Recognise differences between formal expressions and technological notation

Key knowledge | Free preview

Learning target: Recognise differences between formal expressions and technological notation.

Investigate $P' = 0.2P(1-P/1000)$, $P(0)=100$, with the exact benchmark $P(t)=1000/[1+9e^{(-0.2t)}]$. A numerical table, symbolic derivative and graph answer different questions. Keep step size, initial values and domain constraints visible. The listed checkpoints support verification of your implementation and are not a claim about an unseen software run.

Try the mathematics

Task 1. Translate the exact formula and Euler update into unambiguous technology notation. Explain why exp(-0.2*t), brackets around the denominator and an old/new state are important.

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-u34-o3-kk-06/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Specialist Mathematics; Units 3–4; Outcome 3; Key knowledge; bullet 6; p. 116.

The learning target is a concise paraphrase. Aspire reference: sm-u34-o3-kk-06. 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.