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Tuskegee, AL 36088. *On Polynomials Monotonic on the Unit Interval.*

We consider polynomials monotonic on $[-1, 1]$. We assume that they are bounded above by 1, and below by -1 . It is known that if the degree of such a polynomial f is odd, say n , then $|f'(x)|$ cannot exceed $(n+1)^2/4$ on $[-1, 1]$. We find the sharp upper bound in the case where the degree of f is even. (Received September 30, 2000)