MA681–001 Functional Analysis
Fall 2013
Problem Set 2
DUE: Wednesday, 18 September 2013

1. Compete the proof of Proposition A3.9 on page 303 of Hislop & Sigal. This is problem A3.3. You should think about why the extension is well-defined and unique.

2. Read pages 305–306 on the set of all bounded operators from X to Y, which is denoted $\mathcal{L}(X, Y)$. Do problem A3.7, which finishes the proof that this algebra is a Banach space. When we have $X = Y$, show that $\mathcal{L}(X)$ is a Banach algebra.

3. Problems 1.3 and 1.4 on page 15.