Name: _____

Quiz 4
Date: November 7, 2025

Question 1. 5 points

Give an example of two functions $f\colon X \to Y$ and $g\colon Y \to Z$ such that $g \circ f$ is injective but g is not injective.

Question 2. 10 points

Let $f\colon X \to Y$ be a function and let $A, B \subseteq Y$. Prove the following equality of subsets of X:

$$f^{-1}(A - B) = f^{-1}(A) - f^{-1}(B).$$