

HOMEWORK 9

- 9.5: For all problems let $f : A \rightarrow B$ and $g : B \rightarrow C$ be functions.
 - 1) Prove if $g \circ f$ is injective, then f is injective.
 - 2) Prove if $g \circ f$ is surjective, then g is surjective.
 - 3) Prove or disprove: if $g \circ f$ is injective, then g is injective.
 - 4) Prove or disprove: if $g \circ f$ is surjective, then f is surjective.
 - 5) Prove if $g \circ f$ is bijective and f is surjective, then g is injective
 - 6) Prove if $g \circ f$ is bijective and g is injective, then f is surjective