

Special identities for quasi-Jordan algebras

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Velasquez and Felipe recently introduced quasi-Jordan algebras, based on the product $a \triangleleft b = \frac{1}{2}(a \dashv b + b \vdash a)$ in an associative dialgebra with operations \dashv and \vdash . This product satisfies right commutativity $a(bc) = a(cb)$, the right quasi-Jordan identity $(ba)a^2 = (ba^2)a$, and the associator-derivation identity $(a, b^2, c) = 2(a, b, c)b$; these three identities define the variety of quasi-Jordan algebras. A quasi-Jordan algebra is called special if it can be embedded into the plus algebra D^+ of an associative dialgebra D , where D^+ has the same underlying vector space as D but the operation $a \triangleleft b$. We show that there are no special identities for quasi-Jordan algebras in degree ≤ 7 , but that special identities exist in degree 8. These special identities are quasi-Jordan analogues of the Glennie identities for special Jordan algebras. This is joint work with Luiz Peresi.