1050-52-74 **Norman W. Johnson*** (njohnson@wheatonma.edu), Department of Mathematics, Wheaton College, Norton, MA 02766. *Torohedral groups.*

Of the seventeen discrete Euclidean "wallpaper patterns," nine are *lattice patterns* having no rotations other than half-turns. The other eight are *apeirohedral patterns* having rotations of periods 3, 4, or 6. The symmetry group of such a pattern has for its fundamental region the closure of a triangle (3 3 3), (4 4 2), or (6 3 2) whose interior angles are submultiples of π. Each of these infinite groups operating in the Euclidean plane has families of finite quotient groups operating on a torus. Three of the corresponding *torohedral patterns* are of particular interest, providing Euclidean models for finite affine planes over the fields with 2, 3, or 5 elements. (Received February 25, 2009)