## GCSE

MATHEMATICS FOUNDATION TIER
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:
Circumference of a circle $=2 \pi r=\pi d$

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

## Pythagoras' Theorem and Trigonometry



## 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:

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

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 $A B C$ where $a, b$ and $c$ are the length of the sides and $c$ is the hypotenuse:

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

## Probability

Where $\mathrm{P}(A)$ is the probability of outcome $A$ and $\mathrm{P}(B)$ is the probability of outcome $B$ :

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

