

Name: \_\_\_\_\_ Date: \_\_\_\_\_

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## Quadratics – Vertex Form

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

*This is the easiest form to use to find the vertex.*

Vertex:  $(h, k)$

Axis of Symmetry:  $x = h$

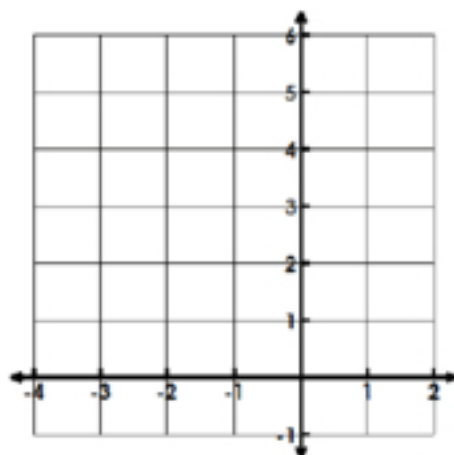
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### Steps to Graphing in VERTEX form:

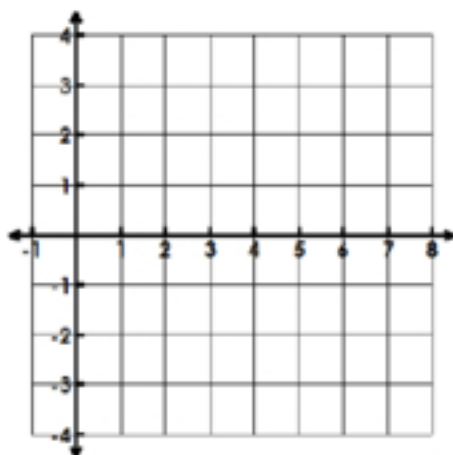
1. Find the vertex. Change the sign of  $h$ . Plot it.
  2. Find the axis of symmetry. Graph this lightly as a dashed vertical line.
  3. On your calculator: TABLE, EDIT FUCTION, ENTER, START = <enter your  $h$ -value>, CALC, ENTER. Scroll up and down to get other ordered pairs.
  4. Connect in a u-shape with arrows at each end.
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### Graph & identify the vertex and axis of symmetry.

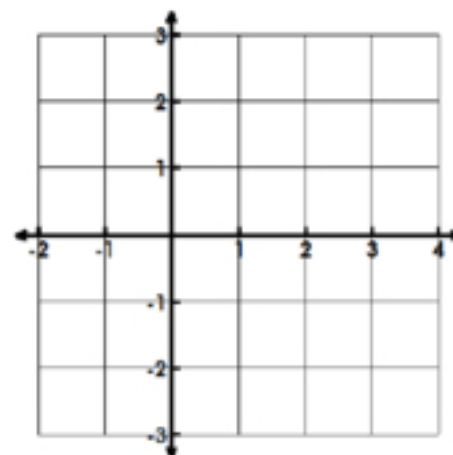
1.  $f(x) = (x + 2)^2 + 1$



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



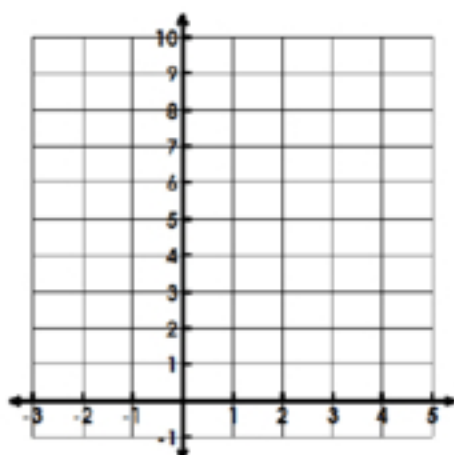
3.  $f(x) = -(x - 1)^2 + 2$



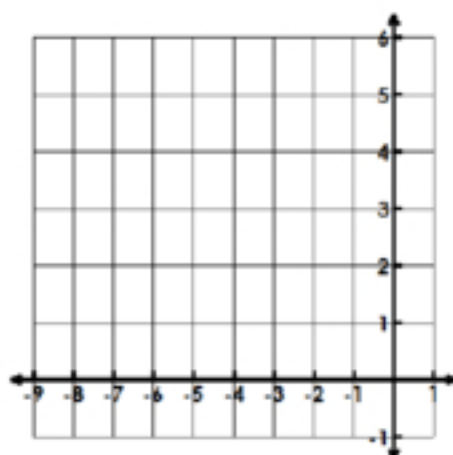
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### Graph & identify the vertex and axis of symmetry.

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



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



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

