TCU Math News Letter

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Mathematics is an independent world created out of pure intelligence.

- William Wordsworth (1770)

Editor: Dr. Rhonda Hatcher and Archive of Newsletters

Scary Math Talk at the Next Parabola Meeting

In honor of Halloween, the next Parabola meeting will feature a scary math talk "Lost in the Mandelbrot Set" by Dr. Igor Prokorenkov. The meeting, which will be held on Thursday, October 28, will begin with refreshments at 3:00 p.m. in TTC 300. The talk will begin at 3:20 p.m. in TTC 137.

Prizes will be awarded to students dressed as fractals.

Putnam Contest

The Sixty-Fifth Annual William Lowell Putnam Mathematical Competition will be held on Saturday, December 4, 2004, from 9:00 a.m. to noon and 2:00 to 5:00 p.m. The questions require different levels of mathematical background, and all require a bit of ingenuity to solve. The scores on the exam are typically quite low, and even answering a couple of questions is considered an excellent performance. The competition is open to undergraduates enrolled in colleges and universities of the United States and Canada who have not yet received a college degree.

Those interested in signing up to take the Putnam Exam this year should contact Professor George Gilbert (g.gilbert@tcu.edu or leave a message at x6061) as soon as possible.

Frank Stones Research Lectureship Series

Professor Anne Shepler of the University of North Texas will present a talk in the Lectureship Series on Tuesday, October 5. She will talk about "Reflection Groups."

The talk will be held in TTC 246 at 4:00 p.m. Refreshments will be served before the talks in TTC 300 at 3:30 p.m.

Major/Minor Fair and Student and Faculty Meet "n" Greet

The TCU Major/Minor Fair will be held on Wednesday, October 27 from 9:00 a.m. to 2:00 p.m., in the Student Center Ballroom. Students interested in getting information about majors, minors, and careers are encouraged to attend.

Following the Major/Minor Fair is a Student and Faculty Meet "n" Greet. This event will also be in the Student Center ballroom, and will be from 2:00 p.m. to 4:00 p.m. Remarks by the Chancellor will be at 2:30. At this event, students will have the opportunity to interact with TCU faculty members away from the classroom setting.

Solution to the September 2004 Problem of the Month

Is it possible to cover a 3 x 3 checkerboard with three L-shaped trominos? (An L-shaped tromino is a square with a square removed from one corner.)

Solution: It is not possible. Consider a tromino that covers the center square. There are only two ways this tromino may be placed, up to rotation and reflection:

In either case, no tromino can be placed to cover the bottom left square (and two other uncovered squares of the checkerboard).

October 2004 Problem of the Month

This month's problem is slightly adapted from one first posed in a book by Henry Winkler. It recently reappeared as the Macalester College Problem of the Week. The board of directors of the Problems For Fun corporation meets every n months. At the most recent meeting, the CEO observed that, since the last meeting, the company made a profit in each period of 8 consecutive months. The CFO then said: "Yes, but in each period of 5 consecutive months over that time we lost money." Show that the largest possible value of n is 11.

Students and others are invited to submit solutions to Dr. George Gilbert (Math Dept. Office or P.O. 298900). Correct solutions submitted by persons who are not members of the TCU math faculty will be acknowledged in the next issue of the newsletter. Note that a correct solution is an answer and a justification of its correctness. The solution to the problem will be published in the next edition of the newsletter.

The TCU Math Newsletter will be published each month during the academic year. Dr. Hatcher: Editor; Dr. Gilbert: Problem Editor; Dr. Doran: Thought of the Month Editor. Items which you would like to have included should be sent to Dr. Hatcher (Math Dept. Office or P.O. 298900).