University of Colorado

Department of Mathematics

Problem of the Month

November 2012

Show that, if $f_1, f_2, \ldots, f_n$ are nonnegative continuous functions defined on the interval $[0, 1]$, and $\int_0^1 f_k = a_k$ for all k, then there exists some $x \in [0, 1]$ such that $f_1(x)f_2(x)\cdots f_n(x) \le a_1 a_2 \cdots a_n$.