## Supplementary problems (assigned 10/10/03)

1. Prove directly from Definition 4.5 that the function $f:[0, \infty) \rightarrow[0, \infty)$ given by $f(x)=\sqrt{x}$ is continuous at every point in its domain.
2. Prove each item in Theorem 4.4 directly from Definition 4.1 -i.e. do not use the corresponding facts about limits of sequences.
