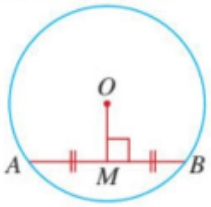
Perpendicular bisector of chord

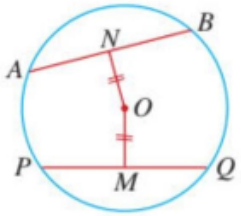
Property: 1



The perpendicular bisector of a chord of a circle passes through the centre of the circle, i.e. $AM = MB \Leftrightarrow OM \perp AB$

Equal chords

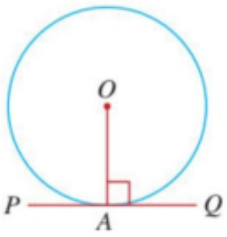
Property: 2



Chords that are equidistant from the centre of a circle are equal in length, i.e. $PQ = AB \Leftrightarrow OM = ON$

Tangent perpendicular to radius

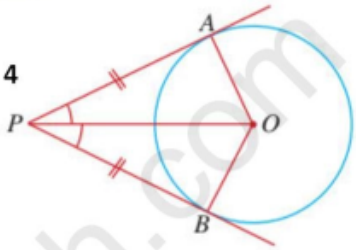
Property: 3



The tangent at the point of contact is perpendicular to the radius of a circle, i.e. $PQ \perp OA$

Equal tangents

Property: 4

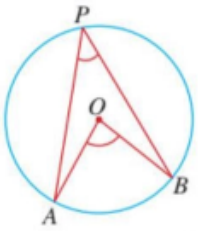


Tangents from an external point are equal in length.

The line from the centre of a circle to an external point bisects the angle between the two tangents from the external point, i.e. $PA = PB$.

Angle at centre = 2 × Angle at circumference

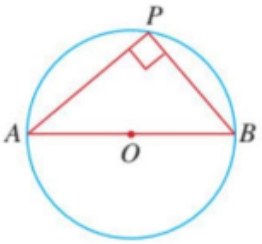
Property: 5



An angle at the centre of a circle is twice that of any angle at the circumference subtended by the same arc, i.e. $\angle AOB = 2 \times \angle APB$

Right angle in semicircle

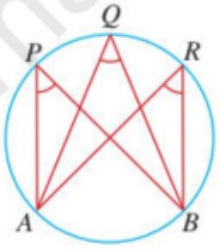
Property: 6



An angle is a semicircle is always equal to 90°, i.e. AOB is a diameter $\Leftrightarrow \angle APB = 90°$

Angles in same segment are equal

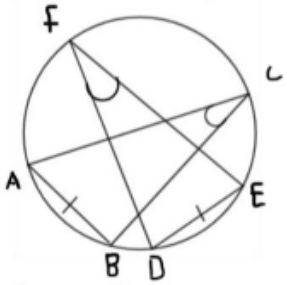
Property: 7



Angles in the same segment are equal, i.e. $\angle APB = \angle AQB = \angle ARB$

Angles from equal chord are equal

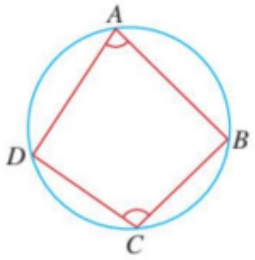
Property: 8



As AB = DE , $A\hat{C}B = D\hat{F}E$

Angles in opposite segments are supplementary

Property: 9

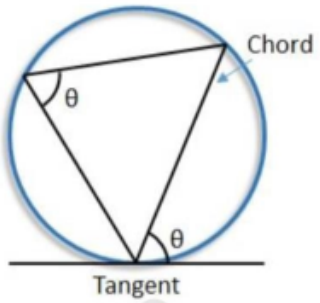


Angles in opposite segments are supplementary, i.e. $\angle DAB + \angle DCB = 180°$

Alternate Segment Theorem

Property: 10

Angle b/w a chord & a tangent is equal to the angle in the alternate segment.



Isosceles Triangle

Property: 11

Triangle formed by two radii is isosceles