

18.099b Problem Set 2b

Due: Thursday, February 26th (in class or before).

1. Suppose $F \subseteq \mathbb{R}$ is a closed subset of the real numbers for which $\sup F$ exists. Show that $\sup F \in F$.

2. Suppose $E \subset X$ is a subset of a metric space. Let E' be the set of all limit points of E . Show that E' is closed. (*Hint.* Show that if x is a limit point of E' then x is a limit point of E)