Upcoming Events

Here are a few of the upcoming events in the Mathematics Department. Seniors, if you haven’t finished your talk requirement, mark your calendars!

Charlie Gamble’s Comps Talk
April 20, 4 p.m., CMC 206

Colloquium Talk – Jenise Swall
May 6, 4 p.m., CMC 206

Comps Gala
May 20, 3:30 p.m., Olin 141

Interested in Working for the Mathematics Department?

The Mathematics Department has a variety of positions to fill for next year. Positions include Mathematics grader, Mathematica or statistics lab assistant, Math Skills tutor, Gazette Editor, and office assistant. Applications are due by April 12. To apply visit: http://apps.carleton.edu/curricular/math/resources/student_worker_application/

Always Wanted to Work in Print Media?

The Mathematics Department needs an editor for their weekly publication, the Goodsell Gazette, next year (you’re reading it right now). Applicants should be able to work with a deadline and be comfortable manipulating Microsoft Word, especially the Equation Editor feature. The Gazette is a four hour per week position. Applications are due by April 12. To apply visit: http://apps.carleton.edu/curricular/math/resources/student_worker_application/

Math Joke of the Week

An infinite crowd of mathematicians enters a bar. The first one orders a pint, the second one a half pint, the third one a quarter pint... "I understand", says the bartender - and pours two pints.

Math in the News

Steven Strogatz’s New York Time’s column continues; the latest installment was titled “Take It to the Limit.” The column, published every Monday, deals with math “from basic to baffling” and is truly a joy to read. Check it out!
**Mathematics: Predicting Baseball Wins**

Associate Professor Bruce Bukiet from New Jersey Institute of Technology developed a model in 2000 to predict the number of games baseball teams will win in a given season. The model computes the probability that a team will win over another team taking into account hitters, bench, starting pitcher, relievers and home field advantage. Bukiet says that he has continued publishing his results in an effort to show young students in America that mathematics is not only important, but also fun. To learn more about Bukiet and his model go to http://www.sciencedaily.com/releases/2010/03/100309111635.htm

**Looking for Something to do this Summer?**

The National Security Applications Department is looking for undergraduates to fill their paid internship positions for next summer. Applicants should have a strong grounding in statistics, and experience with Java, Python, Matlab or R. For more information about applying, go to http://www.sandia.gov/careers/stu-interns.html

**This Week in History**

Mathematician Joseph-Louis Lagrange died this week in 1813. Because he could not afford to study with leading mathematicians of his time, Lagrange was largely self-taught. Despite this, he made contributions in Variational Calculus, Algebra, Number Theory, Astronomy, and Mechanics to name a few. To find out more about Lagrange, or to read more about other mathematicians, read the Mathematician of the Day at: http://www-groups.dcs.st-and.ac.uk/~history/Day_files/Now.html

**PROBLEMS OF THE WEEK**

1. Suppose \( a, b, c \) are positive integers (not necessarily distinct) such that if you take the product of any two of them and add 1, you get a multiple of the third one. That is, \((ab + 1)\) is a multiple of \( c \), \((ac + 1)\) is a multiple of \( b \), and \((bc + 1)\) is a multiple of \( a \). Find all possibilities for the values of the three integers \( a, b, c \).

2. Given two non-intersecting circles in the plane, describe the set of points for which the distances to both circles are the same:
   a) if the circles have equal radii;
   b) if one of the circles lies completely inside the other;
   c) if the circles have unequal radii and lie outside each other.

[The distance from a point to a circle is the distance from that point to the closest point on the circle.]

Has the weather been too nice (except for Tuesday)? In any case, as of press time no solutions to last week’s problems have come in. As usual, solutions will be accepted until my own solutions are posted, which will probably take another week or so.

- Mark Krusemeyer