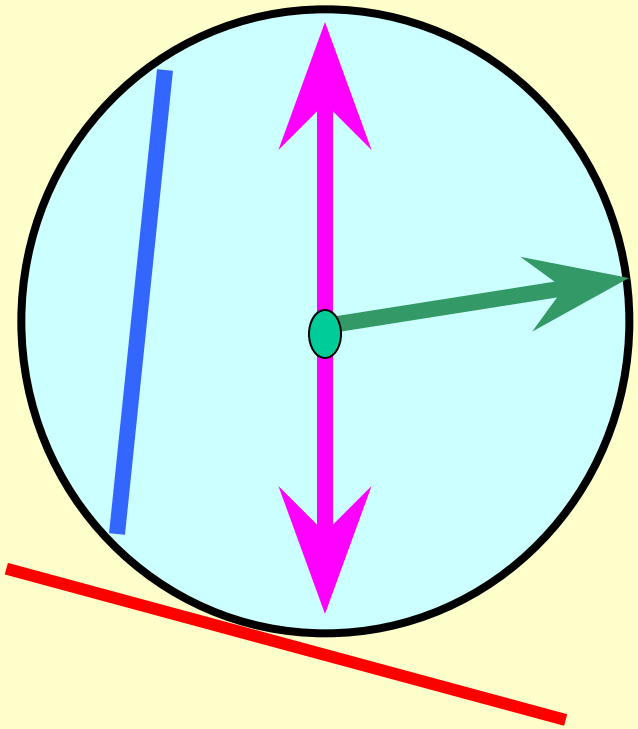
Circle Theorems



Name these Features

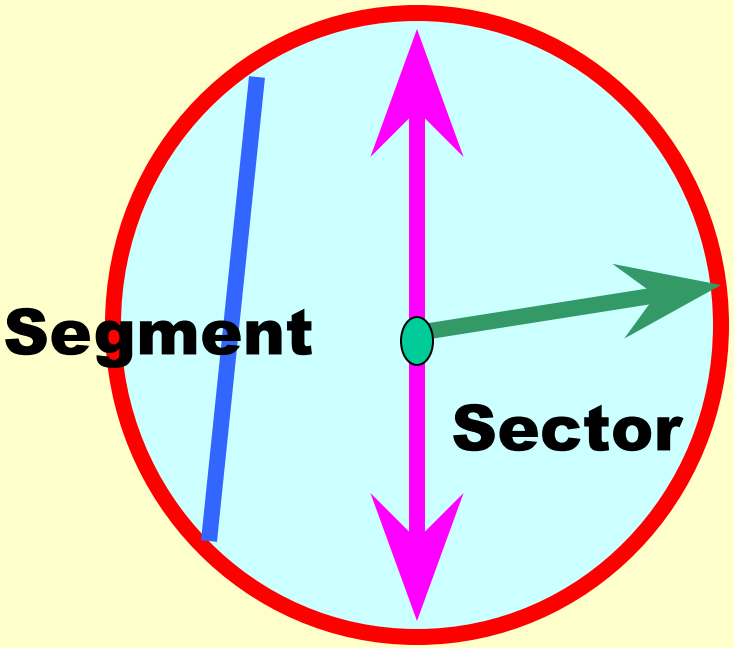
The distance from the centre to the edge

The distance from one side to the other passing through the centre

The red line

The blue line

Tangent Degree Chord Sector Segment Diameter Sphere Concentric Arc



The distance from the centre to the edge **RADIUS**

The distance from one side to the other passing through the centre **DIAMETER**

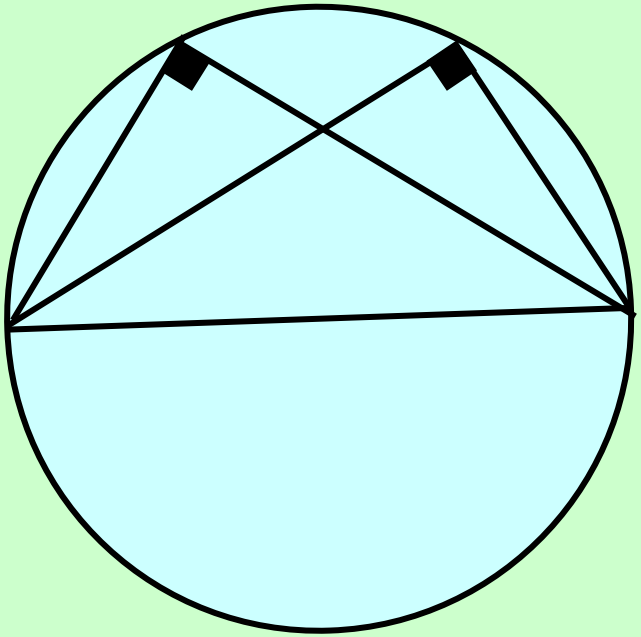
The red line **TANGENT** is a line that touches the edge of a circle

The blue line **CHORD** any line that across a circle

An ARC is the name for part of the circumference

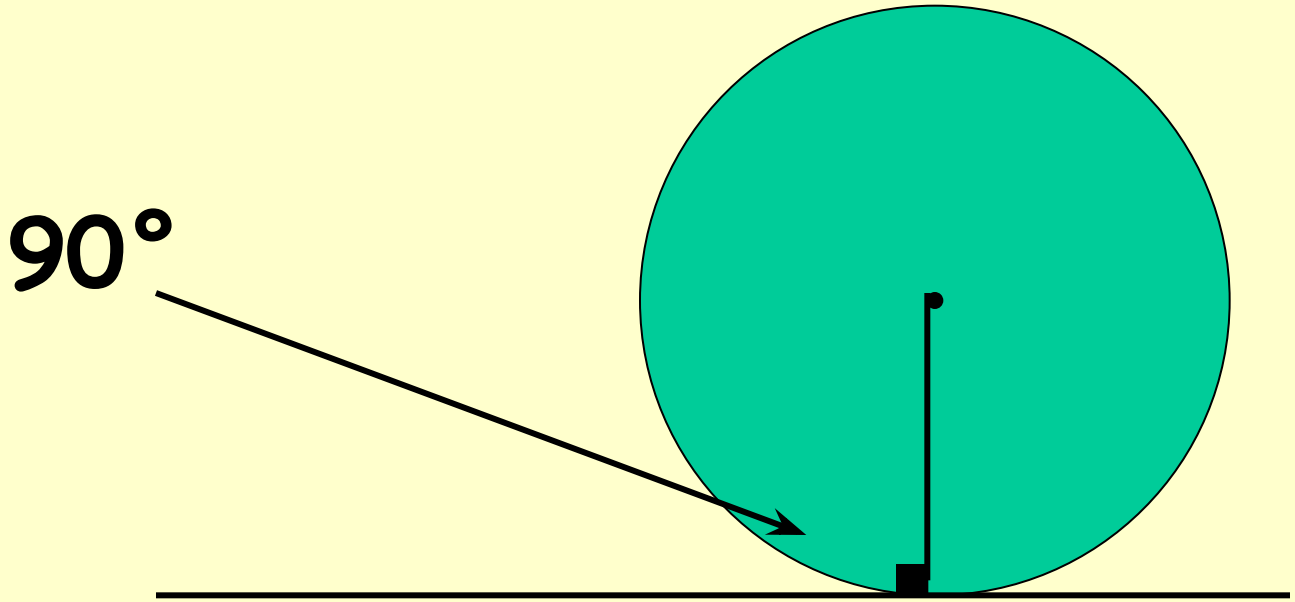
Where can you see i) a segment ii) a sector iii) an arc?

Angle in a semi-circle = 90°



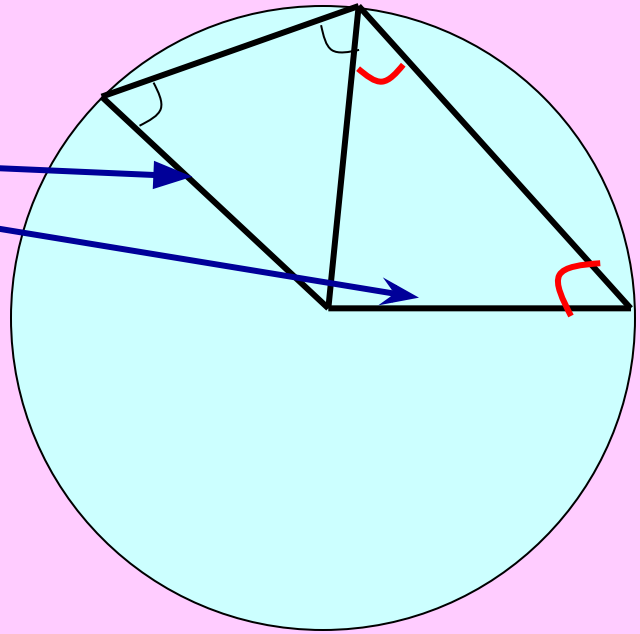
A triangle drawn from the two ends of a diameter will ALWAYS make an angle 90° where it hits the edge of the circle.

Tangent-Radius meet at 90°

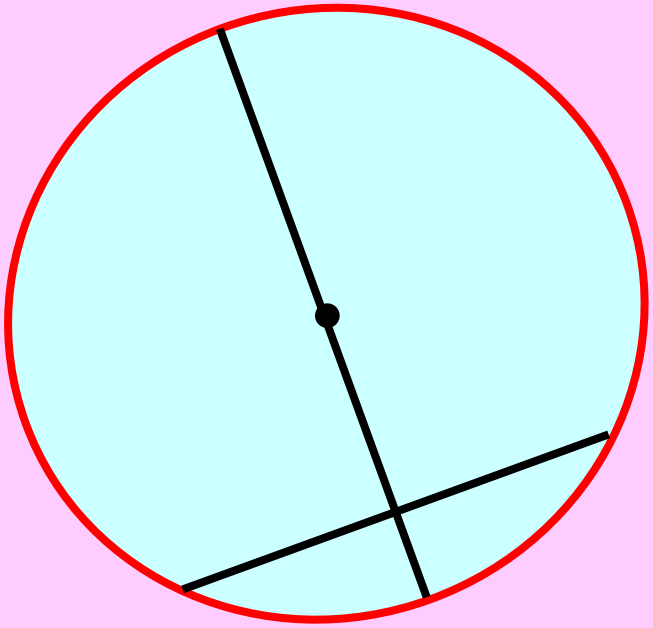


Isosceles triangle formed by two radii

Why isosceles?
Both radii which means they're the same length

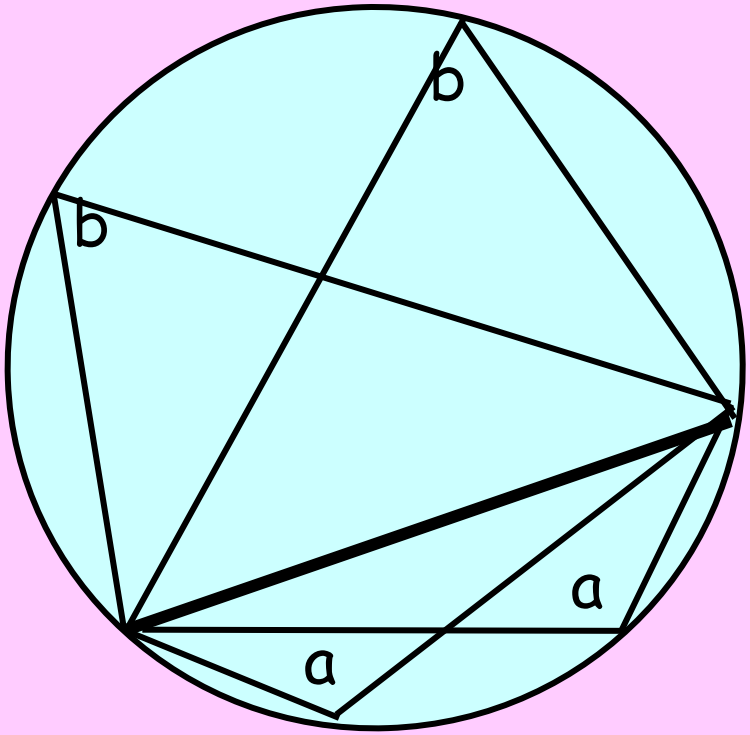


Chord Bisector is a DIAMETER



A chord is any line drawn across a circle. No matter where you draw a chord, the line that cuts it exactly in half is (90°) will go through the centre of the circle

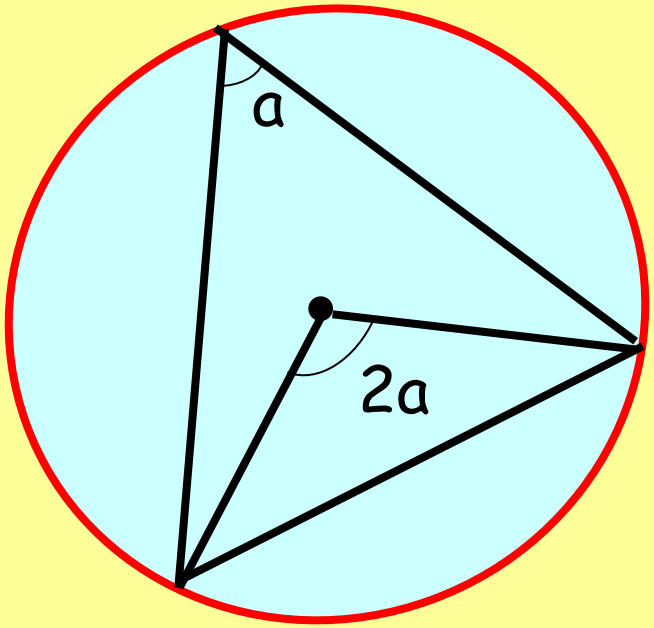
Angles in the same segment are equal



$a + b = 180°$

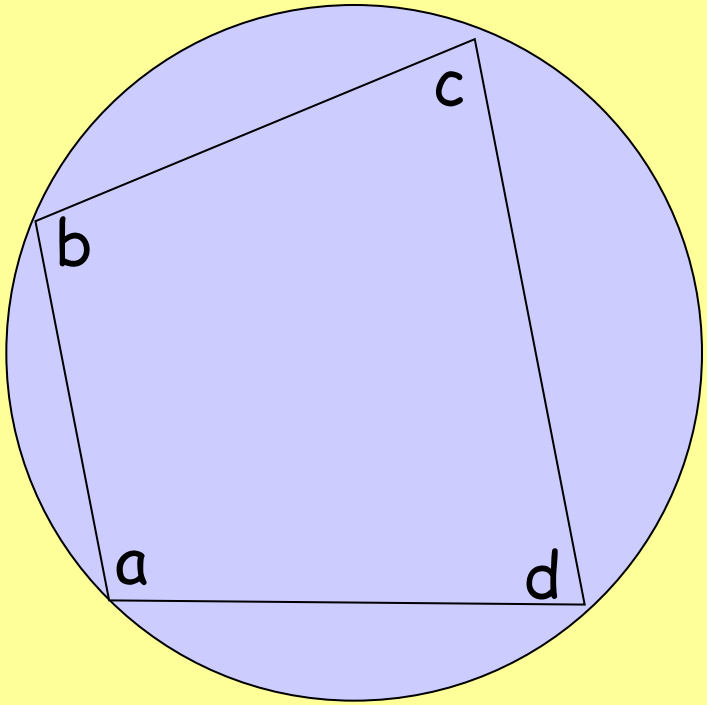
All angles drawn from a chord will have the same angle where they touch the circle. Also the two angles on opposite sides of the chord add up to 180°

Angles at the centre is twice the angle at the edge



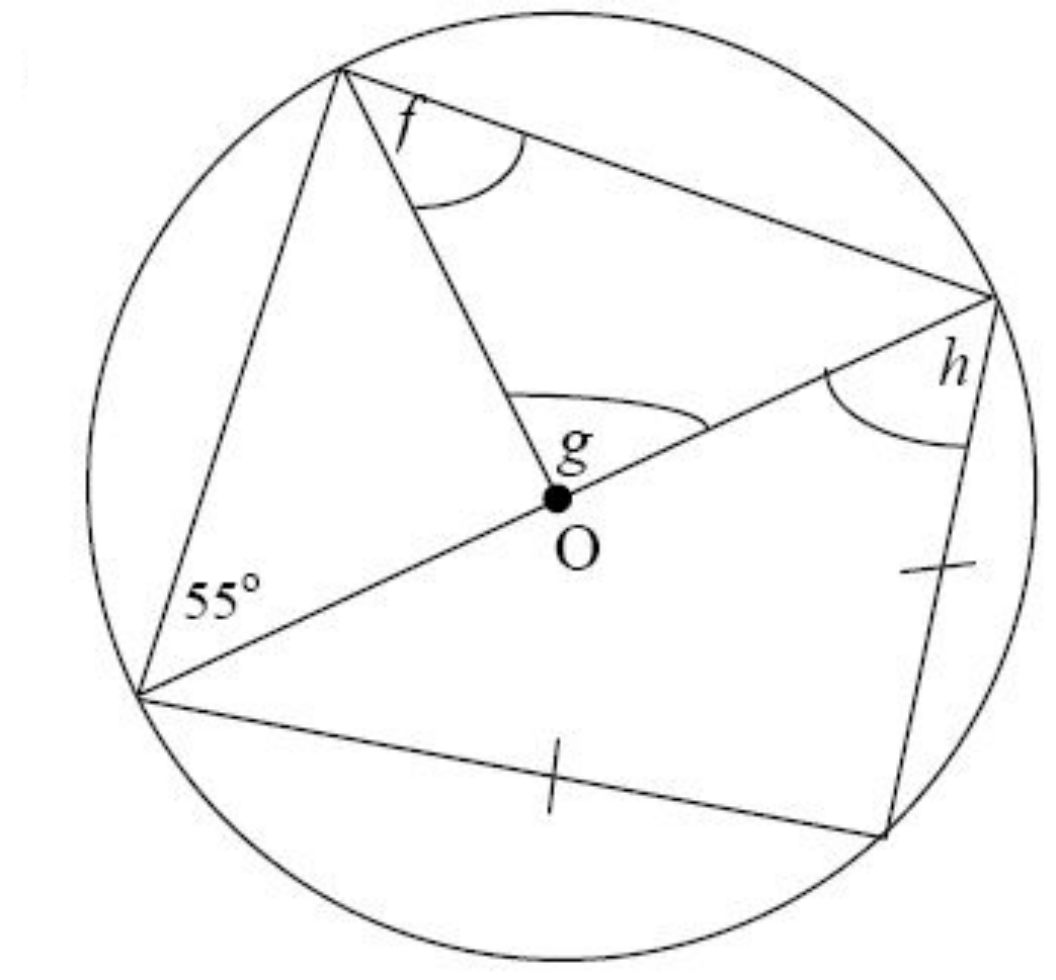
The angles made at the centre of the circle is double the angle made at the edge of the circle from the same two points (two ends of the chord)

Opposite angles in a cyclic quadrilateral add up to 180°



A cylclic quadrilateral is a 4-sided shape with every corner touching the circle. Both pairs of opposite pairs of angles add up to 180°

Example 1



Example 2