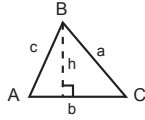


Mathematics Formula Sheet

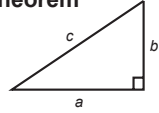
Area of triangle

$$= \frac{1}{2} \times \text{base (b)} \times \text{height (h)}$$



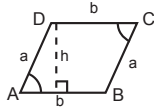
Pythagoras' Theorem

$$a^2 + b^2 = c^2$$



Area of parallelogram

$$= \text{base (b)} \times \text{height (h)}$$



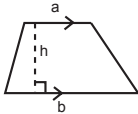
Circumference of circle

$$= \pi \times \text{diameter}$$

$$= 2 \times \pi \times \text{radius}$$

Area of trapezium

$$= \frac{1}{2} (a + b)h$$



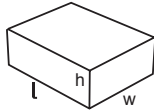
Area of circle

$$= \pi \times (\text{radius})^2$$

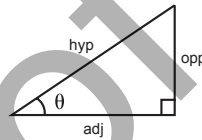


Volume of cuboid

$$= \text{length (L)} \times \text{width (w)} \times \text{height (h)}$$



Trigonometry



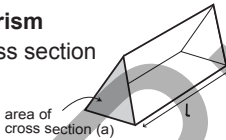
$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

$$\cos \theta = \frac{\text{adj}}{\text{hyp}}$$

$$\tan \theta = \frac{\text{opp}}{\text{adj}}$$

Volume of prism

$$= \text{area of cross section} \times \text{length}$$



In any triangle ABC

Sine rule

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

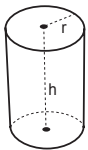
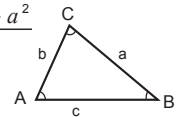
Cosine rule

$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$$

Area of triangle

$$= \frac{1}{2} ab \sin C$$



Volume of cylinder

$$= \pi r^2 h$$

Curved surface of cylinder

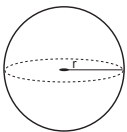
$$= 2\pi r h$$

Standard Deviation

Standard deviation for a set of numbers

x_1, x_2, \dots, x_n , having a mean of \bar{x} , is given by

$$s = \sqrt{\frac{\sum (x - \bar{x})^2}{n}} \quad \text{or} \quad s = \sqrt{\frac{\sum x^2}{n} - \left\{ \frac{\sum x}{n} \right\}^2}$$



Volume of sphere

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

Surface area of sphere

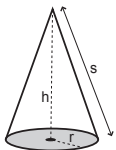
$$= 4 \pi r^2$$

The Quadratic Equation

The solutions of $ax^2 + bx + c = 0$

where $a \neq 0$, are given by:

$$x = \frac{-b \pm \sqrt{(b^2 - 4ac)}}{2a}$$



Volume of cone

$$= \frac{1}{3} \pi r^2 h$$

Curved surface area of cone

$$= \pi r s$$