MthT 430 Problem Set 09

In class October 31, 2007 – Turn in November 7, 2007

A typed paper is preferred, but a neat hand written paper is OK.

Group Work Rules:

- You are encouraged to work together!

- Away from the group, do your own neat write up of the problems.

- Acknowledge the group members and any other person/resource you use.

Problems from Spivak

1. Spivak Chapter 8, Problem 8.

   Problem 8(a) is the statement that bounded monotone functions have left and right hand limits.

2. Spivak Chapter 8, Problem 11 (a) (b) (c)

3. Spivak Chapter 7, Problem 20

   Another Hint: Suppose that $a < c < b$ and that $f(a) = f(b) < f(c) = \sup_{x \in [a,b]} f(x)$. Draw a picture! Is it possible that f takes the value $f(c)$ *exactly* twice?