

Quadratic Functions

$$y = ax^2 + bx + c$$

General Form

$$\Delta = b^2 - 4ac$$

Discriminant

$$x = \frac{-b \pm \sqrt{\Delta}}{2a}$$

Quadratic Formula

$$V\left(\frac{-b}{2a}, \frac{-\Delta}{4a}\right)$$

Vertex formula

$$(0, c)$$

Y-intercept

$$x = \frac{-b}{2a}$$

Axis of Symmetry

$$y = a(x - x_1)(x - x_2)$$

X-intercept form

Where x_1 and x_2 are the x-intercepts of the graph.

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

Standard Equation

$$V(h, k)$$