

**Tell whether the quadratic function is in *standard form* or *vertex form*.**

|                        |                         |                                    |                           |
|------------------------|-------------------------|------------------------------------|---------------------------|
| 1. $y = x^2 - 2x - 35$ | 2. $y = 3(x - 1)^2 + 3$ | 3. $y = -\frac{2}{3}(x - 4)^2 + 7$ | 4. $y = -2x^2 + 16x - 24$ |
|------------------------|-------------------------|------------------------------------|---------------------------|

**Identify the vertex of the quadratic function in VERTEX form.**

|                         |                         |                                    |                           |
|-------------------------|-------------------------|------------------------------------|---------------------------|
| 5. $y = 3(x - 7)^2 - 1$ | 6. $y = 3(x + 2)^2 - 5$ | 7. $y = (x - 3)^2$                 | 8. $y = -4(x - 2)^2 + 4$  |
| 9. $y = 2(x + 1)^2 - 3$ | 10. $y = (x + 4)^2$     | 11. $y = \frac{1}{2}(x - 5)^2 + 1$ | 12. $y = -(x + 6)^2 + 10$ |

**Identify the vertex of the quadratic function in STANDARD form. Remember to use  $x = \frac{-b}{2a}$**

|                           |                         |                         |
|---------------------------|-------------------------|-------------------------|
| 13. $y = 2x^2 - 16x + 31$ | 14. $y = -x^2 - 4x + 1$ | 15. $y = 3x^2 - 6x + 4$ |
|---------------------------|-------------------------|-------------------------|

**Given a quadratic equation in vertex form, find the vertex, axis of symmetry, whether the graph opens up or down, the maximum or minimum, and the y-intercept. Graph it!**

16.  $y = -2(x + 2)^2 + 4$

Vertex: \_\_\_\_\_

Axis of symmetry: \_\_\_\_\_

Opens:    up        down

Maximum        Minimum

Max/Min Value: \_\_\_\_\_

y-intercept: \_\_\_\_\_

