1096-30-306 **Jeanine L. Myers*** (jeanine.myers@uafs.edu), 5210 Grand Ave., P.O. Box 3649, Fort Smith, AR 72913-3649. *The Effect of Symmetry on the Riemann Map.*

The Riemann mapping theorem guarantees the existence of a conformal mapping or Riemann map in the complex plane from the open unit disk onto an open simply-connected domain, which is not all of $\mathbb{C}$. Although its existence is guaranteed, the Riemann map is rarely known except for special domains like half-planes, strips, etc. Therefore, any information we can determine about the Riemann map for any class of domains is interesting and useful.

This research investigates how symmetry affects the Riemann map. In particular, we define domains with symmetries called Rectangular Domains or RDs. The Riemann map of an RD has real-valued coefficients, as opposed to complex-valued, and therefore we can determine the sign of the coefficients of the Taylor series about the origin of the Riemann map, $f(z)$, from the unit disk onto RDs determined by $f(0) = 0$ and $f'(0) > 0$. We focus on the form of the Riemann map for specific RD polygons. (Received August 27, 2013)