GCSE Maths Formulae

Foundation Tier

F

Area, Volume and Circles

Name of Formula	
Area of a Rectangle	length × width
Area of a Triangle	$\frac{1}{2}$ × base × height
Area of a Parallelogram	base × height
Area of a Trapezium	$\frac{1}{2}$ × (a + b) × height
Area of a Circle	π× (radius)2 or πr2
Circumference of a Circle	π × diameter or πd
Volume of a Cuboid	length × width × height
Volume of a Prism	area of cross section × length
Volume of a Cylinder	π × (radius)2 × height or πr2h

Trigonometric Functions Values

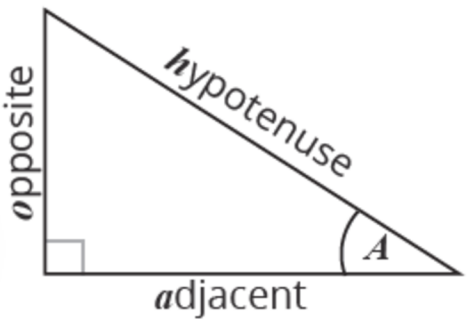
θ	$0°$	$30°$	$45°$	$60°$	$90°$
$\sin\theta$	0	$\frac{1}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{\sqrt{3}}{2}$	1
$\cos\theta$	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{2}$	0
$\tan\theta$	0	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$	Not Defined

Trigonometric Functions and Pythagoras' Theorem

SinA	opposite ÷ hypotenuse
CosA	adjacent ÷ hypotenuse
TanA	opposite ÷ adjacent

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

Trigonometry Formulae



$$\text{Sin } A = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\text{Cos } A = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\text{Tan } A = \frac{\text{opposite}}{\text{adjacent}}$$

$$\text{Sin } A = \frac{o}{h}, \text{Cos } A = \frac{a}{h}, \text{Tan } A = \frac{o}{a}$$

Compound Measures

Name of Formula	
Speed	distance ÷ time
Distance	speed × time
Time	distance ÷ speed
Density	mass ÷ volume
Mass	density × volume
Volume	mass ÷ density
Pressure	force ÷ area
Force	pressure × area
Area	force ÷ pressure

Compound Interest

Principle amount

interest rate

number of times the interest is compounded

Value of Investment $= P(1+100)^{n}$