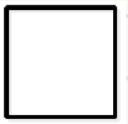
GEOMETRY - FORMULAS

Perimeter

Square

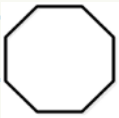


$P = l + l + l + l = 4l$

Rectangle

$P = l + b + l + b = 2l + 2b$

Regular polygons



Number of sides x length

Irregular shapes

Add lengths of all sides together

Area

Square

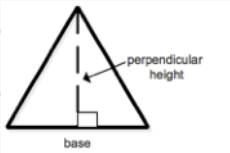
$A = l \times l = l^2$

Rectangle

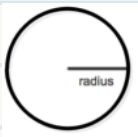
$A = l \times b$

Triangle

$A = \frac{1}{2} base \times \perp height$



Circle



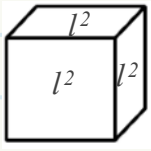
$A = \pi r^2$

$\pi = \frac{22}{7}$

Total Surface Area

Cube

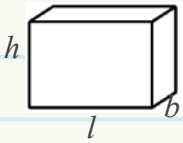
Area of 6 squares



TSA = $6 \times l^2 or 6l^2$

Rectangular prism

Area of 2 squares + 4 rectangles



$TSA = 2(l \times b) + 2(l \times h) + 2(h \times b)$

GEOMETRY - FORMULAS

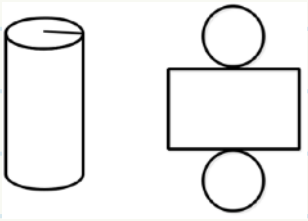
Total Surface Area

Cylinder

$TSA = 2(\pi r^2) + (2\pi r \times h)$

Area of 2 circles + Area of 1 rectangle

length of rectangle = circumference of circle = $2\pi r$



Any other 3-D shape, example:

Calculate area of each face and add together

Triangular prism

Area of 2 triangles + Area of 3 rectangles

Volume

Cube

$V = l \times l \times l = l^3$

Prism

$V = l \times b \times h$

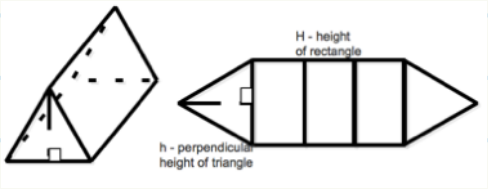
length x breadth x height

Triangular prism

$V = (\frac{1}{2}b \times h) \times H$

Area of base (triangle) x height of prism

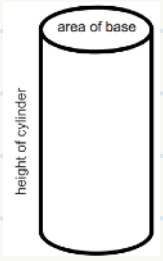
$V = (\frac{1}{2}b$ x height of triangle) x height of prism



Cylinder

$V = \pi r^2 \times h$

Area of base (circle) x height of cylinder



Measurement Conversions:

1m = 100 cm

1cm = 10mm

$1m^2 = 1 \times 100^2 cm^2 = 10\,000 cm^2$

$1cm^2 = 1 \times 10^2 mm^2 = 100 mm^2$

$1m^3 = 1 \times 100^3 cm^3 = 1\,000\,000\ cm^3$

$1cm^3 = 1 \times 10^3 mm^3 = 1\,000 mm^3$

Volume: $1cm^3$ = 1ml - always first convert to cm^3 and answer in litre or kilolitre