

Combinatorics of n-Colored Cyclic Compositions

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Integer compositions and related enumerative problems have been of interest to combinatorialists and number theorists for a long time. The cyclic and colored analogues of this concept, although interesting, have not been extensively studied. As a result, we have chosen to explore the combinatorics of n-colored cyclic compositions, and we present generating functions, bijections, asymptotic formulas related to the number of such compositions, and the number of parts and restricted parts for certain types of compositions.

Keywords: n-colored, generating functions, primitive compositions, restricted parts, cyclic compositions