

Date: 11.19.18

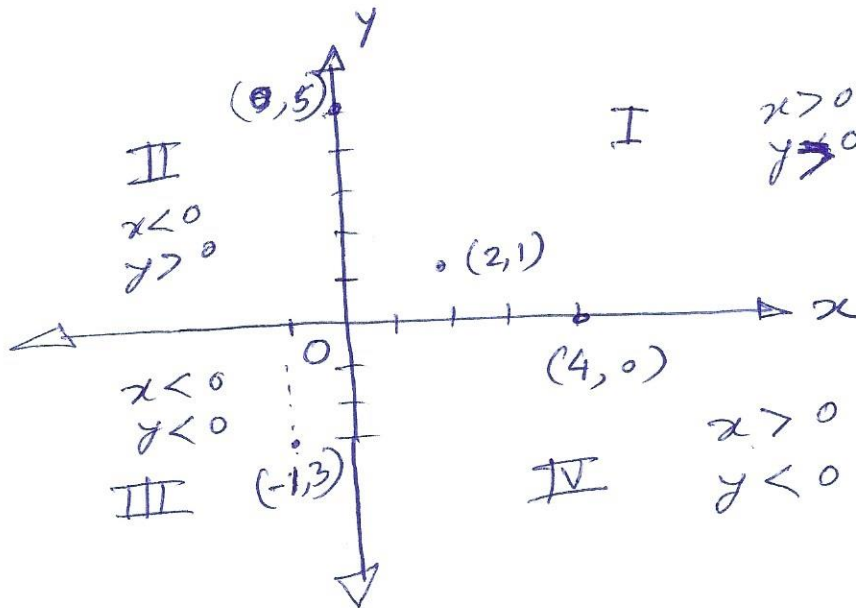
Linear equ. with two variables:

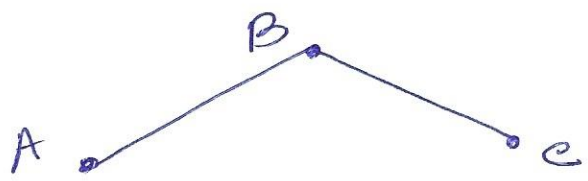
$$3x + 2y = 5$$

$$2x - 5 = 3$$

$\therefore x = 4$ (objective is to solve)

$2x - 5y = 3$ (objective is to graph)





A, B, C
non collinear
points



DEF
collinear points

$$2x - 5y = 3$$

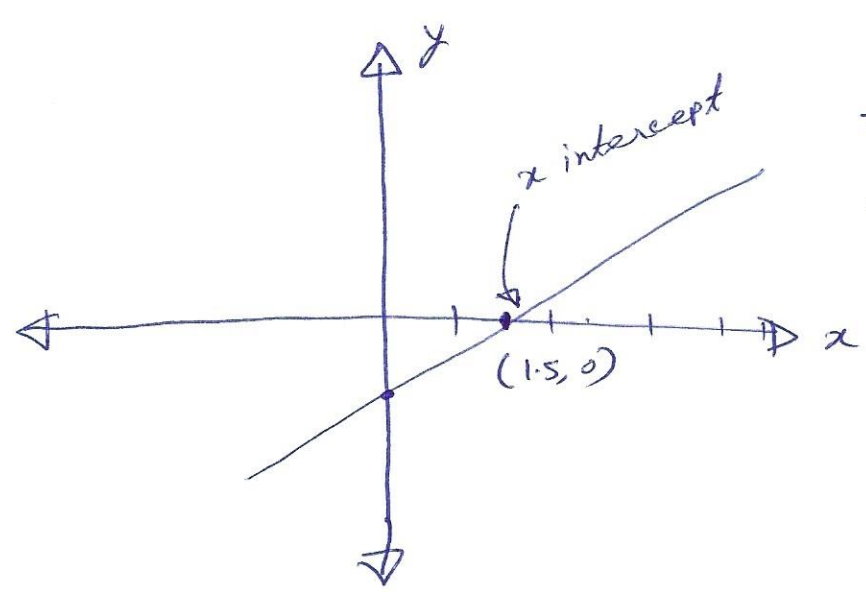
x	y	(x, y)
5	7/5	(5, 1.4)
9	9	(9, 9)
7	11/3	(7, 3.2)

$$2(5) - 5y = 3$$

$$\Rightarrow 10 - 5y = 3$$

$$\Rightarrow \frac{-5y}{-5} = \frac{-7}{-5}$$

$$\therefore y = +7/5$$



$$2x - 5 \cdot 0 = 3$$

$$\Rightarrow 2x = 3$$

$$\therefore x = 1\frac{1}{2}$$

$$12. \# \quad 5x - 3y = 12 \quad (0, 4)$$

$$5(0) - (-3)(4) \stackrel{?}{=} 12$$

$$\Rightarrow 0 - 12 \stackrel{?}{=} 12 \quad \text{not on the line.}$$

$$13. \# \quad y = \frac{1}{3}x - 2 \quad (9, 1)$$

$$\Rightarrow 1 \stackrel{?}{=} \frac{1}{3} \cdot 9 - 2$$

$$\Rightarrow 1 \stackrel{?}{=} 3 - 2$$

$$\Rightarrow 1 \stackrel{\checkmark}{=} 1 \quad \text{on the line.}$$

$$17. \# \quad 3x - y = 5$$

x	y
2	①
③	4
1	②

$$3 \cdot (1) - y = 5$$

$$\Rightarrow 3 - y = 5$$

$$\Rightarrow 3 - 5 = y \quad \therefore y = -2$$

$$3 \cdot 2 - y = 5$$

$$\Rightarrow 6 - y = 5$$

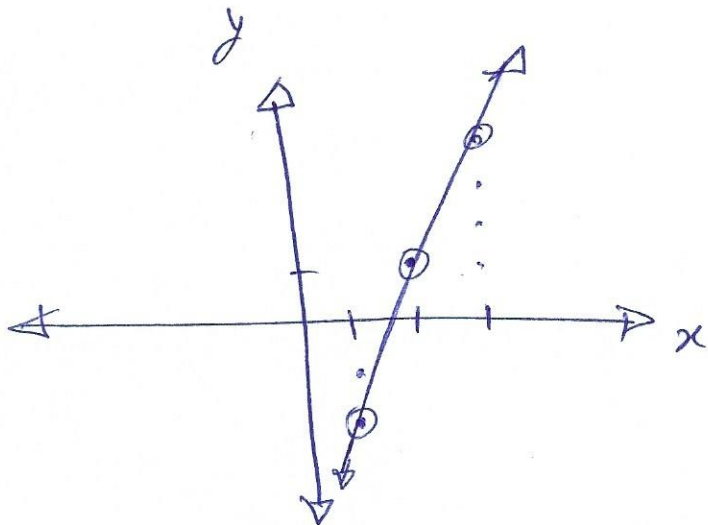
$$\Rightarrow 6 - 5 = y$$

$$\therefore y = 1$$

$$3 \cdot x - 4 = 5 + 4$$

$$\Rightarrow \frac{3x}{3} = \frac{9}{3}$$

$$\therefore x = 3$$



$$x + 2y = 4$$

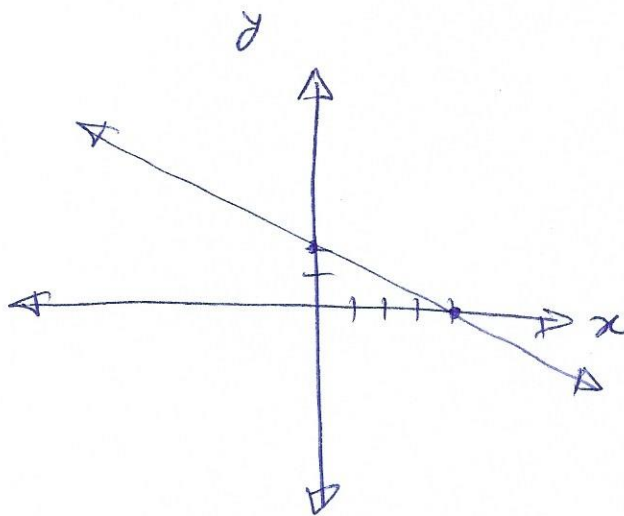
$$\Rightarrow x + 0 = 4$$

$$\therefore x = 4$$

$$0 + \frac{2y}{2} = \frac{4}{2}$$

$$\Rightarrow y = 2$$

x	y
4	0
0	2



13. $5x - 3y = 12$

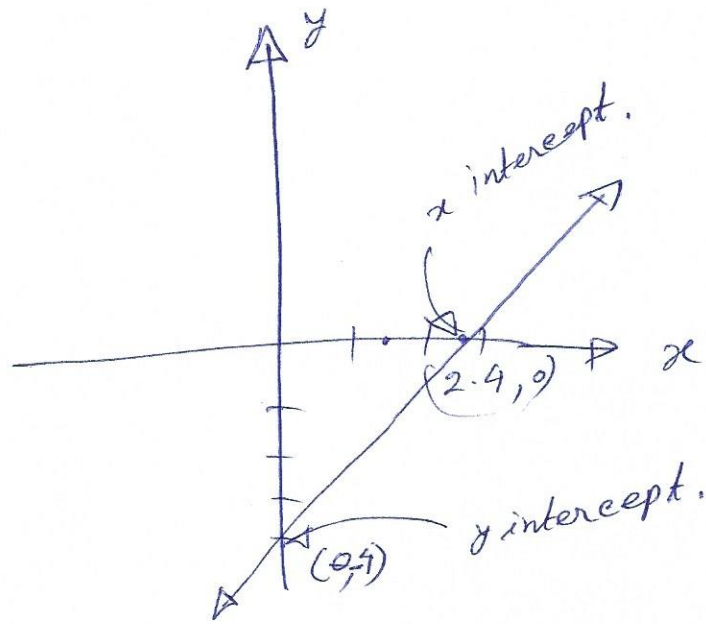
x	y
2.4	0
0	-4

$$5x = 12$$

$$x = \frac{12}{5} = 2.4$$

$$-3y = 12$$

$$\therefore y = -4$$

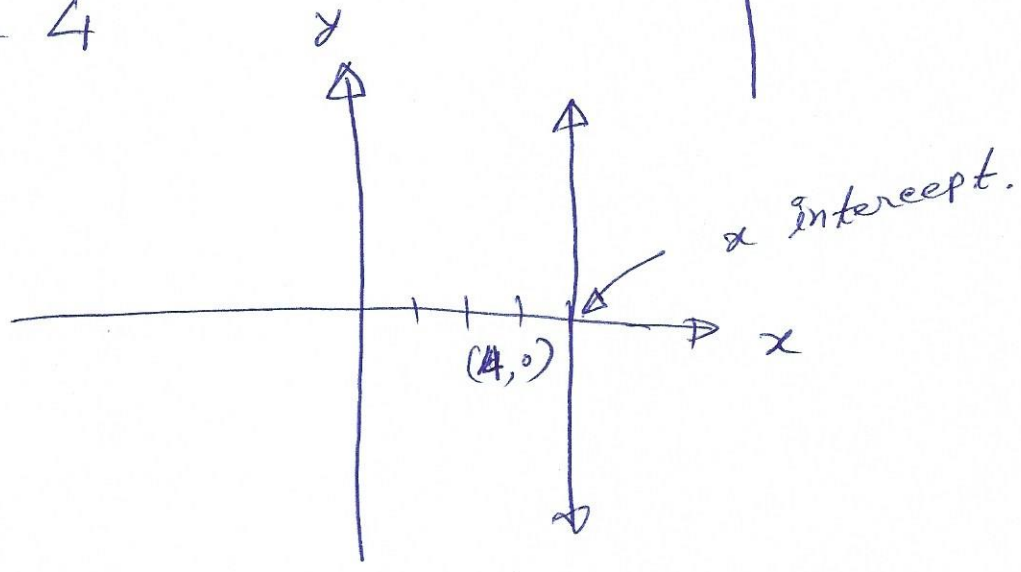


25. $3x - 2 = 10$
 + 2 + 2

$\Rightarrow \frac{3x}{3} = \frac{12}{3}$

$\therefore x = 4$

x	y
4	0
0	X

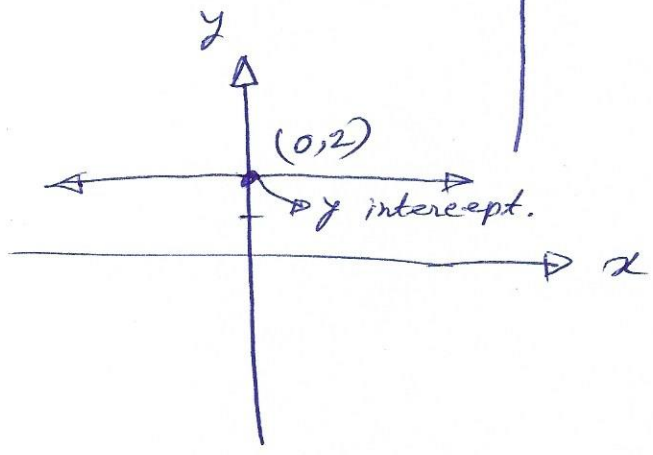


27. $6y + 1 = 13$
 -1 -1

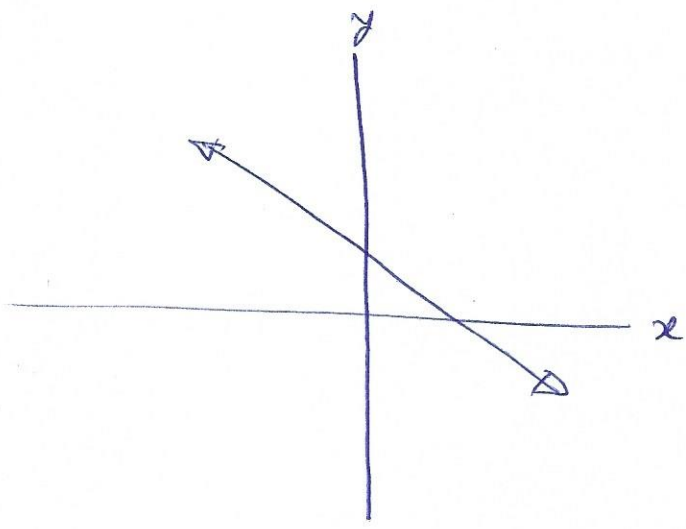
$\Rightarrow \frac{6y}{6} = \frac{12}{6}$

$\therefore y = 2$

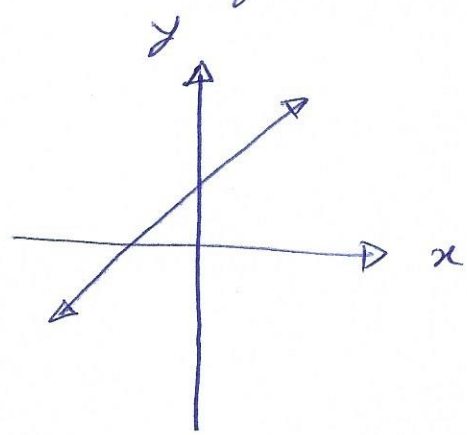
x	y
0	2



Slope:



negative



positive.