Understand sets and regions in the complex plane

Key knowledge | Free preview

Learning target: Understand sets and regions in the complex plane.

Treat z=x+iy as a point when interpreting a complex relation. Modulus gives distance, and argument describes direction from the origin or from a translated centre. Distinguish a boundary from an entire region and state whether boundaries are included. Combining conditions usually means intersecting the corresponding sets.

Try the mathematics

Task 1. Describe and sketch $|z-(1+2i)|\leq 3$ together with $\mathrm{Re}(z)\geq 1$. Give Cartesian inequalities and say which boundaries are included.

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/sm-u2-o1-kk-15/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Specialist Mathematics; Unit 2; Outcome 1; Key knowledge; bullet 15; p. 69.

The learning target is a concise paraphrase. Aspire reference: sm-u2-o1-kk-15. This is an internal identifier, not an official VCAA code.

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