1077-05-663 **Neil Hindman*** (nhindman@aol.com), Department of Mathematics, Howard University, Washington, DC 20059. *Central sets and C-sets – similarities and differences.* Preliminary report.

Central sets in $\mathbb{N}$ were introduced by Furstenberg and defined in terms of topological dynamical notions. He showed that given any finite partition of $\mathbb{N}$, one cell must be central and proved an early version of the *Central Sets Theorem*. As a consequence, any central set in $\mathbb{N}$ has strong combinatorial properties such as containing solutions to any partition regular system of homogeneous linear equations. Given a discrete semigroup S, central sets in S are characterized as those that have a minimal idempotent of the Stone-Čech compactification βS of S in their closure and they satisfy a stronger version of the Central Sets Theorem. C-sets are defined as those that satisfy the conclusion of the Central Sets Theorem, and as such enjoy many of the properties of central sets. In some ways they are easier to handle and describe than central sets and in some ways they are harder to work with. I will illustrate these differences and discuss some open problems. (Received September 09, 2011)