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Abstract

Let F_n be the nth Fibonacci number and let L_n be the nth Lucas number. The order of appearance $z(n)$ of a natural number n is defined as the smallest natural number k such that n divides F_k. For instance, $z(L_n) = 2n$, for all $n > 1$. In this paper, among other things, we prove that

$$z(L_n L_{n+1} L_{n+2} L_{n+3}) = \tfrac{n(n+1)(n+2)(n+3)}{3},$$

for all positive integers $n \equiv 0 \pmod 3$.