

# From Mathematics to Generic Programming

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March 2017

## 6.5

*Solution.*

The element  $a$  has order  $n$ , which means  $a^{n-1}$  applications of  $a$  to the element  $a$  produces  $e$ .

$$a \cdot a^{n-1} = e = a \cdot a^{-1} = a^{-1} \cdot a$$

By the cancellation axiom for a group, this implies that  $a^{-1} = a^{n-1}$ .