

**MATH 145B INTRODUCTION TO TOPOLOGY, HOMEWORK
EXERCISES DUE FRIDAY, MAY 29**

- (1) Prove that any map $f: X \rightarrow S^n$ which is not onto is nullhomotopic.
- (2) Prove that the inclusion $f: S^1 \rightarrow M$ of the sphere into the Möbius strip is a deformation retraction.
- (3) Prove that for any space X , its cone CX is contractible.