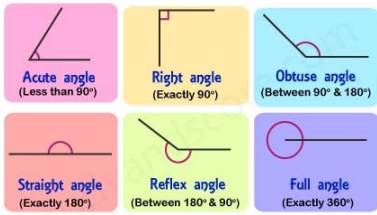


# Maths Knowledge Organiser

## Year 7 Angles

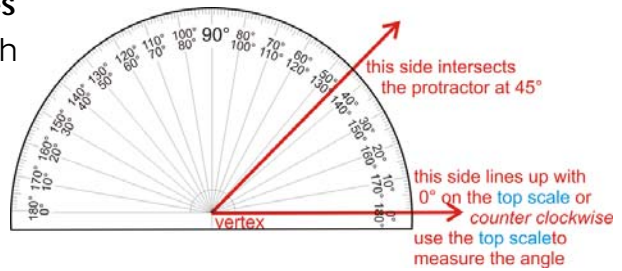


### Types of angles



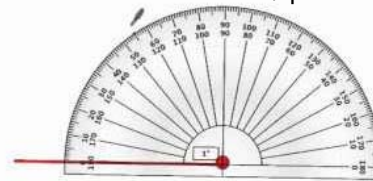
### Measuring angles

Line up a line with the zero line  
Tip: Count round



### Drawing angles

Measure the angle around from zero, put a mark and join



### Angle in parallel lines

Two lines which will never meet are parallel. They are identified by the small arrows.

A transversal is a line that crosses parallel lines, and creates special relationships between angles.

Alternate angles are 2 angles that are either side of the transversal.  
**Alternate angles are equal**

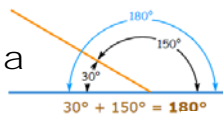
Corresponding angles are 2 angles that are on the same side of the transversal.  
**Corresponding angles are equal**

Opposite angles are created by 2 straight lines crossing.  
**Opposites angles are equal**

Co-interior angles are made up by 2 angles the same side of the transversal but both inside the parallel lines.  
**Co-interior angles add to 180°**

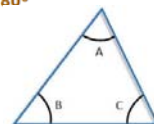
### Angles on a straight line

Angles adjacent to each other on a straight line add up to 180°



### Angles in a triangle

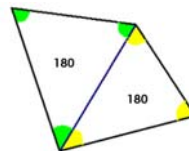
Angles in a triangle add up to 180°



$$A + B + C = 180^\circ$$

### Angles in a quadrilateral (4 sides)

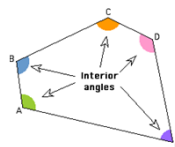
Angles in a quadrilateral add up to 360°  
This is because it is made up of 2 triangles



### Interior angles of a polygon

Polygon – A plane shape (two-dimensional) with straight sides.

A regular polygon is a polygon with equal sides and angles

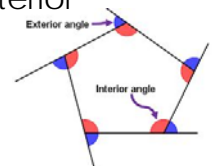


### Exterior angles in a polygon

An exterior angle is 180 – interior angles:  $Int + Ext = 180$

To work out an exterior angle:  $\frac{360}{n}$

To work out number of sides:  $\frac{360}{\text{exterior angle}}$



$n$  is the number of sides

To work out the total angles in a regular polygon:  $(n - 2) \times 180$

To work out the size of one angle in a regular polygon:  $\text{total angles} \div n$