Testing claims

Key knowledge | Free preview

Learning target: Understand how examples, counterexamples and general arguments test mathematical claims.

One valid counterexample can refute a universal claim, but several agreeing examples cannot prove a general statement. Use the context to choose meaningful tests, then distinguish numerical evidence from an algebraic justification. State exactly what is established and which modelling assumptions remain. A claim about the model is not automatically a claim about every real situation.

Try the mathematics

Task 1. A student says a large sample guarantees an unbiased estimate. Give a counterexample in the production context and explain why interval arithmetic cannot repair it.

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-mm-u34-o2-kk-03/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Mathematical Methods; Units 3–4; Outcome 2; Key knowledge; bullet 3; p. 103.

The learning target is a concise paraphrase. Aspire reference: aspire-mm-u34-o2-kk-03. This is an internal identifier, not an official VCAA code.

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