

# Get Ready!

Lesson 4-1

## Graphing Quadratic Functions

Graph each function.

1.  $y = -x^2$

3.  $y = 2x^2 + 5$

2.  $y = \frac{1}{3}x^2$

4.  $y = x^2 + 6x + 8$

Lesson 4-3

## Identifying Quadratic Functions

Determine whether each function is *linear* or *quadratic*. Identify the quadratic, linear, and constant terms.

5.  $y = 6x - x^2 + 1$

6.  $f(x) = -2(3 + x)^2 + 2x^2$

7.  $y = 2x - y - 13$

8.  $y = 4x(7 - 2x)$

9.  $g(x) = -2x^2 - 3(x - 2)$

10.  $y = x - 2(x + 5)$

Lesson 4-6

## Completing the Square

Complete the square.

11.  $x^2 + 8x + \blacksquare$

12.  $x^2 - 5x + \blacksquare$

13.  $x^2 + 14x + \blacksquare$

Rewrite each equation in vertex form. Then graph the function.

14.  $y = x^2 + 6x + 7$

15.  $y = 2x^2 - 4x + 10$

16.  $y = -3x^2 + x$

Lesson 4-1

## Graphing Quadratic Functions in Vertex Form

Graph each function.

17.  $y = 2(x - 3)^2 + 1$

18.  $y = -1(x + 7)^2 - 4$

Lesson 2-7

## Graphing Absolute Value Functions

Graph each function.

19.  $y = 2|x|$

20.  $y = |x| + 2$



## Looking Ahead Vocabulary

21. The word *radius* is a Latin word for the spoke of a wheel. It is also the source of the word "radio" because electromagnetic rays radiate from a radio in every direction. Why do you think mathematicians use the term radius to label any line segment from the center of a circle to any point on the circle?
22. In geometry, you learned that a *vertex* is typically a corner or point where two lines intersect. The four corners of a square are called vertices. Using this information, what can you conclude about the vertex of a parabola?