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The generalized Stieltjes constants $\gamma_k(a)$ ($k \in \mathbb{N} \cup 0$) are the coefficients of the Laurent series expansion of the Hurwitz zeta function $\zeta(s, a)$ about the point $s = 1$. Kreminski defined these constants for any $k \geq 0$ using the notion of fractional differentiation. We discuss fractional differentiation and give a definition of these constants that is equivalent to Kreminski's generalization. From this, we will then prove a conjecture set forth by Kreminski. We will also discuss approximation of these constants using Euler-Maclaurin summation. (Received September 22, 2014)