

MATH 8307
Additional Problems for Homework Assignment #4
Due 02/28
INSTRUCTOR: Anar Akhmedov

1. Show that CP^{2m} can not be the boundary of any compact $4m + 1$ dimensional manifold.
2. Let M be an orientable, compact, connected n -dimensional manifold and $f : M \rightarrow M$ be a continuous map. If $f_* : H_n(M; \mathbb{Z}) \rightarrow H_n(M; \mathbb{Z})$ is an isomorphism, show that the induced homomorphisms $f_* : H_k(M; G) \rightarrow H_k(M; G)$ are isomorphism for any $k \geq 0$ and any abelian group G .