Theorem 3.0.18. *Let X, Y, and Z be sets. Then $|(X \times Y) \times Z| = |X \times (Y \times Z)|$.*

Problem 3.0.19. *Suppose f is a one-to-one and onto function from $\mathbb{N} \to \mathbb{Z}$. Prove that the function g from $\mathbb{N} \times \mathbb{N} \to \mathbb{N} \times \mathbb{Z}$ defined by $g : (m, n) \mapsto (m, f(n))$ is one-to-one and onto.*