**Theorem** (2.2.16a)**.** *Let $A$ and $B$ be sets.* $(A \cap B) \subseteq A$.

*Proof.* Let $x$ be an element in $(A \cap B)$. Then by definition, $(x \in A) \wedge (x \in B)$. It trivially follows from the definition of logical conjunction that $x \in A$ whenever $x \in (A \cap B)$. So $(A \cap B) \subseteq A$. ∎