

Quadratic Formula

Used to find the solutions to any quadratic equation of the form,

$$f(x) = \textcolor{red}{a}x^2 + \textcolor{blue}{b}x + \textcolor{green}{c}$$

$$x = \frac{-\textcolor{blue}{b} \pm \sqrt{\textcolor{blue}{b}^2 - 4\textcolor{red}{a}\textcolor{green}{c}}}{2\textcolor{red}{a}}$$

Example: $g(x) = 2x^2 - 4x - 3$

$$x = \frac{-(-4) \pm \sqrt{(-4)^2 - 4(2)(-3)}}{2(2)}$$
$$x = \frac{2 + \sqrt{10}}{2}, \frac{2 - \sqrt{10}}{2}$$