# Chapter 15. Introduction to Graphs

## Question 1

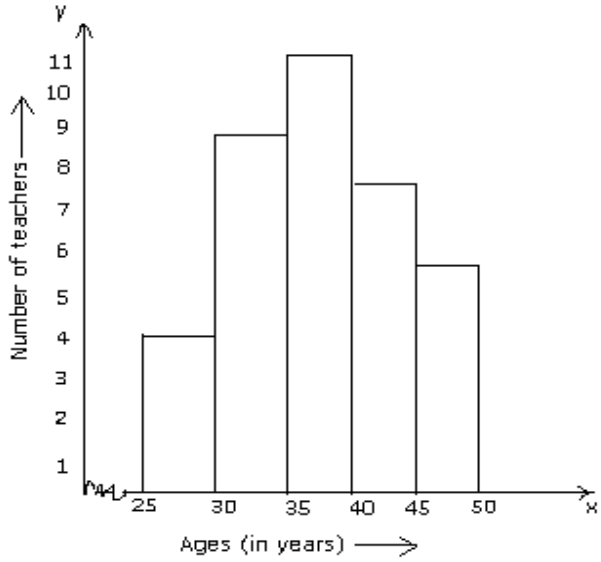
**The histogram given alongside shows the distribution of ages (in years) of 38 teachers in a school. Answer the following questions.**

**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

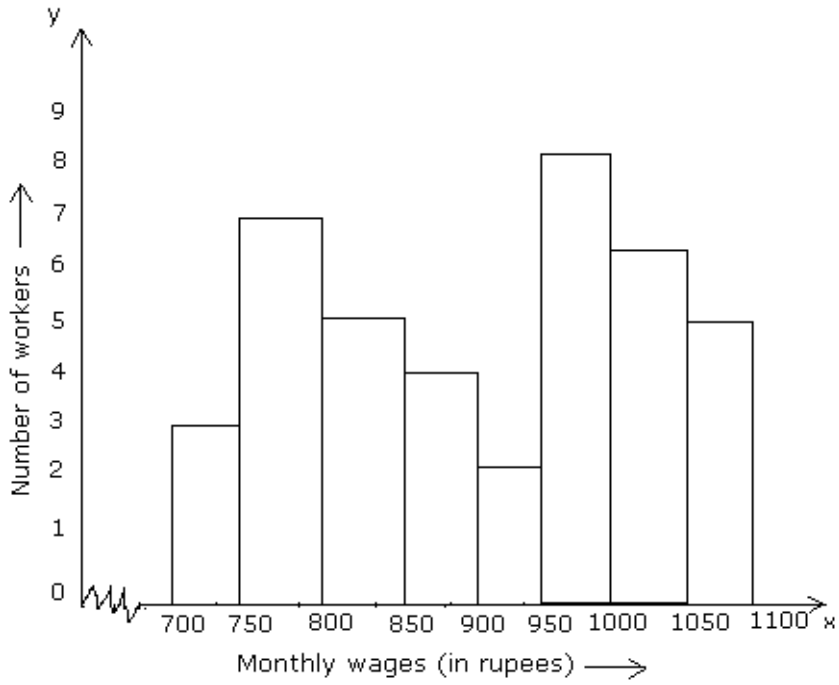
iii. 8 + 6 = 14 teachers

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

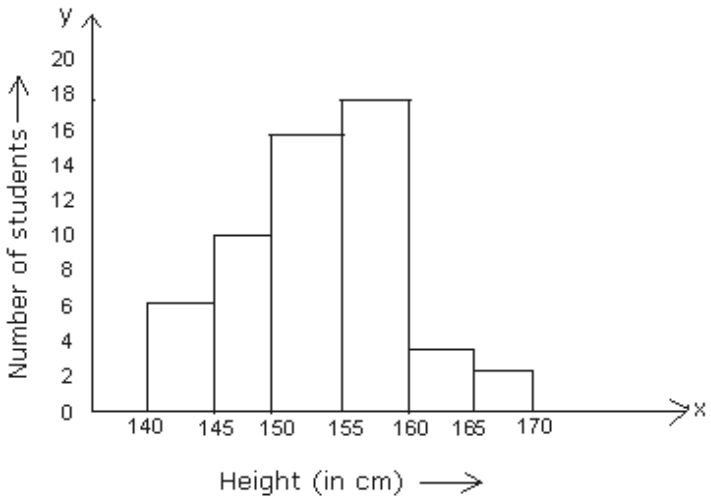
### From the histogram answer the following questions.

**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?**




**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.

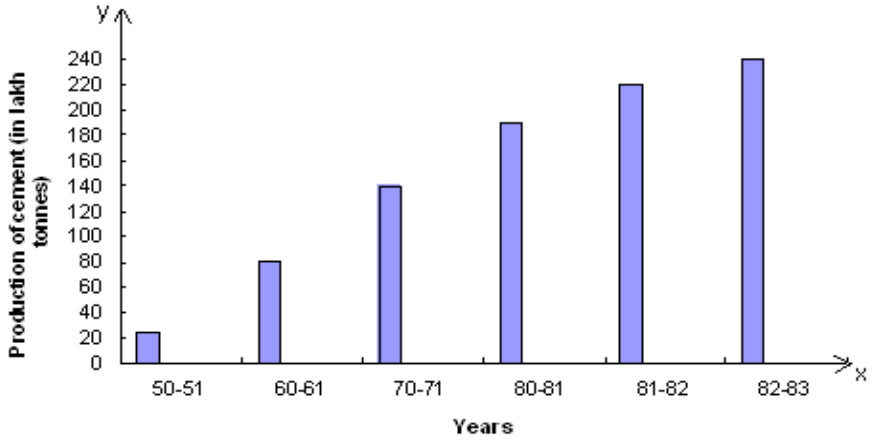
## Question 4

### 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?**




**Solution:**

i. Industrial production of cement for different years.

ii. 186 lakh tones.

iii. Minimum: 30 lakh tonnes, 1950 - 51

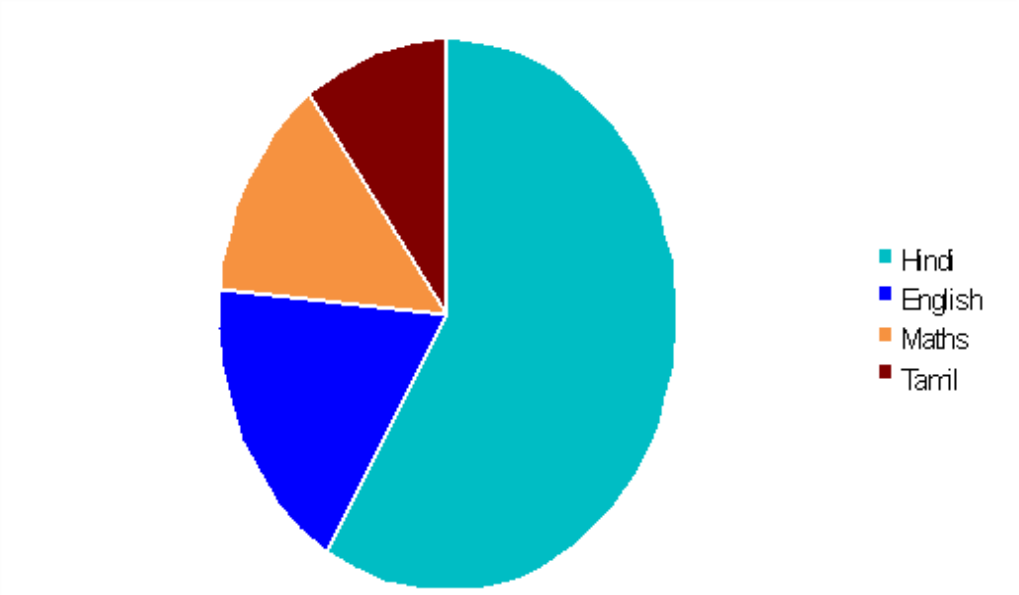
Maximum: 232 lakh tonnes, 1982 - 83

## 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:**

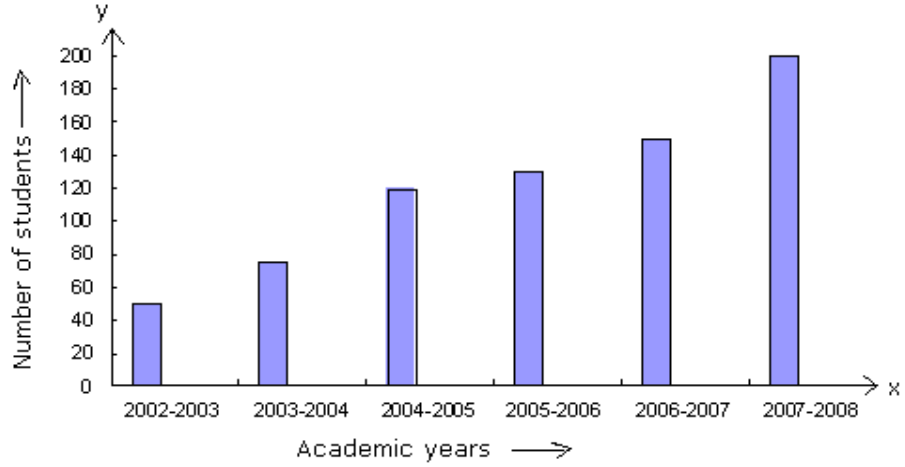



## Question 6

**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:**

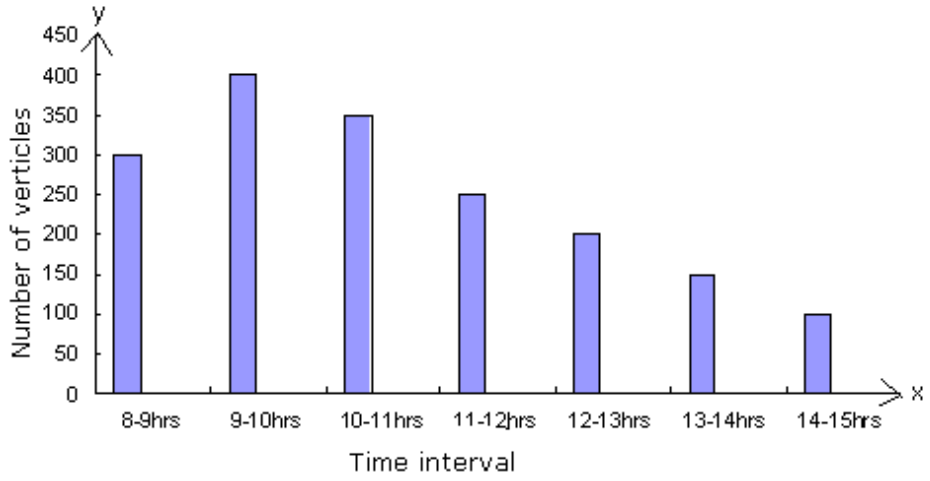


## Question 7

**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:**

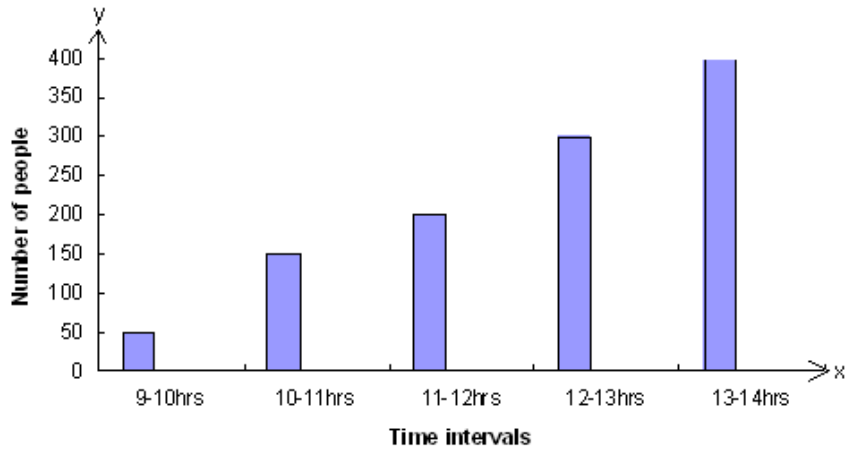



## Question 8

**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:**



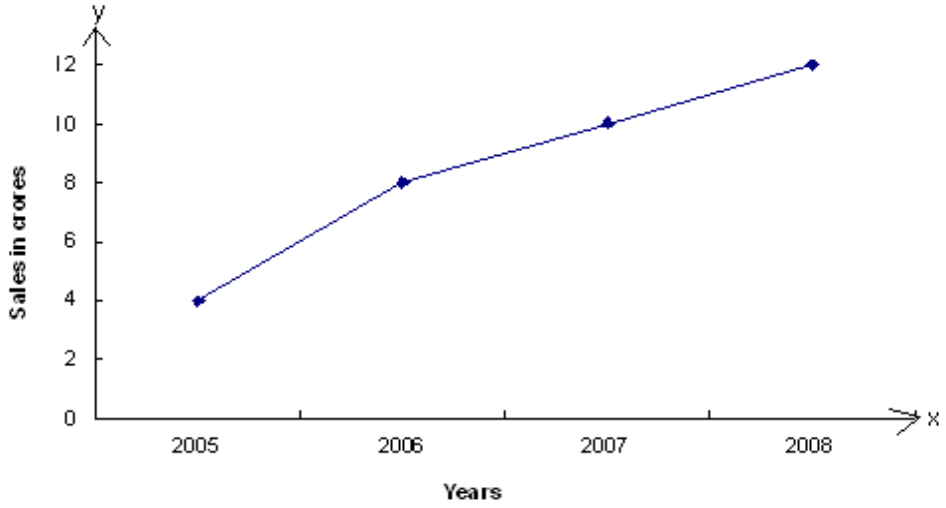
## Question 9

### 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**




**Solution:**

i. 12 crores ii. 4 crores

i. 8 crores ii. 10 crores

12 – 4 = 8 crores

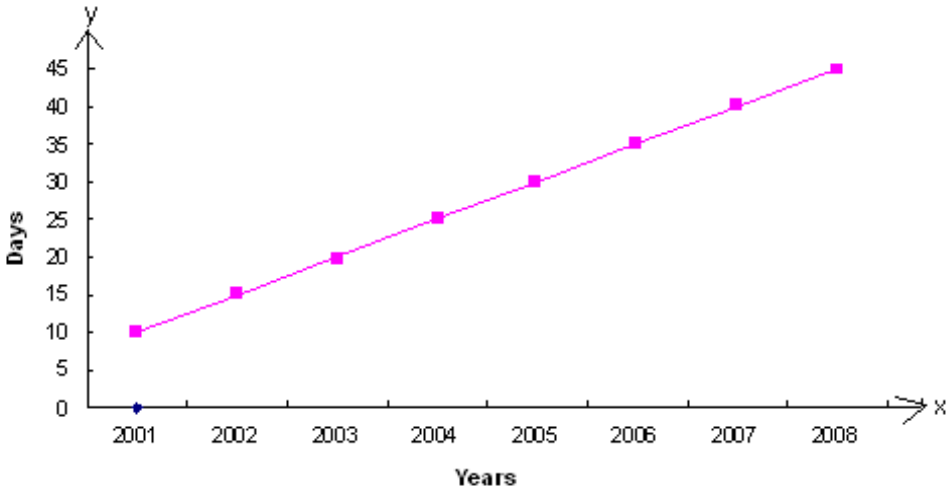
## Question 10

### 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:**



## 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 |

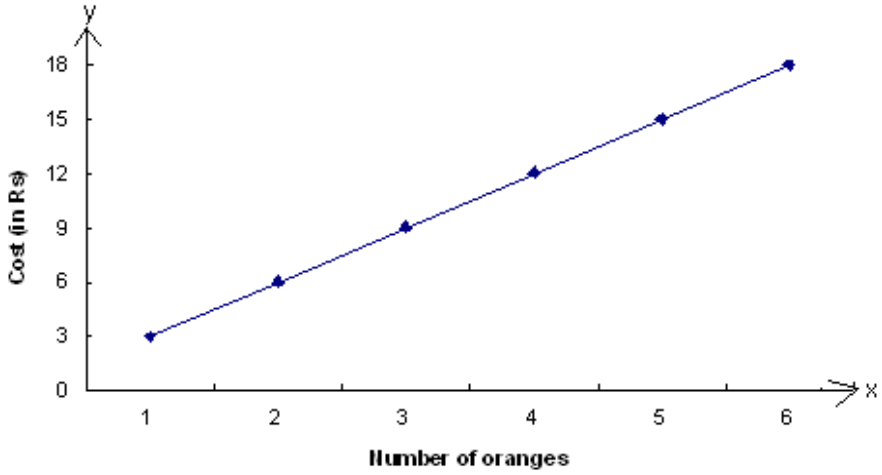
**Solution:**

## 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:**

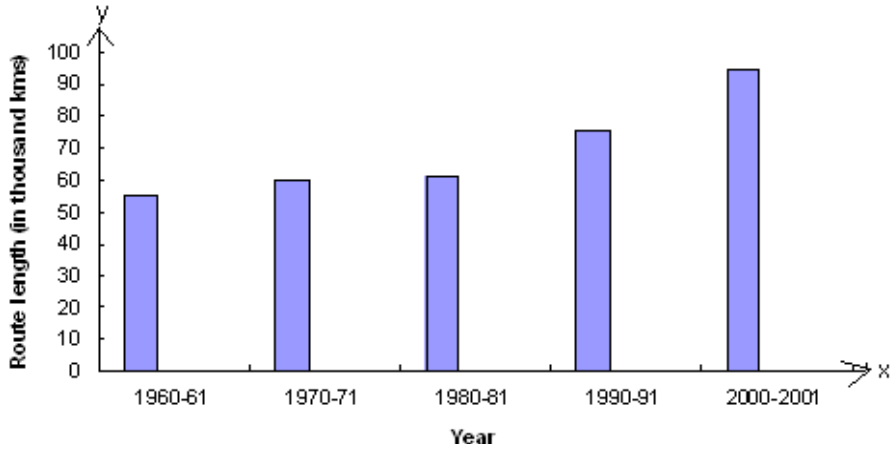


## Question 13

**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:**

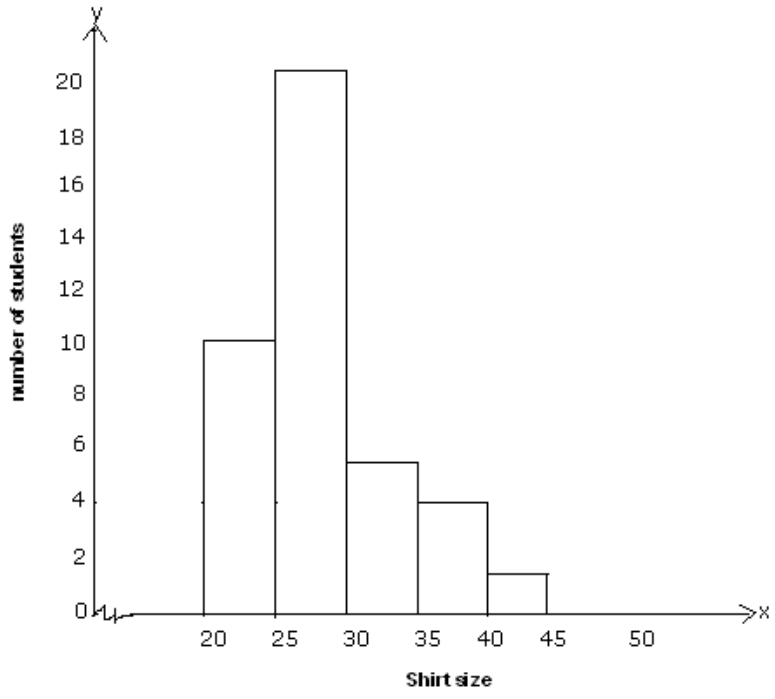



## Question 14

**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:**

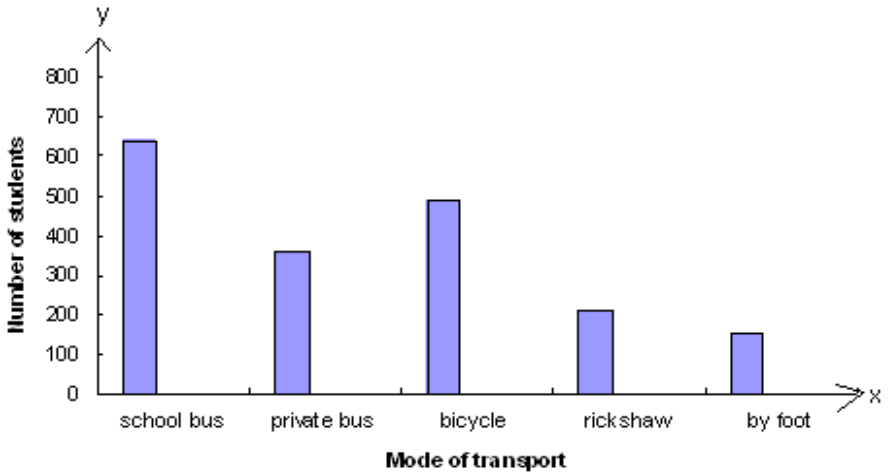


## Question 15

**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:**

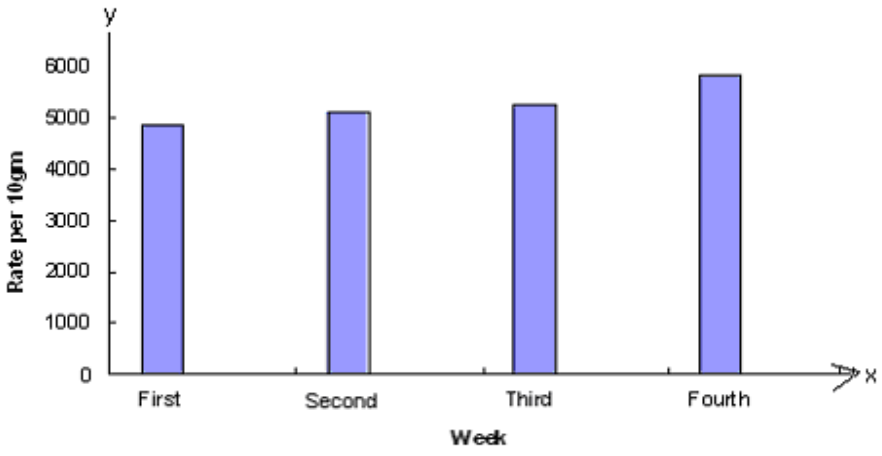



## Question 16

**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:**

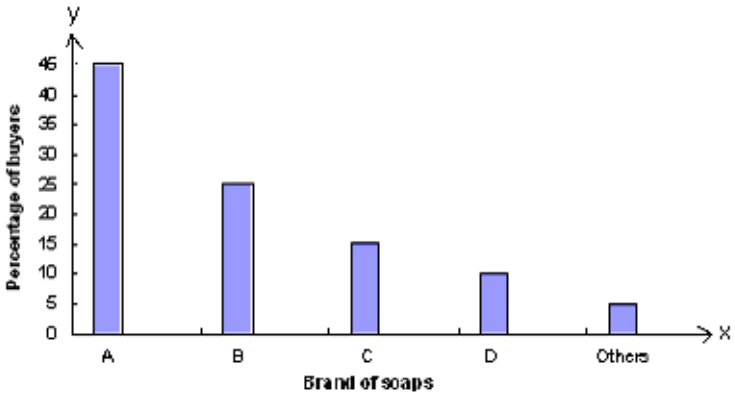


## Question 17

**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:**

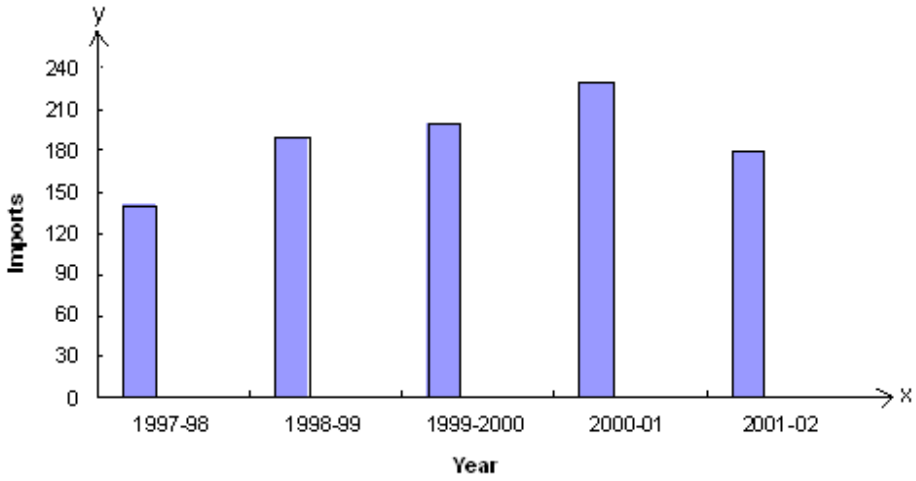



## Question 18

**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: