Date: _____

Vertex Form to Standard Form

- Yesterday, we learned about how take a vertex and a point to write the vertex form of a quadratic. Today, we are going to expand on that knowledge to change the vertex form to the standard form for a quadratic.
- *Vertex Form:* $f(x) = a(x-h)^2 + k$
- *Standard Form:* $f(x) = ax^2 + bx + c$

* **To Convert from Vertex Form to Standard Form:**

1. Square the binomial first.
2. Distribute to get rid of parentheses.
3. Combine like terms.

Examples: Find the vertex and the axis of symmetry of the graph of the quadratic function.

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

2) $y = -(x-3)^2 - 2$

3) $g(x) = \frac{1}{2}(x-1)^2$

4) Write the vertex form of the quadratic equation, then convert it into the standard form of the quadratic equation for a vertex of $(-\frac{5}{2}, -1)$ and a point at $(-2, 2)$