Problema săptămânii 330

Arătaţi că pentru orice $x, y, z > 0$ are loc inegalitatea

$$\frac{x^2(y+z)}{2y^2} + \frac{y^2(z+x)}{2z^2} + \frac{z^2(x+y)}{2x^2} \geq x + y + z.$$

Bodor Mátyás, SGM nr. 9/2022

Problem of the week no. 330

Prove that for all $x, y, z > 0$ the following inequality holds

$$\frac{x^2(y+z)}{2y^2} + \frac{y^2(z+x)}{2z^2} + \frac{z^2(x+y)}{2x^2} \geq x + y + z.$$

Bodor Mátyás, SGM no. 9/2022