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Steven Schluchter* (sschluch@gmu.edu), Department of Mathematical Sciences, George Mason University, 4400 University Drive, MS: 3F2, Fairfax, VA 22030, and **Tom Wilson** (twilso19@masonlive.gmu.edu), Department of Mathematical Sciences, George Mason University, 4400 University Drive, MS: 3F2, Fairfax, VA 22030. *Prime labelings of generalized Petersen graphs and large cubic bipartite graphs.*

A graph G is called prime if there exists a labeling of the vertices of G with distinct labels $1, 2, \dots, |V(G)|$ such that the labels on any two adjacent vertices are relatively prime. S. Schluchter, J. Schroeder, T. Wilson, et. al. conjectured that the generalized Petersen graph $P(n, k)$ is prime iff $P(n, k)$ is bipartite (which is true for even n and odd k), and they verified the conjecture for all even $n \leq 50$ and odd $k < \frac{n}{2}$. We introduce a labeling method that we have used to produce prime labelings for $P(n, k)$ for $n \leq 8000$ and $k < \frac{n}{2}$. We also introduce another labeling method that we have used to produce prime labelings for all cubic bipartite graphs having at most 22 vertices, except $K_{3,3}$, which is not prime. (Received September 22, 2015)