Problema săptămânii 326

Dacă $a, b, c \in (0, \infty)$, demonstraţi că

$$2\left(\frac{a}{b}+\frac{b}{c}+\frac{c}{a}\right) \geq \frac{(a+b)^2}{a^2+bc}+\frac{(b+c)^2}{b^2+ca}+\frac{(c+a)^2}{c^2+ab}.$$

Problem of the week no. 326

If $a, b, c \in (0, \infty)$, prove that

$$2\left(\frac{a}{b}+\frac{b}{c}+\frac{c}{a}\right) \geq \frac{(a+b)^2}{a^2+bc}+\frac{(b+c)^2}{b^2+ca}+\frac{(c+a)^2}{c^2+ab}.$$