

Name:
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MAS 4301.8385
Cyr

Quiz 1

You must give complete, mathematically correct proofs to receive full credit!!

Problem 1. (4 points) Determine whether the following element of D_3 is a rotation or a reflection, and justify your reasoning:

$$R_{120}R_{240}DVR_0D'R_{120}V.$$

Problem 2. (6 points) Let $S = \mathbb{Z} \setminus \{0\}$ and define the relation $a \sim b$ if $ab > 0$. Decide whether or not \sim is an equivalence relation on S . If it is, give a proof of this and describe the equivalence classes. If not, state which properties are satisfied and which properties fail to hold.