Q. ~~X~~ 9

Eg. $A_n = \emptyset$ given $(\forall n)$

Prove that $A_n = \emptyset$ (given $(\forall n)$) satisfies the stated properties.

Proof: If $(\forall n)(A_n = \emptyset)$, then ~~$A_{n+1}$~~ $= \emptyset$. Thus, $A_{n+1} \subset A_n$. $(\emptyset \subset \emptyset)$

Since $(\forall n)(A_n = \emptyset)$, then $\bigcap_{n=1}^{\infty} A_n = \bigcap_{n=1}^{\infty} \emptyset = \emptyset$.

Thus, the ~~stat~~ example is proven.

QED ▨