PRINT Your Name:_____

Let

$S = \{\frac{m}{n} \mid m$ and n are relatively prime integers and 4 does not divide $n\}$.

Is S a subring of $\mathbb{Q}$? Give a short explanation.

ANSWER: NO. The set S is not closed under multiplication because $\frac{1}{2}$ is in S, but $\frac{1}{2} \times \frac{1}{2}$ is not in S.