1010-13-76 **Shane P. Redmond*** (Shane.Redmond@eku.edu), Eastern Kentucky University, 313 Wallace, 521Lancaster Ave., Richmond, KY 40475. *Zero-Divisor Graphs of Finite Commutative Rings with Identity.* Preliminary report.

Let R be a commutative ring with (nonzero) identity. The zero-divisor graph of R, denoted $\Gamma(R)$, is the graph whose vertices are the nonzero zero-divisors of R, with two distinct vertices x and y adjacent if and only if $xy = 0$. The first half of this presentation uses $\Gamma(R)$ to bound the cardinality of R, generalizing previous bounds. The second half discusses which graphs on n vertices can be realized as $\Gamma(R)$. A complete list of rings (up to isomorphism) for $n = 1$ through 5 has been known. This is extended to $n = 6$ through 14. An algorithm is given whereby, for *any* positive integer n, all zero-divisor graphs of *reduced* commutative rings with identity on n vertices are identified. (Received August 19, 2005)