Instructions

To earn credit toward grade advancement, this project must be

- completed and turned in by Monday, February 15 at 3pm.

- typed, though hand-drawn figures are allowed.

- show firm grasp of the mathematics by being complete and correct.

These are non-negotiable requirements. A paper which makes a good effort but falls just short will be given one opportunity to be revised and resubmitted. This decision will be at the discretion of the instructor.

The Assignment

One of the knots on the following page is your new friend. You should

- Figure out if your friend is tricolorable or not. Explain how you know.

- Give a complete argument for why your friend has an unknotting number equal to 1. This should include showing which crossing to change and the sequence of Reidemeister moves to transform the new (changed) knot into a planar projection of a standard unknot ("the circle").

How do you know which knot is your friend? If your last name starts with the one of the letters A, B, C, D, E, F, G, or H, your new friend is the first knot, labeled A-H. If your last name starts with the one of the letters I, J, K, L, M, N, O, or P, your new friend is the second knot, labeled I-P. Otherwise, your new friend is the third knot, labeled Q-Z.
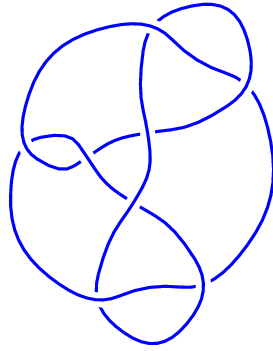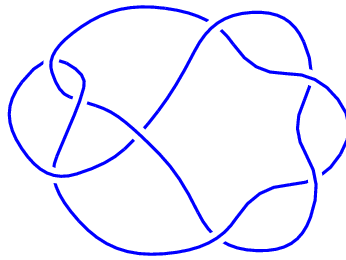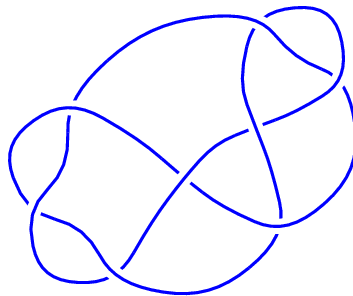
Figure 1: Knot A-H

Figure 2: Knot I-P

Figure 3: Knot Q-Z