Abstract

Even if you are interested in just a single polynomial, it is useful to study all polynomials of a given degree at the same time. Thinking of a polynomial in terms of its roots leads one to consider a space closely related to braids. Using this perspective one can prove many classic non-existence results, from the insolubility of the quintic to the failure of variations of Newton’s method for approximation roots of polynomials of degree at least 4.

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