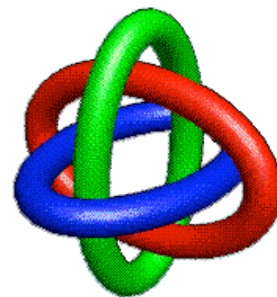


TCU MATH NEWSLETTER



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It is a great advantage for a system of philosophy to be substantially true.

- George Santayana

Pi Mu Epsilon Initiation

[Pi Mu Epsilon](#), the national mathematics honor society, will initiate math majors Rachel Lamb, Melissa Lorber, Jeff Stubblefield, and Sara Valaitis into membership at 3 pm on Friday, February 12 in TTC 300.

National Science Foundation Summer Research Opportunities for Undergraduates

Undergraduate mathematics majors who are interested in participating in one of the National Science Foundation Research Experiences in Mathematics for Undergraduates Sites in the summer of 2010 will need to begin the application process right away. Most of the sites have application deadlines in February or March, and the applications typically require letters of recommendation from professors. The sites are located at universities across the country.

In these projects, undergraduate students conduct mathematical research under faculty guidance. They generally run from six to eight weeks in length. The student participants receive a stipend, housing support, and sometimes travel support. The experience gained in these REU projects is particularly helpful for students considering graduate study in mathematics. Several TCU students have participated in REU programs in the past, and they have found the experience to be very rewarding.

Undergraduates who are interested in learning more about or applying to one of the REU projects can find a list of NSF REU sites in mathematics with web links to the individual programs at www.nsf.gov/crssprgm/reu/reu_search.cfm.

Problem Solving Group

Students interested in honing their problem solving skills this semester, for instance as preparation for the [Putnam competition](#), should contact Professor George Gilbert (g.gilbert@tcu.edu). The group will arrange times to meet once or twice a month.

Frank Stones Mathematics Research Lectureship

There will be two talks in February 2010 in the Frank Stones Mathematics Research Lectureship series.

The first talk will be presented by Professor Nikola Petrov of the University of Oklahoma. He will present the talk ***Moving boundaries and dynamical systems*** at 4:00 pm on Tuesday, February 2 in Tucker Technology Center 244.

Professor Danielle O'Donnol of Rice University will present a talk at 4:00 pm on February 16. Check the TCU Mathematics Department web site at www.math.tcu.edu for more detailed information in the future.

All TCU students and faculty and other interested members of the community are invited to come to the talks. Refreshments will be served before each talk in TTC 300.

Problems and Solutions

Solution to the November 2009 Problem of the Month

Problem: Three distinct integers are chosen at random from 1, 2, ..., n . What is the probability no two are consecutive?

Solution: The probability is $(n^2-7n+12)/(n^2-n)$ (assuming $n \geq 3$).

The numbers immediately succeeding the smallest two of the three numbers cannot also be chosen. Thus, choosing three numbers with no two consecutive is equivalent to choosing three numbers from among 1, 2, ..., $n-2$. Therefore, the probability is

$${}_{n-2}C_3 / {}_n C_3 = (n^2-7n+12)/(n^2-n).$$

February 2010 Problem of the Month

This month's problem is due to Tim Keller and was originally published in the Journal of Recreational Mathematics. You are declarer in a no-trump contract in bridge. All four deuces win tricks. What is the maximum number of tricks you can win? (The [rules for playing tricks in bridge](#) are similar to playing hearts or whist with partners, though the goals differ.)

Students and others are invited to submit solutions to Dr. George Gilbert by e-mail (g.gilbert@tcu.edu) or hard copy (Math Dept. Office or TCU Box 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 is
published each
month during the
academic year.*

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**Thought of the
Month
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