

Mathematics 10C Formula Sheet

Imperial Conversions

| | |
|---------------------------|------------------------------|
| 12 inches(in)=1 foot(ft) | 8 fluid oz(fl. oz.)=1 cup(c) |
| 3 feet (ft)=1 yard(yd) | 2 cups(c)=1 pint(pt) |
| 5280 feet(ft)=1 mile(mi) | 2 pints(pt)=1 quart(qt) |
| 16 ounces(oz)=1 pound(lb) | 4 quarts(qt)=1 gallon(gal) |
| 2000 pounds(lb)=1 ton(T) | |

Metric Conversions

Kilo, Hecta, Deca, {grams, litres, metres} deci, centi, milli

| | | |
|---------------------------------|-------------------------------|---------------------------------|
| 1 kilometre(km)=1000 metres(m) | 1 kilogram(kg)=1000 grams(g) | 1 Litre(L)=1000 millilitres(ml) |
| 1 metre(m)=100 centimetres(cm) | 1 gram(g)=1000 milligrams(mg) | |
| 1 metre(m)=1000 millimetres(mm) | | |

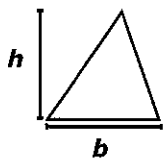
Metric to Imperial Conversions

| | |
|------------------------------------|-----------------------------------|
| 1 inch (in)=2.54 centimetres(cm) | 1 metre(m)=3.281 feet(ft) |
| 1 foot(ft)=30.48 centimetres(cm) | 1 centimetre(cm)=0.397 inches(in) |
| 1 yard(yd)=0.9144 metres(m) | 1 kilometre(km)=0.6214 miles(mi) |
| 1 millimetre(mm)=0.0394 inches(in) | 1 mile(mi)=1.609 kilometres(km) |

2-Dimensional Shape

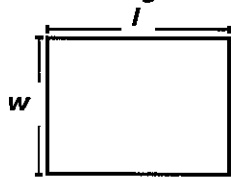
Formula

Triangle



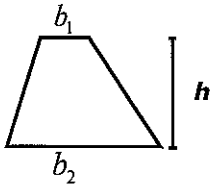
$$Area = \frac{1}{2}bh$$

Rectangle



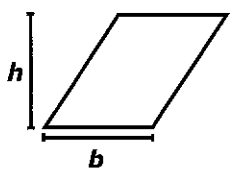
$$Area = lw$$

Trapezoid



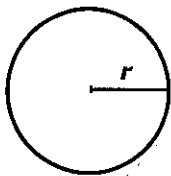
$$Area = \frac{1}{2}(b_1 + b_2)h$$

Parallelogram



$$Area = bh$$

Circle



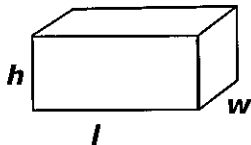
$$Area = \pi r^2$$

$$Circumference = 2\pi r$$

Surface Area and Volume

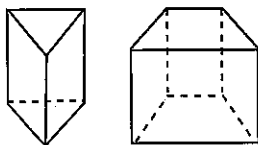
3 Dimensional Figure

Rectangular Prism



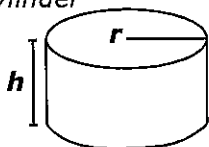
$$V = lwh = \text{length} \times \text{width} \times \text{height}$$

General Prisms



$$V = Bh = \text{area of base} \times \text{height}$$

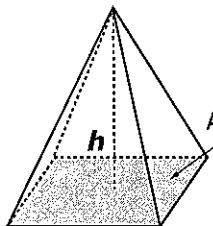
Right Circular Cylinder



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

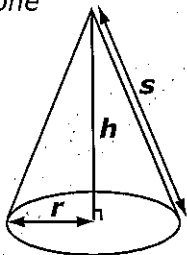
$$SA = 2\pi r^2 + 2\pi rh$$

Right Pyramid



$$V = \frac{1}{3} Bh = \frac{1}{3} \times \text{area of base} \times \text{height}$$

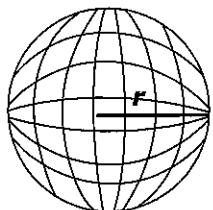
Right Circular Cone



$$V = \frac{1}{3} Bh = \frac{1}{3} \times \text{area of base} \times \text{height}$$

$$SA = \pi r^2 + \pi rs$$

Sphere



$$V = \frac{4}{3} \pi r^3$$

$$SA = 4\pi r^2$$

Slope of a Line

$$m = \frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1}$$

Slope-Intercept Equation for a Line

$$y = mx + b$$

Point-Slope Equation for a Line

$$y - y_1 = m(x - x_1)$$

Basic Trigonometric Ratios

$$\cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\tan \theta = \frac{\text{opposite}}{\text{adjacent}}$$