

Class: IX

Subject: Mathematics

Assignment

Chapter: Statistics

1. Write the class size in each of the following:

(a)  $0 - 4$ ,  $5 - 9$ ,  $10 - 14$  (b)  $10 - 19$ ,  $20 - 29$ ,  $30 - 39$  (c)  $5 - 5.01$ ,  $5.01 - 5.02$ ,  $5.02 - 5.03$

2. Write class size and class limits in each of the following if the class marks are:

(a) 104, 114, 124, 134, 144, 154 (b) 47, 52, 57, 62, 67, 72, 77 (c) 12.5, 17.5, 22.5, 27.5, 32.5, 37.5

3. The monthly wages of 30 workers in a factory are given below:-

830, 835, 890, 810, 835, 836, 869, 894, 898, 890, 820, 860, 832, 833, 855, 845, 804, 808, 812, 840, 885, 835, 836, 878, 840, 868, 890, 806, 840, 890

(a) Form frequency distribution table with class size 10

(b) Find cumulative frequency

(c) Draw histogram and frequency polygon

4. Draw histogram and frequency polygon:

Marks	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70
No. of students	5	10	4	6	7	3	2

5. The following are the scores of two groups of class IX students in a test.

Scores	Group A	Group B
50 - 52	4	2
47 - 49	10	3
44 - 46	15	4
41 - 43	18	8
38 - 40	20	12
35 - 37	12	17
32 - 34	13	22
Total	92	68

6. The mean of 40 observations was 160. It was detected on rechecking that the value of 165 was wrongly copied as 125 for computation of mean. Find the correct mean.

7. The mean monthly salary of 10 members of a group is Rs 1445, one more member whose monthly salary is Rs 1500 has joined the group. Find the mean monthly salary of 11 members.

8. If the mean of the following distribution is 6, find the value of P.

X	2	4	6	8	P + 5
F	3	2	3	1	2

10. Draw a histogram of the following distribution table:

Marks obtained	No of students
0 – 10	4
10 – 20	8
20 – 40	20
40 – 45	10
45 – 60	12
60 – 70	6
70 - 80	10
Total	70

11. The median of the following observations arranged in ascending order, is 25. Find x.

11, 13, 15, 19,  $x + 2$ ,  $x + 4$ , 30, 35, 39, 46

12. The mean of 1, 7, 5, 3, 4 and 4 is  $m$ . The numbers 3, 2, 4, 2, 3, 3, and  $p$  have mean  $m - 1$  and median  $q$ . Find  $p$  and  $q$ .

13. In the following groups of data, tell whether the mean or the median best describes the data:

(i) 6, 4, 2, 12, 2 (ii) 31, 28, 24, 9, 23 (iii) 45, 51, 47, 65, 36 (iv) 10, 20, 30, 100, 9

14. Find the median of the first 10 natural numbers. Is it equal to their mean?

15. The following data has been arranged in ascending order:

24, 27, 28, 31, 34,  $x$ , 37, 40, 42, 45.

16. If the median of the data is 35, find  $x$ . In the above data, if 45 is changed to 33, find the new median.

17. For what value of  $x$ , the mode of the following data is 5?

2, 4, 3, 5, 4, 5, 6, 4,  $x$ , 7, 5

18. A boy scored the following marks in various class tests during a term, each test being marked out of 20:

16, 10, 7, 17, 9, 16, 14, 19, 20, 18, 12

Find the mean, median and modal marks. Verify if the following relation holds true:

$$\text{Mean} - \text{Mode} = 3(\text{Mean} - \text{Median})$$