

Advanced Statistics Concepts for Young Minds

Statistics · Answer Key · 10 Questions

1. Which statistical measure best describes the typical value in a dataset that has extreme outliers (very large or very small numbers)?

- A) Mean (average)
- B) Mode (most frequent)
- C) Range (highest minus lowest)
- D) Median (middle value)**

2. If you flip a fair coin 100 times, what is the most likely number of 'heads' you would expect to get?

- A) Exactly 100 heads
- B) Exactly 0 heads
- C) Around 50 heads**
- D) Exactly 75 heads

3. In a survey, if 70% of people prefer apples, and 30% prefer oranges, what type of data are the preferences (apple or orange) considered?

- A) Quantitative Discrete
- B) Quantitative Continuous
- C) Qualitative Nominal**
- D) Qualitative Ordinal

4. What is the primary purpose of calculating the standard deviation of a dataset?

- A) To find the most common value
- B) To measure how spread out the data points are from the average**
- C) To determine the difference between the largest and smallest values
- D) To find the middle value of the dataset

5. If a bag contains 3 red marbles and 7 blue marbles, what is the probability of drawing a red marble on the first try (without replacement)?

- A) $\frac{1}{3}$
- B) $\frac{3}{7}$
- C) $\frac{3}{10}$**
- D) $\frac{7}{10}$

6. Which of these is a measure of 'central tendency'?

- A) Interquartile Range (IQR)
- B) Variance
- C) Mode**
- D) Outlier

7. What does a correlation coefficient of +1.0 indicate about two variables?

- A) They have no relationship
- B) As one increases, the other tends to decrease
- C) As one increases, the other tends to increase perfectly**
- D) As one decreases, the other decreases perfectly

8. If you are looking at the results of a dice roll, what is the probability of rolling a number greater than 4?

- A) $1/6$
- B) $2/6$**
- C) $3/6$
- D) $4/6$

9. In a box plot, what does the line inside the box typically represent?

- A) The range of the data
- B) The median of the data**
- C) The mode of the data
- D) The average of the data

10. When dealing with numerical data that can only take specific, separate values (like the number of goals scored in a game), what type of data is it?

- A) Qualitative Nominal
- B) Qualitative Ordinal
- C) Quantitative Continuous
- D) Quantitative Discrete**