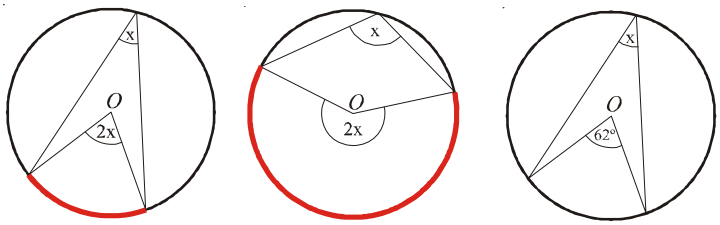
Circle Theorems

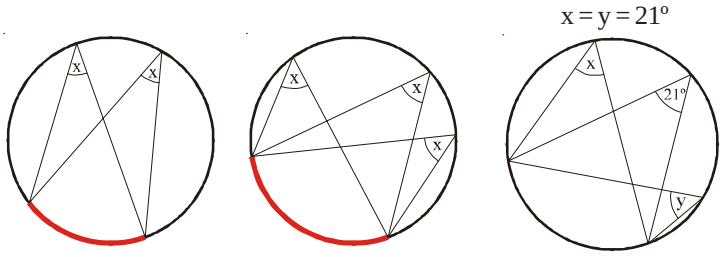
1) **Angle at the centre**

The angle at the centre is **twice** the angle at the circumference (standing on the same arc).



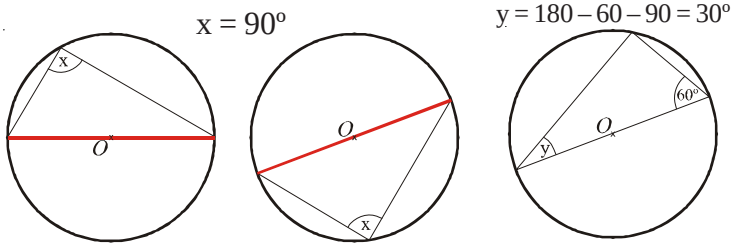
2) **Angles on the same arc**

Angles at the circumference standing on the same arc are **equal**.



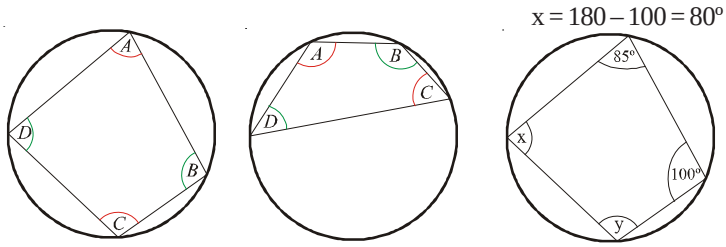
3) **Angles in a semicircle**

Angles at the circumference standing on a diameter are **equal to 90°**.



4) **Cyclic quadrilaterals**

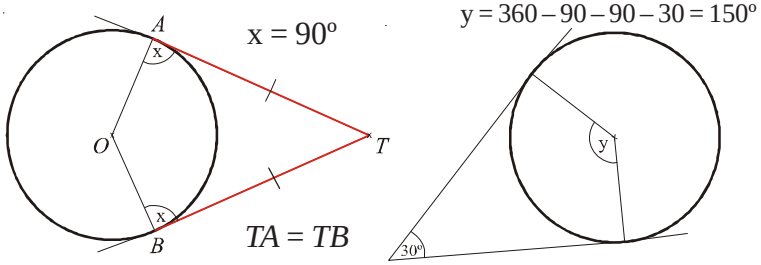
A quadrilateral whose 4 vertices lie on the circumference of a circle is called a cyclic quadrilateral.
Opposite angles of a cyclic quadrilateral **add up to 180°**.



5) **Tangents to a circle**

A tangent to a circle is always **perpendicular** to a radius at the point of contact (90° angle).

Two tangents drawn from the same point are **equal in length**.



6) **Alternate segment**

The angle between a tangent and a chord is **equal** to any angle made by that chord in the alternate segment.