Guide to:
Area of a trapezium

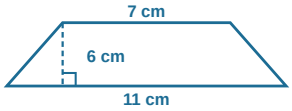
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Explanation:

A **trapezium** is a quadrilateral with **one pair of parallel sides** (labelled ***a*** and ***b***). Its area is given by the formula: **Area =** $\frac{a+b}{2}$ **×** ***h*** (half the sum of the parallel sides, multiplied by the perpendicular height ***h*** between them).

Always add the two parallel sides **(*a* + *b*) first** before dividing by 2 and multiplying by *h*. Never use a sloping side as the height *h*!

Example 1: Calculate the area of the trapezium below.



Area = $\frac{7+11}{2}$ × 6 = 9 × 6 = **54 cm²**

Answer: 54 cm²

Example 2: A trapezium has an area of **60 cm²**, parallel sides of **9 cm** and **15 cm**, and perpendicular height ***h*** **cm**. Find *h*.

Solution:

Substitute into Area = $\frac{a+b}{2}$ × *h*:

$\frac{9+15}{2}$ × *h* = 60 → **12*h* = 60**

Divide by 12: *h* = 60 ÷ 12 = 5

Answer: *h* = 5 cm

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