RELATIONSHIP OF LEMOINE CIRCLE
WITH A SYMMEDEAN POINT

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Abstract

Any triangle $ABC$ has three symmedian lines that intersect at one point $K$ that
called symmedian point, so triangle $ABC$ can be partitioned into three
triangles are triangle $ABK$, triangle $ACK$ and triangle $BCK$. From each of
the triangle can be constructed the circumcircle, for example with the center
points $R$, $Q$ and $P$, respectively. If these points linked, so will form a
triangle and has a centroid point, say point $M$. In addition, each of the
circumcircle triangle $ABK$, triangle $ACK$ and triangle $BCK$ will intersect in
six points on the sides and the extension side triangle $ABC$ which will be on
one circle that known as third Lemoine circle. If $L$ is the center point of the
third Lemoine circle, then in this article discuss relationship of third Lemoine
circle with a symmedian point and so we proved that $K$, $L$ and $M$ are
collinear.

Keywords and phrases: symmedian line, symmedian point, lemoine circle, centroid,
collinear.

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References

Chelsea, 1971.


