

L083 · GCSE Mathematics 1MA1 · 60 minutes

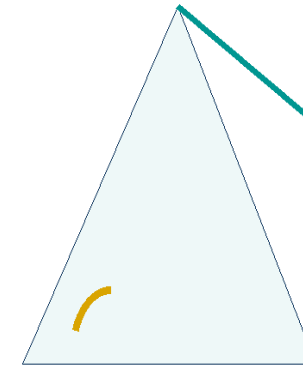
The goal

Reason with vectors at the appropriate tier.

Connect & Check

Complete the starter in your workbook. Retrieve the prior skill, then identify one likely error before you use today's method.

L083 Vector reasoning pathway



known length

diagram first
then method

target / check

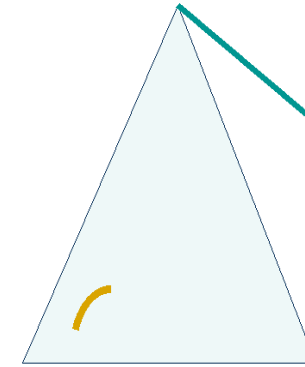
Objective: Reason with vectors at the appropriate tier.

Compare your method with a partner. Agree on one reliable step and one check. Be ready to explain your reasoning, not just your answer.

Build the method

Use the worked model to foundation: translations and vector arithmetic. Higher: geometric vector arguments, parallelism and division of lines. Record the key step and one check that proves the answer.

L083 Vector reasoning pathway



known length

diagram first
then method

target / check

Objective: Reason with vectors at the appropriate tier.

Choose your route

Choose your route: A - visual model, B - method first, or C - explain first.
Whichever route you choose, your final answer must prove the lesson objective.

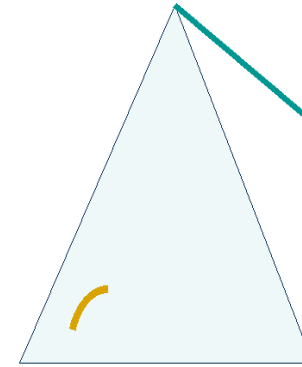
Guided practice

If $a=(4,-1)$ and $b=(-2,5)$, find $3a+2b$.

Apply

L083 Vector reasoning pathway

diagram first
then method



known length

target / check

Objective: Reason with vectors at the appropriate tier.

7/11

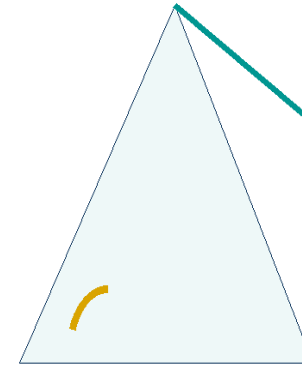
Independent practice

Prove vector $\overrightarrow{AB} + \overrightarrow{BC} = \overrightarrow{AC}$ for $A=(1,1), B=(4,3), C=(7,-2)$.

Apply

L083 Vector reasoning pathway

diagram first
then method



known length

target / check

Objective: Reason with vectors at the appropriate tier.

8/11

Exam-style practice

Solve an exam-style problem involving vector reasoning pathway. Show working, include a check and interpret your answer.

Recall & Review

Complete a fresh question without notes. Check your answer, correct one error if needed, and record the next practice step.

Before next lesson

Correct one error, record one target and complete the flipped learning task.

L083 Recall & Review

Vector reasoning pathway



Fresh evidence: prove the objective

Solve a new question without prompts. Explain one check, then correct one error in your working.

Objective: Reason with vectors at the appropriate tier.

Write the next practice step before you leave. It must test the method again, not simply copy today's example.

Feedback language

Use the full phrases before the abbreviations.

What Went Well (WWW)

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

Identify the mathematical method, representation, reasoning or check that improved.

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.

Set one precise next-step action and test it on a fresh question.

Extension route

Choose this route only after the core evidence is secure.

Stretch

If $a=(4,-1)$ and $b=(-2,5)$, find $3a+2b$.

Deep challenge

Prove vector $AB+BC=AC$ for $A=(1,1), B=(4,3), C=(7,-2)$.

Explain your reasoning clearly enough that another learner could check it.