Exact and approximate calculus output

Key knowledge | Free preview

Learning target: Distinguish exact and approximate technological representations of data, graphs and equation solutions.

Technology can present the same result in exact symbolic form or as a rounded decimal. These are different forms of information, not competing answers. Record the precision of a numerical output and keep extra working digits until the end. A residual check helps verify a solution, while contextual units determine how it should be reported.

Try the mathematics

Task 1. Use symbolic and numerical technology for the maximum value of $f(x)=x\,e^{(-x)}$, $x\geq 0$. Record exact location, exact value and a decimal value, and distinguish these quantities.

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-02/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Mathematical Methods; Units 3–4; Outcome 3; Key knowledge; bullet 2; p. 104.

The learning target is a concise paraphrase. Aspire reference: aspire-mm-u34-o3-kk-02. This is an internal identifier, not an official VCAA code.

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