# *Trigonometry 12th edition Sullivan Test Bank*

SKU: 9780138234645-TEST-BANK

Sullivan *Trigonometry: A Unite Circle Approach* 12e
Chapter 1 Test

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

**Name the quadrant in which the point is located.**

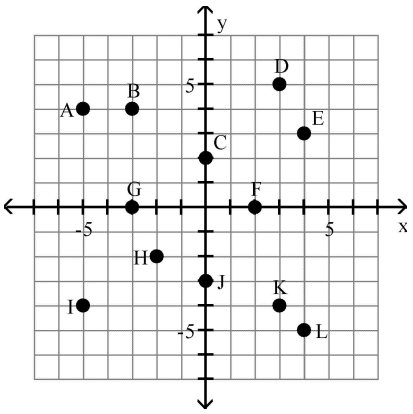
1) (8, 4)
A) I B) II C) III D) IV
Objective: (1.1) Rectangular Coordinates

2) (–14, 3)
A) I B) II C) III D) IV
Objective: (1.1) Rectangular Coordinates

3) (–15, –15)
A) I B) II C) III D) IV
Objective: (1.1) Rectangular Coordinates

4) (20, –19)
A) I B) II C) III D) IV
Objective: (1.1) Rectangular Coordinates

**Identify the points in the graph for the ordered pairs.**




5) (0, 2), (4, 3)
A) C and E B) C and K C) F and E D) B and C
Objective: (1.1) Rectangular Coordinates

6) (–5, –4), (0, –3)
A) G and I B) A and G C) I and J D) A and J
Objective: (1.1) Rectangular Coordinates

7) (–3, 4), (2, 0), (4, –5)
A) B, C, and L B) A, B, and F C) F, K, and L D) B, F, and L
Objective: (1.1) Rectangular Coordinates

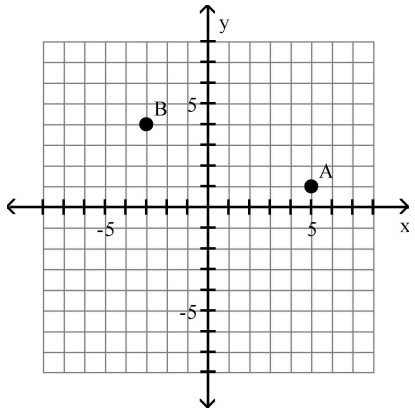
8) (3, 5), (–3, 0)
A) D and J B) L and J C) D and G D) I and G
Objective: (1.1) Rectangular Coordinates



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**Give the coordinates of the points shown on the graph.**

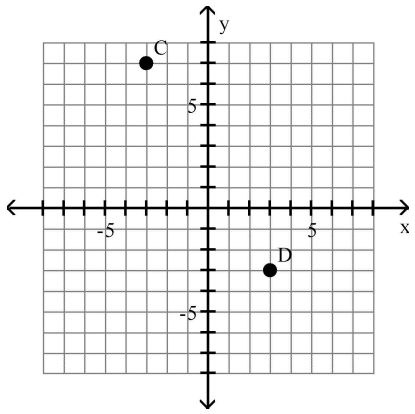
9)




A) A = (5, 1), B = (–3, 4)
B) A = (5, 1), B = (4, –3)
C) A = (1, 26), B = (4, –3)
D) A = (5, 4), B = (1, 4)

Objective: (1.1) Rectangular Coordinates

10)



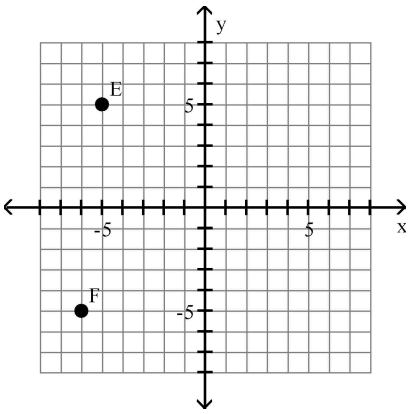

A) C = (–3, 7), D = (–3, 3)
B) C = (–3, –3), D = (7, –3)
C) C = (–3, 7), D = (3, –3)
D) C = (7, –3), D = (–3, 3)

Objective: (1.1) Rectangular Coordinates



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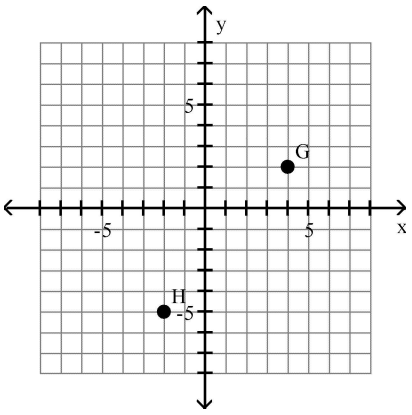
11)




A) E = (–5, –5), F = (5, –5)
B) E = (–6, –5) , F = (–5, 5)
C) E = (5, –5), F = (–5, –6)
D) E = (–5, 5), F = (–6, –5)

Objective: (1.1) Rectangular Coordinates

12)

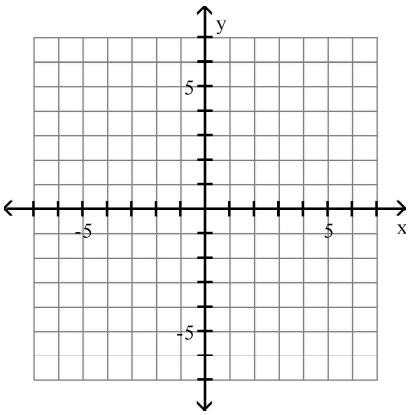



A) G = (2, 4), H = (–5, –2)
B) G = (4, 2), H = (–5, –2)
C) G = (4, –5), H = (2, –5)
D) G = (4, 2), H = (–2, –5)

Objective: (1.1) Rectangular Coordinates

**Plot the point in the xy–plane. Tell in which quadrant or on what axis the point lies.**

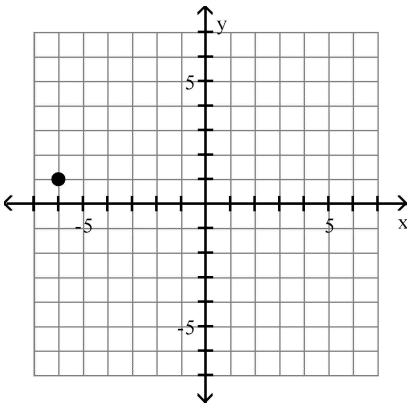
13) (6, 1)





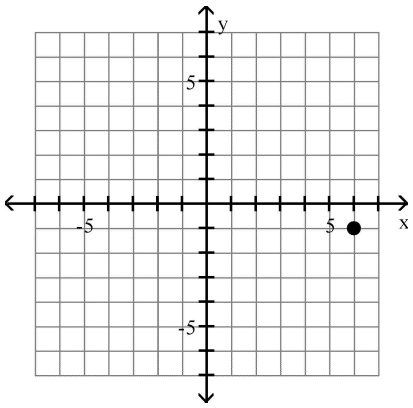

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A)



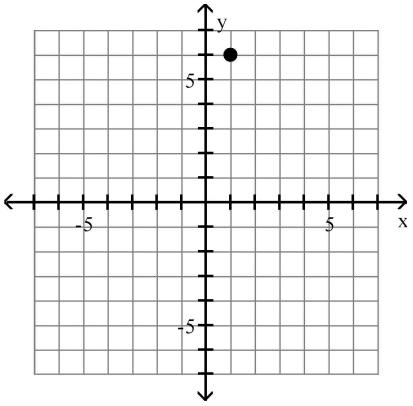

Quadrant II

B)



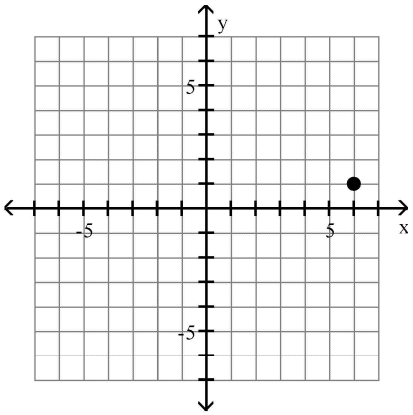

Quadrant IV

C)




Quadrant I

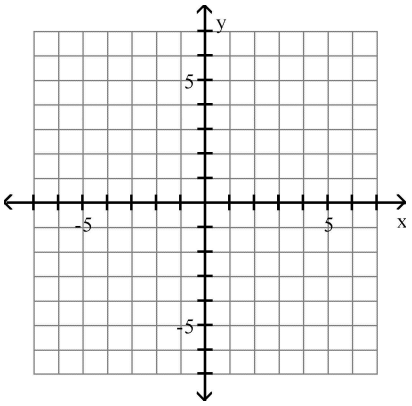
D)




Quadrant I

Objective: (1.1) Rectangular Coordinates

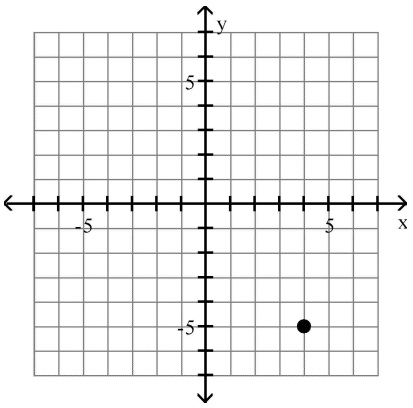
14) (–5, 4)





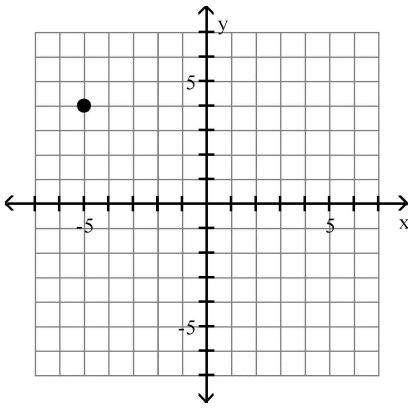

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A)



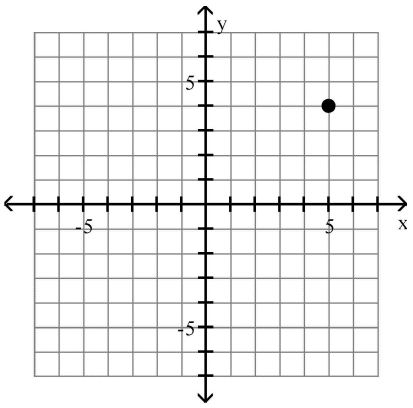

Quadrant IV

B)



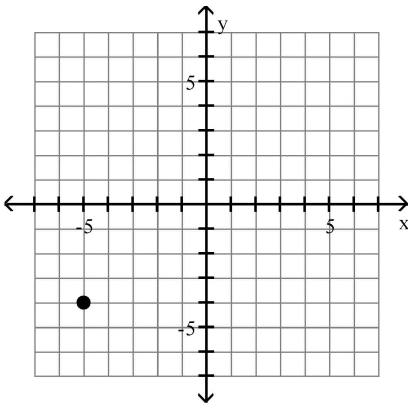

Quadrant II

C)




Quadrant I

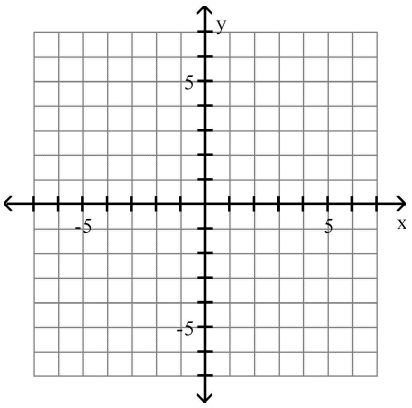
D)




Quadrant III

Objective: (1.1) Rectangular Coordinates

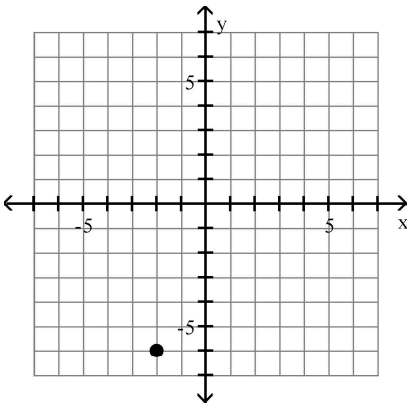
15) (2, –6)





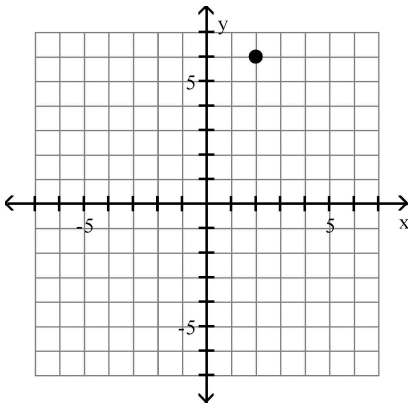

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A)



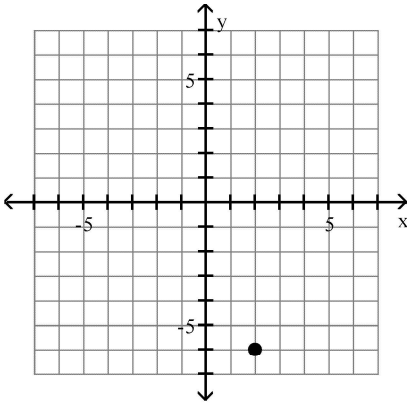

Quadrant III

B)



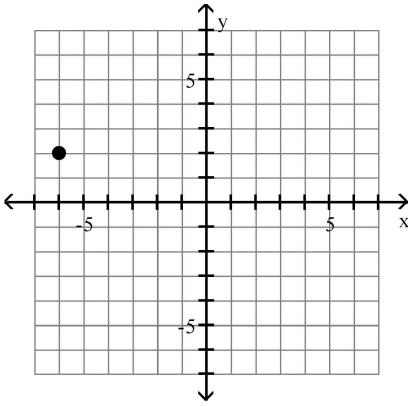

Quadrant I

C)




Quadrant IV

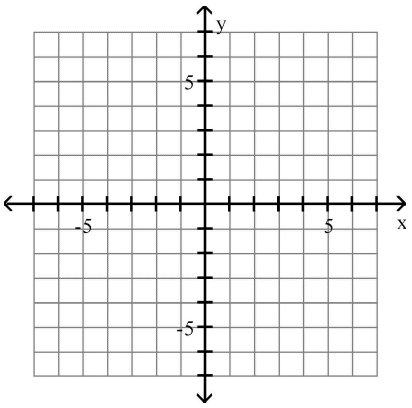
D)




Quadrant II

Objective: (1.1) Rectangular Coordinates

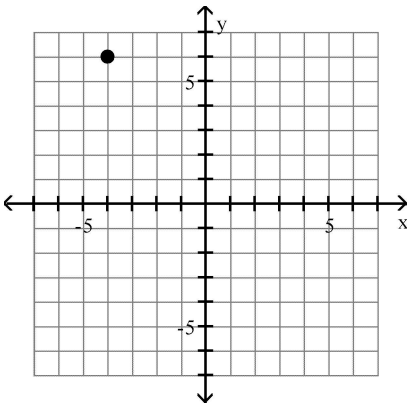
16) (–4, –6)





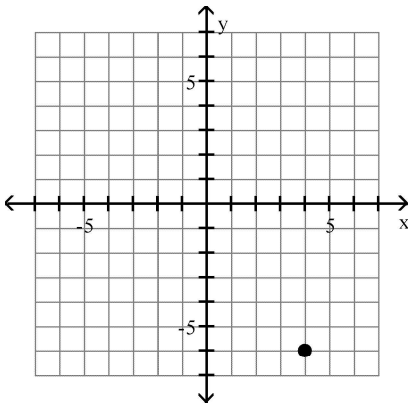

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A)



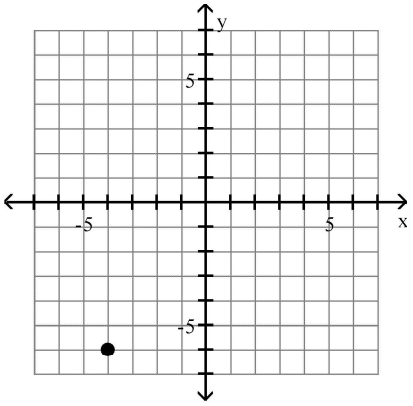

Quadrant II

B)



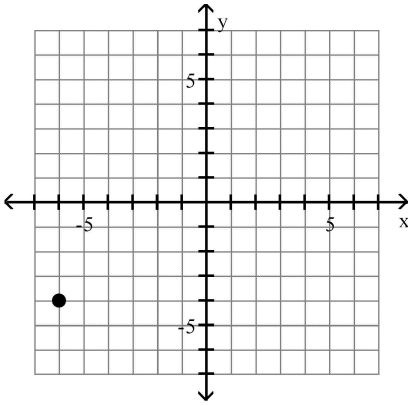

Quadrant IV

C)




Quadrant III

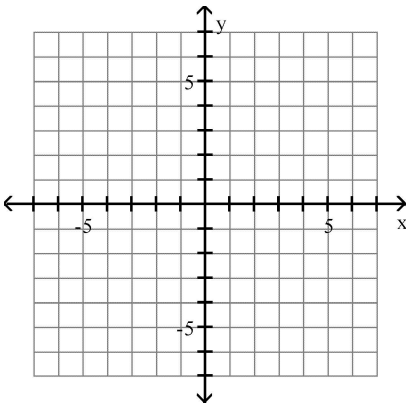
D)




Quadrant III

Objective: (1.1) Rectangular Coordinates

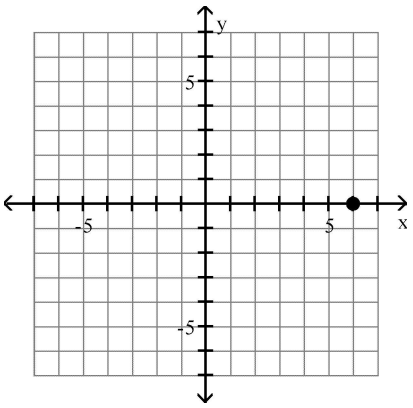
17) (0, 6)





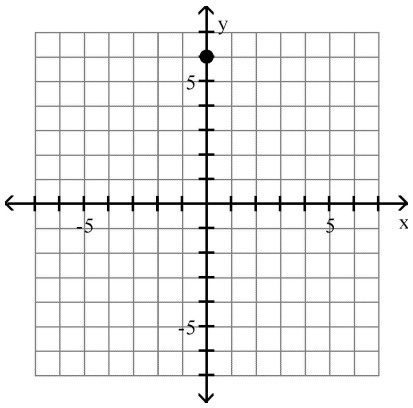

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A)



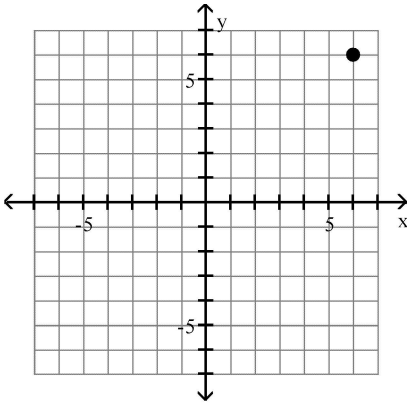

x–axis

B)



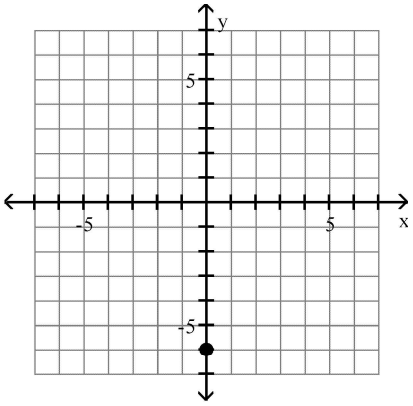

y–axis

C)




Quadrant II

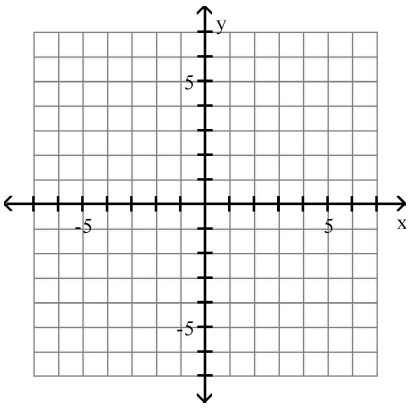
D)




y–axis

Objective: (1.1) Rectangular Coordinates

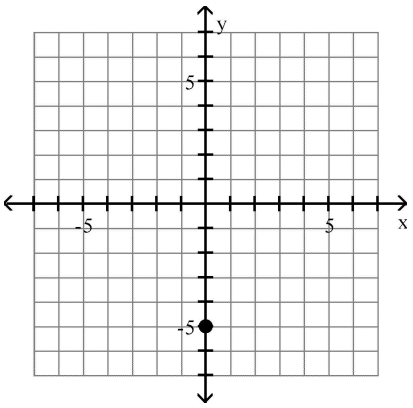
18) (–5, 0)





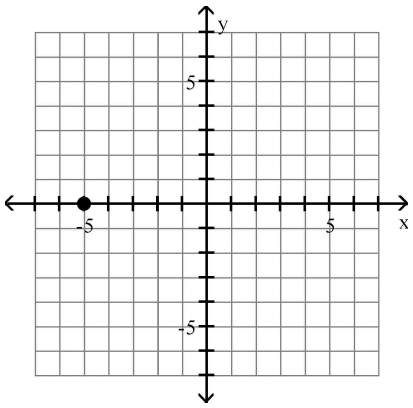

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A)



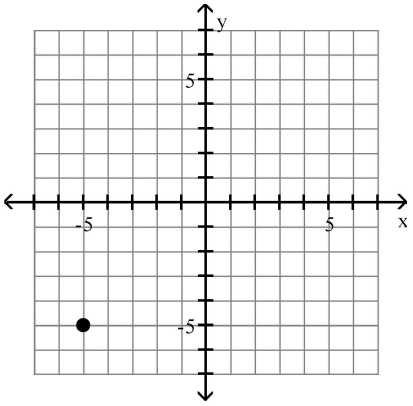

y–axis

B)



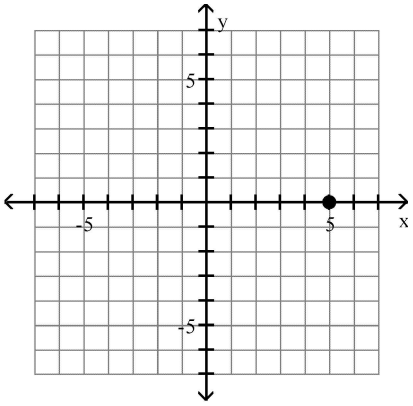

x–axis

C)




Quadrant II

D)

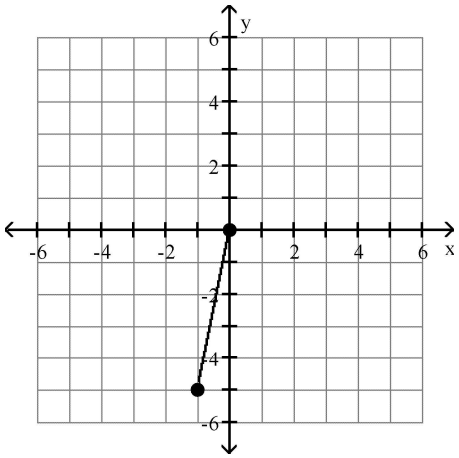



x–axis

Objective: (1.1) Rectangular Coordinates

**Find the distance $d(P_1, P_2)$ between the points $P_1$ and $P_2$.**

19)



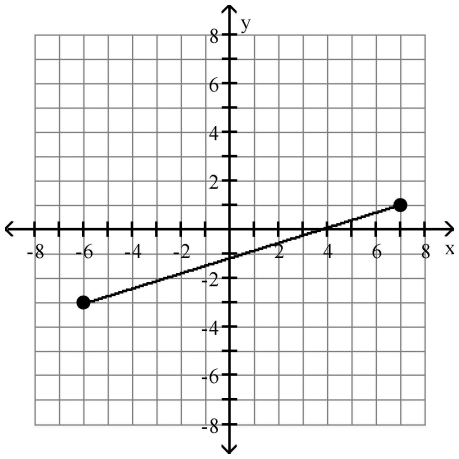

A) 2 B) $\sqrt{26}$ C) 5 D) 3

Objective: (1.1) Use the Distance Formula



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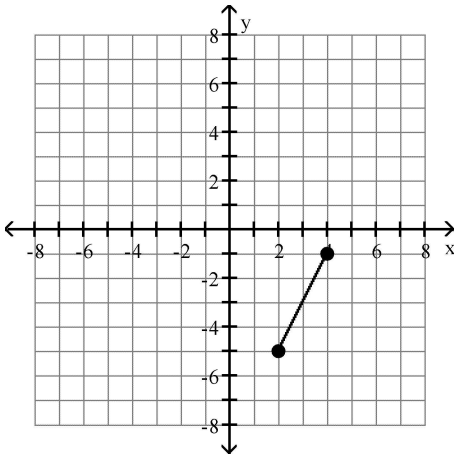
20)




A) 9 B) $\sqrt{185}$ C) $3\sqrt{17}$ D) 52

Objective: (1.1) Use the Distance Formula

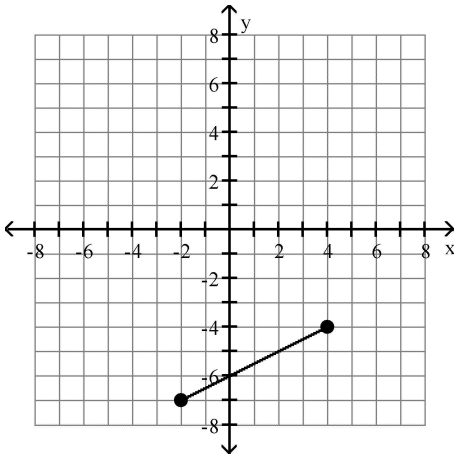
21)




A) $12\sqrt{3}$ B) 12 C) 2 D) $2\sqrt{5}$

Objective: (1.1) Use the Distance Formula

22)




A) 3 B) $3\sqrt{5}$ C) 27 D) $27\sqrt{3}$

Objective: (1.1) Use the Distance Formula



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23) $P_1 = (-3, -3)$; $P_2 = (-3, 5)$

A) $2\sqrt{2}$ B) 7 C) 8 D) 9

Objective: (1.1) Use the Distance Formula

24) $P_1 = (2, -3)$; $P_2 = (-4, 5)$

A) 11 B) 10 C) 100 D) 20

Objective: (1.1) Use the Distance Formula

25) $P_1 = (0, -2)$; $P_2 = (4, -2)$

A) 4 B) 2 C) 16 D) $2\sqrt{5}$

Objective: (1.1) Use the Distance Formula

26) $P_1 = (0, 0)$; $P_2 = (-3, 7)$

A) 58 B) $i\sqrt{21}$ C) 4 D) $\sqrt{58}$

Objective: (1.1) Use the Distance Formula

27) $P_1 = (7, 5)$; $P_2 = (-7, -4)$

A) $\sqrt{115}$ B) 5 C) $\sqrt{277}$ D) 126

Objective: (1.1) Use the Distance Formula

28) $P_1 = (2, -3)$; $P_2 = (6, -5)$

A) $12\sqrt{3}$ B) $2\sqrt{5}$ C) 6 D) 12

Objective: (1.1) Use the Distance Formula

29) $P_1 = (-6, -4)$; $P_2 = (2, -2)$

A) $2\sqrt{17}$ B) 6 C) 60 D) $60\sqrt{15}$

Objective: (1.1) Use the Distance Formula

30) $P_1 = (0.8, 0.4)$; $P_2 = (1.1, -2.8)$ Round to three decimal places, if necessary.

A) 3.214 B) 10.164 C) 3.314 D) 17.5

Objective: (1.1) Use the Distance Formula

**Decide whether or not the points are the vertices of a right triangle.**

31) $(-8, 1)$, $(-2, 1)$, $(-2, 9)$

A) Yes B) No

Objective: (1.1) Use the Distance Formula

32) $(6, -5)$, $(8, -1)$, $(10, -2)$

A) Yes B) No

Objective: (1.1) Use the Distance Formula

33) $(-5, -7)$, $(1, -5)$, $(0, -10)$

A) Yes B) No

Objective: (1.1) Use the Distance Formula



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34) (6, –5), (12, –3), (18, –10)

A) Yes B) No

Objective: (1.1) Use the Distance Formula

**Solve the problem.**

35) Find all values of k so that the given points are $\sqrt{29}$ units apart.
(–5, 5), (k, 0)

A) 3, 7 B) –3, –7 C) 7 D) –7

Objective: (1.1) Use the Distance Formula

36) Find the area of the right triangle ABC with A = (–2, 7), B = (7, –1), C = (3, 9).

A) 29 square units B) $\frac{\sqrt{29}}{2}$ square units C) 58 square units D) $\frac{\sqrt{58}}{2}$ square units

Objective: (1.1) Use the Distance Formula

37) Find all the points having an x–coordinate of 9 whose distance from the point (3, –2) is 10.

A) (9, 13), (9, –7) B) (9, –12), (9, 8) C) (9, 2), (9, –4) D) (9, 6), (9, –10)

Objective: (1.1) Use the Distance Formula

38) A middle school's baseball playing field is a square, 55 feet on a side. How far is it directly from home plate to second base (the diagonal of the square)? If necessary, round to the nearest foot.

A) 77 feet B) 85 feet C) 78 feet D) 79 feet

Objective: (1.1) Use the Distance Formula

39) A motorcycle and a car leave an intersection at the same time. The motorcycle heads north at an average speed of 20 miles per hour, while the car heads east at an average speed of 48 miles per hour. Find an expression for their distance apart in miles at the end of t hours.

A) 52t miles B) $52\sqrt{t}$ miles C) $t\sqrt{68}$ miles D) $2t\sqrt{13}$ miles

Objective: (1.1) Use the Distance Formula

40) A rectangular city park has a jogging loop that goes along a length, width, and diagonal of the park. To the nearest yard, find the length of the jogging loop, if the length of the park is 125 yards and its width is 75 yards.

A) 146 yards B) 145 yards C) 346 yards D) 345 yards

Objective: (1.1) Use the Distance Formula

41) Find the length of each side of the triangle determined by the three points $P_1$, $P_2$, and $P_3$. State whether the triangle is an isosceles triangle, a right triangle, neither of these, or both.
$P_1 = (-5, -4)$, $P_2 = (-3, 4)$, $P_3 = (0, -1)$

A) $d(P_1, P_2) = 2\sqrt{17}$; $d(P_2, P_3) = \sqrt{34}$; $d(P_1, P_3) = 5\sqrt{2}$
right triangle

B) $d(P_1, P_2) = 2\sqrt{17}$; $d(P_2, P_3) = \sqrt{34}$; $d(P_1, P_3) = 5\sqrt{2}$
neither

C) $d(P_1, P_2) = 2\sqrt{17}$; $d(P_2, P_3) = \sqrt{34}$; $d(P_1, P_3) = \sqrt{34}$
isosceles triangle

D) $d(P_1, P_2) = 2\sqrt{17}$; $d(P_2, P_3) = \sqrt{34}$; $d(P_1, P_3) = \sqrt{34}$
both

Objective: (1.1) Use the Distance Formula



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**Find the midpoint of the line segment joining the points $P_1$ and $P_2$.**

42) $P_1 = (5, 7)$; $P_2 = (9, 9)$

A) (7, 8) B) (–4, –2) C) (8, 7) D) (14, 16)

Objective: (1.1) Use the Midpoint Formula

43) $P_1 = (1, -4)$; $P_2 = (-4, 7)$

A) $\left(\frac{5}{2}, -\frac{11}{2}\right)$ B) $(-3, 3)$ C) $(5, -11)$ D) $\left(-\frac{3}{2}, \frac{3}{2}\right)$

Objective: (1.1) Use the Midpoint Formula

44) $P_1 = (7, 1)$; $P_2 = (-16, -16)$

A) $\left(-\frac{9}{2}, -\frac{15}{2}\right)$ B) $(9, 15)$ C) $(-9, -15)$ D) $\left(\frac{23}{2}, \frac{17}{2}\right)$

Objective: (1.1) Use the Midpoint Formula

45) $P_1 = (-0.5, -0.7)$; $P_2 = (1.5, -2.3)$

A) (–0.8, 1) B) (–1.5, 0.5) C) (1, –0.8) D) (0.5, –1.5)

Objective: (1.1) Use the Midpoint Formula

46) $P_1 = (x, 1)$; $P_2 = (0, 8)$

A) $\left(x, \frac{9}{2}\right)$ B) $\left(\frac{x}{2}, \frac{9}{2}\right)$ C) $\left(-\frac{x}{2}, 7\right)$ D) $(x, 9)$

Objective: (1.1) Use the Midpoint Formula

47) $P_1 = (3x, 2)$; $P_2 = (4x, 1)$

A) $\left(\frac{3x}{2}, \frac{7}{2}\right)$ B) $(x, 1)$ C) $(7x, 3)$ D) $\left(\frac{7x}{2}, \frac{3}{2}\right)$

Objective: (1.1) Use the Midpoint Formula

**Solve the problem.**

48) If (1, 3) is the endpoint of a line segment, and (3, 8) is its midpoint, find the other endpoint.

A) (–3, –7) B) (11, 7) C) (5, 13) D) (5, –2)

Objective: (1.1) Use the Midpoint Formula

49) If (–3, 2) is the endpoint of a line segment, and (–7, 0) is its midpoint, find the other endpoint.

A) (5, 6) B) (–11, 4) C) (–7, –6) D) (–11, –2)

Objective: (1.1) Use the Midpoint Formula

50) If (1, 2) is the endpoint of a line segment, and (2, –1) is its midpoint, find the other endpoint.

A) (3, 5) B) (–1, 8) C) (3, –4) D) (–5, 4)

Objective: (1.1) Use the Midpoint Formula

51) If (–2, –3) is the endpoint of a line segment, and (–7, 1) is its midpoint, find the other endpoint.

A) (6, –13) B) (–12, 5) C) (8, –11) D) (–12, –7)

Objective: (1.1) Use the Midpoint Formula



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52) The medians of a triangle intersect at a point. The distance from the vertex to the point is exactly two-thirds of the distance from the vertex to the midpoint of the opposite side. Find the exact distance of that point from the vertex A(3, 4) of a triangle, given that the other two vertices are at (0, 0) and (8, 0).

A) $\frac{\sqrt{17}}{3}$ B) 2 C) $\frac{8}{3}$ D) $\frac{2\sqrt{17}}{3}$

Objective: (1.1) Use the Midpoint Formula

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

53) Equation: $y = x^3 - \sqrt{x}$
Point: (1, 0)

A) No B) Yes

Objective: (1.2) Graph Equations by Plotting Points

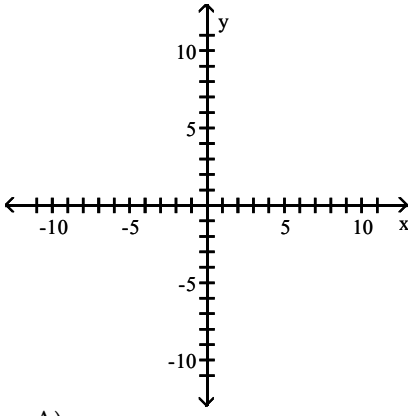
54) Equation: $x^2 + y^2 = 4$
Point: (2, 0)

A) No B) Yes

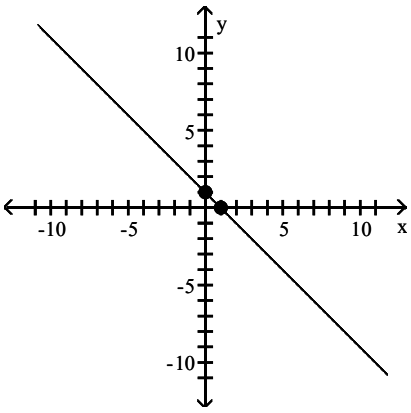
Objective: (1.2) Graph Equations by Plotting Points

**Graph the equation by plotting points.**

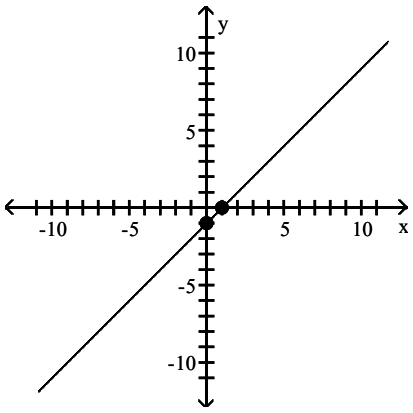
55) $y = x + 1$




A)



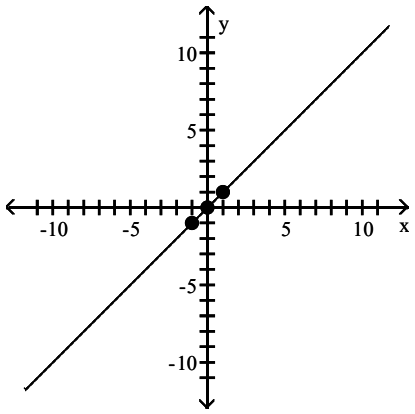

B)



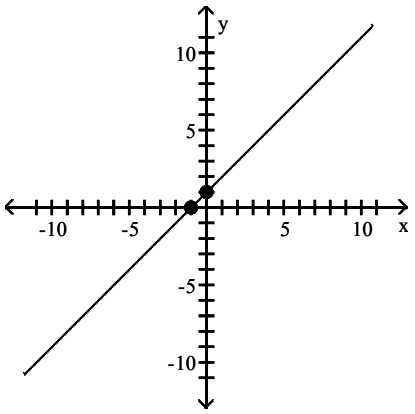



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C)

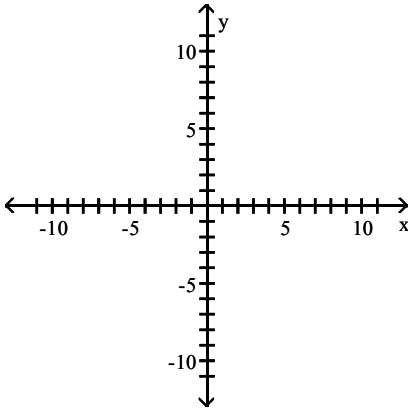



D)

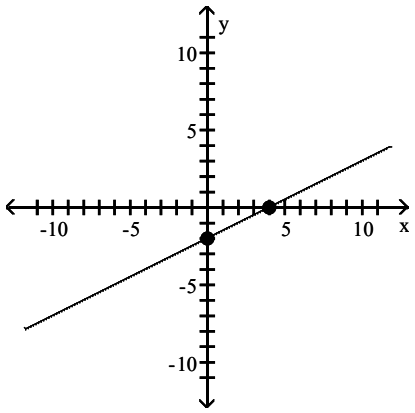



Objective: (1.2) Graph Equations by Plotting Points

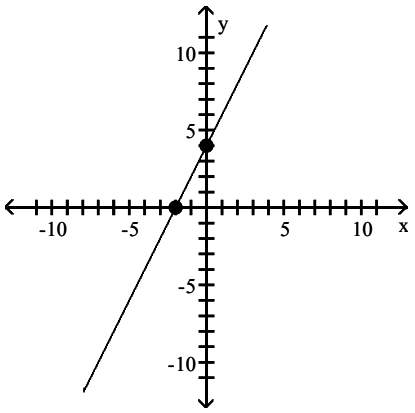
56) $y = 2x + 4$



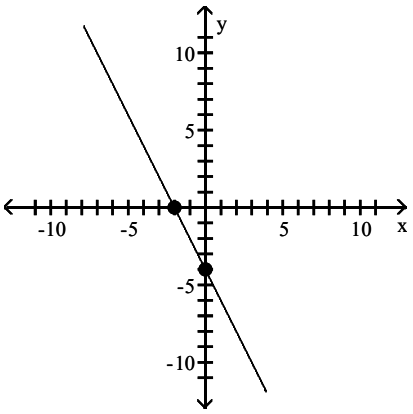

A)



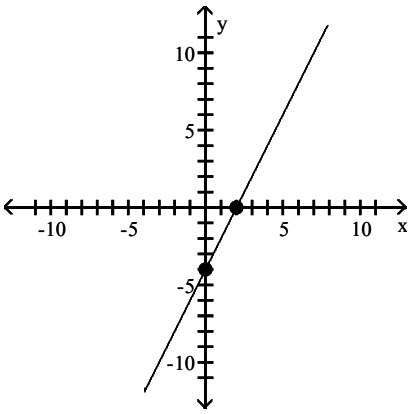

B)



C)

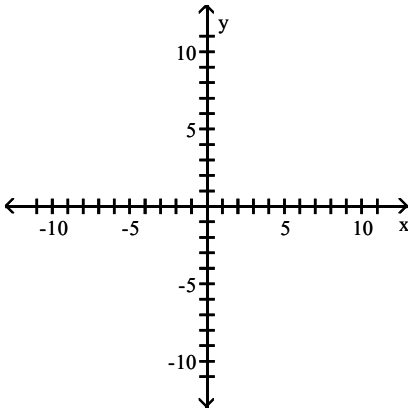



D)

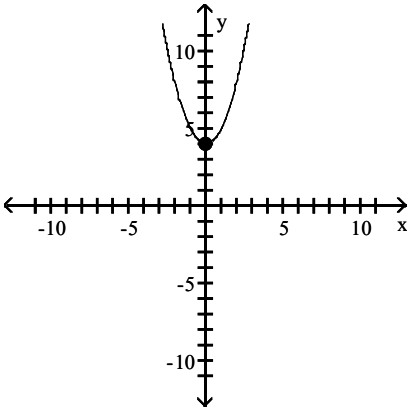



Objective: (1.2) Graph Equations by Plotting Points

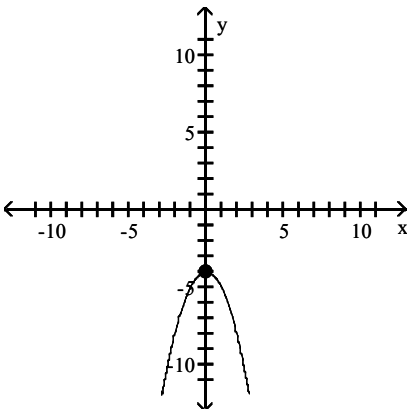
57) $y = x^2 - 4$



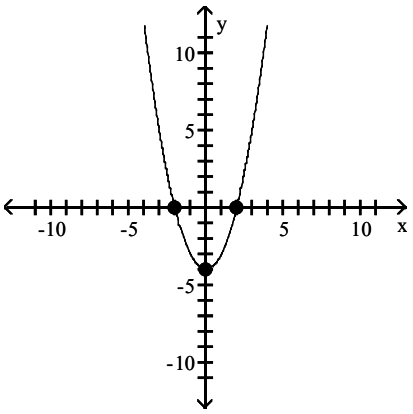

A)



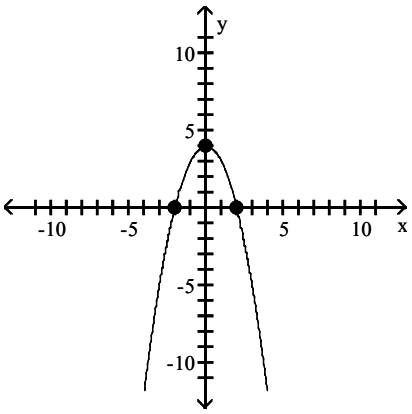

B)



C)

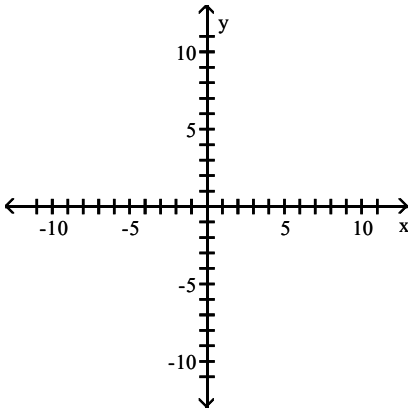



D)

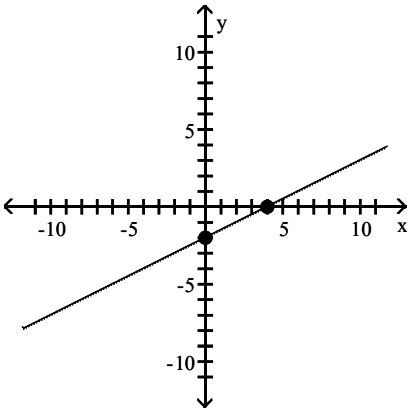



Objective: (1.2) Graph Equations by Plotting Points

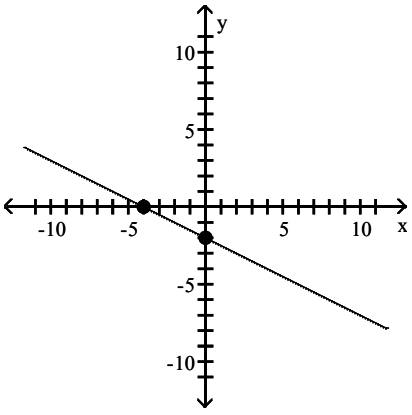
58) $2x + 4y = 8$



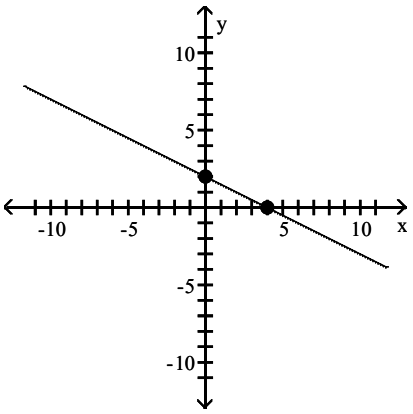

A)



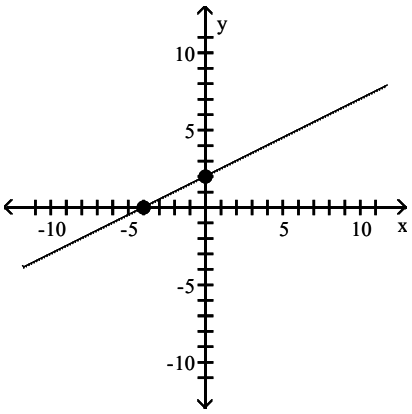

B)



C)

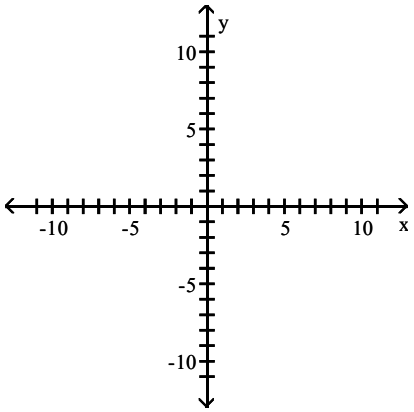



D)

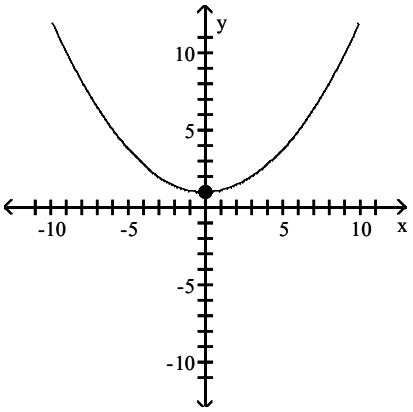



Objective: (1.2) Graph Equations by Plotting Points

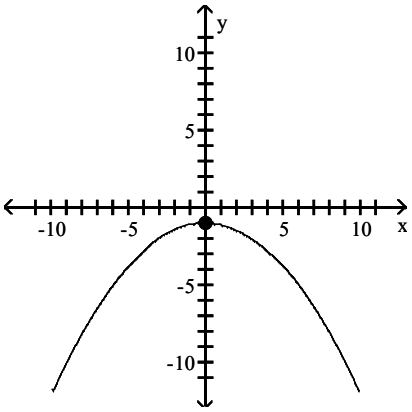
59) $x^2 + 9y = 9$



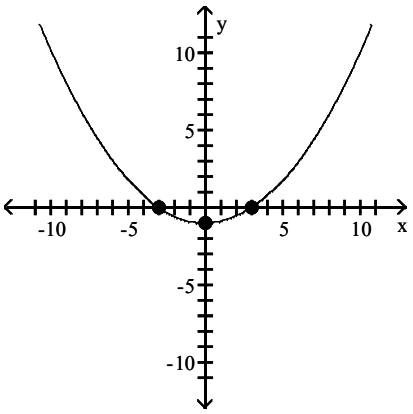

A)



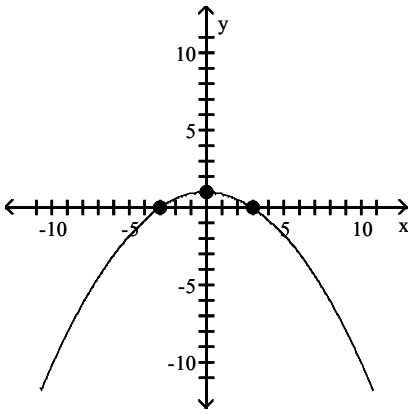

B)



C)




D)




Objective: (1.2) Graph Equations by Plotting Points

**Solve the problem.**

60) If (a, 3) is a point on the graph of $y = 2x - 5$, what is a?

A) –1 B) 1 C) –4 D) 4

Objective: (1.2) Graph Equations by Plotting Points

61) If (3, b) is a point on the graph of $3x - 2y = 17$, what is b?

A) $\frac{23}{3}$ B) –4 C) 4 D) $\frac{11}{3}$

Objective: (1.2) Graph Equations by Plotting Points

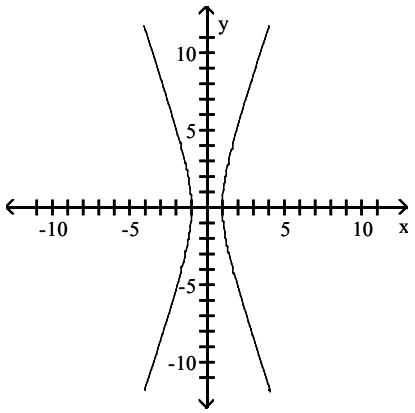
62) The height of a baseball (in feet) at time t (in seconds) is given by $y = -16x^2 + 80x + 5$. Which one of the following points is not on the graph of the equation?

A) (3, 101) B) (2, 117) C) (1, 69) D) (4, 69)

Objective: (1.2) Graph Equations by Plotting Points

**List the intercepts of the graph.**

63)



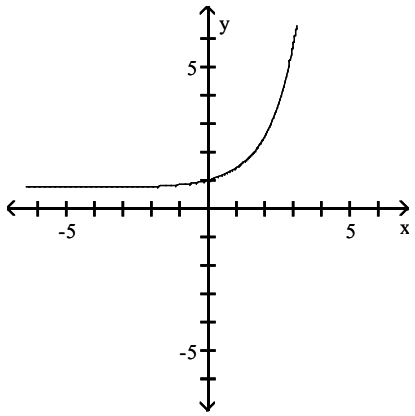

A) (–1, 0), (1, 0) B) (0, –1), (1, 0) C) (–1, 0), (0, 1) D) (0, –1), (0, 1)

Objective: (1.2) Find Intercepts from a Graph



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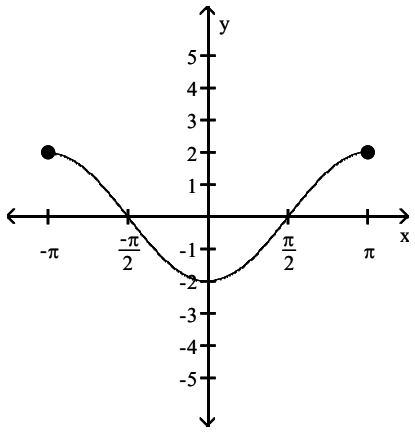
64)




A) (0, 0) B) (0, 1) C) (1, 1) D) (1, 0)

Objective: (1.2) Find Intercepts from a Graph

65)




A) $\left(-\frac{\pi}{2}, 0\right), (-2, 0), \left(\frac{\pi}{2}, 0\right)$

B) $\left(0, -\frac{\pi}{2}\right), (0, -2), \left(0, \frac{\pi}{2}\right)$

C) $\left(-\frac{\pi}{2}, 0\right), (0, -2), \left(\frac{\pi}{2}, 0\right)$

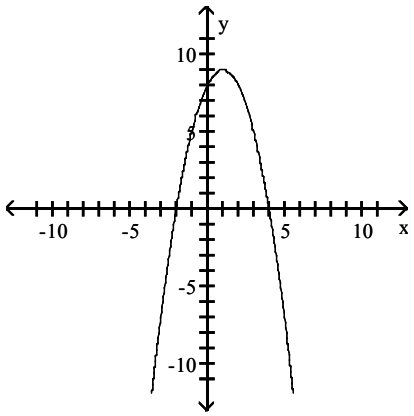
D) $\left(0, -\frac{\pi}{2}\right), (-2, 0), \left(0, \frac{\pi}{2}\right)$

Objective: (1.2) Find Intercepts from a Graph



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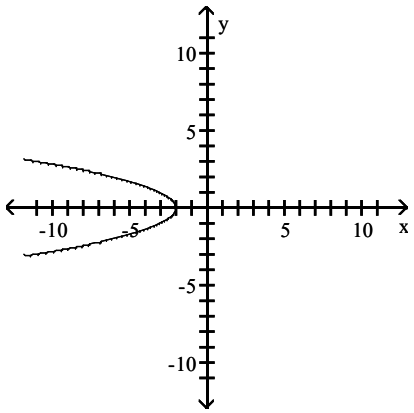
66)




A) (0, –2), (0, 8), (4, 0) B) (–2, 0), (0, 8), (4, 0) C) (0, –2), (8, 0), (0, 4) D) (–2, 0), (0, 8), (0, 4)

Objective: (1.2) Find Intercepts from a Graph

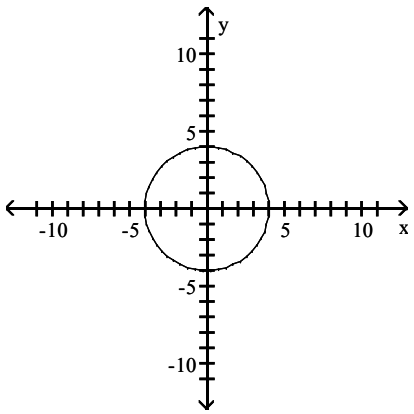
67)




A) (2, 0) B) (0, –2) C) (0, 2) D) (–2, 0)

Objective: (1.2) Find Intercepts from a Graph

68)



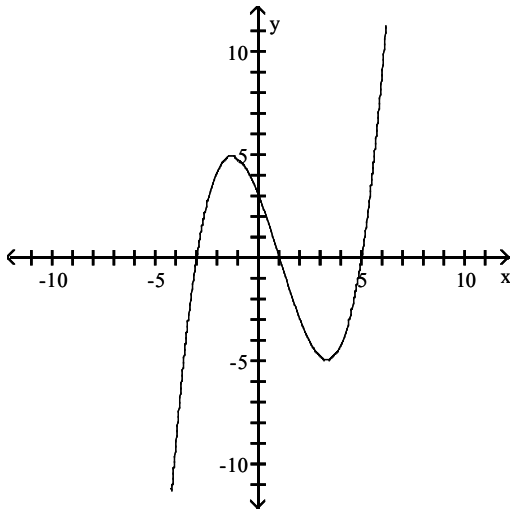

A) (–4, 0), (0, –4), (0, 4), (4, 0) B) (0, 4), (4, 0)
C) (–4, 0), (0, –4), (0, 0), (0, 4), (4, 0) D) (–4, 0), (0, 4)

Objective: (1.2) Find Intercepts from a Graph



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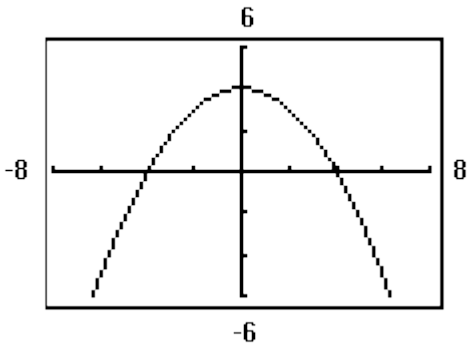
69)




A) (3, 0), (1, 0), (–5, 0), (0, 3)
B) (3, 0), (0, 3), (0, 1), (0, –5)
C) (–3, 0), (1, 0) (5, 0), (0, 3)
D) (3, 0), (0, –3), (0, 1), (0, 5)

Objective: (1.2) Find Intercepts from a Graph

70)




A) (–2, 0), (0, 4), (2, 0)
B) (–2, 0), (0, 2), (2, 0)
C) (–4, 0), (0, 4), (4, 0)
D) (–2, 0), (2, 0)

Objective: (1.2) Find Intercepts from a Graph

**List the intercepts for the graph of the equation.**

71) $y = x + 5$

A) (5, 0), (0, 5)
B) (5, 0), (0, –5)
C) (–5, 0), (0, –5)
D) (–5, 0), (0, 5)

Objective: (1.2) Find Intercepts from an Equation

72) $y = 2x$

A) (2, 2)
B) (0, 2)
C) (0, 0)
D) (2, 0)

Objective: (1.2) Find Intercepts from an Equation

73) $y^2 = x + 1$

A) (1, 0), (0, 1), (0, –1)
B) (0, –1), (–1, 0), (0, 1)
C) (–1, 0), (0, –1), (1, 0)
D) (0, –1), (1, 0), (0, 1)

Objective: (1.2) Find Intercepts from an Equation



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74) $y = \sqrt[9]{x}$

A) (1, 0) B) (0, 1) C) (1, 1) D) (0, 0)

Objective: (1.2) Find Intercepts from an Equation

75) $x^2 + y - 4 = 0$

A) (0, –2), (4, 0), (0, 2) B) (–2, 0), (0, 4), (2, 0) C) (–2, 0), (0, –4), (2, 0) D) (2, 0), (0, 4), (0, –4)

Objective: (1.2) Find Intercepts from an Equation

76) $4x^2 + 9y^2 = 36$

A) (–2, 0), (–3, 0), (3, 0), (2, 0)
B) (–4, 0), (–9, 0), (9, 0), (4, 0)
C) (–3, 0), (0, –2), (0, 2), (3, 0)
D) (–9, 0), (0, –4), (0, 4), (9, 0)

Objective: (1.2) Find Intercepts from an Equation

77) $9x^2 + y^2 = 9$

A) (–9, 0), (0, –1), (0, 1), (9, 0)
B) (–3, 0), (0, –1), (0, 1), (3, 0)
C) (–1, 0), (0, –9), (0, 9), (1, 0)
D) (–1, 0), (0, –3), (0, 3), (1, 0)

Objective: (1.2) Find Intercepts from an Equation

78) $y = x^3 - 125$

A) (0, –5), (0, 5) B) (0, –5), (–5, 0) C) (0, –125), (5, 0) D) (–125, 0), (0, 5)

Objective: (1.2) Find Intercepts from an Equation

79) $y = x^4 - 1$

A) (0, –1) B) (0, 1), (–1, 0), (1, 0) C) (0, 1) D) (0, –1), (–1, 0), (1, 0)

Objective: (1.2) Find Intercepts from an Equation

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

A) (0, 2), (0, 3), (6, 0) B) (2, 0), (3, 0), (0, 6) C) (0, –2), (0, –3), (6, 0) D) (–2, 0), (–3, 0), (0, 6)

Objective: (1.2) Find Intercepts from an Equation

81) $y = x^2 + 16$

A) (16, 0), (0, –4), (0, 4) B) (0, 16), (–4, 0), (4, 0) C) (16, 0) D) (0, 16)

Objective: (1.2) Find Intercepts from an Equation

82) $y = \dfrac{7x}{x^2 + 49}$

A) (–7, 0), (0, 0), (7, 0)
B) (–49, 0), (0, 0), (49, 0)
C) (0, –7), (0, 0), (0, 7)
D) (0, 0)

Objective: (1.2) Find Intercepts from an Equation

83) $y = \dfrac{x^2 - 25}{5x^4}$

A) (–5, 0), (5, 0)
B) (0, 0)
C) (0, –5), (0, 5)
D) (–25, 0), (0, 0), (25, 0)

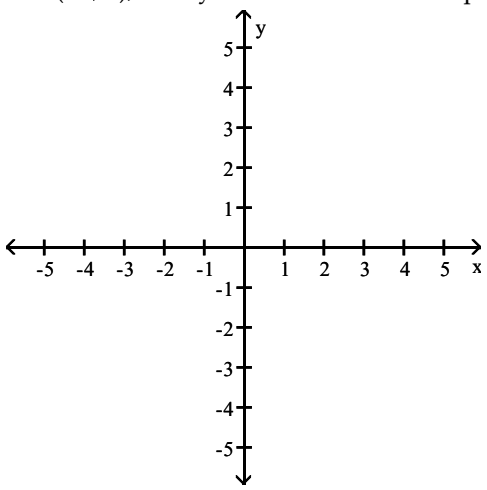
Objective: (1.2) Find Intercepts from an Equation

**Plot the point A. Plot the point B that has the given symmetry with point A.**

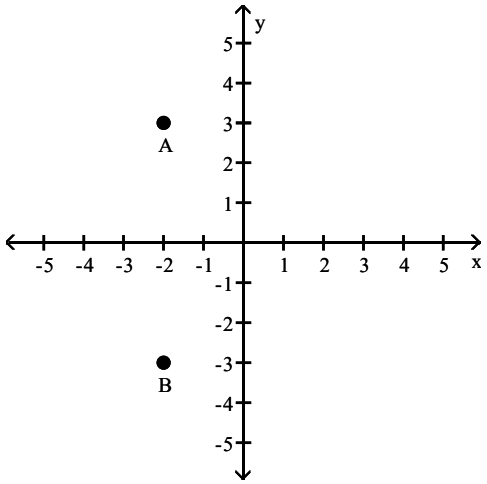


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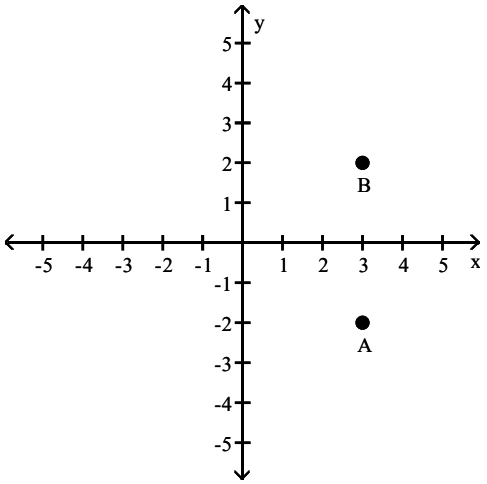
84) A = (−2, 3); B is symmetric to A with respect to the x−axis



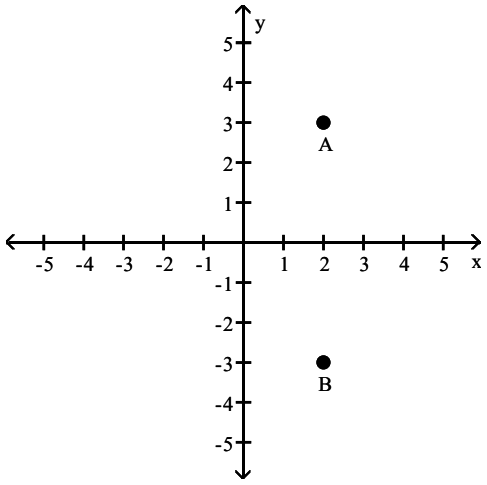

A)



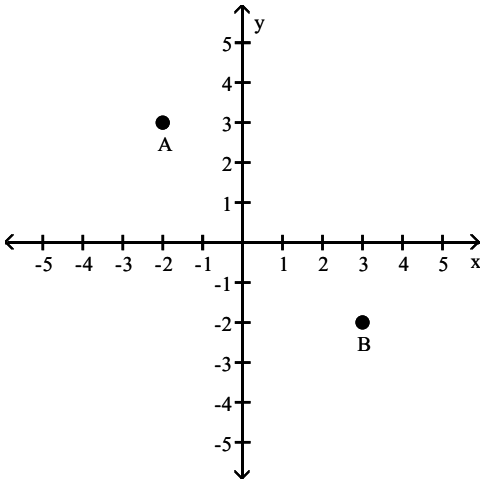

B)




C)




D)

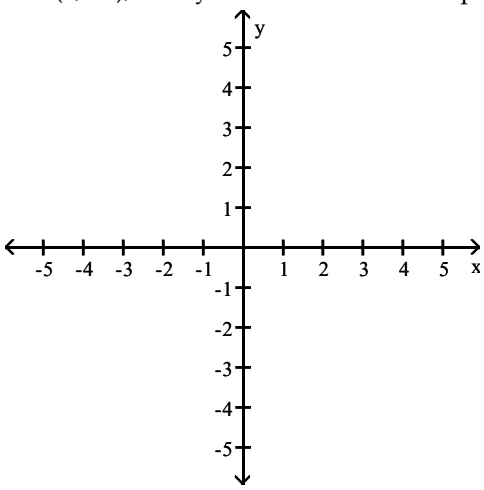



Objective: (1.2) Test an Equation for Symmetry with Respect to the x−Axis, the y−Axis, and the Origin

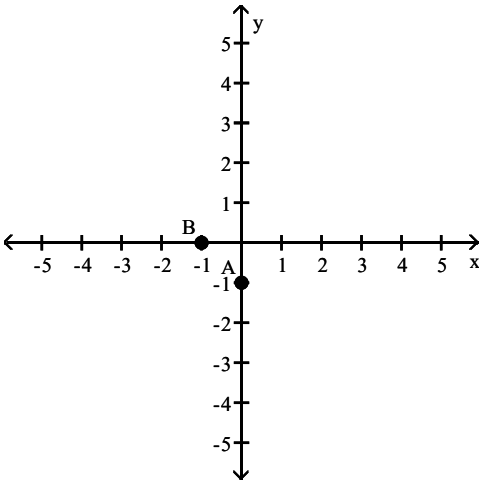


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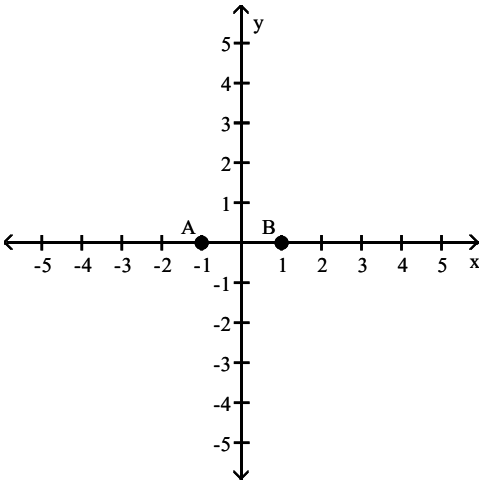
85) A = (0, –1); B is symmetric to A with respect to the origin



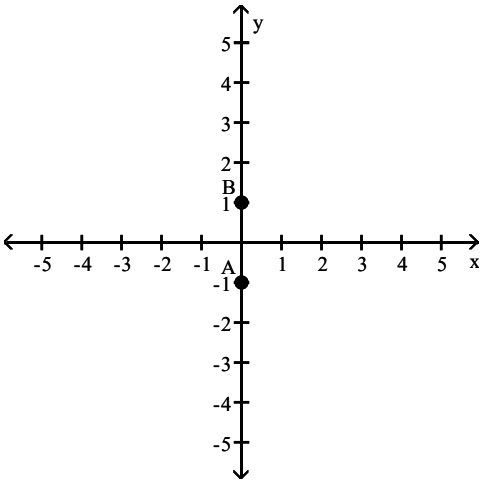

A)



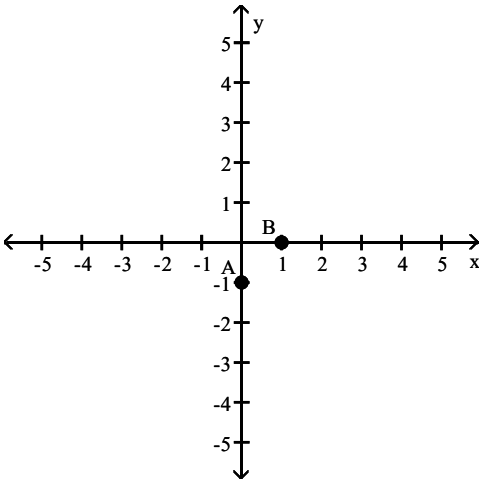

B)




C)




D)



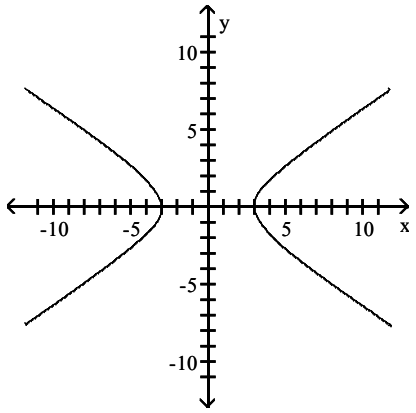

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin



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**List the intercepts of the graph.Tell whether the graph is symmetric with respect to the x–axis, y–axis, origin, or none of these.**

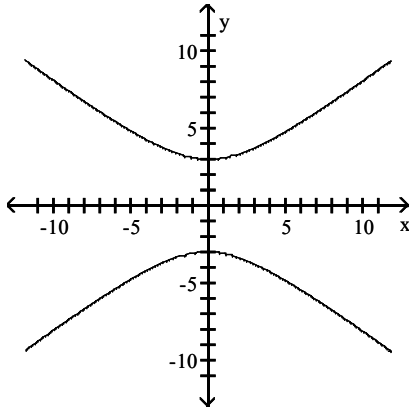
86)




A) intercepts: (0, –3) and (0, 3)
symmetric with respect to y–axis
B) intercepts: (–3, 0) and (3, 0)
symmetric with respect to x–axis, y–axis, and origin
C) intercepts: (0, –3) and (0, 3)
symmetric with respect to x–axis, y–axis, and origin
D) intercepts: (–3, 0) and (3, 0)
symmetric with respect to origin

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

87)



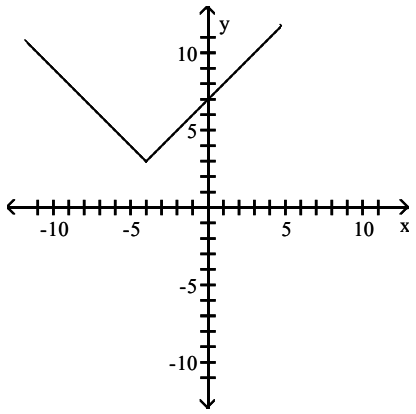

A) intercepts: (0, 3) and (0, –3)
symmetric with respect to x–axis, y–axis, and origin
B) intercepts: (0, 3) and (0, –3)
symmetric with respect to origin
C) intercepts: (3, 0) and (–3, 0
symmetric with respect to y–axis
D) intercepts: (3, 0) and (–3, 0)
symmetric with respect to x–axis, y–axis, and origin

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin



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88)




A) intercept: (7, 0)
symmetric with respect to y–axis

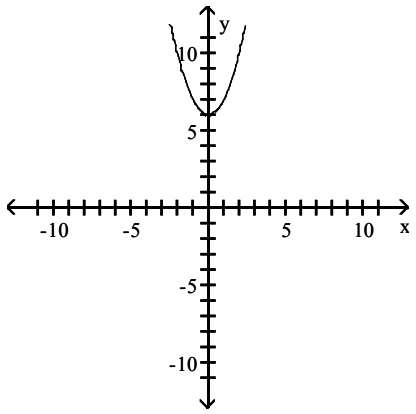
B) intercept: (0, 7)
symmetric with respect to x–axis

C) intercept: (7, 0)
no symmetry

D) intercept: (0, 7)
no symmetry

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

89)




A) intercept: (6, 0)
symmetric with respect to y–axis

B) intercept: (0, 6)
symmetric with respect to y–axis

C) intercept: (0, 6)
symmetric with respect to origin

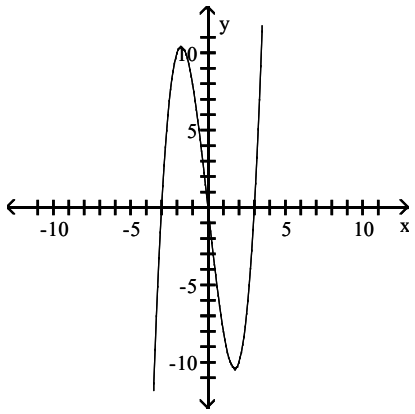
D) intercept: (6, 0)
symmetric with respect to x–axis

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin



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90)

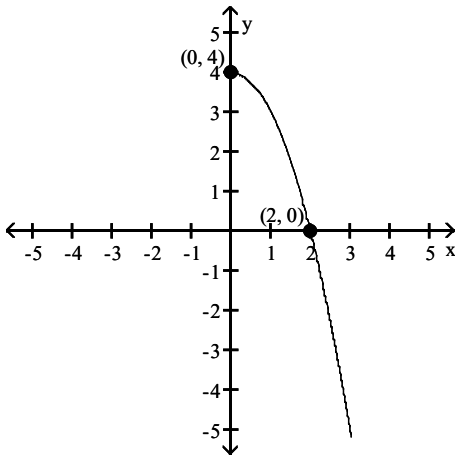



A) intercepts: (–3, 0), (0, 0), (3, 0)
symmetric with respect to origin
B) intercepts: (–3, 0), (0, 0), (3, 0)
symmetric with respect to x–axis
C) intercepts: (–3, 0), (0, 0), (3, 0)
symmetric with respect to x–axis, y–axis, and origin
D) intercepts: (–3, 0), (0, 0), (3, 0)
symmetric with respect to y–axis

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

**Draw a complete graph so that it has the given type of symmetry.**

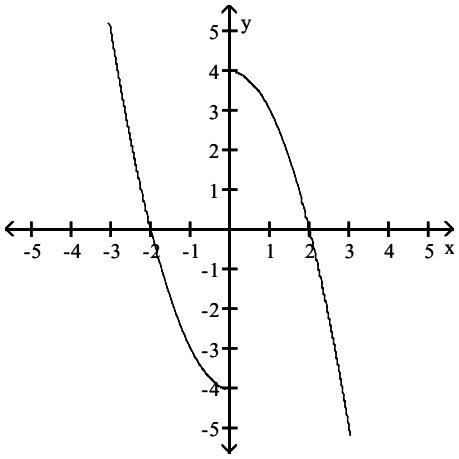
91) Symmetric with respect to the y–axis



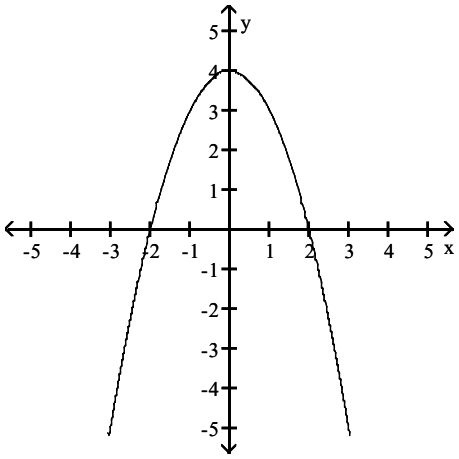



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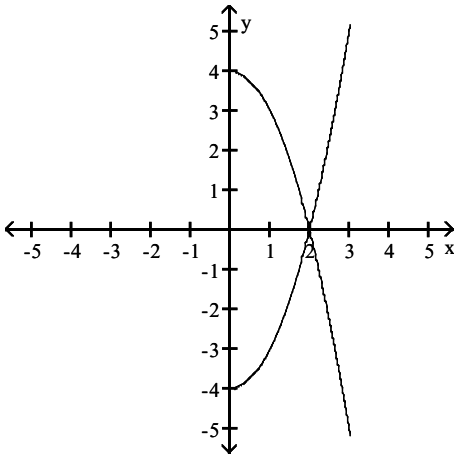
A)



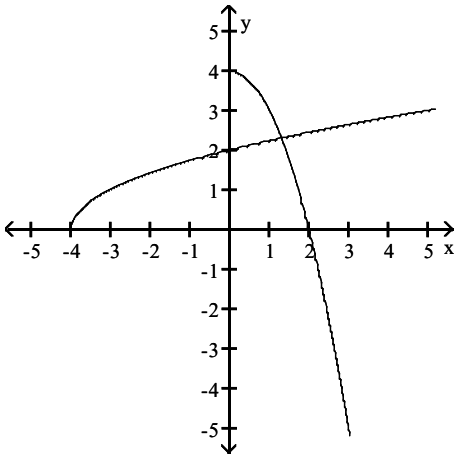

B)




C)

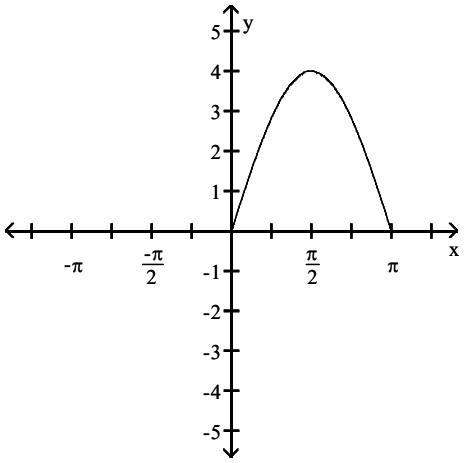



D)




Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

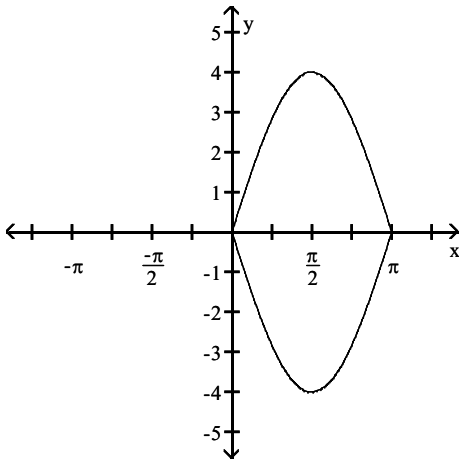
92) origin



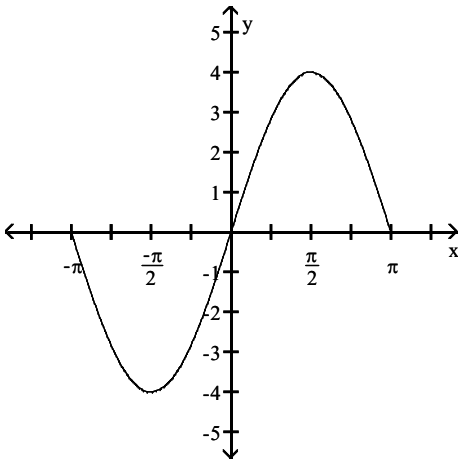



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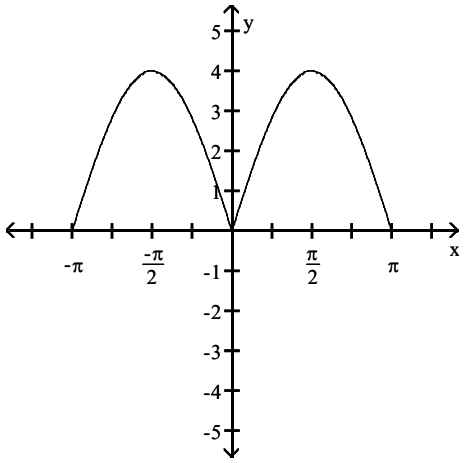
A)



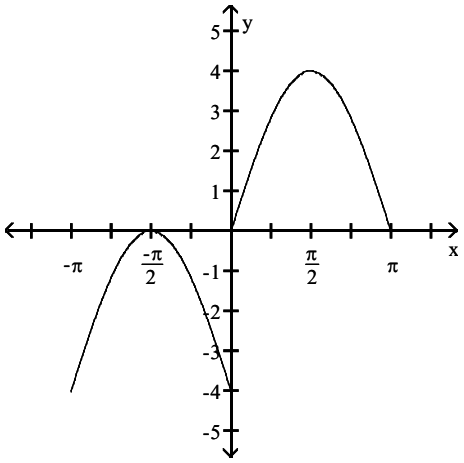

B)




C)

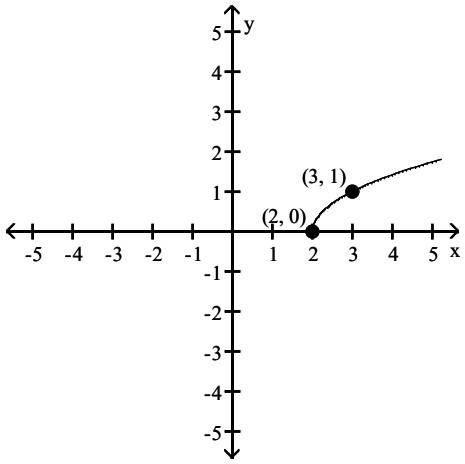



D)




Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

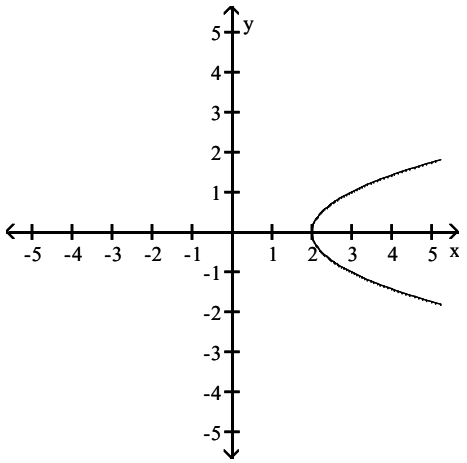
93) Symmetric with respect to the x–axis



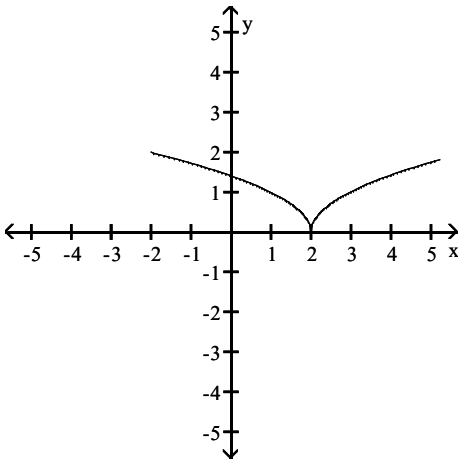



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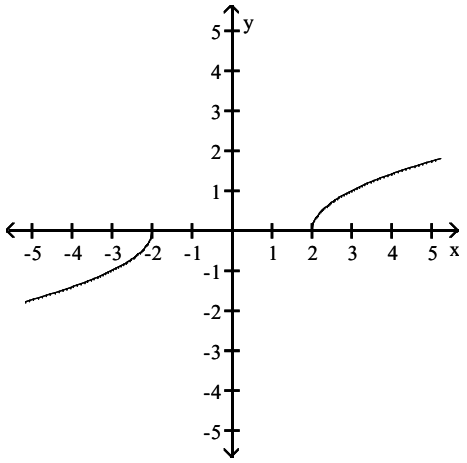
A)



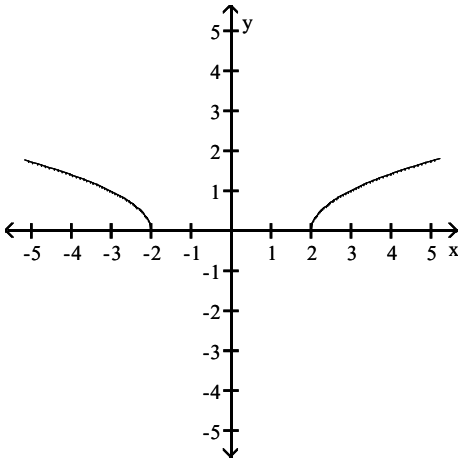
B)



C)



D)



Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

**List the intercepts and type(s) of symmetry, if any.**

94) $y^2 = x + 1$

A) intercepts: (1, 0), (0, 1), (0, –1)
symmetric with respect to x–axis

B) intercepts: (–1, 0), (0, 1), (0, –1)
symmetric with respect to x–axis

C) intercepts: (0, 1), (1, 0), (–1, 0)
symmetric with respect to y–axis

D) intercepts: (0, –1), (1, 0), (–1, 0)
symmetric with respect to y–axis

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

95) $16x^2 + 9y^2 = 144$

A) intercepts: (3, 0), (–3, 0), (0, 4), (0, –4)
symmetric with respect to x–axis, y–axis, and origin

B) intercepts: (3, 0), (–3, 0), (0, 4), (0, –4)
symmetric with respect to x–axis and y–axis

C) intercepts: (4, 0), (–4, 0), (0, 3), (0, –3)
symmetric with respect to x–axis and y–axis

D) intercepts: (4, 0), (–4, 0), (0, 3), (0, –3)
symmetric with respect to the origin

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin



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96) $y = \dfrac{-x}{x^2 - 7}$

A) intercept: (0, 0)
symmetric with respect to y–axis

B) intercept: (0, 0)
symmetric with respect to x–axis

C) intercept: (0, 0)
symmetric with respect to origin

D) intercepts: $(\sqrt{7}, 0)$, $(-\sqrt{7}, 0)$, (0, 0)
symmetric with respect to origin

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

**Determine whether the graph of the equation is symmetric with respect to the x–axis, the y–axis, and/or the origin.**

97) $y = x - 2$

A) origin
B) x–axis
C) y–axis
D) x–axis, y–axis, origin
E) none

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

98) $y = -2x$

A) y–axis
B) origin
C) x–axis
D) x–axis, y–axis, origin
E) none

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

99) $x^2 + y - 25 = 0$

A) y–axis
B) origin
C) x–axis
D) x–axis, y–axis, origin
E) none

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

100) $y^2 - x - 81 = 0$

A) x–axis
B) origin
C) y–axis
D) x–axis, y–axis, origin
E) none

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

101) $4x^2 + 9y^2 = 36$

A) x–axis
B) origin
C) y–axis
D) x–axis, y–axis, origin
E) none

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin



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102) $16x^2 + y^2 = 16$

A) origin
B) y–axis
C) x–axis
D) x–axis, y–axis, origin
E) none

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

103) $y = x^2 + 7x + 10$

A) x–axis
B) origin
C) y–axis
D) x–axis, y–axis, origin
E) none

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

104) $y = \dfrac{6x}{x^2 + 36}$

A) y–axis
B) x–axis
C) origin
D) x–axis, y–axis, origin
E) none

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

105) $y = \dfrac{x^2 - 36}{6x^4}$

A) y–axis
B) origin
C) x–axis
D) x–axis, y–axis, origin
E) none

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

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

A) x–axis
B) origin
C) y–axis
D) x–axis, y–axis, origin
E) none

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin



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107) $y = (x - 8)(x + 5)$

A) y–axis
B) x–axis
C) origin
D) x–axis, y–axis, origin
E) none

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

108) $y = -6x^3 + 4x$

A) x–axis
B) y–axis
C) origin
D) x–axis, y–axis, origin
E) none

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

109) $y = 4x^4 - 9x - 7$

A) x–axis
B) origin
C) y–axis
D) x–axis, y–axis, origin
E) none

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

**Solve the problem.**

110) If a graph is symmetric with respect to the y–axis and it contains the point (5, –6), which of the following points is also on the graph?

A) (–5, –6) B) (–5, 6) C) (–6, 5) D) (5, –6)

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

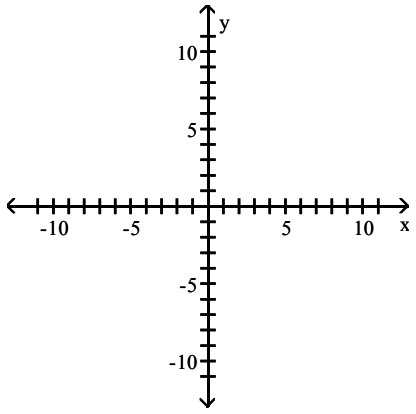
111) If a graph is symmetric with respect to the origin and it contains the point (–4, 7), which of the following points is also on the graph?

A) (–4, –7) B) (4, –7) C) (4, 7) D) (7, –4)

Objective: (1.2) Test an Equation for Symmetry with Respect to the x–Axis, the y–Axis, and the Origin

**Graph the equation by plotting points.**

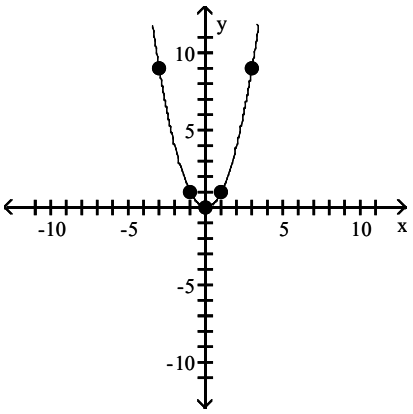
112) $y = x^3$



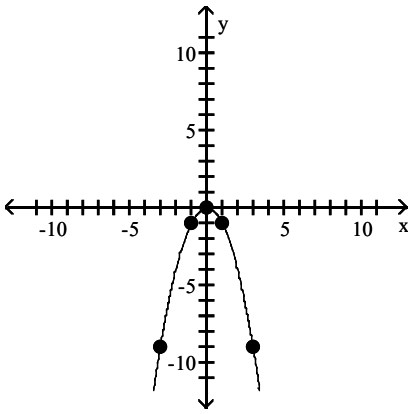



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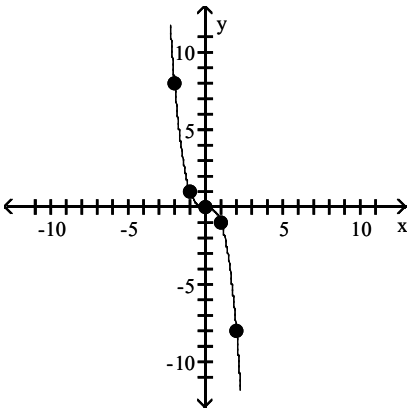
A)



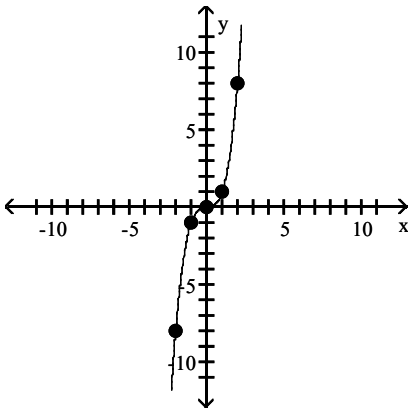

B)




C)

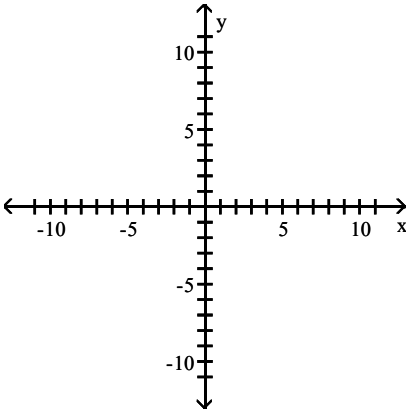



D)




Objective: (1.2) Know How to Graph Key Equations

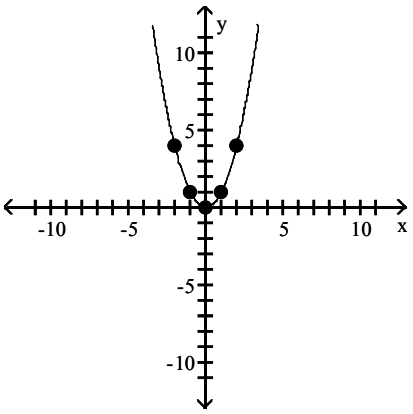
113) $x = y^2$



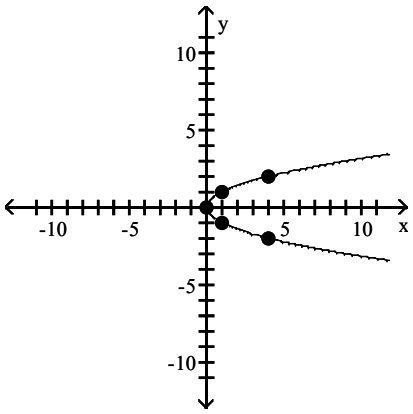



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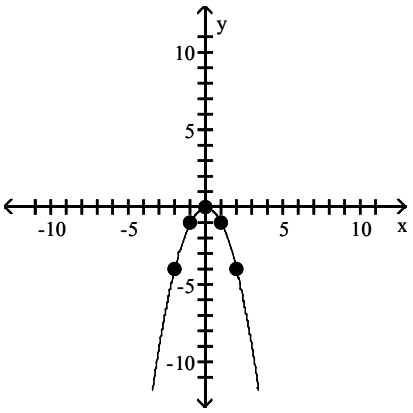
A)



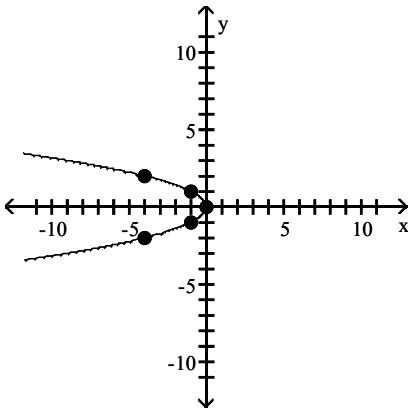

B)




C)

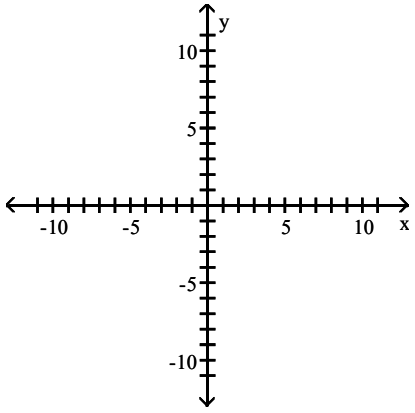



D)




Objective: (1.2) Know How to Graph Key Equations

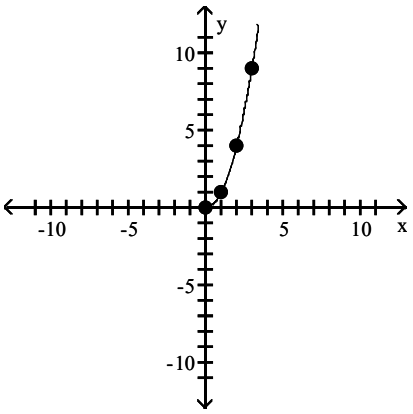
114) $y = \sqrt{x}$



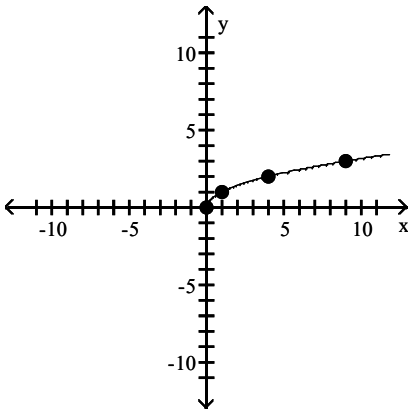



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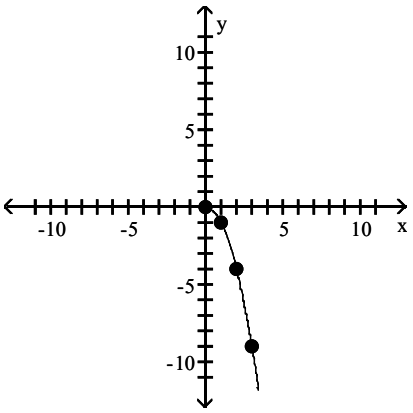
A)



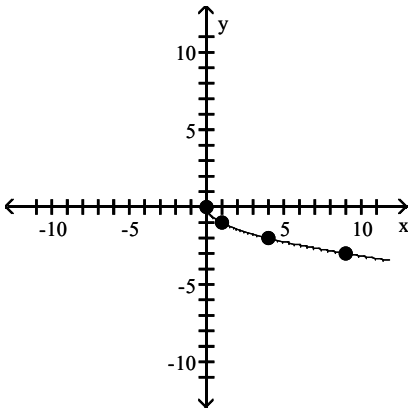

B)




C)

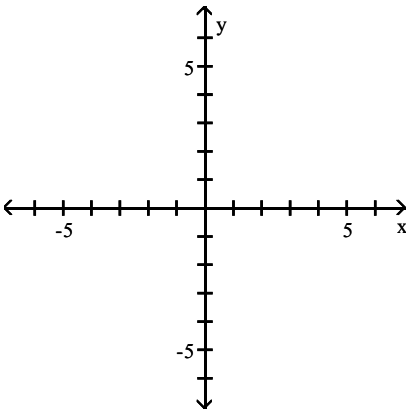



D)




Objective: (1.2) Know How to Graph Key Equations

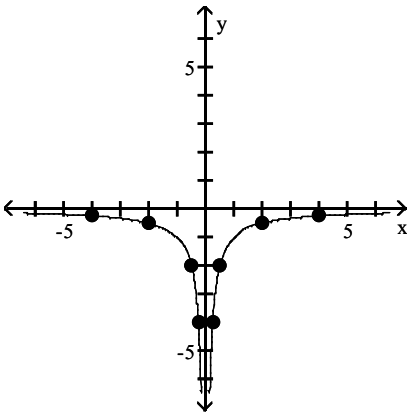
115) $y = \frac{1}{x}$



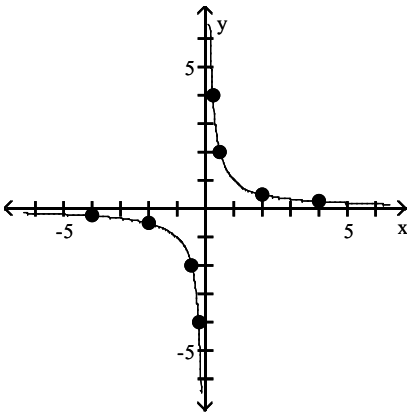



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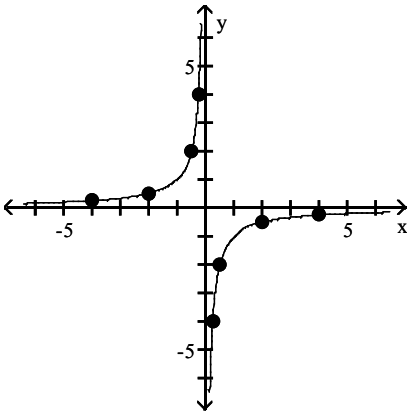
A)



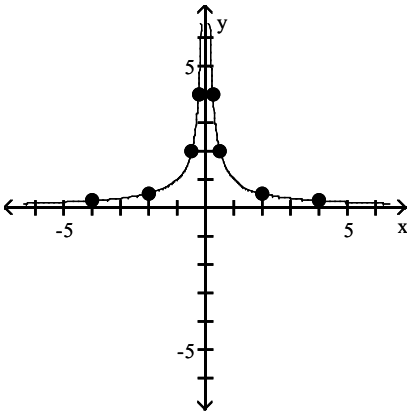

B)




C)



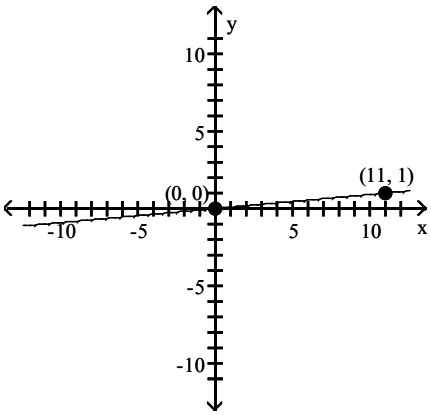

D)




Objective: (1.2) Know How to Graph Key Equations

**Find the slope of the line through the points and interpret the slope.**

116)




A) –11; for every 1–unit increase in x, y will decrease by 11 units

B) 11; for every 1–unit increase in x, y will increase by 11 units

C) $\frac{1}{11}$; for every 11–unit increase in x, y will increase by 1 unit

D) $-\frac{1}{11}$; for every 11–unit increase in x, y will decrease by 1 unit

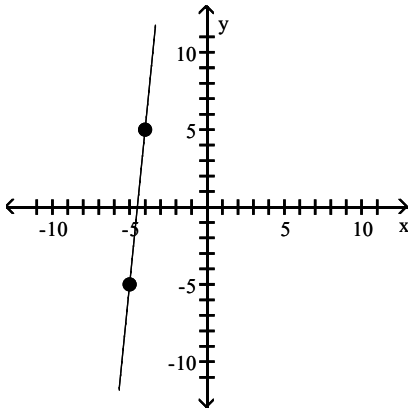
Objective: (1.3) Calculate and Interpret the Slope of a Line



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**Find the slope of the line.**

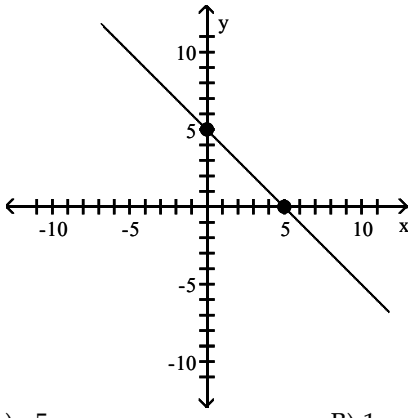
117)




A) $-\frac{1}{10}$ B) 10 C) – 10 D) $\frac{1}{10}$

Objective: (1.3) Calculate and Interpret the Slope of a Line

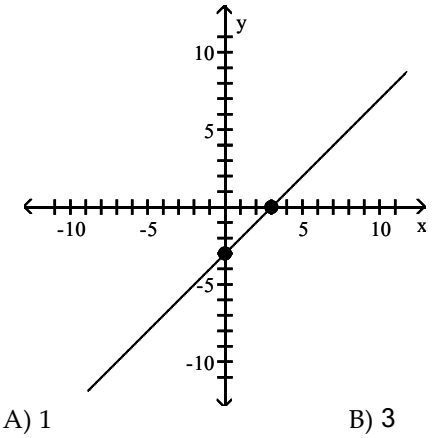
118)




A) –5 B) 1 C) –1 D) 5

Objective: (1.3) Calculate and Interpret the Slope of a Line

119)



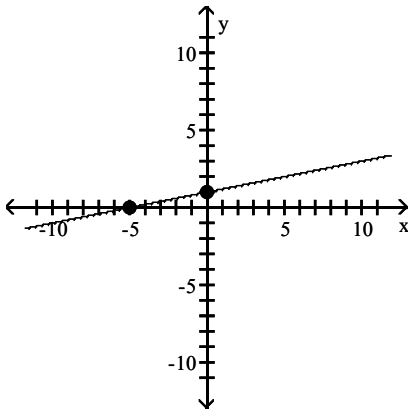

A) 1 B) 3 C) –1 D) –3

Objective: (1.3) Calculate and Interpret the Slope of a Line



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120)




A) –5 B) $\frac{1}{5}$ C) $-\frac{1}{5}$ D) 5

Objective: (1.3) Calculate and Interpret the Slope of a Line

**Find the slope of the line containing the two points.**

121) (2, –7); (–4, 4)

A) $\frac{6}{11}$ B) $-\frac{11}{6}$ C) $-\frac{6}{11}$ D) $\frac{11}{6}$

Objective: (1.3) Calculate and Interpret the Slope of a Line

122) (5, 0); (0, 4)

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

Objective: (1.3) Calculate and Interpret the Slope of a Line

123) (–5, –6); (–4, 5)

A) $-\frac{1}{11}$ B) – 11 C) $\frac{1}{11}$ D) 11

Objective: (1.3) Calculate and Interpret the Slope of a Line

124) (–9, 7); (–9, 8)

A) 0 B) 1 C) – 1 D) undefined

Objective: (1.3) Calculate and Interpret the Slope of a Line

125) (5, –4); (–7, –4)

A) $\frac{1}{12}$ B) 0 C) –12 D) undefined

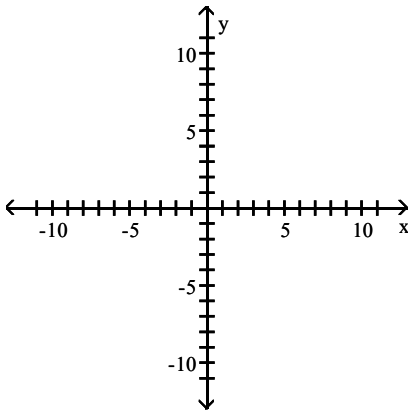
Objective: (1.3) Calculate and Interpret the Slope of a Line

**Graph the line containing the point P and having slope m.**

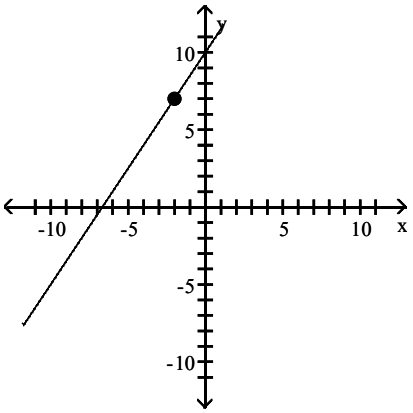


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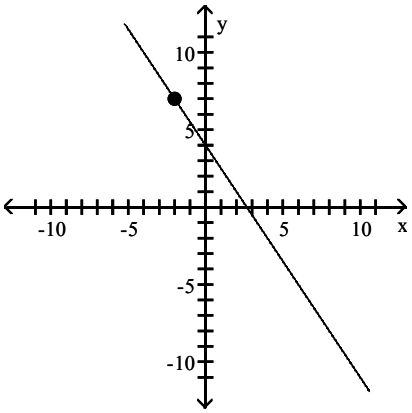
126) P = (–2, 7); m = $-\frac{2}{3}$



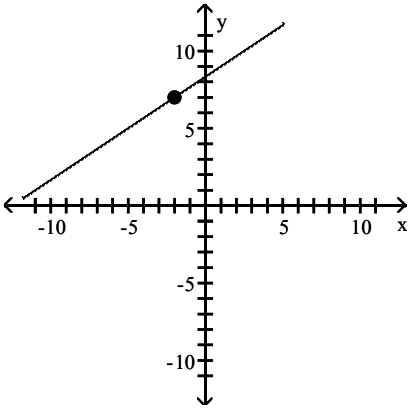

A)



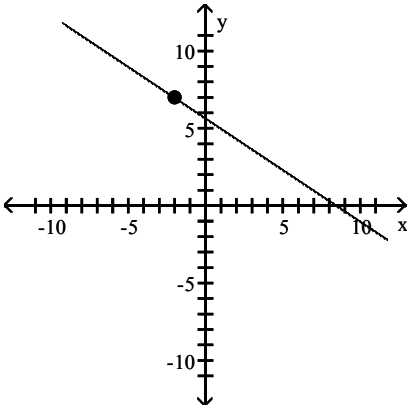

B)




C)




D)

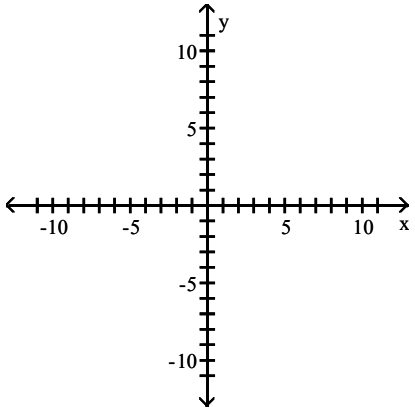



Objective: (1.3) Graph Lines Given a Point and the Slope

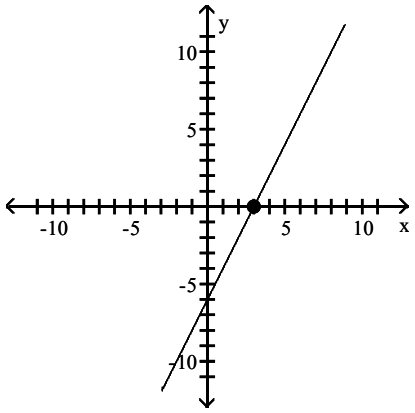


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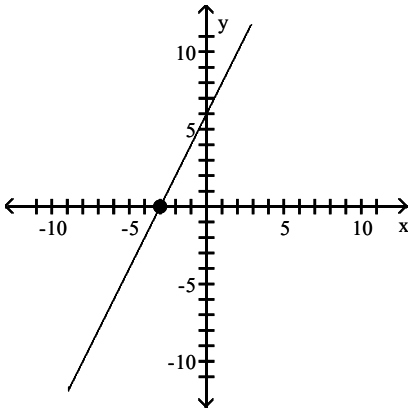
127) P = (–3, 0); m = 2



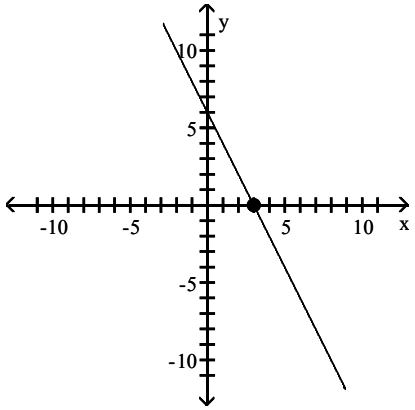

A)



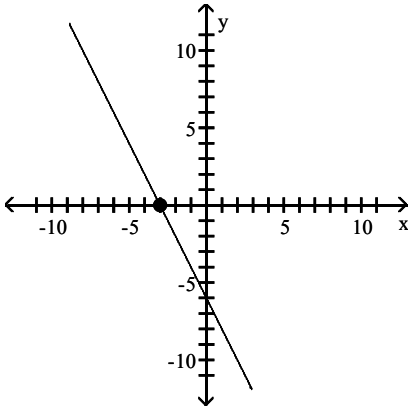

B)




C)




D)

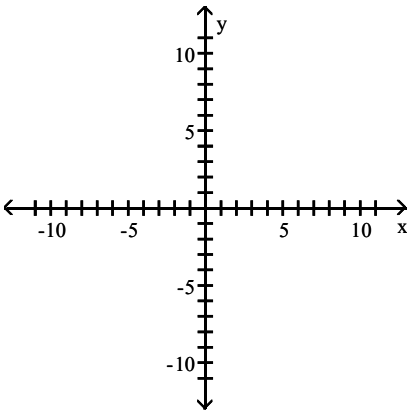



Objective: (1.3) Graph Lines Given a Point and the Slope

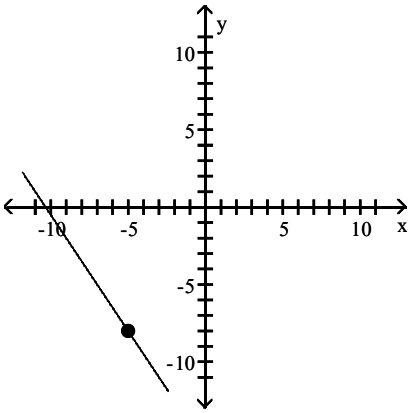


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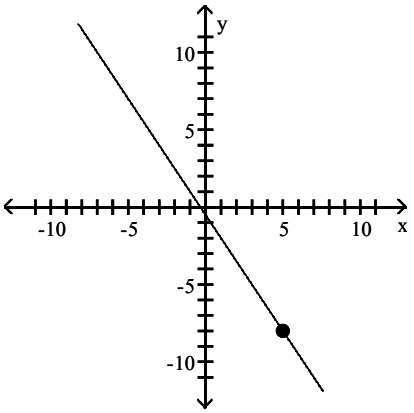
128) P = (–5, –8); m = $-\frac{3}{2}$



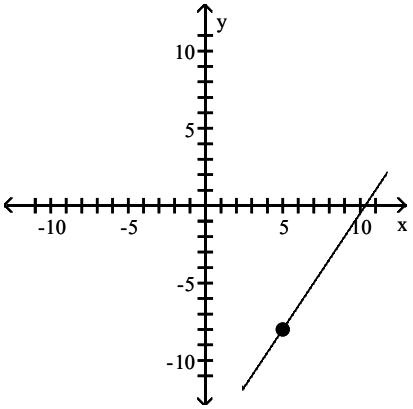

A)



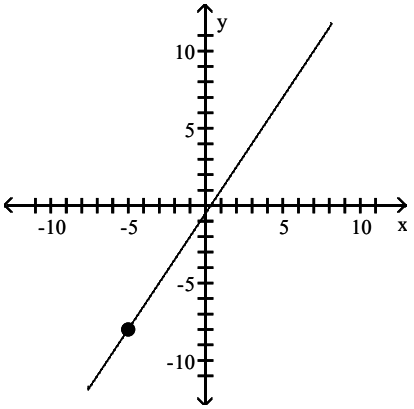

B)




C)




D)

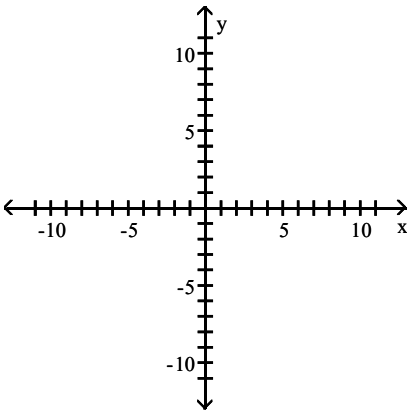



Objective: (1.3) Graph Lines Given a Point and the Slope

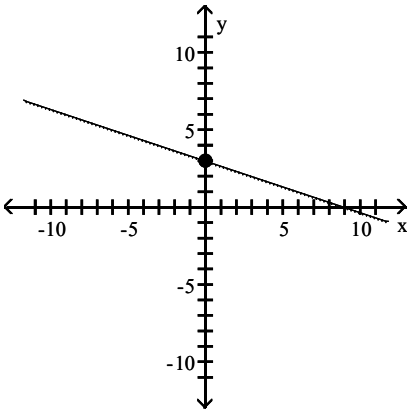


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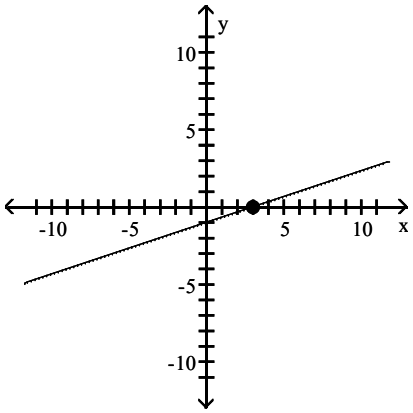
129) P = (0, 3); $m = \frac{1}{3}$



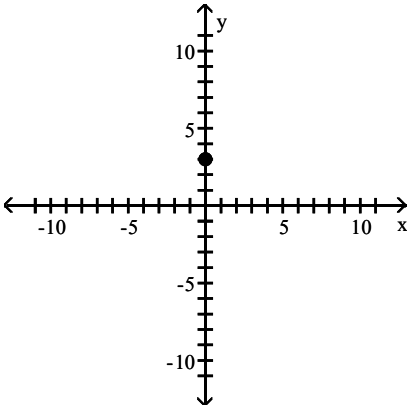

A)



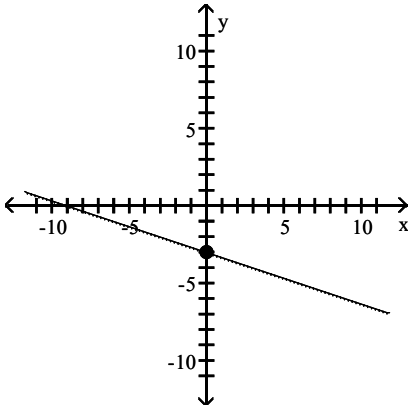

B)




C)




D)

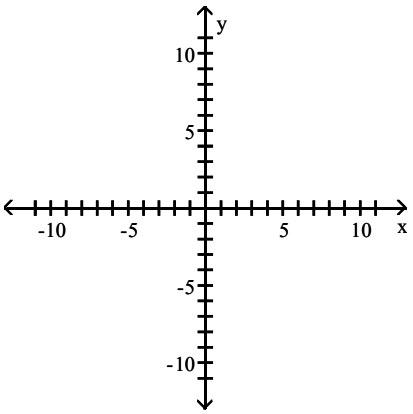



Objective: (1.3) Graph Lines Given a Point and the Slope

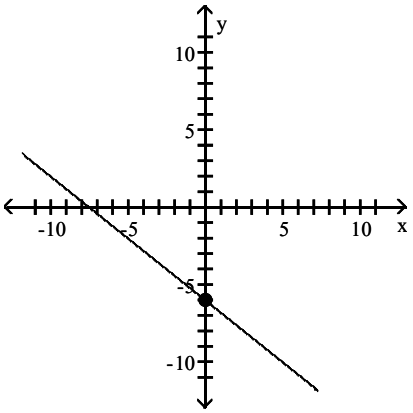


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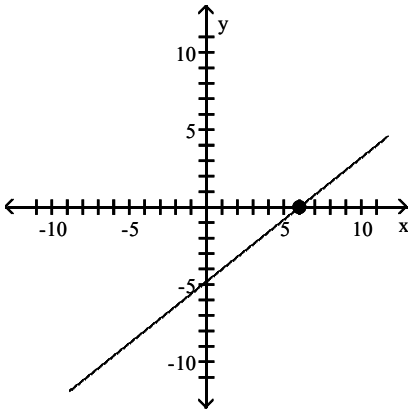
130) P = (0, 6); $m = -\frac{4}{5}$



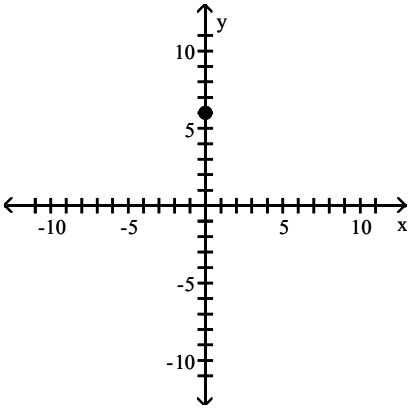

A)



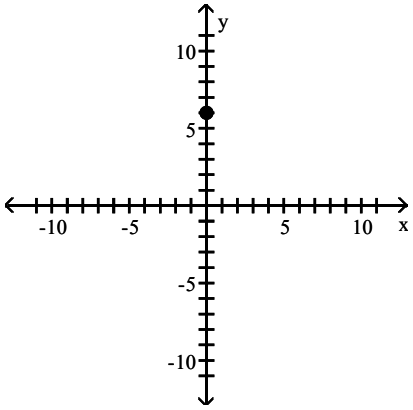

B)




C)




D)

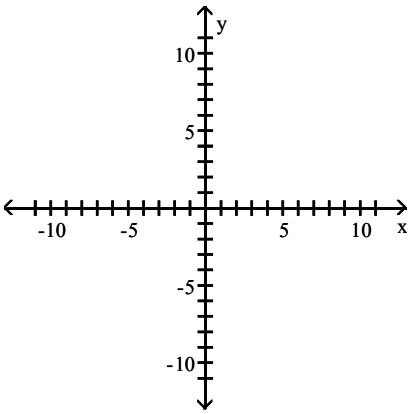



Objective: (1.3) Graph Lines Given a Point and the Slope

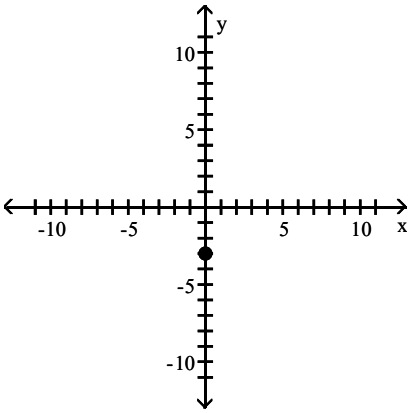


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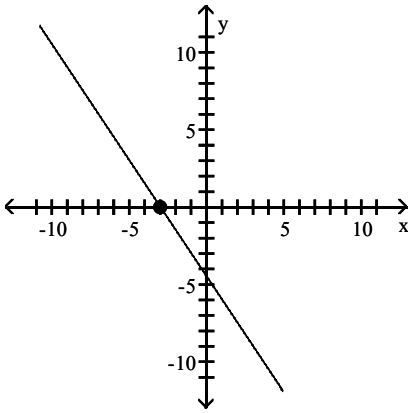
131) P = (–3, 0); m = $\frac{3}{2}$



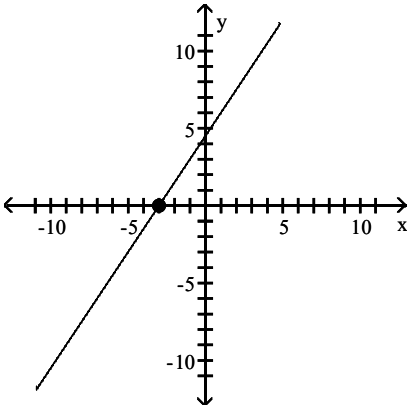

A)



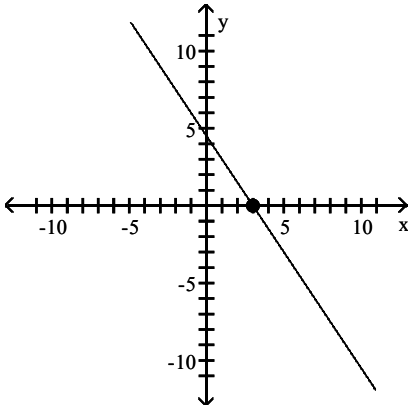

B)




C)




D)

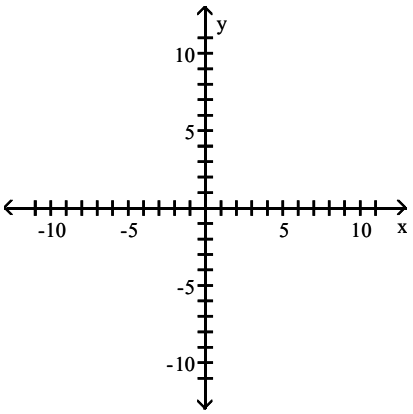



Objective: (1.3) Graph Lines Given a Point and the Slope

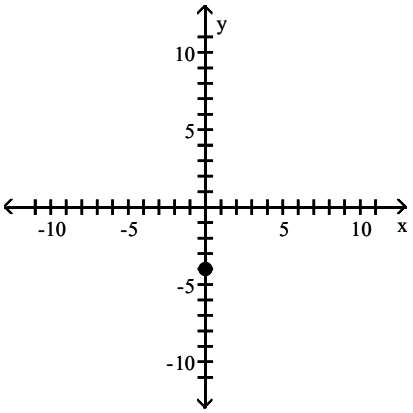


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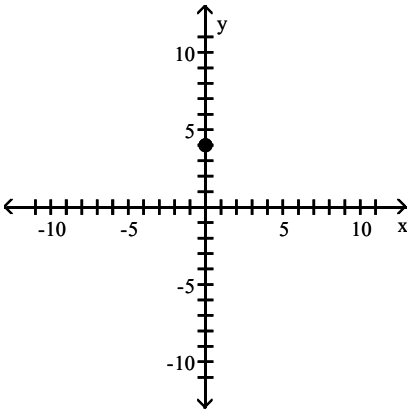
132) P = (4, 0); $m = -\frac{2}{3}$



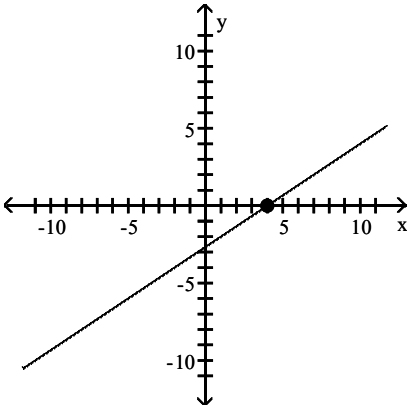

A)



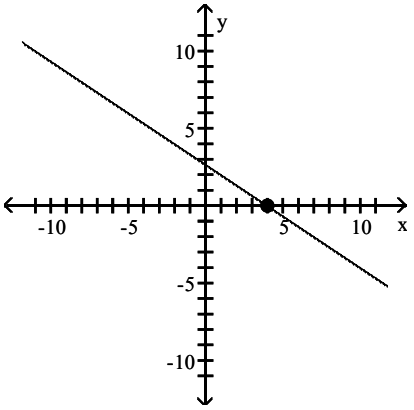

B)




C)




D)

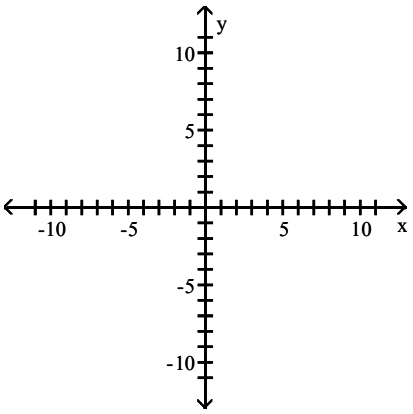



Objective: (1.3) Graph Lines Given a Point and the Slope

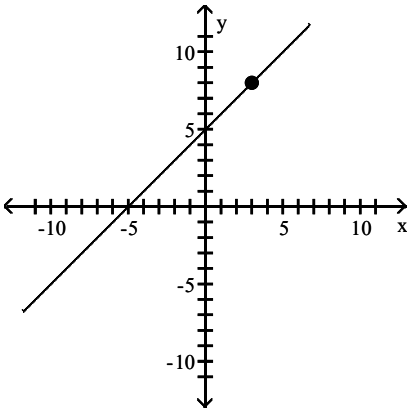


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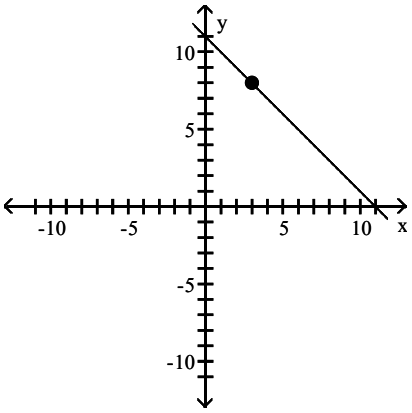
133) P = (3, 8); m = 0



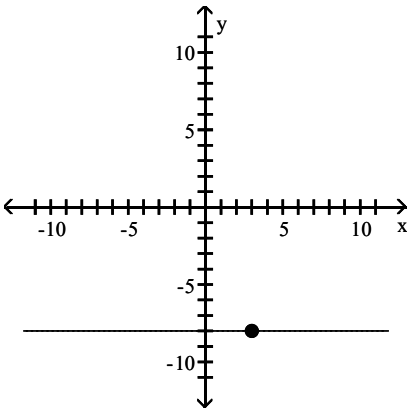

A)



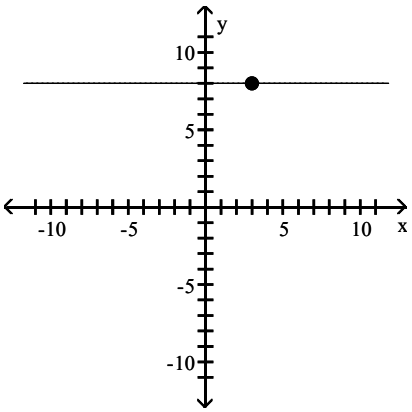

B)




C)




D)

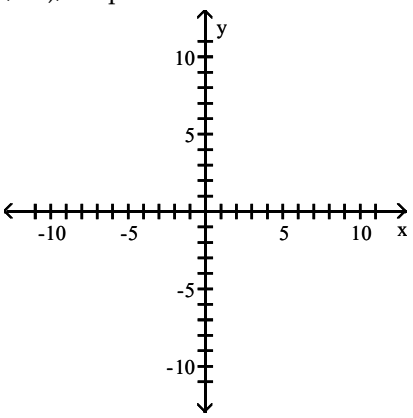



Objective: (1.3) Graph Lines Given a Point and the Slope

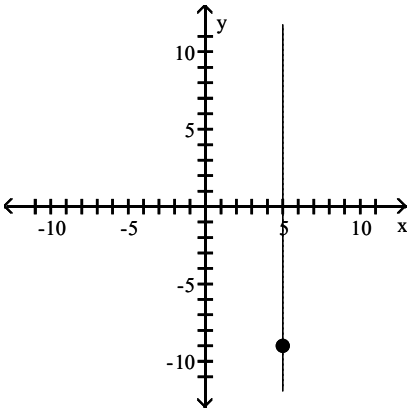


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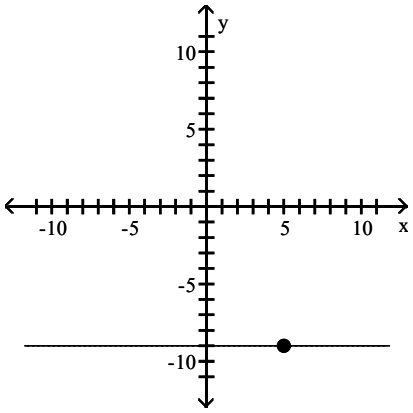
134) P = (5, –9); slope undefined



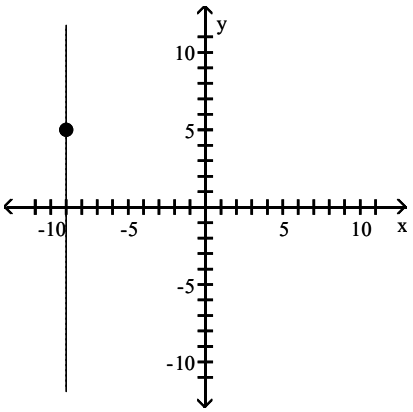

A)



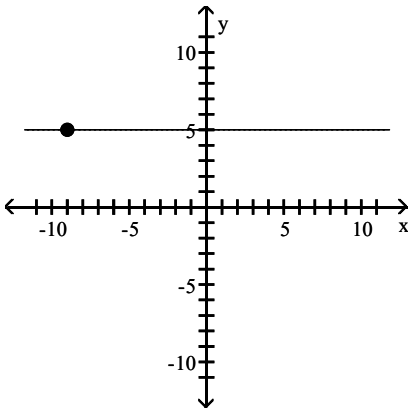

B)




C)




D)




Objective: (1.3) Graph Lines Given a Point and the Slope

**Find an equation for the line with the given properties.**

135) Slope undefined; containing the point (–2, –4)

A) y = –2 B) x = –2 C) y = –4 D) x = –4

Objective: (1.3) Find the Equation of a Vertical Line

136) Vertical line; containing the point (–7, –2)

A) x = –7 B) y = –2 C) y = –7 D) x = –2

Objective: (1.3) Find the Equation of a Vertical Line



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137) Slope undefined; containing the point $\left(-\frac{4}{5}, 5\right)$

A) $y = -\frac{4}{5}$ B) $y = 5$ C) $x = -\frac{4}{5}$ D) $x = 5$

Objective: (1.3) Find the Equation of a Vertical Line

138) Vertical line; containing the point (–2.2, –4.0)

A) $x = -2.2$ B) $x = 0$ C) $x = -4.0$ D) $x = 6.2$

Objective: (1.3) Find the Equation of a Vertical Line

**Find the slope–intercept form of the equation of the line with the given properties.**

139) Horizontal; containing the point (10, –10)

A) $x = 10$ B) $y = -10$ C) $y = 10$ D) $x = -10$

Objective: (1.3) Use the Point–Slope Form of a Line; Identify Horizontal Lines

140) Slope = 0; containing the point (–10, –8)

A) $y = -8$ B) $x = -8$ C) $x = -10$ D) $y = -10$

Objective: (1.3) Use the Point–Slope Form of a Line; Identify Horizontal Lines

141) Horizontal; containing the point $\left(-\frac{3}{4}, 5\right)$

A) $y = -\frac{3}{4}$ B) $y = 0$ C) $y = 5$ D) $y = -5$

Objective: (1.3) Use the Point–Slope Form of a Line; Identify Horizontal Lines

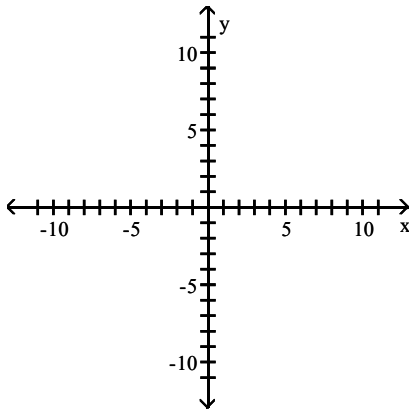
142) Horizontal; containing the point (5.8, –1.7)

A) $y = 0$ B) $y = -1.7$ C) $y = 5.8$ D) $y = 4.1$

Objective: (1.3) Use the Point–Slope Form of a Line; Identify Horizontal Lines

**Find the slope of the line and sketch its graph.**

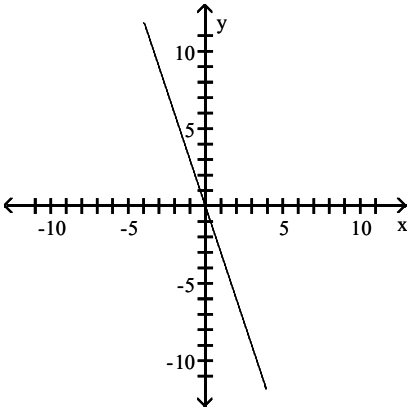
143) $y + 3 = 0$



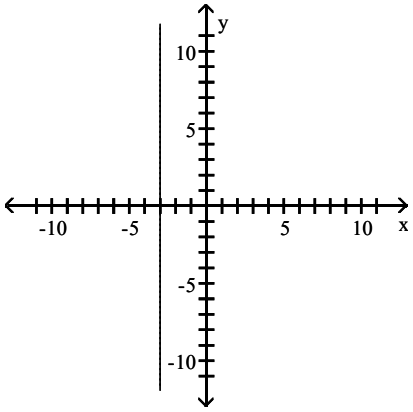



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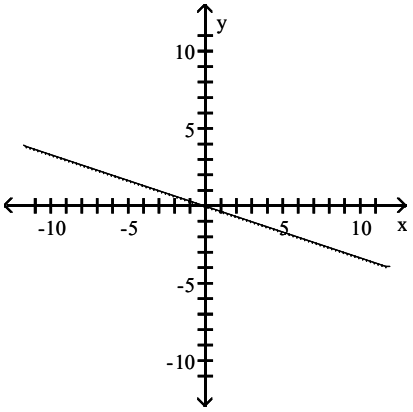
A) slope = –3



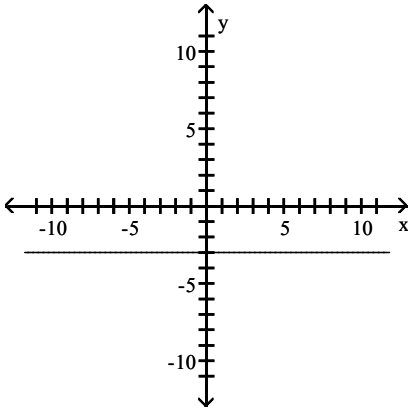

B) slope is undefined




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



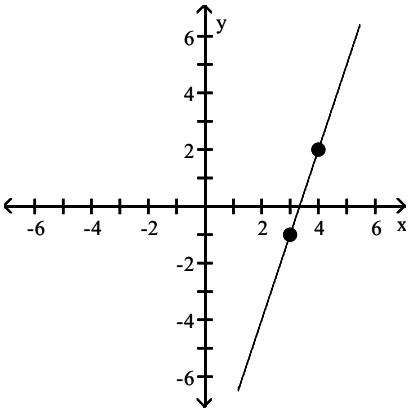

D) slope = 0




Objective: (1.3) Use the Point–Slope Form of a Line; Identify Horizontal Lines

**Find the equation of the line in slope–intercept form.**

144)




A) $y = 3x + 10$ B) $y = 3x - 10$ C) $y = \frac{1}{3}x + \frac{2}{5}$ D) $y = 3x + 6$

Objective: (1.3) Find the Equation of a Line Given Two Points



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**Find an equation for the line, in the indicated form, with the given properties.**

145) Containing the points (–1, 5) and (4, –6); slope–intercept form

A) $y = \frac{11}{5}x + \frac{14}{5}$ B) $y = mx + \frac{14}{5}$ C) $y = -\frac{11}{5}x + \frac{14}{5}$ D) $y - 5 = -\frac{11}{5}(x + 1)$

Objective: (1.3) Find the Equation of a Line Given Two Points

146) Containing the points (1, –5) and (–4, 4); general form

A) $6x - 8y = -8$ B) $-6x + 8y = -8$ C) $9x + 5y = -16$ D) $-9x + 5y = -16$

Objective: (1.3) Find the Equation of a Line Given Two Points

147) Containing the points (6, 0) and (0, –5); general form

A) $y = -\frac{5}{6}x - 5$ B) $5x - 6y = 30$ C) $y = -\frac{5}{6}x + 6$ D) $5x + 6y = 30$

Objective: (1.3) Find the Equation of a Line Given Two Points

148) Containing the points (–4, –7) and (8, 6); general form

A) $-13x - 12y = 32$ B) $-3x - 2y = -12$ C) $3x + 2y = -12$ D) $13x - 12y = 32$

Objective: (1.3) Find the Equation of a Line Given Two Points

149) Containing the points (–7, 9) and (0, –6); general form

A) $-15x - 7y = 42$ B) $15x - 7y = 42$ C) $-16x + 6y = -36$ D) $16x - 6y = -36$

Objective: (1.3) Find the Equation of a Line Given Two Points

150) Containing the points (2, 0) and (–7, –5); general form

A) $-2x + 2y = 24$ B) $2x - 2y = 24$ C) $5x + 9y = -10$ D) $-5x + 9y = -10$

Objective: (1.3) Find the Equation of a Line Given Two Points

151) Containing the points (–8, 1) and (5, –2); general form

A) $9x - 7y = 31$ B) $-9x + 7y = 31$ C) $-3x - 13y = 11$ D) $3x - 13y = 11$

Objective: (1.3) Find the Equation of a Line Given Two Points

**Solve.**

152) The relationship between Celsius (°C) and Fahrenheit (°F) degrees of measuring temperature is linear. Find an equation relating °C and °F if 10°C corresponds to 50°F and 30°C corresponds to 86°F. Use the equation to find the Celsius measure of 1° F.

A) $C = \frac{5}{9}F - \frac{160}{9}$; $-\frac{155}{9}$ °C B) $C = \frac{9}{5}F - 80$; $-\frac{391}{5}$ °C

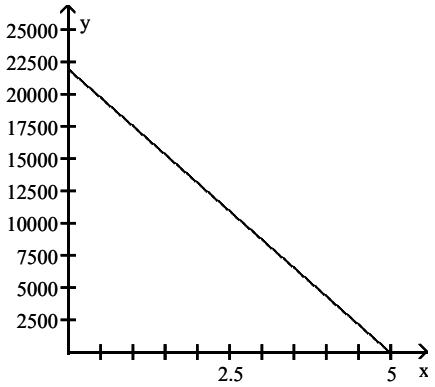
C) $C = \frac{5}{9}F - 10$; $-\frac{85}{9}$ °C D) $C = \frac{5}{9}F + \frac{160}{9}$; $\frac{55}{3}$ °C

Objective: (1.3) Find the Equation of a Line Given Two Points



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153) A school has just purchased new computer equipment for $22,000.00. The graph shows the depreciation of the equipment over 5 years. The point (0, 22,000) represents the purchase price and the point (5, 0) represents when the equipment will be replaced. Write a linear equation in slope–intercept form that relates the value of the equipment, y, to years after purchase x . Use the equation to predict the value of the equipment after 1 years.




A) y = – 22,000x + 22,000;
value after 1 years is $0.00

B) y = 22,000x + 5;
value after 1 years is $17,600.00

C) y = 4400x – 22,000;
value after 1 years is $17,600.00

D) y = – 4400x + 22,000;
value after 1 years is $17,600.00;

Objective: (1.3) Find the Equation of a Line Given Two Points

154) The average value of a certain type of automobile was $13,980 in 1,994 and depreciated to $4,980 in 1,997. Let y be the average value of the automobile in the year x, where x = 0 represents 1,994. Write a linear equation that relates the average value of the automobile, y, to the year x.

A) y = –3,000x + 4,980 B) y = –3,000x – 4,020 C) $y = -\frac{1}{3000}x - 4980$ D) y = –3,000x + 13,980

Objective: (1.3) Find the Equation of a Line Given Two Points

155) An investment is worth $2,806 in 1,993. By 1,997 it has grown to $4,622. Let y be the value of the investment in the year x, where x = 0 represents 1,993. Write a linear equation that relates the value of the investment, y, to the year x.

A) $y = \frac{1}{454}x + 2{,}806$ B) y = –454x + 6,438 C) y = –454x + 2,806 D) y = 454x + 2,806

Objective: (1.3) Find the Equation of a Line Given Two Points

156) A faucet is used to add water to a large bottle that already contained some water. After it has been filling for 4 seconds, the gauge on the bottle indicates that it contains 10 ounces of water. After it has been filling for 11 seconds, the gauge indicates the bottle contains 24 ounces of water. Let y be the amount of water in the bottle x seconds after the faucet was turned on. Write a linear equation that relates the amount of water in the bottle,y, to the time x.

A) y = –2x + 18 B) $y = \frac{1}{2}x + 8$ C) y = 2x + 13 D) y = 2x + 2

Objective: (1.3) Find the Equation of a Line Given Two Points



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157) When making a telephone call using a calling card, a call lasting 3 minutes cost $0.80. A call lasting 10 minutes cost $1.50. Let y be the cost of making a call lasting x minutes using a calling card. Write a linear equation that relates the cost of a making a call, y, to the time x.

A) $y = 0.1x + 0.5$ B) $y = -0.1x + 1.1$ C) $y = 0.1x - 8.5$ D) $y = 10x - \frac{146}{5}$

Objective: (1.3) Find the Equation of a Line Given Two Points

158) A vendor has learned that, by pricing carmel apples at $1.25, sales will reach 120 carmel apples per day. Raising the price to $2.25 will cause the sales to fall to 72 carmel apples per day. Let y be the number of carmel apples the vendor sells at x dollars each. Write a linear equation that relates the number of carmel apples sold per day, y, to the price x.

A) $y = -48x - 180$ B) $y = -\frac{1}{48}x + \frac{23035}{192}$ C) $y = 48x + 60$ D) $y = -48x + 180$

Objective: (1.3) Find the Equation of a Line Given Two Points

159) A vendor has learned that, by pricing caramel apples at $1.00, sales will reach 98 caramel apples per day. Raising the price to $2.00 will cause the sales to fall to 54 caramel apples per day. Let y be the number of caramel apples the vendor sells at x dollars each. Write a linear equation that relates the number of caramel apples sold per day to the price x.

A) $y = -44x - 142$ B) $y = 44x + 54$ C) $y = -44x + 142$ D) $y = -\frac{1}{44}x + \frac{4311}{44}$

Objective: (1.3) Find the Equation of a Line Given Two Points

**Find the slope–intercept form of the equation of the line with the given properties.**

160) Slope = 5; containing the point (–3, –10)

A) $y = 5x + 5$ B) $y = -5x + 5$ C) $y = 5x - 5$ D) $y = -5x - 5$

Objective: (1.3) Write the Equation of a Line in Slope–Intercept Form

161) Slope = 0; containing the point (–2, –5)

A) $x = -2$ B) $y = -5$ C) $y = -2$ D) $x = -5$

Objective: (1.3) Write the Equation of a Line in Slope–Intercept Form

162) Slope = –9; y–intercept = 20

A) $y = -9x + 20$ B) $y = -9x - 20$ C) $y = 20x - 9$ D) $y = 20x + 9$

Objective: (1.3) Write the Equation of a Line in Slope–Intercept Form

163) x–intercept = 8; y–intercept = 5

A) $y = \frac{5}{8}x + 5$ B) $y = -\frac{5}{8}x + 8$ C) $y = -\frac{5}{8}x + 5$ D) $y = -\frac{8}{5}x + 8$

Objective: (1.3) Write the Equation of a Line in Slope–Intercept Form

**Write the equation in slope–intercept form.**

164) $16x + 7y = 13$

A) $y = -\frac{16}{7}x + \frac{13}{7}$ B) $y = \frac{16}{7}x - \frac{13}{7}$ C) $y = \frac{16}{7}x + \frac{13}{7}$ D) $y = 16x - 13$

Objective: (1.3) Write the Equation of a Line in Slope–Intercept Form



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165) $4x + 7y = 9$

A) $y = 4x + 12$ B) $y = \frac{12}{7}x + \frac{9}{7}$ C) $y = \frac{4}{7}x + \frac{9}{7}$ D) $y = \frac{7}{4}x - \frac{9}{4}$

Objective: (1.3) Write the Equation of a Line in Slope–Intercept Form

166) $5x - 7y = 4$

A) $y = \frac{5}{7}x - \frac{4}{7}$ B) $y = \frac{7}{5}x + \frac{4}{5}$ C) $y = 5x - 4$ D) $y = \frac{5}{7}x + \frac{4}{7}$

Objective: (1.3) Write the Equation of a Line in Slope–Intercept Form

167) $x = 9y + 4$

A) $y = x - \frac{4}{9}$ B) $y = \frac{1}{9}x - \frac{4}{9}$ C) $y = 9x - 4$ D) $y = \frac{1}{9}x - 4$

Objective: (1.3) Write the Equation of a Line in Slope–Intercept Form

**Solve.**

168) A truck rental company rents a moving truck one day by charging $25 plus $0.07 per mile. Write a linear equation that relates the cost C, in dollars, of renting the truck to the number x of miles driven. What is the cost of renting the truck if the truck is driven 130 miles?

A) $C = 0.07x + 25$; $34.10 B) $C = 0.07x + 25$; $25.91

C) $C = 25x + 0.07$; $3,250.07 D) $C = 0.07x - 25$; $15.90

Objective: (1.3) Write the Equation of a Line in Slope–Intercept Form

169) Each week a soft drink machine sells x cans of soda for $0.75/soda. The cost to the owner of the soda machine for each soda is $0.10. The weekly fixed cost for maintaining the soda machine is $25/week. Write an equation that relates the weekly profit, P, in dollars to the number of cans sold each week. Then use the equation to find the weekly profit when 92 cans of soda are sold in a week.

A) $P = 0.65x - 25$; $34.80 B) $P = 0.75x + 25$; $94.00

C) $P = 0.75x - 25$; $44.00 D) $P = 0.65x + 25$; $84.80

Objective: (1.3) Write the Equation of a Line in Slope–Intercept Form

170) Each day the commuter train transports x passengers to or from the city at $1.75/passenger. The daily fixed cost for running the train is $1200. Write an equation that relates the daily profit, P, in dollars to the number of passengers each day. Then use the equation to find the daily profit when the train has 920 passengers in a day.

A) $P = 1200 - 1.75x$; $410 B) $P = 1.75x$; $1610

C) $P = 1.75x + 1200$; $2810 D) $P = 1.75x - 1200$; $410

Objective: (1.3) Write the Equation of a Line in Slope–Intercept Form

171) Each month a beauty salon gives x manicures for $12.00/manicure. The cost to the owner of the beauty salon for each manicure is $7.35. The monthly fixed cost to maintain a manicure station is $120.00. Write an equation that relates the monthly profit, in dollars, to the number of manicures given each month. Then use the equation to find the monthly profit when 200 manicures are given in a month.

A) $P = 12x - 120$; $2280 B) $P = 4.65x$; $930

C) $P = 7.35x - 120$; $1350 D) $P = 4.65x - 120$; $810

Objective: (1.3) Write the Equation of a Line in Slope–Intercept Form



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172) Each month a gas station sells x gallons of gas at $1.92/gallon. The cost to the owner of the gas station for each gallon of gas is $1.32. The monthly fixed cost for running the gas station is $37,000. Write an equation that relates the monthly profit, in dollars, to the number of gallons of gasoline sold. Then use the equation to find the monthly profit when 75,000 gallons of gas are sold in a month.

A) $P = 1.32x - 37{,}000$; $62,000
B) $P = 0.60x + 37{,}000$; $82,000
C) $P = 1.92x - 37{,}000$; $107,000
D) $P = 0.60x - 37{,}000$; $8000

Objective: (1.3) Write the Equation of a Line in Slope–Intercept Form

**Find the slope and y–intercept of the line.**

173) $y = -\frac{1}{9}x - 2$

A) slope $= -2$; y–intercept $= -\frac{1}{9}$
B) slope $= -\frac{1}{9}$; y–intercept $= -2$
C) slope $= -9$; y–intercept $= 2$
D) slope $= \frac{1}{9}$; y–intercept $= 2$

Objective: (1.3) Identify the Slope and y–Intercept of a Line from Its Equation

174) $x + y = 2$

A) slope $= -1$; y–intercept $= 2$
B) slope $= -1$; y–intercept $= -2$
C) slope $= 0$; y–intercept $= 2$
D) slope $= 1$; y–intercept $= 2$

Objective: (1.3) Identify the Slope and y–Intercept of a Line from Its Equation

175) $12x + y = 8$

A) slope $= 12$; y–intercept $= 8$
B) slope $= -\frac{1}{12}$; y–intercept $= \frac{2}{3}$
C) slope $= \frac{3}{2}$; y–intercept $= \frac{1}{8}$
D) slope $= -12$; y–intercept $= 8$

Objective: (1.3) Identify the Slope and y–Intercept of a Line from Its Equation

176) $-6x + 5y = 8$

A) slope $= \frac{12}{5}$; y–intercept $= \frac{8}{5}$
B) slope $= \frac{5}{6}$; y–intercept $= -\frac{8}{6}$
C) slope $= \frac{6}{5}$; y–intercept $= \frac{8}{5}$
D) slope $= 6$; y–intercept $= 12$

Objective: (1.3) Identify the Slope and y–Intercept of a Line from Its Equation

177) $10x + 3y = 7$

A) slope $= -\frac{10}{3}$; y–intercept $= \frac{7}{3}$
B) slope $= 10$; y–intercept $= 7$
C) slope $= \frac{10}{3}$; y–intercept $= \frac{7}{3}$
D) slope $= \frac{10}{3}$; y–intercept $= -\frac{7}{3}$

Objective: (1.3) Identify the Slope and y–Intercept of a Line from Its Equation



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178) $2x - 9y = 5$

A) slope $= \frac{9}{2}$; y–intercept $= \frac{5}{2}$

B) slope $= \frac{2}{9}$; y–intercept $= -\frac{5}{9}$

C) slope $= 2$; y–intercept $= 5$

D) slope $= \frac{2}{9}$; y–intercept $= \frac{5}{9}$

Objective: (1.3) Identify the Slope and y–Intercept of a Line from Its Equation

179) $3x - 12y = 36$

A) slope $= \frac{1}{4}$; y–intercept $= -3$

B) slope $= 3$; y–intercept $= 36$

C) slope $= -\frac{1}{4}$; y–intercept $= 3$

D) slope $= 4$; y–intercept $= 12$

Objective: (1.3) Identify the Slope and y–Intercept of a Line from Its Equation

180) $x + 5y = 1$

A) slope $= \frac{1}{5}$; y–intercept $= \frac{1}{5}$

B) slope $= -5$; y–intercept $= 5$

C) slope $= -\frac{1}{5}$; y–intercept $= \frac{1}{5}$

D) slope $= 1$; y–intercept $= 1$

Objective: (1.3) Identify the Slope and y–Intercept of a Line from Its Equation

181) $-x + 6y = 48$

A) slope $= -\frac{1}{6}$; y–intercept $= 8$

B) slope $= \frac{1}{6}$; y–intercept $= 8$

C) slope $= 6$; y–intercept $= -48$

D) slope $= -1$; y–intercept $= 48$

Objective: (1.3) Identify the Slope and y–Intercept of a Line from Its Equation

182) $y = -4$

A) slope $= 0$; y–intercept $= -4$

B) slope $= 0$; no y–intercept

C) slope $= -4$; y–intercept $= 0$

D) slope $= 1$; y–intercept $= -4$

Objective: (1.3) Identify the Slope and y–Intercept of a Line from Its Equation

183) $x = -3$

A) slope undefined; y–intercept $= -3$

B) slope $= -3$; y–intercept $= 0$

C) slope undefined; no y–intercept

D) slope $= 0$; y–intercept $= -3$

Objective: (1.3) Identify the Slope and y–Intercept of a Line from Its Equation

184) $y = -6x$

A) slope $= -6$; y–intercept $= 0$

B) slope $= 0$; y–intercept $= -6$

C) slope $= -\frac{1}{6}$; y–intercept $= 0$

D) slope $= 6$; y–intercept $= 0$

Objective: (1.3) Identify the Slope and y–Intercept of a Line from Its Equation



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**Find the general form of the equation for the line with the given properties.**

185) Slope $= \frac{3}{5}$; y–intercept $= \frac{6}{5}$

A) $y = \frac{3}{5}x + \frac{6}{5}$ B) $3x - 5y = -6$ C) $y = \frac{3}{5}x - \frac{6}{5}$ D) $3x + 5y = -6$

Objective: (1.3) Graph Lines Written in General Form Using Intercepts

186) Slope $= -\frac{5}{6}$; containing the point (3, 2)

A) $6x + 5y = -27$ B) $5x + 6y = -27$ C) $5x + 6y = 27$ D) $5x - 6y = 27$

Objective: (1.3) Graph Lines Written in General Form Using Intercepts

187) Slope $= -\frac{3}{4}$; containing the point (0, 4)

A) $3x + 4y = -16$ B) $4x + 3y = -16$ C) $3x + 4y = 16$ D) $3x - 4y = 16$

Objective: (1.3) Graph Lines Written in General Form Using Intercepts

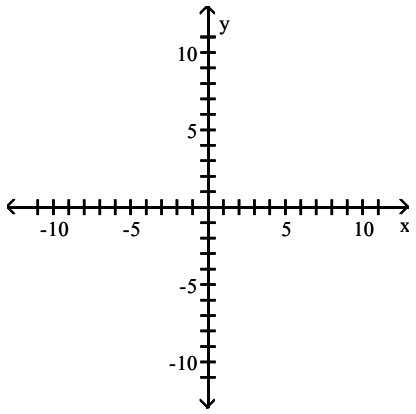
188) Slope $= \frac{2}{9}$; containing (0, 4)

A) $-2x - 9y = 36$ B) $-2x + 9y = 36$ C) $9x - 2y = -36$ D) $-2x + 9y = -36$

Objective: (1.3) Graph Lines Written in General Form Using Intercepts

**Find the slope of the line and sketch its graph.**

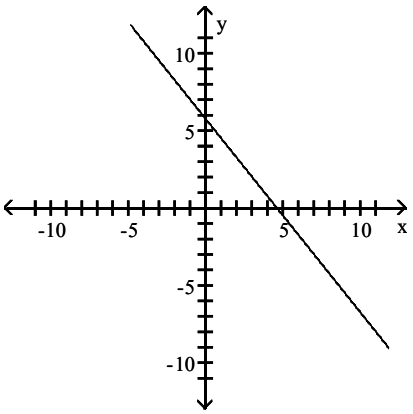
189) $4x + 5y = 23$



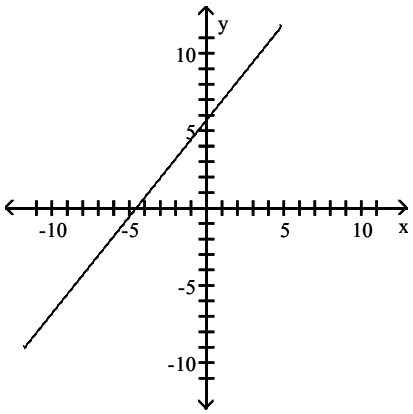



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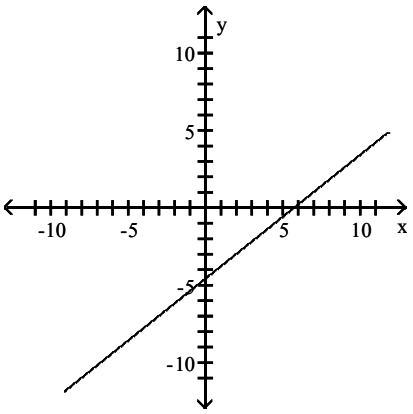
A) slope $= -\frac{5}{4}$



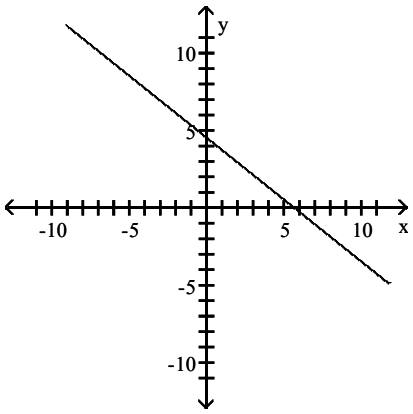

B) slope $= \frac{5}{4}$




C) slope $= \frac{4}{5}$

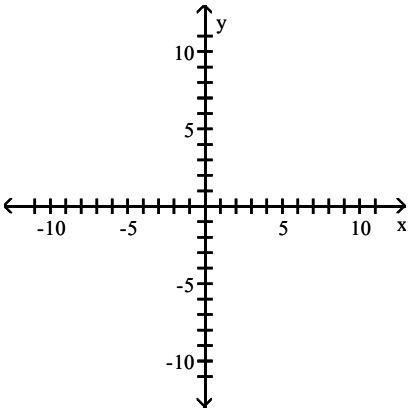



D) slope $= -\frac{4}{5}$




Objective: (1.3) Graph Lines Written in General Form Using Intercepts

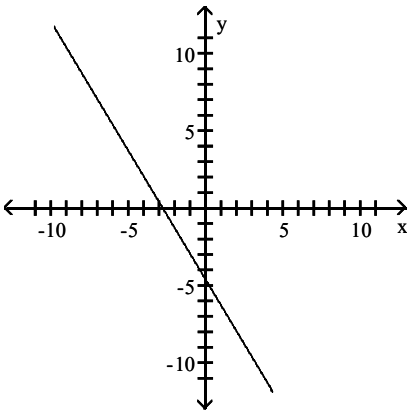
190) $3x - 5y = -14$



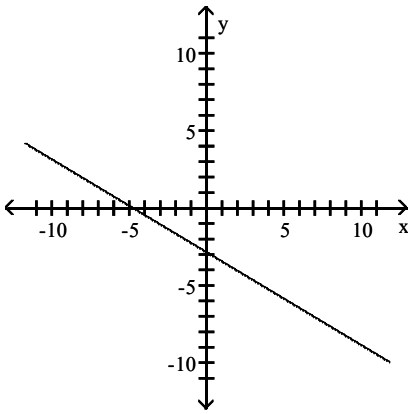



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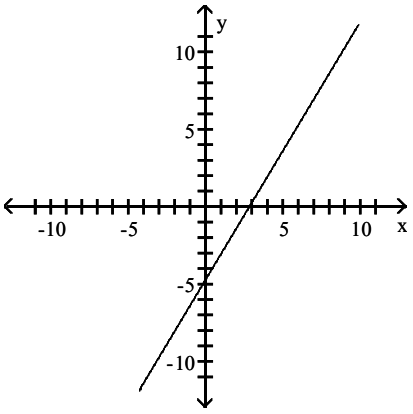
A) slope $= -\frac{5}{3}$



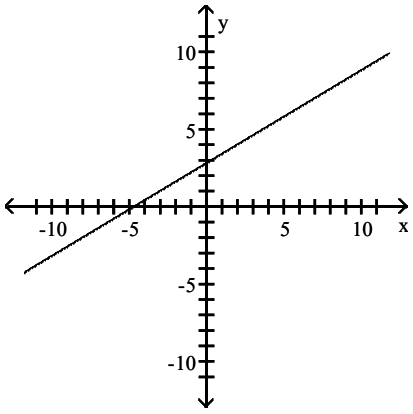

B) slope $= -\frac{3}{5}$




C) slope $= \frac{5}{3}$



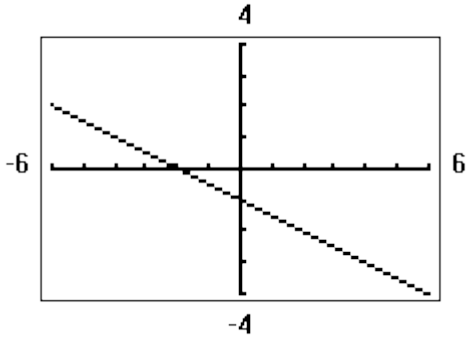

D) slope $= \frac{3}{5}$




Objective: (1.3) Graph Lines Written in General Form Using Intercepts

**Solve the problem.**

191) Find an equation in general form for the line graphed on a graphing utility.




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

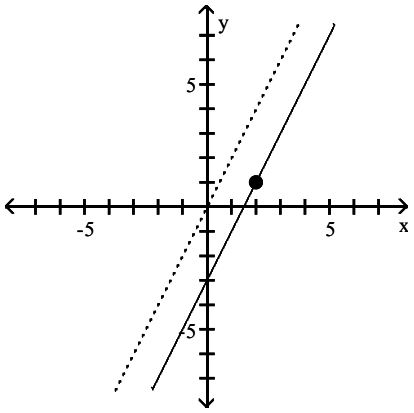
Objective: (1.3) Graph Lines Written in General Form Using Intercepts



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**Find an equation for the line with the given properties.**

192) The solid line L contains the point (2, 1) and is parallel to the dotted line whose equation is y = 2x. Give the equation for the line L in slope–intercept form.




A) y = 2x – 3 B) y – 1 = 2(x – 2) C) y = 2x – 1 D) y = 2x + b

Objective: (1.3) Find Equations of Parallel Lines

193) Parallel to the line y = –3x; containing the point (5, 6)

A) y = –3x + 21 B) y = –3x C) y = –3x – 21 D) y – 6 = –3x – 5

Objective: (1.3) Find Equations of Parallel Lines

194) Parallel to the line x + 3y = 5; containing the point (0, 0)

A) $y = \frac{4}{3}$ B) $y = -\frac{1}{3}x$ C) $y = -\frac{1}{3}x + 5$ D) $y = \frac{1}{3}x$

Objective: (1.3) Find Equations of Parallel Lines

195) Parallel to the line –2x – y = 6; containing the point (0, 0)

A) y = –2x B) $y = -\frac{1}{2}x$ C) $y = \frac{1}{2}x + 6$ D) $y = \frac{1}{2}x$

Objective: (1.3) Find Equations of Parallel Lines

196) Parallel to the line y = –7; containing the point (6, 2)

A) y = –7 B) y = –2 C) y = 6 D) y = 2

Objective: (1.3) Find Equations of Parallel Lines

197) Parallel to the line x = –6; containing the point (2, 4)

A) x = 4 B) x = 2 C) y = –6 D) y = 4

Objective: (1.3) Find Equations of Parallel Lines

198) Parallel to the line 6x + 7y = –6; containing the point (6, –2)

A) 6x – 7y = 22 B) 6x + 7y = –6 C) 6x + 7y = 22 D) 7x + 6y = –2

Objective: (1.3) Find Equations of Parallel Lines

199) Parallel to the line –2x – 3y = 4; x–intercept = 4

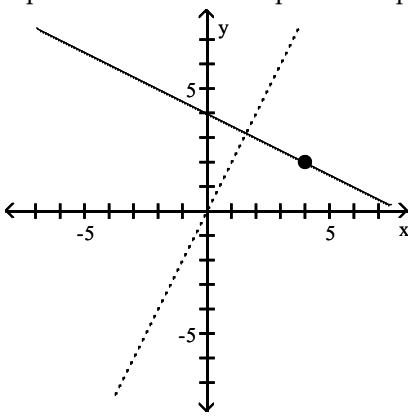
A) –3x + 2y = 8 B) –2x – 3y = –12 C) –3x + 2y = –12 D) –2x – 3y = –8

Objective: (1.3) Find Equations of Parallel Lines



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200) The solid line L contains the point (4, 2) and is perpendicular to the dotted line whose equation is y = 2x. Give the equation of line L in slope–intercept form.




A) $y - 2 = 2(x - 4)$ B) $y - 2 = -\frac{1}{2}(x - 4)$ C) $y = \frac{1}{2}x + 4$ D) $y = -\frac{1}{2}x + 4$

Objective: (1.3) Find Equations of Perpendicular Lines

201) Perpendicular to the line $y = 4x - 1$; containing the point $(-1, 4)$

A) $y = -\frac{1}{4}x + \frac{15}{4}$ B) $y = -4x + \frac{15}{4}$ C) $y = \frac{1}{4}x + \frac{15}{4}$ D) $y = 4x + \frac{15}{4}$

Objective: (1.3) Find Equations of Perpendicular Lines

202) Perpendicular to the line $y = \frac{1}{7}x + 2$; containing the point $(3, -4)$

A) $y = -7x - 17$ B) $y = 7x - 17$ C) $y = -\frac{1}{7}x - \frac{17}{7}$ D) $y = -7x + 17$

Objective: (1.3) Find Equations of Perpendicular Lines

203) Perpendicular to the line $4x - y = 4$; containing the point $(0, 1)$

A) $y = \frac{1}{4}x + 1$ B) $y = -\frac{1}{4}x + 4$ C) $y = -\frac{1}{4}x + 1$ D) $y = \frac{3}{4}$

Objective: (1.3) Find Equations of Perpendicular Lines

204) Perpendicular to the line $x - 4y = 7$; containing the point $(4, 4)$

A) $y = -4x + 20$ B) $y = -4x - 20$ C) $y = 4x - 20$ D) $y = -\frac{1}{4}x - 5$

Objective: (1.3) Find Equations of Perpendicular Lines

205) Perpendicular to the line $y = -2$; containing the point $(9, 3)$

A) $y = 3$ B) $x = 9$ C) $x = 3$ D) $y = 9$

Objective: (1.3) Find Equations of Perpendicular Lines

206) Perpendicular to the line $x = -5$; containing the point $(4, 1)$

A) $y = 1$ B) $y = 4$ C) $x = 1$ D) $x = 4$

Objective: (1.3) Find Equations of Perpendicular Lines



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207) Perpendicular to the line $-4x + 3y = -1$; containing the point $(7, -9)$

A) $-3x + 4y = 15$ B) $-3x - 4y = 15$ C) $7x - 3y = -1$ D) $-4x - 3 = -4$

Objective: (1.3) Find Equations of Perpendicular Lines

208) Perpendicular to the line $-7x + 8y = 41$; containing the point $(1, 0)$

A) $8x - 7y = 8$ B) $-7x - 8y = 8$ C) $8x + 7y = 8$ D) $8x - 7y = 41$

Objective: (1.3) Find Equations of Perpendicular Lines

209) Perpendicular to the line $-3x - 5y = -6$; y–intercept $= 3$

A) $-3x - 5y = -9$ B) $-5x + 3y = -15$ C) $-5x + 3y = 9$ D) $-3x - 5y = -15$

Objective: (1.3) Find Equations of Perpendicular Lines

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

210) $3x - 4y = -10$

$8x + 6y = 3$

A) parallel B) perpendicular C) neither

Objective: (1.3) Find Equations of Perpendicular Lines

211) $3x - 6y = 9$

$18x + 9y = 13$

A) parallel B) perpendicular C) neither

Objective: (1.3) Find Equations of Perpendicular Lines

212) $6x + 2y = 8$

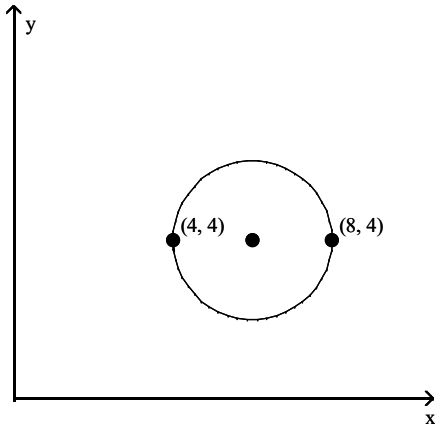
$9x + 3y = 14$

A) parallel B) perpendicular C) neither

Objective: (1.3) Find Equations of Perpendicular Lines

**Write the standard form of the equation of the circle.**

213)




A) $(x + 6)^2 + (y + 4)^2 = 2$ B) $(x + 6)^2 + (y + 4)^2 = 4$

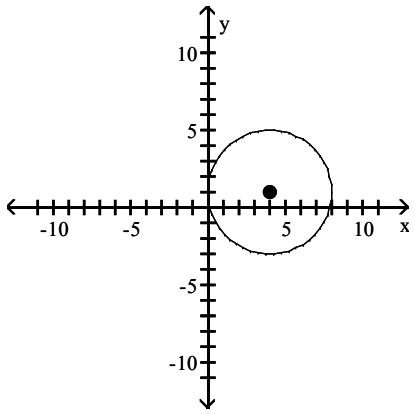
C) $(x - 6)^2 + (y - 4)^2 = 2$ D) $(x - 6)^2 + (y - 4)^2 = 4$

Objective: (1.4) Write the Standard Form of the Equation of a Circle



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214)




A) $(x - 1)^2 + (y - 4)^2 = 16$ B) $(x - 4)^2 + (y - 1)^2 = 16$

C) $(x + 4)^2 + (y + 1)^2 = 16$ D) $(x + 1)^2 + (y + 4)^2 = 16$

Objective: (1.4) Write the Standard Form of the Equation of a Circle

**Write the standard form of the equation of the circle with radius r and center (h, k).**

215) $r = 3$; $(h, k) = (0, 0)$

A) $(x - 3)^2 + (y - 3)^2 = 3$ B) $(x - 3)^2 + (y - 3)^2 = 9$

C) $x^2 + y^2 = 3$ D) $x^2 + y^2 = 9$

Objective: (1.4) Write the Standard Form of the Equation of a Circle

216) $r = 12$; $(h, k) = (8, 5)$

A) $(x - 8)^2 + (y - 5)^2 = 12$ B) $(x + 8)^2 + (y + 5)^2 = 12$

C) $(x + 8)^2 + (y + 5)^2 = 144$ D) $(x - 8)^2 + (y - 5)^2 = 144$

Objective: (1.4) Write the Standard Form of the Equation of a Circle

217) $r = 8$; $(h, k) = (-7, 0)$

A) $x^2 + (y + 7)^2 = 8$ B) $(x + 7)^2 + y^2 = 64$ C) $(x - 7)^2 + y^2 = 64$ D) $x^2 + (y - 7)^2 = 8$

Objective: (1.4) Write the Standard Form of the Equation of a Circle

218) $r = 10$; $(h, k) = (0, -3)$

A) $(x - 3)^2 + y^2 = 100$ B) $x^2 + (y - 3)^2 = 10$ C) $(x + 3)^2 + y^2 = 100$ D) $x^2 + (y + 3)^2 = 100$

Objective: (1.4) Write the Standard Form of the Equation of a Circle

219) $r = \sqrt{7}$; $(h, k) = (-1, -4)$

A) $(x + 4)^2 + (y + 1)^2 = 49$ B) $(x - 1)^2 + (y - 4)^2 = 7$

C) $(x - 4)^2 + (y - 1)^2 = 49$ D) $(x + 1)^2 + (y + 4)^2 = 7$

Objective: (1.4) Write the Standard Form of the Equation of a Circle

220) $r = \sqrt{13}$; $(h, k) = (0, 8)$

A) $(x + 8)^2 + y^2 = 169$ B) $x^2 + (y - 8)^2 = 13$ C) $x^2 + (y + 8)^2 = 13$ D) $(x - 8)^2 + y^2 = 169$

Objective: (1.4) Write the Standard Form of the Equation of a Circle



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**Solve the problem.**

221) Find the equation of a circle in standard form where C(6, –2) and D(–4, 4) are endpoints of a diameter.

A) $(x - 1)^2 + (y - 1)^2 = 136$ B) $(x - 1)^2 + (y - 1)^2 = 34$

C) $(x + 1)^2 + (y + 1)^2 = 34$ D) $(x + 1)^2 + (y + 1)^2 = 136$

Objective: (1.4) Write the Standard Form of the Equation of a Circle

222) Find the equation of a circle in standard form with center at the point (–3, 2) and tangent to the line y = 4.

A) $(x + 3)^2 + (y - 2)^2 = 16$ B) $(x - 3)^2 + (y + 2)^2 = 4$

C) $(x - 3)^2 + (y + 2)^2 = 16$ D) $(x + 3)^2 + (y - 2)^2 = 4$

Objective: (1.4) Write the Standard Form of the Equation of a Circle

223) Find the equation of a circle in standard form that is tangent to the line x = –3 at (–3, 5) and also tangent to the line x = 9.

A) $(x + 3)^2 + (y - 5)^2 = 36$ B) $(x - 3)^2 + (y + 5)^2 = 36$

C) $(x - 3)^2 + (y - 5)^2 = 36$ D) $(x + 3)^2 + (y + 5)^2 = 36$

Objective: (1.4) Write the Standard Form of the Equation of a Circle

**Find the center (h, k) and radius r of the circle with the given equation.**

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

A) (h, k) = (0, 0); r = 4 B) (h, k) = (2, 2); r = 4 C) (h, k) = (0, 0); r = 2 D) (h, k) = (2, 2); r = 2

Objective: (1.4) Write the Standard Form of the Equation of a Circle

225) $(x + 2)^2 + (y + 6)^2 = 49$

A) (h, k) = (–2, –6); r = 49 B) (h, k) = (–6, –2); r = 7

C) (h, k) = (–2, –6); r = 7 D) (h, k) = (–6, –2); r = 49

Objective: (1.4) Write the Standard Form of the Equation of a Circle

226) $(x + 7)^2 + y^2 = 100$

A) (h, k) = (0, –7); r = 100 B) (h, k) = (–7, 0); r = 10

C) (h, k) = (–7, 0); r = 100 D) (h, k) = (0, –7); r = 10

Objective: (1.4) Write the Standard Form of the Equation of a Circle

227) $x^2 + (y + 6)^2 = 36$

A) (h, k) = (–6, 0); r = 36 B) (h, k) = (0, –6); r = 6

C) (h, k) = (–6, 0); r = 6 D) (h, k) = (0, –6); r = 36

Objective: (1.4) Write the Standard Form of the Equation of a Circle

228) $3(x + 1)^2 + 3(y - 4)^2 = 21$

A) (h, k) = (1, –4); $r = \sqrt{7}$ B) (h, k) = (1, –4); $r = 3\sqrt{7}$

C) (h, k) = (–1, 4); $r = \sqrt{7}$ D) (h, k) = (–1, 4); $r = 3\sqrt{7}$

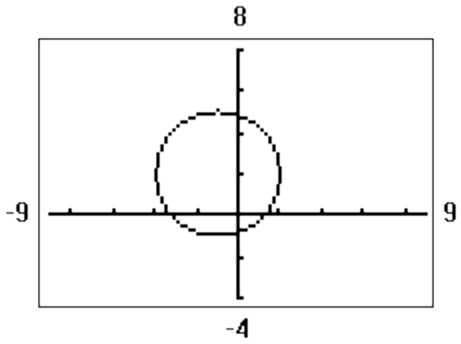
Objective: (1.4) Write the Standard Form of the Equation of a Circle



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**Solve the problem.**

229) Find the standard form of the equation of the circle. Assume that the center has integer coordinates and the radius is an integer.




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

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

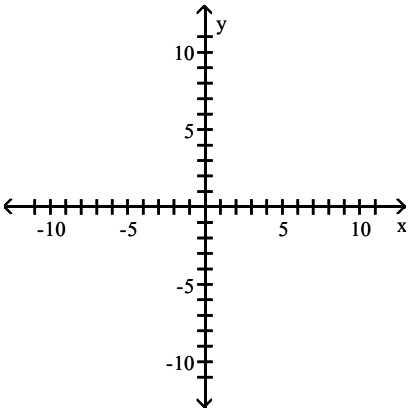
C) $x^2 + y^2 - 2x + 4y - 4 = 0$

D) $x^2 + y^2 + 2x - 4y - 4 = 0$

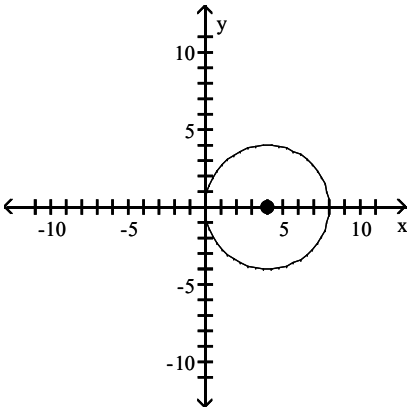
Objective: (1.4) Write the Standard Form of the Equation of a Circle

**Graph the circle with radius r and center (h, k).**

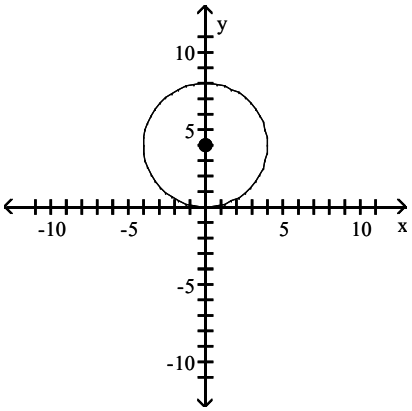
230) $r = 4$; $(h, k) = (0, 0)$




A)



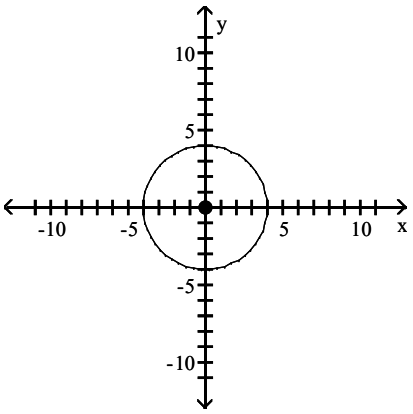

B)



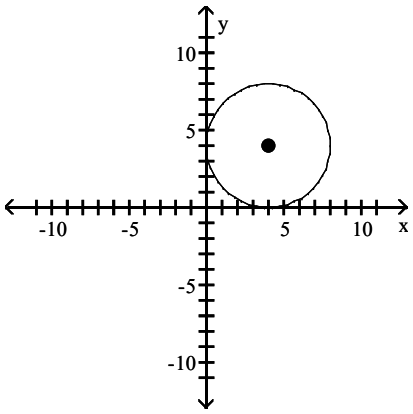



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C)

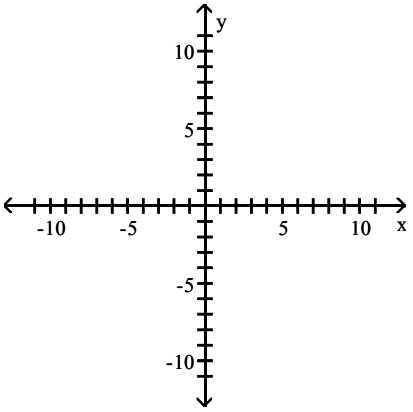



D)

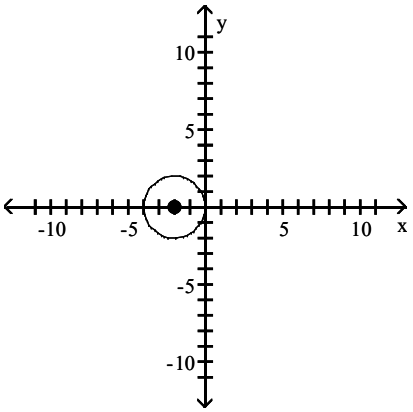



Objective: (1.4) Graph a Circle

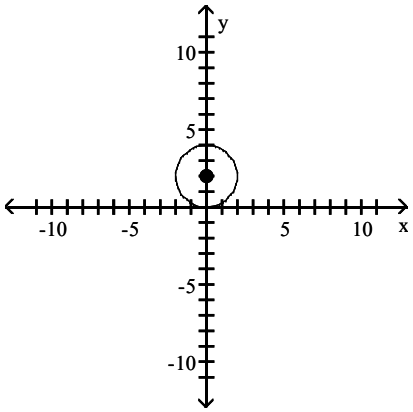
231) r = 2; (h, k) = (0, 2)




A)



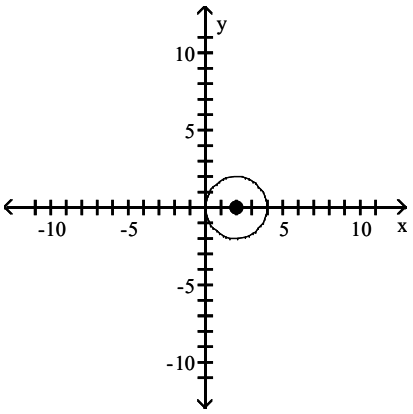

B)



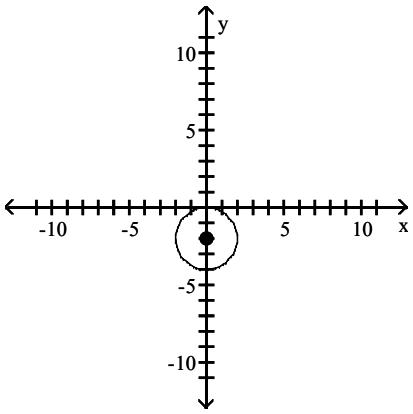



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C)

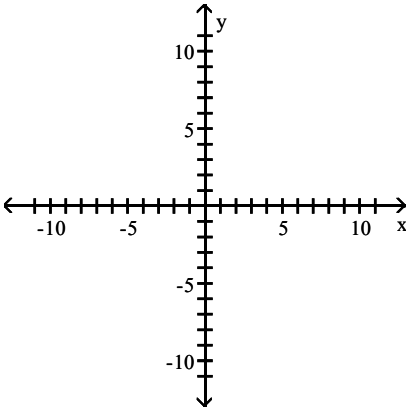



D)

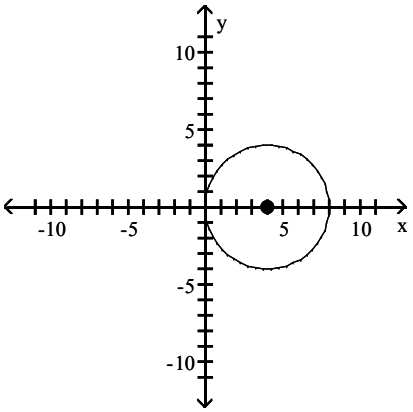



Objective: (1.4) Graph a Circle

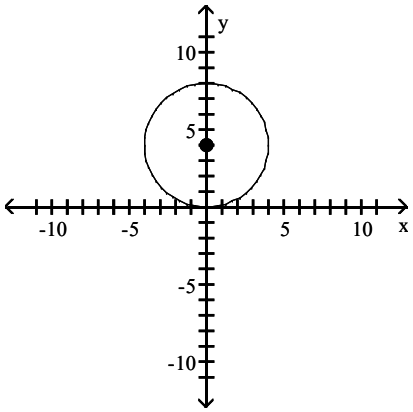
232) r = 4; (h, k) = (4, 0)




A)



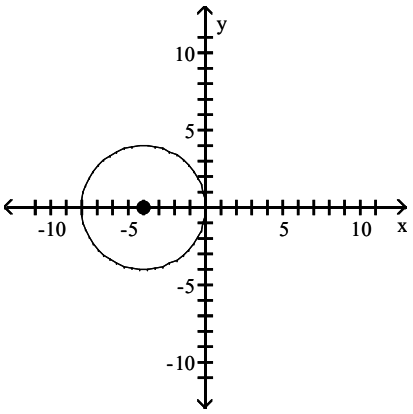

B)



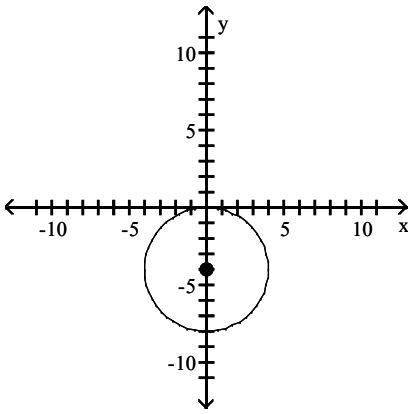



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C)

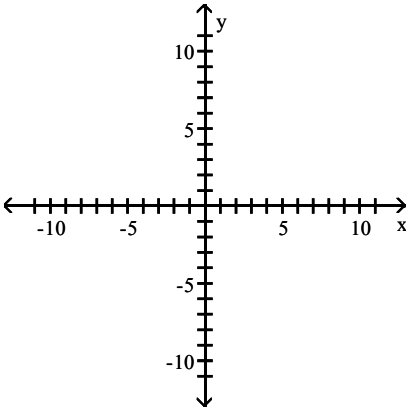



D)

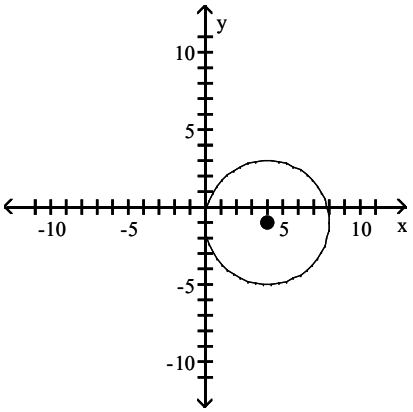



Objective: (1.4) Graph a Circle

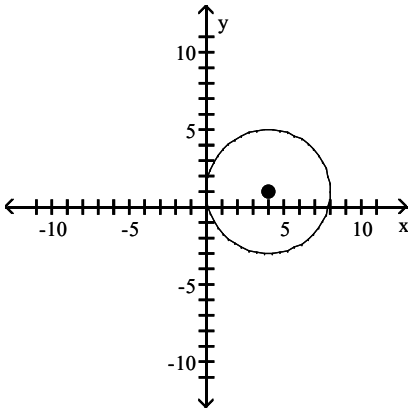
233) r = 4; (h, k) = (4, 1)




A)



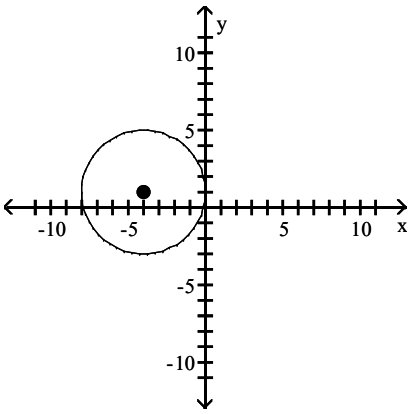

B)



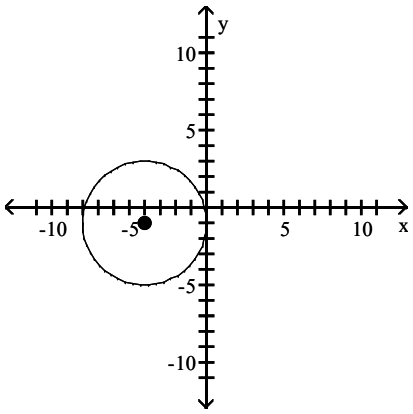



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C)



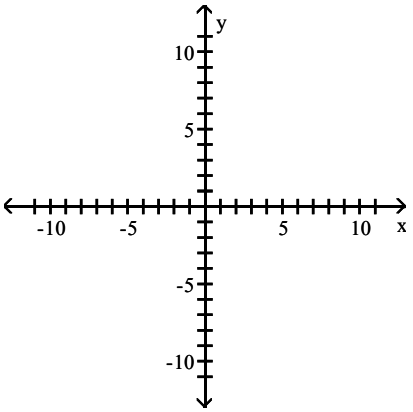

D)



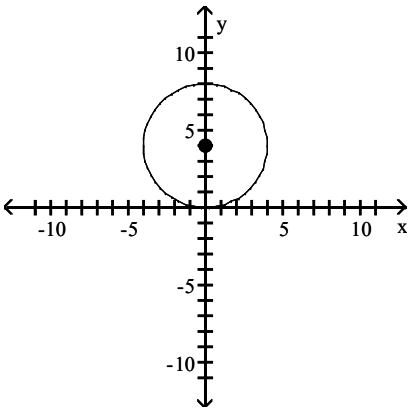

Objective: (1.4) Graph a Circle

**Graph the equation.**

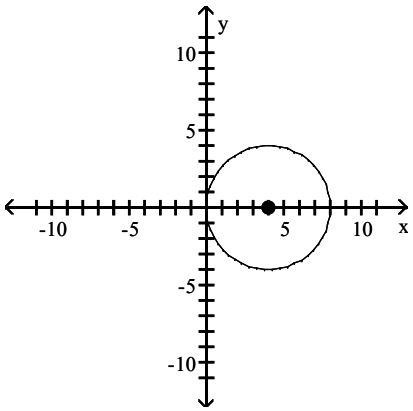
234) $x^2 + y^2 = 16$




A)



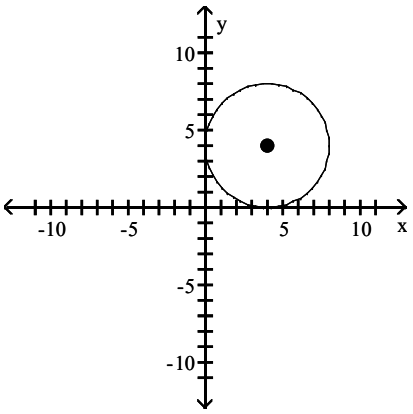

B)



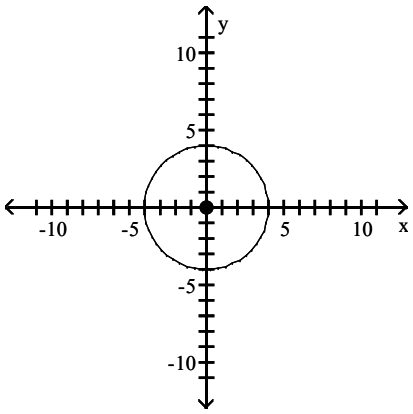



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C)

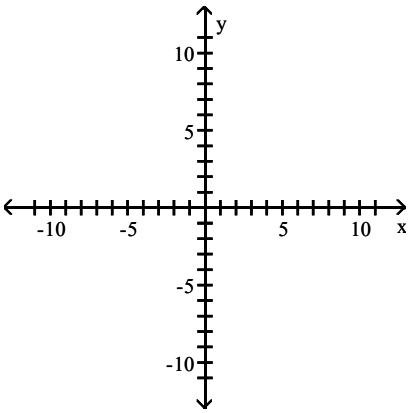



D)

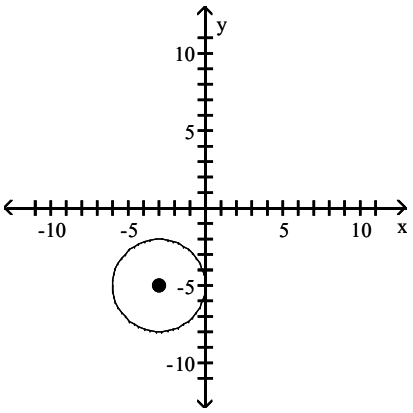



Objective: (1.4) Graph a Circle

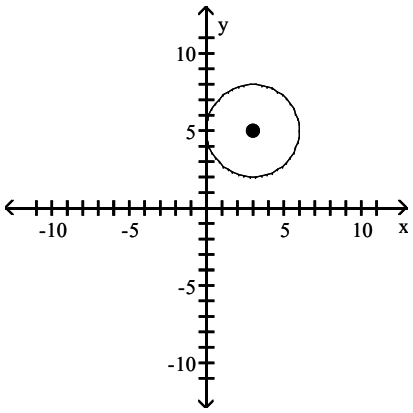
235) $(x + 3)^2 + (y - 5)^2 = 9$



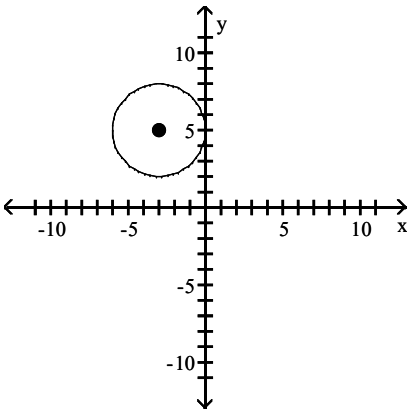

A)



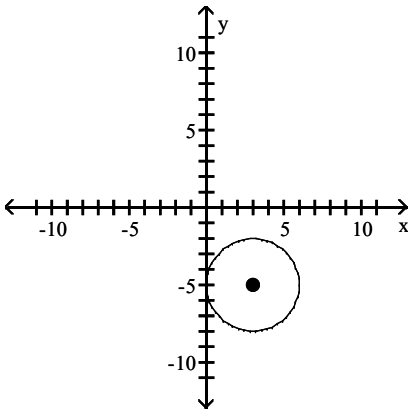

B)



C)

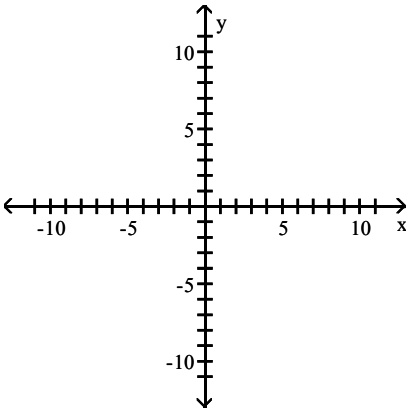



D)

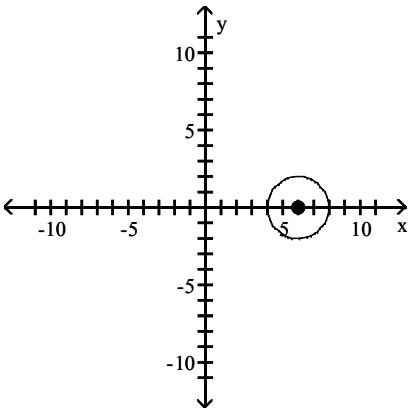



Objective: (1.4) Graph a Circle

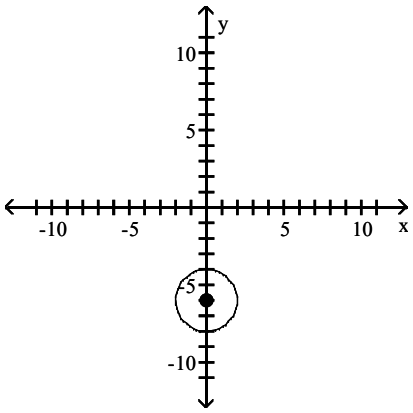
236) $x^2 + (y - 6)^2 = 4$



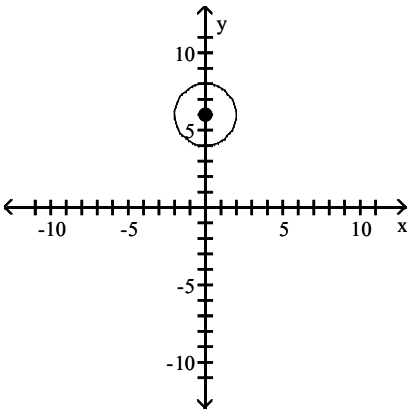

A)



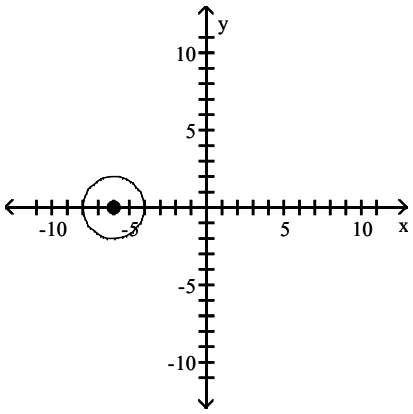

B)



C)

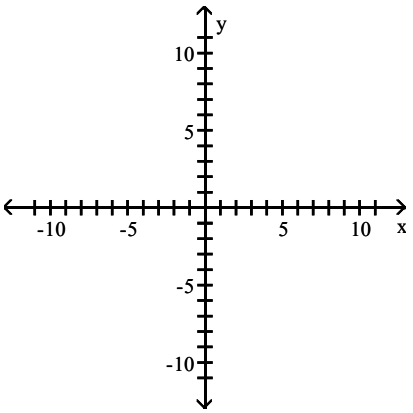



D)

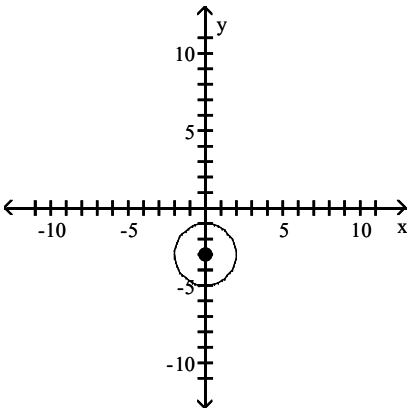



Objective: (1.4) Graph a Circle

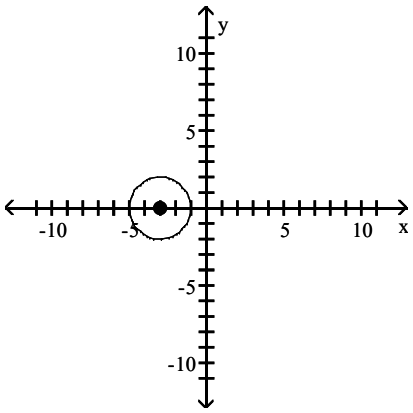
237) $(x - 3)^2 + y^2 = 4$



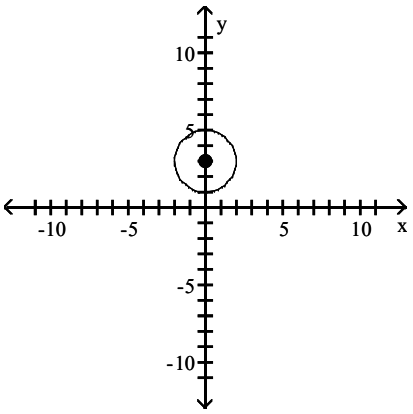

A)



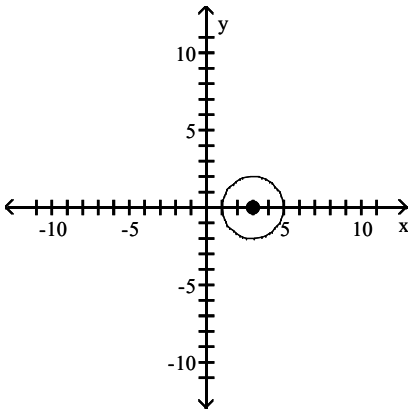

B)



C)



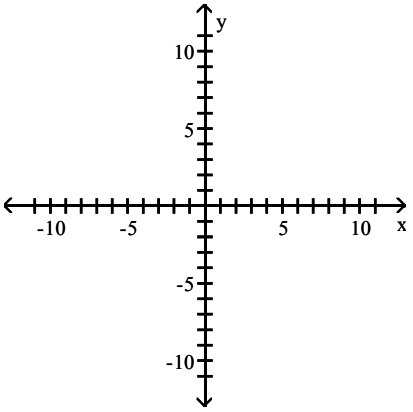

D)



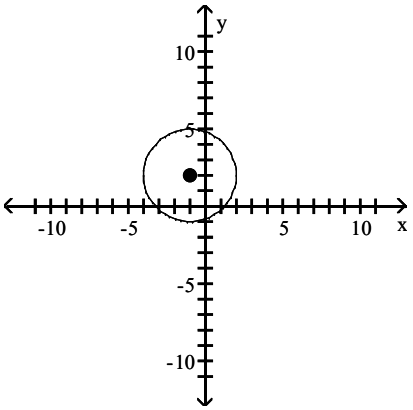

Objective: (1.4) Graph a Circle

**Find the center (h, k) and radius r of the circle. Graph the circle.**

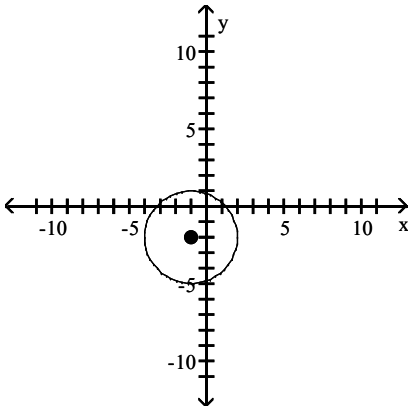
238) $x^2 + y^2 - 2x - 4y - 4 = 0$




A) (h, k) = (–1, 2); r = 3



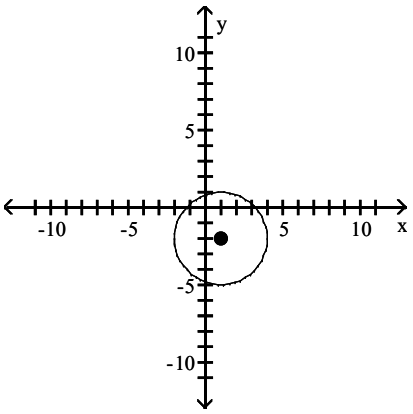

B) (h, k) = (–1, –2); r = 3



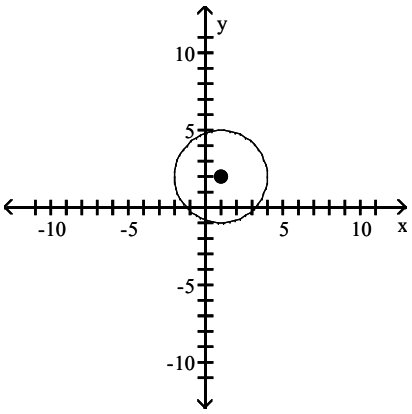



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C) (h, k) = (1, –2); r = 3

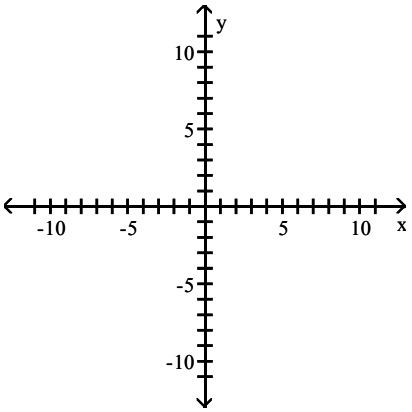



D) (h, k) = (1, 2); r = 3

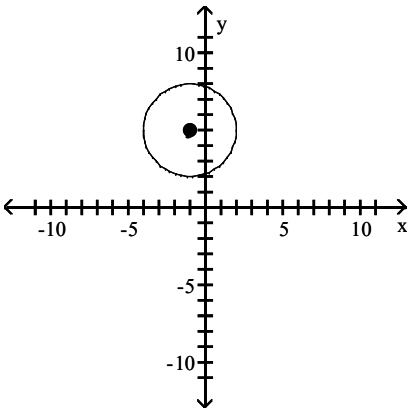



Objective: (1.4) Work with the General Form of the Equation of a Circle

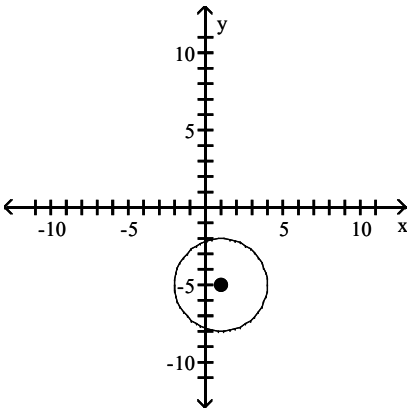
239) $x^2 + y^2 + 2x + 10y + 17 = 0$




A) (h, k) = (–1, 5); r = 3



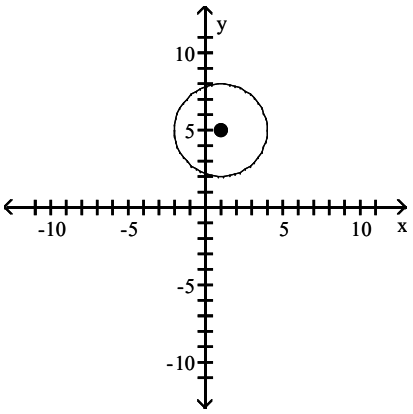

B) (h, k) = (1, –5); r = 3



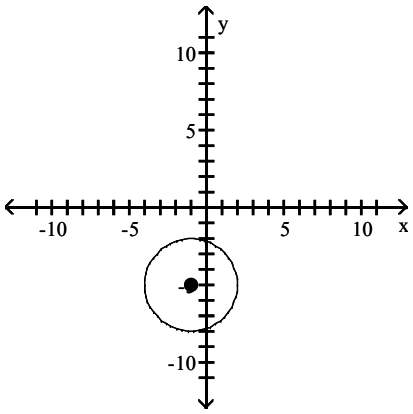



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C) (h, k) = (1, 5); r = 3




D) (h, k) = (–1, –5); r = 3




Objective: (1.4) Work with the General Form of the Equation of a Circle

**Find the center (h, k) and radius r of the circle with the given equation.**

240) $x^2 + 6x + 9 + (y + 7)^2 = 25$

A) (h, k) = (3, 7); r = 25

B) (h, k) = (–3, –7); r = 5

C) (h, k) = (–7, –3); r = 5

D) (h, k) = (7, 3); r = 25

Objective: (1.4) Work with the General Form of the Equation of a Circle

241) $x^2 - 8x + 16 + y^2 - 16y + 64 = 4$

A) (h, k) = (4, 8); r = 2

B) (h, k) = (–4, –8); r = 4

C) (h, k) = (8, 4); r = 2

D) (h, k) = (–8, –4); r = 4

Objective: (1.4) Work with the General Form of the Equation of a Circle

242) $x^2 + y^2 - 8x - 12y + 52 = 25$

A) (h, k) = (6, 4); r = 5

B) (h, k) = (4, 6); r = 5

C) (h, k) = (–4, –6); r = 25

D) (h, k) = (–6, –4); r = 25

Objective: (1.4) Work with the General Form of the Equation of a Circle

243) $x^2 + y^2 - 2x - 8y = 8$

A) (h, k) = (–1, –4); r = 25

B) (h, k) = (–4, –1); r = 25

C) (h, k) = (4, 1); r = 5

D) (h, k) = (1, 4); r = 5

Objective: (1.4) Work with the General Form of the Equation of a Circle

244) $4x^2 + 4y^2 - 12x + 16y - 5 = 0$

A) (h, k) = $(\frac{3}{2}, -2)$; r = $\frac{\sqrt{30}}{2}$

B) (h, k) = $(-\frac{3}{2}, 2)$; r = $\frac{3\sqrt{5}}{2}$

C) (h, k) = $(-\frac{3}{2}, 2)$; r = $\frac{\sqrt{30}}{2}$

D) (h, k) = $(\frac{3}{2}, -2)$; r = $\frac{3\sqrt{5}}{2}$

Objective: (1.4) Work with the General Form of the Equation of a Circle

**Find the general form of the equation of the the circle.**

245) Center at the point (–4, –3); containing the point (–3, 3)

A) $x^2 + y^2 + 6x - 6y - 17 = 0$

B) $x^2 + y^2 + 6x + 8y - 17 = 0$

C) $x^2 + y^2 - 6x + 6y - 12 = 0$

D) $x^2 + y^2 + 8x + 6y - 12 = 0$

Objective: (1.4) Work with the General Form of the Equation of a Circle



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246) Center at the point (2, –3); containing the point (5, –3)

A) $x^2 + y^2 - 4x + 6y + 4 = 0$ B) $x^2 + y^2 - 4x + 6y + 22 = 0$

C) $x^2 + y^2 + 4x - 6y + 22 = 0$ D) $x^2 + y^2 + 4x - 6y + 4 = 0$

Objective: (1.4) Work with the General Form of the Equation of a Circle

247) Center at the point (–5, –3); tangent to y–axis

A) $x^2 + y^2 + 10x + 6y + 9 = 0$ B) $x^2 + y^2 + 10x + 6y + 59 = 0$

C) $x^2 + y^2 - 10x - 6y + 9 = 0$ D) $x^2 + y^2 + 10x + 6y + 25 = 0$

Objective: (1.4) Work with the General Form of the Equation of a Circle

**Solve the problem.**

248) If a circle of radius 5 is made to roll along the x–axis, what is the equation for the path of the center of the circle?

A) $y = 10$ B) $x = 5$ C) $y = 5$ D) $y = 0$

Objective: (1.4) Work with the General Form of the Equation of a Circle

249) Earth is represented on a map of the solar system so that its surface is a circle with the equation $x^2 + y^2 + 6x + 4y - 3{,}956 = 0$. A weather satellite circles 0.7 units above the Earth with the center of its circular orbit at the center of the Earth. Find the general form of the equation for the orbit of the satellite on this map.

A) $x^2 + y^2 - 6x - 4y - 4{,}044.69 = 0$ B) $x^2 + y^2 + 6x + 4y - 4{,}044.69 = 0$

C) $x^2 + y^2 + 6x + 4y - 49.51 = 0$ D) $x^2 + y^2 + 6x + 4y + 12.51 = 0$

Objective: (1.4) Work with the General Form of the Equation of a Circle

250) Find an equation of the line containing the centers of the two circles

$x^2 + y^2 - 2x - 6y + 9 = 0$ and

$x^2 + y^2 - 12x - 10y + 57 = 0$

A) $2x + 5y - 13 = 0$ B) $-2x + 5y - 13 = 0$ C) $8x - 7y - 13 = 0$ D) $-2x - 5y - 13 = 0$

Objective: (1.4) Work with the General Form of the Equation of a Circle

251) A wildlife researcher is monitoring a black bear that has a radio telemetry collar with a transmitting range of 24 miles. The researcher is in a research station with her receiver and tracking the bear's movements. If we put the origin of a coordinate system at the research station, what is the equation of all possible locations of the bear where the transmitter would be at its maximum range?

A) $x^2 + y^2 = 48$ B) $x^2 + y^2 = 24$ C) $x^2 + y^2 = 576$ D) $x^2 - y^2 = 24$

Objective: (1.4) Work with the General Form of the Equation of a Circle

252) If a satellite is placed in a circular orbit of 240 kilometers above the Earth, what is the equation of the path of the satellite if the origin is placed at the center of the Earth (the diameter of the Earth is approximately 12,740 kilometers)?

A) $x^2 + y^2 = 168{,}480{,}400$ B) $x^2 + y^2 = 57{,}600$

C) $x^2 + y^2 = 40{,}576{,}900$ D) $x^2 + y^2 = 43{,}692{,}100$

Objective: (1.4) Work with the General Form of the Equation of a Circle

253) A power outage affected all homes and businesses within a 10 mi radius of the power station. If the power station is located 10 mi north of the center of town, find an equation of the circle consisting of the furthest points from the station affected by the power outage.

A) $x^2 + (y + 10)^2 = 100$ B) $x^2 + y^2 = 100$ C) $x^2 + (y - 10)^2 = 10$ D) $x^2 + (y - 10)^2 = 100$

Objective: (1.4) Work with the General Form of the Equation of a Circle



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254) A power outage affected all homes and businesses within a 3 mi radius of the power station. If the power station is located 4 mi west and 3 mi north of the center of town, find an equation of the circle consisting of the furthest points from the station affected by the power outage.

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

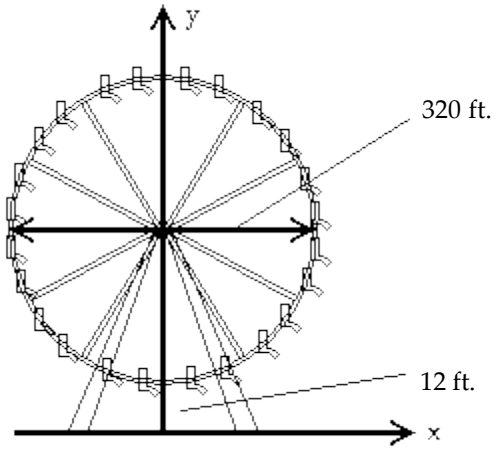
B) $(x + 4)^2 + (y + 3)^2 = 9$

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

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

Objective: (1.4) Work with the General Form of the Equation of a Circle

255) A Ferris wheel has a diameter of 320 feet and the bottom of the Ferris wheel is 12 feet above the ground. Find the equation of the wheel if the origin is placed on the ground directly below the center of the wheel, as illustrated.




A) $x^2 + (y - 160)^2 = 25{,}600$

B) $x^2 + y^2 = 25{,}600$

C) $x^2 + (y - 172)^2 = 25{,}600$

D) $x^2 + (y - 160)^2 = 102{,}400$

Objective: (1.4) Work with the General Form of the Equation of a Circle



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



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



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



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



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



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251) C
252) D
253) D
254) C
255) C



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