

1155-11-143

Spencer Hamblen* (shamblen@mcdaniel.edu), McDaniel College, 2 College Hill, Westminster, MD 21157. *Waring numbers for totally ramified p -adic rings*. Preliminary report.

Given an integer $k \geq 2$, the k -th Waring number, $g(k)$, is the least positive integer such that every positive integer can be expressed as the sum of $g(k)$ k -th powers. For example, Lagrange's Four Squares Theorem – that every positive integer can be written as the sum of 4 squares – implies that $g(2) = 4$. The idea behind Waring numbers can be extended from the positive integers to any ring. We will examine Waring numbers over p -adic integer rings, and note how these numbers change as k varies and in totally ramified extensions. (Received January 08, 2020)