

**Meeting:** 1003, Atlanta, Georgia, MAA CP B1, MAA Session on My Favorite Demo: Innovative Strategies for Mathematics Instructors, I

1003-B1-408      **David E. Boliver\*** (dboliver@ucok.edu), 1121 N. W. 185th St., Edmond, OK 73003-4001.  
*Constructible Squares.*

Some things in mathematics are so commonplace that students think they know all about them and we professors are prone to accept their judgement, but that familiarity is often rather more limited than we think. An example of this is assigning students to find all possible squares on a Geoboard. Those whose sides are parallel to the sides of the Geoboard are called perfect squares, as their area is always a perfect square integer. The remaining squares are called constructible squares and students are asked to search for the relationship between constructible and perfect squares. The relationship is one most students will profess to know, but their knowledge in many cases turns out to be more a matter of elementary algebra and arithmetic than a geometric notion and most do not find it easy to see the relationship in a geometric context. The use of the Geoboard to demonstrate student conceptualization of this relationship, the notion of a square root, and the special case of those squares which are both perfect and constructible will be shared and the audience invited to participate. (Received September 14, 2004)