Calculus I, Fall 2013 (http://www.math.nthu.edu.tw/~wangwc/)

Homework Assignment for Week 02

- 1. Section 2.3: Try to write down the $\varepsilon \delta$ definition of 'Showing L is not a limit' in p84 without the decomposition steps shown in class. If unsuccessful, review the decomposition step by step and then check your answer with the one given on p84.
- 2. Section 2.4: Problems 26, 34, 42
- 3. Section 2.5: 64, 67, 77 (Need not graph it).
- 4. Section 2.6: 92, 93.
- 5. Read Definition of the limits p87, p104 and p110. Then define the following limits using ϵ and δ :

a.

 $\lim_{x \to 0^+} f(x) = \infty$

b.

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

Then take f(x) = 1/x for (a) and $f(x) = -x^2$ for (b), respectively, check that the (a), (b) actually holds using the $\epsilon - \delta$ argument.