Exam Specifications
Topology Unit

Math in Decision Making

February 2, 2016

General Information

The in-class examination for the *Topology: Picture Hanging Puzzles and Knots* unit will be administered on Friday, February 12. As described in the syllabus, the exam will be split into two separate parts: a Foundational part, and an Advanced Part. These two parts will be done during a single class meeting.

Each of these parts will be marked on a "Proficient/Not Proficient" basis. The two parts will be considered independently.

Expectations for the Foundational Exam

To earn a mark of "Proficient," a student must demonstrate that they can do all of these things:
- Use our methods of study from picture hanging puzzles like PHP2, PHP3-1, and PHP3-2 to solve a new, related puzzle, and explain the solution.
- Compute basic invariants for knots and links accurately: including tricolorability, number of components, and the linking number.
- Use a sequence of Reidemeister moves to demonstrate that two knot diagrams actually represent the same knot.

Expectations for the Advanced Exam

To earn a mark of "Proficient," a student must demonstrate competence with using our complete list of invariants to determine if a variety of knots and links are the same or are different.