

Algebraic topology 1.

Discussion (Read Sections 1.1, 1.2).

Section 1.1 exercises 2, 5, 16a, 16d, 17, .

Section 1.2 exercises 8, 14.

Go through the proof and applications of the Borsuk-Ulam theorem.

Homework 2. Due Monday, September 25.

Section 1.1 exercises 11, 16bcef, 18, 3.

Section 1.2 exercises 4, 7, 18a.

1. Find the fundamental group of

(a) the complement of n point in \mathbb{R}^2 .

(b) punctured Möbius band.

(c) punctured $\mathbb{R}P^2$.

2. A connected CW-complex X has two 0-cells, one 1-cell, and a few cells of higher dimensions. What can you say about the fundamental group of X ?