

Test Bank for College Algebra 5th Young

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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.

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)

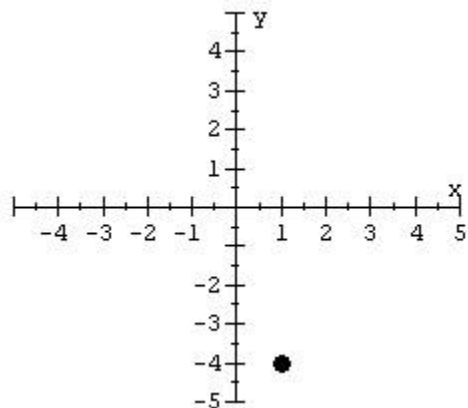
Answer: right triangle

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.



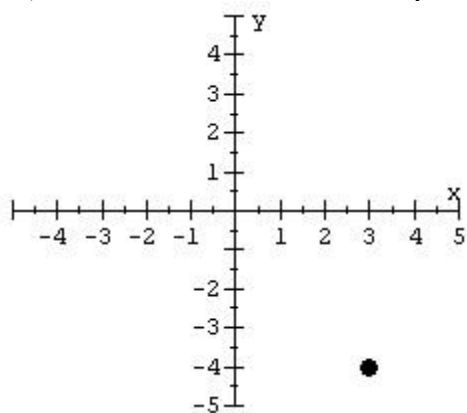
Answer: (1, -4)

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)

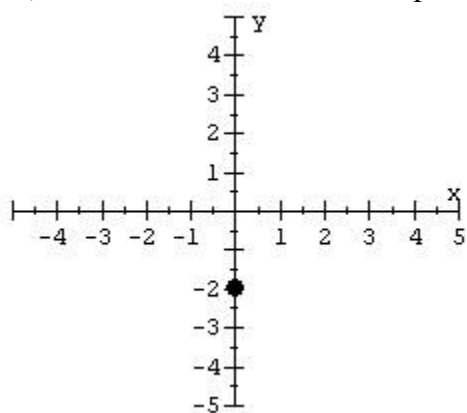
Answer: A

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.



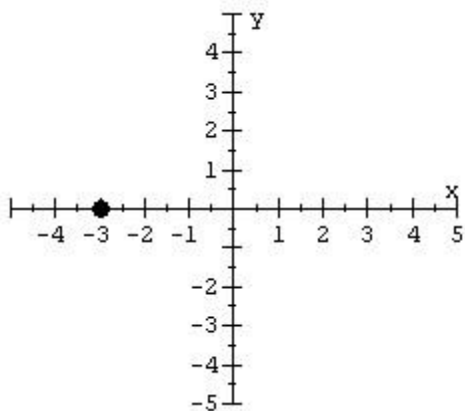
Answer: (0, -2)

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

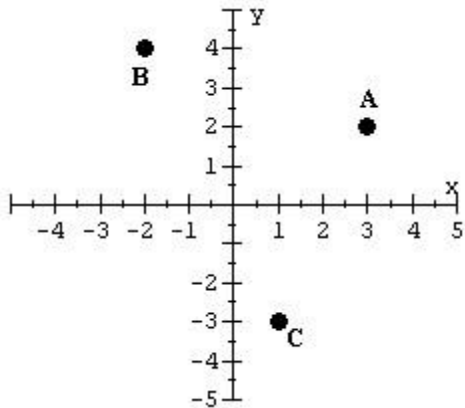
Answer: C

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.



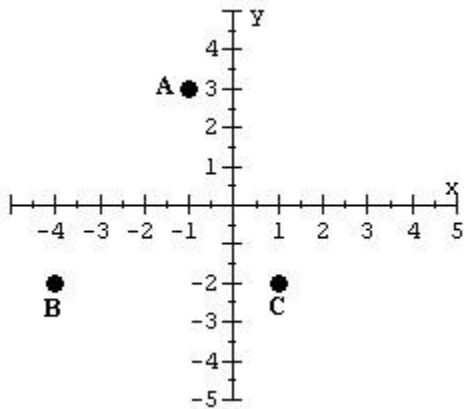
Answer: 18.39

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 $(4\sqrt{11}, 7\sqrt{2})$ and $(5\sqrt{11}, 6\sqrt{2})$. (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.

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

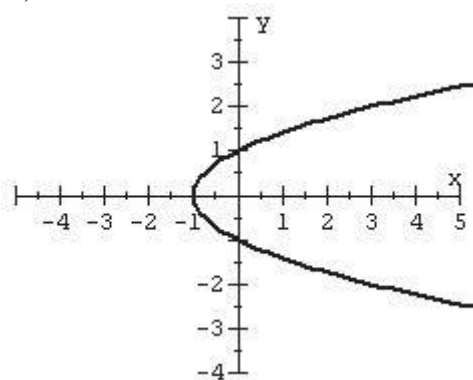
Chapter/Section: Ch 02, Sec 02

Learning Objective: Conduct a test for symmetry about the x -axis, y -axis, and origin.

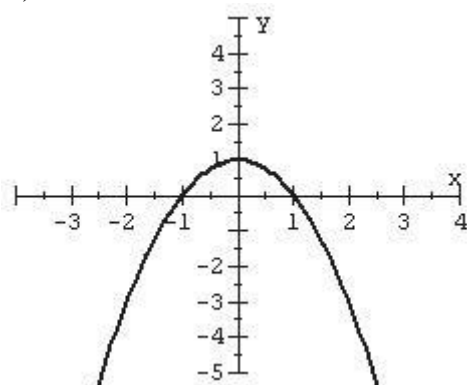
18) Plot the graph of the given equation.

$$y = 1 - x^2$$

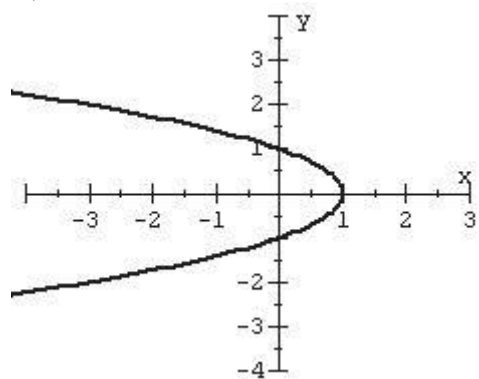
A)



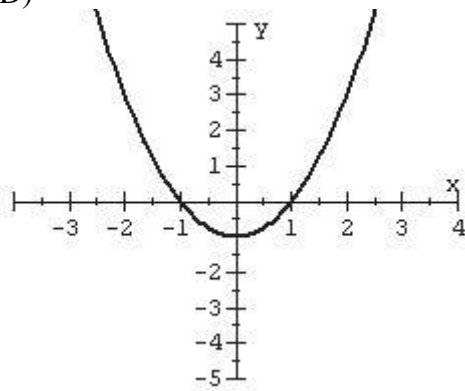
B)



C)



D)



Answer: B

Diff: 2 Var: 1

Chapter/Section: Ch 02, Sec 02

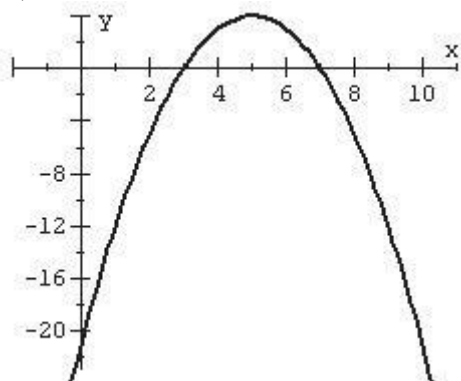
Learning Objective: Use intercepts and symmetry as graphing aids.

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.

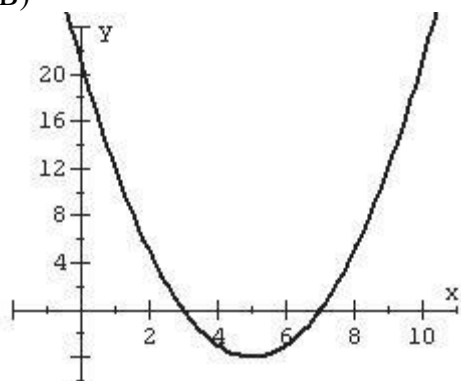
A)



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

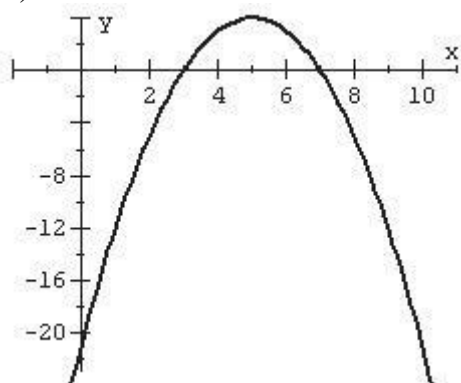
B)



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

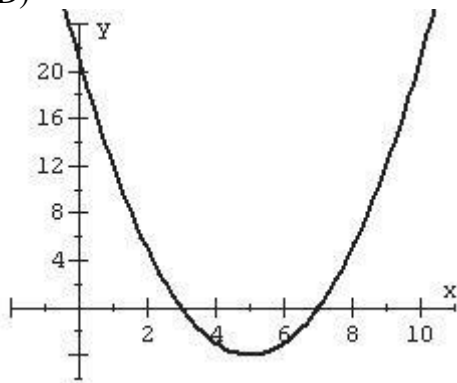
C)



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

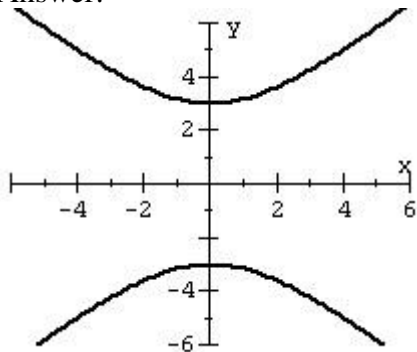
Chapter/Section: Ch 02, Sec 02

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

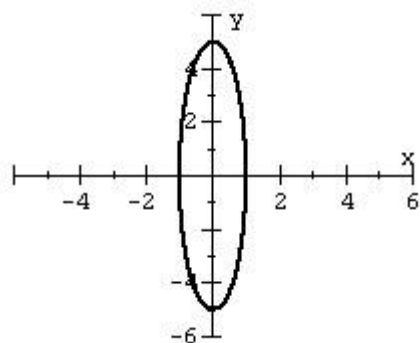
Chapter/Section: Ch 02, Sec 02

Learning Objective: Use intercepts and symmetry as graphing aids.

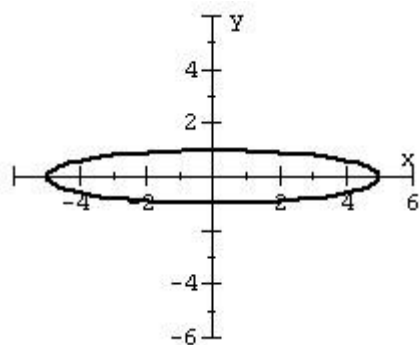
21) Use symmetry to help you graph the equation.

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

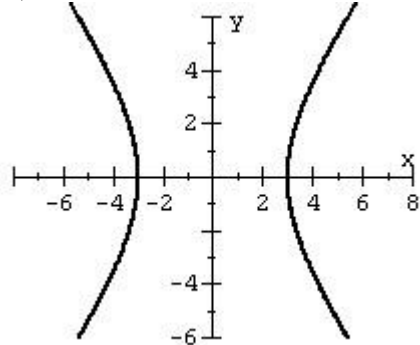
A)



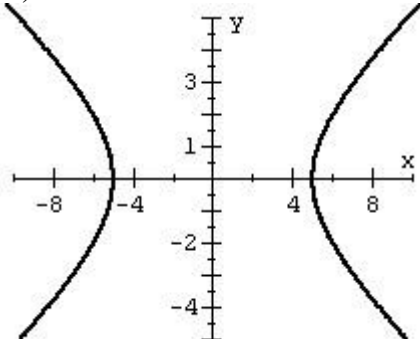
B)



C)



D)



Answer: A

Diff: 2 Var: 1

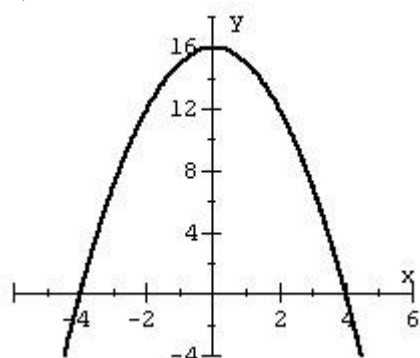
Chapter/Section: Ch 02, Sec 02

Learning Objective: Use intercepts and symmetry as graphing aids.

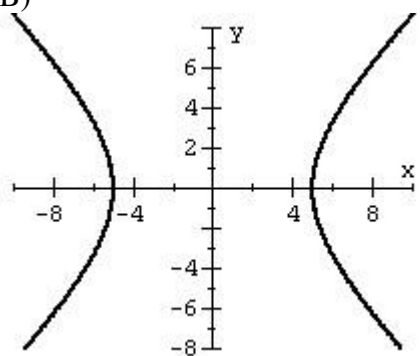
22) Use symmetry to help you graph the equation.

$$x^2 + y = 16$$

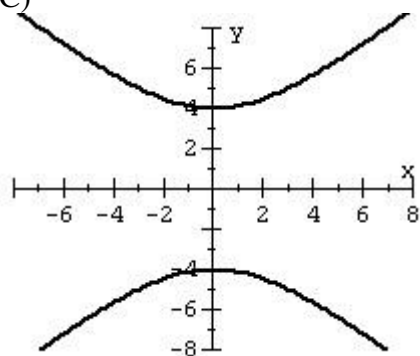
A)



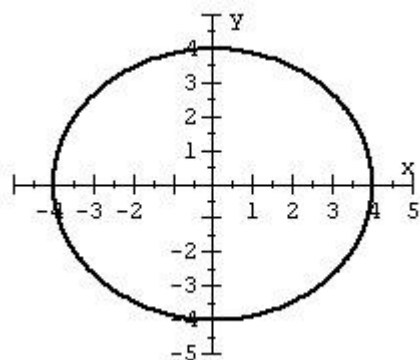
B)



C)



D)



Answer: A

Diff: 2 Var: 1

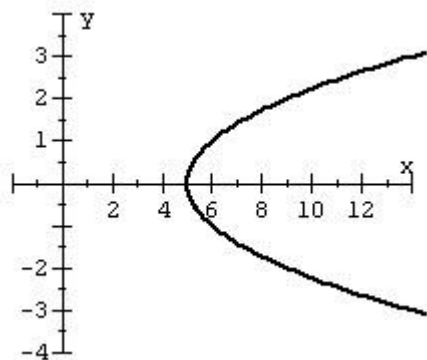
Chapter/Section: Ch 02, Sec 02

Learning Objective: Use intercepts and symmetry as graphing aids.

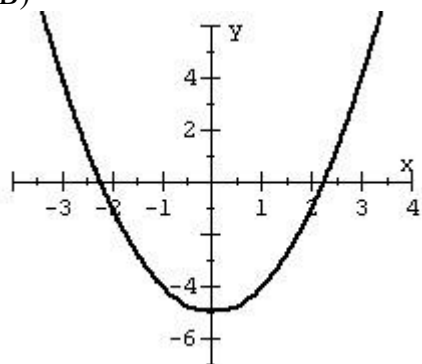
23) Use symmetry to help you graph the equation.

$$x = y^2 + 5$$

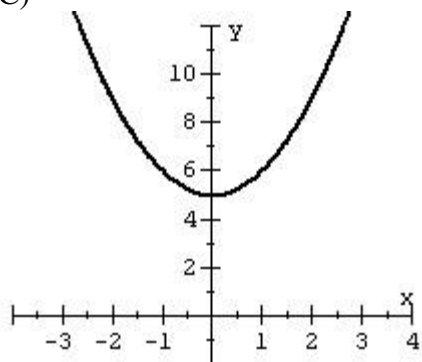
A)



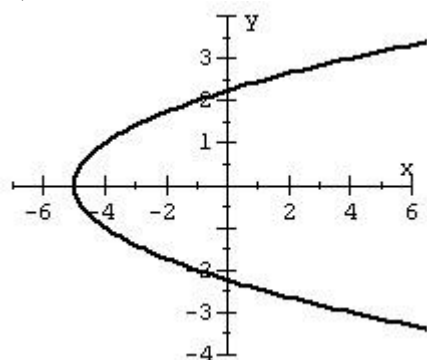
B)



C)



D)



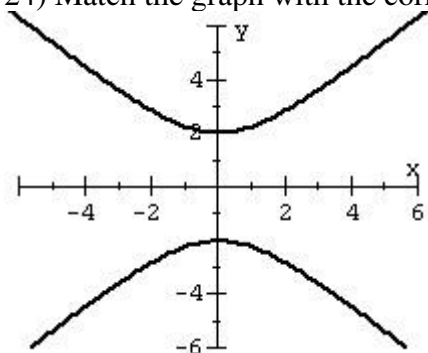
Answer: A

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.

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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.

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 $3y + 10x = -10$.

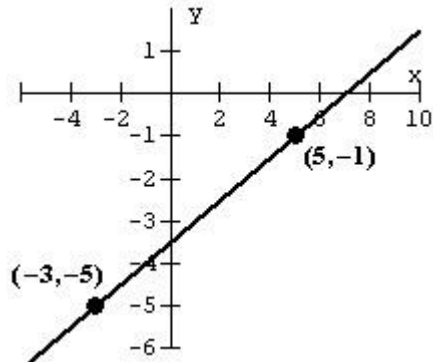
Answer: $y = \frac{3}{5}x - 20$

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

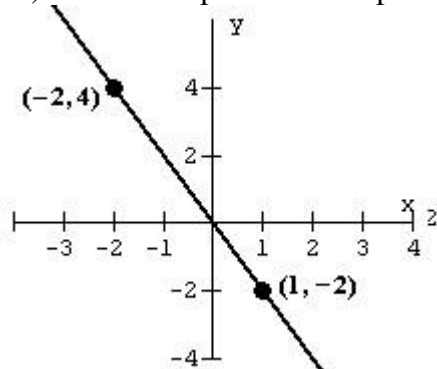
Answer: A

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.



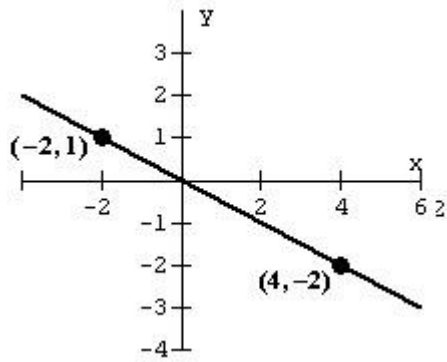
Answer: -2

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

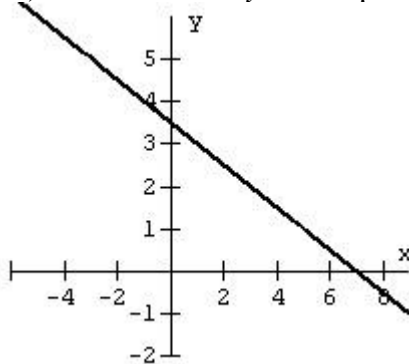
Answer: A

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.



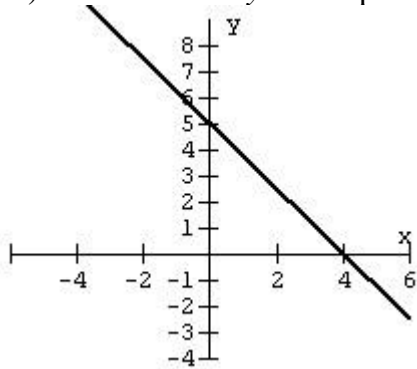
Answer: x -intercept : $(7, 0)$, y -intercept : $(0, 3.5)$

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

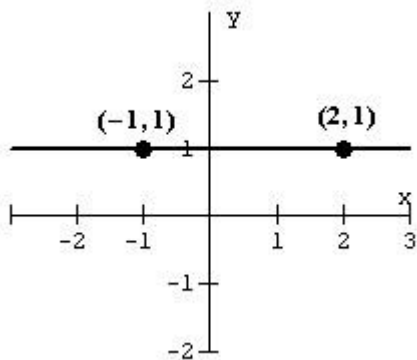
Answer: A

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.



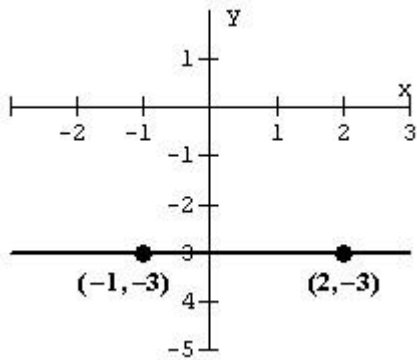
Answer: 0

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

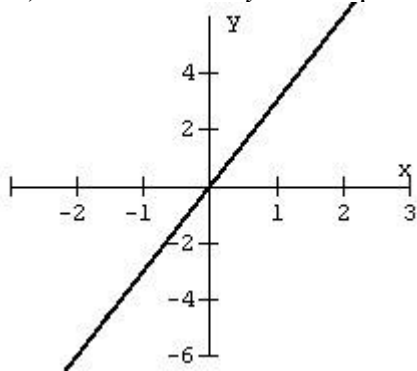
Answer: A

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)

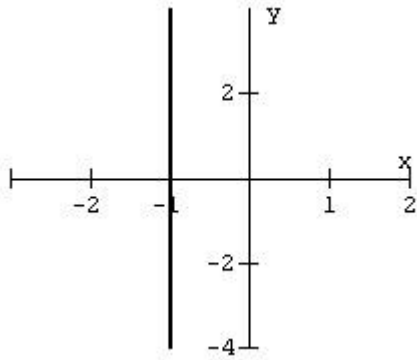
y -intercept : (0, 0)

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

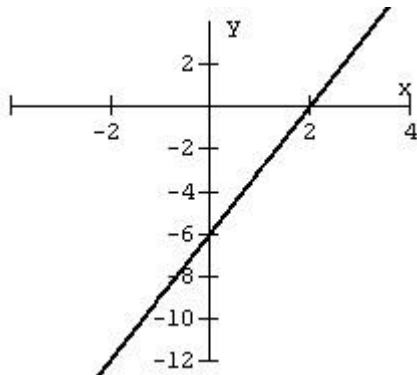
Answer: A

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 : $(0, -6)$

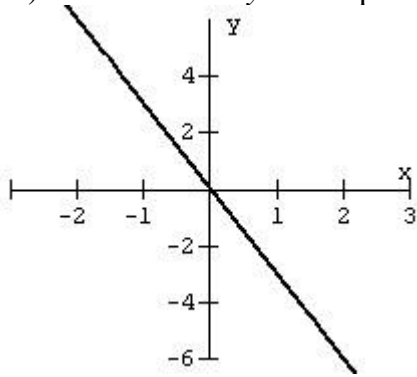
(b) rising

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 : $(0, 0)$

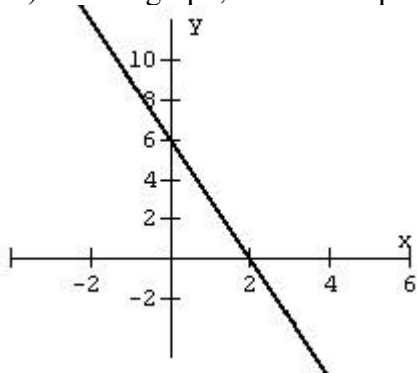
(b) falling

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: $y = -3x + 6$

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.

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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.

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.

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