Use technology to find examples or counterexamples for a proposition

Key skills | Free preview

Learning target: Use technology to find examples or counterexamples for a proposition.

Use a calculator table, spreadsheet or short program to examine $u_0=100$, $u_{n+1}=0.8u_n+60$. Keep a record of inputs, iteration order and displayed precision. The closed form $300-200(0.8)^n$ gives an independent benchmark. Expected outputs below are mathematical checks for your run, not a claim that software has already run.

Try the mathematics

Task 1. Use the same loop with starting values 100,300,400 for one update. Test the proposition “the sequence always increases”. Record the outputs and interpret the evidence.

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-o3-ks-03/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Specialist Mathematics; Unit 1; Outcome 3; Key skills; bullet 3; p. 63.

The learning target is a concise paraphrase. Aspire reference: sm-u1-o3-ks-03. This is an internal identifier, not an official VCAA code.

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