Understand how examples, counterexamples and general cases contribute to analysis

Key knowledge | Free preview

Learning target: Understand how examples, counterexamples and general cases contribute to analysis.

An illustrative club begins with 100 active members. A model retains 80% each week and adds 60 new members after retention. Treat outputs as expected counts. The supplied observations are invented for this activity, allowing a transparent comparison between mathematical predictions, assumptions and reported conclusions.

Try the mathematics

Task 1. A student says “every sequence with $u_{n+1}=0.8u_n+60$ increases”. Test $u_0=100,300,400$. Give a counterexample and replace the claim with a correct general statement.

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/sm-u1-o2-kk-04/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Specialist Mathematics; Unit 1; Outcome 2; Key knowledge; bullet 4; p. 62.

The learning target is a concise paraphrase. Aspire reference: sm-u1-o2-kk-04. This is an internal identifier, not an official VCAA code.

Free preview: share intact with attribution, without charging. Full resource rights are not included.

Original independent practice. Not published or endorsed by VCAA. The activity is not an official SAC, examination or complete treatment of every clause of a broad curriculum requirement.