

TCU Math Newsletter

Volume 3, Number 6

March 1995

When I was young I observed that nine out of every ten things I did were failures, so I did ten times as much work.

— George Bernard Shaw

Professor Charlie Deeter to Give a Parabola Talk

The next meeting of Parabola will be at 3:30 p.m. on Tuesday, March 28 in Winton Scott Hall 145. Professor Charlie Deeter will be the featured speaker and we will also hold the election of student officers for the next academic year. We hope you can come to the meeting and for refreshments which will be served at 3:00 p.m. in Winton Scott Hall 171.

Lectureship Talk on March 21

Professor Tim Cochran of Rice University will present the next talk in the TCU Mathematics Department Research Lectureship Series. Dr. Cochran will give his talk, "Linking Phenomena in Topology," on Tuesday, March 21 at 4 p.m. in Winton Scott Hall 145, and refreshments will be served at 3:30 p.m. in Winton Scott Hall 171.

You may want to note now that the last lectureship talk for the academic year will be on April 4.

TCU Integration Bee

The TCU Annual Integration Bee will be held on Tuesday, April 11 in Winton Scott Hall 145. All TCU undergraduate students are eligible to enter and compete for the cash prizes awarded to the first, second, and third place finishers.

Students wishing to compete should sign up in the Mathematics Department office sometime before April 11.

Annual MAA Meeting

The Texas Section of the Mathematical Association of America will hold its 75th Anniversary Meeting at Baylor University on March 30 - April 1, 1995. This meeting has

several talks and sessions of interest to undergraduates. Any students interested in attending can get information from Dr. Rhonda Hatcher in Winton Scott Hall 142.

Top Ten Differences Between Mathematics and Music

Professor Ken Richardson's talk on "Math and Music" and the Jazz Band performance before the talk was a great hit. Included in his talk was the following "Top Ten Differences Between Mathematics and Music" list. Professor Efton Park and Professor Richardson must take all the credit (or blame) for the list.

10. No Blockbuster Mathematics Stores.
9. Not a lot of TI-85's at local pawn shops.
8. Music soothes the savage beast, mathematics turns savage beast into an info-mercial host.
7. Not a lot of theorems proved by Madonna.
6. Eva was the one on "Green Acres"; Zsa-Zsa was the one that slapped the cop (oops--that is the difference between the Gabor sisters).
5. Marilyn Vos Savant doesn't claim to know anything about music.
4. Kids don't like to play "Mathematical Chairs."
3. Unemployed music majors start as fry cooks at MacDonaldis; unemployed math majors start as assistant managers!
2. Tickets for Texas Stadium's "MathFest" not selling as well as Pink Floyd tickets did.
1. Musicians have groupies; mathematicians just have groups.

Solution to the February 1995 Problem of the Month

Problem: *The famous Four Color Theorem states that four colors suffice to color a map in the plane, with all regions one piece only, so that two regions sharing a common edge are different colors. How many colors are needed to color a map of the continental United States? (Note that Michigan has two pieces, so the Four Color Theorem does not apply directly.) You must show that this number will do as well as showing that fewer won't.*

Solution: It takes four colors to color a map of the United States. If one pretends that the two pieces of Michigan are connected across the Great Lakes, then one can apply the Four Color Theorem to see that four colors suffice. To see that three colors do not, consider Nevada. It must be one color, say yellow. Then California must be a second color, say red. This forces Oregon to be the third color, say blue, Idaho to be red, and Utah to be blue. However, Arizona now requires a fourth color. (A similar argument can be made by starting with West Virginia.)



Problem of the Month

This month's problem appeared on Swarthmore's Geometry Forum on the Internet: The medians from the acute angles of a right triangle have lengths 5 and $\sqrt{40}$. Find the length of the hypotenuse of the triangle. (A median is the line segment from a vertex of a triangle to the midpoint of its opposite side.)

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.