UDC 511

Arithmetic Properties of Generalized Fibonacci Sequence and Their Consequences

A. N. Vassilyev

Kazakhstani Branch of Lomonosov Moscow State University, Republic of Kazakhstan, 010010, Astana, Kazhimukan str., 11, antonvassilyev@mail.ru

In this paper we obtain some arithmetic properties of generalized Fibonacci sequence and consider their applications.

Key words: generalized Fibonacci, exponential sums, set's density.

References

1. Vorobiev N. N. F*ibonacci Numbers*. Basel; Boston; Berlin, Birkhauser Verlaf, 2002.

2. Gashkov S. B., Chubarikov V. N. *Arifmetika. Algoritmy. Slozhnost' vychislenii* [Arithmetics. Algorithms. The Complexity of Computations]. Moscow, Drofa, 2005 (in Russian).

3. Romanoff N. P. Über einige Satze der additiven Zahlentheorie. *Math. Ann.*, 1934, vol. 109, pp. 668–678.

4. Erdos P. On some problems of Bellman and a theorem of Romanoff. *J. Chinese Math. Soc.*, 1951, no. 1, pp. 409–421.

5. Prahar K. *Raspredelenie prostykh chisel* [Distribution of Prime Numbers]. Moscow, Mir, 1967 (in Russian).

6. Arkhipov G. I., Sadovnichii V. A., Chubarikov V. N. *Lektsii po matematicheskomu analizu* [Lectures on Mathematical Analysis]. Moscow, Vysshaya Shkola, 1999 (in Russian).