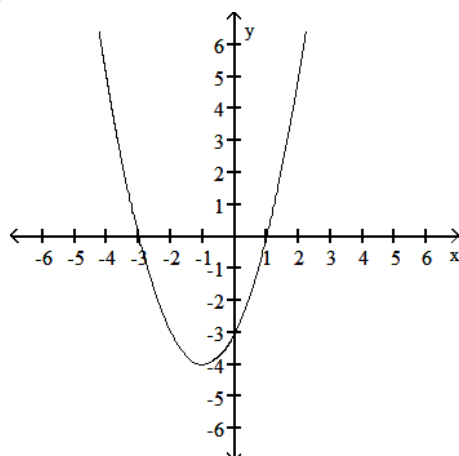
161)

161) _____



- A) Domain: $(-\infty, 1]$; Range: $(-\infty, 5]$
 B) Domain: $(-\infty, 1)$ or $(1, \infty)$; Range: $(-\infty, 5)$ or $(5, \infty)$
 C) Domain: $(-\infty, \infty)$; Range: $(-\infty, 5]$
 D) Domain: $(-\infty, \infty)$; Range: $(-\infty, \infty)$

162)



- A) Domain: $(-\infty, \infty)$; Range: $(-\infty, \infty)$
 B) Domain: $[-1, \infty)$; Range: $[-4, \infty)$
 C) Domain: $(-\infty, -1)$ or $(-1, \infty)$; Range: $(-\infty, -4)$ or $(-4, \infty)$
 D) Domain: $(-\infty, \infty)$; Range: $[-4, \infty)$

162) _____

By graphing the function, visually estimate its domain and range.

163) $f(x) = 8x + 8$

- A) Domain: $(-\infty, \infty)$; range: $[0, \infty)$
 B) Domain: $(-\infty, \infty)$; range: $(-\infty, \infty)$
 C) Domain: $[0, \infty)$; range: $[0, \infty)$
 D) Domain: $[0, \infty)$; range: $(-\infty, \infty)$

163) _____

164) $h(x) = 9 - x$

- A) Domain: $(-\infty, \infty)$; range: $(0, \infty)$
 B) Domain: $(-\infty, 0]$; range: $(-\infty, 0]$
 C) Domain: $(-\infty, \infty)$; range: $(-\infty, \infty)$
 D) Domain: $[0, \infty)$; range: $[0, \infty)$

164) _____

165) $f(x) = \sqrt{x - 4}$

- A) Domain: $[0, \infty)$; range: $[4, \infty)$
 B) Domain: $[4, \infty)$; range: $(0, \infty)$
 C) Domain: $[4, \infty)$; range: $[4, \infty)$
 D) Domain: $[0, \infty)$; range: $[0, \infty)$

165) _____

166) $t(x) = \sqrt{4 - x}$

- A) Domain: $(-\infty, 4]$; range: $[0, \infty)$
 B) Domain: $(-\infty, 4]$; range: $(-\infty, 4]$
 C) Domain: $[4, \infty)$; range: $[4, \infty)$
 D) Domain: $(-\infty, \infty)$; range: $(-\infty, \infty)$

166) _____

167) $h(x) = |x| - 1$

- A) Domain: $(-\infty, \infty)$; range: $(-\infty, \infty)$
 B) Domain: $[1, \infty)$; range: $[1, \infty)$
 C) Domain: $(-\infty, \infty)$; range: $[-1, \infty)$
 D) Domain: $(-\infty, 1]$; range: $(-\infty, 1]$

167) _____

168) $g(x) = x^2 - 5$

- A) Domain: $[5, \infty)$; range: $[5, \infty)$
 B) Domain: $(-\infty, \infty)$; range: $[-5, \infty)$
 C) Domain: $[5, \infty)$; range: $(-\infty, \infty)$
 D) Domain: $(-\infty, \infty)$; range: $(-\infty, \infty)$

168) _____

169) $f(x) = \sqrt{x^2 - 1}$

- A) Domain: $(-\infty, -1] \cup [1, \infty)$; range: $[0, \infty)$
 B) Domain: $(-\infty, -1] \cup [1, \infty)$; range: $(-\infty, \infty)$
 C) Domain: $(-\infty, \infty)$; range: $[0, \infty)$
 D) Domain: $[-1, 1]$; range: $[0, \infty)$

169) _____

Solve the problem.

- 170) The function H described by $H(x) = 2.75x + 71.48$ can be used to estimate the height, in centimeters, of a woman whose humerus (the bone from the elbow to the shoulder) is x cm long. Estimate the height of a woman whose humerus is 34.3 cm long. 170) _____

A) 108.53 cm B) 22.845 cm C) 39.93 cm D) 165.805 cm

- 171) The function H described by $H(x) = 2.75x + 71.48$ can be used to estimate the height, in centimeters, of a woman whose humerus (the bone from the elbow to the shoulder) is x cm long. Estimate the height of a woman whose humerus is 35.51 cm long. 171) _____

A) 109.74 cm B) 38.72 cm C) 26.1725 cm D) 169.1325 cm

- 172) The function h described by $h(t) = -16t^2 + 33.1t + 124.26$ gives the height of a ball thrown upward with a speed of 33.1 feet per second from a 124.26 ft high window t seconds after it is thrown until it hits the ground. Find the height of the ball 0.9 seconds after it is thrown. 172) _____

A) 141.09 ft B) 81.51 ft C) 167.01 ft D) 107.43 ft

- 173) Suppose the sales of a particular brand of appliance satisfy the relationship $S(x) = 70x + 2700$, where $S(x)$ represents the number of sales in year x , with $x = 0$ corresponding to 1982. In what year would the sales be 3260? 173) _____

A) 1992 B) 1989 C) 1991 D) 1990

- 174) The mathematical model $C = 200x + 20,000$ represents the cost in dollars a company has in manufacturing x items during a month. How many items were produced if costs reached \$140,000? 174) _____

A) 600 items B) 800 items C) 139,800 items D) 500 items

The following table contains input-output values for a function. Is this function linear?

- 175) 175) _____

x	y
1	7
4	13
7	19
10	25
13	31
16	37
19	43

A) Yes B) No

- 176) 176) _____

x	y
-9	80
-6	35
-3	8
0	-1
3	8
6	35
9	80

A) Yes B) No

177)

x	y
-3	-10
2	-5
7	0
12	5
17	10
22	15
27	20

A) Yes

177) _____

B) No

178)

x	y
-1	1
4	16
9	81
14	196
19	361
24	576
29	841

A) Yes

178) _____

B) No

179)

x	y
4	4
6	10
8	16
10	22
12	28
14	34
16	40

A) Yes

179) _____

B) No

180)

x	y
-4	-4
-2	-16
2	-20
2	-16
4	205
17	269
19	341

A) Yes

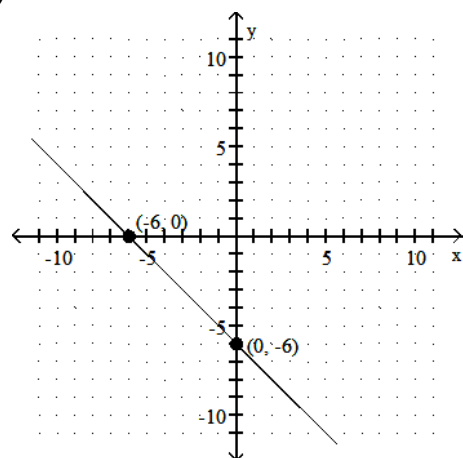
180) _____

B) No

Find the slope of the line.

181)

181) _____



A) 6

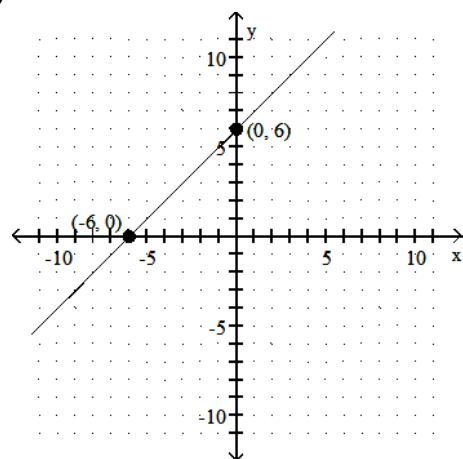
B) -1

C) -6

D) 1

182)

182) _____



A) -1

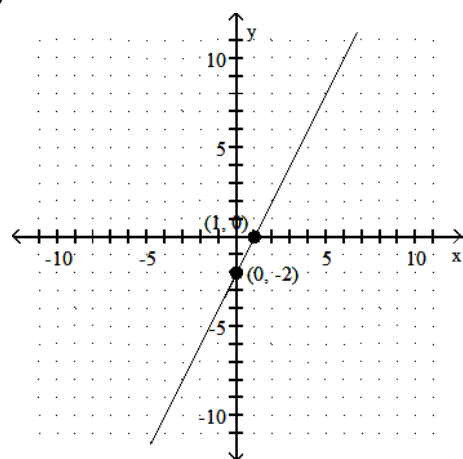
B) 1

C) 6

D) -6

183)

183) _____



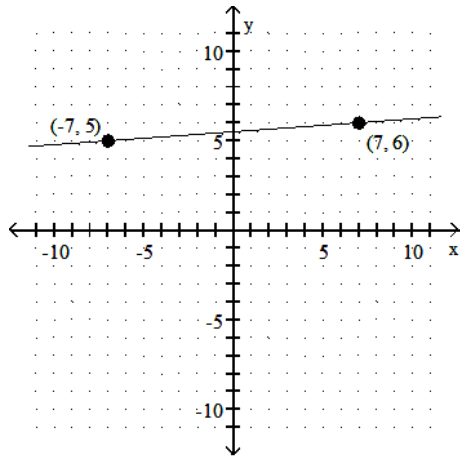
A) $\frac{1}{2}$

B) -2

C) 2

D) $-\frac{1}{2}$

184)



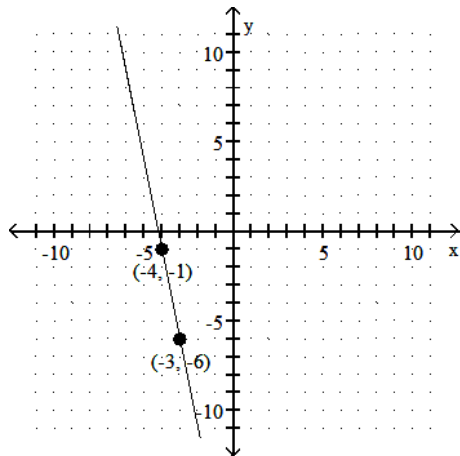
A) 14

B) $-\frac{1}{14}$ C) $\frac{1}{14}$

D) - 14

184) _____

185)



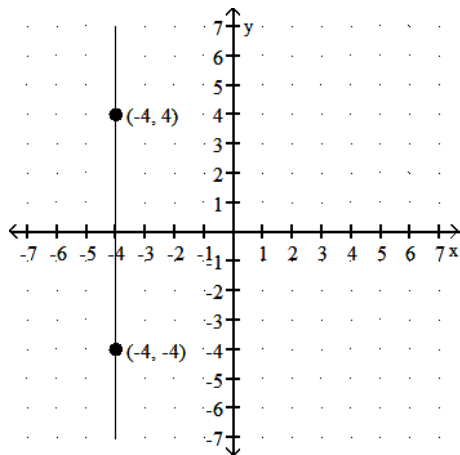
A) - 5

B) $\frac{1}{5}$ C) $-\frac{1}{5}$

D) 5

185) _____

186)



A) 0

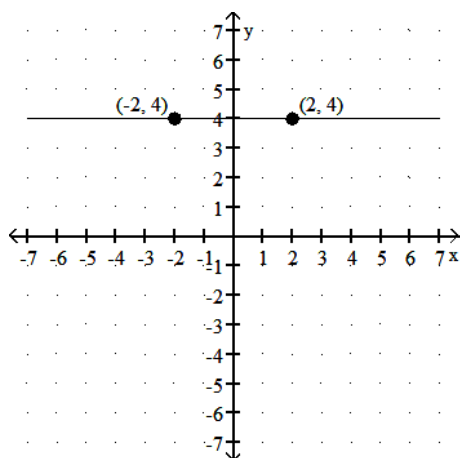
B) not defined

C) -8

D) 8

186) _____

187)



A) not defined

B) -4

C) 0

D) 4

187) _____

Find the slope of the line containing the given points.

188) (-3, -4) and (-3, 5)

A) $-\frac{1}{6}$

B) 0

C) $\frac{3}{2}$

D) not defined

188) _____

189) (8, 2) and (6, 1)

A) $\frac{3}{14}$ B) $\frac{1}{2}$ C) $-\frac{1}{2}$

D) 2

189) _____

190) (5, -2) and (-8, -7)

A) 3

B) $-\frac{5}{13}$ C) $\frac{5}{13}$ D) $\frac{13}{5}$

190) _____

191) (3, 7), (9, 7)

A) -6

B) 6

C) 0

D) not defined

191) _____

192) (4, 2) and (7, -2)

A) $\frac{4}{3}$ B) $-\frac{4}{3}$ C) $-\frac{3}{4}$

D) 0

192) _____

193) $(\sqrt{2}, 2)$ and $(0.48, 2)$

A) 0

B) not defined

C) $\sqrt{2} - 0.48$ D) $0.48 - \sqrt{2}$

193) _____

194) $\left(\frac{1}{8}, \frac{1}{2}\right), \left(\frac{1}{4}, \frac{1}{4}\right)$

A) not defined

B) -2

C) -1

D) 2

194) _____

195) $f(-5.7) = 5.9$ and $f(-12.6) = -17.2$ A) $-\frac{77}{23}$ B) $\frac{77}{23}$ C) $\frac{23}{77}$ D) $-\frac{23}{77}$

195) _____

196) $f(8) = 4$ and $f(17) = -6$

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

B) $-\frac{2}{25}$

C) $-\frac{9}{10}$

D) $-\frac{10}{9}$

196) _____

Determine the slope, if it exists, of the graph of the given linear equation.

197) $y = -\frac{1}{4}x + 3$

A) $m = \frac{1}{4}$

B) $m = -3$

C) $m = 3$

D) $m = -\frac{1}{4}$

197) _____

198) $x = 8$

A) not defined

B) $m = 8$

C) $m = -8$

D) $m = 0$

198) _____

199) $y = -7.2x + 7$

A) $m = 7$

B) $m = -7.2$

C) $m = 7.2$

D) $m = -7$

199) _____

200) $y = \frac{3}{4}$

A) not defined

B) $m = \frac{3}{4}$

C) $m = -\frac{3}{4}$

D) $m = 0$

200) _____

201) $f(x) = 5 + 3x$

A) $m = -5$

B) $m = 5$

C) $m = -3$

D) $m = 3$

201) _____

202) $f(x) = -\frac{1}{3}x + 4$

A) $m = -4$

B) $m = 4$

C) $m = -\frac{1}{3}$

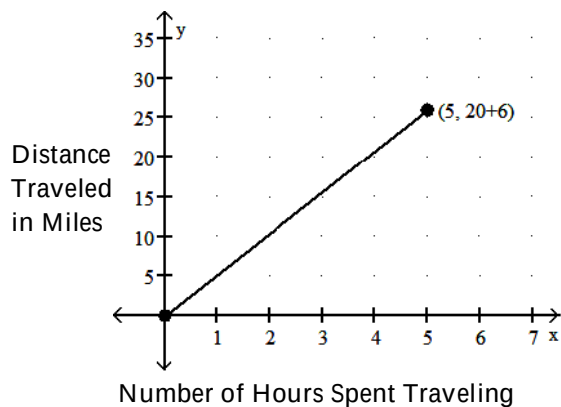
D) $m = \frac{1}{3}$

202) _____

Solve the problem.

203) Find the average rate of change.

203) _____



A) 0.2 mph

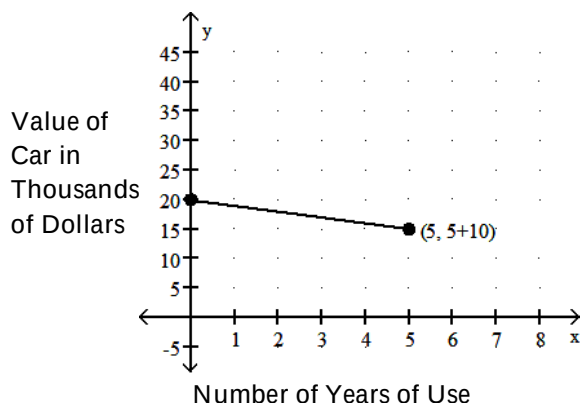
B) 5.2 mph

C) 0.3 mph

D) 3.2 mph

204) Find the average rate of change.

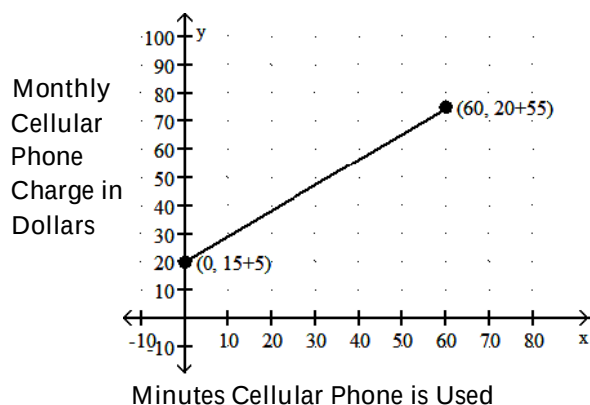
204) _____



- A) \$2.00 per year B) -\$1.00 per year C) \$1.00 per year D) -\$2.00 per year

205) Find the average rate of change.

205) _____



- A) \$1.09 per min B) \$4.75 per min C) \$0.53 per min D) \$0.92 per min

206) A deep sea diving bell is being lowered at a constant rate. After 11 minutes, the bell is at a depth of 300 feet. After 35 minutes the bell is at a depth of 1500 feet. What is the average rate of lowering per minute? Round your answer to the nearest tenth.

206) _____

- A) 34.3 ft per min B) 50.0 ft per min C) 42.9 ft per min D) 0.02 ft per min

207) The cost of manufacturing a molded part is related to the quantity produced during a production run. When 100 parts are produced, the cost is \$300. When 500 parts are produced, the cost is \$3100. What is the average cost per part?

207) _____

- A) \$8.00 per part B) \$5.60 per part C) \$7.00 per part D) \$0.14 per part

208) A cross-country skier reaches the 10-km mark of a race 40 min after reaching the 3-km mark. Find the speed (average rate of change) of the skier.

208) _____

- A) $\frac{21}{2}$ km/hr B) 7 km/hr C) $\frac{84}{5}$ km/hr D) 15 km/hr

209) In 1980, the population of a city was 6.8 million. By 1992 the population had grown to 9.5 million.

209) _____

Find the average rate of change in population from 1980 to 1992..

A) $\frac{9}{40}$ million per year

B) $\frac{27}{140}$ million per year

C) $\frac{3}{10}$ million per year

D) $\frac{19}{24}$ million per year

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

210) $9x + 5y = 43$

210) _____

A) $-\frac{5}{9}; \left(0, \frac{5}{43}\right)$

B) $\frac{5}{9}; \left(0, \frac{5}{43}\right)$

C) $\frac{9}{5}; \left(0, \frac{43}{5}\right)$

D) $-\frac{9}{5}; \left(0, \frac{43}{5}\right)$

211) $5x + 7y = 38$

211) _____

A) $\frac{5}{7}; \left(0, \frac{38}{7}\right)$

B) $1\frac{2}{5}; \left(0, \frac{7}{38}\right)$

C) $-1\frac{2}{5}; \left(0, \frac{7}{38}\right)$

D) $-\frac{5}{7}; \left(0, \frac{38}{7}\right)$

212) $-4x + 6y = 6$

212) _____

A) $-\frac{2}{3}; (0, -1)$

B) $\frac{2}{3}; (0, 1)$

C) $1; (0, 1)$

D) $-1; (0, 1)$

213) $-3x + 5y = -5$

213) _____

A) $1\frac{2}{3}; (0, 1)$

B) $-1\frac{2}{3}; (0, -1)$

C) $\frac{3}{5}; (0, -1)$

D) $-\frac{3}{5}; (0, 1)$

214) $y = 9 + \frac{6}{7}x$

214) _____

A) $\frac{6}{7}; (0, 9)$

B) $9; \left(0, \frac{6}{7}\right)$

C) $\frac{6}{7}; (9, 0)$

D) $-\frac{6}{7}; (0, -9)$

215) $y = -4$

215) _____

A) $-4; (0, -4)$

B) $0; (0, -4)$

C) $-4; (0, 0)$

D) $0; (0, 4)$

216) $x = 3$

216) _____

A) $-3; (0, 0)$

B) $-3; (-3, 0)$

C) not defined; $(3, 0)$

D) not defined; no y-intercept

217) $f(x) = \frac{6}{7}x + 2$

217) _____

A) $\frac{7}{6}; (0, -2)$

B) $2; \left(0, \frac{6}{7}\right)$

C) $\frac{6}{7}; (0, 2)$

D) $-\frac{6}{7}; (0, -2)$

218) $5x - 2y + 9 = 0$

218) _____

A) $\frac{5}{2}; \left(0, -\frac{9}{2}\right)$

B) $-\frac{5}{2}; \left(0, \frac{9}{2}\right)$

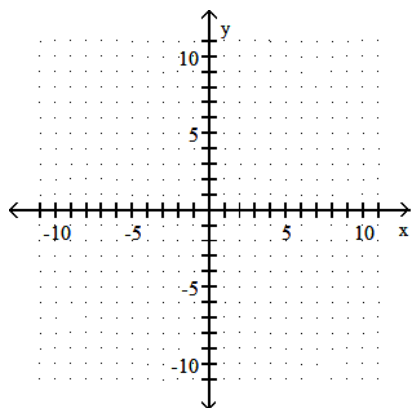
C) $-\frac{5}{2}; \left(0, -\frac{9}{2}\right)$

D) $\frac{5}{2}; \left(0, \frac{9}{2}\right)$

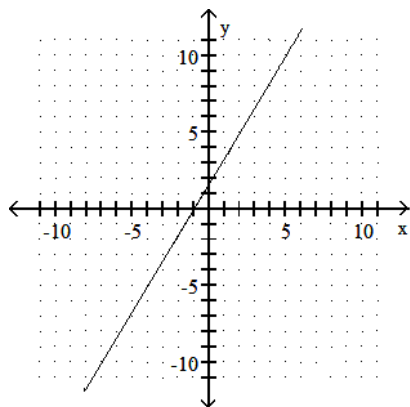
Graph the equation using the slope and the y-intercept.

219) $y = \frac{3}{5}x - 1$

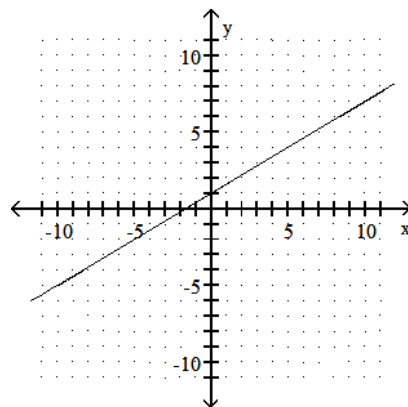
219) _____



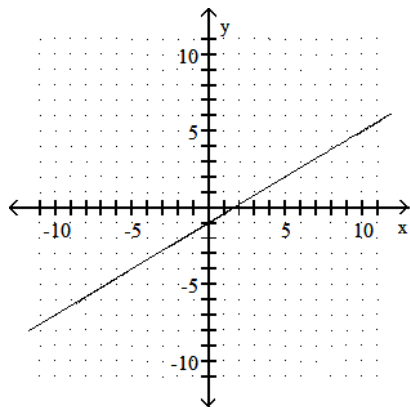
A)



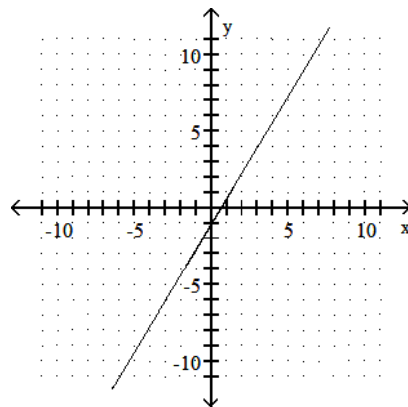
B)



C)

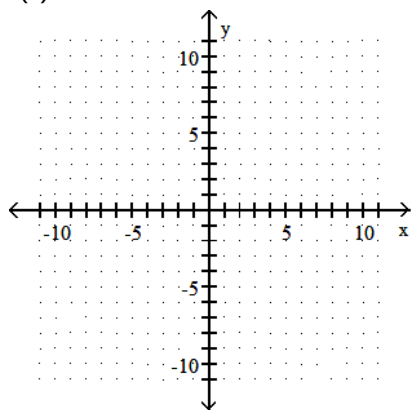


D)

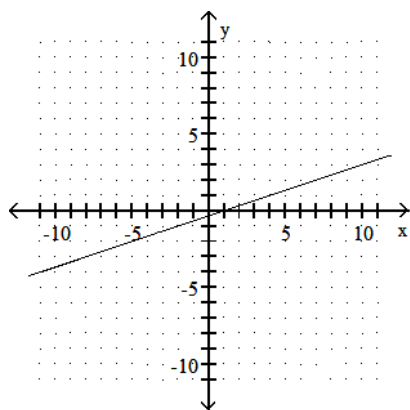


220) $f(x) = 3x + 1$

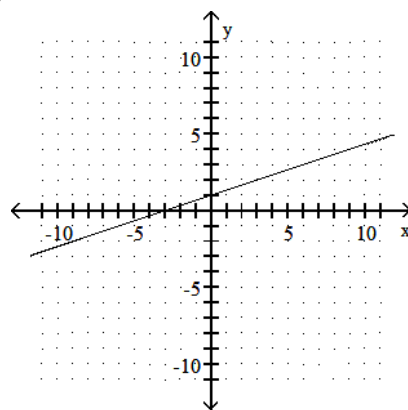
220) _____



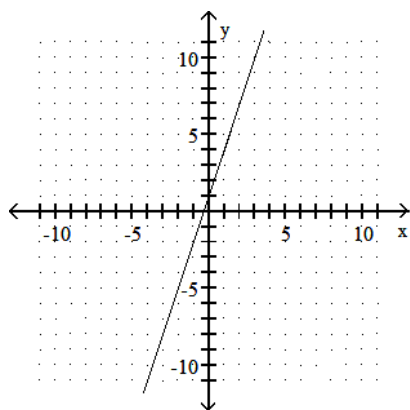
A)



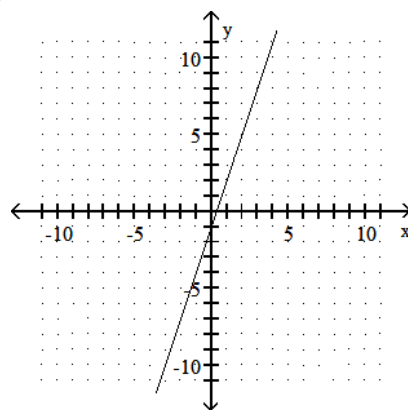
B)



C)

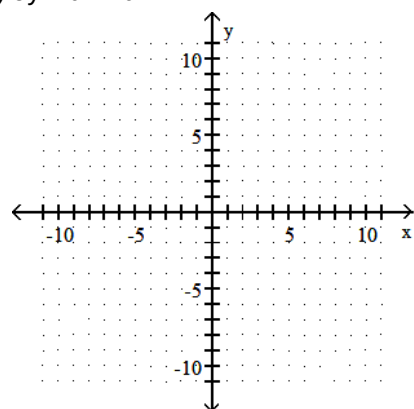


D)

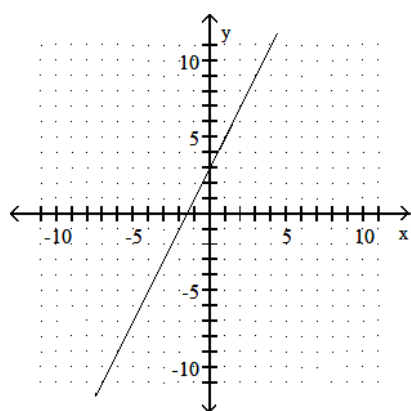


221) $3y - 6x = 9$

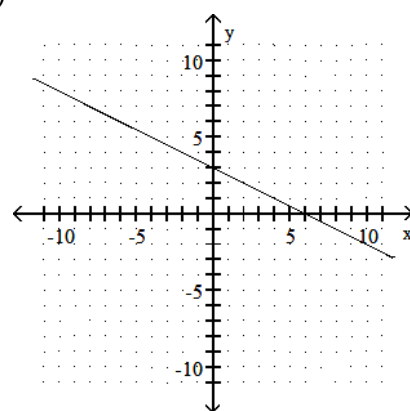
221) _____



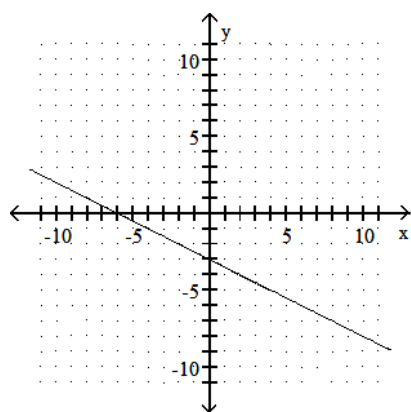
A)



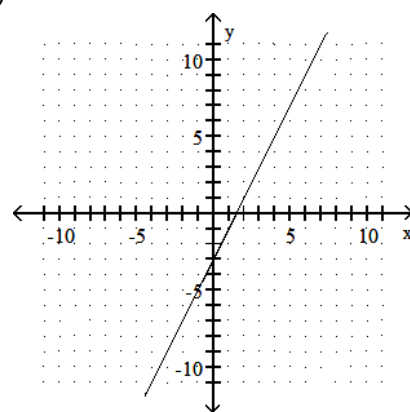
B)



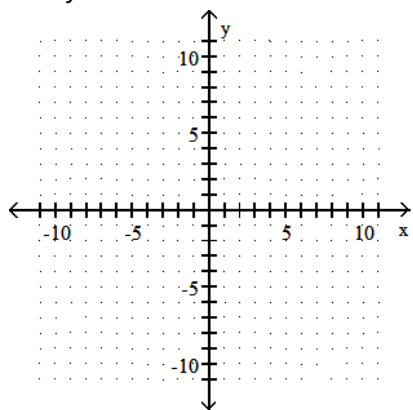
C)



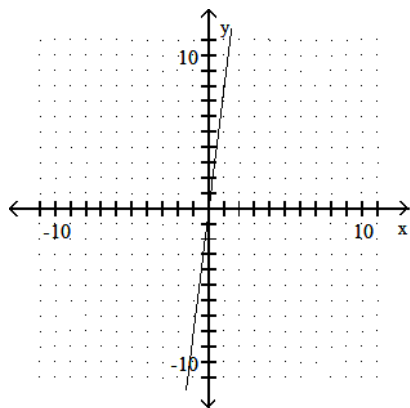
D)



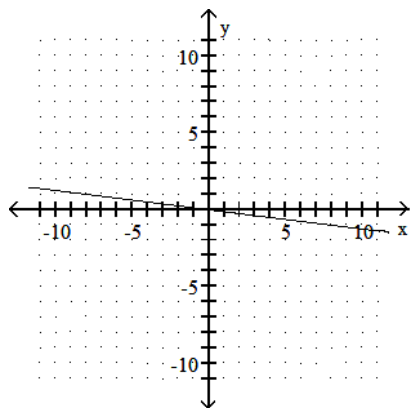
222) $8x - y = 0$



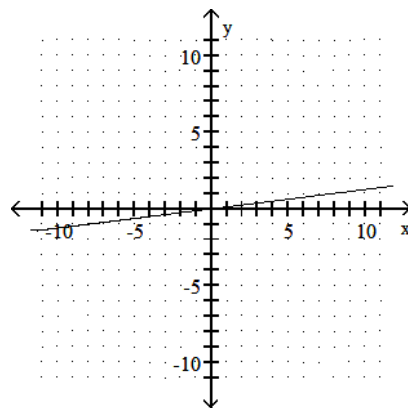
A)



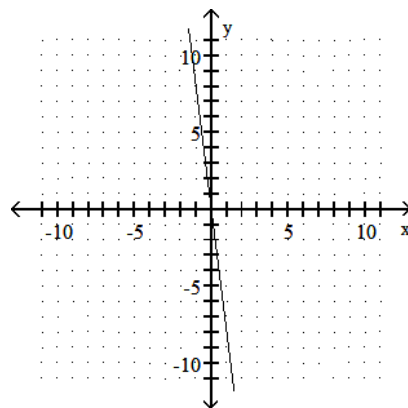
C)



B)



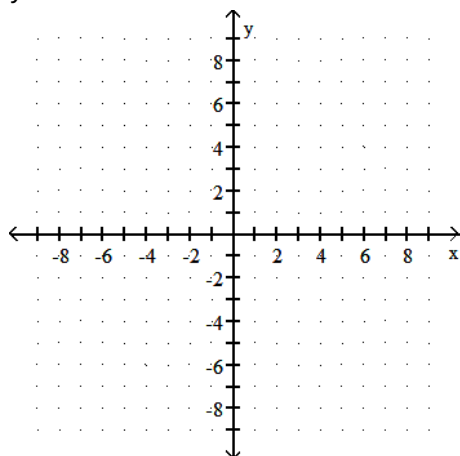
D)



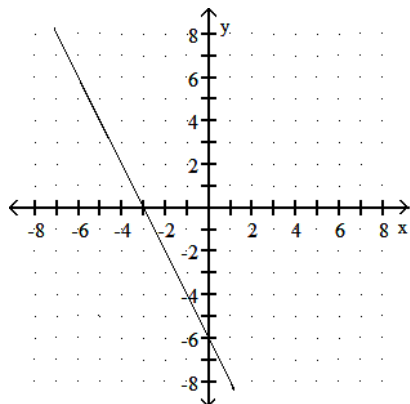
222) _____

223) $y = -2x + 6$

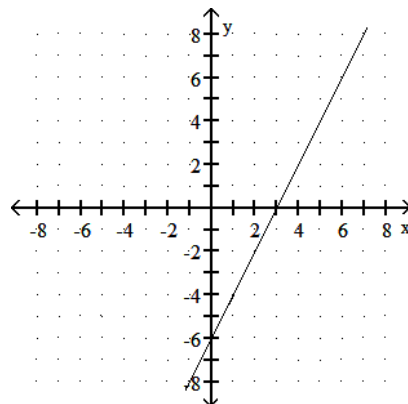
223) _____



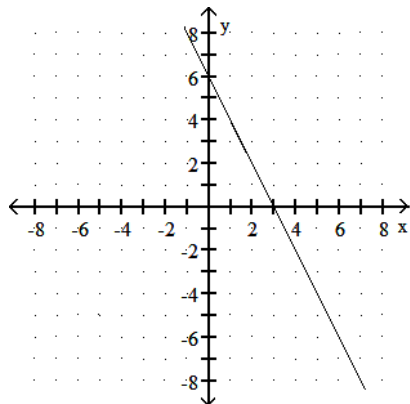
A)



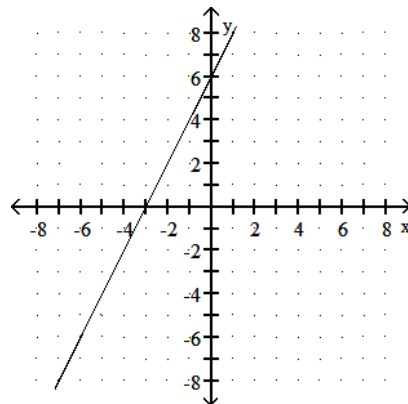
B)



C)

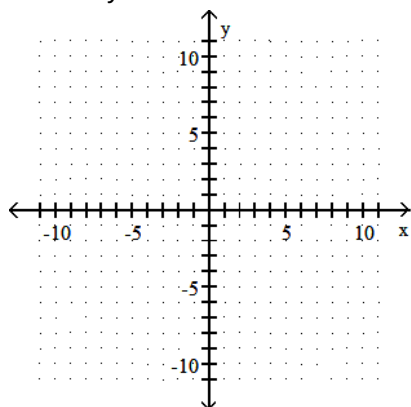


D)

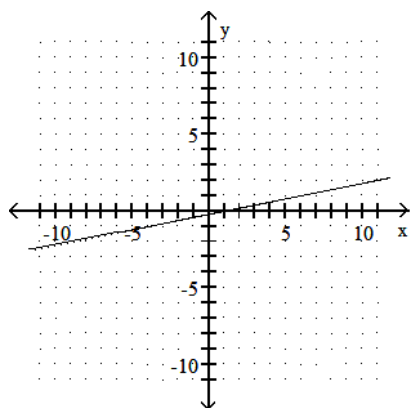


224) $-4x + 20y = 4$

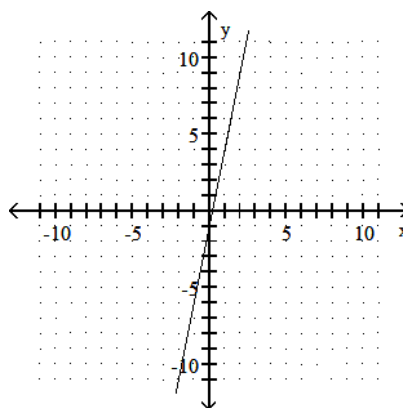
224) _____



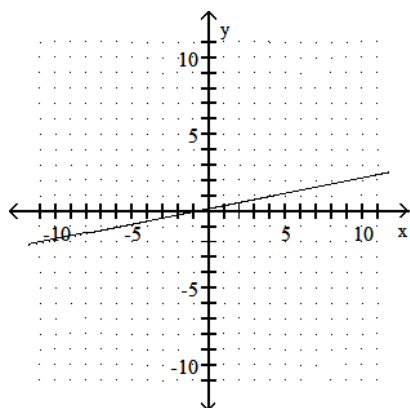
A)



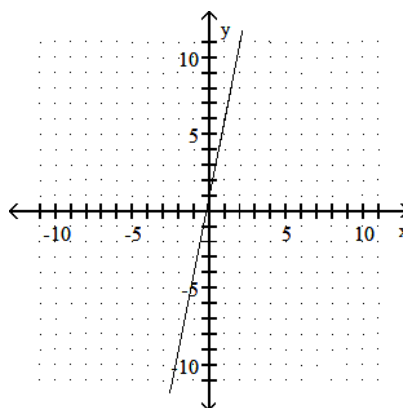
B)



C)



D)



Solve the problem.

225) 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. Express F as a linear function of c .

225) _____

A) $F(c) = 1.8c + 32$

B) $F(c) = 1.8 + 32c$

C) $F(c) = \frac{c - 32}{1.8}$

D) $F(c) = 33.8c$

226) 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 F as a linear function of c , and use this function to convert 41°C to $^\circ\text{F}$.

226) _____

A) 96.8°F

B) 105.8°F

C) 101.1°F

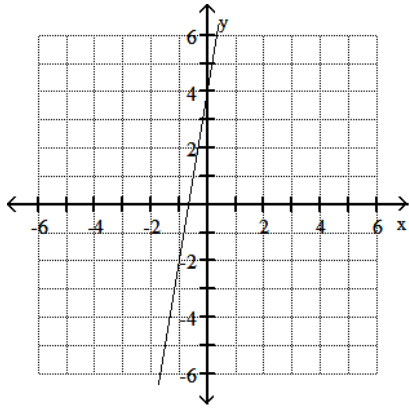
D) 93.5°F

- 227) If an object is dropped off of a tower, the velocity, V , of the object after t seconds can be obtained by multiplying t by 32 and adding 10 to the result. Express V as a linear function of t . 227) _____
- A) $V(t) = 32t + 10$ B) $V(t) = \frac{t-10}{32}$ C) $V(t) = 32 + 10t$ D) $V(t) = 42t$
- 228) If an object is dropped from a tower, then the velocity, V (in feet per second), of the object after t seconds can be obtained by multiplying t by 32 and adding 10 to the result. Find V as a linear function of t , and use this function to evaluate $V(7.5)$, the velocity of the object at time $t = 7.5$ seconds. 228) _____
- A) $V(7.5) = 248$ ft per sec B) $V(7.5) = 250$ ft per sec
C) $V(7.5) = 249.3$ ft per sec D) $V(7.5) = 251.3$ ft per sec
- 229) If an object is dropped from a tower of unknown height, the velocity of the object after t seconds can be obtained by multiplying t by 32 and adding 10 to the result. Therefore, you can express V as a linear function of t . Find the domain of this function. 229) _____
- A) $[0, \infty)$ B) $(-1, \infty)$ C) $[1, 4]$ D) $(-\infty, \infty)$
- 230) 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 \$29 per hour is added. Find an equation that can be used to determine the labor cost, $C(x)$, of a repair that takes x hours. 230) _____
- A) $C(x) = (20 + 29)x$ B) $C(x) = 20 - 29x$
C) $C(x) = 29 + 20x$ D) $C(x) = 20 + 29x$
- 231) In a certain city, the cost of a taxi ride is computed as follows: There is a fixed charge of \$2.50 as soon as you get in the taxi, to which a charge of \$1.95 per mile is added. Find an equation that can be used to determine the cost, $C(x)$, of an x -mile taxi ride. 231) _____
- A) $C(x) = 2.50 + 1.95x$ B) $C(x) = 2.95x$
C) $C(x) = 4.45x$ D) $C(x) = 1.95 + 2.50x$
- 232) In a certain city, the cost of a taxi ride is computed as follows: There is a fixed charge of \$2.95 as soon as you get in the taxi, to which a charge of \$1.95 per mile is added. Find an equation that can be used to determine the cost, $C(x)$, of an x -mile taxi ride, and use this equation to find the cost of a 5-mile taxi ride. 232) _____
- A) \$12.58 B) \$12.88 C) \$13.60 D) \$12.70
- 233) Marty's Tee Shirt & Jacket Company is to produce a new line of jackets with an embroidery of a Great Pyrenees dog on the front. There are fixed costs of \$540 to set up for production, and variable costs of \$39 per jacket. Write an equation that can be used to determine the total cost, $C(x)$, encountered by Marty's Company in producing x jackets. 233) _____
- A) $C(x) = 540 + 39x$ B) $C(x) = 540x + 39$
C) $C(x) = 540 - 39x$ D) $C(x) = (540 + 39)x$
- 234) Marty's Tee Shirt & Jacket Company is to produce a new line of jackets with a embroidery of a Great Pyrenees dog on the front. There are fixed costs of \$570 to set up for production, and variable costs of \$30 per jacket. Write an equation that can be used to determine the total cost, $C(x)$, encountered by Marty's Company in producing x jackets, and use the equation to find the total cost of producing 118 jackets. 234) _____
- A) \$4110 B) \$4122 C) \$4102 D) \$4090

Write an equation in slope-intercept form for the line shown.

235)

235) _____



A) $y = 6x - 4$

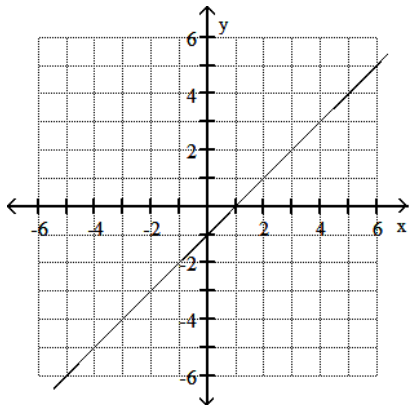
B) $y = 6x + 4$

C) $y = -6x - 4$

D) $y = -6x + 4$

236)

236) _____



A) $y = -x - 1$

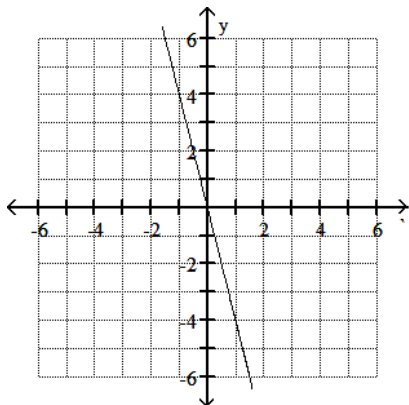
B) $y = x - 1$

C) $y = x + 1$

D) $y = -x + 1$

237)

237) _____



A) $y = 4x$

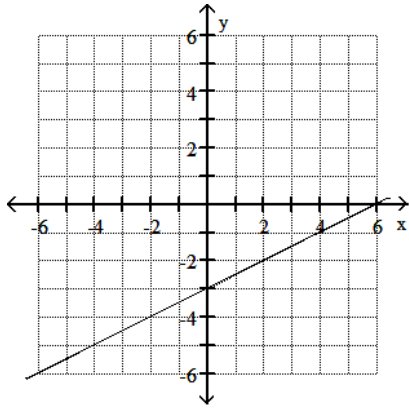
B) $y = \frac{x}{-4}$

C) $y = \frac{x}{4}$

D) $y = -4x$

238)

238) _____



A) $y = 2x + 3$

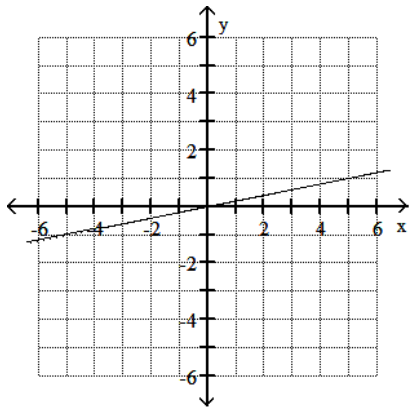
B) $y = 2x - 3$

C) $y = \frac{1}{2}x - 3$

D) $y = \frac{1}{2}x + 3$

239)

239) _____



A) $y = -\frac{1}{5}x$

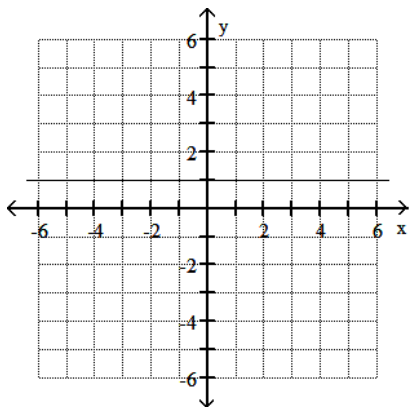
B) $y = -5x$

C) $y = 5x$

D) $y = \frac{1}{5}x$

240)

240) _____



A) $y = 1$

B) $y = -1$

C) $x = -1$

D) $x = 1$

Write a slope-intercept equation for a line with the given characteristics.

241) $m = -\frac{3}{5}$, passes through $(-8, 3)$ 241) _____

A) $y = \frac{3}{5}x + \frac{9}{5}$

B) $y = -\frac{5}{3}x + 3$

C) $y = -\frac{3}{5}x - \frac{9}{5}$

D) $y = -\frac{3}{5}x + \frac{9}{5}$

242) $m = -\frac{4}{7}$, passes through $(2, 5)$ 242) _____

A) $y = -\frac{7}{4}x - \frac{43}{4}$

B) $y = \frac{4}{7}x - \frac{43}{7}$

C) $y = -\frac{4}{7}x - \frac{43}{7}$

D) $y = -\frac{4}{7}x + \frac{43}{7}$

243) $m = \frac{1}{2}$, passes through $(5, 2)$ 243) _____

A) $y = -\frac{1}{2}x + \frac{1}{2}$

B) $y = \frac{1}{2}x - \frac{1}{2}$

C) $y = 2x - 1$

D) $y = \frac{1}{2}x + \frac{1}{2}$

244) $m = -\frac{8}{9}$, passes through $(-8, -1)$ 244) _____

A) $y = -\frac{8}{9}x + \frac{73}{9}$

B) $y = -\frac{9}{8}x + \frac{73}{8}$

C) $y = -\frac{8}{9}x - \frac{73}{9}$

D) $y = \frac{8}{9}x + \frac{73}{9}$

245) $m = \frac{4}{3}$, passes through $(-6, -1)$ 245) _____

A) $y = \frac{4}{3}x + 7$

B) $y = \frac{4}{3}x - 7$

C) $y = \frac{3}{4}x + \frac{21}{4}$

D) $y = -\frac{4}{3}x - 7$

246) $m = 7$, passes through $(6, -9)$ 246) _____

A) $y = 7x - 49$

B) $y = 7x + 50$

C) $y = 7x - 51$

D) $y = 8x + 52$

247) $m = -9$, passes through $(-5, 3)$ 247) _____

A) $y = -9x + 49$

B) $y = -9x - 42$

C) $9x + y = 42$

D) $y = 9x - 40$

248) $m = 0$; passes through $(-5, -7)$ 248) _____

A) $y = -7$

B) $x = -5$

C) $y = -5$

D) $x = -7$

249) $m = 2$; passes through $(0, 4)$ 249) _____

A) $y = 4x - 2$

B) $y = 2x + 4$

C) $y = 4x + 2$

D) $y = 2x - 4$

250) $m = -4$; passes through $(-7, 0)$ 250) _____

A) $y = -7x - 4$

B) $y = -4x - 28$

C) $y = 4x - 7$

D) $y = 7x - 4$

251) Passes through $(9, -2)$ and $(-5, -2)$ 251) _____

A) $y = 6x - 62$

B) $y = 3x - 35$

C) $y = 2x - 26$

D) $y = -2$

252) Passes through $(-7, 0)$ and $(0, 3)$ 252) _____

A) $y = \frac{7}{3}x + 3$

B) $y = \frac{3}{7}x + 3$

C) $y = -\frac{7}{3}x + 3$

D) $y = -\frac{3}{7}x + 3$

- 253) Passes through (5, 0) and (0, 4) 253) _____
 A) $y = \frac{4}{5}x + 4$ B) $y = \frac{5}{4}x + 4$ C) $y = -\frac{4}{5}x + 4$ D) $y = -\frac{5}{4}x + 4$
- 254) Passes through (6, 2) and (-3, 7) 254) _____
 A) $y = -\frac{2}{5}x + \frac{29}{5}$ B) $y = \frac{5}{9}x + \frac{16}{3}$ C) $y = -\frac{5}{9}x + \frac{16}{3}$ D) $y = \frac{2}{5}x + \frac{29}{5}$
- 255) Passes through (-9, -4.5) and (-7, -0.5) 255) _____
 A) $y = 0.5x + 13.5$ B) $y = -2x + 13.5$ C) $y = 2x + 13.5$ D) $y = -0.5x + 13.5$
- 256) $\left(-\frac{1}{3}, \frac{4}{3}\right), \left(\frac{1}{3}, \frac{7}{3}\right)$ 256) _____
 A) $y = \frac{3}{2}x + \frac{11}{6}$ B) $y = \frac{3}{2}x - \frac{1}{2}$ C) $y = \frac{3}{2}x$ D) $y = 3x + 11$

Write equations of the horizontal and the vertical lines that pass through the given point.

- 257) (6, -2) 257) _____
 A) horizontal: $y = -2$;
 vertical: $x = 6$
 B) horizontal: $y = -2x + 0$;
 vertical: $x = 6y + 0$
 C) horizontal: $y = 3x + 0$;
 vertical: $3y = x + 0$
 D) horizontal: $x = 6$;
 vertical: $y = -2$
- 258) $\left(-4, \frac{2}{5}\right)$ 258) _____
 A) horizontal: $y = \frac{2}{5}x$;
 vertical: $x = -4y$
 B) horizontal: $y = -4$;
 vertical: $x = \frac{2}{5}$
 C) horizontal: $y = -\frac{2}{5}$;
 vertical: $x = -4$
 D) horizontal: $y = \frac{2}{5}$;
 vertical: $x = -4$
- 259) (7, -9.44) 259) _____
 A) horizontal: $y = -9.44x$;
 vertical: $x = 7y$
 B) horizontal: $y = 9.44$;
 vertical: $x = -7$
 C) horizontal: $y = -9.44$;
 vertical: $x = 7$
 D) horizontal: $y = -7$;
 vertical: $x = 9.44$

Provide an appropriate response.

- 260) Find a linear function, h, given $h(-4) = -13$ and $h(0) = -5$. 260) _____
 A) $h(x) = 2x - 5$ B) $h(x) = 5x - 2$ C) $h(x) = -2x + 5$ D) $h(x) = -2x - 5$
- 261) Find a linear function, f, given $f(5) = 7.66666667$ and $f(-7) = 3.66666667$. 261) _____
 A) $f(x) = \frac{1}{3}x - 6$ B) $f(x) = -\frac{1}{6}x + 3$ C) $f(x) = \frac{1}{6}x + 3$ D) $f(x) = \frac{1}{3}x + 6$

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

- 262) $3x - 4y = 7$ 262) _____
 $8x + 6y = 7$
 A) Parallel B) Perpendicular C) Neither
- 263) $3x - 4y = -3$ 263) _____
 $8x + 6y = -3$
 A) Parallel B) Perpendicular C) Neither
- 264) $12x + 4y = 16$ 264) _____
 $18x + 6y = 27$
 A) Parallel B) Perpendicular C) Neither
- 265) $12x + 4y = 16$ 265) _____
 $24x + 8y = 36$
 A) Parallel B) Perpendicular C) Neither
- 266) $3x - 8y = -15$ 266) _____
 $48x + 12y = -15$
 A) Parallel B) Perpendicular C) Neither
- 267) $y + 6 = -4x$ 267) _____
 $4y = 12x - 13$
 A) Parallel B) Perpendicular C) Neither
- 268) $y = 9 - x$ 268) _____
 $y = x + 9$
 A) Parallel B) Perpendicular C) Neither
- 269) $y = 8 - 2.25x$ 269) _____
 $y = -\frac{9}{4}x - 8$
 A) Parallel B) Perpendicular C) Neither
- 270) $y = -\frac{11}{2}x + 2$ 270) _____
 $y = \frac{2}{11}x + 2$
 A) Parallel B) Perpendicular C) Neither

Determine the equation of the line described. Put answer in the slope-intercept form, if possible.

- 271) Through (6, 7), perpendicular to $-3x - 8y = -74$ 271) _____
 A) $y = \frac{3}{8}x - 27$ B) $y = -\frac{8}{3}x + 9$ C) $y = \frac{8}{3}x$ D) $y = \frac{8}{3}x - 9$
- 272) Through (-2, 1), parallel to $-5x - 4y = 30$ 272) _____
 A) $y = -\frac{1}{2}x - \frac{15}{2}$ B) $y = \frac{5}{4}x + \frac{3}{2}$ C) $y = -\frac{5}{4}x - \frac{3}{2}$ D) $y = -\frac{4}{5}x - \frac{1}{5}$

273) Through $(-4, -5)$, perpendicular to $-2x - 7y = -27$

A) $y = \frac{2}{7}x + \frac{2}{7}$

B) $y = \frac{4}{7}x - \frac{27}{7}$

C) $y = -\frac{7}{2}x + 9$

D) $y = \frac{7}{2}x + 9$

273) _____

274) Through $(-3, -9)$, perpendicular to $-9x - 5y = 72$

A) $y = \frac{5}{9}x - \frac{22}{3}$

B) $y = -\frac{5}{9}x + \frac{22}{3}$

C) $y = \frac{9}{5}x - 66$

D) $y = \frac{5}{9}x$

274) _____

275) Through $(8, -9)$, perpendicular to $x = -5$

A) $y = 9$

B) $y = -9$

C) $x = -5$

D) $y = -5$

275) _____

276) Through $(-4, 4)$, perpendicular to $y = -\frac{3}{7}x - \frac{16}{7}$

A) $y = -\frac{7}{3}x - \frac{40}{3}$

B) $y = \frac{7}{3}x + \frac{40}{3}$

C) $y = \frac{3}{7}x + \frac{40}{7}$

D) $y = \frac{7}{3}x - \frac{1}{3}$

276) _____

277) Through $(6, 5)$, perpendicular to $y = -5$

A) $x = -5$

B) $y = 5$

C) $y = -5$

D) $x = 6$

277) _____

278) Through $(-5, 2)$, parallel to $-5x + 7y = 11$

A) $y = \frac{5}{7}x + \frac{11}{7}$

B) $y = \frac{5}{7}x + \frac{39}{7}$

C) $y = -\frac{5}{7}x - \frac{39}{7}$

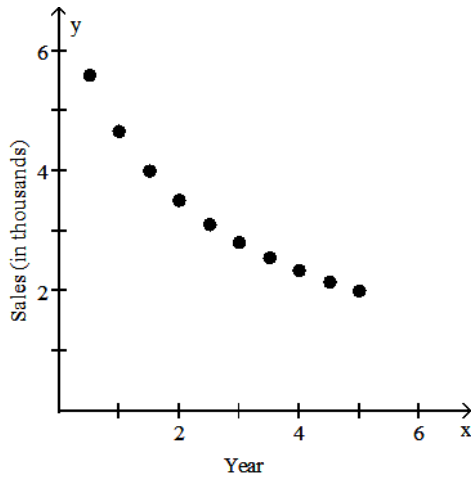
D) $y = \frac{7}{5}x - \frac{2}{5}$

278) _____

Determine whether a linear model might fit the data.

279)

279) _____

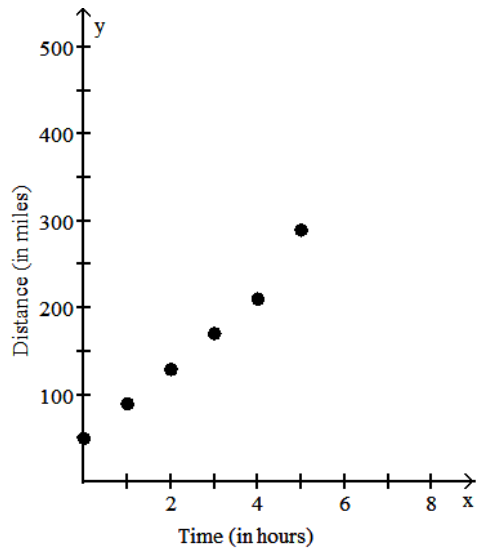


A) Yes

B) No

280)

280) _____

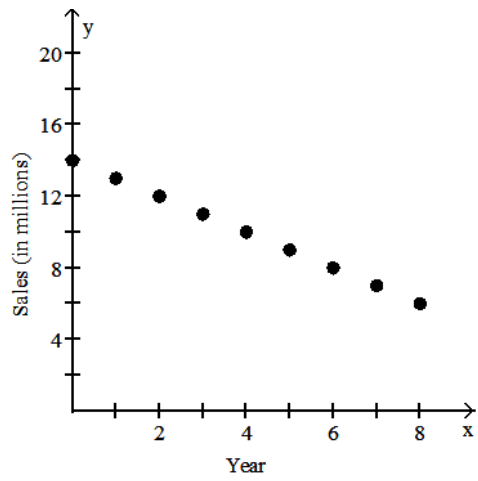


A) Yes

B) No

281)

281) _____

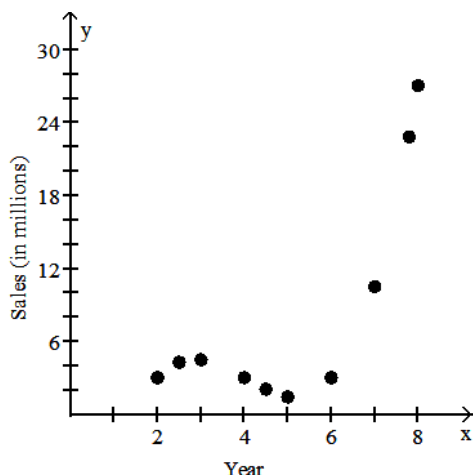


A) Yes

B) No

282)

282) _____



A) Yes

B) No

Solve the problem.

283) Ten students in a graduate program were randomly selected. Their grade point averages (GPAs) when they entered the program were between 3.5 and 4.0. The following data were obtained regarding their GPAs on entering the program versus their current GPAs. By using linear regression, the following function is obtained: $y = 3.67 + 0.0313x$ where x is entering GPA and y is current GPA. Use this function to predict current GPA of a student whose entering GPA is 3.2.

283) _____

Entering GPA	Current GPA
3.5	3.6
3.8	3.7
3.6	3.9
3.6	3.6
3.5	3.9
3.9	3.8
4.0	3.7
3.9	3.9
3.5	3.8
3.7	4.0

A) 3.39

B) 3.28

C) 3.57

D) 3.77

284) The paired data below consist of the test scores of 6 randomly selected students and the number of hours they studied for the test. By using linear regression, the following function is obtained: $y = 67.3 + 1.07x$ where x is number of hours studied and y is score on the test. Use this function to predict the score on the test of a student who studies 5 hours.

284) _____

Hours	5	10	4	6	10	9
Score	64	86	69	86	59	87

A) 72.7

B) 77.7

C) 67.7

D) 74.8

- 285) The paired data below consist of the costs of advertising (in thousands of dollars) and the number of products sold (in thousands). By using linear regression, the following function is obtained: $y = 55.8 + 2.79x$ where x is the cost of advertising (in thousands of dollars) and y is number of products sold (in thousands). Use this function to predict the number of products sold if the cost of advertising is \$13,000. 285) _____

Cost	9	2	3	4	2	5	9	10
Number	85	52	55	68	67	86	83	73

- A) 36,325.8 B) 89.07 C) 92.07 D) 98.77

- 286) The paired data below consist of the temperatures on randomly chosen days and the amount a certain kind of plant grew (in millimeters). By using linear regression, the following function is obtained: $y = 14.6 + 0.211x$ where x is temperature and y is growth in millimeters. Use this function to predict the growth of a plant if the temperature is 59. 286) _____

Temp	62	76	50	51	71	46	51	44	79
Growth	36	39	50	13	33	33	17	6	16

- A) 27.52 B) 25.81 C) 27.99 D) 27.05

- 287) A study was conducted to compare the average time spent in the lab each week versus course grade for computer students. The results are recorded in the table below. By using linear regression, the following function is obtained: $y = 88.6 - 1.86x$ where x is the number of hours spent in the lab and y is grade on the test. Use this function to predict the grade of a student who spends 13 hours in the lab. 287) _____

Number of hours spent in lab	Grade (percent)
10	96
11	51
16	62
9	58
7	89
15	81
16	46
10	51

- A) 67.0 B) 64.4 C) 60.4 D) 75.6

- 288) The information in the chart gives the salary of a person for the stated years. Model the data with a linear function using the points (1, 24,300) and (3, 26,700). 288) _____

Year, x	Salary, y
1990, 0	\$23,500
1991, 1	\$24,300
1992, 2	\$25,200
1993, 3	\$26,700
1994, 4	\$27,200

- A) $y = 1200x + 23,500$ B) $y = 29.1x + 23,500$
 C) $y = 1200x$ D) $y = -1443x + 23,500$

- 289) The information in the chart below gives the salary of a person for the stated years. Model the data with a linear function using the points (1, 24,800) and (3, 26,100). Then use this function to predict the salary for the year 2008. 289) _____

Year, x	Salary, y
1990, 0	\$23,500
1991, 1	\$24,800
1992, 2	\$25,200
1993, 3	\$26,100
1994, 4	\$27,200

- A) \$35,200 B) \$35,220 C) \$35,240 D) \$35,180

Solve the problem using your calculator.

- 290) Ten students in a graduate program were randomly selected. Their grade point averages (GPAs) when they entered the program were between 3.5 and 4.0. The following data were obtained regarding their GPAs on entering the program versus their current GPAs. Use a graphing calculator to model the data with a linear function that predicts a student's current GPA as a function of his or her entering GPA. 290) _____

Entering GPA	Current GPA
3.5	3.6
3.8	3.7
3.6	3.9
3.6	3.6
3.5	3.9
3.9	3.8
4.0	3.7
3.9	3.9
3.5	3.8
3.7	4.0

- A) $y = 2.51 + 0.329x$ B) $y = 5.81 + 0.497x$
 C) $y = 4.91 + 0.0212x$ D) $y = 3.67 + 0.0313x$

- 291) The paired data below consist of the test scores of 6 randomly selected students and the number of hours they studied for the test. Use a graphing calculator to model the data with a linear function that predicts a student's score as a function of the number of hours he or she studied. 291) _____

Hours	5	10	4	6	10	9
Score	64	86	69	86	59	87

- A) $y = -67.3 + 1.07x$ B) $y = 33.7 + 2.14x$
 C) $y = 33.7 - 2.14x$ D) $y = 67.3 + 1.07x$

- 292) The paired data below consist of the costs of advertising (in thousands of dollars) and the number of products sold (in thousands). Use a graphing calculator to model the data with a linear function that predicts the number of products sold as a function of the cost of advertising.

292) _____

Cost	9	2	3	4	2	5	9	10
Number	85	52	55	68	67	86	83	73

A) $y = 55.8 + 2.79x$

B) $y = 26.4 + 1.42x$

C) $y = 55.8 - 2.79x$

D) $y = -26.4 - 1.42x$

- 293) The paired data below consist of the temperatures on randomly chosen days and the amount a certain kind of plant grew (in millimeters). Use a graphing calculator to model the data with a linear function that predicts a plant's growth as a function of temperature.

293) _____

Temp	62	76	50	51	71	46	51	44	79
Growth	36	39	50	13	33	33	17	6	16

A) $y = 7.30 - 0.112x$

B) $y = 7.30 + 0.122x$

C) $y = -14.6 - 0.211x$

D) $y = 14.6 + 0.211x$

- 294) A study was conducted to compare the average time spent in the lab each week versus course grade for computer students. The results are recorded in the table below. Use a graphing calculator to model the data with a linear function that predicts a student's course grade as a function of the number of hours spent in lab.

294) _____

Number of hours spent in lab	Grade (percent)
10	96
11	51
16	62
9	58
7	89
15	81
16	46
10	51

A) $y = 0.930 + 44.3x$

B) $y = 1.86 + 88.6x$

C) $y = 44.3 + 0.930x$

D) $y = 88.6 - 1.86x$

- 295) Two separate tests are designed to measure a student's ability to solve problems. Several students are randomly selected to take both tests and the results are shown below. Use a graphing calculator to model the data with a linear function that predicts a student's score on Test B as a function of his or her score on Test A.

295) _____

Test A	48	52	58	44	43	43	40	51	59
Test B	73	67	73	59	58	56	58	64	74

A) $y = -0.930 + 19.4x$

B) $y = 0.930 - 19.4x$

C) $y = 19.4 + 0.930x$

D) $y = -19.4 - 0.930x$

- 296) The paired data below consist of the test scores of 6 randomly selected students and the number of hours they studied for the test. What is the correlation coefficient? 296) _____

Hours	5	10	4	6	10	9
Score	64	86	69	86	59	87

- A) 0.224 B) -0.678 C) -0.224 D) 0.678

- 297) The paired data below consist of the costs of advertising (in thousands of dollars) and the number of products sold (in thousands). What is the correlation coefficient? 297) _____

Cost	9	2	3	4	2	5	9	10
Number	85	52	55	68	67	86	83	73

- A) 0.246 B) 0.235 C) 0.708 D) -0.071

- 298) The paired data below consist of the temperatures on randomly chosen days and the amount a certain kind of plant grew (in millimeters). What is the correlation coefficient? 298) _____

Temp	62	76	50	51	71	46	51	44	79
Growth	36	39	50	13	33	33	17	6	16

- A) 0.256 B) 0 C) 0.196 D) -0.210

Solve the equation.

- 299) $7x + 8 = 0$ 299) _____

- A) $\frac{7}{8}$ B) $\frac{8}{7}$ C) $-\frac{7}{8}$ D) $-\frac{8}{7}$

- 300) $3x - 7 = 0$ 300) _____

- A) $\frac{7}{3}$ B) $-\frac{7}{3}$ C) $\frac{3}{7}$ D) $-\frac{3}{7}$

- 301) $1 = 3x + 7$ 301) _____

- A) -9 B) 6 C) -2 D) -5

- 302) $4x - (3x - 1) = 2$ 302) _____

- A) $\frac{1}{7}$ B) 1 C) $-\frac{1}{7}$ D) -1

- 303) $8x + 5 = 4x - 15$ 303) _____

- A) $-\frac{15}{4}$ B) -5 C) 5 D) -20

- 304) $2(x + 5) = 5 - 4(x + 5)$ 304) _____

- A) $\frac{1}{6}$ B) $-\frac{25}{6}$ C) 25 D) $\frac{25}{6}$

- 305) $3(4x + 5) = 2(x + 5)$ 305) _____
 A) 10 B) $-\frac{5}{14}$ C) -5 D) $-\frac{1}{2}$
- 306) $4x - 11 = 0$ 306) _____
 A) $-\frac{4}{11}$ B) $\frac{11}{4}$ C) $\frac{4}{11}$ D) $-\frac{11}{4}$
- 307) $6 + 17x = 0$ 307) _____
 A) $-\frac{17}{6}$ B) $-\frac{6}{17}$ C) $\frac{6}{17}$ D) $\frac{17}{6}$
- 308) $3(2x + 1) = 5 - 5(2x - 3)$ 308) _____
 A) $\frac{5}{16}$ B) $-\frac{5}{16}$ C) $\frac{17}{16}$ D) 17
- 309) $\frac{1}{3}x - 4 = \frac{1}{6}x - 1$ 309) _____
 A) -10 B) -5 C) 3 D) 18
- 310) $-\frac{2}{3}x + \frac{1}{2} = \frac{1}{-6}x + \frac{1}{4}$ 310) _____
 A) -18 B) $\frac{1}{7}$ C) $\frac{1}{2}$ D) $\frac{3}{10}$
- 311) $-7x + 8 = 8 - 7x$ 311) _____
 A) no solution B) 0
 C) all real numbers D) 8
- 312) $17 - \frac{3}{10}x = -\frac{3}{10}x + 17$ 312) _____
 A) all real numbers B) 10
 C) no solution D) 0
- 313) $\frac{11}{5}y + 6 = \frac{5}{8}$ 313) _____
 A) $\frac{215}{88}$ B) $-\frac{215}{88}$ C) $-\frac{5}{11}$ D) $-\frac{25}{88}$
- 314) $-\frac{1}{10}x + 4 = \frac{8}{5}$ 314) _____
 A) -24 B) 0 C) 56 D) 24
- 315) $-11y + 4 = -2 - 11y$ 315) _____
 A) 2 B) all real numbers
 C) no solution D) 0

$$316) 3x + \frac{3}{11} = \frac{4}{11} + 3x$$

316) _____

A) no solution

B) all real numbers

C) 0

D) $\frac{7}{11}$

Solve the problem.

317) A shipping company has determined that their drivers in Montana on average travel 50 miles on a single delivery route for mail order products. This is five times the distance of an average route for their drivers in New Jersey. How far, on average, is the route in New Jersey?

317) _____

A) 100 mi

B) 10 mi

C) 50 mi

D) 250 mi

318) On average, the number of electric guitars sold in Texas each year is 76,440, which is about seven times the average number of guitars sold each year in Wyoming. How many electric guitars, on average, are sold in Wyoming?

318) _____

A) 535,080 guitars

B) 10,920 guitars

C) 76,440 guitars

D) 7644 guitars

319) On average, 9.6 % of the money consumers spend in supermarkets in England goes to the purchase of snacks and baked goods, which is four times the percent of money spent on cereals and rice. What percentage of the money spent by consumers in England's supermarkets is for the purchase of cereal and rice?

319) _____

A) 2.9%

B) 3.4%

C) 2.4%

D) 1.2%

320) Last year, 340 million music CDs were purchased by 112 million households in the United States. On average, how many CDs were purchased in each household?

320) _____

A) 3 CDs

B) 170 CDs

C) 3.4 CDs

D) 340 CDs

321) In a recent survey in Canada, 88.8% of men shave with a razor blade, which is 1.5 times the percentage of men in Canada who shave with an electric razor. What is the percentage of men in Canada who shave with an electric razor?

321) _____

A) 44.4%

B) 59.2%

C) 29.6%

D) 88.8%

322) The total amount of mail delivered to 22 million Canadians in 1999 was 5.5 billion pieces. On average, how much mail did each Canadian receive in 1999?

322) _____

A) 250 pieces

B) 0.3 pieces

C) 25 pieces

D) 2500 pieces

323) A computer company invested a total of \$337 million in research and development in its scanners and video digitizers. If the amount the company spent on research and development on scanners was \$83 million more than was spent on research and development on its video digitizers, how much in fact did the company spend on research and development on its scanners?

323) _____

A) \$168.5 million

B) \$337 million

C) \$127 million

D) \$210 million

324) A guitar manufacturer spent \$73 million on the production of acoustic and electric guitars in 1999. If the amount the company spent producing acoustic guitars was \$35 million more than it spent on producing electric guitars, how much in fact did the company spend producing electric guitars?

324) _____

A) \$36.5 million

B) \$54 million

C) \$73 million

D) \$19 million

- 325) A magazine earned \$87 million in 1998 from advertising revenue and subscriptions. If the advertising revenue was 8 times the subscription revenue, how much did the magazine earn from advertising? 325) _____
 A) \$77.3 million B) \$9.7 million C) \$154.7 million D) \$0.9 million
- 326) A survey of 7547 first-time vacationers showed that 53% more vacationers took their vacation in their own country rather than travel abroad. How many vacationers in the sample took their vacation abroad? 326) _____
 A) 2983 people B) 7547 people C) 49 people D) 3547 people
- 327) Helen Weller invested \$14,000 in an account that pays 12% simple interest. How much additional money must be invested in an account that pays 15% simple interest so that the average return on the two investments amounts to 13%? 327) _____
 A) \$7000 B) \$11,000 C) \$10,000 D) \$14,000
- 328) Mardi received an inheritance of \$60,000. She invested part at 11% and deposited the remainder in tax-free bonds at 12%. Her total annual income from the investments was \$6800. Find the amount invested at 11%. 328) _____
 A) \$53,200 B) \$40,000 C) \$20,000 D) \$39,000
- 329) A real estate agent's commission rate is 16%. He receives a commission of \$39,408 on the sale of a home. How much did the home sell for? 329) _____
 A) \$246,300 B) \$45,713 C) \$206,892 D) \$285,708
- 330) Stephanie receives a salary of \$650 per month plus a commission of 5.5% on the first \$3,000 of sales, and 7% of all sales over \$3,000. Find Stephanie's gross pay for the month if her sales were \$10,360. 330) _____
 A) \$680.20 B) \$1540.20 C) \$1330.20 D) \$2815.20
- 331) Jason is paid \$500 per month plus a commission of 4% of the first \$2,500 of his sales, and 6% of his sales over \$2,500. Last month his sales totaled \$21,000. Find Jason's gross pay for the month. 331) _____
 A) \$3860.00 B) \$2600.00 C) \$1860.00 D) \$1710.00
- 332) A car rental company charges \$32 per day to rent a particular type of car and \$0.19 per mile. Juan is charged \$48.91 for a one-day rental. How many miles did he drive? 332) _____
 A) 225 mi B) 89 mi C) 257 mi D) 104 mi
- 333) Walt made an extra \$9000 last year from a part-time job. He invested part of the money at 10% and the rest at 7%. He made a total of \$780 in interest. How much was invested at 7%? 333) _____
 A) \$7000 B) \$5000 C) \$4000 D) \$4500
- 334) Roberto invested some money at 7%, and then invested \$2000 more than twice this amount at 12%. His total annual income from the two investments was \$3960. How much was invested at 12%? 334) _____
 A) \$6000 B) \$24,000 C) \$2600 D) \$26,000
- 335) A construction company builds a swimming pool with a perimeter of 52 m. The length is 8 m more than the width. Find the dimensions of the swimming pool? 335) _____
 A) 17 m $\times$ 9 m B) 12 m $\times$ 9 m C) 22 m $\times$ 9 m D) 17 m $\times$ 8 m

- 336) In triangle ABC , the angle C is six times as large as angle A . The measure of angle B is 52° greater than that of angle A . Find the measure of the angles. 336) _____
- A) 16° , 84° and 80° B) 16° , 68° and 112°
C) 16° , 84° and 96° D) 16° , 68° and 96°
- 337) In triangle ABC , angle A is three times as large as angle C . The measure of angle B is 35° less than that of angle C . Find the measure of the angles. 337) _____
- A) 86° , 8° and 43° B) 86° , 8° and 86° C) 129° , 8° and 86° D) 129° , 8° and 43°
- 338) The number of enrollees in health maintenance organizations (HMOs) in Illinois in a recent year was 2,418,130. This was a 40.6% increase over the previous year. What was the former number of enrollees? 338) _____
- A) 171,986 enrollees B) 1,719,865 enrollees
C) 687,946 enrollees D) 3440 enrollees
- 339) On a recent trip, Sarah's car traveled 20 mph faster on the first 100 miles than it did on the remaining 80 miles. The total time for the trip was 4 hr. Find the speed of Sarah's car on the first part of the trip. 339) _____
- A) 26 mph B) 36 mph C) 9 mph D) 56 mph
- 340) An airplane leaves Los Angeles for Denver at a speed of 400 mph. Thirty minutes later, a plane going from Denver to Los Angeles leaves Denver, which is 850 miles from Los Angeles, at a speed of 460 mph. When they meet, how far are they from Denver? 340) _____
- A) 348 mi B) 58 mi C) 116 mi D) 289 mi
- 341) Water accounts for 60% of a man's weight. Stan weighs 170 lb. How much of his body weight is water? 341) _____
- A) 102 lb B) 85 lb C) 170 lb D) 136 lb
- 342) The average cost of a 1 minute commercial on a leading network channel was \$142,000 in the fall of 1999. This was a 9% decrease from the cost a year earlier. What was the cost of a 1 minute commercial on the channel in the fall of 1998? 342) _____
- A) \$156,044 B) \$127,800 C) \$71,000 D) \$1278
- 343) 38% of those who purchase music CDs online are 18-23 years old. This is three and one-half times the number who are 38-43 years old. What percent of online music purchasers are 38-43 years old? 343) _____
- A) 38% B) 114% C) 133% D) 10.9%

Find the zero of the linear function.

- 344) $f(x) = x + 6$ 344) _____
- A) 12 B) -6 C) 6 D) 0
- 345) $f(x) = -x + 6$ 345) _____
- A) 0 B) -12 C) 6 D) -6
- 346) $f(x) = 11 - x$ 346) _____
- A) -22 B) -11 C) 11 D) 1
- 347) $f(x) = 8x + 64$ 347) _____
- A) 8 B) 0 C) 64 D) -8

348) $f(x) = -3x + 4$

A) -1

B) 1

C) $-\frac{3}{4}$

D) $\frac{4}{3}$

348) _____

349) $f(x) = 8x - 56$

A) 7

B) -56

C) 0

D) -7

349) _____

350) $f(x) = 3 - 7x$

A) $\frac{7}{3}$

B) $-\frac{3}{7}$

C) $-\frac{7}{3}$

D) $\frac{3}{7}$

350) _____

351) $f(x) = 6 + 13x$

A) $-\frac{6}{13}$

B) $\frac{13}{6}$

C) $-\frac{13}{6}$

D) $\frac{6}{13}$

351) _____

352) $f(x) = 18 - x$

A) -18

B) $\frac{1}{18}$

C) 18

D) 0

352) _____

353) $f(x) = 15 + x$

A) 1

B) 15

C) $\frac{1}{15}$

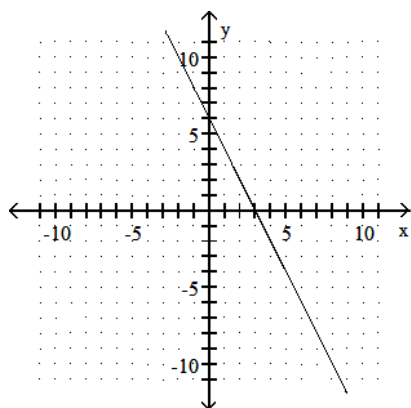
D) -15

353) _____

Use the given graph to find the x-intercept and the zero of the function.

354)

354) _____



A) (0, 0); 0

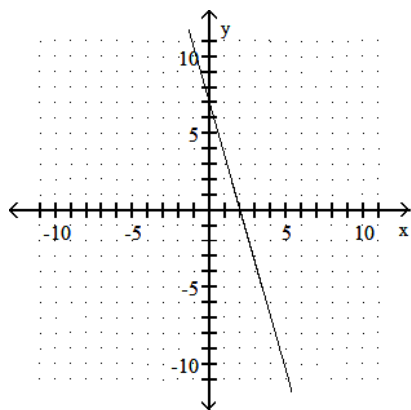
B) (3, 0); 3

C) (3, 6); 3

D) (6, 0); 6

355)

355) _____



A) $(2, 7); 2$

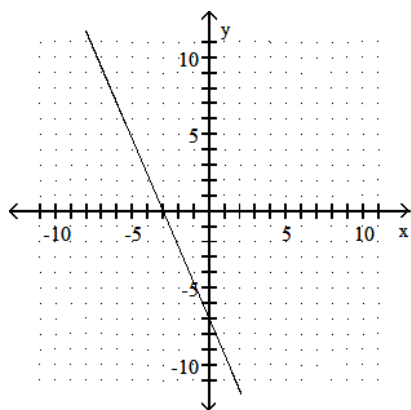
B) $(0, 0); 0$

C) $(2, 0); 2$

D) $(7, 0); 7$

356)

356) _____



A) $(-7, 0); -7$

B) $(0, 0); 0$

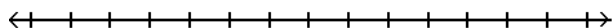
C) $(-3, 0); -3$

D) $(-3, -7); -3$

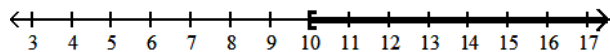
Solve the inequality and graph the solution set.

357) $y - 9 < 1$

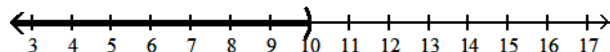
357) _____



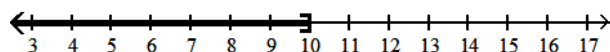
A) $\{y | y \geq 10\}$ or $[10, \infty)$



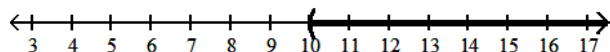
B) $\{y | y < 10\}$ or $(-\infty, 10)$



C) $\{y | y \leq 10\}$ or $(-\infty, 10]$

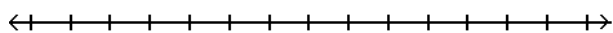


D) $\{y | y > 10\}$ or $(10, \infty)$

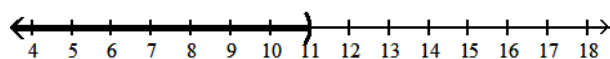


358) $-7x + 4 > -8x + 15$

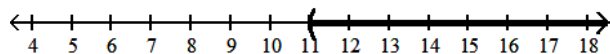
358) _____



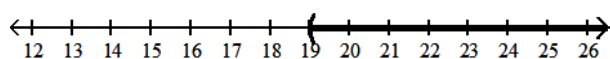
A) $\{x|x < 11\}$ or $(-\infty, 11)$



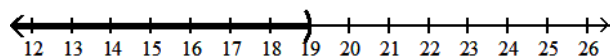
B) $\{x|x > 11\}$ or $(11, \infty)$



C) $\{x|x > 19\}$ or $(19, \infty)$

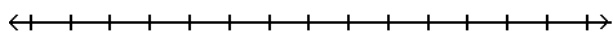


D) $\{x|x < 19\}$ or $(-\infty, 19)$

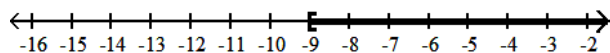


359) $4x - 4 \leq 3x - 13$

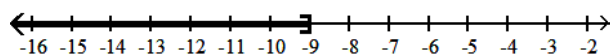
359) _____



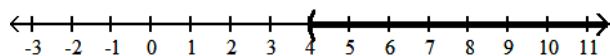
A) $\{x|x \geq -9\}$ or $[-9, \infty)$



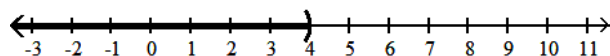
B) $\{x|x \leq -9\}$ or $(-\infty, -9]$



C) $\{x|x > 4\}$ or $(4, \infty)$

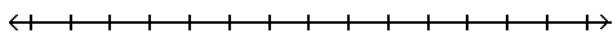


D) $\{x|x < 4\}$ or $(-\infty, 4)$

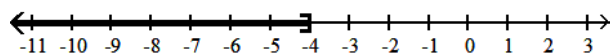


360) $-3y - 6 \geq -4y - 10$

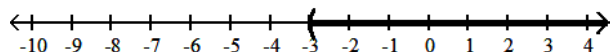
360) _____



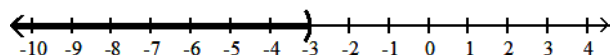
A) $\{y|y \leq -4\}$ or $(-\infty, -4]$



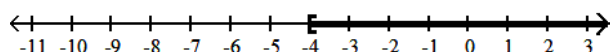
B) $\{y|y > -3\}$ or $(-3, \infty)$



C) $\{y|y < -3\}$ or $(-\infty, -3)$

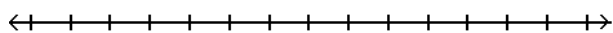


D) $\{y|y \geq -4\}$ or $[-4, \infty)$

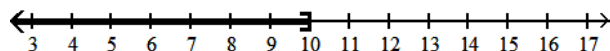


361) $10x + 7 \geq 11x - 2$

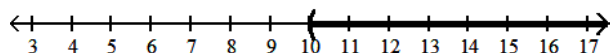
361) _____



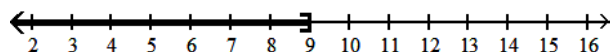
A) $\{x|x \leq 10\}$ or $(-\infty, 10]$



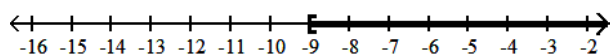
B) $\{x|x > 10\}$ or $(10, \infty)$



C) $\{x|x \leq 9\}$ or $(-\infty, 9]$

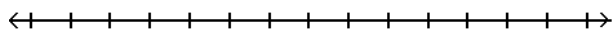


D) $\{x|x \geq -9\}$ or $[-9, \infty)$

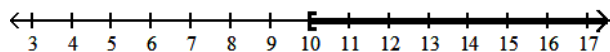


362) $4 - 3x + 7 \geq -4x + 21$

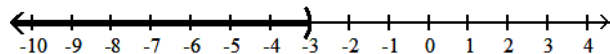
362) _____



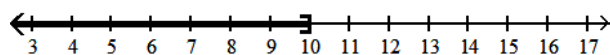
A) $\{x | x \geq 10\}$ or $[10, \infty)$



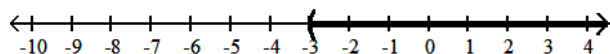
B) $\{x | x < -3\}$ or $(-\infty, -3)$



C) $\{x | x \leq 10\}$ or $(-\infty, 10]$

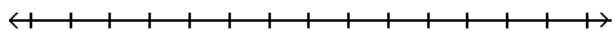


D) $\{x | x > -3\}$ or $(-3, \infty)$

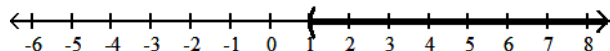


363) $10x + 2 > 2(4x + 2)$

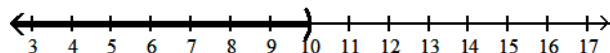
363) _____



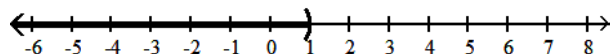
A) $\{x | x > 1\}$ or $(1, \infty)$



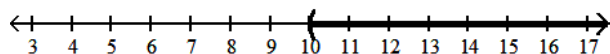
B) $\{x | x < 10\}$ or $(-\infty, 10)$



C) $\{x | x < 1\}$ or $(-\infty, 1)$

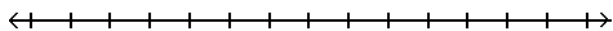


D) $\{x | x > 10\}$ or $(10, \infty)$

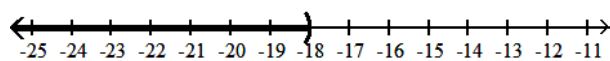


364) $-6(2x + 11) < -18x - 30$

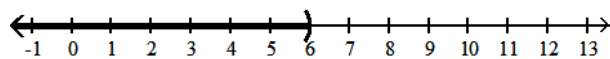
364) _____



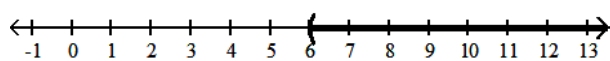
A) $\{x | x < -18\}$ or $(-\infty, -18)$



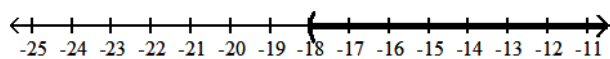
B) $\{x | x < 6\}$ or $(-\infty, 6)$



C) $\{x | x > 6\}$ or $(6, \infty)$

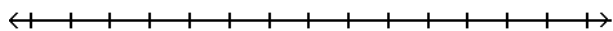


D) $\{x | x > -18\}$ or $(-18, \infty)$

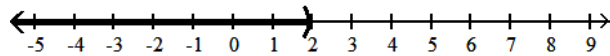


365) $\frac{8}{5}x + \frac{6}{5} < \frac{17}{4}$

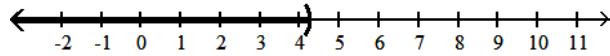
365) _____



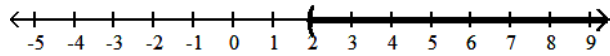
A) $\left\{x | x < \frac{61}{32}\right\}$ or $\left(-\infty, \frac{61}{32}\right)$



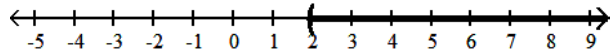
B) $\left\{x | x < \frac{17}{4}\right\}$ or $\left(-\infty, \frac{17}{4}\right)$



C) $\left\{x | x > \frac{61}{32}\right\}$ or $\left(\frac{61}{32}, \infty\right)$

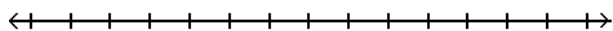


D) $\left\{x | x > \frac{17}{4}\right\}$ or $\left(\frac{17}{4}, \infty\right)$

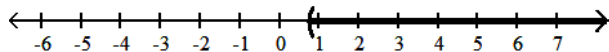


366) $-\frac{8}{3}x - \frac{5}{3} < -\frac{29}{8}$

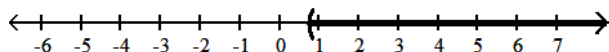
366) _____



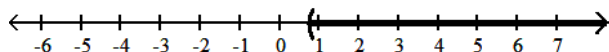
A) $\left\{x \mid x > -\frac{29}{64}\right\}$ or $\left(-\frac{29}{64}, \infty\right)$



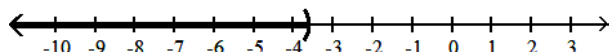
B) $\left\{x \mid x > \frac{47}{64}\right\}$ or $\left(\frac{47}{64}, \infty\right)$



C) $\left\{x \mid x > \frac{47}{8}\right\}$ or $\left(\frac{47}{8}, \infty\right)$



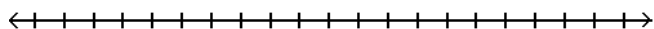
D) $\left\{x \mid x < -\frac{29}{8}\right\}$ or $\left(-\infty, -\frac{29}{8}\right)$



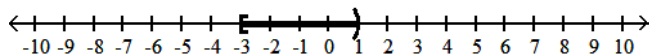
Solve and give interval notation for the solution set. Then graph the solution set.

367) $-2 < -2x \leq 6$

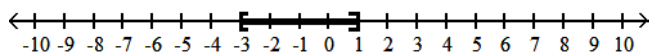
367) _____



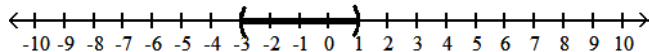
A) $[-3, 1)$



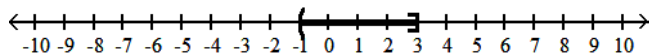
B) $[-3, 1]$



C) $(-3, 1)$

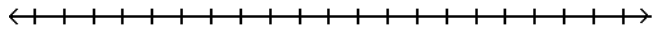


D) $(-1, 3]$

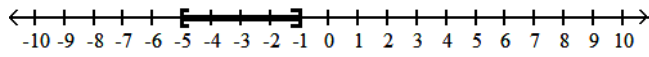


368) $-6 < 2x + 4 \leq 2$

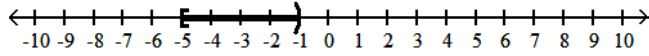
368) _____



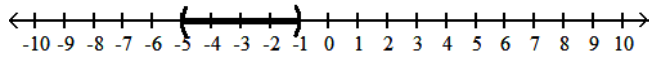
A) $[-5, -1]$



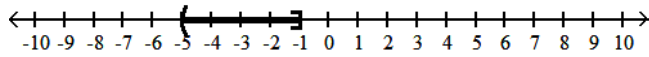
B) $[-5, -1)$



C) $(-5, -1)$

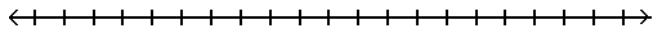


D) $(-5, -1]$

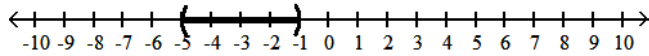


369) $-16 < 4b + 4 \leq 0$

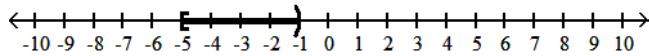
369) _____



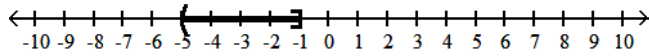
A) $(-5, -1)$



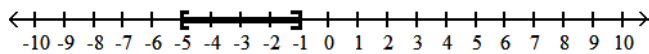
B) $[-5, -1)$



C) $(-5, -1]$

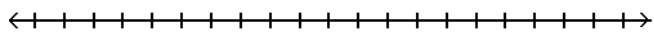


D) $[-5, -1]$

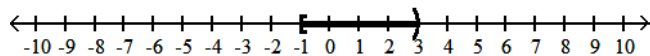


370) $-2 < -4z + 2 \leq 14$

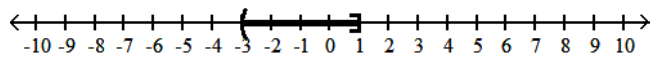
370) _____



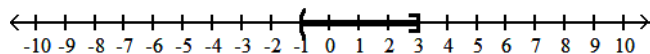
A) $[-1, 3)$



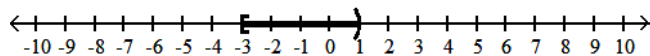
B) $(-3, 1]$



C) $(-1, 3]$

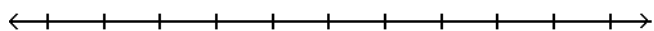


D) $[-3, 1)$

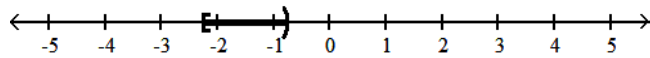


371) $4 < 1 - 4x \leq 10$

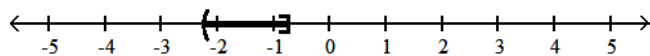
371) _____



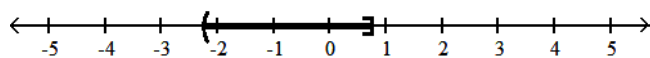
A) $\left[-\frac{9}{4}, -\frac{3}{4}\right)$



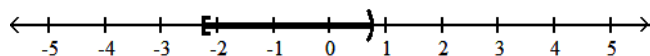
B) $\left[-\frac{9}{4}, -\frac{3}{4}\right]$



C) $\left[-\frac{9}{4}, \frac{3}{4}\right]$

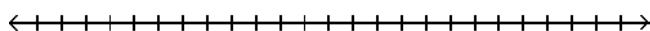


D) $\left[-\frac{9}{4}, \frac{3}{4}\right)$

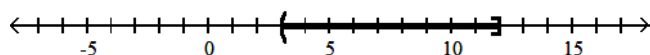


372) $4 \leq \frac{2}{3}x + 2 < 10$

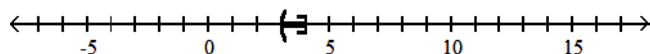
372) _____



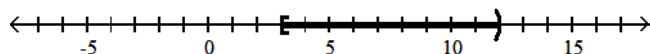
A) $(3, 12]$



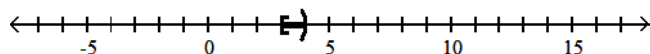
B) $(3, 4]$



C) $[3, 12)$

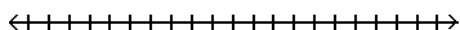


D) $[3, 4)$

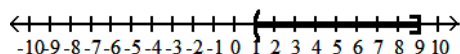


373) $-2 < x + 3 \leq 6$

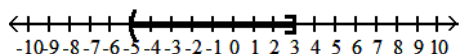
373) _____



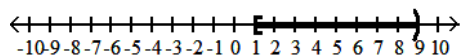
A) $(1, 9]$



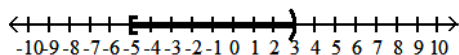
B) $(-5, 3]$



C) $[1, 9)$

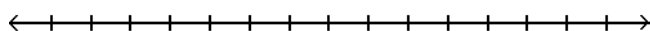


D) $[-5, 3)$

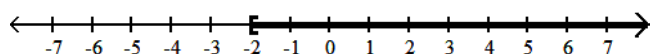


374) $-6x + 1 \geq 13$ or $3x + 3 \geq -9$

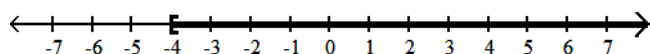
374) _____



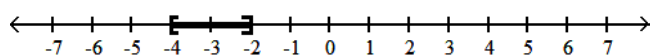
A) $[-2, \infty)$



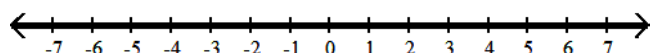
B) $[-4, \infty)$



C) $[-4, -2]$

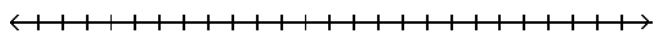


D) $(-\infty, \infty)$

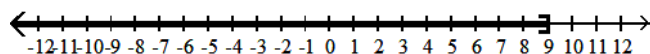


375) $4x < 20$ or $x + 2 \geq 11$

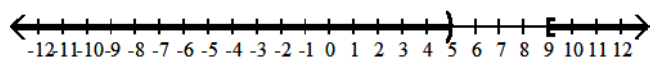
375) _____



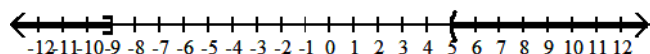
A) $(-\infty, 9]$



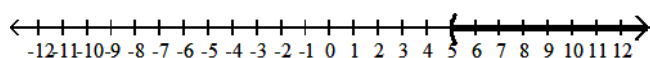
B) $(-\infty, 5) \cup [9, \infty)$



C) $(-\infty, -9] \cup (5, \infty)$

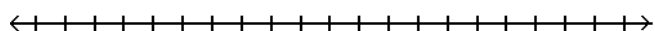


D) $(5, \infty)$

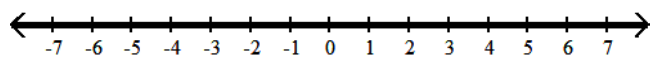


376) $4x - 12 < -2.4$ or $4x - 12 > 2.4$

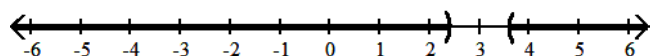
376) _____



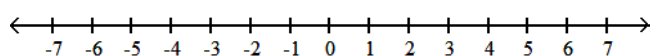
A) $(-\infty, \infty)$



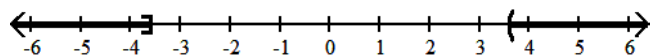
B) $(-\infty, 2.4) \cup (3.6, \infty)$



C) no solution

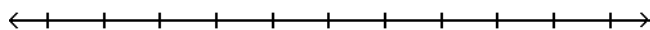


D) $(-\infty, -3.6] \cup (3.6, \infty)$

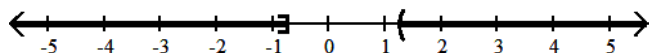


377) $1 - 4x \geq 6$ or $1 - 4x < 4$

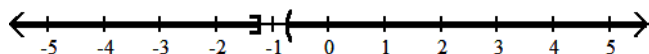
377) _____



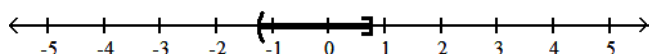
A) $(-\infty, -\frac{3}{4}] \cup [\frac{5}{4}, \infty)$



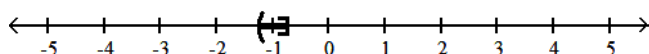
B) $(-\infty, -\frac{5}{4}] \cup [-\frac{3}{4}, \infty)$



C) $[-\frac{5}{4}, \frac{3}{4}]$

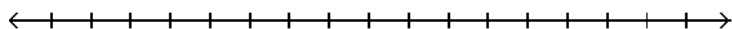


D) $[-\frac{5}{4}, -\frac{3}{4}]$

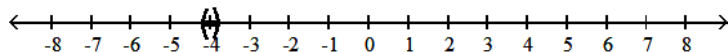


378) $x + 4 < -\frac{1}{5}$ or $x + 4 > \frac{1}{5}$

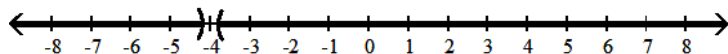
378) _____



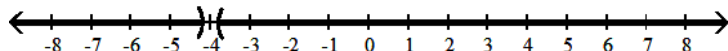
A) $(-\frac{21}{5}, -\frac{19}{5})$



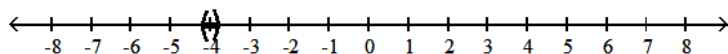
B) $(-\frac{21}{5}, -\frac{19}{5})$



C) $(-\infty, -\frac{21}{5}) \cup (-\frac{19}{5}, \infty)$

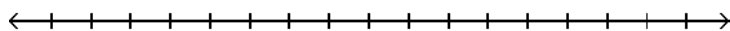


D) $(-\infty, -\frac{21}{5}) \cup (-\frac{19}{5}, \infty)$

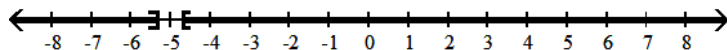


379) $x + 5 \leq -\frac{1}{3}$ or $x + 5 \geq \frac{1}{3}$

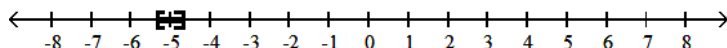
379) _____



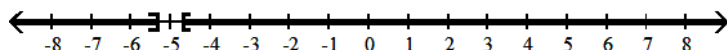
A) $[-\frac{16}{3}, -\frac{14}{3}]$



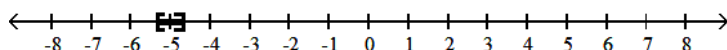
B) $(-\infty, -\frac{16}{3}] \cup [-\frac{14}{3}, \infty)$



C) $(-\infty, -\frac{16}{3}] \cup [-\frac{14}{3}, \infty)$



D) $[-\frac{16}{3}, -\frac{14}{3}]$



Solve the problem.

380) A salesperson has two job offers. Company A offers a weekly salary of \$630 plus commission of 14% of sales. Company B offers a weekly salary of \$1260 plus commission of 7% of sales. What is the amount of sales above which Company A's offer is the better of the two?

380) _____

A) \$9100

B) \$18,000

C) \$9000

D) \$4500

381) Company A rents copiers for a monthly charge of \$360 plus 12 cents per copy. Company B rents copiers for a monthly charge of \$720 plus 6 cents per copy. What is the number of copies above which Company A's charges are the higher of the two?

381) _____

A) 6100 copies

B) 3000 copies

C) 6000 copies

D) 12,000 copies

382) A car rental company has two rental rates. Rate 1 is \$54 per day plus \$.12 per mile. Rate 2 is \$108 per day plus \$.06 per mile. If you plan to rent for one day, how many miles would you need to drive to pay less by taking Rate 2?

382) _____

A) more than 450 miles

B) more than 900 miles

C) more than 1000 miles

D) more than 1800 miles

383) Jim has gotten scores of 79 and 61 on his first two tests. What score must he get on his third test to keep an average of 75 or greater?

383) _____

A) At least 84

B) At least 85

C) At least 71.7

D) At least 70

384) A bag of marbles has twice as many blue marbles as green marbles, and the bag has at least 57 marbles in it. At least how many green marbles does it have?

384) _____

A) At least 19 green marbles

B) At least 20 green marbles

C) At least 29 green marbles

D) At least 38 green marbles

- 385) Jon has 825 points in his math class. He must have 89% of the 1000 points possible by the end of the term to receive credit for the class. What is the minimum number of additional points he must earn by the end of the term to receive credit for the class? 385) _____
- A) 65 points B) 890 points C) 734 points D) 175 points

Answer Key

Testname: UNTITLED27

- 1) B
- 2) C
- 3) A
- 4) C
- 5) A
- 6) A
- 7) C
- 8) B
- 9) C
- 10) B
- 11) B
- 12) A
- 13) A
- 14) A
- 15) B
- 16) B
- 17) A
- 18) B
- 19) A
- 20) B
- 21) A
- 22) B
- 23) D
- 24) B
- 25) B
- 26) D
- 27) A
- 28) A
- 29) A
- 30) C
- 31) C
- 32) B
- 33) D
- 34) B
- 35) C
- 36) C
- 37) C
- 38) C
- 39) B
- 40) C
- 41) C
- 42) C
- 43) A
- 44) A
- 45) A
- 46) A
- 47) A
- 48) B
- 49) B
- 50) A

Answer Key

Testname: UNTITLED27

- 51) A
- 52) B
- 53) C
- 54) A
- 55) D
- 56) A
- 57) B
- 58) B
- 59) D
- 60) D
- 61) C
- 62) A
- 63) A
- 64) B
- 65) A
- 66) B
- 67) B
- 68) B
- 69) C
- 70) A
- 71) B
- 72) C
- 73) B
- 74) C
- 75) B
- 76) B
- 77) C
- 78) B
- 79) A
- 80) A
- 81) C
- 82) C
- 83) A
- 84) C
- 85) D
- 86) D
- 87) A
- 88) C
- 89) D
- 90) B
- 91) D
- 92) A
- 93) A
- 94) B
- 95) A
- 96) B
- 97) A
- 98) B
- 99) A
- 100) B

Answer Key

Testname: UNTITLED27

- 101) A
- 102) A
- 103) B
- 104) B
- 105) B
- 106) A
- 107) B
- 108) A
- 109) B
- 110) A
- 111) A
- 112) C
- 113) C
- 114) D
- 115) C
- 116) C
- 117) C
- 118) D
- 119) A
- 120) C
- 121) B
- 122) D
- 123) A
- 124) D
- 125) D
- 126) A
- 127) A
- 128) D
- 129) C
- 130) A
- 131) C
- 132) C
- 133) D
- 134) B
- 135) A
- 136) A
- 137) A
- 138) A
- 139) B
- 140) B
- 141) B
- 142) A
- 143) B
- 144) B
- 145) B
- 146) C
- 147) B
- 148) B
- 149) B
- 150) A

Answer Key

Testname: UNTITLED27

- 151) A
- 152) C
- 153) B
- 154) B
- 155) B
- 156) D
- 157) D
- 158) B
- 159) D
- 160) B
- 161) C
- 162) D
- 163) B
- 164) C
- 165) B
- 166) A
- 167) C
- 168) B
- 169) A
- 170) D
- 171) D
- 172) A
- 173) D
- 174) A
- 175) A
- 176) B
- 177) A
- 178) B
- 179) A
- 180) B
- 181) B
- 182) B
- 183) C
- 184) C
- 185) A
- 186) B
- 187) C
- 188) D
- 189) B
- 190) C
- 191) C
- 192) B
- 193) A
- 194) B
- 195) B
- 196) D
- 197) D
- 198) A
- 199) B
- 200) D

Answer Key

Testname: UNTITLED27

- 201) D
- 202) C
- 203) B
- 204) B
- 205) D
- 206) B
- 207) C
- 208) A
- 209) A
- 210) D
- 211) D
- 212) B
- 213) C
- 214) A
- 215) B
- 216) D
- 217) C
- 218) D
- 219) C
- 220) C
- 221) A
- 222) A
- 223) C
- 224) C
- 225) A
- 226) B
- 227) A
- 228) B
- 229) A
- 230) D
- 231) A
- 232) D
- 233) A
- 234) A
- 235) B
- 236) B
- 237) D
- 238) C
- 239) D
- 240) A
- 241) C
- 242) D
- 243) B
- 244) C
- 245) A
- 246) C
- 247) B
- 248) A
- 249) B
- 250) B

Answer Key

Testname: UNTITLED27

- 251) D
- 252) B
- 253) C
- 254) C
- 255) C
- 256) A
- 257) A
- 258) D
- 259) C
- 260) A
- 261) D
- 262) B
- 263) B
- 264) A
- 265) A
- 266) C
- 267) C
- 268) B
- 269) A
- 270) B
- 271) D
- 272) C
- 273) D
- 274) A
- 275) B
- 276) B
- 277) D
- 278) B
- 279) B
- 280) A
- 281) A
- 282) B
- 283) D
- 284) A
- 285) C
- 286) D
- 287) B
- 288) A
- 289) A
- 290) D
- 291) D
- 292) A
- 293) D
- 294) D
- 295) C
- 296) A
- 297) C
- 298) C
- 299) D
- 300) A

Answer Key

Testname: UNTITLED27

- 301) C
- 302) B
- 303) B
- 304) B
- 305) D
- 306) B
- 307) B
- 308) C
- 309) D
- 310) C
- 311) C
- 312) A
- 313) B
- 314) D
- 315) C
- 316) A
- 317) B
- 318) B
- 319) C
- 320) A
- 321) B
- 322) A
- 323) D
- 324) D
- 325) A
- 326) D
- 327) A
- 328) B
- 329) A
- 330) C
- 331) D
- 332) B
- 333) C
- 334) D
- 335) A
- 336) D
- 337) D
- 338) B
- 339) D
- 340) A
- 341) A
- 342) A
- 343) D
- 344) B
- 345) C
- 346) C
- 347) D
- 348) D
- 349) A
- 350) D

Answer Key

Testname: UNTITLED27

- 351) A
- 352) C
- 353) D
- 354) B
- 355) C
- 356) C
- 357) B
- 358) B
- 359) B
- 360) D
- 361) C
- 362) A
- 363) A
- 364) B
- 365) A
- 366) B
- 367) A
- 368) D
- 369) C
- 370) D
- 371) A
- 372) C
- 373) B
- 374) D
- 375) B
- 376) B
- 377) B
- 378) C
- 379) C
- 380) C
- 381) C
- 382) B
- 383) B
- 384) A
- 385) A