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Meagher, Michael S.; Edwards, Michael Todd; Özgün-Koca, S. Asli

What's your answer? Searching for triangles.

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Summary: The article opens with a Geoboard Triangle Quest in this form: "How many noncongruent triangles can be constructed on a 4×4 geoboard? How do you know? Justify your answer with significant supporting work." The use of advanced digital technologies as tools for problem solving receives much attention in the methods classes if the authors. They anticipated that some students would use technology to solve the task. The authors looked forward to the interplay between those approaches and hands-on approaches mirroring those adopted by Allen's students. Ultimately, the students attempted the task in many ways, using both digital and analog techniques. Interestingly, different solution strategies yielded different numbers of triangles. Although Allen's students tentatively concluded that 72 triangles were possible, they did not provide a proof, and none of the students arrived at this answer. In this article, the authors discuss how they came to what they consider a definitive solution and, on the way, address a challenge that arises in many inquiry-based classrooms: When confronted with multiple, conflicting results, how does one determine which – if any – answers are correct? (ERIC)

Classification: G43 U73
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http://www.nctm.org/Publications/Mathematics-Teacher/2016/Vol109/Issue7/What_s-Your-Answer_-Searching-for-Triangles/