



# ECONOMICS

## BOOKS - GOYAL BROTHERS

### PRAKASHAN ECONOMICS (HINGLISH)

#### MEDIAN AND MODE

#### Solved Example

1. Given below are marks ( out of 100) of 10 students in an examination. Calculate median

marks.

90,64,79,33,85,59,60,70,40,95



[Watch Video Solution](#)

2. Find out the median of the following items :

9,15,12,21,8,17,20



[Watch Video Solution](#)

3. Find the median from the following distribution

Wage (₹)	No. of workers
0 – 100	20
100 – 200	30
200 – 300	35
300 – 400	40
400 – 500	20



[Watch Video Solution](#)

4. Find the median from the following distribution



[Watch Video Solution](#)

5. Find out the median from the following distribution.

<b>Marks</b>	0 – 25	25 – 50	50 – 75	75 – 100
<b>No. of students</b>	4	16	12	8



[Watch Video Solution](#)

6. Find the modal item of the following set of numbers:

2,5,7,3,7,3,2,7,7,5



[Watch Video Solution](#)



7. Find the modal item of the following set of numbers: 11,19,14,13,14,16,14,16,11,16



[Watch Video Solution](#)

8. Find the mode from the following distribution :

Wage (₹)	0-100	100-200	200-300	300-400	400-500
No. of workers	20	30	35	40	20



[Watch Video Solution](#)

9. Find the mode from the following distribution :

<b>Marks</b>	0-20	20-40	40-60	60-80	80-100
<b>No. of students</b>	8	17	27	18	10



[Watch Video Solution](#)

10. Find the mode from the following distribution :

<b>Marks</b>	0-25	25-50	50-75	75-100
<b>No. of students</b>	4	16	12	8



[Watch Video Solution](#)

## Illustration

1. Suppose, we have to find out modal marks from the following frequency distribution:  
(Table 8.8)



[View Text Solution](#)

2. In case of inclusive classes the first step is to convert the same into exclusive classes by using adjustment value to change the limits ( See section 4.3.3.). Given the following

frequency distribution with inclusive classes.

Frequency Distribution of Marks Obtained By Students

Class (Marks)	Frequency (No. of students)
3 – 5	4
6 – 8	5
9 – 11	8
12 – 14	2
15 – 17	1

The adjustment value for converting inclusive classes into exclusive classes is 0.5  $\left( = \frac{6 - 5}{2} \right)$ . Deduct 0.5 from all the lower limits and add 0.5 to all upper limits before applying the method of calculation.



[View Text Solution](#)

Multiple Choice Questions

1. Median is

A. A computed average

B. A positional average

C. A simple average

D. A weighted average

**Answer: b**



**View Text Solution**

2. Median is an average . Median of the series with variable 9,1,5,3,7,11,20 is :

A. 8

B. 3

C. 7

D. 5

**Answer: c**



**View Text Solution**

3. Median of a series with variable 1,2,3,4,5,6 is :

A. 3

B. 3.5

C. 4

D. 4.5

**Answer: b**



**View Text Solution**

4. Mode is :

- A. Middle most item of a series
- B. Most common value in a series
- C. simple average of the series
- D. None of the above

**Answer: b**



**View Text Solution**

5. What is the mode in the series with following variables.

1,2,2,1,3,3,2,3



A. 1

B. 2

C. 3

D. No mode

**Answer: d**



**View Text Solution**

**Numerical Problem**

1. Calculate the median of the following item:

5,6,9,4,3,10,1



[Watch Video Solution](#)

2. Calculate median marks obtained by 10 students :

95,35,86,43,54,66,71,26,53,10



[Watch Video Solution](#)

3. Calculate median marks obtained by 9 students :

17 46 24 20 17 48 20 34 35



[Watch Video Solution](#)

4. Calculate median size :

7 11 15 8 8 6 16

[Hint: Special case.]



[Watch Video Solution](#)

5. Calculate median marks of a class of 38 student by using lower limit method.

Marks	No. of students
0 - 19	1
20 - 39	5
40 - 59	20
60 - 79	8
80 - 99	4

A. 60

B. 58.5

C. 57.5

D. None of these

**Answer: C**



**Watch Video Solution**

6. Determine the median weekly income using upper limit method.

Income (₹)	No. of persons
Below 300	10
300 – 400	20
400 – 500	30
500 – 600	40
600 – 700	60
700 – 800	65
800 – 900	20
900 – 1000	10



**Watch Video Solution**

7. Calculate the median marks:

Marks	No. of students
0 - 10	6
10 - 20	20
20 - 30	25
30 - 40	20
40 - 50	4
50 - 60	1

A. 42

B. 40

C. 41

D. 39.5

**Answer: B**



**Watch Video Solution**

8. Calculate median score in a cricket match between two teams:

Score	No. of players
0 – 25	8
25 – 50	5
50 – 75	5
75 – 100	2
100 – 125	2

A. 40

B. 41

C. 42

D. None

**Answer: A**



**Watch Video Solution**

**9. Calculate median size :**

<b>Size</b>	<b>Frequency</b>
0 – 8	10
8 – 16	5
16 – 24	20
24 – 32	4
32 – 40	6



**Watch Video Solution**



10. Calculate median marks :

Marks	No. of students
Less than 80	50
Less than 70	45
Less than 60	40
Less than 50	30
Less than 40	16
Less than 30	10
Less than 20	6
Less than 10	2



Watch Video Solution

11. Calculate the median wagger per day:

Wages per day (₹)	No. of workers
More than 100	5
More than 90	15
More than 80	30
More than 70	50
More than 60	50
More than 50	55
More than 40	60



 [Watch Video Solution](#)

**12.** Find the modal item of the following set of numbers :

2,6,3,5,3,4,3,5,4,3,6,3



[Watch Video Solution](#)

**13.** Calculate the modal size:

Size of items	Frequency
10 – 20	10
20 – 30	15
30 – 40	25
40 – 50	40
50 – 60	10
60 – 70	5
70 – 80	5

A. 45.01

B. 43.82

C. 43.45

D. 43.33

**Answer: D**



**Watch Video Solution**

14. From the table given below, find the mode :

Marks	No. of candidates
1 – 10	7
11 – 20	10
21 – 30	16
31 – 40	32
41 – 50	24
51 – 60	18
61 – 70	10
71 – 80	5
81 – 90	1



[Watch Video Solution](#)

15. Give an example of a series which has no mode.



[View Text Solution](#)

16. Give the example of a series which has more than one mode. What is the name given to such a series ?



[View Text Solution](#)

17. Find the mode from the following series :

Marks	No. of students
0 - 20	4
20 - 40	16
40 - 60	20
60 - 80	20
80 - 100	10
100 - 120	5

(Hint: The modal class is 40-80 )



[Watch Video Solution](#)

18. Find the mode from the following series :

Size	Frequency
10 – 15	6
15 – 20	10
20 – 25	20
25 – 30	30
30 – 35	30
35 – 40	20
40 – 45	8
45 – 50	4

What is special in this question? Can you solve this question orally? If yes, how ?

(Hint: See 8.8)



[View Text Solution](#)

**19.** Given median =10 and mean =12, calculate mode.



**Watch Video Solution**

**20.** Calculate value of mode on the basis of its relation with mean and median from the data in question no. 14 and compare the two results ( i.e. modes in Qs. 14 and 20 ).



**Watch Video Solution**

21. Calculate mode from the following :

Class	Frequency
0 - 100	21
100 - 200	25
200 - 300	30
300 - 400	40
400 - 500	30
500 - 600	20
600 - 700	10

A. 645

B. 345

C. 350

D. 420

**Answer: C**



**Watch Video Solution**



