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*The Grand Antiprism*

Discovered by J. H. Conway and M. Guy in 1965, the *grand antiprism*  $\mathcal{A}$  is (for some) the only uniform, convex 4-polytope which is non-Wythoffian. It has 100 vertices and is bounded by 300 regular tetrahedra along with 20 pentagonal antiprisms. The Wikipedia article on  $\mathcal{A}$  has some beautiful pictures, and remarks that the symmetry group  $S(\mathcal{A})$  of order 400 is the ‘Ionic diminished Coxeter group  $[[10, 2+, 10]]$ ’. I will explain how this description is ambiguous, perhaps even wrong (not knowing the intent of the authors of the article, as of April, 2023). We will give a presentation for  $S(\mathcal{A})$ , which unexpectedly relates to the regular map  $\{10, 10 | 2\}$ . And what does ‘non-Wythoffian’ mean, anyway?