

1135-M5-3184      **Oscar Levin\*** ([oscar.levin@unco.edu](mailto:oscar.levin@unco.edu)), 501 20th Street, Campus Box 122, Greeley, CO 80639.  
*Shifting perspectives for counting.* Preliminary report.

In a continuing effort to try to understand why even basic combinatorics (counting) is so difficult for students, we will investigate the mental gymnastics required to answer simple counting questions that as mathematicians we might too often take for granted. Specifically, this talk will explore the necessary shifts in perspective inherent in combinatorics, as well as in the teaching of combinatorics. We will argue that these perspective shifts are the result of ambiguities that, while difficult to overcome for many students, are worth celebrating and are one reason that a discrete course is an ideal setting for a student's transition to higher mathematics. (Received September 27, 2017)