

Perimeter and compound area

Pearson Edexcel GCSE Mathematics 1MA1 • L033

Foundation and Higher • Lesson resources

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Purpose

Calculate perimeters and areas of compound rectilinear shapes, triangles, parallelograms and trapezia with correct units.

Vocabulary

Perimeter: total boundary length. Area: surface coverage. Perpendicular height: shortest distance between parallel bases. Compound shape: shape assembled from familiar parts.

Why the method works

A rectangle contains length $\times$ width unit squares. A triangle is half a parallelogram, so area=base $\times$ perpendicular height $\div 2$. Shearing a parallelogram preserves area. Two matching trapezia make a parallelogram, giving area=(a+b)h $\div 2$ for parallel sides a,b. Split compound shapes without overlap; internal cut lines do not count in the perimeter.

Method and checking

Label missing lengths. Trace the outer boundary for perimeter. For area, choose non-overlapping pieces or subtract a cut-out. State square units. Estimate and use a second partition to check.

Common errors and next attempt

If sloping side is used as height, mark a right angle to the base. If internal cuts enter perimeter, trace with a finger. If cm² converts like cm, draw a 1 cm square as 10 $\times$ 10 mm. Recheck 8 $\times$ 5 rectangle minus 3 $\times$ 2 corner.