

Name _____

Mathematics 309a: Abstract Algebra
Winter Semester 2009
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Quiz #3
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Define a binary operation on the integers Z by $x * y = y$ for all $x, y \in Z$.

A. Prove the Left Cancellation Law in $\langle Z, * \rangle$, i.e. if $a, b \in Z$, and $a * b = a * c$, prove that $b = c$.

B. Show by example of three specific elements of Z that the Right Cancellation Law does not hold in $\langle Z, * \rangle$.

C. How does part B prove that $\langle Z, * \rangle$ is not a group?