

INTRO TO ALGEBRAIC TOPOLOGY
HOMEWORK 4 DUE FEBRUARY 19

Turn in the following:

- (1) Hatcher Exercise 1.1.10 (p. 39)
- (2) Hatcher Exercise 1.1.12 (p. 39)
- (3) Hatcher Exercise 1.1.16 (p. 39)
(In part (c), the circle is the bold circle in the interior of the solid torus.)
- (4) Hatcher Exercise 1.2.4 (p. 53)
- (5) Hatcher Exercise 1.2.8 (p. 53)

Think about the following (but do NOT turn in):

- From the proof of the Seifert-van Kampen theorem in class, why is it possible to arrange the factorization associated to γ_0 to be equivalent to $[f_1] \cdots [f_k]$?