Specific and general formulations

Key knowledge | Free preview

Learning target: Understand how particular cases and general mathematical formulations produce results for an investigation.

A particular example can suggest a pattern, while a general formulation shows which features depend on parameters. Keep the contextual conditions visible when moving to symbols. Derive results from the formula, then check a concrete case. The algebra describes the model exactly; whether it adequately represents the situation must be considered separately.

Try the mathematics

Task 1. A cooling record gives temperatures 80,50,35,27.5 °C at times 0,4,8,12 minutes. The room stays at 20 °C. Investigate a shifted exponential model; later, a new reading at 6 minutes is 42 °C. Derive a model, state a suitable domain and predict the time when T=30 °C.

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-u2-o2-kk-02/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Mathematical Methods; Unit 2; Outcome 2; Key knowledge; bullet 2; p. 55.

The learning target is a concise paraphrase. Aspire reference: aspire-mm-u2-o2-kk-02. This is an internal identifier, not an official VCAA code.

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