# CBSE 10th Statistics Unsolved Paper

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# Unsolved Paper

**Q.1. Find the mean, median and mode of the following data: Classes: 0-20 20-40 40-60 60-80 80-100 100-120 120-140 Frequency: 6, ,8 10, 12, 6, 5, 3**

**Q.2. 100 surnames were randomly picked up from a local telephone directly and the frequency distribution of the number of letters in the English alphabets in the surnames was obtained as follows: Number of letters: l-4 4-7 7-10 10-13 13-16 16-19 Number surnames: 6, 30, 40, 16, 4, 4 Determine the median number of letters in the surnames. Find the mean number of letters in the surnames. Also, find the modal size of the surnames.**

**Q.3. The following data gives the distribution of total monthly household expenditure of 200 families of a village. Find the modal monthly expenditure of the families. Also, find the mean monthly expenditure:**

**Q.4. The following data gives the information on the observed lifetimes (in hours) of 225 electrical components:**

**Lifetimes (in hours): 0-20 20-40 40-60 60-80 80-100 100-120 No. of components: 10, 35, 52, 61, 38, 29**

**Determine the modal lifetimes of the components.**

**Q.5. The following table shows the ages of the patients admitted in a hospital during a year: Age (in years): 5-15 15-25 25-35 35-45 45-55 55-65. No. of students: 6, 11, 21, 23, 14 and 5 Find the mode and the mean of the data given above. Compare and interpret the two measures of central tendency.**

**Q.6. The shirt sizes worn by a group of 200 persons, who bought the shirt from a store, are as follows: Shirt size: 37, 38, 39, 40, 41, 42, 43, 44 Number of persons: 15, 25, 39, 41, 36, 17, 15, 12 Find the model shirt size worn by the group.**

**Q.7. The following table gives the distribution of the life time of 400 neon lamps:**

| Lite time: (in hours) | Number of lamps 1500-2000 14 |
|---|---|
| 2000-2500 | 56 |
| 2500-3000 | 60 |
| 3000-3500 | 86 |
| 3500-4000 | 74 |
| 4000-4500 | 62 |
| 4500-5000 | 48 |

**Find the median life.**

**Q.8. If the median of the following data is 32.5, find the missing frequencies.**

**Class interval: 0- 10, 10-20, 20-30, 30-40, 40-50, 50-60, 60-70 Total Frequency: $f_1$, 5, 9, 12, $f_2$, 3, 2, 40**

**Q.9. If the median of the following frequency distribution is 28.5 find the missing frequencies: Class interval: 0-10 10-20 20-30 30-40 40-50 50-60 Total Frequency: 5, $f_1$, 20, 15, $f_2$, 5, 60**

| Class Interval | Frequency | Cumulative frequency |
|---|---|---|
| 0-10 | 5 | 5 |
| 10-20 | $f_1$ | $5+f_1(F)$ |
| 20-30 | 20(F) | $25+F_1$ |
| 30-40 | 15 | $40+f_1$ |
| 40-50 | $f_2$ | $40+f_1+f_2$ |
| 50-60 | 5 | $45+f_1+f_2$ |
| | N = 60 | |

**Q.10. Calculate the median from the following data:**

| **Rent (in Rs.):** | **15-25** | **25-35** | **35-45** | **45-55** | **55-65** | **65-75** | **75-85** | **85-95** |
|---|---|---|---|---|---|---|---|---|
| **No. of Houses:** | **8** | **10** | **15** | **25** | **40** | **20** | **15** | **7** |

**Q.11. An incomplete distribution is given as follows:**

| Variable: | 0 - 10 | 10 - 20 | 20 - 30 | 30 - 40 | 40 – 50 | 50 - 60 | 60 - 70 |
|---|---|---|---|---|---|---|---|
| Frequency: | 10 | 20 | ? | 40 | ? | 25 | 15 |

**You are given that the median value is 35 and the sum of all the frequencies is 170. Using the median formula, fill up the missing frequencies.**

**Q.12. Find the missing frequencies and the median for the following distribution if the mean is 1.46.**

| No. of accidents: | 0 | 1 | 2 | 3 | 4 | 5 | total |
|---|---|---|---|---|---|---|---|
| Frequency (No. of days): | 46 | ? | ? | 25 | 10 | 5 | 200 |

**Q.13. Calculate the median from the following data:**

| Rent (in Rs.): | 15-25 | 25-35 | 35-45 | 45-55 | 55-65 | 65-75 | 75-85 | 85-95 |
|---|---|---|---|---|---|---|---|---|
| No. of Houses: | 8 | 10 | 15 | 25 | 40 | 20 | 15 | 7 |

**Q.14. An incomplete distribution is given as follows:**

| Variable: | 0 - 10 | 10 - 20 | 20 - 30 | 30 - 40 | 40 – 50 | 50 - 60 | 60 - 70 |
|---|---|---|---|---|---|---|---|
| Frequency: | 10 | 20 | ? | 40 | ? | 25 | 15 |

**You are given that the median value is 35 and the sum of all the frequencies is 170. Using the median formula, fill up the missing frequencies.**

**Q.15. Find the missing frequencies and the median for the following distribution if the mean is 1.46.**

| No. of accidents: | 0 | 1 | 2 | 3 | 4 | 5 | total |
|---|---|---|---|---|---|---|---|
| Frequency (No. of days): | 46 | ? | ? | 25 | 10 | 5 | 200 |

**Q.16. If the mean of the following data is 15, find p.**

| x: | 5 | 10 | 15 | 20 | 25 |
|---|---|---|---|---|---|
| f: | 6 | p | 6 | 10 | 5 |

**17. If the mean of the following data is 20.6. Find the value of p**

| x: | 10 | 15 | 15 | 25 | 35 |
|---|---|---|---|---|---|
| f: | 3 | 10 | 25 | 7 | 5 |

**18. Find the mean of the following data:**

| x: | 19 | 21 | 23 | 25 | 27 | 29 | 31 |
|---|---|---|---|---|---|---|---|
| f: | 13 | 15 | 16 | 18 | 16 | 15 | 13 |

**Q.19. Find the missing value of p for the following distribution whose mean is 12.5**

| x: | 5 | 8 | 10 | 12 | p | 20 | 25 |
|---|---|---|---|---|---|---|---|
| f: | 2 | 5 | 8 | 22 | 7 | 4 | 2 |

**Q.20. Find the value of p, if the mean of the following distribution is 20.**

| x: | 15 | 17 | 19 | 20+p | 23 |
|---|---|---|---|---|---|
| f: | 2 | 3 | 4 | 5P | 6 |

**Q.21. Find the missing frequencies in the following frequency distribution if it is known that the mean of the distribution is 50.**

| x: | 10 | 30 | 50 | 70 | 90 | |
|---|---|---|---|---|---|---|
| f: | 17 | $f_1$ | 32 | $f_2$ | 19 | Total 120. |

**Q.22. The arithmetic mean of the following data is 25, find the value of k**

| $x_1$: | 5 | 15 | 25 | 35 | 45 |
|---|---|---|---|---|---|
| $f_1$: | 3 | k | 3 | 6 | 2 |

**Q.23. If the mean of the following data is 18.75. Find the value of p.**

| $x_1$: | 10 | 15 | p | 25 | 30 |
|---|---|---|---|---|---|
| $f_1$: | 5 | 10 | 7 | 8 | 2 |

**Q.24. The number of telephone calls received at an exchange per interval for 250 successive one minute intervals are given in the following frequency table:**

| No. of calls(x): | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| No. of intervals (f): | 15 | 24 | 29 | 46 | 54 | 43 | 39 |

**Compute the mean number of calls per interval.**

**Q.25. The following table gives the number of branches and number of plants in the garden of a school.**

| No. of calls(x): | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| No. of intervals (f): | 49 | 43 | 57 | 38 | 13 |

**Calculate the average number of branches per plant.**

**Q.26. The following table gives the number of children of 150 families in a village**

| No. of children (x): | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| No. of families (f): | 10 | 21 | 55 | 42 | 15 | 7 |

**Find the average number of children per family.**

**Q.27. The marks obtained out of 50, by 102 students in a Physics test are given in the frequency table below:**

| Marks(x): | 15 | 20 | 22 | 24 | 30 | 33 | 38 | 45 |
|---|---|---|---|---|---|---|---|---|
| Frequency (f): | 5 | 8 | 11 | 20 | 23 | 18 | 13 | 1 |

**Find the average number of marks.**

**Q.28. The following distribution gives the number of accidents met by 160 workers in a factory during a month**

| **No. of accidents (x):** | **2** | **3** | **4** | **5** | **6** |
|---|---|---|---|---|---|
| **No. of workers (f):** | **49** | **43** | **57** | **38** | **13** |

**Find the average number of accidents per worker.**

**Q.29. The following table gives the distribution of total household expenditure (in rupees) of manual workers in a city**

| **Expenditure (in rupees) (x)** | **Frequency** $(f_i)$ | **Expenditure (in rupees)** $(x_i)$ | **Frequency** $(f_i)$ |
|---|---|---|---|
| **100 – 150** | **24** | **300 – 350** | **30** |
| **150 – 200** | **40** | **350 – 400** | **22** |
| **200 – 250** | **33** | **400 – 450** | **16** |
| **250 – 300** | **28** | **450 – 500** | **7** |

**Find the average expenditure (in rupees) per household.**

**Q.30.**

| **Class interval:** | **0 - 6** | **6 - 12** | **12 - 18** | **18 - 24** | **24-30** |
|---|---|---|---|---|---|
| **Frequency** | **6** | **8** | **10** | **9** | **7** |

**Q.31.**

| **Class interval:** | **0 - 6** | **6 - 12** | **12 - 18** | **18 - 24** | **24-30** |
|---|---|---|---|---|---|
| **Frequency** | **7** | **5** | **10** | **12** | **6** |

**Q.32.**

| **Class interval:** | **25-35** | **35-45** | **45-55** | **55-65** | **65-75** |
|---|---|---|---|---|---|
| **Frequency** | **6** | **10** | **8** | **12** | **4** |

**Q.33. The blood groups of 30 students of Class VIII are recoded 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.34. 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.35. 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.36. Find the mode of 14, 25, 14, 28, 18, 17, 18, 14, 23, 22, 14, 18.**

**Q.37. 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 |
| 10000 | 1 |
| Total | 60 |

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