

**CONTINUED FRACTIONS, THE GROUP $GL(2, \mathbb{Z})$,
AND PISOT NUMBERS***V. N. Berestovskii and Yu. G. Nikonorov*

The properties of continued fractions, generalized golden sections, and generalized Fibonacci and Lucas numbers are proved on the ground of the properties of subsemigroups of the group of invertible integer matrices. Some properties of special recurrent sequences are studied. A new proof of the Pisot–Vijayaraghavan theorem is given. Some connections between continued fractions and Pisot numbers are considered. Some unsolved problems are stated.

Key words and phrases: continued fractions, Pisot numbers, recurrent sequences, generalized Fibonacci and Lucas numbers.

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