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Harold Davenport* (davenport@mesa5.mesa.colorado.edu), Mesa State College, 1100 North Avenue, Grand Junction, CO 81501. *Frobenius-Peirce Theorem.*

The theorem of Frobenius-Peirce characterizes the finite dimensional associative division algebras as the reals, complexes and the quaternions. The history of this theorem lies in the discovery of the quaternions by Hamilton and the number theory problem concerning expressing a positive integer as a sum of k squares. The proof centers on the concept of the quadratic equation which also led to the development of quadratic forms and quadratic algebras. (Received September 06, 2000)