



Unit 2: MCQ

1) The ratio of the sum of observations and the total number of observations is called:

- a. Mean
- b. Median
- c. Mode
- d. Central tendency

Answer: a

2) The mean of $x+2$, $x+3$, $x+4$ and $x-2$ is:

- a. $(x+7)/4$
- b. $(2x+7)/4$
- c. $(3x+7)/4$
- d. $(4x+7)/4$

Answer: d

Explanation: Mean = $(x+2+x+3+x+4+x-2)/4 = (4x+7)/4$

3) The median of the data: 4, 6, 8, 9, 11 is

- a. 6
- b. 8
- c. 9
- d. 11

Answer: b

4) The median of the data: 155, 160, 145, 149, 150, 147, 152, 144, 148 is

- a. 149
- b. 150
- c. 147
- d. 144

Answer: a

Explanation: First arrange the data in ascending order.

144 145 147 148 149 150 152 155 160

Since, the number of observations here is odd, therefore,

Median = $(n+1)/2$ th = $(9+1)/2 = 10/2 = 5$ th number = 149

5) The median of the data: 17, 2, 7, 27, 15, 5, 14, 8, 10, 24, 48, 10, 8, 7, 18, 28 is:

- a. 10
- b. 24
- c. 12
- d. 8

Answer: c

Explanation: Arrange the given data in ascending order:

2, 5, 7, 7, 8, 8, 10, 10, 14, 15, 17, 18, 24, 27, 28, 48

Since, the number of observations given here is even, hence,



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Median will be average of two middle terms.

$$n/2\text{th} = 16/2 = 8\text{th term}$$

$$(n/2 + 1)\text{th} = (16/2 + 1)\text{th} = 9\text{th term}$$

Therefore,

$$\text{Median} = (10+14)/2 = 12$$

6) The mode of the given data: 4, 6, 5, 9, 3, 2, 7, 7, 6, 5, 4, 9, 10, 10, 3, 4, 7, 6, 9, 9 is;

- a. 7
- b. 9
- c. 10
- d. 6

Answer: **b**

Explanation: First arrange the data in order:

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

Hence, mode = 9

7) The value which appears very frequently in a data is called:

- a. Mean
- b. Median
- c. Mode
- d. Central tendency

Answer: **c**

8) The collection of information, collected for a purpose is called:

- a. Mean
- b. Median
- c. Mode
- d. Data

Answer: **d**

9) The mean of the data 2, 3, 4, 5, 0, 1, 3, 3, 4, 3 is

- a. 2
- b. 2.2
- c. 2.4
- d. 2.8

Answer: **d**

Explanation: Mean = $(2+3+4+5+0+1+3+3+4+3)/10 = 28/10 = 2.8$

10) Which of the following is not a measure of central tendency?

- a. Standard deviation
- b. Mean
- c. Median
- d. Mode



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Answer: a

11) Find the range of the following data: 25, 18, 20, 22, 16, 6, 17, 15, 12, 30, 32, 10, 19, 8, 11, 20.

- a. 10
- b. 15
- c. 18
- d. 26

Answer: d

Explanation: Range = Maximum value – Minimum value

$$\text{Range} = 32 - 6 = 26.$$

12) What is the class mark of the class interval 90-120?

- a. 90
- b. 105
- c. 115
- d. 120

Answer: b

Explanation: Class mark = (upper limit + lower limit)/2

$$\text{Class mark} = (120 + 90) / 2$$

$$\text{Class mark} = 105$$

13) In the class intervals 10-20, 20-30, 20 is included in which interval?

- a. 10-20
- b. 20-30
- c. Both the intervals
- d. None of the intervals

Answer: b

Explanation: In the class intervals 10-20, 20-30, 20 is included in the interval 20-30, because the number is always included in the lower limit of the class interval.

14) Find the class width for the grouped frequency distribution of the class intervals 1-20, 21-40, 41-60, ..

- a. 10
- b. 15
- c. 17
- d. 20

Answer: d

Explanation: Class width is the same as the class size. The class size of the given intervals 1-20, 21-40, 41-60,.. is 20.

15) The arithmetic mean of the first 5 natural numbers is

- a. 3



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- b. 4
- c. 5
- d. 6

Answer: a

Explanation: Arithmetic mean = $(1+2+3+4+5)/5$

Arithmetic mean = $15/5 = 3$

16) Find the value of x, if the arithmetic mean of 4, 5, 6, 7, 8 and x is 7.

- a. 4
- b. 6
- c. 8
- d. 12

Answer: d

Explanation: $(4+5+6+7+8+x)/6 = 7$

$$4+5+6+7+8+x = 7(6)$$

$$4+5+6+7+8+x = 42$$

$$30+x = 42$$

$$x = 42-30 = 12$$

17) Find the mode of the following data: 15, 14, 19, 20, 14, 15, 16, 14, 15, 18, 14, 19, 15, 17, 15.

- a. 14
- b. 15
- c. 16
- d. 17

Answer: b

Explanation: The mode of the data 15, 14, 19, 20, 14, 15, 16, 14, 15, 18, 14, 19, 15, 17, 15 is 15, because the number 15 is repeated 5 times.

18) If each data in the observation is increased by 5, then the mean

- a. Remains the same
- b. Increased by 5
- c. Decreased by 5
- d. None of the above

Answer: b

Explanation: If each data in the observation is increased by 5, then the mean is also increased by 5 because the mean is the average of the given values.

19) The difference between the maximum and minimum values of the given observation is called

- a. Class
- b. Class interval



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- c. Classmark
- d. Range

Answer: d

Explanation: The difference between the maximum and minimum values of the given observation is called range.

20) Find the maximum value if the range is 38 and the minimum value is 82.

- a. 60
- b. 76
- c. 120
- d. 82

Answer: c

Explanation: We know that Range = Maximum value – Minimum value.

Let the unknown value, (i.e) Maximum value be x.

Now, substitute the values,

$$38 = x - 82$$

$$x = 38 + 82$$

$$x = 120.$$

Therefore, the maximum value is 120.

21. If $x_1, x_2, x_3, \dots, x_n$ are the observations of a given data. Then the mean of the observations will be:

- (a) Sum of observations/Total number of observations
- (b) Total number of observations/Sum of observations
- (c) Sum of observations + Total number of observations
- (d) None of the above

Answer: **(a) Sum of observations/Total number of observations**

Explanation: The mean or average of observations will be equal to the ratio of sum of observations and total number of observations.

$$x_{\text{mean}} = \frac{x_1 + x_2 + x_3 + \dots + x_n}{n}$$

22. If the mean of frequency distribution is 7.5 and $\sum f_i x_i = 120 + 3k$, $\sum f_i = 30$, then k is equal to:

- (a) 40
- (b) 35
- (c) 50
- (d) 45

Answer: **(b) 35**

Explanation: As per the given question,



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$$X_{\text{mean}} = \frac{\sum f_i x_i}{\sum f_i}$$

$$7.5 = (120+3k)/30$$

$$225 = 120+3k$$

$$3k = 225-120$$

$$3k = 105$$

$$k = 35$$

23. The mode and mean is given by 7 and 8, respectively. Then the median is:

(a) 1/13

(b) 13/3

(c) 23/3

(d) 33

Answer: (c) **23/3**

Explanation: Using Empirical formula,

$$\text{Mode} = 3\text{Median} - 2\text{Mean}$$

$$3\text{Median} = \text{Mode} + 2\text{Mean}$$

$$\text{Median} = (\text{Mode} + 2\text{Mean})/3$$

$$\text{Median} = [7 + 2(8)]/3 = (7 + 16)/3 = 23/3$$

24. The mean of the data: 4, 10, 5, 9, 12 is;

(a) 8

(b) 10

(c) 9

(d) 15

Answer: (a) **8**

$$\text{Explanation: mean} = (4 + 10 + 5 + 9 + 12)/5 = 40/5 = 8$$

25. The median of the data 13, 15, 16, 17, 19, 20 is:

(a) 30/2

(b) 31/2

(c) 33/2

(d) 35/2

Answer: (c) **33/2**

Explanation: For the given data, there are two middle terms, 16 and 17.

$$\text{Hence, median} = (16 + 17)/2 = 33/2$$

26. If the mean of first n natural numbers is 3n/5, then the value of n is:

(a) 3

(b) 4

(c) 5

(d) 6

Answer: (c) **5**



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Explanation: Sum of natural numbers = $n(n + 1)/2$

Given, mean = $3n/5$

Mean = sum of natural numbers/ n

$$3n/5 = n(n + 1)/2n$$

$$3n/5 = (n + 1)/2$$

$$6n = 5n + 5$$

$$n = 5$$

27. If AM of $a, a+3, a+6, a+9$ and $a+12$ is 10, then a is equal to;

- (a) 1
- (b) 2
- (c) 3
- (d) 4

Answer: **(d) 4**

Explanation: Mean of AM = 10

$$(a + a + 3 + a + 6 + a + 9 + a + 12)/5 = 10$$

$$5a + 30 = 50$$

$$5a = 20$$

$$a = 4$$

28. The class interval of a given observation is 10 to 15, then the class mark for this interval will be:

- (a) 11.5
- (b) 12.5
- (c) 12
- (d) 14

Answer: **(b) 12.5**

Explanation: Class mark = $(\text{Upper limit} + \text{Lower limit})/2$

$$= (15 + 10)/2$$

$$= 25/2$$

$$= 12.5$$

29. If the sum of frequencies is 24, then the value of x in the observation: $x, 5, 6, 1, 2$, will be;

- (a) 4
- (b) 6
- (c) 8
- (d) 10

Answer: **(d) 10**

Explanation:

Given,



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$$\sum f_i = 24$$

$$\sum f_i = x + 5 + 6 + 1 + 2 = 14 + x$$

$$24 = 14 + x$$

$$x = 24 - 14 = 10$$

30. The mean of following distribution is:

| | | | | |
|-------|----|----|----|----|
| x_i | 11 | 14 | 17 | 20 |
| f_i | 3 | 6 | 8 | 7 |

- (a) 15.6
- (b) 17
- (c) 14.8
- (d) 16.4

Answer: **(d) 16.4**

Explanation:

| x_i | f_i | $f_i x_i$ |
|-------|-----------------|----------------------|
| 11 | 3 | 33 |
| 14 | 6 | 84 |
| 17 | 8 | 136 |
| 20 | 7 | 140 |
| | $\sum f_i = 24$ | $\sum f_i x_i = 393$ |

$$x_{\text{mean}} = \frac{\sum f_i x_i}{\sum f_i} = \frac{393}{24} = 16.4$$

31. Construction of a cumulative frequency table is useful in determining the

- (a) mean
- (b) median
- (c) mode
- (d) all the above three measures

Answer: **(b) median**

Construction of a cumulative frequency table is useful in determining the median.

32. The abscissa of the point of intersection of the less than type and of the more than type cumulative frequency curves of a grouped data gives its

- (a) mean
- (b) median
- (c) mode
- (d) all the three above



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Answer: (b) median

The abscissa of the point of intersection of the less than type and of the more than type cumulative frequency curves of a grouped data gives its median.

33. While computing mean of grouped data, we assume that the frequencies are

- (a) centred at the class marks of the classes
- (b) evenly distributed over all the classes
- (c) centred at the upper limits of the classes
- (d) centred at the lower limits of the classes

Answer: (a) centred at the class marks of the classes

While computing the mean of grouped data, we assume that the frequencies are centred at the class marks of the classes.

34. Consider the following frequency distribution of the heights of 60 students of a class:

| | | | | | | |
|---------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Height (in cm) | 150 – 155 | 155 – 160 | 160 – 165 | 165 – 170 | 170 – 175 | 175 – 180 |
| Number of students | 15 | 13 | 10 | 8 | 9 | 5 |

The sum of the lower limit of the modal class and upper limit of the median class is

- (a) 310
- (b) 315
- (c) 320
- (c) 330

Answer: (b) 315

Explanation:

| | | | | | | |
|-----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Height (in cm) | 150 – 155 | 155 – 160 | 160 – 165 | 165 – 170 | 170 – 175 | 175 – 180 |
| Number of students | 15 | 13 | 10 | 8 | 9 | 5 |
| Cumulative frequency | 15 | 28 | 38 | 46 | 55 | 60 |

$$N/2 = 60/2 = 30$$

Cumulative frequency nearer and greater than 30 is 38 which corresponds to the class interval 160 – 165.

Thus, median class = 160 – 165

Upper limit of median class = 165

Highest frequency = 15

So, the modal class = 150 – 155

Lower limit of modal class = 150

Therefore, the sum of the lower limit of the modal class and upper limit of the median class =
150 + 165 = 315

35. Consider the following frequency distribution:



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| | | | | | |
|-----------|-------|--------|---------|---------|---------|
| Class | 0 – 5 | 6 – 11 | 12 – 17 | 18 – 23 | 24 – 29 |
| Frequency | 13 | 10 | 15 | 8 | 11 |

The upper limit of the median class is

- (a) 17
- (b) 17.5
- (c) 18
- (d) 18.5

Answer: (b) 17.5

Explanation:

Let us write the continuous classes for the given frequency distribution.

| | | | | | |
|----------------------|------------|------------|-------------|-------------|-------------|
| Class | -0.5 – 5.5 | 5.5 – 11.5 | 11.5 – 17.5 | 17.5 – 23.5 | 23.5 – 29.5 |
| Frequency | 13 | 10 | 15 | 8 | 11 |
| Cumulative frequency | 13 | 23 | 38 | 46 | 57 |

$$N/2 = 57/2 = 28.5$$

28.5 lies in between the interval 11.5 – 17.5.

Thus, the median class is 11.5 – 17.5.

Therefore, the upper limit of the median class is 17.5.

36. The times, in seconds, taken by 150 athletes to run a 110 m hurdle race are tabulated below:

| | | | | | | |
|-----------|---------|---------|-----------|-----------|-----------|---------|
| Class | 13.8-14 | 14-14.2 | 14.2-14.4 | 14.4-14.6 | 14.6-14.8 | 14.8-15 |
| Frequency | 2 | 4 | 5 | 71 | 48 | 20 |

The number of athletes who completed the race in less than 14.6 seconds is

- (a) 11
- (b) 71
- (c) 82
- (d) 130

Answer: (c) 82

Explanation:

The number of athletes who completed the race in less than 14.6 seconds = 2 + 4 + 5 + 71 = 82

37. Consider the following distribution:



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| Marks obtained | Number of students |
|--------------------------|--------------------|
| More than or equal to 0 | 63 |
| More than or equal to 10 | 58 |
| More than or equal to 20 | 55 |
| More than or equal to 30 | 51 |
| More than or equal to 40 | 48 |
| More than or equal to 50 | 42 |

the frequency of the class 30-40 is

- (a) 3
- (b) 4
- (c) 48
- (d) 51

Answer: **(a) 3**

Explanation:

The given data can be written as:

| Class | 0 – 10 | 10 – 20 | 20 – 30 | 30 – 40 | 40 – 50 | 50 – 60 |
|-------|--------|---------|---------|---------|---------|---------|
| cf | 63 | 58 | 55 | 51 | 48 | 42 |
| f | 5 | 3 | 4 | 3 | 6 | 42 |

Therefore, the frequency of the class 30-40 is 3.

38. The empirical relationship between the three measures of central tendency is

- (a) 3 Median = Mode + 2 Mean
- (b) 2 Median = Mode + 2 Mean
- (c) 3 Median = Mode + Mean
- (d) 3 Median = Mode – 2 Mean

Answer: **(a) 3 Median = Mode + 2 Mean**

The empirical relationship between the three measures of central tendency is 3 Median = Mode + 2 Mean.

39. The _____ of a class is the frequency obtained by adding the frequencies of all the classes preceding the given class.

- (a) Class mark
- (b) Class height
- (c) Average frequency
- (d) Cumulative frequency



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Answer: **(d) Cumulative frequency**

The cumulative frequency of a class is the frequency obtained by adding the frequencies of all the classes preceding the given class.

40. The method used to find the mean of a given data is(are):

- (a) direct method
- (b) assumed mean method
- (c) step deviation method
- (d) all the above

Answer: **(d) all the above**

The mean for a given data can be calculated using either of the following methods.

Direct method

Assumed mean method

Step deviation method

41. Which measure of central tendency includes the magnitude of scores?

- a. Mean
- b. Mode
- c. Median
- d. Range

Answer: **a**

42. Which of the following is not a disadvantage of using mean?

- a. It is affected by extreme values
- b. It cannot be computed in grouped data with open-ended class intervals
- c. It does not possess the desired algebraic property
- d. None of the above

Answer: **c**

43. The two methods of finding mode in a discrete series are _____.

- a. Grouping method and ascending method
- b. Table method and midpoint method
- c. Grouping method and inspecting method
- d. None of the above

Answer: **c**

44. When the values in a series do not have equal importance, we calculate the _____.

- a. Mode
- b. Weighted mean
- c. Arithmetic mean
- d. None of the above

Answer: **b**

45. To calculate the median, all the items of a series have to be arranged in a/an _____.

- a. Descending order



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- b. Ascending order
- c. Ascending or descending order
- d. None of the above

Answer: c

46. Mode refers to the value within a series that occurs _____ number of times.

- a. Maximum
- b. Minimum
- c. Zero
- d. Infinite

Answer: a

47. The values of extreme items do not influence the average for _____.

- a. Mean
- b. Mode
- c. Median
- d. None of the above

Answer: c

48. _____ is not a measure of central tendency.

- a. Mode
- b. Mean
- c. Range
- d. Median

Answer: c

49. The sum of deviations from the _____ is always zero.

- a. Median
- b. Mode
- c. Mean
- d. None of the above

Answer: c

50. The number of observations smaller than _____ is the same as the number of observations larger than it.

- a. Median
- b. Mode
- c. Mean
- d. None of the above

Answer: a

51. _____ divides the data into four equal parts.

- a. Median
- b. Quartiles
- c. Mean
- d. None of the above

Answer: b

52. What is the mean of the following numbers: 23, 45, 87, 40, 50?

- a. 49
- b. 34
- c. 56
- d. None of the above



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Answer: a

53. Which of the following is a characteristic of a mean?

- a. The sum of deviations from the mean is zero
- b. It minimises the sum of squared deviations
- c. It is affected by extreme scores
- d. All of the above

Answer: d

54. Percentiles divide a series into _____.

- a. Ten equal parts
- b. Twenty equal parts
- c. Fifty equal parts
- d. Hundred equal parts

Answer: d

55. Which of the following diagrams is used to find the value of mode graphically?

- a. Pie chart
- b. Bar graph
- c. Histogram
- d. None of the above

Answer: c

56. What is the median?

- a) Difference between higher half and lower half of the data set
- b) Mean of the highest and lowest number in a data sample
- c) Value separating higher half from the lower half of a data sample
- d) Difference between the highest and lowest number.

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Answer: c

Explanation: In statistics, the Median is also called the 'Middle Value' as it is the value that separates the Highest half from the lower half of a data sample.

57. What is the Median of the following data sample?

2, 7, 4, 8, 9, 10, 6, 12, 13

- a) 8
- b) 11
- c) 9
- d) 10

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Answer: a

Explanation: Arranging the data sample in ascending order 2, 4, 6, 7, 8, 9, 10, 12, 13. Median is the middle value which separates the higher half from the lower half in a data sample. After arranging them in ascending order, 8 is the Middle value.

58. What is the Median of the following data sample?

3, 7, 4, 8, 9, 6, 10, 12, 13, 15

- a) 7.5
- b) 9
- c) 8.5



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d) 10

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Answer: c

Explanation: Arranging the data set in ascending order 3, 4, 6, 7, 8, 9, 10, 12, 13, 15
8 and 9 are the two middle numbers.

Median is the mean of the middle two numbers.

Median is the mean of the middle two numbers = $\frac{8+9}{2} = 8.5$

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59. Some of the samples are given below. Find the median.

90, 45, 67, 34, 26, 76, 44, 55.

a) 55

b) 45

c) 40

d) 50

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Answer: d

Explanation: There is an even number of terms in this Data Set. So, the median will be the mean of the middle two numbers.

Arranging them in ascending order 26, 34, 44, 45, 55, 67, 76, 90.

45 and 55 are the middle two numbers. So, Median = $\frac{45+55}{2} = 50$

60. If the mean and the mode are given as 35 and 30. Find the Median.

a) 75

b) 33.33

c) 19

d) 32

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Answer: b

Explanation: The empirical mean median mode relation is given as

Mean – Mode = 3(Mean – Median)

Given Mean = 35, Mode = 30

$35 - 30 = 3(35 - \text{Median})$

$5 = 105 - 3 \text{ Median}$

Median = 33.33

61. If the Mean and Mode are 25, then find the Median.

a) 13

b) 9

c) 25

d) 0

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Answer: c

Explanation: The empirical mean median mode relation is given as

Mean – Mode = 3(Mean – Median)

$25 - 25 = 3(25 - \text{Median})$

Median = 25



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62. What is the formula for the median of Grouped data?

- a) Median = $L + [(n / 2 - cf) / f] * h$
- b) Median = $L + [(n / 2 + cf) / f] * h$
- c) Median = $L + [(n / 2 - cf) / f] + h$
- d) Median = $L * [(n / 2 - cf) / f] * h$

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Answer: a

Explanation: Formula for the Median of Grouped Data

$$\text{Median} = L + [(n / 2 - c.f) / f] * h$$

L = Lower limit of Median Class

cf = Cumulative frequency of the class prior to median class

f = Frequency of Median Class

h = Class size

n = Total frequency

63. Find the Median of the following grouped data.

| Marks | Frequency |
|-------|-----------|
| 0-10 | 9 |
| 10-20 | 10 |
| 20-30 | 24 |
| 30-40 | 16 |
| 40-50 | 11 |

- a) 15
- b) 20
- c) 26.66
- d) 35

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Answer: c

Explanation: Total frequency $n = 9 + 10 + 24 + 16 + 11 = 70$

$$n/2 = 70/2 = 35$$

| Marks | Frequency | Cumulative Frequency |
|-------|-----------|----------------------|
| 0-10 | 9 | 9 |



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|-------|----|----------------|
| 10-20 | 10 | $9 + 10 = 19$ |
| 20-30 | 24 | $19 + 24 = 43$ |
| 30-40 | 16 | $43 + 16 = 59$ |
| 40-50 | 11 | $59 + 11 = 70$ |

35 is less than 43 and greater than 19
So, 20 – 30 is the Median Class
Now $L = 20$, $h = 10$, $cf = 19$, $f = 24$
Median = $L + [(n / 2 - c.f) / f] * h$
 $= 20 + [(35 - 19) / 24] * 10$
 $= 26.66$

64. Find the Median of given Grouped data.

| Rating | Frequency |
|--------|-----------|
| 0-5 | 12 |
| 5-10 | 20 |
| 10-15 | 10 |
| 15-20 | 6 |

- a) 10
- b) 18
- c) 8
- d) 17.5

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Answer: c

Explanation: Total Frequency = $12 + 20 + 10 + 6 = 48$ and $n/2 = 48/2 = 24$

| Rating | Frequency | Cumulative Frequency |
|--------|-----------|----------------------|
| 0-5 | 12 | 12 |



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| | | |
|-------|----|----------------|
| 5-10 | 20 | $20 + 12 = 32$ |
| 10-15 | 10 | $32 + 10 = 42$ |
| 15-20 | 6 | $42 + 6 = 48$ |

24 is less than 32 and greater than 12. So, the Median Class is 5 – 10.

$$L = 5, h = 5, cf = 12, f = 20$$

$$\text{Median} = L + [(n / 2 - c.f) / f] * h$$

$$= 5 + [(24 - 12) / 20] * 5$$

$$= 8$$

65. Find the Median of the following grouped data.

| Results | Frequency |
|---------|-----------|
| 0-20 | 5 |
| 20-40 | 10 |
| 40-60 | 30 |
| 60-80 | 15 |

a) 52

b) 50

c) 34

d) 45

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Answer: b

Explanation: Total Frequency $n = 5 + 10 + 30 + 15 = 60$ and $n/2 = 60/2 = 30$

| Results | Frequency | Cumulative Frequency |
|---------|-----------|----------------------|
| 0-20 | 5 | 5 |
| 20-40 | 10 | $5 + 10 = 15$ |
| 40-60 | 30 | $15 + 30 = 45$ |



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|-------|----|----------------|
| 60-80 | 15 | $45 + 15 = 60$ |
|-------|----|----------------|

30 is less than 45 and greater than 15. So, the median class is 40 – 60.

$$L = 40, h = 20, cf = 15, f = 30$$

$$\text{Median} = L + [(n / 2 - c.f) / f] * h$$

$$= 40 + [(30 - 15) / 30] * 20$$

$$= 50$$

Q.66: Magnitude of scores is included in which of the central tendency measures?

- A. Median
- B. Mode
- C. Mean
- D. None

Answer: (C)

Explanation: If the data set has an odd number of points, then the mean is equal to the arithmetic mean, so it also includes magnitude.

Q.67: What were the first two results of a central tendency test?

- A. Mean and Mode
- B. Median and Mode
- C. Mean, Median and Range
- D. None

Answer: (A)

Explanation: Mean and Mode are used to perform the test because they are the only ones that approximate a normal distribution.

Q.68: What steps are involved in a central tendency test?

- A. Addition, subtraction, and division.
- B. Determination of mean, median, and mode.
- C. Addition, subtraction, multiplication, and division.
- D. None of the above

Answer: (A)

Explanation: The central tendency test involves only three steps to be performed. They are addition, subtraction, and division.



Unit 2: MCQ

Q.69: What does it mean when the central tendency is stated as the mean of samples?

- A. It means that the sample size is n , and the sample mean represents a set of data points taken from this sample with replacement.
- B. It means that the sample size is n , and the sample mean represents a set of data points taken from this sample with replacement.
- C. It means that the sample size is n , averaged to determine central tendency.
- D. None of the above

Answer: (A)

Explanation: There can never be a replacement in the case of a single sample. The sample mean represents the set of data points taken from this sample with replacement.

Q.70: Which one of the following statements best describes the median measure?

- A. It gives us the middle score in a data set, which will not change if you rearrange the scores in any order that does not change their magnitude.
- B. It gives us the middle score in a data set, which will change if you rearrange the scores in any order that does not change their magnitude.
- C. It is always less than or equal to the mean of a data set.
- D. None of the above

Answer: (C)

Explanation: The median is the middle of a data set. If you rearrange the data, you will always get the same median.

Q.71: Which one of the following statements best describes the mode measure?

- A. It gives us the most common score in a data set, which will change if you rearrange the scores in any order.
- B. It gives us the most common score in a data set, which will not change if you rearrange the scores in any order.
- C. It is always greater than or equal to the mean of a data set.
- D. None of the above

Answer: (C)

Explanation: The mode will not change if you rearrange the scores in any order. This is why the rearrangement of values does not change their order insignificance.



Unit 2: MCQ

Q.72: Which one of the following statements best describes the range measure?

- A. It gives us the highest and lowest scores in a data set.
- B. It gives us the lowest and highest scores in a data set.
- C. It is always greater than or equal to the mean of a data set.
- D. None of the above

Answer: (B)

Explanation: The range is the difference between the highest and lowest values in a data set. If you rearrange the data, you will always get the same range.

Q.73: Which one of the following statements best describes the standard deviation measure?

- A. It gives us the spread of a data set.
- B. It tells how much a data set is spread from its mean.
- C. It is always greater than or equal to the mean of a data set.
- D. None of the above

Answer: (C)

Explanation: The standard deviation is the measure of spread, so It is always greater than or equal to the mean of a data set

Q.74: What does it mean when the central tendency was stated as the median of samples?

- A. It means that the sample size is n , and the sample median represents a set of data points taken from this sample with replacement.
- B. It means that the sample size is n , averaged to determine central tendency.
- C. None of the above
- D. All of the above

Answer: (A)

Explanation: Central tendency was the median of samples, which means that the sample median represents data points taken from the sample with replacement.

Q.75: If a data set is symmetrical, what does it mean?

- A. True distribution



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- B. False
- C. True skew
- D. True symmetry

Answer: (B)

Explanation: If all the data points are, on average, the same, then it cannot be said that the skew is true or false. If all the data points are, on average, different from their mean, then it cannot be said that the skewness is true or false.

Q.76: What does the standard deviation measure?

- A. The spread of a data set.
- B. How much a data set is spread from its mean.
- C. How much a data set is spread from another data set or the mean of another data set.
- D. None of the above

Answer: (C)

Explanation: The standard deviation is based on the sample mean. It tells how much a data set is spread from its mean.

Q.77: Which one of the following statements does not contain an assumption of the standard deviation measure?

- A. The data points are, on average, equally spaced.
- B. The distribution is normal.
- C. The data points are not all positive or negative.
- D. All of the above

Answer: (C)

Explanation: The sample mean is calculated with the normal distribution assumption.

Q.78: Which of these statements is True?

- A. The sample distribution is the same as that of the population from which it came.
- B. If a data set is symmetrical, then the mean, median, and standard deviation are equal.
- C. If a data set is skewed, the mean and standard deviation are not necessarily equal.
- D. None of the above

Answer: (B)



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Explanation: If all the data points in a set are equally spread (symmetric), then the mean, median, and standard deviation are equal.

Q.79: What is the standard deviation measure?

- A. It measures how much a data set is spread from its mean.
- B. It measures how much a data set is spread from another data set.
- C. It indicates how closely related two or more sets are in terms of their respective means, medians, and quantiles.
- D. All the above

Answer: (D)

Explanation: The standard deviation is used to find the degree of spread in a set of data values. It measures whether a sample is all about the same value or is spread out over a range of values. If all values are close, then the standard deviation will be low, but if they are spread out over a range of values, the standard deviation will be high.

Q.80: What is an assumption when a data set is normally distributed?

- A. The central tendency of populations is always equal to or greater than some constant.
- B. Data points in a data set are, on average, equally spaced.
- C. It has a standard deviation equal to 1.
- D. All of the above

Answer: (B)

Explanation: A normal distribution is symmetric. It has a mean equal to or greater than the median value. If all the data points are equally spread out, they must be centered on the mean, and all values will be equal on average.

Q.81: What does the standard deviation measure?

- A. The spread of a data set.
- B. How much a data set is spread from its mean.
- C. How much a data set is spread from another data set or the mean of another data set.
- D. None of the above

Answer: (C)



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Explanation: The standard deviation is used to find the degree of spread in a set of data values. It indicates how closely related two or more sets are to each other in terms of their respective means, medians, and quantiles

Q. 82: What is the Central Limit Theorem?

- A. A statement about the distribution of scores in samples
 - B. A statement about the mean of scores from random samples
 - C. A statement about the distribution of scores from a normal population
 - D. A statement about the distribution of scores for any sample

Answer: (D)

Explanation: The central limit theorem states that as the size gets large, the continuous probability distribution for several scores in a set will tend towards normality and thus central tendency.

Q.83. Which of these statements is true?

- A. The mean is a continuous variable.
 - B. The variance and standard deviation of a normal population are equal.
 - C. For large samples, the distribution of scores is approximately normal.
 - D. None of the above

Answer: (C)

Explanation: For large samples, the distribution will tend towards normality and thus central tendency.

Q.84. Which of the following statements is true?

- A. The mean is a continuous variable.
- B. The variance and standard deviation of a normal population are equal.
- C. For large samples, the distribution of scores is approximately normal.
- D. None of the above

Answer: (C)

Explanation: The standard normal distribution is the sample from which all distributions in statistics like measures of central tendency and dispersion are derived.



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mean (average), along with their answers:

Q.85: What is the mean of the following set of numbers: 5, 8, 12, 15?

- a) 8
- b) 10
- c) 12
- d) 15

Answer: b) 10

Q.86: If the mean of a data set is 20 and there are 5 values in the set, what is the sum of all the values?

- a) 100
- b) 50
- c) 25
- d) 120

Answer: a) 100

Q.87: The mean of three numbers is 15. If two of the numbers are 10 and 20, what is the third number?

- a) 5



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b) 15

c) 25

d) 30

Answer: a) 5

Q.88: In a class of 30 students, the average score in a test is 75. If two students scored 90 and 60, what is the average score of the rest of the students?

a) 70

b) 75

c) 80

d) 85

Answer: a) 70

Q.89: If the mean of five numbers is 18 and four of the numbers are 15, 20, 25, and 30, what is the fifth number?

a) 10

b) 15

c) 20

d) 25



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Answer: a) 10

Q.90: The mean of a set of numbers is 50. If each number in the set is multiplied by 3, what is the new mean?

- a) 50
- b) 100
- c) 150
- d) 200

Answer: b) 100

Q.91: If the mean of a data set is 25 and one value in the set is 35, what is the sum of the remaining values if there are four values in total?

- a) 80
- b) 90
- c) 100
- d) 110

Answer: c) 100

Q.92: The mean of six numbers is 12. If one number is removed, and the new mean becomes 15, what is the value of the number that was removed?



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- a) 3
- b) 6
- c) 9
- d) 12

Answer: c) 9

Q.93: If the mean of a set of numbers is 30 and the sum of the numbers is 150, how many numbers are there in the set?

- a) 3
- b) 4
- c) 5
- d) 6

Answer: c) 5

Q.94: The mean of a set of 8 numbers is 16. If one number is 12, what is the average of the remaining 7 numbers?

- a) 16
- b) 18
- c) 20
- d) 22



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Answer: b) 18

median, along with their answers. Here you go:

Q.95: What is the median of the following set of numbers: 2, 5, 8, 10, 12?

- a) 5
- b) 8
- c) 10
- d) 12

Answer: b) 8

Q.96: In a set of 7 numbers arranged in ascending order, which position represents the median?

- a) 3rd
- b) 4th
- c) 5th
- d) 6th

Answer: c) 5th

Q.97: If there are even numbers in a dataset, how is the median calculated?

- a) Average of middle two numbers
- b) Middle number
- c) Sum of all numbers
- d) Median cannot be calculated for even numbers



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Answer: a) Average of middle two numbers

Q.98: Which of the following is not affected by extreme values in a dataset?

- a) Mean
- b) Median
- c) Mode
- d) Range

Answer: b) Median

Q.99: If a dataset has no repeated values, which measure of central tendency will always be unique?

- a) Mean
- b) Median
- c) Mode
- d) Range

Answer: c) Mode

Q.100: In a perfectly symmetrical distribution, which measure of central tendency coincides?

- a) Mean
- b) Median
- c) Mode
- d) Range

Answer: a) Mean



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Q.101: What is the median of the following set of numbers: 4, 7, 2, 9, 5, 1?

- a) 2
- b) 4
- c) 5
- d) 7

Answer: c) 5

Q.102: In a negatively skewed distribution, how do the measures of central tendency compare?

- a) Mean > Median > Mode
- b) Median > Mean > Mode
- c) Mode > Median > Mean
- d) Median > Mode > Mean

Answer: a) Mean > Median > Mode

Q.103: Which measure of central tendency is most affected by extreme values?

- a) Mean
- b) Median
- c) Mode
- d) Range

Answer: a) Mean



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Q.104: If the median of a dataset is greater than the mean, what can be inferred about the distribution?

- a) Positively skewed
- b) Normally distributed
- c) Negatively skewed
- d) No inference can be made

Answer: a) Positively skewed

Q.105: What happens to the median if all values in a dataset are multiplied by a constant?

- a) It remains the same
- b) It increases by the constant
- c) It decreases by the constant
- d) It cannot be determined

Answer: a) It remains the same

Q.106: In a set of data, the mode is 15. What does this indicate?

- a) The most frequently occurring value is 15
- b) There is no mode in the dataset
- c) The median is 15
- d) The mean is 15

Answer: a) The most frequently occurring value is 15

Q.107: In a perfectly symmetrical distribution, what is the relationship between the mean and median?



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- a) Mean = Median
- b) Mean > Median
- c) Mean < Median
- d) No relationship

Answer: a) Mean = Median

Q.108: What is the median of the following set of numbers: 3, 1, 7, 2, 5, 8, 6?

- a) 3
- b) 5
- c) 6
- d) 7

Answer: b) 5

Q.109: In a dataset, if the mode is equal to the median, what can be said about the shape of the distribution?

- a) Symmetrical
- b) Positively skewed
- c) Negatively skewed
- d) No conclusion can be drawn

Answer: a) Symmetrical

"Mode,"

Q.110: What is the mode of the following set of numbers: {3, 5, 2, 7, 5, 8, 5}?

- A) 3
- B) 5
- C) 7



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D) 8

Answer: B) 5

Q.111: In a dataset, if no value is repeated, what is the mode?

A) The lowest value

B) The highest value

C) There is no mode

D) The average value

Answer: C) There is no mode

Q.112: What does it mean if a dataset has two modes?

A) The dataset is symmetric

B) The dataset is negatively skewed

C) The dataset is bimodal

D) The dataset is positively skewed

Answer: C) The dataset is bimodal

Q.113: If a dataset has more than two modes, what is it called?

A) Bimodal

B) Multimodal

C) Unimodal

D) No mode

Answer: B) Multimodal

Q.114: In a dataset with repeated values, how is the mode calculated?

A) The average of all values

B) The sum of all values

C) The value that appears most frequently

D) The difference between the highest and lowest values

Answer: C) The value that appears most frequently

Q.115: Which of the following measures of central tendency is affected by extreme values?

A) Mean

B) Median

C) Mode

D) Range

Answer: A) Mean

Q.116: If there is a tie for the most frequent value in a dataset, what is the dataset considered?

A) Bimodal



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- B) Unimodal
 - C) No mode
 - D) Multimodal
- Answer: A) Bimodal

Q.117: What is the mode of the dataset: {4, 2, 6, 2, 7, 4, 8, 4}?

- A) 2
 - B) 4
 - C) 6
 - D) 8
- Answer: B) 4

Q.118: Which of the following datasets has no mode?

- A) {1, 2, 3, 4, 5}
 - B) {2, 2, 4, 4, 6, 6}
 - C) {1, 1, 2, 3, 5}
 - D) {3, 3, 3, 3, 3}
- Answer: A) {1, 2, 3, 4, 5}

Q.119: If a dataset has exactly one mode, what is it called?

- A) Unimodal
 - B) Bimodal
 - C) Multimodal
 - D) Non-modal
- Answer: A
- Geometric Mean,**

Q.120: What is the geometric mean of 4 and 9?

- A) 6
 - B) 7
 - C) 8
 - D) 12
- Answer: B) 6

Q.121: If the geometric mean of two numbers is 5 and one of the numbers is 25, what is the other number?

- A) 4
 - B) 5
 - C) 6
 - D) 7
- Answer: A) 4



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Q.122: If a geometric progression (GP) starts with 2 and has a common ratio of 3, what is the third term?

- A) 6
- B) 18
- C) 24
- D) 54

Answer: D) 54

Q.123: The geometric mean between 16 and 64 is:

- A) 24
- B) 32
- C) 48
- D) 64

Answer: B) 32

Q.124: The geometric mean of 3, 12, and 27 is:

- A) 8
- B) 9
- C) 12
- D) 18

Answer: B) 9

Q.125: If the geometric mean of two positive numbers is 25 and one of the numbers is 5, what is the other number?

- A) 10
- B) 15
- C) 20
- D) 25

Answer: C) 20

Q.126: The geometric mean of two numbers is always:

- A) Greater than their arithmetic mean
- B) Equal to their arithmetic mean
- C) Less than their arithmetic mean
- D) Unrelated to their arithmetic mean

Answer: C) Less than their arithmetic mean

Q.127: If the geometric mean of p and q is r , what is the geometric mean of p^2 and q^2 ?

- A) r
- B) r^2
- C) $r^{1/2}$
- D) $2r$

Answer : C



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Q.128: If the geometric mean of three consecutive positive integers is 8, what are the integers?

- A) 2, 4, 8
- B) 4, 8, 16
- C) 6, 8, 10
- D) 8, 10, 12

Answer: C) 6, 8, 10

Q.129: What is the formula for the Harmonic Mean of n numbers?

- a) $\frac{n}{\sum_{i=1}^n \frac{1}{x_i}}$
- b) $\frac{\sum_{i=1}^n x_i}{n}$
- c) $\frac{n}{\prod_{i=1}^n x_i}$
- d) $\frac{n}{\sqrt[n]{\prod_{i=1}^n x_i}}$

Answer : A

Q.130: The Harmonic Mean is most appropriate when:

- a) Averaging large numbers
- b) Averaging small numbers
- c) Averaging integers
- d) Averaging whole numbers

Answer: b) Averaging small numbers

Q.131: For a set of positive numbers, the Harmonic Mean is always:

- a) Greater than or equal to the Arithmetic Mean
- b) Less than or equal to the Arithmetic Mean
- c) Equal to the Arithmetic Mean
- d) Unrelated to the Arithmetic Mean

Answer: b) Less than or equal to the Arithmetic Mean

Q.132: What happens to the Harmonic Mean when there is an outlier (extremely large value) in the dataset?

- a) It increases significantly
- b) It decreases significantly
- c) It remains unaffected
- d) It becomes undefined

Answer: b) It decreases significantly

Q.133: If one of the numbers in a dataset is zero, what happens to the Harmonic Mean?

- a) It becomes zero
- b) It becomes undefined



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- c) It remains unaffected
- d) It becomes the reciprocal of the sum of the reciprocals

Answer: b) It becomes undefined

Q.134: In a harmonic progression, the reciprocals of the terms form a:

- a) Arithmetic progression
- b) Geometric progression
- c) Harmonic progression
- d) Fibonacci sequence

Answer: a) Arithmetic progression

Q.135: Which of the following statements is true about the relationship between the Harmonic Mean, Arithmetic Mean, and Geometric Mean?

- a) Harmonic Mean > Arithmetic Mean > Geometric Mean
- b) Geometric Mean > Arithmetic Mean > Harmonic Mean
- c) Arithmetic Mean > Geometric Mean > Harmonic Mean
- d) Harmonic Mean = Arithmetic Mean = Geometric Mean

Answer: c) Arithmetic Mean > Geometric Mean > Harmonic Mean

Q.136: When is the Harmonic Mean equal to the Arithmetic Mean?

- a) Always
- b) Only when all numbers are the same
- c) Only when the numbers are in arithmetic progression
- d) Only when the numbers are in geometric progression

Answer: b) Only when all numbers are the same

Q.137: In a right-angled triangle, if x and y are the lengths of the legs, what is the harmonic mean of x and y with respect to their reciprocals?

- a) $\frac{2xy}{x+y}$
- b) $\frac{x+y}{2}$
- c) $\frac{1}{\frac{1}{x} + \frac{1}{y}}$
- d) $\frac{x+y}{xy}$

Answer : C

Measures of Dispersion, specifically Mean Deviation. Here's a list of 10 MCQs with their respective answers:

Q.138: What does the mean deviation measure?

A. Central Tendency



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- B. Spread of Data
- C. Skewness
- D. Kurtosis

Answer: B. Spread of Data

Q.139: How is the mean deviation calculated?

- A. Sum of squared differences from the mean
- B. Sum of absolute differences from the mean
- C. Sum of products of differences from the mean
- D. Sum of differences from the median

Answer: B. Sum of absolute differences from the mean

Q.140: What is the formula for Mean Deviation?

- A. $\frac{\sum |X - \bar{X}|}{N}$
- B. $\frac{\sum (X - \bar{X})^2}{N}$
- C. $\frac{\sum (X - \bar{X})}{N}$
- D. $\frac{\sum |X - \bar{X}|^2}{N}$

Answer: A

Q.141: In Mean Deviation, what does X represent?

- A. Standard Deviation
- B. Individual Data Point
- C. Mean
- D. Variance

Answer: B. Individual Data Point

Q.142: Mean Deviation is sensitive to outliers.

- A. True
- B. False

Answer: A. True

Q.143: What is the range of values for Mean Deviation?

- A. $0 \leq \text{Mean Deviation} < \infty$
- B. $-\infty < \text{Mean Deviation} < \infty$
- C. $0 \leq \text{Mean Deviation} \leq \infty$
- D. $-\infty \leq \text{Mean Deviation} \leq \infty$

Answer: A.

Q.144: Which of the following is not affected by extreme values?

- A. Mean



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B. Median

C. Mode

D. Mean Deviation

Answer: D. Mean Deviation

Q.145: In Mean Deviation, what does \bar{X} represent?

A. Sum of all data points

B. Median

C. Mean

D. Standard Deviation

Answer: C. Mean

Q.146: Mean Deviation is a measure of:

A. Central Tendency

B. Variability

C. Skewness

D. Location

Answer: B. Variability

Q.147: Which of the following statements is correct?

A. Mean Deviation is always greater than the Standard Deviation.

B. Mean Deviation is a measure of absolute dispersion.

C. Mean Deviation is not affected by outliers.

D. Mean Deviation is equal to the range.

Answer: B. Mean Deviation is a measure of absolute dispersion.

Q.148. What does the standard deviation measure?

a. Central tendency

b. Variability or dispersion

c. Skewness

d. Kurtosis

Answer: b. Variability or dispersion

Q.149: Which of the following statements is true about standard deviation?

a. It is less affected by outliers compared to the mean

b. It is always positive

c. It is a measure of central tendency

d. It is not affected by the range of values

Answer: a. It is less affected by outliers compared to the mean

Q.150: The formula for calculating standard deviation involves:



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- a. Taking the square root of the variance
- b. Squaring each data point
- c. Dividing by the mean
- d. All of the above

Answer: a. Taking the square root of the variance

Q.151: If the standard deviation of a dataset is large, it means that:

- a. The data points are close to the mean
- b. The data points are widely spread out
- c. The data points are negatively skewed
- d. The data points are normally distributed

Answer: b. The data points are widely spread out

Q.152: In a normal distribution, what percentage of data falls within one standard deviation from the mean?

- a. 25%
- b. 50%
- c. 68%
- d. 95%

Answer: c. 68%

Q.153: Which of the following is a robust measure of dispersion that is less sensitive to outliers compared to standard deviation?

- a. Interquartile Range (IQR)
- b. Mean Absolute Deviation (MAD)
- c. Range
- d. Variance

Answer: a. Interquartile Range (IQR)

Q.154: If all data points in a dataset are identical, what is the standard deviation?

- a. 0
- b. 1
- c. Infinity
- d. Undefined

Answer: a. 0

Q.155: Which of the following will increase the standard deviation of a dataset?

- a. Increasing all values by a constant
- b. Decreasing all values by a constant
- c. Adding outliers
- d. Removing outliers

Answer: c. Adding outliers

Q.156: The coefficient of variation (CV) is a normalized measure of dispersion. It is calculated as:

- a. Standard Deviation / Range



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- b. Standard Deviation / Mean
- c. Range / Mean
- d. Mean / Standard Deviation

Answer: b. Standard Deviation / Mean

Q.157: Which of the following is a characteristic of a leptokurtic distribution?

- a. Heavy tails
- b. Light tails
- c. Symmetric shape
- d. Normal distribution

Answer: a. Heavy tails

Q.158: What is the Coefficient of Variation (CV) used for?

- a. Describing central tendency
- b. Measuring dispersion relative to the mean
- c. Identifying outliers
- d. Comparing sample sizes

Answer: b. Measuring dispersion relative to the mean

Q.159: How is the Coefficient of Variation calculated?

- a. Standard Deviation / Mean
- b. Range / Mean
- c. Mean / Standard Deviation
- d. Mean * Standard Deviation

Answer: a. Standard Deviation / Mean

Q.160: A low Coefficient of Variation indicates:

- a. High relative dispersion
- b. Low relative dispersion
- c. No dispersion
- d. A negative relationship

Answer: b. Low relative dispersion

Q.161: Which of the following is a dimensionless measure?

- a. Mean
- b. Standard Deviation
- c. Coefficient of Variation
- d. Range

Answer: c. Coefficient of Variation

Q.162: If the CV is 15%, what does this imply about the data?

- a. High relative dispersion
- b. Moderate relative dispersion
- c. Low relative dispersion
- d. No information can be derived

Answer: b. Moderate relative dispersion



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Q.163: When comparing the variability of two data sets, which CV value suggests greater relative dispersion?

- a. 10%
- b. 15%
- c. 5%
- d. 20%

Answer: d. 20%

Q.164: Which of the following is true about a CV of 0%?

- a. No variability
- b. High variability
- c. Undefined
- d. Perfectly normal distribution

Answer: a. No variability

Q.165: In which scenario would the Coefficient of Variation be most useful?

- a. Comparing the means of two datasets
- b. Comparing the standard deviations of two datasets
- c. Comparing datasets with different units
- d. Identifying outliers in a dataset

Answer: c. Comparing datasets with different units

Q.166: If the mean is zero, what happens to the Coefficient of Variation?

- a. Becomes zero
- b. Undefined
- c. Remains unchanged
- d. Becomes infinite

Answer: b. Undefined

Q.167: What is the range of possible values for the Coefficient of Variation?

- a. 0% to 100%
- b. 0 to 1
- c. -1 to 1
- d. 0 to infinity

Answer: d. 0 to infinity

Skewness and Kurtosis MCQs:

Q.168: What does skewness measure in a distribution?

- a. Spread
- b. Symmetry
- c. Central tendency
- d. Kurtosis

Answer: b. Symmetry



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Q.169: In a positively skewed distribution, where is the tail located?

- a. Right
- b. Left
- c. Center
- d. Both sides

Answer: a. Right

Q.170: Which of the following indicates a perfectly symmetrical distribution?

- a. Skewness = 0
- b. Skewness > 0
- c. Skewness < 0
- d. None of the above

Answer: a. Skewness = 0

Q.171: Kurtosis measures the:

- a. Spread of the data
- b. Symmetry of the data
- c. Tails of the data
- d. Center of the data

Answer: c. Tails of the data

Q.172: A leptokurtic distribution has:

- a. Thin tails
- b. Thick tails
- c. Symmetrical tails
- d. No tails

Answer: b. Thick tails

Q.173: If the kurtosis value is negative, the distribution is:

- a. Mesokurtic
- b. Leptokurtic
- c. Platykurtic
- d. None of the above

Answer: c. Platykurtic

Q.174: Which measure is more sensitive to extreme values: skewness or kurtosis?

- a. Skewness
- b. Kurtosis
- c. Both are equally sensitive
- d. Neither is sensitive

Answer: b. Kurtosis

Q.175: If a distribution is negatively skewed, where is the majority of data located?

- a. Right side
- b. Left side
- c. Center



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d. Both sides equally
Answer: b. Left side

Q.176: Excess kurtosis refers to the kurtosis:

- a. Minus 1
- b. Plus 1
- c. Minus 3
- d. Plus 3

Answer: c. Minus 3

Q.177: A normal distribution has a kurtosis value of:

- a. 0
- b. 1
- c. 2
- d. 3

Answer: a. 0

Q.178: Which one of the following statements does not contain an assumption of the standard deviation measure?

- A. The data points in a data set are not necessarily equal values.
- B. The distribution is normal.
- C. The data points are not all positive or negative.
- D. None of the above

Answer: (B)

Explanation: The data points are not necessarily equal values. The mean is measured with the assumption that the data set is symmetrical, which means that all of the data points can be considered the same on average.

