

1154-VC-1314 **Michael Jones** and **David McCune***, mccuned@william.jewell.edu, and **Jennifer Wilson**. *A Survey of Proportional Apportionment Methods Used in the Republican Presidential Primary.*

We survey the apportionment methods used by the Republican Party in their 2012 and 2016 state presidential primaries, with a focus on the seven methods that are proportional. All of the proportional methods are quota-based, and all but one are new (or at least previously unstudied). After comparing the apportionment methods for three candidates using simplicial geometry, we evaluate how they differ in bias toward the top and bottom vote-getting candidates. We use the bias comparisons to suggest which methods should be used at different junctures in the primary season. We discuss how these new methods were implemented in practice and summarize how successful these methods were in making the Republican delegate process more proportional. (Received September 14, 2019)