



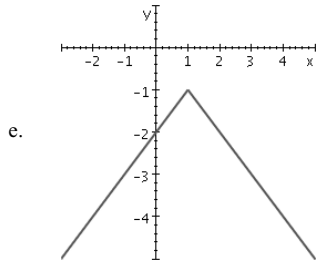
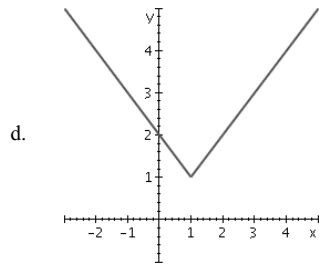
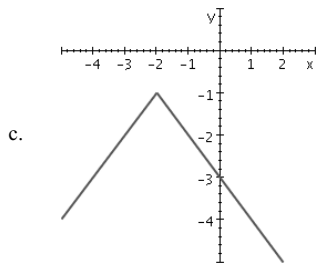
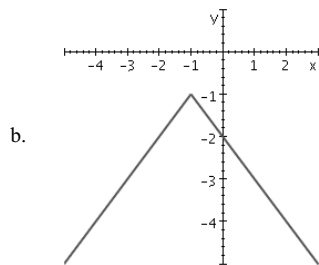
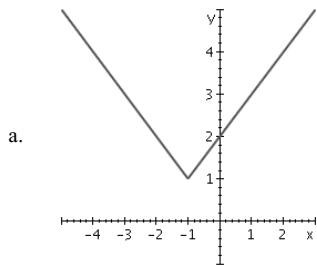
1 Do the graphs of $y = 6 - 4x - x^2$ and $y = 3x + 18$ intersect in the viewing rectangle $[-6,2]$ by $[-5,20]$?

If they intersect, determine the number of points of intersection.

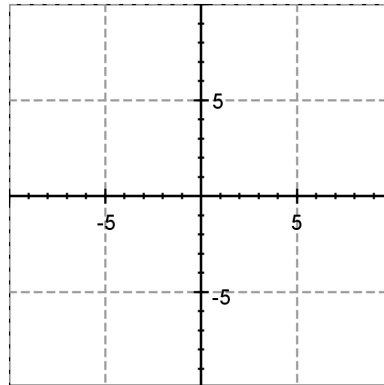
- a. 4
- b. 1
- c. 3
- d. 6
- e. 2

2 Draw the graph.

$y = 1 + |x - 1|$

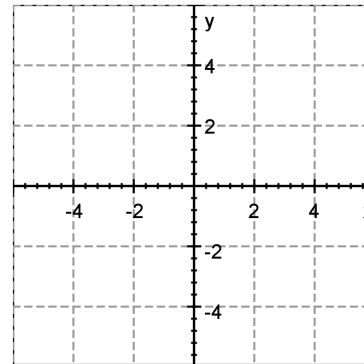


4 Sketch the region given by the set $\{ (x, y) \mid -2 < x < 2 \text{ and } y \geq 3 \}$.



5 Solve the equation $x^2 + y^2 = 25$ for y .

Now graph the y solutions corresponding to the negative and positive square roots. (This graph is called a circle.)

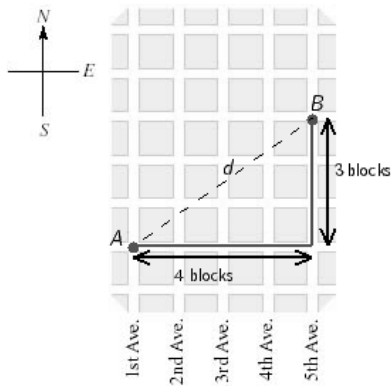


3 Solve the equation both algebraically and graphically.

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

- a. $x = -3$
- b. $x = -10$
- c. $x = -2$
- d. $x = -8$
- e. $x = -4$

- 6 A city has streets that run north and south, and avenues that run east and west, all equally spaced. Streets and avenues are numbered sequentially, as shown in the figure. The walking distance between points A and B is 7 blocks; that is, 4 blocks east and 3 blocks north. To find the straight-line distances d , we must use the Distance Formula.



Find the straight-line distance (in blocks) between A and B .

_____ blocks

Find the walking distance and the straight-line distance between the corner of 4th St. and 2nd Ave. and the corner of 25th St. and 74th Ave.

Walking distance: _____ blocks

Straight-line distance: _____ blocks

What must be true about the points S and M if the walking distance between S and M equals the straight-line distance between S and M ?

(use a separate sheet to answer if necessary)

- 7 Find the center and radius of the circle for the equation of $x^2 + y^2 - 8x - 10y = -37$.

x-coordinate of the center	y-coordinate of the center	radius

- 8 Use a graphing calculator to decide which viewing rectangle produces the most appropriate graph of the equation.

$$y = x^4 + 3$$

- a. $[-6, 6]$ by $[-60, 6]$ b. $[-60, 6]$ by $[-6, 6]$
 c. $[-3, 3]$ by $[-3, 3]$ d. $[-6, 6]$ by $[-6, 60]$
 e. $[-6, 60]$ by $[-6, 6]$

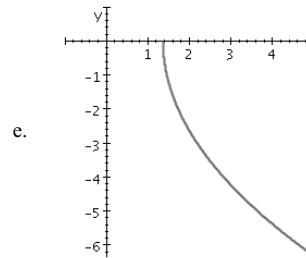
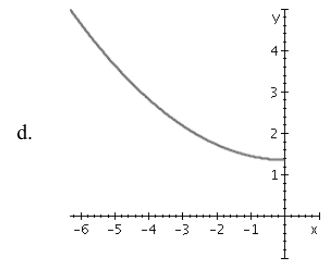
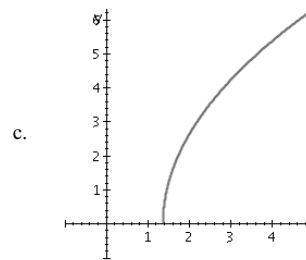
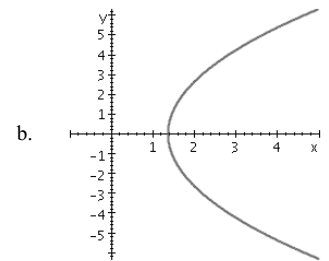
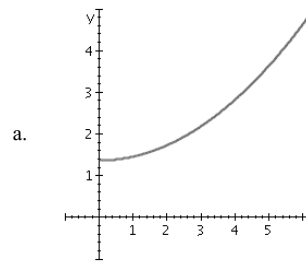
- 9 Find the x - and y -intercepts of the graph of the equation $y = 11x + 5$.

x -intercept = _____

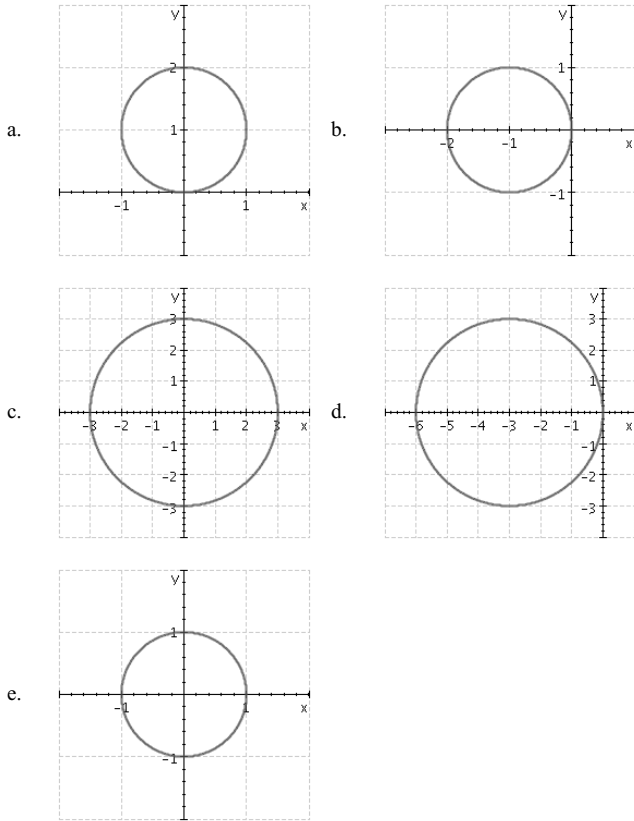
y -intercept = _____

- 10 Draw the graph.

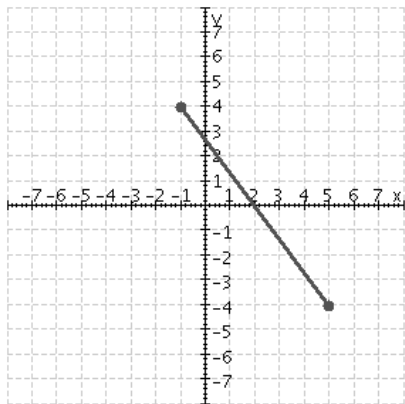
$$y = \sqrt{11x - 15}$$



11 Graph the circle $x^2 + y^2 = 1$ by solving for y and graphing the two equations corresponding to the negative and positive square roots. (This graph is called a circle.)



12 A pair of points is graphed.

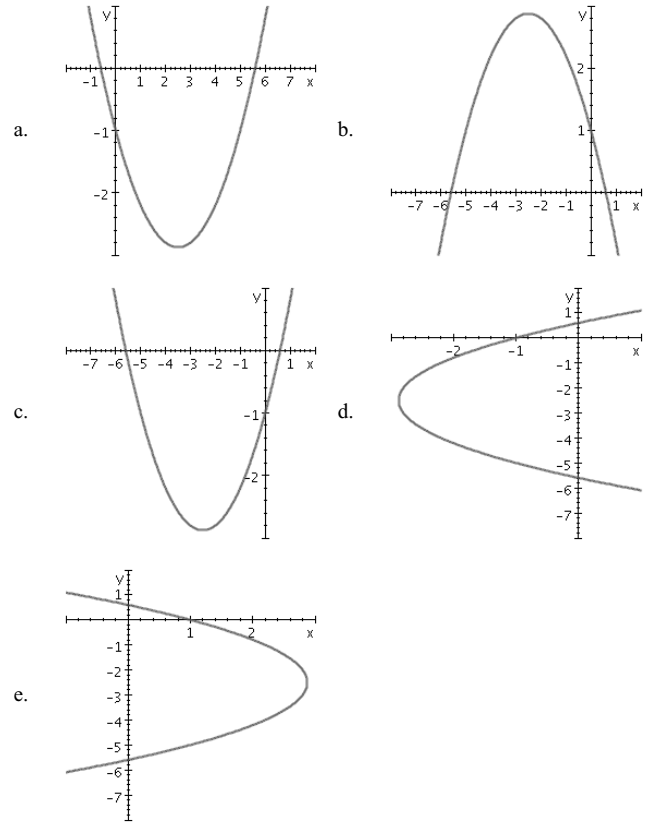


Find the distance between them.

Find the midpoint of the segment that joins them.

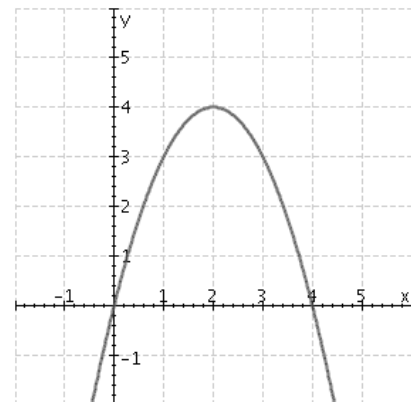
13 Draw the graph.

$$y = 0.3x^2 + 1.5x - 1$$



14 An equation and its graph are given.

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



Find the x -intercepts.

$x =$ _____

Find the y -intercepts.

$y =$ _____

15 Solve the equation $x^2 - 6x + 8 = 0$ graphically in the interval $[0, 6]$.

- a. $x = 3, x = 4$
- b. $x = 2, x = 4$
- c. $x = 2, x = 5$
- d. $x = 2$
- e. $x = 3, x = 5$

16 Use a graphing calculator to decide which viewing rectangle produces the most appropriate graph of the equation.

$$y = 14 + 49x - x^3$$

- a. $[-14, 0]$ by $[-49, 150]$
- b. $[-14, 7]$ by $[-20, 80]$
- c. $[-1, 14]$ by $[-150, 150]$
- d. $[-10, 10]$ by $[-150, 150]$
- e. $[-7, 7]$ by $[-20, 60]$

17 Test each of the equations for symmetry.

Match each equation in the left column with the corresponding phrase in the right column.

$$y = 2x^4 + 5x^2 + 6$$

symmetry about y -axis

$$y = 2x^3 - 5x$$

symmetry about x -axis

$$x = 5y^4 - 2y^2$$

symmetry about the origin

18 If $M(4, 6)$ is the midpoint of the line segment AB , and if A has coordinates $(3, 4)$, find the coordinates of B .

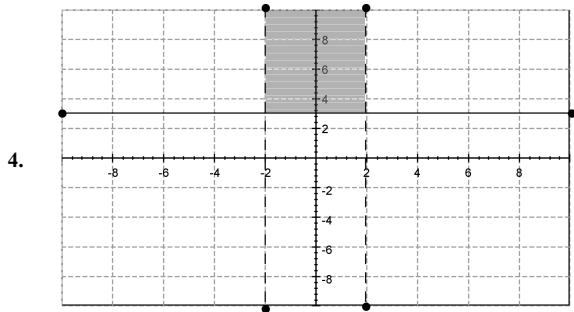
19 Find all real solutions of the equation $x^4 - 12x^2 + 1 = 0$. (Round to the nearest hundredth.)

$x =$ _____

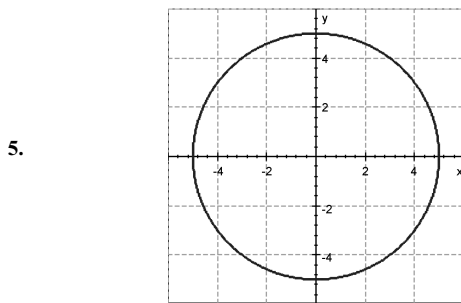
ANSWER KEY

QUIZ 2.1 – 2.3 – Answers For A

1. e
2. d
3. c



$$y = \pm \sqrt{25 - x^2}$$



- 5
- 93
6. 75
Points S and M must either be on the same street or the same avenue.

7.

x-coordinate of the center	y-coordinate of the center	radius
4	5	2

8. d
- 1: $-\frac{5}{11}, 11$
9. $(-\frac{5}{11}, 0)$
- 2: 5
- (0,5)

10. c
11. e

12. 10
- (2,0)

13. c

- 1: 0,4
- x=0,4
- x=4,0
14. x=0,x=4
- (0,0),(4,0)

- 2: 0
- y=0
- (0,0)

15. b
16. d

17. $y = 2x^4 + 5x^2 + 6 \rightarrow$ symmetry about y -axis,
- $x = 5y^4 - 2y^2 \rightarrow$ symmetry about x -axis,
- $y = 2x^3 - 5x \rightarrow$ symmetry about the origin
18. (5,8)
- 5,8
19. -3.45,-0.29,0.29,3.45