



GCSE 9-1 MATHEMATICS FORMULAE

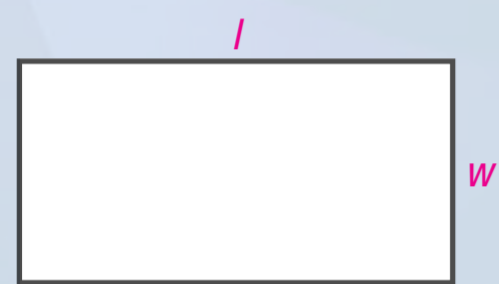
SUITABLE FOR AQA AND EDEXCEL / FOUNDATION TIER

tutor2u 

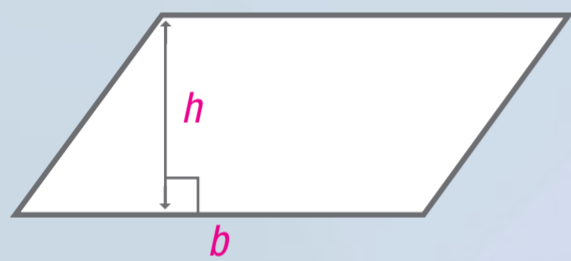
Formulae to Memorise

You will not be given these formulae in the exam

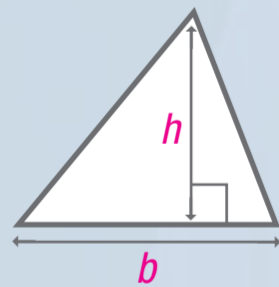
Areas



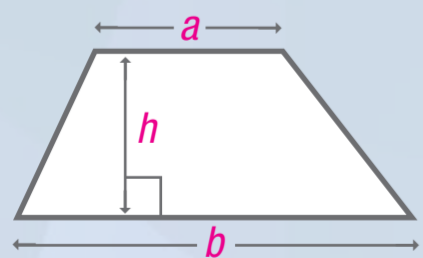
$$\text{Area of a rectangle} = l \times w$$



$$\text{Area of a parallelogram} = b \times h$$

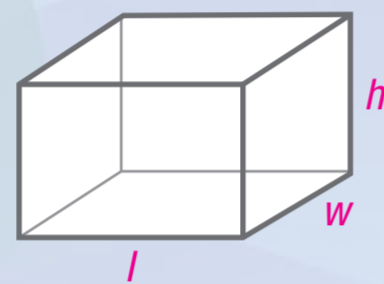


$$\text{Area of a triangle} = \frac{1}{2} b \times h$$

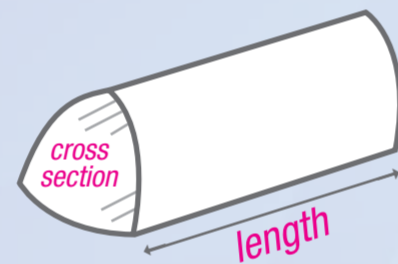


$$\text{Area of a trapezium} = \frac{1}{2} (a + b) h$$

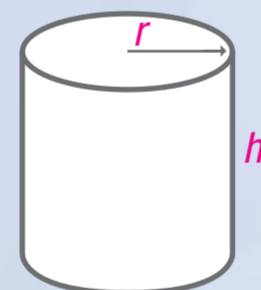
Volumes



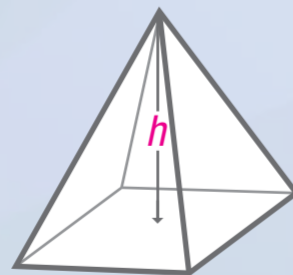
$$\text{Volume of a cuboid} = l \times w \times h$$



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

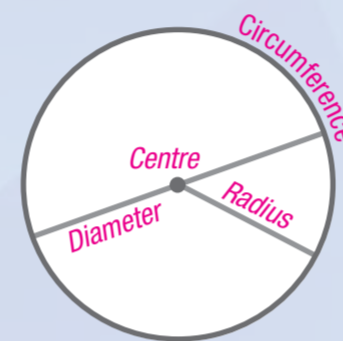


$$\text{Volume of a cylinder} = \pi r^2 h$$



$$\text{Volume of a pyramid} = \frac{1}{3} \times \text{area of base} \times h$$

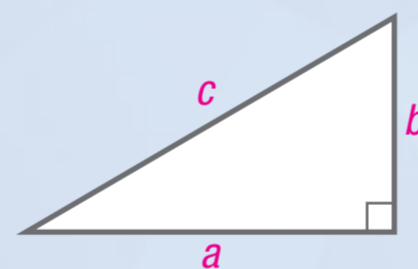
Circumference and Area of a Circle



$$\text{Circumference of a circle} = 2\pi r = \pi d$$

$$\text{Area of a circle} = \pi r^2$$

Pythagoras' Theorem



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

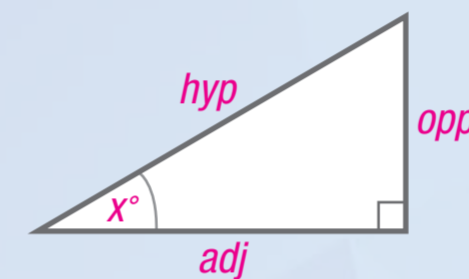
Compound Measures

$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

$$\text{density} = \frac{\text{mass}}{\text{volume}}$$

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

Trigonometry



$$\sin x = \frac{\text{opp}}{\text{hyp}}, \quad \cos x = \frac{\text{adj}}{\text{hyp}}, \quad \tan x = \frac{\text{opp}}{\text{adj}}$$

Compound Interest*

Where P is the principal amount, r is the interest rate (as a percentage) over a given period and n is the number of times that the interest is compounded:

$$\text{Total accrued} = P \left(1 + \frac{r}{100} \right)^n$$

Probability*

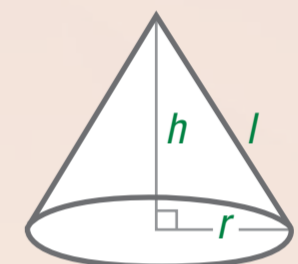
Where $P(A)$ is the probability of outcome A and $P(B)$ is the probability of outcome B :

$$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$$

Formulae given in the Exam

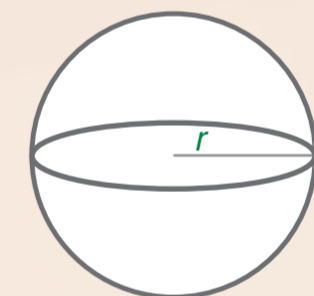
You do not need to memorise these formulae

Volume and Surface Area



$$\text{Curved surface area of a cone} = \pi r l$$

$$\text{Volume of a cone} = \frac{1}{3} \pi r^2 h$$



$$\text{Surface area of a sphere} = 4\pi r^2$$

$$\text{Volume of a sphere} = \frac{4}{3} \pi r^3$$

Kinematics Formulae

Where a is constant acceleration, u is initial velocity, v is final velocity, s is displacement from the position when $t=0$ and t is time taken:

$$v = u + at$$

$$s = ut + \frac{1}{2} at^2$$

$$v^2 = u^2 + 2as$$

Visit our website:

www.tutor2u.net/maths



@tutor2uMaths



tutor2uMaths

*Students sitting AQA examinations are expected to know or be able to derive the formulae for Compound Interest and Probability. Knowledge or derivation of these formulae is not specified in the Edexcel Specification.