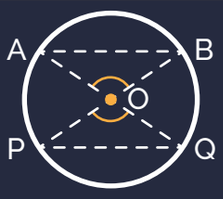
Properties of Chord of Circle

1. Equal chords of circle subtend equal angles at center

If AB = PQ
then ∠AOB = ∠POQ

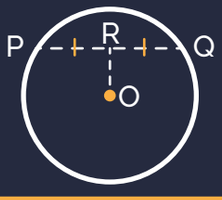


2. Two chords subtend equal angle when they are equal

If ∠AOB = ∠POQ
then AB = PQ

3. Perpendicular from center bisects the chord

If PQ ⊥ OR
then PR = QR

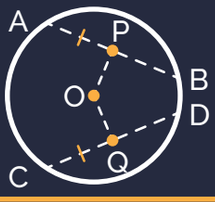


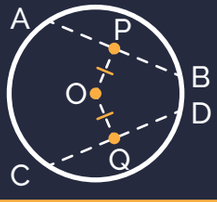
4. The line from the center to the midpoint of chord is perpendicular to it

If PR = QR
then PQ ⊥ OR

5. Equal chords are at equal distance from center

If AB = CD
then OP = OQ





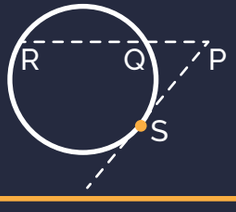
6. Chords at equal distance from center are equal in length

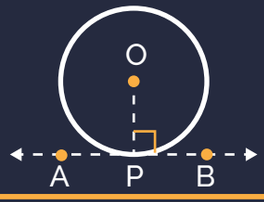
If OP = OQ
then AB = CD

Properties of Tangent of Circle

1. Tangent Secant Theorem

If PS is tangent, PR is Secant
then $PS^2 = PQ.PR$



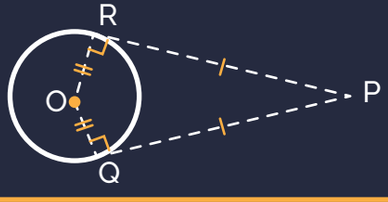


2. Tangent Radius Theorem

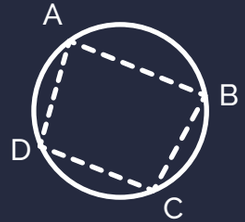
If OP is radius, AB is tangent
then OP ⊥ AB

3. Two Tangent Theorem

If PQ and PR are tangents
then PQ = PR



Cyclic Quadrilateral



A Cyclic Quadrilateral is a four sided closed figure whose all vertices lie on the circle. In fig. ABCD is a Cyclic Quadrilateral

Here, ∠A + ∠C = ∠B + ∠D = 180°