

**LESSON**  
**9.2****Practice A**For use with the lesson "Graph  $y = ax^2 + bx + c$ "**Identify the values of  $a$ ,  $b$ , and  $c$  in the quadratic function.**

1.  $y = 7x^2 + 2x + 11$

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

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

4.  $y = -3x^2 + 9x + 4$

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

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

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

7.  $y = x^2 + 6$

8.  $y = -x^2 - 1$

9.  $y = x^2 + 6x + 1$

10.  $y = x^2 - 4x + 5$

11.  $y = 2x^2 + 4x - 5$

12.  $y = -x^2 + 8x + 3$

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

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

15.  $y = 3x^2 + 6x + 10$

**Find the vertex of the graph of the function.**

16.  $y = x^2 + 5$

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

18.  $y = x^2 + 10x + 3$

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

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

21.  $y = -2x^2 + 8x - 3$

22.  $y = 10x^2 - 10x + 7$

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

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

**Use the quadratic function to complete the table of values.**

25.  $y = x^2 - 6x + 8$

<b>x</b>	1	2	3	4	5
<b>y</b>	?	?	?	?	?

26.  $y = -x^2 + 12x - 5$

<b>x</b>	4	5	6	7	8
<b>y</b>	?	?	?	?	?

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

<b>x</b>	-3	-2	-1	0	1
<b>y</b>	?	?	?	?	?

28.  $y = -2x^2 - 4x + 1$

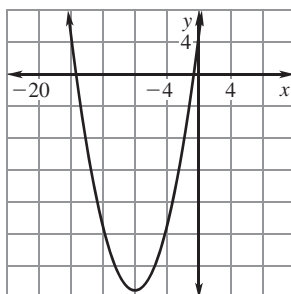
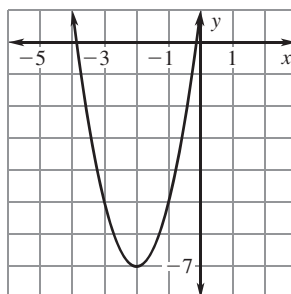
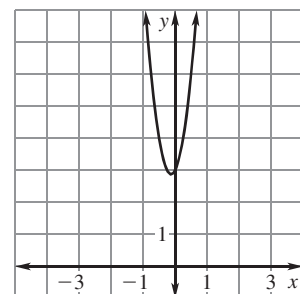
<b>x</b>	-3	-2	-1	0	1
<b>y</b>	?	?	?	?	?

**Match the function with its graph.**

29.  $y = 8x^2 + 2x + 3$

30.  $y = 2x^2 + 8x + 1$

31.  $y = \frac{1}{2}x^2 + 8x + 5$

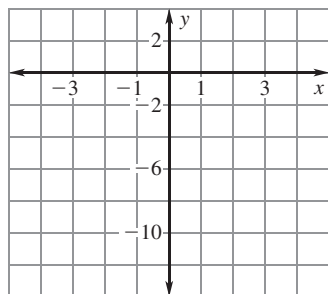
**A.****B.****C.**

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**9.2**

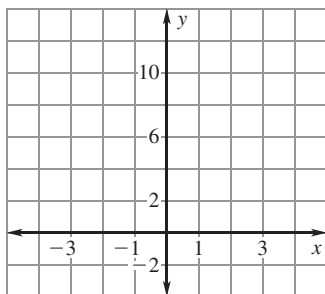
**Practice A** *continued*  
For use with the lesson "Graph  $y = ax^2 + bx + c$ "

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

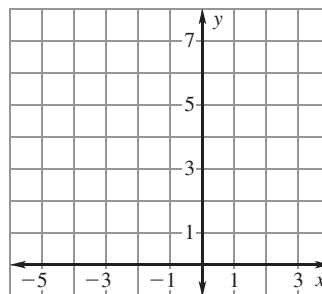
32.  $y = -x^2 - 6$



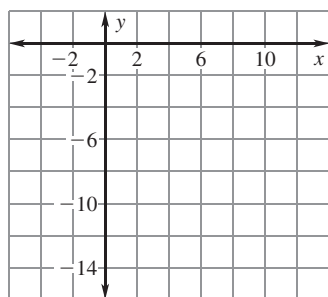
33.  $y = x^2 + 7$



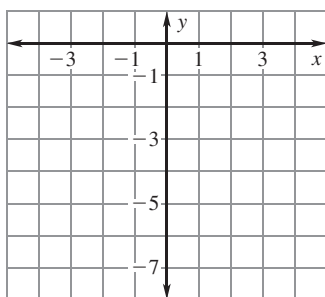
34.  $y = x^2 + 2x + 5$



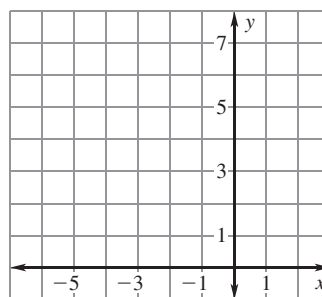
35.  $y = x^2 - 8x + 1$



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



37.  $y = -x^2 - 4x + 3$



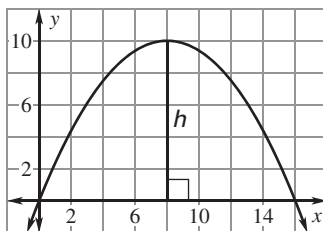
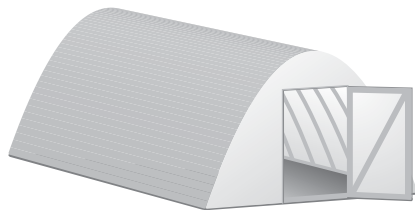
**Tell whether the function has a *minimum value* or a *maximum value*. Then find the minimum or maximum value.**

38.  $f(x) = x^2 - 7$

39.  $f(x) = -x^2 + 9$

40.  $f(x) = 2x^2 + 4x$

41. **Greenhouse** The dome of the greenhouse shown can be modeled by the graph of the function  $y = -0.15625x^2 + 2.5x$  where  $x$  and  $y$  are measured in feet. What is the height  $h$  at the highest point of the dome as shown in the diagram?



42. **Fencing** A parabola forms the top of a fencing panel as shown. This parabola can be modeled by the graph of the function  $y = 0.03125x^2 - 0.25x + 4$  where  $x$  and  $y$  are measured in feet and  $y$  represents the number of feet the parabola is above the ground. How far above the ground is the lowest point of the parabola formed by the fence?

