

## Homework number 5

Do both exercises.

**Exercise 13.** Prove: If  $f : S^n \rightarrow S^n$  has no fixed point, then  $\deg f = (-1)^{n+1}$ .

**Exercise 14.** Compute the homology groups of the Klein bottle with coefficients  $\mathbb{Z}_n$ . Distinguish between  $n$  odd and even.