

**State the transformations in the equation.  
 Then name the vertex.**

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Vertex:** \_\_\_\_\_

**Write the equation that describes the  
 following transformations. Then name the  
 Vertex.**

2) Reflect across the x-axis, shifted down  
 6 units and shifted right 2 units.

**Equation:** \_\_\_\_\_

**Vertex:** \_\_\_\_\_

Vertex Form	Standard Form	Find the Vertex in Standard Form
$y = a(x - h)^2 + k$	$y = ax^2 + bx + c$	$x = \frac{-b}{2a}$ , substitute in to find y

**Graph the following equations:**

3)  $y = -(x + 4)^2 + 1$  Vertex: \_\_\_\_\_

4)  $y = x^2 - 10x + 24$  Vertex: \_\_\_\_\_

