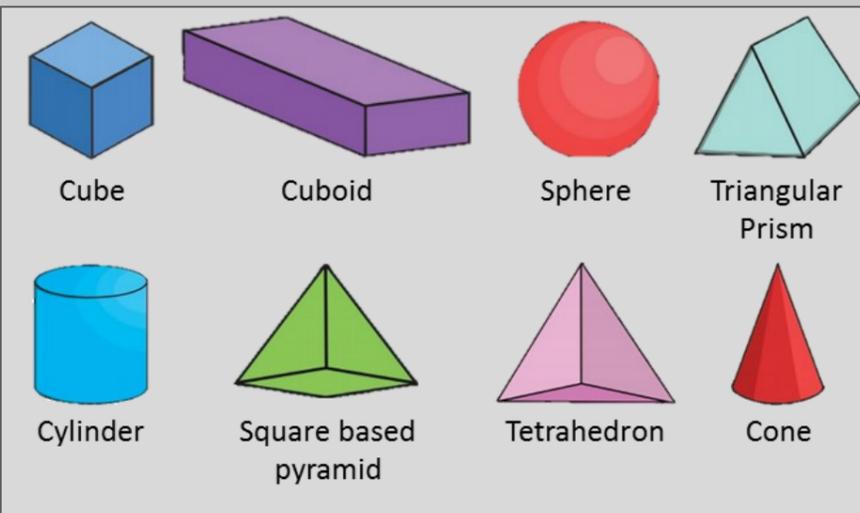


3D Shapes & Constructions



Locus	This is a path of points that follow a rule and forms a line e.g. are a set distance from a point Loci is the plural of locus.
Equidistant	A word used to describe points that are the same distance from another point.
Bisect	You bisect an angle or bisect a line by cutting it into two equal parts.
Perpendicular lines	Two lines that intersect or meet at a right angle.
Examples of constructions	<ul style="list-style-type: none"> An angle bisector A Perpendicular bisector Perpendicular line from a point on another line Constructing different types of triangles

Geometric Language, Volume & Surface

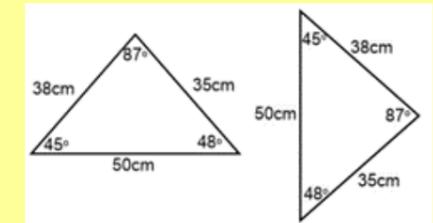
Face	The flat surfaces on a solid 3D shape
Edge	A line segment where two faces meet
Vertex	A corner point where edges or line segments meet. A vertex can be on a 2D or 3D shape. The plural of a vertex is vertices .
Prism	A 3D shape with a uniform cross-section. The two end faces of a prism are the same and the other faces are rectangles.
Cross-section	The shape revealed by a straight line cut through a 3D shape e.g. the cross section on a cube is a square
Polygon	2D shapes made by three or more straight, connected sides.
Plan View	The view of an object from above.
Side Elevation	The view of an object from a side.
Front Elevation	The view of an object from the front.
Volume	The amount of space taken up by a 3-dimensional object. To find the volume of a prism you multiply the area of the cross section by the depth Volume is measured in cubic units e.g. cm^3
Surface Area	The total area of all the faces for a 3-dimensional shape. Surface area is measured in square units e.g. cm^2
Net	A pattern of polygons that you can fold to make a 3D shape. A net can be used to calculate the surface area of a 3D shape.

Congruency

Congruent Shapes

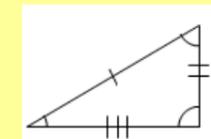
Shapes that are identical in shape and size. Their lengths and angles are equal, but one shape may have a different orientation.

e.g. these triangles are congruent

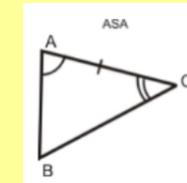


We mostly look at congruent triangles. To prove that two triangles are congruent you must use one of the four reasons:

SSS (Side, Side, Side) – All the sides are the same.

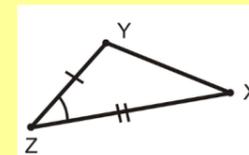


ASA (Angle, Side, Angle) – two angles and the side in between them are the same

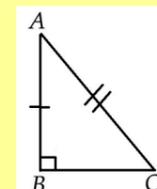


Rules for Congruency

SAS (Side, Angle, Side) – two sides and the angle in between them are the same



RHS (Right angle, Hypotenuse, Side) – There is a right angle and the hypotenuse and another side are the same size.



Trinity TV

For more help, visit Trinity TV and watch the following videos:

Trinity TV > Year 9 > Maths > Lessons > Term