Graph the system below by filling in the table for each equation. Plot the x and y coordinates.

STEP 1 : SOLVE FOR Y. ($y=mx+b$)

STEP 2 : GRAPH EACH LINE

STEP 3 : FIND THE INTERSECTION.

$$\begin{cases} 2y - 4x = 2 \\ 6x - 9y = 27 \end{cases}$$

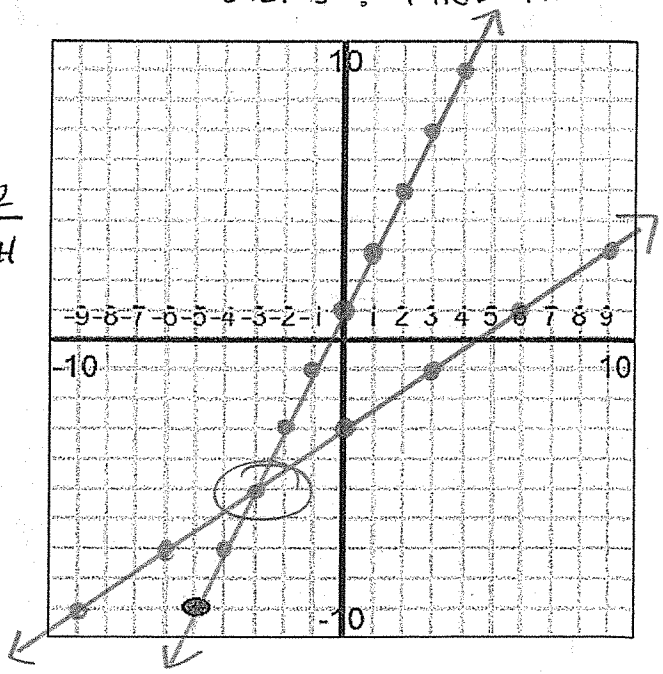
2y - 4x = 2

x	y
-5	-9
-1	-1
0	1
3	7

6x - 9y = 27

x	y
-9	-9
-6	-7
0	-3
3	-1

STEP 2
GRAPH



Solution to the system:

(-3, -5)

STEP 3
INTERSECTION

STEP 1 : REWRITE/SOLVE FOR Y.

$2y - 4x = 2$
$+4x \quad +4x$

$\frac{2y}{2} = \frac{4x}{2} + \frac{2}{2}$

$\boxed{y = 2x + 1}$

$m = 2$

$b = 1$

$6x - 9y = 27$
$-6x \quad -6x$

$\frac{-9y}{-9} = \frac{-6x}{-9} + \frac{27}{-9}$

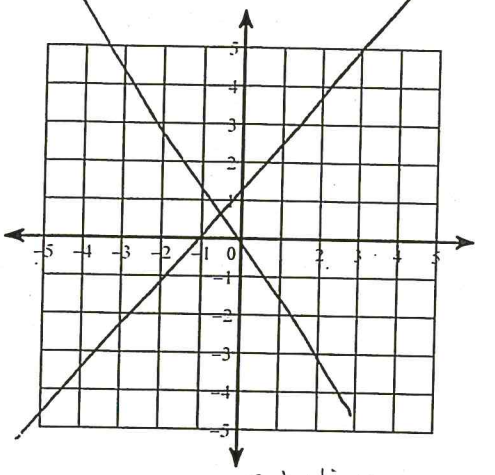
$\boxed{y = \frac{2}{3}x - 3}$

$m = \frac{2}{3}$

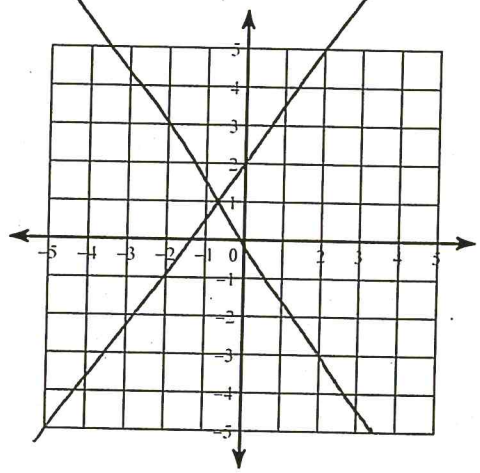
$b = -3$

9) $y = -\frac{3}{2}x + 4$

$y = \frac{3}{2}x - 2$



10) $y = \frac{1}{4}x + 3$

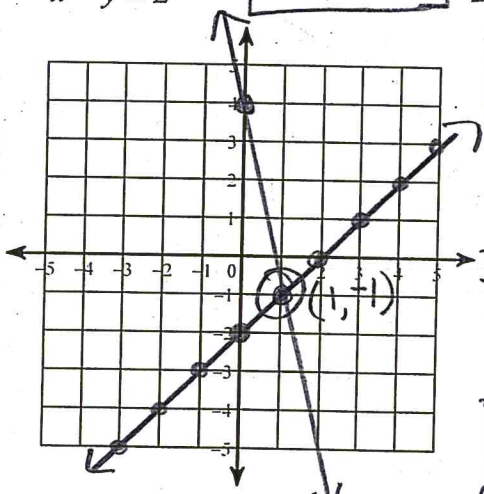


11) $5x + y = 4$
$x - y = 2$

Solution $\boxed{(1,-1)}$

$5x + y = 4$
$-5x \quad -5x$

$\boxed{y = -5x + 4}$



$x - y = 2$
$-x \quad -x$

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

$\boxed{y = x - 2}$

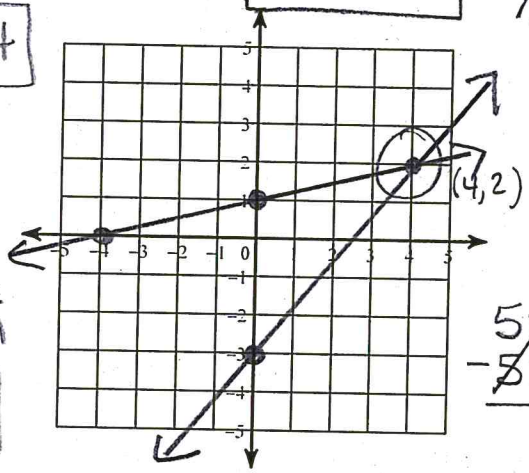
12) $x - 4y = -4$
$5x - 4y = 12$

Solution $\boxed{(4,2)}$

$x - 4y = -4$
$-x \quad -x$

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

$\boxed{y = \frac{1}{4}x + 1}$



$5x - 4y = 12$
$-5x \quad -5x$

$\frac{-4y}{-4} = \frac{-5x}{-4} + \frac{12}{-4}$

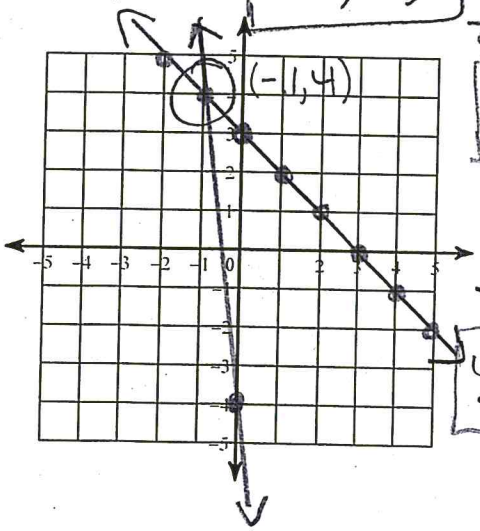
$\boxed{y = \frac{5}{4}x - 3}$

13) $x + y = 3$
$8x + y = -4$

Solution $\boxed{(-1,4)}$

$x + y = 3$
$-x \quad -x$

$\boxed{y = -x + 3}$

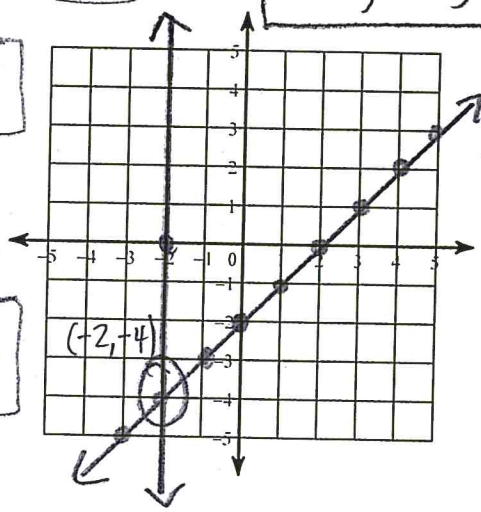


$8x + y = -4$
$-8x \quad -8x$

$\boxed{y = -8x - 4}$

14) $x - y = 2$
$x = -2$

Solution $\boxed{(-2,-4)}$

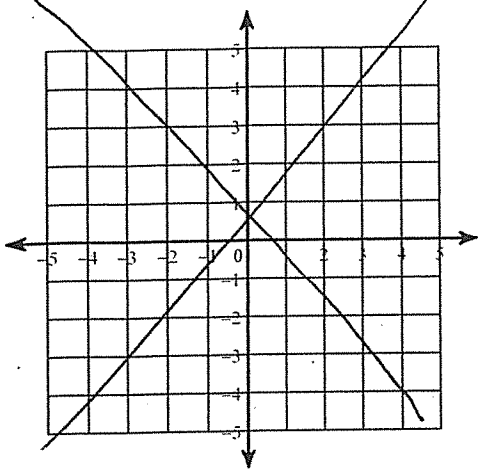


$x - y = 2$
$-x \quad -x$

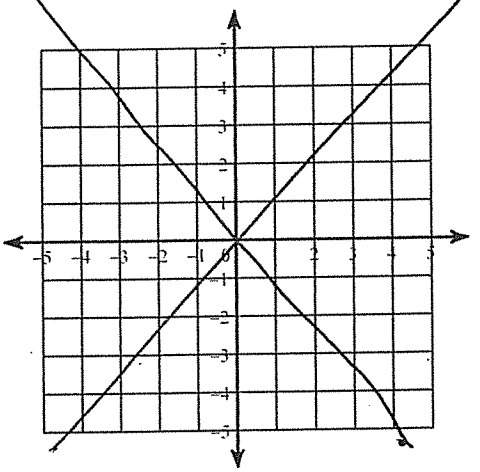
$\frac{-y}{-1} = \frac{-x}{-1} + \frac{2}{-1}$

$\boxed{y = x - 2}$

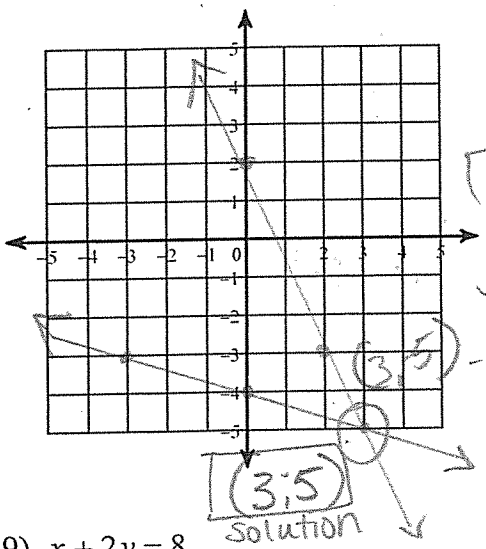
$2x - y = 3$



$2x - y = 3$



17) $x + 3y = -12$
$5x - 3y = -6$

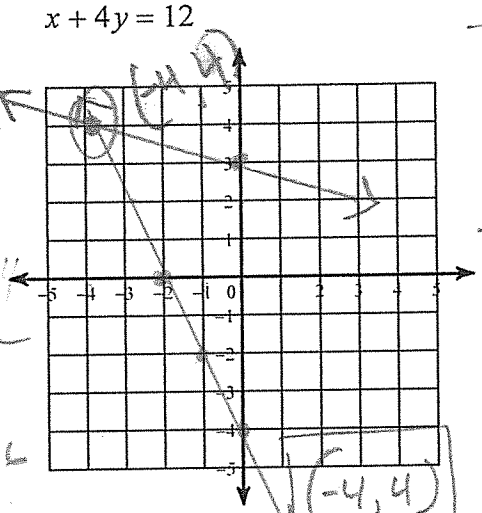


$\boxed{(3,5)}$
Solution

$x + 3y = -12$
$-x \qquad -x$
$3y = -x - 12$
$\frac{3y}{3} = \frac{-x}{3} - \frac{12}{3}$
$\boxed{y = \frac{-x}{3} - 4}$

$5x - 3y = -6$
$-5x \qquad -5x$
$-3y = -5x - 6$
$\frac{-3y}{-3} = \frac{-5}{-3}x - \frac{6}{-3}$
$\boxed{y = \frac{5}{3}x + 2}$

18) $2x + y = -4$
$x + 4y = 12$

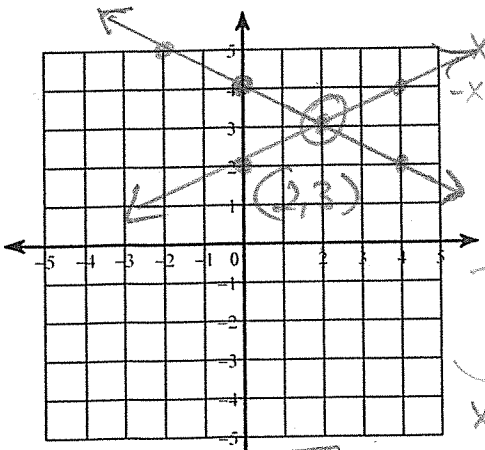


$\boxed{(-4,4)}$
Solution

$2x + y = -4$
$-2x \qquad -2x$
$\boxed{y = -2x - 4}$

$x + 4y = 12$
$-x \qquad -x$
$4y = -x + 12$
$\frac{4y}{4} = \frac{-x}{4} + \frac{12}{4}$
$\boxed{y = \frac{-x}{4} + 3}$

19) $x + 2y = 8$
$x - 2y = -4$

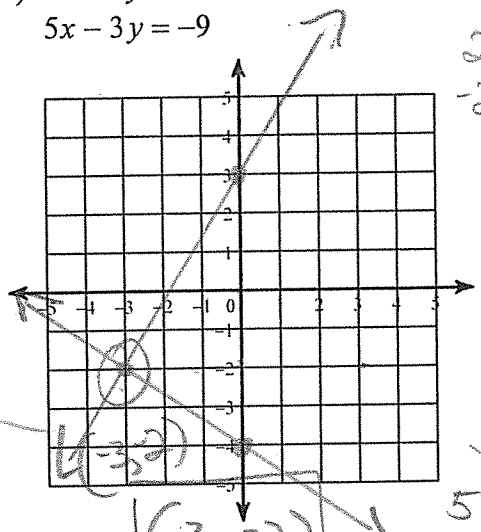


$\boxed{(2,3)}$
Solution

$x + 2y = 8$
$-x \qquad -x$
$2y = -x + 8$
$\frac{2y}{2} = \frac{-x}{2} + \frac{8}{2}$
$\boxed{y = \frac{-x}{2} + 4}$

$x - 2y = -4$
$-x \qquad -x$
$-2y = -x - 4$
$\frac{-2y}{-2} = \frac{-x}{-2} - \frac{4}{-2}$
$\boxed{y = x + 2}$

20) $2x + 3y = -12$
$5x - 3y = -9$



$\boxed{(-3,-2)}$
Solution

$2x + 3y = -12$
$-2x \qquad -2x$
$3y = -2x - 12$
$\frac{3y}{3} = \frac{-2x}{3} - \frac{12}{3}$
$\boxed{y = -\frac{2}{3}x - 4}$

$5x - 3y = -9$
$-5x \qquad -5x$
$-3y = -5x - 9$
$\frac{-3y}{-3} = \frac{-5x}{-3} - \frac{9}{-3}$
$\boxed{y = \frac{5}{3}x + 3}$