

Learner workbook: Probability trees and combined events

Objective: Use probability trees and combine event probabilities.

Calculator condition: Non-calculator core; calculator optional only for checking where labelled.

L073 Probability trees and combined events

Collect

Represent

Analyse

Conclude

Is the sample fair?

What does the diagram show?

What conclusion is valid?

Objective: Use probability trees and combine event probabilities.

Connect & Check

- State the objective and timeline. Retrieve cumulative checkpoint 5 and feedback or a prerequisite. Diagnose a common error before modelling.
- Write one starting question you want answered today.

Choose your route

Route A: Visual Use a diagram, graph, table or annotation first.	Route B: Method Use a worked method, formula or calculation chain first.	Route C: Explain Start with words: what is known, what is changing, and why.
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Share

- Pairs compare methods or predict a result for probability trees and combined events. Ask for a reason, not only an answer.

Present

- Label branches, check totals and identify whether to add or multiply

Apply: supported to independent

Recall: Retrieve the key fact or method needed for probability trees and combined events.

Working: _____

Check/explanation: _____

Core practice: Two independent events have probabilities 0.4 and 0.7. Find $P(\text{both})$ and $P(\text{neither})$.

Working: _____

Check/explanation: _____

Reasoning: Toss a biased coin with $P(H)=0.7$ three times. Find $P(\text{exactly two heads})$.

Working: _____

Check/explanation: _____

Exam-style: A probability problem is presented with two stages. Complete the representation, calculate the probability and explain any assumption.

Working: _____

Check/explanation: _____

Recall & Review

- Revisit the objective. Learners solve a fresh item without prompts, explain a check, correct one error and record the next practice.

WWW: _____ EBI: _____

Recall & Review: feedback and extension integration

Lesson L073: Probability trees and combined events

Objective: Use probability trees and combine event probabilities.

Timing for a 60-minute lesson

0-7 Connect & Check; 7-14 Share; 14-25 Present/model; 25-44 Apply route choice/practice; 44-52 independent exam-style check; 52-60 Recall & Review, WWW/EBI and next step.

Recall & Review evidence

At the end of the lesson, solve a fresh question without prompts, explain one check, correct one error and record the next practice step.

What Went Well (WWW)

I represented the outcomes systematically, used the correct probability rule and checked that the probabilities or frequencies were consistent.

Even Better If (EBI)

I will show the sample space, branch or set reasoning explicitly, state any dependence or condition and check totals before giving the final probability.

Integrated stretch and deep challenge

Stretch: Two independent events have probabilities 0.4 and 0.7. Find $P(\text{both})$ and $P(\text{neither})$.

Deep challenge: Toss a biased coin with $P(H)=0.7$ three times. Find $P(\text{exactly two heads})$.

My next-step response
