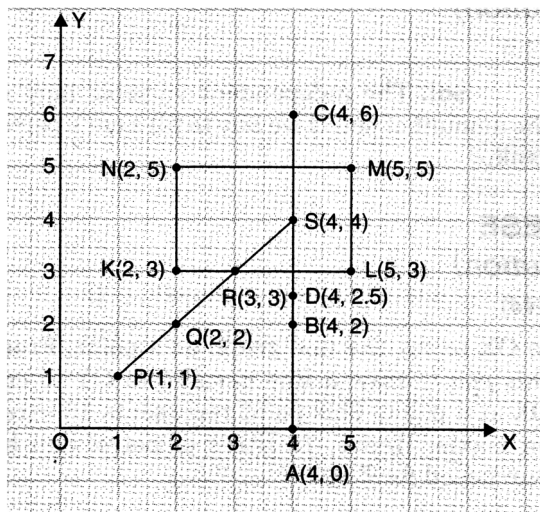# EXERCISE -II

Q.1 **Plot the following points on a graph sheet. Verify if they lie on a line**

    (a)   **A (4, 0), B (4, 2), C (4, 6), D (4, 2.5)**

    (b)   **P (1, 1), Q (2, 2), R (3, 3), S(4, 4)**

    (c)   **K (2, 3) L (5, 3), M (5, 5), N (2, 5)**

Sol.   (a)   The points lie on a line

        (b)   The points lie on a line

        (c)   The points do not lie on a line


Q.2 **Draw the line passing through (2, 3) and (3, 2). Find the coordinates of the points at which this line meets the x-axis and y-axis.**

Sol.   The coordinates of the point at which this line meets the x-axis and y-axis are (5, 0) and (0, 5) respectively. See the graph given below.
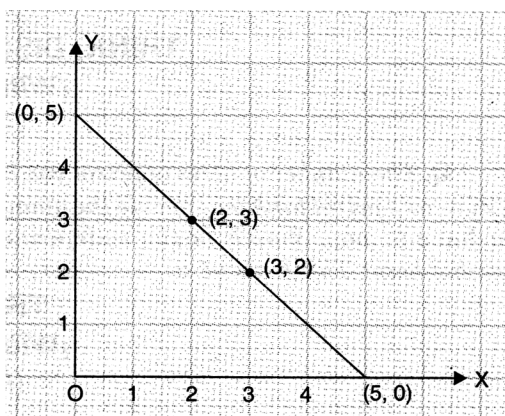
Q.3 **Write the coordinates of the vertices of each of these adjoining figures.**

Sol. O → (0, 0)   A → (2, 0)
B → (2, 3)   C → (0, 3)
P → (4, 3)   Q → (6, 1)
R → (6, 5)   S → (4, 7)
K → (10, 5)   L → (7, 7)
M → (10, 8)
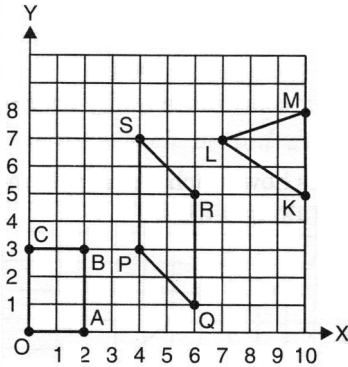
Q.4 **State whether True or False. correct that are false**

(i)   **A point whose x-coordinate is zero and y-coordinate is non - zero will lie on the y-axis.**

(ii)   **A point whose y-coordinate is zero and x-coordinate is 5 will lie on y-axis.**

(iii) **the coordinate of the origin are (0, 0).**

Sol. (i)   True

(ii)   False : A point whose y-coordinate is zero and x-coordinate is 5 will lie on x-axis.

(iii) True

EXERCISE - III

Q.1 **Draw the graphs for the following tables of values, with suitable scales on the axes.**

(a) **Cost of apples**

Number of apples	1	2	3	4	5
Cost (in Rs.)	5	10	15	20	25

(b) **Distance travelled by a car**

| Time (in hours)	6 a.m.	7 a.m.	8 a.m.	9 a.m.
Distance (in km)	40	80	120	160

(i)   **How much distance did the cover during the period 7.30 a.m. to 8 a.m. ?**

(ii)   **What was the time when the car had covered a distance of 100 km since it's start ?**

(c) Interest on deposits for a year.

Deposit (in Rs.)	1000	2000	3000	4000	5000
Simple Interest (in Rs.)	80	160	240	320	400

(i)   **Does the graph pass thought the origin ?**

(ii)   **Use the graph to find the interest on ₹ 280 per year, how much money should be deposited?**
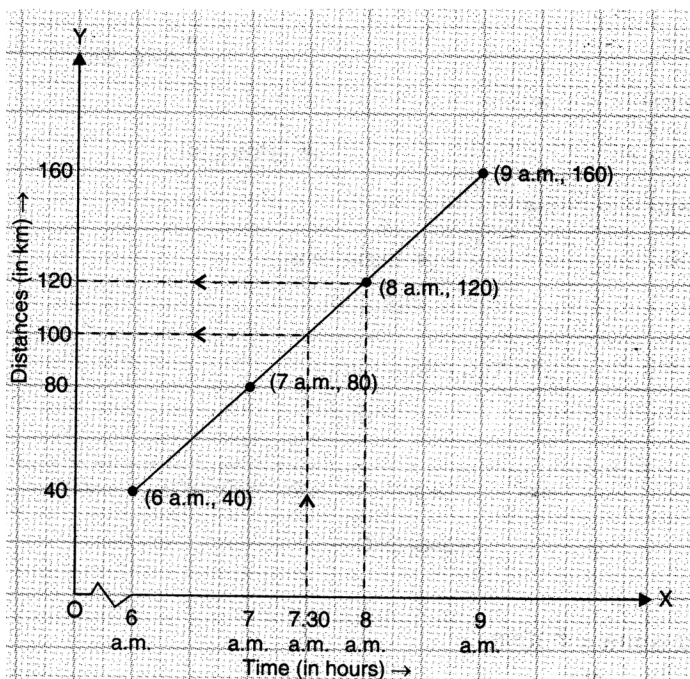
Sol.   (a)
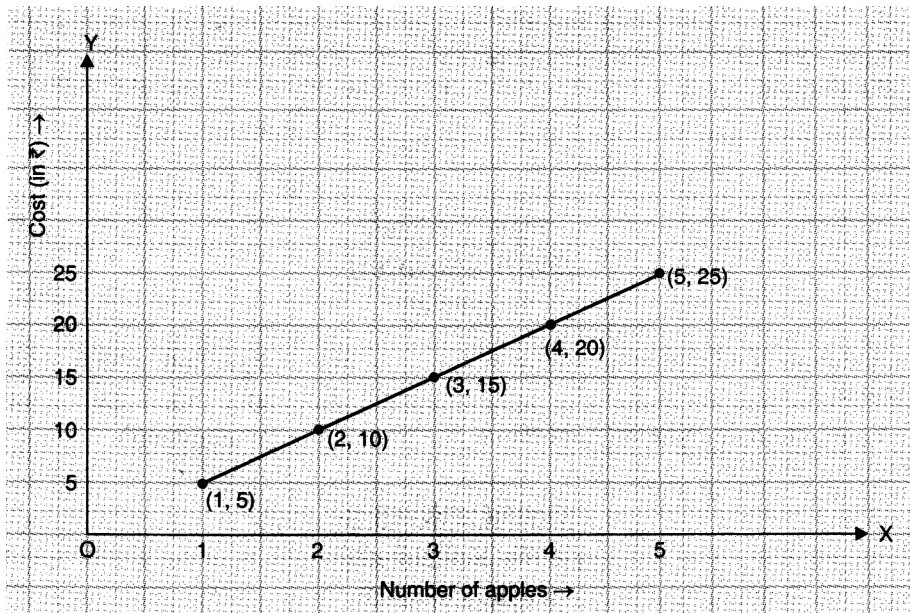
Scale :

Horizontal : 2 units = 1 apple

Vertical : 1 unit = ₹ 5

- Mark number of apples on horizontal axis.
- Mark cost (in ₹) on vertical axis.
- Plat the points (1, 5),   (2, 10), (3, 15), (4, 20) and (5, 25)
- Join the points

We get a linear graph
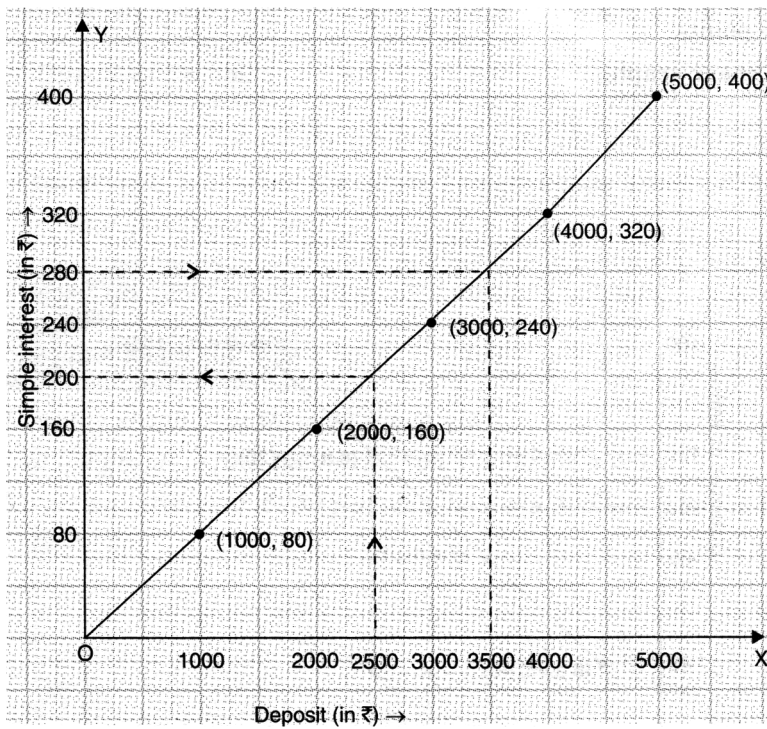
(b)

Scale :

Horizontal : 2 unit = 1 hour

Vertical : 2 units = 40 km

● Mark time (in hours) on horizontal axis.

● Mark distances (in km) on vertical axis.

● Plot the points (6 a.m., 40), (7 a.m., 80), (8 a.m., 120) and (9 a.m., 160).

● Join the points.

We get a linear graph.

(i) Distance covered during 7.30 a.m. to 8 a.m.

= 120 km – 100 km = 20 km

(ii) The time when the car had covered a distance of 100 km since its start was 7.30 a.m.

(c)

Scale :

Horizontal : 2 units = ₹ 1000

Vertical : 2 units = ₹ 80

● Mark deposit (in ₹) on horizontal axis

● Mark simple interest (in ₹) on vertical axis.

● Plot the point (1000, 80), (2000, 160), (3000, 240) (4000, 320) and (5000, 400).
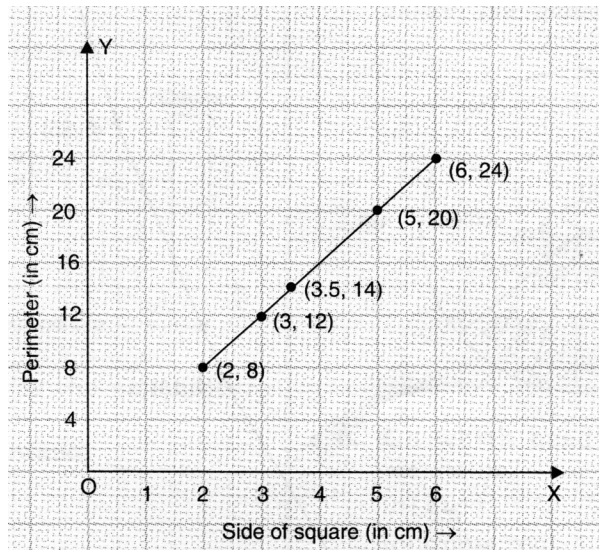
● Join the points.

We get a linear graph.

(i) Yes ! The graph passes through the origin.

(ii) Interest on ₹ 2500 for a year = ₹ 200

(iii) To get an interest of ₹ 280 per year, ₹ 3500 should be deposited.

Q.2   **Draw a graph for the following**

(i)

Side of square (in cm)	2	3	3.5	5	6
Perimeter (in cm)	8	12	14	20	24

Is it a linear graph ?

(ii)

Side of square (in cm)	2	3	4	5	6
Area (in cm^2)	4	9	16	25	36

Is it a linear graph ?

Sol.   (i)

Scale :

Horizontal : 1 units = 1 cm

Vertical : 1 units = 4 cm

● Mark side of the square (in cm) on horizontal axis.

● Mark perimeter (in cm) on vertical axis.

● Plot the points (2, 8), (3, 12), (3.5, 14), (5, 20) and (6, 24).

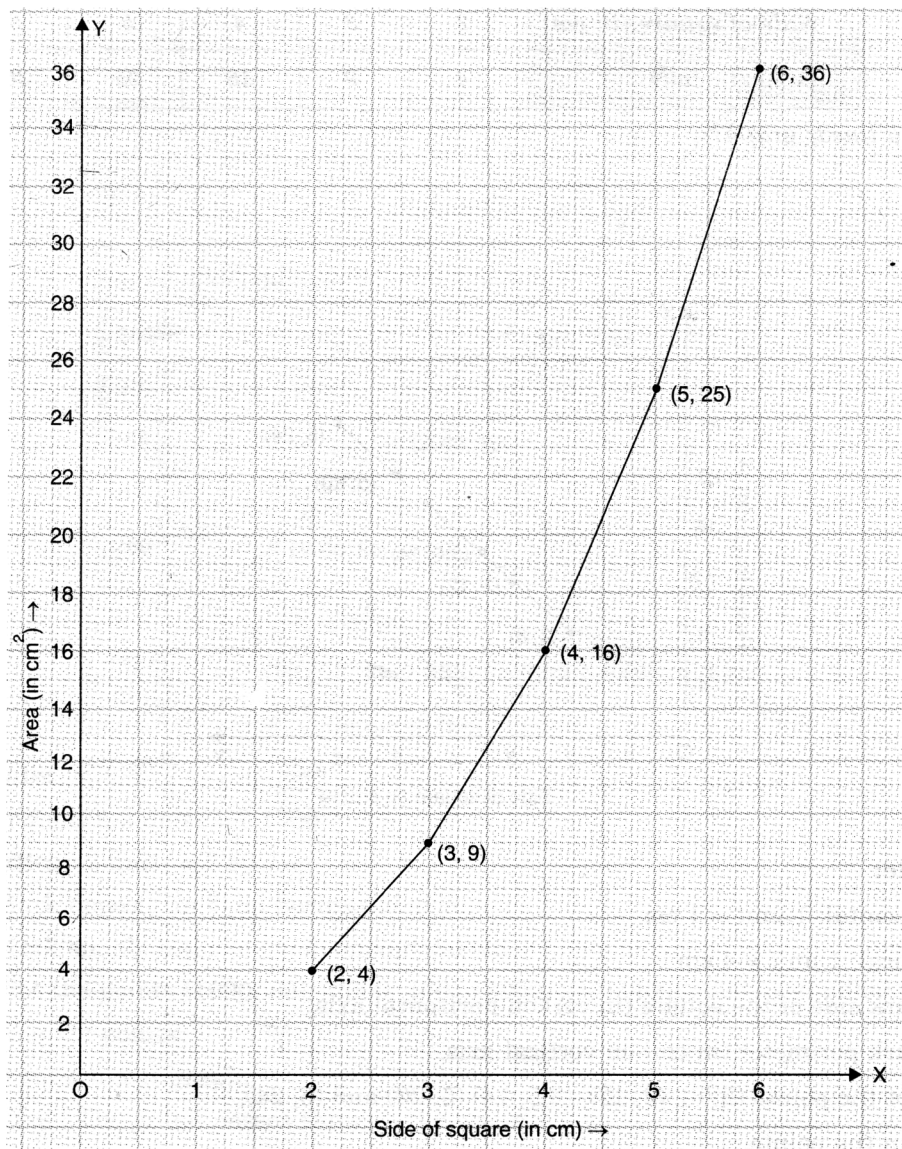● Join the points.

We get a linear graph.

(ii)

Scale :

Horizontal : 2 units = 2 cm

Vertical : 1 units = 2 cm

- Mark side of the square (in cm) on horizontal axis.
- Mark perimeter (in cm^2) on vertical axis.
- Plot the points (2, 4), (3, 9), (4, 16), (5, 25) and (6, 36).
- Join the points.

The graph we get is not linear.

CONCEPT APPLICATION LEVEL - II

SECTION -A

➢ **FILL IN THE BLANKS**

Q.1   The horizontal axis is called .... axis.

Q.2   The coordinates of a point on .... axis are (0, y).

Q.3   The coordinates of origin are ....

Q.4   The abscissa of the point (–3, 2) is ....

Q.5   The ordinate of a point on the x-axis is ....

Q.6   If both abscissa and ordinate of a point are negative, it lies in the .... quadrant.

SECTION -B

➢ **MULTIPLE CHOICE QUESTIONS**

Q.1   Which of the following points lies on the x-axis ?

(A) (0, 3)   (B) (–3, 0)   (C) (–5, –1)   (D) (4, –3)

Q.2   Which of the following points lies on the y-axis ?

(A) (2, –3)   (B) (0, 8)   (C) (–8, 0)   (D) (–1, 2)

Q.3   Which of the following points represents the origin ?

(A) (3, 2)   (B) (8, 0)   (C) (0, –7)   (D) (0, 0)

Q.4   Which of the following statements is true ?

(A) The x-axis is a vertical line

(B) The point (–2, 3) lies in the III quadrant

(C) Origin is the point of intersection of the x-axis and y-axis

(D) The point (–3, –4) lies in the II quadrant

Direction (Q.5 to 7) :The graph in figure represents the journey of a reptile in a desert. Read the graph and select the correct answer from the given four alteranative answers
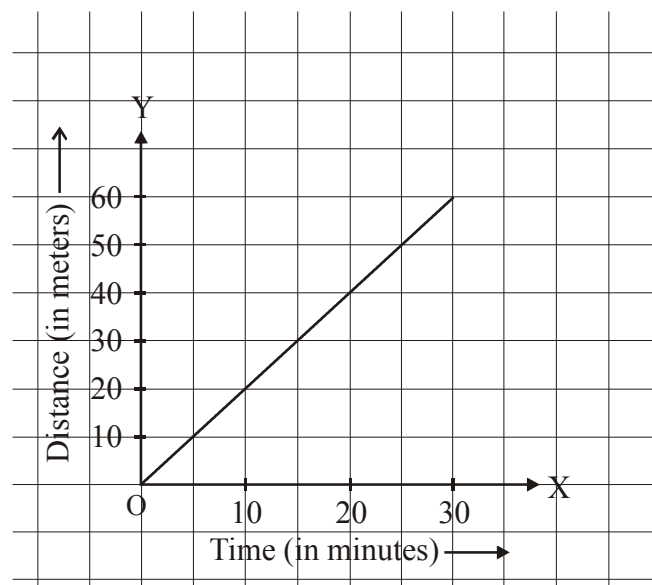
Q.5   What was the average speed of the reptile ?

(A) 20 m/min   (B) 2 m/min   (C) 2.5 m/min   (D) 3 m/min

Q.6   In what time did the reptile travel 30 m ?

(A) 20 min   (B) 14 min   (C) 15 min   (D) 16 min

Q.7   How far had the reptile gone after 17.5 minutes ?

(A) 34 m   (B) 36 m   (C) 35 m   (D) 37 m

Q.8   The x-coordinate of every point on the y-axis is

(A) 1   (B) –1   (C) 0   (D) none of these

Q.9   Which of the following points lie on the x-axis ?

(A) (0, 3)   (B) (5, 0)   (C) (1, 1)   (D) (0, 1)

Q.10   Which of the following points lie on the y-axis ?

(A) (1, 0)   (B) (2, 2)   (C) (0, 2)   (D) none of these

Q.11   The abscissa of the point (–1, 0) is

(A) 0   (B) –1   (C) either 0 or –1   (D) none of these

Q.12   The ordinate of the point (4, –1) is

(A) –1   (B) 4   (C) either –1 or –4   (D) none of these

Q.13   If the coordinates of a point are (–2, 4), the point lies in

(A) first quadrant   (B) second quadrant   (C) third quadrant   (D) none of these

ANSWER KEY

CONCEPT APPLICATION LEVEL - II

SECTION -A

Q.1	X	Q.2	Y	Q.3	(0, 0)	Q.4	–3	Q.5	0	Q.6	III

SECTION -B

Q.1	B	Q.2	B	Q.3	D	Q.4	C	Q.5	B	Q.6	C	Q.7	C
Q.8	C	Q.9	B	Q.10	C	Q.11	B	Q.12	A	Q.13	B		