

# ROMANIAN MATHEMATICAL MAGAZINE

In any  $\Delta ABC$  the following relationship holds :

$$\sum_{\text{cyc}} \frac{bc}{m_a^2} \geq \frac{8r}{R}$$

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$$\sum_{\text{cyc}} \frac{bc}{m_a^2} \stackrel{\text{Panaiteopol}}{\geq} \sum_{\text{cyc}} \frac{bc}{\left(\frac{R^2 s^2}{a^2}\right)} = \frac{abc}{R^2 s^2} \cdot \sum_{\text{cyc}} a = \frac{(4Rrs)(2s)}{R^2 s^2} = \frac{8r}{R} \quad \forall \Delta ABC,$$

"=" iff  $\Delta ABC$  is equilateral (QED)