



## MATHS

### BOOKS - ZEN MATHS (KANNADA ENGLISH)

## STATISTICS

#### Example

1. The heights of five runners are 160cm, 137cm, 149cm, 153cm, and 161cm respectively. Find the mean height.



[Watch Video Solution](#)

2. Find the mean for the following distribution.



Find the mean of the following frequency distribution: -

Studyrankersonline



Find the mean of the following frequency distribution: -

A. Studyrankersonline

B.

C.

D.

**Answer: 32.86**

 [Watch Video Solution](#)

3. Draw a 'more than ogive' for the following data:

Class	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80
Frequency	5	9	10	12	8	7	5	4

 [Watch Video Solution](#)

4. Find the arithmetic mean of the following frequency distribution :

$x_i$	3	4	5	7	10
$f_i$	3	4	8	5	10



Watch Video Solution

5. Find the mode of the following data:

Marks	Below 10	Below 20	Below 30	Below 40
No. of students	8	20	45	58

A.

Marks	Below 10	Below 20	Below 30	Below 40
No. of students	8	20	45	58

B.

C.

D.

**Answer: 65**



Watch Video Solution

6. In a class, 9 students have secured the following marks in a vocabulary test. Find the median.

Marks: 6, 12, 8, 13, 7, 11, 9, 7, 10



[Watch Video Solution](#)

7. Find the median of 21, 22, 23, 24, 25, 26, 27 and 28.



[Watch Video Solution](#)

8. Find the median of the following distribution.

Age (years)	Number of persons
0 - 10	4
10 - 20	14
20 - 30	18
30 - 40	23
40 - 50	27
50 - 60	16
60 - 70	8

A.

B.

C.

D.

**Answer: 470**



**Watch Video Solution**

1. A survey was conducted by a group of students as a part of their environment awareness programme, in which they collected the following data regarding the number of plants in 20 houses in a locality. Find the mean number of plants per house.

Number of plants	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14
Number of houses	1	2	1	5	6	2	3

Which method did you use for finding the mean, and why?

 [Watch Video Solution](#)

2. Consider the following distribution of daily wages of 50 workers of a factory.

Daily wages (in ₹)	100-120	120-140	140-160	160-180	180-200
Number of workers	12	14	8	6	10

Find the mean daily wages of the workers of the factory by using an appropriate method.

 [Watch Video Solution](#)

3. The following distribution shows the daily pocket allowance of children of a locality. The mean pocket allowance is Rs 18. Find the missing frequency  $f$ .



[Watch Video Solution](#)

4. Thirty women were examined in a hospital by a doctor and the number of heart per minute were recorded and summarized as follows. Find the mean heart beats per minute for these women, choosing a suitable method.

<b>Number of heart beats per minute</b>	65–68	68–71	71–74	74–77	77–80	80–83	83–86
<b>Number of womens</b>	2	4	3	8	7	4	2



[Watch Video Solution](#)

5. In a retail market, fruit vendors were selling mangoes kept in packing boxes. These boxes contained varying number of mangoes. The following

was the distribution of mangoes according to the number of boxes.

Number of mangoes	50–52	53–55	56–58	59–61	62–64
Number of boxes	15	110	135	115	25

Find the mean number of mangoes kept in a packing box. Which method of finding the mean did you choose?



[Watch Video Solution](#)

6. The table below shows the daily expenditure on food of 25 households in a locality.

Daily expenditure (in ₹)	100–150	150–200	200–250	250–300	300–350
Number of households	4	5	12	2	2

Find the mean daily expenditure on food by a suitable method.



[Watch Video Solution](#)

7. To find out the concentration of  $SO_2$  in the air (in parts per million, i.e., ppm), the data was collected for 30 localities in a certain city and is



presented below:

Concentration of $SO_2$ (in ppm)	Frequency ( $f$ )
0.00 – 0.04	4
0.04 – 0.08	9
0.08 – 0.12	9
0.12 – 0.16	2
0.16 – 0.20	4
0.20 – 0.24	2

Find the mean concentration of  $SO_2$  in the air.

 [Watch Video Solution](#)

8. A class teacher has the following absentee record of 40 students of a class for the whole term. Find the mean number of days a student was absent.

Number of days	0–6	6–10	10–14	14–20	20–28	28–38	38–40
Number of students	11	10	7	4	4	3	1

 [Watch Video Solution](#)

9. The following table gives the literacy rate (in percentage) of 35 cities.

Find the mean literacy rate

Number of days	45–55	55–65	65–75	75–85	85–95
Number of students	3	10	11	8	3



[Watch Video Solution](#)

## Textual Exercises Exercise 13.2

1. 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
Number of patients	6	11	21	23	14	5

Find the mode and the mean of the data given above. Compare and interpret the two measures of central tendency.



[Watch Video Solution](#)

2. 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
Frequency	10	35	52	61	38	29

Determine the modal lifetimes of the components.

 [Watch Video Solution](#)

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 :

<b>Expenditure (in ₹)</b>	<b>Number of families</b>
<b>1000 - 1500</b>	<b>24</b>
<b>1500 - 2000</b>	<b>40</b>
<b>2000 - 2500</b>	<b>33</b>
<b>2500 - 3000</b>	<b>28</b>
<b>3000 - 3500</b>	<b>30</b>
<b>3500 - 4000</b>	<b>22</b>
<b>4000 - 4500</b>	<b>16</b>
<b>4500 - 5000</b>	<b>7</b>



[Watch Video Solution](#)

4. The following distribution gives the state-wise teacher-student ratio in higher secondary schools of India. Find the mode and mean of this data.

Interpret the two measures.

Number of students per teacher	Number of states / U.T.
15–20	3
20–25	8
25–30	9

30–35	10
35–40	3
40–45	0
45–50	0
50–55	2



[Watch Video Solution](#)

5. The given distribution shows the number of runs scored by some top batsmen of the world in one-day international cricket matches.

Runs scored	Number of batsmen
3000 – 4000	4
4000 – 5000	18
5000 – 6000	9
6000 – 7000	7
7000 – 8000	6
8000 – 9000	3
9000 – 10000	1
10000 – 11000	1

Find the mode of the distribution.

 [Watch Video Solution](#)

6. A student noted the number of cars passing through a spot on a road for 100 periods each of 3 minutes and summarised it in the table given below. Find the mode of the data.

 [Watch Video Solution](#)

1. The following frequency distribution gives the monthly consumption of electricity of 68 consumers of a locality. Find the median, mean and mode of the data and compare them.

Monthly consumption (in units)	Number of consumers
65–85	4
85–105	5
105–125	13
125–145	20
145–165	14
165–185	8
185–205	4



[Watch Video Solution](#)

2. If the median of the distribution given below is 28.5, find the values of  $x$  and  $y$ .

Monthly consumption (in units)	Number of consumers
0–10	5
10–20	$x$
20–30	20
30–40	15
40–50	$y$
50–60	5
<b>Total</b>	<b>60</b>



[Watch Video Solution](#)

3. A life insurance agent found the following data for distribution of ages of 100 policy holders. Calculate the median age, if policies are given only to persons having age 18 years onwards but less than 60 year.

<b>Age (in years)</b>	<b>Number of policy holders</b>
<b>Below 20</b>	<b>2</b>
<b>Below 25</b>	<b>6</b>
<b>Below 30</b>	<b>24</b>
<b>Below 35</b>	<b>45</b>
<b>Below 40</b>	<b>78</b>

<b>Below 45</b>	<b>89</b>
<b>Below 50</b>	<b>92</b>
<b>Below 55</b>	<b>98</b>
<b>Below 60</b>	<b>100</b>

 [Watch Video Solution](#)

4. The lengths of 40 leaves of a plant are measured correct to the nearest (millimeter, and the data obtained 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

Find the median length of the leaves.

(Hint: The data needs to be converted to continuous classes for finding the median, since the formula assumes continuous classes. The classes then change to 117.5-126.5,126.5-135.5,....,171.5-180.5.)



[Watch Video Solution](#)

5. The following table gives the distribution of the life time of 400 neon lamps :

Life 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 time of a lamp



[Watch Video Solution](#)

6. 100 surnames were randomly picked up from a local telephone directory and the frequency distribution of the number of letters in the English alphabets in the surnames was obtained as follows:

Number of letters	1–4	4–7	7–10	10–13	13–16	16–19
Number of 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.



 [Watch Video Solution](#)

7. The distribution below gives the weights of 30 students of a class. Find the median weight of the students.

Weight (in kg)	40-45	45-50	50-55	55-60	60-65	65-70	70-75
No. of students	2	3	8	6	6	3	2

 [Watch Video Solution](#)

### Textual Exercises Exercise 13 4

1. The following distribution gives the daily income of 50 workers of a factory.

<b>Daily income (in ₹)</b>	<b>100-120</b>	<b>120-140</b>	<b>140-160</b>	<b>160-180</b>	<b>180-200</b>
<b>Number of students</b>	<b>12</b>	<b>14</b>	<b>8</b>	<b>6</b>	<b>10</b>

Convert the distribution above to a less than type cumulative frequency distribution, and draw its ogive.

 [Watch Video Solution](#)

2. During the medical check-up of 35 students of a class, their weights were recorded as follows:

Daily income (in ₹)	Cumulation frequency
Less than 38	0
Less than 40	3
Less than 42	5
Less than 44	9
Less than 46	14
Less than 48	28
Less than 50	32
Less than 52	35

Draw a less than type ogive for the given data. Hence obtain the median weight from the graph and verify the result by using the formula.

 [Watch Video Solution](#)

3. The following table gives production yield per hectare of wheat of 100 farms of a village.

Production yield (in kg/ha)	50–55	55–60	60–65	65–70	70–75	75–80
Number of farms	2	8	12	24	38	16

Change the distribution, and draw its ogive



[Watch Video Solution](#)

## Zen Additional Questions Multiple Choice Questions

1. The measure of central tendency influenced by extreme values is

- A. Mean
- B. Median
- C. Mode
- D. Deviation

**Answer: A**



[Watch Video Solution](#)

2. If the arithmetic mean of 7, 8, x, 11, and 14 is x, x =

A. 9

B. 9.5

C. 10.5

D. 10

**Answer: D**



[Watch Video Solution](#)

3. In the formula  $\bar{x} = a + \frac{\sum f_i d_i}{\sum f_i}$  for finding the mean of grouped data,

' $d_i$ 's are deviations from the

A. Lower limit of the classes

B. Upper limit of the classes

C. Midpoint of the classes

D. Frequencies of the class mark

**Answer: C**



[Watch Video Solution](#)

4. If  $u_i = \frac{x_i - 15}{8}$ ,  $\Sigma f_i u_i = 20$ , and  $\Sigma f_i = 80$ ,  $\bar{x}$  is

A. 17

B. 19

C. 16

D. 14

**Answer: A**



[Watch Video Solution](#)

5. In the frequency distribution, if  $\sum f_i = 75$  and  $\sum f_i x_i = 6225$ , the mean of the distribution is

A. 73

B. 83

C. 85

D. 77

**Answer: B**



[Watch Video Solution](#)

6. If the mean of distribution is 2.6.

Variable	1	2	3	4	5
Frequency	4	5	$x$	1	2

The value of  $x$  is

A. 3



B. 8

C. 13

D. 24

**Answer: B**



**Watch Video Solution**

7. Given the following distribution:

Marks than 10	Less than 20	Less than 30	Less than 40	Less than 50
No. of students	3	11	28	48

The modal class is

A. 10 – 20

B. 20-30

C. 30-40

D. 40-50

**Answer: D**



**Watch Video Solution**

**8.** The cumulative frequency table is useful in determining

A. Mean

B. Median

C. Mode

D. All of the above

**Answer: B**



**Watch Video Solution**

**9.** Give distribution:

<b>Class</b>	0-5	5-10	10-15	15-20	20-25
<b>Frequency</b>	10	15	12	20	9

The sum of the lower limits of the median class the modal class is

A. 15

B. 25

C. 30

D. 35

**Answer: B**



[Watch Video Solution](#)

10. Given data:

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Freq.(f)	6	8	10	15	5	4	2

The difference between the upper limit of the median class and the lower limit of the modal class is -

A. 30

B. 0

C. 10

D. 20

**Answer: C**



**Watch Video Solution**

11. In a class test, 50 students obtained marks as follows.

Marks obtained	0-20	20-40	40-60	60-80	80-100
No. of students	4	6	25	10	5

The frequency of the modal class and median class is

A. 10, 25

B. 6, 25

C. 25, 10

D. 25, 25

**Answer: D**



Watch Video Solution

12. The abscissa of the point of intersection of the less-than type and of the more-than type cumulative frequency curves of a grouped data gives

- A. Mean
- B. Median
- C. Mode
- D. All of the above

**Answer: B**



Watch Video Solution

13. If the median of data 24, 25, 26,  $P + 2$ ,  $P + 3$ , 30, 31, 34 is 27.5. Then

P =

- A. 27

B. 25

C. 28

D. 30

**Answer: B**



[Watch Video Solution](#)

**14.** The median of first 10 prime numbers is

A. 11

B. 12

C. 12.5

D. 13

**Answer: B**



[Watch Video Solution](#)

15. Find the median class of the following distribution:

Class	Frequency
0-10	4
10-20	4
20-30	8
30-40	10
40-50	12
50-60	8
60-70	4

A. 20-30

B. 30-40

C. 40-50

D. 50-60

**Answer: B**

 [Watch Video Solution](#)

**16.** Consider the following frequency distribution

Class	0-5	6-11	12-17	18-23	24-29
Frequency	13	10	15	8	11

The lower limit of median class is

- A. 11.5
- B. 12
- C. 16.5
- D. 17

**Answer: A**

 [Watch Video Solution](#)



17. The relation between mean, median, and mode for a frequency distribution is

- A.  $\text{Mode} = 3 \text{ Mean} - 2 \text{ Median}$
- B.  $\text{Mode} = 2 \text{ Median}$
- C.  $\text{Mode} = 3 \text{ Median} - 2 \text{ Mean}$
- D.  $\text{Mode} = 3 \text{ Median} + 2 \text{ Mean}$

**Answer: C**



[Watch Video Solution](#)

18. The value of the mode when mean is 146 and median is 130 is

- A. 276
- B. 108
- C. 98
- D. 138

**Answer: C**



**Watch Video Solution**

**19.** If mode = 80 and mean = 110, median is

A. 100

B. 90

C. 95

D. 190

**Answer: A**



**Watch Video Solution**

20. Consider the following distribution.

Marks obtained	No. of students
More than or equal to 0	63
More than or equal to 10	58
More than or equal to 20	55
More than or equal to 30	51
More than or equal to 40	48
More than or equal to 50	52

The frequency of the class 30-40 is

- A. 3
- B. 4
- C. 48
- D. 51

**Answer: A**



[Watch Video Solution](#)

1. Write the class mark of the class  $x-y$ .

 [Watch Video Solution](#)

2. Write the class size of the class 18-26 in a continuous series.

 [Watch Video Solution](#)

3. What is the mean of first eight even natural numbers?

 [Watch Video Solution](#)

4. Find the value of  $x$  if the mode of 110, 148, 133, 162, 148, 133, 187, 126, 154,  $x$ ,  $x + 13$  is 148.

 [Watch Video Solution](#)

5. Find the value of  $x$  if the median of 35, 42, 47,  $x + 2$ ,  $x + 8$ , 65, 78, and 89 arranged in ascending order is 56.

 [Watch Video Solution](#)

6. Find the missing values in the following frequency distribution.

<b>Class</b>	10-20	20-30	30-40	40-50	50-60	60-70
<b>Frequency</b>	1	$f_1$	5	9	7	3
<b>CI</b>	1	4	9	$f_2$	25	28

 [Watch Video Solution](#)

7. Write the median class of the following frequency distribution.

<b>CI</b>	0-10	10-20	20-30	30-40	40-50	50-60	60-70
<b>Freq. (f)</b>	4	4	8	10	12	8	4

 [Watch Video Solution](#)

8. Give below is a cumulative frequency distribution of less-than type.

Change the data into a continuous grouped frequency distribution.

Marks obtained	Less than 20	Less than 30	Less than 40	Less than 50
CF	8	13	19	24



[Watch Video Solution](#)

9. Calculate the value of  $a$  if  $N = 60$ .

Class	0-20	20-40	40-60	60-80	80-100
Frequency	8	15	$a$	12	5



[Watch Video Solution](#)

10. For the following distribution:

Marks	No. of Students
Below 10	3
Below 20	12
Below 30	27
Below 40	57
Below 50	75
Below 60	80

What is the modal class.

 [Watch Video Solution](#)

Zen Additional Questions Short Answer Sa Type I Questions

1. Find the mean of the distribution.

<b>Class</b>	1-3	3-5	5-7	7-9
<b>Frequency</b>	9	22	27	17



[Watch Video Solution](#)

[Watch Video Solution](#)

2. Calculate the mean of the following data:

Class	4-7	8-11	12-15	16-19
Frequency	5	4	9	10

[Watch Video Solution](#)

3. The arithmetic mean of the following frequency distribution is 25.

Determine P.

Class	0-10	10-20	20-30	30-40	40-50
Frequency	5	18	15	P	6

[Watch Video Solution](#)

4. The weights of coffee in 70 packets are shown in the following table.

Determine the modal weight.



<b>Weight (in gram)</b>	<b>No. of packets</b>
200-201	12
201-202	26
202-203	20
203-204	9
204-205	2
205-206	1



[Watch Video Solution](#)

5. The following table shows the cumulative distribution of marks of 800 students in an examination. Construct a frequency distribution table.

<b>Marks</b>	<b>No. of students</b>
Below 10	10
Below 20	50
Below 30	130
Below 40	270
Below 50	440
Below 60	570
Below 70	670
Below 80	740
Below 90	780
Below 100	800



Watch Video Solution

6. Find the unknown entries a, b, c, d, e, and f in the following distribution of heights of students in a class.

Height (in cms)	Frequency	CI
150-155	12	a
155-160	b	25
160-165	10	c
165-170	d	43
170-175	e	48
175-180	2	f



Watch Video Solution

7. Weekly income of 600 families is tabulated below.

Weekly income (in ₹)	No. of families
0-1000	250
1000-2000	190
2000-3000	100
3000-4000	40
4000-5000	15
5000-6000	5
<b>Total</b>	<b>600</b>

Calculate the median income.

 [Watch Video Solution](#)

8. The following is the distribution of weight (in kg) of 40 persons.

Construct a cumulative frequency distribution (of less-than type). Table for the data:

Weight (in kg)	No. of persons
40-45	4
45-50	4
50-55	13
55-60	5
60-65	6
65-70	5
70-75	2
75-80	1

 [Watch Video Solution](#)

9. Change the following distribution to a more than type distribution and hence draw the more than type ogive for this distribution.

CI	20-30	30-40	40-50	50-60	60-70	70-80	80-90
$f$	10	8	12	24	6	25	15

 [Watch Video Solution](#)

## Zen Additional Questions Short Answer Sa Type Ii Questions

1. Calculate the mean by step-deviation method.

CI	20-30	30-40	40-50	50-60	60-70	70-80
Freq.(f)	100	120	130	400	200	50

 [View Text Solution](#)

2. The mean of the following distribution is 54. Find the missing frequency.

CI	0-20	20-40	40-60	60-80	80-100
Frequency	16	14	24	26	$x$

 [Watch Video Solution](#)

3. Find P if the mean of the given data is 15.45.

Class	0-6	6-12	12-18	18-24	24-30
Frequency	6	8	P	9	7

 [Watch Video Solution](#)

4. The average score of boys in an examination of a school is 71 and that of the girls is 73. The average score of the school in the examination is 71.8. Find the ratio of the numbers of boys to the number of girls who appeared in the examination.

 [Watch Video Solution](#)

5. The following data gives the information on the observed lifetimes (in hours) of 150 electrical components. Find the mode of the distribution.

Lifetime	0-20	20-40	40-60	60-80	80-100
Frequency	15	10	35	50	40

 [View Text Solution](#)

6. Determine the missing frequency  $x$  from the following data, when the mode is 67.

<b>Class</b>	40-50	50-60	60-70	70-80	80-90
<b>Frequency</b>	5	$x$	15	12	7

 [Watch Video Solution](#)

7. The median of the distribution given below is 14.4. Find the values of  $x$  and  $y$ , if the sum of frequency is 20.

<b>CI</b>	0-6	6-12	12-18	18-24	24-30
<b>Frequency</b>	4	$x$	5	$y$	1

 [Watch Video Solution](#)

8. Some students of class X donated for the welfare of old-age persons. Their contribution is shown in the following frequency distribution. Find

the median and mode of their contribution.

<b>Amount</b>	0-20	20-40	40-60	60-80	80-100
<b>Frequency</b>	5	8	12	11	4

 [Watch Video Solution](#)

9. By changing the following frequency distribution to less than type distribution. Draw its ogive.

<b>Class Interval</b>	0-15	15-30	30-45	45-60	60-75
<b>Frequency</b>	6	8	10	6	4

 [Watch Video Solution](#)

10. Calculate the median of the following frequency distribution table:

Class-interval	Frequency ( $f_i$ )
10 - 25	2
25 - 40	3
40 - 55	7
55 - 70	6
70 - 85	6
85 - 100	6

 [Watch Video Solution](#)

11. Find the mode for the following data in the frequency distribution table:

Family size	1-3	3-5	5-7	7-9	9-11
Number of families	7	8	2	2	1

 [Watch Video Solution](#)



12. Find the median for the following data in the frequency distribution table:

Weight (in kg)	15–20	20–25	25–30	30–35	35–40
Number of students	2	3	6	4	5

 [Watch Video Solution](#)

13. Find the median of the data:

<i>Class-interval</i>	<i>Frequency</i>
20 — 40	7
40 — 60	15
60 — 80	20
80 — 100	8

 [Watch Video Solution](#)

14. Find the mode of the following data:

<i>Class-interval</i>	<i>Frequency</i>
1 — 3	6
3 — 5	9
5 — 7	15
7 — 9	9
9 — 11	1

 [Watch Video Solution](#)

Zen Additional Questions Long Answer La Type Questions

1. The length of 40 leaves of a plant is measured correct to the nearest millimetre and the data obtained is represented in the following table.

Find the mean length of the leaves.

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

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

A.

B.

C.

D.

Answer: 137.30 mm

 [Watch Video Solution](#)

2. Find the missing frequencies  $f_1$ ,  $f_2$  and  $f_3$  in the following frequency distribution, given  $f_2 : f_3 = 4 : 3$  and mean is 50. Total frequency is 120.

Class Interval	Frequency
0-20	17
20-40	$f_1$
40-60	$f_2$
60-80	$f_3$
80-100	19
<b>Total</b>	<b>120</b>

Class Interval	Frequency
0-20	17
20-40	$f_1$
40-60	$f_2$
60-80	$f_3$
80-100	19
<b>Total</b>	<b>120</b>

A.

B.

C.

D.

**Answer:**  $f_1 = 28$



**Watch Video Solution**

3. If the mean of the following frequency distribution is 91, and sum of frequencies is 150, find the missing frequency  $x$  and  $y$  :

Classes	0 – 30	30 – 60	60 – 90	90 – 120	120 – 150	150 – 180
Frequency	12	21	$x$	52	$y$	11



**Watch Video Solution**

4. Calculate the mode and mean for the following data:

Marks	No. of students
0 - 10	5
10 - 20	12
20 - 30	14
30 - 40	10
40 - 50	8
50 - 60	6

Marks	No. of students
0 - 10	5
10 - 20	12
20 - 30	14
30 - 40	10
40 - 50	8
50 - 60	6

A.

B.

C.

D.

Answer: Mode = 36.818



Watch Video Solution

5. An incomplete distribution is given below:

Variable:	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency:	12	30	-	65	-	25	18

The value of the median is 46 and the total number of items is 230.

- (i) Using the median formula fill up the missing frequencies.
- (ii) Calculate A.M. of the completed distribution.



[Watch Video Solution](#)

### Zen Additional Questions Hots Higher Order Thinking Skills Question

1. The following table give marks of students in a test. The frequency of class 49-52 is missing. The mean of the given distribution is 47.2. Find the

missing frequency.

Class Intervals	Frequency
40-43	31
43-46	58
46-49	60
49-52	?
52-55	27

Class Intervals	Frequency
40-43	31
43-46	58
46-49	60
49-52	?
52-55	27

- A.
- B.
- C.
- D.

**Answer: Missing frequency = 44**

 [Watch Video Solution](#)



2. The mean of the following frequency table is 50. Find  $f_1$  and  $f_2$ .

Classes	0-20	20-40	40-60	60-80	80-100	Total
Frequency	17		32		19	120

A. 

Classes	0-20	20-40	40-60	60-80	80-100	Total
---------	------	-------	-------	-------	--------	-------

Frequency 17                      32                      19                      120

B.

C.

D.

**Answer:**  $f_1 = 28$  and  $f_2 = 24$



[Watch Video Solution](#)

3. Find the mean from the following cumulative frequency distribution.

Class	Cumulative Frequency
More than 50	60
More than 60	48
More than 70	30
More than 80	20
More than 90	5

Class	Cumulative Frequency
More than 50	60
More than 60	48
More than 70	30
More than 80	20
More than 90	5

- A.
- B.
- C.
- D.

**Answer: Mean = 51.75**



**Watch Video Solution**

4. Find the median of the given data.

Weekly expenditure (\$)	Number of families
0 - 1000	28
1000 - 2000	46
2000 - 3000	54
3000 - 4000	42
4000 - 5000	30

Weekly expenditure (\$)	Number of families
0 - 1000	28
1000 - 2000	46
2000 - 3000	54
3000 - 4000	42
4000 - 5000	30

- A.
- B.
- C.
- D.

**Answer: Median = 153.80**



**Watch Video Solution**

5. Find the median of the given cumulative frequency distribution.

C.I.	C.F
Less than 10	5
Less than 20	8
Less than 30	12
Less than 40	15
Less than 50	18
Less than 60	22
Less than 70	29
Less than 80	38

C.I.	C.F
Less than 10	5
Less than 20	8
Less than 30	12
Less than 40	15
Less than 50	18
Less than 60	22
Less than 70	29
Less than 80	38

- A.
- B.
- C.
- D.

**Answer: Median = 62**



[Watch Video Solution](#)

## Zen Additional Questions lit Foundation

1. The mean of five numbers is 18. If one number is excluded then their mean is 16. Find excluded number.



[Watch Video Solution](#)

2. If the average wage of 50 workers is Rs. 100 and the average wage of 30 of them is Rs. 120. Find the average wage of remaining workers.



[Watch Video Solution](#)

3. The following information gives the monthly salaries of 100 employees. Find the mode of the given data.

Monthly income (₹)	No. of families
0 – 500	25
500 – 1000	30
1000 – 1500	20
1500 – 2000	10
2000 – 2500	7
2500 – 3000	6
3000 – 3500	2
	<b>N = 100</b>

Monthly income (₹)	No. of families
0 – 500	25
500 – 1000	30
1000 – 1500	20
1500 – 2000	10
2000 – 2500	7
2500 – 3000	6
3000 – 3500	2
	<b>N = 100</b>

- A.
- B.
- C.
- D.

**Answer: Mode = 3666.16**



4. If the mean of the following data is 53, then find the missing frequency  $p$  of the following distribution.

The mean of the following distribution is 53. Find the missing frequency  $p$

Class	0–20	20–40	40–60	60–80	80–100
Frequency	12	15	32	$P$	13

 [Watch Video Solution](#)

5. The mean weight of a group of 9 students is 19 kg. If a boy of weight 29 kg is joined in the group, then find the mean weight of 10 students.

 [Watch Video Solution](#)