



# MATHS

## BOOKS - VIKRAM PUBLICATION ( ANDHRA PUBLICATION)

### MEASURES OF DISPERSION

#### Solved Problems

1. Find the mean from the mean of the following discrete data 6,7, 10,12,13,4,12 ,16



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**2.** Find the mean deviation from the median of discrete data

3, 6, 10, 4, 9, 10



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**3.** Find the mean about the mean for the following data .

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4. Find the mean deviation from the median for the following data

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5. Find the mean deviation about the mean for the following data

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6. Find the mean deviation about the mean for the following data

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7. Find the variance and standard deviation of the following data 5, 12, 3, 18, 6, 8, 2, 10.



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8. Find the variance and standard deviation of the following data

  
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9. Calculate the variance and standard deviation of the following continuous frequency distribution .

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10. Students of two sections A and B of a class show the following performance in a test

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Which section of students has greater variability in performance ?



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**11.** Lives of two models or refrigerators A and B obtained in a survey are given below :

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Which refrigerator model you suggest to purchase ?



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12. Find the mean deviation from the mean of the following data using step deviation method

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**13.** The following table gives the daily wages of workers in a factory . Compute the standard deviation and the co - efficient of the wages of the workers

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**14.** An analysis of monthly wages paid to the workers of two firms A and B belonging to the same industry gives the following data .

(i) Which firm A or B , has greater variability in industrial wages ?

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(i) Which firm A or B , has greater variability in industrial wages ?



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**15.** The variance of 20 observations is 5 . If each of the observations is multiplied by 2 , find the variance of the resulting observations



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**16.** If each of the observations  $x_1, x_2, \dots, x_n$  is increased by  $k$ , where  $k$  is a positive or negative number, then show that the variance remains unchanged.



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**Exercise**

1. Find the mean deviation about the mean for the following data

38,70,48,40,42,55,63,46,54,44



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2. Find the mean deviation about the mean for the following data

3,6,10,4,9,10



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**3.** Find the mean deviation about the median  
for the following data

13,17,16,11,13,10,16,11,18,12,17



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**4.** Find the mean deviation about the median  
for the following data

4,6,9,3,10,13,2



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5. Find the variance for the discrete data given below .

(i) 6,7,10,12,13,4,8,12



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6. Find the variance for the discrete data given below .

350,361,370,373,376,379,385,394,395



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7. The co-efficient of variation of two distributions are 60 and 70 and their standard deviations are 21 and 16 respectively . Find their arithmetic means .



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8. The mean of 5 observations is 4.4 Their variance is 8.24 . If three of the observations are 1,2 and 6 . Find the other two observations



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9. The arithmetic mean and standard deviation of a set of 9 items are 43 and 5 respectively , If an item of value 63 is added to that set , find the new mean and standard deviation of 10 item set given



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