

3D Shapes

Faces - the flat surfaces on a solid 3D shape.

Vertex - a corner where two or more line segments meet. The plural of a vertex is vertices.

Edge - a line segment where two faces meet.

Prism - a 3D shape that has identical end faces, flat faces and the same cross section all along its length.

Polygons - 2D shapes made up only of straight sides.

Plan view - the view of an object from above it.

Side elevation - looking at an object from a side.

Front elevation - looking at an object from the front.

Volume - the amount of space that a 3 dimensional object takes up. It is measured in cubic units e.g. cm^3

Surface area - the total area of all faces of a 3 dimensional shape. It is measured in square units e.g. m^2

Net - a pattern made up of polygons that you can cut and fold to make a model of a solid shape.

A net can be used to calculate the surface area of a 3D shape.

Constructions

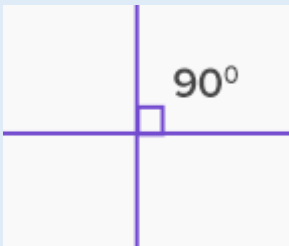
Locus - a path of points that follow a rule e.g. are a set distance from a point.

Loci - the plural of locus.

Equidistant - points are the same distance from an object.

Bisecting - an angle or a line is to cut it into two equal parts.

Perpendicular – lines that intersect at a right angle.



Some examples of constructions are:

- An angle bisector
- A perpendicular bisector
- Perpendicular line from a point
- Constructing different types of triangles

Congruence

Congruent - shapes that are exactly the same size. The corresponding sides and angles are the same size but they may have a different orientation.

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 size.

ASA (Angle Side Angle) – An angle, a side, and another angle are the same size

SAS (Side Angle Side) – A side, an angle and another side are the same size

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