Algebraic Topology

Homework 11: Due Wednesday, November 17

Problem 1. Compute the homology of the Lens space $L(p, q)$.

Problem 2. Let X be a torus with two disks glued in, exactly as in the midterm. Compute the homology of X.

Problem 3. Page 172, problem 5.2.

Problem 4. Page 172, problem 5.4.

Problem 5. Page 175, problem 6.2.

Problem 6. Suppose that $A \subset B \subset X$. Show that there is a long exact sequence $\to H_k(B, A) \to H_k(X, A) \to H_k(X, B) \to H_{k-1}(B, A) \to \cdots$. What are the maps in this sequence? [This sequence is called the long exact sequence of the triple (X, B, A). When A is the empty set, it becomes the usual long exact sequence of the pair (X, B).]