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β-reciprocal polynomials.

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Summary: A new class of polynomials $p_n(x)$ known as β-reciprocal polynomials is defined. Given a parameter $\beta \in \mathbb{C}$ that is not a root of -1, we show that the only β-reciprocal polynomials are $p_n(x) \equiv x^n$. When β is a root of -1, other polynomials are possible. For example, the Hermite polynomials are i-reciprocal, $i = \sqrt{-1}$.

Classification: H30 K60
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