

1077-52-814

Gabe Cunningham*, 567 Lake Hall, Northeastern University, 360 Huntington Ave, Boston, MA 02115. *Constructing self-Petrie and self-dual covers of regular polyhedra.*

The dual of a polyhedron is obtained by switching the vertices and faces, while the Petrie dual is obtained by switching the Petrie polygons and faces. Polyhedra that are self-dual or self-Petrie are interesting for their high level of symmetry. Given a regular polyhedron \mathcal{P} , I will show how to construct the minimal self-Petrie regular polyhedron that covers \mathcal{P} . Similar constructions yield the minimal self-dual regular cover and the minimal cover that is both self-Petrie and self-dual. (Received September 13, 2011)