

1. Do 1.6.24 and check your answer by finding $f(f^{-1}(x))$ and $f^{-1}(f(x))$.
2. Decide which of the following statements are true and justify your answer.
 - (a) If $f : \mathbb{R} \rightarrow \mathbb{R}$ is a one-to-one function, then f^2 is also one-to-one. (Recall $f^2(x) = (f(x))^2$.)
 - (b) If $f : S \rightarrow T$ and $g : T \rightarrow U$ are one-to-one functions, then $g \circ f$ is one-to-one.
 - (c) If $f : S \rightarrow T$ has inverse f^{-1} and $g : T \rightarrow U$ has inverse g^{-1} , then $f^{-1} \circ g^{-1}$ is the inverse of $f \circ g$.