



MATHEMATICS CLASS IX CHAPTER – 14 STATISTICS

Q.1. Give five examples of data that you can collect from day to day life.

Q.2. Classify the data in Q1 above as primary or secondary data.

Q.3. The blood groups of 30 students of Class VIII are recorded as follows:

A, B, O, O, AB, O, A, O, B, A, O, B, A, O, O,

A, AB, O, A, A, O, O, AB, B, A, O, B, A, B, O.

Represent this data in the form of a frequency distribution table. Which is the most common, and which is the rarest, blood group among these students?

Q.4. The distance (in km) of 40 engineers from their residence to their place of work were found as follows:

5 3 10 20 25 11 13 7 12 31

19 10 12 17 18 11 32 17 16 2

7 9 7 8 3 5 12 15 18 3

12 14 2 9 6 15 15 7 6 12

Construct a grouped frequency distribution table with class size 5 for the data given above taking the first interval as 0 - 5 (5 not included). What main feature do you observe from this tabular representation?

Q.5. The relative humidity (in %) of a certain city for a month of 30 days was as follows:

98.1 98.6 99.2 90.3 86.5 95.3 92.9 96.3 94.2 95.1

89.2 92.3 97.1 93.5 92.7 95.1 97.2 93.3 95.2 97.3

96.2 92.1 84.9 90.2 95.7 98.3 97.3 96.1 92.1 89



(i) Construct a grouped frequency distribution table with classes

84 - 86, 86 - 88

(ii) Which month or season do you think this data is about?

(iii) What is the range of this data?

Q.6. The heights of 50 students, measured to the nearest centimeters, have been found to be as follows:

161 150 154 165 168 161 154 162 150 151

162 164 171 165 158 154 156 172 160 170

153 159 161 170 162 165 166 168 165 164

154 152 153 156 158 162 160 161 173 166

161 159 162 167 168 159 158 153 154 159

(i) Represent the data given above by a grouped frequency distribution table, taking the class intervals as 160 - 165, 165 - 170, etc.

(ii) What can you conclude about their heights from the table?

Q.7. A study was conducted to find out the concentration of sulphur dioxide in the air in parts per million (ppm) of a certain city. The data obtained for 30 days is as follows:

0.03 0.08 0.08 0.09 0.04 0.17

0.16 0.05 0.02 0.06 0.18 0.20

0.11 0.08 0.12 0.13 0.22 0.07

0.08 0.01 0.10 0.06 0.09 0.18

0.11 0.07 0.05 0.07 0.01 0.04

(i) Make a grouped frequency distribution table for this data with class intervals as 0.00 - 0.04, 0.04 - 0.08, and so on.



(ii) For how many days, was the concentration of sulphur dioxide more than 0.11 parts per million?

Q.8. Three coins were tossed 30 times simultaneously. Each time the number of heads occurring was noted down as follows:

0 1 2 2 1 2 3 1 3 0

1 3 1 1 2 2 0 1 2 1

3 0 0 1 1 2 3 2 2 0

Prepare a frequency distribution table for the data given above.

Q.9. The value of π up to 50 decimal places is given below:

3.14159265358979323846264338327950288419716939937510

(i) Make a frequency distribution of the digits from 0 to 9 after the decimal point.

(ii) What are the most and the least frequently occurring digits?

Q.10. Thirty children were asked about the number of hours they watched TV programmes in the previous week. The results were found as follows:

1 6 2 3 5 12 5 8 4 8

10 3 4 12 2 8 15 1 17 6

3 2 8 5 9 6 8 7 14 12

(i) Make a grouped frequency distribution table for this data, taking class width 5 and one of the class intervals as 5 - 10.

(ii) How many children watched television for 15 or more hours a week?

Q.11. A company manufactures car batteries of a particular type. The lives (in years) of 40 such batteries were recorded as follows:

2.6 3.0 3.7 3.2 2.2 4.1 3.5 4.5



3.5 2.3 3.2 3.4 3.8 3.2 4.6 3.7

2.5 4.4 3.4 3.3 2.9 3.0 4.3 2.8

3.5 3.2 3.9 3.2 3.2 3.1 3.7 3.4

4.6 3.8 3.2 2.6 3.5 4.2 2.9 3.6

Construct a grouped frequency distribution table for this data, using class intervals of size 0.5 starting from the intervals 2 – 2.5.

Q.12. A survey conducted by an organisation for the cause of illness and death among the women between the ages 15 – 44 (in years) worldwide, found the following figures (in %):

S.No.	Causes	Female fatality rate (%)
1.	Reproductive health conditions	31.8
2.	Neuropsychiatric conditions	25.4
3.	Injuries	12.4
4.	Cardiovascular conditions	4.3
5.	Respiratory conditions	4.1
6.	Other causes	22.0

- (i) Represent the information given above graphically.
- (ii) Which condition is the major cause of women's ill health and death worldwide?
- (iii) Try to find out, with the help of your teacher, any two factors which play a major role in the cause in (ii) above being the major cause

Q.13. The following data on the number of girls (to the nearest ten) per thousand boys in different sections of Indian society is given below.



Section	Number of girls per thousand boys
Scheduled Caste (SC)	940
Scheduled Tribe (ST)	970
Non SC/ST	920
Backward districts	950
Non-backward districts	920
Rural	930
Urban	910

(i) Represent the information above by a bar graph.

(ii) In the classroom discuss what conclusions can be arrived at from the graph.

Q.14. Given below are the seats won by different political parties in the polling outcome of a state assembly elections:

Political Party	A	B	C	D	E	F
Seats Won	75	55	37	29	10	37

(i) Draw a bar graph to represent the polling results.

(ii) Which political party won the maximum number of seats?

Q.15. The length of 40 leaves of a plant are measured correct to one millimetre, and the obtained data is represented in the following table:

Length (in mm)	Number of leaves
118 – 126	3



127 – 135	5
136 – 144	9
145 – 153	12
154 – 162	5
163 – 171	4
172 – 180	2

- (i) Draw a histogram to represent the given data.
- (ii) Is there any other suitable graphical representation for the same data?
- (iii) Is it correct to conclude that the maximum number of leaves are 153 mm long? Why?

Q.16. The following table gives the life times of neon lamps:

Length (in hours)	Number of lamps
300 – 400	14
400 – 500	56
500 – 600	60
600 – 700	86
700 – 800	74
800 – 900	62
900 – 1000	48

- (i) Represent the given information with the help of a histogram.
- (ii) How many lamps have a lifetime of more than 700 hours?

Q.17. The following table gives the distribution of students of two sections according to the mark obtained by them:



Section A		Section B	
Marks	Frequency	Marks	Frequency
0 – 10	3	0 – 10	5
10 – 20	9	10 – 20	19
20 – 30	17	20 – 30	15
30 – 40	12	30 – 40	10
40 – 50	9	40 – 50	1

Represent the marks of the students of both the sections on the same graph by two frequency polygons. From the two polygons compare the performance of the two sections.

Q.18. The runs scored by two teams A and B on the first 60 balls in a cricket match are given below:

Number of balls	Team A	Team B
1 – 6	2	5
7 – 12	1	6
13 – 18	8	2
19 – 24	9	10
25 – 30	4	5
31 – 36	5	6
37 – 42	6	3
43 – 48	10	4



49 – 54	6	8
55 – 60	2	10

Represent the data of both the teams on the same graph by frequency polygons.

[Hint: First make the class intervals continuous.]

Q.19. A random survey of the number of children of various age groups playing in park was found as follows:

Age (in years)	Number of children
1 – 2	5
2 – 3	3
3 – 5	6
5 – 7	12
7 – 10	9
10 – 15	10
15 – 17	4

Draw a histogram to represent the data above.

Q.20. 100 surnames were randomly picked up from a local telephone directory and a frequency distribution of the number of letters in the English alphabet in the surnames was found as follows:

Number of letters	Number of surnames
1 – 4	6



4 – 6	30
6 – 8	44
8 – 12	16
12 – 20	4

(i) Draw a histogram to depict the given information.

(ii) Write the class interval in which the maximum number of surname lie.

Q.21. The following number of goals was scored by a team in a series of 10 matches:

2, 3, 4, 5, 0, 1, 3, 3, 4, 3

Find the mean, median and mode of these scores.

Q.22. In a mathematics test given to 15 students, the following marks (out of 100) are recorded:

41, 39, 48, 52, 46, 62, 54, 40, 96, 52, 98, 40, 42, 52, 60

Find the mean, median and mode of this data.

Q.23. The following observations have been arranged in ascending order. If the median of the data is 63, find the value of x .

29, 32, 48, 50, x , $x + 2$, 72, 78, 84, 95

Q.24. Find the mode of 14, 25, 14, 28, 18, 17, 18, 14, 23, 22, 14, 18.

Q.25. Find the mean salary of 60 workers of a factory from the following table:

Salary (in Rs)	Number of workers
3000	16



4000	12
5000	10
6000	8
7000	6
8000	4
9000	3
1000	1
Total	60

Q.26. Give one example of a situation in which

- (i) The mean is an appropriate measure of central tendency.
- (ii) The mean is not an appropriate measure of central tendency but the median is an appropriate measure of central tendency.