

Unit 1 Measurement—Formulas I need to know for Unit 1

Please attend class to see which ones are given on the exam.

Imperial System

in. Smallest unit	
1 ft. = 12 in.	
1 yd. = 3 ft. = 36 in.	
1 mi. = 1760 yd. = 5280 ft.	

Metric System

mm smallest unit	
1 cm = 10 mm	
1 m = 100 cm = 1000 mm	
1 km = 1000 m	

SI Unit to Imperial Unit	Imperial Unit
1 mm ÷ .04 in. (4/100)	1 in. = 2.5 cm
1 cm ÷ .4 in. (4/10)	1 ft. = 30 cm = .3m
1 m ÷ 39 in. = 3ft. 3in. = $3\frac{1}{4}$ ft.	1 yd. = 90 cm = .9 m
1km = .6 mi. (6/10)	1 mi. = 1.6 km

Surface Area and Volume

Object	Surface Area	Lateral Area
Right Pyramid	4 faces + base	4 faces $LA = \left(\frac{1}{2} s\right)(4l)$ (Square based or regular polygon base only!) where s = slant height 4l = perimeter of base
Right Circular Cone (Cone)	curved surface + base $SA = \pi r s + \pi r^2$	$LA = \pi r s$
Cylinder	$SA = 2\pi r h + 2\pi r^2$	$LA = 2\pi r h$
Rectangular Prism	$SA = 2LH + 2WH + 2LW$	SA = all faces without top and bottom

Prism	Volume (area of base x height)	Related Object
Right Rectangular Prism (Box)	$V = lwh$	Volume of Pyramid $V = \frac{1}{3} lwh$
Right Cylinder	$V = \pi r^2 h$	Volume of Cone $V = \frac{1}{3} \pi r^2 h$
Sphere	$V = \frac{4}{3} \pi r^3$ $SA = 4\pi r^2$	nil