

Ruffini's Algorithm

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A fundamental skill in mathematics is the ability to perform horizontal shifts of functions. It is used for completing the square, solving equations, determining graphical features, and in the practice of calculus. For polynomial functions, a common approach is to apply the Binomial Theorem term-by-term and simplify. A “sum = product” offering from the *MathAMATYC Educator Problem Section* inspired the development of a more efficient algorithm based on repeated synthetic division. A long search revealed this same technique helped Paolo Ruffini win a gold medal in 1804. This algorithm deserves a more prominent role in mathematics education. This is demonstrated through historical context and examples.

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