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Amol Aggarwal* (agg_a@mit.edu), CA. *A Converse to Vandehey's Theorem on Simultaneous Core Containment.*

In response to a question of Olsson and Stanton in 2007, Vandehey showed that there exists an (a, b) -core that contains every other (a, b) -core as a subpartition when $\gcd(a, b) = 1$. In this paper we establish a converse to Vandehey's theorem by showing that, if $a < b < c$ are pairwise relatively prime positive integers, then there exists an (a, b, c) -core containing every other (a, b, c) -core if and only if c is in the numerical semigroup generated by a and b . As a corollary, we generalize a result of Olsson and Stanton that expresses the largest (a, b) -core explicitly in terms of a and b when $\gcd(a, b) = 1$. (Received September 15, 2014)