Name _____ Date _____

8A; Algebra 1 Period _____

How do we solve a System of Equations graphically?

- Two or more linear equations together form a system of linear equations.
- One way to solve a system of linear equations is by graphing. Any point common to all the lines is a solution of the system. Therefore, any ordered pair that makes **all** the equations true is a solution of the system.

Examples:

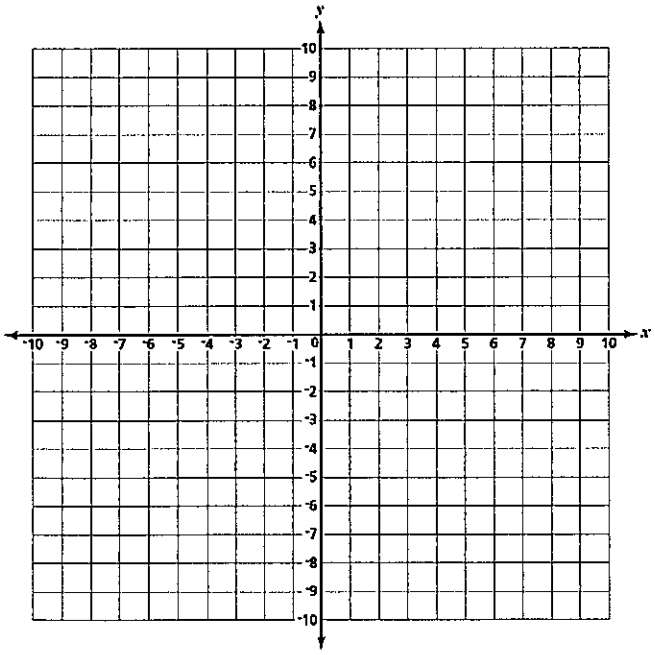
1) Is (-1,5) a solution of each system? Verify your answer.

(a) $y = 2x + 7$
$y = x + 6$

(b) $y = -x + 4$
$y = -\frac{1}{5}x$

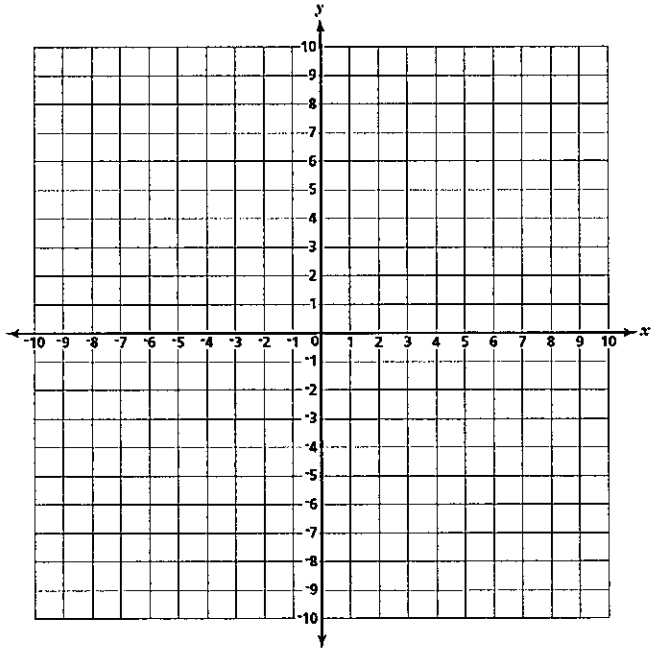
2) Solve each system by graphing and check your answer.

(a) $y = -x + 4$
$y = 2x + 1$



Solution:_____

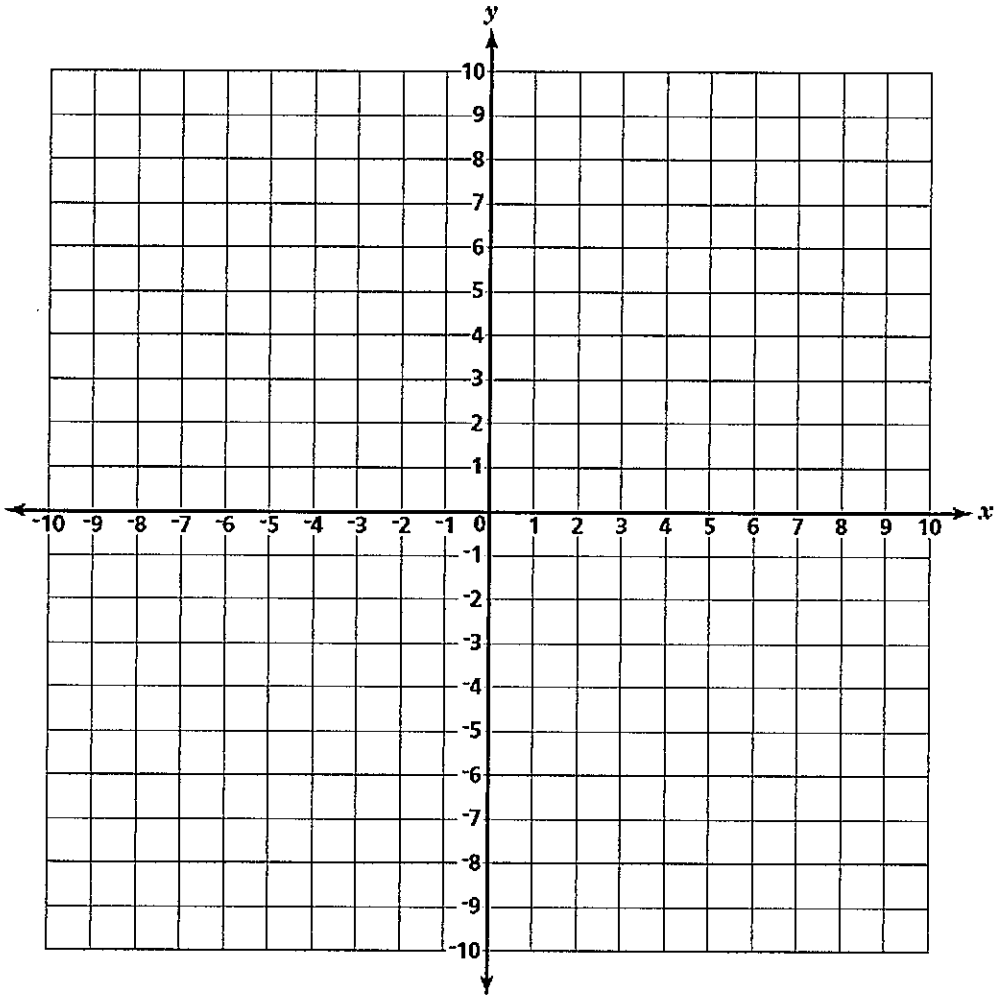
(b) $2x + y = 8$
$y - x = 2$



Solution:_____

3) (a) Graph the following lines:

$y = x$
$x + y = -2$
$y = 5$



(b) Name the figure that is formed._____

(c) Find the area of the figure. _____

To get the P.O.I. on the calculator: (in $y=mx+b$ form)

method 1: [y=] type in both equations (into y_1 + y_2) press [2nd] [Graph] & look for the repeating y-values in y_1 + y_2

method 2: [y=] type in both equations [2nd] [Trace] [5: intersect] [enter] x 3

press [graph] to see the graph