1023-05-77Doug Bauer and Nathan Kahl* (kahlnath@shu.edu), Dept. of Mathematics and Computer
Science, Seton Hall University, 400 S. Orange Ave., South Orange, NJ 07079, and Linda
McGuire and Edward Schmeichel. On Long Cycles in Triangle-Free Graphs.

We prove that a 2-connected, triangle-free graph G of order n having minimum degree δ has either circumference at least $\min\{n, 4\delta - 4\}$ or every longest cycle in G is a dominating cycle. This result is best possible in the sense that there exist bipartite graphs with minimum degree δ whose longest cycle has length $4\delta - 4$. In addition, longest cycles in these graphs are not dominating cycles. (Received July 27, 2006)