Name: _____          Date: _____          Period: _____

## Practice Worksheet: Graphing Quadratic Functions in Vertex Form

**For #1-6, label the axis of symmetry, vertex, y-intercept, and at least three more points on the graph.**
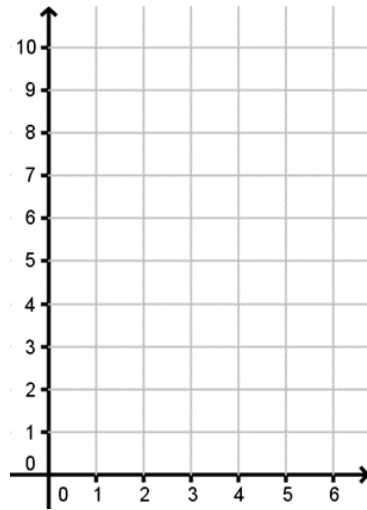
1] $y = (x - 3)^2$
Axis of Symmetry is x=_____
Vertex: (____, ____)
Opens up or down?
Slope to point one unit from the vertex is _____.
y-intercept: (0,_____)

2] $y = -(x + 3)^2 + 5$
Axis of Symmetry is x=_____
Vertex: (____, ____)
Opens up or down?
Slope to point one unit from the vertex is _____.
y-intercept: (0,_____)
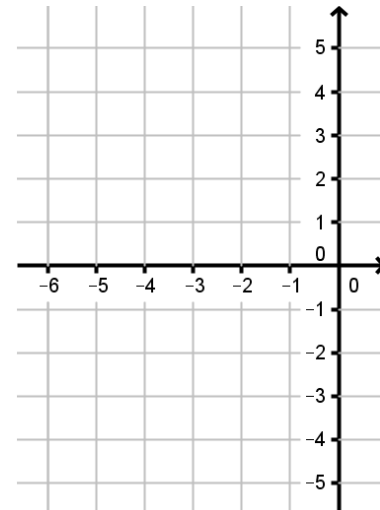
3] $y = 2(x + 1)^2 - 3$
Axis of Symmetry is x=_____
Vertex: (____, ____)
Opens up or down?
Slope to point one unit from the vertex is _____.
y-intercept: (0,_____)
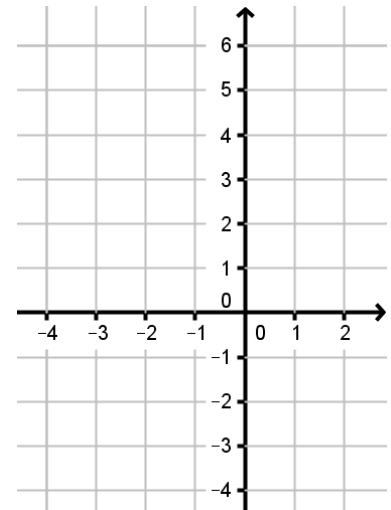
4] $y = -2(x - 2)^2 - 1$
Axis of Symmetry is x=_____
Vertex: (____, ____)
Opens up or down?
Slope to point one unit from the vertex is _____.
y-intercept: (0,_____)
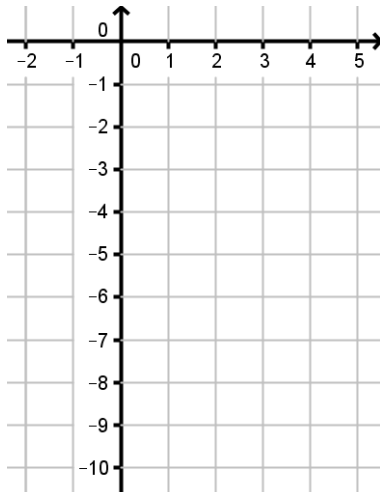
5] $y = \frac{1}{2}(x - 3)^2 + 2$
Axis of Symmetry is x=_____
Vertex: (____, ____)
Opens up or down?
Slope to point one unit from the vertex is _____.
y-intercept: (0,_____)
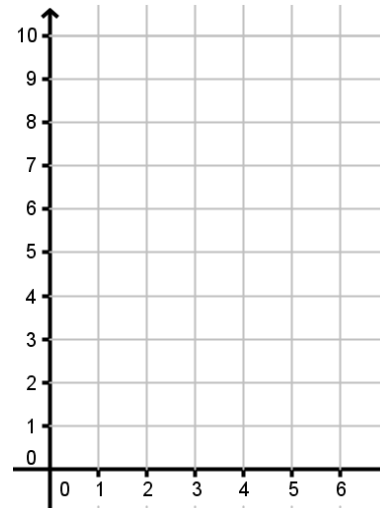
6] $y = -\frac{1}{4}(x + 2)^2 + 1$
Axis of Symmetry is x=_____
Vertex: (____, ____)
Opens up or down?
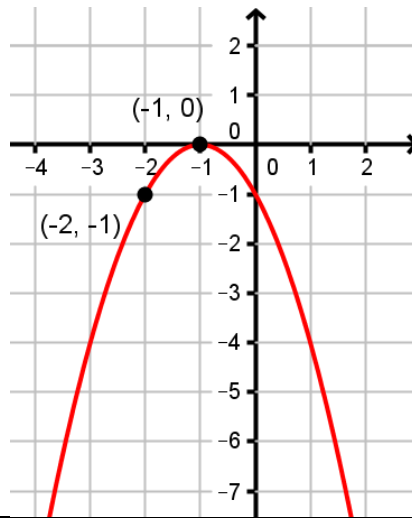Slope to point one unit from the vertex is _____.
y-intercept: (0,_____)
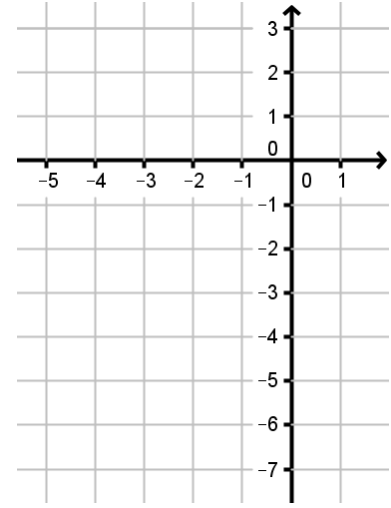
Write the equation of the parabola in vertex form.

| 7] | 8] | 9] |
|---|---|---|
| (-3, -4)  (-2, -3) | (-1, 0)  (-2, -1) | (5, -4)  (4, -6) |

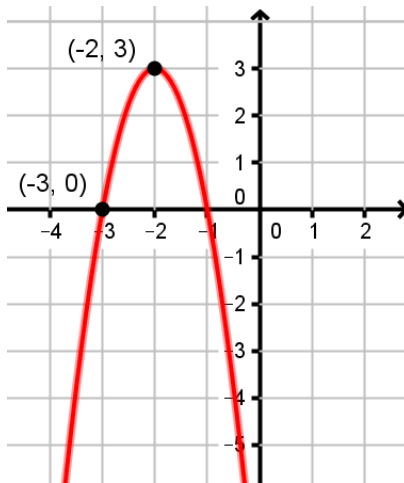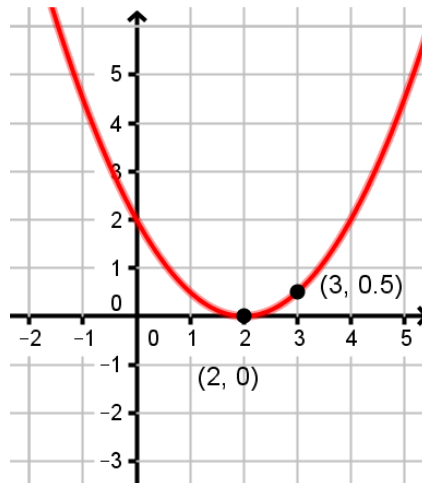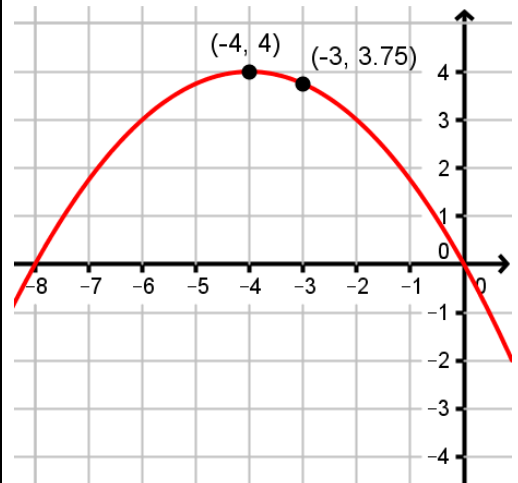| 10] | 11] | 12] |
|---|---|---|
| (-2, 3)  (-3, 0) | (3, 0.5)  (2, 0) | (-4, 4)  (-3, 3.75) |
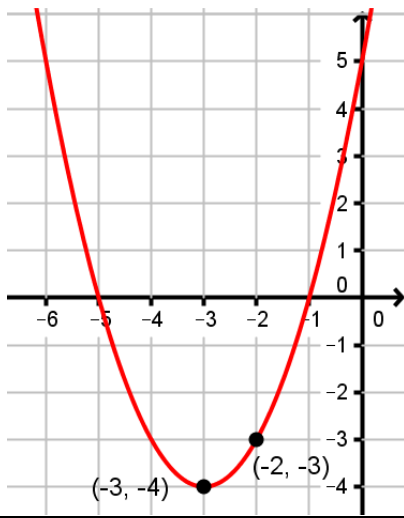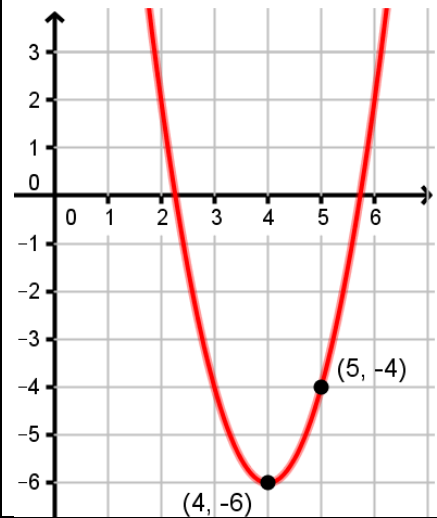
Write the quadratic function in standard form.

| 13] $y = -(x + 2)^2$ | 14] $y = (x - 2)^2 + 4$ | 15] $y = 2(x - 3)^2 + 9$ |
|---|---|---|
| | | |