

A-Level Mathematics: 9709 Mathematics November 2025 Question Paper 51

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- (a) Find the probability that a 6 is obtained for the first time on the 8th throw. [1]

[1]

- (b) Find the probability that a 6 is obtained for the third time on the 7th throw. [3]

[3]

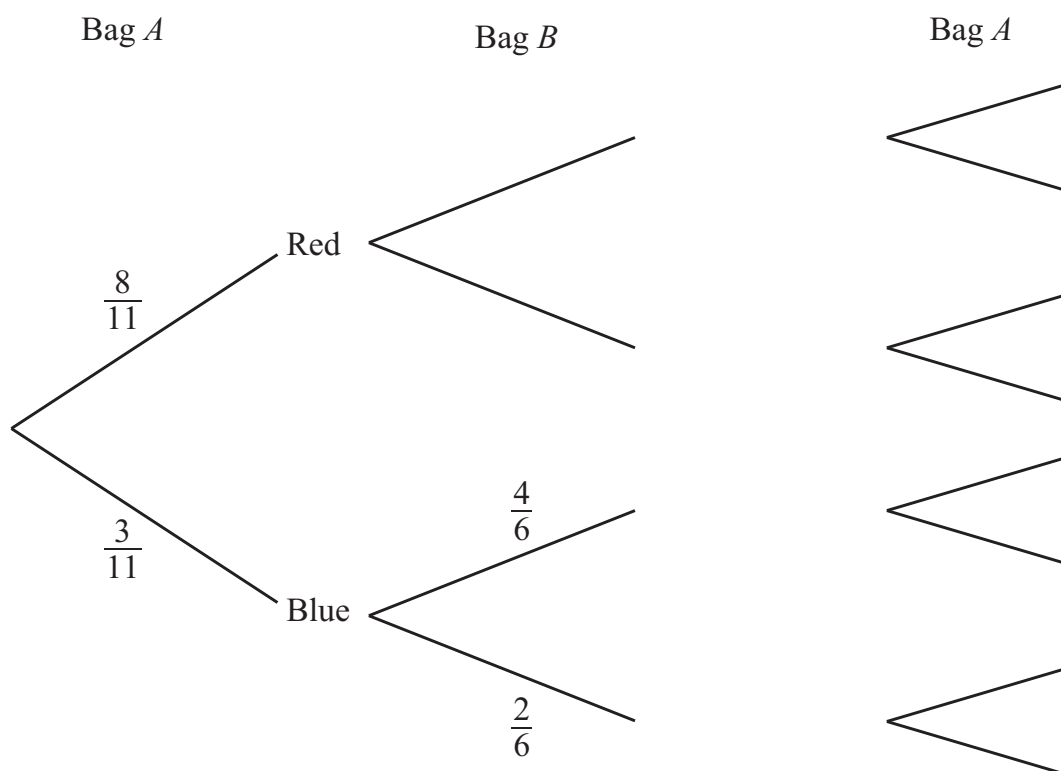
- 4** Bag A contains 8 red marbles and 3 blue marbles. Bag B contains 4 red marbles and 1 blue marble.

A marble is chosen at random from bag A . If the marble chosen is red, it is discarded. If the marble chosen is blue, it is placed in bag B .

A marble is then chosen at random from bag B . If the marble chosen is red, it is discarded. If the marble chosen is blue, it is placed in bag A .

A marble is now chosen at random from bag A .

- (a) Complete the tree diagram below by entering all the remaining outcomes and probabilities. [3]



- (b)** Find the probability that all three marbles chosen are the same colour. [2]

This image shows a blank sheet of white paper with ten horizontal dotted lines, typical of primary-ruled notebook paper. The lines are evenly spaced and extend across the width of the page.

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(b) Find the probability that the two cards have pictures of the same type of vehicle on them. [3]

Handwriting practice lines (dotted lines) for the letter 'A'.