Standard Form

$y = ax^2 + bx + c$

Step 1: Find the axis of symmetry. This is also the x-value of your vertex. $x = \frac{-b}{2a}$

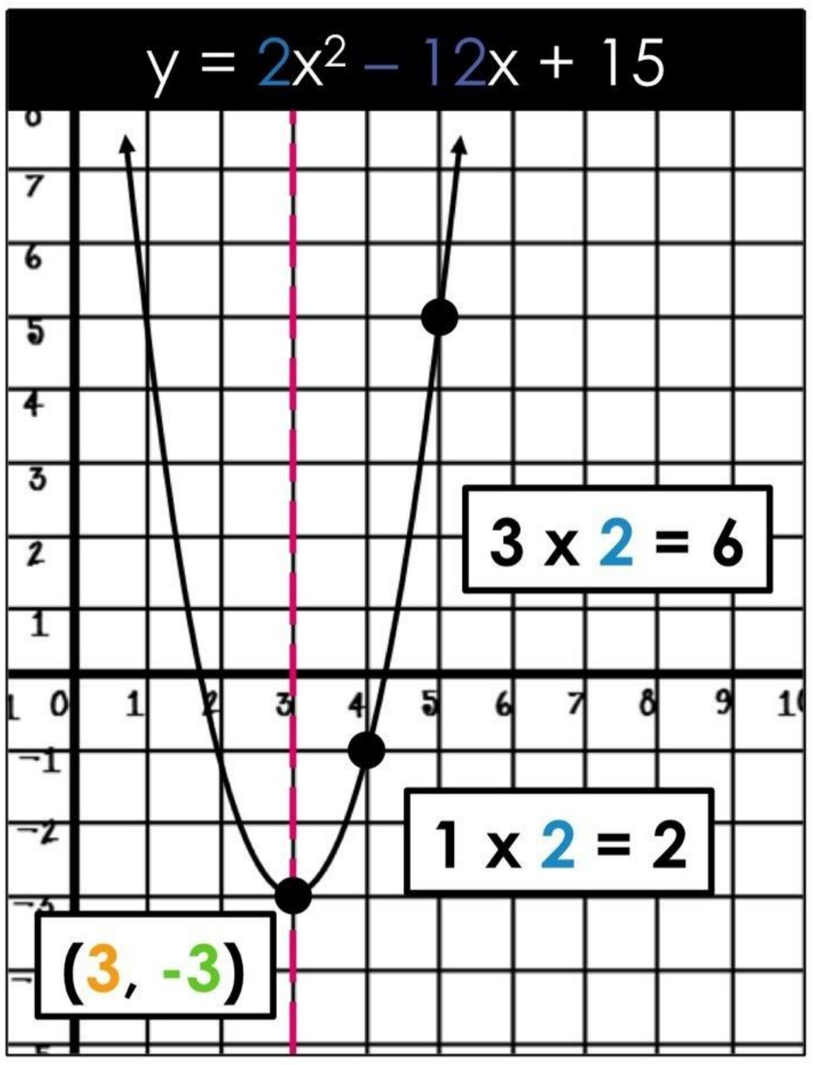
Step 2: Take the x and substitute back into **$y=ax^2 + bx + c$** **Vertex: (x, y)**

Step 2: Use the 1, 3, 5… pattern to plot additional points.

Right: 1 Up: 1 x **a**
Right: 1 Up: 3 x **a**
Right: 1 Up: 5 x **a**

Step 3: Reflect the points over the **axis of symmetry**.

Step 4: Connect the points to form a u-shaped graph.



Graphing Quadratics

Vertex Form

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

Step 1: Identify the **vertex**. **(h, k)**

Step 2: Use the 1, 3, 5… pattern to plot additional points.

Right: 1 Up: 1 x **a**
Right: 1 Up: 3 x **a**
Right: 1 Up: 5 x **a**

Step 3: Reflect the points over the **axis of symmetry**.

Step 4: Connect the points to form a u-shaped graph.