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Robert S. Lubarsky* (Robert.Lubarsky@comcast.net), 416 NE 28 St., Wilton Manors, FL 33334, and **Fred Richman** (richman@fau.edu), Dept. of Mathematical Sciences, 777 Glades Rd., Boca Raton, FL 33431. *The Weak Fundamental Theorem of Algebra.*

The Fundamental Theorem of Algebra is not provable in constructive mathematics without special hypotheses. In contrast, its double negation interpretation, that the set of roots of any given polynomial can't be empty, must hold, via the double negation interpretation. We provide such a proof, in which the uses of Excluded Middle are narrowed to the equality to or apartness from 0 of finitely many pre-identified real numbers. Along the way, we generalize certain standard classical notions, namely distance and finiteness, to the constructive setting, and review some classical results, such as those about division of polynomials and relative primality. (Received August 13, 2009)