1037-97-20 Steven Rosenberg (sr@math.bu.edu), Dept. of Math and Statistics, Boston University, Boston, MA 02215, Mike Spillane (mspillane@watertown.k12.ma.us), Dept. of Mathematics, Watertown HS, Watertown, MA 02472, and Dan Wulf* (dwulf@watertown.k12.ma.us), Dept. of Mathematics, Watertown HS, Watertown, MA 02472. Research Projects Involving Mathematicians and High School Teachers: An Example Involving Moduli Spaces of Triangles.

Teams of mathematicians and high school teachers have formed study groups as part of the NSF Math and Science Partnership "Focus on Mathematics," based at Boston University and EDC. Our study group of one mathematician and two high school teachers produced a research paper to appear in Mathematics Teacher. Based on a teacher generated question about triangle congruence, we ended up formulating a moduli space for similar triangles and then studying the location of Heron triangles within the moduli space. All work involved only high school geometry and algebra, but we had to consult with an expert in arithmetic algebraic geometry about cutting edge research results. The project involves extensive Geometer's Sketchpad files, which were exclusively produced by the teachers. This project demonstrates that high school teachers are capable of deep mathematics research with minimal guidance and without graduate level tools. (Received December 10, 2007)