Extra Content for Foundation GCSE

133. Mutually Exclusive Events and Probabilities Summing to 1

Practice Questions

1. What does it mean for two events to be mutually exclusive?

2. A bag contains red, blue, and green balls. The probability of picking a red ball is 0.3, and the probability of picking a blue ball is 0.5. What is the probability of picking a green ball?

3. A fair six-sided dice is rolled. What is the probability of rolling an even number or an odd number?

4. A spinner has 5 equal sections labeled A, B, C, D, and E. What is the probability of landing on A or B?

5. A football team has a 0.6 probability of winning, a 0.25 probability of drawing, and a probability of x of losing. Find the value of x.

6. A bag contains 4 red balls, 3 blue balls, and 3 green balls. What is the probability of picking a red or a blue ball?

7. A box contains 6 apples, 4 oranges, and 10 bananas. What is the probability of picking an apple or a banana?

8. A multiple-choice question has 4 options, with only one correct answer. What is the probability of choosing an incorrect answer?

9. A bus company records that buses arrive early with a probability of 0.3 and on time with a probability of 0.4. What is the probability of a bus arriving late?

10. A weather forecast predicts a 0.2 probability of rain, a 0.5 probability of cloud, and a probability of x for sun. Find the value of x.

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Scenario Questions

1. A student randomly selects a Maths or Science book from a shelf. If the probability of picking a Maths book is 0.45, what is the probability of picking a Science book?

2. A bakery sells chocolate, vanilla, and strawberry cupcakes. The probability of a customer choosing chocolate is 0.4, and vanilla is 0.35. What is the probability of choosing strawberry?

3. A game has three outcomes: win, lose, or draw. The probability of winning is 0.55, and the probability of losing is 0.25. What is the probability of drawing?

4. A raffle ticket is drawn from a pool of 100 tickets. If 60 tickets win a small prize and 30 win a medium prize, what is the probability of winning a large prize?

5. A student can choose Drama, Art, or Music as a subject. The probability of choosing Drama is 0.3, and Art is 0.45. What is the probability of choosing Music?

6. A flight can be early, on time, or late. The probability of being early is 0.2, and on time is 0.5. What is the probability of being late?

7. A pet store sells dogs, cats, and rabbits. The probability of a customer buying a dog is 0.35, and a cat is 0.25. What is the probability of them buying a rabbit?

8. A fair spinner with 8 equal sections is spun. What is the probability of landing on an even number or an odd number?

9. A survey records students' preferences for pizza, pasta, or burgers. The probability of choosing pizza is 0.5, and pasta is 0.3. What is the probability of choosing burgers?

10. A racehorse has a 0.2 probability of winning, a 0.35 probability of coming second, and a probability of x of coming third. Find the value of x.

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Practice Questions

1. **Mutually exclusive events** cannot occur at the same time.
2. 0.2
3. 1
4. $\frac{2}{5}$
5. 0.15
6. $\frac{7}{10}$
7. $\frac{16}{20} = \frac{4}{5}$
8. $\frac{3}{4}$
9. 0.3
10. 0.3

Answers

Scenario Questions

1. 0.55
2. 0.25
3. 0.2
4. 0.1
5. 0.25
6. 0.3
7. 0.4
8. 1
9. 0.2
10. 0.45