

LEFT CANCELLATION – ANSWER

Theorem: Let G be a group, and let $a, b, c \in G$. If $ab = ac$, then $b = c$.

Proof: Let G be a group with $a, b, c \in G$, and suppose that $ab = ac$. Then $a^{-1}(ab) = a^{-1}(ac)$. But by the associative property, this means that $(a^{-1}a)b = (a^{-1}a)c$ which implies that $eb = ec$ which implies that $b = c$. Therefore, if $ab = ac$, then $b = c$.

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