

Quincena del 1 al 14 de Febrero de 2015

Problema 728

Problema 1.

Sea ABC un triángulo acutángulo con alturas AD , BE y CF . Sea O el circuncentro de ABC .

Mostrar que los segmentos OA , OF , OB , OD , OC , OE dividen al triángulo ABC en tres pares de triángulos de áreas iguales.

XXV APMO (Asian Pacific Mathematics Olympiad) , 2013

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In P. 728 altitude from C is locus of points with distances to sides AC and BC proportional to segments AE and BD .

For the areas to be equal, those distances have to be inversely proportional, Thus, the locus of these is the isogonal conjugate of altitude from C , which is line AO .