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Hung-ping Tsao* (hptsao@hotmail.com), 1151 Highland Drive, Novato, CA 94949. *Powered sums as linear combinations of binomial coefficients.*

We shall introduce an inductive method to express the sum of any power of the first n terms of an arithmetically progressive sequence as a linear combination of binomial coefficients. A rather simple recursive formula is also obtained. In general, this method can be applied to any sequence with the sum of the first kn (k is a constant) terms being a linear combination of $C(n,2)$ and $C(n,1)$. For example, for the sequence $1, 2, 4, 5, 7, 8, \dots, 3n-2, 3n-1, \dots$, the sum of the first $2n$ terms can be expressed as $6C(n,2)+3C(n,1)$ and that of the second power of which is $36C(n,3)+36C(n,2)+5C(n,1)$. The iterative method of using integration will also be presented. (Received August 06, 2008)