Jadwin-Technical Math A-6th Period-Off Site Learning Packet Day 5
Solving Systems of Equations by Graphing
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A System of Equations is where you have more than one equation with the same unknown values. The goal is to find what values each of the equations have in common. There are three methods we will talk about on how to find the values: Graphing, Substitution, and Elimination. This lesson we will discuss **Graphing**.

Steps in finding the Solution of Systems of Equations by Graphing

- Graph each line.
- If the lines are nonparallel, where they cross is the solution. If they are parallel then there is no solution.

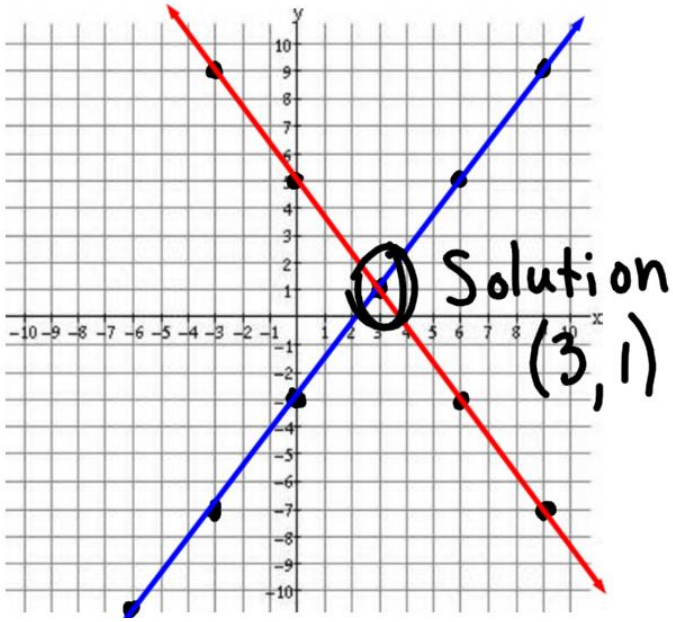
Example: $4x - 3y = 9$
$4x + 3y = 15$

1st Equation: Solve for y.

$$4x - 3y = 9$$
$$-4x \quad -4x$$
$$-3y = -4x + 9$$
$$\frac{-3y}{-3} = \frac{-4x + 9}{-3}$$
$$y = \frac{4}{3}x - 3 \text{ (red)}$$

2nd Equation: Solve for y.

$$4x + 3y = 15$$
$$-4x \quad -4x$$
$$3y = -4x + 15$$
$$\frac{3y}{3} = \frac{-4x + 15}{3}$$
$$y = -\frac{4}{3}x + 5 \text{ (blue)}$$



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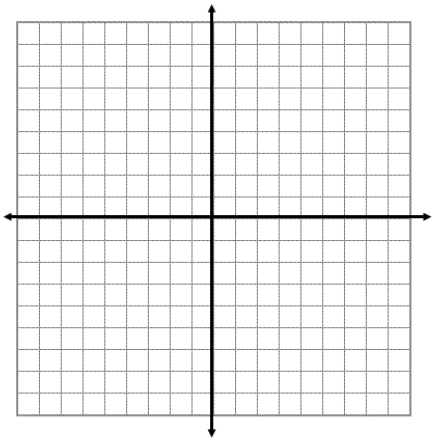
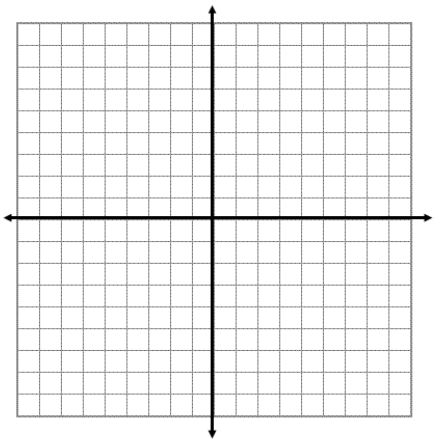
1. $\begin{cases} y=x+1 \\ y=-x+11 \end{cases}$

Solution = _____

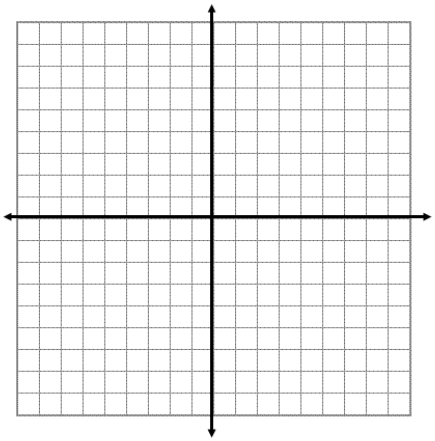


2. $\begin{cases} x+4y=0 \\ -2x+y=9 \end{cases}$

Solution = _____



3. $\begin{cases} y=-5x+8 \\ y-2x=1 \end{cases}$



4. $\begin{cases} 2x+y=0 \\ 3x-y=-10 \end{cases}$