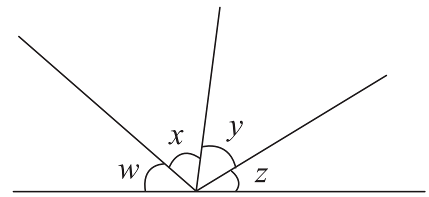
Triangles, Quadrilaterals and Polygons

Properties of angles

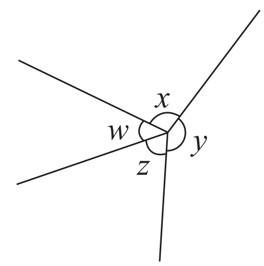
Angles on a straight line

$\angle w + \angle x + \angle y + \angle z = 180°$
(∠s on str. line)



Angles at a point

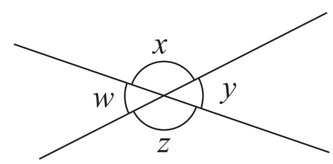
$\angle w + \angle x + \angle y + \angle z = 360°$
(∠s at a pt.)



Vertically opposite angles

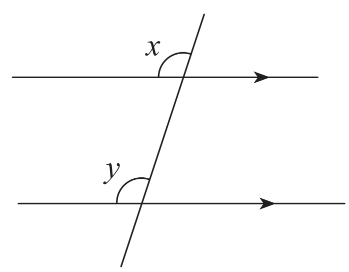
$\angle w = \angle y$ (vert. opp. ∠s)

$\angle x = \angle z$ (vert. opp. ∠s)



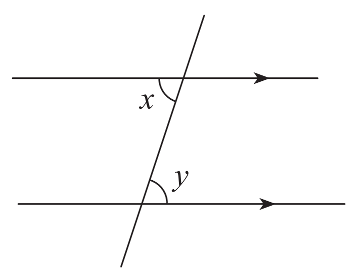
Corresponding angles

$\angle x = \angle y$ (corr. ∠s)



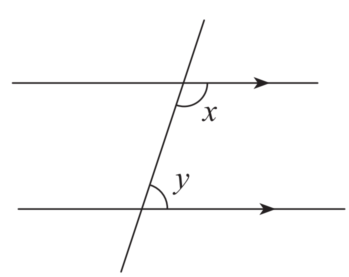
Alternate angles

$\angle x = \angle y$ (alt. ∠s)



Interior angles

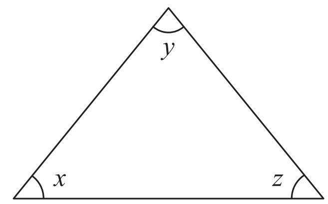
$\angle x + \angle y = 180°$ (int. ∠s)



Angle properties of triangles

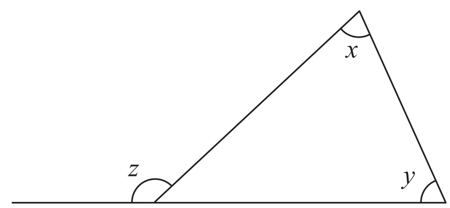
Sum of angles in a triangle

$\angle x + \angle y + \angle z = 180^\circ$ (sum of $\angle$s in Δ)



Exterior angles of a triangle

$\angle x + \angle y = \angle z$ (ext. $\angle$s of Δ)



Exterior angles of a Polygon

- Sum of exterior angles of any polygon = 360°.
- For an n-sided regular polygon, each exterior angle = $\frac{360^\circ}{n}$.

Interior angles of a Polygon

- Sum of interior angles of any n-sided polygon = $180^\circ \times (n - 2)$.
- For an n-sided regular polygon, each interior angle = $\frac{180^\circ \times (n - 2)}{n}$.