1086-K1-2836 **David A. Reimann*** (dreimann@albion.edu), Math/CS Department, Albion College, 611 E. Porter St., Albion, MI 49224. *Point Symmetry Patterns on 1-Uniform Tessellations.*

The results from an investigation of point symmetry patterns on the eleven 1-uniform tessellations is presented. Five of the 17 plane symmetry groups are represented by these tessellations: *632, *442, 632, 4*2, and 2*22. Each of these plane symmetry groups has three point symmetry groups. Each of these point groups contains a collection of subgroups; each subgroup corresponds to a symmetric pattern. However, the restriction to the underlying tessellation causes some symmetry subgroups to be repeated. In particular, the plane symmetry groups having multiple dihedral point groups (*632, *442, and 2*22) contain mirror lines that are shared among their respective point subgroups, resulting in rotationally equivalent symmetry patterns. Specific types of decorated polygonal tiles are required to achieve a particular point symmetry group using a given tessellation: tiles containing a single mirror line either through opposite edge midpoints, opposite vertices, or through an edge midpoint and an opposing vertex. In point symmetry groups centered at a polygon center, the central polygonal tile decoration must also match the point symmetry of the entire pattern. Examples of the geometrically unique symmetric patterns are shown for each tessellation. (Received September 25, 2012)