If f: X→Y is a one-to-one function from X into Y, prove f^{-1} is a one to one function and $(f^{-1})^{-1}=f$

For some a ϵ X, f: X→Y transforms a→f(a). Since each 'a' in X has a unique f(a) in Y, for f^{-1} : Y→X each f(a) in Y have a corresponding 'a' in X,

Since something times its inverse is equal to the identity, since $f^{-1}f=e$, f and f^{-1} each are the inverse of the other.