Algebraic Invariants in Knot Theory
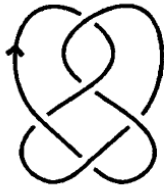# Practicals 7

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Exercise 1. Prove that a knot has genus zero if and only if it is the unknot.

Exercise 2. Prove that any genus 1 knot is prime.

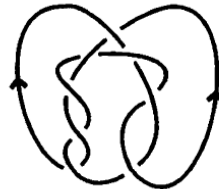**Exercise 3.** Prove that there are infinitely many different knots.

Exercise 4. Calculate the Seifert surface and the genus of each of the following knot diagrams, and verify the validity of the formula $f = 2 - d + b$.
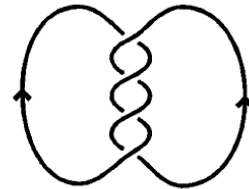

(a)   (b)   (c)   (d)