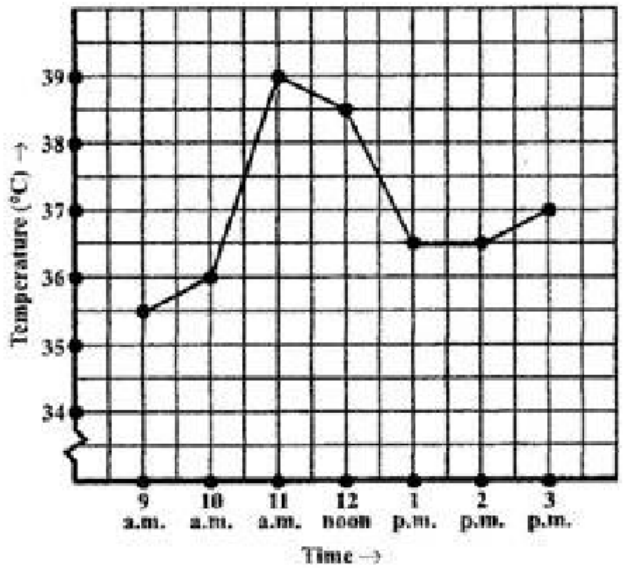
Exercise 13.1 (Revised) - Chapter 15 - Introduction To Graphs - Ncert Solutions class 8 - Maths

Updated On 11-02-2025 By Lithanya

Chapter 13 - Introduction To Graphs - NCERT Solutions for Class 8 Maths

Ex 13.1 Question 1.

The following graph shows the temperature of a patient in a hospital, recorded every hour:



(a) What was the patient's temperature at 1 p.m.?
(b) When was the patient's temperature $38.5^{\circ}\mathrm{C}$?
(c) The patient's temperature was the same two times during the period given. What were these two times?
(d) What was the temperature at 1.30 p.m.? How did you arrive at your answer?
(e) During which periods did the patients' temperature showed an upward trend?

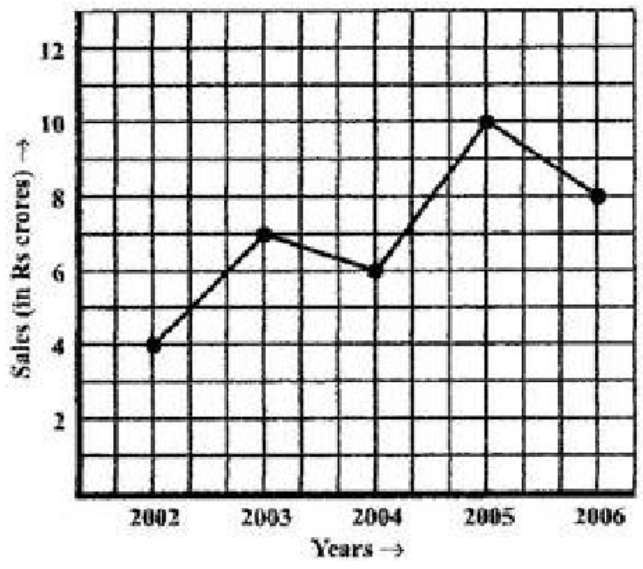
Answer.

(a) The patient's temperature was $36.5^{\circ}\mathrm{C}$ at 1 p.m.
(b) The patient's temperature was $38.5^{\circ}\mathrm{C}$ at 12 noon.
(c) The patient's temperature was same at 1 p.m. and 2 p.m.

(d) The temperature at 1.30 p.m. is $36.5^{\circ}\mathrm{C}$. The point between 1 p.m. and 2 p.m., x-axis is equidistant from the two points showing 1 p.m. and 2 p.m. So, it represents 01.30 p.m. Similarly, the point on y-axis, between $36^{\circ}\mathrm{C}$ and $37^{\circ}\mathrm{C}$ will represent $36.5^{\circ}\mathrm{C}$.
(e) The patient's temperature showed an upward trend from 9 a.m. to 11 a.m., 11 a. m. to 12 noon and 2 p.m. to 3 p.m.

Ex 13.1 Question 2.

The following line graph shows the yearly sales figures for a manufacturing company.



(a) What were the sales in (i) 2002 (ii) 2006 ?
(b) What were the sales in (i) 2003 (ii) 2005 ?

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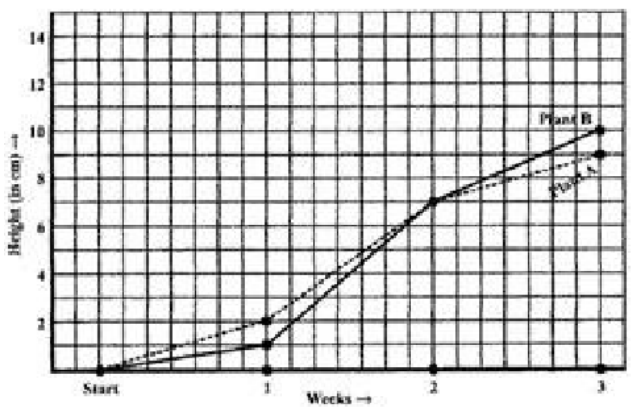
(c) Compute the difference between the sales in 2002 and 2006.
(d) In which year was there the greatest difference between the sales as compared to its previous year?

Answer.

(a) The sales in: (i) 2002 was Rs. 4 crores and (ii) 2006 was Rs. 8 crores.
(b) The sales in: (i) 2003 was Rs. 7 crores (ii) 2005 was Rs. 10 crores.
(c) The difference of sales in 2002 and 2006 = Rs. 8 crores - Rs. 4 crores = Rs. 4 crores
(d) In the year 2005, there was the greatest difference between the sales as compared to its



(a) How high was Plant A after (i) 2 weeks (ii) 3 weeks?
(b) How high was Plant B after (i) 2 weeks (ii) 3 weeks?
(c) How much did Plant A grow during the 3rd week?
(d) How much did Plant B grow from the end of the 2 nd week to the end of the 3rd week?
(e) During which week did Plant A grow most?
(f) During which week did Plant B grow least?
(g) Were the two plants of the same height during any week shown here? Specify.

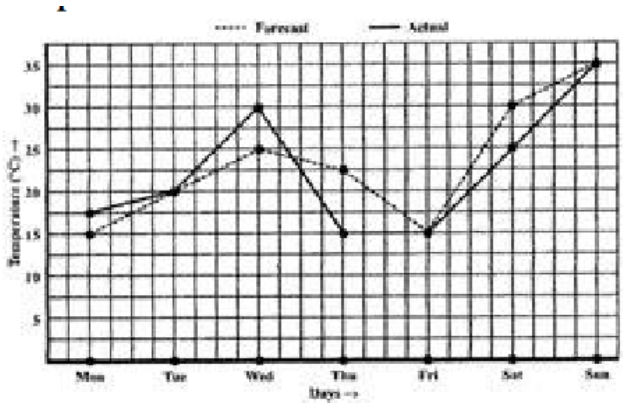
Answer.

(a) (i) The plant A was $7\ \mathrm{cm}$ high after 2 weeks and
(ii) after 3 weeks it was $9\ \mathrm{cm}$ high.
(b) (i) Plant B was also $7\ \mathrm{cm}$ high after 2 weeks and
(ii) after 3 weeks it was $10\ \mathrm{cm}$ high.
(c) Plant A grew $= 9\ \mathrm{cm} - 7\ \mathrm{cm} = 2\ \mathrm{cm}$ during 3^{rd} week.

(d) Plant B grew during end of the 2^{nd} week to the end of the 3^{rd} week
$= 10\ \mathrm{cm} - 7\ \mathrm{cm} = 3\ \mathrm{cm}.$
(e) Plant A grew the highest during second week.
(f) Plant B grew the least during first week.
(g) At the end of the second week, plant A and B were of the same height.

Ex 13.1 Question 4.

The following graph shows the temperature forecast and the actual temperature for each day of a week.
(a) On which days was the forecast temperature the same as the actual temperature?
(b) What was the maximum forecast temperature during the week?
(c) What was the minimum actual temperature during the week?
(d) On which day did the actual temperature differ the most from the forecast temperature?



Ans.(a) On Tuesday, Friday and Sunday, the forecast temperature was same as the actual temperature.
(b) The maximum forecast temperature was $35^{\circ}\mathrm{C}$.
(c) The minimum actual temperature was $15^{\circ}\mathrm{C}$.
(d) The actual temperature differed the most from the forecast temperature on Thursday.

Ex 13.1 Question 5.

Use the tables below to draw linear graphs.

Year	2003	2004	2005	2006
Days	8	10	5	12

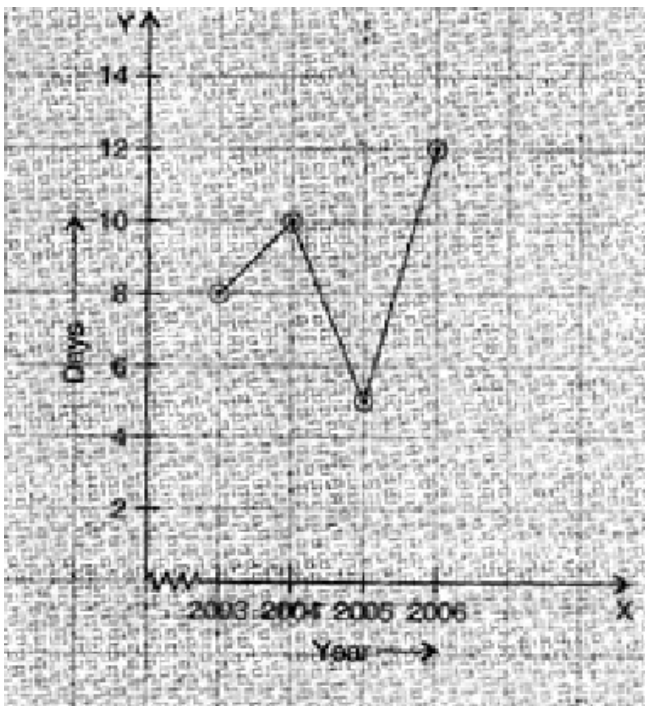
(a) The number of days a hill side city received snow in different years.

Year	2003	2004	2005	2006	2007
No. of Men	12	12.5	13	13.2	13.5
No. of Women	11.3	11.9	13	13.6	12.8

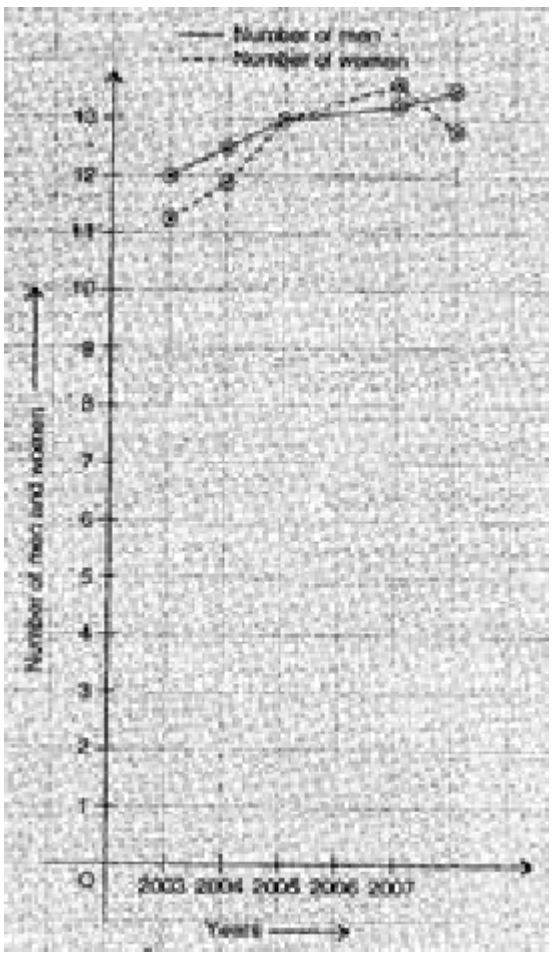
(b) Population (in thousands) of men and women in a village in different years.

Answer.

(a)

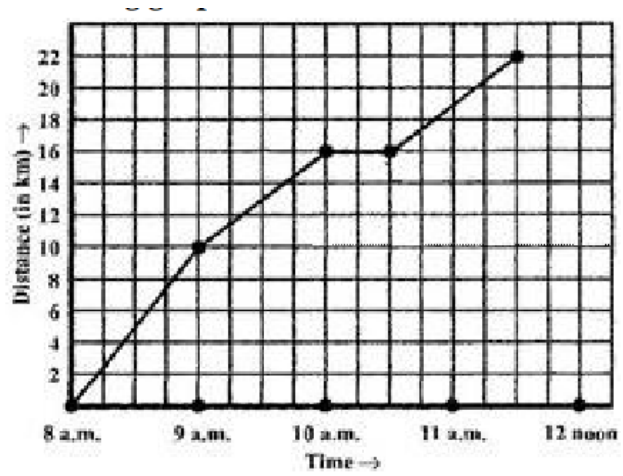


(b)



Ex 13.1 Question 6.

A courier-person cycles from a town to a neighbouring suburban area to deliver a parcel to a merchant. His distance from the town at different times is shown by the following graph.



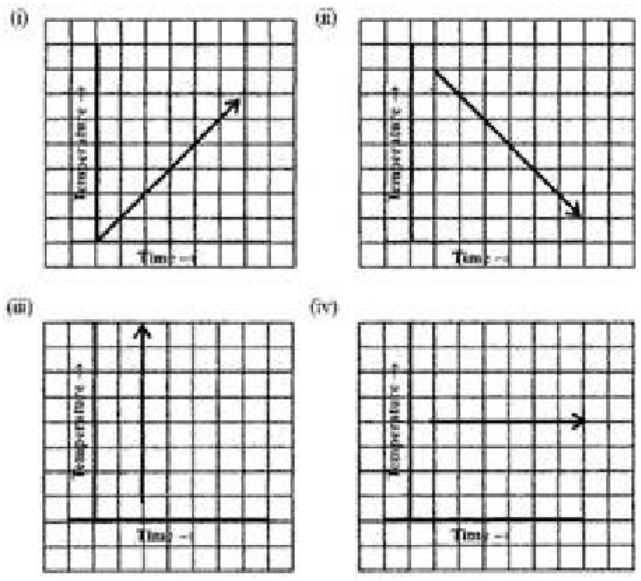
(a) What is the scale taken for the time axis?
(b) How much time did the person take for the travel?
(c) How far is the place of the merchant from the town?
(d) Did the person stop on his way? Explain.

(e) During which period did he ride fastest?

Answer.

(a) 4 units $= 1$ hour.
(b) The person took $3\frac{1}{2}$ hours for the travel.
(c) It was 22 km far from the town.
(d) Yes, this has been indicated by the horizontal part of the graph. He stayed from 10 am to 10.30am.
(e) He rode the fastest between 8 am and 9 am.

Ex 13.1 Question 7.
Can there be a time-temperature graph as follows? Justify your answer.



Answer. (i) It is showing the increase in temperature.
(ii) It is showing the decrease in temperature.
(iii) The graph figure (iii) is not possible since temperature is increasing very rapidly which is not possible.
(iv) It is showing constant temperature.

Exercise 13.2 (Revised) - Chapter 15 - Introduction To Graphs - Ncert Solutions class 8 - Maths

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Ex 13.2 Question 1.

Draw the graphs for the following tables of values, with suitable scales on the axes.
(a) Cost of apples

No. 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 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 $100\ \mathrm{km}$ since it's start?
(c) Interest on deposits for a year.

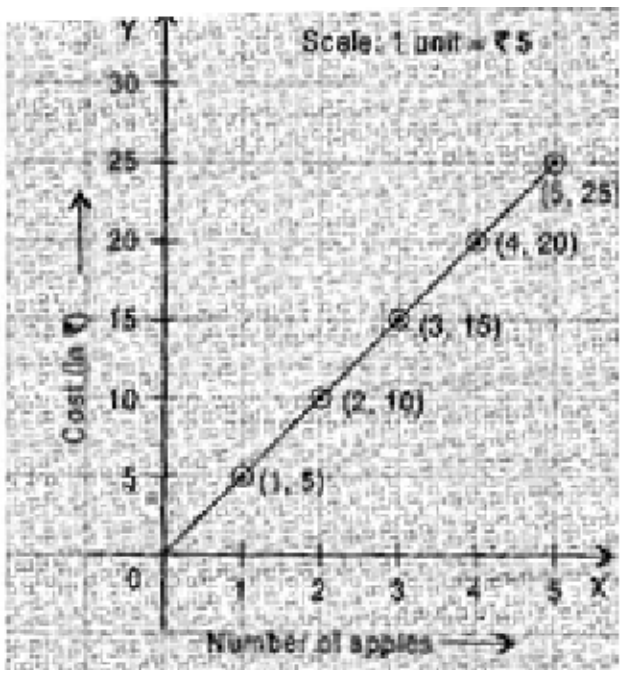
Deposit(inRs.)	1000	2000	3000	4000	5000
Simple Interest (inRs.)	80	160	240	320	400

(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?

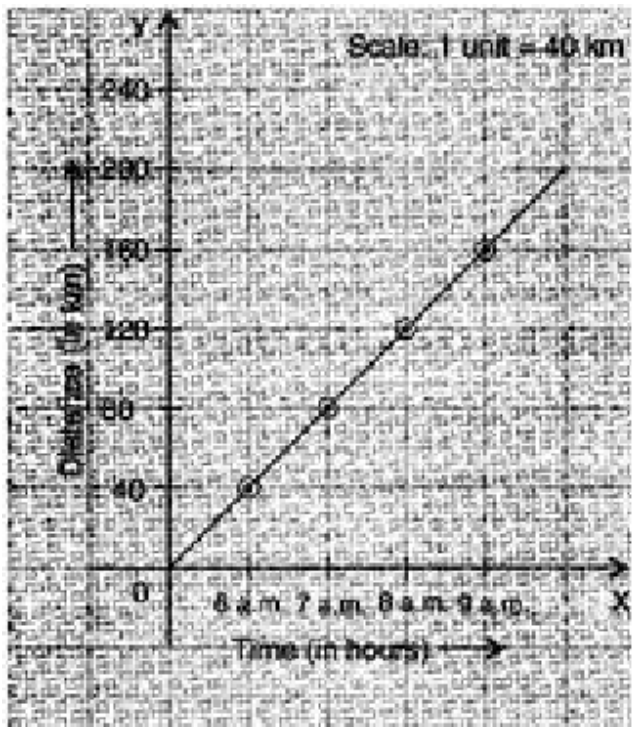
Answer.

(a)



(b) (i) The car covered $20\ \mathrm{km}$ distance.

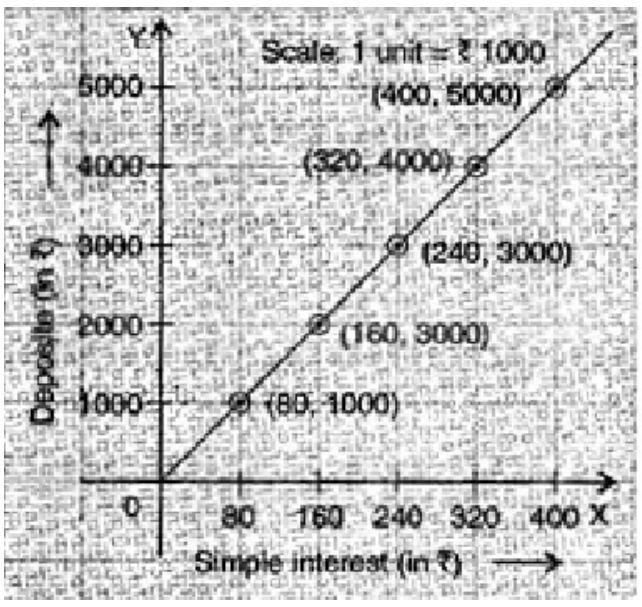
(ii) It was $7.30\mathrm{am}$, when it covered $100\ \mathrm{km}$ distance.



(c) (i) Yes, the graph passes through the origin.

(ii) Interest on Rs. 2500 is Rs. 200 for a year.

(iii) Rs. 3500 should be deposited for interest of Rs. 280 .



Ex 13.2 Question 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?

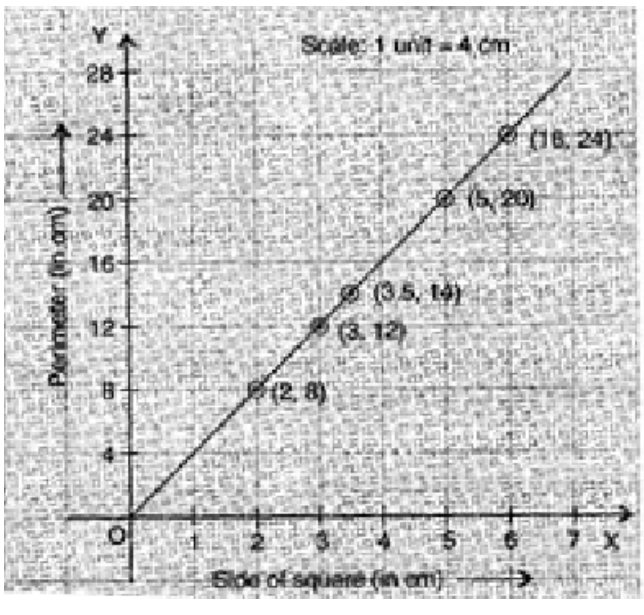
(ii)

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

Is it a linear graph?

Answer.

(i) Yes, it is a linear graph.



(ii) No, it is not a linear graph because the graph does not provide a straight line.