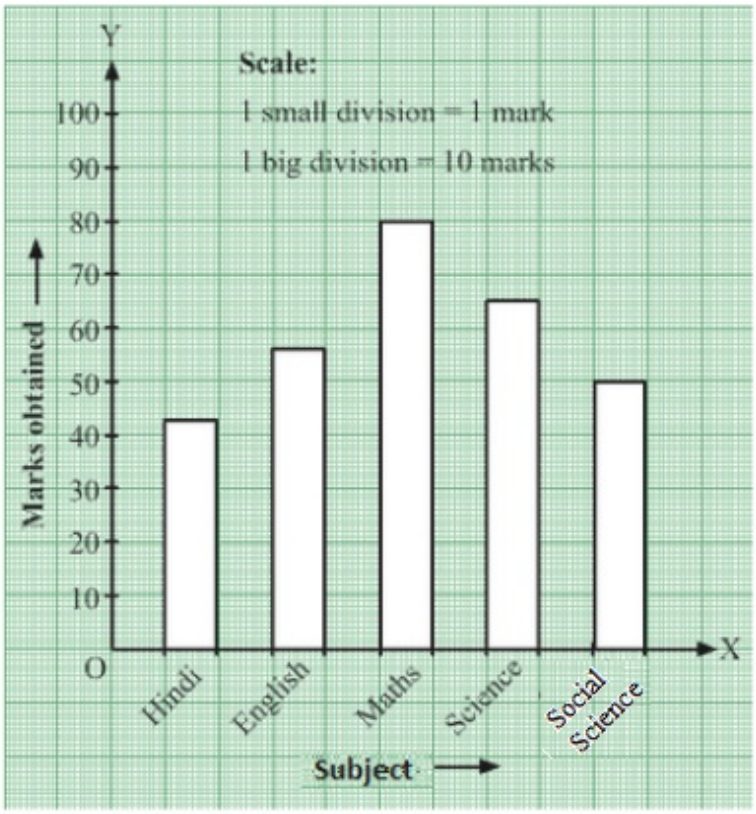
Question:1

The marks of a student in different subjects are given below:

Subject	Hindi	English	Maths	Science	Social science
Marks	43	56	80	65	50

Draw a bar graph from the above information.

Solution:



We can draw the bar graph by following the given steps:

Step 1.- On a graph paper, draw a horizontal line OX as *x*-axis and vertical line OY as *y*-axis.

Step 2.- Along OX, write the names of the subjects at the points that are taken at a uniform gap.

Step 3.- Choose the scale:
1 big division = 10 marks
1 small division = 1 mark

Step 4.- Heights of the various bars are:
Hindi = 43 small divisions = 4 big divisions and 3 small divisions
English = 56 small divisions = 5 big divisions and 6 small divisions
Maths = 80 small divisions = 8 big divisions
Science = 65 small divisions = 6 big divisions and 5 small divisions
Social Science = 50 small divisions = 5 big divisions

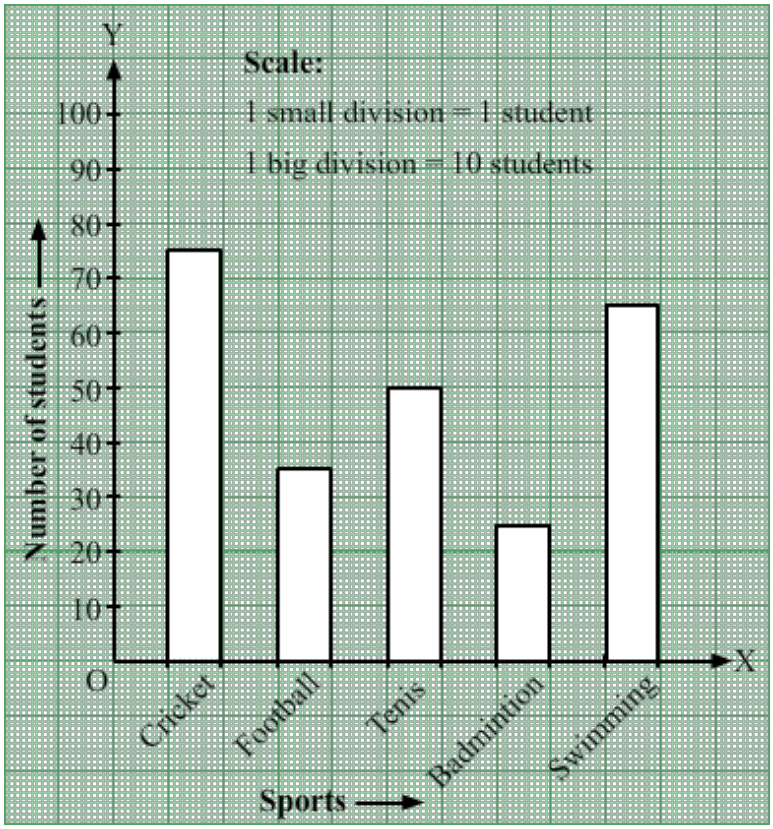
Step 5.- Draw bars of equal width on the *x*-axis. The difference between the two bars should also be the same.

Question:2

The following table shows the favourite sports of 250 students of a school.
Represent the data by a bar graph.

Sports	Cricket	Football	Tennis	Badminton	Swimming
No. of students	75	35	50	25	65

Solution:



We can draw the bar graph by following the given steps:

Step 1.- On a graph paper, draw a horizontal line OX as *x*-axis and vertical line OY as *y*-axis.

Step 2.- Along OX, write the names of the sports at the points that are taken at a uniform gap.

Step 3.- Choose the scale:
1 big division = 10 students
1 small division = 1 student

Step 4.- Heights of the various bars:
Cricket = 75 small divisions = 7 big divisions and 5 small divisions

Football = 35 small divisions = 3 big divisions and 5 small divisions
Tennis = 50 small divisions = 5 big divisions
Badminton = 25 small divisions = 2 big divisions and 5 small divisions
Swimming = 65 small divisions = 6 big divisions and 5 small divisions

Step 5.- Draw bars of equal width on the *x*-axis. The difference between the two bars should also be the same.

Question:3

Given below is a table which shows the year wise strength of a school. Represent this data by a bar graph.

Year	2005-2006	2006-07	2007-08	2008-09	2009-10
No. of students	800	975	1100	1400	1625

Solution:

We can draw the bar graph by following the given steps:

Step 1.- On a graph paper, draw a horizontal line OX as *x*-axis and vertical line OY as *y*-axis.

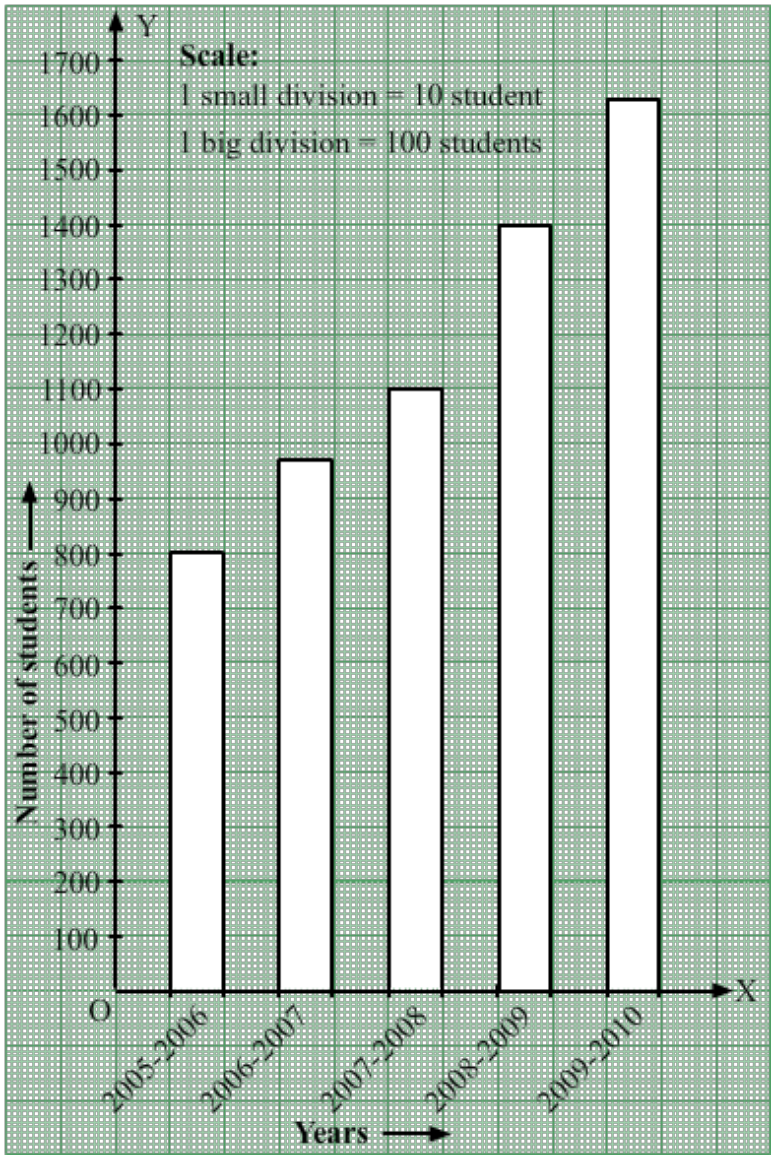
Step 2.- Along OX, write the years at the points that are taken at a uniform gap.

Step 3.- Choose the scale:
1 big division = 100 students
1 small division = 10 student

Step 4.- Heights of the various bars:
2005–2006 = 80 small divisions = 8 big divisions
2006–2007 = 97.5 small divisions = 9 big divisions and 7.5 small divisions
2007–2008 = 110 small divisions = 11 big divisions
2008–2009 = 140 small divisions = 14 big divisions
2009–2010 = 162.5 small divisions = 16 big divisions and 2.5 small divisions

Step 5.- Draw bars of equal width on the *x*-axis. The difference between the two bars should also be the same.

We get the following bar graph:



Question:4

The following table shows the number of scooters produced by a company during six consecutive years. Draw a bar graph to represent this data.

Year	2004	2005	2006	2007	2008	2009
No. of scooters	11000	14000	12500	17500	15000	24000

Solution:

We can draw the bar graph by following the given steps:-

Step 1.- On a graph paper, draw a horizontal line OX as *x*-axis and vertical line OY as *y*-axis.

Step 2.- Along OX, write the years at the points that are taken at a uniform gap.

Step 3.- Choose the scale:

1 big division = 2000 scooters

1 small division = 200 scooters

Step 4.- Heights of the various bars:

2004 = 55 small divisions = 5 big divisions and 5 small divisions

2005 = 70 small divisions = 7 big divisions

2006 = 62.5 small divisions = 6 big divisions 2.5 small divisions

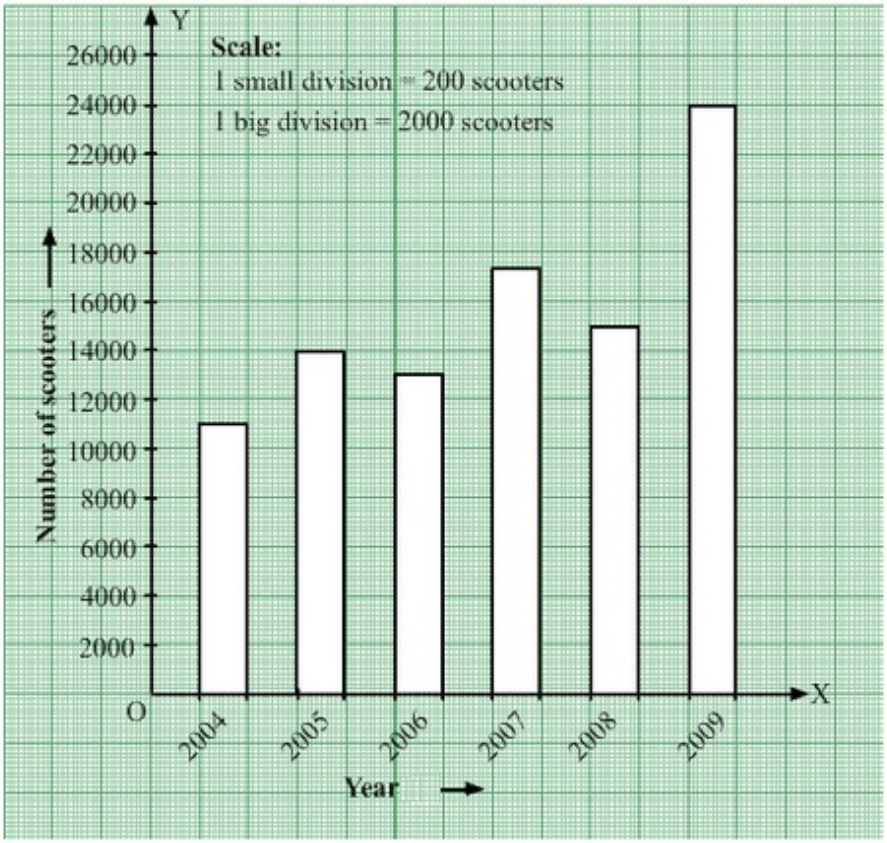
2007 = 87.5 small divisions = 8 big divisions and 7.5 small divisions

2008 = 75 small divisions = 7 big divisions and 5 small divisions

2009 = 120 small divisions = 12 big divisions

Step 5.- Draw bars of equal width on the *x*-axis. The difference between the two bars should also be the same.

We get the following bar graph:



Question:5

The birth rate per thousand in five countries over a period of time is shown below:

Country	China	India	Germany	UK	Sweden
Birth rate per thousand	42	35	14	28	21

Represent the above data by a bar graph.

Solution:

We can draw the bar graph by following the given steps:

Step 1.- On a graph paper, draw a horizontal line OX as *x*-axis and vertical line OY as *y*-axis.

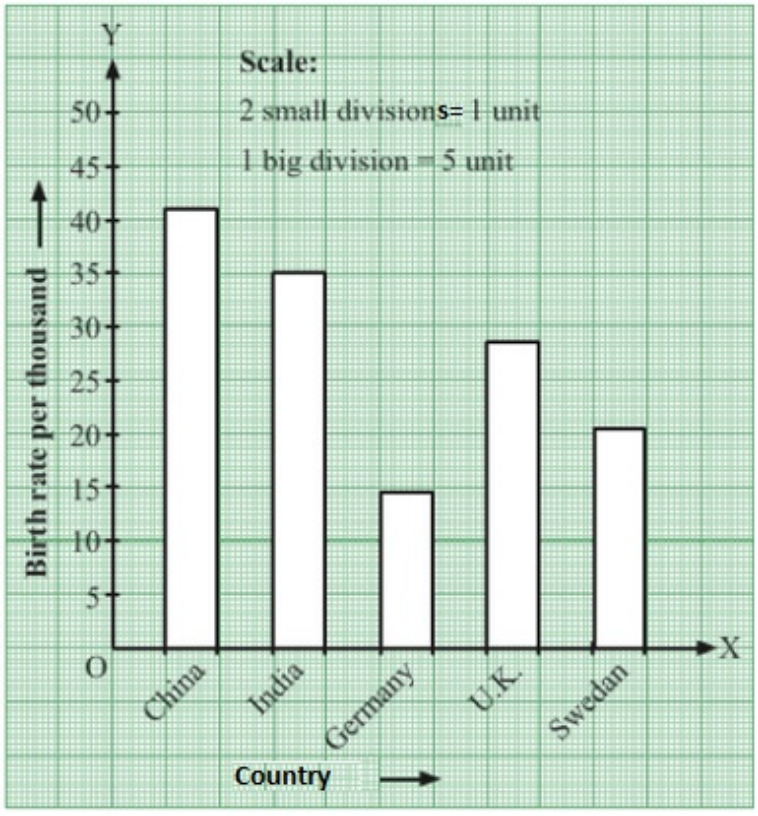
Step 2.- Along OX, write the names of the countries at the points that are taken at a uniform gap.

Step 3.- Choose the scale:
1 big division = 5 unit
2 small division = 1 unit

Step 4.- Heights of the various bars:
China = 84 small divisions = 8 big divisions and 4 small divisions
India = 70 small divisions = 7 big divisions
Germany = 28 small divisions = 2 big divisions and 8 small divisions
U.K. = 56 small divisions = 5 big divisions and 6 small divisions
Sweden = 42 small divisions = 4 big divisions and 2 small divisions

Step 5.- Draw bars of equal width on the *x*-axis. The difference between the two bars should also be the same.

We get the following bar graph:



Question:6
The population $in lakhs$ of six Indian states as estimated in 2001 is given below:

State	Population $in lakhs$
Bihar	820
Jharkhand	270
Utter pradesh	1060
Uttaranchal	80
Madhya pradesh	600
Chhattisgarh	210

Represent the above by a bar graph.

Solution:

We can draw the bar graph by following the given steps:

Step 1.- On a graph paper, draw a horizontal line OX as *x*-axis and vertical line OY as *y*-axis.

Step 2.- Along OX, write the names of the states at the points that are taken at a uniform gap.

Step 3.- Choose the scale:

1 big division = 100 lakhs

1 small division = 10 lakhs

Step 4.- Heights of the various bars:

Bihar = 82 small divisions = 8 big divisions and 2 small divisions

Jharkhand = 27 small divisions = 2 big divisions and 7 small divisions

Uttar Pradesh = 106 small divisions = 10 big divisions and 6 small divisions

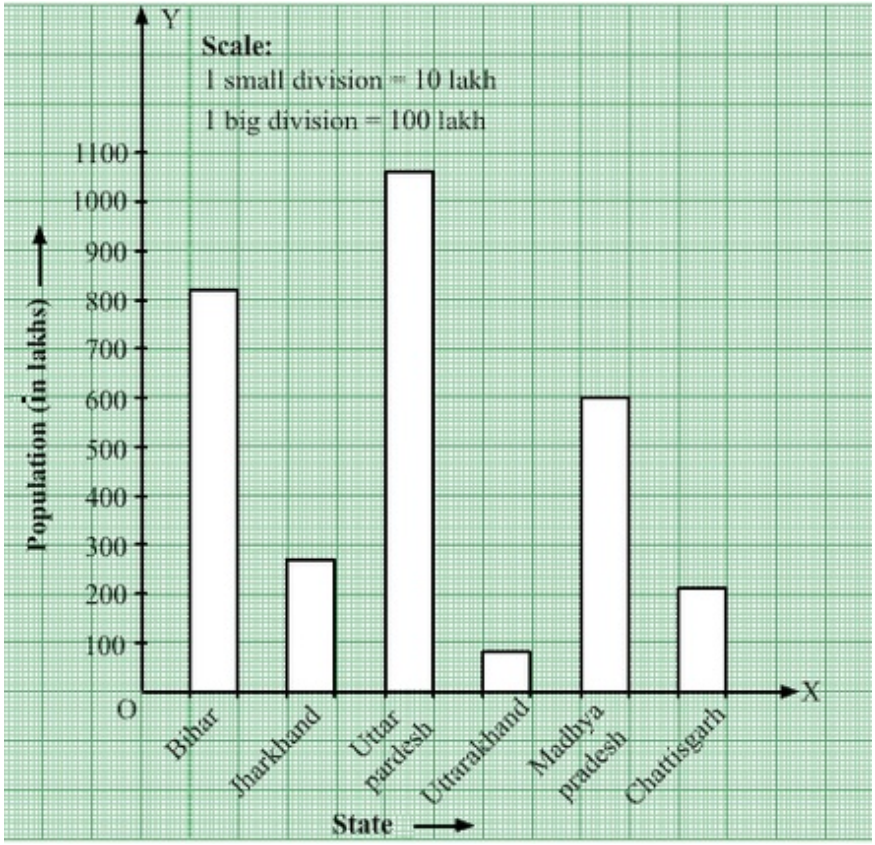
Uttarakhand = 8 small divisions

Madhya Pradesh = 60 small divisions = 6 big divisions

Chhattisgarh = 21 small divisions = 2 big divisions and 1 small division

Step 5.- Draw bars of equal width on the *x*-axis. The difference between the two bars should also be the same.

We get the following bar graph:



Question:7

The following data shows India's total population $inmillions$ from 1951 to 2001.

Represent the data by a bar graph.

Year of census	1951	1961	1971	1981	1991	2001
population $inmillions$	360	432	540	684	852	1020

Solution:

We can draw the bar graph by following the given steps:

Step 1.- On a graph paper, draw a horizontal line OX as *x*-axis and vertical line OY as *y*-axis.

Step 2.- Along OX, write the year at the points that are taken at a uniform gap.

Step 3.- Choose the scale:

1 big division = 100 million

1 small division = 10 million

Step 4.- Heights of the various bars:

1951 = 36 small divisions = 3 big divisions and 6 small divisions

1961 = 43.2 small divisions = 4 big divisions and 3.2 small divisions

1971 = 54 small divisions = 5 big divisions and 4 small divisions

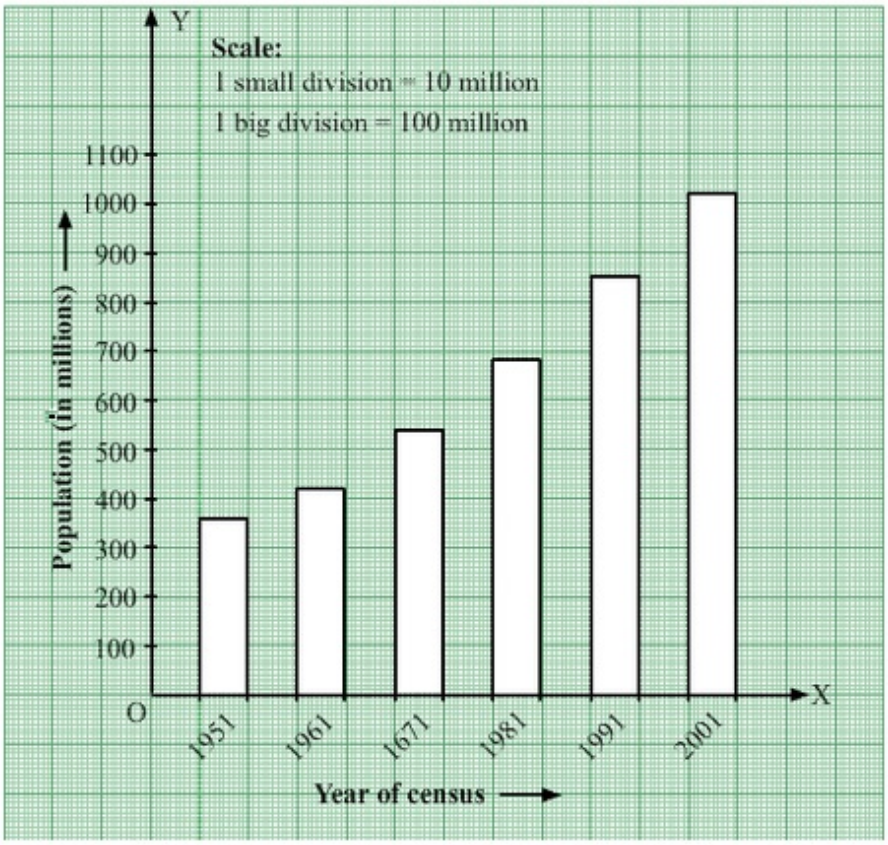
1981 = 68.4 small divisions = 6 big divisions and 8.4 small divisions

1991 = 85.2 small divisions = 8 big divisions and 5.2 small divisions

2001 = 102 small divisions = 10 big divisions and 2 small divisions

Step 5.- Draw bars of equal width on the *x*-axis. The difference between the two bars should also be the same.

We get the following bar graph:



Question:8

The following table shows the interest paid by India $in thousand crore rupees$ on external debts during the period 1998-99 to 2002-03. Represent the data by a bar graph.

Year	1998-99	1999-2000	2000-01	2001-02	2002-03
Interest $in thousand crore rupees$	70	84	98	106	120

Solution:

We can draw the bar graph by following the given steps:

Step 1.- On a graph paper, draw a horizontal line OX as *x*-axis and vertical line OY as *y*-axis.

Step 2.- Along OX, write the years at the points that are taken at a uniform gap.

Step 3.- Choose the scale:

1 big division = 10 thousand crore rupees

1 small division = 1 thousand crore rupees

Step 4.- Heights of the various bars:

1998–99 = 70 small divisions = 7 big divisions

1999–2000 = 84 small divisions = 8 big divisions and 4 small divisions

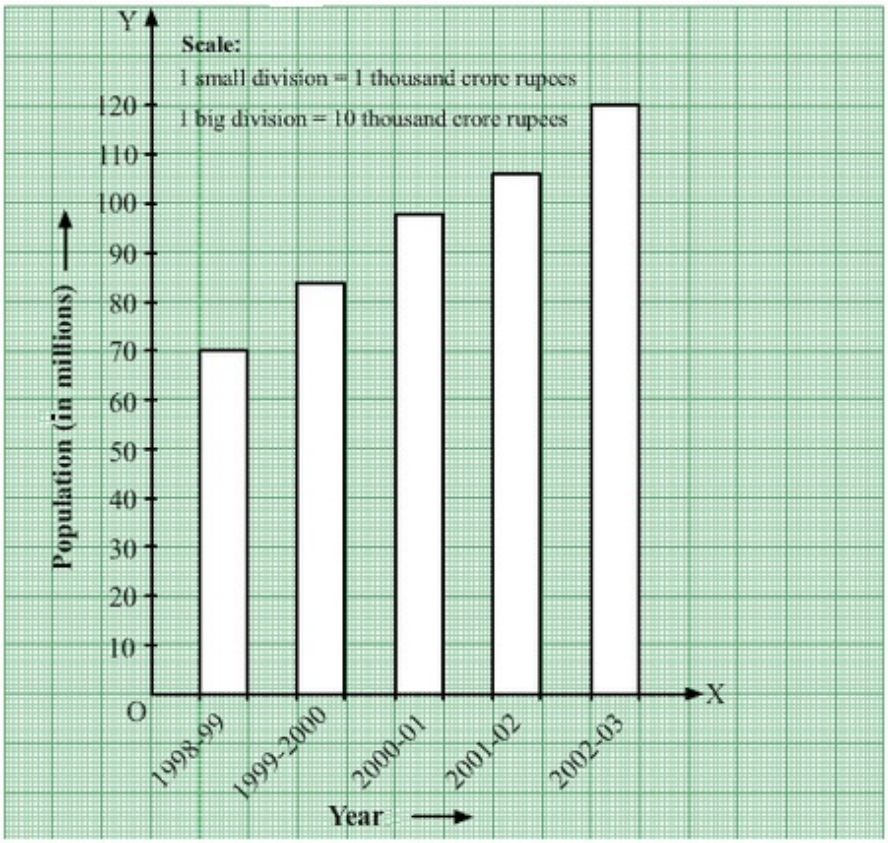
2000–2001 = 98 small divisions = 9 big divisions and 8 small divisions

2001–2002 = 106 small divisions = 10 big divisions and 6 small divisions

2002–2003 = 120 small divisions = 12 big divisions

Step 5.- Draw bars of equal width on the *x*-axis. The difference between the two bars should also be the same.

We get the following bar graph:



Question:9

The air distances of four cities from Delhi $inkm$ are given below:

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

Draw a bar graph to represent the above data.

Solution:

We can draw the bar graph by following steps:

Step 1.- On a graph paper, draw a horizontal line OX as *x*-axis and vertical line OY as *y*-axis.

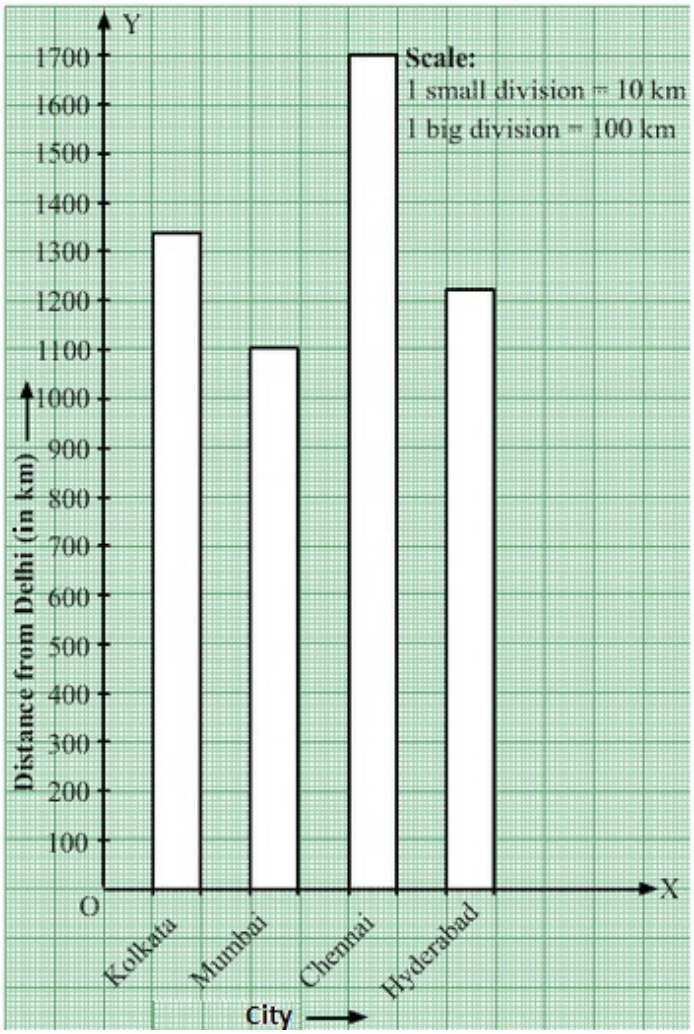
Step 2.- Along OX, write the names of the cities at the points that are taken at a uniform gap.

Step 3.- Choose the scale:
1 big division = 100 km
1 small division = 10 km

Step 4.- Heights of the various bars:
Kolkata = 134 small divisions = 13 big divisions and 4 small divisions
Mumbai = 110 small divisions = 11 big divisions
Chennai = 170 small divisions = 17 big divisions
Hyderabad = 122 small divisions = 12 big divisions and 2 small divisions

Step 5.- Draw bars of equal width on the *x*-axis. The difference between the two bars should also be the same.

We get the following bar graph:



Question:10
The following table shows the life expectancy $average age to which people live$ in various countries in a particular year. Represent this data by a bar graph.

Country	Japan	India	Britain	Ethiopia	Cambodia
Life expectancy $in years$	76	57	70	43	36

Solution:

We can draw the bar graph by following the given steps:

Step 1.- On a graph paper, draw a horizontal line OX as *x*-axis and vertical line OY as *y*-axis.

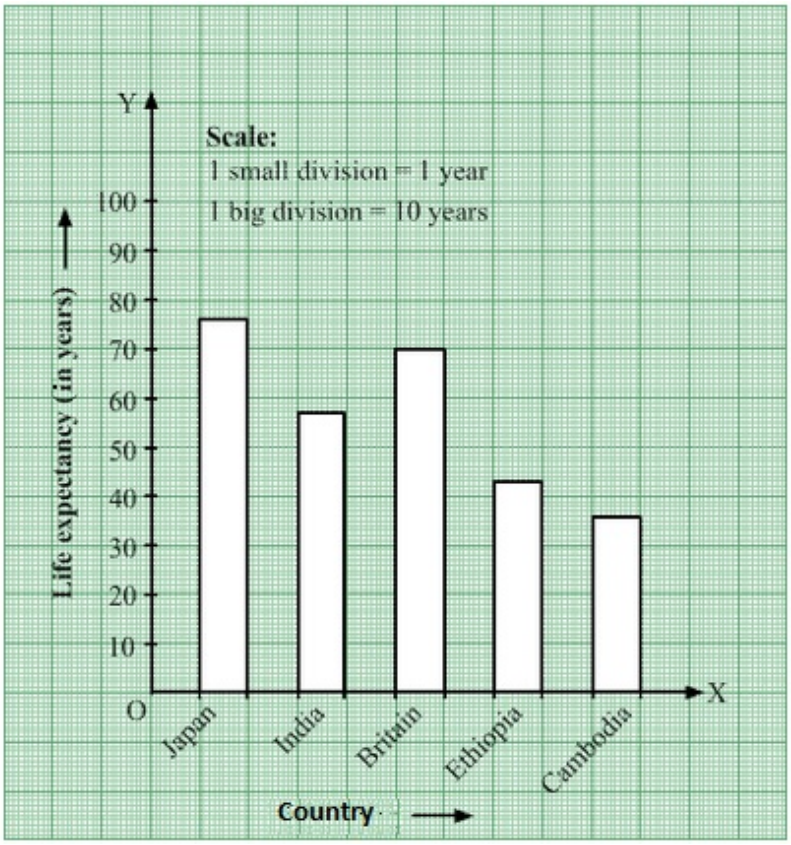
Step 2.- Along OX, write the names of the countries at the points that are taken at a uniform gap.

Step 3.- Choose the scale:
1 big division = 10 years
1 small division = 1 year

Step 4.- Heights of the various bars:
Japan = 76 small divisions = 7 big divisions and 6 small divisions
India = 57 small divisions = 5 big divisions and 7 small divisions
Britain = 70 small divisions = 7 big divisions
Ethiopia = 43 small divisions = 4 big divisions and 3 small divisions
Cambodia = 36 small divisions = 3 big divisions and 6 small divisions

Step 5.- Draw bars of equal width on the *x*-axis. The difference between the two bars should also be the same.

We get the following bar graph:



Question:11

The following table shows the imports $in thousand crore rupees$made by India over the last five years. Draw a bar graph to represent this data.

Year	2001-02	2002-03	2003-04	2004-05	2005-06
Imports $in thousand crore rupees$	148	176	204	232	180

Solution:

We can draw the bar graph by following steps:

Step 1.- On a graph paper, draw a horizontal line OX as *x*-axis and vertical line OY as *y*-axis.

Step 2.- Along OX, write the years at the points that are taken at a uniform gap.

Step 3.- Choose the scale:

1 big division = 20 thousand crore rupees

1 small division = 2 thousand crore rupees

Step 4.- Heights of the various bars:

2001–02 = 74 small divisions = 7 big divisions and 4 small divisions

2002–03 = 88 small divisions = 8 big divisions and 8 small divisions

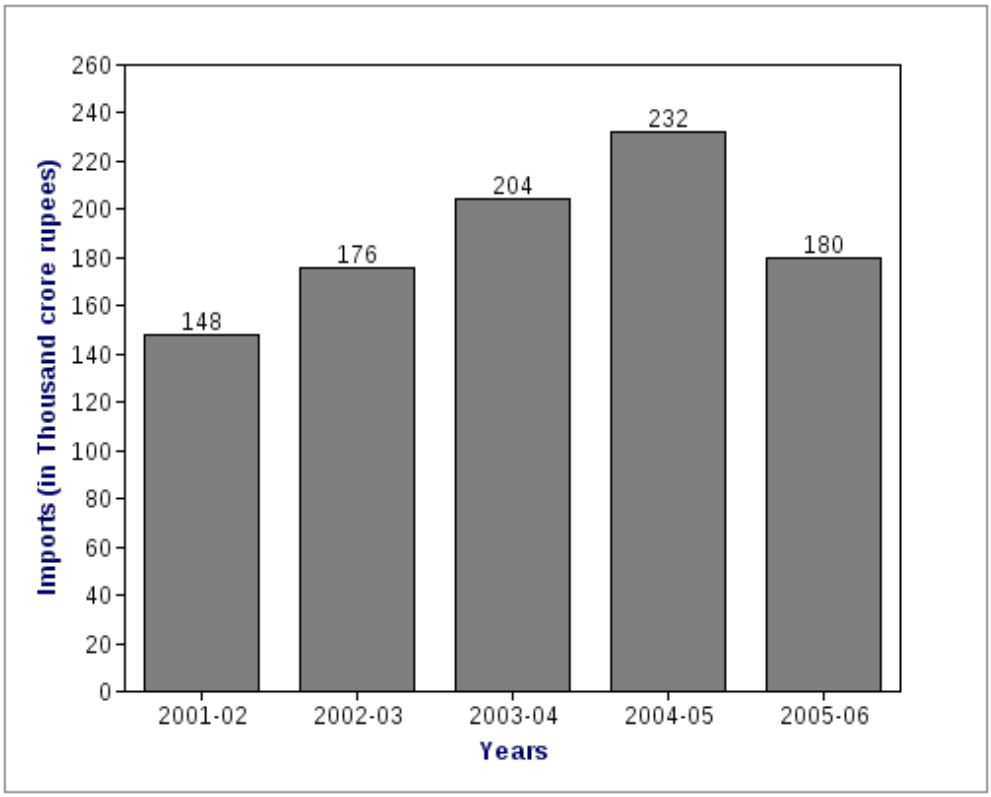
2003–04 = 102 small divisions = 10 big divisions and 2 small divisions

2004–05 = 116 small divisions = 11 big divisions and 6 small divisions

2005–06 = 90 small divisions = 9 big divisions

Step 5.- Draw bars of equal width on the *x*-axis. The difference between the two bars should also be the same.

We get the following bar graph:



Question:12

The data given below shows the average rainfall in Udaipur from June to November of a certain year. Draw a bar graph to represent this information.

Month	June	July	Aug.	Sept.	Oct.	Nov
Average rainfall	25 cm	30 cm	40 cm	20 cm	10 cm	5 cm

Solution:

We can draw the bar graph by following the given steps:

Step 1- On a graph paper, draw a horizontal line OX as *x*-axis and vertical line OY as *y*-axis.

Step 2- Along OX, write the names of the months at the points taken at a uniform gap.

Step 3- Choose the scale:

1 big division = 5 cm

2 small divisions = 1 cm

Step 4- Heights of the various bars:

June = 50 small divisions = 5 big divisions

July = 60 small divisions = 6 big divisions

August = 80 small divisions = 8 big divisions

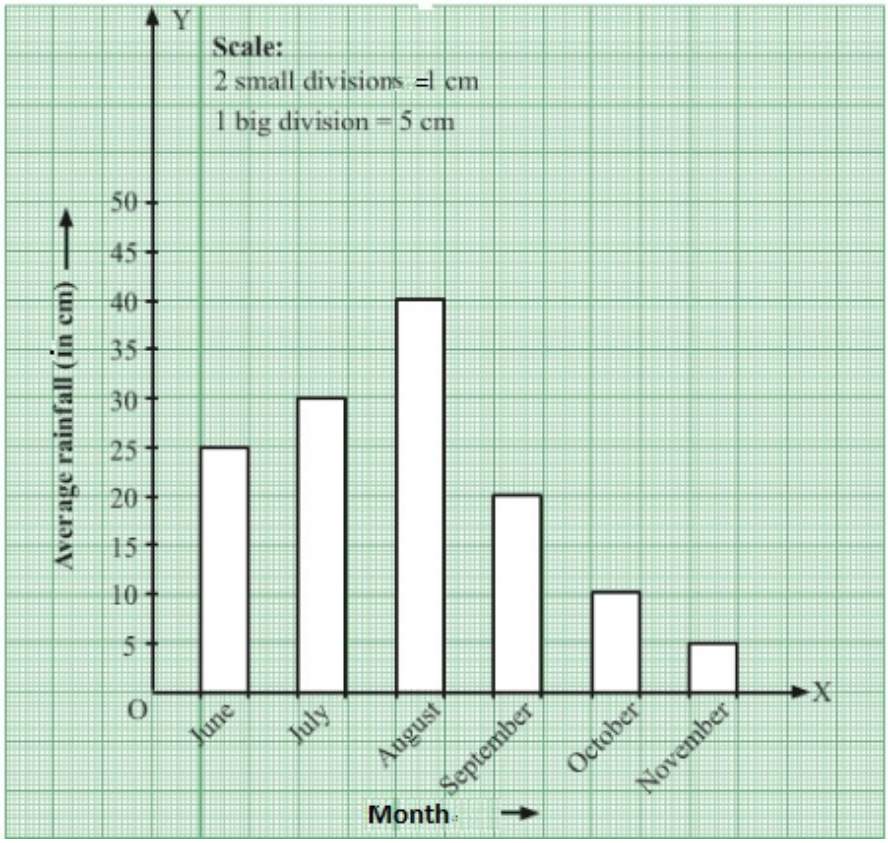
September = 40 small divisions = 4 big divisions

October = 20 small divisions = 2 big divisions

November = 10 small divisions = 1 big division

Step 5- Draw bars of equal width on the *x*-axis. The difference between the two bars should also be the same.

We get the following bar graph:



Question:13

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	Other
Percentage of buyers	45	25	15	10	5

Solution:

We can draw the bar graph by following the given steps:

Step 1.- On a graph paper, draw a horizontal line OX as *x*-axis and vertical line OY as *y*-axis.

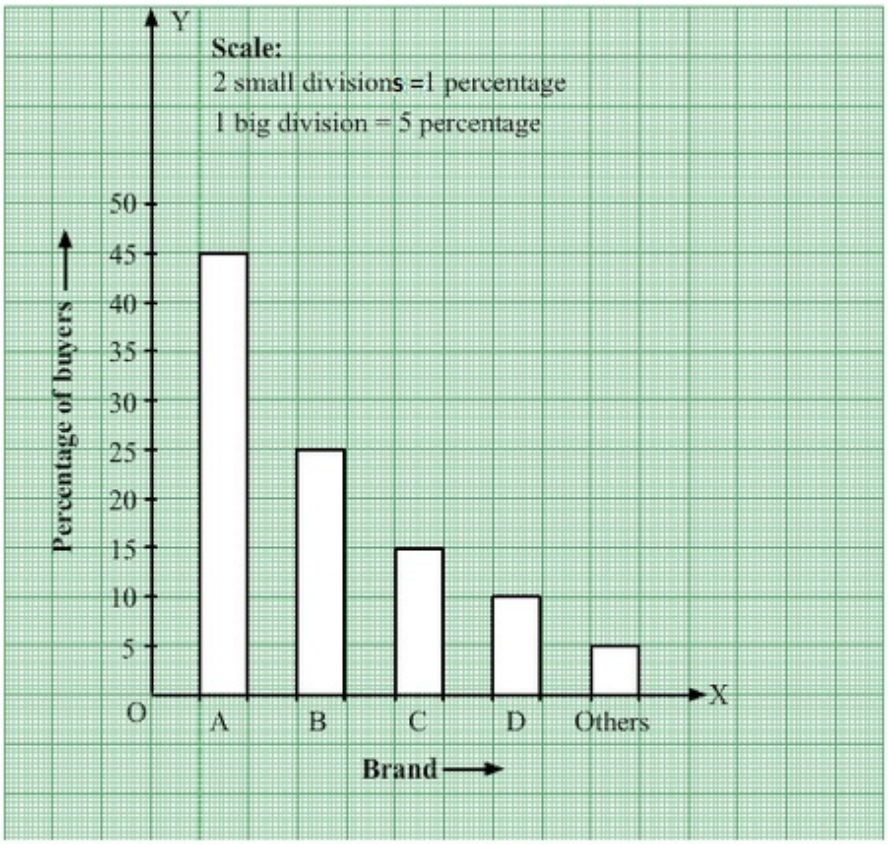
Step 2.- Along OX, write the names of the brands at the points that are taken at a uniform gap.

Step 3.- Choose the scale:
1 big division = 5%
2 small divisions = 1%

Step 4.- Heights of the various bars:
A = 90 small divisions = 9 big divisions
B = 50 small divisions = 5 big divisions
C = 30 small divisions = 3 big divisions
D = 20 small divisions = 2 big divisions
Others = 10 small divisions = 1 big division

Step 5.- Draw bars of equal width on the *x*-axis. The difference between the two bars should also be the same.

We get the following bar graph:



Question:14

Gold prices on 4 consecutive Tuesdays were as under:

Week	First	Second	Third	Fourth

Rate per 10 gm $in Rs$	8500	8750	9050	9250

Draw a bar graph to show this imformation.

Solution:

We can draw the bar graph by following the given steps:

Step 1- On a graph paper, draw a horizontal line OX as *x*-axis and vertical line OY as *y*-axis.

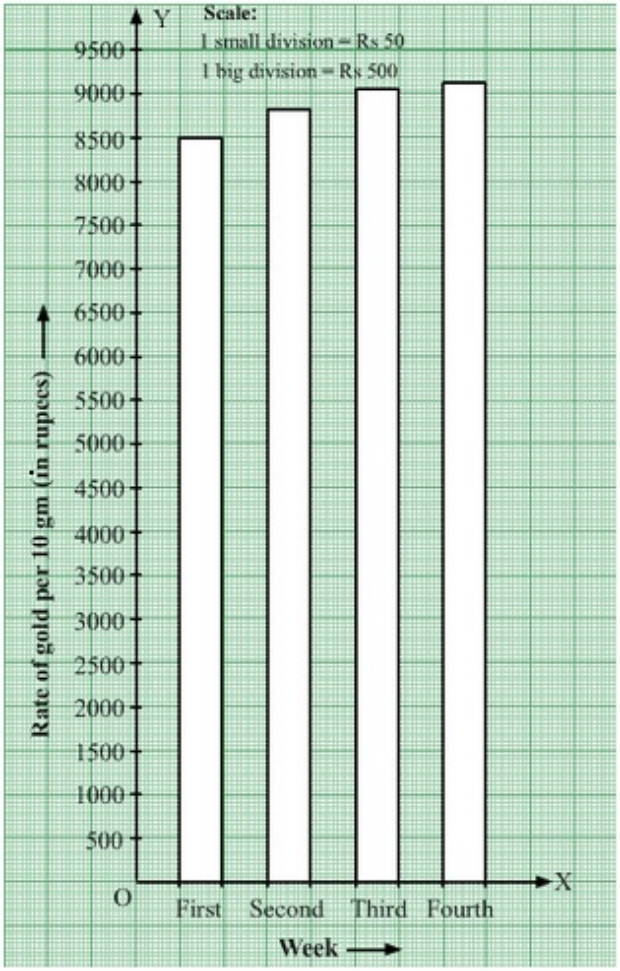
Step 2- Along OX, write the names of the week at the points that are taken at a uniform gap.

Step 3- Choose the scale:
1 big division = Rs 500
1 small division = Rs 50

Step 4- Heights of the various bars:
First week = 170 small divisions = 17 big divisions
Second week = 175 small divisions = 17 big divisions and 5 small divisions
Third week = 181 small divisions = 18 big divisions and 1 small division
Fourth week = 185 small divisions = 18 big divisions and 5 small divisions

Step 5- Draw bars of equal width on the *x*-axis. The difference between the two bars should also be the same.

We get the following bar graph:



Question:15

Various modes of transport used by 1850 students of a school are given below:

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

Draw a bar graph to represent the above data.

Solution:

We can draw the bar graph by following the given steps:

Step 1- On a graph paper, draw a horizontal line OX as *x*-axis and vertical line OY as *y*-axis.

Step 2- Along OX, write the names of the modes of transport at the points taken at a uniform gap.

Step 3- Choose the scale:

1 big division = 50 students

1 small division = 5 student

Step 4- Heights of the various bars:

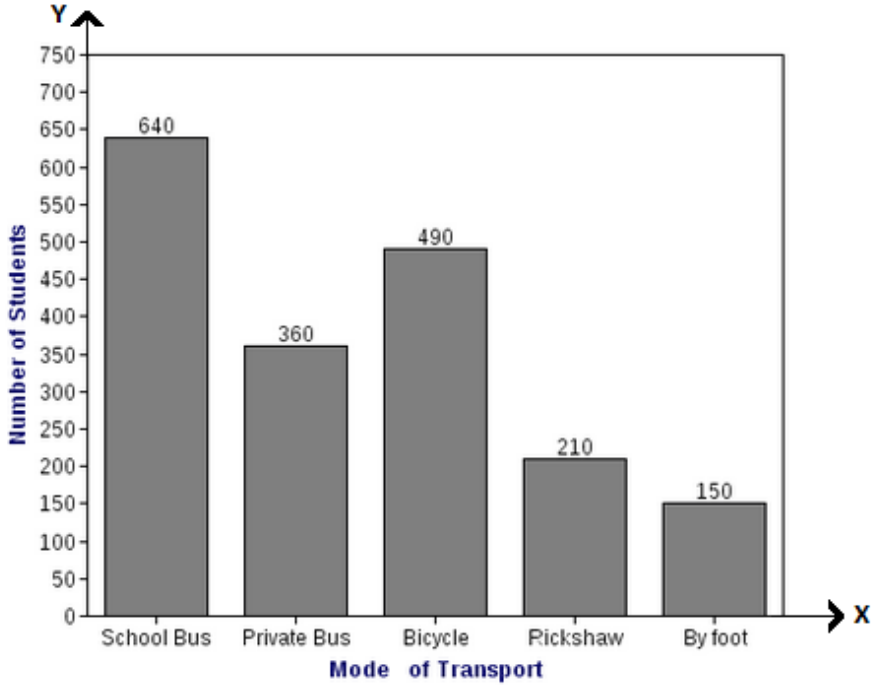
School bus = 128 small divisions = 12 big divisions and 8 small divisions

Private bus = 72 small divisions = 7 big divisions and 2 small divisions

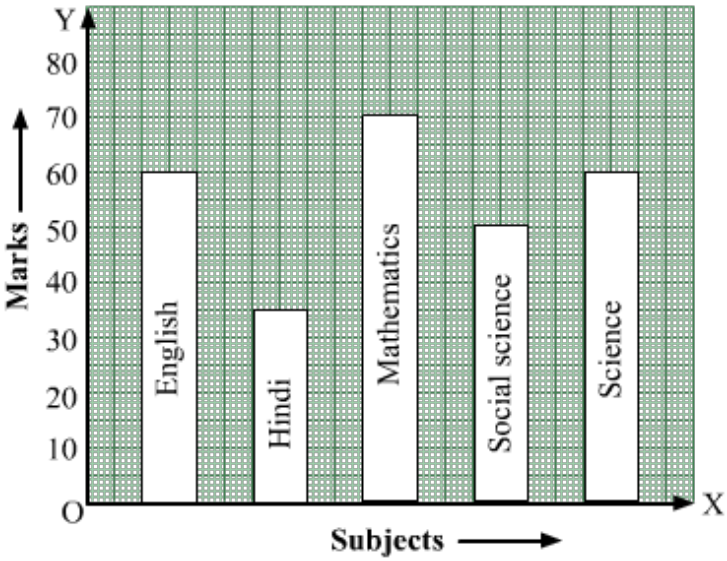
Bicycle = 98 small divisions = 9 big divisions and 8 small divisions
Rickshaw = 42 small divisions = 4 big divisions and 2 small divisions
By foot = 30 small divisions = 3 big divisions

Step 5- Draw the bars of equal width on *x*-axis. The difference between the two bars should also be the same.

We get the following bar graph:



Question:16
Look at the bar graph given below.



Read it care fully and answer the following questions.

i What information does the bar graph give?

ii In which subject is the student very good?

iii In which subject is the poor?

iv What is the average of his marks?

Solution:

i The bar graph shows the marks obtained by a student in an examination in various subjects.

ii The student is very good in mathematics.

iii The student is poor in Hindi.

iv Marks scored in English = 60

Marks scored in Hindi = 35

Marks scored in mathematics = 75

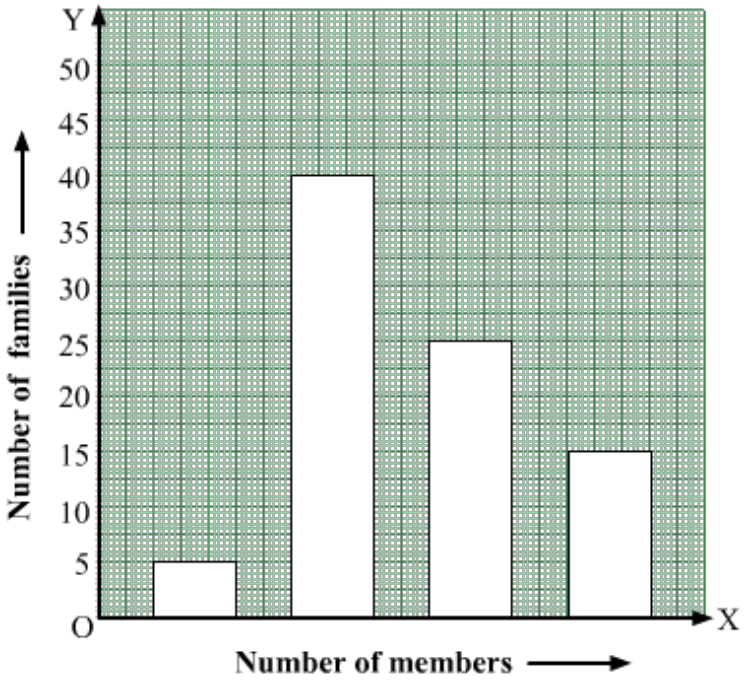
Marks scored in social science = 50

Marks scored in science = 60

$\therefore$ Average marks = $\frac{60+35+75+50+60}{5} = \frac{280}{5} = 56$

Question:17

In a survey or 85 families of a colony, the number of members in each family was recorded, and the data has been represented by the following bar graph.



Read the bar graph carefully and answer the questions given below:

i What information does the bar graph give?

ii How many families have 3 members?

iii How many people live alone?

iv Which type of family is the most common? How many members are there in each family of this kind?

Solution:

i The bar graph shows the number of members in each of the 85 families.

ii 40 families have three members each.

iii Number of people living alone = $85 - 5 + 40 + 25 + 15$

$= 85 - 85$

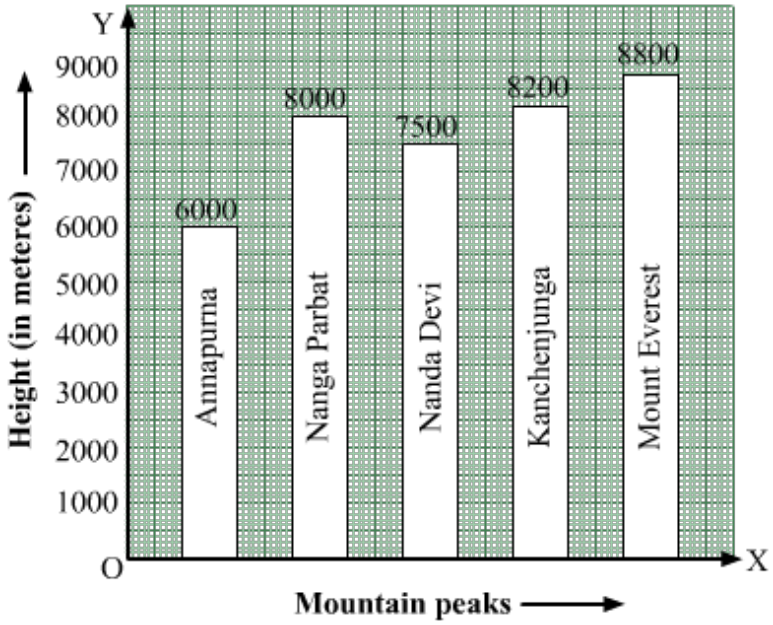
$= 0$

iv The most common family is that with three members.

Each such family has three members .

Question:18

Given below is a bar graph showing the heights of five mountain peaks.



Read the bar graph carefully and answer the following questions:

i Which is the highest peak and what is its height?

ii What is the ratio of the heights of the highest peak and the next highest peak?

iii Arrange the heights of the given peaks in descending order.

Solution:

i Mount Everest is the highest peak and it's height is 8800 m.

ii Height of the highest peak, Mount Everest = 8800 m

Height of the second highest peak, Kanchenjunga = 8200 m

$$\text{Ratio} = \frac{8800}{8200} = \frac{44}{41} = 44 : 41$$

iii Heights of the peaks are 6000 m, 8000 m, 7500 m, 8200 m and 8800 m.

Heights in descending order:

8200 m, 8000 m, 7500 m, 6000 m