Algebra 2   Name_____

Vertex Form Practice

Date_____ Period_____

Use the information provided to write the vertex form equation of each parabola.

1) $y = x^2 - 4x + 5$

2) $y = x^2 - 16x + 70$

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

4) $y = -3x^2 + 48x - 187$

5) $y = -2x^2 - 12x - 12$

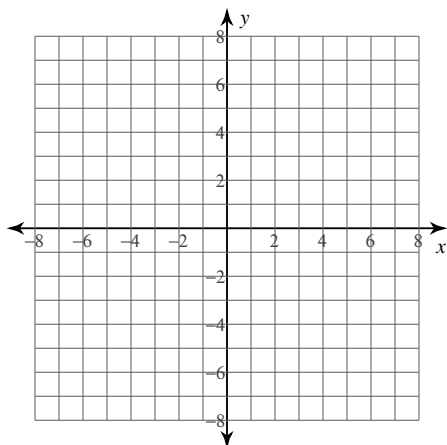6) $y = 3x^2 + 18x + 18$

7) $y = 2x^2 + 3$

8) $y = 4x^2 - 56x + 200$
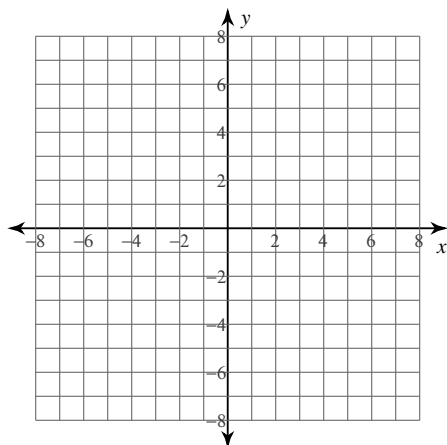
9) $y = -8x^2 - 80x - 199$

10) $y = -2x^2 + 20x - 52$

-1-

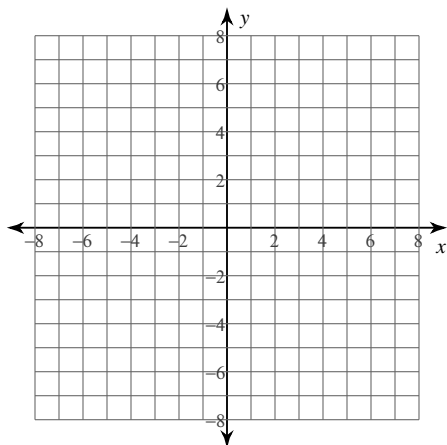**Identify the vertex and axis of symmetry of each by converting to vertex form. Then sketch the graph.**
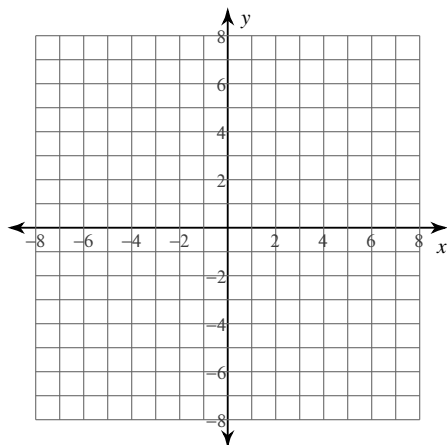
11) $y = x^2 - 12x + 36$

12) $y = -x^2 - 6x - 10$

13) $y = x^2 - 2x - 1$

14) $y = -2x^2 + 8x - 11$

Algebra 2   Name_____

Vertex Form Practice

Date_____ Period_____

Use the information provided to write the vertex form equation of each parabola.

1) $y = x^2 - 4x + 5$

   $y = (x - 2)^2 + 1$

2) $y = x^2 - 16x + 70$

   $y = (x - 8)^2 + 6$

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

   $y = (x - 2)^2 - 2$

4) $y = -3x^2 + 48x - 187$

   $y = -3(x - 8)^2 + 5$

5) $y = -2x^2 - 12x - 12$

   $y = -2(x + 3)^2 + 6$

6) $y = 3x^2 + 18x + 18$

   $y = 3(x + 3)^2 - 9$

7) $y = 2x^2 + 3$

   $y = 2x^2 + 3$

8) $y = 4x^2 - 56x + 200$

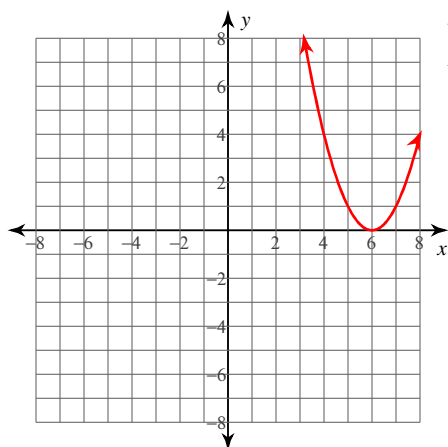 $y = 4(x - 7)^2 + 4$

9) $y = -8x^2 - 80x - 199$

   $y = -8(x + 5)^2 + 1$

10) $y = -2x^2 + 20x - 52$

   $y = -2(x - 5)^2 - 2$
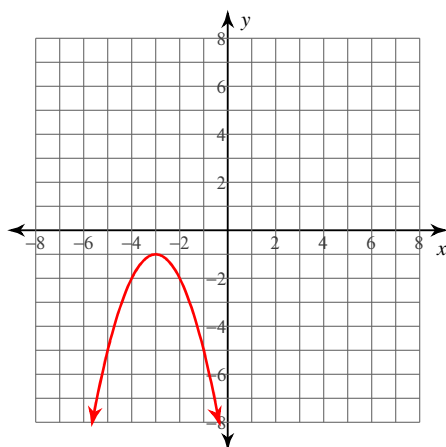
Identify the vertex and axis of symmetry of each by converting to vertex form. Then sketch the graph.
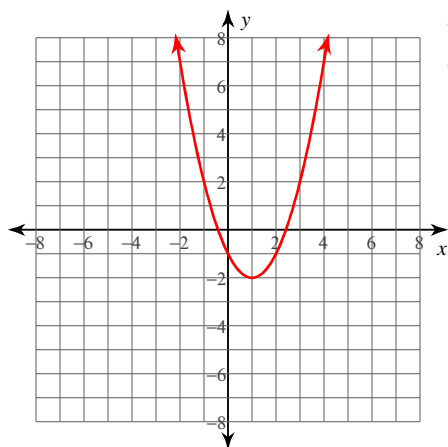
11) $y = x^2 - 12x + 36$

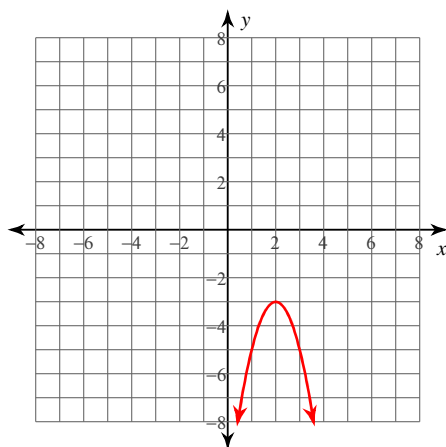Vertex: $(6, 0)$
Axis of Sym.: $x = 6$

12) $y = -x^2 - 6x - 10$

Vertex: $(-3, -1)$
Axis of Sym.: $x = -3$

13) $y = x^2 - 2x - 1$

Vertex: $(1, -2)$
Axis of Sym.: $x = 1$

14) $y = -2x^2 + 8x - 11$

Vertex: $(2, -3)$
Axis of Sym.: $x = 2$