

Proposed solution to problem 68, Junior Problems, vol.6 issue 2

Let a, b, c and d be non negative real numbers, none three of which 0 such that $a + b + c + d = 4$ Prove that

$$\frac{a^2 + b^2 + c^2 + d^2}{ab + bc + cd + da + ac + bd} + \frac{12abcd}{(ab + bc + cd + da + ac + bd)^2} \geq 1$$

When equality occurs?