

# Graphing Quadratics

## Vertex Form

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

Graphs a **parabola**:

Axis of symmetry:

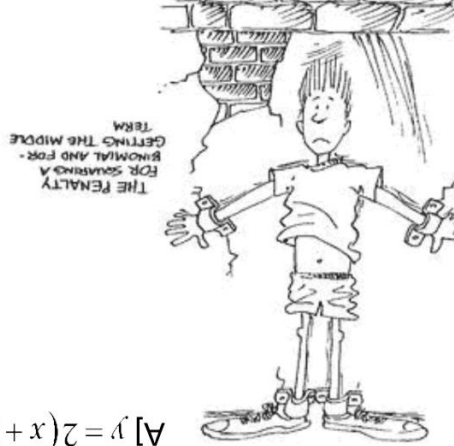
Vertex:

y-intercept:

\*See back for transformations

B]  $y = -(x-3)^2 + 4$

A]  $y = 2(x+1)^2$



**Example 3** Change from vertex to standard form

**Example 1** Graph in vertex form

A]  $y = -2(x+2)^2 + 3$

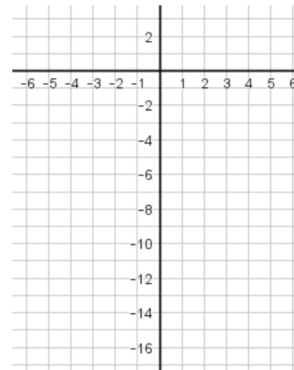
Vertex: (\_\_\_\_, \_\_\_\_)

Opens: \_\_\_\_\_

Axis of Symmetry is x=\_\_\_\_  
 Use  $\pm a/1$  to find pts 1 unit L/R of vertex at (\_\_\_\_, \_\_\_\_)

y-int: (0, \_\_\_\_)  
 reflect y-int over the axis of symmetry: (\_\_\_\_, \_\_\_\_)

To find guide points pick an x and find the y that goes with it using the equation:



B]  $y = \frac{1}{2}(x-4)^2 - 3$

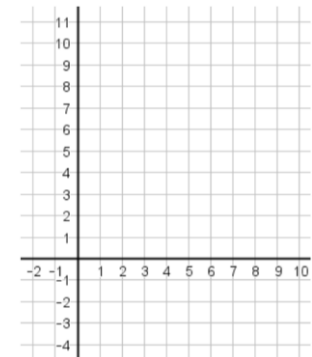
Vertex: (\_\_\_\_, \_\_\_\_)

Opens: \_\_\_\_\_

Axis of Symmetry is x=\_\_\_\_  
 Use  $\pm a/1$  to find pts 1 unit L/R of vertex at (\_\_\_\_, \_\_\_\_)

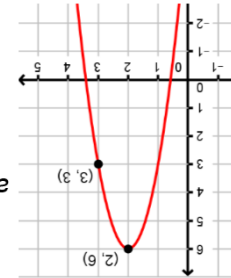
y-int: (0, \_\_\_\_)  
 reflect y-int over the axis of symmetry: (\_\_\_\_, \_\_\_\_)

To find guide points pick an x and find the y that goes with it using the equation:

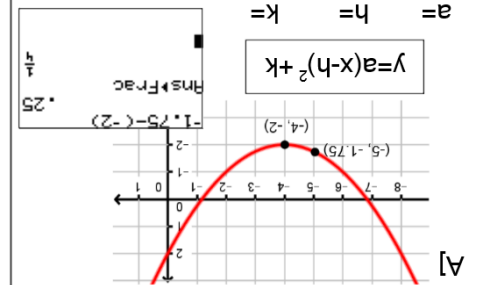


$y = a(x-h)^2 + k$

a = \_\_\_\_\_  
 h = \_\_\_\_\_  
 k = \_\_\_\_\_



**Example 2** Write the equation in vertex form



How could you check your answer to be sure you are correct?

