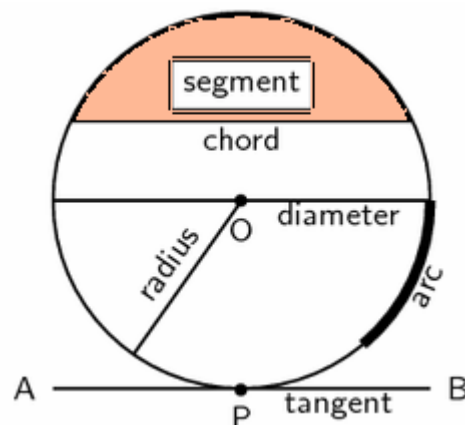


RIPASSO della circonferenza

tramite il sito <http://m.everythingmaths.co.za>

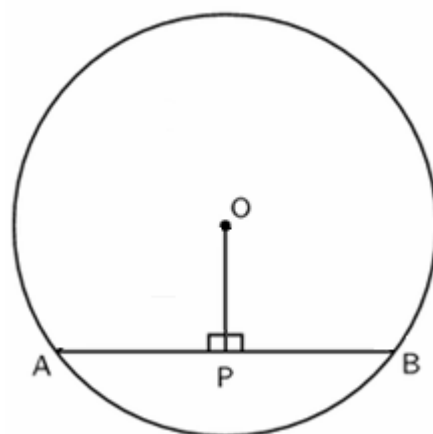
- ❑ **arc:** an arc is a part of the circumference of a circle.
[*Circumference* si pronuncia sə'kʌmfərəns, con accento dopo l'apostrofo ossia sulla 2^a sillaba]
- ❑ **chord:** a straight line joining the ends of an arc.
- ❑ **radius:** a radius, r , is any straight line from the centre of the circle to a point on the circumference.
- ❑ **diameter:** a diameter, $\varnothing$, is a special chord that passes through the centre of the circle.
[Pronuncia dai 'ləmitə, accento dopo l'apostrofo]
- ❑ **segment:** a segment is the part of the circle that is cut off by a chord.
A chord divides a circle into two segments.
- ❑ **tangent:** a tangent is a line that makes contact with a circle at one point on the circumference (AB is a tangent to the circle at point P)

Quali sono i termini corrispondenti in Italiano?



The line drawn from the centre of a circle,
perpendicular to a chord,
bisects the chord.

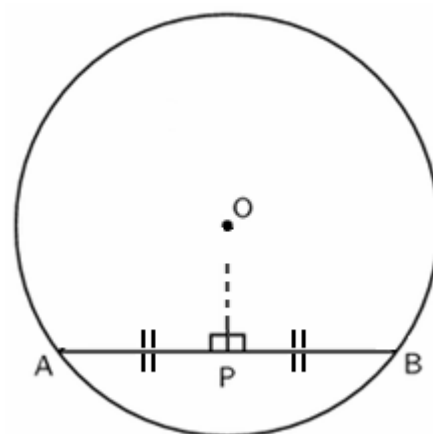
Come si dimostra? Si tracciano ...



The perpendicular bisector of a chord
passes through the centre of the circle.

*Che parola italiana usiamo di norma al posto
dell'espressione inglese "perpendicular bisector"?*

Come si dimostra l'enunciato?



RIPASSO della circonferenza

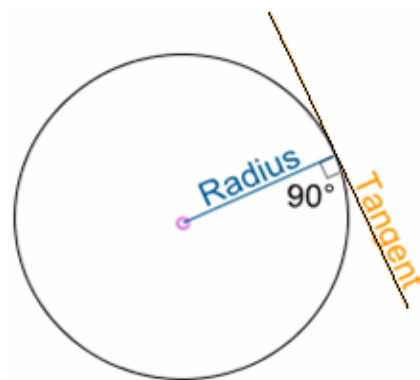
tramite il sito www.mathsisfun.com

Tangent Angle

A tangent is a line that just touches a circle at one point.

It always forms a **right angle** with the circle's radius as shown here.

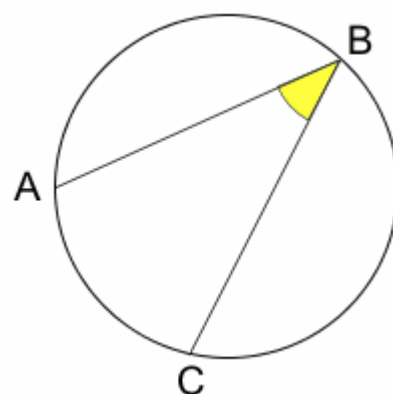
Ti ricordi la dimostrazione (per assurdo)?



Inscribed Angle:

an angle made from points sitting on the circle's circumference

A and C are "end points"; B is the "apex point"



Inscribed Angle Theorems

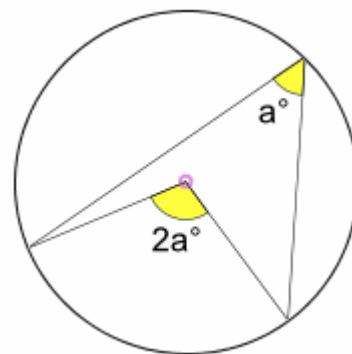
An inscribed angle a° is half of the central angle $2a^\circ$

(called the **Angle at the Center Theorem**)

Sapresti fare la dimostrazione con riferimento alla figura qui a fianco?

Ti ricordi quali sono gli angoli alla circonferenza "di seconda specie"?

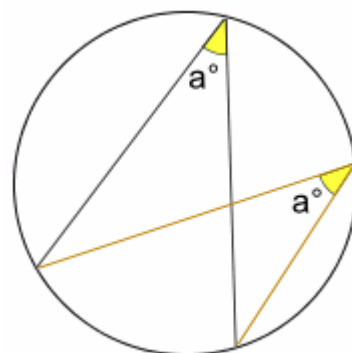
Vale anche per essi il teorema?



And (keeping the endpoints fixed) the angle a° is always the same, no matter where it is on the circumference

(**Angles Subtended by Same Arc Theorem**)

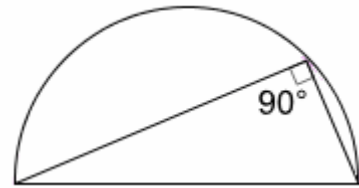
Perché questo teorema è un corollario del precedente?



Angle in a Semicircle

An angle **inscribed** in a **semicircle**
is always a right angle
(the end points are either end of a circle's diameter,
the apex point can be anywhere on the circumference)

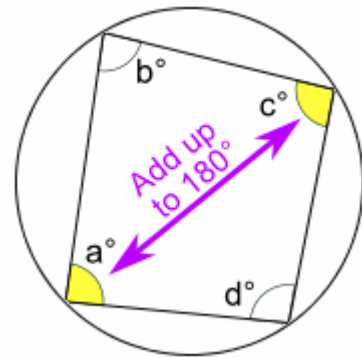
Ti ricordi come si dimostra?



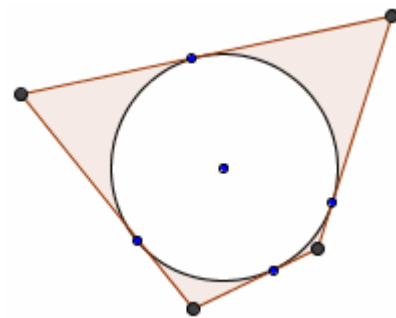
Cyclic Quadrilateral

A "Cyclic" Quadrilateral
has every vertex on a circle's circumference
A Cyclic Quadrilateral's opposite angles add to 180° :
 $a^\circ + c^\circ = 180^\circ$; $b^\circ + d^\circ = 180^\circ$ [gradi = degrees]

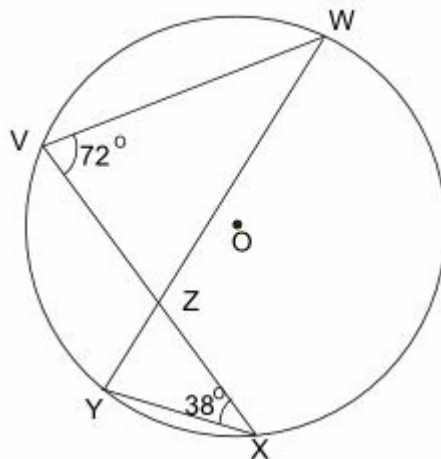
Ti ricordi come si dimostra?



*E qual è, invece, la proprietà caratteristica
dei quadrilateri CIRCOscritti?*
Dimostrala, utilizzando la figura qui a destra →



V, W, X and Y →
are points on the
circumference.
Chords VX and WY
intersect
at the point Z.
 $\angle XVW = 72^\circ$
and $\angle VXY = 38^\circ$.
What is the size
of $\angle VZW$?



*Le RISPOSTE
sono le soluzioni
delle seguenti equazioni:*

$$(x+12)^2 = x^2 + 4(5x+106) \quad \uparrow$$

$$3(x+1) + 64 = 5(x-1) \quad \rightarrow$$

→
RS and RT are tangents
to the circle center O.
 $\angle SUT = 72^\circ$
What is the size
of $\angle SRT$?

