Know translations, dilations, rotations, reflections, invariants, inverses and composition

Key knowledge | Free preview

Learning target: Know translations, dilations, rotations, reflections, invariants, inverses and composition.

An invariant point maps to itself, so solve T(x,y)=(x,y) rather than judging a sketch. Preserved lengths, angles or areas are properties of an entire transformation and need not imply every point is fixed. The determinant measures signed area scaling for a linear plane map.

Try the mathematics

Task 1. Find all invariant points of reflection S(x,y)=(y,x) and of the dilation D(x,y)=(2x,2y). State which lengths, angles and areas these transformations preserve.

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-08/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Specialist Mathematics; Unit 2; Outcome 1; Key knowledge; bullet 8; p. 69.

The learning target is a concise paraphrase. Aspire reference: sm-u2-o1-kk-08. This is an internal identifier, not an official VCAA code.

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