

# GCSE MATHEMATICS FOUNDATION TIER

Formulae Sheet

Insert

#### Perimeter, area and volume

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

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

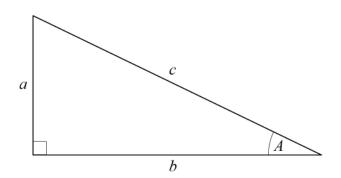
Volume of a prism = area of cross section × length

Where r is the radius and d is the diameter:

Circumference of a circle =  $2\pi r = \pi d$ 

Area of a circle =  $\pi r^2$ 

### Pythagoras' Theorem and Trigonometry



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

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

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

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

## **Compound Interest**

Where P is the principal amount, r is the interest rate over a given period and n is number of times that the interest is compounded:

Total accrued = 
$$P \left( 1 + \frac{r}{100} \right)^n$$

## **Probability**

Where P(A) is the probability of outcome A and P(B) is the probability of outcome B:

$$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$$