1077-VJ-1335 **Bruce R. Ebanks*** (`bre13@msstate.edu`). *Looking for a few good means.*
The mean value theorem of integral calculus states that for any continuous real-valued function f on an interval I, and for any two distinct real numbers $a, b \in I$, there exists a value $V(a, b)$ in the open interval between a and b for which

$$f(V(a, b)) = \frac{1}{b - a} \int_a^b f(x)\, dx.$$

If in addition f is strictly monotonic, then the function V_f defined by

$$V_f(s, t) = f^{-1}\left(\frac{1}{t - s} \int_s^t f(x)\, dx\right)$$

(and $V_f(s, s) = s$) can be viewed as a two-variable mean on the interval I. We discuss which of these means are homogeneous. (Received September 19, 2011)