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Jonathan Weisbrod* (weisbrodj1@verizon.net). *Examining the Dynamical Systems of Various Polynomials over Finite Fields Using Mathematica.*

Using Wolfram Mathematica 8.0, we will examine various dynamical system maps for various polynomials modulo n . Using the program, we can quickly determine any points of interest (periodic, strictly preperiodic, or fixed points) and display the orbit, period, and preimages of any point in any finite polynomial dynamical system. Our results produce many patterns and sequences we can use for further analysis. (Received September 03, 2011)