April 6, 2010

**Homework 4**

**Math 413**

*Due on April 13, 2010*

These are exercises on separation axioms.


7. Prove that $S^1$ is compact.

8. Show that one point compactification on $(0,1)$ is homeomorphic to the Stone-Čech compactification on $(0,1)$ via the embedding $h : (0,1) \to S^1$, where $h(t) = (\cos 2\pi t, \sin 2\pi t)$. 