

Meeting: 1003, Atlanta, Georgia, MAA CP X1, MAA General Contributed Paper Session, I

1003-X1-185 **Kevin K Ferland*** (kferland@bloomu.edu), Mathematics Department, Bloomsburg University, Bloomsburg, PA 17815, and **Megan L Holben** (mlholben@mailbox.syr.edu), Mathematics Department, Syracuse University, Syracuse, NY. *A Characterization of the Tough Sets for the Generalized Petersen Graphs $G(n, 2)$.*

The values of the toughness of the generalized Petersen graphs $G(n, 2)$ are computed. Moreover, the tough sets are characterized in terms of certain key sections. Basically, a tough set should be built as much as possible using copies of a particular 7-section in which 5 vertices are removed and 4 components remain. Then, based upon the congruence class of n modulo 7, the construction of $G(n, 2)$ is completed using an appropriate remainder section. Asymptotically, the toughness values approach $5/4$. (Received August 20, 2004)