Theorem (2.2.7b)**.** *Let A be a set. The empty set dominates set intersection such that $A \cap \emptyset = \emptyset$.*

Proof. Let x be an element in $A \cap \emptyset$. By the definition for set intersection we have $(x \in A) \wedge (x \in \emptyset)$. We know that $(x \in \emptyset) \equiv \bot$ because the empty set is empty. The logical law of domination gives us that $(x \in A) \wedge \bot \equiv \bot$. It immediately follows that $(x \in A) \wedge (x \in \emptyset) \equiv (x \in \emptyset)$, which is the definition of $A \cap \emptyset = \emptyset$. Thus proves the law of set domination for the intersection of sets. ■