Math 3110 **Due: Fri., Feb. 2nd, 2024**

Homework #2
Revision Problem

Name: My Name Goes Here

Let G be a group with identity $e \in G$.

(a) Give a concrete example of a group G and elements $a, b \in G$ where $(ab)^2 \neq a^2b^2$.

HERE IS MY EXAMPLE

(b) Prove G is an abelian group if and only if for all $a, b \in G$, $(ab)^2 = a^2b^2$.

Suppose G is abelian. PROOF

Conversely, suppose for all $a, b \in G$ we have $(ab)^2 = a^2b^2$. OTHER HALF OF PROOF