Statistical Foundations for Pre-Teens

Statistics · Answer Key · 18 Questions

1. What is the formal term for the difference between the highest and lowest values in a numerical data set?

A) Mean
B) Median
C) Range
D) Mode

2. When a data set has two distinct values that both appear with the highest frequency, what is the distribution called?

A) Bimodal
B) Bilateral
C) Bi-median
D) Binary

3. In a frequency table, what does the 'cumulative frequency' represent?

A) The average of all values
B) The total sum of values
C) The count of data points up to that interval
D) The difference between maximum and minimum

4. Which statistical measure is most sensitive to the presence of extreme outliers in a data set?

A) Median
B) Mode
C) Mean
D) Range

5. In a stem-and-leaf plot, what does the 'leaf' typically represent?

A) The tens digit
B) The last digit of the data point
C) The total count of the data
D) The median value

6. What is the sum of all deviations of the data points from their arithmetic mean?

A) One
B) The Range
C) Zero
D) The Mode

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7. If you are creating a pie chart, how many degrees should represent 25% of the total data?

A) 45 degrees
B) 90 degrees
C) 180 degrees
D) 60 degrees

8. Which type of graph is best suited for showing trends or changes in data over a continuous period of time?

A) Bar graph
B) Line graph
C) Scatter plot
D) Stem-and-leaf plot

9. What term describes the middle value of a data set when it is arranged in ascending order, specifically for an even number of data points?

A) The average of the two middle values
B) The first middle value
C) The last value
D) The sum of all values divided by two

10. In a box-and-whisker plot, the 'box' represents the range between which two statistical points?

A) Minimum and maximum
B) Mean and median
C) First quartile and third quartile
D) Mode and median

11. What is the purpose of a 'census' in statistical data collection?

A) To sample a small portion of a population
B) To collect data from every member of a population
C) To calculate the mean of a sample
D) To identify outliers

12. Which statistical term refers to the 'most common' value in a data set?

A) Mean
B) Median
C) Mode
D) Range

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13. If a survey question has 'Yes' or 'No' as the only options, what type of data is being collected?

A) Categorical
B) Numerical
C) Continuous
D) Discrete

14. What is the primary visual indicator of a negative correlation on a scatter plot?

A) Points forming a horizontal line
B) Points moving upward from left to right
C) Points moving downward from left to right
D) Points scattered randomly

15. What does the 'Q3' represent in a five-number summary of a data set?

A) The maximum value
B) The median of the upper half of the data
C) The mean of the entire set
D) The first quartile

16. In statistics, what is the term for the entire group of individuals or items that a researcher is interested in studying?

A) Sample
B) Population
C) Subset
D) Variable

17. When a data set is perfectly symmetrical, which three measures of central tendency are equal?

A) Mean, Median, and Mode
B) Range, Mean, and Mode
C) Median, Range, and Mean
D) Mode, Range, and Median

18. What is the difference between discrete data and continuous data?

A) Discrete can be measured; continuous can be counted
B) Discrete can be counted; continuous can be measured
C) Discrete is always larger than continuous
D) There is no mathematical difference

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