1035-13-1493   **Karl Kattchee***, 1725 State Street, La Crosse, WI 54601, and **Mike Fitzpatrick**. *Factorization in Krull Domains with Cyclic Divisor Class Group.* Preliminary report.

A ring R is a unique factorization domain if and only if it is a a Krull domain with trivial divisor class group. It follows that unique factorization fails in any Krull domain with a nontrivial divisor class group. The elasticity function, defined by

$$\rho(R) = \sup\{\frac{n}{m} \; : \; a_1 \cdots a_n = b_1 \cdots b_m, \quad a_i, \, b_j \text{ irreducible}\},$$

is a convenient tool for measuring the extent to which unique factorization fails, and it turns out that most of the work can be done in the setting of block monoids.

An interesting problem is to determine the set of elasticities which arise among all Krull domains with a fixed divisor class group G. Most of the research on this topic has been done in the case where G is finite and cyclic. We present results related to the case where G is cyclic of order $2p$, where p is a prime. (Received September 20, 2007)