Exercise 8.2

Q.1 Draw the conversion graph between liters and gallons using the relation 9 liters = 2 gallons (approximately) and taking liters along horizontal axis and gallons along vertical axis from the graph read.

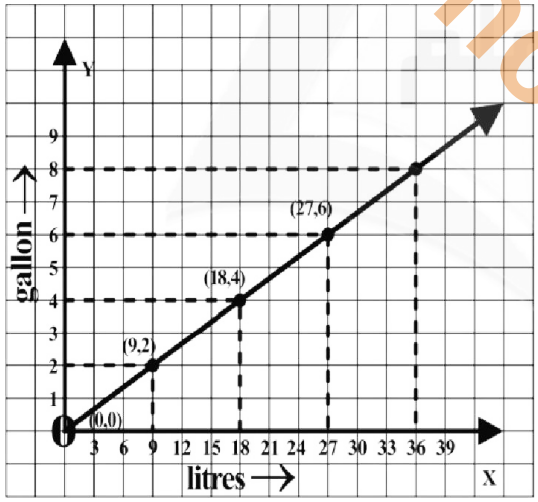
(i) The number of gallons in 18 liters.

(ii) The number of liters in 8 gallons.

We know 9 liters = 2 gallons

$1\text{liters} = \frac{2}{9}$ gallons

Solution:



$y = \frac{2}{9}x$

x	0	9	18	27
y	0	2	4	6

18 litters=4 gallons

Scale

Along *X-axis*

3 litters = 1 box

Along *Y-axis*

1 gallon = 1 box

(i) The number of gallons in 18 liters.

Ans: =4 Gallons

(ii) The number of liters in 8 gallons.

Ans: =36 Liters

Q.2 **On** 15-03-2008 **the exchange rate of Pakistan currency and Saudi Riyal was as under 1SRial = 16.70 rupees**

If Pakistani currency y is an expression of S. Riyal x expressed under. The rule $y = 16.70\,x$ then draw the conversion graph between these two currencies by taking S. riyal along x axis.

1SR = 16.70 Rupees

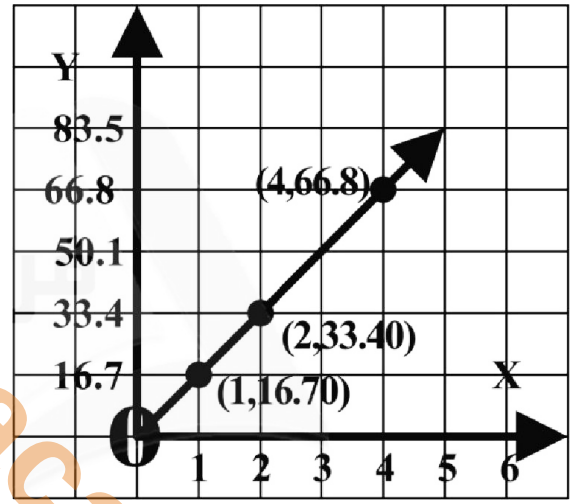
Scale

Along *X-axis*

1 SR =1 box

Along *Y-axis*

Rupees 16.7 = 1 box



x	1	2	3	4
y	16.70	33.4	50.1	66.8

Q.3 **Sketch the graph of each of the following lines.**

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

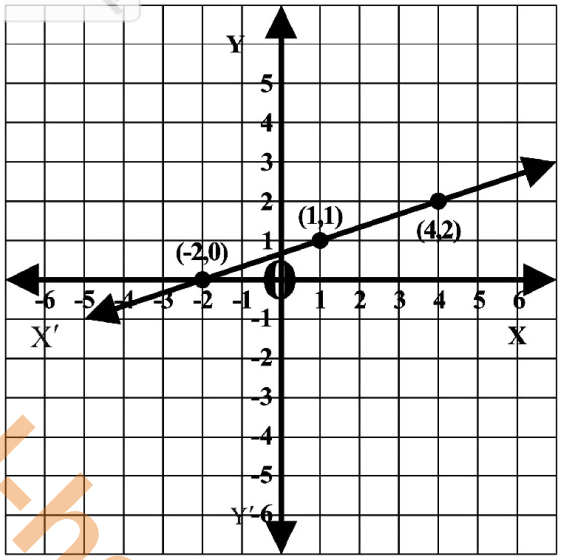
$x+2=3y$

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

Or

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

x	1	4	-2
$y = \frac{x+2}{3}$	1	2	0



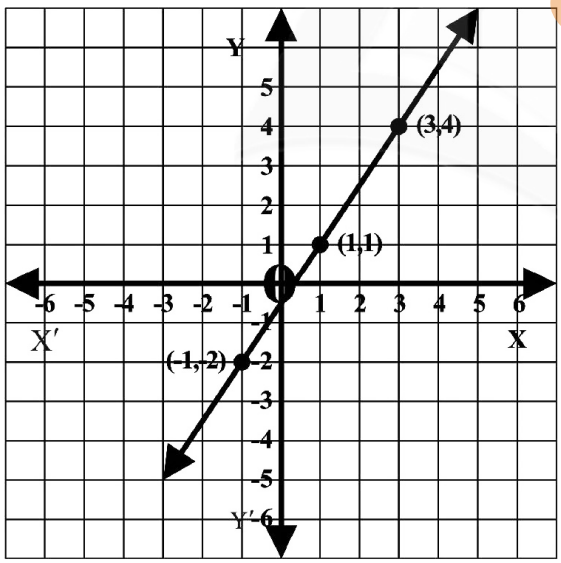
(b) $3x-2y-1=0$

$3x-1=2y$

$\frac{3x-1}{2}=y$

$y=\frac{3x-1}{2}$

x	1	3	−1
y	1	4	−2

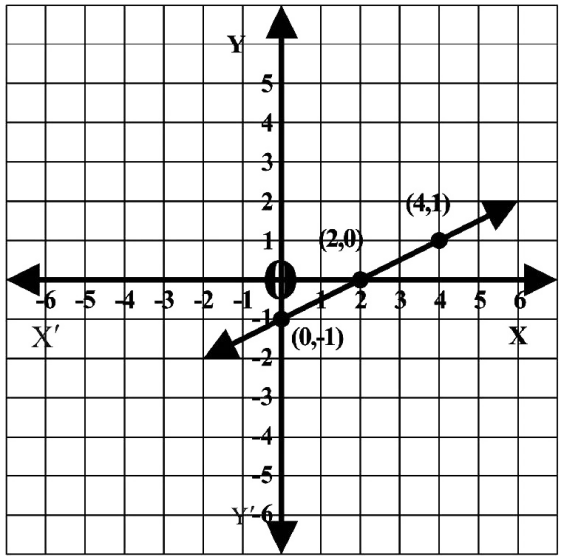


(c) $2y-x+2=0$

$2y=x-2$

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

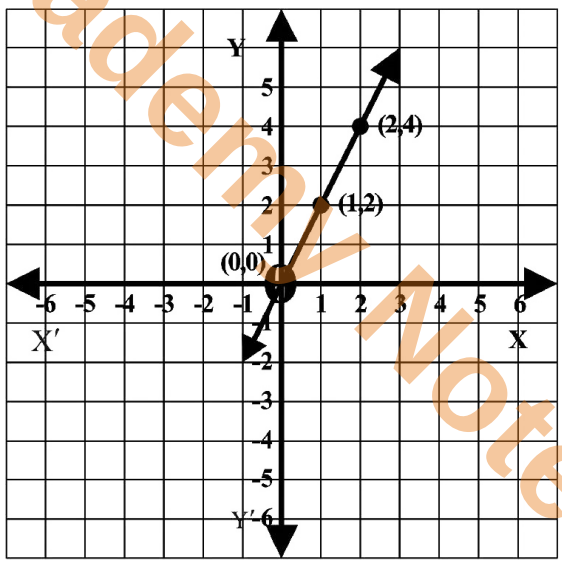
x	0	2	4
y	−1	0	1



(d) $y-2x=0$

$y=2x$

x	0	1	2
y	0	2	4

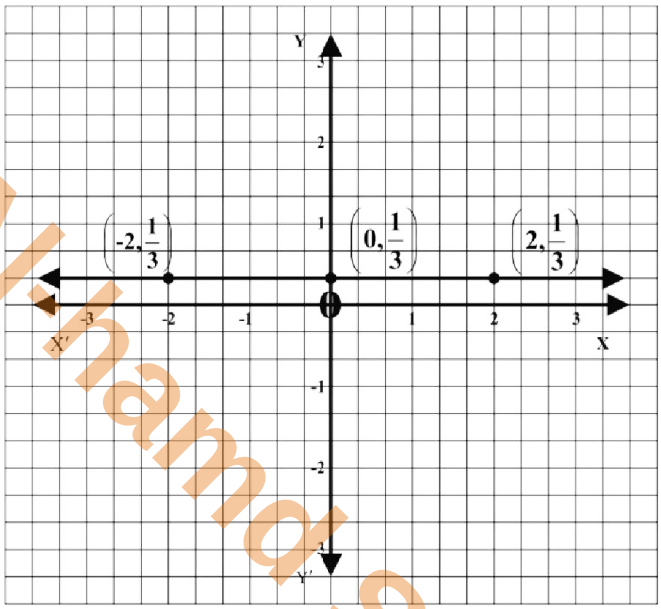


(e) $3y-1=0$

$3y=1$

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

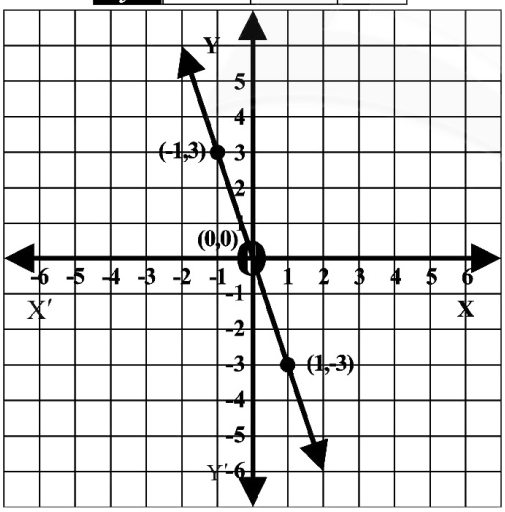
x	-2	0	2
y	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$



(f) $y+3x=0$

$y=-3x$

x	1	−1	0
y	−3	3	0



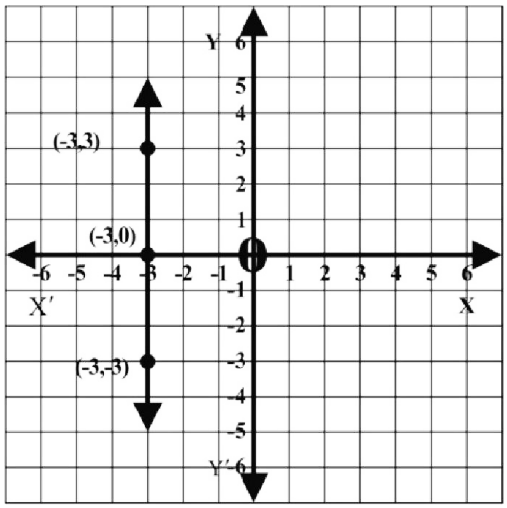
(g) $2x+6=0$

$2x=-6$

$x=\frac{-6}{2}$

$x=-3$

x	-3	-3	-3
y	3	0	-3



Q.4 Draw the graph for following relations

(i) One mile $=1.6km$

$y=1.6x$

Scale

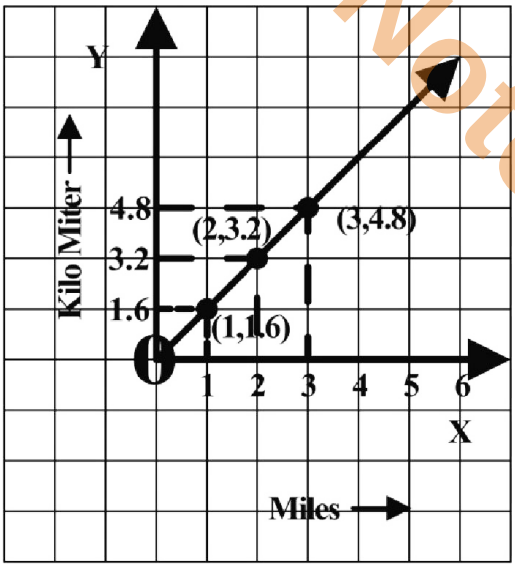
Along *x-axis*

1 Big Square = 1 Unit

Along *y-axis*

1 Big Square = 1.6 Units

x	0	1	2	3
y	0	1.6	3.2	4.8



(ii) One acre $= 0.4$ hectare

$y = 0.4x$

x	2	4
y	0.8	1.6

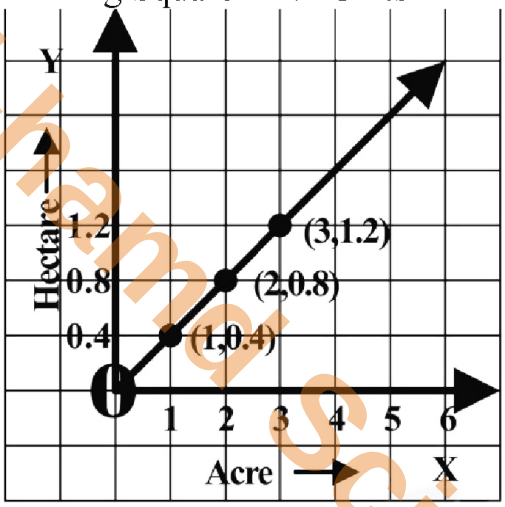
Scale

Along *x-axis*

1 Big Square= 1 Unit

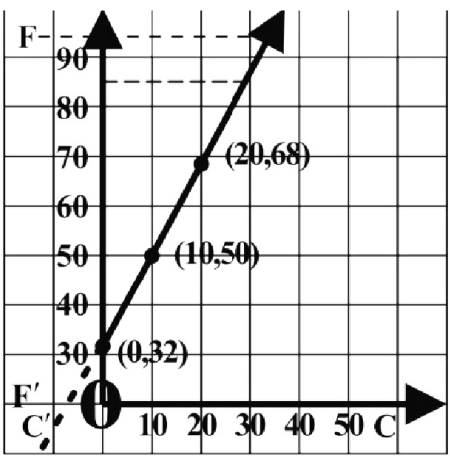
Along *y-axis*

1 Big Square = 0.4 Units



(iii) $F = \frac{9}{5}c + 32$

C	$F = \frac{9}{5}C + 32$
5	$\frac{9}{5} \times 5 + 32 = 41$
10	$\frac{9}{5} \times 10 + 32 = 50$
15	$\frac{9}{5} \times 15 + 32 = 59$
20	$\frac{9}{5} \times 20 + 32 = 68$



$10° =$ Length of square

Where value of c $= x$ and value of $f =$ y

x	5	10	15	20
y	41	50	59	68

(iv) 1Rupee $= \frac{1}{86}$\$

Scale

Along *x-axis*

1 Big Square = 1 Unit

Along *y-axis*

1 Big Square = $\frac{1}{86}$ Units

$y = \frac{1}{86}x$

x	0	1	2	3
y	0	$\frac{1}{86}$	$\frac{2}{86}$	$\frac{3}{86}$