

MATH 202A — LECTURE NOTES FOR OCT 5, 2005

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1. URYSOHN'S LEMMA

Lemma 1.1 (Urysohn's Lemma). *X is a normal topological space. $A, B \subseteq X$ are disjoint, closed, and nonempty. There exists a continuous function $f : X \rightarrow [0, 1]$ such that $f(A) = 0$, $f(B) = 1$.*

Remark 1.2. If X is normal, F closed, G open and $F \subseteq G$, then there exists U open such that $F \subseteq U$, $\bar{U} \subseteq G$.