# Power graphs, landmarks and asymptotes

## Key skills | Free preview

Learning target: Sketch $x^n$ for n=-2,-1,1/3,1/2,1,2,3,4 and simple transformations by hand, identifying vertical and horizontal asymptotes.

A sketch should show behaviour, not just a list of features. Start with a parent power graph, then move its important points and asymptotes. An asymptote describes limiting behaviour and is drawn separately from the curve. Check the domain before applying a square root or a negative power.

## Try the mathematics

Task 1. Sketch $y=1/(x-2)^2-1$. Mark both intercepts, both asymptotes and the range. Explain the symmetry and the behaviour on each side of x=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-u1-o1-ks-11/

## Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Mathematical Methods; Unit 1; Outcome 1; Key skills; bullet 11; p. 47.

The learning target is a concise paraphrase. Aspire reference: aspire-mm-u1-o1-ks-11. This is an internal identifier, not an official VCAA code.

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