**Solving Linear Systems by Graphing**

What is this linear system? We know what the word linear means, but what does the system part mean?

A **system of linear equations** is a set of two or more linear equations containing two or more variables. Here’s what that looks like:



The next question you should be asking is how do we solve these types of problems. There are a few ways to do this, but today we’re going to solve them by graphing.

Let’s focus on the problem above and solve it.

*Step 1:* Graph the first line on graph paper.

*Step 2:* Graph the second line on graph paper.

*Step 3:* Identify the coordinate point where the two lines intersect. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

That coordinate point that you just wrote down is the **solution** to the **system of linear equations**.

*Step 4:* Plug the coordinate point you got for an answer back into the equations. What I mean is plug the x-value in for x and plug the y-value in for y. If both sides equal each other you know your answer is correct!

Another type of problem might look like this:

**Tell whether the ordered pair is a solution of the given system.**



*Step 1:* Plug in the x and y values into the first equation. Do the two sides equal each other? \_\_\_\_\_\_\_\_\_\_\_\_

*Step 2:* Plug in the x and y values into the second equation. Do the two sides equal each other? \_\_\_\_\_\_\_\_\_\_\_

**IF** you said yes to both Step 1 and Step 2, then the ordered pair is a solution of the given system.

Assignment: Practice B WS + pg 386 #2-16