

RESEARCH GROUP IN MATHEMATICAL INEQUALITIES AND APPLICATIONS

PROBLEM CORNER

Problem 12, (2009)

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Let a_1, \dots, a_n and b_1, \dots, b_n be non-negative numbers and

(1)
$$a_1^i + \dots + a_n^i \geq b_1^i + \dots + b_n^i, \text{ for any positive integer } i.$$

Moreover the equality holds in (1) for $i = 1, 2$. Is it true that

$$\sqrt{a_1} + \dots + \sqrt{a_n} \geq \sqrt{b_1} + \dots + \sqrt{b_n}?$$