

INTRO TO ALGEBRAIC TOPOLOGY
HOMEWORK 10 DUE APRIL 23

Turn in the following:

- (1) Hatcher Exercise 2.2.9 parts (a) and (b) (p. 156)
- (2) Hatcher Exercise 2.2.22 (p. 157)
- (3) Hatcher Exercise 2.2.28 (p. 157)
- (4) Hatcher Exercise 2.2.31 (p. 158)
- (5) Hatcher Exercise 2.2.32 (p. 158)

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

- If $0 \rightarrow A \rightarrow B \rightarrow C \rightarrow 0$ is a short exact sequence of finitely-generated abelian groups, show that $\text{rank } B = \text{rank } A + \text{rank } C$.