1102-13-14 **Jesse Gerald Smith*** (jgsmith.math@gmail.com), 13105 Buttermilk Rd, Knoxville, TN 37932.
When $\Gamma_I(R)$ is Complemented, Uniquely Complemented, or has Ends. Preliminary report.

Let R be a commutative ring with nonzero identity and I a proper ideal of R. Define the *ideal-based zero-divisor graph* of R with respect to the ideal I, denoted $\Gamma_I(R)$, to be the graph on vertices $\{x \in R \setminus I \mid xy \in I \text{ for some } y \in R \setminus I\}$, where distinct vertices x and y are adjacent if and only if $xy \in I$. We consider $\Gamma_I(R)$ to be nontrivial if $I \neq 0$ and I is not a prime ideal. This preliminary report considers the concepts of a graph being complemented or uniquely complemented (Levy and Shapiro 2002 and Anderson et. al. 2003) for ideal-based zero-divisor graphs of commutative rings. In the 2003 paper, the authors classify when a zero-divisor graph of a commutative ring is complemented or uniquely complemented. This research extends the preceding classification to ideal-based zero-divisor graphs. In addition, we give a classification when nontrivial ideal-based zero divisor graphs have ends. (Received May 14, 2014)