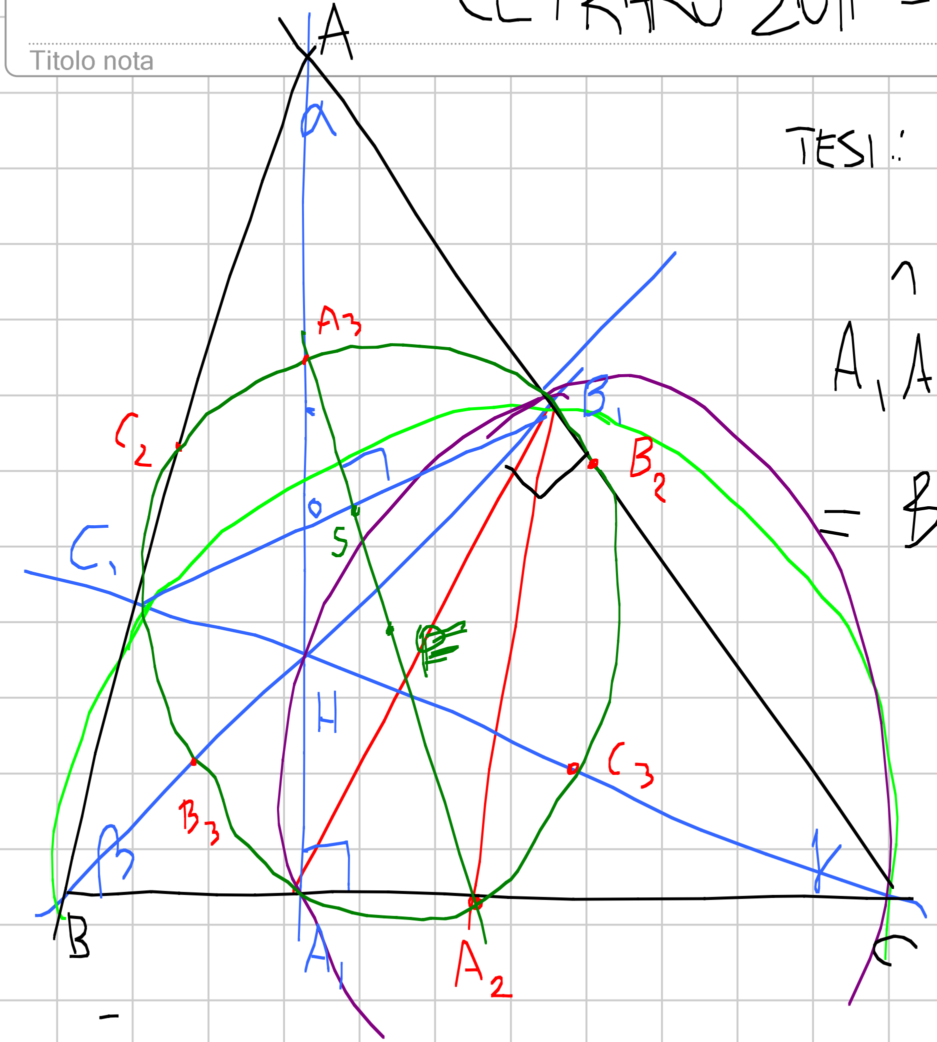
Titolo nota 11/10/2011

CETRARO 2011 - ESERCIZI DI GEOMETRIA



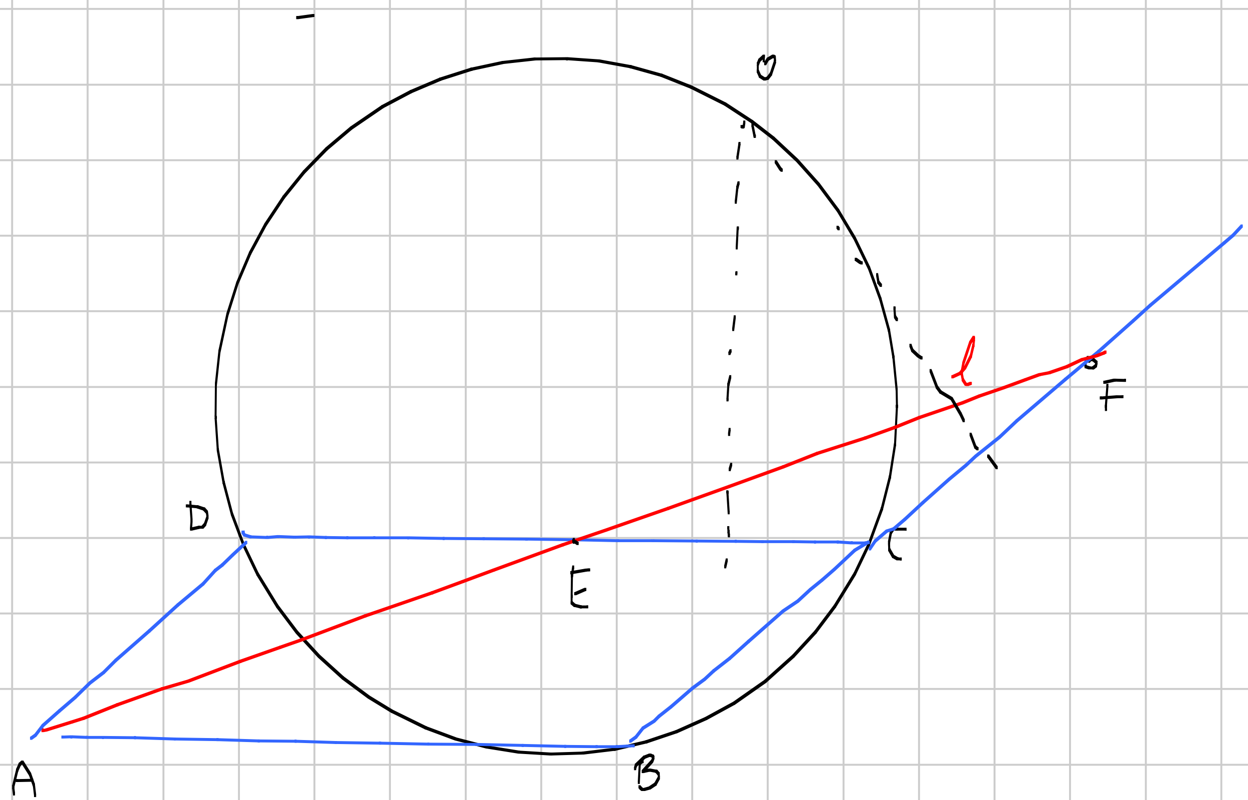
TESI: LA RETTA A_2A_3 é $\perp$ a B_1C

$$A_1\hat{A_3}A_2 = A_1\hat{B_1}A_2$$

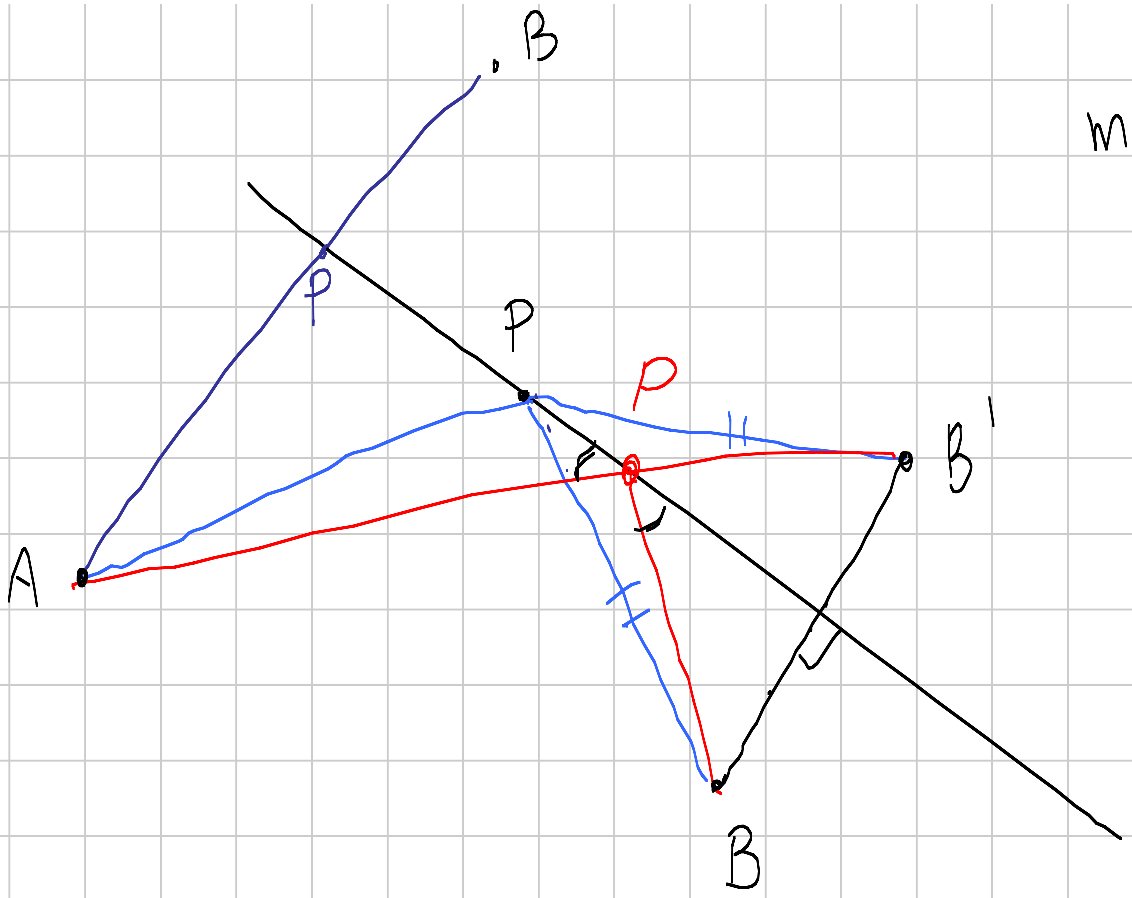
$$= B\hat{B_1}A_2 - B\hat{B_1}A_1$$

$$B\hat{B_1}A_2 = B_1\hat{B}A_2 = 90 - \gamma$$

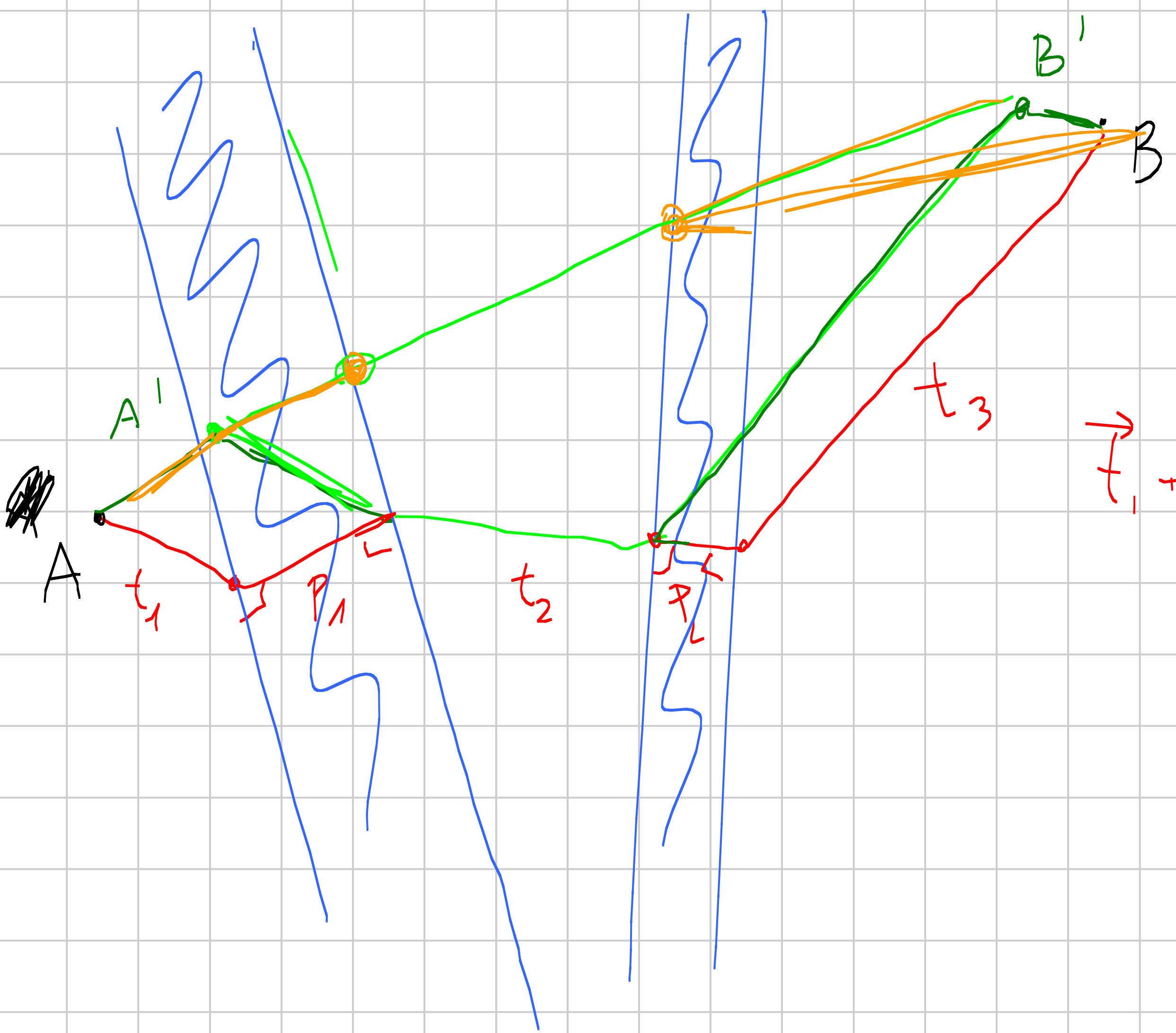
$$B\hat{B_1}A_1 = H\hat{B_1}A_1 = H\hat{C}A_1 = 90 - \beta$$



G
ℓ
F
D
E
C
A
B

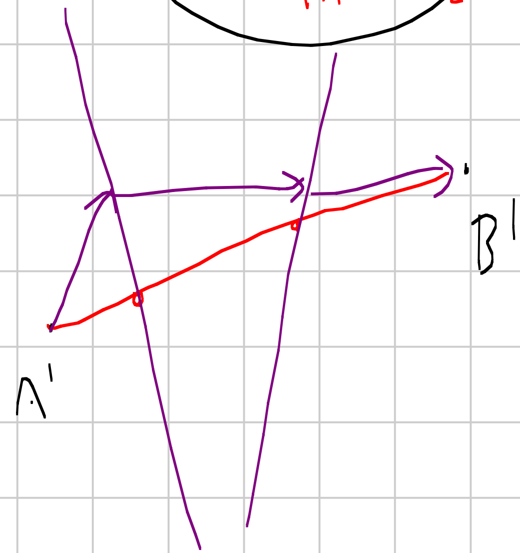


min AP + PB

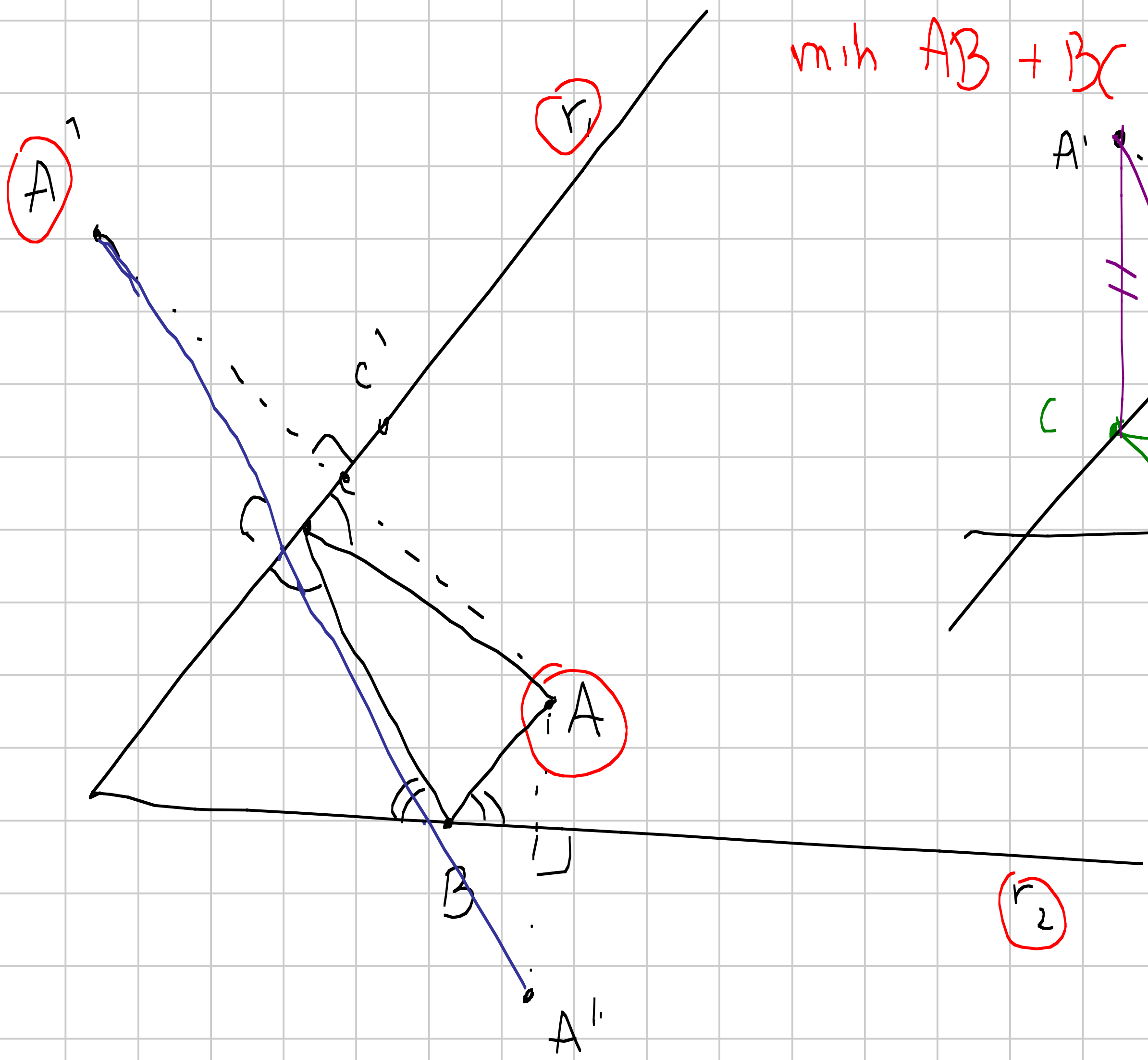


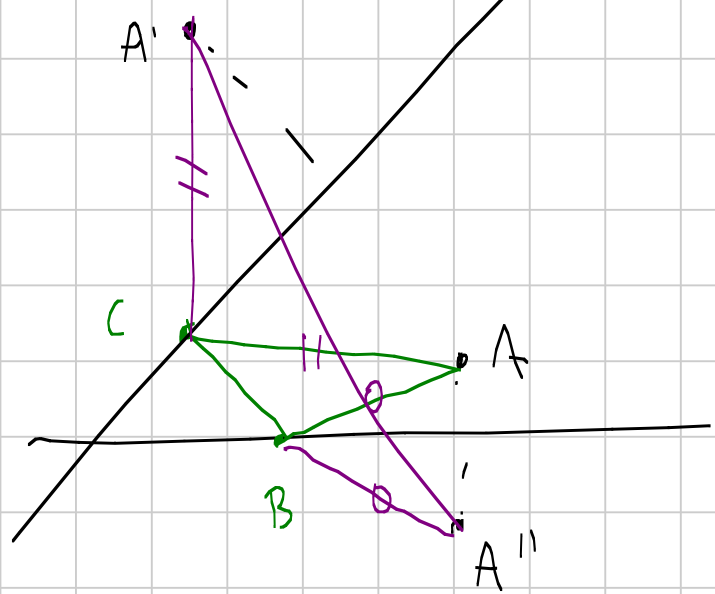
$$\vec{t_1} + \vec{p_1} + \vec{t_2} + \vec{p_2} + \vec{t_3} = \vec{AB}$$

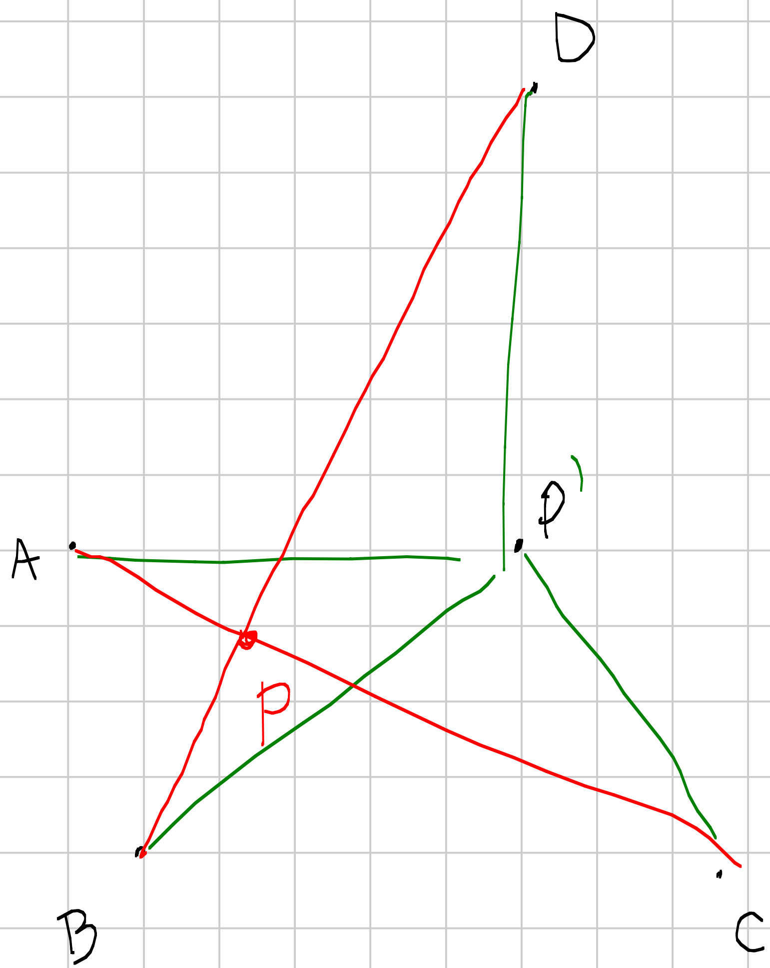
$$\vec{t_1} - \vec{t_2} + \vec{t_3} = \vec{AB} - \vec{p_1} - \vec{p_2}$$



min $AB + BC + CA$







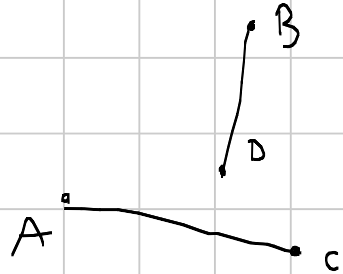
$\min \; PA + PB + PC + PD$

$\min \; PB + PD \rightsquigarrow P \in BD$

$\min \; PA + PC \rightsquigarrow P \in AC$

$P'D + P'B \geq PD + PB$

$P'A + P'C \geq PA + PC$



?

$$AB^2 + BC^2 + CA^2 \leq 3(OA^2 + OB^2 + OC^2) \qquad |\vec{V}|^2 = \vec{V} \cdot \vec{V}$$

Scegliamo O come origine dei vettori.

$$(\vec{A} - \vec{B})(\vec{A} - \vec{B}) + \dots \leq 3(\vec{A} \cdot \vec{A} + \vec{B} \cdot \vec{B} + \vec{C} \cdot \vec{C})$$

$$A^2 + B^2 - 2AB + \dots \leq 3A^2 + 3B^2 + 3C^2$$

$$0 \leq A^2 + B^2 + C^2 + 2AB + 2BC + 2CA$$

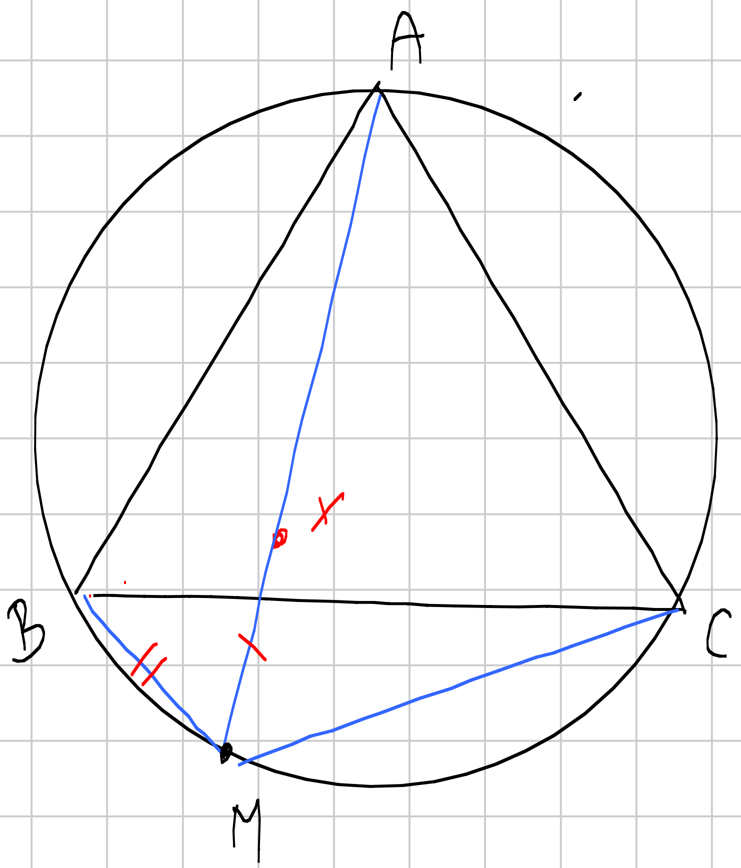
$$0 \leq (A + B + C)^2$$

PUNTO O

ZERO

$$\frac{A + B + C}{3} = 0 = O$$

O è il BARICENTRO



$MA \geq MB + MC$

$MA = MB + MC$

TOLOMEO!

$MA \cdot \cancel{BC} = MC \cdot A\cancel{B} + MB \cdot \cancel{A}C$

D