ILLAWARRA TUTORING

In this worksheet you will develop the ability to calculate probabilities based on equally likely outcomes.

Easy Questions

1. Toss a fair coin once. Write down the sample space and compute the probability of getting heads.
2. Roll a fair six-sided die once. List the equally likely outcomes and determine the probability of rolling a 4.
3. Draw a card at random from a standard deck of 52 cards. State the probability that the card drawn is a heart.
4. A spinner is divided into 8 equal sections numbered 1 to 8. Write the probability of landing on the section marked 3.
5. Choose a number at random from the set $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$. Determine the probability that the number is even.

Intermediate Questions

6. A bag contains 4 red marbles, 3 blue marbles, and 5 green marbles. Find the probability that a marble drawn at random is green.
7. Roll a die twice. List the sample space as ordered pairs and calculate the probability that the sum of the two rolls equals 7.
8. An urn contains 2 white balls and 3 black balls. Compute the probability that a ball drawn at random is black.
9. A spinner has three equally sized regions labelled 1, 2, and 3. Determine the probability that the spinner lands on a prime number.
10. A bag contains 10 chips numbered from 0 to 9. Find the probability that a randomly drawn chip has a number less than 5.
11. Flip a fair coin three times. What is the probability of obtaining exactly two heads? List the possible outcomes you consider.
12. If a day of the week is chosen at random, determine the probability that it is a weekend day.

13. A jar contains 15 marbles, of which 9 are blue and 6 are red. What is the probability that a marble selected at random is neither red nor blue?

14. A spinner is divided into 5 equal sections numbered 1 through 5. Calculate the probability of landing on a section with a number greater than 3.

15. A bag contains an equal number of red, blue, and yellow balls. State the probability that a randomly selected ball is blue.

16. In a simple lottery, 1 winning ticket is drawn from a box of 50 tickets. What is the probability of drawing the winning ticket?

17. A coin is flipped and a die is rolled. Write down the combined sample space and then determine the probability that the coin shows heads while the die shows 4.

18. A spinner is divided into 4 equal sections, numbered 1 to 4. What is the probability that the spinner lands on an even number?

19. A bag contains 5 red, 4 blue, and 6 green candies. Calculate the probability that a candy selected at random is not blue.

20. Choose a number at random from the first 20 natural numbers. Determine the probability that the number is a multiple of 4.

Hard Questions

21. Roll a fair six-sided die. Compute the probability that the number rolled is a divisor of 6.

22. A bag contains 8 marbles numbered 1 to 8. What is the probability that the marble drawn has a prime number?

23. A card is drawn at random from a standard deck of 52 cards. Determine the probability that the card drawn is an Ace.

24. In a jar containing 20 balls, 7 are defective. Calculate the probability that a ball chosen at random is not defective.

25. From the first 20 natural numbers, find the probability that a randomly chosen number is odd.

26. A spinner is divided into 6 equal sections numbered 1 through 6. Determine the probability of landing on a number that is either less than 3 or an even number. (List all favorable outcomes.)

27. A spinner has 10 equally sized segments labelled with the integers 11 to 20. What is the probability of spinning a number whose units digit is 5?

28. A bowl contains 3 identical red tokens and 7 identical blue tokens. Compute the probability that a token drawn at random is red.

29. A bag contains chips with the numbers 2, 3, 5, 7, 11, and 13. Determine the probability that a chip drawn at random displays an odd number.

30. A spinner is divided into 9 equal sections, each marked with one digit from 1 to 9. What is the probability that the spinner lands on a perfect square? (Identify the perfect squares in your answer.)