

Prob. num.3596, Crux Mathematicorum with Mathematica Myhem
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Let x, y, z be real positive numbers. Prove that

$$\sum_{\text{cyc}} \frac{4x(y+z)}{(x+2y+2z)^2} \leq \sum_{\text{cyc}} (x+y) \frac{x+y+2z}{(3x+3y+4z)^2}$$