

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

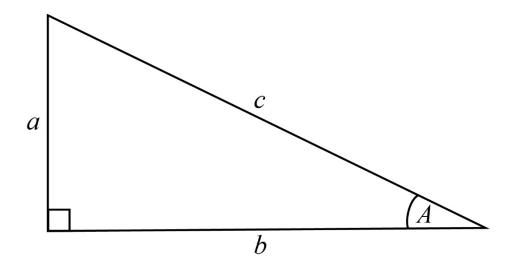
Volume of a prism = area of cross section × length

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:

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

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