Solving Quadratic Functions: **Best Method**

Take Square Roots	Completing the Square	Factoring	Quadratic Formula
$ax^2 + c = 0$ $(ax + c)^2 = 0$	$ax^2 + bx + c = 0$	$ax^2 + bx + c = 0$	$ax^2 + bx + c = 0$
Key Features: • Missing "b" term • Doesn't have to = 0 • Get x^2 or the $(\quad)^2$ by itself before taking the square root • Don't forget ±	**Key Features:** • The "b" term is even • Starts with x^2 or has a GCF • Doesn't need to = 0 • After factoring, set both factors = 0 and SOLVE for x.	**Key Features:** • Must be in standard form and = 0 • Missing "c" term – GCF factor • After factoring, set both factors = 0 and SOLVE for x.	**Key Features:** • Must be in standard form and =0 • Not factorable $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
Examples: **$3x^2 - 7 = 47$** **$\frac{2}{3}x^2 - 3 = 7$** **$5(x - 4)^2 = 125$**	**Examples:** **$x^2 + 6x + 5 = 0$** **$x^2 - 2x = 24$** **$2x^2 - 8x = 14$**	**Examples:** **$3x^2 - 3x - 126 = 0$** **$2x^2 - 3x = 0$** **$4x^2 - 9 = 0$** **$2x^2 - 7x = x^2 - 12$**	**Examples:** **$x^2 + 5x + 3 = 0$** **$3x^2 - 14x = 5$**