1116-05-740 **Shannon Talbott*** (talbotts@moravian.edu). *A Game of Crowns: Layered Generalized Crowns and Chromatic Number.*

Given a map of the United States, what is the smallest number of distinct colors needed to color the map in such a way that no two border states have the same color? Mathematically, this is the infamous graph coloring problem, which is listed as one of Karp's twenty-one NP complete problems in his 1972 paper. For $\mathbb{P}$ a finite partially ordered set (poset), we can associate with this poset a hypergraph $\mathbf{H}^c_{\mathbb{P}}$ as well as a graph $\mathbf{G}^c_{\mathbb{P}}$, whose chromatic number is bounded above by the order dimension of $\mathbb{P}$. A well known result of Trotter and Felsner proves that $\dim(\mathbb{P}) = \chi(\mathbf{H}^c_{\mathbb{P}}) \geq \chi(\mathbf{G}^c_{\mathbb{P}})$. We discuss extensions to the infinite family of graphs which arise from posets called layered generalized crowns, whose chromatic number has a known upper bound. (Received September 11, 2015)