# Mathematics A

**PAPER 2H**
Higher Tier
(Calculator)

# Formulae Pages

**DO NOT RETURN THIS FORMULAE BOOKLET WITH THE QUESTION PAPER.**

Pearson

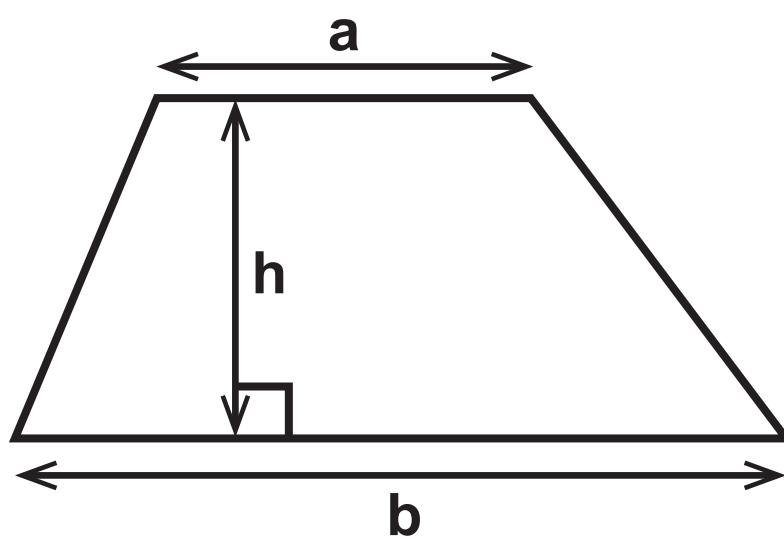## Arithmetic series

**Sum to $n$ terms,** $S_n = \dfrac{n}{2}[2a + (n - 1)d]$

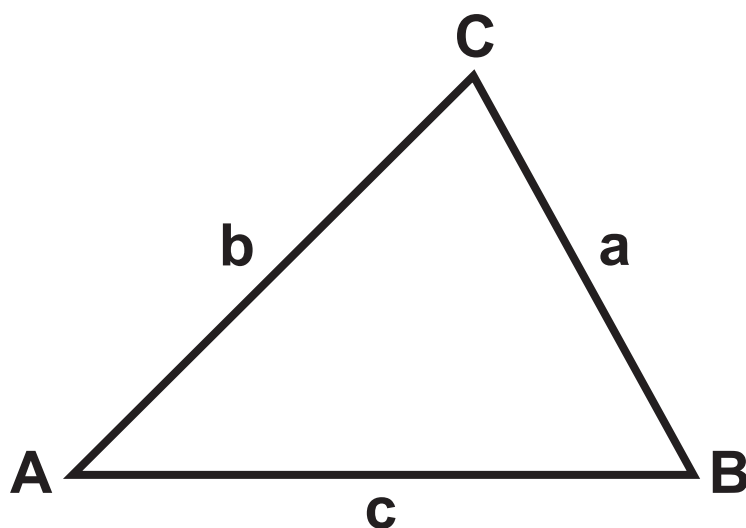## The quadratic equation

The solutions of $ax^2 + bx + c = 0$

where $a \neq 0$ are given by:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

**Area of trapezium** = $\frac{1}{2}(a + b)h$

# Trigonometry



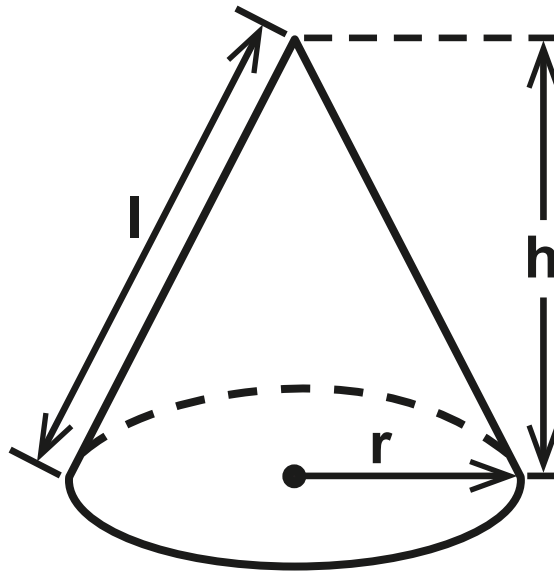## In any triangle ABC

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

**Cosine Rule** $a^2 = b^2 + c^2 - 2bc\cos A$

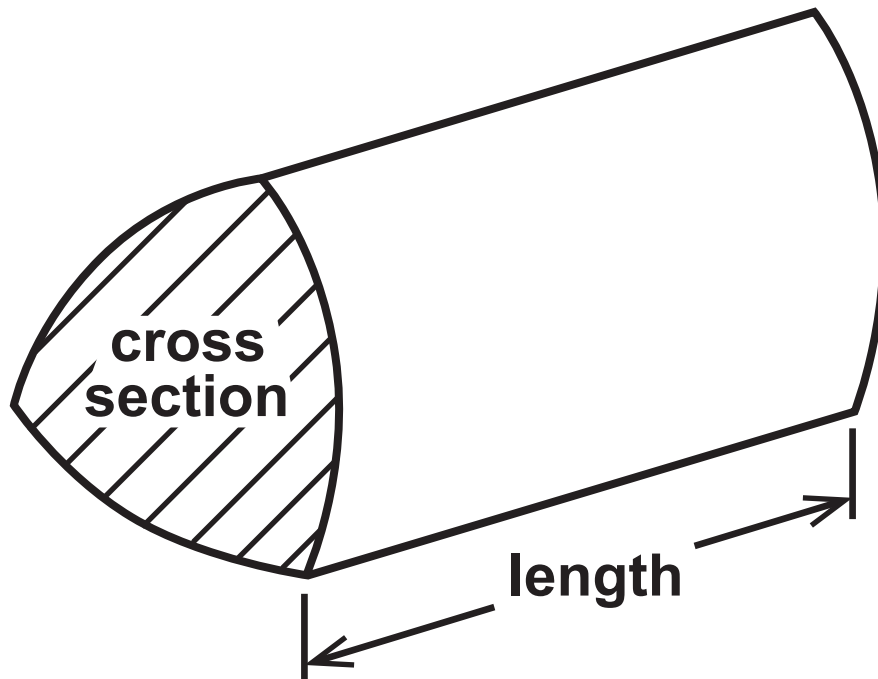**Area of triangle** $= \dfrac{1}{2}ab\sin C$

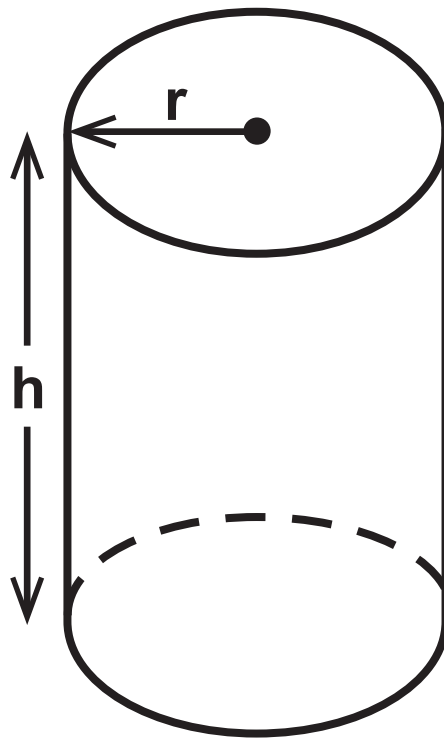**Volume of cone = $\frac{1}{3}\pi r^2 h$**

**Curved surface area of cone = $\pi r l$**

# Volume of prism

## = area of cross section ✖ length

**Volume of cylinder = πr$^2$h**

**Curved surface area of cylinder = 2πrh**

**Volume of sphere = $\frac{4}{3}\pi r^3$**

**Surface area of sphere = $4\pi r^2$**