1. Prove that a set map $f : X \to Y$ is injective if and only if it has a left inverse.
2. Prove that a set map $f : X \to Y$ is surjective if and only if it has a right inverse.
3. Prove that if $f : X \to Y$ is a homeomorphism, then f_* is an isomorphism.
4. Prove that if $r : XtoA$ is a retract, then r_* is surjective.

To be updated...