MTH 320: Homework 5

Due: October 6, 2017

1. Midterm 1 will be Monday, October 9 in class. It will cover Sections 1-4, 7-12. (This means that the material covered by the midterm will finish either on Friday, September 29 or fairly early on Monday, October 2.) There will be a sample midterm posted the afternoon of Monday, October 2. On Friday, October 6 there will be a review lecture; we will talk through the sample midterm and answer other questions as time permits.

2. Read Sections 12, 14 in Ross.

3. Do the the exercises in 11.2-4 in Ross for the sequences a_n, b_n, u_n, x_n, and z_n.

4. Do exercise 12.3(a), (b), (c), and (g) in Ross.

5. Do exercises 11.5, 11.9(b), 12.4, 12.6, and 12.10 in Ross.

6. Let (s_n) be a sequence of real numbers. Prove that the set of subsequences of (s_n) is uncountable. [Hint: show that every real number in $(0, 1)$ determines a subsequence of (s_n).]