# MATHS

# BOOKS - PSEB

# Data handling

## Examples

**1.** Ashish studies for 4 hours, 5 hours and 3 hours respectively on three consecutive days.

How many hours does he study daily on an average?

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**2.** A batsman scored the following number of runs in six innings:

36,35,50,46,60,55

Calculate the mean runs scored by him in an inning:

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**3.** The ages in years of 10 teachers of a school are:

32, 41, 28, 54, 35, 26, 23, 33, 38, 40

What is the age of the oldest teacher and that of the youngest teacher?

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**4.** The ages in years of 10 teachers of a school are:

32, 41, 28, 54, 35, 26, 23, 33, 38, 41

What is the range of the ages of the teachers?

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**5.** The ages in years of 10 teachers of a school are:

32, 41, 28, 54, 35, 26, 23, 33, 38, 40

What is the mean age of these teachers?

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**6.** Find the range of heights of any ten students of your class.

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**7.** Organise the following marks in a class assessment, in a tabular form.

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

Which number is the highest?

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**8.** Organise the following marks in a class assessment, in a tabular form.

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

Which number is the lowest?

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**9.** Organise the following marks in a class assessment, in a tabular form.

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

What is the range of the data?

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**10.** Organise the following marks in a class assessment, in a tabular form.

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

Find the arithmetic mean.

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**11.** Find the mean of the first five whole numbers.

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**12.** A cricketer scores the following runs in eight innings:

58, 76, 40, 35, 46, 45, 0, 100.

Find the mean score.

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**13.** Following table shows the points of each player scored in four games:

Now answer the following questions:

Find the mean to determine A's average

number of points scored per game.

| Player | Game 1 | Game 2 | Game 3 | Game 4 |
|---|---|---|---|---|
| A | 14 | 16 | 10 | 10 |
| B | 0 | 8 | 6 | 4 |
| C | 8 | 11 | Did not Play | 13 |

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**14.** Following table shows the points of each player scored in four games:

Now answer the following questions:

To find the mean number of points per game for C, would you divide the total points by 3 or

by 4? Why?

| Player | Game 1 | Game 2 | Game 3 | Game 4 |
|---|---|---|---|---|
| A | 14 | 16 | 10 | 10 |
| B | 0 | 8 | 6 | 4 |
| C | 8 | 11 | Did not Play | 13 |

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**15.** Following table shows the points of each player scored in four games:

Now answer the following questions:

B played in all the four games. How would you find the mean?

| Player | Game 1 | Game 2 | Game 3 | Game 4 |
|---|---|---|---|---|
| A | 14 | 16 | 10 | 10 |
| B | 0 | 8 | 6 | 4 |
| C | 8 | 11 | Did not Play | 13 |

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**16.** Following table shows the points of each player scored in four games:

| Player | Game 1 | Game 2 | Game 3 | Game 4 |
|---|---|---|---|---|
| A | 14 | 16 | 10 | 10 |
| B | 0 | 8 | 6 | 4 |
| C | 8 | 11 | Did not Play | 13 |

Now answer the following questions:

Who is the best performer?

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**17.** The marks (out of 100) obtained by a group of students in a science test are 85, 76, 90, 85, 39, 48, 56, 95, 81 and 75. Find the:

Highest and the lowest marks obtained by the students.

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**18.** The marks (out of 100) obtained by a group of students in a science test are 85, 76, 90, 85,

39, 48, 56, 95, 81 and 75. Find the:

Range of the marks obtained.


**19.** The marks (out of 100) obtained by a group of students in a science test are 85, 76, 90, 85, 39, 48, 56, 95, 81 and 75. Find the:

Mean makrs obtained by the group.

**20.** The enrolment in a school during six consecutive years was as follows:

1555, 1670, 1750, 2013, 2540, 2820

Find the mean enrolment of the school for this period.

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**21.** The rainfall (in mm) in a city on 7 days of a certain week was recorded as follows:

| Day | Mon | Tue | Wed | Thurs | Fri | Sat | Sun |
|---|---|---|---|---|---|---|---|
| Rainfall (in mm) | 0.0 | 12.2 | 2.1 | 0.0 | 20.5 | 5.5 | 1.0 |

Find the range of the rainfall in the above data.

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**22.** The rainfall (in mm) in a city on 7 days of a certain week was recorded as follows:

| Day | Mon | Tue | Wed | Thurs | Fri | Sat | Sun |
|---|---|---|---|---|---|---|---|
| Rainfall (in mm) | 0.0 | 12.2 | 2.1 | 0.0 | 20.5 | 5.5 | 1.0 |

Find the mean rainfall for the week.

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**23.** The rainfall (in mm) in a city on 7 days of a certain week was recorded as follows:

| Day | Mon | Tue | Wed | Thurs | Fri | Sat | Sun |
|---|---|---|---|---|---|---|---|
| Rainfall (in mm) | 0.0 | 12.2 | 2.1 | 0.0 | 20.5 | 5.5 | 1.0 |

On how many days was the rainfall less than the mean rainfall.

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**24.** The heights of 10 girls were measured in cm and the results are as follows:

135, 150, 139, 128, 151, 132, 146, 149, 143, 141.

What is the height of the tallest girl?

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**25.** The heights of 10 girls were measured in cm and the results are as follows:

135, 150, 139, 128, 151, 132, 146, 149, 143, 141.

What is the height of the shortest girl?

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**26.** The heights of 10 girls were measured in cm and the results are as follows:

135, 150, 139, 128, 151, 132, 146, 149, 143, 141.

What is the range of the data?

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**27.** The heights of 10 girls were measured in cm and the results are as follows:

135, 150, 139, 128, 151, 132, 146, 149, 143, 141.

What is the mean height of the girls?

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**28.** The heights of 10 girls were measured in cm and the results are as follows:

135, 150, 139, 128, 151, 132, 146, 149, 143, 141.

How many girls have heights more than the mean height.

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**29.** Find the mode of the given set of numbers:

1, 1, 2, 4, 3, 2, 1, 2, 2, 4

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**30.** Following are the margins of victory in the football matches of a league.

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

Find the mode of this data.

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**31.** Find the mode of the numbers: 2, 2, 2, 3, 3, 4, 5, 5, 5, 6, 6, 8

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**32.** Find the mode of

2,6,5,3,0,3,4,3,2,4,5,2,4

2, 14, 16, 12, 14, 14, 16, 14, 10, 14, 18, 14

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**33.** Find the mode of the following data:

12, 14, 12, 16, 15, 13, 14, 18, 19, 12, 14, 15, 16, 15, 16,

16, 15,17, 13, 16, 16, 15, 15, 13, 15, 17, 15, 14, 15, 13,

15, 14

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**34.** Heights (in cm) of 25 children are given below:

168, 165, 163, 160, 163, 161, 162, 164, 163, 162, 164, 163, 160, 163, 160, 165, 163, 162, 163, 164, 163, 160, 165, 163, 162

What is the mode of their heights? What do we understand by mode here?

**35.** Find the median of the data: 24, 36, 46, 17, 18, 25, 35

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**36.** The scores in mathematics test (out of 25) of 15 students is as follows:

19, 25, 23, 20, 9, 20, 15, 10, 5, 16, 25, 20, 24, 12, 20

Find the mode and median of this data. Are they same?

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**37.** The runs scored in a cricket match by 11 players is as follows:

6, 15, 120, 50, 100, 80, 10, 15, 8, 10, 15

Find the mean, mode and median of this data. Are the three same?

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**38.** The weights (in kg.) of 15 students of a class are:

38, 42, 35, 37, 45, 50, 32, 43, 43, 40, 36, 38, 43, 38,

47

Find the mode and median of this data.

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**39.** The weights (in kg.) of 15 students of a class are:

38, 42, 35, 37, 45, 50, 32, 43, 43, 40, 36, 38, 43, 38, 47

Is there more than one mode?

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**40.** Find the mode and median of the data: 13, 16, 12, 14, 19, 12, 14, 13, 14

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**41.** Tell whether the statement is true or false: The mode is always one of the numbers in a data.

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**42.** Tell whether the statement is true or false:

The mean is one of the numbers in a data.

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**43.** Tell whether the statement is true or false:

The median is always one of the numbers in a data.

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**44.** Tell whether the statement is true or false:

The data 6,4,3,8,9,12,13,9 has mean 9.

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**45.** Two hundred students of 6th and 7th classes were asked to name their favourite colour so as to decide upon what should be the colour of their school building. The results are shown in the following table. Represent the given data on a bar graph.

| Favourite Colour | Red | Green | Blue | Yellow | Orange |
|---|---|---|---|---|---|
| Number of Students | 43 | 19 | 55 | 49 | 34 |

Answer the following questions with the help of the bar graph:

Which is the most preferred colour and which is the least preferred?

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**46.** Two hundred students of 6th and 7th classes were asked to name their favourite colour so as to decide upon what should be the colour of their school building. The results

are shown in the following table. Represent the given data on a bar graph.

| Favourite Colour | Red | Green | Blue | Yellow | Orange |
|---|---|---|---|---|---|
| Number of Students | 43 | 19 | 55 | 49 | 34 |

Answer the following questions with the help of the bar graph:

How many colours are there in all? What are they?

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**47.** Following data gives total marks (out of 600) obtained by six children of a particular

class. Represent the data on a bar graph.

| Students | Ajay | Bali | Dipti | Faiyaz | Geetika | Hari |
|---|---|---|---|---|---|---|
| Marks Obtained | 450 | 500 | 300 | 360 | 400 | 540 |

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**48.** A mathematics teacher wants to see, whether the new technique of teaching she applied after quarterly test was effective or not. She takes the scores of the 5 weakest children in the quarterly test (out of 25) and in

the half yearly test (out of 25):

| Students | Ashish | Arun | Kavish | Maya | Rita |
|---|---|---|---|---|---|
| Quarterly | 10 | 15 | 12 | 20 | 9 |
| Half yearly | 15 | 18 | 16 | 21 | 15 |

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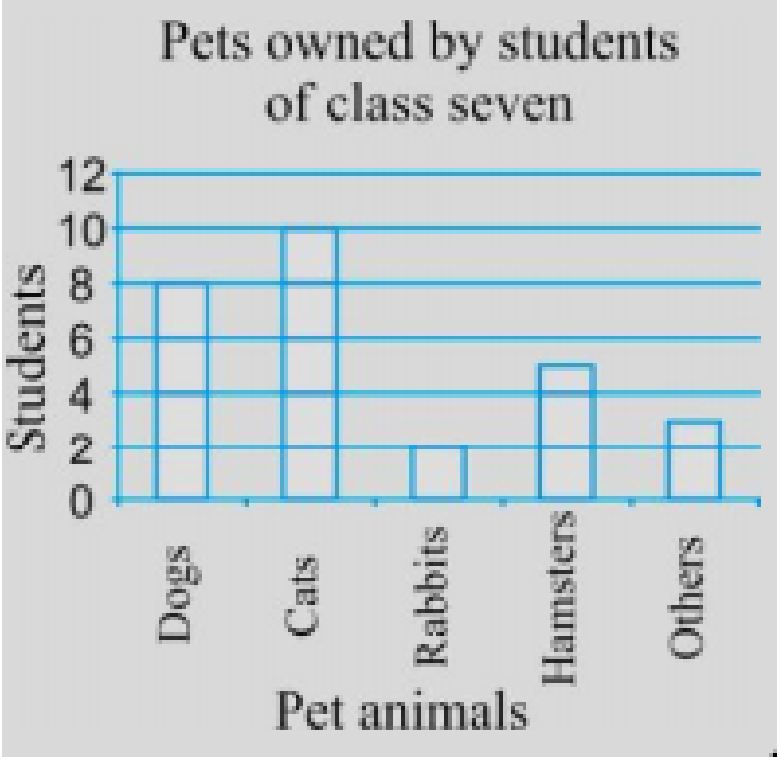
**49.** Use the bar graph to answer the following questions.




Which is the most popular pet?

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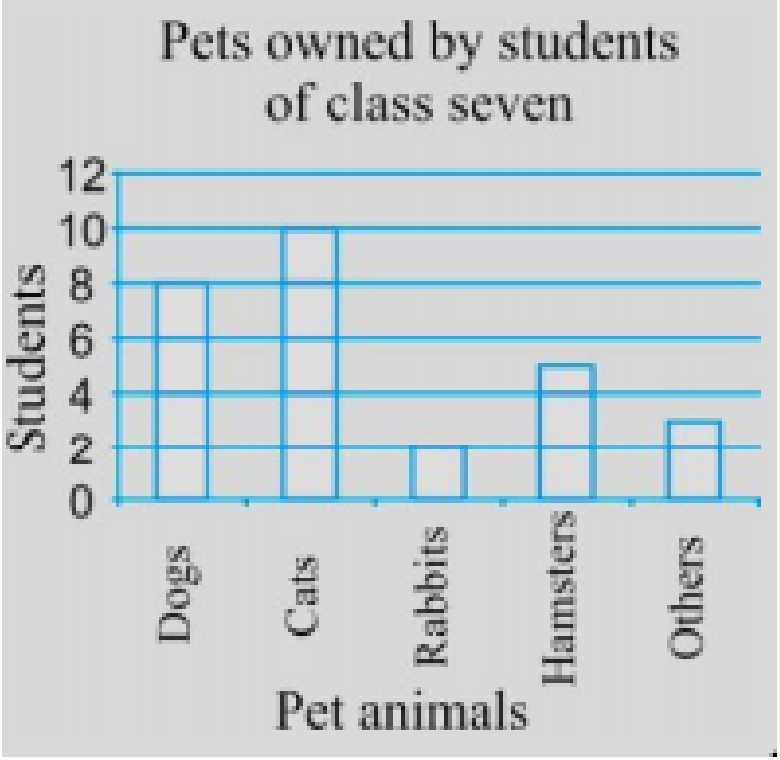
**50.** Use the bar graph to answer the following questions.




How many students have dog as a pet?

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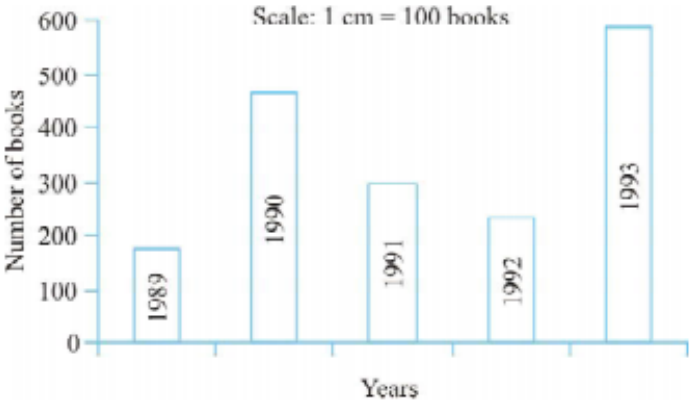
**51.** Read the bar graph which shows the number of books sold by a bookstore during

five consecutive years and answer the following questions:




About how many books were sold in 1989? 1990? 1992?

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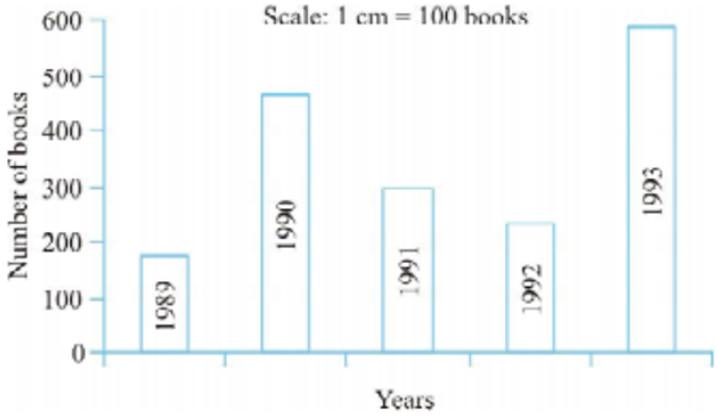
**52.** Read the bar graph which shows the number of books sold by a bookstore during five consecutive years and answer the following questions:




In which year were about 475 books sold? About 225 books sold?

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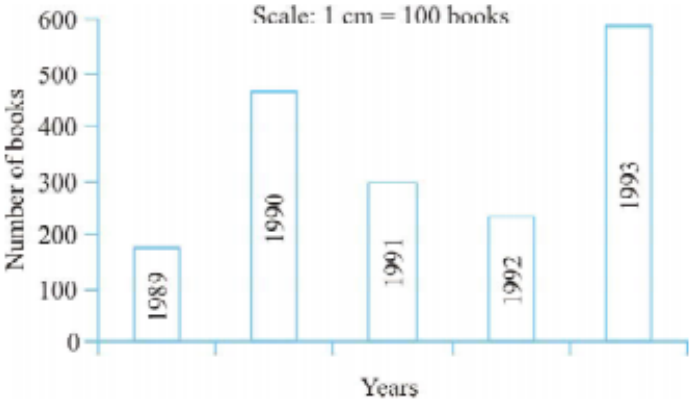
**53.** Read the bar graph which shows the number of books sold by a bookstore during five consecutive years and answer the following questions:




In which years were fewer than 250 books sold?

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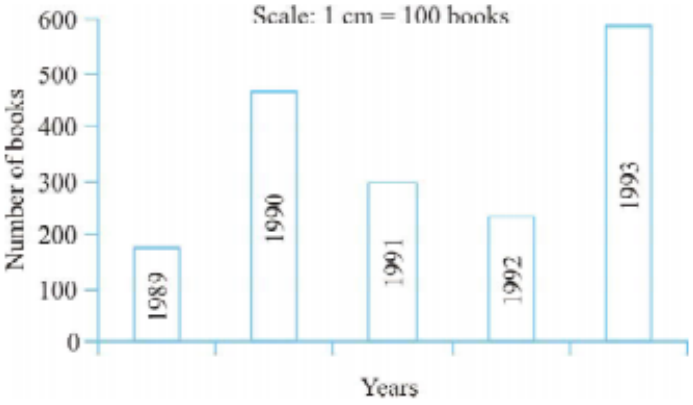
**54.** Read the bar graph which shows the number of books sold by a bookstore during five consecutive years and answer the following questions:




Can you explain how you would estimate the number of books sold in 1989?

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**55.** Number of children in six different classes are given below. Represent the data on a bar graph.

| Class | Fifth | Sixth | Seventh | Eighth | Ninth | Tenth |
|---|---|---|---|---|---|---|
| Number of Children | 135 | 120 | 95 | 100 | 90 | 80 |

How would you choose a scale?

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**56.** Number of children in six different classes are given below. Represent the data on a bar graph.

| Class | Fifth | Sixth | Seventh | Eighth | Ninth | Tenth |
|---|---|---|---|---|---|---|
| Number of Children | 135 | 120 | 95 | 100 | 90 | 80 |

Answer the following question:

Which has the maximum number of children?

And the minimum?

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**57.** Number of children in six different classes are given below. Represent the data on a bar graph.

Answer the following question:

Find the ratio of the students of class sixth to the students of class eight.

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**58.** The performance of a student in $1^{st}$ Term and $2^{nd}$ Term is given. Draw a double bar graph choosing appropriate scale and answer the following:

| Subject | English | Hindi | Maths | Science | S. Science |
|---|---|---|---|---|---|
| 1st Term (M.M. 100) | 67 | 72 | 88 | 81 | 73 |
| 2nd Term (M.M. 100) | 70 | 65 | 95 | 85 | 75 |

Has the performance gone down in any subject?

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**59.** The performance of a student in $1^{st}$ Term and $2^{nd}$ Term is given. Draw a double bar graph choosing appropriate scale and answer the following:

| Subject | English | Hindi | Maths | Science | S. Science |
|---|---|---|---|---|---|
| 1st Term (M.M. 100) | 67 | 72 | 88 | 81 | 73 |
| 2nd Term (M.M. 100) | 70 | 65 | 95 | 85 | 75 |

Has the performance gone down in any subject?

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**60.** Consider this data collected from a survey of a colony.

| Favourite Sport | Cricket | Basket Ball | Swimming | Hockey | Athletics |
|---|---|---|---|---|---|
| Watching | 1240 | 470 | 510 | 430 | 250 |
| Participating | 620 | 320 | 320 | 250 | 105 |

Draw a double bar graph choosing an appropriate scale.

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**61.** Consider this data collected from a survey of a colony.

| Favourite Sport | Cricket | Basket Ball | Swimming | Hockey | Athletics |
|---|---|---|---|---|---|
| Watching | 1240 | 470 | 510 | 430 | 250 |
| Participating | 620 | 320 | 320 | 250 | 105 |

Which sport is most popular?

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**62.** Consider this data collected from a survey of a colony.

| Favourite Sport | Cricket | Basket Ball | Swimming | Hockey | Athletics |
|---|---|---|---|---|---|
| Watching | 1240 | 470 | 510 | 430 | 250 |
| Participating | 620 | 320 | 320 | 250 | 105 |

Which is more preferred, watching or participating in sports?

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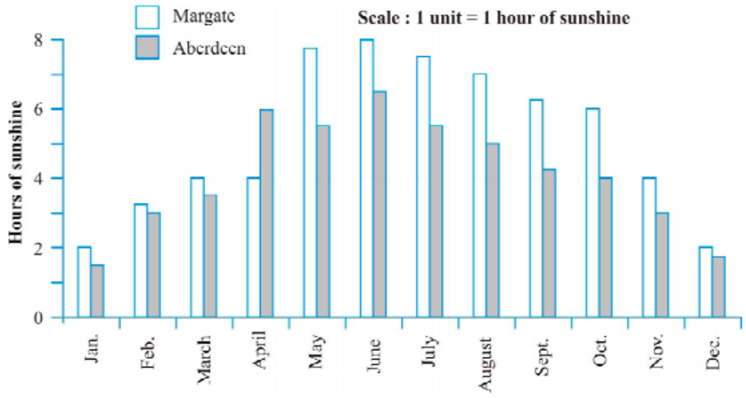
**63.** Take the data giving the minimum and the maximum temperature of various cities given. Plot a double bar graph using the and answer the following:




Which city has the largest difference in the minimum and maximum temperature on the given data?

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**64.** Take the data giving the minimum and the maximum temperature of various cities given. Which is the hottest city and which is the coldest city?

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**65.** Take the data giving the minimum and the maximum temperature of various cities given. Name two cities where maximum temperature

of one was less than the minimum temperature of the other.

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**66.** Take the data giving the minimum and the maximum temperature of various cities given. Name the city which has the least difference between its minimum and the maximum temperature.

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**67.** Tell whether the following is certain to happen, impossible, can happen but not certain.

You are older today than yesterday.

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**68.** Tell whether the following is certain to happen, impossible, can happen but not certain.

A tossed coin will land heads up.

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**69.** Tell whether the following is certain to happen, impossible, can happen but not certain.

A die when tossed shall land up with 8 on top.

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**70.** Tell whether the following is certain to happen, impossible, can happen but not

certain.

The next traffic light seen will be green.


**71.** Tell whether the following is certain to happen, impossible, can happen but not certain.

Tomorrow will be a cloudy day.

**72.** There are 6 marbles in a box with numbers from 1 to 6 marked on each of them.

What is the probability of drawing a marble with number 2?

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**73.** There are 6 marbles in a box with numbers from 1 to 6 marked on each of them.

What is the probability of drawing a marble with number 5?

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**74.** A coin is flipped to decide which team starts the game. What is the probability that your team will start?

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