Date: Lecture 5 Day:

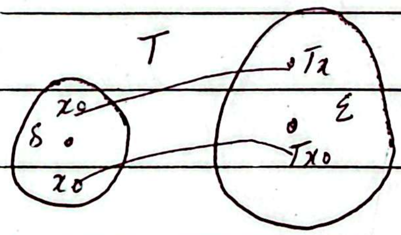
Continuous mapping

Let $X = (X, d)$ and $Y = (Y, \tilde{d})$ be a metric space. A mapping $T: X \to Y$ is said to be continuous at a point $x_0 \in X$ if for every $\varepsilon > 0$ then there is a $\delta > 0$ such that

$\tilde{d}(Tx, Tx_0) < \varepsilon$ for all x satisfying

$d(x, x_0) < \delta$

T is said to continuous if it is continuous at every point of X



Theorem

Statment

A mapping M of a metric space X into a metric space Y is continuous iff the inverse image of any open subset of Y is an open subset of X