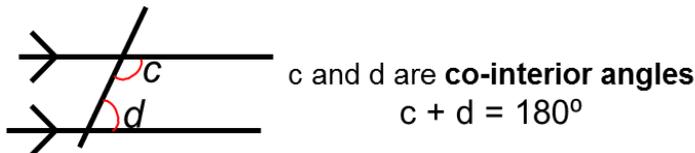
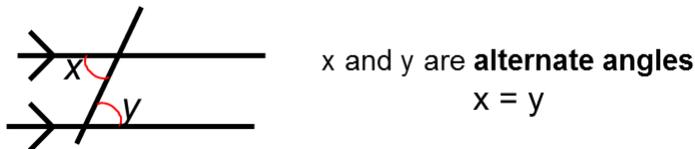
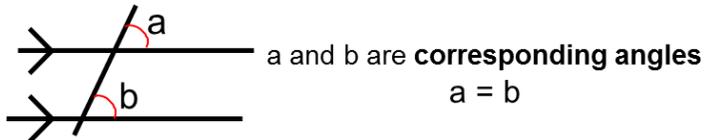
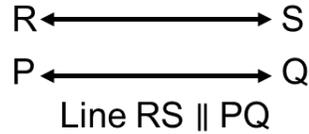


Key Vocabulary

Degrees	One of the measurements used for angles. 360° in a full turn
Right angle	90° angle
Acute angle	An angle of 90° , marked with a little square in the corner of the angle
Obtuse angle	An angle greater than 90° but less than 180°
Reflex angle	Angle greater than 180°
Vertically opposite	When two straight lines cross over, there will be two pairs of angles that are exactly the same size. These are referred to as vertically opposite angles
Parallel lines	Equidistant lines Lines the same distance apart, never touching
Alternate angles	Angles created when a transversal intersects parallel lines – Z angle
Corresponding angles	Angles created when a transversal intersects parallel lines – F angles
Interior angle	Angle inside a shape
Exterior angle	The angle formed outside a polygon when one side is extended
Regular polygon	A 2d shape where all sides and angles are equal

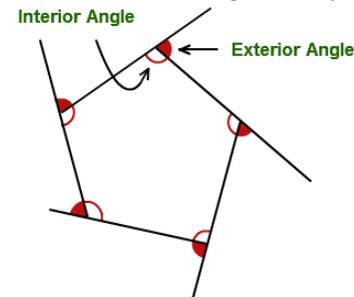
Key facts / Diagrams

Angles in parallel lines



Angles in Polygons

Sum of interior angles = $(n-2) \times 180^\circ$
Sum of exterior angles in a polygon = 360°

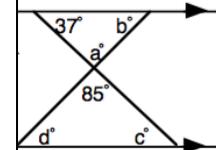


Common misconceptions

- Some pupils may think that alternate and/or corresponding angles have a total of 180° rather than being equal.
- Some pupils may think that the sum of the interior angles of an n-sided polygon can be calculated using $\text{Sum} = n \times 180^\circ$.
- Some pupils may think that the sum of the exterior angles increases as the number of sides of the polygon increases.

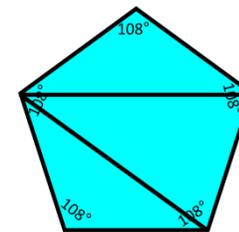
Worked examples

Find the missing angles and state the angle fact you used to find it.



$a = 85^\circ$ (Vertically opposite angles are equal)
 $b = 58^\circ$ (Angles in a triangle = 180°) ($180 - 37 - 85$)
 $c = 37^\circ$ (Alternate angles are equal)
 $d = 58^\circ$ (Alternate angles are equal)

What is the sum of interior angles in a pentagon?



We can divide a pentagon into three triangles. The sum of interior angles in a triangle is 180° .

A Pentagon can be split into three triangles, so $3 \times 180 = 540^\circ$ total interior

angles of a pentagon.

Therefore each angle is $540^\circ \div 5 = 108^\circ$