

Math 560
Fall 2005
Homework 7
Assigned Monday, 10 October, 2005

1. If f is uniformly continuous on a set S then f is continuous on S .
2. (Exercise #5a, p. 88) Let A and B be disjoint closed sets and suppose f is uniformly continuous on each. Show that f is uniformly continuous on $A \cup B$ if A is compact.
3. (Exercise #7, p. 88) Let D be a bounded set and let f be uniformly continuous on $D \subset \mathbb{R}^n$. Prove that f is bounded on D .
4. (You should be able to do this, but I won't collect it) (Exercise #3, p. 88) Let f and g each be uniformly continuous on E . Show that $f + g$ is uniformly continuous on E .