

1053-20-164

John Meier*, Department of Mathematics, Lafayette College, Easton, PA 18042. *Revisiting Chiswell's Formula for the Growth of Graph Products.*

Starting with a graph Γ and groups G_v assigned to the vertices $v \in V(\Gamma)$, one can form the graph product G_Γ . This is the quotient of the free product of the vertex groups, modulo relations implying that G_v and G_w commute when $\{v, w\} \in E(\Gamma)$. Graph products of groups provide a simple means of constructing examples of right-angled buildings.

In the early 1990s Chiswell produced a delightful formula for the standard growth series of a graph product, in terms of the standard growth series of the vertex groups. We show that this work extends to the complete growth series, where instead of listing the number of elements of a given length, one essentially lists the elements themselves.

This is joint with Daniel Allen, Megan Cream, Kate Finlay, and Ranjan Rohatgi. (Received September 01, 2009)