

THERE IS NO SUCH PROBLEM!

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The title statement was in fact the reaction of a very experienced teacher to the following problem: *Given a triangle Δ , find the area of the triangle with vertices the medicenter, the incenter and the orthocenter of Δ .*

The teacher who has been well-known for the dozens of his students participating successfully in mathematics competitions (including the International Mathematical Olympiad) reacted in this way because such a problem is regarded as too difficult in the context of the usual school mathematics and too technical and time consuming as a problem for a math-competition. This is why it would have hardly been included into the regular school textbooks or into the set of problems used in the preparation for mathematics competitions. In fact, the problem could be tackled by students with knowledge in trigonometry and analytical geometry, i.e. by students in the last year of secondary school or, more realistically, by freshmen in the university. This problem was given however to 8-graders in the frame of the online “*VIVA Mathematics with computer*” competition and was solved numerically, with satisfactory precision, by many of them by means of software. There are plenty of other easy to formulate problems (very often arising from practice) that are difficult to be solved with the traditional mathematics studied in school but are accessible (in the sense of finding an approximate numerical solution) by means of appropriate software. In other words, the existing digital technology allows us to offer highly appealing and much richer mathematical content to the school students today. The technology changes also the very essence of the learning process by offering educational environments in which the students can acquire knowledge in the most natural way - by observing the reaction of the environment to their actions, by experimenting, rejecting conjectures, asking more experienced people, etc. Shortly stated, technology provides the opportunity to learn mathematics by inquiry. This refers not only to what happens (and how it happens) in class. Extracurricular activities also provide a fruitful playground for building mathematical literacy with the support of technology. The online competition “*VIVA Mathematics with computer*” mentioned above is an example in this direction. It will be presented and discussed from point of view of the problems given, the results obtained and the logistic developed.