

Problem 30

The Feuerbach Point is the Homothetic Center of the Outer Yff Triangle and the Triangle of the Circumcenters of the Triangulation Triangles of the Orthocenter

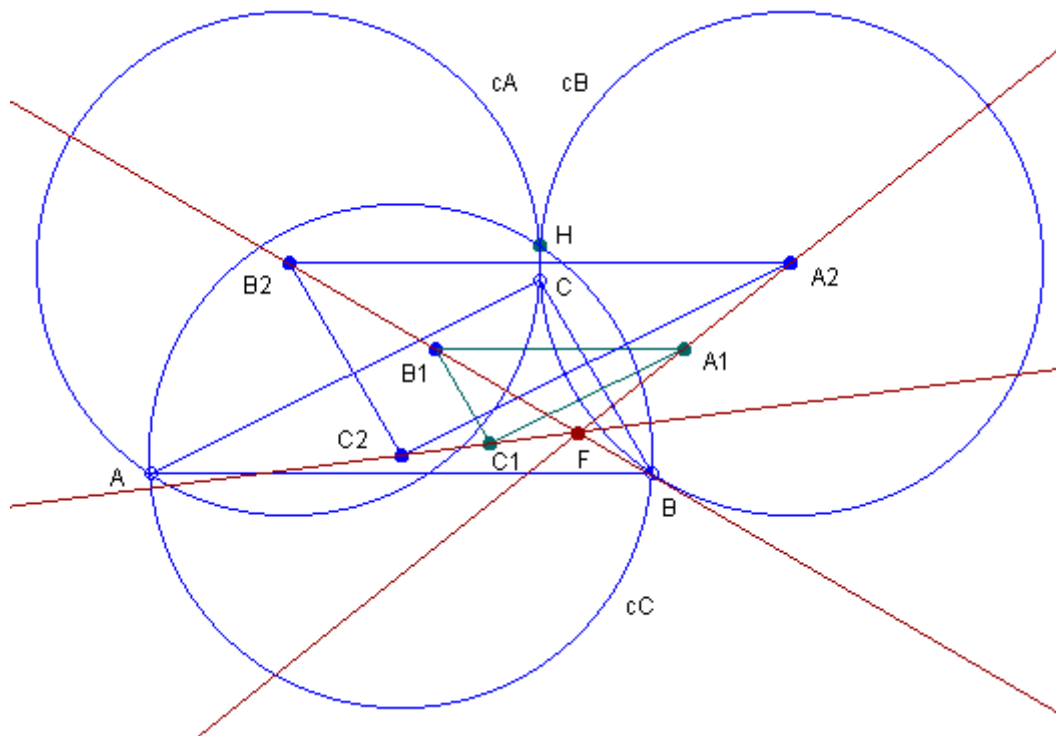
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Prove the following computer-generated theorem:

THEOREM. The Feuerbach Point is the Homothetic Center of the Outer Yff Triangle and the Triangle of the Circumcenters of the Triangulation Triangles of the Orthocenter.

The reader may find the definitions in [1-4].

See the Figure:



$A_1B_1C_1$ - Outer Yff Triangle;
 H - Orthocenter;
 cA - Circumcircle of triangle BCH;

c_B - Circumcircle of triangle CAH;
 c_C - Circumcircle of triangle ABH;
 A_2 - Circumcenter of triangle BCH;
 B_2 - Circumcenter of triangle CAH;
 C_2 - Circumcenter of triangle ABH;
 $A_2B_2C_2$ - Triangle of the Circumcenters of the Triangulation Triangles of the Orthocenter;
The Feuerbach Point F is the Homothetic Center of the Outer Yff Triangle and the Triangle of the Circumcenters of the Triangulation Triangles of the Orthocenter.

References

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