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Math 191

Review of "Braids, the Artin Group, and the Jones Polynomial," by Jordan Fassler

Feedback

1. Page 2: the first paragraph seems more like an introduction than the definition at the beginning of the paper. Maybe this paragraph could come before the first definition.
2. Page 4: is concatenation the same as multiplication?
3. Page 8: "reidemeister" should be "Reidemeister." Maybe the sentence before the definition of Markov Move could read, "There are two basic moves that can be used to modify a braid so that its closure produces ambient isotopic knots:"
4. Page 10: a definition of R-module, or module, would have helped me.
5. Page 11: maybe a definition of tangle would have clarified this section.
6. Page 18: what is 1_2?

Review

This paper provides a discussion of braids, the Artin braid group, and the derivation of the Jones polynomial using a representation of the braid group. First, the paper gives a definition of braids and the Artin braid group. It continues with the notion that every knot can be represented as a closed braid, and a discussion of the ways in which one can use braids to show whether two knots are ambient isotopic. The following section describes the construction of a representation of the braid group into Temperley-Lieb Algebra. The paper concludes with a section detailing how the bracket polynomial, and thus the Jones polynomial can be derived using this representation of the braid group.