



Oxford Cambridge and RSA

**For use in June 2022 and  
November 2022 only**

**GCSE (9–1) Mathematics**

**J560/04, J560/05, J560/06**

**Higher Tier Formulae Sheet**



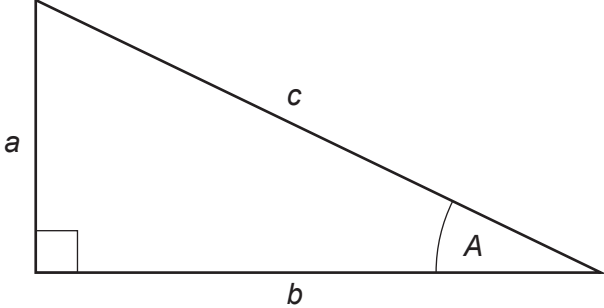
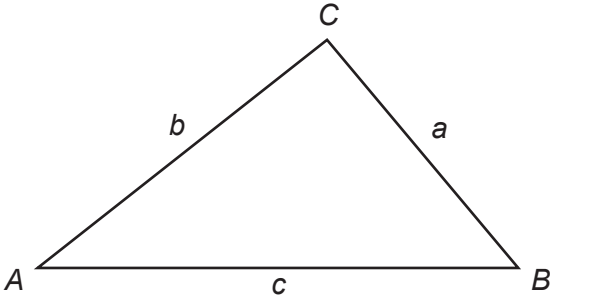
**INSTRUCTIONS**

- 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 2022 or November 2022 examinations.
- This document has **2** pages.

## Higher Tier Formulae Sheet

<p><b>Perimeter, Area and Volume</b></p> <p>Where <math>a</math> and <math>b</math> are the lengths of the parallel sides and <math>h</math> is their perpendicular separation:</p> $\text{Area of a trapezium} = \frac{1}{2}(a + b)h$ <p>Volume of a prism = area of cross section <math>\times</math> length</p> <p>Where <math>r</math> is the radius and <math>d</math> is the diameter:</p> $\text{Circumference of a circle} = 2\pi r = \pi d$ $\text{Area of a circle} = \pi r^2$	<p><b>The Quadratic Formula</b></p> <p>The solutions of <math>ax^2 + bx + c = 0</math> where <math>a \neq 0</math></p> $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
<p><b>Pythagoras' Theorem and Trigonometry</b></p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">  </div> <div style="width: 50%;"> <p>In any right-angled triangle where <math>a</math>, <math>b</math> and <math>c</math> are the length of the sides and <math>c</math> is the hypotenuse:</p> <math display="block">a^2 + b^2 = c^2</math> <p>In any right-angled triangle <math>ABC</math> where <math>a</math>, <math>b</math> and <math>c</math> are the length of the sides and <math>c</math> is the hypotenuse:</p> <math display="block">\sin A = \frac{a}{c} \quad \cos A = \frac{b}{c} \quad \tan A = \frac{a}{b}</math> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 45%;">  </div> <div style="width: 50%;"> <p>In any triangle <math>ABC</math> where <math>a</math>, <math>b</math> and <math>c</math> are the length of the sides:</p> <p>sine rule: <math>\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}</math></p> <p>cosine rule: <math>a^2 = b^2 + c^2 - 2bc \cos A</math></p> <p>Area of triangle = <math>\frac{1}{2}ab \sin C</math></p> </div> </div>	
<p><b>Compound Interest</b></p> <p>Where <math>P</math> is the principal amount, <math>r</math> is the interest rate over a given period and <math>n</math> is the number of times that the interest is compounded:</p> $\text{Total accrued} = P \left( 1 + \frac{r}{100} \right)^n$	<p><b>Probability</b></p> <p>Where <math>P(A)</math> is the probability of outcome <math>A</math> and <math>P(B)</math> is the probability of outcome <math>B</math>:</p> $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$ $P(A \text{ and } B) = P(A \text{ given } B)P(B)$

# OCR

Oxford Cambridge and RSA

## Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website ([www.ocr.org.uk](http://www.ocr.org.uk)) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact The OCR Copyright Team, The Triangle Building, Shaftesbury Road, Cambridge CB2 8EA.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.