962-00-1420 **Anna Engelsone*** (annae@goshen.edu), 1330 B Cedarbrook Ct, Goshen, IN 46526. *Color By Numbers: Anti-Ramsey Problems on Labeled Graphs.*

The Anti-Ramsey number of graph H, $AR(n, H)$, is the maximum number of colors that the edges of a complete graph on n vertices can be colored, using each color at least once, to avoid a TMC (totally-multicolored) subgraph isomorphic to H. Erdos, Simonovits and Sos opened this area for investigation circa 1970 and determined the Anti-Ramsey number of a triangle, $AR(n, K3) = n - 1$. We investigate a similar problem on a complete graph whose vertices are labeled with natural numbers $[1n]$, letting$ARL(n, H, L)$ represent the maximum number of colors edges of a labeled complete graph can be colored avoiding a TMC H whose vertices satisfy the linear equation L. We determine $ARL(n, K3, x + y = z)$ and $ARL(n, Sk, x1 + x2 + ... + xk = t)$ where Sk is a star on $k + 1$ vertices with the greatest-labeled vertex in its center. (Received October 04, 2000)