

**LESSON**  
**10.2****Practice B***For use with pages 635–640***Identify the values of  $a$ ,  $b$ , and  $c$  in the quadratic function.**

1.  $y = 6x^2 + 3x + 5$

2.  $y = \frac{3}{2}x^2 - x + 8$

3.  $y = 7x^2 - 3x - 1$

4.  $y = -2x^2 + 9x$

5.  $y = \frac{3}{4}x^2 - 10$

6.  $y = -8x^2 + 3x - 7$

**Tell whether the graph opens upward or downward. Then find the axis of symmetry and vertex of the graph of the function.**

7.  $y = x^2 - 5$

8.  $y = -x^2 + 9$

9.  $y = -2x^2 + 6x + 7$

10.  $y = 3x^2 - 12x + 1$

11.  $y = 3x^2 + 6x - 2$

12.  $y = -2x^2 + 7x - 21$

13.  $y = \frac{1}{2}x^2 + 5x - 4$

14.  $y = -\frac{1}{4}x^2 - 24$

15.  $y = -3x^2 + 9x - 8$

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

17.  $y = -2x^2 + 7x + 1$

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

**Find the vertex of the graph of the function. Make a table of values using  $x$ -values to the left and right of the vertex.**

19.  $y = x^2 - 10x + 3$

<b>x</b>	?	?	?	?	?
<b>y</b>	?	?	?	?	?

20.  $y = -x^2 + 6x - 2$

<b>x</b>	?	?	?	?	?
<b>y</b>	?	?	?	?	?

21.  $y = \frac{1}{2}x^2 - x + 7$

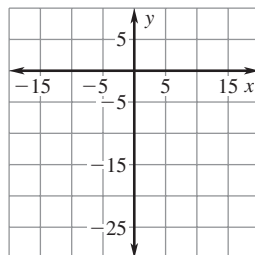
<b>x</b>	?	?	?	?	?
<b>y</b>	?	?	?	?	?

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

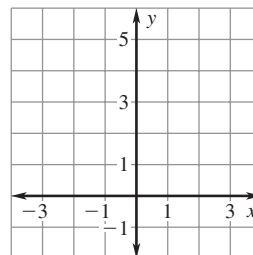
<b>x</b>	?	?	?	?	?
<b>y</b>	?	?	?	?	?

**Graph the function. Label the vertex and axis of symmetry.**

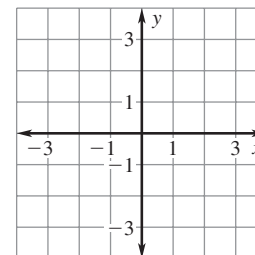
23.  $y = -x^2 - 10$



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

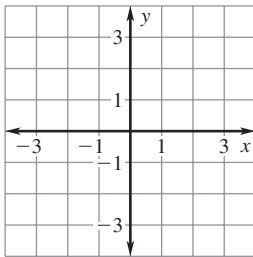


25.  $y = -2x^2 + 2x + 1$

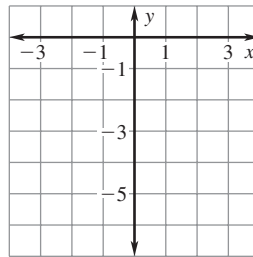


**LESSON**  
**10.2**
**Practice B** *continued*  
 For use with pages 635–640

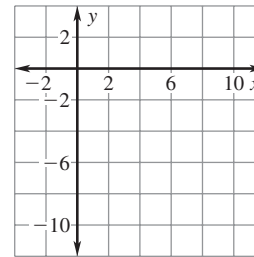
26.  $y = 5x^2 + 2x$



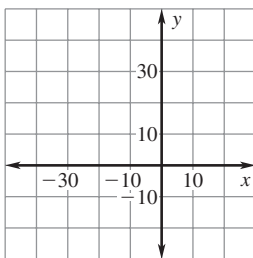
27.  $y = -2x^2 + x - 4$



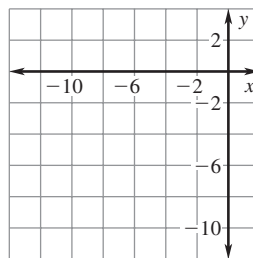
28.  $y = x^2 - 8x + 5$



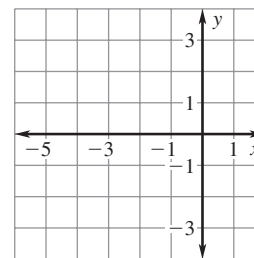
29.  $y = -\frac{1}{2}x^2 - 8x + 3$



30.  $y = \frac{1}{4}x^2 + 3x - 1$



31.  $y = -\frac{3}{4}x^2 - 2x + 2$



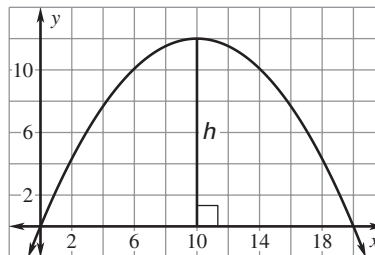
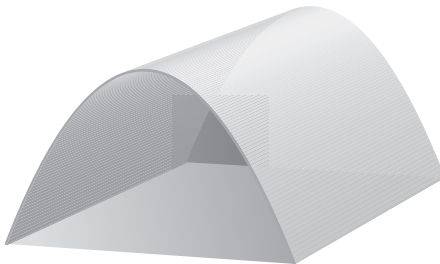
Tell whether the function has a *minimum value* or a *maximum value*.  
 Then find the minimum or maximum value.

32.  $f(x) = 8x^2 - 40$

33.  $f(x) = -5x^2 + 10x - 2$

34.  $f(x) = 8x^2 - 4x + 4$

35. **Storage Building** The storage building shown can be modeled by the graph of the function  $y = -0.12x^2 + 2.4x$  where  $x$  and  $y$  are measured in feet. What is the height  $h$  at the highest point of the building as shown in the diagram?



36. **Velvet Rope** A parabola is formed by a piece of velvet rope found around a museum display as shown. This parabola can be modeled by the graph of the function  $y = \frac{4}{225}x^2 - \frac{16}{15}x + 40$  where  $x$  and  $y$  are measured in inches and  $y$  represents the number of inches the parabola is above the ground. How far above the ground is the lowest point on the rope?

