

TITLE: On multiplier sequences for simple sets of polynomials

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ABSTRACT: A sequence of real numbers $\{\gamma_n\}$ is called a Q -multiplier sequence if the pointwise product of $\{\gamma_n\}$ with any polynomial (expanded in the basis Q) with only real zeros gives a polynomial with real zeros. We present two results. The first describes all bases Q which share multiplier sequences with the classical basis. The second result tells us that the only sequences which are multiplier sequences for all bases are the constant sequences and sequences of the form $\{\gamma_0, \gamma_1, 0, 0, \dots\}$ where if $\gamma_1 = 0$ then $\gamma_0 = 0$.