



## Mathematics-9 Unit 8 – Exercise 8.3

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$x + y = 0$  — (I) and

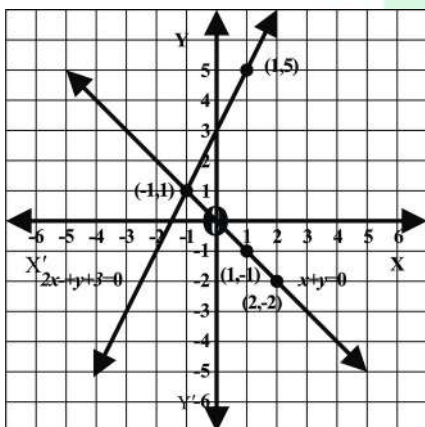
**Q.1**  $2x - y + 3 = 0$  — (II)

From equation I  
from equation II

$$\begin{aligned} \text{II} \\ y &= -x \\ 2x - y + 3 &= 0 \\ 2x + 3 &= y \\ y &= 2x + 3 \end{aligned}$$

x	y = -x	(x,y)
1	-1(1) = -1	(1,-1)
2	-(2) = -2	(2,-2)

x	y = 2x+3	(x,y)
1	2(1)+3 = 5	(1,5)
-1	2(-1)+3 = 1	(-1,1)



The point of intersection is a solution set

**Solution Set** =  $\{(-1, 1)\}$

**Q.2**  $x - y + 1 = 0$

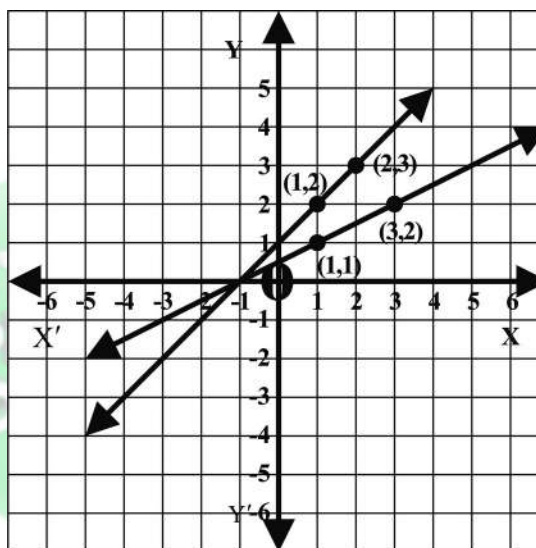
$$\begin{aligned} x - 2y &= -1 \\ x + 1 &= y \\ x + 1 &= 2y \\ y &= x + 1 \\ \frac{x+1}{2} &= y \end{aligned}$$

Or

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

x	y = x+1	(x,y)
1	1+1 = 2	(1,2)
2	2+1 = 3	(2,3)

x	y = $\frac{x+1}{2}$	(x,y)
1	$\frac{1+1}{2} = \frac{2}{2} = 1$	(1,1)
3	$\frac{3+1}{2} = \frac{4}{2} = 2$	(3,2)



Point of intersection is a solution set

**Solution Set** =  $\{(-1, 0)\}$

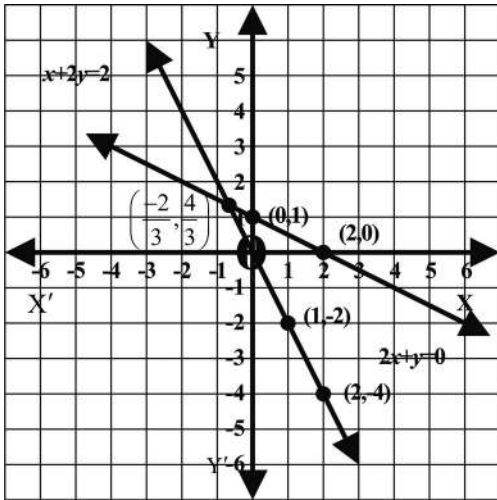
**Q.3**  $2x + y = 0$

$$\begin{aligned} x + 2y &= 2 \\ y &= -2x \\ 2y &= 2 - x \\ y &= \frac{2-x}{2} \end{aligned}$$

x	y = -2x	(x,y)
1	-2(1) = -2	(1,-2)

x	y = $\frac{2-x}{2}$	(x,y)
0	$\frac{2-0}{2} = \frac{2}{2} = 1$	(0,1)

2	$-2(2) = -4$	(2,-4)
2	$\frac{2-2}{2} = \frac{0}{2} = 0$	(2,0)



Point of intersection is a solution

**Solution Set** =  $\left\{ \left( -\frac{2}{3}, \frac{4}{3} \right) \right\}$

**Q.4**  $x + y - 1 = 0$

$x - y + 1 = 0$

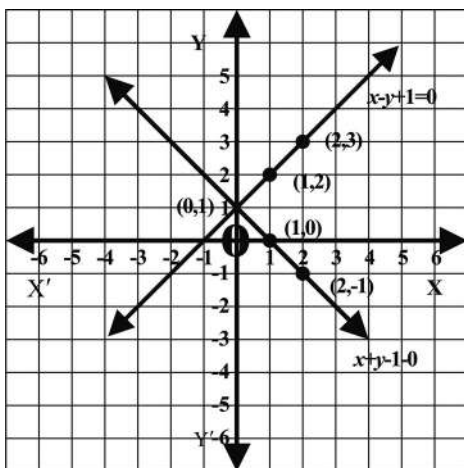
$y = 1 - x$

$x + 1 = y$

Or  $y = x + 1$

x	y = 1 - x	x, y
1	1 - 1 = 0	(1, 0)
2	1 - 2 = -1	(2, -1)

x	y = x + 1	x, y
1	1 + 1 = 2	(1, 2)
2	2 + 1 = 3	(2, 3)



Point of intersection is a solution set

**Solution Set** =  $\{(0,1)\}$

**Q.5**  $2x + y - 1 = 0$

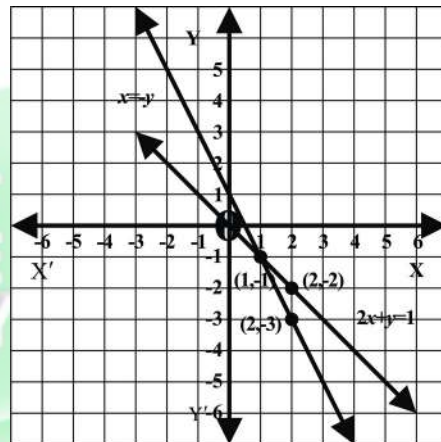
$x = -y$

$y = 1 - 2x$

$y = -x$

x	y = 1 - 2x	(x, y)
1	1 - 2(1) = -1	(1, -1)
2	1 - 2(2) = -3	(2, -3)

x	y = -x	(x, y)
1	-(1) = -1	(1, -1)
2	-(2) = -2	(2, -2)



Point of intersection is a solution set

**Solution Set** =  $\{(1, -1)\}$