Problema săptămânii 69
Determinaţi cea mai mică valoare posibilă a expresiei

$$\frac{1}{a+x}+\frac{1}{a+y}+\frac{1}{b+x}+\frac{1}{b+y},$$

unde a, b, x şi y sunt numere reale pozitive care satisfac inegalităţile:

$$\frac{1}{a+x}\geq\frac{1}{2},\quad \frac{1}{a+y}\geq\frac{1}{2},\quad \frac{1}{b+x}\geq\frac{1}{2}\quad \text{şi}\quad \frac{1}{b+y}\geq 1.$$

Problem of the week no. 69
Determine the lowest possible value of the expression

$$\frac{1}{a+x}+\frac{1}{a+y}+\frac{1}{b+x}+\frac{1}{b+y}$$

where a, b, x, and y are positive real numbers satisfying the inequalities

$$\frac{1}{a+x}\geq\frac{1}{2},\quad \frac{1}{a+y}\geq\frac{1}{2},\quad \frac{1}{b+x}\geq\frac{1}{2},\quad \text{and}\quad \frac{1}{b+y}\geq 1.$$

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