Test Bank for College Algebra 5th Edition by Young

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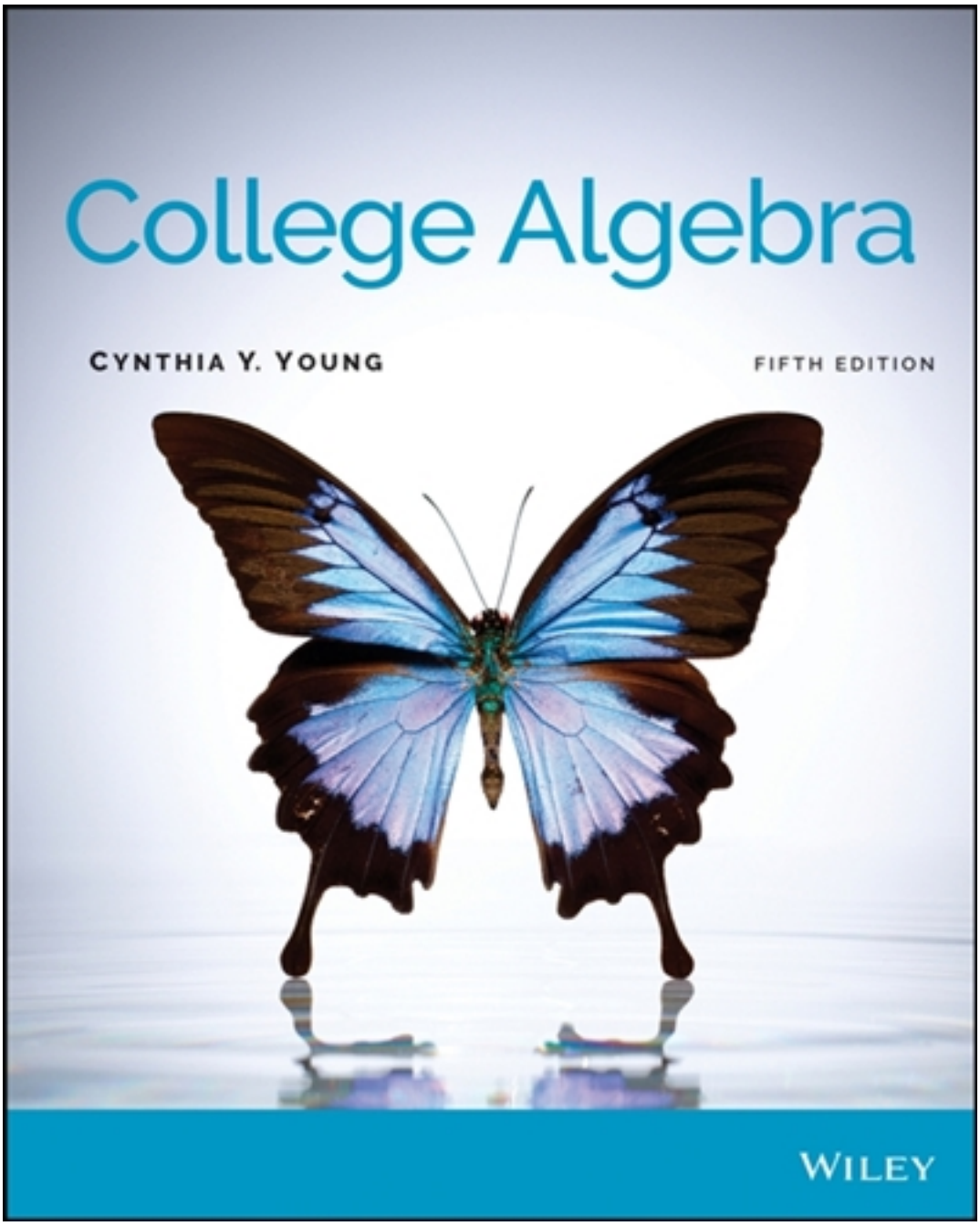


Test Bank

***College Algebra, 5e* (Young)**
Chapter 2 Graphs

2.1 Basic Tools: Cartesian Plane, Distance, and Midpoint

1) Name the quadrant for the point (-15, -31).
A) I
B) II
C) III
D) IV
Answer: C
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Plot points on the Cartesian plane.

2) Name the quadrant for the point (-42, 16).
A) I
B) II
C) III
D) IV
Answer: B
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Plot points on the Cartesian plane.

3) Name the quadrant for the point (19, -38).
A) I
B) II
C) III
D) IV
Answer: D
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Plot points on the Cartesian plane.

4) Describe the line containing the points (-49, -42), (-18, -42), (45, -42).
A) vertical line
B) horizontal line
C) a line slanting upward from left to right
D) a line slanting downward from left to right
Answer: B
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Plot points on the Cartesian plane.

5) Describe the line containing the points (-17, -27), (-17, 9), (-17, 31).
A) vertical line
B) horizontal line
C) a line slanting upward from left to right
D) a line slanting downward from left to right
Answer: A
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Plot points on the Cartesian plane.

6) Describe the line containing the points (-22, -33), (18, 33), (37, 46).
A) vertical line
B) horizontal line
C) a line slanting upward from left to right
D) a line slanting downward from left to right
E) None of the above.
Answer: E
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Plot points on the Cartesian plane.

7) Describe the line containing the points (-20, -35), (-16, -77), (-8, -101).
A) vertical line
B) horizontal line
C) a line slanting upward from left to right
D) a line slanting downward from left to right
Answer: D
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Plot points on the Cartesian plane.

8) Find the distance between the points (1, -7) and (8, -1).
A) $\sqrt{85}$
B) 85
C) 13
D) $\sqrt{13}$
Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Calculate the distance between two points.

9) Find the distance between the points (-6, 4) and (-3, 6).
A) $\sqrt{13}$
B) $\sqrt{5}$
C) 5
D) 13
Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Calculate the distance between two points.

10) Find the midpoint of the segment joining the points (-9, -6) and (-7, -2)
A) (-4, -8)
B) (-1, -2)
C) (-8, -4)
D) (-16, -8)
Answer: C
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Find the midpoint of a line segment joining two points.

11) Find the midpoint of the segment joining the points (-10, 4) and (9, -7).
A) (-1, -3)
B) (-0.5, -1.5)
C) (9.5, -5.5)
D) (-9.5, 5.5)
Answer: B
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Find the midpoint of a line segment joining two points.

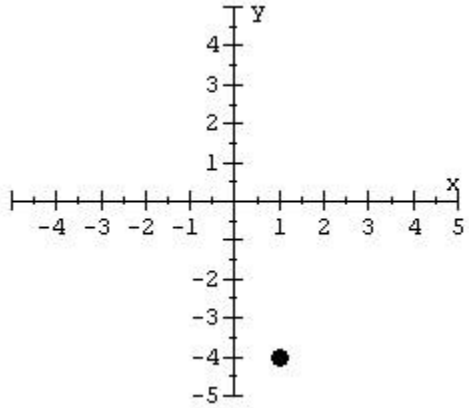
12) Calculate the distance (to two decimal places) and the midpoint between the segment joining the points (-2, 2) and (-10, 4).
Answer: distance 8.25, midpoint (-6, 3)
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Calculate the distance between two points.; Find the midpoint of a line segment joining two points.

13) Calculate the distance (to two decimal places) and the midpoint between the segment joining the points (-2.5, 5) and (7.6, 7.4).
Answer: distance 10.38, midpoint (2.55, 6.20)
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Calculate the distance between two points.; Find the midpoint of a line segment joining two points.

14) Determine whether the triangle with the given vertices is a right triangle, an isosceles triangle, neither, or both. (Recall that a right triangle satisfies the Pythagorean theorem and an isosceles triangle has at least two sides of equal length.)
(13, 8), (18, -4), and (25, 3)
Answer: isosceles triangle
Diff: 3 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Calculate the distance between two points.

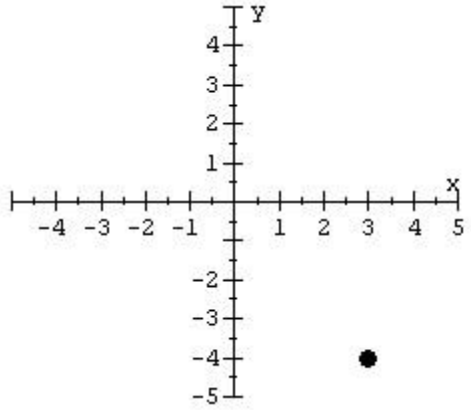
15) Determine whether the triangle with the given vertices is a right triangle, an isosceles triangle, neither, or both. (Recall that a right triangle satisfies the Pythagorean theorem and an isosceles triangle has at least two sides of equal length.)
(-2, -5), (2, -5), and (2, -1)
Answer: right triangle
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Calculate the distance between two points.

16) Give the coordinates for the point in the graph.



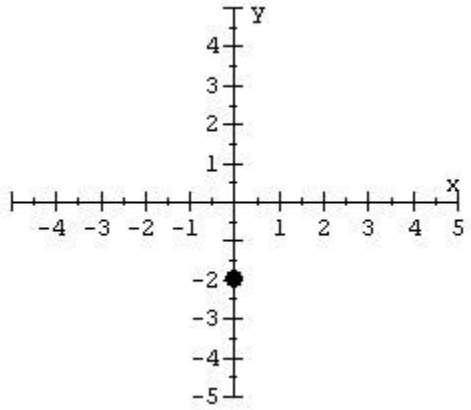
Answer: (1, -4)
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Plot points on the Cartesian plane.

17) Give the coordinates for the point in the graph.



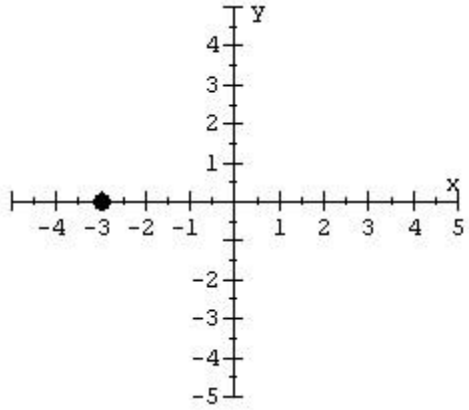
A) (3, -4)
B) (3, 4)
C) (-3, 4)
D) (-3, -4)
Answer: A
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Plot points on the Cartesian plane.

18) Give the coordinates for the point in the graph.



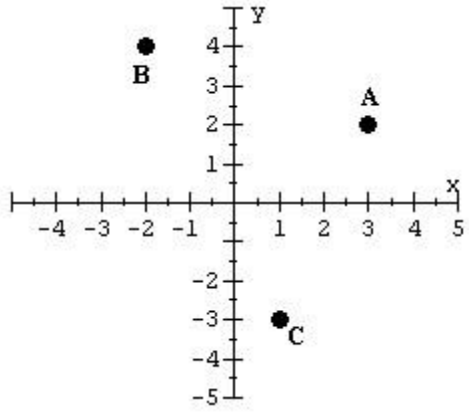
Answer: (0, -2)
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Plot points on the Cartesian plane.

19) Give the coordinates for the point in the graph.



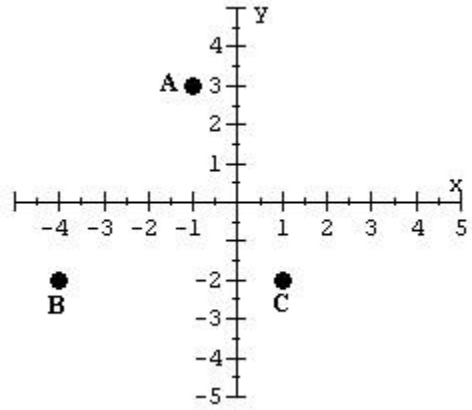
A) (0, -3)
B) (3, 0)
C) (-3, 0)
D) -3
Answer: C
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Plot points on the Cartesian plane.

20) Calculate (to two decimal places) the perimeter of the triangle with the following vertices at points A, B, and C.



Answer: 18.39
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Calculate the distance between two points.

21) Calculate (to two decimal places) the perimeter of the triangle with the following vertices at points A, B, and C.



A) 11.10
B) 16.22
C) 88.00
D) -0.83
Answer: B
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Calculate the distance between two points.

22) Find the distance between the points (-14, -7) and (-2, -2).
Answer: 13
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Calculate the distance between two points.

23) Find the distance between the points $\left(4\sqrt{11}, 7\sqrt{2}\right)$ and $\left(5\sqrt{11}, 6\sqrt{2}\right)$. (Give the exact answer.)
Answer: $\sqrt{13}$
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Calculate the distance between two points.

***College Algebra, 5e* (Young)**
Chapter 2 Graphs

2.2 Graphing Equations: Point-Plotting, Intercepts, and Symmetry

1) Determine which point lies on the graph of the equation $y = -10x^2 - 4x + 8$.
A) (-222, 5)
B) (-222, -222)
C) (-262, 5)
D) (5, -262)
Answer: D
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Sketch graphs of equations by plotting points.

2) Determine which point lies on the graph of the equation $y = |7 - x| + 7$.
A) (17, 3)
B) (3, 17)
C) (3, 11)
D) (0, 0)
Answer: C
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Sketch graphs of equations by plotting points.

3) Which of the following applies to the graph $y = \frac{1}{x^2}$?

A) symmetry with respect to the *x*-axis
B) symmetry with respect to the *y*-axis
C) symmetry with respect to the origin
D) no symmetry
Answer: B
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

4) Which of the following applies to the graph $49x^2 + y^2 = 25$?
A) symmetry with respect to the *x*-axis
B) symmetry with respect to the *y*-axis
C) symmetry with respect to the origin
D) no symmetry
Answer: C
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

5) Which of the following applies to the graph $y = 5x^{11}$?
A) symmetry with respect to the *x*-axis
B) symmetry with respect to the *y*-axis
C) symmetry with respect to the origin
D) no symmetry
Answer: C
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

6) The point (-17, 18) lies on the graph that is symmetric about the *x*-axis. State the other point that must also lie on the graph.
A) (17, 18)
B) (17, -18)
C) (-17, -18)
D) (18, -17)
Answer: C
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

7) The point (1, -8) lies on the graph that is symmetric about the *x*-axis. State the other point that must also lie on the graph.
A) (1, 8)
B) (-1, -8)
C) (-1, 8)
D) (-8, 1)
Answer: A
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

8) The point (7, -5) lies on the graph that is symmetric about the *y*-axis. State the other point that must also lie on the graph.
A) (-5, 7)
B) (7, 5)
C) (-7, -5)
D) (-7, 5)
Answer: C
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

9) The point (-2, -10) lies on the graph that is symmetric about the *y*-axis. State the other point that must also lie on the graph.
A) (-10, -2)
B) (2, -10)
C) (-2, 10)
D) (2, 10)
Answer: B
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

10) The point (-10, 2) lies on the graph that is symmetric about the origin. State the other point that must also lie on the graph.
A) (2, -10)
B) (10, 2)
C) (-10, -2)
D) (10, -2)
Answer: D
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

11) The point (-7, -3) lies on the graph that is symmetric about the origin. State the other point that must also lie on the graph.
A) (-3, -7)
B) (7, 3)
C) (7, -3)
D) (-7, 3)
Answer: B
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

12) Use algebraic tests to determine whether the graph of the equation $y = 10x^{16} + 5x^{9}$ is symmetric with respect to the *x*-axis, *y*-axis, or origin.
A) *x*-axis
B) *y*-axis
C) origin
D) no symmetry
Answer: D
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

13) Use algebraic tests to determine whether the graph of the equation $10x^2 + 7y^2 = 9$ is symmetric with respect to the *x*-axis, *y*-axis, or origin.
A) *x*-axis
B) *y*-axis
C) origin
D) *x*-axis, *y*-axis, origin
Answer: D
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

14) Use algebraic tests to determine whether the graph of the equation $x = y + 18$ is symmetric with respect to the *x*-axis, *y*-axis, or origin.
A) *y*-axis
B) *x*-axis
C) origin
D) no symmetry
Answer: B
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

15) The given point (-2, 3) lies on the graph that is symmetric about the *x*-axis, *y*-axis, and origin. State the other points that must also lie on the graph.
Answer: (-2, -3), (2, 3), (2, -3)
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

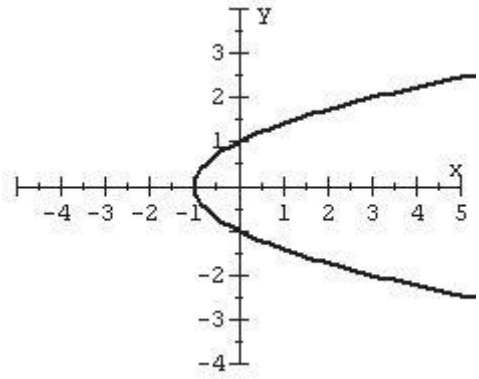
16) Use algebraic tests to determine whether the graph $5x^2 + 4y^2 = 1$ is symmetric with respect to the *x*-axis, *y*-axis, or origin.
Answer: *x*-axis, *y*-axis, and origin
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

17) Use algebraic tests to determine whether the graph of $y = 8x^3 - 6x$ is symmetric with respect to the *x*-axis, *y*-axis, or origin.
Answer: origin
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

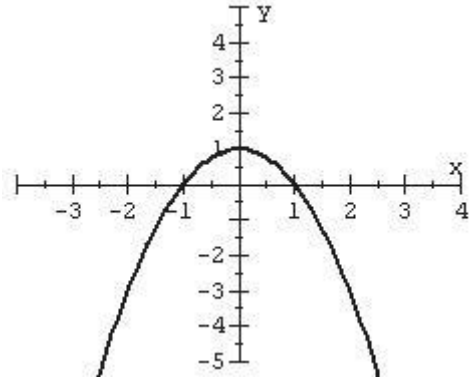
18) Plot the graph of the given equation.

$y = 1 - x^2$

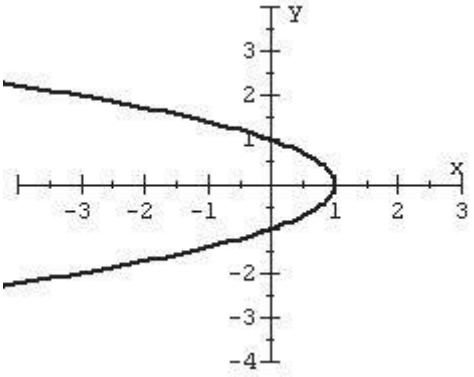
A)



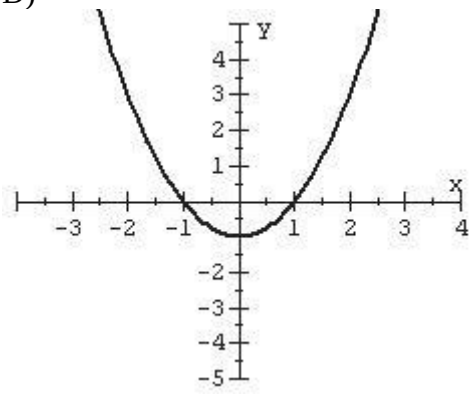
B)



C)



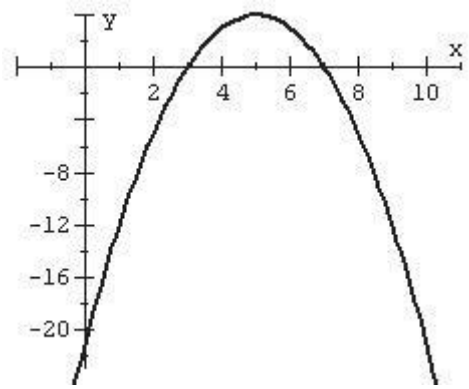
D)



Answer: B
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Use intercepts and symmetry as graphing aids.

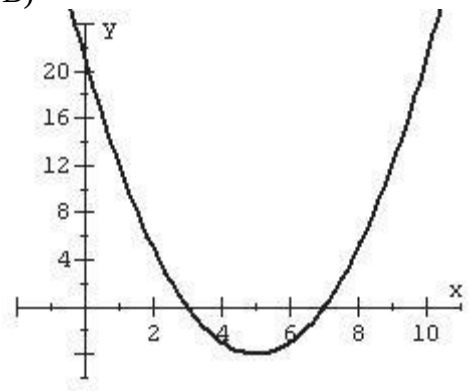
19) The profit associated with making a particular product is given by the equation $y = -x^2 + 10x - 21$ where y represents the profit in millions of dollars and x represents the number of thousands of units sold. ($x = 1$ corresponds to 1000 units and $y = 1$ corresponds to \$1M.) Graph this equation and determine how many units must be sold to break even (profit = 0). Determine the range of units sold that correspond to making a profit.

A)



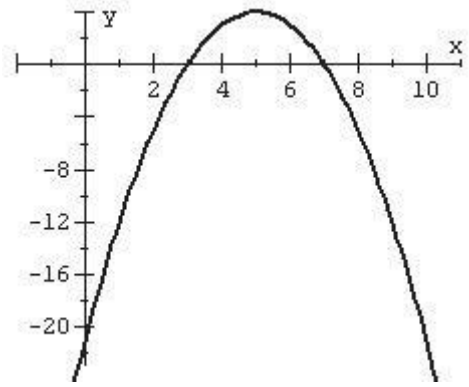
3000 units or 7000 units must be sold to break even
range of units sold that correspond to making a profit is 3000 to 7000

B)



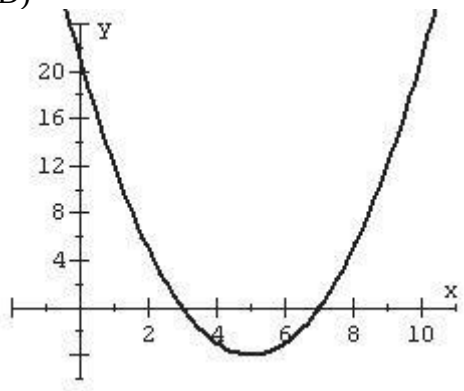
3000 units or 7000 units must be sold to break even
range of units sold that correspond to making a profit is 3000 to 7000

C)



3000 units or 7000 units must be sold to break even
range of units sold that correspond to making a profit is from 0 to 3000 or at least 7000

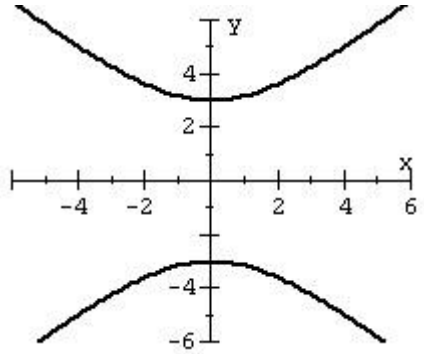
D)



3000 units or 7000 units must be sold to break even
range of units sold that correspond to making a profit is from 0 to 3000 or at least 7000
Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Use intercepts and symmetry as graphing aids.

20) Use symmetry to help you graph the equation.
$y^2 - x^2 = 9$

Answer:

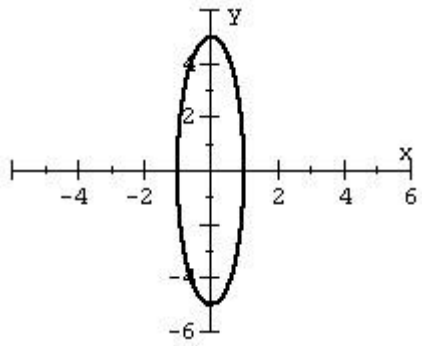


Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Use intercepts and symmetry as graphing aids.

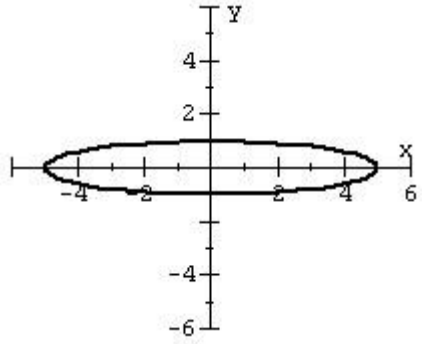
21) Use symmetry to help you graph the equation.

$$x^2 + \frac{y^2}{25} = 1$$

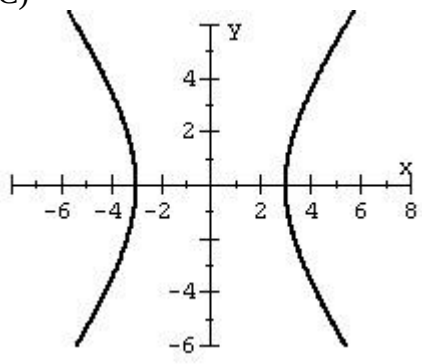
A)



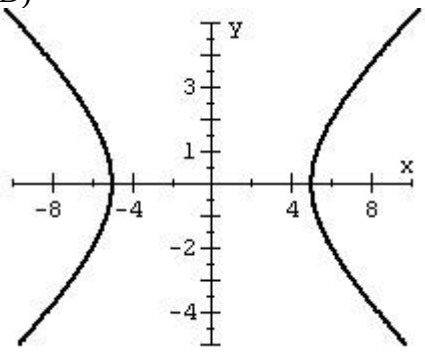
B)



C)



D)

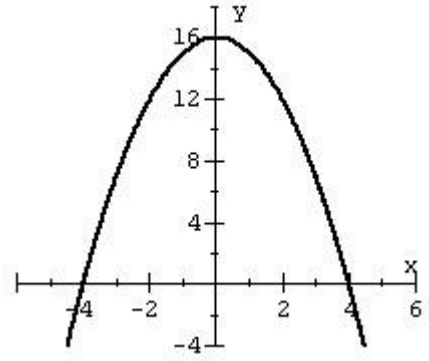


Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Use intercepts and symmetry as graphing aids.

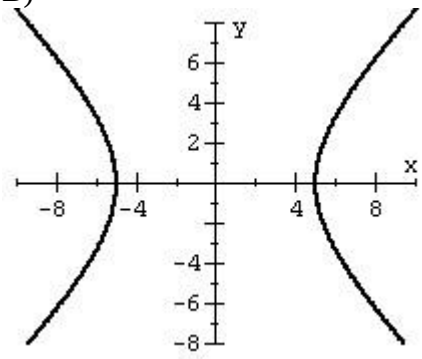
22) Use symmetry to help you graph the equation.

$x^2 + y = 16$

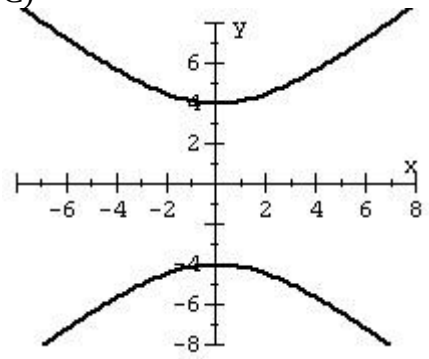
A)



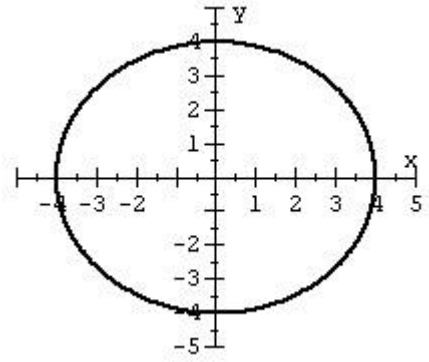
B)



C)



D)

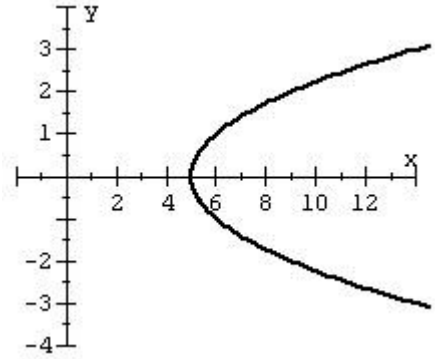


Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Use intercepts and symmetry as graphing aids.

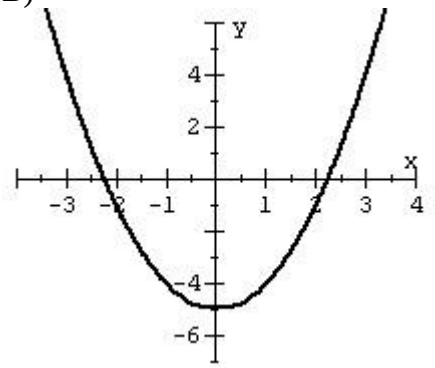
23) Use symmetry to help you graph the equation.

$x = y^2 + 5$

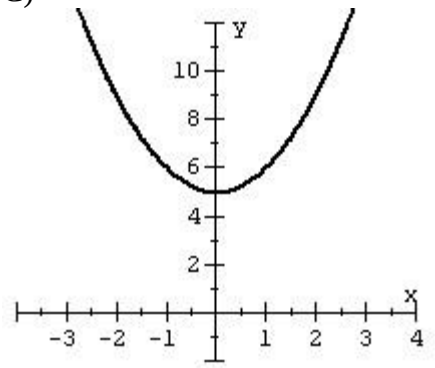
A)



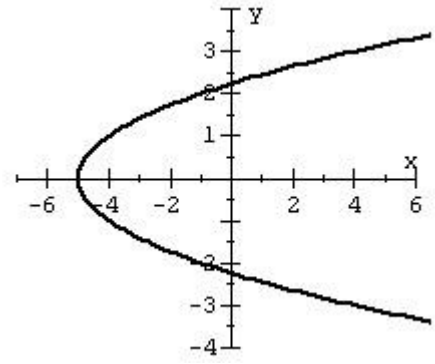
B)



C)

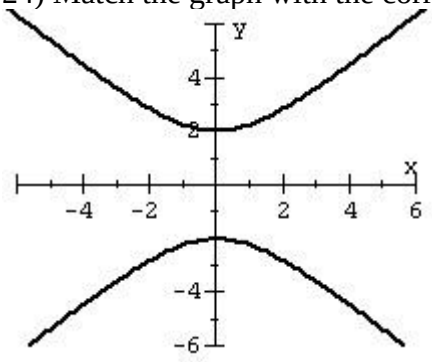


D)



Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Use intercepts and symmetry as graphing aids.

24) Match the graph with the corresponding symmetry.



A) Symmetry with respect to the *x*-axis
B) No symmetry
C) Symmetry with respect to the *y*-axis
D) Symmetry with respect to the *x*-axis, *y*-axis, and origin
E) Symmetry with respect to the origin
Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Use intercepts and symmetry as graphing aids.

25) Complete the table for the given equation.

x	$y = 5x - 4$	(x, y)
-6		
-4		
-2		
0		

Answer:

x	$y = 5x - 4$	(x, y)
-6	-34	(-6, -34)
-4	-24	(-4, -24)
-2	-14	(-2, -14)
0	-4	(0, -4)

Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Sketch graphs of equations by plotting points.

26) Complete the table for the given equation.

x	$y = \sqrt{x+4}$	(x, y)
-3		
0		
5		
12		

Answer:

x	$y = \sqrt{x+4}$	(x, y)
-3	1	(-3, 1)
0	2	(0, 2)
5	3	(5, 3)
12	4	(12, 4)

Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Sketch graphs of equations by plotting points.

27) Find the x-intercept(s).
$3x + 2y = 6$
Answer: $x = 2$
(2, 0)
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Find intercepts for graphs of equations.

28) Find the y-intercept(s).
$-5x + 3y = 9$
Answer: $y = 3$
(3, 0)
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Find intercepts for graphs of equations.

29) Find the x-intercept(s).

$y = x^2 - 7x + 10$

Answer: $x = 2, x = 5$
(2, 0) and (5, 0)
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Find intercepts for graphs of equations.

***College Algebra, 5e* (Young)**
Chapter 2 Graphs

2.3 Lines

1) Find the slope of the line that passes through the points (1, -5) and (9, -10).
A) -8/5
B) -5/8
C) 5/8
D) 8/5
Answer: B
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Calculate the slope of a line.

2) Find the slope of the line that passes through the points (-4, -1) and (-4, 8).
A) 7
B) -9
C) undefined
D) 0
Answer: C
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Calculate the slope of a line.

3) Find the slope of the line that passes through the points (-1, 6) and (-9, 6).
A) 1/8
B) 8
C) undefined
D) 0
Answer: D
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Calculate the slope of a line.

4) Find the slope of the line whose equation is given by $x - 15y = -6$.
A) 15
B) -15
C) 1/15
D) -1/15
Answer: C
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Calculate the slope of a line.

5) Find the slope of the line whose equation is given by $12x + y = -5$.
A) -12
B) 12
C) 1/12
D) -1/12
Answer: A
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Calculate the slope of a line.

6) Find the slope of the line whose equation is given by $x = 10$.
A) 10
B) -10
C) undefined
D) 0
Answer: C
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Calculate the slope of a line.

7) Find the slope of the line whose equation is given by $y = 6$.
A) 6
B) 1/6
C) undefined
D) 0
Answer: D
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Calculate the slope of a line.

8) Find the x- and y-intercepts of the line whose equation is $8x + 5y = 40$.
A) x-intercept: (5, 0), y-intercept (0, 8)
B) x-intercept: (8, 0), y-intercept (0, 5)
C) x-intercept: (-5, 0), y-intercept (0, -8)
D) x-intercept: (-8, 0), y-intercept (0, -5)
Answer: A
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Determine x- and y-intercepts of a line.

9) Find the x- and y-intercepts of the line whose equation is $2x - 5y = 20$.
A) x-intercept: (-10, 0), y-intercept: (0, 4)
B) x-intercept: (-4, 0), y-intercept: (0, 10)
C) x-intercept: (10, 0), y-intercept: (0, -4)
D) x-intercept: (0, 10), y-intercept: (-4, 0)
Answer: C
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Determine x- and y-intercepts of a line.

10) Find the x- and y-intercept of the line whose equation is $y + 6 = -18$.
A) no x-intercept, y-intercept: (0, -24)
B) no x-intercept, y-intercept: (0, 6)
C) no x-intercept, y-intercept: (0, -18)
D) x-intercept: (0,0), y-intercept: (0, -24)
Answer: A
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Determine x- and y-intercepts of a line.

11) Write the equation of the line given the slope $m = -19$ and y-intercept (0, 10).
A) $y = 10x - 19$
B) $y = 19x + 10$
C) $y = -19x - 10$
D) $y = -19x + 10$
Answer: D
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Find the equation of a line using slope-intercept form.

12) Write the equation of the line given the slope $m = 1/9$ and x-intercept (1/10, 0).
A) $y = \frac{1}{9}x + \frac{1}{10}$

B) $y = \frac{1}{9}x - \frac{1}{90}$

C) $y = \frac{1}{10}x - \frac{1}{90}$

D) $y = \frac{1}{9}x + \frac{1}{90}$

Answer: B
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Find the equation of a line using slope-intercept form.

13) Write the equation of the line given the slope $m = -5/9$ and a point (-11, 3) that lies on the line.

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

B) $y = -\frac{5}{9}x + \frac{28}{9}$

C) $y = -\frac{5}{9}x - \frac{28}{9}$

D) $y = \frac{5}{9}x - \frac{28}{9}$

Answer: C
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Find the equation of a line using point-slope form.

14) Find the y- and x-intercepts and slope of the line $5x - 8y = 40$, if they exist.
Answer: (0, -5), (8, 0), $m = 5/8$
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Determine x- and y-intercepts of a line.

15) Find the equation of the line that passes through the point (0, 6) and is parallel to the line $y + 11x = 17$.
Answer: $y = -11x + 6$
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Find the equation of a line that is parallel or perpendicular to a given line.

16) The cost of a one day car rental is the sum of the rental fee, $60, plus $0.23 per mile. Write an equation that models the total cost associated with the car rental.
Answer: $y = 0.23x + 60$
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Find the equation of a line using slope-intercept form.

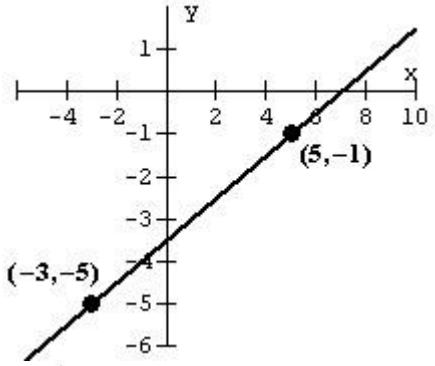
17) Find the equation of the line that passes through the point (9, 0) and is parallel to the line $y + 3x = 7$. Express your answer in slope-intercept form, if possible.
Answer: $y = -3x + 27$
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Find the equation of a line that is parallel or perpendicular to a given line.

18) Find the equation of the line that passes through the point (50, 10) and is perpendicular to the line $3y + 10x = -10$.

Answer: $y = \frac{3}{5}x - 20$

Diff: 3 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Find the equation of a line that is parallel or perpendicular to a given line.

19) Find the slope of the line pictured below.

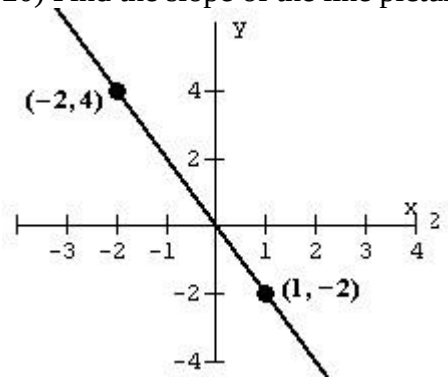


A) $\frac{1}{2}$

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

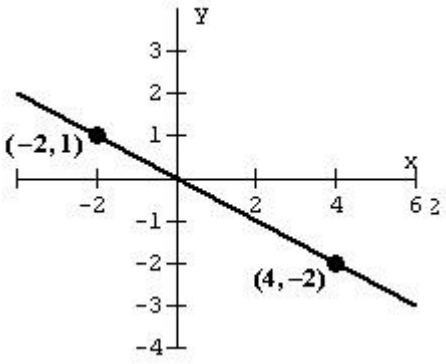
C) - 2
D) 2
Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Calculate the slope of a line.

20) Find the slope of the line pictured below.



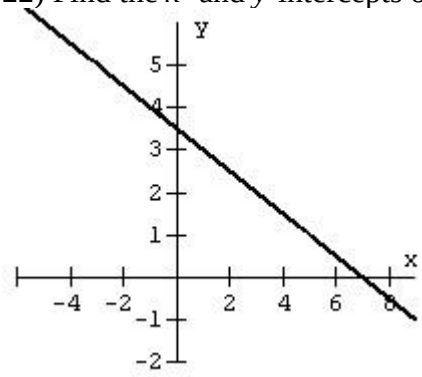
Answer: - 2
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Calculate the slope of a line.

21) Find the slope of the line pictured below.



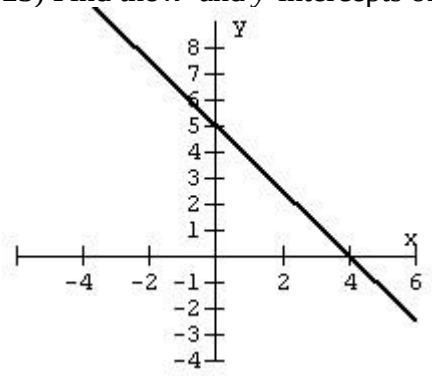
A) -1/2
B) 1/2
C) -2
D) 2
Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Calculate the slope of a line.

22) Find the *x*- and *y*-intercepts of the line pictured below.



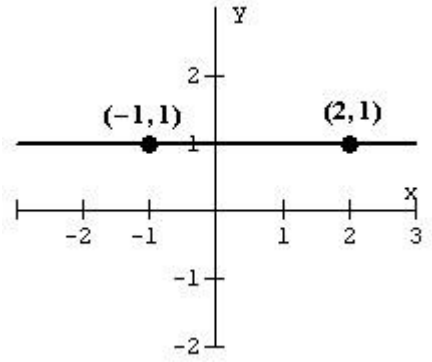
Answer: *x*-intercept : (7, 0), *y*-intercept : (0, 3.5)
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Determine x- and y-intercepts of a line.

23) Find the *x*- and *y*-intercepts of the line pictured below.



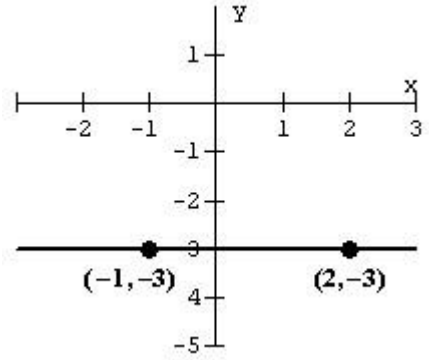
A) *x*-intercept : (4, 0), *y*-intercept : (0, 5)
B) *x*-intercept : (5, 0), *y*-intercept : (0, 4)
C) *x*-intercept : 4, *y*-intercept : 5
D) *x*-intercept : 5, *y*-intercept ; 4
Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Determine x- and y-intercepts of a line.

24) Find the slope of the line pictured below.



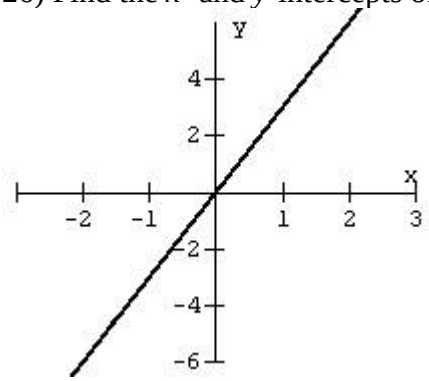
Answer: 0
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Calculate the slope of a line.

25) Find the slope of the line pictured below.



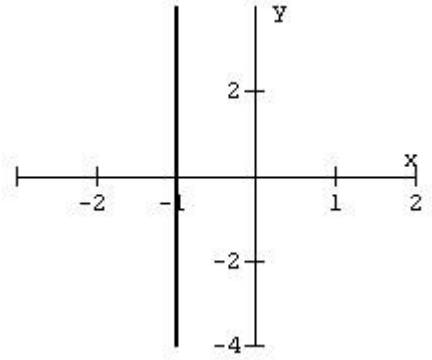
A) 0
B) undefined
C) -3
D) 3
Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Calculate the slope of a line.

26) Find the *x*- and *y*-intercepts of the line pictured below.



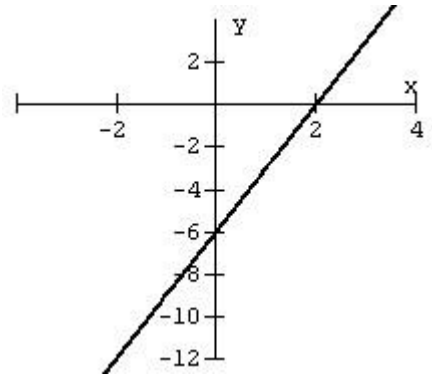
Answer: *x*-intercept : (0, 0)
y-intercept : (0, 0)
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Determine x- and y-intercepts of a line.

27) Find the *x*- and *y*-intercepts of the line pictured below.



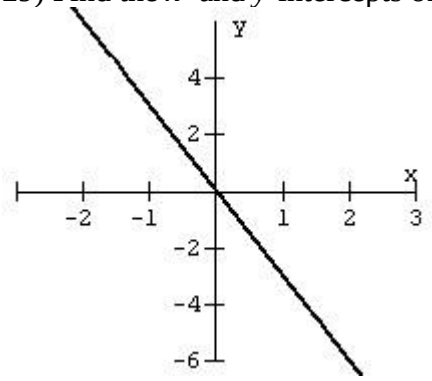
A) *x*-intercept : (-1, 0)
y-intercept : none
B) None
C) 0
D) Undefined
Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Determine x- and y-intercepts of a line.

28) For the graph, identify (by inspection) (a) the *x*- and *y*-intercepts and (b) classify the line as rising, falling, horizontal, or vertical.



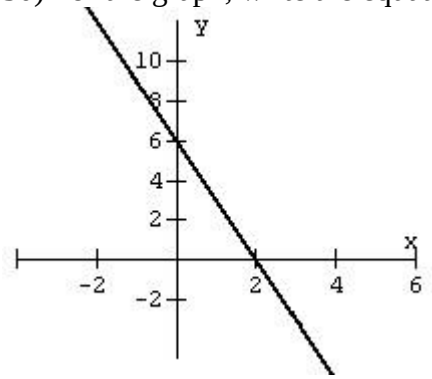
Answer:
(a) *x*-intercept : (2, 0), *y*-intercept : (0, -6)
(b) rising
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Determine x- and y-intercepts of a line.

29) Find the *x*- and *y*-intercepts of the line pictured below.



Answer:
(a) *x*-intercept : (0, 0)
y-intercept : (0, 0)
(b) falling
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Determine x- and y-intercepts of a line.

30) For the graph, write the equation in slope-intercept form.



Answer: $y = -33x + 6$
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Find the equation of a line using point-slope form.

31) Find the equation of the line that passes through the points (15, 21) and (-5, -3).

Answer: $y = \frac{6}{5}x + 3$

Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 03
Learning Objective: Find the equation of a line using point-slope form.

***College Algebra, 5e* (Young)**
Chapter 2 Graphs

2.4 Circles

1) Find the equation of the circle with radius 4 and center (-6, -3) in standard form.
A) $(x - 6)^2 + (y - 3)^2 = 16$
B) $(x + 6)^2 + (y + 3)^2 = 4$
C) $(x + 6)^2 + (y + 3)^2 = 16$
D) $(x - 6)^2 + (y - 3)^2 = 4$
Answer: C
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Identify the center and radius of a circle from the standard equation.

2) Find the equation of the circle with radius 8 and center (-5, 6) in standard form.
A) $(x + 5)^2 + (y - 6)^2 = 64$
B) $(x + 5)^2 + (y + 6)^2 = 64$
C) $(x + 5)^2 + (y - 6)^2 = 8$
D) $(x - 5)^2 + (y + 6)^2 = 64$
Answer: A
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Identify the center and radius of a circle from the standard equation.

3) Find the equation of the circle with radius $6\sqrt{13}$ and center (20, -1) in standard form.
A) $(x + 20)^2 + (y - 1)^2 = 468$
B) $(x - 20)^2 + (y + 1)^2 = 468$
C) $(x - 20)^2 + (y + 1)^2 = 6\sqrt{13}$
D) $(x - 20)^2 + (y + 1)^2 = 78$
Answer: B
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Identify the center and radius of a circle from the standard equation.

4) Find the equation of the circle with radius $2\sqrt{3}$ and center (0, 0) in standard form.
A) $x + y = 2\sqrt{3}$
B) $x^2 + y^2 = 6$
C) $x^2 + y^2 = 12$
D) $x^2 + y^2 = 2\sqrt{3}$
Answer: C
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Identify the center and radius of a circle from the standard equation.

5) Find the center and radius of the circle with equation $(x - 13)^2 + (y + 4)^2 = 2$.
A) center = (13, -4), $r = 4$
B) center = (13, -4), $r = 2$
C) center = (-13, 4), $r = 2$
D) center = (-13, 4), $r = 4$
Answer: B
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Identify the center and radius of a circle from the standard equation.

6) Find the center and radius of the circle with equation $(x + 9)^2 + (y - 18)^2 = 175$.
A) center = (9, -18), $r = 175$
B) center = (9, -18), $r = 5\sqrt{7}$
C) center = (-9, 18), $r = 175$
D) center = (-9, 18), $r = 5\sqrt{7}$
Answer: D
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Identify the center and radius of a circle from the standard equation.

7) Find the center and radius of the circle with equation $x^2 + y^2 - 12 = 0$.
A) center (0, 0), $r = 6$
B) center (0, 0), $r = 0$
C) center (0, 0), $r = 4\sqrt{3}$
D) center (0, 0), $r = 12$
Answer: C
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Identify the center and radius of a circle from the standard equation.

8) Find the center and radius of the circle with equation $x^2 + (y + 2)^2 = 64$.
A) center (0, -2), $r = 64$
B) center (0, 2), $r = 64$
C) center (0, 2), $r = 8$
D) center (0, -2), $r = 8$
Answer: D
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Identify the center and radius of a circle from the standard equation.

9) Find the center and radius of the circle with equation $(x + 4)^2 + y^2 = 12$.
A) center = (-4, 0), $r = 12$
B) center = (-4, 0), $r = 2\sqrt{3}$
C) center = (4, 0), $r = 12$
D) center = (4, 0), $r = 2\sqrt{3}$
Answer: B
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Identify the center and radius of a circle from the standard equation.

10) The point (4, 0) lies on a circle centered at (-2, 3). Find the equation of the circle in standard form.
A) $(x + 2)^2 + (y - 3)^2 = 45$
B) $(x + 2)^2 + (y - 3)^2 = 36$
C) $(x - 2)^2 + (y + 3)^2 = 45$
D) $(x - 2)^2 + (y + 3)^2 = 36$
Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Graph a circle.

11) The point (4, -5) lies on a circle centered at (0, 2). Find the equation in standard form.
A) $x^2 + (y - 2)^2 = 65$
B) $x^2 + (y + 2)^2 = 65$
C) $(x + 2)^2 + y^2 = 65$
D) $(x - 2)^2 + y^2 = 65$
Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Graph a circle.

12) The point (-5, -1) lies on a circle centered at (3, 2). Find the equation of the circle in standard form.
A) $(x + 3)^2 + (y + 2)^2 = 73$
B) $(x - 3)^2 + (y - 2)^2 = 73$
C) $(x - 3)^2 + (y - 2)^2 = 3$
D) $(x + 5)^2 + (y + 1)^2 = 73$
Answer: B
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Graph a circle.

13) Find the equation of the circle with radius 7 and center (17, -3) in standard form.
Answer: $(x - 17)^2 + (y + 3)^2 = 49$
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Identify the center and radius of a circle from the standard equation.

14) Find the center and radius of the circle with equation $(x - 5)^2 + (y + 3)^2 = 1$.
Answer: (5, -3), 1
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Identify the center and radius of a circle from the standard equation.

15) Transform the equation $x^2 + y^2 + 20x + 10y + 121 = 0$ into standard form by completing the square. State the center and radius.
Answer: $(x + 10)^2 + (y + 5)^2 = 4$, center (-10, -5), radius 2
Diff: 3 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Transform equations of circles to the standard form by completing the square.

16) If a cellular phone tower has a reception radius of 230 miles and you live 20 miles south and 100 miles west of the tower, can you use your cell phone while at home?
Answer: yes
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Graph a circle.

17) State the center and radius of the equation $x^2 + y^2 + 16x - 10y + 85 = 0$.
Answer: center (-8, 5), radius 2
Diff: 3 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Transform equations of circles to the standard form by completing the square.

18) State the center and radius of the equation $x^2 + y^2 + 6x + 14y + 22 = 0$.
Answer: center (-3, -7), radius 6
Diff: 3 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Transform equations of circles to the standard form by completing the square.

19) Express the equation $x^2 + y^2 + 10x + 6y + 25 = 0$ in standard form.
Answer: $(x + 5)^2 + (y + 3)^2 = 9$
Diff: 3 Var: 1
Chapter/Section: Ch 02, Sec 04
Learning Objective: Transform equations of circles to the standard form by completing the square.