

What is the Quadratic Formula?

It gives the solutions of the equation $\mathbf{ax^2 + bx + c = 0}$.

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$2x^2 + 6x - 5 = 0$$

$$a = \quad b = \quad c =$$

$$6x^2 - x - 15 = 0$$

$$a = \quad b = \quad c =$$

$$3x^2 - 16x = 0$$

$$a = \quad b = \quad c =$$

Solving Quadratic Equations Using the Quadratic Formula $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

<p>Steps:</p> <ol style="list-style-type: none"> 1. Put equation in standard form. 2. Identify "a", "b" and "c". 3. Substitute in & Evaluate $b^2 - 4ac$ 4. Substitute this value (called the DISCRIMINANT) and "-b" & "a" into the Quadratic Formula 5. Simplify the resulting expression 	<p>Example Using Quadratic Formula</p> $3x^2 + 5x = 12$ $3x^2 + 5x - 12 = 0$ <p> $a = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$ $b^2 - 4ac = \underline{\hspace{4cm}}$ $c = \underline{\hspace{2cm}}$ </p> $x = \frac{-(\) \pm \sqrt{\hspace{2cm}}}{2(\)}$ <p>$x = \underline{\hspace{2cm}}$ or $\underline{\hspace{2cm}}$</p>	<p>Check by doing the Solving the Same Equation by FACTORING.</p> $3x^2 + 5x = 12$
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NOW YOU TRY

<p>1) $15x^2 + 7x = 2$</p>	<p>2) $x^2 - 12 = 4x$</p>	<p>3) $2x^2 - 17x + 8 = 0$</p>
<p>4) $4x^2 = 9$ (Hint: $4x^2 + 0x = 9$)</p>	<p>5) $2x^2 = 12x - 18$ (Hint: Is there a number GCF) that you can divide every term by?)</p>	<p>6) $3x^2 - 2x = 9$</p>

