

Zeros of Ramanujan Polynomials

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Abstract. In this paper, we investigate the properties of Ramanujan polynomials, a family of reciprocal polynomials with real coefficients originating from Ramanujan's work. We begin by finding their number of real zeros, establishing a bound on their sizes, and determining their limiting values. Next, we prove that all nonreal zeros of Ramanujan polynomials lie on the unit circle, and are asymptotically uniformly distributed there. Finally, for each Ramanujan polynomial, we find all its zeros that are roots of unity.