

MATHEMATICS

CLASS 10

CHAPTER: PROBABILITY

Practice Multiple Choice Questions (50 Questions with Answer Key)

Q1. If an event cannot occur, then its probability is:

- (a) 1 (b) $\frac{3}{4}$
(c) $\frac{1}{2}$ (d) 0

Q2. Which of the following cannot be the probability of an event?

- (a) $\frac{1}{3}$ (b) 0.1
(c) 3% (d) $\frac{17}{16}$

Q3. An event is very unlikely to happen. Its probability is closest to:

- (a) 0.0001 (b) 0.001
(c) 0.01 (d) 0.1

Q4. If the probability of an event is p , the probability of its complementary event will be:

- (a) $p - 1$ (b) p
(c) $1 - p$ (d) $1 - \frac{1}{p}$

Q5. The probability expressed as a percentage of a particular occurrence can never be:

- (a) less than 100 (b) less than 0
(c) greater than 0 (d) anything but a whole number

Q6. If $P(A)$ denotes the probability of an event A , then:

- (a) $P(A) < 0$ (b) $P(A) > 1$
(c) $0 \leq P(A) \leq 1$ (d) $-1 \leq P(A) \leq 1$

Q7. If the probability of winning a game is 0.4, then the probability of losing it is:

- (a) 0.96 (b) 0.6
(c) 0.4 (d) 0.06

Q8. A card is selected from a deck of 52 cards. The probability of its being a red face card is:

- (a) $3/26$ (b) $3/13$
(c) $2/13$ (d) $1/2$

Q9. The probability of getting a number greater than 2 in a single throw of a die is:

- (a) $1/2$ (b) $1/3$
(c) $2/3$ (d) $1/6$

Q10. A card is drawn from a well-shuffled deck of 52 playing cards. The probability of getting a black face card is:

- (a) $3/13$ (b) $3/26$
(c) $1/26$ (d) $3/52$

Q11. Which of the following value cannot be the probability of an event?

- (a) 1.5 (b) 15%
(c) 0.7 (d) $2/3$

Q12. The probability of getting a prime number when a die is thrown once is:

- (a) $1/6$ (b) $1/3$
(c) $1/2$ (d) $2/3$

Q13. A coin is tossed twice. The probability of getting at least one head is:

- (a) $1/4$ (b) $1/2$
(c) $3/4$ (d) 1

Q14. If two coins are tossed simultaneously, then the probability of getting no head is:

- (a) $3/4$ (b) $1/2$
(c) $1/4$ (d) 1

Q15. The probability of a leap year having 53 Sundays is:

- (a) $1/7$ (b) $2/7$
(c) $3/7$ (d) $4/7$

Q16. The probability of a non-leap year having 53 Mondays is:

- (a) $1/7$ (b) $2/7$
(c) $5/7$ (d) $6/7$

Q17. A bag contains 3 red balls, 5 white balls and 7 black balls. What is the probability that a ball drawn at random will be neither red nor black?

- (a) $1/3$ (b) $1/5$
(c) $7/15$ (d) $8/15$

Q18. A box contains 90 discs numbered 1 to 90. One disc is drawn at random. Probability that it bears a two-digit number is:

- (a) $9/10$ (b) $1/10$
(c) $81/90$ (d) Both (a) and (c)

Q19. A card is drawn from a well-shuffled deck of 52 cards. What is the probability of getting an ace?

- (a) $1/26$ (b) $1/13$
(c) $2/13$ (d) $4/13$

Q20. In a single throw of two dice, what is the probability of getting a doublet?

- (a) $1/6$ (b) $1/12$
(c) $1/36$ (d) $5/6$

Q21. Two dice are thrown together. The probability of getting a total of 10 is:

- (a) $1/12$ (b) $1/36$
(c) $1/6$ (d) $5/36$

Q22. A bag contains 5 red balls and some blue balls. If the probability of drawing a blue ball is double that of a red ball, the number of blue balls in the bag is:

- (a) 5 (b) 10
(c) 15 (d) 20

Q23. Someone is asked to take a number from 1 to 100. The probability that it is a prime number is:

- (a) $1/5$ (b) $6/25$
(c) $1/4$ (d) $13/50$

Q24. The sum of the probabilities of all elementary events of an experiment is:

- (a) 0 (b) 1
(c) 2 (d) $1/2$

Q25. If $P(E) = 0.05$, what is the probability of 'not E'?

- (a) 0.95 (b) 0.05
(c) 1.05 (d) 0.9

Q26. A letter of English alphabet is chosen at random. The probability that it is a vowel is:

- (a) $5/26$ (b) $21/26$
(c) $1/26$ (d) $3/26$

Q27. A number x is chosen at random from the numbers -3, -2, -1, 0, 1, 2, 3. What is the probability that $|x| < 2$?

- (a) $5/7$ (b) $3/7$
(c) $2/7$ (d) $1/7$

Q28. Two dice are thrown together. The probability that the sum of the numbers on the two dice is 13 is:

- (a) 1 (b) $1/6$
(c) $1/36$ (d) 0

Q29. Two dice are thrown together. The probability that the sum of the numbers on top faces is less than or equal to 12 is:

- (a) 1 (b) 0
(c) $1/2$ (d) $5/6$

Q30. A jar contains 24 marbles, some are green and others are blue. If a marble is drawn at random, $P(\text{green}) = 2/3$. Number of blue marbles is:

- (a) 8 (b) 16
(c) 12 (d) 10

Q31. Out of 500 light bulbs, 20 are defective. One bulb is chosen at random. Probability that it is non-defective is:

- (a) $1/25$ (b) $24/25$
(c) $1/50$ (d) $49/50$

Q32. A card is drawn from a deck of 52 cards. The probability of getting a king of red colour is:

- (a) $1/26$ (b) $1/13$
(c) $2/13$ (d) $1/52$

Q33. The probability of getting a number less than 7 in a single throw of a die is:

- (a) 0 (b) 1
(c) $1/6$ (d) $5/6$

Q34. Which of the following cannot be the empirical probability of an event?

- (a) $2/3$ (b) -1.5
(c) 15% (d) 0.7

Q35. A game of chance consists of spinning an arrow which comes to rest pointing at one of the numbers 1, 2, 3, 4, 5, 6, 7, 8. The probability that it will point at an odd number is:

- | | |
|-----------|-----------|
| (a) $1/4$ | (b) $1/2$ |
| (c) $3/8$ | (d) $5/8$ |

Q36. In Q35, the probability that the arrow will point at a number greater than 2 is:

- | | |
|-----------|-----------|
| (a) $1/4$ | (b) $1/2$ |
| (c) $3/4$ | (d) $5/8$ |

Q37. If three coins are tossed simultaneously, the total number of possible outcomes is:

- | | |
|-------|-------|
| (a) 3 | (b) 6 |
| (c) 8 | (d) 9 |

Q38. Three coins are tossed together. The probability of getting exactly two heads is:

- | | |
|-----------|-----------|
| (a) $1/8$ | (b) $3/8$ |
| (c) $1/2$ | (d) $5/8$ |

Q39. Three coins are tossed together. The probability of getting at most two heads is:

- | | |
|-----------|-----------|
| (a) $7/8$ | (b) $1/8$ |
| (c) $3/8$ | (d) $1/2$ |

Q40. If a pair of dice is thrown, the total number of possible outcomes is:

- | | |
|--------|--------|
| (a) 6 | (b) 12 |
| (c) 36 | (d) 64 |

Q41. Cards marked with numbers 2 to 101 are placed in a box. A card is drawn at random. Probability that it is a perfect square is:

- | | |
|-------------|------------|
| (a) $9/100$ | (b) $1/10$ |
| (c) $9/99$ | (d) $1/11$ |

Q42. A card is drawn from a well-shuffled pack of 52 cards. The probability of getting a queen of spade is:

- | | |
|------------|------------|
| (a) $1/52$ | (b) $1/13$ |
| (c) $1/26$ | (d) $1/4$ |

Q43. The probability of selecting a red marble at random from a jar containing 2 red, 3 blue and 4 green marbles is:

- (a) $\frac{2}{9}$ (b) $\frac{1}{3}$
(c) $\frac{4}{9}$ (d) $\frac{5}{9}$

Q44. A school has 5 houses A, B, C, D and E. A student is chosen at random. The probability that the student is NOT from house A is:

- (a) $\frac{1}{5}$ (b) $\frac{4}{5}$
(c) $\frac{2}{5}$ (d) $\frac{3}{5}$

Q45. What is the probability that an ordinary year (non-leap) has 52 Sundays?

- (a) 1 (b) $\frac{1}{7}$
(c) $\frac{6}{7}$ (d) 0

Q46. If $P(E) + P(\text{not } E) = k$, then the value of k is:

- (a) 0 (b) 1
(c) 0.5 (d) 2

Q47. A number is selected at random from 1 to 30. The probability that it is a prime number is:

- (a) $\frac{1}{3}$ (b) $\frac{3}{10}$
(c) $\frac{1}{2}$ (d) $\frac{2}{5}$

Q48. The probability of getting a number divisible by 3 in a throw of a die is:

- (a) $\frac{1}{6}$ (b) $\frac{1}{3}$
(c) $\frac{1}{2}$ (d) $\frac{2}{3}$

Q49. In a family of 2 children, the probability of having at least one boy is:

- (a) $\frac{1}{4}$ (b) $\frac{1}{2}$
(c) $\frac{3}{4}$ (d) 1

Q50. A die is thrown once. The probability of getting a composite number is:

- (a) $\frac{1}{3}$ (b) $\frac{1}{2}$
(c) $\frac{2}{3}$ (d) $\frac{1}{6}$

ANSWER KEY & SOLUTIONS GUIDE

Q.No - Ans	Q.No - Ans	Q.No - Ans	Q.No - Ans	Q.No - Ans
Q1: (d) 0	Q11: (a) 1.5	Q21: (a) 1/12	Q31: (b) 24/25	Q41: (a) 9/100
Q2: (d) 17/16	Q12: (c) 1/2	Q22: (b) 10	Q32: (a) 1/26	Q42: (a) 1/52
Q3: (a) 0.0001	Q13: (c) 3/4	Q23: (c) 1/4	Q33: (b) 1	Q43: (a) 2/9
Q4: (c) 1 - p	Q14: (c) 1/4	Q24: (b) 1	Q34: (b) -1.5	Q44: (b) 4/5
Q5: (b) less than 0	Q15: (b) 2/7	Q25: (a) 0.95	Q35: (b) 1/2	Q45: (a) 1
Q6: (c) $0 \leq P(A) \leq 1$	Q16: (a) 1/7	Q26: (a) 5/26	Q36: (c) 3/4	Q46: (b) 1
Q7: (b) 0.6	Q17: (a) 1/3	Q27: (b) 3/7	Q37: (c) 8	Q47: (a) 1/3
Q8: (a) 3/26	Q18: (d) Both (a) and (c)	Q28: (d) 0	Q38: (b) 3/8	Q48: (b) 1/3
Q9: (c) 2/3	Q19: (b) 1/13	Q29: (a) 1	Q39: (a) 7/8	Q49: (c) 3/4
Q10: (b) 3/26	Q20: (a) 1/6	Q30: (a) 8	Q40: (c) 36	Q50: (a) 1/3