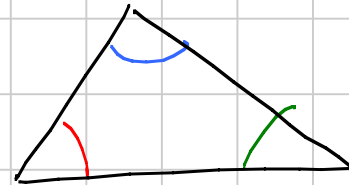
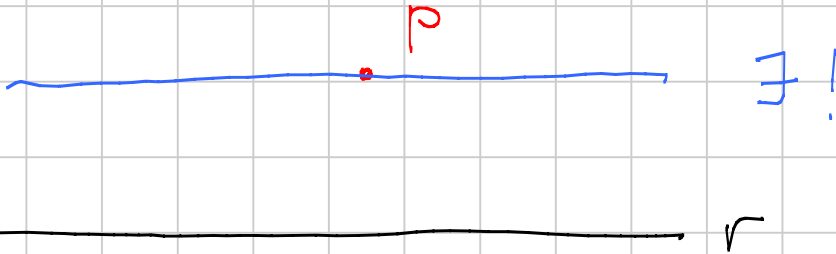


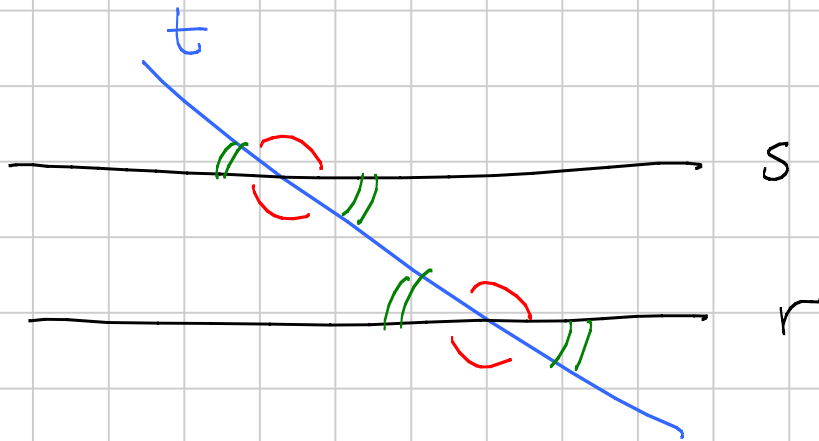
# GEOMETRIA EUCLIDEA

Titolo nota

23/02/2007

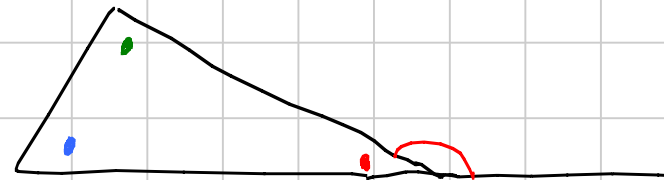


$$\text{green wavy} + \text{red wavy} + \text{blue wavy} = 180^\circ$$



$$\text{green wavy} + \text{red wavy} = 180^\circ$$

Teorema dell'angolo esterno



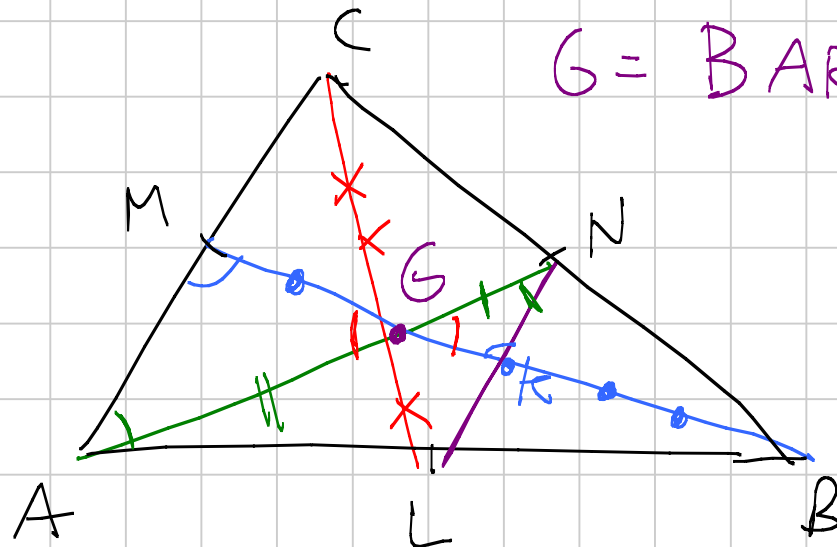
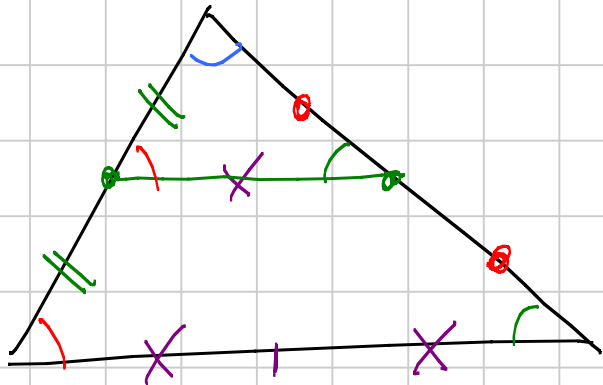
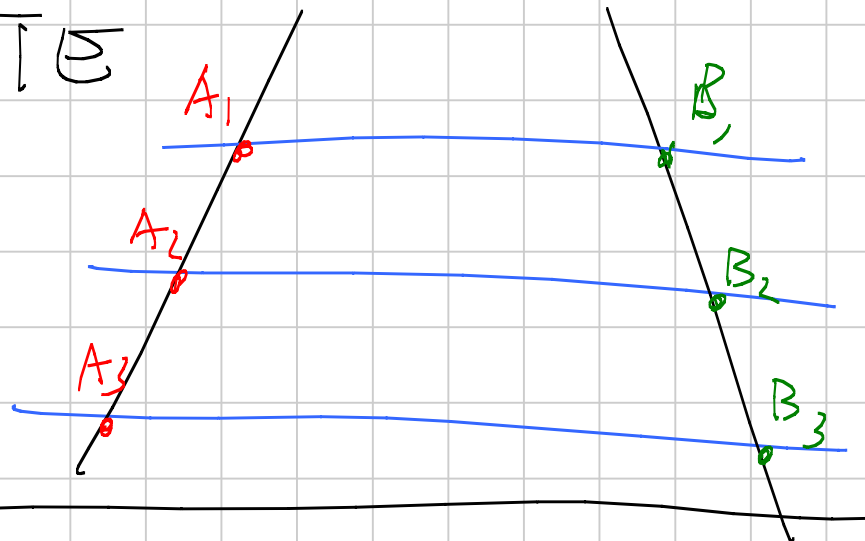
$$\text{red arc} = \text{blue dot} + \text{green dot}$$

Angolo esterno  $e$  = alla

somma degli angoli interni non adiacenti

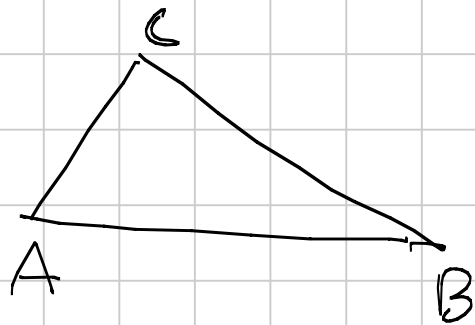
# TEOREMA DI TALETE

$$\frac{A_1A_2}{B_1B_2} = \frac{A_2A_3}{B_2B_3}$$



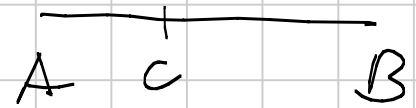
G = BARI CENTRO

# DISEGUAGLIANZA TRIANGOLARE

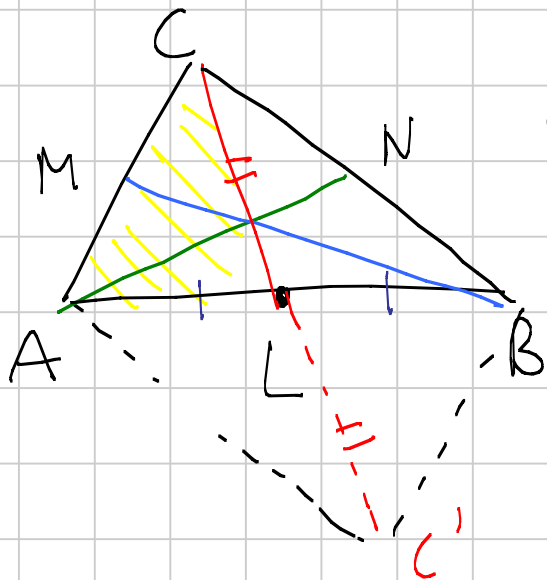


$$AB \leq AC + CB$$

$$AB \geq |AC - CB|$$



La somma delle lunghezze delle mediane  $\bar{e}$  è minore del perimetro



$$2CL = CC' < AC + CB$$

$$2AN = AA' < AC + AB$$

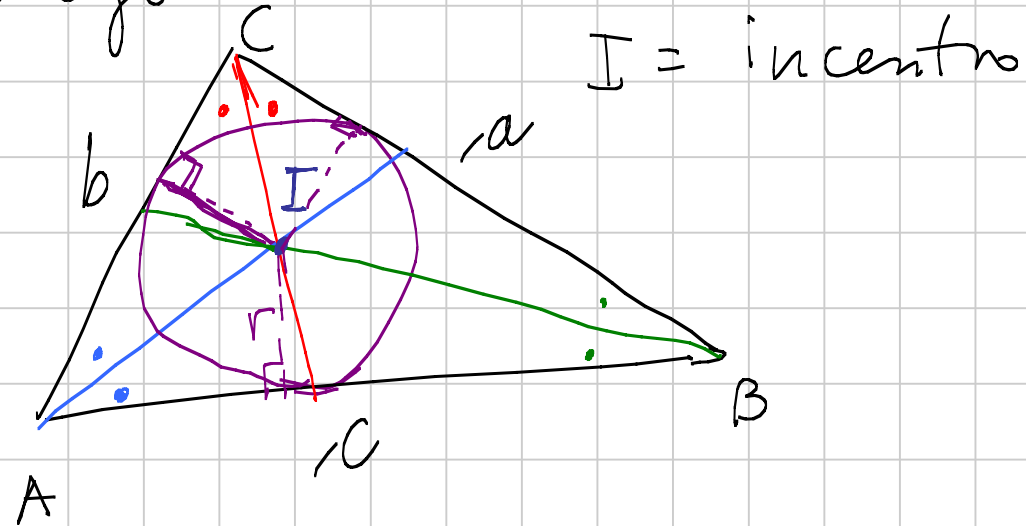
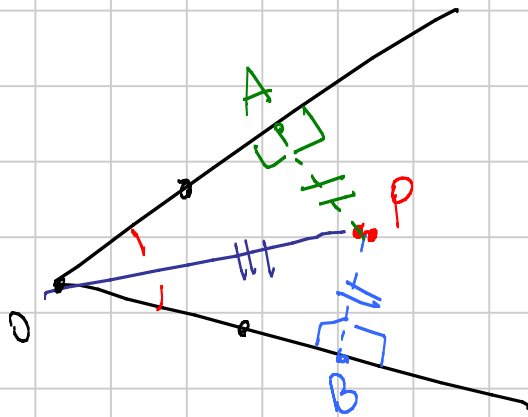
$$2BN = BB' < AB + CB$$

2 (somma delle mediane) < 2-perimetro

$$AN + CL + BM < AB + BC + AC$$

---

Bisettrice di un angolo



$$S = S_{ABI} + S_{BCI} + S_{CAI}$$

$$S = \frac{cr}{2} + \frac{a \cdot r}{2} + \frac{b \cdot r}{2}$$

$$S = \frac{r}{2} \cdot (a + b + c)$$

$$p = \frac{a+b+c}{2}$$

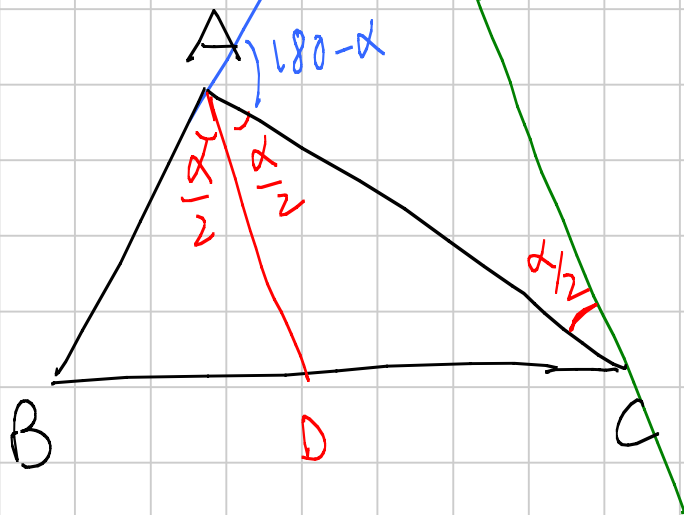
$$S = p \cdot r$$

$$r = \frac{S}{p}$$

$$S = \sqrt{p(p-a)(p-b)(p-c)}$$

FORMULA DI ERONE

## TEOREMA DELLA BISETTRICE



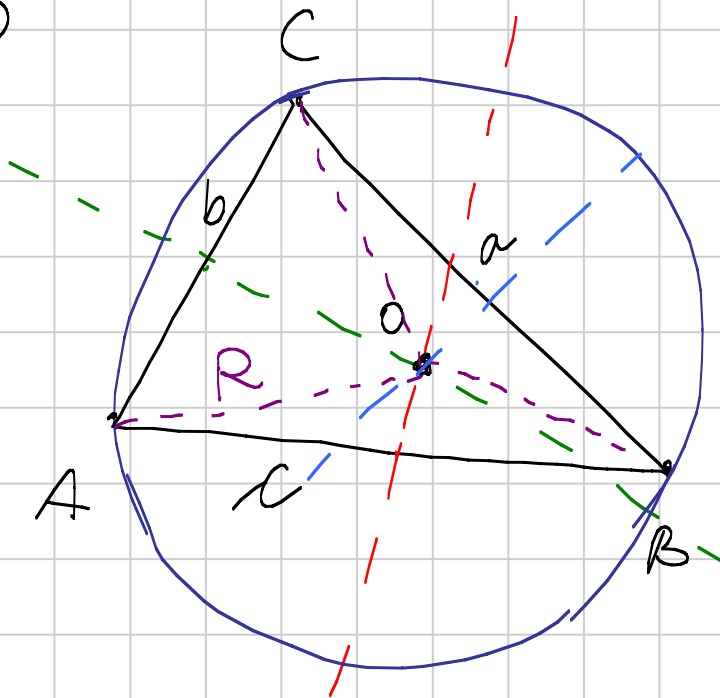
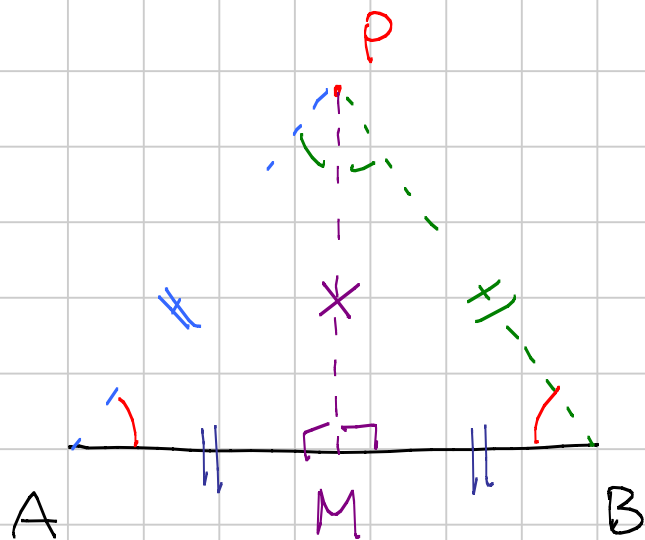
$$\frac{BD}{DC} = \frac{AB}{AC}$$

$ACE$  è isoscele

$$AC = AE$$

$$\frac{BD}{DC} = \frac{AB}{AE}$$

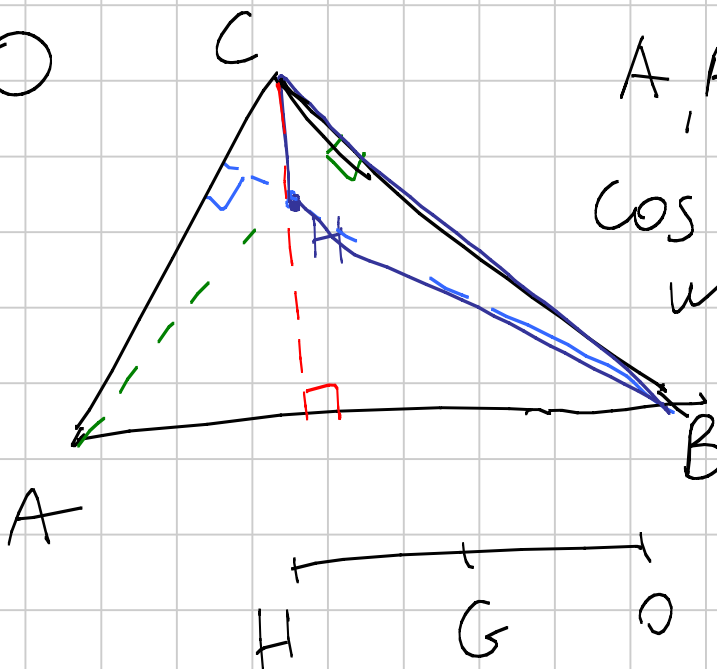
# CIRCO CENTRO



$$R = \frac{abc}{4S}$$

# ORTO CENTRO

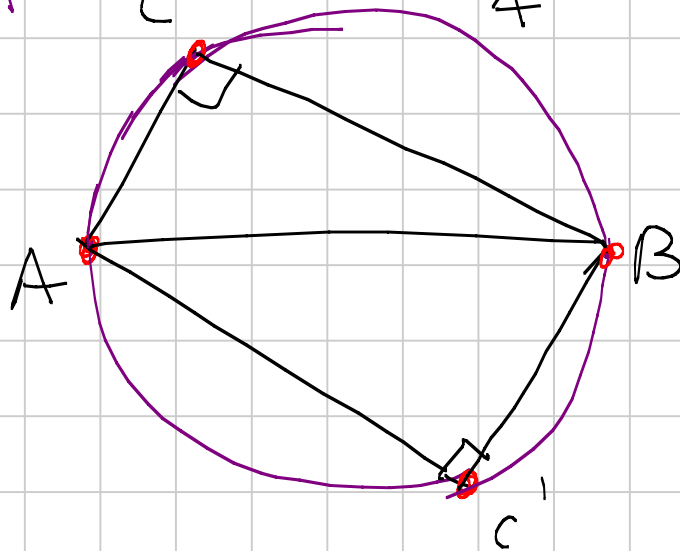
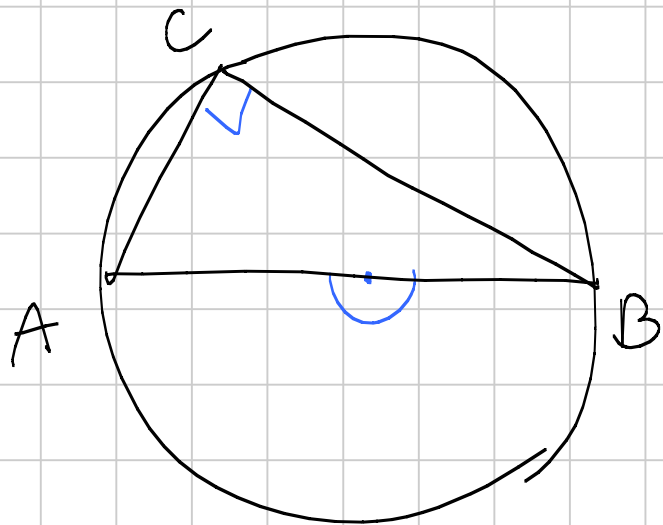
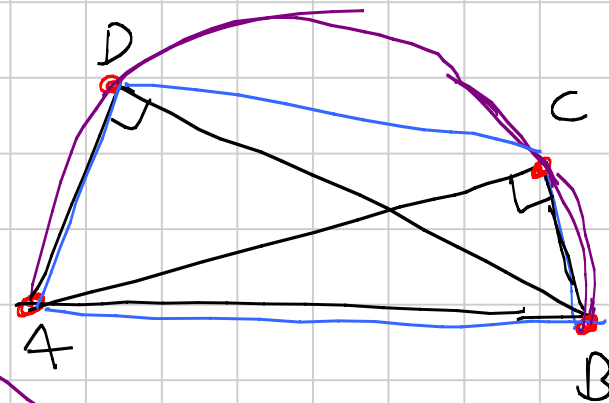
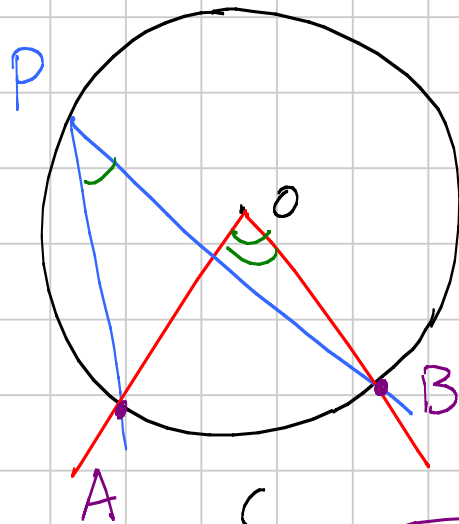
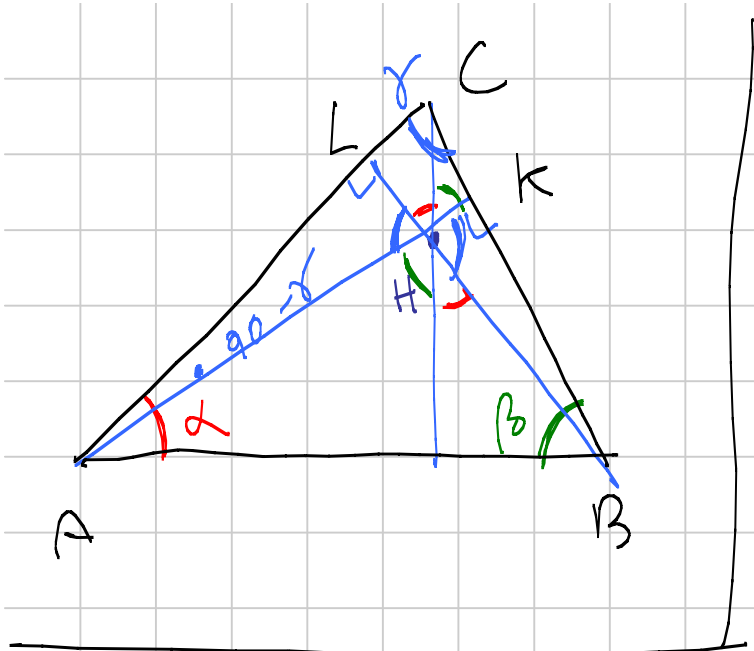
H, G, O sono  
allineati  
retta di Eulero

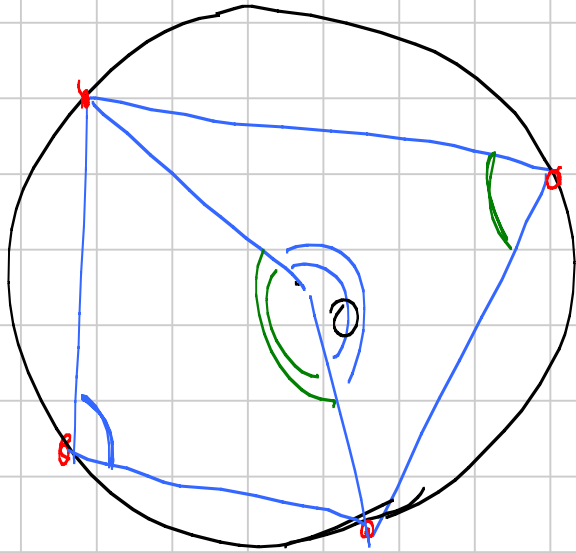


A, B, C, H  
costituiscono  
un sistema  
ortocentrico

$$HO = 2HG$$

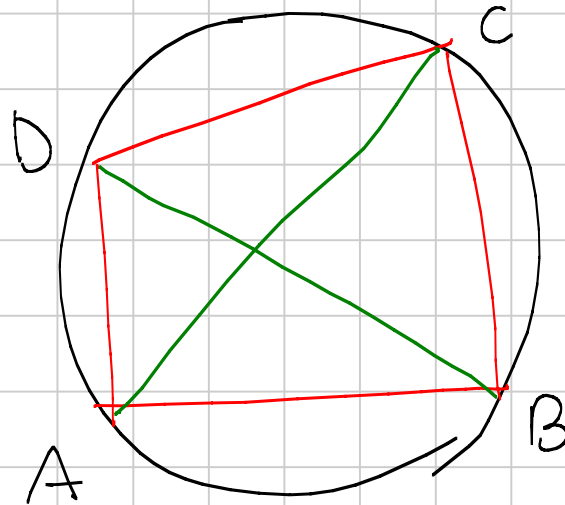
# CIRCONFERENZE





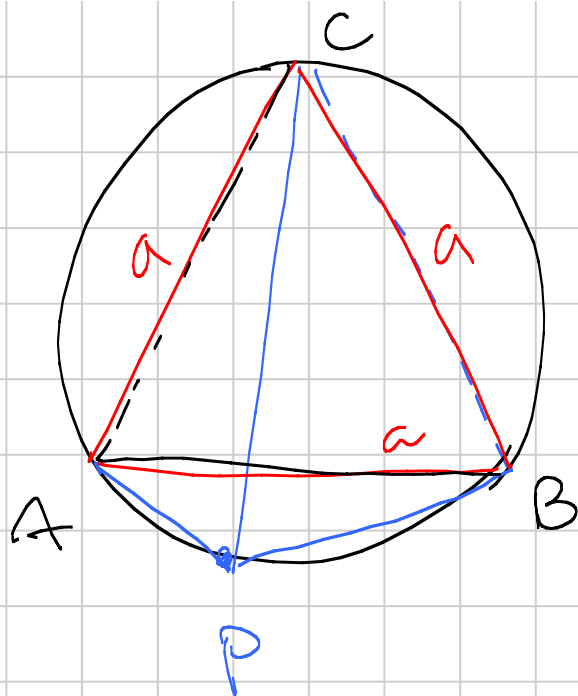
$$\overset{\frown}{\text{green}} + \overset{\frown}{\text{blue}} = 180^\circ$$

## TEOREMA DI TOLOMEO



$ABCD$  è ciclico  $\Leftrightarrow AC \cdot BD = AD \cdot BC + AB \cdot CD$   
 (inscrivibile in una circonferenza)



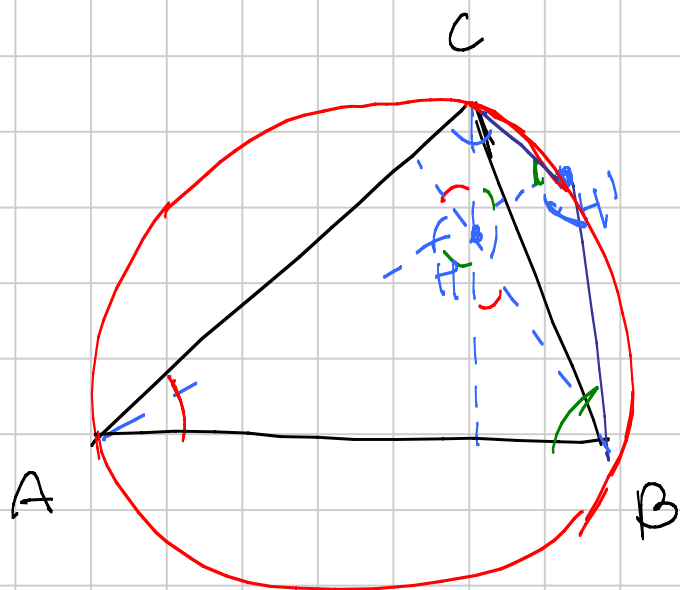


$$PC = PA + PB$$

APBC è ciclico

$$PC \cdot \cancel{a} = AP \cdot \cancel{a} + PB \cdot \cancel{a}$$

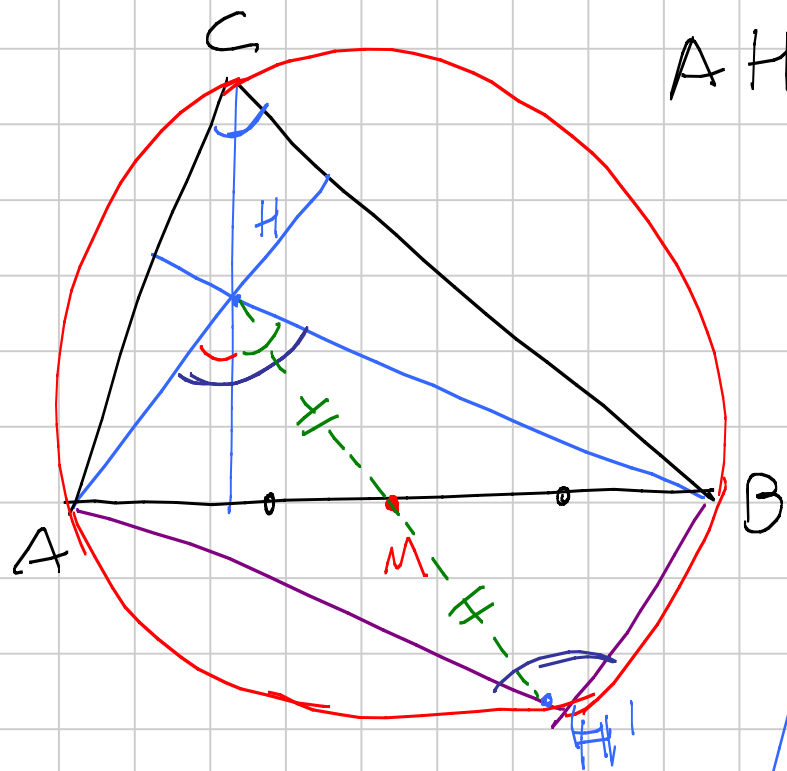
$$PC = AP + PB$$



$H'$  è circonferenza circoscritta

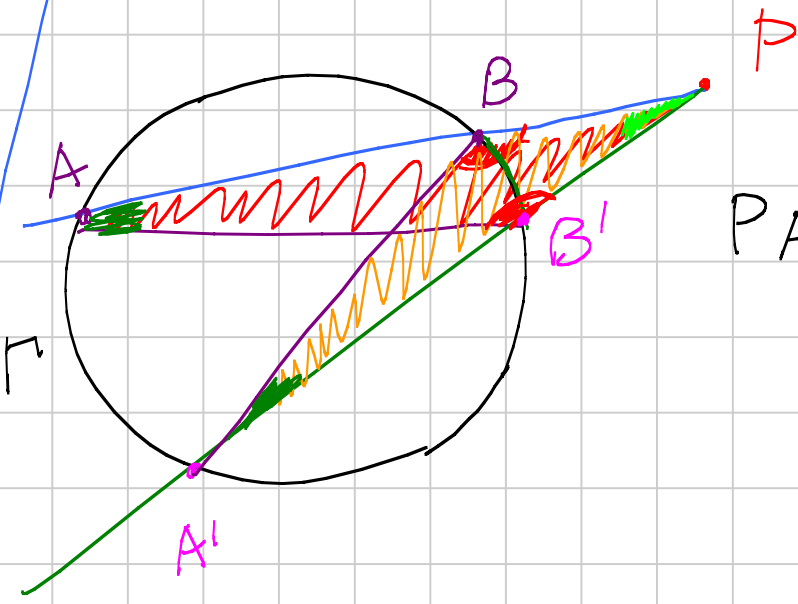
$A B H' C$

$$\widehat{CAB} + \widehat{CH'B} = \color{red}{\text{m}} + \color{blue}{\text{m}} + \color{green}{\text{m}} = 180^\circ$$



AHBH' è un parallelogrammo

POTENZA DI UN PUNTO RISPETTO A UNA CIRCONFERENZA



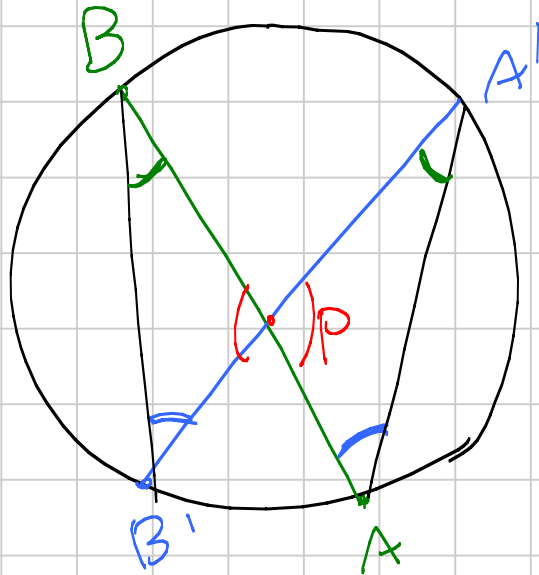
$$PA \cdot PB = PA' \cdot PB'$$

$$\text{pow}_P(P) = PA \cdot PB$$

$\triangle BPA'$  è simile a  $\triangle B'PA$

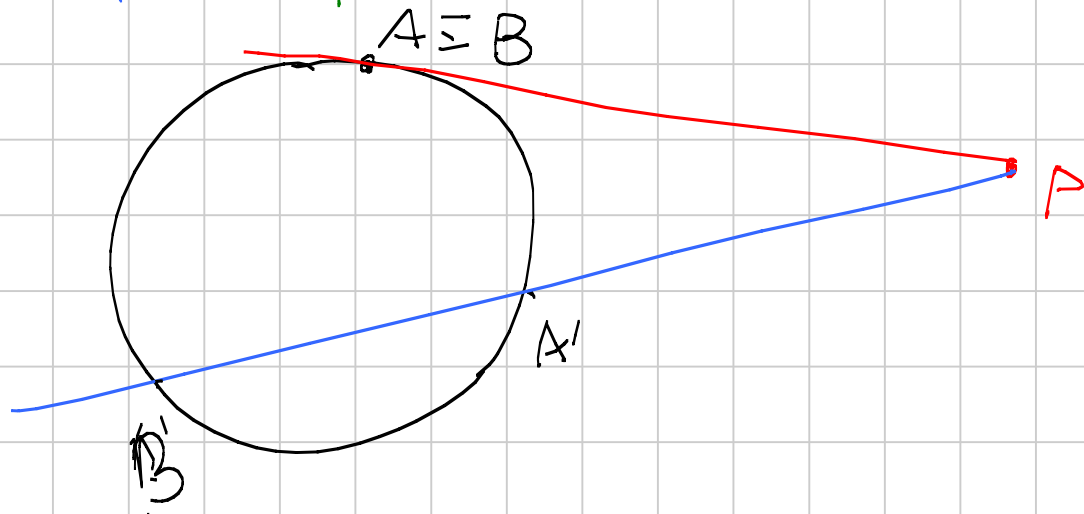
$$\cancel{PA'} \cdot PB \cdot \frac{PA}{\cancel{PA'}} = \frac{PB'}{\cancel{PB}} \quad \cancel{PB} \quad PA'$$

$$PB \cdot PA = PA' \cdot PB'$$



$$\frac{PA \cdot \cancel{PB}}{\cancel{PA'} \cdot \cancel{PB}} = \frac{\cancel{PA'} \cdot PB'}{\cancel{PA'} \cdot \cancel{PB}}$$

$$\frac{PA}{PA'} = \frac{PB'}{PB}$$



$$PA^2 = PA' \cdot PB'$$

