

## A Character-Free Proof of the Wielandt-Kegel Theorem

Eric Williams

We give a character-free proof of the fact that a finite group factorizable as the product of two nilpotent groups is solvable. Embedded in the proof is a shorter group-theoretic proof of Burnside's  $p^a q^b$  theorem than that contained in [2] and [4]. Lemma 1.5, the main original feature of the paper, makes it a trivial task to prove a minor conjecture of Scott on page 416 of [5]. Similarly, much of the work in Chapter 13 of that book can be simplified using 1.6 and 1.7 below.