The function $f$ is a bijection if and only if $f$ is a isomorphism.

In particular, $f$ is a bijection if and only if $f$ is a homeomorphism.

For the function $f$ to be a bijection, it must be surjective and injective.

1. Assume $f$ is a bijection in $M$.
2. Then $f$ is an isomorphism.
3. Let $S = \{1, 2, 3\}$ and $\phi : S \to \mathbb{Z}/3\mathbb{Z}$ be defined by $\phi(1) = 1, \phi(2) = 2, \phi(3) = 0$.
4. Prove that $\phi$ is well-defined.
5. Assume $S \to \mathbb{Z}/3\mathbb{Z}$ is a bijection.
6. Then $\phi$ is a bijection.
7. Prove that $f$ is a homeomorphism on a closed set.
8. Prove by induction on a closed set $T$.
10. The function $f$ is a bijection in $M$.

11. Let $f : M \to \mathbb{Z}/3\mathbb{Z}$ be defined by $f(x) = x \mod 3$.
12. Show that $f$ is a bijection.