

Homework Assignment for Week 02

1. Can the following be the definition for $\lim_{x \rightarrow c} f(x) \neq L$? Explain.

For any $\delta > 0$, there exists an $\epsilon_0 > 0$ and an $x_0 \in (c - \delta, c) \cup (c, c + \delta)$ such that $|f(x_0) - L| \geq \epsilon_0$.

2. Section 2.4: Problems 26, 34, 42
3. Section 2.5: problems 64, 67, 77 (Need not graph it).
4. Section 2.6: problems 92, 93.
5. Read Definition of the limits in p87, p104 p110 and p116. Then verify the following statements using formal definition of limits:

a.

$$\lim_{x \rightarrow 0^+} \frac{1}{x} = \infty$$

b.

$$\lim_{x \rightarrow \infty} -x^2 = -\infty$$