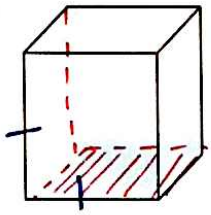
base & sides meet at 90°

Surface Area & Volume of Right Prisms

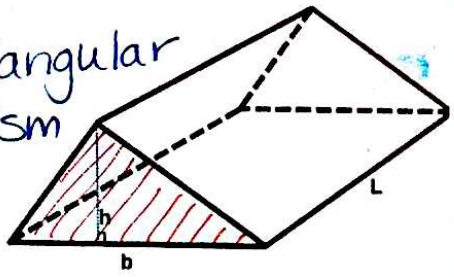
↘ sides are rectangles

Cube

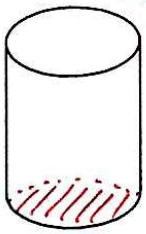


Rectangular Prism

Triangular Prism



Cylinder



Ex. 

Volume?
h = 15.4cm
d = 10.2cm ↘ r = 5.1cm

circle
V = (area of base) · H
$V = \pi r^2 \cdot H$
$V = \pi (5.1)^2 \cdot 15.4$
$V = 400.554\pi \text{ cm}^3$
or $\doteq 1258.378 \text{ cm}^3$

$1 \text{cm}^3 = 1 \text{mL}$
$1000 \text{mL} = 1 \text{L}$
1 US gallon = 3.7854 L
1 UK gallon = 4.5461 L

Ex. 

$V = 123.7 \text{cm}^3$
b = 3.7cm
h = 3.2cm
length = ?

triangle
V = (area of base) · height
$V = \frac{b \cdot h}{2} \cdot H$

$123.7 = \frac{(3.7)(3.2)}{2} \cdot H$

$\frac{123.7}{5.92} = \frac{5.92H}{5.92}$

$20.90 \text{cm} \doteq H$