MATH 241: ANALYSIS IN SEVERAL REAL VARIABLES I
WORKSHEET, DAY #24

Problem 1. Let $f : A \to \mathbb{R}$ be a function and let c be a limit point of A. Suppose that

$$\lim_{x \to c} f(x) = L > 0.$$

Prove that there exists an open neighborhood U of c such that $f(x) > 0$ for all $x \in U \cap A$ such that $x \neq c$.

Date: Wednesday, 28 October 2009.

Problem 2. Let $f, g : A \to \mathbb{R}$ be continuous functions. Define the function $h : A \to \mathbb{R}$ by $h(x) = \max(f(x), g(x))$. Show that h is continuous.