

Least Squares Regression Analysis

Statistics · Practice Test · 10 Questions

1. What is the general form of the least squares regression line?

- A) $y = a + bx$
- B) $y = mx + c$
- C) $y = ax + b$
- D) $y = bx + a$

2. What is the value of the sum of the residuals ($\sum e_i$)?

- A) 1
- B) 0.259
- C) 0
- D) 0.72

3. What is the calculated sum of the squares of the residuals ($\sum e_i^2$)?

- A) 0.259
- B) 1.33
- C) 16.9
- D) 0.0784

4. In the equation $y = 0.72 + 1.33x$, what is the intercept 'a'?

- A) 1.33
- B) 0.72
- C) 10
- D) 16.9

5. In the equation $y = 0.72 + 1.33x$, what is the slope 'b'?

- A) 0.72
- B) 1.33
- C) 10
- D) 16.9

6. What is the estimated value of y when x = 0?

- A) 0
- B) 0.72
- C) 1.33
- D) 2.05

7. What is the estimated value of y when $x = 1$?

- A) 0.72
- B) 1.33
- C) 2.05
- D) 3.38

8. What is the estimated value of y when $x = 2$?

- A) 2.05
- B) 3.38
- C) 4.71
- D) 6.04

9. What is the estimated value of y when $x = 3$?

- A) 3.38
- B) 4.71
- C) 6.04
- D) 7.37

10. What is the estimated value of y when $x = 4$?

- A) 4.71
- B) 6.04
- C) 7.37
- D) 8.70