
INTERNATIONAL GCSE

MATHEMATICS EXTENSION (9260)

Formulae Sheet

Insert

Perimeter, area and volume

Where a and b are the lengths of the parallel sides and h is their perpendicular separation:

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

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

Where r is the radius and d is the diameter:

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

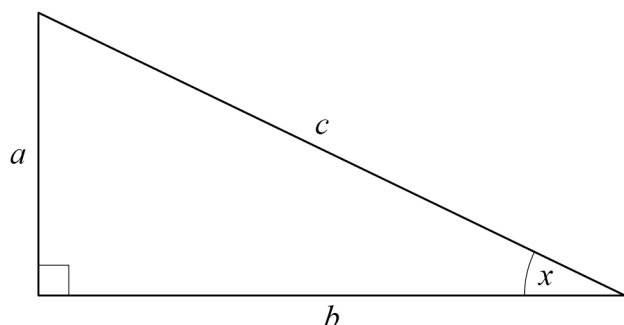
$$\text{Area of a circle} = \pi r^2$$

Quadratic formula

The solutions of $ax^2 + bx + c = 0$
where $a \neq 0$

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

Pythagoras' Theorem and Trigonometry

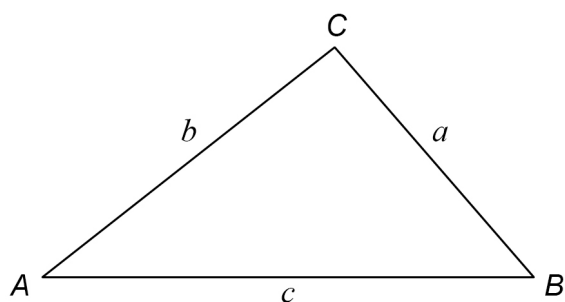


In any right-angled triangle where a , b and c are the lengths of the sides and c is the hypotenuse:

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

In any right-angled triangle where a , b and c are the lengths of the sides and c is the hypotenuse:

$$\sin x = \frac{a}{c} \quad \cos x = \frac{b}{c} \quad \tan x = \frac{a}{b}$$



In any triangle ABC where a , b and c are the lengths of the sides:

$$\text{sine rule: } \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\text{cosine rule: } a^2 = b^2 + c^2 - 2bc \cos A$$

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

Probability

For mutually exclusive events A and B

$$P(A \cup B) = P(A) + P(B)$$

For independent events A and B

$$P(A \cap B) = P(A) \times P(B)$$

Compound Interest

Where P is the amount invested, r is the percentage rate of interest and n is the number of years of compound interest:

$$\text{Value of investment} = P \left(1 + \frac{r}{100} \right)^n$$