

Mathematical Analysis I

Quiz on Chapter: *Basic Topology*

Time: 1 hour and 30 minutes

Fall 2025

Questions:

1. Let E^0 denote the set of all interior points of a set E . Prove that E^0 is always open.
2. Prove, using the definition, that the interval $(0, 1)$ is not compact.
3. If A and B are disjoint open sets in some metric space X , prove that they are separated.