

ON ONE EXTREMAL PROBLEM ON THE EUCLIDEAN PLANE

Yu. V. Nikonorova

Given two intersecting congruent rectangles $P_1 = ABCD$ and $P_2 = EFGH$ in the Euclidean plane, let L_1 be the length of the part of the boundary ∂P_1 which lies in the interior $\text{int}(P_2)$ of P_2 and similarly let L_2 be the length of the part of ∂P_2 which lies in the interior $\text{int}(P_1)$ of P_1 . The author solves J. W. Fickett's problem of validating the inequality $\frac{1}{3}L_1 \leq L_2 \leq 3L_1$.

Key words and phrases: convex body, Euclidean geometry, isoperimetric problem.

Nikonorova Yuliya Vasil'evna
Barnaul State Pedagogical University,
Rubtsovsk Industrial Institute,
658207 Rubtsovsk, Russia.
E-mail: nik-inst.rubtsovsk.ru

Received
March 16, 2000

Translated into English:

Siberian Advances in Mathematics, V. 11, N 3, 49–59 (2001).