Homework Assignment 1.

Given Sep 17, due Sep 30.

1. Section 2.5: problems 41, 42. Chap 2: problems 74, 75.

2. How would you define the following limits formally using ϵ and δ?

a.

$$\lim_{x \to c^+} f(x) = L$$

b.

$$\lim_{x \to c} f(x) = \infty$$

c.

$$\lim_{x \to -\infty} f(x) = L$$

(Hint: 'As $x \to \infty$' can be written as 'there is a M such that for all $x > M$, $\cdots$')

3. Section 2.3: problems 24, 34, 40, 46. Chap 2: problems 41, 42, 53.

4. State (need not prove) the '$x \to c^+$' and '$x \to \infty$' versions of the Sandwich Theorem.

5. Section 2.4: problems 54, 55, 56, 57. Chap 2: problems 69, 70.

6. Show that if f is continuous at $x = c$, so if $2f$.