A parameter changes a family of graphs

Key knowledge | Free preview

Learning target: Recognise the features of individual functions and relations and parameterised families of their graphs.

A parameter is held fixed while the variable runs through a graph, then changed to generate another member of the family. Rewriting a rule can reveal how its features depend on that parameter. Compare particular graphs with the general result, and distinguish a pattern suggested by examples from a statement established algebraically.

Try the mathematics

Task 1. For $f_k(x)=x^2-2kx+1$, complete the square. Give the vertex and range in terms of k, then sketch the members k=-2,0,2.

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-o1-kk-01/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Mathematical Methods; Units 3–4; Outcome 1; Key knowledge; bullet 1; p. 101.

The learning target is a concise paraphrase. Aspire reference: aspire-mm-u34-o1-kk-01. This is an internal identifier, not an official VCAA code.

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