

1154-05-1659

Stephen M Gagola, Jr* (gagola@math.kent.edu), Department of Mathematics, 1300 University Esplanade, Kent State University, Kent, OH 44242. *Latin Squares from Polygonal Tiles*. Preliminary report.

It is possible to find a polygonal tile having no symmetry so that 64 congruent copies of it may be fitted together snugly in the style of M. C. Escher to form a Latin square (the “elements” of the square being the 8 distinct orientations of the original tile). The artist Peter Raedschelders has produced two such examples of Latin squares having distinct autotopy groups (and hence are not isotopic). We produce a third example of a polygonal shape that yields a Latin square that is not isotopic to either of these two earlier examples. Up to an obvious mathematical equivalence, there are no further polygonal shapes having this property. (Received September 16, 2019)