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On a Generalized Pell Equation and a Characterization Of the Fibonacci and Lucas Numbers,

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 \(x^2 - 5y^2 = \pm 4\).