A Solution for the Open Abelian Sandpile Problem of Distributing k Items in N Vertices, where k = N MICHAEL WADDELL, EDMUNDO BARRIGA, Florida International University — This paper outlines a closed solution to an open problem in Graph Theory concerning the classification of the successful initial distributions of k items in N vertices, where $bluek = N$, that lead to the terminal set $blueN_k = \{n_i\}$, where $bluen_i = 1$ and $bluei = 1, 2, 3, ..., k$. First, each successful initial distribution is enumerated using an algorithm. The closed solution classifies the terminal set in terms of its modulus, and proves that each successful initial distribution can be classified by the same modulus.

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