MATH 495: KNOT THEORY, HOMEWORK 7

TORUS KNOTS, SATELLITE KNOTS AND HYPERBOLIC KNOTS

Due in class, Thursday, 4/24

Problems (to turn in).
  (1) Prove that the minimal genus Seifert surface for any knot is incompressible.
  (2) Find the genus of the $\frac{5}{3}$–torus knot.
  (3) Find the genus of any whitehead double of a non-trivial knot.
  (4) Find the distance between $(\frac{1}{2}, 0)$ and $(0, 0)$ in $\mathbb{H}^3$ with the hyperbolic metric.