



Oxford Cambridge and RSA

**For use in June 2024 and
November 2024 only**

GCSE (9–1) Mathematics

J560/04, J560/05, J560/06

Higher Tier Formulae Sheet



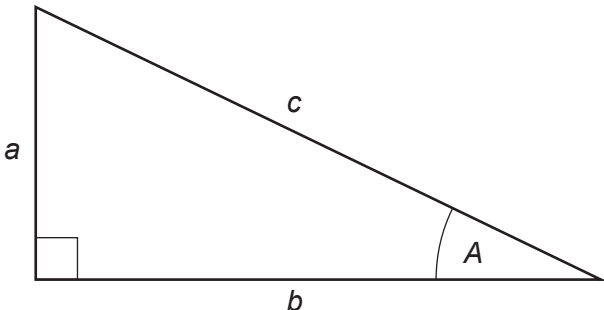
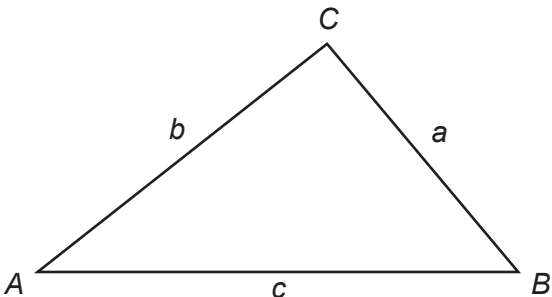
INSTRUCTIONS

- Do **not** send this Formulae Sheet for marking. Keep it in the centre or recycle it.

INFORMATION

- This Formulae Sheet does **not** include advance information about the content of the June 2024 or November 2024 examinations.
- This document has **2** pages.

Higher Tier Formulae Sheet

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: $\text{Circumference of a circle} = 2\pi r = \pi d$ $\text{Area of a circle} = \pi r^2$	The 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 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: $\sin A = \frac{a}{c} \quad \cos A = \frac{b}{c} \quad \tan A = \frac{a}{b}$ In any triangle ABC where a, b and c are the length of the sides: sine rule: $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$ cosine rule: $a^2 = b^2 + c^2 - 2bc \cos A$ Area of triangle = $\frac{1}{2}ab \sin C$	
Compound Interest Where P is the principal amount, r is the interest rate over a given period and n is the number of times that the interest is compounded: $\text{Total accrued} = P \left(1 + \frac{r}{100} \right)^n$	Probability Where $P(A)$ is the probability of outcome A and $P(B)$ is the probability of outcome B: $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$ $P(A \text{ and } B) = P(A \text{ given } B)P(B)$

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