

1. The factor group $(\mathbb{Z}_9 \times \mathbb{Z}_{18})/\langle(3, 3)\rangle$ is a finite abelian group. Do a complete analysis of this factor group and classify it according to the FTFGAG.
2. Let N be a normal subgroup of a group G and let $b \in G$ such that bN has order 3 in the factor group G/N . In addition, suppose that $|N| = 14$. Show your understanding of factor groups and cosets to determine the possible orders of the element b in G . Justify your answer.