

The Math Dawg



Solving Quadratic Equations By Completing the Square_Part 1

Before attempting this video you should be familiar with factoring trinomials, how to complete a square, and simplifying radicals.

Jan 28-9:11 PM

Review Completing the Square



example:

COMPLETE THE SQUARE:
 $x^2 - 22x$

Review Completing the Square



example:

COMPLETE THE SQUARE:

$$x^2 + \frac{1}{10}x$$

What Is a Quadratic Equation?



ALSO CALLED "2ND DEGREE" EQUATIONS

examples

$$x^2 + 5x = -7$$

$$x^2 - 3x + 2 = 17$$

$$2 + 5x^2 - 7 = 4x$$

NOT 2ND DEGREE EQUATIONS

examples

$$x^2 - 4x^3 + 7 = 2$$

$$x - 7 = 2$$

$$x^2 - \sqrt{x} = 4$$

$$x^2 - 3x^{-1} = 5$$

NOTE: $\sqrt{x} = x^{\frac{1}{2}}$
 $x^{-1} = \frac{1}{x} \quad x \neq 0$

POLYNOMIAL
EQUATIONS MUST
HAVE WHOLE
NUMBER
EXPONENTS

Solving Quadratic Equations By Completing the Square



example:

$$x^2 + 4x - 8 = 0$$

Solving Quadratic Equations By Completing the Square



example:

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

Solving Quadratic Equations By Completing the Square



example:

$$x^2 - 14x + 2 = 4x + 18$$

Solving Quadratic Equations By Completing the Square



example:

$$15x + x^2 - 3 = 5 + 7x$$