Friday, February 6, 2015

Suppose that $a_1, a_2, \ldots, a_n, b_1, b_2, \ldots, b_n$ are positive real numbers. Show that

$$\frac{a_1}{b_1} + \frac{a_2}{b_2} + \frac{a_n}{b_n} \geq n \qquad \text{or} \qquad \frac{b_1}{a_1} + \frac{b_2}{a_2} + \frac{b_n}{a_n} \geq n \; .$$

Join the competition!
The Department of Applied Mathematics and IIT SIAM Student Chapter is organizing a weekly campus-wide math competition for undergraduate students.

 ▷ Every Friday 3pm, visit `http://math.iit.edu/~weeklyproblem` to view the problem of the week

 ▷ Submit the solution to `weeklyproblem@math.iit.edu` by Wednesday 5pm

 ▷ The author(s) of the first correct solution(s) will receive a monetary prize

For more details view the official web site `http://math.iit.edu/~weeklyproblem`.

Become a Math Club member and receive problem notifications by email.

Good Luck! Have fun and enjoy Mathematics!