Class VIII HOME ASSIGNMENT - 16 TERM 2

Ch-15 Introduction to Graphs

1. Which mathematician came up with the co-ordinate system to show the location of a point in a plane?
2. Fill in the blanks:
   (a) The Cartesian plane consists of two mutually perpendicular lines known as _____.
   (b) The co-ordinate axes intersect each other at a point called _____.
   (c) The co-ordinate axes divide the plane into four parts, each of which is known as a _____.
   (d) The distance of a point from the Y-axis is the x-co-ordinate of the point, also called _____ of the point.
   (e) The distance of a point from the X-axis is the y-coordinate of the point and is also known as _____ of the point.
   (f) If x is the abscissa of a point and y is the Ordinate, then the ordered pair (x, y) are the _____ of the point.
   (g) The abscissa or x-coordinate of a point gives the perpendicular distance of the point from _____ axis.
   (h) The ordinate or y-coordinate of a point gives the perpendicular distance of the point from _____ axis.
3. (i) Plot the following points on a Cartesian plane
   (a) P(3,4) (b) Q(-3,7) (c) (-5,0) (d) (0,3)

3(ii) Without actually plotting the points, identify and name the quadrant in which the following points lie in the Cartesian plane:

(a) $(-3,2)$ (b) $(2,1)$ (c) $(3,-4)$ (d) $(-2,-3)$

4. Plot the following points in a co-ordinate plane and join them in order. Identify the figure obtained.

(a) $A(4,0)$, $B(2,1)$, $C(5,6)$

(b) $K(2,3)$, $L(5,3)$, $M(5,5)$, $N(2,5)$

5. Plot the following points in the Cartesian plane.

$P(5,3)$, $Q(3,5)$, $A(2,0)$, $B(4,3)$

Do the lines $\overleftrightarrow{PQ}$ and $\overleftrightarrow{AB}$ intersect? If so, give the co-ordinates of their point of intersection.

6. Draw graphs for the following sets of data. Identify, in each case, if the graph is a linear graph. [Choose suitable scales for co-ordinate axes]

(a)

Time	5 am	8 am	11 am	2 pm	5 pm	8 pm
Temperature (in °F)	100	102	101	99	103	98

(b)

Quantity of petrol (in litres)	10	15	20	25
Cost (in ₹)	500	750	1000	1250

(c)

No. of hours of work	3	6	9	12	15
Wages (in ₹)	600	1200	1800	2400	3000

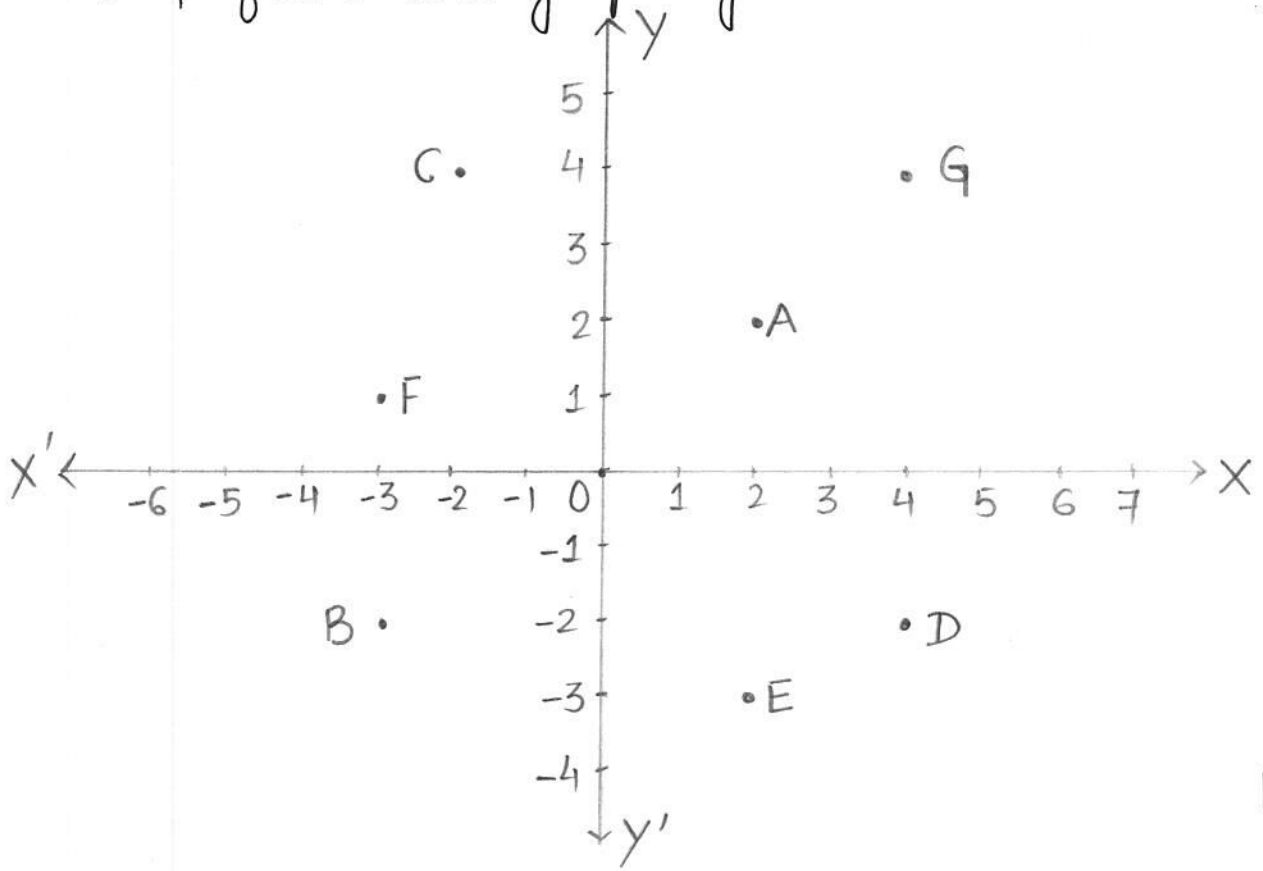
7. The runs scored by two teams A and B in the first 10 overs are given below:

Overs	1	2	3	4	5	6	7	8	9	10
Team A	3	1	6	5	4	8	7	10	8	4
Team B	2	4	3	8	5	7	6	5	6	10

Draw the graphs on same sheet.

8. A bank gives 10% Simple Interest on deposits by senior citizens. Draw a graph to illustrate the relation between the sum deposited and simple interest earned. Find from the graph
   (a) the annual interest obtained for an investment of ₹ 250
   (b) the investment one has to make to get an annual simple interest of ₹ 70.

9. Write the co-ordinates of the points A, B, C, D, E, F and G from the graph given below:

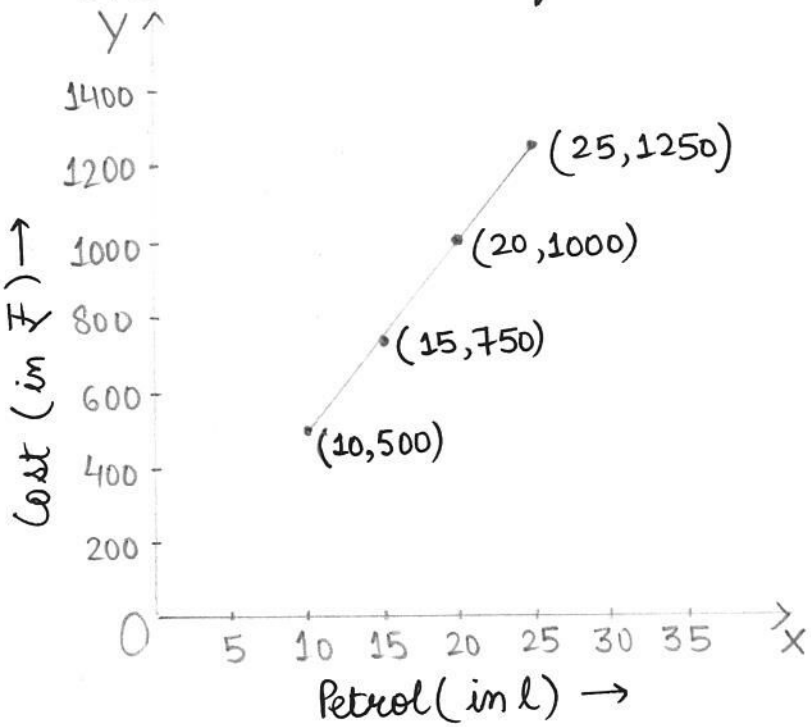


10. Observe the given graphs and answer the questions:

i) (a) What are the scales taken on the co-ordinate axes?

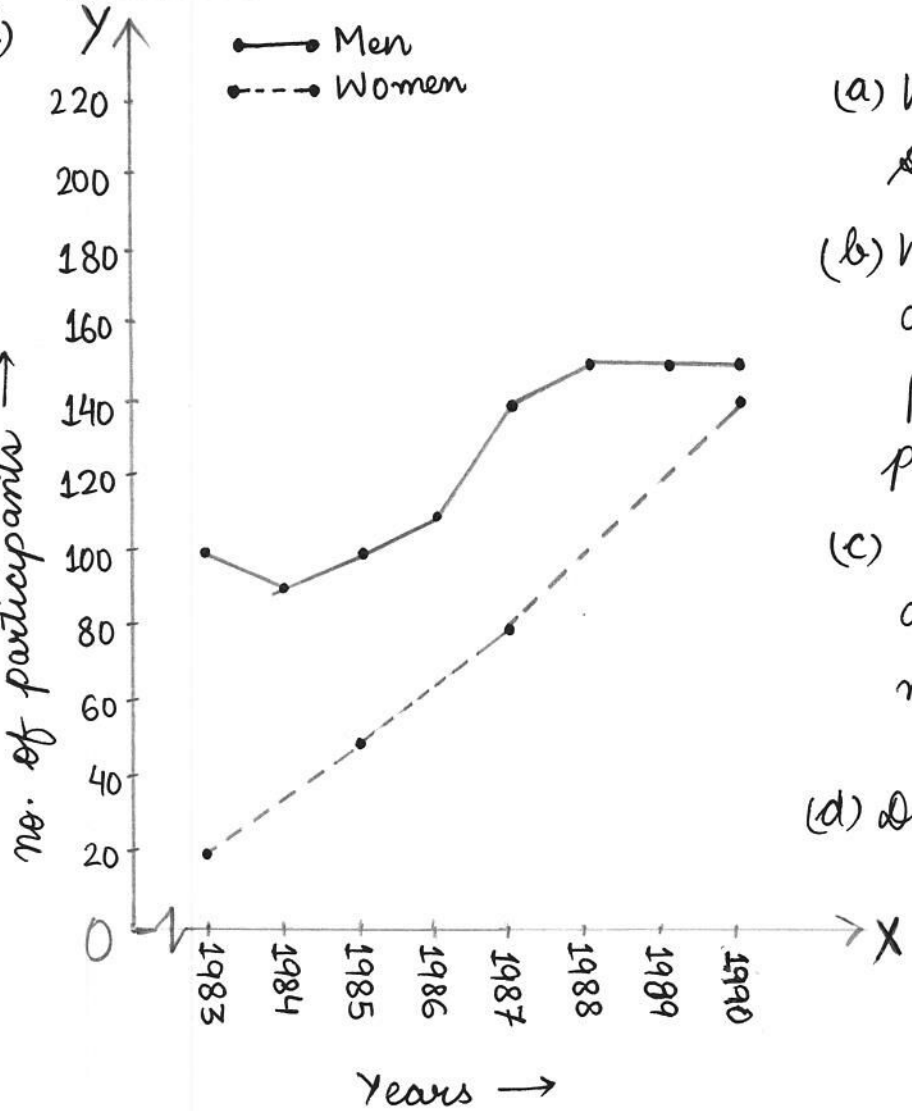
(b) How much petrol can be bought for ₹ 600?

(c) Find the cost of 22.5 litres of petrol from the graph.



MEN AND WOMEN SPORTS PARTICIPATION

(ii)



(a) What does the graph show?

(b) What can you say about the no. of men participants and women participants?

(c) In which year was the difference in the no. of men & women participants the least?

(d) During which year, did the no. of women participants increase the most?

ANSWERS

1. Rene Des Cartes

2. (a) co-ordinate axes
   (b) Origin
   (c) quadrant
   (d) abscissa
   (e) Ordinate
   (f) co-ordinates
   (g) Y-axis
   (h) X-axis

3. (ii) (a) Quadrant II
   (b) Quadrant I
   (c) Quadrant IV
   (d) Quadrant III

4. (a) A triangle (b) A rectangle

5. Yes, $\overleftrightarrow{PQ}$ and $\overleftrightarrow{AB}$ intersect at (4.5, 3.5)

6. (a) No
   (b) Yes
   (c) Yes

8. (a) ₹ 25
   (b) ₹ 700

9. A(2,2) D(4,-2) G(4,4)
   B(-3,-2) E(2,-3)
   C(-2,4) F(-3, 1)

10. (i) (a) On X-axis, 1 unit length = 5 litres
    On Y-axis, 1 unit length = ₹ 200
    (b) 12 litres
    (c) ₹ 1125

    (ii) (a) Number of men and women participants in sports during years 1983 to 1990
    (b) No. of men participants is more than no. of women participants.
    (c) 1990
    (d) 1987 to 1990