

1-Element Sets

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Proposition 0.1. Let a be an object. Then $|\{a\}| = 1$.

Proof. Define $f(x) = 0$ for $x \in \{a\}$. Then f is a map from $\{a\}$ to 1 . f is injective and surjective onto 1 . Hence f is a bijection between $\{a\}$ and 1 . Consequently $\{a\}$ and 1 are equinumerous. Thus $|\{a\}| = |1| = 1$. \square