TCU Math Newsletter

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I have yet to see any problem, however complicated,
which, when you looked at it the right way,
did not become still more complicated.

– Paul Anderson

Professor William Beckner to Present a Lectureship Talk

Professor William Beckner of the University of Texas at Austin will present a talk entitled "Fourier Analysis and Conformal Geometry" on Tuesday, March 1, 1994 as part of the TCU Research Lectureship series. The talk will be in Winton Scott Hall 145 at 4:00 p.m.

Students, faculty, and other members of the community interested in mathematics are invited to attend the lecture and to join us for refreshments at 3:30 p.m. in Winton Scott Hall 171.

A Student Chapter of the Mathematical Association of America is Established at TCU

A Student Chapter of the Mathematical Association of America has recently been established at TCU. Undergraduate students who have joined the chapter include: Teodora Donevska, Bruce Doran, Sarah Field, Priscilla Francis, Troy Ludwick, Anna Mueller, David Puente, Amy Smaistrla, and Tony Smith.

Members of Student Chapters receive *Focus,* the newsletter of the MAA, and one of the MAA journals. In addition, students receive discounts on meeting registration fees and MAA publications, information on graduate study and careers in mathematics, and opportunities to participate in student paper sessions at MAA meetings.

All undergraduate students are eligible to join the TCU Student Chapter of the MAA. If you are interested in joining, please contact Dr. Rhonda Hatcher, the Faculty Advisor for the chapter in Winton Scott Hall 142 or at 921-7335.

March 16 Meeting of Parabola

Mathematics major Amy Smaistrla will share information on the actuarial profession at the next meeting of Parabola. Many mathematics majors pursue careers as actuaries after graduation. Amy has gathered some information which she would like to share with other students.

The meeting will be held Wednesday, March 16 at 4:00 p.m. in Winton Scott Hall 171. Refreshments will be served. All undergraduate students at TCU are invited to attend.

Math Horizons Subscriptions

Math Horizons is a new quarterly magazine published by the Mathematical Association of America. It is for undergraduates and others who are interested in mathematics. Its stated purpose is to expand both the career and intellectual horizons of students.

The Mathematics Department has several free copies of the premier issue of *Math Horizons* available in the department office in Winton Scott Hall 112. If you would like to have a copy, please ask the department secretary.

Subscriptions to *Math Horizons* are available for five dollars per year, but only in bulk subscriptions of at least 20 copies to a single address. If there is enough student and faculty interest to order 20 subscriptions, we can have them mailed to the Mathematics Department and delivered to students from there. Any students interested in subscribing for five dollars per year should contact either Dr. Rhonda Hatcher in Winton Scott Hall 142 or Dr. Charlie Deeter in Winton Scott Hall 159, both of whom may also be reached by phone at 921-7335.

Solution to the February 1994 Problem of the Month

Problem: *The race goes to the swiftest, or does it? Alice and Bob run a marathon (assumed to be exactly 26.2 miles long) with Alice running at a perfectly uniform eight-minute-per-mile pace, and Bob running in fits and starts, but taking exactly 8 minutes and 1 second to complete each mile interval (this refers to all intervals of the form* $[x, x+1]$*, including, for example, the interval from 3.78 miles to 4.78 miles). Is it possible that Bob finished ahead of Alice?*

Solution:

Bob could finish ahead of Alice. Alice runs the marathon in 3:29:36. If Bob runs the first .2 of each whole mile interval in 1 minute and the last .8 miles in 7:01, he runs the entire 26.2 miles in $27\times1+26\times7:01=209$ minutes and 26 seconds, or 3:29:26. (However, if Bob's pace were 8:04, he would run the first 26 miles in 3:29:44 and could not possibly beat Alice.)

Problem of the Month

This month's problem is again adapted from a Macalester College Problem of the Week:

You are going to a store to buy an item whose price you don't know exactly. You want to have coins so that you can pay any price of one dollar or less with exact change. What is the fewest number of coins you need? (A complete solution shows that your collection of coins works and that no smaller collection works.)

Students and others are invited to submit solutions to Dr. George Gilbert (Math Dept. Office or P.O. 32903). 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. 32903).