1077-13-2789 **Bonnie Smith*** (bonnie.smith@uky.edu). *The Core of a Strongly Stable Ideal.*

A reduction of an ideal I is an ideal $J \subseteq I$ such that $JI^r = I^{r+1}$ for some r. Reductions are very similar to, but often simpler than, the ideal I. They are a key tool in Commutative Algebra, used to study algebraically the "blow-up" of a curve or other variety. An ideal I has infinitely many reductions, and their intersection is called the core of I. Though natural to study, the core of an ideal is difficult to compute. We consider a certain family of ideals which have a graph-theoretical interpretation. Using the combinatorial object to which such an ideal corresponds, we are able to compute its core. (Received September 22, 2011)