

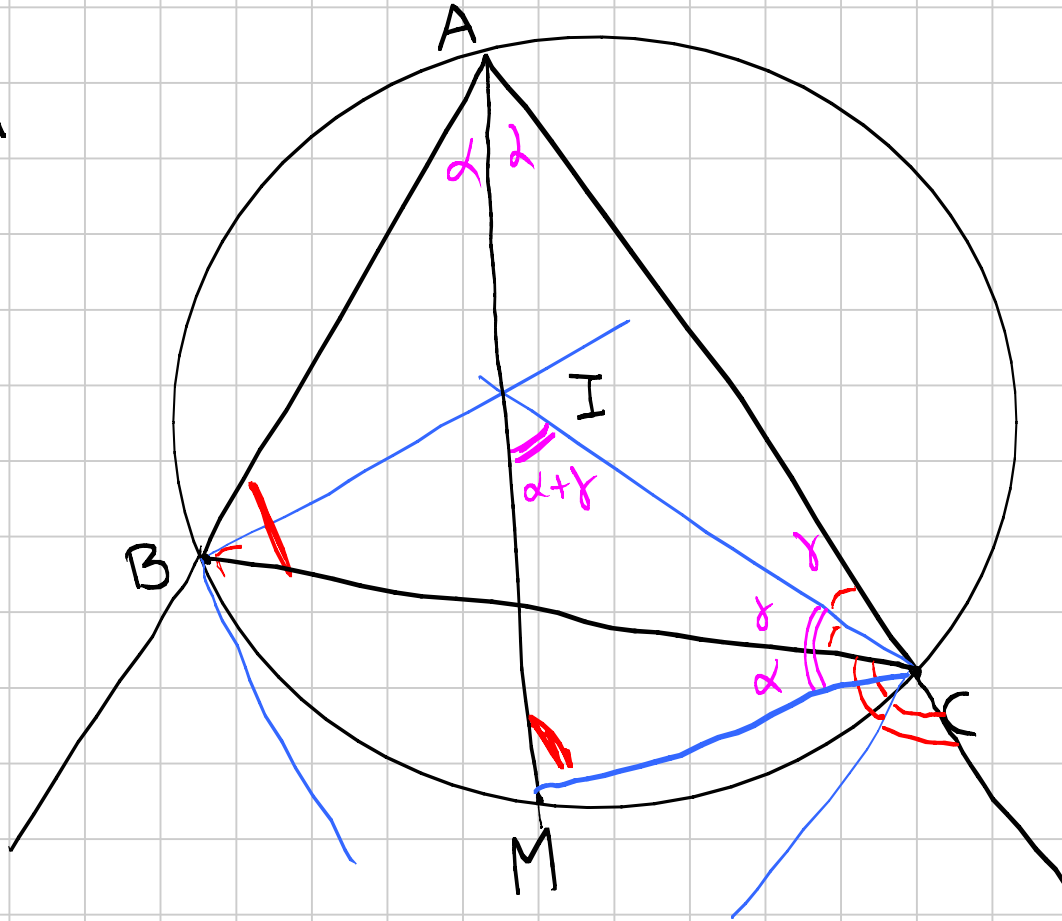
PREIMO 2006

G - Matt.

Titolo nota

24/05/2006

BICIA  
ciclico



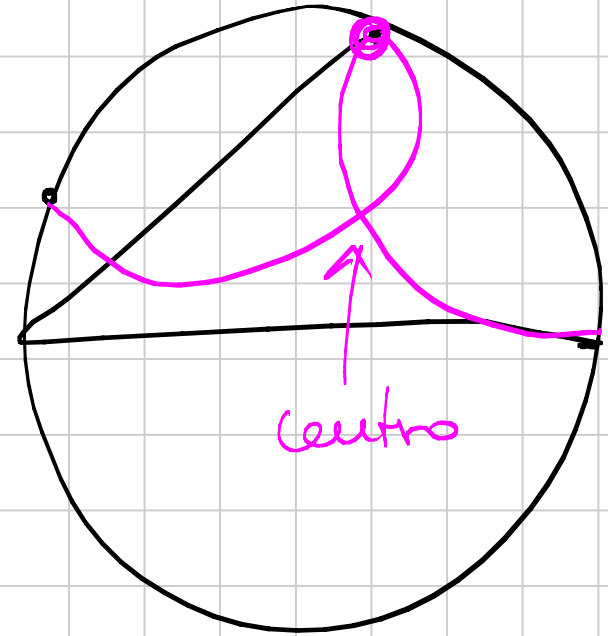
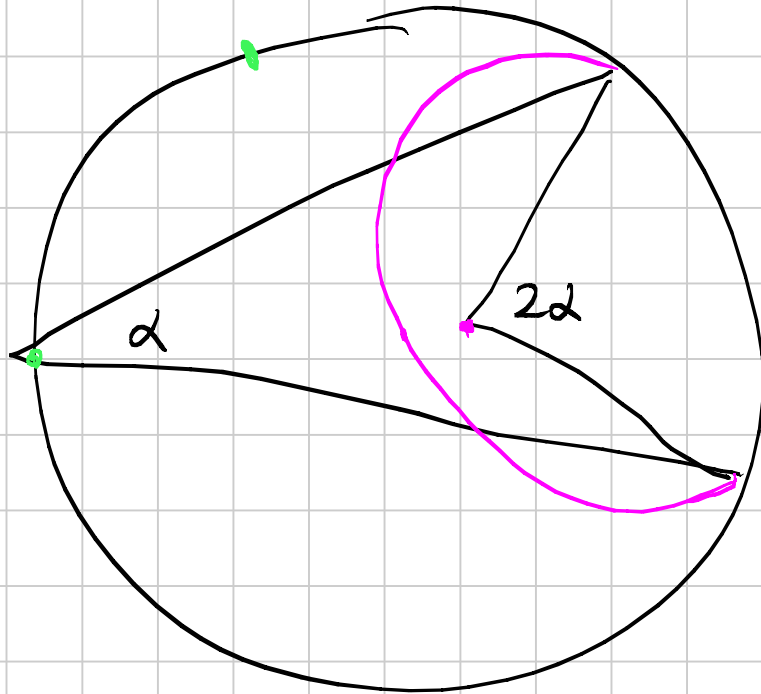
$$\widehat{IMC} \cong \widehat{IBC}$$

$$\widehat{IMB} \cong \widehat{ICB}$$

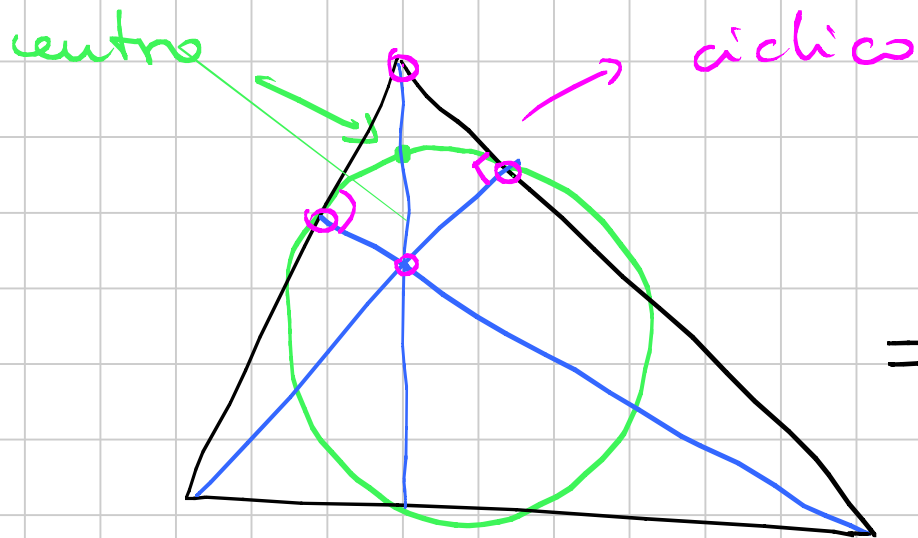
Oppure

IMC isosceli

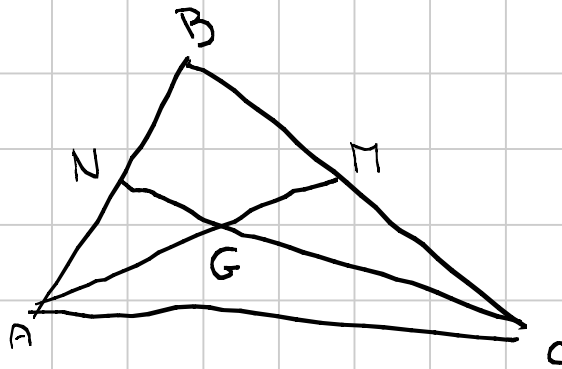
IBM



$I$  è ortocentro di  $I_A I_B I_C$   
 $B, C$  piedi altezze di  $\uparrow$



Feuerbach di  $I_A I_B I_C$   
= circoscritta ad  $ABC$



$$BN = BM$$

$$GN = GM$$

$$BA > BC$$

$$CN < AM \quad GN < GM$$

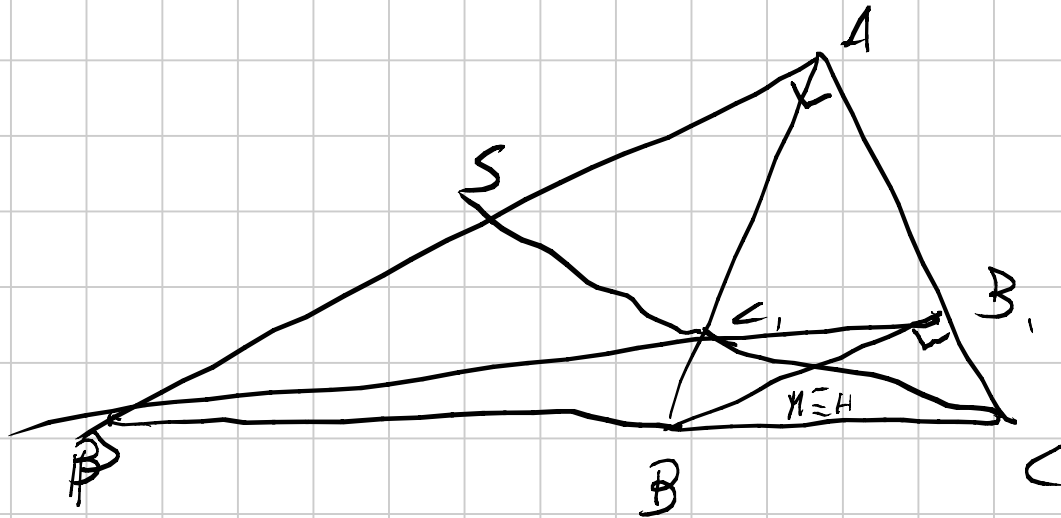
$$BN > BM$$

$$GM > GN$$

$$GM + BN > BM + GN$$

$$P = BC \cap B'C'$$

Ceva in  $\triangle APC$   
 con ceviane  
 $AB, PB', CS$



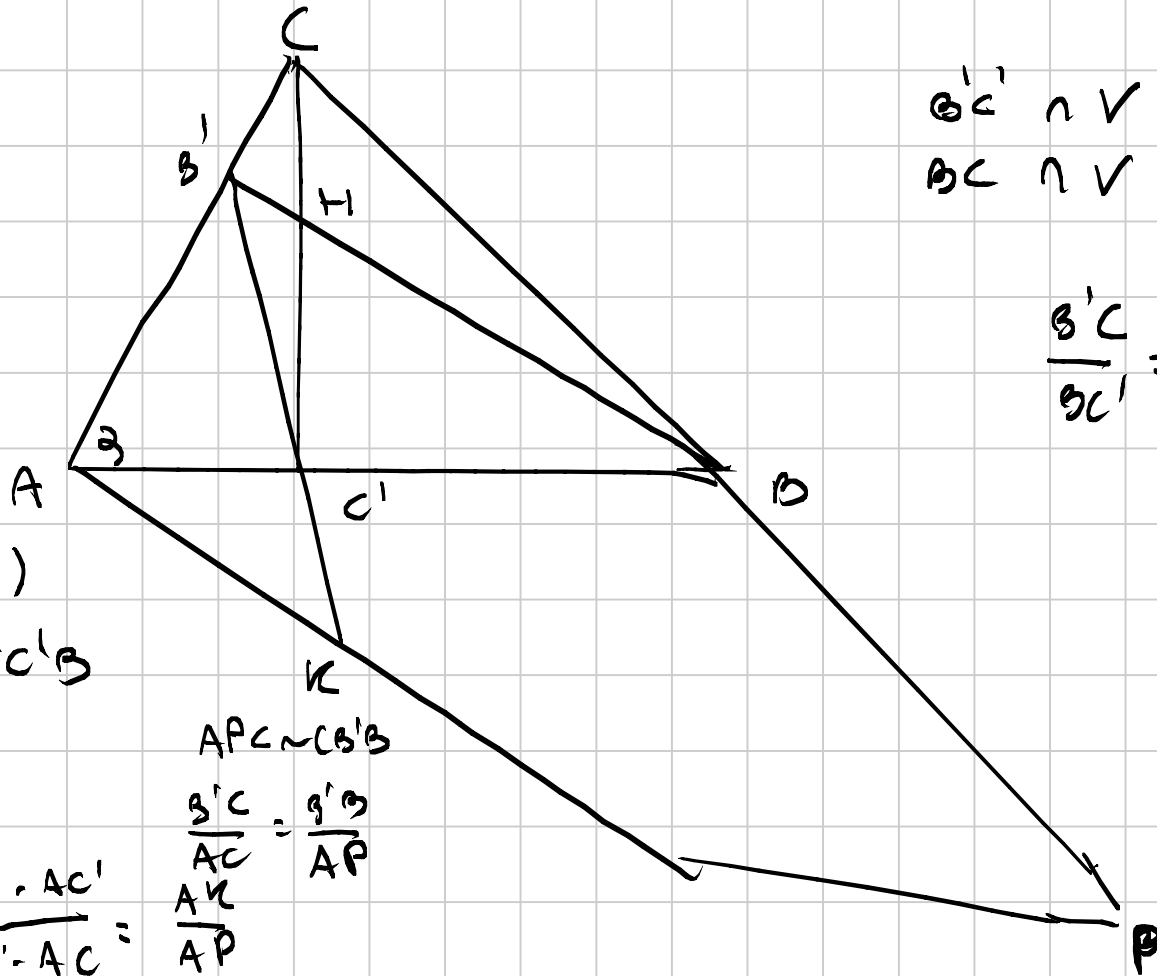
$$\triangle APC \simeq \triangle B'PC'$$

AB  
 CS  
 B'P

$$\text{CEVA: } PB \cdot CB_1 \cdot AS = B'K \cdot B_1A \cdot SP$$

$$\cancel{CB} \cdot \cancel{(K-1)} \cdot \cancel{CB_1} \cdot AS = \cancel{B_1C} \cdot \cancel{CB_1} \cdot \cancel{(K-1)} \cdot SP$$

$$AS = SP$$



$$B'C' \cap V = K$$

$$BC \cap V = P$$

$$\frac{B'C'}{BC} = \frac{1}{\cos \theta} \quad (c)$$

$$P=K \Leftrightarrow (i)$$

$$AC'K \sim B'C'B$$

$$\frac{AC'}{BC'} = \frac{AK}{BB'}$$

$$\frac{B'C' - AC'}{BC' - AC'} = \frac{AK}{AP}$$

$$APC \sim CB'B$$

$$\frac{B'C}{AC} = \frac{B'B}{AP}$$

$$\frac{AK}{AP}$$

$$1 = \frac{b'c}{bc'} \cdot \frac{Ac'}{AC}$$

$$\frac{b'c}{bc'} \cos \theta = 1$$

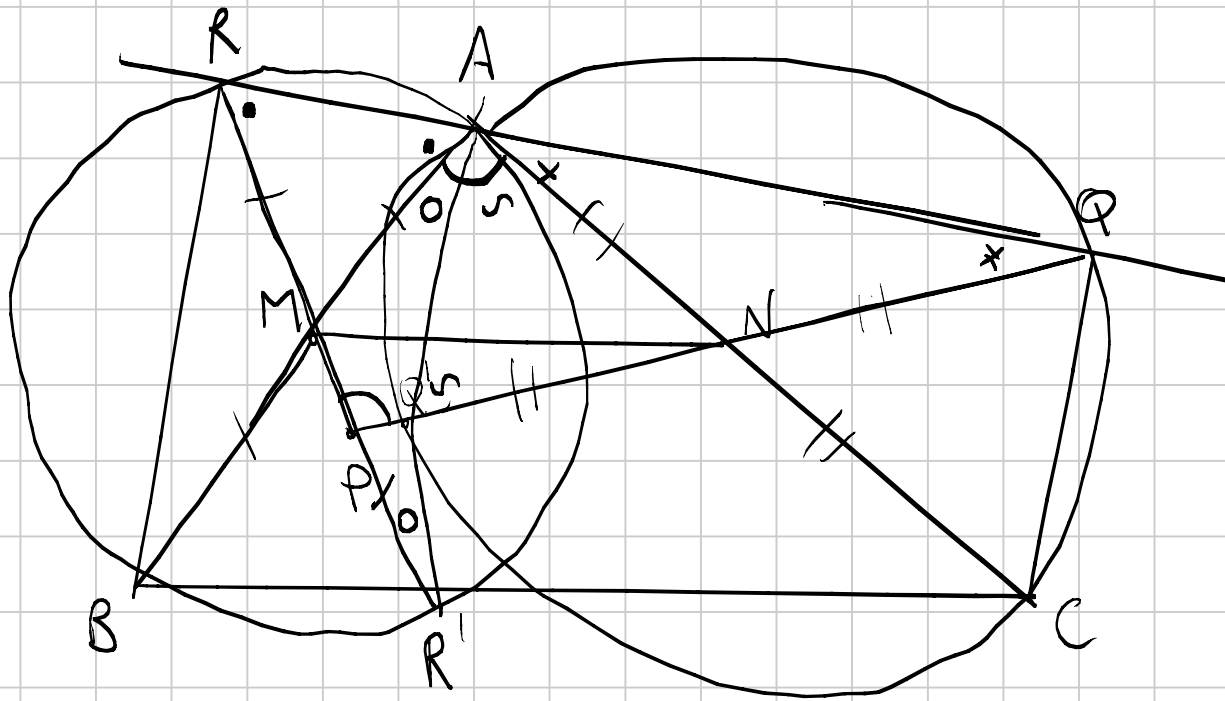
$$b'c = bc' \Leftrightarrow (i)$$

$$\frac{b'c}{b'c'} = \tan \theta$$

$$\frac{bc'}{b'c'} = \sin \theta$$

$$\frac{b'c}{b'c'} = \cos \theta$$

$$1 = \cos \theta$$



$$PMN = \alpha$$

$$PNM = 180 - \alpha - \gamma$$

$$AMN = \beta$$

$$ANM = 180 - \beta - \eta$$

ECC. ECC.



