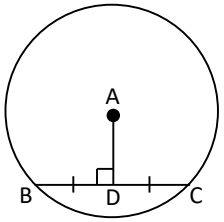
EUCLIDIAN GEOMETRY

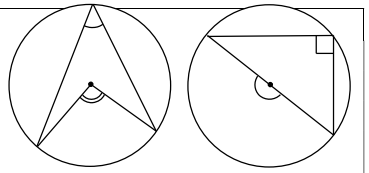
Theorem 1
A line drawn from the centre of a circle,
perpendicular to a chord, bisects the chord.
"line from centre ⊥ to chord"



Theorem 1 (converse)
A line drawn from the centre of a circle,
to the midpoint of a chord, will be perpendicular to the chord.
"line through centre and midpoint"

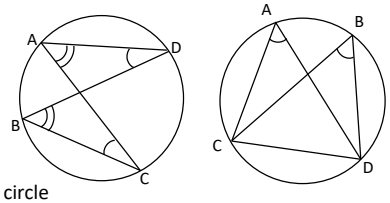
Theorem 2
The perpendicular bisector of a chord passes through the centre of the circle.
"perp. bisector of chord"

Theorem 3
The angle subtended by an arc at the centre of a circle
is double the size of the angle subtended by the same
arc at any point on the circumference of the circle.
"∠ at centre = 2x ∠ at circumf."



Theorem 3 (collories)
→ The diameter subtends a right angle at the circumference of the circle.
→ If the angle at the circumference of a circle is a right angle, it is subtended by the diameter.
"∠ in semi-circle"

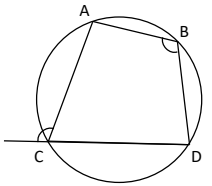
Theorem 4
The angles on a circle, subtended by a chord of the
circle on the same side of the chord are equal.
"∠'s in the same segment"



Theorem 4 (collories)
Equal chords subtend equal angles at the circumference of a circle
"= chords subtends = ∠'s"

Theorem 4 (converse)
If two angles subtended by the same line are equal, then $ABCD$ is a cyclic quadrilateral
"∠'s in the same segment"

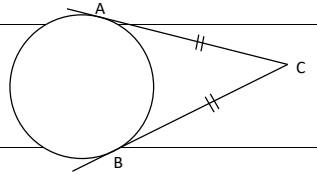
Theorem 5
The opposite angles of a cyclic quadrilateral are supplementary .
"opp. ∠'s of cyclic quad"



Theorem 5 (corollaries)
The exterior angle of a cyclic quadrilateral
is equal to the opposite interior angle.
"Ext ∠ of cyclic quad."

Theorem 5 (converse)
A quadrilateral is a cyclic quadrilateral if the opposite angles are supplementary.
"opp. ∠'s of quad suppl."

Theorem 6
Two tangents drawn to a circle from the same
point outside the circle are equal in length.
"tans. from same point"



Theorem 7
The angle between the tangent and the chord is equal
to the angle subtended in the alternate segment.
"Tan-chord theorem"