

Name: _____ Class: _____ Date: _____

Chapter 1

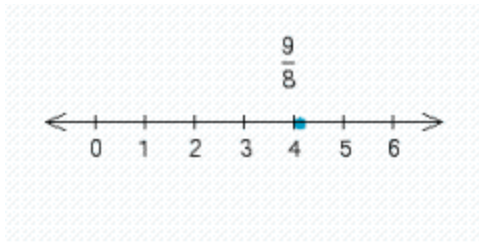
Multiple Choice

Identify the choice that best completes the statement or answers the question.

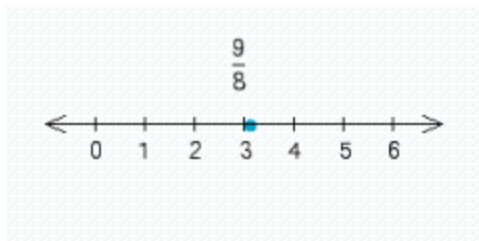
_____ 1. Draw a number line showing the location of the indicated number.

$$\frac{9}{8}$$

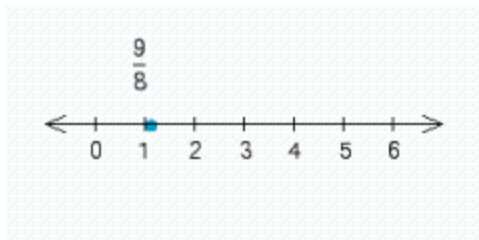
a.



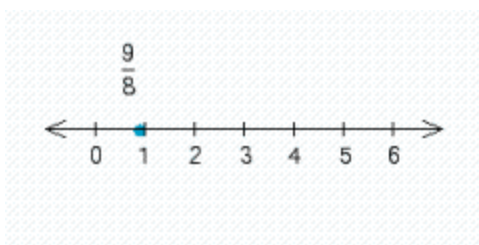
b.



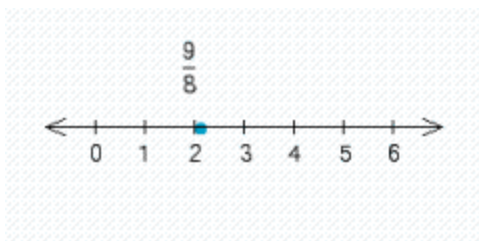
c.



d.



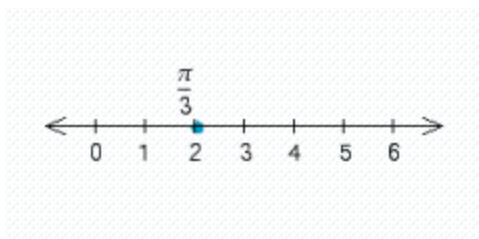
e.



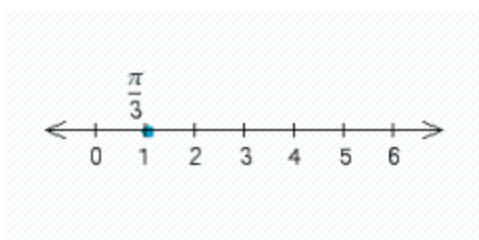
_____ 2. Draw a number line showing the approximate location of the indicated number.

$$\frac{\pi}{3}$$

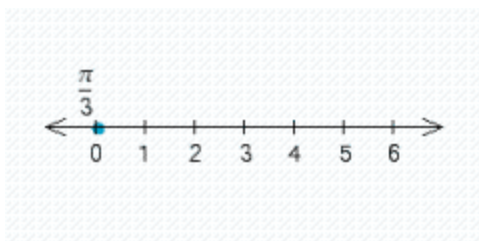
a.



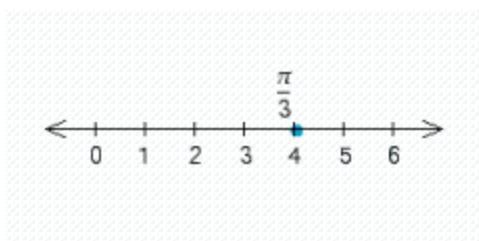
b.



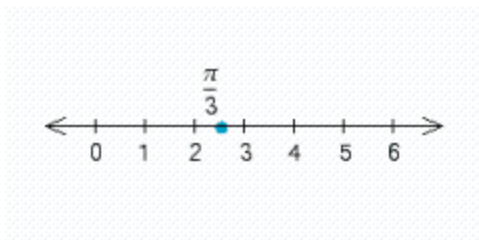
c.



d.



e.



_____ 3. Evaluate.

$$|3| + |-3|$$

- a. -9
- b. -6
- c. 9
- d. 6
- e. 0

_____ 4. Rewrite expression without using absolute value notation.

$$|x - 8| \text{ given that } x < 8$$

- a. $x - 8$
- b. $8 - x$
- c. $-x - 8$
- d. $x + 8$
- e. $8 + x$

_____ 5. Rewrite using absolute value notation.

The distance between x and 4 is at least 8.

- a. $|x - 4| \leq 8$
- b. $|x - 4| \geq 8$
- c. $|x - 8| < 4$
- d. $|x + 4| < 8$
- e. $|x - 8| > 4$

_____ 6. Rewrite using absolute value notation.

The distance between x and 1 is at least $\frac{1}{4}$.

- a. $|x - 1| > \frac{1}{4}$
- b. $|x - 1| \geq \frac{1}{4}$
- c. $|x - 4| \leq 1$
- d. $|x + 1| < \frac{1}{4}$
- e. $|x - 4| \geq \frac{1}{4}$

_____ 7. Solve for x .

$$\frac{x-1}{2} + \frac{3x+4}{-1} = 0$$

a. $x = -\frac{9}{5}$

b. $x = -\frac{5}{7}$

c. $x = \frac{11}{5}$

d. $x = \frac{9}{7}$

e. $x = -\frac{7}{5}$

_____ 8. Solve for x in terms of the other letters.

$$\frac{x}{a} + \frac{x}{b} = 3$$

a. $x = \frac{3ab}{b+a}$

b. $x = \frac{b-a}{b+a}$

c. $x = \frac{b-a}{ab}$

d. $x = 3(a+b)$

e. $x = \frac{-3-ab}{b-a}$

_____ 9. Solve for x in terms of the other letters.

$$\frac{b-x}{b-a} - 2 = \frac{c-x}{a-c}$$

a. $x = 2b$

b. $x = a$

c. $x = 2a$

d. $x = c$

e. $x = \frac{1}{2}a$

____ 10. Find the distance between the given points.

$(4, 9)$ and $(7, 13)$

- a. 8
- b. 6
- c. 5
- d. 4
- e. 2

____ 11. Which of the following points is **closest** to the origin?

- a. $(-4, 12)$
- b. $(-12, -8)$
- c. $(-8, 12)$
- d. $(-5, -14)$
- e. $(8, -11)$

____ 12. Given the following three points,

$(-14, 8)$, $(-7, 8)$, $(-7, 16)$,

which of the following statements is true?

- a. The points are not the vertices of any triangle.
- b. The points are the vertices of an equilateral triangle.
- c. The points are the vertices of a right triangle.
- d. The points are the vertices of a triangle that is neither right nor isosceles nor equilateral.
- e. The points are the vertices of an isosceles triangle.

____ 13. Find the midpoint of the line segment joining P and Q .

$P(-3, 9)$ and $Q(21, -13)$

- a. $(11, 0)$
- b. $(10, -1)$
- c. $(8, -3)$
- d. $(7, -3)$
- e. $(9, -2)$

____ 14. Find the midpoint of the line segment joining P and Q .

$P(19, \pi)$ and $Q(9, 11\pi)$

- a. $(15, 7\pi)$
- b. $(14, 6\pi)$
- c. $(15, \pi)$
- d. $(14, 6)$
- e. $(15, 7)$

____ 15. Determine whether the given point lies on the graph of the equation.

$(4, 3); y = \frac{1}{2}x + 3$

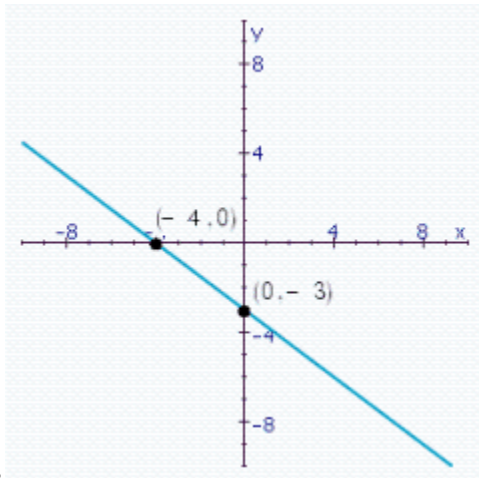
- a. no
- b. yes

____ 16. Find both the x -intercept and the y -intercept for the equation defined as follows:

$3x + 4y = 12$.

Choose the correct graph of this straight line equation.

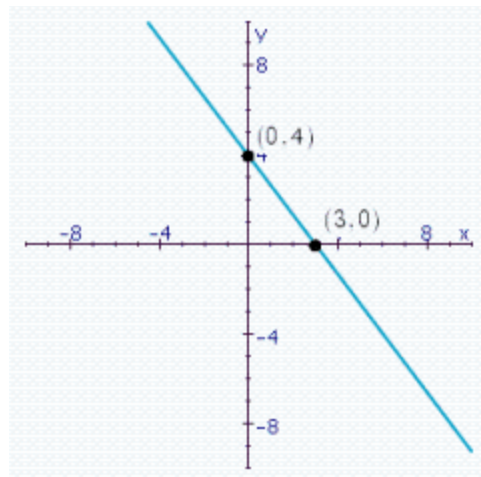
a.



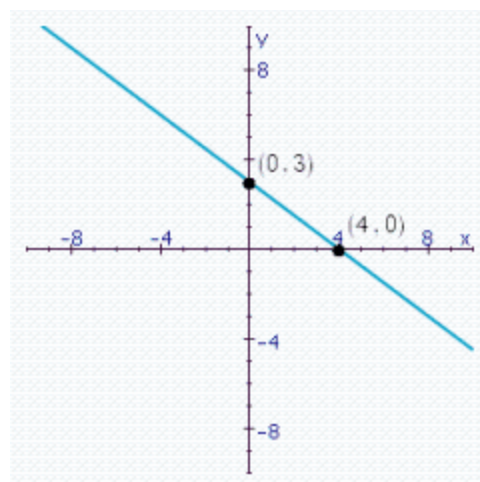
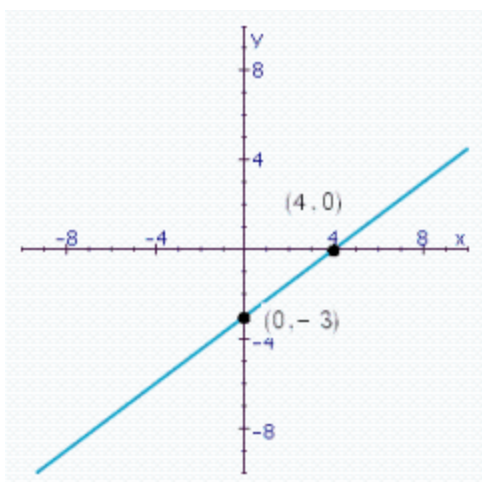
3

b. 1b

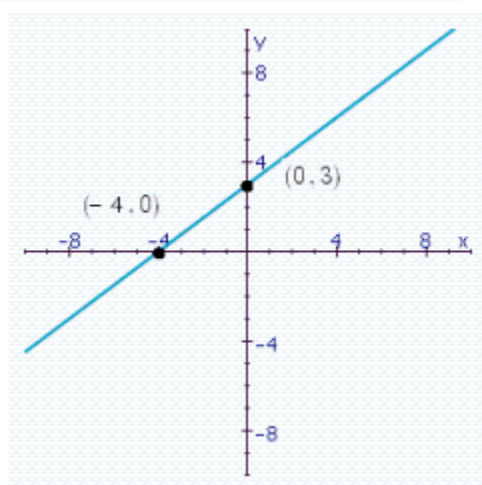
d. 2



e. 1

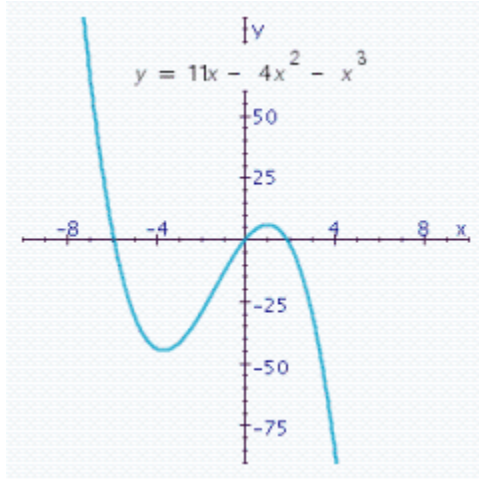


c.



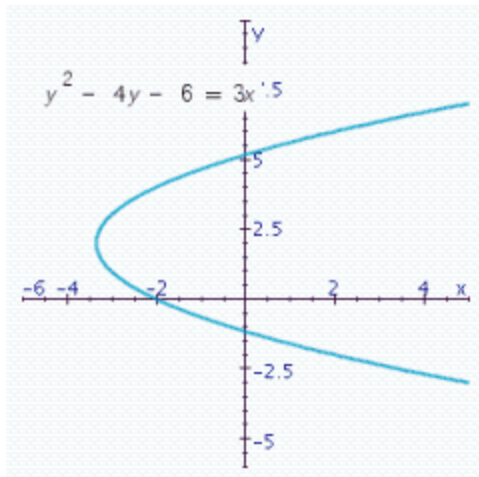
1a

17. Use a calculator to determine all x -intercepts and all y -intercept accurate to two decimal places.



- a. x -intercepts: $0, 5.87, 1.87$; y -intercepts: $0, 1$
- b. x -intercepts: $0, -5.87, 0.87$; y -intercept: 0
- c. x -intercepts: $0, -5.87, 1.87$; y -intercepts: $0, -1$
- d. x -intercepts: $0, -5.87, 1.87$; y -intercept: 0
- e. x -intercepts: $0, -6.87, 1.87$; y -intercept: 0

18. Use a calculator to determine all x -intercepts and all y -intercept accurate to two decimal places.



- a. x -intercept: -2.00 ; y -intercept: -0.86
- b. x -intercepts: $1.46, 5.16$; y -intercept: -2.00
- c. x -intercept: 2.00 ; y -intercepts: $1.16, -4.16$
- d. x -intercept: -2.00 ; y -intercepts: $-1.16, 5.16$
- e. x -intercepts: $0, -2.00$; y -intercept: -1.46

- _____ 19. Use a calculator to graph the equation. Then approximate the x -intercepts accurate to three decimal places.

$$y = x^5 - 8x^4 + 3$$

- a. -0.765, 0.804, 8.001
- b. -0.765, 0.804, 7.999
- c. 4.000, 0.804, 0.265
- d. 0.904, 0.765, 4.000
- e. -0.765, 0.904, 4.000

- _____ 20. Find the equation of the line with the given slope and y -intercept.

$$\text{slope} = 3; y\text{-intercept} = \frac{3}{2}$$

- a. $y = 3x + \frac{3}{2}$
- b. $y = \frac{1}{3}x + \frac{3}{2}$
- c. $y = 3x + \frac{2}{3}$
- d. $y = 3x - \frac{2}{3}$
- e. $y = \frac{1}{3}x + \frac{2}{3}$

- _____ 21. Find the equation of the line described below.

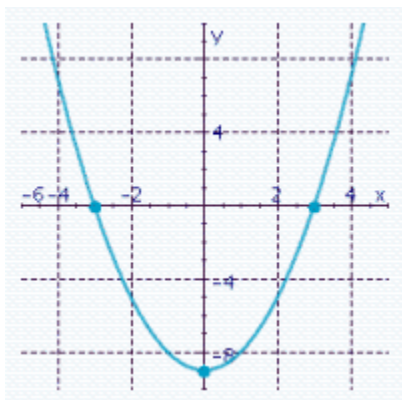
$$x\text{-intercept } 5; y\text{-intercept } 4$$

- a. $y = -\frac{4}{5}x - 4$
- b. $y = -\frac{4}{5}x + 5$
- c. $y = -\frac{4}{5}x + 4$
- d. $y = -\frac{5}{4}x - 4$
- e. $y = -\frac{5}{4}x + 5$

____ 22. Find the intercepts and determine what type of symmetry the graph possesses.

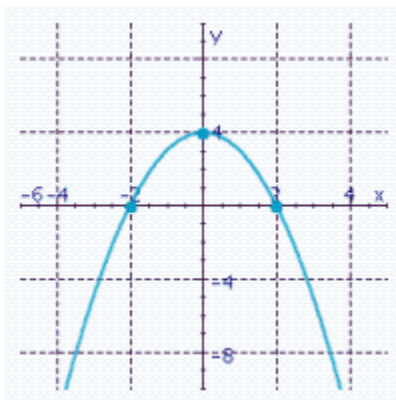
$$y = -4 + x^2$$

a.



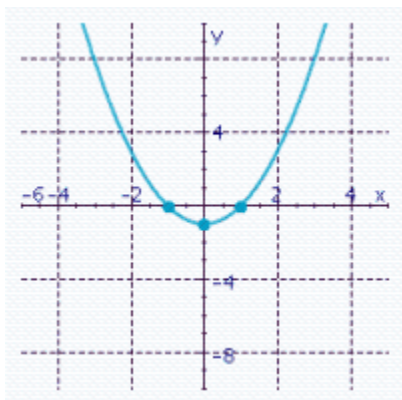
Symmetry about the y -axis.

d.



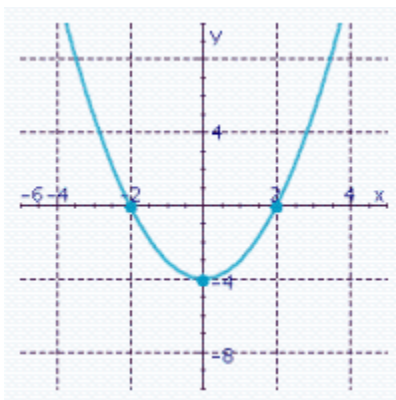
Symmetry about the y -axis.

b.



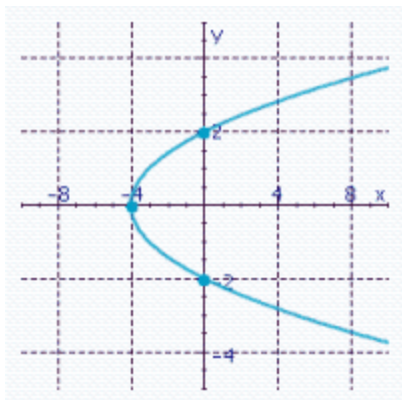
Symmetry about the y -axis.

e.



Symmetry about the y -axis.

c.

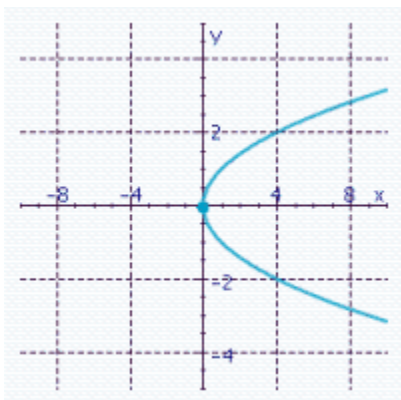


Symmetry about the x -axis.

____ 23. Find the intercepts and determine what type of symmetry the graph possesses.

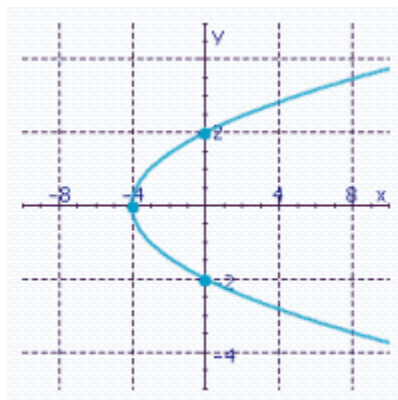
$$x = y^2 - 4$$

a.



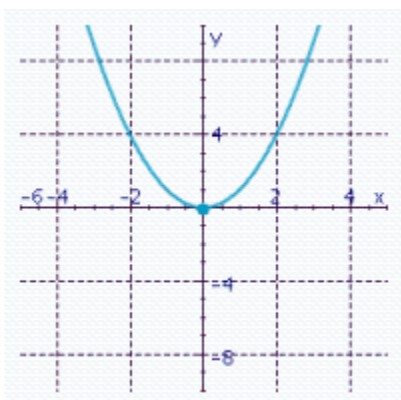
Symmetry about the x -axis.

d.



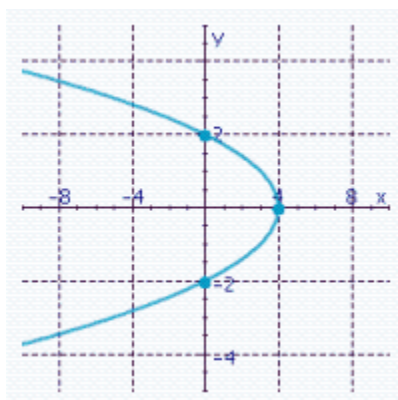
Symmetry about the x -axis.

b.



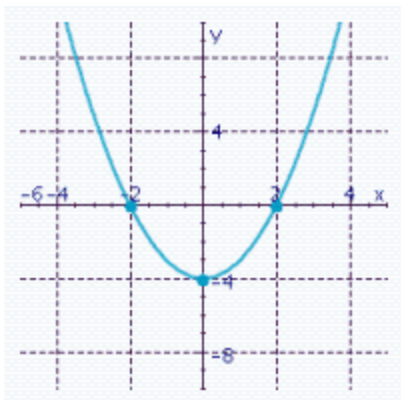
Symmetry about the y -axis.

e.



Symmetry about the x -axis.

c.

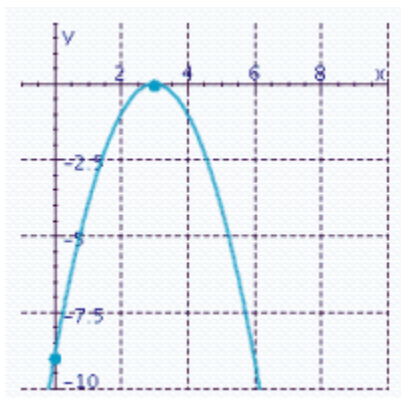


Symmetry about the y -axis.

____ 24. Find the intercepts and determine what type of symmetry the graph possesses.

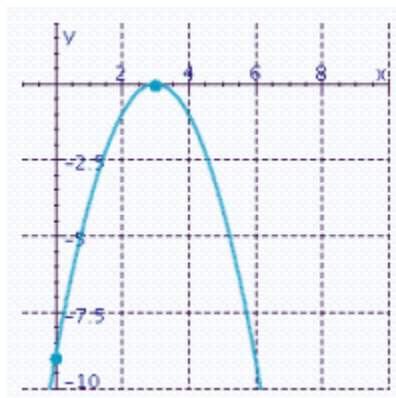
$$y = x^2 - 6x + 9$$

a.



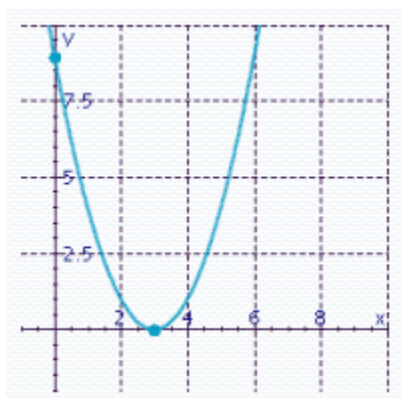
Symmetry about the y-axis.

d.



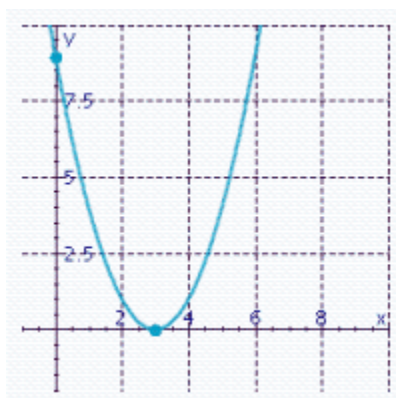
No symmetry.

b.



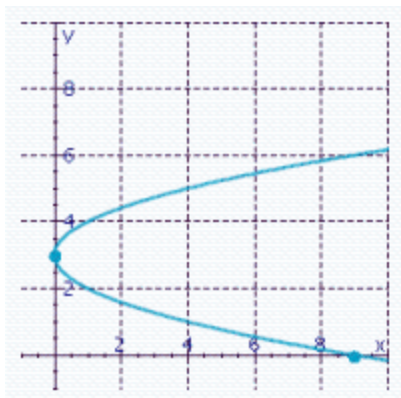
No symmetry.

e.



Symmetry about the x-axis.

c.



Symmetry about the y-axis.

_____ 25. Find the center of the circle.

$$x^2 + y^2 + 8x - 4y = -16$$

- a. $(4, 2)$
- b. $(-4, 2)$
- c. $(-4, -2)$
- d. $(-8, 4)$
- e. $(4, -2)$

Chapter 1

Answer Section

MULTIPLE CHOICE

- | | |
|------------|--------|
| 1. ANS: C | PTS: 1 |
| 2. ANS: B | PTS: 1 |
| 3. ANS: D | PTS: 1 |
| 4. ANS: B | PTS: 1 |
| 5. ANS: B | PTS: 1 |
| 6. ANS: B | PTS: 1 |
| 7. ANS: A | PTS: 1 |
| 8. ANS: A | PTS: 1 |
| 9. ANS: B | PTS: 1 |
| 10. ANS: C | PTS: 1 |
| 11. ANS: A | PTS: 1 |
| 12. ANS: D | PTS: 1 |
| 13. ANS: E | PTS: 1 |
| 14. ANS: B | PTS: 1 |
| 15. ANS: A | PTS: 1 |
| 16. ANS: E | PTS: 1 |
| 17. ANS: D | PTS: 1 |
| 18. ANS: D | PTS: 1 |
| 19. ANS: B | PTS: 1 |
| 20. ANS: A | PTS: 1 |
| 21. ANS: C | PTS: 1 |
| 22. ANS: E | PTS: 1 |
| 23. ANS: D | PTS: 1 |
| 24. ANS: B | PTS: 1 |
| 25. ANS: B | PTS: 1 |