

Let $A \subset X, B \subset Y$ show that in the space $X \times Y$: $\overline{A \times B} = \bar{A} \times \bar{B}$

" \subset " $(a, b) \in \overline{A \times B}$ then O of (a, b) intersects $A \times B$. such O can be written $U \times V$, U open in X , V open in Y . Then we have $(x, y) \in U \times V$ s.t. $(x, y) \in A \times B$ thus any open U of a intersects A and any open V of b intersects B so $(a, b) \in \bar{A} \times \bar{B}$

" \supset " $(a, b) \in \bar{A} \times \bar{B}$ every U of a intersects A , every V of b intersects B thus $U \times V$ intersects $A \times B$ @