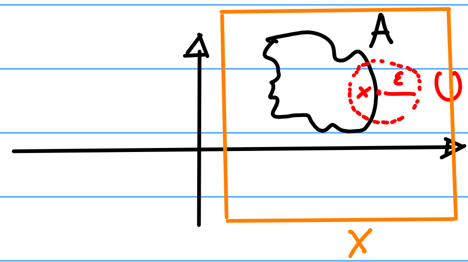
Limit points

Another way of describing the closure uses the concept of limit point.

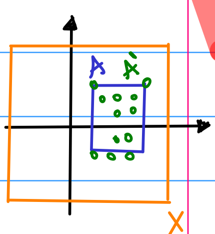
→ if A is a subset of (X, τ) and if $x \in X$, we say x is a limit point of A, if for any neighborhood U of x, $U \cap A \neq \emptyset$ y $U \cap A \neq \{x\}$.



$|U \cap A| > 1$

→ Another definition is: x is a limit point of A if it belongs to the closure of $A - \{x\}$.

Theorem 17.6 Let A be a subset of the topological space X, let A' be a set of all limit points of A. Then:



$$\bar{A} = A \cup A'$$

Corollary 17.7 A subset of a topo. space is closed iif it contains all limit points.