We consider the problem of finding the nearest polynomial/system with a constrained root. Our distance measure to the nearest polynomial/system is the weighted Euclidean, one, or infinity coefficient norm. Although much work has already been done on this problem, we offer a new proof using parameterized Lagrangian multipliers, which allows for linear equality and inequality constraints on the coefficients via Karush-Kuhn-Tucker conditions. We also discuss exact sums-of-squares certificates for a lower bound of the distance to the nearest polynomial/system. Some polynomials that cannot be written as a sum-of-squares, such as a modified Motzkin polynomial, have a positive distance to the nearest polynomial with a real root and a sums-of-squares certificate for a positive lower bound. These sums-of-squares certificates offer an alternative proof that a polynomial has no real root and a deformation analysis for Seidenberg’s problem.

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