

Agarwal, R.P.^a, Elsayed, E.M.^{b c}

On the solution of fourth-order rational recursive sequence

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^a Department of Mathematics, Florida Institute of Technology, Melbourne, FL 32901, United States

^b King AbdulAziz University, Faculty of Science, Mathematics Department, P. O. Box 80203, Jeddah 21589, Saudi Arabia

^c Department of Mathematics, Faculty of Science, Mansoura University, Mansoura 35516, Egypt

Abstract

In this paper we study the behavior of the solutions of the difference equation $x_{n+1} = ax_n + bx_n x_{n-3} / c x_{n-2} + dx_{n-3}, n = 0, 1, \dots$ where the initial conditions $x_{-2}, x_{-3}, x_{-1}, x_0$ are arbitrary positive real numbers and a, b, c, d are positive constants. Also, we give the solution of some special cases of this equation.

Author Keywords

Boundedness; Mathematics subject classification: 39A10; Solution of difference equations; Stability

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