Math 3333 Name:

HW 2

Please, write clearly and justify your arguments using the theory covered in class to get credit for your work.

(1) [5Pts] Let S be a nonempty and bounded subset of $\mathbb{R}$. Prove that $m = \inf S$ is unique.

(2) [5Pts] Let $S \subset \mathbb{R}$ be nonempty. Show that S is bounded if and only if there exists a closed bounded interval I such that $S \subset I$.