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Chelsea R. Snyder* (snydercr1@gcc.edu) and **Christina C. Scurlock**. *Higher Rectification and Polytope Numbers: The Simplex Case*. Preliminary report.

A polytope number is a term in the integer sequence which is determined by the arrangement of points in a polytope. Although the polygonal numbers are easily determined, our understanding of polytope numbers in higher dimensions is not yet complete. H.K. Kim has recently established a method for constructing the number sequence of any uniform polytope in any dimension. We will discuss Kim's inductive process as it applies to birectified simplices. In addition, we will explore higher rectification in relation to polytope numbers to propose conjectures for further research. This project was supervised by Dr. Michael A. Jackson. (Received June 29, 2011)