

Learner workbook: Triangle problems and bearings

Objective: Combine triangle methods, scale drawings and bearings appropriately.

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

L071 Triangle problems and bearings

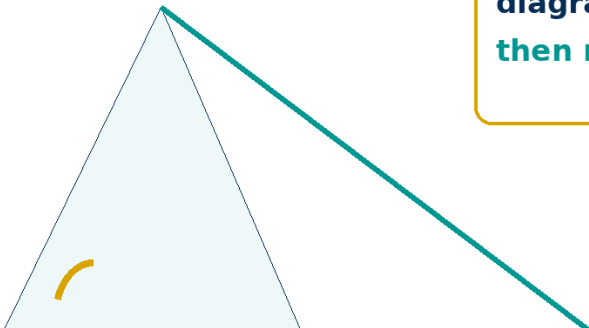


**diagram first
then method**

known length

target / check

Objective: Combine triangle methods, scale drawings and bearings appropriately.

Connect & Check

- State the objective and timeline. Retrieve area and volume scale factors 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 triangle problems and bearings. Ask for a reason, not only an answer.

Present

- Foundation: right triangles and bearings.
- Higher: sine rule, cosine rule and non-right-triangle area

Apply: supported to independent

Recall: Retrieve the key fact or method needed for triangle problems and bearings.

Working: _____

Check/explanation: _____

Core practice: A traveller goes north 12 km and east 5 km. Find distance and bearing from start to nearest degree.

Working: _____

Check/explanation: _____

Reasoning: A bearing from A to B is 315° . State reverse bearing and explain the 180° change.

Working: _____

Check/explanation: _____

Exam-style: Use a labelled diagram to calculate the missing value. State the theorem or formula and include units where needed.

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 L071: Triangle problems and bearings

Objective: Combine triangle methods, scale drawings and bearings appropriately.

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 selected the correct geometric fact, theorem, formula or transformation and used a clear diagram with appropriate labels and units.

Even Better If (EBI)

I will name the fact or theorem, show the substitution or construction step and check whether the size, direction and units of the result are reasonable.

Integrated stretch and deep challenge

Stretch: A traveller goes north 12 km and east 5 km. Find distance and bearing from start to nearest degree.

Deep challenge: A bearing from A to B is 315° . State reverse bearing and explain the 180° change.

My next-step response
