Problema săptămânii 202
Fie $n \geq 2$ un număr natural. Determinaţi numerele reale $x \geq -1$ pentru care inegalitatea
$$\frac{a_1 + x}{2} \cdot \frac{a_2 + x}{2} \cdot \ldots \cdot \frac{a_n + x}{2} \leq \frac{a_1 a_2 \ldots a_n + x}{2}$$
are loc pentru orice $a_1, a_2, \ldots, a_n \geq 1$.

Problem of the week no. 202
Let $n \geq 2$ be an integer. Find all real numbers $x \geq -1$ such that the following inequality holds
$$\frac{a_1 + x}{2} \cdot \frac{a_2 + x}{2} \cdot \ldots \cdot \frac{a_n + x}{2} \leq \frac{a_1 a_2 \ldots a_n + x}{2}$$
for all $a_1, a_2, \ldots, a_n \geq 1$.