Establish mathematical results with rigorous proofs in varied contexts

Key skills | Free preview

Learning target: Establish mathematical results with rigorous proofs in varied contexts.

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. Prove $u_n=300-200(0.8)^n$ by induction. Deduce that this model increases and remains below 300 for every $n\geq 0$.

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-ks-04/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Specialist Mathematics; Unit 1; Outcome 2; Key skills; bullet 4; p. 63.

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

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