



$$SA = 2\Delta + \square + \square + \square + \square$$

$$SA = 2\left(\frac{a+b}{2}\right)h + al + bl + s_1l + s_2l$$

-OR-

$$SA = (a+b)l + al + bl + s_1l + s_2l$$

$$V = \left(\frac{a+b}{2}\right) \cdot h \cdot l$$

Geometric Figure	Surface Area	Volume
Cylinder 	$SA = 2\pi r^2 + \square$ $SA = 2\pi r^2 + \pi Dh$ -OR- $SA = 2\pi r^2 + 2\pi r \cdot h$	$V = \pi r^2 h$
Rectangular Prism Pyramid 	$SA = \square + 2\Delta + 2\Delta$ $SA = b_1 \times b_2 + 2\left(\frac{b_1 s_1}{2}\right) + 2\left(\frac{b_2 s_2}{2}\right)$ -OR- $SA = b_1 b_2 + b_1 s_1 + b_2 s_2$	$V = \frac{b_1 b_2 h}{3}$
Cone 	$SA = \pi r^2 + \Delta$ $SA = \pi r^2 + \pi r s$	$V = \frac{\pi r^2 h}{3}$
Square-based pyramid 	$SA = \square + 4\Delta$ $SA = b^2 + 4\left(\frac{bs}{2}\right)$ -OR- $SA = b^2 + 2bs$	$V = \frac{b^2 h}{3}$
Rectangular prism 	$SA = 2\square + 2\square + 2\square$ $SA = 2hw + 2lh + 2lw$	$V = lwh$
Triangular prism 	$SA = 2\Delta + \square + \square + \square$ $SA = 2\frac{bh}{2} + al + bl + cl$ -OR- $SA = bh + al + bl + cl$	$V = \frac{bhl}{2}$

APPRENTICESHIP AND WORKPLACE MATHEMATICS 10

DATA PAGES

UNIT CONVERSION

	Common Imperial	Imperial and SI	SI
Length	1 mile = 1760 yards 1 mile = 5280 feet 1 yard = 3 feet 1 yard = 36 inches 1 foot = 12 inches	1 mile \approx 1.609 km 1 yard = 0.9144 m 1 foot = 30.48 cm 1 inch = 2.54 cm <i>1 foot = 30.48 cm</i>	1 km = 1000 m 1 m = 100 cm 1 cm = 10 mm
Mass (Weight)	1 ton = 2000 pounds 1 pound = 16 ounces	2.2 pounds \approx 1 kg 1 pound \approx 454 g 1 ounce \approx 28.35 g	1 t = 1000 kg 1 kg = 1000 g
Volume	1 gallon = 4 quarts 1 gallon (UK) \approx $\frac{6}{5}$ gallons (US) 32 fluid ounces = 1 quart	1.06 quarts (US) \approx 1 L 0.26 gallons (US) \approx 1 L 3.52 fluid ounces (UK) \approx 100 mL 3.38 fluid ounces (US) \approx 100 mL	
Common Abbreviations	mile = mi yard = yd feet = ' or ft inch = " or in ton = tn pound = lb ounce = oz fluid ounce = fl oz		kilometre = km metre = m centimetre = cm millimetre = mm tonne (metric ton) = t gram = g litre = L millilitre = mL

Temperature
$C = \frac{5}{9}(F - 32)$
$F = \frac{9}{5}C + 32$

4
2 3/4
1 1/2

METRIC	
10 mm	1 cm
100 cm	1 m
1000 m	1 km
IMPERIAL	
12 in	1 ft
3 ft	1 yard
5280 ft	1 mile
1760 yd	1 mile
36 in	1 yard
IMPERIAL TO METRIC	
1 inch	2.54 cm
1 foot	30.48 cm
1 foot	0.3048 meter
1 yard	91.44 cm
1 yard	0.9144 meter
1 mile	1.609 km
MASS	
1 pound	16 ounces
1 ton (imperial)	2,000 pounds
1 kg	2.2 pounds
1 oz	28.35 grams
1 kg	1000 grams
1 tonne (metric)	1000 kg
1 gram	1000 mg

CAPACITY	
1 gallon	3.785 litre
1 gallon	4 quarts
1 quart	32 fluid ounces
1 pint	16 fluid ounces
2 pint	1 quart
1 litre	1000 mL
1000 litres	1 kilolitre.
VOLUME TO CAPACITY CONVERSION	
1 cm ³	1 millilitre
Temperature	
Celcius to Fahrenheit	$9/5 \times C + 32$
Fahrenheit to Celcius	$5/9 (F-32)$
COOKING CONVERSIONS	
1 cup	8 fluid ounces
1 quart	4 cups
1 cup	236.6 mL
1 cup	16 tablespoons
1 tablespoon	3 teaspoons