## 

Volume 42 Number 6
Friday, November 14, 1986
Special Cary-Finds-A-Place Issue!


## LookAhead

Co-Oops Only<br>Fed Flicks \$1 Feds, $\$ 3$ others<br>Nov 14 - Nov 16 Rocky IV<br>Nov 21 - Nov 23 Down \& Out in Beverly Hills<br>Cinema Gratis 9:30 in the CC-it's free!<br>Nov 19 American Graffitti \& Icarus<br>Nov 26 Atomic Cafe \& War Games<br>\section*{UW Arts Centre}<br>Call 885-4280 for more info and tickets

## Other Events

Nov 15 CSC Othello Tournament
Nov 16 Buffalo Bills Roadtrip
Nov 19 Rocky Horror Picture Show
Nov 20 Campus Vacation Cruise
Nov 21-23 Naismith Tournament-Homecoming

## mathNEWS

Nov 24 Issue \#7 submission deadline.
Nov 24 Next production night
Nov 28 Next mathNEWS comes out


## Co-op Notice

Students in the Math Teaching Option program are reminded that their employer interviews will run from Monday, November 24 to Friday, November 28. Job ranking forms can be picked up after 11:00 A.M. on Thursday, November 27. Completed job ranking forms must be submitted to the reception desk in Needles Hall before noon on Friday, November 28.

> Center of Gravity

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Editor: Paul D. Obeda

## Prezz Sezz

United Way, UNICEF, Rick Hansen, MGB-what next? Remembrance Day and poppy season. I'm sure that every one of you has at least heard of one of these fundraising events. If it's driving you crazy, then relax. If it isn't, great.

How much is really a dollar, especially when you know it is for a good cause. And when you get something in return like a free coffee with a purchase with the United Way and MGB buttons, then it can't possibly hurt your pocket. This is nothing to what it will be like when you are working full time-then, people will really be crying for your money-big bucks, too.

Thanks to Lisa Budnick, your VP for getting the idea rolling, and to Gail for the artwork, the Math Society now has a Mathematics poster that may or may not have any representation of math, depending on your interpretation of it. The cost is $\$ 3.00$, and money made will be donated to charities. Up until the end of term, any monies made will go to Rick Hansen's "Man in Motion" tour. (A note of interest-there is a bet going on where, if UW collects more than $\$ 10$ 000, Fed Prez Scott Forrest and VPUA Matt Erickson, and Arts Prez Willy Grove will crop their hair. So buy buttons, posters, T-shirts, and go to the basketball game.

It has come to my attention that certain people on several committees are not carrying out their responsibilities when asked to do so. If you have signed up to help at a specific time, then you have made a commitment for that time. We all have a lot of work, but an hour of your time really isn't much. If you can't make the time, then find someone to replace you. It is only a matter of consideration and respect for others who do work fulfilling your voluntary duties. If you don't want to help then simply don't volunteer. Many thanks to those who do help.

Some of you may have heard about a reduction in required credits for certain programs. All of the details have not yet been worked out. The finalization probably won't be till December, so don't bother trying to get info regarding this since it might not be accurate. Take note that this will not apply to all majors. MathSoc will be informed, and we in turn will let the students know, or else wait until next term when the calendar comes out. You will still be required to follow a certain calendar and fulfill all of its requirements-not some of one and some of another.

It was great to see all you grads out for the class picture for the yearbook. We still can use your help.

Remember to vote on Nov. 17 \& 18 for the summer executive: Prez, VP, and Treasurer. Good luck to all candidates.

## A Note From the Editor

Well, after two years the UW Gazette has finally changed its tune. Once "Adamant" about the use of dark Shadowed Boxes, they are now willing to use a Shaded Box with such a headline as "Bright Idea". Although the headline admittedly wasn't related to the fact that a Shaded Box was being used, it wouldn't be half as fun left in context.

It has been shown by a practical application of the comparison test that The Other Brand has properties superior to those of Saran Wrap. So don't say that there's nothing to learn from mathNEWS.

Many thanks to all who helped with this issue. Those whom I can recall as I type this (as usual, in no particular order) are: Andrew Tron, Rob Harnden, Kerry Garnier, Bonita Gionet, Lisa Seabrooke, Wilma van der Veen, Barb Palmer, Nancy, W.Jim Jordan, Frank Letniowski, John Omielan, Tom Ivey, dan schnabel, Fozz (but we'll run his article next time ...), Jan Gray (ditto), Rob Muir, Camille Goudeseune, Paul Fellner, Steve Rapaport, Dan Kermode, Kevin Rockel, Cary Timar, the mathNEWSquizmaster, the summer MathSoc exec candidates, and a whole bunch more.

Our final mathNEWS of fall term comes out in two weeks, on November 28. Watch for it. And ask in the MathSoc office about subscriptions for the Winter term.

And don't forget to vote on Monday or Tuesday!
Paul D. Obeda

## Football Warriors Don't Lose

The season ended two weeks ago, so they haven't had the chance to lose recently.

Regarding the unsubstantiated rumour printed here last issue: apparently the football team has signed a contract to play another exhibition game against the Wilmington (Ohio) College Fighting Quakers.

## How to Relax and Write Exams

Practical suggestions for studying for and writing examinations will be given by the reading and study skills counsellor, Laurel Thom.

Instructions for easy-to-learn techniques for relaxation before and during examinations will be given by Ron Walsh of Counselling Services.

Monday, November 17, 1986
4:30 to $5: 30 \mathrm{pm}$
MC 2065
Sponsored by MathSoc and the Faculty of Mathematics.

## U of W Homecoming '86

Math students, here it is again, that all-famous weekend extravaganza of fun, Fun, FUN: Homecoming '86. You are invited to join in the festivities as we catch the spirit and celebrate our pride in the University of Waterloo on November 19 through 23.
"What is Homecoming?", you may ask. Homecoming is the exciting weekend event during which events take place: interesting, stimulating, fun-filled events in which everyone can participate. Homecoming is a great way to meet new people and to reestablish friendships from years past. All the events are geared toward enjoyment and relaxation.
"What kind of events are offered?", you may ask. For starters, all weekend long, beginning as early as Wednesday, there will be an array of sporting events, both recreational (the HKLS Fun Run) and 'serious' ones, such as the Naismith Classic Basketball Championships. In addition, there will be seminars, and a number of pubs to attend, including a continuation of last year's 50 's and 60 's "Reflections" night: "Reflections II" at Fed Hall, Saturday. Our own society is organizing a showing of The Rocky Horror Picture Show on Nov. 19 and a campus vacation cruise to 6 ports of call (I.D. required) on Nov. 20. The above list is but a small sampling of what is available. Tickets for the cruise and more information about homecoming are available in the MathSoc office.

There are a lot of chances to win a number of prizes which will be given out at many of the events, so don't be left out. If you were here last year, you will remember how quickly tickets sold out, so get your friends together and buy those tickets soon! Don't say we didn't warn you .... And keep your eyes open for a special event going on during homecoming weekend when you are sent to meet your match (!). Remember, this is your homecoming so join in the festivities and

CATCH THE SPIRIT, WATERLOO !!!

# Important Election Notice 

## Reading this notice will bring you good luck

Mathsoc Elections for Executive of Summer ' 87 happen on November 17 and 18 . Candidates are:

President

Brian Capstick
Bill Tilford

Vice President<br>Lisa Falco<br>John Herbert

Treasurer
Elizabeth Doesborgh
Paul Obeda
Election booth on third floor outside C\&D. Booth open 8:30-4:30 on both days.

## Old Exams

Not only does MathSoc make available old finals and midterms for most Math courses and some electives, they accept them as well. As you get all your midterms back, please go to MathSoc, copy them at their expense, and leave them a copy.

Common electives are especially needed since they are now kept on file in MathSoc. If there isn't a file for the exam you bring in, get the office worker to make one.

Thanks.

## The Mousetrap

The Creative Arts Board is bringing Agatha Christie to town!
The legendary Queen of Crime will be at the Theatre of the Arts this November in the form of her famous play The Mousetrap.

Adapted from an earlier short story "Three Blind Mice", the play was originally written for radio and first broadcast in 1952. Later in that same year it was staged in Nottingham, then moved to London where it established several stage records. In 1977 the London company celebrated the twenty-fifth anniversary of the fun at St. Martin's Theatre. The play has over the years been presented to over four million people in forty-two countries. An impressive record indeed!

Here in Waterloo, Director Ian Chaprin and his talented cast are enthusiastically putting the final touches on the Creative Arts Board's major production for the fall term. Following on the heels of the immensely successful revue 'High 80 's' this summer, The Mousetrap promises to be the highlight of the entertainment season.

The play will be performed from November 27 to 29 at the Theatre of the Arts in the Modern Languages Building. Curtain time is 8 p.m. General admission is $\$ 5.00$, $\$ 3.00$ for Feds.

Tickets will be on sale at all BASS outlets as of October 20. So come match wits with the rest of Kitchener-Waterloo and try to guess 'whodunnit'. Don't miss out on the fun!

## Prof Quotes

The last issue of mathNEWS saw the publication of our 400th pro fessor quote. The tradition continues....
"It takes years to learn the art of lecturing when you have no knowledge"
J. Hepburn, Chem 123
"I'm assuming you know what $\sin x$ looks like. It's got a nice graph. The same for $\log x$. Beautiful graph."
J. Wainwright, Math 140a
"That's the second time that chair's attacked me today."
Ken Woolner, Phys 364
"Oh shit! I hope you didn't copy all of that,.... What am I doing, that's my 2:30 lecture."
W. Cleaver, Bio 114
"If you believe that formula you write down the same formula with tiddles"
D. Siegel, AM 481a
"Ideas spread slowly, genes perhaps a lttle faster."
HII, Anth 101
"Every man has the right to go to hell in his own manner."
Wentzell, Math 130a
"The hoping step I shall denote by neither a happy face nor a sad face."
F. Goodman, AM 270
"Galois died at the age of 23 , marvelous."
D. Jackson, C\&O 230
"It is really difficult to imagine this if you don't use your imagination."

Zeidan, Math 230a
"The accountant can do that. It's that easy."
R. Brown, Actsci 463
"Let's pause and reflect on what the hell is going on here."
John Baker, Math 230a
"You should shoot me right now ... you really should."
Bev Marshman, AM 371
"This makes it a real integer"
D.D. Cowan, CS 240
"Yes, Jackson's first name was Michael, so we have here the Michael Jackson decomposition technique."

Henry Hoeksma, CS 430
"I know it looks like the hairy-fairy el crapo junk you've been forced to take for the last couple of years."

Rob Brown, Act Sci 222

[^0]K. Rowe, Math 234b
"It's one of the few great war movies. There's no women in it."
Rob Brown, Act Sci 463
"You better close your eyes, this is too advanced."
Mike Best, Act Sci 335
"I'll use my decadent American accent."
D. Siegel, AM 481a
"Most of these films were made by engineers, unfortunately."
W. Hui, AM 466
"I can't find it.... I've lost my function."
Beaumont, Math 130a
"You can push it out of this room, even out of this campus but it will still keep on flapping."
R.A. Wentzell, Math 230b
"A natural minor scale always makes me feel like there's shit on the boots."

Leonard Enns, Music 250
"I really wish you had not found that arithmetic error. This would have been a beautiful example."

Wolkowicz, C\&O 350
"You know what I mean be a small animal - something that gets eaten."

Frank Goodman, AM 270
"... nipples go into the microwave for six minutes until they are sterilized."

Lud Piron, Bus 352
"The bigger he is the bigger he gets."
Stavros Christodoulaki, CS 438
"We now give these guys some teeth."
F. Goodman, AM 270
"Get a Ph.D and you can do things like this up here."
J. Hepburn, Chem 123

## CSC Flash

This coming week there's loads of stuff happening in the CSC.
This Saturday is the Third Annual CSC Computer Othello Tournament. Entries are still being accepted. The games will take place in the Math Building somewhere; inquire at the CSC office opposite MathSoc for details.

On Tuesday next week at 7 pm in MC3003, A.K. Dewdney, writer of the Computer Recreations column in Scientific American, will be speaking on Tuesday next week at 7 pm in MC3003. I don't know exactly what he's talking about yet, but by the time you read this, posters will abound, telling you all about it. Anyway, it should be interesting; come on out!

On Thursday next week, Mike Bayer of Apple Canada will be talking about Apple's network strategy and plans for the future. Once again, look for posters or inquire at the CSC office

# Quebec Winter Carnival 

Feb 13-15 \$120<br>Tickets on sale Monday, November 17 10:30 am in the MathSoc office

The bus will depart from UW with a stop at York Mills Subway Station in Toronto.

## Election Time

Well everyone, elections are coming up again. You know what elections are, don't you? Those are the strange events that give everyone a chance to vote and voice their opinions and which hardly a soul partakes in. The famous line "Don't give me a hard time for not voting" isn't going to hold much ground. If you are so apathetic that you cannot take three minutes of your time to vote, can you imagine if everyone took this attitude? First of all, this would totally eliminate MathSoc. With that gone, kiss goodbye to the Wine + Cheese, car rallies, road trips, the photocopier and everything MathSoc has a hand in, including this very paper you enjoy on Fridays! Did you realize that the $\mathrm{C}+\mathrm{D}$ was started by a single math student some years ago? Yes, a single student started a 'coffee and donut' stand and now look at the operation. The present $\mathrm{C}+\mathrm{D}$ pays the rent for the lounges where it has put all the furniture that I see a lot of people using each day. Now if you had been at the general meeting a few weeks ago, you would have known that. In fact, not even all of your class reps showed up at the general meeting. That is the time of year when issues concerning all Math students are voted upon. Issues such as MathSoc fees, changes to the constitution, and any others you can think of. Besides, there is always lots of free food so by not attending, you lose out even more.

So stop being such a stick in the mud. Get out and vote on November 17 \& 18 for a new MathSoc Executive. Do you realize that the last election for this term for these positions was Jan '84? Everyone is able to vote in this election so take a few minutes of your precise time and vote. After all, the more people that vote, the more work for me but really, I don't mind!

CRO
Garth
Here's what the candidates have to say:

## President

## Brian Capstick

Can you say overkill? There are those candidates which will plaster walls and doors with posters in an attempt to get their name(s) known. I'd rather let my participation and enthusiasm speak for itself.

People have been asking me why a second year student is running for MathSoc President. As it turns out I think I'd make a good president. After being a member of the ' 86 Orientation Committee I have continued to be involved int the day-to-day operations of MathSoc.

My experience as a class rep, office worker, SAC rep, Speaker for MathSoc executive council, and one of the five members of the $\mathrm{C}+\mathrm{D}$ operations committee, has given me ability to effectively manage the presidency.

My name is Brian Capstick and I know I can make a good president. Give me the chance to make your summer a lot of fun.

## Bill Tilford

Good morning class, today's topic is group sex ... Now that I have your attention, my name is Bill Tilford and I am running for MathSoc President. I am in 3B Co-op Math/Bus. My experience on campus ranges from Class Rep to $\mathrm{C}+\mathrm{D}$ committee member; Speaker of MathSoc to President of an influential campus club with over 100 members.

In my 3.5 years in the Math Faculty and MathSoc there have been a number of things which have caught my interest. Here are some ideas I would like to implement:

- Coherent Math Course Description Booklet written by students for students-to aid in course selection.
- More publicized knowledge of the results of Professor's evaluations-to aid in Professor selection.
- Improving Inter-faculty relations and competitions-to aid in elective selection and ... !?!

In addition to these ideas, social activities for ALL Mathies will play a vital role in my term as President.

I hope I can count on your support on Nov. 17 \& 18. Don't forget, vote W.E.T. (William E. Tilford). ... And feel free to approach me if you have any questions about today's Topic!?!

## Vice-President

## Lisa Falco

Yes Folks, it's election time again! My name is Lisa Falco and I am in 2B Computer Science. I am running for the position of Vice President because I would like to help make the summer of ' 87 a good one for all of us.

Spending a summer term at UW is a special time. Since there are fewer people on campus, this requires that campus groups work closer together and I would like to see that MathSoc keeps involved in all important events.

Currently, I am MathSoc office manager and as such, I spend a great deal of time in the MathSoc office. Because of this exposure, I have good knowledge of the kinds of things that go on within MathSoc. I also feel that I have shown commitment as office manager. It is this type of commitment that leads me to believe that I will do a good job for MathSoc. So, on Nov. 17 and 18, vote Lisa Falco for VP.

## John Herbert

When I heard that it was election time again, I said, "Why not!" So with the encouragement of a few friends, John Herbert officially threw his hat into the Vice Presidency ring. (Ouch, did I actually use a cliche.)

In the two years as a student here, I have come to understand and experience the problems and needs of the UW mathie. Although the position of vice president doesn't carry enough power to challenge problems such as underfunding and the housing crisis, I hope to be able to voice your opinions and help find the right people to help organize your summer events caldendar.

Not being affected by the apathy outbreak, I have been able to participate in the ' 86 orientation committee, be a MathSoc office worker (MWF 11:30-12:30). I have also been appointed to the Board of Academic Affairs and a tutor a Math 134A class. All this has given me the experience and confidence I felt a candidate should have.

But all this has just been words on paper. Please take the time to speak to me as I am usually wandering around the 3rd floor, avoiding classes. Let me have a chance to convince you of my enthusiasm and dedication to the position of MathSoc's summer Vice President.

Continued on page 7
It had to happen. The University is n't big enough
for both of them.
SQ MathBunny Wo EKe SUPener Geek

* If Jim Davis can do a stupid fat cat,
can do a bunny. - Heme-



## Continued from page 5

## Treasurer

Liz Doesborgh

My name is Liz Doesborgh and I am running for treasurer of MathSoc. I am in third year Math-C.A. and have been involved in MathSoc for three terms; two as a class rep., and one as council secretary. I was also V.P.Finance for two years in Junior Achievement. If I am elected as treasurer, I will give the responsibilities assigned to me the attention and dedication they deserve.

## Paul Obeda

I also am running for the position of MathSoc Treasurer for the summer term. I have been involved with mathNEWS since my frosh term two years ago, and am editor this term. (Yes, it's really true. See page two.) As editor, I am responsible not only for the content of mathNEWS, but also the organization of the rest of the staff, and looking after the financial aspects of the paper.

Now, I'm interested in applying my experience to MathSoc. I know that the Treasurer is in charge of other people's money. I will try my best, if elected, to ensure that your money is spent carefully.

If you have any questions for me, I would invite you to get in touch with me through either MathSoc or mathNEWS, and I will try to get back to you as quickly as I can.

So, on Monday or Tuesday, VOTE!

## WhenElse

## mathNEWS 10 years from now

Here are a few predicted headline stories in mathNEWS ten years from now in 1996:

- Co-op fees have surpassed $\$ 10,000$ per semester.
- Jim Jordan is still working toward his BMath degree.
- UW officials are once again predicting that the William G. Davis computer building will be completed next year.
- The Warriors band runs for and wins the Fed presidency.
- Tom Allison returns to become UW president.
- Imprint goes into the bird-cage lining business and the Chevron takes over.
- IBM acquires UW, Digital cries foul. IBM terminates all other partnerships in the ICR. The end of readnews is predicted.
- The entire CS department is moving to the University of Tennessee.
- Co-op students are beginning to earn more than the professors.
- BMW opens a campus branch.
- The Warriors band signs a $\$ 1$ million recording contract.
- Athletes are paid $\$ 1,000$ each to not play football.
- mathNEWS wins the Pulitzer prize for the fifth year in a row.
- Campus is evacuated as village cafeteria kitchen doors are left open overnight.
- Extraterrestial beings are in an uproar over differential fees.

The mathNEWS staff

## Feds

The Feds recently appointed Alexa Clark as Director of Watpubs. If you have any questions or ideas or want to run Watpubs in any city, she can be reached thru MathSoc or the Feds.

Rick Hansen is scheduled to roll thru Waterloo on Dec. 2. Posters are on sale in MathSoc or at the Fed office to raise money for Rick. Donations will be accepted at the door at Fed Hal on Friday, Nov. 28. If UW raises $\$ 10000$, our beloved Fed president, Scott Forrest \& VP-University Affairs, Matt Erikson have promised to get a very, very short hair cut.

The Feds recently won their case against the Waterloo Bylaw limiting households to 5 unrelated people because it is clearly prejudiced against students and relation should have no effect on the number of people allowed in one household.

Any Fed questions or concerns can be left for me on the Fed Board in MathSoc.

Brett Martin

## Car Rally

The Fall ' 86 Car Rally was held a couple Saturdays ago. The results were:

First Place: Car \#4 186 2/3 points
Driver-Michelle Braddock
Navigator-Jackie McManus
Backseat Driver-Nancy Smith
Second Place: Car \#12 $1832 / 3$ points
Driver-Stephen Utter
Navigator-Louise Brisson
Third Place: Car \#10 166 points
Driver-Ted Schnarr
Playboy Bunny-Mark Rutledge
On the Scavenger Hunt side, car \#4 got the biggest leaf (an eight foot palm), worth six points, and the biggest piece of driftwood (about eight feet long) for five points. Most cars got the garbage bag full of leaves for six points. (Ichabod's didn't seem to like this too much.)

All 17 cars that started managed to make it to the finish at Ichabod's. The lowest score was car \#9 with -60, but even they seemed to have a good time. Thanks to Wally, Lisa F., Norbert, Peter, Caroline, and Craig for helping out. See you in May, '87.

Brett Martin


> IMPERUMS TO ORDER

(Role-Playing and War Games)
103 CUEEN ST. S. KTCHENER ONTARIO,N2G-IWI (519) 744-3831
$10 \%$ Off With This Ad
Valid Until November 27, 1986

## Calendar Update

The following course descriptions have accidentally been omitted from the 1986－87 Undergraduate Calendar，and are printed here for your convenience．

## MTHEL 295／395 S 2C，3L 0.5

Chinese Menu Reading
Introduction to ordering Chinese food，using the Chinese portion of the menu．Topics covered include：recognition of symbols for meats， vegetables，cooking method and prices；pronunciation of words in several dialects and the theory of chopsticks．Field lab emphasises practical aspects．
Lab Fee
Nominally called MTHEL 295，but renumbered MTHEL 395 for large classes．
At most one of MTHEL 295， 395 may be taken for credit，though students may wish to re－take this course two terms later．
Offered Spring Term only，so foreign students can be used as instructors without jeopardising their studies．

## Recommended prereq／coreq：CS 354

## STAT 376 <br> $\begin{array}{lll}\text { F，W，S } & 2 C, 1 T \quad 0.5\end{array}$

Bookmaking
Study of betting on sporting events．Both legal and illegal betting methods are studied，with emphasis on Las Vegas and London book－ making．A project which requires practical application of the theory may be assigned，with proceeds being split $50-50$ with the University in exchange for legal protection．
Prereq：Previous fraud conviction，clairvoyance regarding future，telek－ inetic ability or consent of instructor．

## CS 007 <br> W，S 3C，3L <br> 0.0

## Penetration of Secure Computer Systems

This course emphasises the practical aspects of obtaining access to cor－ porate，government and university databases，with emphasis on trade secrets，credit ratings，criminal records and decryption methods．
Service course；no credit offered．Students who successfully complete this course will already have credit for it．

ANTH 337
F，W，S $3 C, 1 S \quad 0.5$
An Ethnological Approach to the Keener
Preliminary course in identifying and classifying species of keeners． Emphasis on evolution of keener characteristics．Both the environ－ mentalist and nativist views will be studied．

## PHYS $294 \quad$ F $3 C \quad 0.5$

Recreational Nuclear Physics 1
Study the development of the cyclotron，linear accelerator and syn－ chrotron．Learn how to build one in your basement，back yard，city block or environmentally protected area，depending on scale of pro－ ject．
Coreq：PHYS 294L
PHYS 294L F 3L 0.25
Recreational Nuclear Physics Lab 1
Solve practical construction problems and perform selected subatomic particle collision experiments，including the discovery of the inter－ mediate vector boson．

PHYS $295 \quad$ W，S 3C 0.5
Recreational Nuclear Physics 2
A study of the implications of nuclear fission and fusion．Physical， biological and recreational aspects will be discussed．
Coreq：PHYS 295L

## PHYS 295L <br> W，S 3L <br> 0.25

Recreational Nuclear Physics Lab 2
Build a working thermonuclear device or efficient fusion reactor． Lead shielding provided free for those who do not wish to participate in the biological mutation portions of the lab course．Fissionables and deuterium－tritium supplied at extra cost．
$\begin{array}{llll}\text { PMATH } 980 & \text { W } & \text { 2C } & 0.5\end{array}$
Mathematical Discovery and Ingenuity
A study of about 100 unsolved problems taken from many areas of mathematics－Fermat＇s Last Theorem，the Poincare Conjecture，etc． Students will be expected to prove at least three of the problems presented in this course．
dwarf
Curriculum Consultant Moose Resident loonies of the CSC

## ElseWhen

## mathNEWS ten years ago

COURSE CHANGES－The Mathematics Faculty Council has approved the recommendations of the Curriculum Committee for the following new and revised courses：CS 340 （Data Structures），CS 342 （Machine Structures），CS 442 （Comparative Programming Languages），CS 448 （Introduction to Database Management）．
NEW RESEARCH AREA－Lately there＇s been a lot of work done on portable software．On Unix，there＇s been effort put into making C programs portable，and there＇s a Port group who are currently working on a portable operating system for small computers．．．However，there is someone who is pioneering a brand new field of portability：Portable Documentation．．．The last time I saw this person，he was hard at work on Unix，but he took time to explain to me how he was trying to port one of Unix＇s explain files down to the Honeywell．He said it was a very difficult task，but he was greatly aided by the hsend command which allows him to move files from Unix to the Honeywell．Future tasks include moving Honeywell explain files to the IBM 360，moving debug explains to the Physics Nova，making an ANSI standard defini－ tion of PL／ 1 comments so that inline PL／ 1 documentation may be port ed，and defining standard punched cards so that documentation punched out on one computer may be read in on another．
SPECIAL K AND BIG E WINNERS－The winners of the Special K and Big E（uler）math contests for undergraduates here，held November 8， have been announced．The Big E was won by Doug Stinson，who was also the first winner of the Special K in 1974．He was followed，in order，by Dave Wright，Matthew Smith，Rick Cameron and Randy Morrison．The Special K，which is only open to freshman，was won by R．Gupta，followed by A．Owen，P．Latimer，O．Nierstrasz and R． Leber．
MASTHEAD FILLER－I refuse to mention that Levesque defeats Bouras． sa even if it would help to fill up this silly space．
Excerpted from mathNEWS，Volume 12，Number 8，Friday，November 19， 1976

## Finally

When dark Shadowed Boxes first appeared in the UW Gazette in the winter of 1984，mathNEWS undertook to＂rid the Gazette of its recent fixation with Shadowed Boxes around articles．＂The Gazette respond－ ed by quoting mathNEWS＇complaint－in a Shadowed Box．

Well，in the November 5th issue of the Gazette，the Shadowed Box of former complaint was replaced by a shaded box．It would ap pear that after a scant two and a half years，mathNEWS has finally won．

If you＇d like to make your own shaded boxes，order Letratons sheet LT144 from your Letraset supplier．See page 5.11 of the $198{ }^{\circ}$ catalog．

## THE CONTNUOUS ADVENTURES OF

## WATMAN

When we last saw our harried heroes, they were in the clutches of the Grouper, perhaps the most associative of all arch-villains. He had trapped the distributive duo in the centre of a Silo Pea-subgroup, and was slowly filling it with peas.
"Wholly commutators, Watman! What will we do now?"
"Duck, can you reach your Wat-utility Belt?"
"Yes, Watman, I think I can ... There! What good does that do us?"
"Quick! Hand me the Watproof!"
After much struggling, and some incredible contortions which we can't describe here (because of the new porn bill), Duck succeeds in giving the Watproof to Watman.
"Here we go. A proof that the Grouper is
i) Abelian
ii) finitely generated
iii) not isomorphic to the free abelian group on his generator set!"
"But that means the Grouper is not free!"
"Yes, you've captured me this time. But I'll make sure you never commute again!"

And so, with the Grouper out of the way, the Wat-team heads back to Watham City, hoping to find the Watham City Security Forces

Suddenly, the phone rang.
"Wholly 65 cents on your phone bill, Watman!" cried Duck, "The Wat line!"

Watman picked up up the phone and said "Yes, Mr. President?"
"Oh good! You will be there," replied the President of Watham University.
"Wait a second, what did I just agree to?"
"You and Duck will be representing the superheroes union at the University Developement and Planning Meeting. It is at the Food Services butcher shop. You have five minutes to get there."
"Wholly meat-ing place Watman! That is on the other side of the city," exclaimed Duck. "How do we get there in time?"
"Never fear Duck, I know the writer. We will get there in time."
Everybody was tense as a slick executive type approached the podium. He wore a grey pinstripe suit, patent leather shoes, and a hat that looked like this:


Complementing this attire was an enormous pink feather boa.
"I'd like to introduce myself. I am the rightly famous Boa Contractor, President of this university. I am famous for my ingenious fund-raising methods. Not only am I unsurpassed at squeezing money out of students, but I also organise student strikes to support me and cut down on classes. With fewer classes, I can pay the profs less!
"But now I shall reveal to you my master stroke. I have discovered that by simply delaying the construction on campus, I can avoid having vital space, and I can save enormous amounts on the operating budget at the cost of only slightly greater amounts that I have to pay to the construction workers!"

The Boa Contractor made innumerable intelligent and useful suggestions during the meeting, which also attracted attention. When it came to his report, he did the only thing that is considered normal at those meetings, he reported a delay and a need for more money.

But Watman's Watsense told him something was wrong.
"We must follow him, Duck. Something about him tickles me the wrong way." whispered Watman.

They followed him into a dark alley, and suddenly felt feathers surround them.
"Hah, hah!" exclaimed Contractor, " I've trapped you in my feathered boa! I have caught the Heroic Halfwits! Nothing can stop me now that the Government is increasing funding!"

Watman, trying hard not to laugh (the feathers were tickling him), asked, "Stop you from what?"
"I have the greatest of plans. While I delay the new building, I will seize the opportunity to alter the plans. The building they get will not be what they expect. I am renaming it the IBCR, the Institute for Boa Contractor Replication. When it is finished, it will produce millions upon millions of copies of me. I will rule the world!"
"Wholly recursive definitions, Watman!" moaned Duck, "he will be everywhere."

Boa Contractor continued. "Now that you know my plan, you must not escape alive. Only one other knows my terrible secret. You will now join him." He took off his hat, allowing it to slither slowly toward our Dynamic Duo. Opening its enormous mouth it swallowed them whole. It was none otther than
"Wholly pachyderms, Watman! What is an elephant doing in a boa constrictor?" queried Duck.

What indeed? Has our Duo had the final deep throat? Will we ever get more Boa Contractors? Will we ever want more Boa Contractors? Tune in next issue, same Wat-time, same Wat-place.

Na-na-na-na na-na-na-na, na-na-na-na na-na-na-na ... Watman!
The Chuckler

## Grad Photos and Yearbook Stuff

Did you know ...?
$\ldots$ that your grad photo proofs should be picked up from the MathSoc office during exams, or next term.
... that your yearbook write-ups must be turned in by the end of November (if you didn't get a form, please pick one up from the grad photographer or from MathSoc).
... that there are still a few yearbooks available (order in MathSoc).
$\ldots$ that it's too late to turn in pictures (but thanks to all the people that did!).
$\ldots$ that we have sold 100 more yearbooks than expected (thanks!).
$\ldots$ that yearbook production meetings are every Monday and Thurdsay at $4: 30$.

Thanks for everyone's interest and help-I hope it continues!


This is a Paid Political Announcement

## Excerpts from

## Doctor Heartbreak's Book Of Love

## If YOU LOVE SOMEONE YOU SLEEP WITH THEM

Who was it who equated sexuality with neurosis? Who was it who said the only purpose of sex was to unite sperm and ovum? I suppose in this great age of reductionism someone had to reduce love to biology. It is this kind of chauvinism, a bad taste lingering in the mouth of the twentieth century, that makes me wish sex didn't follow from love. But it does. I have known people to consider love and sex separate things, and to live their lives that way. Yet sex and its corollaries of marriage and childbirth are, or should be, the most complete and unquestionable way of saying "I love you." This is something I believe in, and it hinders me from disassociating emotion from sexuality.

There are, however, some dangers in the association the other way - love implying sexuality. The contrapositive is that unsexuality implies unlove. It is bad to believe this, yet it follows logically from what is good to believe. This is complicated by the habit of males faling into the posture of Seducer and females into the role of Chaste Maiden. Sexuality becomes the woman's choice, not the man's. This may be the nature of the beast, but some egalitarianism would be nice.

But the most dangerous thing to say is, "You'd do it if you loved me." To demand sex before it is freely given is to ask for an egg before it is hatched, twilight before noon, dessert before broccoli. Ann Landers would advise the hesitant female (let fall the unisexual mask!) that her partner doesn't really love her and should be promptly dropped. But I'm a saver. I say (donning my Mosaic robe), save the trees lest the hills be bare. Save the whales lest they vanish from the earth. Save the relationship lest we throw out the baby with the bathwater - whatever that means.

## WHO'S THAT GIRL, RUNNIN' AROUND WITH YOU?

Jealousy is a terrible thing. Jealousy is a positive, envigorating force. Jealousy, like vengeance, imparts a wondrous glow to the complexion, a rosy hue particularly associated with technicolor Counts of Monte Cristo, vying with Catalan villains for the tarnished but still tangibly valuable hood ornament of Mercedes. Unfortunately, you eventually admit, that's the way the old Mercedes bends. You have to find some other fuel to run on.

But most of your raw emotional fuel has already been burnt up, converted into angry helium. Once you have been jealous the anger doesn't go away, nor does the seed of suspicion or the Simon-andGarfunkelesque silence. Who can betray you? Only those you trust. (Who else would bother?)

Maybe I'm being childish. It always sends a chill down my spine to hear a child say, "X went to Y's house! I'm never playing with X again!" Because I said the same thing and sometimes, if you peel back the layers, think the same thing still. Think of a wonderful sound you make with your lips in a comfortable circle and the tongue gliding up to the palate. The sound comes with clutching some childhood object that for the first time doesn't wriggle or pull away but stays mute and mild in your grasp. The idea of owning things starts here, sends deep and tenacious roots through our culture, and is deucedly difficult to weed out when jealousy rears its noxious sunflower head.

Have I said too much? Have I used too many metaphors to supplement my meagre thoughts? All I really wanted to say is that protection against jealousy requires a certain amount of self-denial, just as protection against conception requires a certain amount of restraint. Why do I skate so artfully around the crack in the ice that is meaning?

I don't even know how to skate.

## One More Colour

(words: C. Sneer; music: Jane Siberry)

- from the forthcoming LIFE'S A BITCH lp, "And Then You Die" a desert wasteland desiccation a dusty hand of fear an august snowfall a lack of recall it happens year to year.
chromatic signals touch my vision;
i see a scrap of cloth.
the trail leads onward and i go forward,
a post-atomic moth.
CHORUS: now -- all i search for is a tie all that tie is is pink all that pink is is one more colour now.
i remember
april showers;
the rain kept falling down.
the nights are colder
as i grow older
there's no one else around.
drifting mem'ries
of the days
when i was in first year.
i've long sought after
those tears, that laughter
my sight is now unclear.
CHORUS
i dreamed this dream you won't believe
i dreamed a tie
taller than the tallest trees
high as a mountain
wide as the widest seas
and it was pink
well -- at least as pink as me...
walk a little faster
breathe a little deeper
soar into the air
seek a little further
hope a little harder
and soon i will be there.
CHORUS
nuclear winters saharan summers where is my waterloo? the monolith stands yet against the sunset i see no sign of you where are you?
i miss you...


## Letters to mathNEWS

## Dear Mr. Editor:

I would like to say that I miss the section 'Letters To The Editor'. My friend and I have not seen this section yet this term. We enjoy this feature more than any other in your fine newspaper.

Has there not been any letters or have you just been too busy to answer them?

Tell me, is it possible to suck on a Lifesaver candy until it's gone without it breaking on you? I have spent a small fortune on this problem and have not succeeded in my quest to prove that it can be done. Your assistance would be very much appreciated. Not to mention how much money it would save me!

Just two more questions. Why doesn't the university offer a course in professional wrestling? I would be very interested in taking this subject as a minor. The last question is for LCD. dan, I have consulted all of the directories at the university, and I still can't find, or find out what happened to Chuck! Will someone please help me?

> A Curious Reader

## Dear Curious Reader:

We at mathNEWS love to answer mail, we just never get any. Every one of the letters you read in the past was fabricated by a top secret organization created by the mathNEWS board of directors in September, 1983. The organization was dismantled last March after a particularly flamboyant editor's response to a fabricated question generated enough controversy to prompt a Dallas legal attorney's investigation and subsequent flinging of dangerous allegations. We have "received" no mail since then and nobody has spoken of this incident (the media has a way of protecting itself) but as an avid "letter" reader i'm sure you're familiar with the controversial editor's response.

Your first question was presented to mathNEWS' science editor, Dr dan schnabel. He writes:
"The described problem of sucking on a Lifesaver has, because of its relevence to the American space shuttle program, been the subject of extensive research by many prominent hydraulics engineers and applied fluid dynamics research engineers, (Dr. Hui of the Applied Math Department quite aptly refers to these engineers as 'suckers'). Indeed, the problem's solution is found in the $1962 \mathrm{Ph} . \mathrm{D}$ thesis of a differential geometry student, Martin Stott, now famous for his theoretical work on the problem of eating corn without getting it stuck between your teeth. Stott's thesis is, however, not impressive, as it is merely a simple extension of work done by Jacob Bernoulli in the 18th century.
"The answer is, of course, that it is impossible. As an interesting note, some sketches found on a 16th century bathroom wall in Italy and attributed to Leonardo da Vinci, suggests that he knew implicitly of the impossible nature of the task, fifty years before Lifesavers were invented. "I am glad to be able to save you money. It is unfortunate, however, that NASA continues to spend several hundred thousand dollars a month on the problem."

The question relating to the offering of a professional wrestling course was turned over to mathNEWS' Academic Affairs Liaison Officer, d. schnabel (no relation). He writes:
"I approached a number of suitably obscure committees with this issue and the response was consistent - government underfunding necessitates increased specialization, new programs are not feasible. I think the real reason for the absence of such a program is the administrations fear of trying to extract arbitrary fees from pro wrestlers."

## LCD answers your third question with:

"Careful examination of Imprint personal ads suggest that Chuck was assign to some sort of top secret task force in September 1983 and seems to have left for Dallas, for no apparent reason, in March of the current year."

Bob of the Week


Well, hello again, and welcome to Mathematics Top Ten. This week's countdown, compiled by Benoit, Inc. at the Home Office in Sault Ste. Marie, is:

## Top Ten Misspellings of

"Asymptote"

- Asymotope
- Asomyptote
- Assymtropes
- Assymtotess
- Asintob
- Asamatote
- Asyimpope
- Aseymatepe
- Psythimtote
- Atomic Rope

Well, that's all for this week. Until next time, keep your head in the ground and your feet on the stars.
-Casey Kasem Jr.

## $\%$

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## Mathematical Puzzles

-Solution to last week's puzzle:
On the five-by-five Hex board, the first player can win if he opens on cell 13. (See fig. 1)


Fig. 1
Assume the "black" player has the first move and he opens on cell 13. The important "blocking" cells for the "white" player are cells $1,2,4,5,8,18,21,22,24$, and 25 . If the white player counters on any other cell then the black player plays on cell 2 or 24 -this gives him a "double play" on 5 or 8 , and 18 or 21 respectively. (Note: a "double play" refers to a move that can be made on two possible cells, either of which complete a link in the chain.)

Thus assume that the white player counters the black player's first move, by playing on one of the cells $1,2,4,5,8,18,21,22,24$, or 25 . If the white player chooses cell 1 or 5 , the black player counters by a move on cell 8 , which leaves a double play available on cells 2 or 4. Similarly, if the white player chooses cell 4 or 8 , the black player takes cell 5, which leaves a double play available on cells 1 or 2. By the same reasoning, if the white player takes any of the cells 18,21 , 22 , or 25 , the black player has an easy countermove which gives him a win in a total of 5 moves.

Thus, the best (albeit losing) strategy for the white player is to respond to the black player's initial move by choosing cells 2 and 24. By playing on cell 2, the white player forces the black player to take cell 12. The black player is now set up for a double play on both sides (cells 4 or 7 and 8 or 17). Similarly, if the white player chooses cell 24 then the black player takes cell 14 which sets up a double play on both sides (cells 9 or 18 and 19 or 22). This gives the black player a win in 7 moves.

By symmetry, if the white player has the first move, he can win in 7 moves.

## -This week's puzzle:

A young couple are paddling a canoe upstream (against the current). The young lady accidentally drops her hat in the water and it begins to float downstream. After 20 minutes, the young lady notices that her hat is missing. The couple immediately turn around and paddle with the current to retrieve the hat. They catch up with the hat at a point 1200 metres downstream from where the hat was initially dropped in the water.

What is the speed of the current, assuming that the couple paddle with a constant effort?
-the Wizard of Id

# QBribe Me! 

I'ma marker

## Remembrance Day 1986

On the eleventh of November, the whole world stoppped at 11:00 in the morning to commemorate all of the soldiers and civilians who gave of their lives for the highest ideal known to man: freedom. From freedom stems many more ideals that mankind values above all. The freedom of speech, the freedom to say what is on one's mind without fear of oppresion, is valued by every man. The freedom of choice, to be able to make up one's mind and carry through with the actions that person decides upon. Most importantly, the freedom to choose what cause that person will fight for and defend, for that is what a purpose in life really is. It is for this that many valiant men and women fought for, not only for themselves, but for their loved ones and the many generations that would follow them. Let us pause for a few precious minutes and remember all of the people that have provided us with the freedom that we have today.
the Doctor

## Autumn Arts and Crafts Fair

Once again the University of Waterloo is holding its Autumn Arts and Crafts Fair in the Campus Centre. The Fair is a great opportunity to support local artisans, and pick up some imaginative Christmas presents.

The sale will be held on Wednesday November 26 through to Friday November 28 from 10:00 am to 7:00 pm each day in the Campus Centre at the University of Waterloo. All items are handmade by artists from the local area.

This year the variety of crafts promises to be more diverse than ever. Some stained glass makers will be returning from last year as well as potters and jewellery designers. The fair will also feature wood toys and clown puppets made of clay, to name only a few of the many items available.

The fair is a good opportunity to pick up something novel for a friend or a pretty little piece for yourself.

The Autumn Arts and Crafts Fair is sponsored by the Turnkey Desk at the University of Waterloo.


Good morning math-cadets. Damage control reports that the W.S.S. Mathundergrad is in pretty rough shape. Communications are down to gutteral grunts and snarls. Life support has had nothing but doughnuts and (shudder!) Kraft Dinner for weeks on end. All photon torpedoes have been expended and the phaser banks are overdrawn. And engineering has just checked in with a status report indicating that it'll be impulse power from now until term-end because ". . . it's the engineers; they canna' take no more!" (The mathNEWSquizmaster suggests that they put their oars back into the ether and pull, or they'll have seen their last Kin-frosh.) The situation requires that tough decisions be made. Two courses of action present themselves: one is Math 234a (what is this stuff?!); and the other is (somewhat less deadly).

## mathNEWSquiz \#11

1. Which author created the "hard-boiled" private eye "Phillip Marlowe"?
2. The boundary between Maryland and Pennsylvania, taken as the northern limit of slave-owning states prior to the abolition of slavery, is commonly known by what name?
3. Which Canadian jockeyed the great "Secretariat" to a Triple Crown in 1973?
4. What are the first names of "The Everly Brothers"?
5. What are "anger, covetousness, envy, gluttony, lust, pride and sloth"?
6. Which of the "original six" NHL teams was named by their founder, Major Frederic McLaughlin, after a World War I U.S. Army machinegun battalion?
7. How many "Brandenburg" concerti did Johann Sebastian Bach compose?
8. Name Odysseus' faithful wife?
9. What was the original name of "The Phil Silvers Show"?
10. If the film censors had their way, "Pussy Galore" of the James Bond-007 picture "Goldfinger" would have been renamed what?

Quiz solutions may be submitted on or before November 24, 1986, in the "Black Box" on the third floor outside the C+D Lounge. Consideration will be given to all solutions, and yet another skilled prizewinner will be announced along with the solutions to mathNEWSquiz \#11, plus a brand new mathNEWSquiz, in the next issue of (your friend) mathNEWS.

And now, before those silly frosh recover from last weekends' "Whine and Sneeze", here are the solutions to mathNEWSquiz \#10: King Duncan's friend, Macbeth; "Black Beauty" is the Green Hornet's automobile; "The Seventh Seal"; Spock writes home to . . . Amanda and Sarek (the one with the green blood and displaced organs); William "Bible Bill" Aberhart; catnip; Tom "Terrific" Seaver; "The Alan Brady Show" within "The (original) Dick Van Dyke Show"; Guy Lombardo and his Royal Canadians; and "20,000 Leagues Under the Sea" by Jules Verne.
"Roll out the pink carpets!" In an amazing coup this week, there were two (that's right, the cardinal value greater than one but less than three) perfect submissions to mathNEWSquiz \#10. The new mathNEWSquizexperts are . . . . . Ms. Vicki Gohl, and Butterworth \& Ho \& Co. Congratulations on your superior effort, Vicki and B\&H\&C, and you may pick your prize plus your especial mathNEWSquizcertificate at the MathSoc office (MC 3038) during their hours. Eight out of ten correct earns the "Close But No Cigar" award for Jeff Clark, Owen Sagness and Steve (?). Fine effort gentlemen, and better luck to you and other aspiring mathNEWSquizexperts on mathNEWSquiz \#11. Tune in next issue for more mathNEWSquiz.

## Math Grad Ball-\$100/couple

First I would like to thank all of you who came out for the class picture. I couldn't believe the response. Thanks also to the photographers: Sylvia, Sherri, Alex, and Adam.

Secondly, the Math Grad Committee needs your help. I always thought we had a great class of people but this term apathy runs rampant. The more money we raise the less expensive the grad tickets are. Pretty simple yeh! So you volunteer an hour here and there, sell a few raffle tickets etc. and the price of your Math Grad Ball ticket drops from $\$ 100$ to $\$ 50$ a couple. Incredible.

A pie in the face to those people have been spreading nasty rumours that there will not be enough tickets available for the Grad Ball. We have a smaller class and a larger venue than last year. There should be no problem!

In addition, few suggestions have been offered for the class gift. Last year, the engineering class donated a chairlift to enable physically handicapped people easier access to the pool at the PAC. The gift donated by the Math Class of ' 87 should be in a similar vein.

Please, if you are graduating, help out and become part of the committee. A few hours of your time is for your own benefit. New signup sheets are posted outside the MathSoc office where you can volunteer for particular hours and particular days. As well, raffle and turtle cards must be sold and can be picked up at meetings (Tuesday $4: 30$, room number TBA). Contact me by leaving a note in the MathSoc office if you have any suggestions or problems.

Thanks to those of you who have been working hard for the committee. Your involvement has been greatly appreciated.

Lisa Seabrooke
Chairman of Math Grad Committee ' 87


## Across

1. Word for word, fifty-one arranged later (7)
2. By numbers, make a hole with one tutor and fifty (7)
3. Touch arouses, looks burn (4)
4. Changing place for woman's clothing in the wedding participant $(8,4)$
5. A container slightly open? (4)
6. Distributed and included side alterations (5)
7. One thing giving it back to me (4)
8. The aunt arranges fish (4)
9. Join a single thing directly (5)
10. Hence a monster is back (4)
11. Truth is a loud part of the play (4)
12. Three exist as an Indian group (5)
13. Soundly spin true (4)
14. Procreation again a multiplication of charged particle (12)
15. The man after current pain (4)
16. Small continent employment of links (7)
17. Something unusual for the piece of fiction near the toy outside (7)

## Down

1. A cute rival might be profitable (9)
2. Failless fear of many a spirit and hearing part (3-4)
3. A girl that is a famous dog (6)
4. Denver serial front and back not affirmed (6)
5. Great and not great lead wild club (4)
6. Riot arranged by a group (4)
7. Look two letters later at the end for the cloth-maker (4)
8. About the Bible section accommodation price (4)
9. No writing implement is accessible by all (4)
10. Perform, but around suspicion (5)
11. Mohammed twice confirmed in another place (5)
12. Main idea of temperature, that guy and the first person (5)
13. Weapons archaically are sick up about yesterday's beginning (9)
14. The right frozen mineral is a side food (4)
15. Abbreviated beer hesitated above (4)
16. A loud vase and top flyer make heat (7)
17. Head off trouble with a foreign currency (6)
18. Do up a coat nevertheless not raised (6)
19. Kids about barbecue food? (4)
20. Pure-made country (4)
21. Fools grab every other Russian woman (4)

[^0]:    "Where is Hitler when we need him?"

