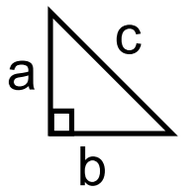
Chapter 8: Notes

Pythagorean theorem



Hyp = ?

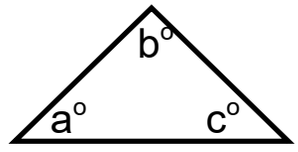
$c^2 = a^2 + b^2$

Leg = ?

$a^2 = c^2 - b^2$

Angle Sum of Triangle Theorem

(SATT)



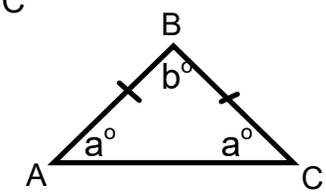
$a^o + b^o + c^o = 180^o$

Isosceles Triangle Theorem (ITT)

Two sides are equal : AB = BC

Base angles are equal:

< A = <C



If a^o = ?

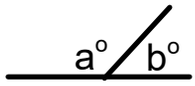
$a^o = \frac{180 - b}{2}$

If b^o = ?

$b^o = 180 - a^o - a^o$

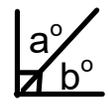
Angle Properties

Supplementary Angle Theorem (SAT)



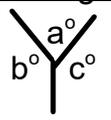
$a^o + b^o = 180^o$

Complimentary Angle Theorem (CAT)



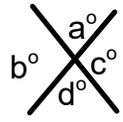
$a^o + b^o = 90^o$

Cyclic Angle Theorem (CyAT)



$a^o + b^o + c^o = 360^o$

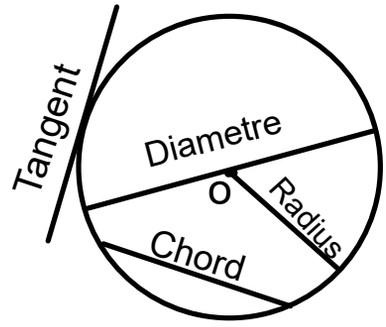
Opposite Angle Theorem (OAT)



$a^o = d^o$

$b^o = c^o$

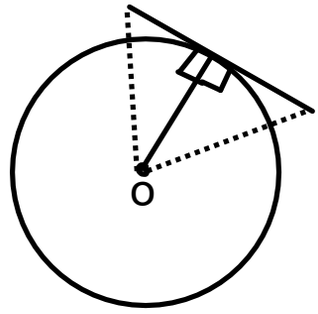
Information about circles



Tangent Property

< ___ = 90° (Tang P)

- a radius hits a tangent at 90°



To solve unknown sides :

Pythagorean Theorem

To solve unknown angles :

SATT

Chord Property

If chord lengths are indicted

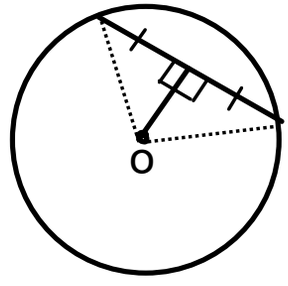
<___= <___= 90° (Chord P)

If 90° is indicated

___ = _____(Chord P)

a line coming from the centre of the circle

- hits chord at a 90° angle
- cuts the chord into two equal pieces



To solve unknown sides :

Pythagorean Theorem

To solve unknown angles :

SATT

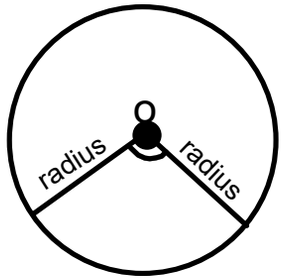
ITT

Identify radii

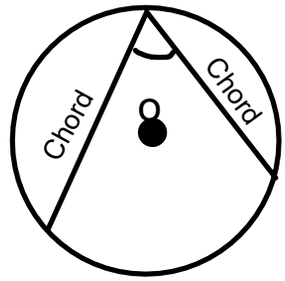
___ = _____=___(Radii)

Circle Properties

Central Angle

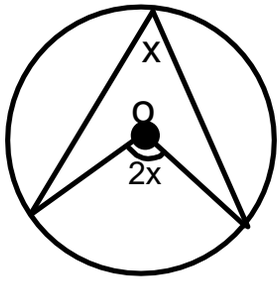


Inscribed Angle



Property # 1: Central & Inscribed Angles

< ___= __° (ins/cent >, ⌒)

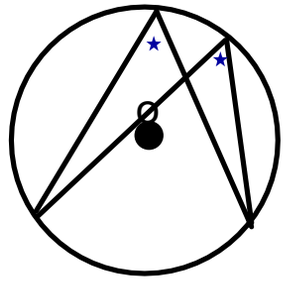


- The central angle is double the inscribed angle

- The inscribed angle is half the central angle

Property # 2: Inscribed Angles

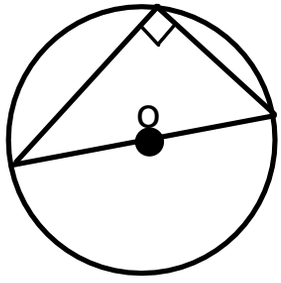
< ___= __° (ins >, ⌒)



- Inscribed angles coming from the same arc are equal

Property # 3: Inscribed from Diameter

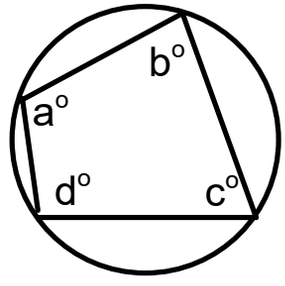
< ___= __° (ins >, diam)



- Inscribed angles coming from the diametre are 90°

Property # 4: Cyclic Quadrilateral

< ___= __° (CyQuad)



- Opposite angles in a cyclic quad must add up to 180°

$a^\circ + c^\circ = 180^\circ$

$b^\circ + d^\circ = 180^\circ$

(SATT) (ITT) (SAT) (CAT) (OAT) (CyAT)	< ___ = 90° (Tang P) <___= <___= 90° (Chord P) ___ = ____(Chord P) ___ = ____=___(Radii)	< ___= __° (ins/cent >, $\overset{\frown}{\_\_}$) < ___= __° (ins >, $\overset{\frown}{\_\_}$) < ___= __° (ins >, diam) < ___= __° (CyQuad)