

## Algebraic Topology Suggested Problems for Week 12

You may hand in solutions to at *most* 2 problems every 2 weeks and no later than 2 weeks after the necessary material for them is covered in class.

From Munkres: 54.5, 54.5, 58.1, 59.2, 59.4, 55.5, 55.6, 60.1

### Problem T

Compute  $H_*(\mathbb{R}P^n; \mathbb{Z})$ . Use this and the Universal Coefficient Theorem for  $H_*$  to obtain  $H_*(\mathbb{R}P^n; \mathbb{Z}_2)$  and  $H_*(\mathbb{R}P^n; S^1)$ . Compare with the conclusions of Problems B(c) and C.

### Problem U

Describe minimal generating sets for the homologies of the space in 59.5