TCU Math News Letter

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The explosive freedom we gain from describing reality in mathematical metaphors is breathtaking. We can discover truths about ourselves that we could never have learned as poets in writing in English. Truth is stranger than fiction; fiction has to make sense.
--- Paul Rapp, Get Smart: Controlling Chaos, 1989

Editor: Dr. Rhonda Hatcher and Archive of Newsletters

TCU Lectureship Talk on Thursday, March 23

Professor Edward Odell of the University of Texas at Austin will be the next speaker in the TCU Lectureship schedule. His talk, entitled "Distortion of Hilbert Spaces," will be presented at 4:00 p.m. in Winton Scott Hall 145 on Thursday, March 23, 2000.

Refreshments will be served in Winton Scott Hall 171 during the half-hour preceding each talk. All TCU students, faculty, and other interested members of the community are invited to attend the lectures.

Mathematical Association of America Meeting in Austin

The annual meeting of the Texas Section of the Mathematical Association of America will be held at the University of Texas at Austin on April 6Ð8, 2000. Of particular interest to students are a Student Forum on Friday, April 7 from 10:30 a.m. to 12:00 noon and an invited address on "Knots" by Professor Cameron Gordon of the University of Texas at Austin. A student pizza and puzzle party will be held on the evening of April 7 at 5:30 p.m. There are also several contributed paper sessions in which undergraduates will be making presentations.

Students interested in attending the meeting should contact Professor Rhonda Hatcher in Winton Scott Hall 142 to pick up an advance registration form.

Undergraduate students interested in joining the Mathematical Association of America should also contact Professor Hatcher. The annual dues are twenty dollars, and the dues include a subscription to Focus, the official newsletter of the MAA, along with a subscription to one of four MAA magazines.

Air Force ROTC Scholarships

The Air Force ROTC program has announced the availability of Express Scholarships. These scholarships can be activated immediately once all prerequisites are met. These scholarships are capped at $15,000.00 per academic year. In addition, recipients are awarded a $240.00 book allowance per semester and a $200.00 monthly, tax-free stipend.

The Express Scholarship Program is open for any student majoring in electrical engineering, meteorology, chemistry, computer information science, mathematics, physics, aeronautical engineering, aerospace engineering, chemical engineering, civil engineering, computer engineering, environmental engineering, industrial engineering, mechanical engineering, nuclear engineering, foreign area studies, or foreign language who competes for and receives an enrollment allocation via PSP for commissioning in FY02.

For more information concerning scholarship types, dollar amounts, and requirements, contact Captain Aleman at extension 7461.

Solution to the February 2000 Problem of the Month

Problem: Show that the numbers from 1 to 16 can be written in a line, but not in a circle, so that the sum of any two adjacent numbers is a perfect square. (From Russia's 1997 national high school contest.)

Solution The only perfect square between 16+1=17 and 16+15=31 is 25. Thus only 9 can be next to 16, and the numbers cannot be written in a circle. Starting with 16 and working down the line, we see that, up to reversing the order, the only way to write the numbers in a line is 16, 9, 7, 2, 14, 11, 5, 4, 12, 13, 3, 6, 10, 15, 1, 8. This month's problem was solved by Matt Frederick, Carey Hyson, Mitsutaka Shirasaki, Amy Trefzger, and TCU alum David Puente.

Problem of the Month

This month's problem appeared in the 1998 Tournament of the Towns competition, an international contest for high school students. A "labyrinth" is an 8x8 chessboard with barriers between some pairs of neighboring squares. If a rook can traverse the entire board without crossing any barriers, the labyrinth is "good"; otherwise, it is "bad". Are there more good labyrinths or more bad labyrinths?

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).