1086-06-642 **R E Jamison**, **A J Gilbert*** (adamgilbert@math.uri.edu) and **A M Heissan**. *Separation in Gap Closures.*

Gap closures are natural extensions of poker closure. In gap closure, the ground set is the integers. An ordered pair (g, h) of non-negative integers will be called a *gap type*. For $S \subset \mathbb{Z}$, a point $p \in \mathbb{Z}$ is a (g, h)-*gap point* of S provided the g integers to the left of p are in S and the h integers to the right of p also belong to S. We say that S is (g, h)-*closed* if S contains all of its (g, h)-gap points. Similarly, if $\mathcal{G}$ is a set of gap types, we say that S is $\mathcal{G}$-closed if S contains all of its (g, h)-gap points for each $(g, h) \in \mathcal{G}$

We show that no gap closures satisfy S_4. We also show that there are gap closures which satisfy S_3, and provide separating examples for each of S_0, S_1, S_2 and S_3. Furthermore, we prove some general results on gap closures and the separation axioms. (Received September 10, 2012)