



GCSE Maths Formula Cheat Sheet

Algebra

Quadratic Formula: $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Area under a graph (Trapezium Rule): $\frac{1}{2} (a+b)h$

Geometry

Area of a Triangle: $\frac{1}{2} \times \text{base} \times \text{height}$

Area of a Trapezium: $\frac{1}{2} (a+b)h$

Area of a Circle: πr^2

Circumference of a Circle: $2\pi r$ or πd

Pythagoras' Theorem: $a^2 + b^2 = c^2$

Trigonometry Ratios: $\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}}$, $\cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}}$, $\tan \theta = \frac{\text{opposite}}{\text{adjacent}}$

Volume & Surface Area

Prism Volume: $\text{area of cross-section} \times \text{length}$

Sphere Volume: $\frac{4}{3}\pi r^3$

Cone Volume: $\frac{1}{3}\pi r^2 h$

Cylinder Volume: $\pi r^2 h$

Surface Area of Sphere: $4\pi r^2$

Statistics & Probability

Mean: $\frac{\text{sum of values}}{\text{number of values}}$

Probability: $\frac{\text{favourable outcomes}}{\text{total outcomes}}$

Compound Measures

Speed: $\frac{\text{distance}}{\text{time}}$

Density: $\frac{\text{mass}}{\text{volume}}$

Pressure: $\frac{\text{force}}{\text{area}}$

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