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*Intervertex distances in convex polygons.* (In English)
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Let $V$ be the set of vertices of a convex $n$-gon in the plane. Denote by $d_1, \dots, d_m$ the different positive distances between the points of $V$, and by $r_k$ the multiplicity of $d_k$. Choose the numbering such that $r_1 \geq r_2 \geq \cdots \geq r_m$. For fixed $n$, the maximum of $r_i$ over all convex $n$-gons is denoted by $r_i(n)$. The values of $r_1(n)$ and $r_2(n)$ are known for $n \leq 8$. In particular we have $r_2(n) \leq n$ in this case. Here a construction is presented which shows $r_2(25) \geq 26$ and $\sup_n r_2(n)/n \geq 7/6$.
A monotone sequence in $V$ from $v_0$ is a sequence of vertices $v_0, v_1, \dots, v_k$ in which the $v_i$ are encountered in succession going (counter- )clockwise from $v_0$, such that the distance from $v_0$ to $v_i$ is strictly increasing. Let $g(n)$ denote the minimum (over all convex $n$-gons) of the maximum length of monotone sequences. In a previous paper, the authors have shown $\lfloor n/3 \rfloor + 1 \leq g(n)$. Here, $g(n) \leq \lceil n/3 \rceil + 2$ is proved.

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