ON THE TERMS OF UNLIMITED RANK OF LUCAS SEQUENCES

ABDELMADJID BOUDAOUD

Let P, Q be nonzero integers such that $D = P^2 - 4Q$ is different to zero. The sequences of integers defined by

$$\begin{cases} U_n &= PU_{n-1} - QU_{n-2} \quad , \quad U_0 = 0 \quad U_1 = 1 \\ V_n &= PV_{n-1} - QV_{n-2} \quad , \quad V_0 = 2 \quad V_1 = P. \end{cases}$$

are called the Lucas sequences associated to the pair (P, Q) [1, 2]. In this paper we prove the following result:

Theorem 1. *If P, Q are such that D is strictly positive. Then for each unlimited $n$each of integers U_n and V_n is, to a limited integer near, product of two unlimited integers.*

References

[1] Paulo Ribenboim, *The Little Book of Big Primes*, Springer-Verlag (1991).
[2] Paulo Ribenboim, *My numbers my friends, Springer-Verlag 2000.*
[3] F. Diener et G. Reeb, *Analyse non standard*, Hermann, éditeurs des Sciences et des Arts. 1989.
[4] E. Nelson, *Internal set theory: A new approach to non standard analysis*, bull. Amer. Math. Soc. 83 (1977) 1165-1198.
[5] A. Boudaoud, *La conjecture de Dickson et classes particulières d'entiers,* Annales Mathématiques Blaise Pascal 13, 103-109 (2006).

Departement of mathematics, University of Msila, Ichbilia BP 166 - 28000 - Msila, Algeria.
E-mail address: boudaoudab@yahoo.fr