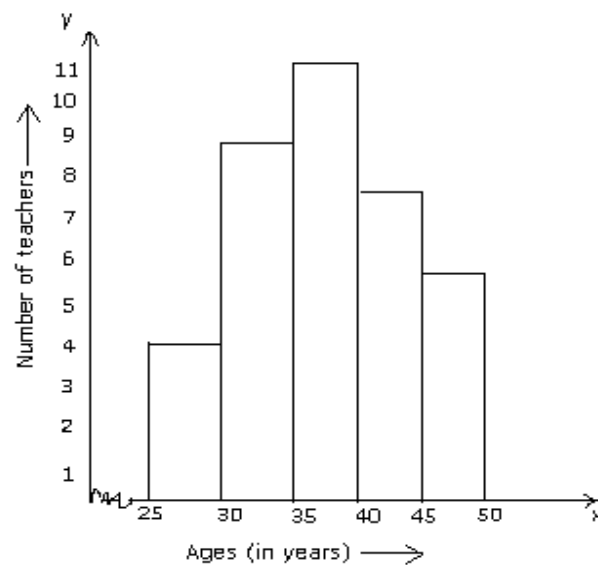# Chapter 15. Introduction to Graphs

Question 1

The histogram given alongside shows the distribution of ages (in years) of 38 teachers in a school. Answer the following questions.

i. What is the most common age group? How many teachers are there in this group?

ii. What is number of teachers who are more than 25 years old but less than 30?

iii. How many teachers are 40 or older?

iv. What is the class size?

Solution:

i. The most common age group 35 – 40. Number of teachers = 11

ii. 4 teachers

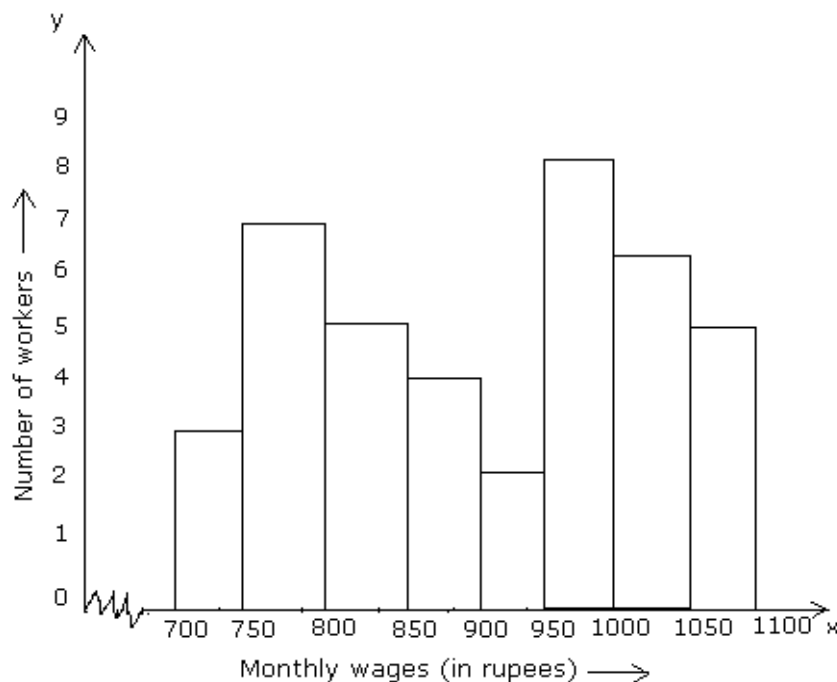iii. 8 + 6 = 14 teachers

iv. 5 years.

Question 2

The adjacent histogram shows weekly wages (in rupees) of workers in a factory.
From the histogram answer the following

i. In which wage -group are the largest number of workers being kept?
What is their number?

ii. What is the amount which is obtained by the least number of workers? What is the number of such workers?

iii. What is the total number of workers?

Solution:

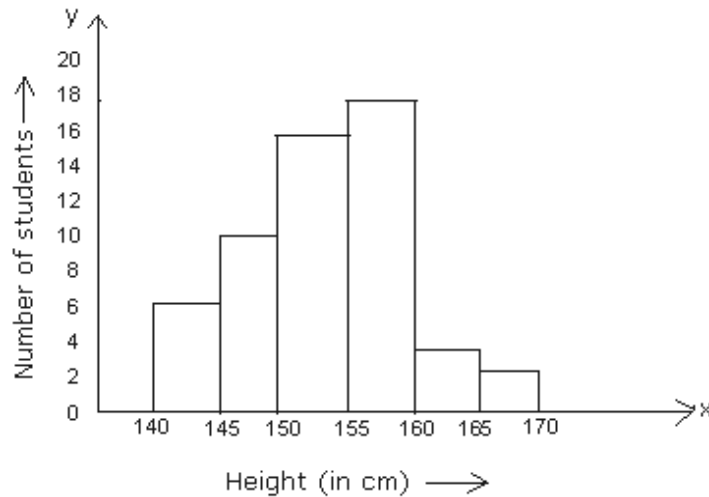i. Wage group 950 – 1000 and number of workers are 8.

ii. Wage group 900 – 950 and number of workers are 2.

iii 3 + 7 + 5 + 4 + 2 + 8 + 6 + 5 = 40

Question 3

From the histogram answer the following questions.

i. What is the information is given on the two axes?

ii. How many students have their height more than 165cm?

iii. How many students are in the range of shortest height of the class?
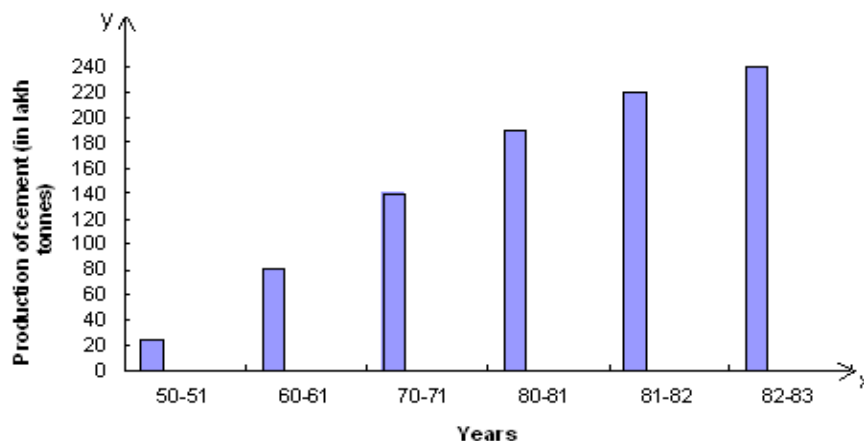
iv. How many students in the class?

Height (in cm) ⟶

Solution:

i. The horizontal axis indicates the height (in cms) and the vertical axis indicates the number of students.

ii. 1

iii. The range of shortest height in the class is 140 – 145 and the number of students is 6.

iv. 6 + 10 + 15 + 18 + 2 + 1 = 52.

Question 4

Read the following bar graph and an

i. What is the information is given by the graph?

ii. What was the production of cement in the year 1980 - 81?

iii. What is the minimum and maximum production of cement and corresponding years?
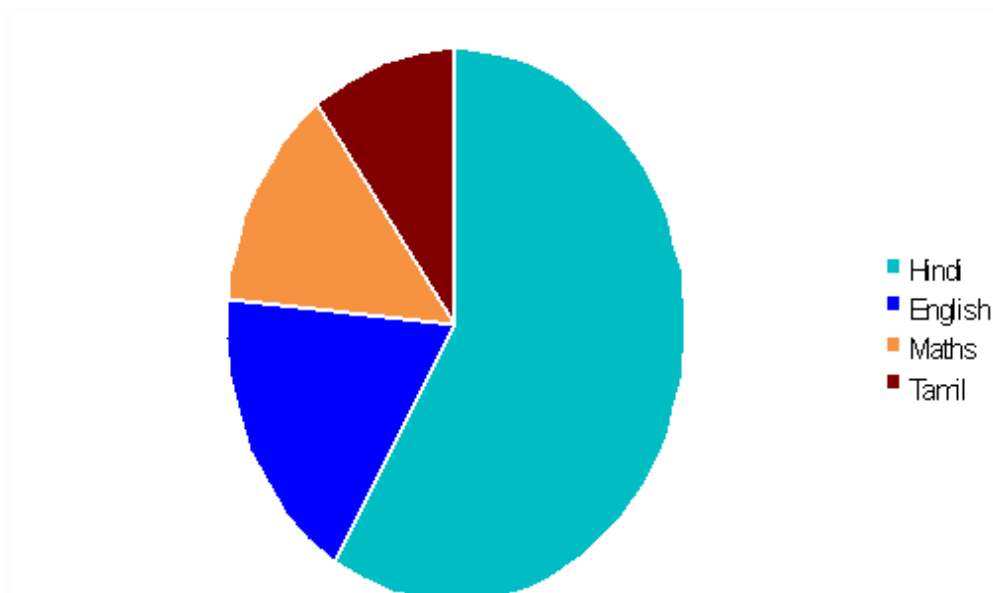

Years

Solution:

i. Industrial production of cement for different years.

ii. 186 lakh tones.

iii. Minimum: 30 lakh tonnes, 1950 - 51

Maximum: 232 lakh tonnes, 1982 - 83

Question 5

The number of students in a hostel speaking different language is given below. Present the data in pie chart.

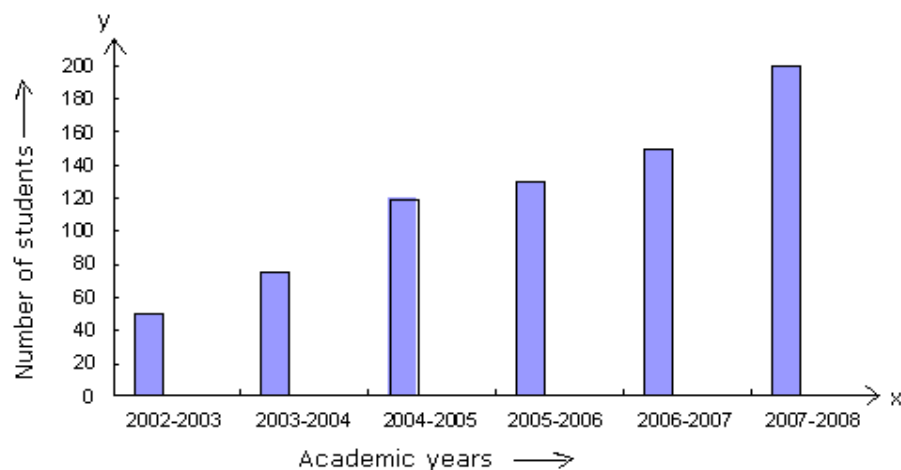| Language	Hindi	English	Maths	Tamil	Bengali	Total
Number of students	40	12	9	7	4	72

Solution:

Question 6

The following table gives the number of students in class VII in a school during academic years 2002 to 2003 to 2007 - 2008. Represent the below data by a bar graph.

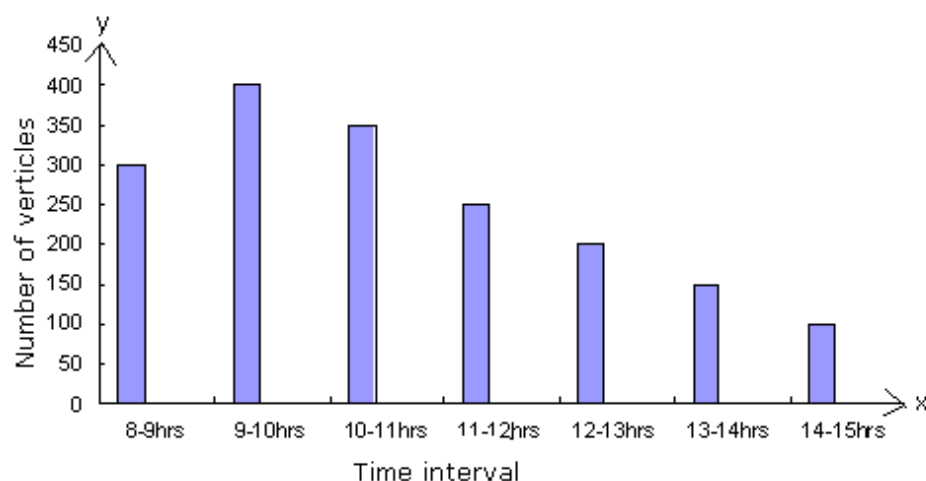| Academic year	2002 - 2003	2003 - 2004	2004 - 2005	2005 - 2006	2006 - 2007	2007 - 2008
Number of students	50	75	120	130	150	200

Solution:

Question 7

The following table gives the number of vehicles passing through a busy crossing in Delhi in different time intervals on a particular day. Represent the below data by a bar graph.

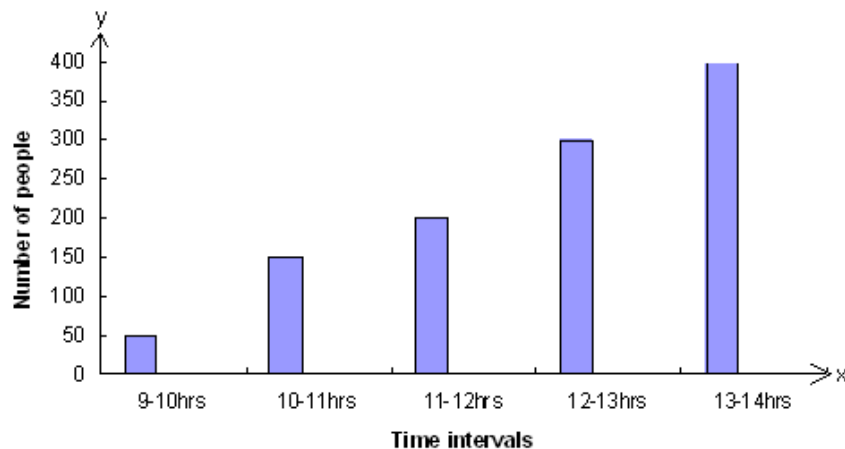| Time interval	8-9hrs	9-10hrs	10-11hrs	11-12hrs	12-13hrs	13-14hrs	14-15hrs
Number of vehicles	300	400	350	250	200	150	100

Solution:

Question 8

The following table gives the number people visited the zoo on Sunday. Represent the data by a bar graph.

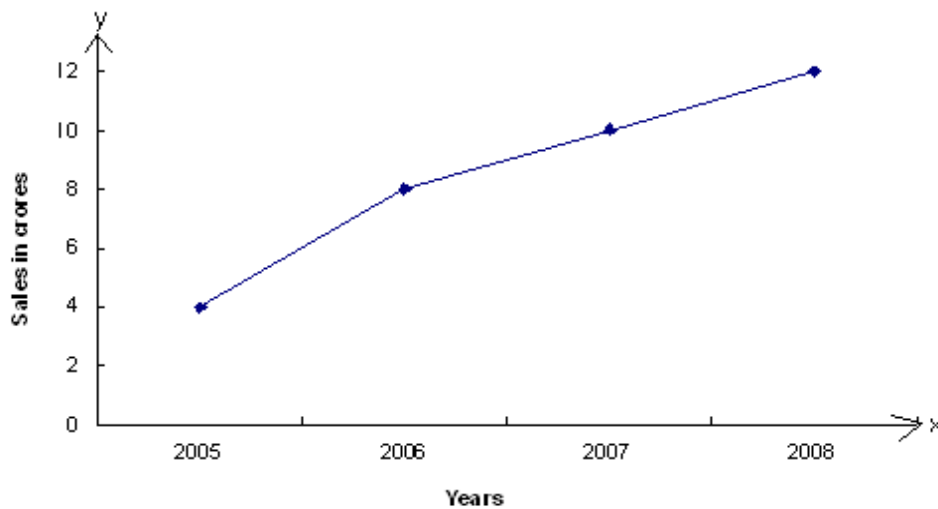| Time interval	9-10hrs	10-11hrs	11-12hrs	12-13hrs	13-14hrs
Number of people	50	150	200	300	400

Solution:

Question 9

The following line graph shows the sales figure for a manufacture company.

  i. What were the sales in i. 2008. ii. 2005?

  ii. What were the sales in i. 2006 ii. 2007

  iii. Compute the difference between the sales in 2005 and 2008

Years

Solution:

i. 12 crores ii. 4 crores
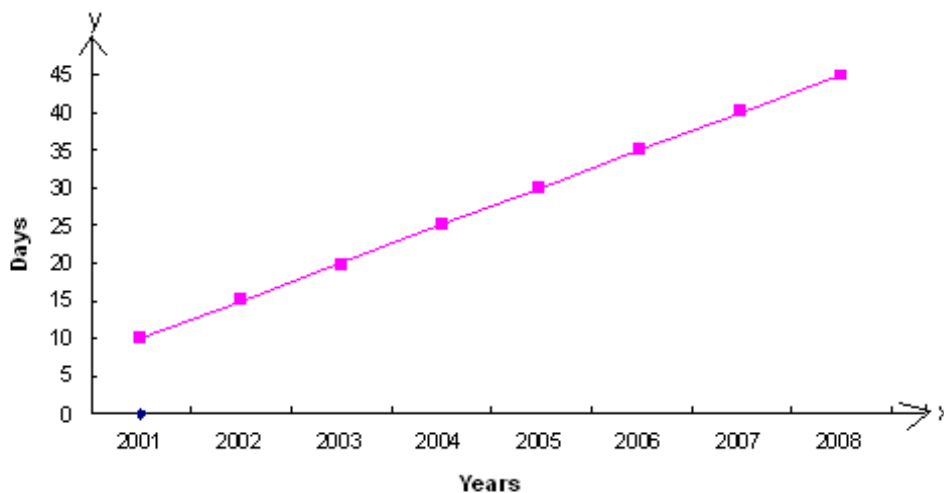
 i. 8 crores ii. 10 crores

 12 − 4 = 8 crores

Question 10

Use the table below to draw a linear graphs

The number of days a city received a rainfall in different years

Year	2001	2002	2003	2004	2005	2006	2007	2008
Days	10	15	20	25	30	35	40	45

Solution:

Years

Question 11

Number of boys and girls participated in a quiz competition in different years.

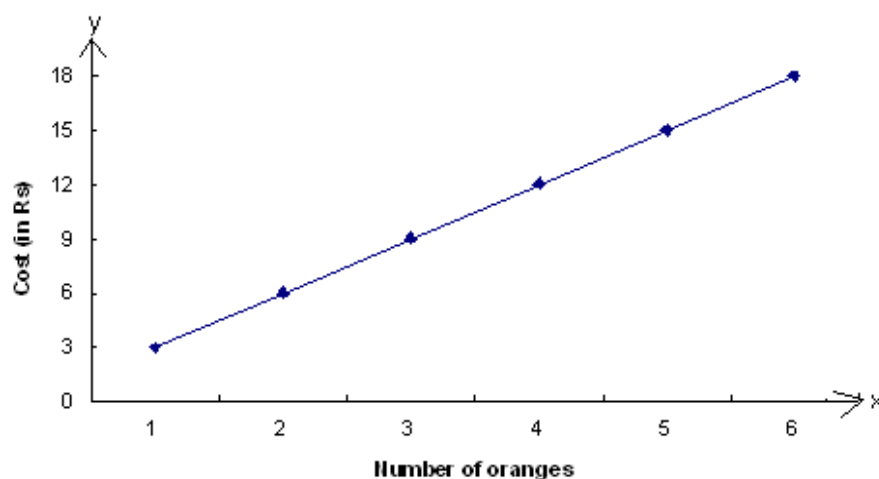| Year	2004	2005	2006	2007	2008
Number of boys	12	13	14	15	16
Number of girls	11	13	12	14	15

Solution:

Question 12

Draw the graph for the following tables of values with suitable places on the axes.

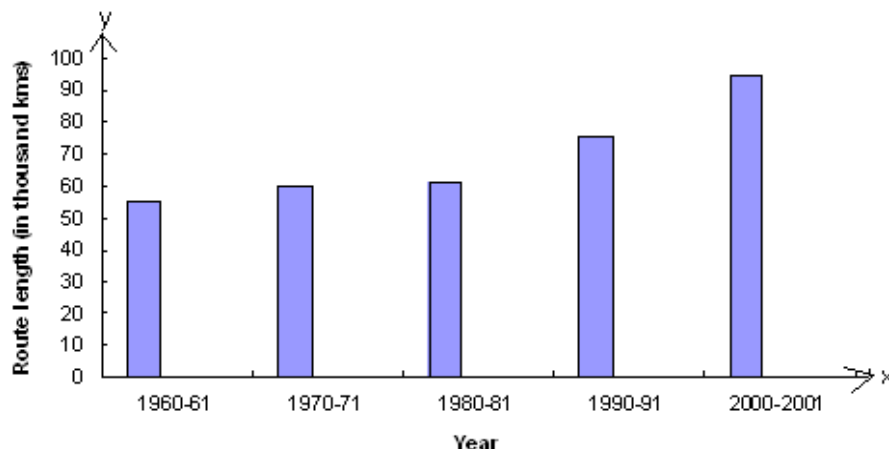| Number of oranges	1	2	3	4	5	6
Cost (in Rs)	3	6	9	12	15	18

Solution:

Question 13

The following table gives the route in length (in thousand kilometer of the Indian Railways in some of the years. Represent the data as bar graph.

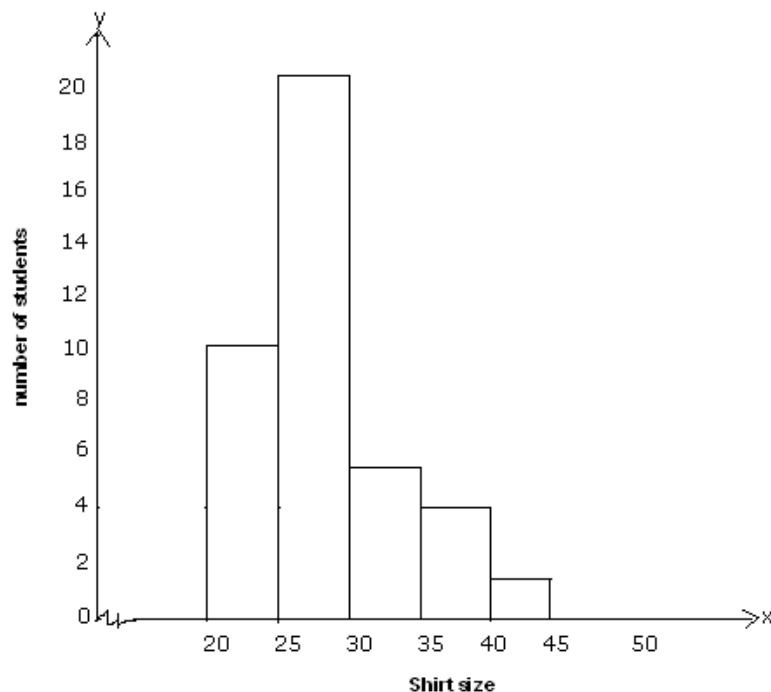| Year	1960-61	1970-71	1980-81	1990-91	2000-2001
Route length (in thousand km)	55	60	61	75	95

Solution:

Question 14

The following table gives the size of shirts of a students in a class. Represent the data as a histogram

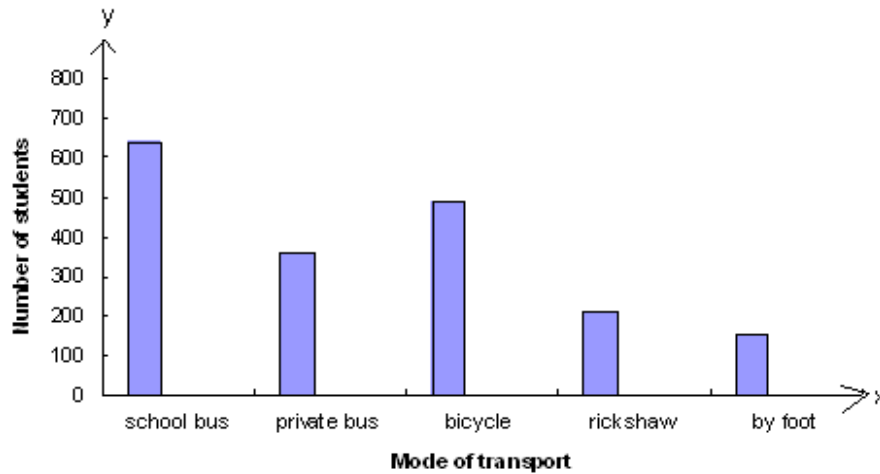| Size of shirts (in cm)	20-25	25-30	30-35	35-40	40-45
Number of students	10	20	5	4	1

Solution:

Question 15

Various modes of transport used by 1850 students of a school are given below. Draw a bar graph to represent the below data

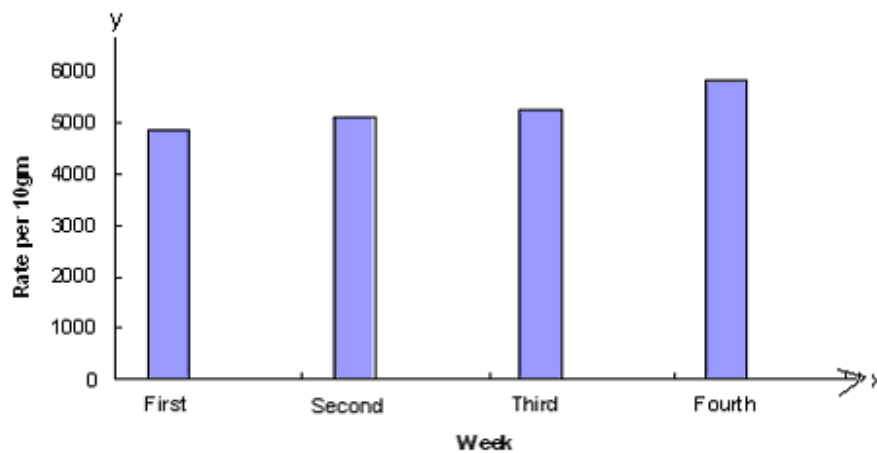| School bus	Private bus	Bicycle	Rickshaw	By foot
640	360	490	210	150

Solution:

Question 16

Gold prices on 4 consecutive Tuesday were as under. Draw a bar graph to represent the below data

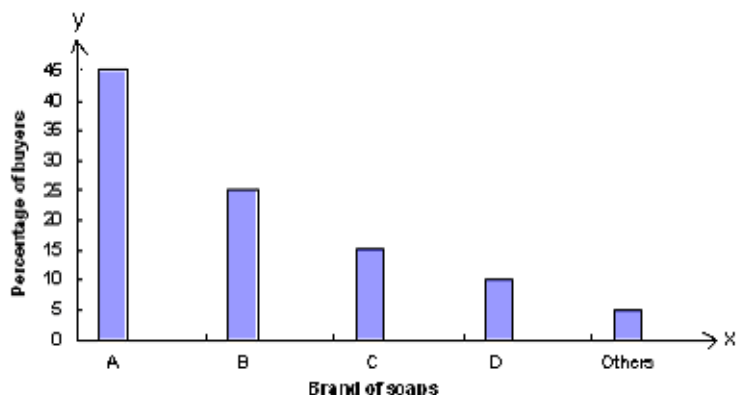| Week	First	Second	Third	Fourth
Rate per 10gm	4850	5100	5250	5500

Solution:

Question 17

The following table shows the market position of different brands of soaps. Draw a bar graph to represent this data

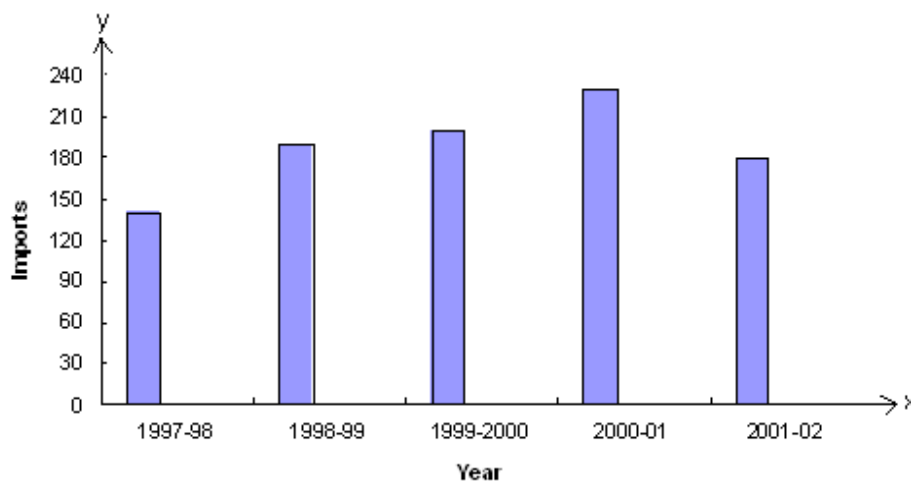| Brand	A	B	C	D	Others
Percentage of buyers	45	25	15	10	5

Solution:

Question 18

The following table show the imports made by India over the last five years. Draw a bar graph to represent this data

Year	1997-98	1998-99	1999-2000	2000-01	2001-02
Imports	140	190	200	230	180

Solution:

Question 19

The aid distance of four cities from Delhi (in km) are given below

City	Kolkata	Mumbai	Chennai	Hyderabad
Distance from Delhi	1340	1100	1700	1220

Solution: