

### Problem 26

The Feuerbach Point is the Perspector of the Euler Triangle and the Triangle of the Evans Perspectives of the Corner Triangles of the Orthocenter

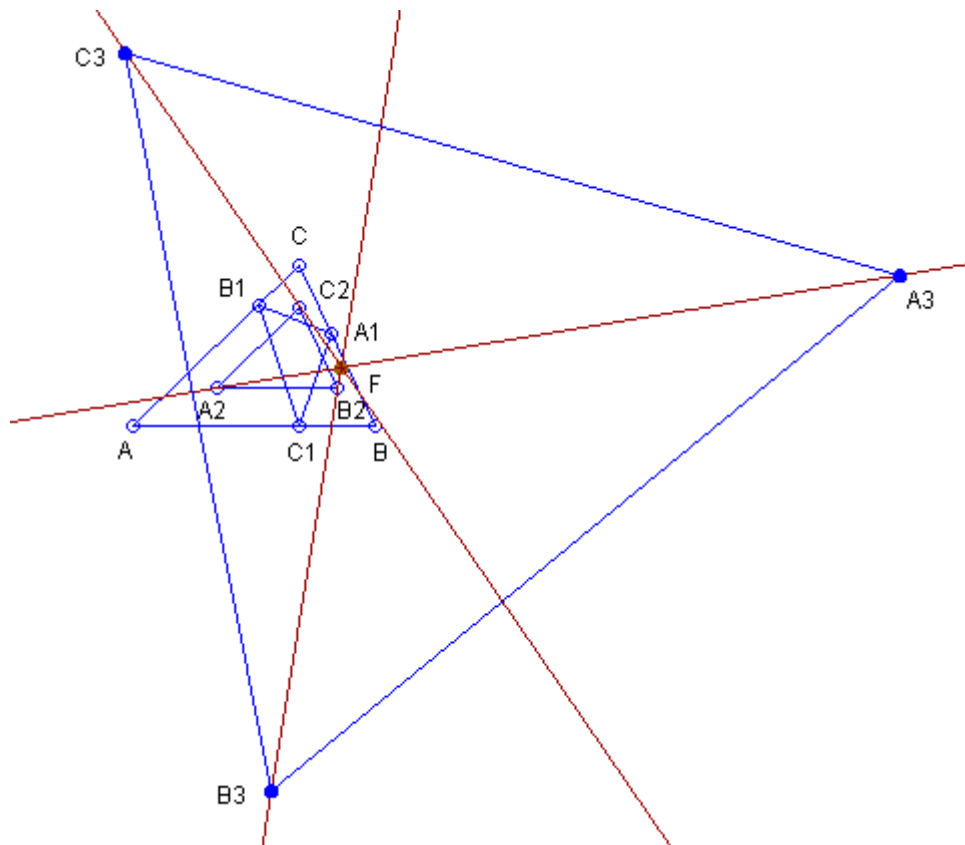
Publication Date: February 25, 2008

Prove the following computer-generated theorem:

**THEOREM.** The Feuerbach Point is the Perspector of the Euler Triangle and the Triangle of the Evans Perspectives of the Corner Triangles of the Orthocenter.

The reader may find the definitions in [1-4]. Recall that the Evans Perspector of a triangle is the perspector of the Excentral and Reflection triangles of the triangle.

See the Figure:



$A_1B_1C_1$  - Orthic Triangle = Cevian Triangle of the Orthocenter;  
 $A_2B_2C_2$  - Euler Triangle;  
 $A_3$  - Evans Perspector of triangle  $AB_1C_1$ ;  
 $B_3$  - Evans Perspector of triangle  $BC_1A_1$ ;  
 $C_3$  - Evans Perspector of triangle  $CA_1B_1$ ;  
 $A_3B_3C_3$  - Triangle of the Evans Pectors of the Corner Triangles of the Orthocenter;  
The lines  $A_2A_3$ ,  $B_2B_3$ , and  $C_2C_3$  concur at the Feuerbach Point F, that is, the Feuerbach Point is the Perspector of the Euler Triangle and the Triangle of the Evans Pectors of the Corner Triangles of the Orthocenter.

## References

1. Quim Castellsaguer, The Triangles Web,  
<http://www.xtec.es/~qcastell/ttw/ttweng/portada.html>
2. D. Dekov, Computer-Generated Encyclopedia of Euclidean Geometry, First Edition, 2006, available at the Web: <http://www.dekovsoft.com/e1/>.
3. D. Dekov, papers in this journal, 2006, 2007, 2008.
4. Eric W. Weisstein, MathWorld - A Wolfram Web Resource.  
<http://mathworld.wolfram.com/>