Connecting numerical, graphical and symbolic information

Key knowledge | Free preview

Learning target: Understand correspondences among a function's numerical, graphical and symbolic representations.

Symbolic rules, numerical tables and graphs describe the same mathematical object in different ways. Use their strengths together: an exact expression supports algebraic reasoning, a table supplies numerical checks and a graph displays behaviour. If they disagree, investigate the inputs, domain restrictions and precision rather than assuming that the technology has resolved the issue automatically.

Try the mathematics

Task 1. Use a table at x=0,0.5,1,1.5,2, a graph and the symbolic derivative of $f(x)=x\,e^{(-x)}$ to explain the same maximum.

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-u34-o3-kk-05/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Mathematical Methods; Units 3–4; Outcome 3; Key knowledge; bullet 5; p. 104.

The learning target is a concise paraphrase. Aspire reference: aspire-mm-u34-o3-kk-05. This is an internal identifier, not an official VCAA code.

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