

Thesis

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Chapter 1

Test

1.1 section

Throughout, let S be a semigroup with associative multiplication, written multiplicatively.

Lemma 1 (Test Lemma). *Let $e \in S$.*

- *If e is a left identity, then $ee = e$.*
- *If e is a right identity, then $ee = e$.*

Proof. For a left identity, apply the defining property to $s := e$ to get $ee = e$. For a right identity, apply the defining property to $s := e$ to get $ee = e$. \square