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OXFORD CAMBRIDGE AND RSA EXAMINATIONS

June 2025

Level 3 Free Standing Mathematics Qualification: Additional Mathematics

6993/01

Formulae Sheet

INSTRUCTIONS

Do NOT send this Formulae Sheet for marking. Keep it in the centre or recycle it.

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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 × length

Where *r* is the radius and *d* is the diameter:

$$\text{Circumference of a circle} = 2\pi r = \pi d$$

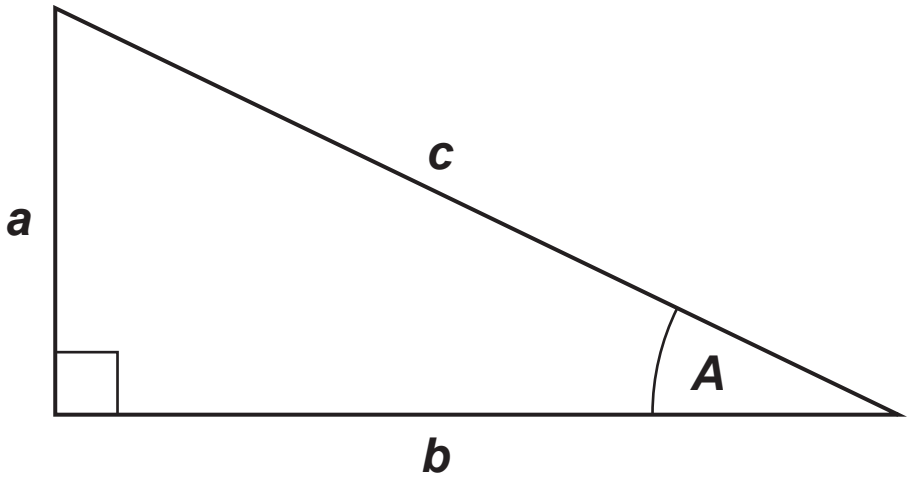
$$\text{Area of a circle} = \pi r^2$$

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

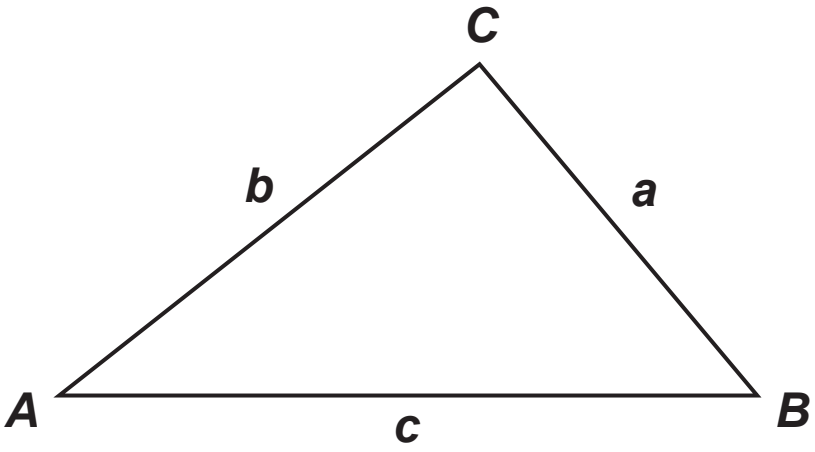


In any right-angled triangle where *a*, *b* and *c* are the length of the sides and *c* is the hypotenuse:

$$a^2 + b^2 = c^2$$

In any right-angled triangle *ABC* where *a*, *b* and *c* are the length of the sides and *c* is the hypotenuse:

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



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:

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:

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

$$\mathrm{P}(A \text{ and } B) = \mathrm{P}(A \text{ given } B)\mathrm{P}(B)$$

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