

A quadratic equation is an equation in the form

$$0 = ax^2 + bx + c$$

Quadratic Equations can be solved by...

1. Taking the Square Root of both sides
-  2. Factoring and Using the Zero Product Rule
3. Quadratic Formula
4. Completing the Square

Zero Product Rule

For every number a and b , if $a \cdot b = 0$, then $a = 0$ or $b = 0$.

Example

$$\begin{array}{l} a \cdot b = 0 \\ (x - 4)(x - 5) = 0 \end{array}$$

$$\begin{array}{l} a \cdot b = 0 \\ (2x - 3)(3x + 5) = 0 \end{array}$$

Solve the following quadratics by factoring.

$$0 = x^2 + 7x + 12$$

Solve the following quadratics by factoring.

$$0 = x^2 + 7x - 18$$

Solve the following quadratics by factoring.

$$35 = x^2 - 2x$$

Solve the following quadratics by factoring.

$$0 = 5x^2 + 9x + 4$$

Solve the following quadratics by factoring.

$$0 = 2x^2 - 3x - 9$$

Solve the following quadratics by factoring.

$$25 = 9x^2$$

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$$0 = (\quad)(\quad)$$

Zero Product Rule

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