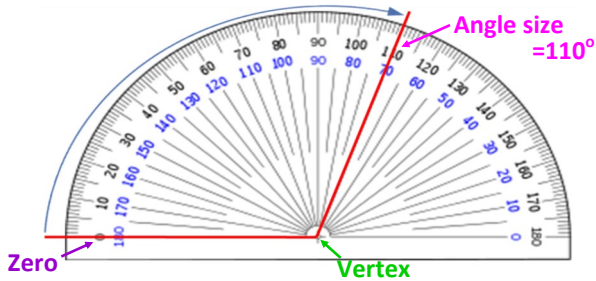


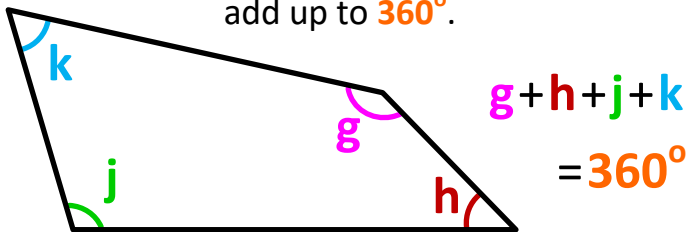
## Measuring angles



When measuring angles, place the centre of the protractor on the **vertex** - with **one line meeting a zero**. Follow around from the **0** until you reach **the next line** to read the angle.

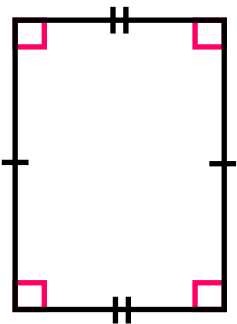
## Angles in quadrilaterals

The interior angles in a quadrilateral always add up to  $360^\circ$ .



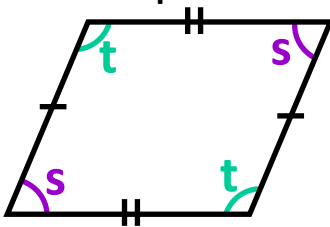
### Rectangles

(including squares) have **four  $90^\circ$  angles**.



### Parallelograms

(including rectangles and rhombuses) the **opposite angles are equal**.



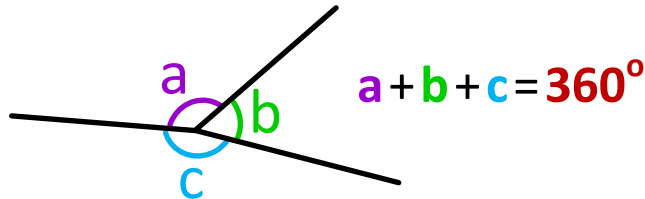
## Year 5/6 - @MrH\_T77

## Properties of shapes:

### Angles

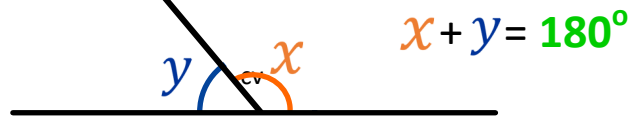
#### Angles on a straight line

All the angles around a point will add up to  $360^\circ$ .



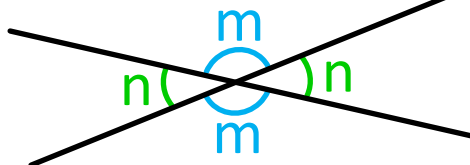
#### Angles on a straight line

All the angles along a straight line will add up to  $180^\circ$ .



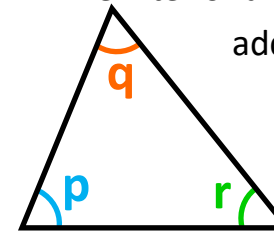
#### Vertically opposite angles

Opposite angles of two straight intersecting lines will always be equal.



## Angles in a triangle

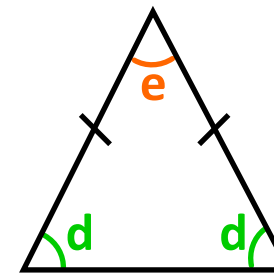
The interior angles in a triangle always add up to  $180^\circ$ .



$$p + q + r = 180^\circ$$

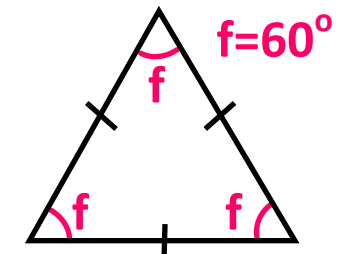
#### Isosceles triangle

Has two sides of equal length and **two equal angles**.



#### Equilateral triangle

Has three sides of equal length and **three equal angles**.



## Regular shapes

Regular shapes have sides with the same lengths and all equal angles.

Interestingly, for each extra side on a polygon, the sum of the angles is  $180^\circ$  more.

Shape (no. of sides)	Sum of angles	Single angle in regular shape
Triangle (3)	$180^\circ$	$180^\circ \div 3 = 60^\circ$
Quadrilateral (4)	$360^\circ$	$360^\circ \div 4 = 90^\circ$
Pentagon (5)	$540^\circ$	$540^\circ \div 5 = 108^\circ$
Hexagon (6)	$720^\circ$	$720^\circ \div 6 = 120^\circ$