

Splitting Compound Shapes

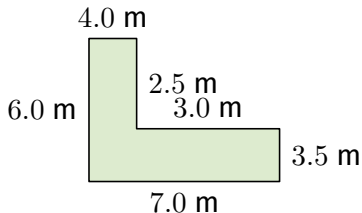


Key idea



A compound shape is built from simpler shapes glued together. Split it along the dashed line into shapes you already know, find each area, then **add** them.

An L-shaped deck



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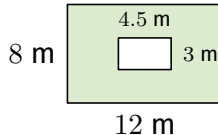
Adding vs Subtracting



Key idea

Two shapes **glued together** (a deck, a roof, a garden bed) → **add** the pieces.
An **excluded region** (a hole, a void, a garden bed cut out of a lawn) → **subtract** it from the outer shape.

A lawn with an excluded garden bed



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Perimeter of a Compound Shape

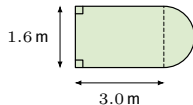


Key idea



Only the **true outer boundary** counts. The dashed internal line where two shapes are glued together is never part of the perimeter. A curved edge adds an **arc length**, not a straight measurement.

A running-track garden bed



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Rounding Rules Still Apply



Key idea

Once you have the compound shape's total area, the same LO1 rules apply: round a whole-item purchase UP, and give money to the nearest **cent**.

Common mistake

Forgetting to add the component areas together *before* dividing by the coverage rate – work out the total area first.

Shed wall: square plus gable

Square $2 \times 2 = 4 \text{ m}^2$. Gable $\frac{1}{2} \times 2 \times 0.6 = 0.6 \text{ m}^2$. Total $= 4.6 \text{ m}^2$. Tins ($4 \text{ m}^2/\text{tin}$): $4.6 \div 4 = 1.15$, round UP $= 2$ tins. Cost $= 2 \times \$32 = \64.00 .

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Comparing Options and Justifying a Decision



Justifying a choice



Wall area 7.05 m^2 . Supplier P: $7.05 \times \$70 = \493.50 , under \$500 so \$45 delivery applies = \$538.50. Supplier Q: $7.05 \times \$75 = \528.75 , no delivery. **Choose Q:** \$9.75 cheaper, even with a higher rate per m^2 .

Common mistake

Picking the option with the lower price per m^2 or per metre without checking fees or a delivery threshold – always compare the **total** cost.



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