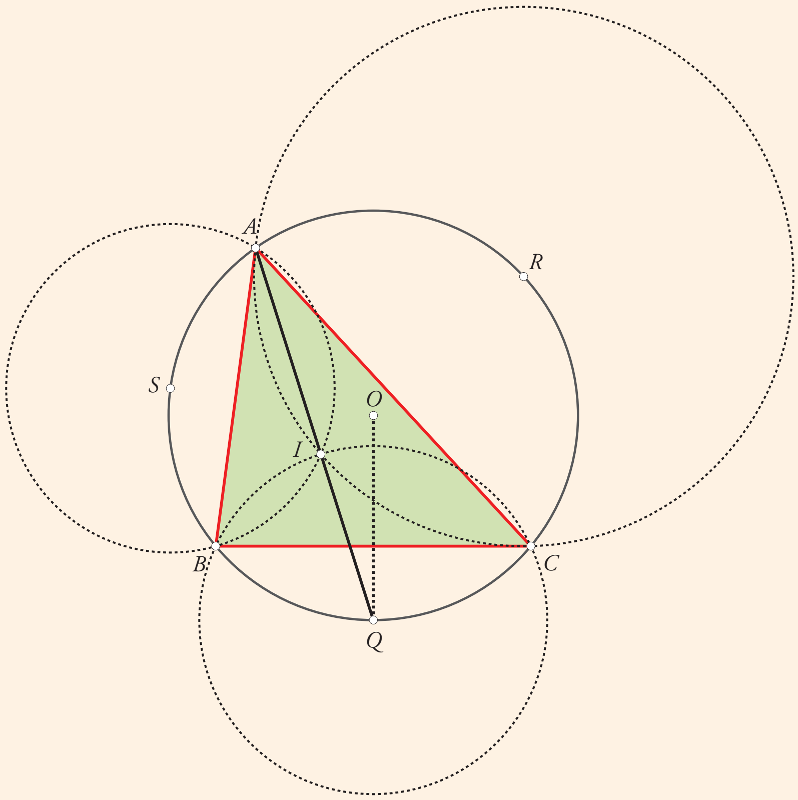
## Addendum to "Lessons from Proofs ..."

In connection with the above article which makes an in-depth study of a popular fallacy in which it is proved that every triangle is isosceles, readers may be interested in the following result.

The figure shows a $\triangle ABC$ inscribed in its circumcircle (centre $O$); the bisector of $\measuredangle A$ cuts the circumcircle again at point $Q$. Let $I$ be the incentre of $\triangle ABC$. Then it turns out that $Q$ is the circumcentre of $\triangle IBC$. This may be proved by computing the angles of $\triangle QBI$ and verifying that $QB = QI$ (and thus by symmetry that $QC = QI$ as well). After drawing the circumcircle of $\triangle IBC$, we see that the circumcircles of $\triangle ABC$ and $\triangle IBC$ share the common chord $BC$.




Two more such circles can be drawn: the circumcircles of $\triangle ICA$ and $\triangle IAB$ (centres $R$ and $S$ respectively). The configuration makes for an interesting composition.