

Katetov-Tong Insertion Lemma

The usual proof presented for the Tietze Extension Theorem uses Urysohn's Lemma and some form of the Weierstras M-Test—the extension of the given continuous function on a closed subset is built using an infinite series of continuous functions whose convergence is assured by comparison with a known (convergent) geometric series. An alternative approach is to build the extension by means of the Katetov-Tong Insertion Lemma. We will present and prove this lemma and, if time permits, apply it to prove the Tietze Extension Theorem.