Assignment 4

1. Prove $\lim_{x\to 0+} |x|/x = 1$.

2. Prove $\lim_{x\to 0-} 1/x^3 = -\infty$.

3. Prove that "$\lim_{x\to 1} 3x + 1 = 2$" is false.

4. Prove that if $\lim_{x\to a} f(x) = L$ and $\lim_{x\to a} g(x) = M$, then
$$\lim_{x\to a}(f(x) + g(x)) = L + M.$$