

1025-05-148

Andrew J Woldar* (andrew.woldar@villanova.edu), Department of Mathematical Sciences, Villanova University, Villanova, PA 19085-1699. *A generalization of generalized m -gons via truncated root systems of affine Lie algebras.*

As generalized m -gons are remarkably versatile objects, it should come as no surprise how frequently they arise in the context of extremal combinatorics. However, they are also pathologically rare (as established by the classic theorem of Feit & Higman), and this has led to a number of questionable conjectures concerning the asymptotic behavior of related objects. We discuss how a knowledge of rank 2 affine Lie algebras may be exploited to circumvent the limitations imposed by the Feit-Higman Theorem, and thereby aid the asymptotical investigation of certain related extremal structures. (Received January 21, 2007)