


Key Vocabulary

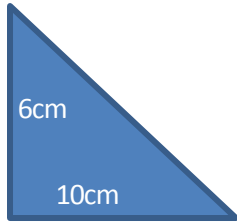
Perimeter	The total of the lengths around the outside of a shape.
Area	The "space inside" a 2-dimensional shape. Measured in square units, e.g. cm ² .
Volume	The "space inside" a 3-dimensional shape. Measured in cube units, e.g. cm ³ .
Capacity	A measure of the amount of liquid a 3-dimensional shape can hold. Measured in units such as litres.
Surface Area	The total of the areas of all the surfaces of a 3-dimensional shape.
Polygon	A shape made with only straight sides.
Quadrilateral	A four sided polygon. Square, Rectangle, Parallelogram, Rhombus, Trapezium, Kite, Delta (Arrowhead).
Dimension	A measure taken off a shape, usually length, width (breadth), height (depth), base, diagonal.
Cube	A 3-dimensional shape that has 6 face. All faces are squares.
Cuboid	A 3-dimensional shape that has 6 face. All faces are squares.
Compound Shape	A shape made up of rectangles, triangles, etc joined together.

Key facts / Diagrams



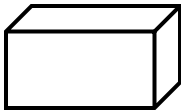
The Area of a rectangle is length x width.
 $Area = 8 \times 5 = 40 \text{ cm}^2$.

Perimeter = $8\text{cm} + 5\text{cm} + 8\text{cm} + 5\text{cm} = 26\text{cm}$.

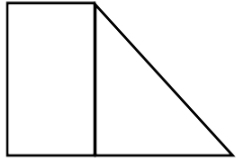


Area of a triangle = base x height $\div 2$

$= 10 \times 6 \div 2$
 $= 60 \div 2$
 $= 30\text{cm}^2$



Volume = $l \times w \times h$



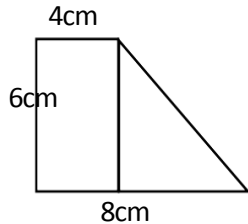
This is a compound shape made out of a rectangle and a triangle. Split it in to two pieces, work out each area separately and add the areas together.

Common misconceptions


- Sometimes "extra" information is given, e.g. a sloping length in a triangle. You must identify the information that is needed and ignore extra information.
- Don't just try to find the area or volume by multiplying every length given.
- You must remember formulas correctly, e.g. area of a rectangle = length x width. There is no $\div 2$, which IS needed for a triangle.

Worked examples

Compound Shape



Rectangle = $4 \times 6 = 24\text{cm}^2$
 The base of the triangle is $8 - 4 = 4\text{cm}$.
 The height of the triangle = 6cm .
 Area of triangle = $4 \times 6 \div 2 = 24 \div 2 = 12 \text{ cm}^2$.
 Total area = $24 + 12 = 36\text{cm}^2$



A cuboid with sides 5cm, 3cm and 3cm.
 Volume = $l \times w \times h$
 $= 5 \times 3 \times 3 = 45\text{cm}^3$