Math 411. Spring 09
Advanced Euclidean Geometry. Midterm 2

A.Libgober

1. (15 pts) Find a relation between the area of a triangle and the area of its dilation by a factor r. Give a proof of your assertions.

2. (15 pts) Show that circumcenter of a triangle is the orthocenter of its medial triangle.

3. (15 pts) Give definition of the Euler line. Give a definition of the nine point circle.

4. (15 pts) Give a counterexample to SSA condition for equality of two triangles.

5. (15 pts). State a theorem which you can prove using SAS axiom.