

## EXERCISE 9.1

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1. In a Mathematics test, the following marks were obtained by 40 students. Arrange these marks in a table using tally marks.

8	1	3	7	6	5	5	4	4	2
4	9	5	3	7	1	6	5	2	7
7	3	8	4	2	8	9	5	8	6
7	4	5	6	9	6	4	4	6	6

(a) Find how many students obtained marks equal to or more than 7.

(b) How many students obtained marks below 4? Solutions:

Marks	Tally Marks	Number of Students
1		2
2		3
3		3
4		7
5		6
6		7
7		5
8		4
9		3

(a) The students who got marks equal to or more than 7 are the students who got marks as either of 7, 8 and 9. Therefore number of these students

$$= 5 + 4 + 3$$

$$= 12$$

(b) The students who got marks below 4 are the students who got marks as either of 1, 2 and 3. Therefore number of these students are

$$= 2 + 3 + 3$$

$$= 8$$

2. Following is the choice of sweets of 30 students of Class VI.

Ladoo, Barfi, Ladoo, Jalebi, Ladoo, Rasgulla, Jalebi, Ladoo, Barfi, Rasgulla, Ladoo, Jalebi, Jalebi, Rasgulla, Ladoo, Rasgulla, Jalebi, Ladoo, Rasgulla, Ladoo, Ladoo, Barfi, Rasgulla, Rasgulla, Jalebi, Rasgulla, Ladoo, Rasgulla, Jalebi, Ladoo.

(a) Arrange the names of sweets in a table using tally marks.

(b) Which sweet is preferred by most of the students?

Solutions:

By observing the choice of sweets of 30 students. We may construct the table as shown below:

Sweets	Tally Marks	Number of Students
Ladoo		11
Barfi		3
Jalebi		7
Rasgulla		9
		30

(b) The highest number of students preferred Ladoos. Hence, Ladoo is the most preferred sweet among students.

3. Catherine threw a dice 40 times and noted the number appearing each time as shown below :

1	3	5	6	6	3	5	4	1	6
2	5	3	4	6	1	5	5	6	1
1	2	2	3	5	2	4	5	5	6
5	1	6	2	3	5	2	4	1	5

Make a table and enter the data using tally marks. Find the number that appeared.

(a) The minimum number of times

(b) The maximum number of times

(c) Find those numbers that appear an equal number of times. Solutions:

Numbers	Tally Marks	Number of times
1		7
2		6
3		5
4		4
5		11
6		7

(a) The number that occurred for minimum number of times is 4

(b) The number that occurred for maximum number of times is 5

(c) 1 and 6 are the numbers that appear an equal number of times.

4. Following pictograph shows the number of tractors in five villages.

Village	Number of tractors  - 1 Tractor
Village A	
Village B	
Village C	
Village D	
Village E	

Observe the pictograph and answer the following questions.

- (i) Which village has the minimum number of tractors?
- (ii) Which village has the maximum number of tractors?
- (iii) How many more tractors village C has as compared to village B.
- (iv) What is the total number of tractors in all the five villages?

**Solutions:**

- (i) Village D has the minimum number of tractors.
- (ii) Village C has the maximum number of tractors.
- (iii) Village B has 5 tractors

Village C has 8 tractors

$$= 8 - 5$$

$$= 3 \text{ tractors}$$

Village C has 3 more tractors as compared to village B

- (iv) Total number of tractors in all the villages =  $6 + 5 + 8 + 3 + 6 = 28$  tractors

5. The number of girl students in each class of a co-educational middle school is depicted by the pictograph:

Classes	Number of girl students	 - 4 Girls
I		
II		
III		
IV		
V		
VI		
VII		
VIII		

Observe this pictograph and answer the following questions:

- Which class has the minimum number of girl students?
- Is the number of girls in Class VI less than the number of girls in Class V?
- How many girls are there in Class VII?

**Solutions:**

By observing the above table, there are 24, 18, 20, 14, 10, 16, 12 and 6 girls respectively from class I to VIII

- Class VIII has only 6 girls. Therefore, the minimum number of girl students are in Class VIII
- No. Class V has 10 girl students  
Class VI has 16 girl students  
Hence, the number of girls in Class VI are more than the number of girls in Class V
- The number of girls in Class VII are 12

6. The sale of electric bulbs on different days of a week is shown below:

Days	Number of electric bulbs  - 2 Bulbs
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

Observe the pictograph and answer the following questions:

- How many bulbs were sold on Friday?
- On which day were the maximum number of bulbs sold?
- On which of the days same number of bulbs were sold?
- On which of the days minimum number of bulbs were sold?
- If one big carton can hold 9 bulbs. How many cartons were needed in the given week?

**Solutions:**

- Number of bulbs sold on Friday are 14 bulbs.
- On Sunday highest number of bulbs i.e 18 are sold. Thus maximum number of bulbs were sold on Sunday.
- On Wednesday and Saturday 8 bulbs are sold. Hence equal number of bulbs were sold on Wednesday and Saturday.
- Minimum number of bulbs were sold on Wednesday and Saturday i.e 8 bulbs.
- Total number of bulbs sold in a week =  $12 + 16 + 8 + 10 + 14 + 8 + 18 = 86$

7. In a village six fruit merchants sold the following number of fruit baskets in a particular season:

Name of Fruit merchant	Number of fruit baskets	 - 100 fruit baskets
Rahim		
Lakhan pal		
Anwar		
Martin		
Ranjit singh		
Joseph		

Observe this pictograph and answer the following questions:

- Which merchant sold the maximum number of baskets?
- How many fruit baskets were sold by Anwar?
- The merchants who have sold 600 or more number of baskets are planning to buy a godown for the next season. Can you name them?

**Solutions:**

From the pictograph, the number of fruit baskets sold by Rahim, Lakhanpal, Anwar, Martin, Ranjit Singh and Joseph are 400, 550, 700, 950, 800 and 450 respectively

- Martin sold the maximum number of fruit baskets i.e 950
- Anwar sold 700 fruit baskets
- Anwar, Martin and Ranjit Singh are the merchants who sold more than 600 fruit baskets. Hence, these are the merchants who are planning to buy a godown for the next season.

## EXERCISE 9.2

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1. Total number of animals in five villages are as follows:

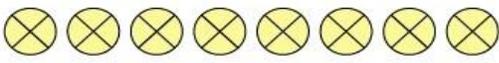
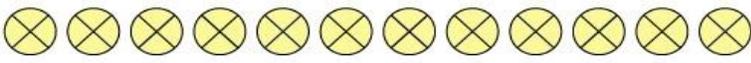
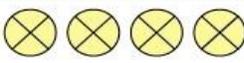
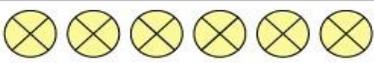
Village A	:	80
Village B	:	120
Village C	:	90
Village D	:	40
Village E	:	60

Prepare a pictograph of these animals using one symbol  to represent 10 animals and answer the following questions:

- How many symbols represent animals of village E?
- Which village has the maximum number of animals?
- Which village has more animals: village A or village C?

Solutions:

We can draw the pictograph for the given data as shown below

Village	Number of animals	 - 10 animals
Village A	80	
Village B	120	
Village C	90	
Village D	40	
Village E	60	

- There are 60 animals in village E. So 6 symbols represent animals of village E
- Village B has 120 animals which is the maximum number among these villages.
- Village A has 80 animals and village C has 90 animals. Clearly village C has more animals than village A

2. Total number of students of a school in different years is shown in the following table

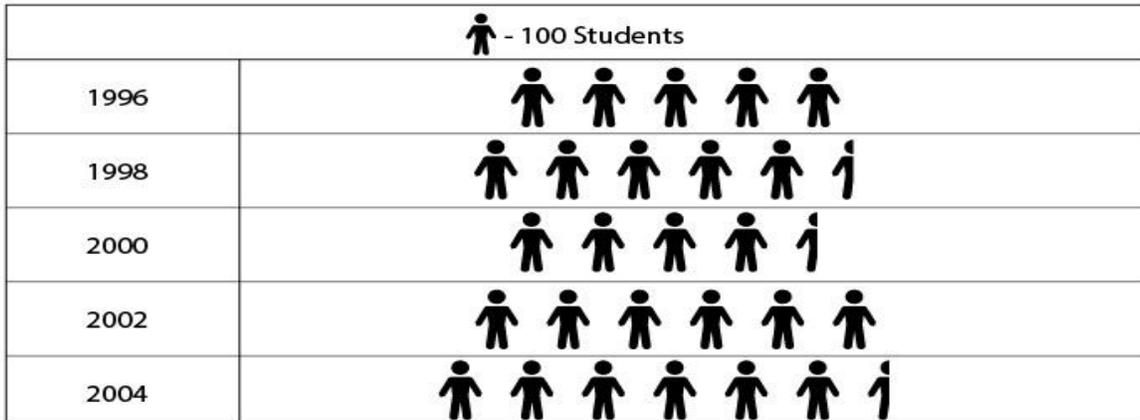
Years	Number of Students
1996	400
1998	535
2000	472
2002	600
2004	623

A. Prepare a pictograph of students using one symbol  to represent 100 students and answer the following questions:

(a) How many symbols represent total number of students in the year 2002?

(b) How many symbols represent total number of students for the year 1998?

B. Prepare another pictograph of students using any other symbol each representing 50 students. Which pictograph do you find more informative? Solutions:

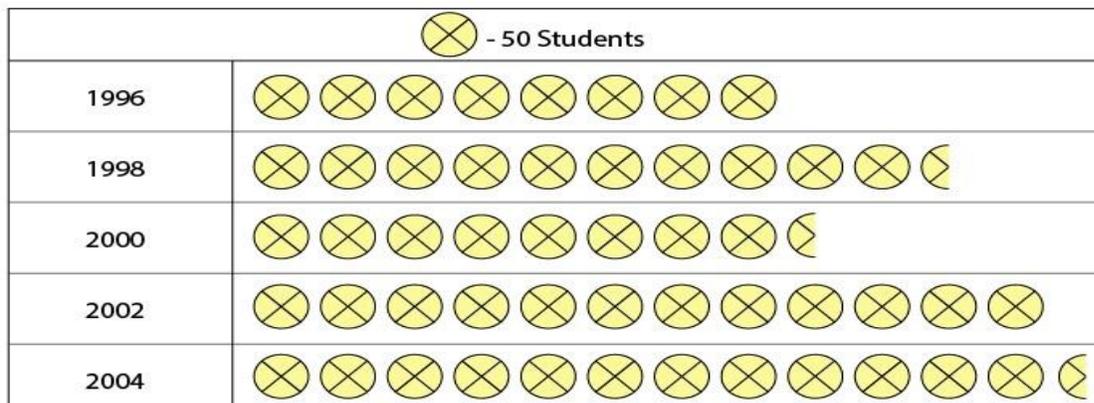


A

(a) Total number of students in the year 2002 represents 6 symbols

(b) Total number of students in the year 1998 represents 5 complete and 1 incomplete symbols

B. Second is more informative



## EXERCISE 9.3

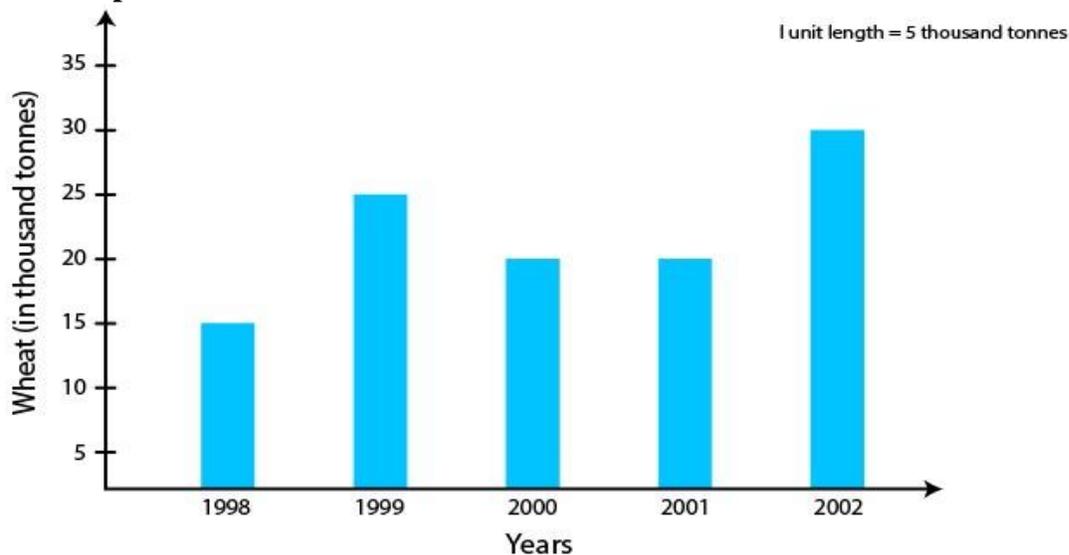
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1. The bar graph given alongside shows the amount of wheat purchased by government during the year 1998-2002.

Read the bar graph and write down your observations. In which year was

(a) the wheat production maximum?

(b) the wheat production minimum?

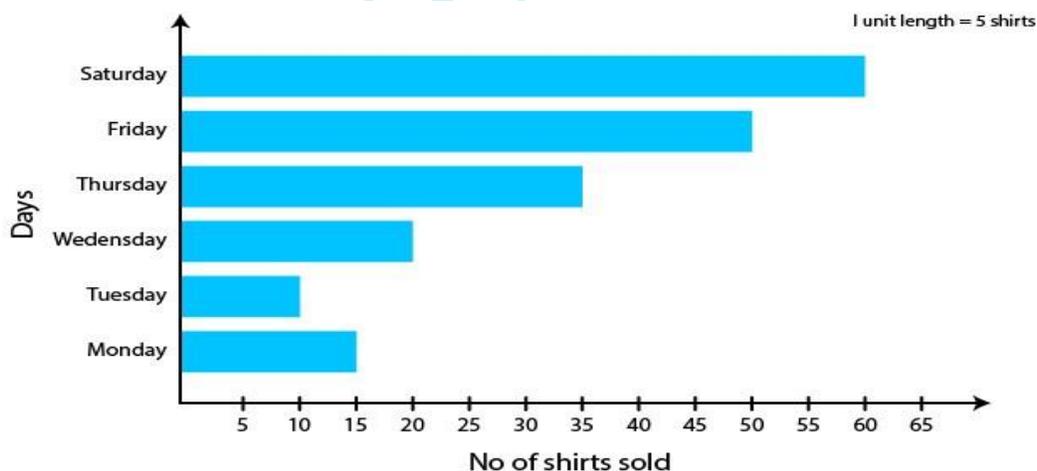


**Solutions:**

(a) The wheat production was maximum in the year 2002

(b) The wheat production was minimum in the year 1998

2. Observe this bar graph which is showing the sale of shirts in a ready made shop from Monday to Saturday



Now answer the following questions:

(a) What information does the above bar graph give?

(b) What is the scale chosen on the horizontal line representing number of shirts?

(c) On which day were the maximum number of shirts sold? How many shirts were sold on that day?

(d) On which day were the minimum number of shirts sold?

(e) How many shirts were sold on Thursday?

**Solutions:**

(a) The above bar graph shows the number of shirts sold from Monday to Saturday

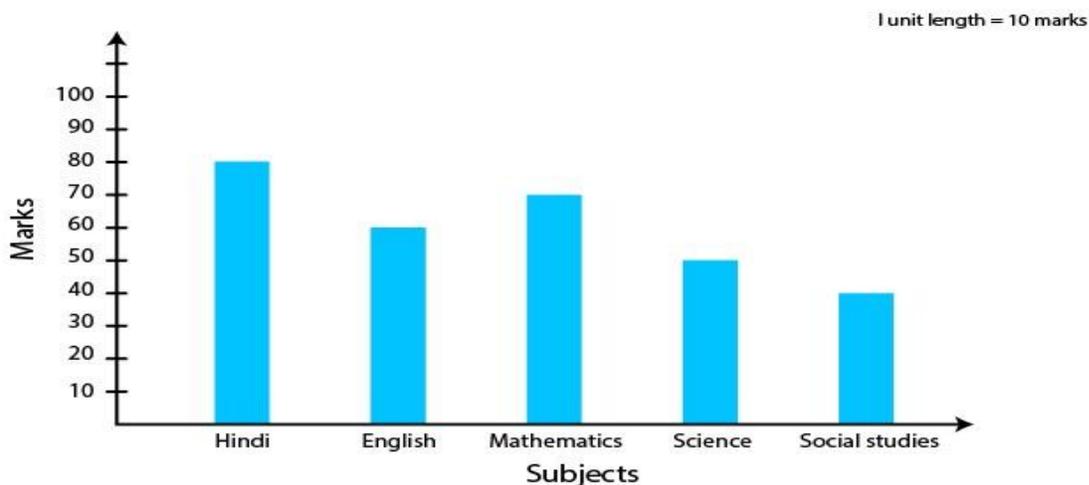
(b) 1 unit length = 5 shirts is the scale on the horizontal line representing number of shirts.

(c) On Saturday maximum number of shirts sold i.e 60 shirts was sold.

(d) On Tuesday minimum number of shirts sold i.e 10 shirts was sold.

(e) 35 shirts were sold on Thursday

**3. Observe this bar graph which shows the marks obtained by Aziz in half-yearly examination in different subjects. Answer the given questions.**



(a) What information does the bar graph give?

(b) Name the subject in which Aziz scored maximum marks.

(c) Name the subject in which he has scored minimum marks.

(d) State the name of the subjects and marks obtained in each of them.

**Solutions:**

(a) The bar graph shows the marks scored by Aziz in different subjects.

(b) Aziz scored maximum marks in Hindi i.e 80 marks

(c) Aziz scored minimum marks in Social Studies i.e 40 marks

(d) Hindi – 80 marks                      English – 60 marks                      Mathematics – 70 marks  
Science – 50 marks                      Social Studies – 40 marks

## EXERCISE 9.4

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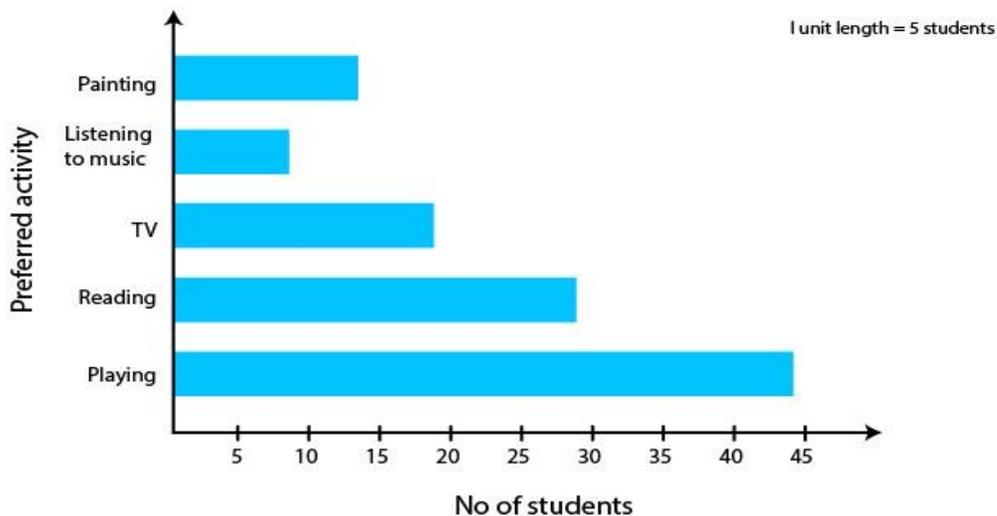
1. A survey of 120 school students was done to find which activity they prefer to do in their free time.

Preferred activity	Number of Students
Playing	45
Reading story books	30
Watching T.V	20
Listening to music	10
Painting	15

Draw a bar graph to illustrate the above data taking scale of 1 unit length = 5 students. Which activity is preferred by most of the students other than playing?

**Solutions:**

By taking a scale of 1 unit length = 5 students, bar graph is shown below considering the above data



Reading story books is the activity preferred by most of the students other than playing

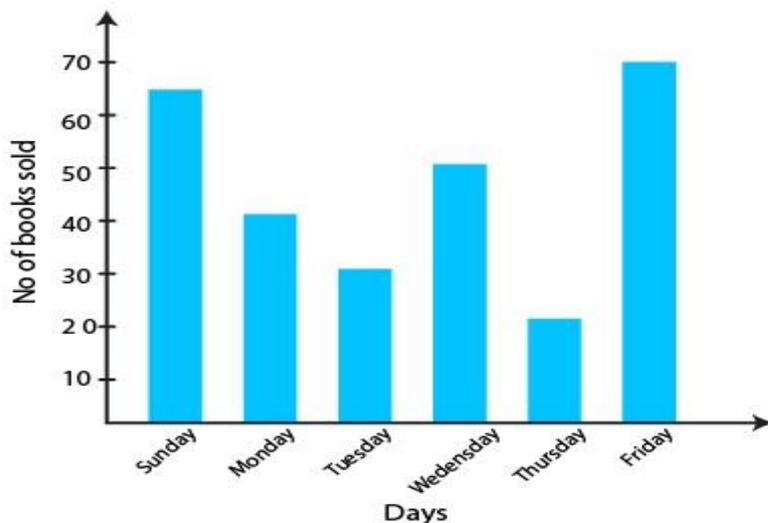
2. The number of Mathematics books sold by a shopkeeper on six consecutive days is shown below:

Days	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Number of books sold	65	40	30	50	20	70

Draw a bar graph to represent the above information choosing the scale of your choice.

**Solutions:**

By taking a scale of 1 unit length = 10 books we may draw a bar graph of above data as follows



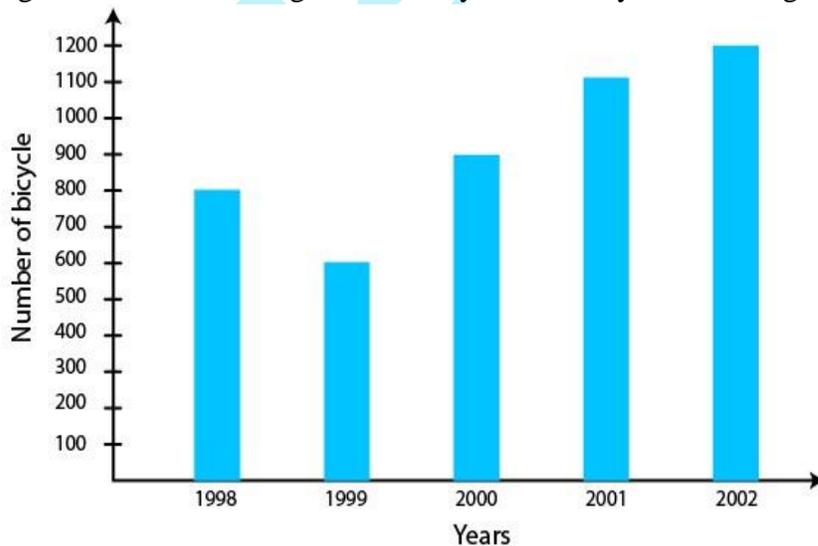
3. Following table shows the number of bicycles manufactured in a factory during the years 1998 to 2002. Illustrate this data using a bar graph. Choose a scale of your choice

Year	Number of bicycles manufactured
1998	800
1999	600
2000	900
2001	1100
2002	1200

- (a) In which year were the maximum number of bicycles manufactured? (b) In which year were the minimum number of bicycles manufactured?

**Solutions:**

By taking a scale of 1 unit length = 100 bicycles we may draw a bar graph of above data as follows



- (a) In the year 2002, maximum number of bicycles were manufactured i.e 1200 bicycles  
 (b) In the year 1999, minimum number of bicycles were manufactured i.e 600 bicycles

4. Number of persons in various age groups in a town is given in the following table.

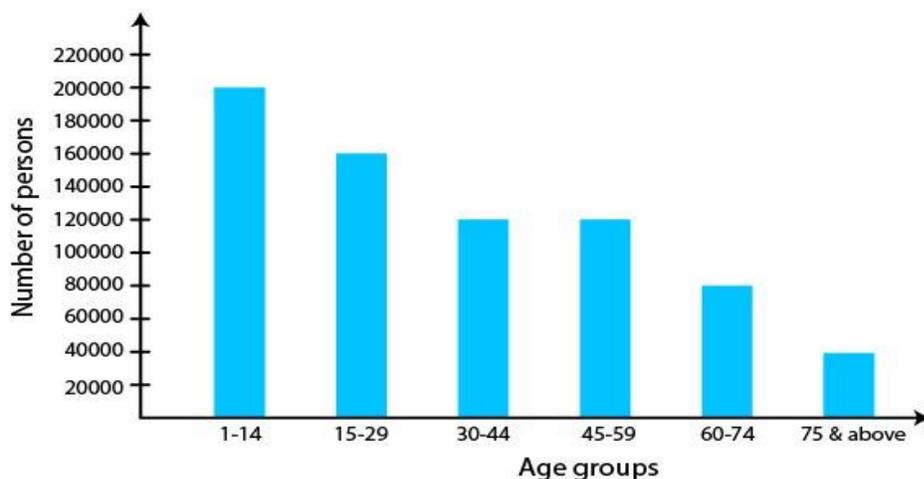
Age group (in years)	1-14	15-29	30-44	45-59	60-74	75 and above
Number of persons	2 lakhs	1 lakh 60 thousands	1 lakh 20 thousands	1 lakh 20 thousands	80 thousands	40 thousands

Draw a bar graph to represent the above information and answer the following questions. (take 1 unit length = 20 thousands)

- (a) Which two age groups have same population?  
 (b) All persons in the age group of 60 and above are called senior citizens. How many senior citizens are there in the town?

**Solutions:**

By taking a scale of 1 unit length = 20 thousands we may draw a bar graph of above data as follows



- (a) The two age groups which have same population are 30-44 and 45-59  
 (b) Senior citizens are the persons between the age group either from 60-74 or from 75 above. Therefore  
 Number of senior citizens in the town = 80000 + 40000  
 = 1 lakh 20 thousand

Hence, the number of senior citizens in the town are 1 lakh 20 thousand