MATHS

BOOKS - V PUBLICATION

STATISTICS

Question Bank

1. Find the mean deviation about the mean for the following data: $6, 7, 10, 12, 13, 4, 8, 12$

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

$12, 3, 18, 17, 4, 9, 17, 19, 20, 15, 8, 17, 2, 3, 16, 11, 3, 1, 0, 5.$

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

$3, 9, 5, 3, 12, 10, 18, 4, 7, 19, 21.$

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4. Find mean deviation about the mean for the following data:

x_i	3	6	9	12	13	15	21	22
f_i	3	4	5	2	4	5	4	3

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

Marks obtained	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Number of students	2	3	8	14	8	3	2

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6. Calculate the mean deviation about median for the following data:

Class	0-10	10 - 20	20 - 30	30- 40	40 - 50	50 - 60
Freq- uency	6	7	15	16	4	2

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7. Find the mean deviation about the mean for the following data:

4,7,8,9,10,12,13,17.

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8. 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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9. Find the mean deviation about the median for the following data:

13,17,16,14,11,13,10,16,11,18,12,17.

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10. Find the mean deviation about the median for the following data:

36,72,46,42,60,45,53,46,51,49

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11. Find the mean deviation about the mean for the following data:

x_i	5	10	15	20	25
f_i	7	4	6	3	5

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12. Find the mean deviation about the mean for the following data:

x_i	10	30	50	70	90
f_i	4	24	28	16	8

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13. Find the mean deviation about the median for the following data:

x_i	5	7	9	10	12	15
f_i	8	6	2	2	2	6

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14. Find the mean deviation about the median for the following data:

x_i	15	21	27	30	35
f_i	3	5	6	7	8

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15. Find the mean deviation about the mean for the following data:

Income per day	0-100	100-200	200-300	300-400	400-500	500-600	600-700	700-800
Number of person	4	8	9	10	7	5	4	3

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16. Find the mean deviation about the mean for the following data:

Height	95-105	105-115	115-125	125-135	135-145	145-155
Number of Boys	9	13	26	30	12	10

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17. Find the mean deviation about the median for the following data:

Marks	0-10	10-20,	20-30	30-40	40-50	50-60
Number of Girls	6	8	14	16	4	2

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18. Find the mean deviation about the median for the following data:

Age	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55
Number	5	6	12	14	26	12	16	9

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19. Find the Variance of the following data: $6, 8, 10, 12, 14, 16, 18, 20, 22, 24$

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20. Find the variance.and ṣtandard deviation for the following data:

x_i	4	8	11	17	20	24	32
f_i	3	5	9	5	4	3	1

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21. Calculate the mean, variance and standard deviation for the following distribution.

Class	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	3	7	12	15	8	3	2

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22. Find the standard deviation for the folowing data :

x	3	8	13	18	23
f	7	10	15	10	6

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23. Calculate the mean, variance and standard deviation for the following distribution.

Class	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	3	7	12	15	8	3	2

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24. Find the mean and variance for the following data

6,7,10,12,13,4,8,12

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25. Write the sum of first n natural numbers.

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26. Find the mean and variance of the first 10 multiples of 3.

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27. Find the mean and standard deviation using short-cut method

x_i	60	61	62	63	64	65	66	67	68
f_i	2	1	12	29	25	12	10	4	5

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28. Find the mean and variance for the following frequency distribution.

Classes	0 - 30	30 - 60	60 - 90	90 - 120	120 - 150	150 - 180	180 - 210
Frequencies	2	3	5	10	3	5	2

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29. Find the mean, variance and standard deviation using short cut method.

Height in cms	No.of children
70-75	3
75-80	4
80-85	7
85-90	7
90-95	15
95-100	9
100-105	6
105-110	6
110-115	3

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30. Two plants A and B of a factory show following results about the number of workers ands the wages

paid to them.

	A	B
No. of workers	5000	6000
Average monthly wages	Rs 2500	Rs 2500
Variance of distribution of wages	81	100

In which plant, A or B is there greater variability in individual wages?

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31. Coefficient of variation of two distributions are 60 and 70 and their standard deviations are 21 and 16 respectively.What are their arithmetic means?

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32. The following values are calculated in respect of heights and weights of the students of a section of Class XI:

	Height	Weight
Mean	162.6cm	52.36kg
Variance	$127.69cm^2$	$23.1361kg^2$

Can we say that the weights show greater variation than the heights?

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33. The following is the rècord of goals scored by team '(A)' in a football session.

No. of goals scored	0	1	2	3	4
No. of matches	1	9	7	5	3

For the team B, mean number of goals scored per match was 2 with a standard deviation 1.25 goals. Find which team may be considered more consistent.

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34. The sum and squares corresponding to length x(in cm) and y(in gm) of 50 plant products are given below:

$$\sum_{i=1}^{50} x_i = 212, \sum_{i=1}^{50} x_i^2 = 902.8$$

$$\sum_{i=1}^{50} y_i = 261, \sum_{i=1}^{50} y_i^2 = 1457.6$$

which is more varying , the length or weight?

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35. The variance of 20 observations is '5 .' If each observation is multiplied by 2, find the new variance of the resulting observations.

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36. The mean of 5 observations is 4.4 and their variance is 8.24.If three of the observations are 1,2 and 6,find the other two observations.

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37. If each of the observation x1,x2,.....xn is increased by 'a',where a is a negative or positive number,shows that the variance remains unchanged.

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38. The mean and standard deviation of 100 observations were calculated as 40 and '5.1', respectively

by a student who took by mistake 50 instead of 40 for one observation. What are the correct mean and standard deviation?

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39. The mean and variance of 7 observations are 8 and 16 respectively. If five of the observations are '2,4,10,12,14'. Find the remaining two observations:

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40. The mean and standard deviation of six observations are 8 and 4, respectively. If each observation is

multiplied by 3, find the new mean and new standard deviation of the resulting observations.

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41. The mean and standard deviation of marks obtained by. 50 students of a class in. three subjects, Mathematics, Physics and Chemistry are given below.

Subject	Mathematics	Physics	Chemistry
Mean	42	32	40.9
Standard deviation	12	15	20

Which of three subjects shows the highest variability, in marks and which shows the lowest?

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42. Calculate the mean deviation about median from the following data

$340, 150, 210, 240, 300, 310, 320.$

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43. Find the mean deviation about the mean for the following data: $6, 7, 10, 12, 13, 4, 8, 12$

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44. Find the variance and standard deviation for the following data

$65, 68, 58, 44, 48, 45, 60, 62, 60, 50$

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45. If each of the observation x1,x2,.....xn is increased by 'a',where a is a negative or positive number,shows that the variance remains unchanged.

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