Formal notation and CAS expressions

Key knowledge | Free preview

Learning target: Understand how technology syntax and displays can differ from formal mathematical notation.

Technology syntax must express the intended mathematics unambiguously. Parentheses, multiplication symbols and angle settings can change the meaning of an entry. A simplified symbolic output may also omit restrictions inherited from the original expression. Compare formal notation with the entered form, test a value, and retain the domain information needed for a valid equivalence.

Try the mathematics

Task 1. Enter x*exp(-x) into a symbolic tool, differentiate it, and compare the output exp(-x)-x exp(-x) with $e^{(-x)}(1-x)$. Explain the role of explicit multiplication and brackets.

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-06/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Mathematical Methods; Units 3–4; Outcome 3; Key knowledge; bullet 6; p. 104.

The learning target is a concise paraphrase. Aspire reference: aspire-mm-u34-o3-kk-06. This is an internal identifier, not an official VCAA code.

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