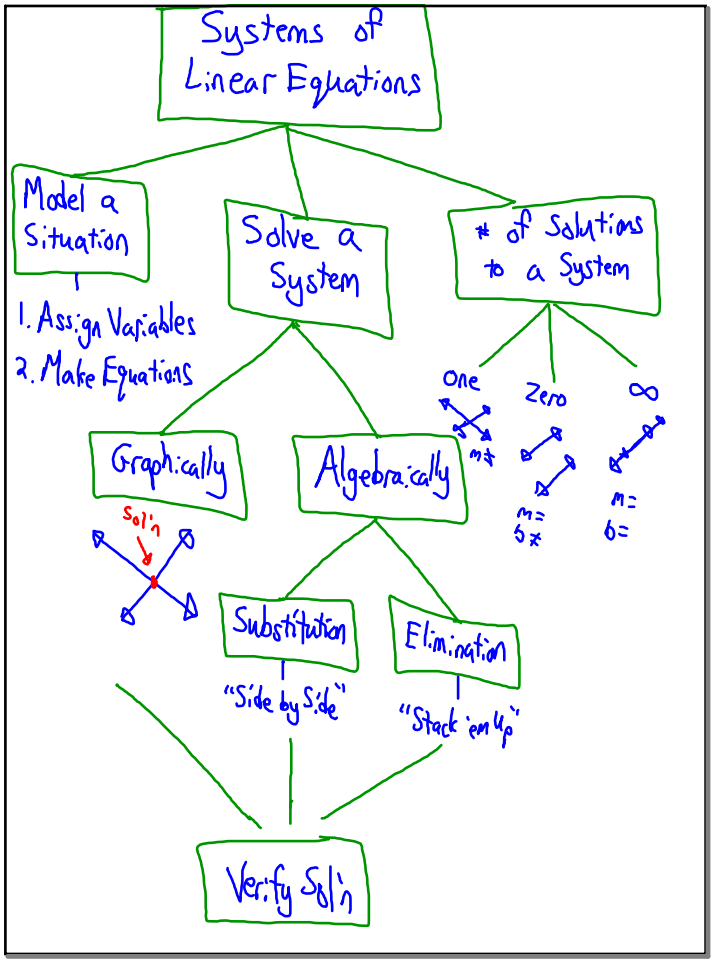

Unit Review - Systems of Linear Equations

Solve a System
- Graphically (not always able to get an exact solution)
- Substitution (Use when one variable is easy to isolate)
- Elimination (Use when variables are aligned nicely)

Verify a Solution → Substitute solution into both original equations.

# of Solutions → Three Cases (One, Zero or Infinite)

Model a Situation → Create and solve a system given a description.

Best Method? Substitution or Elimination

Best Strategy Challenge!

Player 1 (Substitution): _____ Player 2 (Elimination): _____

Solve the following system:

$$2x + 3y = -7$$
$$4x - 3y = 1$$

For some systems, which strategy you choose can make a big difference in difficulty.

Instruction Manual (Explain a Process)

We've discussed in class that there are two algebraic strategies for solving a system of linear equations.

1) Substitution Method 2) Elimination Method

Your Task: Write an instruction manual for substitution and an instruction manual for elimination using the examples below.

Substitution Example

$2x - y = 0$ $3x - 5y = -21$

Elimination Example

$$2x + 3y = 8$$
$$4x - y = 2$$

The goal is that someone who has never used these strategies before should be able to follow your instructions to solve a problem of their own.

You may work on your own or with a partner. Please hand in your instruction manuals on a separate sheet of paper once you are done.

Practice

Unit Review

Review Assignment: pg. 212-215: 1-21, 23-26

Problem Solving Practice

Complete the Handout: M10C - Systems of Equations: Problem Solving Practice

Problem

As part of a fund-raiser you decide to sell water bottles. The cost to make the water bottles includes a fixed cost of $50 plus $1.50 per bottle. You decide to sell the water bottles for $3 a bottle. How many bottles do you need to sell in order to break even?