

Unit 7: Statistics

Exercise 7.1

Q.1 Find the mean deviation from mean and its coefficient from the given data:

- (i) 2, 3, 6, 8, 11
- (ii) 10, 12, 13, 14, 17, 21, 22, 23, 25, 27, 30, 40
- (iii) 12, 6, 7, 3, 10, 5, 18, 15
- (iv) 90, 100, 110, 115, 125
- (v) 50, 55, 60, 62, 63, 65, 67, 68, 70, 75, 80
- (vi) 17, 19, 20, 22, 27, 28, 29, 31, 34, 38
- (vii) 97, 98, 100, 101, 110, 112, 113, 114
- (viii) 23, 27, 19, 31, 24, 41, 29, 35, 46, 23, 29, 36, 25, 30, 30
- (ix) 55, 35, 62, 48, 38, 88, 75, 62, 50, 57
- (x) 30, 32, 37, 40, 41, 42, 45, 50, 55, 58
- (xi) 40, 44, 54, 60, 62

Q.2 Find the mean deviation from median and its coefficient of the data given in no 1.

Q.3 Find the mean deviation from mode and its coefficient from the data given in no 1.

Q.4 Find the mean deviation from mean and median of the income of 11 families given by Rs 41,000, 30,000, 25,000, 20,000, 45,000, 18,000, 26,000, 35,000, 32,000, 27,000, 31,000.

Q.5 Find the mean deviation from mean and median of the marks 40, 45, 54, 60, 62 that are obtained by 5 students in mathematics,

Q.6 Find the mean deviation from mean and median of the data given below by 100 students in the exam of 20 full marks:

Marks	6	8	10	12	14	16	18	20
No. of students	1	14	25	27	18	9	4	2

Q.7 Compute the mean deviation from mean and its coefficient to the data given below:

Number	1	2	3	4	5
Frequency	2	5	6	5	2

Q.8 Find the mean deviation and its coefficient from the data give below:

Children	2	3	4	5	6
No. of family	3	5	7	5	3

Q.9 Find the mean deviation from median and its coefficient of the data given below:

X:	0	1	2	3	4	5	6	7	8	9	10	11	12
F:	15	16	21	10	17	8	4	2	1	2	2	0	2

Q.10 Compute the mean deviation from mode and its coefficient from the given data:

X:	20	18	16	14	12	10	8	6
F:	2	4	9	18	27	25	14	1

Q.11 Compute the mean deviation from mean and its coefficient from the data given below:

Marks	40	45	50	55	60
No. of students	2	2	5	3	2

Q.12 From the daily wages of 100 workers as given below, calculate the mean deviation from mean and median and mode.

Wages (Rs.)	100	120	140	160	180	200	220
No. of workers	10	20	22	25	13	6	4

Q.13 Prepare the discrete frequency distribution table for the following data and calculate mean deviation from mean and median:

18, 20, 15, 20, 18, 22, 24, 28, 12, 18, 22, 24, 15, 20, 18, 22, 15, 28

Q.14 From the data given below calculate the mean deviation from (i) median and (ii) mean:

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No. of students	4	6	10	20	10	6	4

Q.15 From the data given below compute the mean deviation from mean and its coefficient:

Marks	0-10	10-20	20-30	30-40	40-50
Frequency	2	3	6	5	4

Q.16 Compute the mean deviation from median and mean of the data given below:

Marks	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	6	8	11	14	8	3

Q.17 Find the mean deviation from mean and median and their coefficients of the following data:

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	7	12	18	28	16	14	8

Q.18 Compute the mean deviation from mode and its coefficient of the following data:

Class interval	17-22	22-27	27-32	32-37	37-42
Frequency	3	1	4	1	1

Q.19 Find the mean deviation from median of the following data. Also calculate the coefficient of mean deviation from the median.

Class-interval	0-4	4-8	8-12	12-16	16-20	20-24
Frequency	5	7	10	15	7	6

Q.20 Find the mean deviation from median and its coefficient of the following data:

Class interval	0-20	20-40	40-60	60-80	80-100	100-120	120-140	140-160	160-180	180-200
Frequency	18	7	39	9	16	21	5	14	11	10

Q.21 Find the mean deviation from mean and its coefficient of the data given below:

Class-interval	5-6	6-7	7-8	8-9	9-10	10-11
Frequency	8	20	12	6	3	1

Q.22 From the data given below prepare a frequency distribution table taking class interval as 10-20 and calculate the mean deviation from (i) median and (ii) mean:

48, 50, 34, 29, 56, 40, 14, 62, 28, 70, 22, 30, 38, 74, 13, 47, 20, 53, 64, 34, 75, 66, 21, 45, 57, 15, 41

Q.23 Find the mean deviation and its coefficient from median of the data:

X	10	15	20	25	30
F	5	4	4	7	2

Q.24 Find the mean deviation and its coefficient from median of the data given below:

Age (in years)	20-30	30-40	40-50	50-60	60-70
No. of Men	5	7	8	6	4

Q.25 Find the mean deviation and its coefficient from median of the data given below:

X:	5	10	15	20	25
F:	4	3	4	7	2

Q.26 Find the mean deviation and its coefficient from mean of the data given below:

Marks	0-10	10-20	20-30	30-40	40-50
No. of boys	5	8	15	1	6

Q.27 Find the mean deviation and its coefficient from mean of the data given below:

Marks	20	22	24	26	28
No. of students	5	5	7	8	4

Q.28 Find the mean deviation from median of the following data. Also find its coefficient:

Marks obtained	20	30	40	50	60	70
No. of students	4	7	12	2	4	6

Q.29 Prepare a frequency table and find the mean deviation and its coefficient from median of the data given below:

18, 20, 15, 20, 18, 22, 24, 28, 12, 18, 22, 24, 15, 20, 18, 20, 22, 15, 28

Exercise 7.2

Q.1 Find the standard deviation, its coefficient and coefficient of variation of the given data:

- (i) 4, 11, 18, 25, 32
- (ii) 3, 6, 2, 7, 5, 1
- (iii) 40, 50, 60, 70, 80, 90, 100, 110, 120, 130
- (iv) 70, 80, 90, 60, 50, 95, 40
- (v) 32, 41, 47, 53, 57
- (vi) 8, 9, 9, 11, 12, 10, 10, 11, 10, 11, 10, 11, 10
- (vii) 22, 25, 30, 35, 40, 45, 48
- (viii) 22, 20, 12, 14, 16, 16, 19, 17, 17, 17
- (ix) 12, 15, 16, 14, 16, 19, 18, 19, 19, 20, 24, 21, 27, 29, 31
- (x) 100, 150, 200, 250, 300, 350, 400
- (xi) 11, 14, 15, 17, 18
- (xii) 12, 20, 29, 37, 41, 45, 49
- (xiii) 25, 20, 35, 30, 15, 20, 25, 30, 25, 20, 15, 25, 30, 35, 25

Q.2 The scores of two golfers for 10 rounds were as follows:

Golfers A: 74 75 78 78 72 77 79 78 81 76
 Golfers B: 86 84 80 88 89 85 86 82 82 79

Find which golfers may be considered to be a more consistent players where the player having coefficient of standard deviation less has the more consistent player.

Q.3 Find the standard deviation and coefficient of the age of a high school teachers as given below:

Age (in years)	40	45	50	55	60
No. of teachers	2	2	5	3	2

Q.4 Find the standard deviation and coefficient fo standard deviation of the given below:

Wages (Rs.)	18	20	14	16	10	12	8	6
No. of workers	4	2	18	9	25	27	14	1

Q.5 Find the mean, standard deviation and its coefficient of the data given below:

Age (in years)	10	20	25	30	35	40
Number	1	5	10	12	8	4

Q.6 Compute the standard deviation and its coefficient of the data given below:

X:	10	11	12	13	14
F:	3	12	18	12	2

Q.7 Compute the mean and standard deviation of the data given below:

X:	6	9	12	15	18
F:	7	12	19	10	3

Q.8 Compute the standard deviation and its coefficient fo the data given below:

Age	8	9	10	11	12
Number	1	2	4	3	1

Q.9 Find the standard deviation and its coefficient of the data given below:

X:	10	12	17	21	26
F:	2	4	8	5	1

Q.10 Compute the standard deviation from the following data:

X:	12	13	14	15	16	17
F:	2	3	6	4	2	1

Q.11 Compute the standard deviation and its coefficient of the data given below:

Marks	10	20	30	40	50
No. of students	8	12	15	9	6

Q.12 From the data given below, compute the standard deviation and its coefficient:

Wages (Rs.)	100	120	130	140	150
No. of workers	8	12	15	9	6

Q.13 From the data given below, compute the standard deviation and its coefficient:

Weight (Kg)	5	10	15	20	25	30
No. of children	13	15	17	21	16	11

Q.14 Find the standard deviation and its coefficient of the data given below:

Marks	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	8	12	20	40	12	8

Q.15 From the data given below, find the standard deviation:

Daily sales	0-10	10-20	20-30	30-40	40-50
No. of shops	2	9	10	7	1

Q.16 Find the standard deviation of the wages of the workers in a factory given below:

Wages (Rs.)	100-150	150-200	200-250	250-300	300-350
Workers	20	40	50	90	100

Q.17 Compute the standard deviation of the wages of the workers in a factory given below:

Class interval	0-4	4-8	8-12	12-16	16-20	20-24
Frequency	7	7	10	15	7	6

Q.18 Find the standard deviation of the data given below:

Ages (in years)	5-15	15-25	25-35	35-45	45-55
No. of men	4	6	10	8	3

Q.19 From the data given below, calculate the standard deviation:

Wages (Rs.)	60-62	63-65	66-68	69-71	72-74
Workers	5	18	42	27	8

Q.20 Calculate the standard deviation for the data given below:

Class interval	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79
Workers	2	2	2	3	3	4	3	7	1	2	1

Q.21 Compute the standard deviation of the data given below:

Marks	0-20	20-40	40-60	60-80	80-100
No. of students	2	8	16	10	4

Q.22 Compute the standard deviation and its coefficient of the data given below:

Class interval	10-20	20-30	30-40	40-50	50-60
Frequency	8	12	15	9	6

Q.23 Find the mean and the standard deviation of the data given below:

Marks	20-30	30-40	40-50	50-60	60-70	70-80
No. of students	5	15	0	12	11	7

Q.24 Prepare a frequency distribution table taking class-interval 0-4 and calculate the standard deviation of the data given below:

1, 3, 2, 3, 4, 5, 6, 7, 6, 7, 5, 7, 10, 9, 15

Q.25 Prepare the frequency distribution table and calculate the standard deviation of the following data:

20, 20, 10, 20, 10, 30, 30, 40, 20, 30, 30, 40, 30, 30, 40, 30, 50, 40, 30, 40

Q.26 Find the mean and standard deviation of the data given below:

X:	40-50	50-60	60-70	70-80	80-90	90-100
F:	1	2	4	7	3	2

Q.27 Compute the standard deviation of the data given below:

X:	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45
F:	7	10	16	32	24	18	10	5	1

Q.28 Calculate the mean and the standard deviation of the given data:

Class interval	60-65	65-70	70-75	75-80	80-85
Frequency	25	30	35	40	45

Q.29 Following are the marks obtained by two students A and B in 10 tests of 100 marks each:

Test:	1	2	3	4	5	6	7	8	9	10
Marks of A:	44	80	76	48	52	72	68	56	60	54
Marks of B:	48	75	54	60	63	69	72	51	57	66

Q.30 From the data given below, which series is more variable?

Class interval	10-20	20-30	30-40	40-50	50-60	60-70
Series A:	10	18	32	40	22	18
Series B	18	22	40	32	29	10

Q.31 Following are the data represent the lives of two models of refrigerators A and B:

Life (years)	0-2	2-4	4-6	6-8	8-10	10-12
Model { A:	5	16	13	7	5	4
B:	2	7	17	19	9	1

Q.32 Compute the standard deviation of the following data:

Weight	10-20	20-30	30-40	40-50	50-60	60-70
No. of boys	2	5	6	3	2	2

Q.33 Compute the standard deviation, its coefficient and C.V. of the following data:

Marks	5	10	15	20	25	30
No. of students	2	3	5	6	3	1

Q.34 Find the standard deviation of the following data:

Daily sales	10-20	20-30	30-40	40-50	50-60
No. of shops	4	10	12	8	6

Q.35 Compute the standard deviation and coefficient of variation of the following data:

Marks	10-20	20-30	30-40	40-50	50-60
No. of students	4	6	10	3	2

Q.36 Compute the standard deviation of the following data:

Height(in cm)	0-8	8-16	16-24	24-32	32-40
No. of plants	6	7	10	8	9

Q.37 Compute the standard deviation, its coefficient and C.V. fo the following data:

Height (in cm)	10	20	30	40	50
No. of students	8	12	15	9	6

Q.38 Compute the standard deviation from the following data:

Marks obtained	5	10	15	20	25	30
No. of students	2	3	5	6	3	1

Q.39 Compute the standard deviation from the following data:

Marks obtained	10-20	20-30	30-40	40-50	50-60
No. of students	4	6	10	3	2

Q.40 Calculate the standard deviation from the following data:

x:	0-10	10-20	20-30	30-40	40-50
f:	5	4	4	6	1