Review Exercise 8

Q.1 **Choose the correct answer**

(i) If $(x-1, y+1) = (0,0)$, Then (x,y) is
   (a) $(1,-1)$ **(b)** $(-1,1)$
   (c) $(1,1)$ **(d)** $(-1,-1)$

(ii) If $(x,0) = (0,y)$ Then (x,y) is
   (a) $(0,1)$ **(b)** $(1,0)$
   (c) $(0,0)$ **(d)** $(1,1)$

(iii) Point $(2,-3)$ lies in quadrant
   (a) I **(b)** II
   (c) III **(d)** IV

(iv) Point $(-3,-3)$ lies in quadrant
   (a) I **(b)** II
   (c) III **(d)** IV

(v) If $y = 2x+1, x = 2$ Then y is
   (a) 2 **(b)** 3
   (c) 4 **(d)** 5

(vi) Which order pair satisfy the equation $y = 2x$
   (a) $(1,2)$ **(b)** $(2,1)$
   (c) $(2,2)$ **(d)** $(0,1)$

ANSWER KEYS

1	2	3	4	5	6
a	c	d	c	d	a

Q.2 **Identify the following statement as true or false**

1. The point O(0,0) is in quadrant II   False

2. The point p (2,0) lies on x-axis   True

3. The graph of x=-2 is a vertical line   True

4. 3-y =0 is a horizontal line   True

5. The point Q (-1,2) is in quadrant II   True

6. The point R (-1,-2) is in quadrant IV   False

7. $y = x$ is a line on which origin lies   True

8. The point p (1,1) lies on the line $x + y = 0$ False

9. The point S (1,-3) lies in quadrant III   False

10. The point R (0,1) lien on the x-axis   False
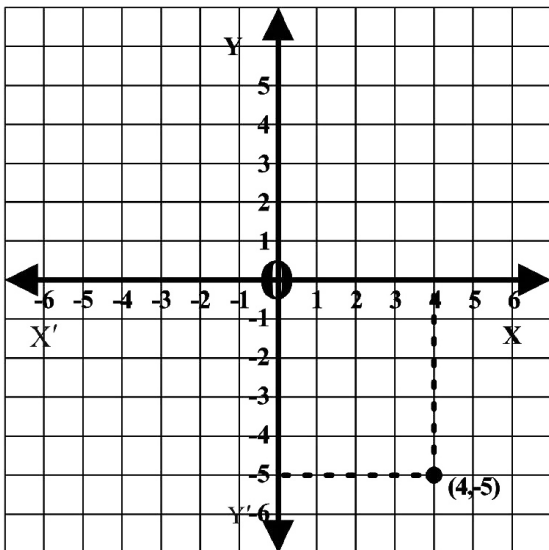
Q.3 Draw the following points on the graph paper
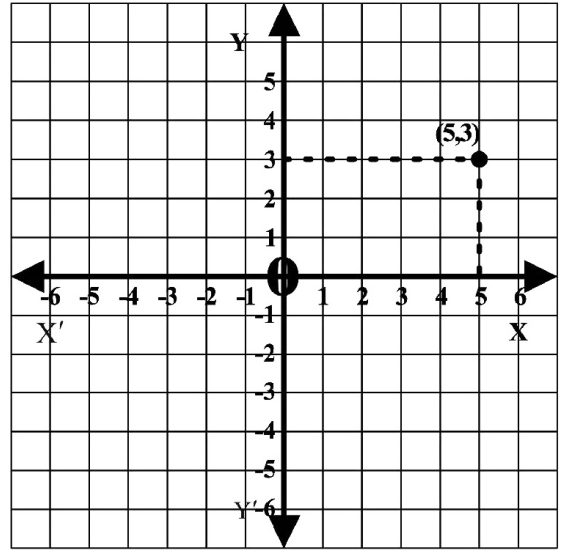
(i) $(-3, -3) \Rightarrow$
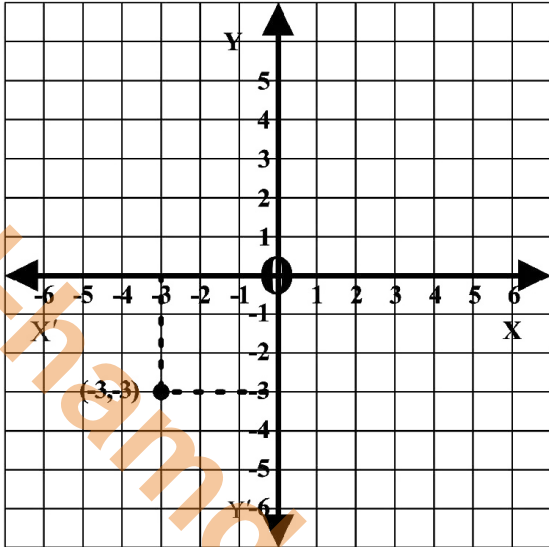
(ii) $(-6, 4) \Rightarrow$
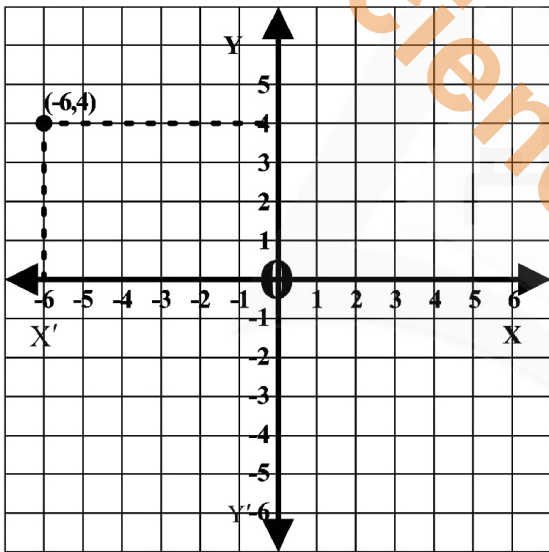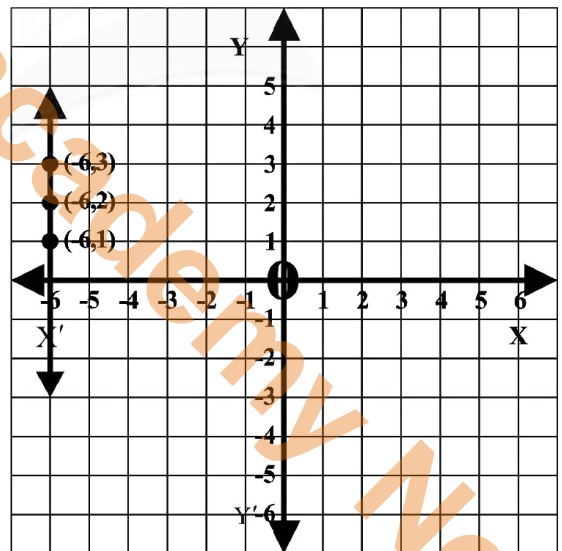

(iii) $(4, -5) \Rightarrow$

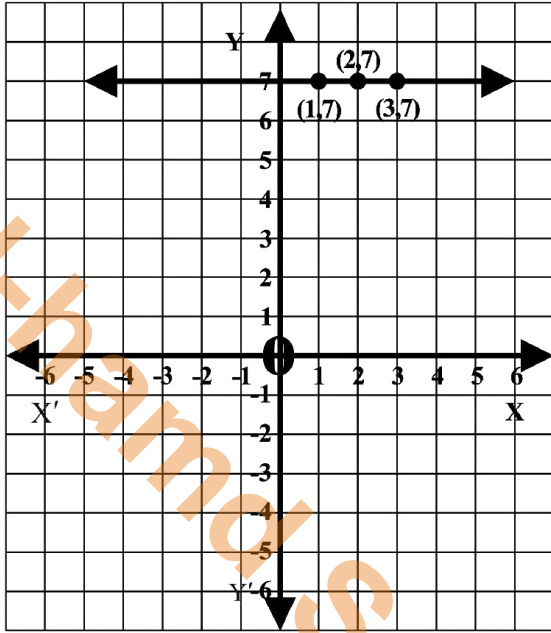**(iv)** $(5, 3)$

Q.4 Draw the graph of the following

(i) $x = -6$

x	-6	-6	-6
y	1	2	3

(ii) $y = 7$

x	1	2	3
y	7	7	7

(iii) $x = \dfrac{5}{2}$

$x = 2.5$

x	2.5	2.5	2.5
y	1	2	3
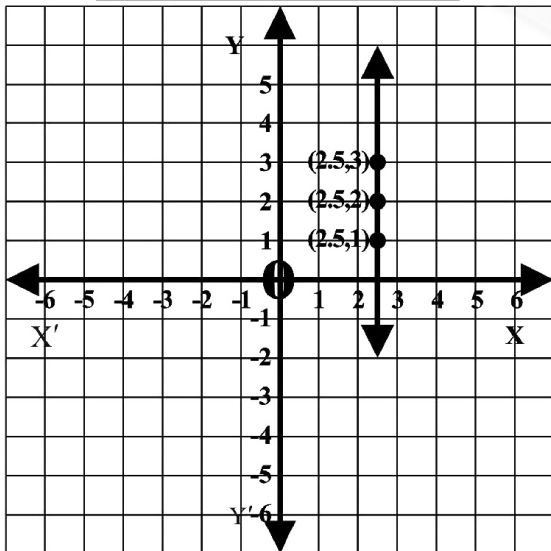
(iv) $y = -\dfrac{9}{2}$

$y = -4.5$

x	-1	0	1
y	-4.5	-4.5	-4.5
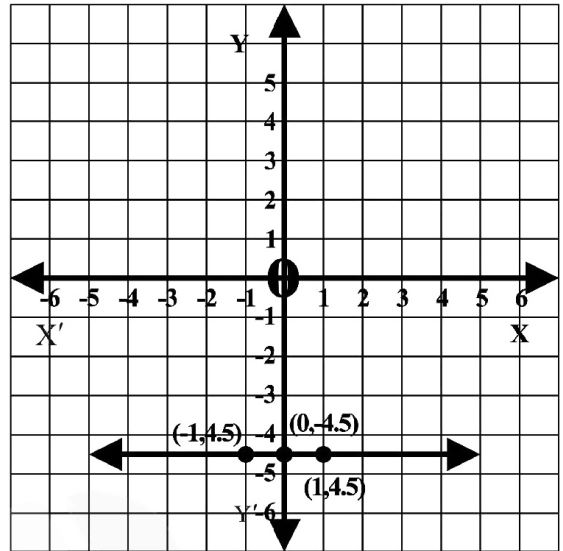
(v) $y = 4x$

x	0	1	2
$y = 4x$	$4 \times 0 = 0$	$4 \times 1 = 4$	$4 \times 2 = 8$

(vi) $y = -2x + 1$

x	0	1	2
y	1	-1	-3

Q.5 **Draw the following graph**

(i) $y = 0.62x$

x	$y = 0.62x$
1	$0.62 \times 1 = 0.62$
2	$0.62 \times 2 = 1.24$
3	$0.62 \times 3 = 1.86$

Scale
Along *x-axis*
1 Big Square = 1 Unit
Along *y-axis*
1 Big Square = 0.62 Units
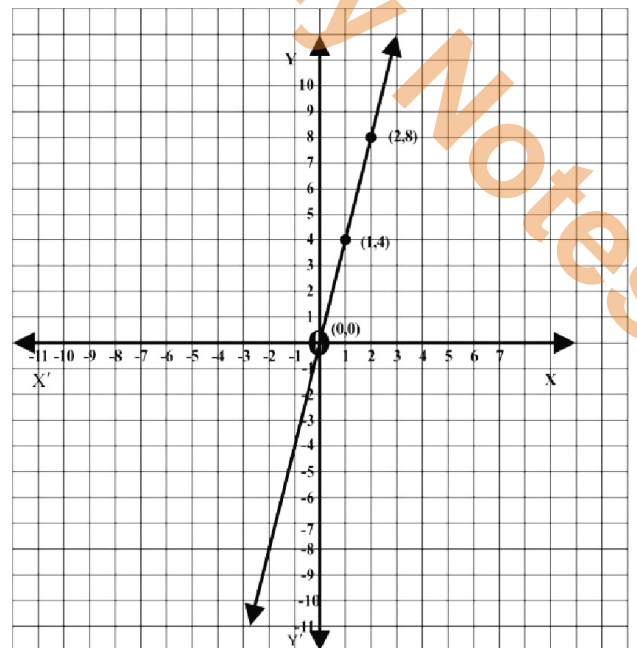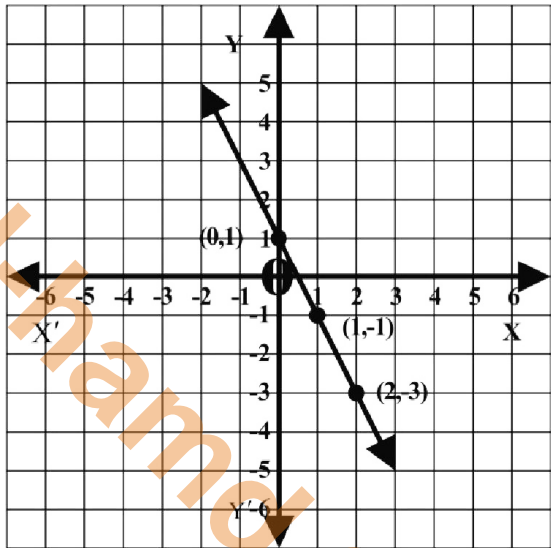
(ii) $y = 2.5x$

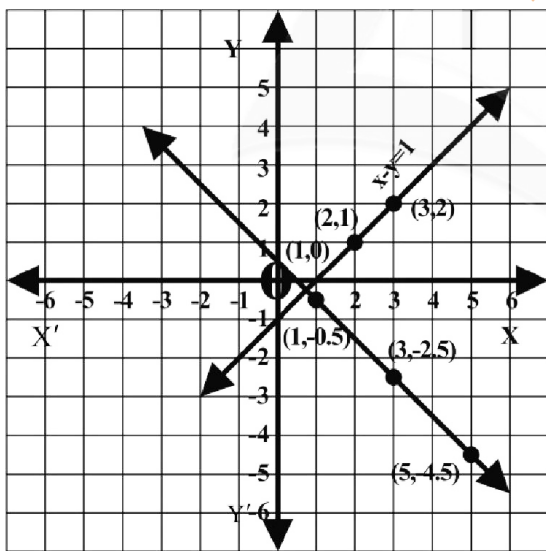| x	$y = 2.5x$
1	$2.5(1) = 2.5$
2	$2.5(2) = 5.0$
3	$2.5(3) = 7.5$

Scale

Along *x-axis*

1 Big Square = 1 Unit

Along *y-axis*

1 Big Square = 2.5 Units
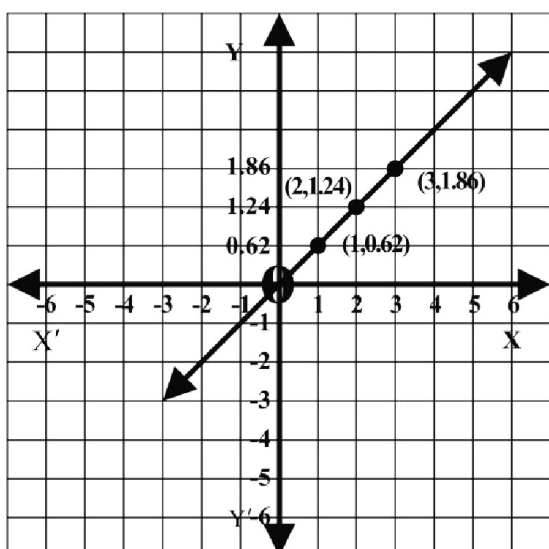
Q.6

(i) $x - y = 1$ $\qquad$ $x + y = \dfrac{1}{2}$

$\qquad\qquad x - 1 = y$ $\qquad$ $y = \dfrac{1}{2} - x$

$\qquad\quad$ or $y = x - 1$ $\qquad$ $y = \dfrac{1 - 2x}{2}$

x	$y = x - 1$
1	$1 - 1 = 0$
2	$2 - 1 = 1$
3	$3 - 1 = 2$

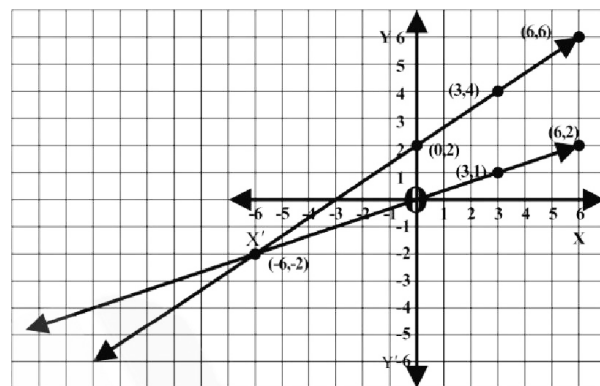| x	$y = \dfrac{1 - x}{2}$
1	$\dfrac{1 - 2}{2} = -\dfrac{1}{2}$
3	$\dfrac{1 - 6}{2} = \dfrac{-5}{2}$
5	$\dfrac{1 - 10}{2} = \dfrac{-9}{2}$

Point of intersection is a solution set

$$\textbf{Solution Set} = \left\{ \left(\dfrac{3}{4}, -\dfrac{1}{4} \right) \right\}$$

(ii) $x = 3y$

$\qquad y = \dfrac{1}{3}x$

x	$y = \dfrac{1}{3}x$
3	$\dfrac{1}{\cancel{3}} \times \cancel{3} = 1$
6	$\dfrac{1}{\cancel{3}} \times \cancel{6}^{2} = 2$

$2x - 3y = -6$

$2x + 6 = 3y$

$\dfrac{2x + 6}{3} = y$

$y = \dfrac{2x + 6}{3}$

Point of intersection is a solution set

$$\textbf{Solution Set} = \left\{ (-6, -2) \right\}$$

x	$y = \dfrac{2x + 6}{3}$
0	$\dfrac{2(0) + 6}{3} = \dfrac{\cancel{6}^{2}}{\cancel{3}} = 2$
3	$\dfrac{2(3) + 6}{3} = \dfrac{\cancel{12}^{4}}{\cancel{3}} = 4$
6	$\dfrac{2(6) + 6}{3} = \dfrac{\cancel{18}^{6}}{\cancel{3}} = 6$

(iii) $\dfrac{1}{3}(x+y)=2$ $\dfrac{1}{2}(x-y)=-1$

$x+y=6$ $x-y=-2$

$y=6-x$ $x+2=y$

x	y=6-x
1	6–1 = 5
2	6–2=4
3	6–3=3

x	y= x+2
1	1+2 = 3
2	2+2 = 4
3	3+2 = 5

Point of intersection is a solution set

Solution Set $=\{(2,4)\}$