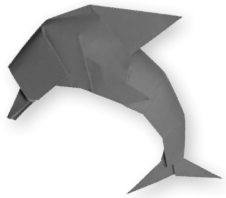
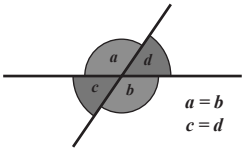
GCSE (9–1) Mathematics

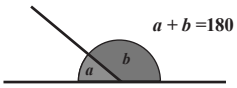
Geometrical Reasoning



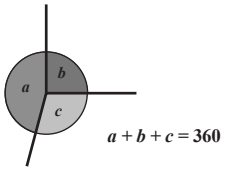
Lines



Vertically opposite angles are equal

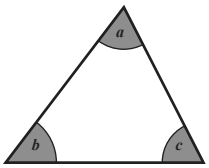


Angles on a straight line add up to 180

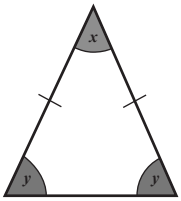


Angles at a point add up to 360

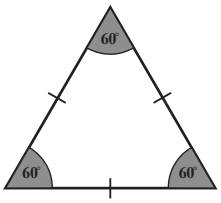
Triangles



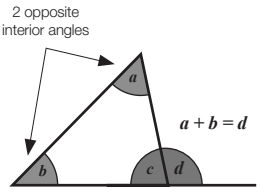
Angles in a triangle add up to 180



Base angles of an isosceles triangle are equal

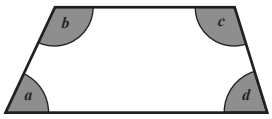


Angles in an equilateral triangle are equal



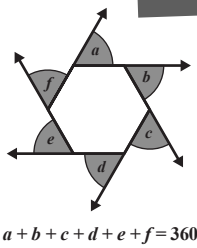
An exterior angle (of a triangle) is equal to the sum of the interior opposite angles

Quadrilaterals

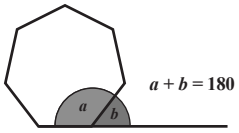


Angles in a quadrilateral add up to 360

Polygons

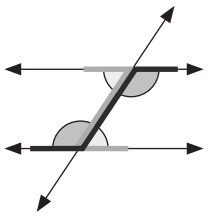


Exterior angles of a polygon add up to 360

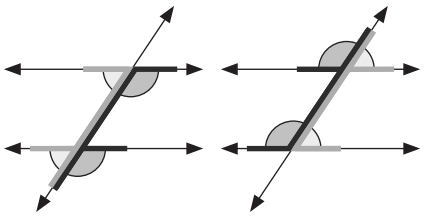


The interior and exterior angle of any polygon add up to 180

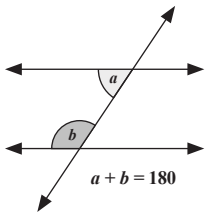
Parallel lines



Alternate angles are equal



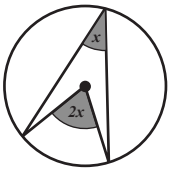
Corresponding angles are equal

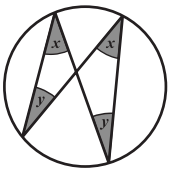


Allied (or co-interior) angles add up to 180

Circle Theorems

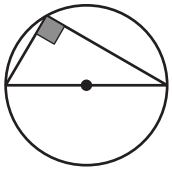
The angle at the centre of a circle is twice the angle at the circumference

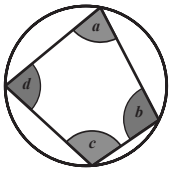




Angles in the same segment are equal

The angle in a semicircle is a right angle (or 90°)



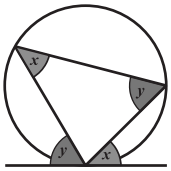


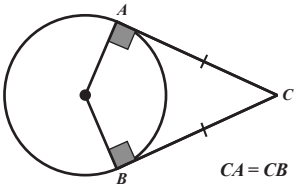
Opposite angles in a cyclic quadrilateral add to 180

$a + c = 180$

$b + d = 180$

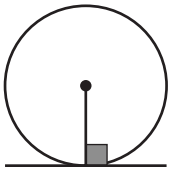
Alternate segment theorem





Tangents to a circle from an external point are equal in length

A tangent to a circle is perpendicular (or 90°) to the radius.



Pearson Edexcel

Photography: Shutterstock / Willyam Bradberry, Original origami artwork: Mark Bolitho
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