



**QUIZ TIME**

# Bio- statistics lec3

Done by:

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1. Which of the following statements correctly distinguishes a parameter from a statistic?

- A) A parameter describes a sample; a statistic describes a population.
- B) A parameter describes a population; a statistic describes a sample.
- C) Both describe populations.
- D) Both describe samples.

→ B

2. Which shape of histogram suggests the presence of two subpopulations?

- A) Symmetrical
- B) Skewed left
- C) J-shaped
- D) Bimodal

→ D

3. Why is the mean not considered a robust measure of central tendency?

- A) It cannot be calculated for even sample sizes.
- B) It is undefined for grouped data.
- C) It changes significantly with extreme values (outliers).
- D) It does not divide data into equal parts.

→ C

4. A sample has the following values: 2, 3, 3, 4, 4, 4, 5, 5. What is the mode?

- A) 3
- B) 4
- C) 5
- D) No mode

→ B

5. Which graphical method is most appropriate for comparing the number of students in each academic year using raw counts?

- A) Pie chart
- B) Bar graph
- C) Histogram
- D) Dotplot

→ B

6. Which of the following would NOT be appropriate for qualitative data?

- A) Mode
- B) Pie chart
- C) Mean
- D) Bar graph

→ C

7. What is a key advantage of using a dotplot, according to the lecture?

- A) It groups data into intervals for large datasets.
- B) It shows cumulative frequency easily.
- C) It visualizes the spread of individual data points on a number line.
- D) It summarizes data using mean and median.

→ C

8. Given the sample: 6, 3, 8, 6, 4. What is the sample mean?

- A) 5
- B) 4.5
- C) 6
- D) 5.4

→ D

9. The standard deviation is calculated as:

- A) Variance squared
- B) Mean divided by N
- C) Square root of variance
- D) Sum of squares divided by N

→ C

10. Find the median of the following data set:

2, 5, 3, 8, 4, 7

- A) 4.5
- B) 5
- C) 5.5
- D) 6

→ Correct Answer: A

11. Which distribution shape implies most data are clustered at the lower end with a long tail to the right?

- A) Negatively skewed
- B) Uniform
- C) Positively skewed
- D) Symmetrical

→ C

12. Which of the following data sets does NOT allow you to calculate the mean, mode, or median?

- A) The number of books read by 5 students: 3, 7, 2, 5, 4
- B) The colors of cars in a parking lot: Red, Blue, Green, Blue, Red
- C) The weights (in kg) of 4 dogs: 12, 15, 18, 14
- D) The heights of 3 people: 160 cm, 170 cm, 165 cm

Answer:

- B) The colors of cars in a parking lot: Red, Blue, Green, Blue, Red

13. Given the sample: 4, 6, 8. What is the sample variance?

- A) 4
- B) 2
- C) 8
- D) 3

Answer is A

14. A sample has the variance  $s^2 = 9$ . What is the standard deviation?

- A) 3
- B) 9
- C) 81
- D) 4.5

→ A

15. What is the key purpose of inferential statistics?

- A) To organize sample data
- B) To present percentages
- C) To draw conclusions about a population from a sample
- D) To calculate exact population parameters

→ C