Use technology to find a supporting example or a counterexample to a proposition.

Key skills | Free preview

Learning target: Use technology to find a supporting example or a counterexample to a proposition.

A counterexample disproves a universal claim by showing one valid case in which it fails. Technology can calculate a candidate quickly, but the chosen inputs must satisfy the claim’s conditions and the comparison must concern the same operation. Equal results in several examples provide evidence for a conjecture, not a proof that it always holds.

Try the mathematics

Task 1. Test the claim “AB=BA for every two square matrices of the same order”. Enter A=[[1,2],[0,1]] and B=[[1,0],[3,1]] in a matrix-capable tool. Calculate both products and check one differing entry by hand.

Continue with the full worksheet

The complete resource has 2 focused task sets and substantive worked solutions. Use an exercise book or print the A4 worksheet. This preview shows the first task without its full solution.

Find this resource: https://resources.aspiretopowerlearning.com.au/vce/skills/aspire-internal-gm-u34-o3-cross-ks-04/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). General Mathematics; Units 3–4; Outcome 3; Key skills; bullet 4; p. 93.

The learning target is a concise paraphrase. Aspire reference: aspire-internal-gm-u34-o3-cross-ks-04. This is an internal identifier, not an official VCAA code.

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