.

1067-05-312 **Jesse Calvert***, Washington University - St. Louis, 1 Brookings Drive, St. Louis, MO 63130, and **Michael Schuster**, North Carolina State University, Raleigh, NC 27695. *The Computation of* $R(K_5 - P_3, K_5) = 25$ *

In 1989, Hendry compiled a table of Ramsey numbers $R(G, H)$ for connected graphs G and H on five vertices. For the Ramsey number $R(K_5 - P_3, K_5)$ he lists the bound $R(K_5 - P_3, K_5) \leq 28$; a lower bound is obtained from the well known result $R(K_4, K_5) = 25$. In 2009, Black, Leven and Radziszowski showed that the upper bound can be further reduced to $R(K_5 - P_3, K_5) \leq 26$.

Here we prove that $R(K_5 - P_3, K_5) = 25$ using computer algorithms, which solves one of the three remaining open cases in Hendry's table, leaving only $R(K_5, K_5)$ and $R(K_5, K_5 - e)$ unknown. In addition, we show that there are no $(K_5 - P_3, K_5)$-good graphs containing a K_4 on 23 or 24 vertices. The unique $(K_5 - P_3, K_5)$-good graph with a K_4 on 22 vertices is presented. Finally, we use a result by Burr, Erdös, Faudree and Schelp to show that $R(K_5 - P_3, \widehat{K}_{5,2}) = 25$, where $\widehat{K}_{5,2}$ is the graph obtained by attaching a vertex to a K_5 using 2 edges. (Received August 19, 2010)