ex 4.4 exemplar prob ix

(3) $3x+4y=6$

$\Rightarrow 3x = 6-4y$

$\Rightarrow x = \frac{6-4y}{3}$

x	2	-2	6
y	0	3	-3

Its cuts x axis at (2,0)

Its cuts y axis at $(0, \frac{3}{2})$

(4)(i) $C = \frac{5F-160}{9}$

Put $F = 86$

$C = \frac{5\times 86 - 160}{9}$

$= \frac{430-160}{9}$

$= \frac{270}{9}$

$= 30$

temp 30°C

(ii) Put $C = 35$

$35 = \frac{5F-160}{9}$

$315 = 5F - 160$

$\Rightarrow 5F = 315+160$

$= 475$

$\Rightarrow F = \frac{475}{5}$

$= 95$

temp 95°F

(iii) Put $C = 0$

$0 = \frac{5F-160}{9}$

$\Rightarrow 5F - 160 = 0$

$\Rightarrow 5F = 160$

$\Rightarrow F = \frac{160}{5}$

$= 32$

temp 32°F

(iv) Put $F = C$

$C = \frac{5C-160}{9}$

$\Rightarrow 9C = 5C - 160$

$\Rightarrow 9C - 5C = -160$

$\Rightarrow 4C = -160$

$\Rightarrow C = -40$

$\therefore$ reqd value $= -40$

5 $y = \frac{9}{5}(x-273)+32$

Put $x = 313$

$y = \frac{9}{5}(313-273)+32$

$= \frac{9}{5}\times 40 + 32$

$= 72+32$

$= 104$

Temp 104°F

Put $y = 158$

$158 = \frac{9}{5}(x-273)+32$

$(158-32)\frac{5}{9} = x-273$

$\Rightarrow x = \frac{14}{126}\times\frac{5}{9} + 273$

$= 343$

Temp 343°F

NCERT Exemplar solutions by Dev Anoop (Bathinda)