# A parameter table and graph family

## Key skills | Free preview

Learning target: Generate tables, graph families or other collections of results to analyse a problem generally.

A collection of related results can reveal structure that a single calculation hides. Generate a table or family of graphs with a controlled parameter change, label each member and compare corresponding features. Formulate the pattern precisely and check it symbolically when possible. Keep the difference between a conjecture and a demonstrated general result explicit.

## Try the mathematics

Task 1. Generate a parameter table for a=0.5,1,2 listing the stationary x-value and maximum of $x\,e^{(-ax)}$. State a conjecture connecting both columns to a, then verify it symbolically.

## 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-ks-05/

## Study-design reference

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

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

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