

Groups and Rings - SF2729

Homework 1 (Rings)

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Exercise 1. Let $R \in M_2(\mathbb{Z}_2)$. Prove that R has exactly 9 divisors of 0. Prove that $R^* \cong S_3$.

Solution.

Exercise 2. $G = (\mathbb{Z}_{1026})^*$. Prove that $g^{18} = 1 \forall g \in G$

Solution.