

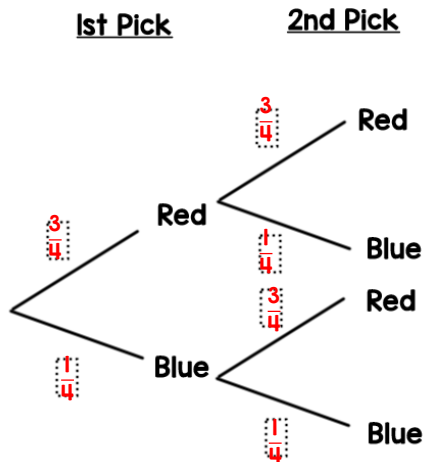
Summer Term Maths Year 10

Complete Tree Diagrams for Independent Events

1 There are 3 red counters and 1 blue counter in a bag.

Tim takes a counter at random, replaces it and takes another.

(a) Complete the probabilities on the tree diagram.



(b) Calculate the probability that Tim takes two counters of the same colour. $P(RR) = \frac{9}{16}$ $P(BB) = \frac{1}{16}$ $\frac{9}{16} + \frac{1}{16} = \frac{10}{16}$

2 The probability that Alex's netball team wins a match is 0.45

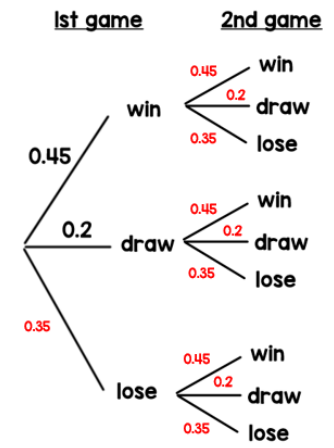
The probability they draw is 0.2

They play their last 2 games

(a) Find the probability that they lose. **0.35**

(b) Complete the tree diagram to represent this information.

(c) The team needs to win at least one game to qualify for the final.



Find the probability that the team qualifies.

$$P(WW) + P(WD) + P(WL) + P(DW) + P(LW) = 0.6975$$

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- 3 The probability of a biased coin landing on heads is 0.36
The coin is flipped twice.

Rosie says "The probability of the coin landing on tails twice is less than 0.5"

Is Rosie correct? Show how you know. $0.64 \times 0.64 = 0.4096$
Yes, Rosie is correct because $0.4096 < 0.5$

- 4 The probability that it rains on Monday is 0.6

The probability that it rains on Tuesday is 0.3

Use a tree diagram to find the probability that it rains on Monday but not Tuesday. $0.6 \times 0.7 = 0.42$

- 5 Mo gets 3 tries at a ring toss game.

The probability that Mo wins is $\frac{1}{4}$

- (a) Complete the tree diagram.



- (b) Find the probability that Mo wins on his 3rd try.

$$\frac{3}{4} \times \frac{3}{4} \times \frac{1}{4} = \frac{9}{64}$$