Student #:

## Math 425 Midterm Practice Problems

Chapter 3 [Pugh, pg. 198]: 48, 58.

Chapter 4 [Pugh, pg. 263]: 8, 10, 21, 22.

## Additional problems

**1.** Show that if  $f_n$  is an equicontinuous sequence of functions in  $C_0(\mathbb{R})$ , then it has some subsequence  $g_n$  that converges uniformly. (Recall that  $C_0(\mathbb{R}) \subset C_b(\mathbb{R})$  are continuous functions  $f : \mathbb{R} \to \mathbb{R}$  such that for every  $\epsilon > 0$  there is some R so that  $|f(x)| < \epsilon$  if |x| > R.)