

1. Let $h: \mathbb{R} \rightarrow \mathbb{R}$ be increasing over all of \mathbb{R} . Assume that its inverse h^{-1} relation is also a function, with domain \mathbb{R} . Prove that h^{-1} is also increasing over all of \mathbb{R} .
2. Find a bijection (one-to-one correspondence) between the intervals on the real line $[3, 5]$ and $[7, 10]$. Prove that your function is one-to-one and onto the appropriate codomain.