1056-00-106   **Nick C Fedewa*** (`fedew1n@cmich.edu`), Department Of Mathematics, Central Michigan University, Mount Pleasant, MI 48859, **Emily E Krause** (`kraus1ee@cmich.edu`), Department of Mathematics, Central Michigan University, Mount Pleasant, MI 48859, **Alexandra M Sisson** (`sisso1am@cmich.edu`), Department of Mathematics, Central Michigan University, Mount Pleasant, MI 48859, and **James R Angelos** (`james.angelos@cmich.edu`), Department of Mathematics, Central Michigan University, Mount Pleasant, MI 48859. *The Spread of A Rumor.* Preliminary report.

The spread of a rumor can be modeled as a classroom with n students and, on day one, a person is told a rumor. On day two, this person draws a number at random. If they draw their own number, the rumor is not spread and the process is repeated the next day. However, if they choose any number besides their own, they tell that person. Now two people would now know the rumor and they would both choose numbers at random the next day. Just as before, they tell the people that correspond with the numbers they chose. This process continues until the entire population hears the rumor. This has been expanded to add in stiflers, people who know the rumor, but do not spread it. The rumor stops spreading when either there are no more ignorants or spreaders. There are three main models to this method, based upon how people transition to stiflers. Using sampling without replacement requires the use of the multivariate hypergeometric distribution (MHD). The differential equations are derived from expected values of a MHD for the first expected value. From there, a conditional MHD was used for the remaining two expected values. These results were then used to analyze each model. (Received July 27, 2009)