Created by Mr. Lischwe

Warmup 12/(The first odd prime number)

(This is Week 8!)

For #1 and #2 on the warmup, we will be doing two one-minute challenges. For each challenge, you will be trying to come up with as many solutions to the equation as possible.

1 minute challenge

- I am going to show you an equation with **TWO VARIABLES** in it. (x and y)
- You will need to find as many solutions as you can. This will be an (x, y) pair that works in the equation.

- **FOR EXAMPLE, IF YOUR EQUATION WAS $y = 3x$, you could use (2, 6), because if x = 2, then y = 6.**

- **MAKE A LIST of your solutions on a blank piece of paper. The person with the most in one minute wins. You must write each solution as an ordered pair.**

1 minute:

1) Find as many solutions to this equation as you can. Write each solution as an (x, y) ordered pair.

$$x + y = 11$$

1 minute:

2) Find as many solutions to this equation as you can. Write each solution as an (x, y) ordered pair.

$$y = 2x - 1$$

Go over Equations Test

- **May retake individual tasks**
- **Retake deadline for the FIRST equations quiz: Friday of this week**
- **Retake deadline for THIS equations test: Friday of next week**

New Unit: Systems of Equations

What do you think a system of equations is???

Is there a solution for **both** equations???

$$y = 2x - 1$$

$$x + y = 11$$

- A **system of equations** is a set of more than one equation.

- To solve a system of equations, find the (x, y) pair that works in BOTH equations!!!

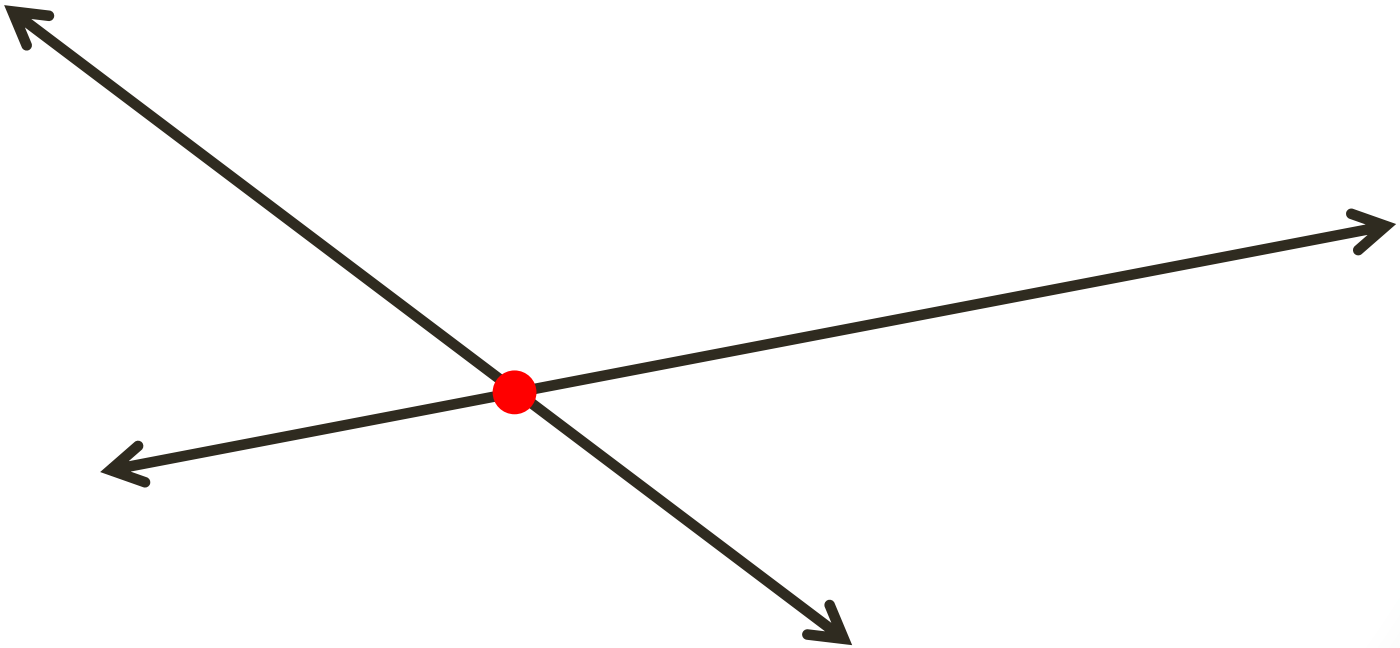
Do you think there is ANOTHER pair of numbers besides (4, 7) that works in both?

$$y = 2x - 1$$

$$x + y = 11$$

Remind me: what does the GRAPH of an equation like this look like?

- If both equations are **linear**, then they will only have ONE solution.
- This is because two lines only cross at a single point!!!



- (There are two exceptions to this rule. Can you think of them?)

Which (x, y) works for BOTH?

$$x + y = 9$$

$$x - y = 1$$

Which (x, y) works for BOTH?

$$x - y = 7$$

$$xy = 30$$

Which (x, y) works for BOTH?

$$y = 2x$$

$$x + y = 15$$

Which (x, y) works for BOTH?

$$x + y = 13$$

$$x - y = -3$$

Which (x, y) works for BOTH?

$$x + y = 10$$

$$2x + y = 12$$

Which (x, y) works for BOTH?

$$x + y = 5$$

$$x + y = 10$$

Which (x, y) works for BOTH?

$$y = -\frac{1}{3}x + 4$$

$$y = \frac{3}{2}x - 7$$

You will not always be able to just guess and check!

- In fact, guess-and-check will usually be pretty difficult
- We will be learning **SEVERAL** strategies for how to solve systems of equations

Homework:

- Simple Systems of Equations worksheet
  - Solve using guess & check or whatever smart strategies you can come up with !!!

Today/Tomorrow: T-Shirt Task

- **In pairs, we will be looking at a real-world scenario that will be a nice entry point into systems.**
- **You will be writing answers to questions, making tables, and making graphs. Please divide the tasks fairly between the two of you so that you're contributing equally.**
- **All answers will go on the back of the graph I pass out. If you need more room, attach a separate sheet.**

PLT: BEFORE YOU DO ANYTHING

- **You must take BOTH surveys:**
  - **Grade 8 SEL Survey**
  - **8th Grade Enrichment Sign Up**

- **Both can be found at www.meigsacademicmagnet.org.**

- **If you do not have a device you can use to take these surveys, please borrow one from someone else so you can take it!**