

SHAPE, SPACE AND MEASURES

Pupils should be taught to:

Deduce and use formulae to calculate lengths, perimeters, areas and volumes in 2-D and 3-D shapes

As outcomes, Year 7 pupils should, for example:

Use, read and write, spelling correctly: area, surface, surface area, perimeter, distance, edge... and use the units: square centimetre (cm^2), square metre (m^2), square millimetre (mm^2)...

Deduce and use formulae for the perimeter and area of a rectangle.

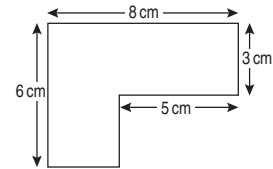
Derive and use a formula for the area of a right-angled triangle, thinking of it as half a rectangle:

$$\text{area} = \frac{1}{2} \times \text{base length} \times \text{height}$$

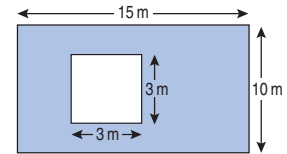
$$\text{area} = \frac{1}{2}bh$$

Calculate the perimeter and area of shapes made from rectangles. For example:

- Find the area of this shape.



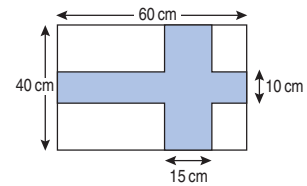
- Find the shaded area.



- Find the area and outside perimeter of a path 1 metre wide bordering a 5 metre square lawn.

- Here is a flag.

Calculate the area of the shaded cross.



- Find the area of this quadrilateral:
 - by completing the 3 by 3 square and subtracting the pieces outside the quadrilateral;
 - by dissecting the inside of the quadrilateral into rectangles and/or right-angled triangles.

