

$$f(x) = a(x - h)^2 + k$$

Vertex: (h, k)
 Axis of Symmetry: $x = h$

Steps to Graphing in VERTEX form:

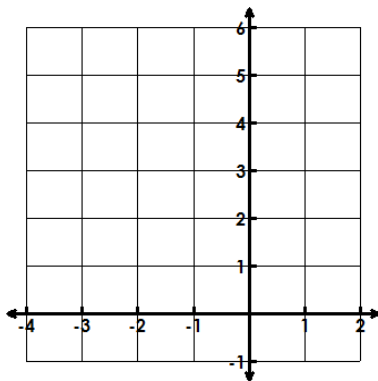
- Find the vertex. Plot it.
- Find the axis of symmetry. Graph this lightly as a dashed vertical line.
- Use the 1-3-5 rule (adjust for stretch/shrink).
- Connect in a u-shape with arrows at each end.

Graph & identify the vertex and axis of symmetry.

1. $f(x) = (x + 2)^2 + 1$

Vertex: _____

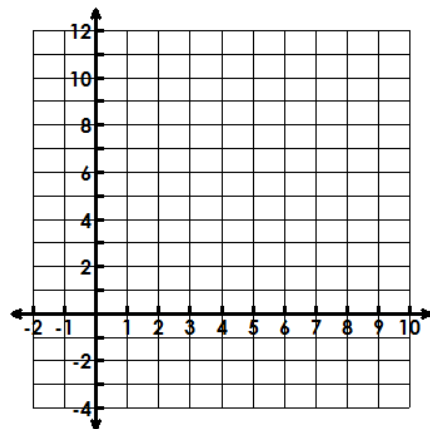
Axis of Symmetry: $x =$ _____



2. $f(x) = (x - 4)^2 - 1$

Vertex: _____

Axis of Symmetry: $x =$ _____

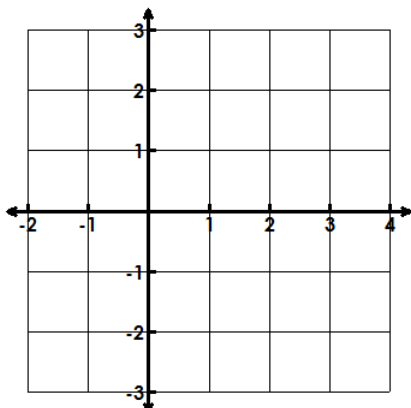


Graph & identify the vertex and axis of symmetry.

3. $f(x) = -(x - 1)^2 + 2$

Vertex: _____

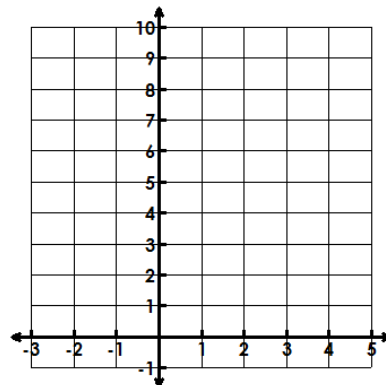
Axis of Symmetry: $x =$ _____



4. $f(x) = \frac{1}{2}(x - 2)^2 + 3$

Vertex: _____

Axis of Symmetry: $x =$ _____



Writing Equations of Quadratics in Vertex Form

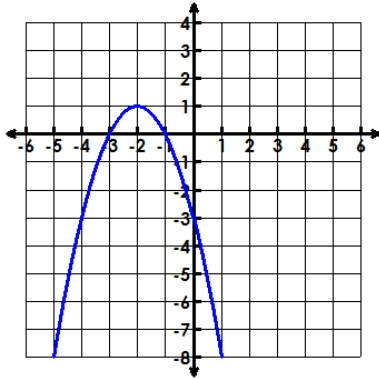
$$f(x) = a(x - h)^2 + k$$

Vertex: (h, k)

Given the graph of the quadratic, find a , h , & k . Then write the equation in vertex form.

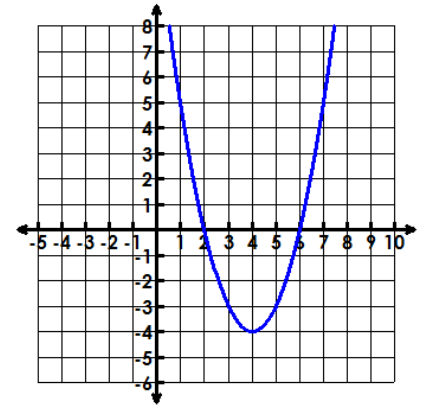
5.

- $a =$ _____
- $h =$ _____
- $k =$ _____
- $f(x) =$ _____



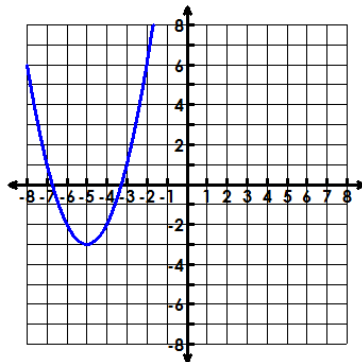
6.

- $a =$ _____
- $h =$ _____
- $k =$ _____
- $f(x) =$ _____



7.

- $a =$ _____
- $h =$ _____
- $k =$ _____
- $f(x) =$ _____



8.

- $a =$ _____
- $h =$ _____
- $k =$ _____
- $f(x) =$ _____

