

COUNTING NON-ISOMORPHIC GENERALIZED HAMILTON QUATERNIONS

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ABSTRACT. In this paper we study the isomorphisms of generalized Hamilton quaternions $\left(\frac{a,b}{R}\right)$ where R is a finite unital commutative ring of odd characteristic and $a, b \in R$. We obtain the number of non-isomorphic classes of generalized Hamilton quaternions in the case where R is a principal ideal ring. This extends the case $R = \mathbb{Z}/n\mathbb{Z}$ where n is an odd integer.

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