1023-05-598 **Michael J. J. Barry*** (mbarry@allegheny.edu), Department of Mathematics, Allegheny College, Meadville, PA 16335. *A Variation on Binomial Coefficients and an Application to Probability.*

We define and investigate numbers $b_r(n,k)$ that are like the binomial coefficients. They arise as coefficients of $q^{n-r-k}p^{k+r}$ in a new expression for the probability that the pattern π, consisting of r H's in a row, first occurs on the nth independent toss of a coin for which the probability of throwing a *head* (H) is p and the probability of throwing a *tail* (T) is $q = 1 - p$. (Received September 18, 2006)