

A PROBLEM OF FEJES L. TÓTH*Yu. G. Nikonorov and N. V. Rasskazova*

Let P be a convex n -gon on the Euclidean plane with edges of lengths a_1, \dots, a_n . Denote by b_i the length of the maximal chord of P parallel to a_i . For the quantity $\mu(P) = \sum_{i=1}^n a_i/b_i$, we prove the inequality $3 \leq \mu(P) \leq 4$, which is the Fejes Tóth conjecture. We also give a classification of polygons with $\mu(P) = 3$ or $\mu(P) = 4$.

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

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