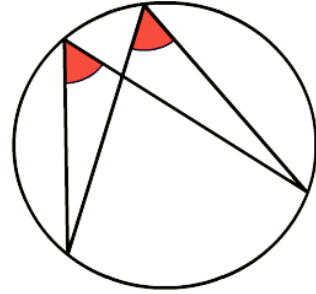


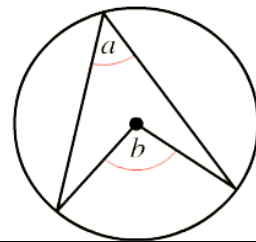
Angles in Circles

angles in the same segment are equal

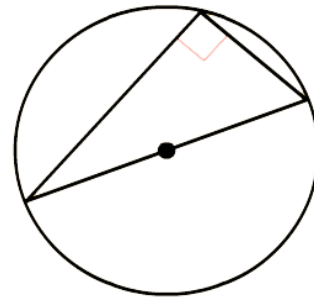


the angle subtended by an arc at the centre of a circle is twice the angle subtended at the circumference

$$b = 2a$$

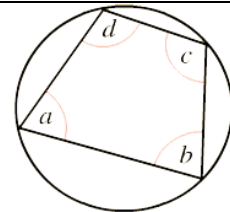


the angle in a semicircle is a right angle.

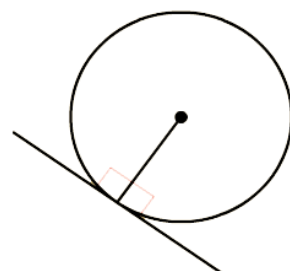


a quadrilateral whose vertices (corners) all lie on the circumference of a circle is called a cyclic quadrilateral. The sum of the opposite angles of a cyclic quadrilateral is 180° .

$$a + c = 180^\circ \text{ and } b + d = 180^\circ$$

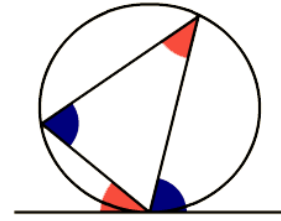


a tangent is perpendicular to the radius at the point of contact

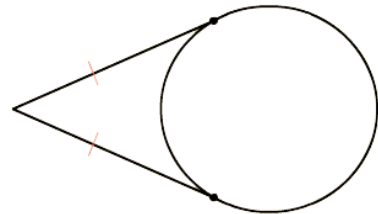


the angle between a chord and the tangent at the point of contact is equal to the angle in the alternate segment.

(also known as 'Alternate segment theorem'.)



tangents from an external point to a circle are equal in length



a line drawn from the centre of a circle perpendicular to a chord bisects the chord

