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Name:

Analysis I — Quiz 2

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Q2.1. Let $(G, \cdot)$ be an abelian group. Show that for $x, y, z \in G$ with $x \cdot y = z \cdot x$ we have $y = z$. State the group axioms that you are using in your proof.

Q2.2. For $A|B, \widetilde{A}|\widetilde{B} \in \mathbb{R}$ with $A|B < \widetilde{A}|\widetilde{B}$, find $q \in \mathbb{Q}$ with with $A|B < q^* < \widetilde{A}|\widetilde{B}$ where $q^* = \{p \in \mathbb{Q} : p < q\}|\{p \in \mathbb{Q} : p \geq q\}$.