1054-05-14 **Hung-ping Tsao*** (hptsao@hotmail.com), 1151 Highland Drive, Novato, CA 94949. *Expressing the kth power sum of the nature numbers as a polynomial in the first power sum.*

Set S=S(1), where S(k) is the sum of the kth powers of 1, 2, 3,..., n. It is well-known that S(3) is the square of S, namely CS(3)=(1,0,0), where CS(2k-1) is the coefficient (k+1)-tuple of the polynomial in S for S(2k-1). From CS(5)=(4/3,-1/3,0,0), CS(7)=(2,-4/3,1/3,0,0), CS(9)=(16/5,-4,12/5,-3/5,0,0), CS(11)=(16/3,-32/3,34/3,-20/3,5/3,0,0),..., we form a triangular array TO. We also have S(4)/S(2)=(6/5)S-1/5. Let C(S(2k)/S(2)) denote the coefficient (k-1)-tuple of the polynomial in S for S(2k)/S(2). From C(S(6)/S(2))=(12/7,-6/7,1/7), C(S(8)/S(2))=(8/3,-8/3,6/5,-1/5), C(S(10)/S(2))=(48/11,-80/11,68/11,-30/11,5/11),..., we form another triangular array TE. Among other things, we found a keen relationship between TO and TE. (Received June 22, 2009)