Probability, Fractions and Percentages

Answer each question, showing your working where appropriate. Give probabilities as fractions in their simplest form unless the question asks for a percentage. Assume all items are equally likely to be selected unless stated otherwise.

1. A bag contains 3 red sweets and 7 blue sweets. If you pick one sweet without looking, what is the probability that you pick a red sweet?

2. A fair six-sided dice has the numbers 1, 2, 3, 4, 5 and 6. What is the probability of rolling a 6?

3. There are 4 green balloons, 2 yellow balloons and 4 red balloons at a party. If one balloon is chosen at random, what is the probability that it is yellow?

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4. A coin has a heads side and a tails side. If you toss the coin once, what is the probability of getting heads?

5. A box contains 5 chocolate biscuits and 5 plain biscuits. If you choose one biscuit at random, what is the probability that it is a chocolate biscuit?

6. A spinner has 4 equal sections coloured red, blue, green and yellow. What is the probability of landing on blue if the spinner is spun once?

7. There are 6 cats and 4 dogs at an animal shelter. If one animal is chosen at random, what is the probability that it is a dog?

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8. A bag contains 2 orange counters, 3 purple counters and 5 pink counters. If you pick one counter at random, what is the probability that it is pink?

9. A fair six-sided dice is rolled once. What is the probability of rolling an odd number?

10. There are 8 apples in a bowl. Three are green and five are red. If you choose one apple without looking, what is the probability that it is red?

11. A box contains 10 pencils. Six are sharpened and four are not sharpened. If you pick one pencil at random, what is the probability that it is not sharpened?

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12. A spinner has 8 equal sections. Five sections are blue and three are red. What is the probability of landing on red?

13. A bag contains 4 red marbles, 4 blue marbles and 2 green marbles. If you pick one marble at random, what is the probability that it is either red or blue?

14. There are 12 children in a club. Five have brown hair, four have blonde hair and three have black hair. If one child is chosen at random, what is the probability that the child has blonde hair?

15. A fair six-sided dice is rolled once. What is the probability of rolling a number greater than 4?

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16. A fruit bowl contains 3 bananas, 2 oranges and 5 apples. If you choose one piece of fruit at random, what is the probability that it is not an apple?

17. A bag contains 6 yellow counters and 4 green counters. If you choose one counter at random, what is the probability that it is yellow?

18. A toy box contains 3 cars, 3 dolls and 6 building blocks. If you pick one toy at random, what is the probability that you pick a car or a doll?

19. There are 10 cards numbered from 1 to 10. If you choose one card at random, what is the probability that you pick the number 7?

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20. A lucky dip contains 20 prizes. Eight are toys, six are books and six are sweets. If you pick one prize at random, what is the probability that you win a book?

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