Parameters in a function family

Key knowledge | Free preview

Learning target: Understand how parameters describe general function and equation families.

A parameter specifies one member of a family while the variable moves along that member's graph. Generate several graphs or tables systematically, changing one parameter at a time. Use the collection to form a conjecture and then check it algebraically. A finite display can reveal a useful pattern without establishing a universal mathematical claim.

Try the mathematics

Task 1. Plot $f_a(x)=x\,e^{(-ax)}$, $x\geq 0$, for $a=0.5,1,2$. Use symbolic differentiation to predict each peak before reading the graphs.

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-04/

Study-design reference

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

The learning target is a concise paraphrase. Aspire reference: aspire-mm-u34-o3-kk-04. This is an internal identifier, not an official VCAA code.

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