1033-05-58 **Mark A. Shattuck*** (`shattuck@math.utk.edu`), University of Tennessee, Department of Mathematics, 121 Ayres Hall, Knoxville, TN 37996-1300, and **Carl G. Wagner**. *Some Statistics on Linear and Circular r-Mino Arrangements.*

If $r \geq 2$, an r-mino is a rectangular piece covering r consecutive numbers and an r-mino arrangement (of length n) is a sequence of squares and r-minos covering the numbers 1, 2, $\ldots$, n. The r-Fibonacci number $F_n^{(r)}$, given by $F_0^{(r)} = F_1^{(r)} = \ldots = F_{r-1}^{(r)} = 1$ with $F_n^{(r)} = F_{n-1}^{(r)} + F_{n-r}^{(r)}$ if $n \geq r$, and the r-Lucas number $L_n^{(r)}$, given by $L_0^{(r)} = r$ and $L_1^{(r)} = L_2^{(r)} = \ldots = L_{r-1}^{(r)} = 1$ with $L_n^{(r)} = L_{n-1}^{(r)} + L_{n-r}^{(r)}$ if $n \geq r$, enumerate, respectively, the linear and circular r-mino arrangements of length n. We consider three q-generalizations of the $F_n^{(r)}$ and of the $L_n^{(r)}$ which arise as distribution polynomials for three statistics defined, respectively, on linear and circular r-mino arrangements. We study both algebraic and combinatorial properties of these polynomials, including recurrences, closed forms, ordinary generating functions, and various Fibonacci/Lucas identities. Special attention is payed to the case $q = -1$. (Received August 29, 2007)