Analysis I - Hw 1

Daniel Yu

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1 Problem 1

Let (X, ρ) be a metric space and E, a non-empty subset in X. Consider the new metric space, (E, ρ). Prove that a set $U \subseteq E$ is open in $E \Leftrightarrow \exists$ an open set U in X such that $U = U \cap E$. Similarly, prove this for closed sets.

Proof. □

2 Problem 2

$K \subseteq E$ then K is compact in $E \Leftrightarrow K$ is compact in X.

Proof. □

Due October 2nd