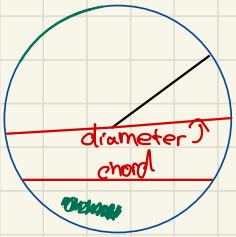
Circle properties

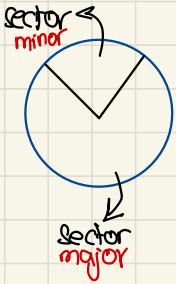


Radius = Distance from the centre to any point on the circumference

Chord = A line joining two points on the circumference

Diameter: A chord passing through the center. $d = 2r$

Segment: Area bounded by the chord and part of a circumference.



Arc: Part of a circumference

Sector: Part of a circle cut from the centre

Perpendicular: Making a 90° angle

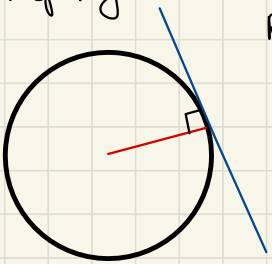
Bisect: Cut into half

Perpendicular Bisector: A line passing the midpoint at a 90° angle

Equidistant: Equal distance

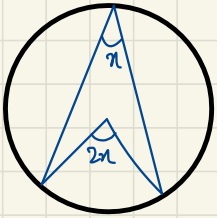
Tangent: A line touching the circle or a curve at one point only

Property 1.



Radius & tangent meet at 90°

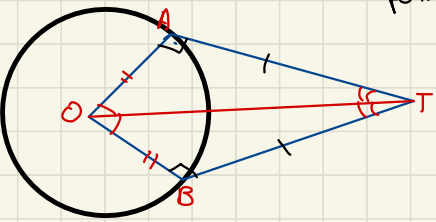
Property 2



Angle at center is twice the angle at circumference.

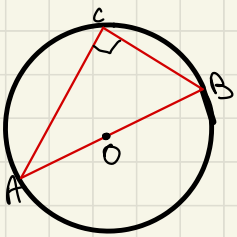
Property 3

Two tangents that meet at an external point will be equal in length



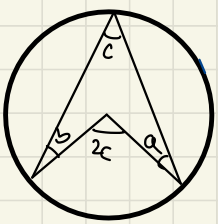
Note: $\triangle OAT \cong \triangle OBT$ are congruent

Property 4



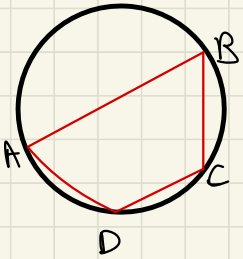
Angle at the circumference opposite the diameter is always 90°.

Property 5



$a + b = c$

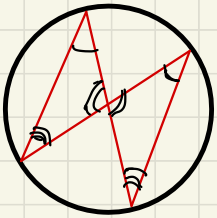
Property 6



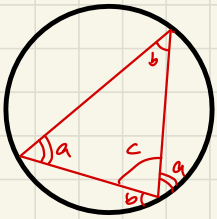
ABCD is a cyclic quadrilateral → a quadrilateral with all 4 sides touching the circumference.

$\angle A + \angle C = 180$
$\angle B + \angle D = 180$
] opposite angles are supplementary

Property 7



Property 8



opposite chord property

$c = 180 - (a+b)^\circ$