The Algebra Symposium: Geometric Delicacies

This file is `http://www2.math.uic.edu/~jlewis/as/asrhombus.pdf`

1. Let C be a circle with center O and diameter AB. Let D be a point on this circle such that $AD = AO$. The perpendicular to OD passing through A intersects the circle at E.
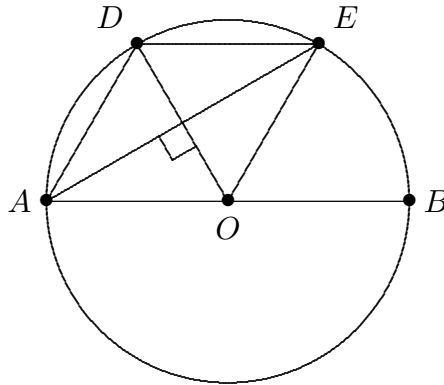
   Show that $OADE$ is a rhombus.

2. ABC is a arbitrary triangle. On the exterior of each side of the triangle, a square is constructed. Joining the free corners of each square, three new triangles are created.
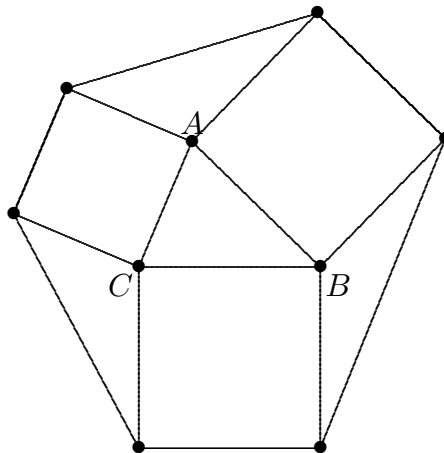
   Compare the area of each of the three new triangles with the area of the triangle ABC.