PMAT 505 ASSIGNMENT 3 Due November 5, 2010

1. Munkres p.112, 10. [20]

2. Munkres p.112, 11. [20]

3. Munkres p.112, 12. [20]

4. Munkres p.101, 13. Show that a space X is Hausdorff iff the diagonal Δ is closed in $X \times X$. [20]

5. A subset A of a topological space X is called *klopen* iff $A = U \cap C$, where U is open and C is closed. Prove that A is klopen iff $\overline{A} \setminus A$ is closed. [20]