

Algebra I

7-1

Solving Systems of Equations Graphically

Definition of Solving a System of Equations -

- 1) System means Solving more than one equation at a time.
- 2) Solution is the point(s) where the lines cross.

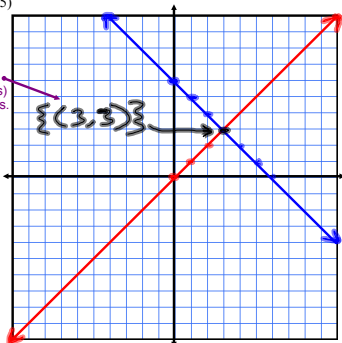
Solve each system graphically. (pg 415)

1) $y = x$
 $y = 6 - x$

$y = x$
 $m = 1$
 $b = 0$

$y = 6 - x$
 $m = -1$
 $b = 6$

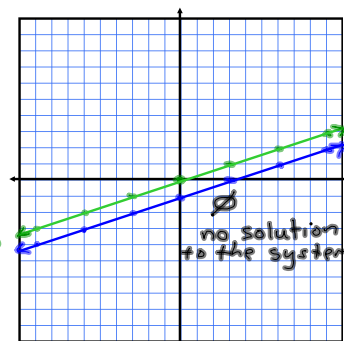
The solution to the system is the point(s) where the lines cross.



7) $3x - 9y = 0$
 $-x + 3y = -3$

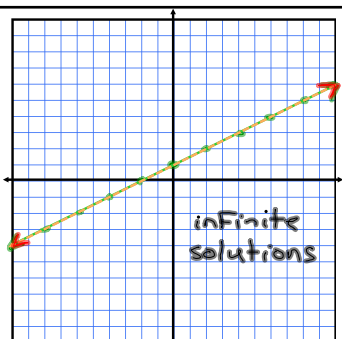
$3x - 9y = 0$
 $3x - 3x - 9y = -3x$
 $-9y = -3x$
 $\frac{-9y}{-9} = \frac{-3x}{-9}$
 $y = \frac{1}{3}x$
 $m = \frac{1}{3}$
 $b = 0$

$-x + 3y = -3$
 $-x + x + 3y = -3 + x$
 $3y = x - 3$
 $\frac{3y}{3} = \frac{x - 3}{3}$
 $y = \frac{1}{3}x - 1$
 $m = \frac{1}{3}$
 $b = -1$



9) $y = \frac{1}{2}x + 1$ $m = \frac{1}{2}$ $b = 1$
 $4x - 8y = -8$

$4x - 8y = -8$
 $4x - 4x - 8y = -4x - 8$
 $-8y = -4x - 8$
 $\frac{-8y}{-8} = \frac{-4x - 8}{-8}$
 $y = \frac{1}{2}x + 1$
 $m = \frac{1}{2}$
 $b = 1$



We can't use the \mathbb{R} symbol for All Reals because there are many points that are NOT solutions. Only the points on the line are solutions, but there are an infinite amount of them.

Assignment:
pg. 430
5-10 all,
12-26 even,
31, 32