Algebra 2 - Unit 2: Solving Equations

U2 Lesson 1: One Step Equations

- Day 1 Operations: + / - / * / ÷
- Day 2 Types: Radicals and Exponents
- Day 3 Types: Exponentials and Logarithms

Unit 2 is about solving equations. Instead of covering each equation type separately in their own chapters, we will be learning how to solve all of our different types of equations, increasing the difficulty as we progress.

Refresher on Converting between exponential equations and logarithmic ones. This is from Unit 1 Lesson 7.

Converting the following logarithm to an exponential.

$\log_2 32 = 5$ | $2^5 = 32$

$\log_5 1 = 0$ | $5^0 = 1$

Convert the following exponential to a logarithm.

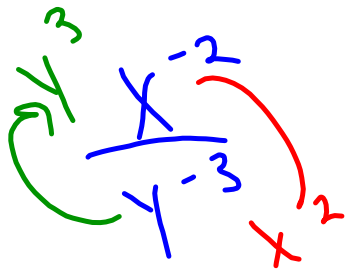
$2^8 = 256$ | $\log_2 256 = 8$

$3^x = 5$ | $\log_3 5 = x$

To solve for variables inside a logarithm, you will convert to an exponential equation.

Example: Solve $\log_2 x = 3$

$2^3 = x = 8$



You are already done! You solved for x!

You try to solve: $\log_4 x = -2$

$4^{-2} = x = \frac{1}{4^2} = \frac{1}{16}$

Use a calculator to simplify if you want to, but make sure that you don't approximate.

Ex: $\log x = 2$

$10^2 = x$

$100 = x$

You do the same thing for Exponential equations. If ever you need to solve for a variable in an exponent, you will convert to a logarithm.

Solve: $4^x = 10$

$\log_4 10 = x$

You Try: $e^x = 24$

$\ln 24 = x$

$\log_e 24 = x$

Same thing

Homework:

U2 L1 Day 3 WS

Tomorrow we will have a work day and QA at the end of class. Expect it to be slightly longer than a regular QA, with around 5-6 questions.