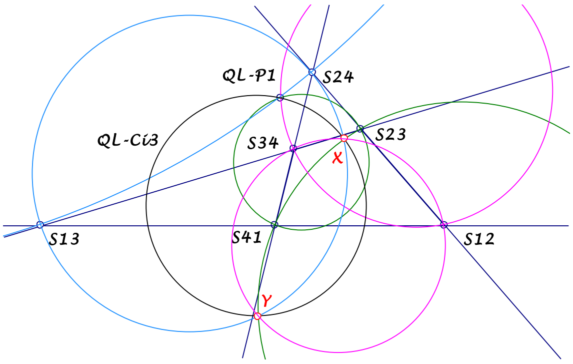
EQF-Note 2014-01-30

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

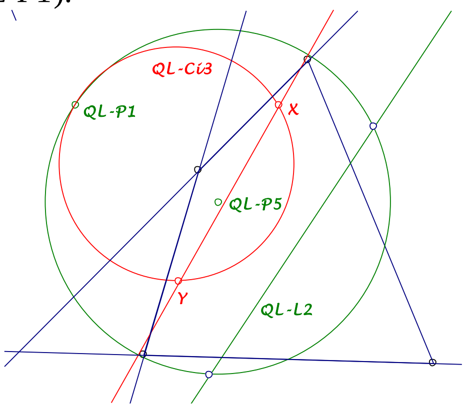
Orthocentric Pedal Quadrangles

For a quadrigon the pedal quadrangle of the Isogonal Center QA-P4 is a parallelogram; for a quadrilateral the pedal quadrangle of the Miquel Point QL-P1 degenerates collinear on QL-L3. Here for a quadrilateral two points are described, whose pedal quadrangle are orthocentric. These points – without their property – are already mentioned by Clawson (Ref. EQF [22], page 248 (38)).

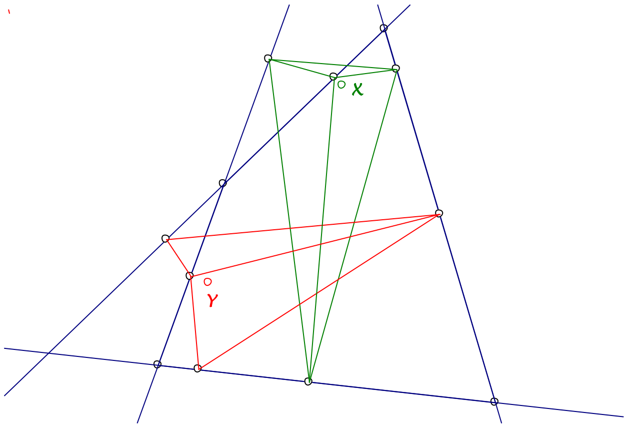


Clawson describes two points X, Y on the “circumcentric circle” – in *EQF* Miquel Circle *QL-Ci3* – as common intersections of circles through $S_{i,j}$ and $S_{k,l}$, orthogonal to the circumcircle through the Miquel Point *QL-P1* and $S_{i,j}$ and $S_{k,l}$ ($S_{i,j}$ intersection of L_i and L_j).

You get these points X and Y also as Clawson-Schmidt Conjugate *QL-Tf1* of the Plücker Pair of Points *QL-2P1* (intersections of the Steiner Line *QL-L2* and a circle round *QL-P5* through *QL-P1*).



The points *X* and *Y* have orthocentric pedal quadrangles.



This property is only Cabri-controlled; a calculation with barycentric coordinates is very extensive.

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