

1156-20-32

Gareth A. Jones* (g.a.jones@maths.soton.ac.uk), Mathematical Sciences, University of Southampton, Highfield, Southampton, SO17 1BJ, United Kingdom. *A short proof of Greenberg's Theorem.*

In 1960 Greenberg proved that every countable group A is isomorphic to the automorphism group of a non-compact Riemann surface, which can be chosen to have a finitely generated fundamental group if A is finite. His proof is quite complicated, using notions of N -equivalence and N -maximality which he introduced and developed in a separate paper that year. In 1973 he proved that every finite group is isomorphic to the automorphism group of a compact Riemann surface. His proof of this depends on a delicate construction of maximal Fuchsian groups with a given signature. I will give a short and constructive algebraic proof of these results in the case of finitely generated groups A , based on well-known properties of triangle groups and their finite quotient groups. The method is part of a more general construction for realising countable groups as automorphism groups of maps and hypermaps of a given hyperbolic type. (Received December 20, 2019)