

Extra Credit Assignment 2

Due Friday, January 29, 11:59 PM

Recall that a topology on a set X is a collection of subsets of X satisfying some axioms. We call anything in this collection an “open” subset.

In class, we mentioned that on \mathbb{R}^n , we can declare a subset of \mathbb{R}^n to be open if it can be written as a union of open balls. (The empty set is an example of an open subset by this definition!)

Show me that this collection of open subsets of \mathbb{R}^n is indeed a topology.