

## Homework 5

Problem 20, on page 82 of the book, plus the following.

**E1.** Let  $(X, d)$  be a metric space and  $(x_n)_{n>0}$  a Cauchy sequence in  $X$ . Show that the set  $\{x_n\}_{n>0}$  is bounded.

**E2.** Show that a subsequence of a Cauchy sequence is Cauchy.