RESEARCH GROUP IN MATHEMATICAL INEQUALITIES AND APPLICATIONS

PROBLEM CORNER

Problem 5, (2008)

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Conjecture: Assume that

$$0 < a_1 < a_2 < \cdots < a_n.$$

Then the following inequality holds true:

$$(1+a_1)(1+a_2)\cdots(1+a_n) < \frac{(a_1+a_n)^2}{4a_1 a_n}\left[1 + \sqrt[n]{a_1 a_2 \cdots a_n}\,\right]^n.$$