

HOMEWORK SET #3: DUE OCTOBER 21

The following problems will be graded:

- (1) Munkres:
 - §22 4
 - §24 1b,3 *An imbedding is a continuous map of topological spaces $f : X \rightarrow Y$ such that $f : X \rightarrow f(X)$ is a homeomorphism for the subspace topology of $f(X)$.*
 - §26 1b,7
- (2) Let X be an infinite, compact Hausdorff space. Prove that X contains an infinite subset Y such that the subspace topology on Y is the discrete topology.

These problems will not be graded, but I recommend you solve them anyways for practice!

- (1) §22 5
- (2) §24 8
- (3) §26 11
- (4) §27 6 *Read the relevant definitions in the book!*