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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:**

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

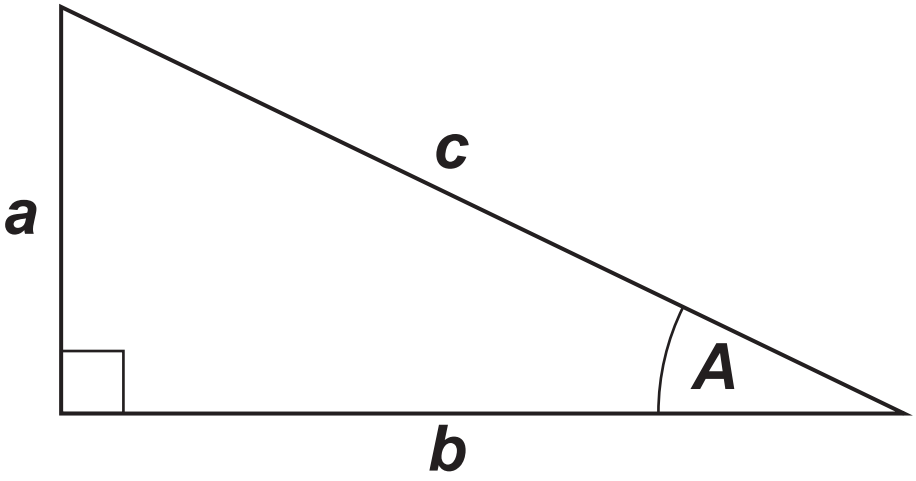
$$\text{Area of a circle} = \pi r^2$$

# 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

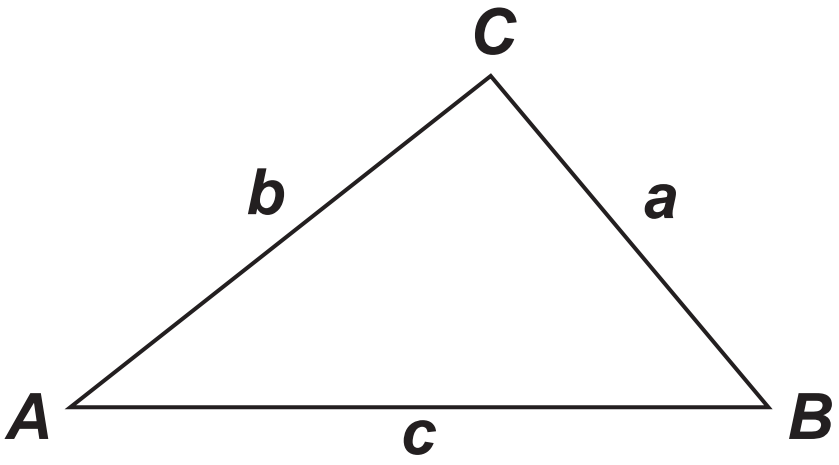



**In any right-angled triangle where *a*, *b* and *c* are the length of the sides and *c* is the hypotenuse:**

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

**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:** $\dfrac{a}{\sin A} = \dfrac{b}{\sin B} = \dfrac{c}{\sin C}$

**cosine rule:** $a^2 = b^2 + c^2 - 2bc\cos A$

**Area of triangle** $= \dfrac{1}{2}ab\sin C$

## 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*:**

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

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

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