

# Graphing Quadratics

## Vertex Form

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

Axis of symmetry:

Vertex:

y-intercept:

### Example 1 Graph in vertex form

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

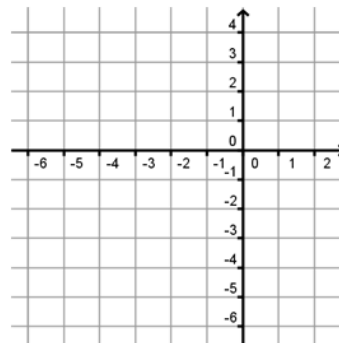
axis of symm:

vertex:

opens up or down?

slope to pt 1 unit from vertex:

y-int:



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

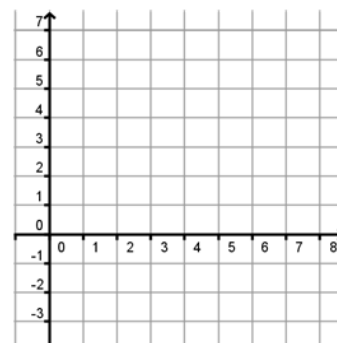
axis of symm:

vertex:

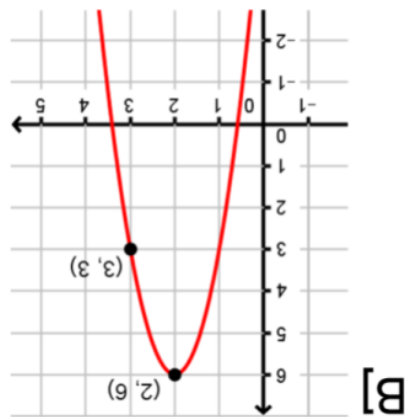
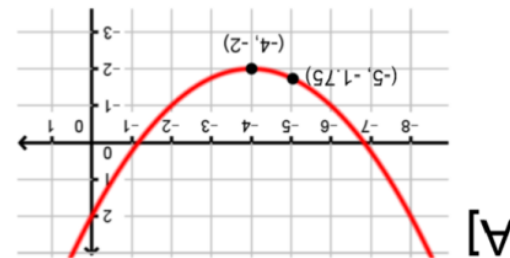
opens up or down?

slope to pt 1 unit from vertex:

y-int:



### Example 2 Write the equation in vertex form



### Example 3 Change from vertex to standard form

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

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