

MATH 555: KNOT THEORY, HOMEWORK 4

MORE ON THE KAUFFMAN BRACKET AND JONES POLYNOMIAL

Due by Friday, Feb. 22th at 10 am

1. HOMEWORK POLICY

You are strongly encouraged to work in groups to exchange ideas and help each other understand how to approach problems, but the work you turn in must be your own! If you work with others on an assignment, be sure to indicate the names of the other students on your homework. Additionally, if you use any outside resources (i.e. internet sources, other mathematicians, other books) to help you solve homework problems, you must cite your sources. Failure to follow these rules will result in a score of zero on an assignment and may constitute a violation of academic integrity.

Homework must be legible, well-organized, and written in complete sentences. Handwritten work is fine, but you are encouraged to type up the problems in LaTeX.

2. READINGS AND RESPONSES.

- (1) Read Pages 52 to 60 of “Knots Knots” by Justin Roberts.

3. PROBLEMS

- (1) Do Exercise 4.5.4 in “Knots Knots”.
- (2) Use the previous problem together with results proved in class to show that if K_1 and K_2 are alternating knots, then $c(K_1 \# K_2) = c(K_1) + c(K_2)$.
- (3) Do Exercise 4.5.6 in “Knots Knots”.