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Edexcel GCSE (9-1) Maths: need-to-know formulae

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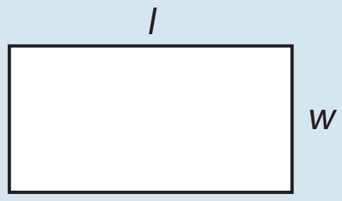
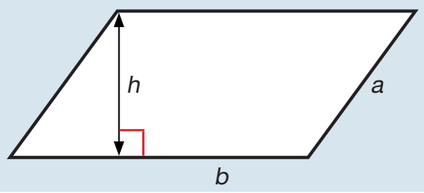
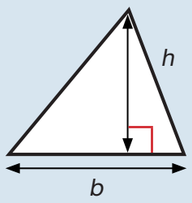
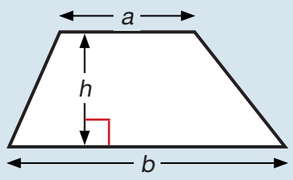
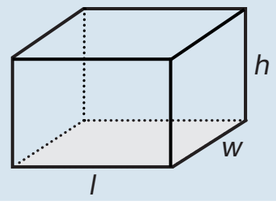
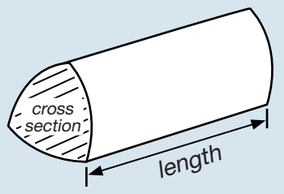
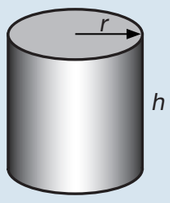
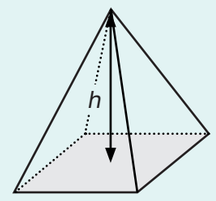
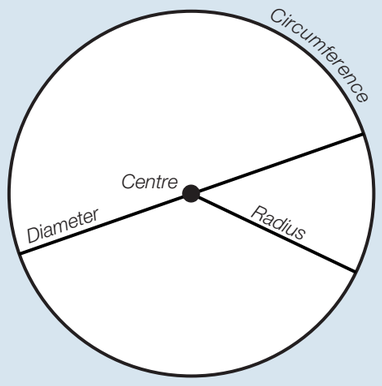
Areas

Rectangle = $l \times w$	
Parallelogram = $b \times h$	
Triangle = $\frac{1}{2} b \times h$	
Trapezium = $\frac{1}{2}(a + b)h$	

Volumes

Cuboid = $l \times w \times h$	
Prism = area of cross section × length	
Cylinder = $\pi r^2 h$	
Volume of pyramid = $\frac{1}{3}$ × area of base × h	

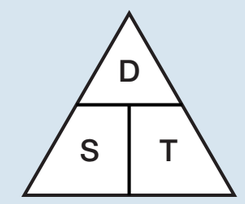
Circles

Circumference = π × diameter, $C = \pi d$	
Circumference = 2 × π × radius, $C = 2\pi r$	
Area of a circle = π x radius squared $A = \pi r^2$	

Compound measures

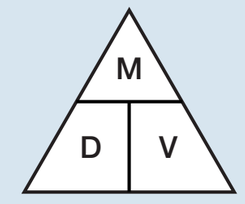
Speed

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



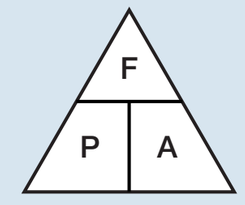
Density

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



Pressure

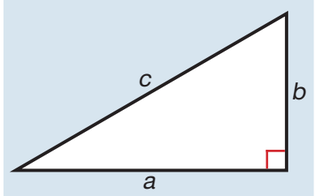
$$\text{pressure} = \frac{\text{force}}{\text{area}}$$



Pythagoras

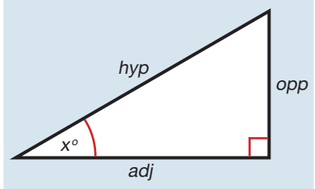
Pythagoras' Theorem

For a right-angled triangle, $a^2 + b^2 = c^2$



Trigonometric ratios (*new to F*)

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

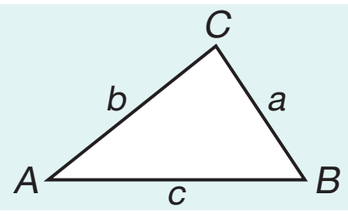


Trigonometric formulae

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

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

Area of triangle = $\frac{1}{2} ab \sin C$



Quadratic equations

The Quadratic Equation

The solutions of $ax^2 + bx + c = 0$, where $a \neq 0$, are given by $x = \frac{-b \pm \sqrt{(b^2 - 4ac)}}{2a}$

Foundation tier formulae

Higher tier formulae

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