

Creating an Equation in Vertex Form

The vertex of a parabola is $(3, -7)$. It also passes through the point $(1, -5)$. State the equation of the quadratic.

1. State the generalization for a quadratic in vertex form.	$y = a(x - h)^2 + k$
2. Substitute the vertex into the generalization for (h, k) .	
3. Substitute the other point that the parabola passes through into the generalization for (x, y) .	
4. Solve for the variable a .	
5. Sub the values for a , h , and k into the generalization for vertex form.	

Example 2

Determine the equation of the quadratic relation that passes through the point $(3, 1)$ and has a vertex at $(5, -7)$.

Example 3

Determine the equation of the quadratic relation in the graph provided.

