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Todd D CadwalladerOlsker* (tcadwall@fullerton.edu), Mathematics, MH-154, 800 N. State College Blvd, Fullerton, CA 92831. *Order of Operations in the Interpretations of Conjunction and Disjunction*. Preliminary report.

In the English language, complex sentences involving multiple conjunctive (“and”) and disjunctive (“or”) statements can be interpreted in multiple ways. When one hears such a sentence, the hearer uses an implicit *order of operations* to process the conjunctions and disjunctions, which may not be the same as that intended by the speaker.

This has implications for the teaching and learning of mathematics. When teaching logical operations, we often use parentheses to make clear the intended order of the operations \wedge and \vee . However, parentheses are not used this way in English; we must use other cues when writing English statements that are to be interpreted as logical statements, and make sure that our students are interpreting these cues the way we intend them to. In particular, we must be sensitive to the fact that non-native English speakers may interpret such cues differently than native speakers.

The words “and” and “or” are used in combinatorics problems, and the interpretation of these words is necessary to arrive at the intended answer. In this talk, I will discuss preliminary results from a study of the interpretation of complex sentences with advanced mathematics students in a combinatorics class, and discuss implications for teaching. (Received August 14, 2015)