Some properties of Fibonacci and Padovan polynomials

\textsuperscript{1}A Mylläri \textsuperscript{2}N Gogin

\textsuperscript{1}St George’s University, School of Arts and Sciences, Grenada, \textsuperscript{2}Åbo Akademi University, Turku/Åbo, Finland

Objective: To study properties of Fibonacci and Padovan polynomials.

Design and Methods: Fibonacci and Padovan polynomials are natural generalizations of Fibonacci and Padovan sequences. We use combinatorial methods and Wolfram Mathematica to study properties of Fibonacci and Padovan polynomials and relations between them.

Results: Some new properties of Padovan polynomials and relations between coefficients of Fibonacci and Padovan polynomials and between coefficients of Padovan and Chebyshev polynomials of the second kind are found, as well as some known properties are derived in a new way.

Conclusions: There is still a lot to learn about Fibonacci and Padovan numbers and polynomials.