Theorem (2.2.6b)**.** *Let A be a set with universal set U. The set identity for A is $A \cap U = A$.*

Proof. Let x be an element in $A \cap U$. By the definition for set intersection, $(x \in A) \wedge (x \in U)$. We know that $x \in U$ is true because U is the universe. The logical law of identity has it that $x \in A$. Therefore it follows directly that $A \cap U = A$. Thus proves the set identity law for set intersection. ■