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Chad Awtrey* (cawtre@elon.edu). *Groups of order 16 as Galois groups over the 2-adic numbers.*

Let K be a Galois extension of the 2-adic numbers \mathbf{Q}_2 of degree 16, and let G be the Galois group of K/\mathbf{Q}_2 . We show that G can be determined by the Galois groups of the octic subfields of K . We also show that all 14 groups of order 16 occur as the Galois group of some Galois extension K/\mathbf{Q}_2 except the elementary abelian group of order 16. For the other 13 groups G , we give a degree 16 polynomial $f(x)$ such that the Galois group of f over \mathbf{Q}_2 is G . (Received September 22, 2015)