Unit 1: Measurement
Conversions and Formulae You Need to Know

Imperial System
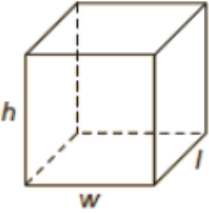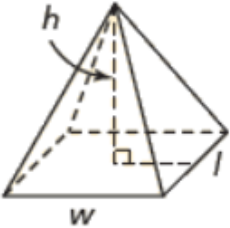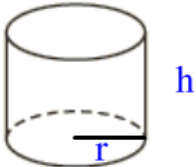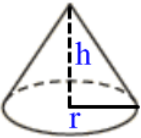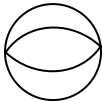
The inch is the smallest unit.
1 ft. = 12 in.
1 yd. = 3 ft.
1 yd. = 36 in.
1 mi. = 1760 yd.
1 mi. = 5280 ft.

Metric System

The mm (millimetre) is the smallest unit.
1 cm = 10 mm
1 m = 100 cm
1 m = 1000 mm
1 km = 1000 m

SI Unit to Imperial Unit	Imperial Unit to SI Unit
$1 \text{ mm} \doteq 0.04 \text{ in. } (4/100)$	$1 \text{ in.} = 2.54 \text{ cm}$ $1 \text{ in.} \doteq 2.5 \text{ cm}$
$1 \text{ cm} \doteq 0.4 \text{ in. } (4/10)$	$1 \text{ ft.} \doteq 30 \text{ cm}$ $1 \text{ ft.} \doteq 0.3 \text{m}$
$1 \text{ m} \doteq 39 \text{ in.}$ $1 \text{ m} = 3\text{ft. } 3\text{in.}$ $1 \text{ m} = 3.25 \text{ ft.}$	$1 \text{ yd.} \doteq 90 \text{ cm}$ $1 \text{ yd.} \doteq 0.9 \text{ m}$
$1\text{km} \doteq 0.6 \text{ mi. } (6/10)$	$1 \text{ mi.} \doteq 1.6 \text{ km}$

Surface Area

Object	Surface Area	Lateral Area
Right Rectangular Prism	$SA = 2lw + 2lh + 2wh$	LA = Area of 4 faces without the top or bottom
Right Pyramid	SA = 4 triangular faces + base	4 triangular faces $$LA = 4\left(\frac{bs}{2}\right)$$ where "s" is the slant height.
Right Cylinder	$SA = 2\pi rh + 2\pi r^2$	$A_L = 2\pi rh$
Right Cone	$SA = \pi rs + \pi r^2$	$A_L = \pi rs$
Sphere	$SA = 4\pi r^2$	NA

Volume

Object	Volume = Area of the base x height	Related Object
Prism	$V = lwh$	Pyramid $V = \dfrac{1}{3}$ volume of a prism $V = \dfrac{1}{3} lwh$
Cylinder	$V = \pi r^2 h$	Cone $V = \dfrac{1}{3}$ volume of a cylinder $V = \dfrac{1}{3}\pi r^2 h$
Sphere	$$V = \dfrac{4}{3}\pi r^3$$	Cylinder $V = \dfrac{2}{3}$ volume of a cylinder