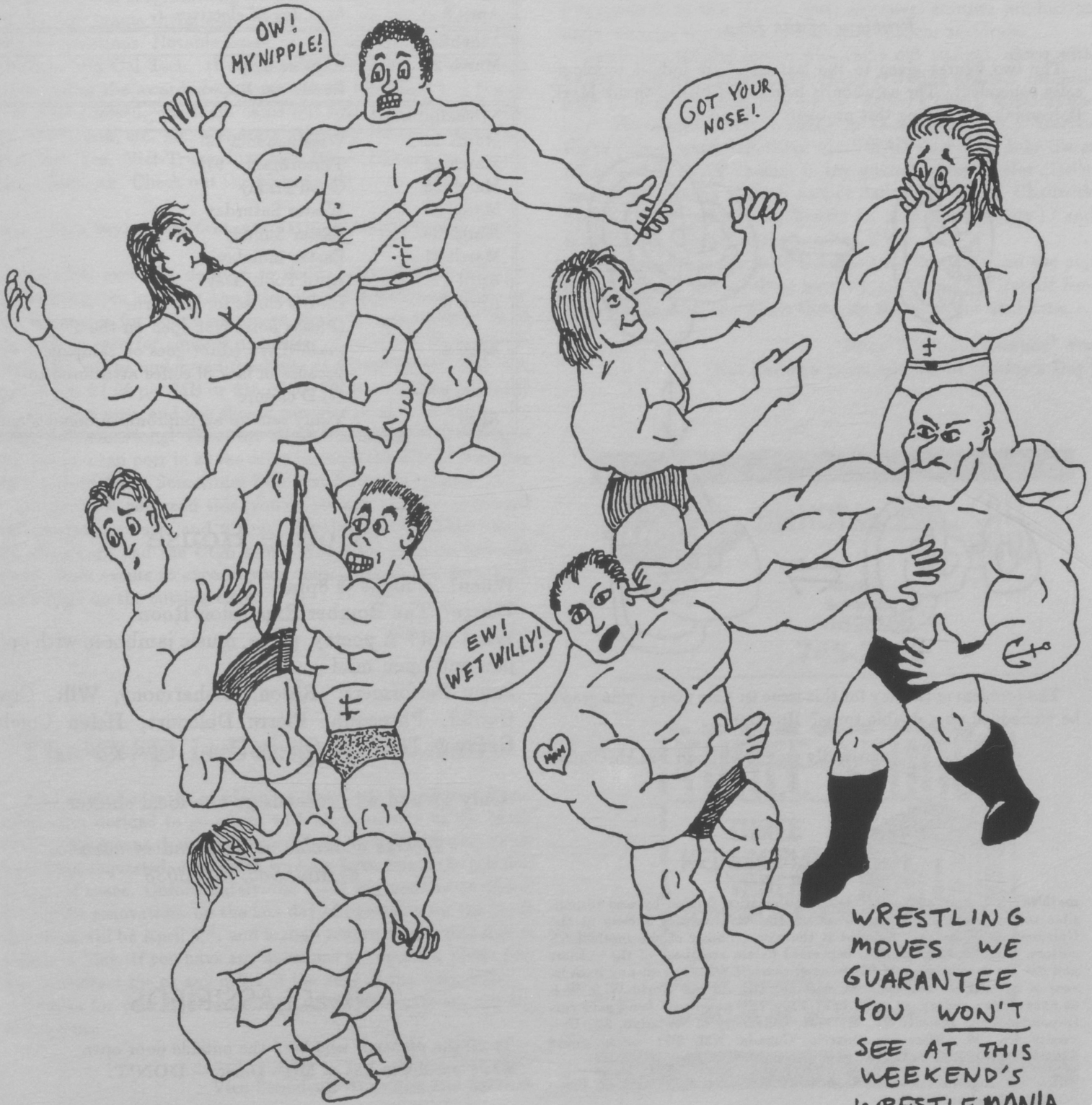


# math NEWS

Volume 73, Issue 4

Friday, March 21, 1997



WRESTLING  
MOVES WE  
GUARANTEE  
YOU WON'T  
SEE AT THIS  
WEEKEND'S  
WRESTLEMANIA

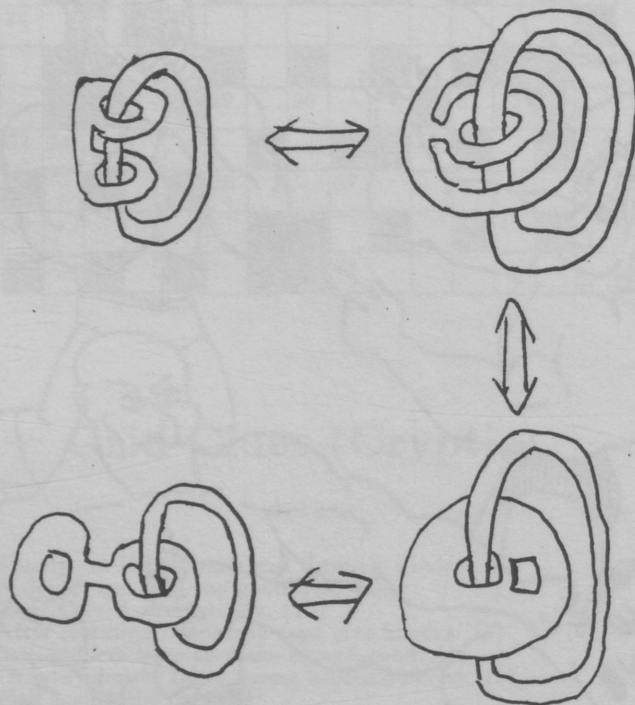
## Report from the PMAMC&amp;OC

## Shirts

Our PMAMC&OC shirt design has basically been finalized. It will have our logo on the front left breast. On the back we will have "PRO-CHOICE", hyphenated by "axiom of" in small print. Underneath will be a statement of the Axiom of Choice based either on the definition given in Naive Set Theory or the one given in Axiomatic Set Theory. The sign-up sheet for shirts is on our club door.

## Problem of the Day

The two figures given in the last issue are indeed topologically equivalent. The solution is below. I'd like to thank Mark Bolusmjak, for finding this problem.



The problem of the day for this issue is: Can every cycle graph be embedded on a double torus? Hmmmm...

Your friendly neighbourhood PMAMC&OC

ISSN 0705-0410

mathNEWS is normally a fortnightly publication funded by and responsible to, but otherwise independent of, the Mathematics Society at the University of Waterloo. Content is the responsibility of the mathNEWS editors; however, any opinions expressed herein are those of the authors and not necessarily those of MathSoc or mathNEWS. Current and back issues of mathNEWS are available electronically via the World Wide Web at <http://www.undergrad.math.uwaterloo.ca/~mathnews>. Send your correspondence to: mathNEWS, MC3041, University of Waterloo, 200 University Ave. W., Waterloo, Ontario, Canada, N2L 3G1, or to [userid mathnews@undergrad.math.uwaterloo.ca](mailto:mathnews@undergrad.math.uwaterloo.ca) on the Internet.

Still wondering when Graham Rogers will start emailing his articles: Brian "Calculus Cowboy" Fox

## lookAHEAD

<i>mathNEWS</i>	
March 21	Spontaneous molecular cohesion causes Issue #4 to materialize
March 31	Issue #5 Production Night 6:30pm, MathSoc (MC 3038)
April 4	Issue #5 boogies onto the stands
<b>Math Faculty</b>	
April 4	Last day of classes
April 8	Last day of electives
<b>MathSoc</b>	
March 25	Raptors Trip Pacers vs. Raptors
<b>Miscellaneous</b>	
March 23	Wrestlemania 13!
March 24	TensorMania '97!
March 28	Good Friday
March 29	Wester Saturday
March 30	Easter Sunday
March 31	Easter Monday
April 1	April Fools' Day
April 3	C+D's closes for the term (Please note: Not open on the 4 <sup>th</sup> )
April 4	mathNEWS editor goes on rampage because of lack of coffee attributed to C+D closure
April 7	Vinny sets up an impromptu donut stand

## Coffee House

When? Tonight @ 8pm

Where? The Bomber Expansion Room

What is it? A poetry, prose, music jamboree with open jam and open mic!

Some Performers: Rēson, Disharmony, Wilt, Craig Cardiff, Phreeduh, Pierre Dalcourt, Helen Coleby, Henry & The Folk, Olivia, Dan... and you!

Only \$3 and all proceeds go the local shelter.

Tickets available at door and in advance  
at MathSoc, MC 3038

## ultraCLASSIFIEDS

To all the *pinheads* who keep the outside door open while waiting in line at Mel's Diner — DON'T.

The No Pork Guy





A Student Chapter of the ACM

## CSC Flash

The big CSC news of the last few weeks was the dazzling performance of our programming team and their triumphant return. Of the fifty teams there, ours was one of only six teams to answer six questions. Notable losers, er, non-winners, include MIT, Stanford and Cal Tech. (I suspect MITers called in the bomb scare during the awards ceremony.) Once the times and penalties were assessed, our team came out fifth of fifty! Rah, rah, sis, boom, bah, etc. etc. Congratulations to the team members: Wai Min Yee, Viet-Trung Luu and Derek Kisman and coach Gord Cormack. Check out the pictures at:

<http://acm.baylor.edu/Contest97/Album97/Teams/Teams5.html>

The CSC exec has decided to do its part to fight inflation by lowering, yes lowering, the price of hard drive space. You can use this space for your assignment work, for information off of the net, or even for copious quantities of email. It is accessible from both of the undergrad machines and from calum. The new prices are: \$1.00 per MB or \$15.00 for 20MB. You can buy next term's space now, and you should consider it: at these prices the space won't last long! There are no pictures to go with this article, but you can peer in at the drive through the MFCF windows on the third floor. Sometimes I do that for hours on end.

By the time you read this, you've already enjoyed or missed two fascinating talks and a tour: Parallel Sorting Algorithms, PC Hardware and the CGL tour. Watch for signs to find out about more events to expand your consciousness and keep your knowledge on the cutting edge.

Calum T. Dalek

## The C+D is being renovated!

After several months of planning, the C+D Operations Committee has decided to go ahead with an expansion of the Math C+D. This means that we will be able to offer food items which have been requested, but which we have been unable to sell due to lack of space. Unfortunately, the C+D will need to be closed during the renovation. So the last day of operation for the C+D this term will be April 3<sup>rd</sup>, and it shall reopen on the first day of classes in May. If you have any questions or concerns, please feel free to contact me or any other of the exec in the Exec Office.

Thanks for your understanding and we apologize for any inconvenience.

Chris Buchanan  
Vice-President, Activities and Services

## mastHEAD

Getting closer...

Here I am, 11:30pm Monday night, sitting in front of my X-term trying to think of some mindless rant to fill up this thing we call the mastHEAD. Geez... I got enough on my mind with 2 assignments due this week. However, I should give it my best when it comes to this particular part of mathNEWS so here goes...

Well, only 2 weeks left to go in the term. Wow. Hard to believe we've made it to this point. Well, I know it's hard to believe that I've made it to this point. But, anyways, another production night without any major problems or nuclear accidents.

Here's the faithful bunch who came out tonight, along with what they think Albanians are really revolting against: Ian Miligan (Too much green beer on St. Paddy's Day.), Mike "Hammer" Hammond (From bathing in that green beer.), Darren Rigby (They detest repetitive mastHEAD answers.), John Swan (Not enough STAT courses is my guess.), Greg Taylor (Deity dispute concerning Mizuno Ami or Sailor Mercury?), Chadwick Severn (They want to be known as a distinct society.) and Michael Thorsley (Nothing good on TV).

Many many thanks go to Domino's for the pizza and the pop and to Marion and all those hard-workin' types at Graphic Services for printing the whole thing up for us. Until next time...

Brian "Calculus Cowboy" Fox  
(Not enough green beer on St. Paddy's Day.)



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THREE MEDIUM PIZZAS  
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## Pink Tie Pledge

At the time of this submission, the Pink Tie Pledge campaign will have raised \$25,000!! Yes folks, we are well on our way to reaching our goal of \$50,000. Way to go! Thanks so much to everyone who has handed in their pledge cards early.

### *Dean's Challenge*

Congratulations also go out to those students who have matched the Dean's Challenge. These students are to be treated to a dinner this Friday, March 21<sup>st</sup> at Golf's Steak House and Tavern with our very own Dean of Mathematics.

### *Ralph Stanton Pledge*

As well, all those students donating to the Ralph Stanton Pledge will be invited to a special reception on Friday, April 4<sup>th</sup> in the late afternoon or early evening. Please put your local phone number on your pledge cards so that you can be contacted. There is still time to pledge... just drop off your completed pledge cards to the MGC office, MC 3029.

### *Dean's Prime Number Club*

Want your very own Prime Number? By pledging just \$101 a year for three years, you can get your own Prime Number. As well, you will be supporting the education of future math students here at Waterloo.

Remember folks, the Pink Tie Pledge needs you! This is a gift from our graduating class, and any amount is appreciated! If you need a pledge card, pick one up in the MGC office, MC 3029.

Let's go, Class of '97!!!

Paul Santos

### *Pink Tie Pledge Fact*

Only 85 students out of 575 students donated last year (Class of '96) and they did a great job. So far, as of March 17<sup>th</sup>, only 25 students have handed in their pledge cards from the class of '97.

Let's prove to everyone once and for all that the Class of '97 cares about the Faculty of Mathematics, and that we are not apathetic. Let's see if we can beat last year's participation rate and also meet this year's goal.

Pledge to the Pink Tie today!!

## Letter to the Editor

I am writing in reply to Jesse Bergman's letter concerning "Reading Week" (*mathNEWS*, Volume 73, Issue 3, Friday, February 28, 1997). In his letter he notes that Math and Engineering have a two day study break, whereas the other Faculties have a week, and he asks the question, "Why do we not have a week?"

As a former Associate Dean for Undergraduate Studies (1991/95), I would like to answer his question. The "Reading Week" does not have a lengthy tradition in the Math Faculty or in the university as a whole. Prior to 1990 only Arts and Environmental Studies had a "Reading Week". Starting in 1990, however, the other Faculties, apart from Engineering, introduced a "Study Week". At the same time, Engineering introduced a two day "Study Break".

I do not know what reasons were advanced for making this change, but its harmful effects soon became clear. Firstly, the lengthy break disrupted our students' ability to concentrate on their courses. I say "lengthy break" because the five days of cancelled lectures is of course augmented by two weekends, and there is the temptation to miss lectures on the Friday before the first weekend. Secondly, because of the "Study Week" there were fewer days between the end of lectures and the beginning of exams, giving students insufficient time to prepare for their exams. For example, this term Mathematics and Engineering students have a week between the end of classes and the beginning of the exams, while all other students have only a couple of days.

As Associate Dean, I thus brought a motion to Faculty Council proposing that the Math Faculty replace the Study Week by a two day Study Break. (Counting the weekend, this makes a break of four days to take care of the "winter blahs", without serious academic damage.) Before doing so, I discussed the matter with MathSoc, pointing out to them the above-mentioned drawbacks. When the motion was debated in Faculty Council the student representatives were among those who argued most strongly in favour of it and indeed helped to ensure that it passed.

John Wainwright  
Department of Applied Mathematics

## Last Chance to Buy Your Raptors' Tickets

*Tuesday, March 25<sup>th</sup> vs. the Pacers*

*Only \$33!*

*Get your tickets today in MC 3038*

## Yes, we are on the Web.

If you're ever wandering the Web, drop in on *mathNEWS* at <http://www.undergrad.math.uwaterloo.ca/~mathnews>.

Fun for the whole family! Ozone friendly, too!



## profQUOTES

"I wonder what the hell they teach you in high school!"

Jackson, MATH 235

"Numbers tend to be slightly boring. We do them in C&O 230 because of the tomato sauce."

Jackson, PMC Lecture

"... when you were three... or whenever it was when you learned quadratic equations..."

Denley, C&O 230

"We have to show that the crud left over, divided by the norm of  $h$ , goes to zero."

Siegel, MATH 247

"It's a unit circle... how hard can it be?"

Siegel, MATH 247

"I'm not exactly sure why that's true, but it's true. Ask your Algebra prof."

Siegel, MATH 247

"Obviously, I have trouble with mathematics."

Chen, STAT 230

"I hope you'll wake up for just this second."

Chen, STAT 230

"That's the Sharkovsky ordering. It's a little weird, but that's the facts of life."

Gilbert, PMATH 399c

"You're in the real world. I'm in the ideal mathematical world."

Gilbert, PMATH 399c

"I'm not sure of the answer to that, but it's a problem in the book, so you should be able to solve it."

Gilbert, PMATH 399c

"It might be somewhat illegal to release some kind of disease out into the population just to test your theory, as exciting as that might be."

Kates, CS 134

"With all these dots, you're sure to go dotty... that's a joke... you're supposed to laugh... please laugh."

Goodman, AM 373

"Take a break. Have a smoke."

Wolkowicz, C&O 370

"I don't get to differentiate very much, so this is like a cheap thrill."

Culter, STAT 333

"I know it's a little scary. I want you to be scared."

Cutler, STAT 333

"You're trying to prove that cars with antennas don't exist. So you take a car without an antenna and stick an antenna on it. That's like proof by contradiction."

Shallit, CS 360

"It's a disturbing proof, but I don't suggest you go out and commit suicide after reading it."

Shallit, CS 360

"Ask your Pure Math prof. Pure Math profs love questions that have no relation to reality. So in your next Pure Math class, ask 'Where are numbers before you write them down?'"

Smith, ECON 102

"Mafia Rule: if it's hard to take out just one person, take out the whole family instead."

Furino, CS 134

"Do I look that stupid?... Don't answer that!"

Struthers, MATH 138

"And since I'm not in a hurry, I don't have to finish the course!"

Donsig, substituting in PMATH 453

## Now Playing

This week I'm reviewing some more obscure films that you'll have to search around for if you want to see.

*Wallace & Gromit*

The Princess Cinema was showing three Wallace & Gromit films (*A Close Shave*, *The Wrong Trousers*, and *A Grand Day Out*) last week, and they were all splendid. With two Oscars and a nomination for Best Animation among the three films, it was definitely no lackluster presentation. Wallace, an inventor, and his loyal (and very intelligent) dog, Gromit, are rendered in clay-mation, and the work is outstanding. Just the visual effects are amazing, but on top of that, the films are hilarious! It's hard to describe how great they were, but these are most definitely a must see. ★★★★★

*Mike Hammond is Cool!*

Not a very well known film, *Mike Hammond is Cool!* is a true cult classic. Only ever shown once, in the Math Comfy Lounge, *MHiC* is a movie which has something important to say, as evidenced by the many followers who were forever changed after watching it. And not only is it a great film, you might even run into the star character aimlessly wandering the halls of MC. No future showings are yet in the works, but if you ever get the chance, you should check out *MHiC*. ★★★★★

Warren "The Movie Milkman" Hagey

## Unsatisfied Heart

I look over at Cathy who is lying sound asleep, breathing rhythmically. I sit up and swing my feet over the edge of the bed and land them silently on the floor. I stare at the curtains hanging in front of the window across from the bed. I look back at Cathy. She always looks so peaceful when she sleeps. I don't know how she manages to look five years younger when she's asleep. Jennifer never looked younger when she slept. She just looked even more beautiful than she already was, which was a pretty neat trick.

Jennifer was my old girlfriend and, unfortunately, is still the standard by which all of the women I've dated since have been judged. None, including Cathy, even comes close. It kills me to say that because it's not fair to anyone. Jennifer would probably laugh if she heard that. She'd say that if she was the best girl I ever had then I sure as hell never treated her like she was. She's right. I took a lot of things for granted back then and Jennifer was at the top of that list. Ever since she left I don't take anything or anyone for granted anymore.

I get up from the bed and walk over to the curtains. Pulling them back a bit I stare out into the early morning hours of the city. I always liked looking at the streetlights glowing in the darkness, each one a sparkling gem in an enormous ebony crown. Cathy's eyes are like sparkling gems. They shine with occasional mischief and unconditional love. Jennifer's eyes didn't shine. They hypnotized. I'd make eye contact with her and I couldn't shake it. It was as if she had my gaze on a string and was daring me to love her. And I did. More than anything, I did.

I feel a dull ache inside myself when I think about Jennifer. Cathy deserves so much more. She's always trying to make me feel good about myself, even when I am bent on self-destruction. She's always telling me how handsome I am and how much she loves me. She says what she likes most about me is that I'm always thinking of her whenever I do anything. She says I'm really sensitive. But I'm really just trying to atone for how I treated Jennifer. I do this hoping that somehow Jennifer will find out that I've changed and that she'll somehow and some way come back to me. I'm hoping that she'll find out how much I miss her and how much more I love her now that she's gone.

Somewhere in this darkened city, under one of the many streetlights that dot the night, Jennifer lies sleeping. Most likely she's in the arms of some guy who loves her as much as I do. Someone who appreciates her more than I ever did. A wave of self-loathing sweeps over me when I realize that I'd do anything to be in that anonymous bed out there in the night than here with my beautiful girlfriend sleeping five feet away. Having a wonderful person like Cathy, who will love me in spite of all my faults, and yet wanting someone I let walk away because of my own stupidity is the bitterest irony I know. But it's the truth. I'd give up Cathy in a second to go back to Jennifer.

Cathy's stomach rises and falls with every steady breath she takes. Why do I do this? Why do I prolong the pain of a fantastic girl like Cathy by participating in a relationship that is a romantic sham? It's not that I don't like Cathy or that I'm using her for sex. I do like Cathy. I care about Cathy. I want her to have a kind, loving boyfriend who respects her and cherishes her as much as she cherishes him. I force myself to believe that I do love her as much as she loves me. But for every

time I manage to do this, there are ten other times in which I realize that I'm not putting as much into this as I'm getting out. I'm only with Cathy because I'm afraid of ending up alone and unloved. I don't know what's worse: being unloved or living a lie by pretending you love someone when you don't. I wonder if Cathy knows any of this. I wonder if she would still love me even if she did. That's what haunts me the most: knowing that Cathy would probably stay with me no matter how I felt about her.

I pull on my shirt and jeans and steal silently out of the room. I can still hear Cathy breathing from inside the room. I've been on many of these midnight escapes. Cathy doesn't know about them because I'm always home and back in bed before she wakes up. I've never told her about them. I glide into the hallway and let our apartment door click shut with a whisper. I press the elevator button and wait for the doors to open. I used to wait and hope that one day the doors would open to reveal Jennifer standing in the elevator. She'd be coming back to talk, to maybe start things over. Now the door only opens to reveal an elevator so empty, it might as well be me.

The descent into the lobby doesn't take me long and soon I am bleeding out into the street. I take a deep breath of cool night air and begin walking up the street, hoping to God that I love Cathy enough to return.

Graham Rogers

## The Editor Speaks!

I would like to state for the record that it is our policy not to print anonymous articles in *mathNEWS*. Why? Well, ya see, ever since the Winter 1995 term, after the fallout from the infamous **Impotent** issue, it was decided that articles would only be printed if the author's name was included with the submission. Now, I did print one anonymous article last term (Volume 72, Issue 3). I felt the contents of the article weren't too severe so I printed it. However, after the issue came out, I had a lot of people come up to me personally and complain about it. So I'm not making that mistake again.

For any article to be printed, it must include the author's name. If you want your name to be withheld, please say so in your article. Thank you.

Brian "Calculus Cowboy" Fox  
Editor, Winter '97

## Cloud 9 still playing!

*March 21 and 22 @ 8pm  
Theatre of the Arts, ML*

Tickets available at Theatre Centre Box Office (Hagey Hall)  
or by calling 888-4908

*\$8 students and seniors / \$10 general public*



## Cloud 9 Turns Us Inside-Out

"Cloud 9" is about relationships – between women and men, men and men, women and women. It is about sex, work, mothers, Africa, power, children, grandmothers, politics, money, Queen Victoria and sex. It begins in 1880.

*"This is my family. Though far from home  
We serve the Queen wherever we may roam.  
I am a father to the natives here,  
And father to my family so dear."*

So speaks Clive, the British Imperialist, at the start of CLOUD 9, Caryl Churchill's wild, carnal romp. Clive is posted in Africa where he rules over everyone and everything: his wife —

*"I live for Clive. The whole aim of my life  
Is to be what he looks for in a wife."*

But the marvellous trick is that Betty, his wife, is here played by a male actor, reinforcing the image of a woman doing her best to satisfy a man's ideals. The crossgender casting is as painful as it is humorous. But there's more, for Clive also believes that it is his task to convert the Africans to British – read 'civilized' here – customs and behaviour:

*"My boy's a jewel. Really has the knack.  
You'd hardly notice that the fellow's black."*

Joshua, the servant, replies:

*"My skin is black but oh my soul is white.  
I hate my tribe. My master is my light.  
I only live for him. As you can see,  
What white men want is what I want to be."*

The play spins wildly as it explores sexual politics – the young daughter is a rag doll since little girls are not required to offer responses to the family; Clive, the Imperialist, is driven mad for Mrs. Saunders the liberated British woman whose bed he inhabits with the frequency of a rabbit; Harry, the Great White Hunter, expresses undying passion for Clive's wife all the while arranging sexual assignations with the black male servant and the family's young son. We are in a Victorian world where appearances matter and deceit and corruption are both forgivable and enthusiastically endorsed.

Act Two is set in present-day London. Churchill's coup is that she retains three of the first act characters – mother, son and daughter – and she ages them by 25 years, though the true passage of time is more than a hundred years. But we are now in a world where pre-determined roles – sexual, gender, etc. – don't exist and we learn that we have to make decisions for ourselves in order to be happy.

Victoria, the daughter in the first act who was a rag doll, is now in a marriage that has driven her slowly quite mad. She needs to explore her own needs and begins a relationship with Lin, a single mother who is also a lesbian; Martin, Victoria's husband, does his best to understand and accept her restlessness but not without problems of his own:

*"You think that I want to fuck Barbara. I don't. Well I do, but I won't. And even if I did, what's a fuck between friends? Don't cry again, Vicky, I'm not the sort of man who makes women*

*cry... My one aim is to give you rolling orgasms like I do other women. So why the hell don't you have them?"*

Perhaps the character Betty, who we met in Act One – the woman who thought her life's duty was to fulfill her husband's fantasy of a wife – best speaks for the playwright. In Act Two we meet her, now played by a woman, in mid-life. She has taken the huge step of leaving Clive, her husband, in the hope of discovering a life in which she can exist and be a full person:

*"I used to think Clive was the one who liked sex. But then I found I missed it... I thought if Clive wasn't looking at me there wasn't a person there... (after revealing to us that she has finally experienced sexual satisfaction through masturbation) Afterwards I thought I'd betrayed Clive. But I felt triumphant because I was a separate person from him. Sometimes I do it three times in one night and it really is great fun."*

And what has the play's title, CLOUD 9, got to do with all this? Caryl Churchill was interviewed prior to the play's premiere and said:

*(referring to the woman who ran the snack bar in the rehearsal studio and who had come into one of the company's chat sessions) "She came from a large, poor family, had married at sixteen and had a very violent and unhappy marriage, with no pleasure from sex at all... and after thirty years she had remarried. She told us in quite a bit of detail how she and her new husband gradually got their relationship together. Finally, she said: 'We may not do it as often as young people, but when we have our organisms [sic] we're on Cloud Nine.'"*



Photo by: Charmion Zoll

## Job Matcher

Reprinted from the April 1987 issue of COMPUTE!

Have you ever been in charge of dozens, or even hundreds of co-op students that needed to be matched with jobs? After stretching out the process as long as possible with a month of applying to jobs, and a month for interviews, it's time to get the students to rank their jobs and to somehow use those rankings to match student with jobs. This program will turn that easy task into a number-crunching week-long process, and that's just typing in the code! The original program is written for IBM PC and PCjr with 512K of RAM and BASICA or Cartridge BASIC. We've added versions for Commodore 64 and Apple II computers. The Commodore 64 version requires a joystick.

With co-op programs popping up at universities and colleges all over the country, we've received several letters inquiring about the Euchre program we printed a few years ago. Why? We have no idea, but we imagine that many of these institutions would find our job matching program useful. Originally programmed to help NBC schedule its shows, it was discarded when it said every NBC show should be on Thursday night. We have modified the code to match students with jobs.

The usual way to match students with jobs is the dart-board method. In fact, this method has historically received the fewest complaints; it's fast, it's painless, and it actually gives you a chance at getting that Microsoft position. For many years, a couple universities used the *How does it sound* approach. This involved sounding out the name of the student and the title of the job. Matching sessions sounded like "Bob Terrance, Data Entry Supervisor...Booooooob Terrrrrrance...Data Entry Supervisor...sounds like a fit!"

Job Matcher will do this task for you, in a fair and decisive manner. When the employers have given you their student rankings, provide this information to students to rank their interviews. Although where the students work for the next two work terms is an important decision not to be taken lightly, give the students only half a day to make their rankings. This simulates the chaotic nature of the business world. Take the employer and student rankings, and feed this data into the Job Matcher according to the version you have entered (see below). The program will only take a couple hours to display the final job matches, although it's recommended you wait a week to induce the right air of paranoia. Then, tell the students which job they got matched up with.

### IBM PC Version Notes

The IBM PC version of the Matching Program requires a few adjustments before you can actually use it. There is no user interface; instead you must enter in all the ranking and job information in the DATA statements at the end of the program. While this will take some extra work, the lack of an data entry interface streamlines the code, and allowed us to play a few more games of Arkanoid at lunch today.

### Commodore Version Notes

As it turns out, Commodore 64s have the ranking function burned right into the ROM. It surprised the heck out of us, and

reaffirms our opinion that the Commodore 64, or perhaps one of its descendents, will be the computer we'll be using ten years from now.

### Apple Version Notes

Left as an exercise.

### Job Matcher for IBM PC and PCjr

```

10 DIM JOB$(1-50)
20 DIM STUD$(1-50)
30 DIM SRANK(1-50)
40 DIM ERANK(1-50)
50 CUR = 0
100 WHILE STUD$(CUR) <> "END"
110 CUR = CUR + 1
120 READ STUD$(CUR), JOB$(CUR), ERANK(CUR),
    SRANK(CUR)
130 WEND
140 NUM = CUR
170 REM ERANK AND SRANK WILL BE THE RANKINGS OF THE
    EMPLOYER FOR THAT STUDENT, AND THE STUDENT FOR
    THAT JOB.
180 REM ERANK WILL BE SET TO 0 WHEN THAT JOB AND
    STUDENT ARE MATCHED
190 REM ERANK WILL BE SET TO -1 WHEN THAT JOB AND
    STUDENT ARE NOT
200 FOR A = 2 TO 10
210 FOR B = 1 TO NUM
220 TOTAL = ERANK[B] + SRANK[B]
230 IF TOTAL = A AND STUD$(B) <> "BRIAN FOX" THEN
    ERANK[B] = 0: SRANK[B] = 0: GOSUB 500
240 NEXT B
250 NEXT A
300 PRINT "MATCHED STUDENTS AND THEIR JOBS"
310 FOR A = 1 TO NUM
320 IF ERANK[A] = 0 THEN PRINT STUD$(A), JOB$(A)
330 NEXT A
340 END
500 FOR C = 1 TO NUM
510 IF C = B THEN NEXT C
520 IF STUD$(C) = STUD$(B) THEN ERANK[C] = -1:
    SRANK[C] = -1
530 IF JOB$(C) = JOB$(B) THEN ERANK[C] = -1:
    SRANK[C] = -1
540 NEXT C
550 RETURN
1000 REM DATA Student, Job, EmployerRank, StudRank
1010 DATA "Charlie Power", "Data Analyst", 1, 1
1015 DATA "Charlie Power", "Vacuum Tube Cleaner", 1, 2
1020 DATA "Manny Leggs", "Vacuum Tube Cleaner", 2, 1
1030 DATA "END", "END", 0, 0

```

### Job Matcher for Commodore 64

```

10 POKE 765, 13
20 END

```



## New MFCF Regulations

*From the Mega Frustration from Computers  
Foundation*

Starting immediately, the following rules will be in effect in all of the rooms with computers on the `undergrad.math` network:

1. No food or drink in any room with a computer. No bottles of any sort may be stored under the computer. Do not spit at the computer. All tears of frustration must be shed in the hallway. Do not even *think* about urination.
2. You will be held responsible if you damage equipment. If you do *not* damage equipment, by the contrapositive, you will be held *ir*responsible. If you continue speaking to me in that tone, you will be held in contempt.
3. Report software and system problems by using the `gripe` command.

Report printer problems to `operator@math`.

Report problems with room comfort (eg. broken chairs/tables, burned-out lights, annoying CSC members) to `operator@math`.

Report terminal hardware problems by using the `tgripe` command.

Report terminal disease problems by using the `jkervorkian` command.

Report runaway mouse balls by using the `runawayballs` command.

Report Elvis sightings by using the `elvis` command.

Report outbreaks of Mad Cow Disease by using the `mooooo` command.

Report Neil Young sightings to `idmillig@math`.

For **emergency** problems outside Production Night, call UW Kampus Kops at 4911. (If you can't remember that number, dial 9411.) They will attempt to contact someone, probably by smoke signals or nude semaphore. Response is on a 'best effort' basis, during normal waking hours (eg. 1400-1530) and is not guaranteed. To find Production Nights, finger `mathnews@math` or check the notice by the door to MC 3041. An **emergency** is a situation where you have no alternatives for completing work that MFCF actually cares about, and occurs about as often as a good Leafs' season.

4. Terminals are intended for those doing course work. They are not intended for:
  - impromptu soccer matches
  - facial tissues
  - large-calibre ballistic weapons
  - food (see regulation 1)
  - beachwear
  - 'Heimlich Maneuver' aids

5. Please keep noise to a maximum; computing areas are to be treated with the same respect that would be given to the MathSoc exec.

Mike "President of the Hammer Club for Men" Hammond

## gridCOMMENTS

Greetings, Gridders! I'm back! So to speak.

So, did you figure out the mystery? Who kidnapped me and all that? If you look at the Unconventional grid, you'll see that I'd taken M, E away. Did you notice what you get if you anagram the letters in my "roommate" 's name? So I kidnapped myself. And, oh, the trouble it seems to have caused me.

I had no idea there were vultures swooping overhead my whole time as Gridmonster. Did you see that Gridword wanna-be in Imprint? You disappear for just a little while and someone moves in on your territory. And you think you know who your friends are. I make a guest appearance in Mike Hammond's Y-naught Files and he slanders me. He says that I have a ponytail the size of a fat person from New Zealand ("a large Kiwi")! I mean, really! I just don't think it was worth all the effort and grief just to get an extension on Reading Week(end).

So on to more current matters. We got three submissions to each contest. We got one each from Ian Facey, Chris Wooff and Benton & Margaret. For the Cryptic, all three entries are judged correct. Chris Wooff and Benton & Margaret had adieus for 8 Across, and Ian Facey had my intended answer of adieux. I had wanted the latter because the X *should* be kept silent. But my dictionary disagrees. Since I have stated Merriam-Webster's Tenth Collegiate as my standard, I cannot disqualify the answers with S. By random draw, the winner is Ian Facey. For the Un-

conventional, Ian Facey and Benton & Margaret's entries were incomplete. Chris Wooff, however, had a perfect entry, so he takes the prize. Congratulations to both. Prizes available in MathSoc.

For this, my last scheduled appearance as Gridmonster, I give you a little extra trouble.

The gimmick for the Unconventional grid is that all occurrences of doubled letters are squashed into a single square. Nothing fancy at all. The trouble is that I've doubled up the clues, so that the Cryptic clue may clue the entry in the Cryptic grid or the Unconventional grid, and the conventional clue belongs with the other grid. Sixteen pairs of clues are correctly arranged, and sixteen pairs have been switched up. It should be easy to tell which word goes where, because each pair of answers has at least one double letter. If it fits the grid unchanged, it goes in the "Cryptic" grid. If it's too long, then the double letters get double occupancy and it goes in the "Unconventional" grid.

Since all this means that you can't really solve one crossword without solving the other, there's just one contest this time. But we're giving away both prizes to the winner. Send your solutions to both grids either to the BLACK BOX or email to `djrigby@undergrad.math.uwaterloo.ca` by March 31 at 6:30.

GGriiddbbyy

## Post-Teen Angst: I'm a Monkey — Eeep! Eeep!

*What the World Needs*

— or —

"Ooookay... Then we're looking for a little girl..."

There is much wrong with the world. Don't get me wrong, there's lots *right* with it, too, but there are biiiiiiig changes needed. But who would want to do all the work? (Not I, that's for sure.) So what I'm suggesting are a few small changes that would make this planet a nicer place to hang out. And you, Average Reader, can do these things, too!

"Ye gods, man! Don't go dragging *me* into the fray already!" cries Average Reader, aghast.

Let's say you decide that having start-up and shut-down noises on your PC isn't enough anymore. Instead, you want the world more like a cartoon, where *every* action has a sound effect associated to it. So shell out a couple of dollars and *do* it! I know *my* life would feel enhanced if every time I poked someone in the arm I heard a "poit!" in the background.

And that's just the beginning. Cheap, nifty little things that you can do to improve the lives of your fellow sentient. I've done so much already, and pretty easily at that. F'rinstance...

"Hoo-boy!" mutters Average Reader, "Another 'real' example. Great."

The other day I decided that the world needed more kawphy. So, I scared up my passport, a plane, a few parachutes, and a few elite members of the Polish mafia. We flew down to Colombia, and began our search. Pretty soon, I spied the mountain I was looking for, and we parachuted in.

I quickly found my quarry: a mule, laden with coffee beans. After Cezary and Marcin had worked him over for a few minutes, I delivered my message.

"Okay, Mule, here's a friendly little reminder for your boss. You tell that slacker Valdez that 100% Colombian ain't enough anymore. Ol' Juan just better step up production, or we'll do more than kick his ass's ass next time, capiche?"

Before you knew it, there were more coffee beans flowing out of Colombia than you could shake a stir-stick at. Mission accomplished — world kawphy consumption can rise accordingly.

Are you starting to follow me? Not enough comfy chairs in the world? *BAM!* A Lay-Z-Boy in every living room, lounge, and bus depot. Too many rabid *mathNEWS* writers frothing at the mouth every week — well, three weeks — about really, really goofy stuff and yet again doing that whole "stream of consciousness" thingy which wasn't all that funny (or easy to read) the first time, let alone the fifteenth, and he's just soooooo lost in his own little world that he'd never acknowledge, let alone listen to, any criticism of his work, his style, or his outrageous sideburns and why does that Cowboy let him print this crap every stinkin' issue and maybe I *do* know something that will improve *my* world a little bit which *also* involves elite members of the Polish mafia, and *also* involves an ass getting kicked and y'know maybe I'll just track down that long-haired be-sideburned **freak** and do it right *now!*

Uh. Right. So. Fix the world. Eh?

Ian "Neil Young Complex" Milligan

## Preclue #3

For this preclue for the upcoming Game this summer, answer each of the 26 trivia questions. The answers are all numbers. Plug the numbers into the equation below and calculate its value. Use the table at the bottom to find out which item you are to bring with you when you participate this summer.

The Game is a huge puzzle competition that will take its contestants around Southern Ontario this July. Each puzzle you solve sends you to a new location and one step closer to victory. To enter e-mail [djrigby@undergrad.math.uwaterloo.ca](mailto:djrigby@undergrad.math.uwaterloo.ca) and to get more information and track down previous preclues, visit our website at [www.undergrad.math.uwaterloo.ca/~djrigby](http://www.undergrad.math.uwaterloo.ca/~djrigby).

### The Formula

$$\frac{\frac{a-c}{b} - o}{d \times \left( \frac{e-f}{g \times h \times i} + \frac{j^k-l}{m^n} \right)} \div \sqrt[3]{q+r+s - (t \times (u-v) \times \sqrt{w-x+y-z})}$$

- a. Odds against a 13-0-0 bridge hand, written as "\_\_\_\_\_ to 1"
- b. Year of birth of the composer of the Unfinished Symphony
- c. EIEIO<sub>16</sub>
- d. Year of the largest jailbreak in history
- e. Number of attendees of all Major League baseball games in 1993
- f. Number of nuclear reactors in Canada outside Ontario
- g. Number of atoms in one molecule of TNT
- h. Year of release of the movie with the most extras in history
- i. Ordinality of *Guards! Guards!* in the Discworld series
- j. Length, in seconds, of the shortest published opera ever
- k. Number of letters in the International NATO alphabet that are also common names of dances
- l. Number in the title of the winner of the 1968 Academy Award for Special Visual Effects
- m. Number of World Heritage Sites located in Canada
- n. Number of the sign in the lunar cycle in the Chinese calendar corresponding to the Tiger
- o. Number of rods in a standard pole
- p. Meaning of ४ in Hindu numerals
- q. Phone number in Rockwood, Ontario of "Death, Ray" without area code
- r. Number of the most watched Super Bowl
- s. Time difference between Washington DC and Moscow, Russia, in hours
- t. Difference in height, in feet, between the two towers of the World Trade Center in New York City
- u. Winning time, in minutes, to the nearest minute, of the 1995 Boston Marathon
- v. Journalists' code for the end of a story
- w. Name of the band winning the "Best Video" award at the 1992 Canadian Music Video Awards, ignoring punctuation
- x. Number of Canadian embassies abroad
- y. "Total of the ASCII values of the letters within these quotes"
- z. Number of characters that appear as capital letters in all three of the Roman, Greek, and Cyrillic alphabets

#	Item	#	Item
1	postcard from abroad	14	stopwatch
2	tape measure	15	two flower pots
3	ski pole	16	pressure cooker
4	1963 VW Beetle	17	vanilla extract
5	ball of string	18	first-aid kit
6	lifejacket	19	French-English dictionary
7	ping-pong ball	20	kettle
8	thermometer	21	toilet paper roll
9	Rubik's cube	22	<i>Feet of Clay</i> by T. Pratchett
10	calico cat	23	oriental rug
11	white tennis ball	24	almanac
12	fishing pole with lure	25	sextant
13	bronzed underwear	26	thermos



# mathNEWSquiz #4

What are you people... on dope?

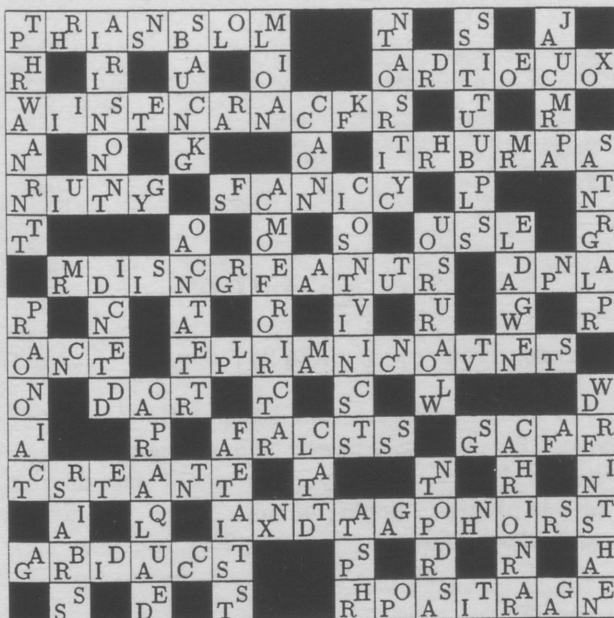
Greetings, squiz-people! So how 'bout them midterms? Yadda, yadda, yadda. 'Kay, enough chit-chat. Here's the answers to last issue's brain-busting questions. **Song Lyrics:** 1) "Fight For Your Right", Beastie Boys; 2) "Three Little Pigs", Green Jelly; 3) "Back to Life", Pink Floyd; 4) "Shape of My Heart", Sting; "Gump", "Weird Al" Yankovic. **Knight Rider:** 1) Garth Knight; 2) Knight Industries Two Thousand, Knight Automated Roving Robot, and Foundation for Law and Government; 3) Michael Long, police officer; 4) 1982 Pontiac Trans AM; 5) Two: "Goliath", and "Goliath Returns". **Zoodles:** 1) Elephants, lions, zebras, giraffes, and later hippopotamussesesi; 2) Libby's; 3) "I just had a hippopotamus for lunch!"; 4) Yes (if you answered any of the other questions correctly); 5) Alpha-geggi, Real Ghostbusters, Scarios, and Spider-Man (to name a few). **Movie Quotes:** 1) "The People vs. Larry Flynt"; 2) "The Preacher's Wife"; 3) "My Fellow Americans"; 4) "Evita"; 5) "Groundhog Day".

Okay, this time we got four submissons. Well, getting better than the two we had last issue. And those four respondants were: Benton & Margaret (5), Greg "Hologrami" Taylor (8), Ian "The Word Guy" Facey (13), and our winner with fourteen points — Chris Wooff. You can pick up your prize (as well as a gold star for good attendance) in the MathSoc office.

And now, on with the Squiz!

## Ireland: Northern and Republic of

1. What is the political branch of the IRA called, and who is its current leader?
2. On what date did Ireland withdraw from the British Commonwealth?
3. Name the former Northern Ireland counties (all five of 'em).
4. What years did the Irish Potato Famine span?
5. What was (Saint) Patrick doing in Ireland (before he drove all the snakes out)?



## Laundry

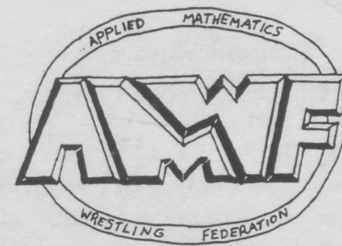
1. What three colours are used in laundry tags — y'know, the thingies you always cut out of new t-shirts — and what do the colours stand for?
2. What is the bleaching ingredient in Javex?
3. What water temperatures (for wash and rinse cycles) should you use on a white load?
4. How do you get a blood stain out of a garment?
5. What do most dryer instructions recommend you do before starting a load to ensure the best dryer efficiency?

## Movie Quotes

1. "You are everything I never knew I always wanted."
2. "Disc jockeys are dogs. Your job is to make them fetch."
3. "You screwed up my childhood!"  
"How could I? I wasn't even there!"
4. "If you didn't kill him, then who did, sir?"  
"Who can say? Best thing for him, really. His therapy was going nowhere."

Good luck kiddies! And we'll even toss in a bonus point if you can name the movie the subtitle came from. Toss your submissions into the BLACK BOX or e-mail them to scepollo@undergrad.math by 6:30pm on Monday, March 31<sup>st</sup>.

Mike "Hammer" Hammond  
John "O'Wannabe" Swan  
Ian "Neil Young Complex" Milligan



## TensorMania '97 is coming!

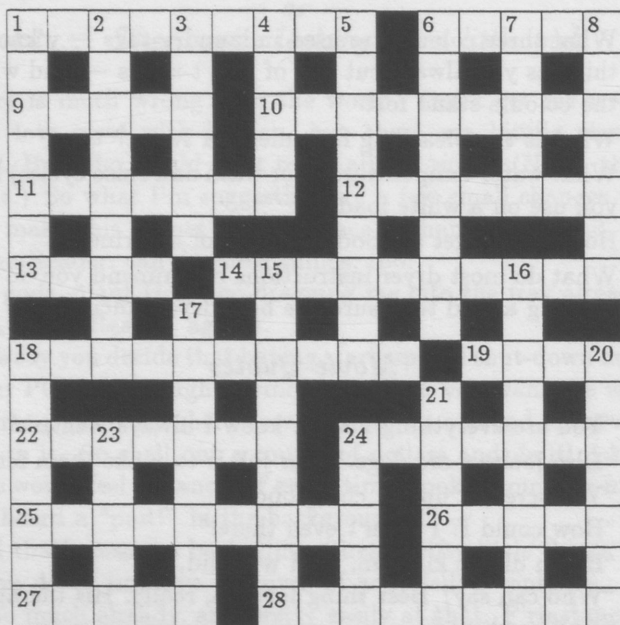
TensorMania '97 is almost here! The Applied Mathematics Wrestling Federation, with its new logo, is getting ready to put on a top notch show!

In a gruelling test of intellect, Analysis Girl takes on the Princess of PDEs in a no time limit match. See who converges to victory as  $t \rightarrow \infty$ !

The Derivative of Death takes on Dr. Manifold in a slide-rule match! The Small Harmonic Oscillators meet The Killer Eigenvalues for the tag-team belts!

And in the main event, Klein Bottle Kevin takes on the Möbius Stripper inside an 8 foot steel cage! The first to find an accurate way of modelling turbulence and leave the ring wins the match!

Never again will there be such a display of mathematical prowess! Call your cable company and order today!



## Grid Clues for Double Trouble (Cryptic and Unconventional)

### Across

1. Auditor's absorbed unsatisfactory pages, finished.  
Egoism
6. Fortune teller describes, for example, singer Pete.  
Main artery
9. Retroactively measured speed to take the lid off.  
Permit
10. Terribly sore diver cancels procedure.  
Having no horizontal ridges, as a hill
11. Sleeping bag is sort of funny.  
Prints with gold
12. Tugboat's direct connection to power surges.  
Ordinary clothes, as opposed to military uniform
13. Skin discoloration for tit's partner, also.  
Instigators of the "Tie One On" campaign (abbr.)
14. Soon merger falls apart in actors' lounges.  
Underhanded behaviour
18. Get on the good side of hole between zero and one during talk.  
Gas cylinder fillers
19. Gets old book, basically, without cover.  
Reddish hair dye
22. By close uncle and family doctor, roof cannot be tapped.  
Gospel writer
24. Redesign lot trial about the beach.  
Phaser, sometimes
25. Driven to guessing at offer.  
Kitchen utensil
26. Fighting eel makes dash back.  
Pliant

27. Adding phosphorus into baby plant makes it go too fast.  
Conchs and sanddollars
28. After a rush, copper left and dined on train again.  
Opposite of Skid Row (2 wds)

### Down

1. Most downtrodden actress McClurg lives in birdhouse?  
\_\_\_\_\_, thank you ma'am (2 wds)
2. Shake booty as low as you can go.  
Made a reference about (2 wds)
3. Ma spies, breaking deadlock.  
Rendez-vous
4. Nonsense! God takes nothing back.  
Copies of mathNEWS
5. He won't drink pekoe, also, I hear from higher-up.  
What some small credit companies do to all applications
6. Sifted flour's covering row—it's sad.  
Anteater
7. Radiologists initially spot two arm bones.  
Lizard
8. Helps people who believe in The Donkey?  
"Colourful" little fruit
15. Grand fossil breaks if ever beginning CPR. (3 wds)  
What downpours pour down
16. Large load spruced up special part of cell.  
Teeny-weeny baster?
17. Seat dividers and busts have mass.  
Kept inside
18. Show disapproval in situations about railway cars.  
Beats to a pulp
20. She, the First Lady, has, primarily, role of  
old-fashioned sheriff.  
Rich
21. Hear cows talk about dress.  
Authenticates
23. Laugh at performance on broken leg.  
Costumes of Ancient Greece
24. Peers will go wild on shopping trip.  
Places to bowl

## CAPUTE!

*Reprinted from the June 1987 issue of COMPUTE!*

The Job Matcher program published in the April 1987 issue of COMPUTE! is seriously flawed, and will destroy the contents of any hard disk connected to your system. Please discontinue any use of this program, unless, of course, you're really stuck for a Job Matching program.