Bounded sets and Accumulation points

1. 3.4 Problem 20 Prove or give a counterexample: If a set $S$ has a minimum and a maximum, then $S$ is a closed set.

2. Prove $\text{int}(\text{int}S) = \text{int}S$.

3. Prove $\text{int}(S \cap T) = (\text{int}S) \cap (\text{int}T)$. 