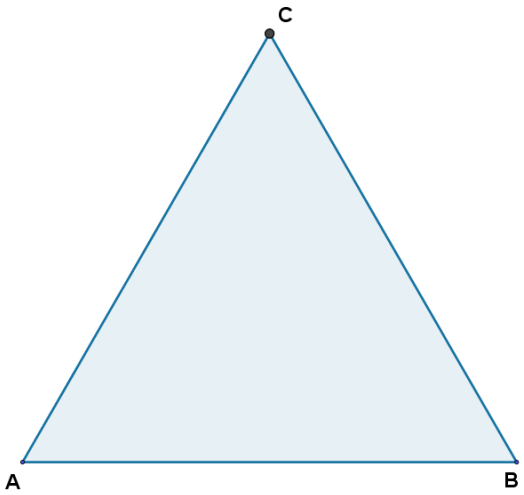
**Il triangolo equilatero.**

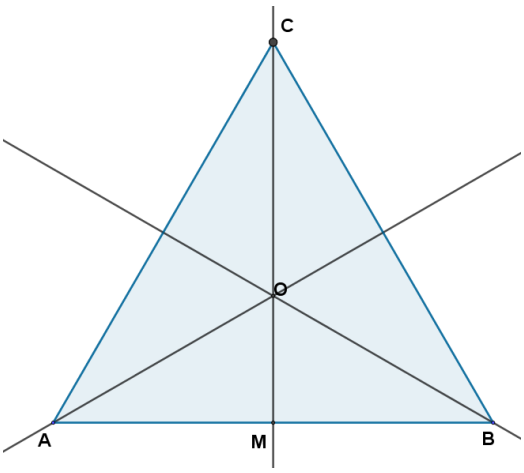
Dato il triangolo equilatero ABC di lato $\ell$, conosciamo che:




$\mathbf{P = 3\ell}$ ; $\mathbf{h = \frac{\ell\sqrt{3}}{2}}$ ; $\mathbf{A = \frac{\ell^2\sqrt{3}}{4}}$ ; A= ……

Quali altre relazioni puoi calcolare?

Traccia gli assi cosa noti? Che relazione esiste tra i segmenti MC, MO e OC?



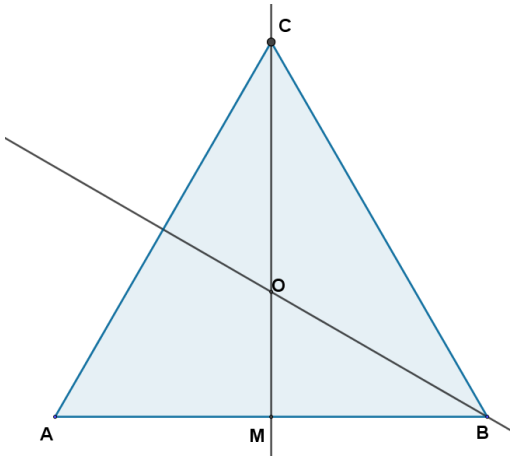

Triangoli isosceli congruenti:

ABO – BCO – ACO ……

Triangoli rettangoli congruenti:

AMO – MBO – BM'O -M'CO – CM''O -M''OA

Prendi in considerazione solo due assi cosa noti?



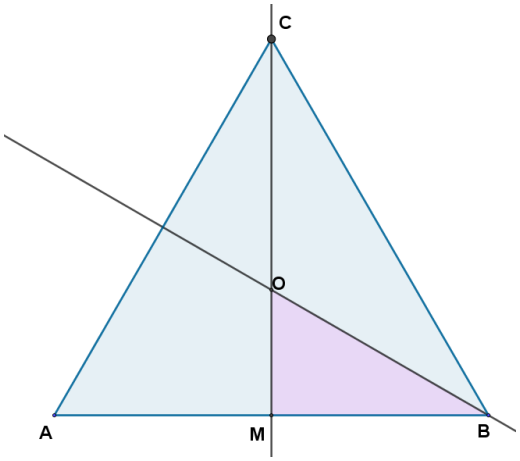

$|OC| =$

$|OM| =$

$h_{\Delta ABC} = |MC| = |MO| + |OC| = \frac{\ell\sqrt{3}}{2}$

Rapporti: $\frac{|MO|}{|MC|} = ?$ ; $\frac{|OC|}{|MC|} = ?$ ; $\frac{|MO|}{|OC|} = ?$ ; $\frac{|OC|}{|MO|} = ?$

Cosa puoi dire del triangolo MBO?  Lati: $|AB| = \ell$ ; $|MB| = \frac{\ell}{2}$




Angoli: $|M\hat{B}O| = \frac{1}{2}|M\hat{B}C| = 30°$

$|O\hat{M}B| = 90°$ segue che $|B\hat{O}M| = 60°$

Il triangolo MBO è dunque del tipo 30° - 60° - 90°

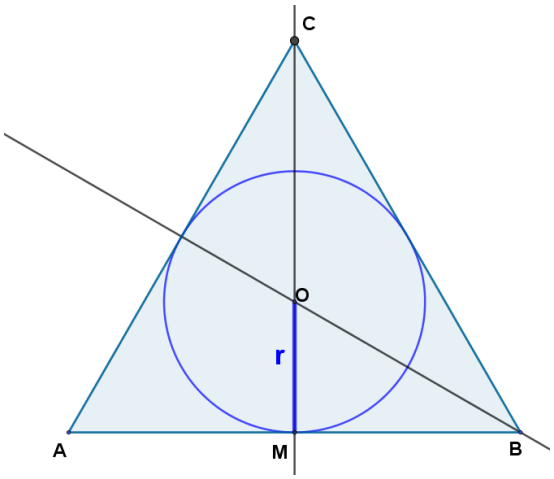
Mettendo $|OB| = x$ segue che $|MB| = \frac{x\sqrt{3}}{2}$

ma $|MB| = \frac{\ell}{2}$ ; dunque $\frac{x\sqrt{3}}{2} = \frac{\ell}{2}$ ; da cui $x = \frac{\ell\sqrt{3}}{3}$ ; $|OM| = \frac{\ell\sqrt{3}}{6}$

e $|OC| = \frac{\ell\sqrt{3}}{2} - \frac{\ell\sqrt{3}}{6} = \frac{\ell\sqrt{3}}{3}$

Rapporti: $\frac{|MO|}{|MC|} =$ …… ; $\frac{|OC|}{|MC|} =$ …… $\frac{|MO|}{|OC|} =$ ……

Cosa puoi dire della circonferenza inscritta al triangolo?




$r = |OM| = \frac{\ell\sqrt{3}}{6}$

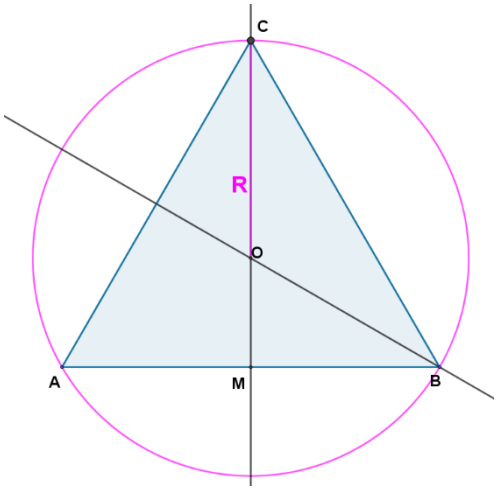
$C_{C_i} = 2 \cdot \frac{\ell\sqrt{3}}{6}\pi = \frac{\ell\sqrt{3}}{3}\pi$

$A_{C_i} = \left(\frac{\ell\sqrt{3}}{6}\right)^2 \pi = \frac{\ell^2}{12}\pi$

Area tra triangolo e cerchio:

$A_{tr} = \frac{\ell^2\sqrt{3}}{4} - \frac{\ell^2}{12}\pi$

Cosa puoi dire della circonferenza circoscritta al triangolo?




$R = |OM| = \frac{\ell\sqrt{3}}{3}$

$C_{C_i} = 2 \cdot \frac{\ell\sqrt{3}}{3}\pi = \frac{2\ell\sqrt{3}}{3}\pi$

$A_{C_i} = \left(\frac{\ell\sqrt{3}}{3}\right)^2 \pi = \frac{\ell^2}{3}\pi$

Area tra cerchio e triangolo:

$A_{tr} = \frac{\ell^2}{3}\pi - \frac{\ell^2\sqrt{3}}{4}$

Conclusioni: