

Learner workbook: Venn diagrams and set notation

Objective: Interpret Venn diagrams and use set notation in probability.

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

L051 Venn diagrams and set notation

Collect

Represent

Analyse

Conclude

Is the sample fair?

What does the diagram show?

What conclusion is valid?

Objective: Interpret Venn diagrams and use set notation in probability.

Connect & Check

- State the objective and timeline. Retrieve sample spaces and systematic lists 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.
--	--	--

Share

- Pairs compare methods or predict a result for venn diagrams and set notation. Ask for a reason, not only an answer.

Present

- Place overlaps first and account for outcomes outside the sets

Apply: supported to independent

Recall: Retrieve the key fact or method needed for venn diagrams and set notation.

Working: _____

Check/explanation: _____

Core practice: Of 50 learners, 24 study art, 22 music and 8 both. Find how many study exactly one.

Working: _____

Check/explanation: _____

Reasoning: If $P(A)=0.6$, $P(B)=0.5$ and $P(A \cap B)=0.2$, find $P(\text{neither})$.

Working: _____

Check/explanation: _____

Exam-style: Solve an exam-style problem involving venn diagrams and set notation. Show working, include a check and interpret your answer.

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 L051: Venn diagrams and set notation

Objective: Interpret Venn diagrams and use set notation in probability.

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: Of 50 learners, 24 study art, 22 music and 8 both. Find how many study exactly one.

Deep challenge: If $P(A)=0.6$, $P(B)=0.5$ and $P(A \cap B)=0.2$, find $P(\text{neither})$.

My next-step response
