

On the Use of Continued Fractions to Solve Binary Quadratic Diophantine Equations

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Abstract

One of the unlimited field of study of number theory is the binary quadratic Diophantine equations. Continued fractions are one of the computational approach to obtain the integer solutions of Diophantine equations. The aim of this study is to show how it works to obtain the general solution of some binary quadratic Diophantine equations in terms of Fibonacci and Lucas sequences.

Keywords: Continued fractions, Diophantine equations, Integer solutions, Fibonacci sequences, Lucas sequences

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