

1135-M5-2089 **John S Caughman***, caughman@pdx.edu, and **Elise Lockwood** and **Zackery Reed**. *Subtleties of the Multiplication Principle*.

The Multiplication Principle is fundamental to combinatorics, underpinning many standard formulas and providing justification for counting strategies. We conducted a textbook analysis to examine ways in which this important principle is presented. In this talk, I report on the (surprisingly) wide variety of statements we found. A number of key elements of the principle emerged, affording a categorization of statement types. Findings from the textbook analysis reveal mathematical subtleties that can be made concrete for students through carefully chosen examples. (Received September 25, 2017)