

DEPARTMENT OF MATHEMATICS

COLLOQUIUM

SPEAKER

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Enrichment for Middle School Students: The Use of Technology

For the last nine years, the Texas A&M Math Department has conducted a Summer Educational Enrichment Program (SEE-Math) for gifted middle school students entering the 6th, 7th or 8th grade. Last year, the instruction was provided by 18 faculty with the help of 5 graduate students, 2 undergraduate students, and 9 high school students. There were 81 applicants, from which we accepted 50 students based on their ability and interest in math and science as reported by their teachers. The curriculum consists of a collection of activities which do not appear in the usual grade school curriculum. Many of the activities are organized so that the students recognize patterns, make conjectures and either prove or disprove them. These include Platonic solids, Euler numbers, toothpick puzzles, Pythagorean theorem, map coloring, logic puzzles, Mobius strips and Rubik's cubes. Other activities teach applicable computation, such as computer animations, geometric constructions, pigeon hole principle, Venn diagrams, cryptography, probability, and search ranking algorithms.

These activities give participants an exposure to a variety of new mathematical topics, including topology, geometry, linear algebra, number theory, and group theory.

More information is available at <http://www.math.tamu.edu/outreach/SEE-Math/>.

The focus of this talk will be on one of the activities that uses computer technology: a search ranking algorithm. The algorithm involves directed graphs, probability, discrete dynamical systems, linear algebra, and steady state vectors.

While this talk is intended for a general audience, the problems lead to more in-depth mathematical discussions.

Thursday, October 28, 2010

LeConte Room 412

3:30 – 4:30 PM

Refreshments in the 4th floor Wyman Williams Lounge at 3:00 PM



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