College Algebra 5th edition Young Test Bank

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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.

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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.

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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.

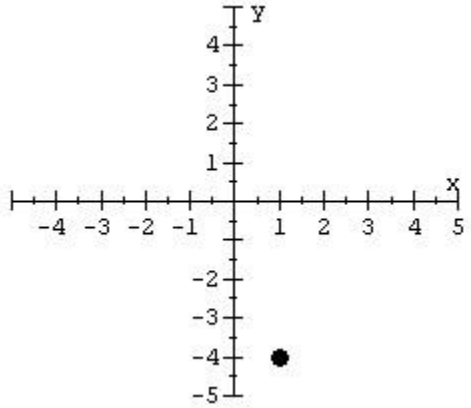
13) Calculate the distance (to two decimal places) and the midpoint between the segment joining the points (-2.5, 5) and (7.6, 7.4).
Answer: distance 10.38, midpoint (2.55, 6.20)
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 01
Learning Objective: Calculate the distance between two points.; Find the midpoint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

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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.

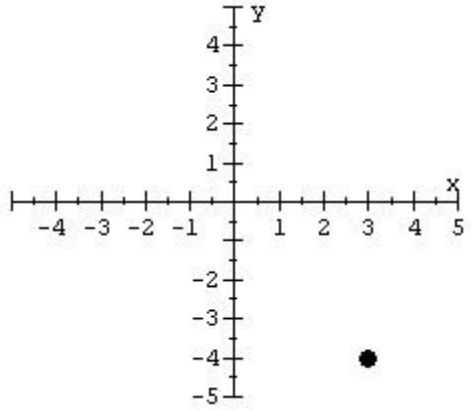
16) Give the coordinates for the point in the graph.



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

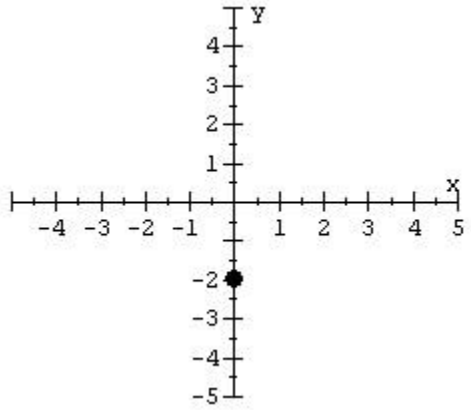
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17) Give the coordinates for the point in the graph.



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.

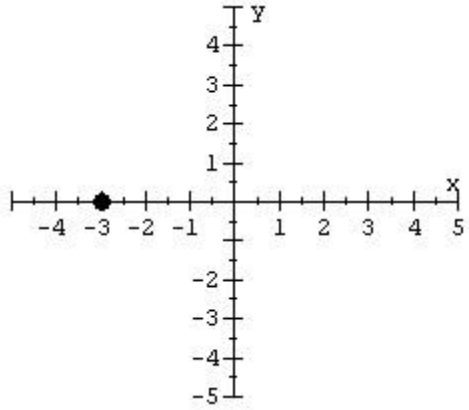
18) Give the coordinates for the point in the graph.



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

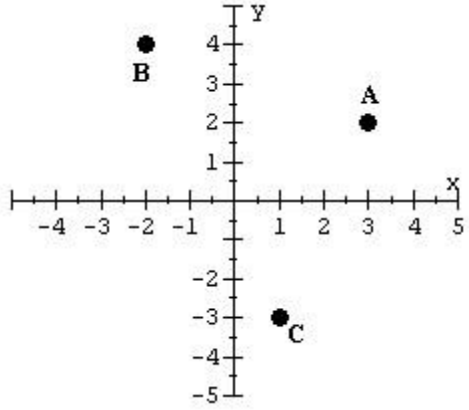
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19) Give the coordinates for the point in the graph.



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.

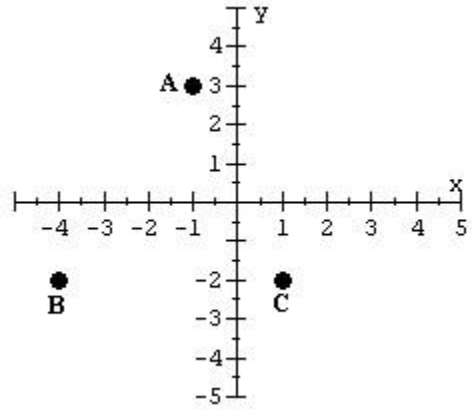
20) Calculate (to two decimal places) the perimeter of the triangle with the following vertices at points A, B, and C.



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

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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.

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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.

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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.

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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.

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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.

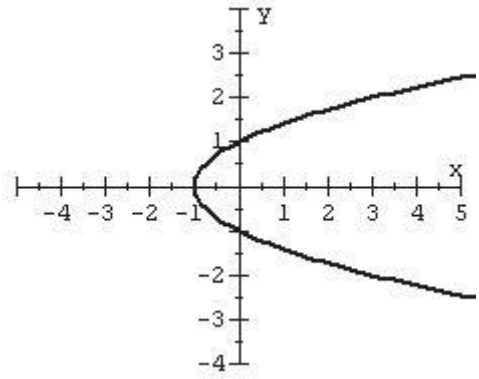
17) Use algebraic tests to determine whether the graph of $y = 8x^3 - 6x$ is symmetric with respect to the *x*-axis, *y*-axis, or origin.
Answer: origin
Diff: 1 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Conduct a test for symmetry about the x-axis, y-axis, and origin.

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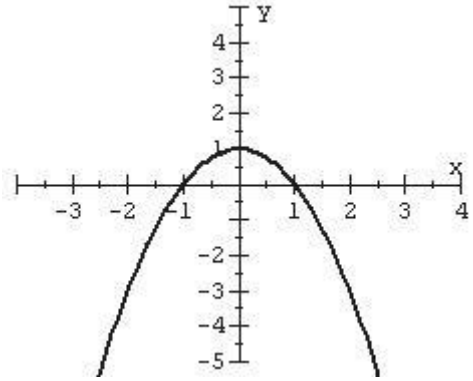
18) Plot the graph of the given equation.

$y = 1 - x^2$

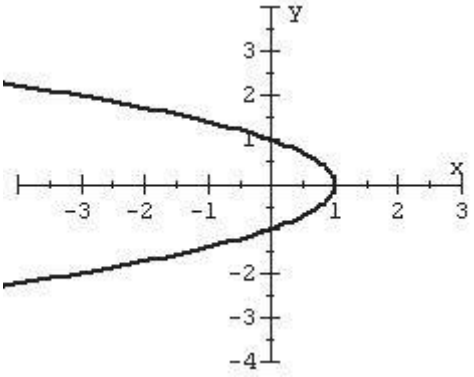
A)



B)

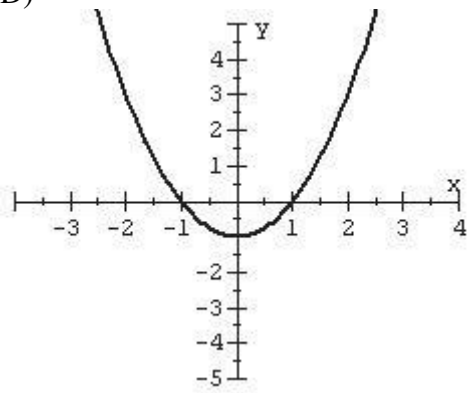


C)



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D)

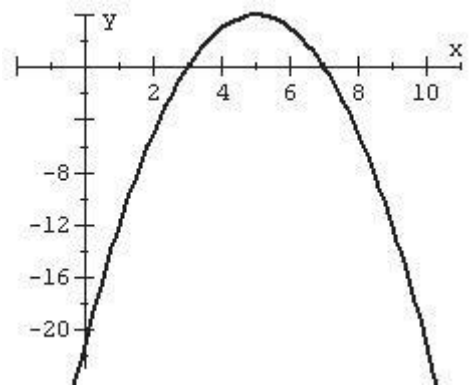


Answer: B
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Use intercepts and symmetry as graphing aids.

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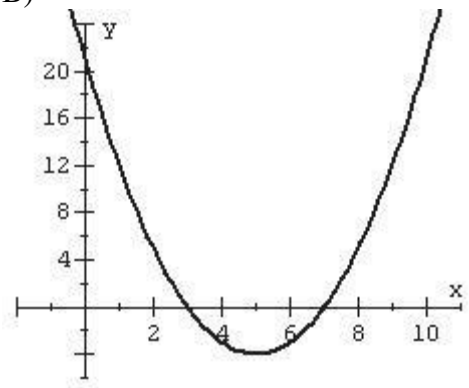
19) The profit associated with making a particular product is given by the equation $y = -x^2 + 10x - 21$ where y represents the profit in millions of dollars and x represents the number of thousands of units sold. ($x = 1$ corresponds to 1000 units and $y = 1$ corresponds to \$1M.) Graph this equation 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)



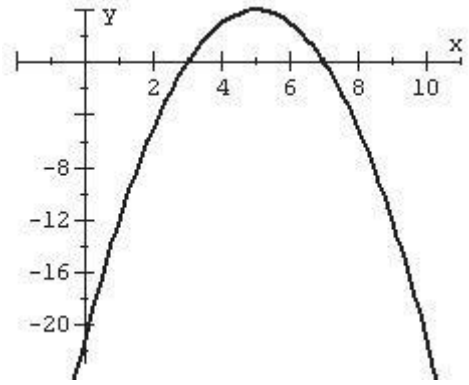
3000 units or 7000 units must be sold to break even
range of units sold that correspond to making a profit is 3000 to 7000

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

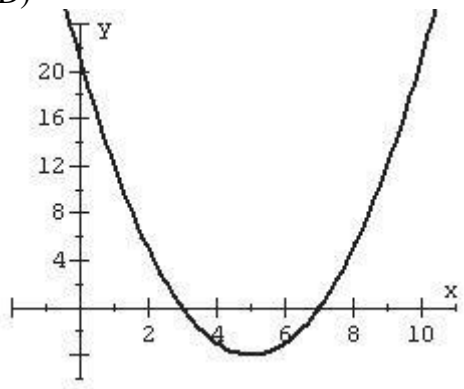
C)



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

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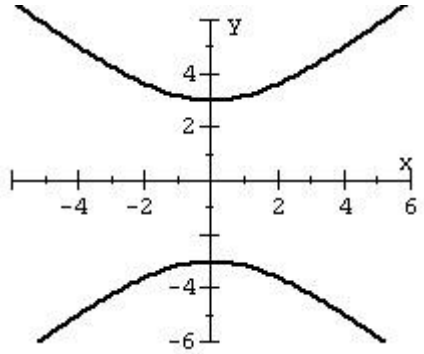
D)



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:



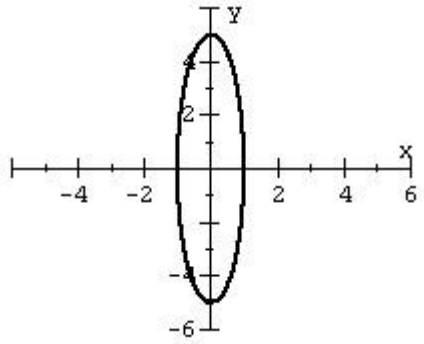
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Use intercepts and symmetry as graphing aids.

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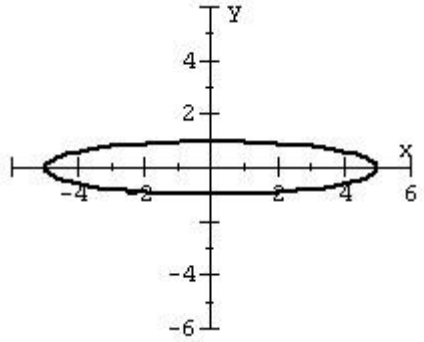
21) Use symmetry to help you graph the equation.

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

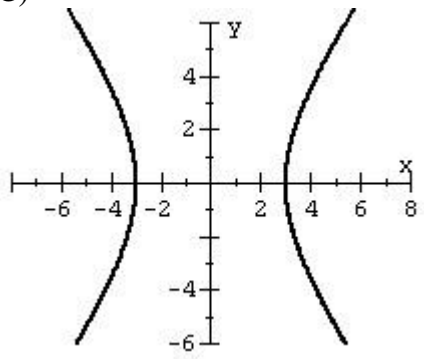
A)



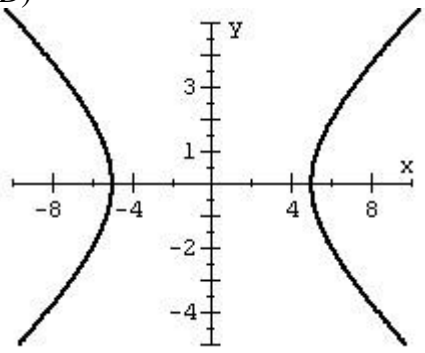
B)



C)



D)



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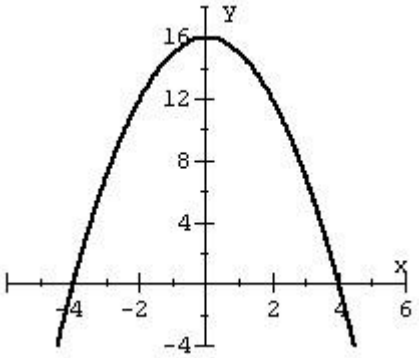
Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Use intercepts and symmetry as graphing aids.

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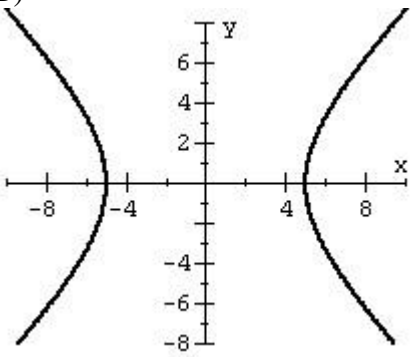
22) Use symmetry to help you graph the equation.

$x^2 + y = 16$

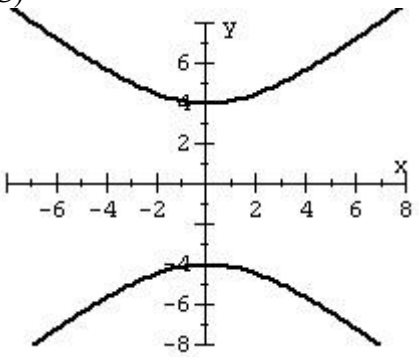
A)



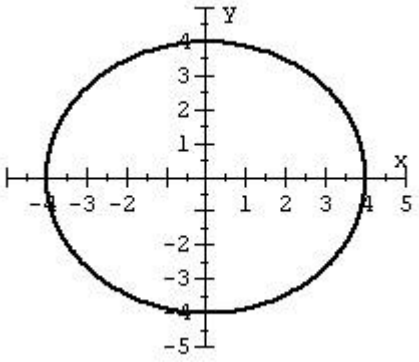
B)



C)



D)



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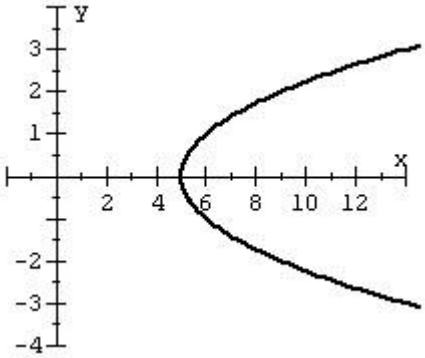
Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 02, Sec 02
Learning Objective: Use intercepts and symmetry as graphing aids.

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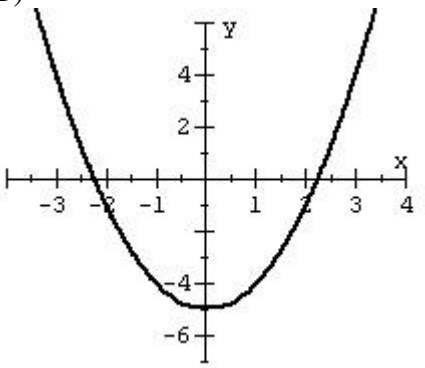
23) Use symmetry to help you graph the equation.

$x = y^2 + 5$

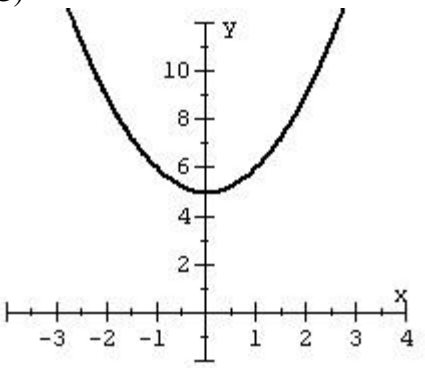
A)



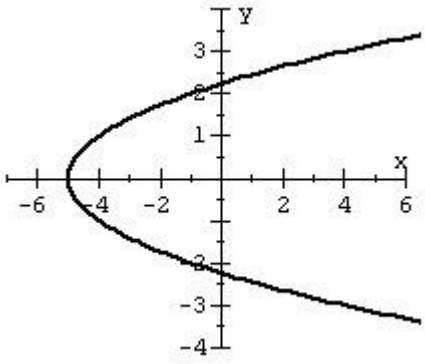
B)



C)



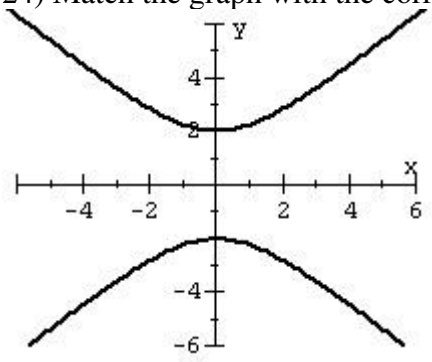
D)



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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.

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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.

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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.

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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.

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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.

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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.

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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.

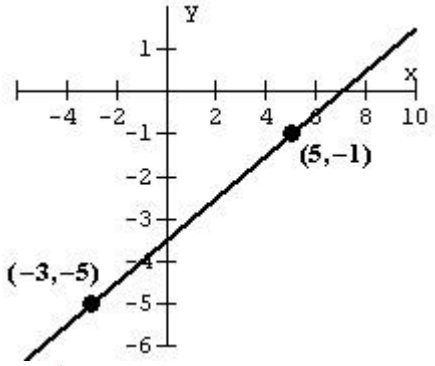
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18) Find the equation of the line that passes through the point (50, 10) and is perpendicular to the line $3y + 10x = -10$.

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.

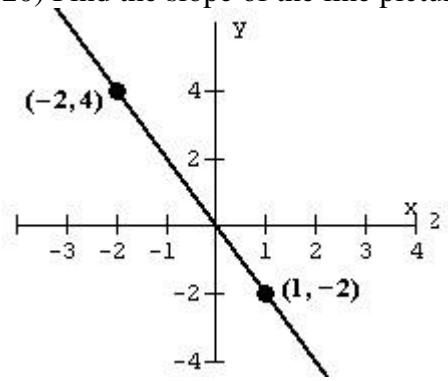


A) $\frac{1}{2}$

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.

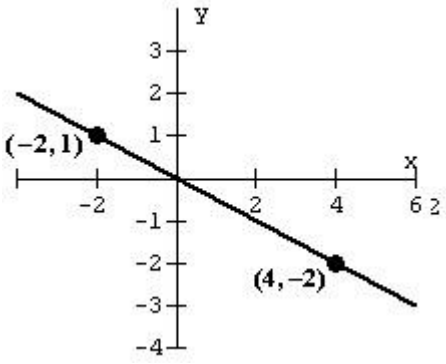
20) Find the slope of the line pictured below.



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

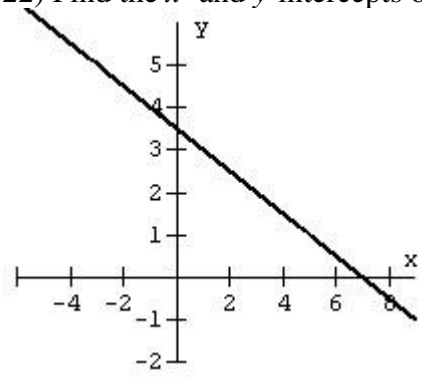
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21) Find the slope of the line pictured below.



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.

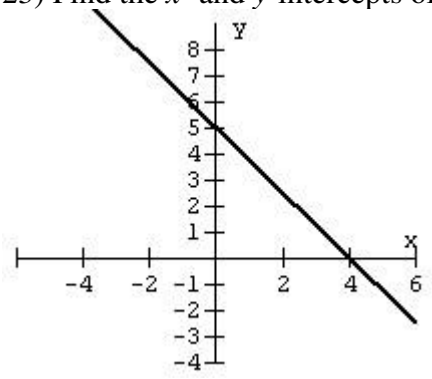
22) Find the *x*- and *y*-intercepts of the line pictured below.



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.

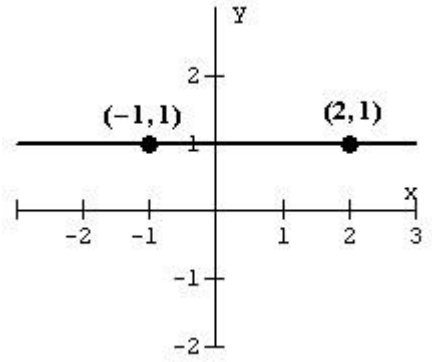
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23) Find the *x*- and *y*-intercepts of the line pictured below.



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.

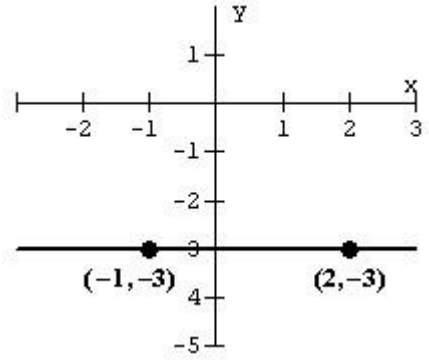
24) Find the slope of the line pictured below.



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

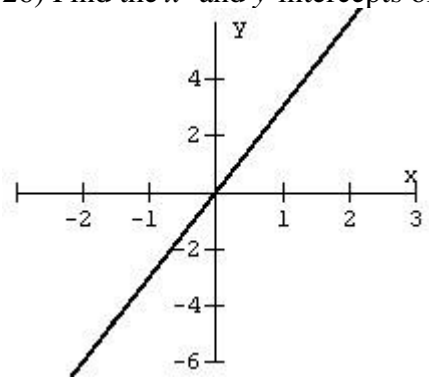
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25) Find the slope of the line pictured below.



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.

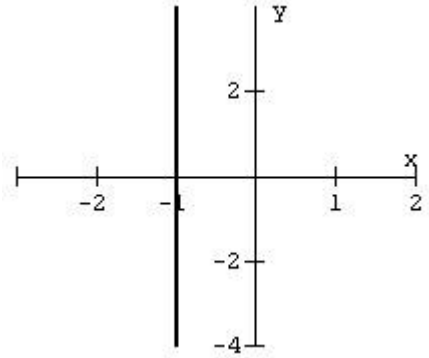
26) Find the *x*- and *y*-intercepts of the line pictured below.



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.

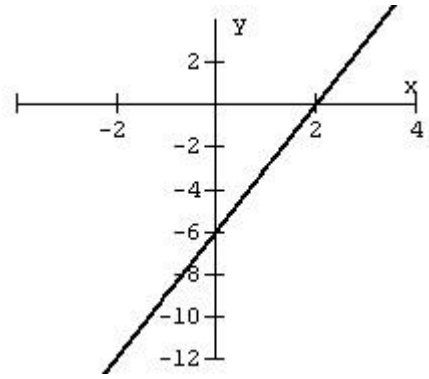
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27) Find the *x*- and *y*-intercepts of the line pictured below.



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.

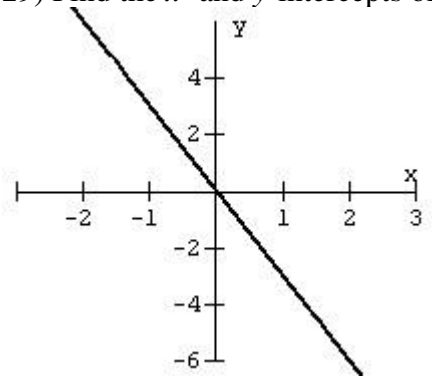
28) For the graph, identify (by inspection) (a) the *x*- and *y*-intercepts and (b) classify the line as rising, falling, horizontal, or vertical.



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.

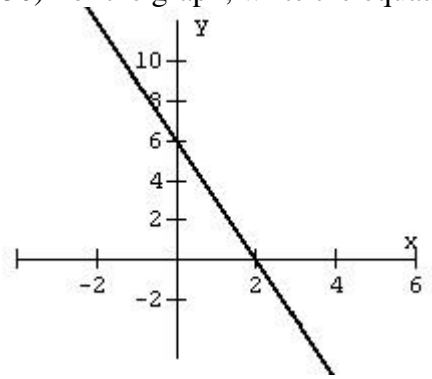
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29) Find the *x*- and *y*-intercepts of the line pictured below.



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.

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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.

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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.

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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.

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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.

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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.

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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.

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