Probability Trivia: Questions, Answers, and Facts
Printable Trivia Pack

Probability trivia explores the ideas behind chance, randomness, and likelihood, from early gambling problems to the rise of modern statistics. It gives readers a quick, engaging way to test what they know about a science concept that influences everything from weather forecasts to medical research.

HARD PROBABILITY TRIVIA
1. In what monograph did Kolmogorov publish his probability axioms?
Answer: Grundbegriffe der Wahrscheinlichkeitsrechnung

2. Bayes' theorem first appeared in print in which year, after Bayes had already died?
Answer: 1763

3. Jakob Bernoulli died in what year before Ars Conjectandi was eventually published?
Answer: 1705

4. What is the publication year of Ars Conjectandi?
Answer: 1713

5. Before becoming a theorem headline, Bayes held what ministerial post location?
Answer: Tunbridge Wells

6. Which title is often cited as the first printed book on probability?
Answer: De ratiociniis in ludo aleae

7. The Borel-Cantelli lemmas are named partly after which mathematician?
Answer: ˆ mile Borel

8. Which major result says sample averages converge almost surely under standard assumptions?
Answer: strong law of large numbers

9. What theorem says that sums of many independent variables often approach a normal distribution?
Answer: central limit theorem

10. In modern measure-theoretic probability, what core structure collects the measurable events?
Answer: sigma-algebra

11. The standard triple consisting of sample space, sigma-algebra, and probability measure is called what?
Answer: probability space

12. A stochastic process whose future conditional expectation equals its present value under a filtration is called a what?

Answer: martingale

13. Brownian motion goes by what alternate process name?
Answer: Wiener process

14. The Poisson distribution is named after which scientist, given here without his full first name?
Answer: Denis Poisson

FUNNY PROBABILITY TRIVIA
1. A roulette wheel lands on red five times in a row, and your cousin whispers, "Black is basically scheduled now." What mistaken belief is your cousin showing?
Answer: The gambler’s fallacy.

2. In sports debates, what belief says a player on a streak is more likely to keep succeeding?
Answer: The hot-hand belief.

3. What paradox describes a trend that flips direction when you regroup the data, as if the spreadsheet pulled a prank?
Answer: Simpson’s paradox.

4. Who gave his name to Simpson’s paradox?
Answer: Thomas Simpson.

5. According to Borel’s theorem, if monkeys type randomly for absurdly long enough, what theorem says they could eventually produce any given text?
Answer: The infinite monkey theorem.

6. What principle says that if there are enough chances, even rare events become likely to happen somewhere, which is great news if you are waiting for a very weird coincidence?
Answer: The law of truly large numbers.

7. What classic problem asks how many random draws you need on average to complete a full set, the natural enemy of trading cards and patience alike?
Answer: The coupon collector problem.

8. You’re interviewing candidates and want the best one without a time machine. Which famous puzzle is about when to stop interviewing and choose?
Answer: The secretary problem.

9. Which paradox shows that a tiny wording change can make a simple children question about genders suddenly turn into a probability argument at dinner?
Answer: The boy-or-girl paradox.

10. A puzzle with mislabeled boxes sounds like a storage nightmare. What classic paradox is it?
Answer: Bertrand’s box paradox.

11. What paradox shows that in a geometry problem, different definitions of "random" can lead to different answers, which is awkward for anyone expecting one neat result?
Answer: Bertrand’s paradox.

12. Which modern puzzle is about self-locating probability and has one of the coziest names in the subject?
Answer: The sleeping beauty problem.

13. Which famous paradox is the one about expected value versus human intuition, proving your instincts can file a formal complaint?
Answer: The St. Petersburg paradox.

FUN PROBABILITY TRIVIA
1. Which randomness expert could also wow a crowd with sleight of hand, since he was once a professional magician?
Answer: Persi Diaconis

2. What is the title of Leonard Mlodinowâ s popular science book about probability and chance in everyday life?
Answer: The Drunkard’s Walk

3. Nassim Nicholas Taleb gave probability fans a memorable title. Which book did he write?
Answer: Fooled by Randomness

4. Who wrote the risk-history book Against the Gods?
Answer: Peter L. Bernstein

5. Which scholar made major contributions across the triple threat of probability, statistics, and game theory?
Answer: David Blackwell

6. Who developed statistical decision ideas and sequential analysis during the 20th century?
Answer: Abraham Wald

7. Which famous nurse also used statistical graphics to show mortality patterns?
Answer: Florence Nightingale

8. Whose algebra later became important in both logic and probability?
Answer: George Boole

9. Which influential thinker made major contributions to subjective probability before reaching age 30?
Answer: Frank Ramsey

10. Name the major figure in Bayesian probability whose surname often pops up in discussions of priors and inference history.?
Answer: Harold Jeffreys

11. Which mathematician was a leading advocate of subjective probability?
Answer: Bruno de Finetti

12. Markov chains borrow their name from which mathematician?
Answer: Andrey Markov

13. In a Markov chain, what does the next state depend on?
Answer: Only the current state

PROBABILITY FAMILY TRIVIA
1. How many people are needed in the famous birthday paradox for the chance of a shared birthday to be more than 50 percent?
Answer: 23 people

2. In the Monty Hall problem, what is your chance of winning if you switch doors?
Answer: A 2/3 chance of winning

3. When a lottery machine uses a quick pick, how are the numbers chosen?
Answer: At random

4. If you draw one card from a full 52-card deck, which card rank has a 4 out of 52 chance of appearing?
Answer: An ace

5. On one draw from a standard 52-card deck, which suit appears with probability 13 out of 52?
Answer: Hearts

6. When you roll two fair six-sided dice, what is the largest possible sum?
Answer: 12

7. What sum comes up most often when rolling two fair six-sided dice?
Answer: 7

8. Flip two fair coins. What is the probability of getting at least one head?
Answer: 3/4

9. A bag has 5 red marbles and 5 blue marbles. What is the chance of drawing a red marble on one pick?
Answer: 1/2

10. What everyday report often tells you the probability that it will rain?
Answer: A weather forecast

11. Which business uses estimated chances of loss when setting prices?
Answer: Insurance

12. Which forecaster became widely known for election predictions built on probability models?
Answer: Nate Silver

EASY PROBABILITY TRIVIA
1. In probability, what number stands for an impossible event?
Answer: 0 represents an impossible event.

2. What probability value means an event is certain to happen?
Answer: 1 represents a certain event.

3. How many possible outcomes does a fair coin have on one flip?
Answer: A fair coin has 2 possible outcomes on a single flip.

4. How many faces are on a standard die?
Answer: A standard die has 6 faces.

5. How many cards are in a standard deck of playing cards?
Answer: A standard deck contains 52 cards.

6. A standard deck of cards is divided into how many suits?
Answer: There are 4 suits in a standard deck of cards.

7. In standard poker hand rankings, which hand is the highest?
Answer: A royal flush is the highest standard poker hand.

8. Which roulette wheel has a single zero?
Answer: A European roulette wheel has a single zero.

9. For a fair coin, what is the probability of getting heads?
Answer: The probability of heads on a fair coin is one-half.

10. What is the probability of rolling a 3 on a fair six-sided die?
Answer: The probability is one-sixth.

11. Which two values mark the endpoints of the probability scale?
Answer: 0 and 1 mark the endpoints of the probability scale.

12. What common betting word often appears alongside probability?
Answer: Odds.

13. Bayes' theorem is named after whom?
Answer: Thomas Bayes.

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