
TCU Math News Letter

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I thought that certainty is more likely to be found in mathematics than elsewhere. But I discovered that many mathematical demonstrations, which my teachers expected me to accept, were full of fallacies, . . .
--- Bertrand Russell

[Editor: Dr. Rhonda Hatcher](#) and [Archive of Newsletters](#)

First Parabola Meeting on Tuesday, October 5

Parabola, the TCU undergraduate mathematics club, will hold its first meeting on Tuesday, October 5. The meeting will begin with refreshments at 3:00 p.m. in Winton Scott Hall, Room 170. At 3:30 p.m. Ms. Allison Owen of the TCU Mathematics Department will present the talk "Misuses and Abuses of Statistics" in Winton Scott Hall Room 145. All TCU students, faculty, and other interested members of the community are invited to attend the meeting and talk.

Students interested in joining Parabola should contact Professor Rhonda Hatcher (in Winton Scott Hall 142 or at 257-6062 or r.hatcher@tcu.edu). Dues are only four dollars per year to cover the cost of refreshments.

TCU Lectureship Talks on October 12 and October 26

Two talks will be presented in the TCU Mathematics Department Research Lectureship Series during the month of October.

The first talk will be presented by Professor Maciej Wojtkowski of the University of Arizona. His talk, entitled "Gaussian Thermostats, Lorentz Gas and Differential Geometry," will be at 4:00 p.m. on Tuesday, October 12 in Winton Scott Hall 145.

The second lectureship speaker in October will be Professor Joseph Iaia of the University of North Texas. His talk, entitled "Radial and Non-radial Solutions of Semilinear Partial Differential Equations," will be presented at 4:00 p.m. on Tuesday, October 26 in Winton Scott Hall.

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.

Summer Opportunities for Math Majors on the MAA Web Page

[The Mathematical Association of America](#) web page includes a listing of summer research and job opportunities for mathematics students. The main web page address is www.maa.org and the [special summer opportunities](#) list is at www.maa.org/students/reustuff/pages/smrpage.html. It is not too early to start thinking about applying for these because most require faculty recommendations and some have early deadlines.

Students interested in joining the Mathematical Association of America should contact Professor Rhonda Hatcher in Winton Scott Hall 142 or at 257-6062 or by email at r.hatcher@tcu.edu. She has applications for membership that she will forward to the MAA. The cost of membership for students is only \$10 per year. All members receive FOCUS, the official newsletter of the MAA. Student members also have the option of subscribing to one of the MAA journals at a cost of \$20 or \$10 per year.

Solution to the October 1999 Problem of the Month

Problem: Two towns, A and B , are connected by a road. At sunrise, Pat begins biking from A to B along this road, while simultaneously Dana begins biking from B to A . Each person bikes at a constant speed, and they cross paths at noon. Pat reaches B at 5 p.m. while Dana reaches A at 11:15 p.m. When was sunrise?

Solution: Pat and Dana bike at a constant rate, so that the ratio of time required to travel between A and their meeting point and between B and their meeting point equals the ratio of the two distances. Therefore,

$$\frac{12 - t}{5} = \frac{11.25}{12 - t'}$$

or $(12 - t)^2 = 5(11.25) = 56.25 = 7.5^2$. Thus, $12 - t = 7.5$, $t = 4.5$, and they depart at 4:30 a.m.

Problem of the Month

It's too bad that the formulas for the derivative of a product or quotient are not as simple as those for the derivative of a sum or difference. Are there any nonzero functions f and g for which $(fg)' = f'g'$ and $(f/g)' = f'/g'$ both hold?

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).