Introduction to Graphs: Exercise 15.3

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.
Distances (in km)	40	80	120	160

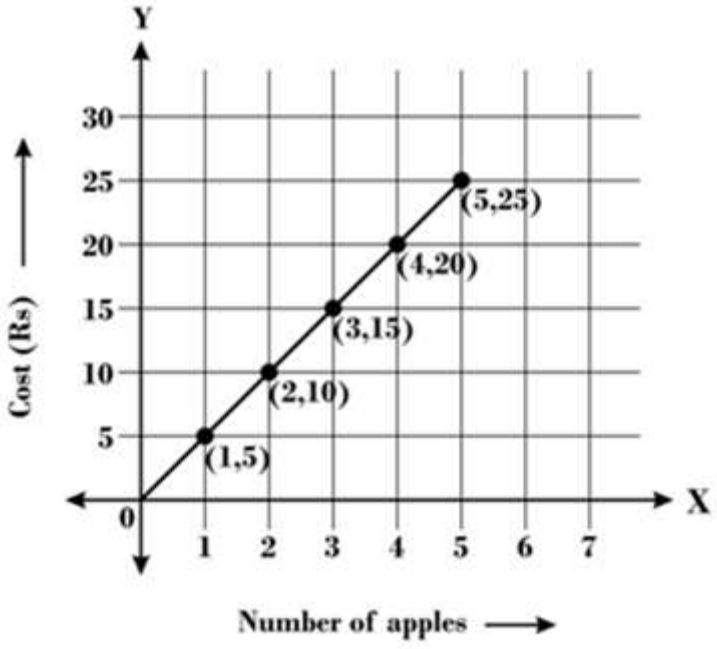
(i) How much distance did the car cover during the period 7.30 a.m. to 8 a.m?
(ii) What was the time when the car had covered a distance of 100 km since it's start?

(c) Interest on deposits for a year.

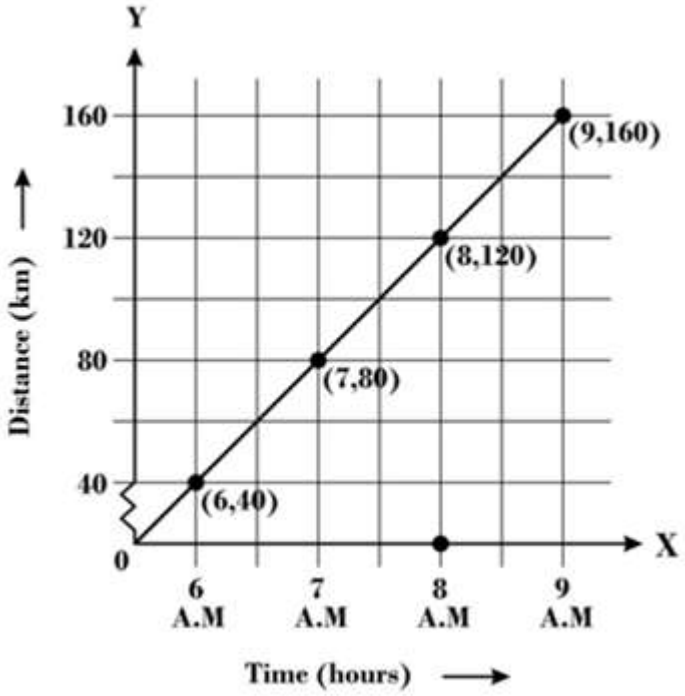
Deposit (in Rs)	1000	2000	3000	4000	5000
Simple Interest (in Rs)	80	160	240	320	400

(i) Does the graph pass through the origin?
(ii) Use the graph to find the interest on Rs. 2500 for a year.
(iii) To get an interest of Rs. 280 per year, how much money should be deposited?

Sol. **(a)** For the graph of given data, x-axis represents the number of apples with scale, 1 unit = 1 apple and y-axis represents cost (in Rs) with scale, 1 unit = Rs 5.



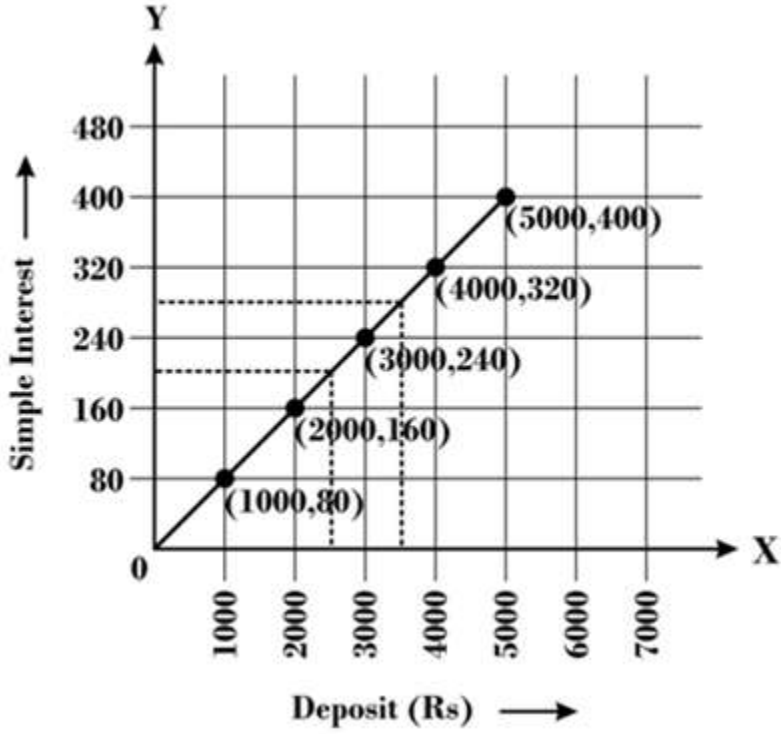
(b) For the graph of given data, x-axis represents the time with scale, 2 units = 1 hour, and y-axis represents distance (in km) with scale, 2 units = 40 km.



(i) The car covered distance during the period 7.30 a.m. to 8 a.m.
= Distance covered at 8 a.m. – distance covered at 7:30 a.m.
= 120-100
= 20 km
Thus, car covered distance during the period 7.30 a.m. to 8 a.m. is 20 km.

(ii) When car had covered a distance of 100 km since it's start, the time was 7.30 a.m.

(c) For the graph of given data, x-axis represents the deposit (in Rs) with scale, 1 unit = Rs 1000, and y-axis represents simple interest (in Rs) with scale,1 unit = Rs 80.



From the graph,
(i) Yes, the graph passes through the origin.
(ii) Since. in the graph, it can be seen clearly that the interest on Rs 2500 for a year is Rs. 200.
(iii) From the graph, to get an interest of Rs 280 per year, Rs 3500 should be deposited.

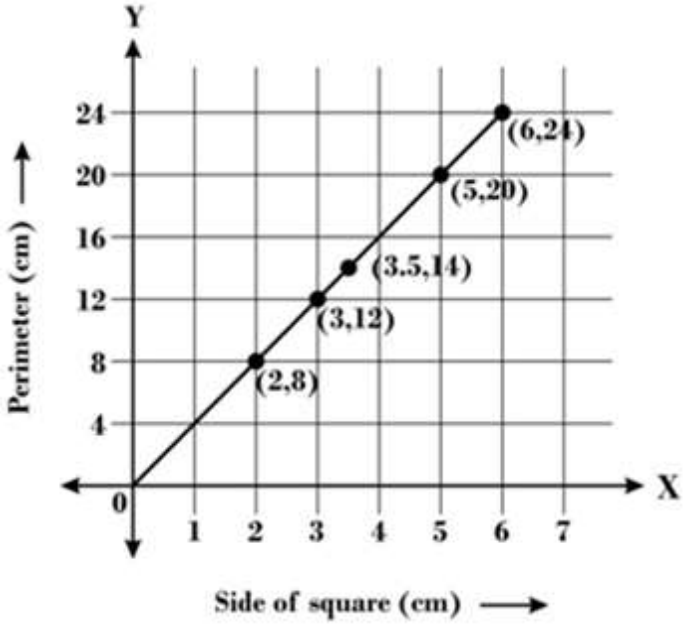
Q.2 Draw a graph for the following.
(i)

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)

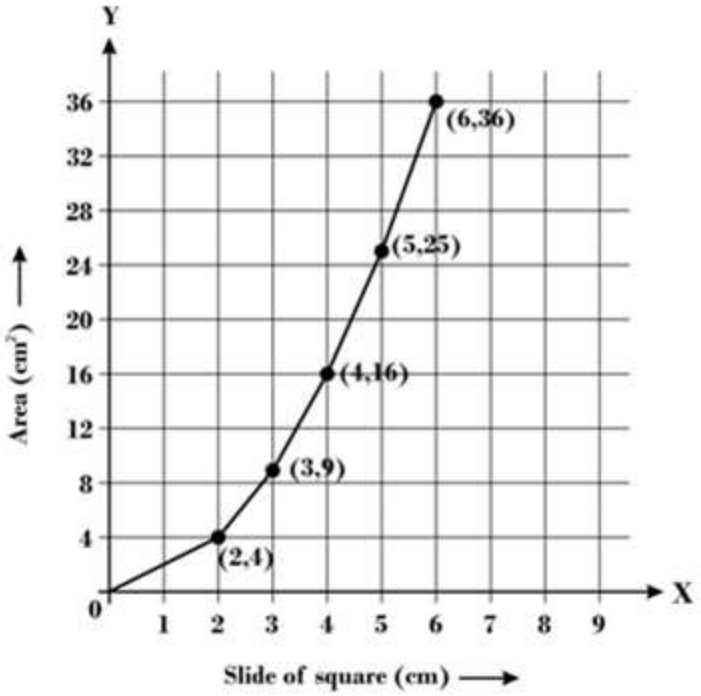
Side of square (in cm)	2	3	4	5	6
Area (in cm^2)	4	9	16	25	36

Is it a linear graph?
Sol. (i) For the graph of given data, x-axis represents the side of square (in cm) with scale, 1 unit = 1 cm, and y-axis represents perimeter (in cm) with scale, 1 unit = 4 cm.



Since, graph is a straight line. So, it is a linear graph.

(ii) For the graph of given data, x-axis represents the side of square (in cm) with scale, 1 unit = 1 cm, and y-axis represents area (in cm^2) with scale, 1 unit = 4 cm^2.



Since, graph is not a straight line. So, it is not a linear graph.