1.3 Solving Quadratic Equations Part 1

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* Can only use the quadratic formula with quadratic equations (must have x^2)

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

* My quadratic must be solved for 0 first.

Ex 1: Solve $3x^2 + 4x - 3 = 12$

Step 1: Make the equation equal to zero.

Step 2: Identify a, b, and c.

Step 3: Plug in a, b, and c into the quadratic formula.

Step 4: Simplify our formula

$3x^2 + 4x - 3 = 12$

$-12 \quad -12$

$3x^2 + 4x - 15 = 0$

$a = 3 \quad b = 4 \quad c = -15$

$x = \frac{-(4) \pm \sqrt{(4)^2 - 4(3)(-15)}}{2(3)}$

$x = \frac{-4 \pm \sqrt{196}}{6}$

Ex 2: Solve $x^2 + 8 = 5x$

$-5x \quad -5x$

Step 1: $1x^2 - 5x + 8 = 0$

Step 2: $a = 1 \quad b = -5 \quad c = 8$

Step 3: $x = \frac{-1(-5) \pm \sqrt{(-5)^2 - 4(1)(8)}}{2(1)}$

Step 4: $x = \frac{5 \pm \sqrt{-7}}{2}$