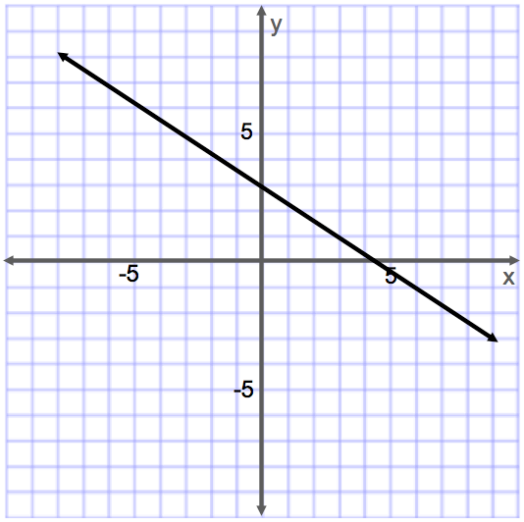
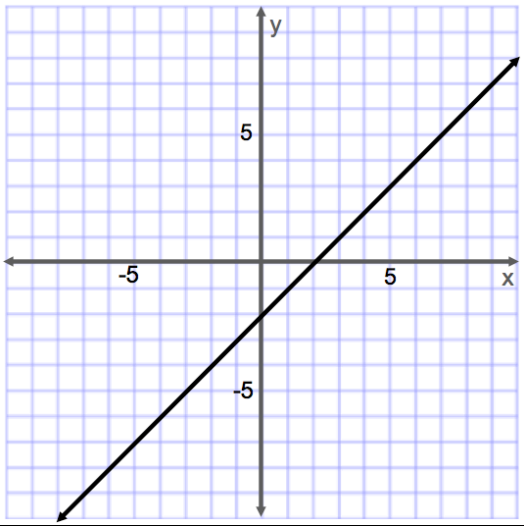
5.6 – Solving a System of Equations: Graphing – Part I

Class Activity 1 – Use the graphs to complete the activity.

Graph 1: $y = -\frac{2}{3}x + 3$



Graph 2: $y = x - 2$



State three points that are solutions to graph 1.

State three points that are not solutions to graph 1.

State three points that are solutions to graph 2.

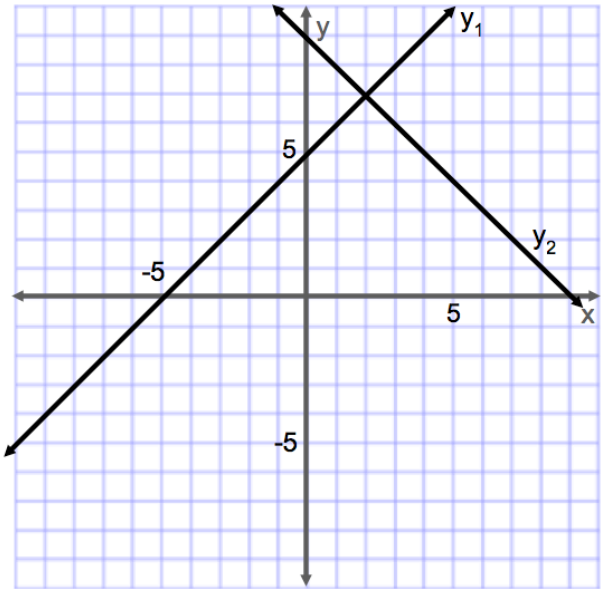
State three points that are not solutions to graph 2.

State one point that is a solution to them both and show that it is.

In the activity above we found one point that was a solution to both equations. When given two equations and asked to find a common solution, graphing both equations separately and comparing points is an effective way to find the solution. However, there is a more efficient way. By graphing both equations together in the same Cartesian plane the solution is crystal clear. Complete the following notes to see how clear it is.

Class Notes – Use the graph to fill in the boxes on the right.

LP #1



$y_1 = x + 5$

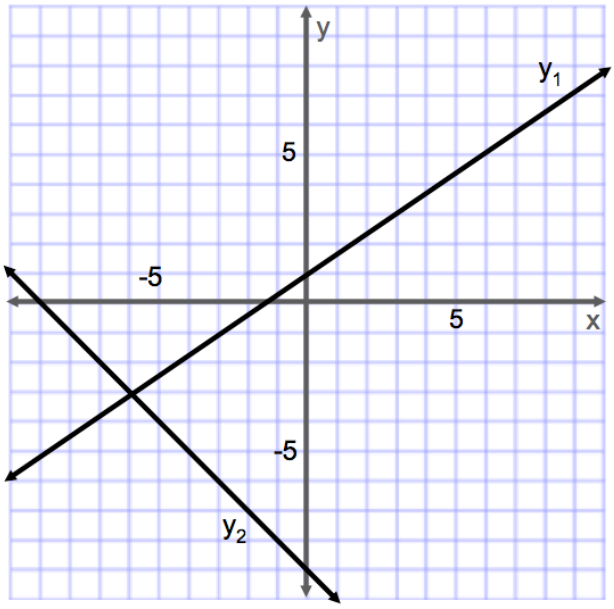
$y_2 = -x + 9$

State a point that is only a solution for y_1.

State a point that is only a solution for y_2.

State a point that is a solution for both y_1 and y_2.

LP #2



$y_1 = \frac{2}{3}x + 1$

$y_2 = -x - 9$

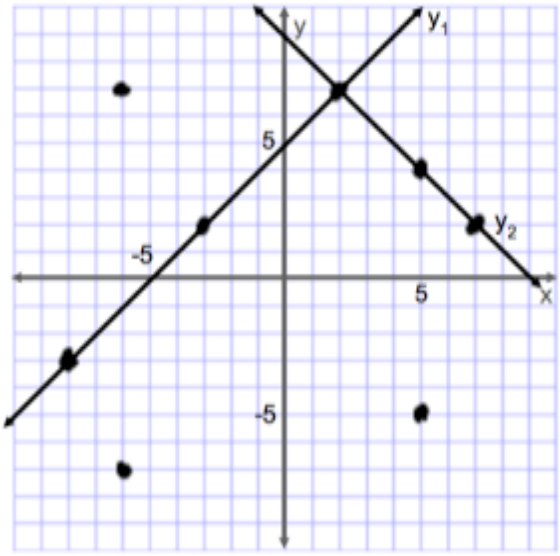
State a point that is only a solution for y_1.

State a point that is only a solution for y_2.

State a point that is a solution for both y_1 and y_2.

Class Notes – Use the coordinates of the marked points to fill in the boxes below.

LP #3



$y_1 = x + 5$

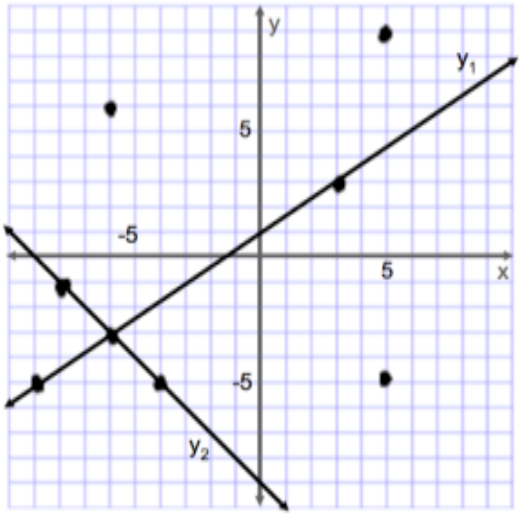
$y_2 = -x + 9$

State a three points that are a solution for y_1.

State a three points that are a solution for y_2.

State a point that is a solution for both y_1 and y_2.

LP #4



$y_1 = \frac{2}{3}x + 1$

$y_2 = -x - 9$

State a three points that are a solution for y_1.

State a three points that are a solution for y_2.

State a point that is a solution for both y_1 and y_2.

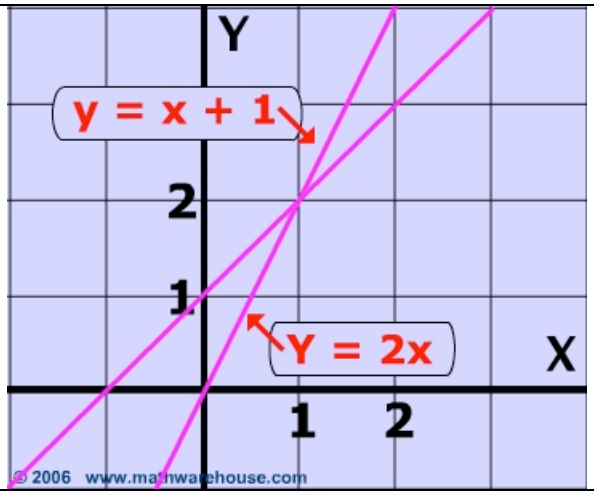
Review – Complete the following.

R#1

State the solution to the system of equations to the diagram on the right.

State a point that is a solution to only one of the equations.

State a point that is not a solution to either equation.

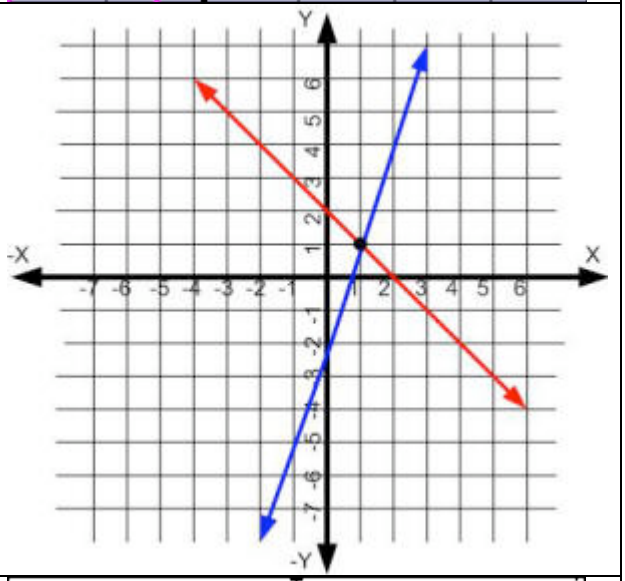


R#2

State the solution to the system of equations to the diagram on the right.

State a point that is a solution to only one of the equations.

State a point that is not a solution to either equation.

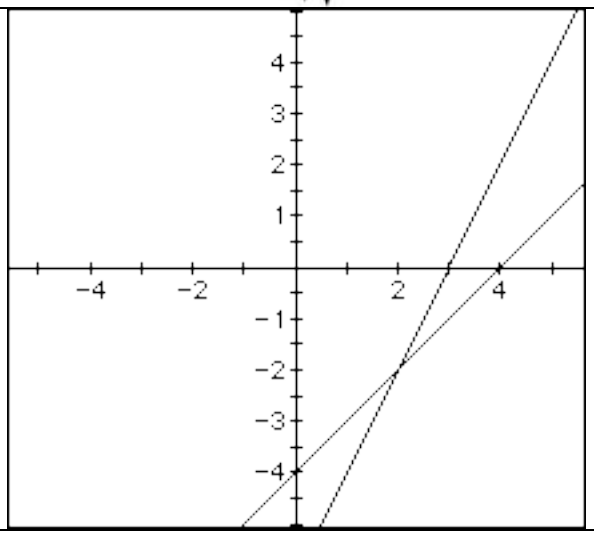


R#3

State the solution to the system of equations to the diagram on the right.

State a point that is a solution to only one of the equations.

State a point that is not a solution to either equation.



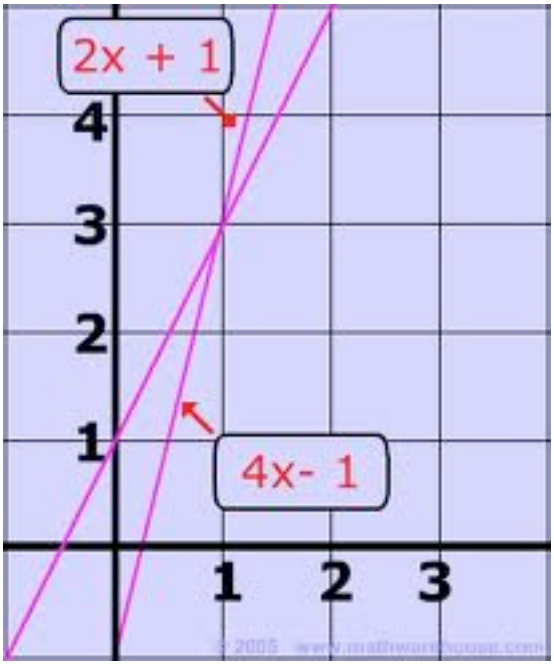
Homework –

a) State the solution to the system of equations to the diagram on the right.

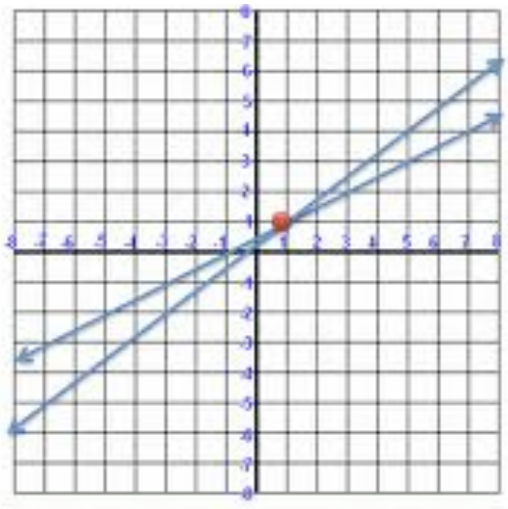
b) State a point that is a solution to only one of the equations.

c) State a point that is not a solution to either equation.

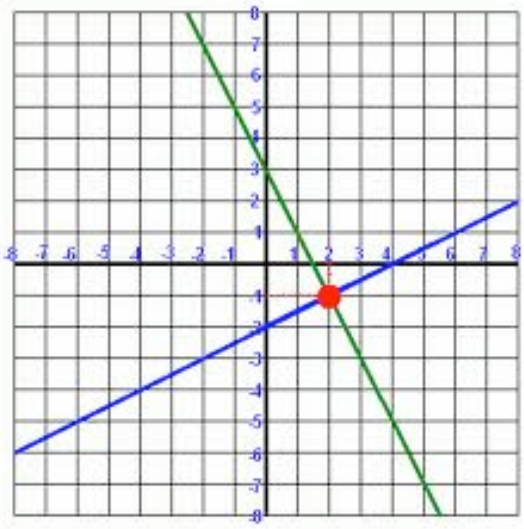
1.



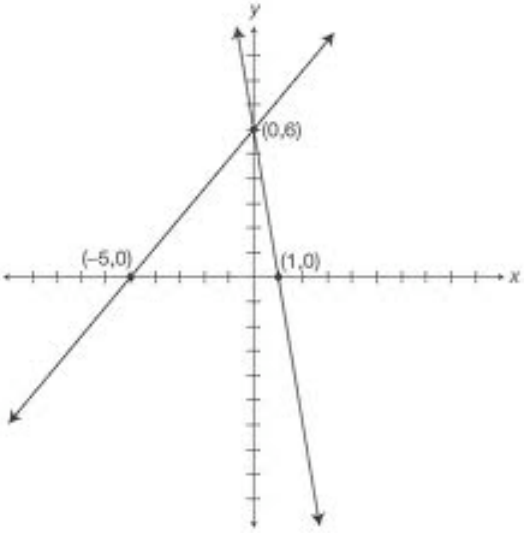
2.



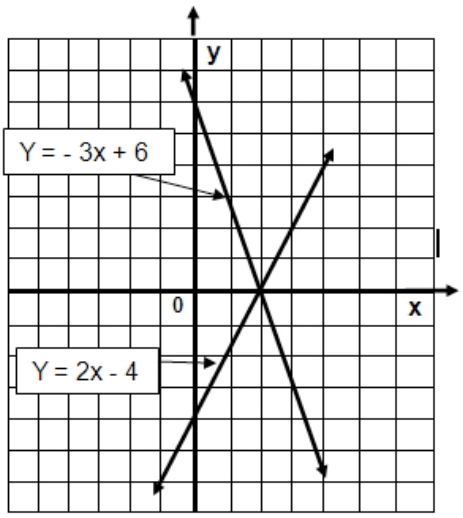
3.



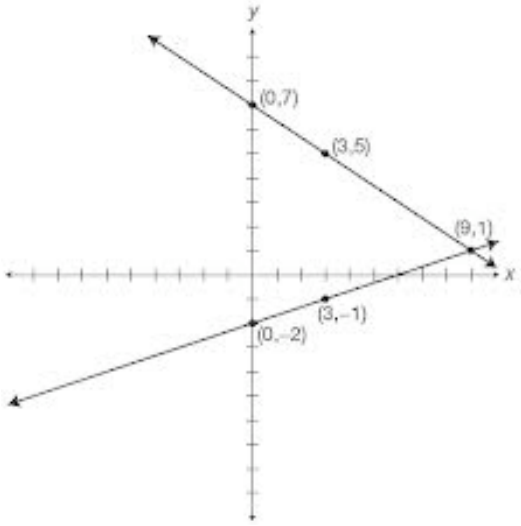
4.



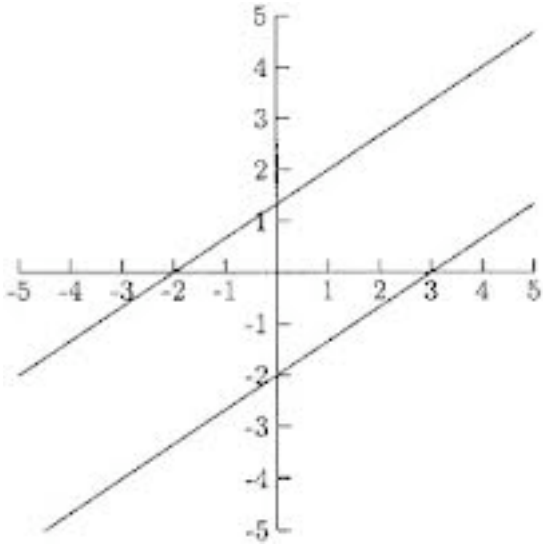
5.



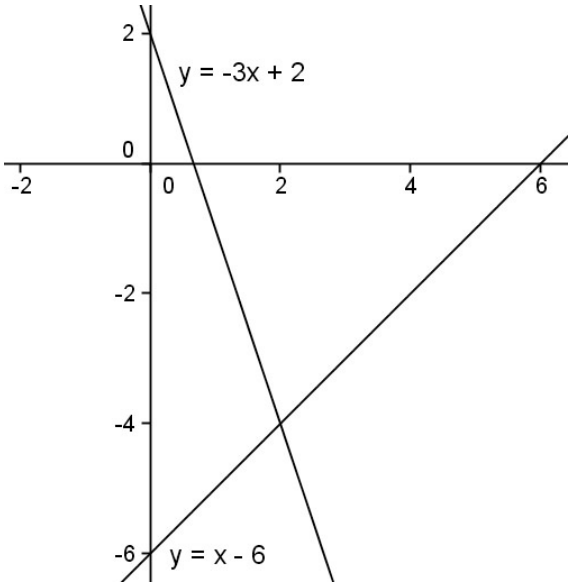
6.



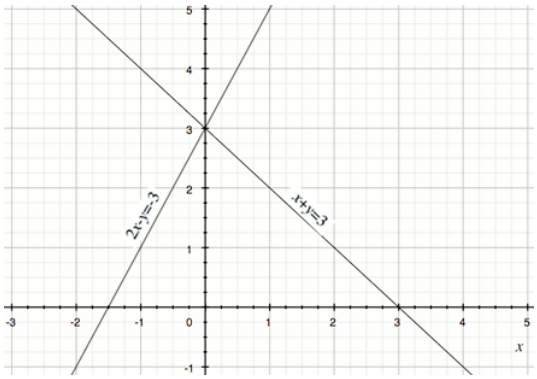
7.



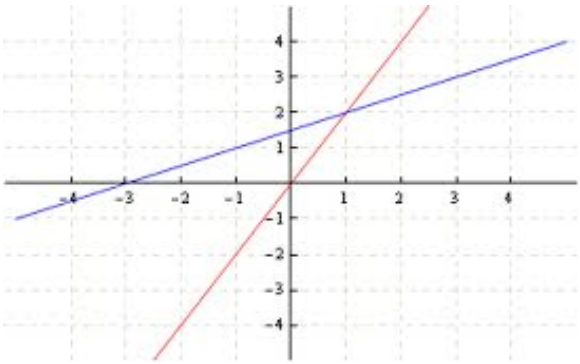
8.



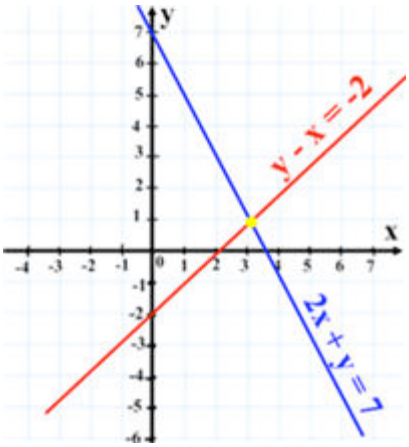
9.



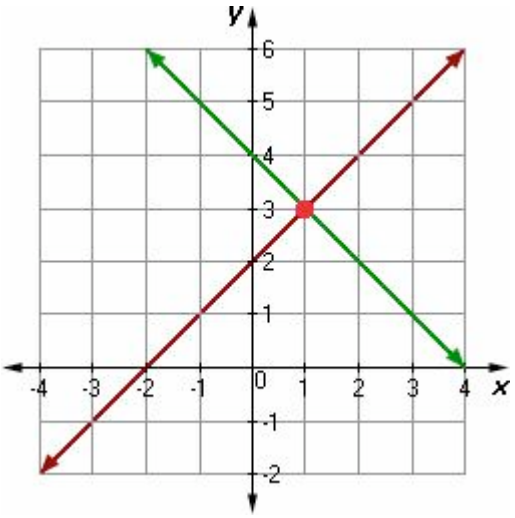
10.



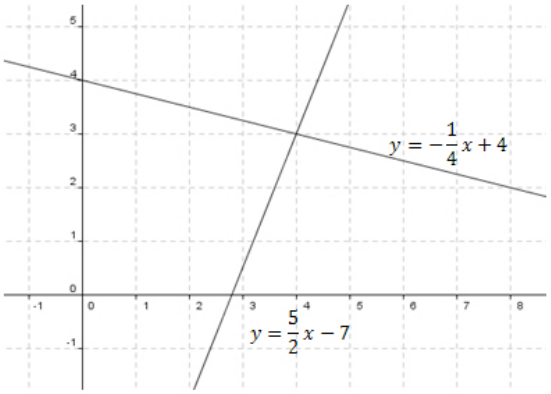
11.



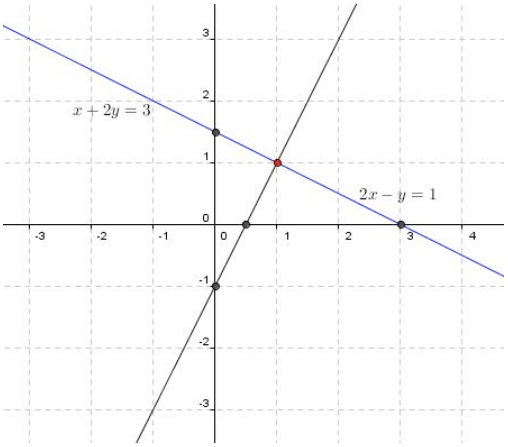
12.



13.



14.



Synthesis

TBA