Exercise 8.2

Q.1Draw the conversion graph between 1 litre and gallons using the relation 9 litres = 2 gallons (approximately) and taking litres along horizontal axis and gallons alongs vertical axis. From the graph, read:

(i) The number of gallons in 18 litres

(ii) The number of litres in 8 gallons

Ans.

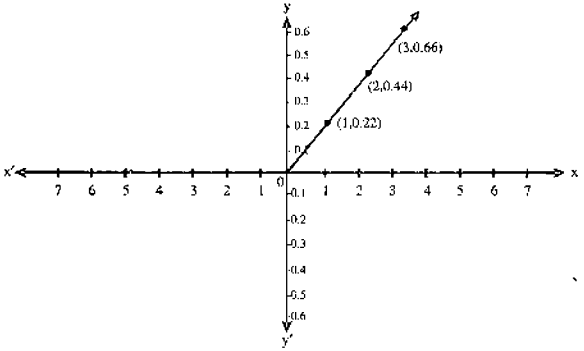
9 litres = 2 gallons	
1 litre = $\frac{2}{9}$ gallons	1 gallon = $\frac{9}{2}$ liter
1 litre= 0.222gallons	1 gallon=4.5 liter

Let gallon be represent by y and litre be x

$y = 0.222x$

Table of values

x	0	1	2	3
y	0	0.222	0.444	0.666



(i) Number of gallons in litre

$y = 0.222(18) =$ = 4 gallons

(ii) Number of litres in 8 gallons

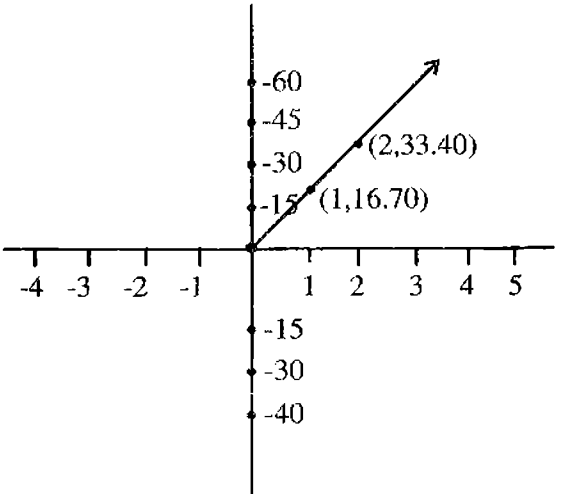
$\frac{9}{2}(8) = 36$ litres

Q.2 On 15.03.2008 the exchange rate of Pakistani currency and Saudi Riyal was as, under 1 S. Riyal = 16.70 rupees. If Pakistani currency y is an expression of S. Riyal x, expressed under the rule y = 16.70x then draw conversion graph between two currencies by taking S. Riyal along x–axis.

Ans. y = 16.70x.

Table of values

x	0	1	2
y	0	16.70	33.40



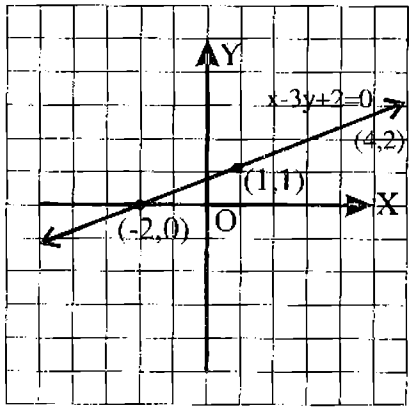
Q.3 Sketch the graph of each of the following lines:

Ans.

(i) $x - 3y + 2 = 0 \Rightarrow -3y = -x - 2$

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

x	–2	1	4
y	0	1	2



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

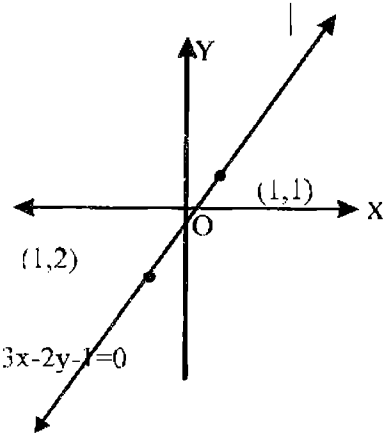
$-2y = 1 - 3x$

$2y = -1 + 3x$

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

Table of values

x	−1	1	3
y	−2	1	4



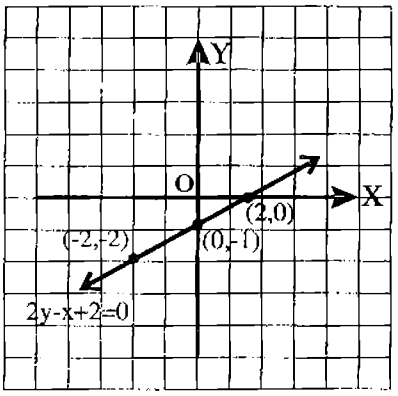
(iii) $2y - x + 2 = 0$

$2y = x - 2$

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

Table of values

x	−2	0	2
y	−2	−1	0

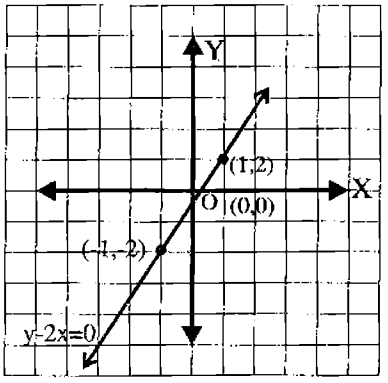


(iv) $y - 2x = 0$

$y = 2x$

Table of values

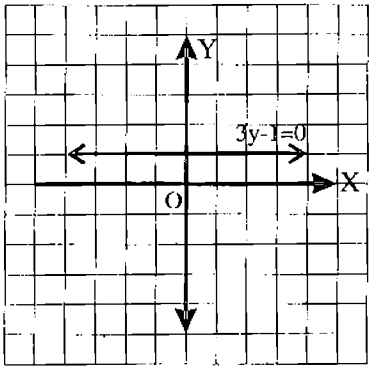
x	−1	0	1
y	−2	0	2



(v) $3y - 1 = 0$

$3y = 1$

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



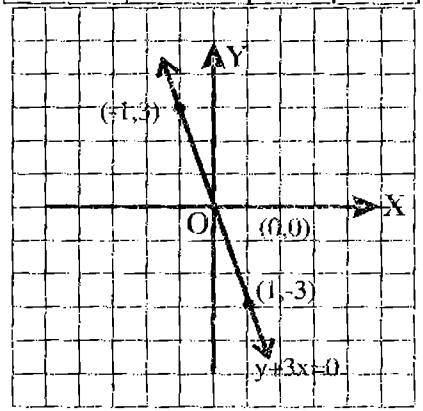
3 (length of square) = 1 unit

(vi) $y + 3x = 0$

$y = -3x$

Table of values

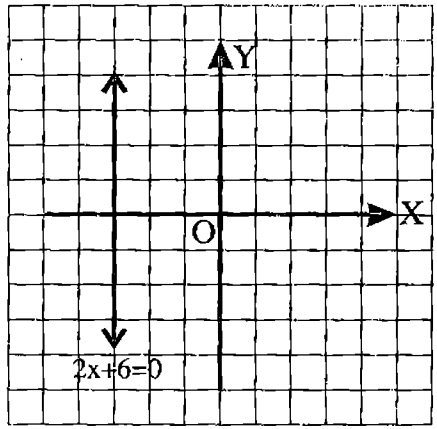
x	−1	0	1
y	3	0	−3



(vii) $2x + 6 = 0$

$2x = -6$

$x = \frac{-6}{2} = -3$



Q.4 Draw the graph for following relations:

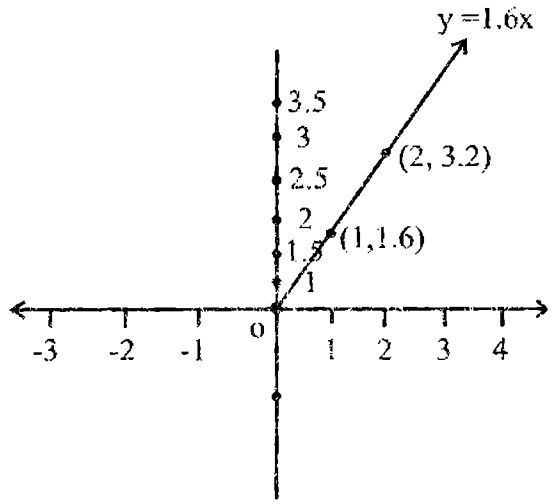
(i) One mile = 1.6 km

Let mile be represented by y and km by x:

y = 1.6 x

Table of values

X	1	2	3
y	1.6	3.2	4.8

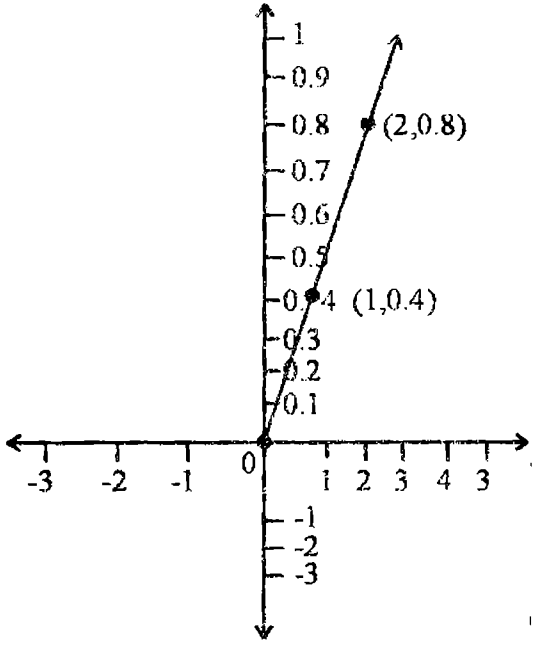


(ii) One acre =0.4 Hectare

y = 0.4x

Table of values

x	0	1	2
y	0	0.4	0.8



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

The value of F at C = 0 is obtained

As $F = \frac{9}{5} \times 0 + 32 = 0 + 32 = 32$

$$F=\frac{9}{5}\times 10+32=36+32=68$$

$$F=\frac{9}{5}\times 100+32=180+32=212$$

We tabulate the values of C and F

C	0^o	10^o	20^o	50^o	100^o
F	32^o	50^o	68^o	122^o	212^o