

Quadratic Equations

Take the Square Root

If $b = 0$, we have $ax^2 + c = 0$. Solve for the x^2 term, so we have $x^2 = -\frac{c}{a}$ and take the square root of both sides. Keep in mind that there are 2 solutions when you take the square root, the positive & the negative solution.

Examples:

$$\text{➤ } x^2 - 16 = 0 \rightarrow x^2 = 16 \rightarrow \sqrt{x^2} = \pm\sqrt{16} \rightarrow x = \pm 4$$

$$\text{➤ } x^2 + 25 = 0 \rightarrow x^2 = -25 \rightarrow \sqrt{x^2} = \pm\sqrt{-25} \rightarrow x = \pm 5i$$

$$6x^2 - 270 = 0 \rightarrow 6x^2 = 270 \rightarrow$$

$$\text{➤ } x^2 = 45 \rightarrow \sqrt{x^2} = \pm\sqrt{45} \rightarrow$$

$$x = \pm 3\sqrt{5}$$

The special factoring formulas will also be useful, such as the Perfect Square Trinomials, and from these comes the Completing the Square Method.