

Foundations of Statistics and Probability

Statistics & Probability · Practice Test · 15 Questions

1. Which ancient civilization is credited with developing early forms of record-keeping and data collection, considered precursors to statistics?

- A) Ancient Rome
- B) Ancient Egypt
- C) Ancient Greece
- D) Mesopotamia

2. In the 17th century, who is often considered one of the founders of probability theory, corresponding with Blaise Pascal about gambling problems?

- A) Isaac Newton
- B) Pierre de Fermat
- C) Galileo Galilei
- D) Johannes Kepler

3. What was the name of the first major statistical society, founded in London in 1834?

- A) The Royal Statistical Society
- B) The American Statistical Association
- C) The International Statistical Institute
- D) The Bernoulli Society

4. The concept of 'normal distribution' or 'bell curve' is often associated with the work of which German mathematician in the early 19th century?

- A) Leonhard Euler
- B) Carl Friedrich Gauss
- C) Gottfried Wilhelm Leibniz
- D) Bernhard Riemann

5. Who is widely recognized as the father of modern statistics, known for his work on sampling, correlation, and chi-squared tests in the early 20th century?

- A) Ronald Fisher
- B) Karl Pearson
- C) William Sealy Gosset
- D) Jerzy Neyman

6. What significant event in the 18th century spurred the development of actuarial science and thus probability in insurance?

- A) The French Revolution
- B) The Industrial Revolution
- C) The Great Fire of London
- D) The discovery of America

7. The development of the 'law of large numbers' is a foundational concept in probability, with significant contributions from mathematicians like Jacob Bernoulli in the late 17th and early 18th centuries.

- A) True
- B) False
- C) Partially True
- D) Only partially applicable

8. Which famous mathematician, known for his work in calculus and probability, published 'Ars Conjectandi' (The Art of Conjunction) posthumously in 1713?

- A) Blaise Pascal
- B) Pierre de Fermat
- C) Jacob Bernoulli
- D) Christiaan Huygens

9. The first census in the United States was conducted in which year?

- A) 1776
- B) 1790
- C) 1800
- D) 1812

10. In the context of early statistical analysis, what was the primary focus of John Graunt's work on 'Bills of Mortality' in 17th century London?

- A) Economic trends
- B) Population and mortality rates
- C) Agricultural yields
- D) Weather patterns

11. The concept of 'hypothesis testing' as a formal procedure in statistics was significantly advanced by which statistician in the 1930s?

- A) R.A. Fisher
- B) Jerzy Neyman
- C) Karl Pearson
- D) Egon Pearson

12. The development of the 'chi-squared distribution' is strongly linked to the work of which early 20th-century statistician?

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

13. What is the name of the famous paradox in probability theory, first described by the Chevalier de Méré in the 17th century, concerning the probabilities of dice rolls?

- A) The St. Petersburg Paradox
- B) The Birthday Paradox
- C) The Gambler's Ruin Paradox
- D) The Dice Problem (or de Méré's Problem)

14. Florence Nightingale's pioneering use of statistical diagrams, particularly her 'rose diagrams', was instrumental in advocating for reforms in which field during the mid-19th century?

- A) Education
- B) Public health and sanitation
- C) Child labor laws
- D) Women's suffrage

15. The 'Galton Board', a device used to demonstrate the normal distribution, was invented by which English polymath in the late 19th century?

- A) Charles Darwin
- B) Francis Galton
- C) Herbert Spencer
- D) Alfred Russel Wallace