

Foundations of Statistics and Probability

Mathematics · Answer Key · 18 Questions

1. Who is credited with publishing 'Ars Conjectandi' (The Art of Conjecturing), which introduced the first law of large numbers?

- A) Blaise Pascal
- B) Jacob Bernoulli**
- C) Pierre-Simon Laplace
- D) Carl Friedrich Gauss

2. Which mathematician is famous for creating the 'Normal Distribution' curve, often represented by the bell curve?

- A) Abraham de Moivre
- B) Thomas Bayes
- C) Carl Friedrich Gauss**
- D) John Graunt

3. In 1662, who published 'Natural and Political Observations Made upon the Bills of Mortality', laying the foundation for demography and statistics?

- A) John Graunt**
- B) William Petty
- C) Edmond Halley
- D) Francis Galton

4. The concept of 'Regression to the Mean' was first described by which scientist in the late 19th century while studying heredity?

- A) Karl Pearson
- B) Ronald Fisher
- C) Francis Galton**
- D) Adolphe Quetelet

5. Which French mathematician is credited with introducing the 'Bayes' Theorem' in a posthumously published essay in 1763?

- A) Thomas Bayes**
- B) Pierre-Simon Laplace
- C) Siméon Denis Poisson
- D) Richard Price

6. Who developed the 'Chi-squared test', a fundamental statistical method used to determine if there is a significant difference between expected and observed frequencies?

A) William Sealy Gosset

B) Karl Pearson

C) Ronald Fisher

D) Charles Spearman

7. Which statistician published 'Statistical Methods for Research Workers' in 1925, which introduced the concept of the 'p-value' and analysis of variance (ANOVA)?

A) Ronald Fisher

B) Karl Pearson

C) Jerzy Neyman

D) Egon Pearson

8. The term 'Percentile' was first introduced in 1885 by which polymath?

A) Francis Galton

B) Karl Pearson

C) Adolphe Quetelet

D) Charles Babbage

9. Which mathematician developed the 'Poisson Distribution' in 1837 to describe the probability of a given number of events occurring in a fixed interval of time?

A) Siméon Denis Poisson

B) Blaise Pascal

C) Pierre-Simon Laplace

D) Jean-Baptiste Joseph Fourier

10. Who is considered the first to apply statistical methods to social phenomena, calling it 'Social Physics'?

A) Adolphe Quetelet

B) Emile Durkheim

C) Auguste Comte

D) Herbert Spencer

11. The 'Student's t-distribution' was published in 1908 by William Sealy Gosset under what pseudonym?

A) Professor X

B) Student

C) Statistician

D) Anonymous

12. Who famously used the 'Least Squares' method to predict the orbit of the asteroid Ceres in 1801?

- A) Carl Friedrich Gauss**
- B) Adrien-Marie Legendre
- C) Pierre-Simon Laplace
- D) Leonhard Euler

13. Which mathematician wrote the first treatise on probability theory, 'Liber de Ludo Aleae' (Book on Games of Chance)?

- A) Gerolamo Cardano**
- B) Blaise Pascal
- C) Pierre de Fermat
- D) Christiaan Huygens

14. The term 'Standard Deviation' was introduced in 1894 by which British statistician?

- A) Karl Pearson**
- B) Francis Galton
- C) Ronald Fisher
- D) William Sealy Gosset

15. Who is credited with creating the 'Box Plot' (or box-and-whisker plot) in 1977?

- A) John Tukey**
- B) Karl Pearson
- C) Ronald Fisher
- D) David Cox

16. Which mathematician is known for the first systematic study of probability related to 'Pascal's Triangle'?

- A) Blaise Pascal**
- B) Pierre de Fermat
- C) Jacob Bernoulli
- D) Gerolamo Cardano

17. The first life table, which estimated the probability of death at different ages, was created in 1693 by which astronomer?

- A) Edmond Halley**
- B) John Graunt
- C) Isaac Newton
- D) William Petty

18. Who developed the concept of 'Correlation' and the product-moment correlation coefficient?

A) Karl Pearson

B) Francis Galton

C) Charles Spearman

D) Ronald Fisher