
A f t e r m a t h

Math Circle

by Peter Trapa



Peter Trapa is the faculty coordinator of the U of U Math Circle.

The first meeting of the Utah Math Circle, an after-school program for mathematically talented high school students, took place on October 3. The Math Circle's two hour weekly sessions are designed to prepare students for problems of the sort found on various national and international

competitions. Thirty-three students, ranging from ninth graders taking algebra for the first time to seniors with two years of calculus under their belt, attended the first meeting which, as the faculty coordinator of the program, I led. The mathematical topics included techniques to obtain closed formulas for partial sums of polynomial sequences, and the search for a necessary and sufficient condition for a subset of squares of an infinite chessboard to be tileable by 2×1 dominos.

Those in attendance agreed that the initial meeting was a success: the problems were met with enthusiasm by the students; the discussion of techniques and possible approaches was free and spirited; and clusters of students, many of whom had met for the first time only that day, quickly formed to tackle certain problems together. Making this first session a success required careful preparation on the part of the graduate students, faculty, and staff involved. VIGRE Graduate students Eric Cook and Sarah Genesner helped facilitate the discussion. Renzo Cavalieri, Fletcher Gross, and Marilyn Keir were invaluable in slowing me down when I had misgauged the student's level of understanding. Hugo Rossi, who was a driving force behind the creation of the program in the first place, contributed his elegantly cantankerous personality and mathematical insights to the apparent delight of all involved. Perhaps most impor-

tantly, Brenlyn Thiriot had worked for weeks publicizing the program, soliciting applications, and doing all the invisible things necessary to make the first meeting come off without a hitch.

The historical antecedents of the Math Circle appear in the intellectual elitist cultures of the former Soviet Union and pre-Soviet Eastern Europe. In these societies, where one of the few ways to guarantee an above-average existence was through a scientific career, performance on highly competitive national examinations (especially in mathematics) was of paramount importance. Small groups of students, often led by a high school teacher or professional mathematician, sprang up to prepare for these exams. The concept was exported to the U.S. during the influx of Eastern European and former Soviet mathematicians in the early nineties. Well established Math Circles exist at Harvard and Berkeley, but at few other places. The Department of Mathematics has made a strong commitment to establishing one here, and I am excited about the future of this program, as I see it evolving into a permanent fixture of the Salt Lake mathematics educational community.

If you are interested in leading a Math Circle session at some point during the year, please contact me directly (ptrapa@math.utah.edu).

Putnam Contest

The William Lowell Putnam Mathematical Competition will be held on Saturday, December 1, 2001. This test is open and free to all undergraduates. Anyone who would like to take this test needs to give their name to Fletcher Gross (322 JWB, 581-7121, gross@math.utah.edu) no later than noon on Wednesday, October 10. Dr. Gross can provide additional information and copies of past exams.

Prerequisite Enforcement

by Les Glaser

Over the years, incorrect math placement has been one of the leading problem areas for beginning students. Many overestimate their abilities and end up doing poorly. Hopefully, a new system put in place this summer will help students register for the appropriate math class and avoid bad experiences.

Using math ACT/SAT scores, incoming freshmen are assigned a math placement code in PeopleSoft. Most incoming students take the ACT and are placed according to the following system:

Score	Code	Class
16 or lower	1	Math 950
17-22	2	Math 1010
23 or above	3	Math 1030, 1040, 1050, 1070, 1090

Some students will have adequate background to start in trigonometry or calculus, and this is determined on an individual basis.

Students are sometimes incorrectly coded. I and a few people in the University College can update the Math Placement Code in PeopleSoft. We hope to have most problems taken care of for Spring 2002. Students currently taking a prerequisite math class should be allowed to add the more advanced class. Students wishing to challenge their placement can take a test at the Testing Center. The Testing Center will change a student's code if they score high enough.

The Office of Undergraduate Studies plans to collect data on Math 1010-1210 students at the end of this semester to see if the program is successful. Instructors wishing to comment on the effectiveness of this new system should send comments to me (glaser@math.utah.edu), and I will forward them to Hugh Brown, Associate Dean of Undergraduate Studies.

Jency Brown of the University College Advising Center has said, "We need your help. Please don't make new students feel they must start in algebra, trigonometry or Calculus if their placement does not indicate this. It is perfectly OK for them to take a little more time and do the 950 and/or 1010 first so they have a solid foundation before going on to the higher math courses. We have found the ACT to be a better indicator in most cases than the last course they took in high school."

Undergraduate Problem Solving Contest

Beginning this year, the math department is sponsoring an undergraduate problem solving contest. The contest is open to all currently enrolled undergraduate and High School University Program students. A new problem will be presented approximately every two weeks, and solutions will be turned in to a box in the mathematics office. Problems, solutions, and winners will be posted on the bulletin board on the 2nd floor of the JWB at the top of the main stairs. The first problem is now available and solutions are due by 1:00 p.m. October 22.

Instructors, please announce this in your classes. For more information, contact Hugo Rossi at 585-5875 or rossi@math.utah.edu.

WeBWorK Expansion

Last year, a few classes in the department utilized WeBWorK on an experimental basis. This fall, WeBWorK use has increased dramatically, with nearly 1,000 students in six classes (two sections of Intermediate Algebra, two sections of Calculus I, one section of Calculus II, and one section of Calculus III). WeBWorK, developed at the University of Rochester, is used for giving assignments over the internet. Instructors can select homework problems from an existing database or can develop their own problems.

Graduate students Tom Robbins and Ken Chu have been handling the technical end of WeBWorK. Tom has received a University Teaching Assistant Fellowship (UTA) from the Graduate School. This fellowship is for new ideas in teaching, in particular, for integrating technology into the classroom. Ken said, "Personally, I think the greatest strength of WeBWorK is the incentive it gives student to 'get the problems right' since it provides instant feedback to the students as they key in answers."

Construction Update



LCB front door



Math Center group study area

Upcoming Events

Sunday, October 28 – Return to Mountain Standard Time.

Tuesday, October 30 – Advising luncheon for undergraduate math majors. Please RSVP by Oct. 23 to Angie Gardiner at 585-9478, gardiner@math.utah.edu.

Wednesday, October 31 – HALLOWEEN. Show some spirit and wear a costume!

Thursday, November 29 – Mathematics Career Day.



LCB entryway



LCB 2nd floor hallway

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Please contact Angie Gardiner if you have an idea or article to submit (gardiner@math.utah.edu).