



# MATHS

**BOOKS - CHHAYA PUBLICATION**

**MATHS (BENGALI ENGLISH)**

## Measures of Central Tendency

### Example

1. Find the mean of the numbers 7,9,4,6,5 .



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2. If the weights of 8 students are 30 kg, 32 kg, 25 kg 41 kg, 36 kg 40 kg, 28 and 20 kg find the mean weight for these students.



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3. The mean of five numbers is 12 and four of four of those are 8, 11, 13 and 17. Find the fifth number.



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4. Shyam throws a die thrice . Getting 1 or 6 is taken as success the mean of number of success is



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5. Find the mean of the following frequency distribution.



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6. The scores of last twenty innings of cricket player is given below. Make a frequency distribution table and hence find the mean score per innings :



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7. Calculate the average marks in mathematics obtained 102 student from the following

frequency distribution :



Find average marks by short-cut method.



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**8.** From the following frequency distribution  
find the mean by step deviation method :



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9. Find the arithmetic mean of the following frequency distribution.



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10. Find A.M. of the following frequency distribution.



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**11.** Compute mean (or arithmetic mean) of the following frequency distribution :



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**12.** Calculate the mean of the following frequency distribution :



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**13.** If the arithmetic mean of the following frequency distribution is 12.25, find the missing frequency :



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**14.** If the arithmetic mean of the following frequency distribution is 67.45 cm, find the missing frequency.



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**15.** Last year 75 boys and 50 girls of a school appeared in Madhyamik Examination. The average marks obtained by two groups of students was found to be 65 and 70. Find the average marks obtained by all students.



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**16.** The average marks obtained in an examination by two groups of student was found to 75 and 85 respectively. Determine the

ratio of students in the two groups, if the average mark for all students was 80.



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17. Two variables  $x$  and  $y$  assuming the following set of values :



Find A.M. of  $x$  and hence find A.M. of  $y$ .



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**18.** Find the median of the following number :

0, 7, - 1, - 3, 2, 5, - 1, 2, 2



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**19.** Find the median of the following number :

94, 33, 86, 68, 32, 80, 48, 70



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**20.** Find the median of the following frequency distribution :



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**21.** Find the median of the following frequency distribution :



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22. The mode of the following distribution is 26. find the missing frequency.



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23. If  $y = 3x - 4$ , the median and mode of  $x$  are 17 and 16 respectively, then the median and mode of  $y$ .



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**24.** Find the mode of the following numbers :

3,4,5,2,3,4,1,6,4



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**25.** Find the mode of the following numbers :

7,9,11,7,6,5,9,13



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**26.** Find the mode of the following numbers :

3,5,6,7,9,12,12,7,9,3,5,6



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**27.** Find the mode of the following numbers :



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**28.** From the following data construct a grouped frequency distribution and from the distribution find mean and median. Now using the empirical formula relating to mean,

median and mode compute mode.



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**29.** Find the median of the following distribution :



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**Exercise 2 A Very Short Answer Type Question**



1. Find the arithmetic mean of the following numbers :

88, 72, 33, 29, 70, 54, 86, 91, 57, 61



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2. If the arithmetic mean of 14, 16,  $x$ , 25, 21 is 19 find the value of  $x$ .



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3. The arithmetic mean of 7,  $x-2$ , 10,  $x+3$  is 9 find  $x$ .



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4. If a variable  $x$  assumes two values 10 and 15 having same frequency find  $\bar{x}$ .



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5. If three values of a variable are 4,5,7 and their frequencies are  $p - 2, p + 1, p - 1$  respectively. If A.M. = 5.4 then find the value of  $p$ .



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6. In a binomial distribution mean is 4 and variance is 3 then find the mode



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7. The average mark obtained by 100 students is 40. But it was later found that the mark of one student was wrongly written as 83 instead of 53. Find the value of the actual mean.



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8. The A.M. of 20 frequencies is 30. At the time of verification it was found that two frequencies were wrongly written as 27 and 30 instead of 31 and 38. Find the correct A.M.



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9. If  $\bar{x} = 20$ , find  $\bar{y}$ , where

(i)  $y = 3x - 15$ , (ii)  $y = 2x + 7$



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10. Find the A.M. of the following frequency distribution :



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**11.** The no. of goals scored by a football team in the last 20 matches is given below. Find the average number of goals scored per match :



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**12.** The mean of the following frequency distribution is 117 pound. Find the value of  $x$ .



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**13.** The marks obtained by 30 students in subject is given below. Find A.M.



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**14.** The dialy income of a group of people is given is given below. Find the average daily income.



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**15.** Find the mean of the following distribution.



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**16.** The frequency distribution of marks obtained by 100 students in an examination below. Find A.M.



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17. The A.M. of the following frequency distribution is 72.5 , find the value of  $f_5$  given in the table.



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18. Find the missing frequencies from the following table. Given that A.M. is 67.45 inches.



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**19.** Certain part of a frequency distribution is given, its mean is 1.46. Find the unknown frequencies  $f_1$  and  $f_2$



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**20.** Out of total population in a certain town in South Africa, 60 % are Black and the rest are White. It was estimated that their mean income were respectively 2000 and 5000

pounds. Find the average income of the entire town.



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**21.** The mean age of a combined group of men and women is 30 years. If the mean age of the group of men is 32 and that of the group of women is 27, find the percentage of men and women in the group.



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**22.** The mean weight of 150 students of a class is 38 kg. If mean weight of the boys and the girls are 40 kg and 35 kg respectively, find the number of boys and girls.



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**23.** The mean of 100 numbers is 55. IF the mean of the 40 numbers is 61, find the mean of the remaining 60 numbers.



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## Exercise 2 B Very Short Answer Type Question

1. Find the median of the following numbers :

79,82,36,38,51,72,68,70,64,63



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2. Find the median of the following numbers :

94,33,86,68,32,80,48,70



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3. Find the median of the following numbers :

88, 72, 33, 29, 70, 54, 86, 91, 57, 61



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4. Find the median of the numbers given below

2, 4, 3, 2, 4, 3, 3, 2, 1, 1, 2, 3, 3,



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5. Find the median of the numbers given below

13,17,17,19,25,23,19,17,19,13,19,17,13,23



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6. If A.M. of 7,  $x-3$ , 10,  $x+3$  and  $x-5$  is 15, find the median of the numbers.



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7. If A.M. of 7,  $x-3$ , 10,  $x+3$  and  $x-5$  is 15, find the median of the numbers.



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8. Find the median of the following frequency distribution :



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9. Compute median for the following frequency distribution :



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10. Find (i) A.M. and (ii) median for the following frequency distribution :



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11. Find median for the folowing frequency distribution :



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12. Find the median for the following frequency distribution :



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**13.** Compute median for the following frequency distribution :



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**14.** Find (i) average height and (ii) median from the following table :



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**15.** An incomplete frequency distribution is given below :



Given that the median of the height of plants of plants is 8:53 inch. Find the unknown frequency.



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**16.** If the median of the following frequency distribution is 27, find the value of a .



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## Exercise 2 C Very Short Answer Type Question

1. Find the mode of the following numbers :

5,3,2,7,5,3,8,5



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2. Find the mode of the following numbers :

4,3,2,5,4,5,3,7,3,2,6



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3. Find the mode of the following numbers :

7,4,10,15,7,3,5,2,9,12



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4. If the mode and median of a frequency distribution are 31 and 37 respectively, find the arithmetic mean.



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5. If the mean and median of a frequency distribution are 35 and 33 respectively, find mode.



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6. If the mode and A.M. are Rs. 12.30 and Rs. 18.48 respectively find the median of the distribution.



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7. IF  $y = 2x - 11$ , the median and the mode of  $x$  are 30 and 28 respectively, find the median and mode of  $y$ .



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8. If  $2y - 6x = 6$  and the mode of  $x$  is 21, find the mode of  $y$ .



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9. The values of two variables  $x$  and  $y$  re :



find the mean and median of  $x$  and hence find the mean and median of  $y$ .



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**10.** The daily wages of 30 workers are given below :



From the following distribution find (i) mode  
(ii) arithmetic mean and (iii) median.



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**11.** The frequency distribution of the daily rainfall of a town in the last rainy season is given below :



Find (i) mean (ii) median and (iii) mode for the distribution.



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**12.** Find the mode for the following frequency distribution



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**13.** Find mode for the following distribution.



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**14.** Find the mode for the following frequency distribution



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**15.** Marks obtained by 25 students given below

:



Find (i) arithmetic mean (ii) mode of the distribution.



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**16.** Daily wages of a group of workers given below :



Find (i) A.M., (ii) median and (iii) mode.



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**17.** Find the A.M. A.M and median of the following frequency distribution and hence using empirical formula of mean median and mode compute the mode.



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**18.** From the following data find (i) mean (ii) median (iii) mode.



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