Russell Euler and Jawad Sadek

Abstract

A general method to solve the Pell equation $x^2 - dy^2 = a^2$ is given under certain conditions on a and d. As a special case, our method gives a different technique than the continued fractions technique used by C. T. Long and J. H. Jordan to characterize the Fibonacci and Lucas numbers as solutions to $x^2 - 5y^2 = \pm 4$.