STATISTICS

1. Class mark and class size of the class interval are 25 and 10 respectively then the class interval is
(a) 20 – 30 (b) 30 – 40 (c) 40 – 50 (d) 50 – 60

2. Class mark of the 1st class interval is 5 and there are five classes. If the class size is 10 then the last class interval is
(a) 20 – 30 (b) 30 – 40 (c) 40 – 50 (d) 50 – 60

3. The median of the following data is

x	5	10	15	25	30
f	4	6	7	3	5

(a) 10 (b) 15 (c) 25 (d) 30

4. The mode in the above frequency distribution table is
(a) 10 (b) 15 (c) 25 (d) 30

5. The mean of the following data is

x	5	10	15	20	25	30
f	4	5	3	2	3	3

(a) 15 (b) 16 (c) 17 (d) none of these

6. The median of first ten prime numbers is
(a) 11 (b) 12 (c) 13 (d) none of these.

7. The mean of first ten multiples of 5 is
(a) 45 (b) 55 (c) 65 (d) none of these.

8. The mean of first ten multiples of 2 is
(a) 11 (b) 12 (c) 13 (d) none of these.

9. The median of first ten multiples of 3 is
(a) 15 (b) 16 (c) 16.5 (d) none of these.

10. The median of the following data is

x	10	20	30	40	50	60
f	4	5	6	7	2	3

(a) 20 (b) 30 (c) 40 (d) none of these

11. The median of the following data is

25	72	28	65	29	60	30	54	32	53
33	52	35	51	42	48	45	47	46	33

(a) 45 (b) 45.5 (c) 46 (d) none of these

12. Calculate the median income from the following data:

Income (in Rs,	10	20	30	40
No. of persons	2	4	10	4

(a) 20 (b) 30 (c) 40 (d) none of these

STATISTICS

1. Class mark of class 150 – 160 is
(a) 150 (b) 160 (c) 155 (d) none of these.

2. Average of numbers: 10, 8, 9, 7, 8 is
(a) 8.4 (b) 7.4 (c) 4.8 (d) 8.2.

3. Mean of first 10 natural numbers is
(a) 6.5 (b) 5.5 (c) 7.5 (d) 8.5.

4. The heights (in cm) of 9 students of a class are as follows:
155, 160, 145, 149, 150, 147, 152, 144, 148
Find the median of this data.
(a) 150 (b) 147 (c) 149 (d) 148

5. The points scored by a Kabaddi team in a series of matches are as follows
17, 2, 7, 27, 15, 5, 14, 8, 10, 24, 48, 10, 8, 7, 18, 28
Find the median of the points scored by the team.
(a) 12 (b) 15 (c) 24 (d) 28

6. Find the mode of the following marks (out of 10) obtained by 20 students:
4, 6, 5, 9, 3, 2, 7, 7, 6, 5, 4, 9, 10, 10, 3, 4, 7, 6, 9, 9
(a) 4 (b) 7 (c) 10 (d) 9

7. 5 people were asked about the time in a week they spend in doing social work in their community. They said 10, 7, 13, 20 and 15 hours, respectively. Find the mean (or average) time in a week devoted by them for social work.
(a) 12 (b) 13 (c) 14 (d) none of these.

8. The width of each of five continuous classes in a frequency distribution is 5 and the lower class limit of the lowest class limit of the lowest class is 10. The upper class limit of the highest class is:
(a) 35 (b) 15 (c) 25 (d) 40

9. Let m be the midpoint and 'l' the upper class limit of a class in a continuous frequency distribution. The lower class limit of the class is
(a) 2m + l (b) 2m – l (c) m - l (d) m – 2l

10. The class marks of a frequency distribution are given as follows: 15, 20,25, …… The class corresponding to the class mark 20 is
(a) 12.5 – 17.5 (b) 17.5 – 22.5 (c) 22.5 – 27.5 (d) 27.5 – 32.5

11. In the class intervals 10 – 20, 20 – 30, the cumber 20 is included in.
(a) 10 – 20 (b) 20 – 30 (c) both the interval (d) none of these intervals

12. The mean of 5 numbers is 30. If one number is excluded, their mean becomes 28. The excluded number is
(a) 28 (b) 30 (c) 35 (d) 38.

STATISTICS

1. Class mark of class 150 – 160 is
(a) 150 (b) 160 (c) 155 (d) none of these.

2. A grouped frequency distribution table with class intervals of equal sizes using 250 – 270 as one of the class interval is constructed for the following data:
268, 220, 368, 258, 242, 310, 272, 342, 310, 290, 300, 320, 319, 304, 402, 318, 406, 292, 354, 278, 210, 240, 330, 316, 406, 215, 258, 236
The frequency of the class 310 – 330 is
(a) 4 (b) 5 (c) 6 (d) 7.

3. To draw a histogram to represent the following frequency distribution: the adjusted frequency for the class interval 25 – 45 is

C. I.	5 – 10	10 – 15	15 – 25	25 – 45	45 – 75
f	6	12	10	8	15

(a) 6 (b) 5 (c) 2 (d) 3

4. If the mean of the observations: x, x + 3, x + 5, x + 7, x + 10 is 9, the mean of the last three observations is
(a) $10\frac{1}{3}$ (b) $10\frac{2}{3}$ (c) $11\frac{1}{3}$ (d) $11\frac{2}{3}$

5. If $\bar{x}$ represents the mean of n observations $x_1, x_2, x_3, \ldots\ldots x_n$, then the value of $\sum_{i=1}^{n}\left(x_i - \bar{x}\right)$ is
(a) –1 (b) 0 (c) 1 (d) n – 1 .

6. If each observation of the data is increased by 5 then their mean
(a) remains the same (b) becomes 5 times the original mean
(c) is decreased by 5 (d) is increased by 5.

7. There are 50 numbers. Each number s subtracted from 53 and the mean of the number so obtained is found to be 3.5. The mean of the given number is
(a) 46.5 (b) 49.5 (c) 53.5 (d) 56.5.

8. The mean of 25 observations is 36. Out of these observations if the men of first 13 observations is 32 and that of the last 13 observations is 40, the 13th observation is
(a) 23 (b) 36 (c) 38 (d) 40.

9. The median of the data 78, 56, 22, 34, 45, 54, 39, 68, 54, 84 is
(a) 45 (b) 49.5 (c) 54 (d) 56.

10. For drawing a frequency polygon of a continuous frequency distribution, we plot the points whose ordinates are the frequency of the respective classes and abscissa re respectively
(a) upper limits of the classes (b) lower limits of the classes
(c) class marks of the classes (d) upper limits of preceding classes.

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

Salary (Rs)	**Number of workers**
3000	16
4000	12
5000	10
6000	8
7000	6
8000	4
9000	3
10000	1
Total	**60**

16. 100 surnames were randomly picked up from a local telephone directory and frequency distributions 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 if surnames lie.

17. 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.

18. A family with a monthly income of Rs 20,000 had planned the following expenditures per month under various heads: Draw a bar graph for the given below data.

Heads	**Expenditure (in thousand rupees)**
Grocery	4
Rent	5
Education of children	5
Medicine	2
Fuel	2
Entertainment	1
Miscellaneous	1

19. The value of π upto 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?

20. The following observations have been arranged in ascending order as 29, 32, 48, 50, x, $x + 2$, 72, 78, 84, 95. If the median of the data is 63, find the value of x.

STATISTICS

1. Find the true class limits of the first two classes of the distibution 1–9, 10–19, 20–29, ...

2. The following are the marks obtained by 20 students in a class-test :
40, 22, 36, 27, 30, 12, 15, 20, 25, 31, 34, 36, 39, 41, 43, 48, 46, 36, 37, 40
Arrange the above data in frequency distribution with equal classes, one of them being (0–10), 10 not included.

3. The electricity bills of twenty house holds in a locality are as follows :
370, 410, 520, 270, 810, 715, 1080, 712, 802, 775, 310, 375, 412, 420, 370, 218, 240, 250, 610, 570. Construct a frequency distribution table with class size 100.

4. The enrolment in classes VI to X of a school is given below :

Class :	VI	VII	VIII	IX	X
Enrolment :	70	65	60	45	35

Draw a bar chart to depict the data.

5. Draw a histogram and a frequency polygon for the following data :

Marks	10-20	20-30	30-40	40-50	50-60
No. of students	8	12	15	9	6

6. Draw a histogram for the following data :

Classes	10-15	15-20	20-30	30-50	50-80
Frequency	6	10	10	8	18

7. Find the mean of the following data :
153, 140, 148, 150, 154, 142, 146, 147

8. The mean of the following data is 37. Find x
28, 35, 25, 32, x, 40, 45, 50

9. If the mean of n observation $2x_1$, $2x_2$, ..., $2x_n$ is $2\bar{x}$, show that $\sum_{i=1}^{n}(x_i - 2\bar{x}) = 0$

10. The mean of 20 observations is 25. If each observation is multiplied by 2, then find the mean of new observations.

11. The means of two groups of 15 and 20 observations are 20 and 25 respectively. Find the mean of all the 35 observations.

12. If the mode of the following data is 14, find the value of x
10, 12, 14, 15, 16, 14, 15, 14, 15, x, 16, 14, 16

13. The median of the observations, arranged in increasing order is 26. Find the value of x.

10, 17, 22, $x + 2$, $x + 4$, 30, 36, 40

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

12. The the mean of 10 numbers is 15 and that of another 20 number is 24 then the mean of all 30 observations is

A. 20 B. 15 C. 21 D. 24

13. The median of 10, 12, 14, 16, 18, 20 is

A. 12 B. 14 C. 15 D. 16

14. If the median of 12, 13, 16, $x + 2$, $x + 4$, 28, 30, 32 is 23, when $x + 2$, $x + 4$ lie between 16 and 30, then the value of x is

A. 18 B. 19 C. 20 D. 22

15. If the mode of 12, 16, 19, 16, x, 12, 16, 19, 12 is 16, then the value of x is

A. 12 B. 16 C. 19 D. 18

16. The mean of the following data is

x_i	5	10	15	20	25
fi	3	5	8	3	1

A. 12 B. 13 C. 13.5 D. 13.6

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MCQ WORKSHEET-IV
CLASS IX: CHAPTER - 14
STATISTICS

1. The range of the data 14, 27, 29, 61, 45, 15, 9, 18 is

A. 61 B. 52 C. 47 D. 53

2. The class mark of the class 120-150 is

A. 120 B. 130 C. 135 D. 150

3. The class mark of a class is 10 and its class width is 6. The lower limit of the class is

A. 5 B. 7 C. 8 D. 10

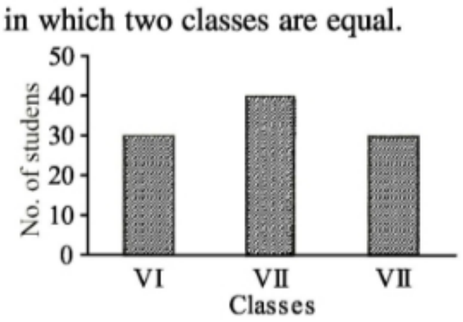
4. In a frequency distribution, the class-width is 4 and the lower limit of first class is 10. If there are six classes, the upper limit of last class is

A. 22 B. 26 C. 30 D. 34

5. The class marks of a distribution are 15, 20, 25, ..., 45. The class corresponding to 45 is

A. 12.5 – 17.5 B. 22.5 – 27.5 C. 42.5 – 47.5 D. None of these

6. The number of students in which two classes are equal.



A. VI and VIII B. VI and VII C. VII and VIII D. None

7. The mean of first five prime numbers is

A. 5.0 B. 4.5 C. 5.6 D. 6.5

8. The mean of first ten multiples of 7 is

A. 35.0 B. 36.5 C. 38.5 D. 39.2

9. The mean of $x + 3$, $x - 2$, $x + 5$, $x + 7$ and $x + 72$ is

A. $x + 5$ B. $x + 2$ C. $x + 3$ D. $x + 7$

10. If the mean of n observations $x_1, x_2, x_3, \ldots\ldots\ldots, x_n$ is $\bar{x}$ then $\sum_{l-1}^{n} x_i - \bar{x}$ is

A. 1 B. –1 C. zero D. can not be found

11. The mean of 10 observation is 42. If each observation in the data is decreased by 12, the new mean of the data is

A. 12 B. 15 C. 30 D. 54

12. The the mean of 10 numbers is 15 and that of another 20 number is 24 then the mean of all 30 observations is

A. 20 B. 15 C. 21

157/174

13. The median of 10, 12, 14, 16, 18, 20 is

A. 12 B. 14 C. 15 D. 16

14. If the median of 12, 13, 16, $x + 2$, $x + 4$, 28, 30, 32 is 23, when $x + 2$, $x + 4$ lie between 16 and 30, then the value of x is

A. 18 B. 19 C. 20 D. 22

15. If the mode of 12, 16, 19, 16, x, 12, 16, 19, 12 is 16, then the value of x is

51. Find the mean (by using step deviation method) ,median and mode of the given data:

x	6	10	14	18	22	26	30
f	2	4	7	12	8	4	3

52. Draw histogram and frequency polygon for the following data:

Marks	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60
No. of students	10	12	13	11	9

53. The mean of 25 observations is 36. If the mean of the first 13 observations is 32 and that of the last 13 observations is 39, find the 13th observation.

54. Find mean (by using assume mean method), median and mode of the following table:

Salaries (in Rs.)	1500	2000	2500	3000	3500	4000	4500	5000
No. of workers	16	12	10	8	6	4	3	1

55. Find the mean (by using step deviation method), median and mode of the following distribution:

x	24.5	34.5	44.5	54.5	64.5	74.5	84.5	94.5
f	5	12	15	20	18	10	6	4

56. For the following data, draw a histogram and a frequency polygon.

Marks	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
No. of students	5	12	6	20	18	10	16	3

57. Given below are the ages of 25 students of class IX in a school.
Prepare a discrete frequency distribution table.

15	16	16	17	17	16	15	15	16	16	17	15	16
16	14	16	15	14	15	16	16	15	14	14	15	

58. Find the median of the following data: 33, 31, 48, 45, 41, 92, 78, 51, and 61. If 92 is replaced by 29, what will be the new median?

59. Following are the marks of a group of students in a test of reading ability test:

Marks:	50 – 52	47 – 49	44 – 46	41 – 43	38 – 40	35 – 37	32 – 34	**Total**
No. of students	4	10	15	18	20	12	13	92

Construct a histogram and frequency polygon for the above data.

60. For the following data, draw a histogram and a frequency polygon

x	0 – 10	10 – 20	20 – 30	30 – 50	50 – 60	60 – 80	80 – 90	90 –100
f	5	12	15	20	18	10	6	4

37. Draw histogram and frequency polygon for the following distribution:

C. I.	0 – 50	50 – 100	100 – 150	150 – 200	200 – 250	250 – 300
F	4	8	16	13	6	3

38. Calculate mean by step deviation method:

Marks	5.5	15.5	25.5	35.5	45.5	55.5
No. of Students	3	16	26	31	16	8

39. The mean of the following distribution is 15. Find the value of a.

C. I.	5	10	15	20	25
Freq	6	a	6	10	5

40. Calculate mean by step deviation method:

Marks	15	25	35	45	55
No. of Students	20	24	40	36	20

41. The mean of the following distribution is 50. Find the value of p.

C. I.	10	30	50	70	90
Freq	17	p	32	24	19

42. Find the missing frequencies from the frequency distribution if the mean is 472 for 100 workers

Income	250	350	450	550	650	750	850
No. of workers	5	x	y	16	9	6	4

43. In a school 90 boys and 30 girls appeared in a public examination. The mean marks of boys was found to be 45% whereas the mean marks of girls was 70%. Determine the average marks % of the school.

44. The marks secured by 15 students are 70, 55, 95, 62, 82, 65, 60, 68, 75, 58, 64, 85, 80, 90, 51. Find the median marks.

45. Calculate mean (by using short cut method), median and mode.

Marks	25	35	45	55	65	75	85	95
No. of Students	5	12	6	20	18	10	16	3

46. The mean of the following distribution is 112.2 for the sum of observation 100. Find the value of x and y.

C. I.	60	80	100	120	140	160
Freq	18	X	13	27	Y	22

47. The median of the following observations arranged in ascending order 8, 9, 12, 18, (x + 2), (x + 4), 30, 31, 34, 39 is 24. Find x.

48. If the mean of 2x + 3, 3x + 4, x + 7, x – 3, 4x – 7 is 14. Find the value of x.

49. The mean of 8 numbers is 15. If each number if multiplied by 2, what will be the new mean?

50. Find the mean (by using assume mean method), median and mode of the following distribution:

x	15	25	35	45	55	65
f	90	50	60	80	50	30

26. For what value of x, is the mode of the following data is 17?
15, 16, 17, 14, 17 16, 13, x, 17, 16, 15, 15

27. The runs scored by two teams A and B on the first 60 balls in a cricket match are given below: Represent the data of both the teams on the same graph by frequency polygons.

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

28. A random survey of the number of children of various age groups playing in a park was found as follows: Draw a histogram to represent the data above.

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

29. Calculate mean (by using assume mean method), median and mode.

Income	50	150	250	350	450	550	650	750
No. of persons	4	8	9	10	7	5	4	3

30. The mean of the following distribution is 107. Find the value of f_1 and f_2.

x	15	45	75	105	135	165	195	Total
f	2	3	f_1	10	3	f_2	2	30

31. Find the median of the distribution obtained in question no.2.

32. Find the median of first sixteen odd numbers.

33. Find the median of first ten prime numbers.

34. A school has two sections. The mean mark of one section of size 40 is 60 and mean mark of other section of size 60 is 80. Find the combined mean of all the students of the school.

35. The median of the following observations arranged in ascending order 8, 9, 12, 18, (x + 2), (x + 4), 30, 31, 34, 39 is 24. Find x.

21. Consider the marks, out of 100, obtained by 51 students of a class in a test, given in below table. Draw a frequency polygon corresponding to this frequency distribution table.

Marks	Number of students
0 - 10	5
10 - 20	10
20 - 30	4
30 - 40	6
40 - 50	7
50 - 60	3
60 - 70	2
70 - 80	2
80 - 90	3
90 - 100	9
Total	51

22. In a city, the weekly observations made in a study on the cost of living index are given below in the following table: Draw a frequency polygon for the data above (without constructing a histogram).

Cost of living index	Number of weeks
140 - 150	5
150 - 160	10
160 - 170	20
170 - 180	9
180 - 190	6
190 - 200	2
Total	52

23. The following table gives the life times of 400 neon lamps: (i) Represent the given information with the help of a histogram. (ii) How many lamps have a life time of more than 700 hours?

Life time (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

24. The mean of 13 observations is 14. If the mean of the first 7 observations is 12 and that of last 7 observation is 16, find the 7th observation.

25. The average monthly salary of 15 workers in a factory is Rs. 285. If the salary of the manager is included, the average becomes Rs. 355. What is the manager's salary?