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Danielle Shepherd* (dshepherd14@wooster.edu), 1189 Beall Ave., Wooster, OH 44691, and **Timothy Chartier** and **Kenneth Massey**. *When Do We Know? Using Mathematics in NASCAR ranking.*

In the NASCAR Sprint Cup Series, the Chase is a major event, bringing with it increased drama and pressure for all teams and members. The question is always which drivers will be in and which drivers will be out. The ranking of the drivers is based on a cumulative point system where drivers acquire points based mainly on their finishing position although leading laps and winning a race increases the number of points received. The goal of our work is to analyze the correlation between the NASCAR points ranking system and the rankings systems we develop mathematically. By solving large systems of linear equations, rankings for drivers can be computed. Comparing these to the NASCAR driver rankings, the correlation between the two different ranking methods can be determined. The ultimate goal would be to create a ranking system and know at what point in the season that ranking system could accurately determine the drivers who would make the Chase. This would allow teams to know who their greatest competitors were for those coveted ten spots. (Received September 17, 2013)