This homework set has seven (7) problems. Some of them are routine, others require more thought. You are encouraged to work together and to ask questions of me; however, you must write up your solutions independently. On this and all subsequent homework sets please write neatly and use complete sentences. Writing mathematics well is a craft, aim to hone it!

1. *Folland* Exercise 2.23

2. *Folland* Exercise 2.28ab

3. Our Theorem 2.28 tells us that the Lebesgue and Riemann integrals coincide when the latter exists and we are integrating over a closed and bounded interval. On exercise 2.28(a) we seemed to freely associate the Lebesgue and Riemann integrals over the set [0, ∞). Justify this conceit in this case. Can it always be justified?

4. *Folland* Exercise 2.33

5. *Folland* Exercise 2.37

6. *Folland* Exercise 2.38a

7. *Folland* Exercise 2.40