

LISTING OUTCOMES

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

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| <p>1. List all possible outcomes when flipping a coin.</p> | <p>Heads, Tails</p> | <p>2. List all possible outcomes when rolling a standard six-sided die.</p> | <p>1, 2, 3, 4, 5, 6</p> |
| <p>3. List all possible outcomes when drawing a card from a standard deck of 52 cards.</p> | <p>Ace, 2, 3, 4, 5, 6, 7, 8, 9, 10, Jack, Queen, King for each suit (Hearts, Diamonds, Clubs, Spades)</p> | <p>4. List all possible outcomes when spinning a spinner divided into 4 equal parts labelled A, B, C, D.</p> | <p>A, B, C, D</p> |
| <p>5. List all possible outcomes when tossing two coins simultaneously.</p> | <p>Heads-Heads, Heads-Tails, Tails-Heads, Tails-Tails</p> | <p>6. List all possible outcomes when rolling two six-sided dice.</p> | <p>1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 5-1, 5-2, 5-3, 5-4, 5-5, 5-6, 6-1, 6-2, 6-3, 6-4, 6-5, 6-6</p> |

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| <p>7. List all possible outcomes when drawing two marbles from a bag containing red, blue, and green marbles without replacement.</p> | <p>8. List all possible outcomes when choosing a day of the week.</p> |
| <p>9. List all possible outcomes when selecting a vowel from the English alphabet.</p> | <p>10. List all possible outcomes when flipping a coin and rolling a die.</p> |
| <p>11. List all possible outcomes when selecting two different letters from the word 'MATH'.</p> | <p>12. List all possible outcomes when arranging the letters A, B, C in a row.</p> |

Red-Blue, Red-Green, Blue-Red, Blue-Green, Green-Red, Green-Blue

Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday

A, E, I, O, U

Heads-1, Heads-2, Heads-3, Heads-4, Heads-5, Heads-6, Tails-1, Tails-2, Tails-3, Tails-4, Tails-5, Tails-6

M-A, M-T, M-H, A-M, A-T, A-H, T-M, T-A, T-H, H-M, H-A, H-T

ABC, ACB, BAC, BCA, CAB, CBA

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| <p>13. List all possible outcomes when selecting a prime number less than 10.</p> | <p>2, 3, 5, 7</p> | <p>14. List all possible outcomes when choosing a colour from the rainbow.</p> | <p>Red, Orange, Yellow, Green, Blue, Indigo, Violet</p> |
| <p>15. List all possible outcomes when selecting a consonant from the word 'BRITISH'.</p> | <p>B, R, T, S, H</p> | <p>16. List all possible outcomes when rolling a die and flipping a coin twice.</p> | <p>1-Heads-Heads, 1-Heads-Tails, 1-Tails-Heads, 1-Tails-Tails, 2-Heads-Heads, 2-Heads-Tails, 2-Tails-Heads, 2-Tails-Tails, 3-Heads-Heads, 3-Heads-Tails, 3-Tails-Heads, 3-Tails-Tails, 4-Heads-Heads, 4-Heads-Tails, 4-Tails-Heads, 4-Tails-Tails, 5-Heads-Heads, 5-Heads-Tails, 5-Tails-Heads, 5-Tails-Tails, 6-Heads-Heads, 6-Heads-Tails, 6-Tails-Heads, 6-Tails-Tails</p> |

17. List all possible outcomes when selecting two different digits from 1 to 3.

1-2, 1-3, 2-1, 2-3,
3-1, 3-2

18. List all possible outcomes when choosing a month of the year.

January, February,
March, April, May,
June, July, August,
September, October,
November,
December

19. List all possible outcomes when selecting a square number between 1 and 20.

1, 4, 9, 16

20. List all possible outcomes when arranging the digits 1, 2, 3 to form a three-digit number.

123, 132, 213,
231, 312, 321

MASTER QUESTIONS



M1. A fair six-sided die is rolled twice. List all possible outcomes where the sum of the two rolls is 5.

1-4, 2-3, 3-2, 4-1

M2. A bag contains 3 red marbles and 2 blue marbles. Two marbles are drawn without replacement. List all possible outcomes.

Red-Red, Red-Blue, Blue-Red, Blue-Blue

- M3.** A spinner has three equal sections labelled A, B, and C. It is spun twice. List all possible outcomes where the same letter appears both times. | A-A, B-B, C-C
- M4.** Two coins are flipped. List all possible outcomes where at least one coin shows heads. | Heads-Heads, Heads-Tails, Tails-Heads
- M5.** A standard deck of 52 cards is shuffled. One card is drawn. List all possible outcomes where the card is a heart or a king. | Ace of Hearts, 2 of Hearts, 3 of Hearts, 4 of Hearts, 5 of Hearts, 6 of Hearts, 7 of Hearts, 8 of Hearts, 9 of Hearts, 10 of Hearts, Jack of Hearts, Queen of Hearts, King of Hearts, King of Diamonds, King of Clubs, King of Spades
- M6.** A fair die is rolled and a coin is flipped. List all possible outcomes where the die shows an even number and the coin shows tails. | 2-Tails, 4-Tails, 6-Tails

- M7.** A box contains 1 red, 1 blue, and 1 green ball. Two balls are drawn with replacement. List all possible outcomes where the balls are of different colours. | Red-Blue, Red-Green, Blue-Red, Blue-Green, Green-Red, Green-Blue
- M8.** A four-digit PIN is formed using the digits 1, 2, 3, 4 without repetition. List all possible outcomes where the first digit is 1. | 1234, 1243, 1324, 1342, 1423, 1432
- M9.** A committee of 2 people is to be selected from 3 candidates: Alice, Bob, and Carol. List all possible outcomes. | Alice-Bob, Alice-Carol, Bob-Alice, Bob-Carol, Carol-Alice, Carol-Bob
- M10.** A fair die is rolled three times. List all possible outcomes where the sum of the three rolls is 4. | 1-1-2, 1-2-1, 2-1-1