Yasinskyi Geometry Olympiad 2024

Grading Scheme

The Grading Scheme will describe only partial scores. A 0 points can be interpreted as "The solution to the problem is absent, or only insignificant progress was proposed in the solution", while a 7 points represents a "Full solution".

8th Grade

Problem 1

- **2 points** – The altitudes AA_1, EE_1, and FF_1 from the author's solution have been drawn.
- **3 points** – Points M and N from the author's solution have been constructed, and it has been proven that points M, A, and N lie on the same line.

Problem 2

- **3 points** – It has been proven that $PI = IQ$, and the problem has been reduced to establishing the equality of triangles CIQ and CIP.

Problem 3

- **1 point** – It has been proven that $APWQ$ is a rhombus.

Problem 4

- **5 points** – It has been proven that quadrilaterals $AEOD$ and $BFOC$, from the author's solution, are cyclic.

9th Grade

Problem 2

- **1 point** – It has been proven that $\angle DCB = \angle NEA$ and $\angle DBC = \angle NAE$.

Problem 3

- **4 points** – It has been proven that the triangles BTY and CTX are congruent.

10-11th Grade

Problem 1

- **4 points** – It has been proven that $KC = KI$ and $KP = KQ$.

Problem 2

- **+1 point** – It has been proven that $BEOY$ (or $CDOX$) is an isosceles trapezoid.
- **+1 point** – A point H' has been constructed, which is symmetric to point H with respect to the line BC.

Problem 3

- **1 point** – A point P (from the author's solution) has been constructed as the intersection of the circumcircle of triangle FDB and the line GF.

Problem 4

- **3 points** – It has been proven 'Case 1' from the author's solution.
- **+1 point** – It is indicated that M may lie on the segment EF.

Problem 5

- **2 points** – It has been proven that $PB = PC$.