JRA Tutors
Private tuition and small online Study Pods

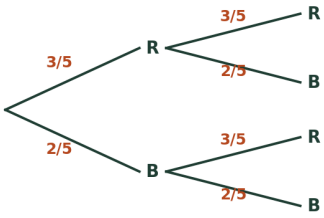
Probability Trees

Grade 5 topic · Foundation and Higher · Edexcel and AQA

How to use this pack
20 questions that get harder as you go. Foundation students: aim for Questions 1–15 (45 marks) and have a go at the rest. Higher students: complete all 20. Show your working on the lines and write your final answer on the answer line, then mark yourself with the answers at the back. Diagrams are not drawn accurately. Total: 70 marks.

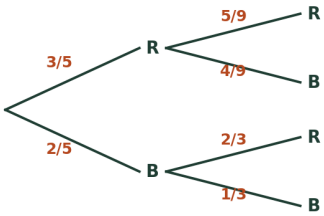
Warm-up

1 A bag has 3 red and 2 blue counters. Two counters are taken at random with replacement. Write down the probability that the first counter is blue. **[2 marks]**



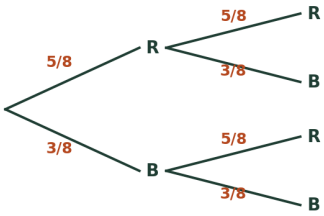
Answer _____

2 A bag has 6 red and 4 blue counters. Two counters are taken at random without replacement. Work out the probability that both counters are red. **[2 marks]**



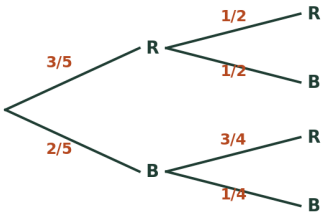
Answer _____

3 A bag has 5 red and 3 blue counters. Two counters are taken at random with replacement. Work out the probability that both counters are blue. **[2 marks]**



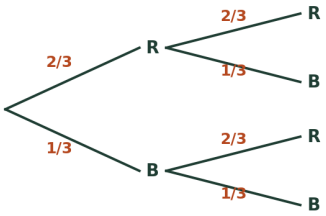
Answer _____

4 A bag has 3 red and 2 blue counters. Two counters are taken at random without replacement. Work out the probability that the two counters are different colours. **[2 marks]**



Answer _____

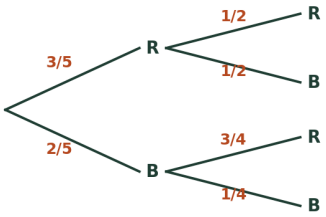
5 A bag has 4 red and 2 blue counters. Two counters are taken at random with replacement. Work out the probability that at least one counter is red. **[2 marks]**



Answer _____

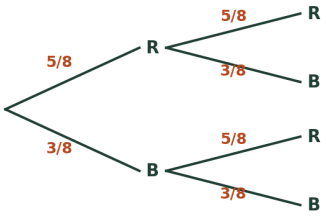
Core

6 A bag has 3 red and 2 blue counters. Two counters are taken at random without replacement. Write down the probability that the first counter is blue. **[3 marks]**



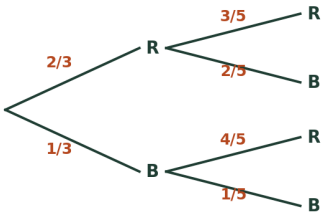
Answer _____

7 A bag has 5 red and 3 blue counters. Two counters are taken at random with replacement. Work out the probability that both counters are red. **[3 marks]**



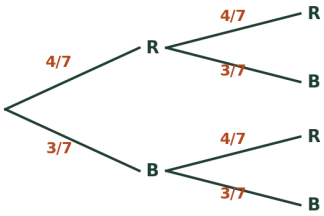
Answer _____

8 A bag has 4 red and 2 blue counters. Two counters are taken at random without replacement. Work out the probability that both counters are blue. **[3 marks]**



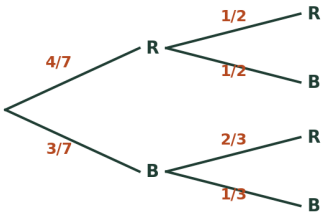
Answer _____

9 A bag has 4 red and 3 blue counters. Two counters are taken at random with replacement. Work out the probability that the two counters are different colours. **[3 marks]**



Answer _____

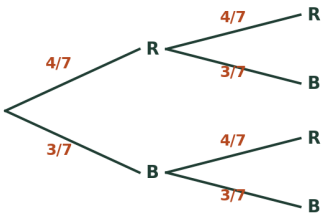
10 A bag has 4 red and 3 blue counters. Two counters are taken at random without replacement. Work out the probability that at least one counter is red. **[3 marks]**



Answer _____

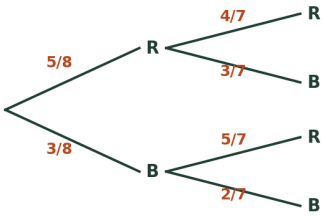
Stretch

11 A bag has 4 red and 3 blue counters. Two counters are taken at random with replacement. Work out the probability that the second counter is red. **[4 marks]**



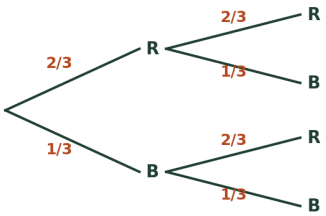
Answer _____

12 A bag has 5 red and 3 blue counters. Two counters are taken at random without replacement. Work out the probability that the first is red given that the second is red. **[4 marks]**



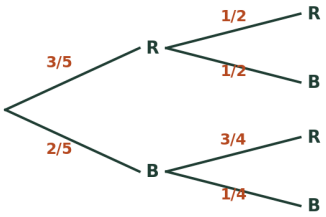
Answer _____

13 A bag has 4 red and 2 blue counters. Two counters are taken at random with replacement. Work out the probability of exactly one blue counter. **[4 marks]**



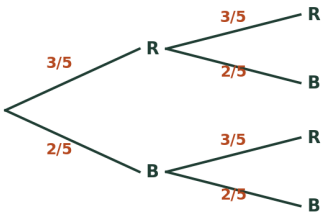
Answer _____

14 A bag has 3 red and 2 blue counters. Two counters are taken at random without replacement. Work out the probability that the second counter is blue. **[4 marks]**



Answer _____

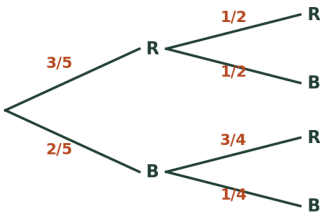
15 A bag has 6 red and 4 blue counters. Two counters are taken at random with replacement. Work out the probability that neither counter is red. **[4 marks]**



Answer _____

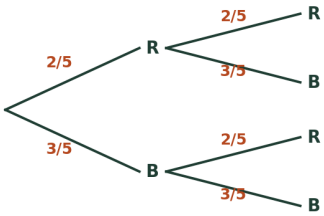
Challenge

16 A bag has 3 red and 2 blue counters. Two counters are taken at random without replacement. Work out the probability that both counters are the same colour. **[5 marks]**



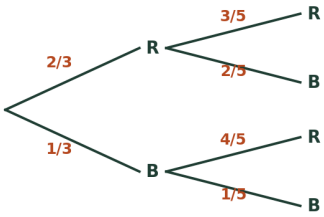
Answer _____

17 A bag has 2 red and 3 blue counters. Two counters are taken at random with replacement. Work out the probability of getting red then blue. **[5 marks]**



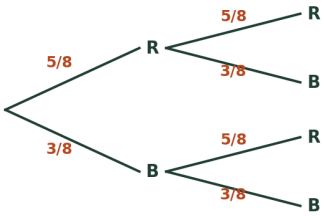
Answer _____

18 A bag has 4 red and 2 blue counters. Two counters are taken at random without replacement. A third counter is then taken (same rules). Explain how the tree would change. **[5 marks]**



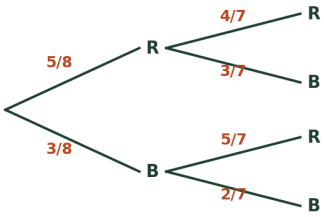
Answer _____

19 A bag has 5 red and 3 blue counters. Two counters are taken at random with replacement. Work out the probability that exactly one counter is red. **[5 marks]**



Answer _____

20 A bag has 5 red and 3 blue counters. Two counters are taken at random without replacement. Work out the probability that the second counter is red given the first was blue. **[5 marks]**



Answer _____