Math 441 - Homework 5

Due Friday, Oct.2nd

- 1. Suppose that a, b are real numbers such that $a + \epsilon > b$ for all $\epsilon > 0$. Prove that $a \ge b$.
- 2. Is the set of irrational numbers an open or closed subset of the real numbers? Prove your answer.
- 3. Let $S \subseteq T \subseteq \mathbb{R}$. Prove that

 $\inf T \le \inf S \le \sup S \le \sup T.$