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Aaron Abrams* (abrams@mathcs.emory.edu), 400 Dowman Dr, Suite W401, Atlanta, GA 30322, and **James Pommersheim**. *Area relations in triangulations of a square*. Preliminary report.

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 January 19, 2011)