1098-52-184 **Undine Leopold*** (leopold.u@husky.neu.edu). *Vertex-Transitive Polyhedra of Higher Genus.* Preliminary report.

Regular and chiral maps successfully generalize the combinatorial structure of the Platonic solids. While it is hopeless for their higher genus examples to exist as symmetric polyhedra in 3-space (with flat, non-self-intersecting faces tiling an embedded surface), an interesting related problem is that of combinatorially uniform, or geometrically vertex-transitive, polyhedra. Indeed, an infinite family of genus one and a few higher genus examples of these highly symmetric polyhedra exist in 3-space, but the completeness of the list has never been established. In this talk, I will present an overview of the topic and outline the solution for the case of tetrahedral rotation symmetry. (Received January 25, 2014)