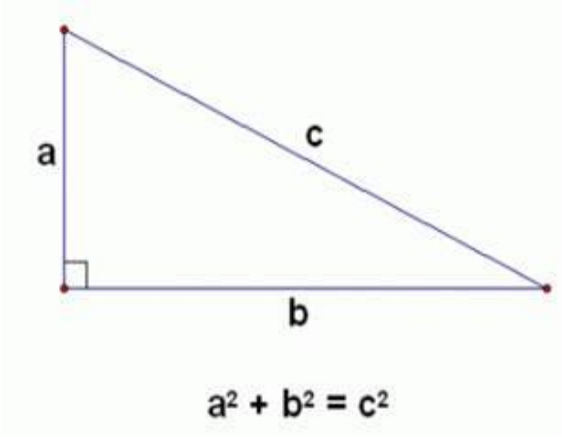
MATHEMATICS Unit 4: Calculating Space	Year Group: 9 set 1-3

Key Vocabulary

Pythagoras' Theorem	Formula for finding the length of a missing side in a right angles triangle. $a^2 + b^2 = c^2$
Hypotenuse	Longest side of a right angled triangle
Right Angled triangle	A triangle where one of the angles in 90^o
Arc	Part of the circumference of a circle
Sector	Section of a circle, bounded by two radii and an arc
Segment	Section of a circle bounded by a chord and an arc
Radius	From the centre to the circumference of a circle
Diameter	Measurement across the middle of a circle
Chord	Measurement from on point on circumference of a circle to another- not going through the centre
Tangent	Straight line touching the circumference of a circle once

Key facts / Diagrams



Common misconceptions

- Some pupils will work out $(\pi \times r)^2$ when finding the area of a circle
- Some pupils may use the sloping height when finding cross-sectional areas that are parallelograms, triangles or trapezia
- Some pupils may confuse the concepts of surface area and volume
- Some pupils may use Pythagoras' theorem as though the missing side is always the hypotenuse
- Some pupils may not include the lengths of the radii when calculating the perimeter of an arc

Worked examples