1062-14-167 **Aaron Abrams*** (abrams@mathcs.emory.edu), 400 Dowman Dr, Suite W401, Atlanta, GA 30322, and **Jamie Pommersheim**. *Area relations in triangulations of a square.*

Starting with a simplicial complex T that is homeomorphic to a 2-dimensional disk with four boundary points, we consider all ways to realize the complex in the plane such that the edges are straight line segments and the boundary is a square. We show that there is an irreducible polynomial, which depends on the combinatorics of T, that must be satisfied by the areas of the triangles. We present various results about the degree and the coefficients of this polynomial. (Received August 05, 2010)