

# 48 Quadratic Graphs

<p>Standard Form</p> $y = 2x^2 - 8x + 6$ <p><math>y = ax^2 + bx + c</math></p>	<p>Axis of Symmetry</p> $x = -\frac{b}{2a}$ $x = \frac{8}{2(2)} = \frac{8}{4}$ $x = 2$ <p>dotted vertical line</p>	<p>Vertex <math>(2, ?)</math></p> $y = 2x^2 - 8x + 6$ $= 2(2)^2 - 8(2) + 6$ $= 2(4) - 16 + 6$ $= 8 - 16 + 6$ $= -2 \quad (2, -2)$ <p>vertex</p>
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<p>Miscellaneous</p> <p>y-intercept = c</p> $c = 6$ <p><math>(0, 6)</math> is on the graph - and its reflection</p>	<p>Graph</p> <p>Graph the vertex and axis of symmetry.</p> <p>Plot the y-intercept and its reflection.</p> <p>Use the equation to find one other point and its reflection.</p>
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The x-coordinate of the vertex is:  $\frac{-b}{2a} =$

$$y = 2x^2 - 8x + 6$$

$$(1, ?)$$

$$y = 2(1)^2 - 8(1) + 6$$

$$= 2 - 8 + 6$$

$$= 0$$

$$(1, 0)$$

