Area of Trapeziums and Circles

Key Vocabulary

Perpendicular Height— Per/pen/dic/u/lar H/eigh/t—The height of a shape at right angle to the base

Compound Shapes— Com/pou/nd Sh/apes—A shape made up of two or more shapes

Radius—Ra/di/us—From the centre of a circle to the edge

Diameter—Di/am/et/er—The distance from one side of a circle to another that passes through the centre

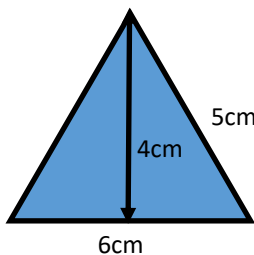Trapezium— Tr/ap/ez/ium—A quadrilateral with only one pair of parallel sides

Perimeter— Per/im/et/er—The distance around a shape. Adding every side together.
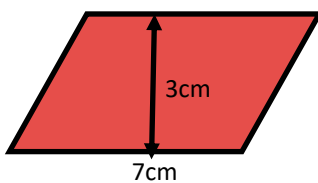
Area of rectangles, triangles and Parallelograms

Base x Height

3cm

6cm

$6 \times 3 = 18cm^2$

Base x Perpendicular Height

5cm

4cm

6cm
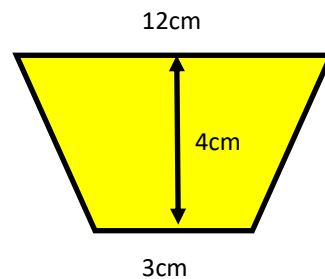
$$\frac{6 \times 4}{2} = 12cm^2$$

5cm is the slanted height, not the perpendicular height.

Base x Perpendicular Height

3cm

7cm

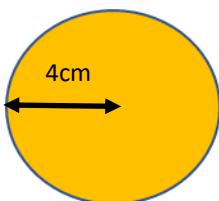$3 \times 7 = 21cm^2$

Area of a trapezium

12cm

4cm

3cm

$$\frac{(a + b) \times perpendicular height}{2}$$

a and b are the parallel sides

$$\frac{(12 + 3) \times 4}{2}$$
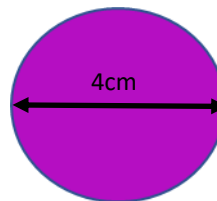
$$\frac{15 \times 4}{2} = \frac{60}{2} = 30cm^2$$

Area of a circle

$\pi \times radius^2$

4cm

$\pi \times 4^2$

$\pi \times 16 = 50.3cm^2$ (1 d.p)

4cm

Here, we have the diameter and so we have to halve it first.

$\pi \times 2^2$

$\pi \times 4 = 12.6cm^2$ (1d.p)