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Igor E Pritsker* (igor@math.okstate.edu), Department of Mathematics, 401 Mathematical Sciences, Oklahoma State University, Stillwater, OK 74078. *Mahler's measure and derivatives*. Preliminary report.

A known inequality of Mahler states that $M(p') \leq nM(p)$, where p is a polynomial of degree at most n , and $M(p)$ is the Mahler measure of p . We discuss the origins of this inequality, and give several proofs and generalizations. In particular, we put it in the context of the results of de Bruijn and Springer on Mahler's measure of composition-polynomials, and other classical results on the location of zeros for the derivatives of polynomials and rational functions. (Received September 26, 2005)