

Choosing the Best Method For Solving Quadratics

$$d = b^2 - 4ac$$

Method	Example	Solution	When To Use
Factoring	$x^2 - 7x + 10$ $(x-5)(x-2)$	$(x-5)(x-2) = 0$ $\begin{array}{l l} x-5=0 & x-2=0 \\ +5 & +2 \\ \hline x=5 & x=2 \end{array}$	Factorable *d is a perfect square or $d=0$
Square Root Method	$x^2 - 9 = 0$	$x^2 - 9 = 0$ $\begin{array}{l} +9 \quad +9 \\ \sqrt{x^2} = \sqrt{9} \\ x = \pm 3 \end{array}$	No b-value $ax^2 + \cancel{bx} + c = 0$
Quadratic Formula	$2x^2 - 5x + 1$	$2x^2 - 5x + 1 = 0$ $\frac{-(-5) \pm \sqrt{(-5)^2 - 4(2)(1)}}{2(2)}$ $x = \frac{5 \pm \sqrt{17}}{4}$	last resort! d is not a perfect square $d < 0$