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Panel 8: Discussion of Integration of math research in the K-12 classroom.

FERMAT Fellows and Algebra Cubed Fellows have implemented activities that convey to K-12 students the process of doing mathematical research. We will go through two examples, the Taxicab series developed by the FERMAT Fellows and a hands-on activity on patterns and functions used by the Algebra Cubed Fellows. First we call their attention to the definitions that provide the foundation for the theory that will be developed. Then through the process of experimentation, conjecture, and generalization, students are lead through a series of discoveries that culminate in the idea that a "circle" can actually look like a square or that there really is a direct relationship between patterned sets of objects and lines in the Cartesian plane. We will explore these lessons step-by-step and share our past experiences of conducting these lessons for eighth grade classes. (Received September 19, 2007)