

# NCERT Solutions for Data Handling

## Exercise 9.1

### Question 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?

**Answer**

we can construct the table as follows.

Mar k	Tally mark	Number of Students
1		2
2		3
3		3
4		4
5		4
6		4
7		4
8		4
9		3

(a) The students who obtained their marks equal to or more than 7 are the students who obtained their marks as either of 7, 8, and 9. Hence, number of these students =  $4 + 4 + 3 = 11$

(b) The students who obtained their marks below 4 are the students who obtained their marks as either of 1, 2, and 3.

Hence, number of these students =  $2 + 3 + 3 = 8$

### Question 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?

### Answer

(a)

Sweet	Tally mark	Number of students
Ladoo	<div> <div>    </div> <div>    </div> <div>—</div> </div>	11
Barfi	<div> <div>   </div> </div>	3
Jalebi	<div> <div>    </div> <div>  </div> </div>	7
Rasgulla	<div> <div>    </div> <div>    </div> </div>	9
		30

(b) we can see that highest number of students (11) preferred Ladoo

### Question3

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

### Answer






























Number	Tally mark	Number of times
1	<div> <div>    </div> <div>  </div> </div>	7
2	<div> <div>    </div> <div> </div> </div>	6
3	<div> <div>    </div> </div>	5

4		4
5		11
6		7

- (a) The number which appeared the minimum number of times (i.e., 4 times) is 4.
- (b) The number which appeared the maximum number of times (i.e., 11 times) is 5.
- (c) 1 and 6 are the numbers which appear for the same number of times (i.e., 7 times).

#### Question 4

Following pictograph shows the number of tractors in five villages.

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

Observe the pictograph and answer the following questions.

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

#### Answer

- Village D has the minimum number of tractors, i.e., only 3 tractors.
- Village C has the maximum number of tractors, i.e., 8 tractors.
- village C tractors = 8

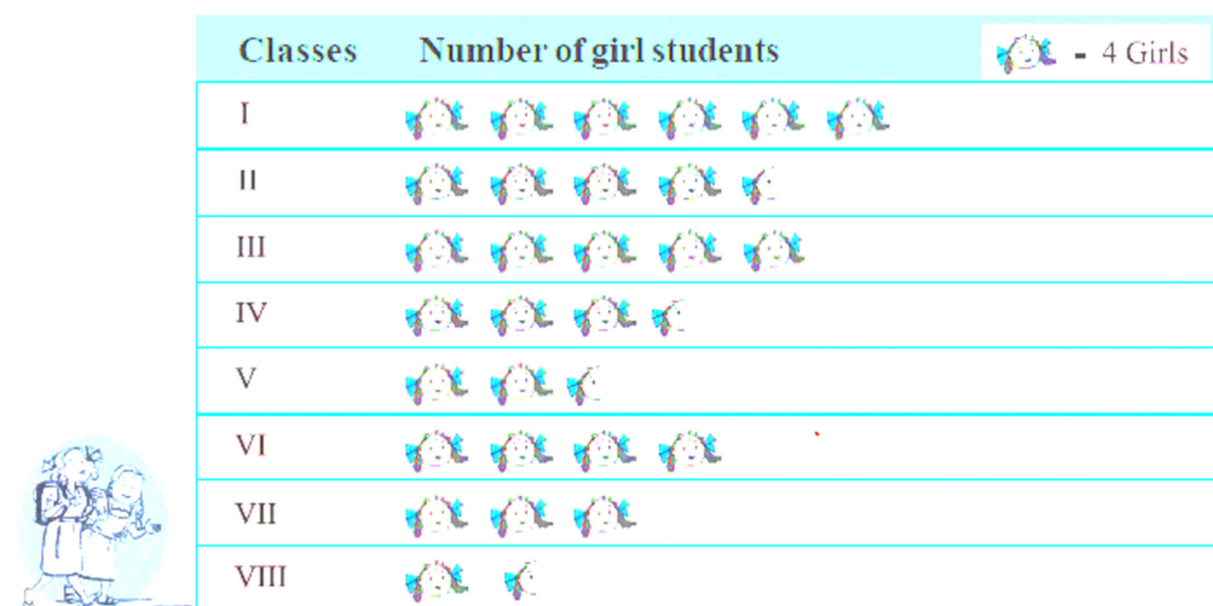
Village B tractors = 5

So, number of tractors C as compared to B =  $8 - 5 = 3$

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

#### Question 4

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



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?

#### Answer

We observed from the table the number of girls in classes I, II, III, IV, V, VI, VII, VIII are 24, 20, 20, 16, 12, 16, 12, 8 girls respectively.

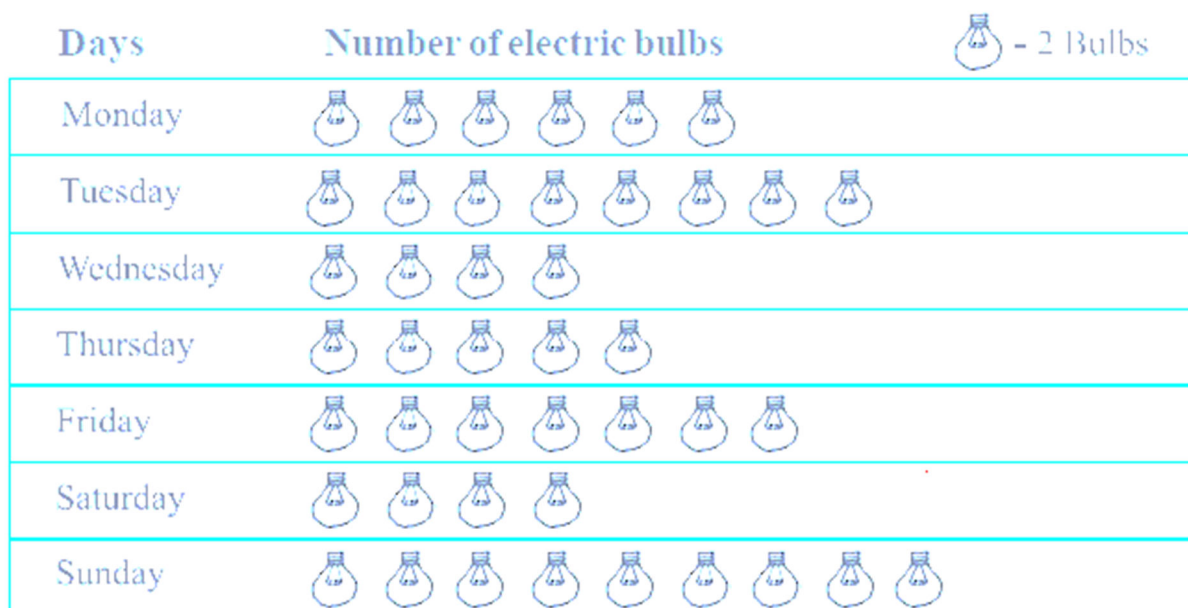
(a) Class VIII has the minimum number of girls, i.e., only 8 girls.

(b) In class V and VI, there are 12 and 16 girls respectively. Clearly, the number of girls is more in class VI than that in class V. So, answer is NO

(c) There are 12 girls in class VII.

### Question 6

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



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?

### Answer

It can be observed that Number of bulbs sold on Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, and Sunday are 12, 16, 8, 10, 14, 8, and 18 respectively.

a) 14 bulbs were sold on Friday

(b) Clearly 18 is maximum in above numbers. So, the maximum numbers of bulbs (i.e., 18) were sold on Sunday.

(c) Equal numbers of bulbs (i.e., 8) were sold on Wednesday and Saturday.










































(d) Clearly minimum is 8. So, the minimum numbers of bulbs (i.e., 8) were sold on Wednesday and Saturday.

(e) Now Total bulbs sold in the week =  $12 + 16 + 8 + 10 + 14 + 8 + 18 = 86$

So total cartoons needed =  $86/9 = 10$  Cartoons are required

### Question 7

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

Name of fruit merchants	Number of fruit baskets	 - 100 Fruit baskets
Rahim	   	
Lakhanpal	     	
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?

### Answer

it can be observed that the number of fruit baskets sold by Rahim, Lakhanpal, Anwar, Martin, Ranjit Singh, and Joseph are 400, 550, 700, 950, 800, and 450 respectively.

(a) Martin sold the maximum number of baskets, i.e., 950.

(b) Anwar sold 700 baskets.

(c) Anwar, Martin, and Ranjit Singh are the three merchants who have sold more than 600 baskets. Therefore, they are planning to buy a godown for the next season.

## Exercise 9.2

### Question 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:







(a) How many symbols represent animals of village E?

(b) Which village has the maximum number of animals?

(c) Which village has more animals: village A or village C?

### Answer

The pictograph for the given data can be drawn as follows.

Village	Number of animals  – 10 animals
Village A	
Village B	
Village C	
Village D	
Village E	

(a) 6 symbols will represent animals of village E as there were 60 animals in this village.

(b) Village B has the maximum number of animals i.e., 120.

(c) Village A and C have 80 and 90 animals in it. Clearly, Village C has more animals.

## Question 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?




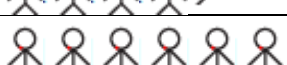

(b) How many symbols represent total number of students for the year 1998?

B. Prepare another pictograph of students using any other symbol each representing 50

students. Which pictograph do you find more informative?

## Answer

A

Years	Number of students
1996	
1998	
2000	
2002	
2004	

(a) 6 symbols represent the total number of students in the year 2002.



(b) 5 complete and 1 incomplete symbols represent the total number of students in the year 1998.

**B**

Years	Number of students
1996	♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥
1998	♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥
2000	♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥
2002	♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥
2004	♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥

Second one is more informative

### Exercise 9.3

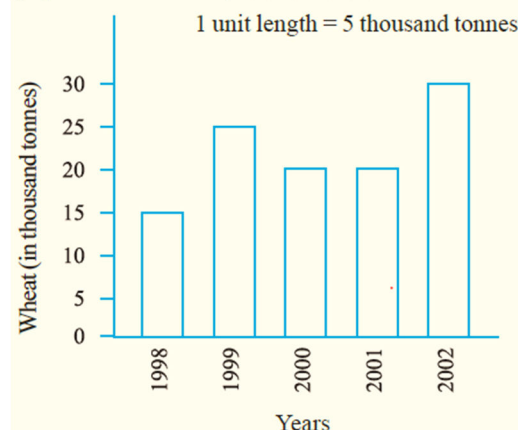
#### Question 1

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?



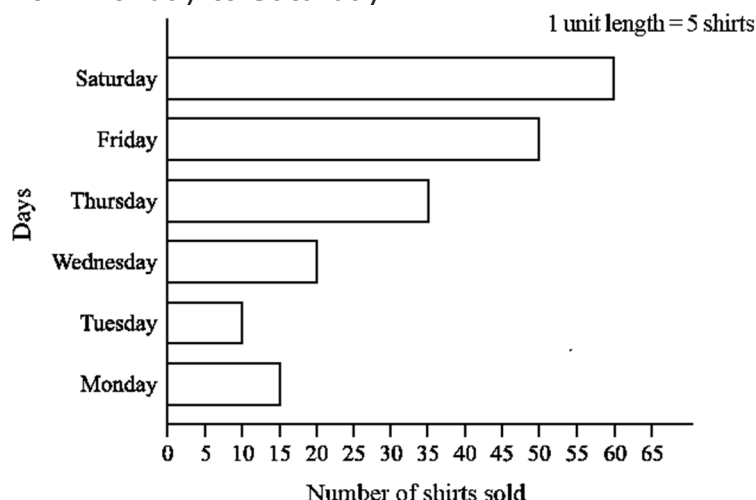
#### Answer

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

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

## Question 2

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



Now answer the following questions:

- What information does the above bar graph give?
- What is the scale chosen on the horizontal line representing number of shirts?
- On which day were the maximum number of shirts sold? How many shirts were sold on that day?
- On which day were the minimum number of shirts sold?
- How many shirts were sold on Thursday?

## Answer

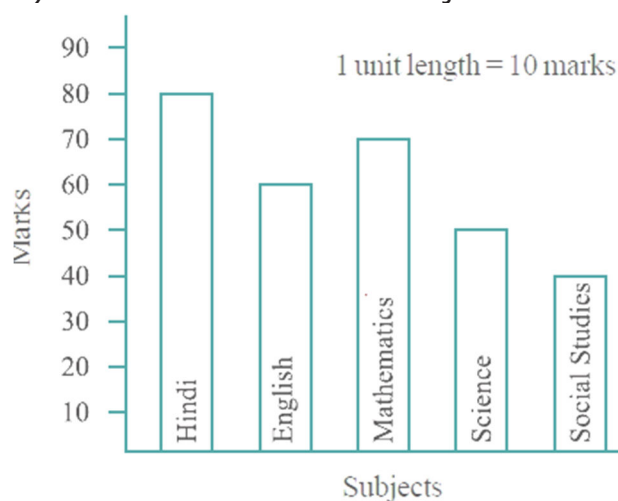
- This bar graph represents the number of shirts sold from Monday to Saturday.
- 1 unit = 5 shirts
- The number of shirts sold on Saturday was the maximum, i.e., 60
- The number of shirts sold on Tuesday was the minimum, i.e., 10
- Number of shirts sold on Thursday=35

## Question 3

Observe this bar graph which shows the marks obtained by Aziz in half-yearly examination in different subjects.

Answer the given questions.

- What information does the bar graph give?
- Name the subject in which Aziz scored maximum marks.
- Name the subject in which he has scored minimum marks.
- State the name of the subjects and marks obtained in each of them.



### Answer

- This graph shows the marks obtained by Aziz in different subjects.
- In Hindi, Aziz scored maximum marks i.e., 80.
- In Social studies, Aziz scored minimum marks i.e., 40.
- 

Hindi	80
English	60
Maths	70
Science	50
Social studies	40

### Exercise 9.4

#### Question 1

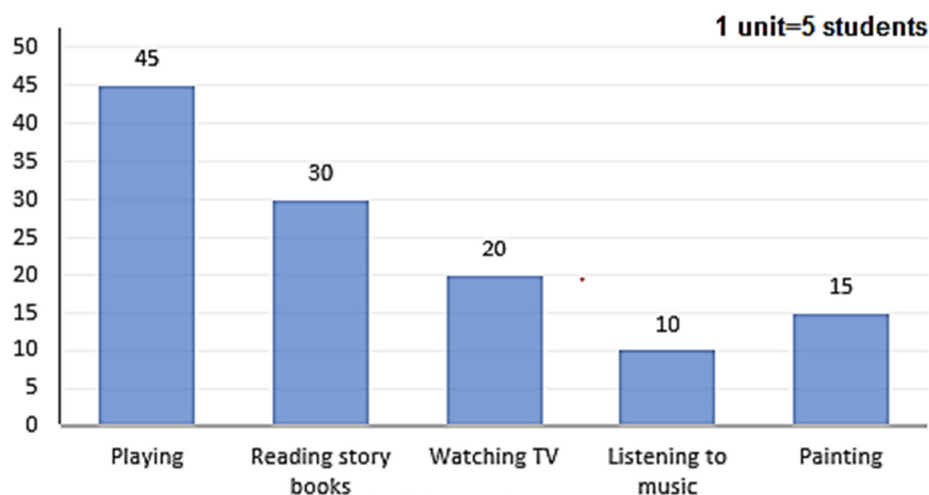
A survey of 120 school students was done to find which activity they prefer to do in their free time.

Preferred activity	Number of students
Playing	45
Reading story books	30
Watching TV	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?

**Answer**



We can see that Reading story books is preferred by students other than playing

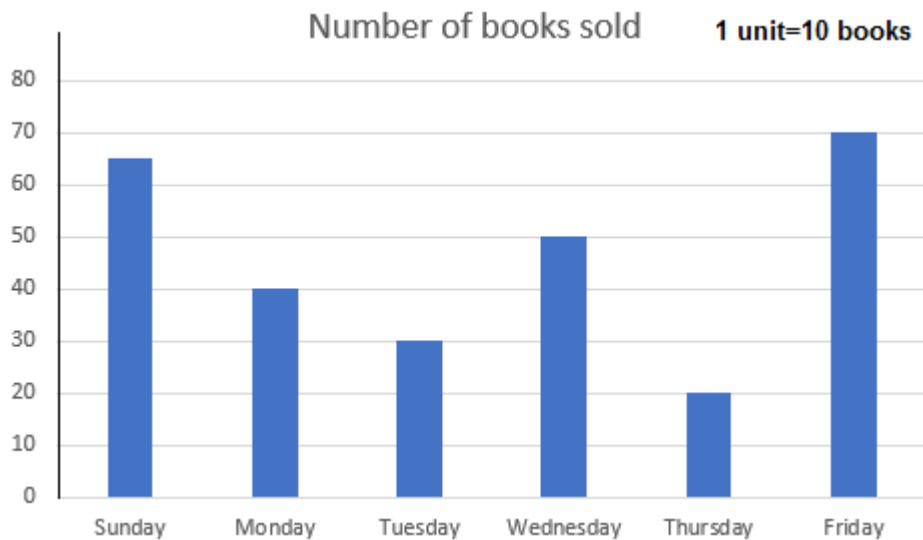
### Question 2

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.

**Answer**



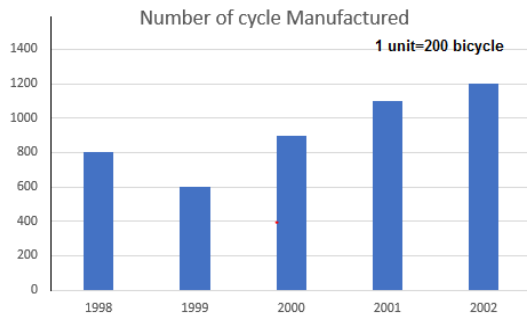
### Question 3

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.

Years	Number of bicycle 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?

**Answer**



- a) 2002
- b) 1999

#### Question 4

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

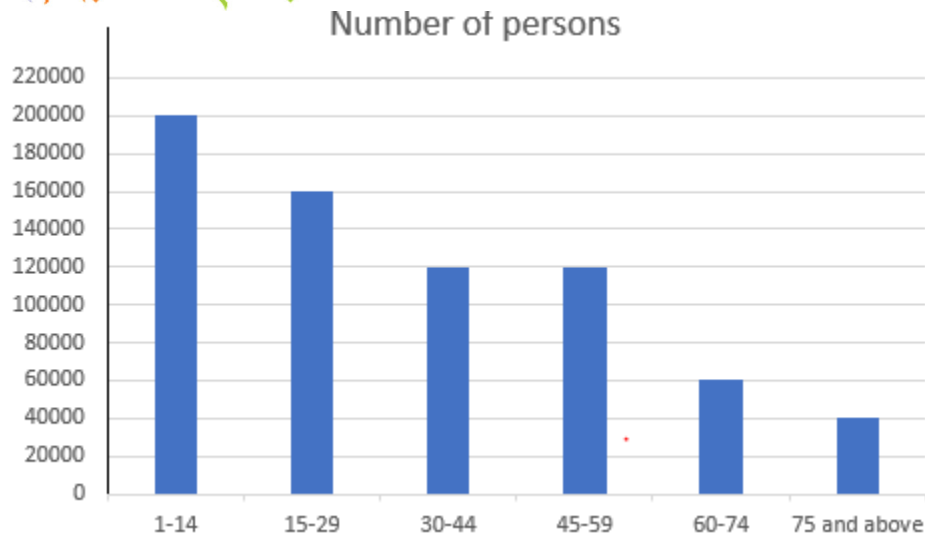
Age group	1-14	15-29	30-44	45-59	60-74	75 and above
Number of persons	2 lakhs	1 lakh 60 thousand	1 Lakh 20 thousand	1 Lakh 20 thousand	80 thousand	40 thousands

Draw a bar graph to represent the above information and answer the following questions.

(take 1-unit length = 20 thousand)

- (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?

**Answer**



a) 30-44 and 45-59 age group has same population

b) Senior citizen = population in 60-74 age group + population in 75 and above age group

$$= 60000 + 40000$$

$$= 100000$$