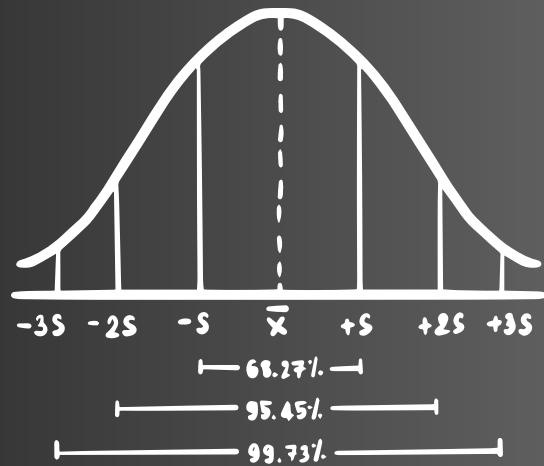$$\bar{X} = \frac{\sum fi \cdot xi}{\sum fi}$$

BIOSTATISTICS MID.TERM

Done By:

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1. If the size of the sample being used to assess blood pressure at Al-Karak is increased. The width of a 0.95 CI estimate of the mean of blood pressure for Al-Karak population:
a. Won't change, as there is no relationship between the size of the sample and the CI.
b. Will become narrower
c. Will become wider
d. Can't decide, the effect on the width cannot be determined from the given information

Answer: B. Will become narrower

2. In Gaussian distribution, one of the following characteristics is incorrect:
a. It is a bell- shaped, continuous curve
b. The tail never touches the base
c. The mean, mode and median values are equal to one
d. It is described by two parameters; the mean and the standard deviation
e. About 95% of the probability under the curve fall within two standard deviations around the mean

Answer: C. The mean, mode and median values are equal to one

3. Characteristics of a population are called ___, while those of sample are termed_____:
a. Statistics, measures
b. Statistics, parameters
c. Parameters, statistics
d. Measures, statistics
e. Parameters, variables

Answer: C. Parameters, statistics

4. In a group of 100 women the mean weigh is 60 kgs and the standard deviation is 2.5 kgs. One of the following is correct:
a. 95% of all women weigh between 55 and 65 kgs
b. 95% of all women weigh between 57.5 and 62.5 kgs
c. 99% of all women weigh between 55 and 65 kgs
d. 99% of all women weigh between 57.5 and 62.5 kgs
e. 68% of all women weigh between 55 and 65 kgs

Answer: A. 95% of all women weigh between 55 and 65 kgs

5. The area under the standard normal curve between 1 and 2 SD (from both side) in the population is:
A) 13.59%
B) 27.18%
C) 34.13%
D) 47.72%

answer : B) 27.18%.

6. A 95% confidence interval for a population mean will be_____a 99% confidence interval for the same population means. (Both calculations are based on the same set of data)

a. Longer than

b. Shorter than

c. As long as

d. Can't decide, it depends on the particular sets of data

e. No decision can be given

<u>Answer: B. Shorter than</u>

7. Normal distribution curve is determined by:

a. IQR and mean

b. Mode and SD

c. Mean and SD

d. Mode and median

e. SD and median

<u>Answer: C. Mean and SD</u>

8. A real score= (its standard score *SD) + mean

8. In a normal distribution curve, the area of more than 2 SDs is:

a. 68%

b. 99%

c. 95%

d. 5%

e. 97%

<u>Answer: D. 5%</u>

9. The following data are the weights of under-five children in Kgs: 3, 7, 4, 6, 2, 8,19. Half (50%) of the values in a distribution are:

a. Between the mode and the lowest value

b. Between Q (1) and Q (3)

c. Included in the range

d. Between the mode and the highest value

e. Between the mean and the mode

<u>Answer: B. Between Q (1) and Q (3)</u>

10. The mode is:

a. The values the occur most often in a set of data

b. The difference between the largest and the smallest value of observations

c. The sum of all observation divided by number of observations

d. The middle value in an ordered array data

e. The middle value in a set of data

<u>Answer: The values the occur most often in a set of data</u>

11. One of the following is not true regarding the mode:

a. It is not practically used for continuous data

b. It can be used for all types of data

c. It is the observation that has the highest frequency

d. It is possible to have two or more modes for the same data

e. It is not affected by extreme values

<u>Answer: B. It can be used for all types of data</u>

12. In a group of 12 scores, the largest score has increased by 36 points. The effect of such a change on the mean will be:
a. Nothing, it will remain unchanged.
b. There is no way of knowing exactly how many points the mean will increase.
c. It will increase by 36 points.
d. It will increase by 12 points.
e. It will increase by 3 points.

<u>Answer: E. It will increase by 3 points</u>

13. Type of data in biochemistry (never, always, sometimes...) is considered:
a. Ordinal.   b. Nominal
c. Continuous   d. Discrete

<u>Answer: A. Ordinal</u>

14. All of the following about discrete quantitative values are true EXCEPT:
a. Mathematical operations can be applied to it
b. Its values do not have to be integers
c. It possesses interval data
d. Heart rate is an example of this data
e. It is obtained by counting

<u>Answer: B. Its values do not have to be integers</u>

15. Number of students is a? Select one
a. Nominal data
b. Ordinal data
c. Continuous data
d. Discrete data

<u>Answer: d. Discrete data</u>

16. A crowd of 20 people was sorted into groups based on their ABO blood subgroups.
Such groups contain_____variables.
a. Continuous
b. Discrete
c. Nominal
d. Ordinal

<u>Answer: c. Nominal</u>

17. The number of your eyes is considered a(an):
a. Constant
b. Nominal variable
c. Ordinal variable
d. Metric variable

<u>Answer: a. Constant</u>

18. Standard deviation of the sampling distribution of averages (means) is:
a. Standard error
b. Coefficient of variation
c. Range
d. Sampling error
e. Standard deviation

<u>Answer: a. Standard error</u>

19. The area under the curve between 1 and 2 s.d from both sides is:
A. 47.7
B.34.1
C.27.2
D.68

<div align="right">Answer: C.27.2</div>

20. 300 student take an exam, the mean 76 and standard deviation 8
Find the number of students who scored between 70 and 82
a. 164
b. 120
c. 50
d. 88
e. 75

<div align="right">Answer: a. 164</div>

21. The area under the curve between plus 2 and minus 1 s.d:
a. 21
b. 82
b. 99
c. 68

<div align="right">Answe: b. 82</div>

22. In assessment of Intelligence Quotient of 180 primary school children, one child had a score greater than 135 of the total children. The percentile rank for this child is:
a. 25th
b. 44th
c. 75th
d. 90th
e. Cannot be calculated

<div align="right">Answer: C. 75th</div>

23. For the following set of data: 1, 2 ,2 ,2 ,3 ,4, 6 ,6, 7. The mean, mode and median will be, respectively:
a. 3.67, 2 and 3
b. 3.67, 3 and 2
c. 4.67, 2 and 3.5
d. 4, 2 and 3.5

<div align="right">Answer: A. 3.67, 2 and 3</div>

24. 1000 students in a school district took a standardized social studies test that is normally distributed and has a mean of 350 and SD is 15 Sara score's is 360
How many students above Khalaf?
a. 22
b. 76
c. 85
d. no enough information

<div align="right">Answer: d. no enough information</div>

25. The area under the curve between zero and plus 2:
a. 47
b. 68
c. 99
d. 95

<div align="right">Answer: a. 47</div>

26. Median of 6 scores is 21, What changes occur when the highest value increases 3 ?
A.21
B.21.5
C. 36
D. can't be calculated...

<div align="right">Answer: A.21</div>

27. For students the mean is 80 and SD is 10
What is the standard score for 65?
A) 1.5.   B) -1.5
C) 2.0. D) -0.5
Answer: B) -1.5

28. The percent of area of normal curve between z= -0.44 and the mean is?
a. 17%
b. 25%
c. 95%
d. 68%

<div align="right">Answer: a. 17%</div>

29. The sample size is 100 teachers and the mean systolic blood pressure is110 mmHg,the S.D is 10 the S.E equals to?
A.10
B.0.1
C.100
D.1
E.there is no enough information

<div align="right">Answer: D.1</div>

30. The sample size is 100 teachers and the mean systolic blood pressure is110 mmHg,the S.D is 10, the percentage that below 115?
A) 50.00%
B) 84.13%
C) 69.15%
D) 30.85%

<div align="right">Answer: C) 69.15%</div>

31. The sample size is 100 teachers and the mean systolic blood pressure is110 mmHg,the S.D is 10, the rank of 100?
A) 5.65th percentile
B) 15.87th percentile
C) 25th percentile
D) 50th percentile

<div align="right">Answer: B) 15.87th percentile</div>

32. . A distribution with a tail that goes to the right is called:
a. Positively skewed
b. Unimodal
c. Negatively skewed
d. None of the above

33. Sales of a company over the past ten years is best represented by:
a. line graph   b. bar chart
c. histogram   d. pie chart

34. The Measurement of desperation that I can use it with different units:
a. SD
b. CV
c. SE
d. IQR

35. NDC Ditermined by:
a. SD and mean
b. SD and median
c. CV and mean
d. Mode and mean

36. If we increase the sample size, occurs:
A. Decrease CI
B. Increase CI
C. CI constant
D. Increase SE

37. The state or quality of fatness of peakedness of a distribution called? Select one:
a Multi-modal.
B.Kurtosis.
C.Symmetrical.
D. Positivly Skewed.
e. Negativly Skewed

38. If the frequency is increased at the tails:
A. Increase SD
B. Decrease SD
C. SD constant
D. The no enough information

39. Affect standard error?
A. Directly by variance
B. Indirectly by variance
C. Directly by sample size
D. Not affected by sample size
E. Directly affected by mean

Answer: A. Directly by variance

40. Which of the following statements about symmetrical normal distributions is CORRECT?
A. Standard deviation equals 1
B. Mean median mode are in the same location on the graph
C. Mean is equal to 0
D. Symmetrical distributions have equation & graph
E. All symmetrical distributions must be standard

Answer: B. Mean median mode are in the same location on the graph

41. The advantage of arithmetic mean?
A) It is less affected by outliers compared to other measures.
B) It is calculated using only the median values.
C) It is the most commonly used measure and utilizes all data points in the dataset.
D) It is the only measure of central tendency that can be used with non-numeric data.

Answer: C) It is the most commonly used measure and utilizes all data points in the dataset.

42. Standard deviation of the sampling diversion of averages called?
A) Variance
B) Standard error of the mean
C) Population standard deviation
D) Sampling variance

Answer: B) Standard error of the mean

43. You are preparing a report to present to the public health council on the declining rate of tuberculosis in year state in both men and women over the last 10 years, which type of graphs would best illustrate the data?
A. Bar chart
B. Pie chart
C. Line graph
D. Frequency polygon

Answer: C. Line graph

44. Is used for drawing conclusion from the data which will influence subsequent decision?
A) Descriptive statistics
B) Analytic statistics
C) Predictive statistics
D) Exploratory statistics

Answer: B) Analytic statistics