Lemma. Let $\mathbf{G} = \langle \mathbf{G}, \fatsemi, \mathrm{id}, \mathrm{inv} \rangle$ be a group and let $x, y \in \mathbf{G}$. If x and y satisfy the equation

$$x \fatsemi y = \mathrm{id}.$$

Then $y = \mathrm{inv}(x)$ and $x = \mathrm{inv}(y)$.