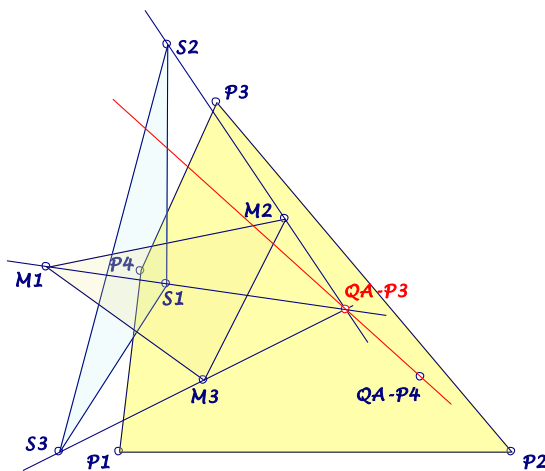


Background for these notes is:
 Chris van Tienhoven: Encyclopedia of Quadri-Figures
<http://www.chrisvantienhoven.nl/>

QA-Reproduction with QA-Tr1 and QA-Tr2

Scimemi researched in his work "Central Points of the Complete Quadrangle" (EQF-Ref.[36]) the question, how to reconstruct a quadrangle with four points. Here the question is modified in the sense, how to reconstruct a quadrangle with the diagonal triangle and the Miquel triangle.



Preliminary remarks (see EQF):

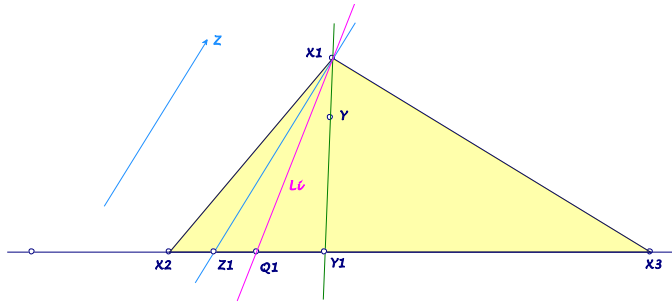
- The diagonal triangle $QA-Tr1$ and the Miquel triangle $QA-Tr2$ are perspective wrt $QA-P3$.
- The isogonal conjugate of $QA-P3$ wrt the Miquel triangle is $QA-P4$.
- The involutory conjugate $QA-Tf2$ of $QA-P3$ wrt the diagonal triangle is the point at infinity of $QA-P3$. $QA-P4$.
- The fixed points of $QA-Tf2$ are the vertices of the quadrangle.

Construction

The idea of the construction is, to find the fixed points of an isoconjugation wrt a reference triangle, knowing a pair of conjugated points. Here:

... reference triangle $QA-Tr1 = X_1X_2X_3$,

... conjugated points: $QA-P3 = Y$ and point at infinity of $QA-P3$. $QA-P4 = Z$.



Let Y_i be the intersection of X_iY and X_jX_k ,
 ...let Z_i be the intersection of X_iZ and X_jX_k ,
 ... let Q_i be a double point of the X_jX_k -line involution (see *QA-Tf1*) wrt X_j , X_k and Y_i , Z_i .
 ... The lines $L_i = X_iQ_i$ intersect in a point P ,
 ... which gives with its anticevians wrt $X_1X_2X_3$ the fixed points of the isoconjugation.

Eckart Schmidt
<http://eckartschmidt.de>
eckart_schmidt@t-online.de