GCSE
MATHEMATICS FOUNDATION TIER
Formulae Sheet
8300

## Insert

FOR EXAMS IN 2022 ONLY
[Turn over]

## PERIMETER, AREA AND VOLUME

Where $a$ and $b$ are the lengths of the parallel sides and $h$ is their perpendicular separation:
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 $=2 \pi r=\pi d$
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 $A B C$ 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 $\mathrm{P}(A)$ is the probability of outcome $A$ and $\mathrm{P}(B)$ is the probability of outcome $B$ :

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

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