

Generalized Binomial Coefficient Sums and Repetitions

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In this article, we will uncover some interesting summations of binomial coefficients. What are some of the patterns? Can we find general relationships? How do they relate to better-known results? In an effort to generalize some standard sum formulas algebraically, the author discovers new ones. Perhaps teachers or students may even find more.



Michael W. Ecker is associate professor of mathematics at Pennsylvania State University's Wilkes-Barre Campus. He received his PhD in mathematics from the City University of New York in 1978, founded The AMATYC Review problem section in 1981, and has posed and solved hundreds of problems in many math journals. As a recreational mathematician and computer enthusiast, he created several recreational mathematics computer columns in the 1980s. From January 1986 to January 2007 he edited and published his own newsletter REC (Recreational & Educational Computing). The owner of over 100 computers at last count, Michael is the author of 500 newsletters, columns, reviews, and articles, many computer-related, as well as five books and solution manuals.