

$1m = 100cm$

$1cm = 10mm$

Triangles

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

Sin C A# T A
trigonometry

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

Sum of interior = $(n-2) \times 180$
Pyramid volume = $\frac{1}{3} \times \text{area of base} \times h$

Sum of exterior = 360°
interior + exterior = 180°

Equation of a line $y = mx + c$
Equation of a perpendicular line has negative reciprocal gradient.

GEOMETRY AND MEASURES

Circles

$A = \pi r^2$ $C = \pi d$

Triangle area = $\frac{bxh}{2}$

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

Cuboid volume = $b \times h \times d$

Triangular Prism volume = $\frac{bxh}{2} \times d$

Cylinder volume = $\pi r^2 \times h$

ALGEBRA

INDICES

$x^0 = 1$ $x^1 = x$

$x^{-a} = \frac{1}{x^a}$ $x^{\frac{a}{b}} = (\sqrt[b]{x})^a$ $(x^a)^b = x^{ab}$

$x^a \times x^b = x^{a+b}$ $x^a \div x^b = x^{a-b}$

Quadratic formula

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Quadratic sequence

$\frac{a+b+c}{3}$ $\frac{a+n^2+bn+c}{2a}$

FORMULA

NUMBER

BIDMAS

$FV = PV \times (1+r)^n \Rightarrow$ (compound interest)

RATES OF CHANGE



Speed = $\frac{\text{Distance}}{\text{Time}}$

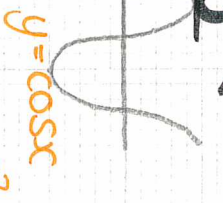
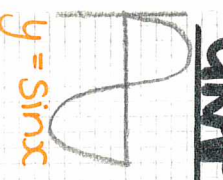


Density = $\frac{\text{Mass}}{\text{Volume}}$

Direct proportion $\Rightarrow y = Kx$

Inverse proportion $\Rightarrow y = \frac{K}{x}$

GRAPHS



$y = x$

$y = x^2$

$y = x^3$

GRADE 7+

Sine Rule

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

Cosine Rule

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

Trapezium Rule

$\frac{1}{2} h(y_0 + y_n + 2(y_1 + \dots + y_{n-1}))$
h is the width
y are the parallel sides