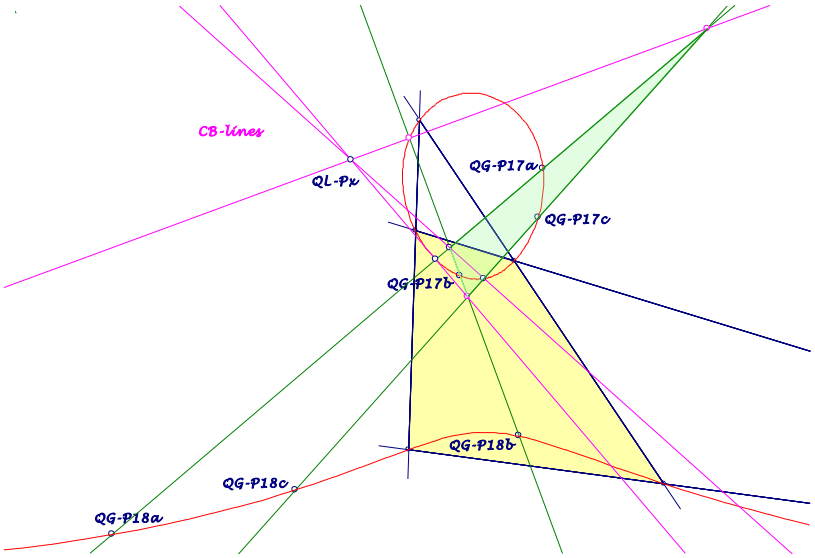
EQF-Note 2017-10-31

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

Cayley-Bacharach Lines for *QG/QL*

The eight angle bisectors of a quadrigon have a Cayley-Bacharach ninth line. These CB-lines for the quadrigons of a quadrilateral have a common point. A simple construction and coordinates of this point can be given.



We start with a quadrilateral *QL*
…and the lines *QG-P17.QG-P18* for its three quadrigons,
…which give a triangle,
…whose altitudes are the *QL-Tf2*-images of its sidelines
… with pedal points on *QL-Cu1*.

- **The *QL-Tf2*-image of *QG-P17.QG-P18* is the ninth *CB*-line wrt the eight angle bisectors of a quadrigon.**

- **These three *CB*-lines for the quadrigons of a quadrilateral have a common point**
  … with *EQF-DT*-coordinates:
  $(m^2\, n^2\, SA^2(l^2\, SB\, SC\, a^2 + m^2\, SC\, S^2 + n^2\, SB\, S^2) : cycl)$.

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