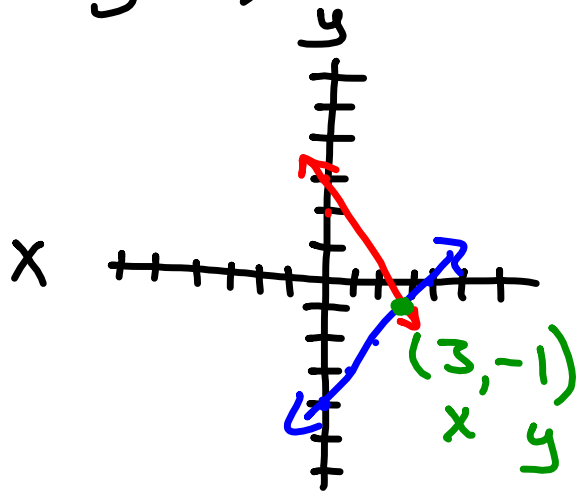
1) $y = \frac{1}{1}x - 4$

$y = -\frac{4}{3}x + 3$



2) $3x - 5y = -22$

$-3x + 2y = 25$

$-3y = 3$

$\frac{-3y}{-3} = \frac{3}{-3}$

$y = -1$

$3x - 5(-1) = -22$

$3x + 5 = -22$

$-5 \quad -5$

$\frac{3x}{3} = \frac{-27}{3}$

$x = -9$

4-4: Solving systems by Substitution

Objectives: I can solve a system by substitution and determine the number of solutions

I can verify a solution to a system

Vocabulary

Substitution: Plugging in things that are equal

Ordered Pair: (x, y) Pair of points.

$y = 7x + 2$

$x = 3$

Substitution

Substitue x=2 into the function y= -4x + 3

$y = -4(2) + 3$

$= -8 + 3$

$= -5$

Solve the system by substitution:

$y = (x-3)$

$2x + y = 0$

$2x + (x-3) = 0$

$2x + x - 3 = 0$

$3x - 3 = 0$

$+3 \quad +3$

$\frac{3x}{3} = \frac{3}{3}$

$x = 1$

$y = (1) - 3$

$y = -2$

Solve the system using ***Substitution***

a) $3x + y = -9$

$y = 2x + 1$

$3x + (2x+1) = -9$

$3x + 2x + 1 = -9$

$5x + 1 = -9$

$-1 \quad -1$

$\frac{5x}{5} = \frac{-10}{5}$

$x = -2$

$3(-2) + y = -9$

$-6 + y = -9$

$+6 \quad +6$

$y = -3$

Example: Is (1,3) a solution to the system

$y = 2x + 1$

$y = -x + 4$

$2(1)+1=3$

$y=3$

$2x+1=-x+4$

$+x \quad +x$

$3x+1=+4$

$-1 \quad -1$

$\frac{3x}{3}=\frac{3}{3}$ $x=1$

$x-2=2x-1$

$-2x \quad -2x$

$-1x-2=-1$

$+2 \quad +2$

$\frac{-1x}{-1}=\frac{1}{-1}$ $x=-1$