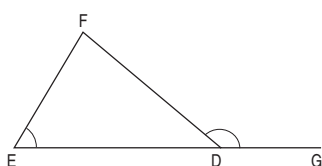


As outcomes, Year 8 pupils should, for example:

Use vocabulary from previous year and extend to: corresponding angles, alternate angles... supplementary, complementary... interior angle, exterior angle... equidistant... prove, proof...

Continue to use accurately the notation and labelling conventions for lines, angles and shapes.

Know that $\angle DEF$ is an **interior angle** of $\triangle DEF$ and that $\angle GDF$ is an **exterior angle** of $\triangle DEF$.



Know that:

- A pair of **complementary angles** have a sum of 90° .
- A pair of **supplementary angles** have a sum of 180° .

As outcomes, Year 9 pupils should, for example:

Use vocabulary from previous years and extend to: convention, definition, derived property...

Distinguish between conventions, definitions and derived properties.

A **convention** is an agreed way of illustrating, notating or describing a situation. Conventions are arbitrary – alternatives could have been chosen. Examples of geometrical conventions are:

- the ways in which letters are used to label the angles and sides of a polygon;
- the use of arrows to show parallel lines;
- the agreement that anticlockwise is taken as the positive direction of rotation.

A **definition** is a minimum set of conditions needed to specify a geometrical term, such as the name of a shape or a transformation. Examples are:

- A polygon is a closed shape with straight sides.
- A square is a quadrilateral with all sides and all angles equal.
- A degree is a unit for measuring angles, in which one complete rotation is divided into 360 degrees.
- A reflection in 2-D is a transformation in which points (P) are mapped to images (P'), such that PP' is at right angles to a fixed line (called the mirror line, or line of reflection), and P and P' are equidistant from the line.

A **derived property** is not essential to a definition, but consequent upon it. Examples are:

- The angles of a triangle add up to 180° .
- A square has diagonals that are equal in length and that bisect each other at right angles.
- The opposite sides of a parallelogram are equal in length.
- Points on a mirror line reflect on to themselves.

Distinguish between a practical demonstration and a proof. For example, appreciate that the angle sum property of a triangle can be demonstrated practically by folding the corners of a triangular sheet of paper to a common point on the base and observing the result. A proof requires deductive argument, based on properties of angles and parallels, that is valid for all triangles.