HOL Abstract Theory of Groups

Types G

Constants
$\bullet : G \to (G \to G)$
$\sim : G \to G$
$\imath : G$

Axioms

Assoc $\vdash \mathtt{x} \bullet (\mathtt{y} \bullet \mathtt{z}) = (\mathtt{x} \bullet \mathtt{y}) \bullet \mathtt{z}$

Inv $\vdash \mathtt{x} \bullet {\sim}\mathtt{x} = \imath$

Id $\vdash \mathtt{x} \bullet \imath = \mathtt{x}$

Theorems

Lemma1 $\vdash {\sim}\mathtt{x} \bullet \mathtt{x} = \imath$

Lemma2 $\vdash \imath \bullet \mathtt{x} = \mathtt{x}$