Writing Test

INMOTC MP Region

January 2, 2026

The goal of this exercise is NOT to test whether you can find the answer in a given time, but rather to test if you can pen down your thoughts properly. Please write the complete solution as you would write in the actual test. It may take around 60 minutes. However, if you need more time to solve it, please do!

Problem 1. *Acute-angled triangle ABC with circumcircle ω is given. Let D be the midpoint of AC, E be the foot of altitude from A to BC, and F be the intersection point of AB and DE. Point H lies on the arc BC of ω (the one that does not contain A) such that $\angle BHE = \angle ABC$. Prove that $\angle BHF = 90°$.*