

Lesson #12 GUIDED PRACTICE INTRO LESSON: Understanding and Solving Systems of Equations: Graphing Method (Reference: Lesson #55 in text book)

Problem

1. **LESSON GOALS:**

- Students will be able to sketch graphs of the given systems of equations/ functions..
- Students will be able to graphically show the solution to the given system of equations/functions.
- Students will be able to interpret and explain in words what the solution to the system to the system of equations/functions means in relation to the problem or application.
- When given specific points or possible solutions to the given systems of equations/functions, students will be able to determine if those points are in fact solutions to the system of equations/functions or not.
- When given an application of a system of equations/functions, the student will be able to create the equations that belong to the system of equations/functions and then find the solution to the system of equation by graphing method.

IMPORTANT DEFINITIONS: (Write the definitions we come up with durring class)

Linear Equation:

Solution to Linear Equations:

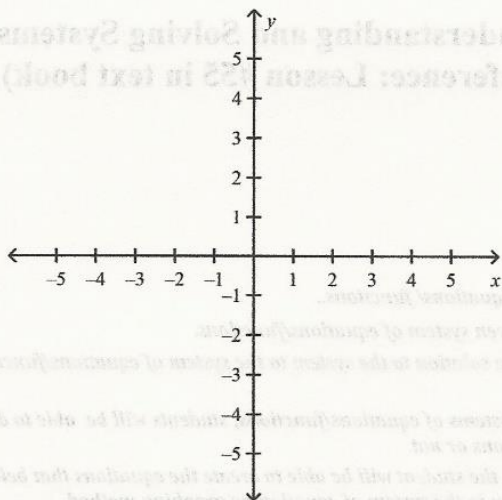
Linear System of Equations:

Solution to Linear System of Equations:

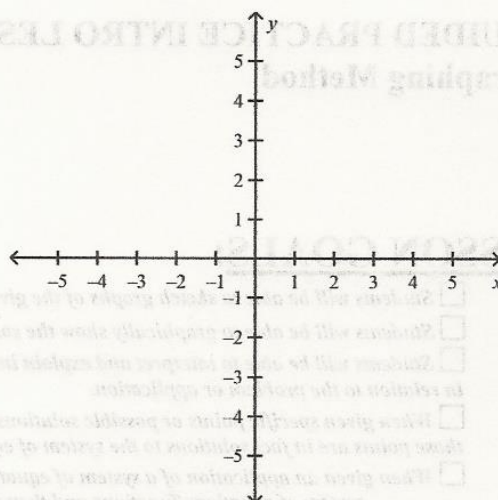
POD ACTIVITY #1 (String Activity): Determining the DIFFERENT TYPES OF SOLUTIONS you can have in a LINEAR SYSTEM OF EQUATIONS!!!

WHAT ARE THE DIFFERENT TYPES OF SOLUTIONS YOU CAN HAVE IN A LINEAR SYSTEM OF EQUATIONS???

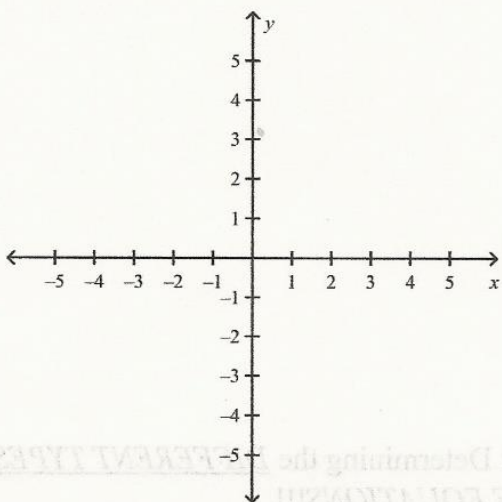
Give a quick sketch of the different possible types of solutions your pod came up with that you can have in a Linear system of equations!!



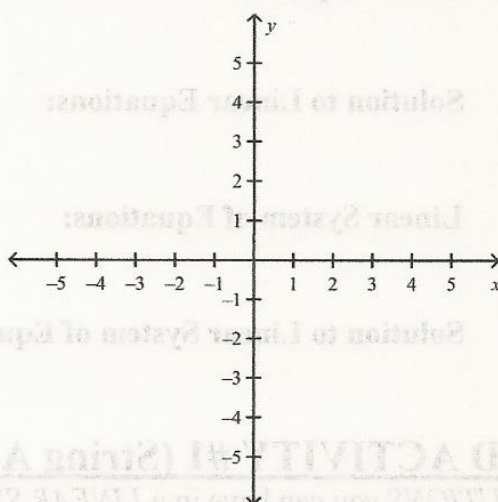
of Times the lines cross:
of Solutions:



of Times the lines cross:
of Solutions:



of Time the lines cross:
of Solutions:



of Times the lines cross:
of Solutions:

So based on what you have discovered so far about Linear Systems of Equations, what do you think you will need to do if you are given the following system and asked to find a solution to the system?

1)
$$-6x + 3y = -3$$
$$8x + 4y = 28$$

First explain in words the process behind solving the above Linear system of equations, then solve the system on your graphing sheet and find the solution(s), then check your answer. Do you know if it is right or wrong? Why?

2)

$$6x - 12y = 24$$

$$18x + 6y = 30$$

First explain in words the process behind solving the above Linear system of equations, then solve the system on your graphing sheet and find the solution(s), then check your answer. Do you know if it is right or wrong? Why?

POD ACTIVITY #2 (Determining a Process behind Solving Systems of

Equations): In your pods determine a step by step process of what needs to be done from beginning to end of the process of Solving Linear Systems of Equations, like the above Systems.

Step-by Step Process:

STEP #1 (1 point): _____

STEP #2 (1 Point): _____

STEP #3 (1 Point): _____

STEP #4 (1/2 Point): _____

STEP #5 (1/2 point): _____

Pod Practice Work: For each of the following systems of equations, please solve the system by graphing method, show all of your work next to each Steps that we came up with as a class and then graph on the provided graph and expression the solution as a coordinate point.(SHOW ALL OF YOUR WORK.)

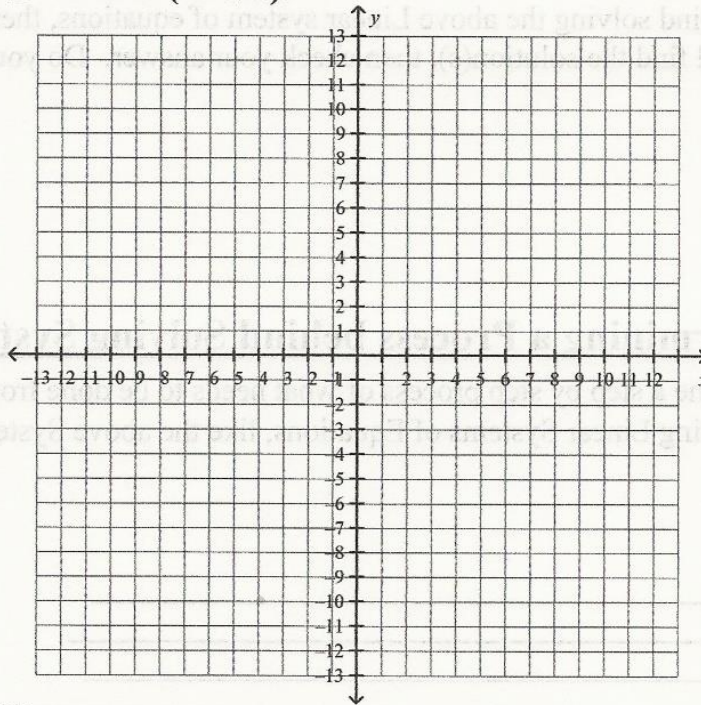
3) $10x + 5y = -10$

$-12x + 4y = 32$

STEP #1 (1 Point):

STEP #2(1 Point):

STEP #3 (1 Point):



STEP #4 (1/2 Point):

STEP #5 (1/2 Point):

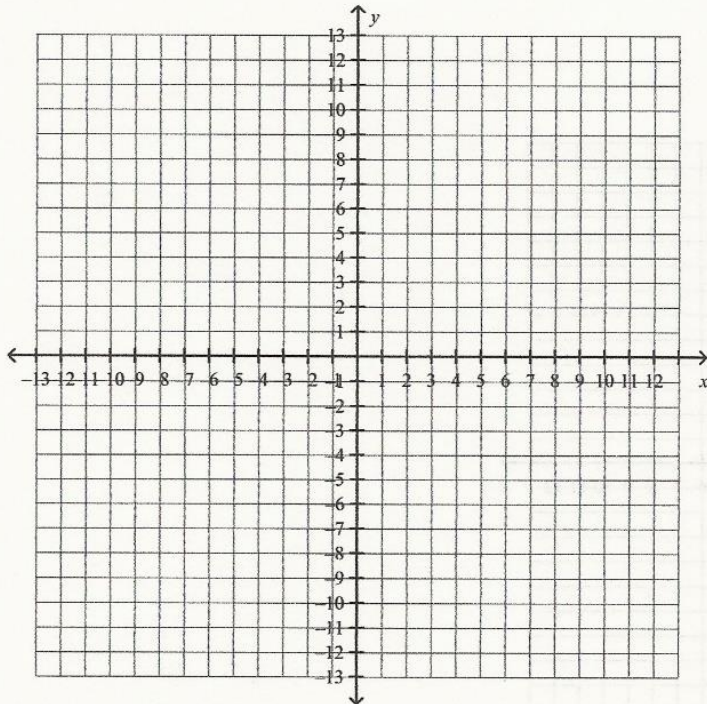
4) $10x - 15y = -15$

$6x + 18y = -36$

STEP #1 (1 Point):

STEP #2 (1 Point):

STEP #3 (1 Point):



STEP #4 (1/2 Point):

STEP #5 (1/2 Point):

POD ACTIVITY #3-Putting it all together(Solving the Application Problem presented at the beginning of class.)

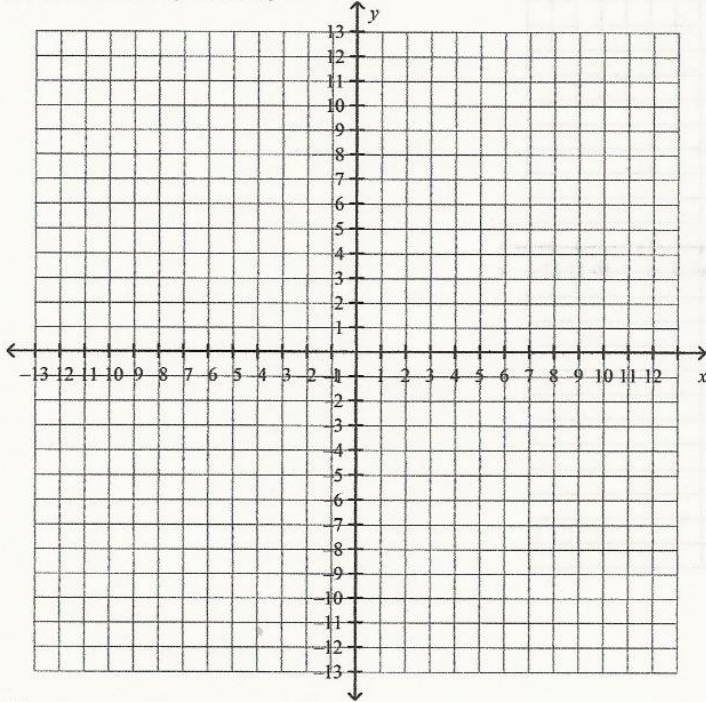
For the following application word problems present at the beginning of class, please create two equations from the given information and then solve the system of equations using the step by step process our class came up with. When you arrive at an answer do Step #5 and then explain why that solution is correct and what that means (SHOW ALL OF YOUR WORK.)

5) In this box there are a total of 14 \$1 and \$5 bills combined, for a total of \$50. How many \$1 bills and how many \$5 bills are in this box?

STEP #1 (1 Point):

STEP #2(1 Point):

STEP #3 (1 Point):



STEP #4 (1/2 Point):

STEP #5 (1/2 Point):

STEP #4 (1/2 Point):

STEP #5 (1/2 Point):

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STEP #1 (1 Point):

STEP #3 (1 Point):