

An Investigation of Continued Fractions

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Abstract: The study of continued fractions has produced many interesting and exciting results in number theory and other related fields of mathematics. Continued fractions have been studied for centuries by many famous mathematicians such as Wallis, Euler, Gauss, Lagrange, Ramanujan, Cauchy, and Khinchin. A connection between continued fractions and the Fibonacci sequence can be revealed by examining functional parameters of various rational functions. This work makes use of existing results concerning continued fractions and Mathematica to explore the relationship between continued fractions and rational functions.