1067-05-2049 **Lauren R. McGough*** (unreal@mit.edu). *Maximal minimal k-rankings of caterpillar trees and cycles.*

Given a graph G, a map $f\colon V(G) \to \{1, \ldots, k\}$ is a k-ranking of G if $f(u) = f(v)$ implies that on every $u - v$ path, there exists a vertex w such that $f(w) > f(u)$. A k-ranking is called minimal if we cannot decrease the label of any vertex and still have a k-ranking. The arank of G is the maximum k for which there exists a minimal k-ranking of G. We compute the arank of some caterpillar trees as well as some cycles. (Received September 22, 2010)