colour Davisworld and win a prize!
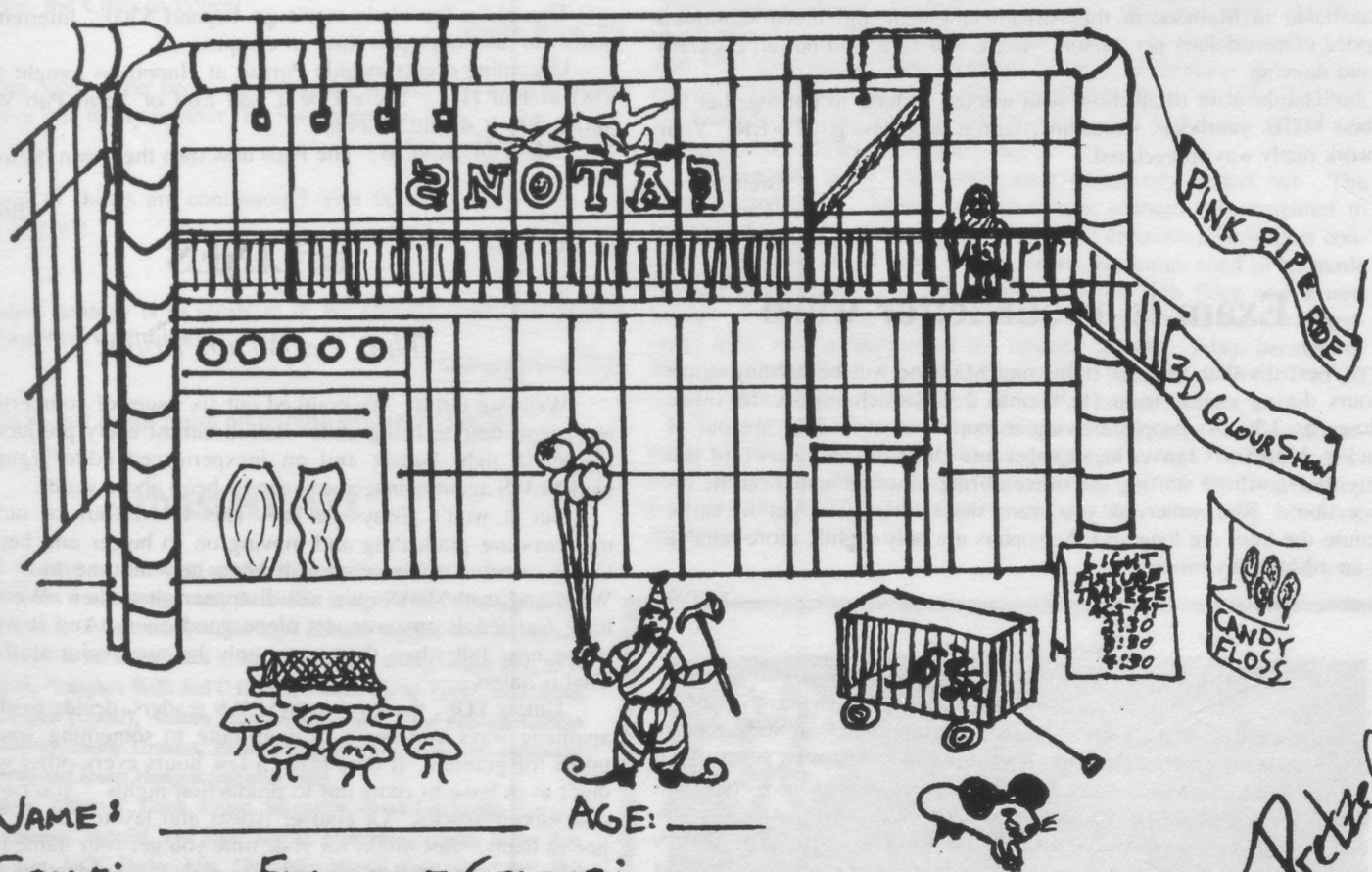
NAME: _____ AGE: _____

GRADE: _____ FAVOURITE COLOUR: _____

Pretzel

& Wyoming Bill Kehoe

LookAhead

Cinema Gratis	
Mar 30	Balablok
	The Hustler
Mar 23	The Big Snit
	The Breakfast Club
Fed Flicks	**AL 116**
Mar 25-27	Top Gun
UW Arts Centre	**Humanities Theatre**
Mar 25	Jubilation! dance company
Mar 26	Jest In Time
Mar 31	Stepping Out at the Arts Gallery

MGC

Last weekend's MGB was a complete blast. Thanks a lot to those who worked so hard to make it a success. Everyone who attended thought it was fantastic.

Congratulations to this year's Alan George Leadership Award Winner: Stuart L Hodgins. Stuart's activities have included the thankless and massive task of **mathNEWS** editor as well as many other MathSoc and faculty resposibilities.

The next official MGC event is the convocation weekend party 6:00 Saturday March 28 at the Valhalla Inn. Tickets are currently available in MathSoc at the bargain basement and much subsidised price of two dollars per person. There will be a cold buffet, cocktails and dancing.

Thanks a lot to all those who worked so hard to put together the best MGB, yearbook, sweatshirt, button and class gift EVER! Your work really was appreciated.

Brett Martin
Marc Lamoureux
Co-Chairs MGC '88

Exam is a four letter word

Yes, it's that time all right, and MathSoc will be holding office hours during exams from 10:30 until 2:30 (which means the office closes at 2:30, so people arriving to copy exams at 2:25 are out of luck.) MathSoc's brave, loyal, eager and cheerful volunteers (did you buy that?) will be staffing the office during times indicated on the office door. Remember, if you want those old finals, get in early, 'cause the lines are long and the copiers are only slightly more reliable than a Mulroney promise.

Sauron

Prez Sez

Well folks, in just a few days exams will be upon us! How many of you can't go home because you have to study? I know the feeling! Speaking of exams, if you plan to do photocopying of old exams, please do it soon! The office will only be open for limited hours during exam time. We will be trying to keep the offices open from 10:30 a.m. - 2:30 p.m. from March 31 until April 15, since all our office workers are students too! Also, the C&D will only be open until March 30. Friday night's Images In Vogue pub at Fed Hall went well. I hope all the people that went had a good time.

Well, it has been a pretty good first term as president and I'm looking forward to being back in September. Thanks to all those who helped me this term and especially to the one that gave me the most guidance; (you know who you are - you grad you).

Good luck on your exams; I'm going to need it!

Lisa

Fed Report

Congratulations to this year's Fed Leadership Award winner in Math, Paul Obeda. Paul has completely immersed himself in campus activities including MathSoc and CSC treasurer.

The Feds Annual General Meeting is Tuesday March 29, 8 pm, in Needles Mall in 3004. The new budget will be presented along with a few new controversial bylaws. All the necessary info is pasted on the Fed board outside MathSoc. Proxies for those who can't attend are available in MathSoc.

The co-op fee likely won't go beyond $300. International students can now work part time on campus.

Upcoming events include Pursuit at Happiness tonight (or tomorrow) at Fed Hall. There'll be a Fed End of Term Pub Wednesday March 30. It should be a blast.

DID YOU KNOW: The Feds now own their own brewery equipment.

Brett Martin

edLINES

That's a Wrap, Folks!

Well, we did it. We cranked out six issues of your Friday morning friend despite being under-staffed almost every production night. Despite a tight budget and an inexperienced editor (guess who!), **mathNEWS** again managed to keep its head above water.

But it won't always be so. This term, four of our six core members are graduating and moving on to bigger and better things. Come summer, submissions will hit a new all-time low. The GridWord and **mathNEWS**quiz will disappear altogether. We won't even have *bad* serials anymore, let alone good ones. And it will be even worse next fall when there may only be two senior staff members. That is unless . . .

Unless YOU, the loyal **mathNEWS** readers, decide to change your apathetic ways and begin to contribute to something you've simply taken for granted. It only takes a few hours every other week. You don't even have to come out to production nights - you can just write and submit articles. Of course, typists and layout people are needed just as badly. Just think, for your time you get your name (if not your articles) in **mathNEWS**, you get free pizza on production nights, and you get the satisfaction of being a *part* of this campus instead of just a passenger. I've said it before: **mathNEWS** is only as good as YOU make it, so come on out and give us a try. 'Nuff said.

Tom Vandeloo

Prof Quotes

Oh well, the Suave One twisted my arm this issue so I get the honour of doing this week's (and last for the class of '88) Prof Quotes. Sit back in that 8:30 and enjoy...

"Justifications are more fun than proofs, wave your arms, draw pictures,..."

Spiegel, Math 230a

"We'll divide our work into two parts. We'll do one part over here and call it scrap. Don't forget the S."

Mowat, Math 130b

"Thanks for making me look dumb. Actually, Mother Nature did that to me."

Abbott, Phil 102a

"The only way to enter the population is through birth."

Willmot, ActSci 332

"In an advanced course, I'd explain what all this nonsense is about."

Small, Stat 240

"It's not important what I write, or what I say, it's what I think."

Baker, Math 240a

"Next week, the Chicken Police!"

Smith, Econ 101

"You know these little books of integrals? Makes a great Christmas gift... I gave one to my brother. He's an engineer."

Welch Stat 230

"What kind of things are continuous? You say sex? Well that's certainly not discrete."

Welch Stat 230

"The general strategy is to visualize in R2 and R3, and then to generalize. Don't try and think."

Gilbert Math 234a

"A Cray is so fast it can finish an infinite loop in 3 minutes."

P.A. Buhr

mastHEAD

C+D Update

A lot has been happening with the C+D this term. You may have noticed the decrease in some prices, and also may be wondering about the state of contract negotiations.

Currently, MathSoc is negotiating a new contract with University representatives. A draft contract has been submitted by the University that is basically similar to the current contract. This new draft includes a slight rental rate increase. Despite rumours of the University asking for a percentage of sales or profits, the draft contract makes no such demands. It appears that there is not too much to worry about.

You may have noticed that the prices for bagels and coffee have decreased this term. A series of events have led to this move. A decision will be made on pricing for the summer after financial statements are prepared at the end of this term. There is an indication that the C+D may have run at a slight deficit this term.

Now for the reasons behind the decrease. In the Fall of 1986, it was discovered that the C+D had been running at a deficit for the prior three terms. Action was taken to alleviate the pressure by raising prices, and by hiring a full-time C+D manager. The efficiency of a full-time manager who was able to decrease expenses in wages and decrease food wastage by daily ordering, coupled with the price increases, eventually led to a significant amount of money in the C+D surplus account. Specifically, it was discovered that the C+D had run at a considerable profit in the Fall 1987 term. This necessitated the price changes.

The C+D is not run strictly at cost. A surplus is allowed to accumulate to offset emergency expenses that occur from time to time. Because of the high volume of sales, this surplus can accumulate quickly and similarly can decrease quickly. Because of the size that the surplus had reached by the Fall 1987 term, it was decided by the Fall 1987 and Winter 1988 MathSoc council to disburse some of the money. Two bursaries were allocated $5000 each, namely the Pink Tie bursary and the Natural Log bursary. An additional $5000 was donated to the Descartes Foundation.

This term, the C+D books were completely sorted out. The current "ball park" figure for the surplus account, as presented to MathSoc Council is $30,000. This is not an unreasonable surplus considering the volume of sales. Some major purchases need to be made for this term—namely, a cash register for the fifth floor and a new freezer. It should also be noted that in the spring term, the C+D generally loses money because of the smaller volume. Also, because of the age of much of the C+D equipment (anywhere from 7 to 20 years), the emergency fund must be kept at an appropriate level.

In summary, steps have been taken to efficiently handle and account for the C+D, and there is no danger of losing it in the near future. If you would like further information on the C+D accounts, you can request the information at any time from the MathSoc treasurer.

Frank W Letniowski
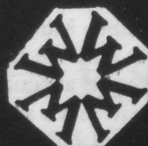
On The Scene

RUSH — Hold Your Fire

On March 7th and 8th, Canada's premiere progressive rock band yet again pushed back the barriers of concert performance at Toronto's Maple Leaf Gardens. The local trio of Geddy Lee, Alex Lifeson, and Neil Peart, put on a show that rivalled the best ever in terms of polish, visual effects, and raw energy. Rush, known for their willingness to experiment in the studio, brought this same sense of innovation to the stage and the fans were *impressed*.

The night opened with a 'short but sweet' set of songs by the cover band, Chalk Circle. To put it lightly, no one paid to see *them*.

When the lights dimmed for the second time, the crowd simply erupted. Rush had come home for the first time in over a year and the audience responded accordingly. Rush played for a solid two hours, even returning for an encore set. In all, nine of their thirteen studio albums were represented. Each song was played to perfection with numerous spontaneous 'events' thrown in by the musicians. Rush showed why its members are consistently voted tops in their respective fields at the Canadian Music Awards.

A concert just wouldn't be a concert without some fancy lighting and Rush had plenty. Multi-coloured laser drawings, computer generated 3-D graphics, clips from their numerous videos, and individually tailored films were the order of the evening. The crowd floodlights, ingenious laser projections, and stage footlights only added to the level of appreciation of the fans.

While the ticket price was pretty steep ($22.50 altogether), the crowd certainly got its money's worth. Neil Peart's six-plus minute drum solo – digital effects and all – was worth at least half of that price. If you're tired of the same loud, low-budget bands that usually get booked in this area or if you want a break from repetitive lyrics, beats, and melodies, I suggest you try and catch Rush the next time they breeze by T.O. The style and content of a Rush show will refresh you and leave you wanting more.

Pye Eide

First Annual Awards Dinner

Featuring the Flaming O's

On St. Patrick's Day, the Dean of Mathematics hosted an awards dinner at South Campus Hall for recent recipients of Math faculty awards. About thirty students, and roughly as many profs, administration and SO's attended the event.

This banquet was the first dinner in a hopefully annual tradition. The elaborate menu was well-prepared, and incorporated that favourite student feature, ie, it was free. Musical . . . er . . . entertainment was provided by a group of Mad Mathie Musicians, possibly named the Flaming O's, or perhaps "Dunk and the Slammers", an ensemble of performers whose talent cannot be adequately described on these pages, save perhaps to say that next year's performance can only be better. Ron Dunkley on trumpet. Bill Pulleyblank on tenor sax. Ed Moskal on alto sax, Steve Hayman on trombone and Don Williams on drums managed to give a solid accounting of themselves despite the consumption of a certain amount of green beer.

The students attending the dinner were favourably impressed by the evening, which served well its stated purpose of helping to honour our academic acheivers as befits an educational institution. On behalf of the attendees, thanks to the organisers.

DavisWorld

Myth or Reality?

Just in case you haven't noticed, DavisWorld is almost completely opened up. As I entered the mystical world, I felt as though something was missing; could it be the ceilings? I felt as though carnival music should be playing in the background, and expected to see jugglers around every corner, but there weren't any. Could the designers have possibly forgotten to include them? I personally don't think so. My impression is the people hired to fill these positions have not been properly trained yet. When could we expect to see the clowns, the jugglers, the candy floss in the very new (and somehow incomplete) DavisWorld? April Fool's Day, naturally. That is when it will be formally announced that the Billding is one big joke.

If you can find your way through the Billding you should be able count 850 mushrooms sprouting out from the floor. These are arranged strategically around the structure so they will be used as little as possible. For instance, in the main foyer of the building there is a 4x4 array of such mushrooms. They are placed approximately 3 feet apart from each other. There is no possible way that 16 people can sit on these comfortably and tend to their business at the same time. However, this may become the newest way to meet people on campus.

The fixtures used for exit signs are more reminiscent of bus stop signs. Strange structures resembling missile silos, (the official explanation is that these are harmless air vents), are protruding from the floor on the second level. Many offices have windows (with two way glass) that open up into hallways. This, of course, will benefit students wanting to find out what question the prof is going to ask on an exam. **Pledge Break!**

Ok, ok, wasn't that a good story. We'll be returning you to your regular article as soon as we get 30 new members. Believe us, we don't like to have these pledge breaks, but we must pay for DavisWorld somehow. Oh, there's another one; we need just 18 new members. If you pledge $90, we'll give you this lovely little computer chip earring you can show off to all your friends. Come on Waterloo; we know you can do it. Keep those phones ringing. We can't keep the Billding open unless you give, give, give! O.k, we're returning to your regular article now, but keep those phones ringing ...

Lighting the corridors are rows of lights that would more in place signalling goals at Maple Leaf Gardens, not to mention the myriad of colours that one would see in a fraction of a second. Kodak has asked for permission to film their next "colours" commercial on location.

Here is what a few workers had to say about the Billding:
-they had a design contest and everybody lost
-I don't mind if a guy smokes dope, but he shouldn't design a Billding while doing it
-they shouldn't let academics design Billding

All things considered, I think it has to be an April Fool's joke, (similar to placing a giant "Nimble Nuts" condom on the CN Tower). Oh well, at least I'm graduating this term – I don't have to live with it.

Gazoo (David Treble)

ISSN 0705—0410

Feds re-invent Poll Tax

Steve King has brought a novel, and rather offensive, notion to the agenda of the Federation of Students annual general meeting. A proposal has been made that the Federation attach a $5.00 fee to student's fee statements, to be returned if the students vote in Federation elections. Such a motion will be proposed to the students via a referendum, but only if it first receives approval at the general meeting.

The motion's sponsors intend, essentially, to pay you for your vote with your own money. Although the intent is clearly to encourage student voting, which is certainly laudable, the implementation is an affront to the electoral process. It will neither encourage responsible voting nor improve the quality of student involvement. At best, it may encourage the "Vote early, vote often" philosophy to reach new heights of ballot box fraud.

If you're a Fed (yes Frosh, you probably are), and you want to have input into this matter, or any of the other riveting items on the Fed agenda, be sure to attend their Annual General Meeting, March 29th in Needles Hall.

UltraClassifieds

Thanks to the 1988 Graduating class for the honour of being awarded the J. Alan George award for student leadership. It is a special privilege to be recognised by one's peers, and I am honoured and proud to receive it. Good luck to all of you in your future endeavours, and keep in touch. Myself, I'm off to my new job at Canada Olympic Park, driving the bobsled run zamboni. *There goes Hodgins into the final turn ... he's entered a little fast ... oops, lookout, he's flipped over ...*

Stuart L Hodgins

TF: Remember, if you work for Canada Post then you can always hope for a strike... Seeya in Ottawa when we come up.

Deepthot

Beware Brock Johnson: Spring comes soon...

WTW

MathSoc is accepting resignations of the appointed executive on a first come first serve basis. Sauron would be happy to fill in.

WTW strikes again. A little wet are we, Mr. Smith?

Bailor would like to thank youze 4B'ers for making this an (almost) unforgettable year. Thanx also to All Eyes Vyse for sticking it out and waiting(has that icecube melt yet?).

To the late JWH: the film world will miss your presence.

Now appearing at Kitchener MemAud: The Amazing Swami Brock, who will dance on broken beer bottles without the benefit of a safety net!

Larry...I know who did it...but it will cost you...I want $25,000 in small bills, in the second floor garbage can, midnight Thursday.

A Friend

Bailor has so far been unable to find a buyer for his cs132 books; he is now willing to trade them for a ride to Mac. Will leave any time, not fussy about waiting for EOT.

A Former Floormate

Anybody who's sick of reading about Bailor,sorry I mean Ashley Todd Taylor, in the UltraClassifieds can attend a rally at Queen's Park to try and have his name banned from being printed.

A Fond Farewell

The end of this term will mark the graduation of four of math-NEWS' most prominent contributors: David Treble, C.J. Fievoli, Frank Letniowski, and Stuart L Hodgins. This awesome foursome (!!) has been the heart and soul of mathNEWS for many terms now. Personally, I will miss their experience, their creativity, and their incessant jibes at my 'equipment'. mathNEWS as a whole will miss them even more, especially their undying commitment to the quality production of this paper. Your Friday morning friend just won't be the same without them. Good luck out there in the real world guys, *you'll need it.*

P.S. Have you four got your subscriptions yet?

John Thomas

Yet Another Sappy Bye

When I first started doing GridWords three years ago, I never imagined how important mathNEWS would become to me. If you sat done and thought about it, I'm sure you would realise that mathNEWS is pretty important to you as well—as a medium of entertainment and information that has tied everyone in the math faculty together. I strongly urge *you* to make sure that the strong mathNEWS tradition continues into the future.

I want to thank the many people with whom I have worked for making the experience fantastic. I especially want to thank Stuart for being my cohort in the Fall, and for helping to ensure the annihilation of the W-word, our biggest contribution.

Carry on Tom and Paul and Rick and . . .

Frank Letniowski

A Little mathNEWS History

mathNEWS celebrated its fifteenth anniversary during January of this year. Since its beginnings, 340 issues have been produced. Some of these have been assembled by large teams of mathNEWS staffers, others by lonely editors with a single assistant.

mathNEWS' history only spans half of the life of the University; it was preceded by other publications which are all but lost in time. These included the math medium and the MATH -mail. At least one of these was shut down by the faculty for its excessively negative outlook.

This paper has become what it is today because of the efforts of many people, not all of whom are remembered. There have been years of growth, and years of decline. Many changes have been tried. Many logos have graced the front page.

For a quick paragraph of real history, typesetting was done on the Photon Econosetter in the early days, giving way to Production by Diablo around Volume 24. Today, typesetting is done on a Unix system, with output generated on a Canon Imagen laser printer. Roff-flavoured langauges have been the languages of choice.

What follows is a list, compiled during the fall of 1986 in preparation for this anniversary, of former editors of this rag. This list is not considered totally accurate; some of the names had to be guessed at from cryptic references, and corrections have been made as deficiencies have been found. Just the same, it is known to be incomplete as given. Names in parentheses are best described as assistant or guest editors.

Many of those listed below maintain contact with UW; some are still on campus. Several others have returned to campus this winter for reasons varying from being a guest speaker to watching FASS or a basketball game, or visiting Optometry. Some of those listed below have chosen to break their ties with mathNEWS as they became increasingly annoyed with the paper.

Vol.	Term	Editors
1	W73	John Peebles & Steve Treadwell
2	S73	John Peebles
3	F73	John Peebles
4	W74	John Peebles
5	S74	Dennis Mullin
6	F74	Randall McDougall
7	W75	Dennis Mullin
8	S75	Randall McDougall
9	F75	Dennis Mullin
10	W76	Randall McDougall & Mark Brader
11	S76	Ron Hipfner
12	F76	Michael Dillon (Mark Brader)
13	W77	Mark Brader, Michael Dillon, Ron Hipfner, Randall McDougall, Dennis Mullin, (Andre Ierasts added about V13 Issue 9)
14	S77	Dennis Mullin , Bruce Mills(?)
15	F77	Dennis Mullin
16	W78	Will Macauley & Dave Gillett
17	S78	JJLong & John Ellis
18	F78	Prabhakar Ragde
19	W79	Andrew Malton
20	S79	Board
21	F79	Ross Brown (Geoff Hains)
22	W80	Rob Collins
23	S80	Ross Brown
24	F80	Ross Brown & Joanne West
25	W81	Joanne West
26	S81	William Hughes
27	F81	Dave Till
28	W82	Dave Till (Mark deGabriel)
29	S82	W.Jim Jordan
30	F82	Dave Graham
31	W83	Dave Leibold & Marcel Kahnt
32	S83	Cary Timar
33	F83	Tom Watts Haapanen & Glenn McFarlane
34	W84	Tom Watts Haapanen (Marcel Kahnt, Cary Timar)
35	S84	Tom Ivey
36	F84	Cary Timar (dan schnabel)
37	W85	Tom Ivey
38	S85	dan schnabel
39	F85	Rick Kuzell
40	W86	dan schnabel
41	S86	Stuart L Hodgins
42	F86	Paul D. Obeda
43	W87	dan schnabel
44	S87	W.Jim Jordan
45	F87	Stuart L. Hodgins & Frank Letniowski
46	W88	Tom Vandeloo

Paul D. Obeda

The Official CSC Dictionary

assembly	some required
assignment operator	TA
bnf	:= <csc_dictionary>
cache	obsolete since the introduction of credit
editor	Tom
indirection	see elsewhere
infinite loop	see loop, infinite
i-node	a ganglion
loop, infinite	see infinite loop
nesting expression	G'y eh?
null pointer	
pointer	the dog, not the stick
parameter	tactical meter infantry
Pascal	dogmeat
post-increment	more mail
PS/2	half a computer
recursion	see recursion
spool	Simultaneous Peripheral Operation OnLine (ibmism)
the halting problem	see infinite loop
unsolvable	see the halting problem
virtual memory	what happens during exams
swapped out	what happens after exams
terminal	the end

The Exec();

Keener Baseball

From the paper that brought you Keener Bingo - and almost brought Keenanza (typ. we decided not to because it was a really hurting concept) - we now bring you KEENER Baseball.

Here's how you start. First you get a roll of tape, a marker and a lot of scrap paper. Then you go to your lecture good and early so you can take up your tactical position in the back row.

Then you wait ... when some keener does their keener-type thing, write a big 'K' on a page, then tape it up on the wall. This practice can be parallelled to the ritual at Shea Stadium which is performed every time Dwight Gooden gets a strikeout.

There are a few other things to watch for while you're playing, such as records. The record for a rookie pitcher is 17, set by Bill Gullickson. And the Major League record is 20, held by Roger Clemens. Well, just who qualifies as a rookie? Our definition of a rookie includes anybody who is in their first month of 'Keenerdom.' At the end of the term, you and your classmates can vote for MVK (yes, you probably guessed - 'most valueless keener').

The Cy Young award is presented to the keener with the best delivery. And don't forget the Rookie of the Term award. Good luck and good hunting.

Superdave (David Treble)

Wow, That's Big

Collective Ego Stroking

Things were getting pretty crowded in the mathNEWS editorial office, and Tom was there all by himself. By the time CJ, Frank, Dean and Stuart arrived the Ego density was off the scale. Stuart tossed an Imprint down on the table. Fortunately, since it was so small, it's presence was barely detectable.

"Hey guys, no typos in the headlines today. Nothing worse than premiere David Peterson."

"The man who was on backwards under his hat at the Olympics?"

"Yah, that's him. Anyway, I hope that they enjoyed our Imp'tint issue."

Suddenly, without warning, Rubber Knight (a psuedonym) appeared at the door. He was livid.

"What does 'livid' mean?" Frank asked.

"I've got a bone to pick with you!" screamed Rubber.

"What is it?" asked Frank.

"It's a long, hard, piece of calcium, but that's not important right now. Why do you guys pick on us?" said Rubber, tears welling in his eyes.

Saddened to think that they had inadvertently harmed a lesser creature, the mathNEWS staff's egos shrunk slightly. (The sixth floor settled back onto the building.)

"We're sorry. We didn't know that your egos were exposed (we should have guessed.) How can we make it up to you?"

"Wanna go for a coffee?"

The sudden evacuation of the mathNEWS editorial office left a vacuum that sucked Rubber into a whirling vortex. "Oooh!" he cried, as the math building crumbled around him. As the dust settled, the only sound heard was the throb of the Davis Centre pipes, as the hydraulic system to pump paste to the Food Services Food Court churned into life.

SuperId

The Big Goodbye

Exodus Pterodactyl

The end of March, 1988. Five years ago, when I was but a Frosh, this day seemed impossibly far away. Iran and Iraq were at war, Ronald Reagan was about to get us killed, Liberals bungled in Ottawa, rain fell in Waterloo, and Bailor was barely old enough to tie his shoes. Now, in 1988, Iran and Iraq are at war, Ronald Reagan is about to get us killed, Tories bungle in Ottawa, snow falls in Waterloo, and Bailor, well, ... some things never change.

Anyway, it's time to move on ... the University is (I hope) about to give me a piece of paper, and let me move along. I'd like to thank all of the people who've helped me make it through these last few years: the MathSoc people with whom I've worked, fought, partied and generally caused havoc; my classmates who have made classes more than just a place to sleep; my profs, good and not-so-good, who have taught me about life, people, time management and occassionally course material; my friends, who have tolerated my constant battle to fit 26 hours of work into a 24 hour day; and my partners in crime at mathNEWS, with whom I have striven to inform and entertain the math faculty.

I hate these goodbye things, so I'll restrain my mathNEWS ego ... on behalf of Sauron, Dr. Terrence Till, Al "Go" Rithm, Jungle Gym, one-quarter of MGM/UA, and other pseudonyms too numerous to mention, good-bye and good luck. May you all find happiness in the future, and not end up repairing photocopiers at IBM.

Stuart L Hodgins
and the evil lord of Mordor

Daytona Beach Trip

- round trip bus trip from Waterloo to Daytona (U drive also available)

- bus departs Waterloo Friday, April 22 around noon

- bus departs Daytona Saturday, April 30, around noon

- cost (in $CDN based on occupancy) :

(With bus)		(You drive)	
6 - $189	3 - $259	6 - $89	3 - $119
5 - $199	2 - $269	5 - $99	2 - $149
4 - $209		4 - $109	1 - $249

- Insurance :

   Cancellation - $12   Medical - $11

- Hotel :
   - Texan Hotel on the beach
   - Nightclub in the Hotel
   - Olympic size pool with poolside bar
   - bus tours available to Disney, Cape Kennedy, Marineland, Sea World, Cyprus Gardens
   Contact Dave Jaworsky ASAP at 747-1973 (leave a message)

Attention Class of '88 Grads!

Hopefully, the following items will be available for pickup outside the C+D from Monday, March 28 to Wednesday, March 30, 10:30 - 2:30:

1) MGB couples' pictures,

2) Class pictures,

3) Class composites,

4) Any yearbook photos you have donated.

If they are not ready during this time, they will be available in the Math Undergrad Office, MC 5115, during finals.

MGC Dudes

Baseball Preview

AL East

Of course, the question on everyone's mind is "Can the Jays finally pull it off this year?" Considering the fact that a couple of key injuries cost them a pennant last year, there is no reason to believe that the Jays cannot make a good run at it in '88. It is virtually the same squad as last year – the only major change being George Bell's move to DH, a welcome relief to the Jays' defence. Look for the kids – Ducey, Berroa, Campuseno – to shine this year. Detroit, last year's champs, will miss the presence of Kirk Gibson in the line-up. Gary Pettis will be a poor replacement. Look for Doyle Alexander to have a fit and cost the Tiggers a pennant. Milwaukee, the streakiest team in baseball last year, will try to put it all together to maintain a pennant drive. Possible Cy Young Winner Teddy Higuera leads a mix of young and old talent that is sure to be a factor. And, ah yes, the Yankees. Billy Martin is back, so don't count them out. Despite what George seems to think, Billy is one of baseball's brightest managers. Besides, any team lucky enough to have Don Mattingly has to be considered. Boston, pennant winners a mere two years ago, are crippled by playing in Fenway. Roger Clemens, looking for his third straight Cy, won't be enough to help. The once-proud Baltimore continues to wallow in mediocrity. The Ripken brothers will be about the only bright lights in Baltimore. And last, and perhaps least, the Cleveland Indians. Good offence, but absolutely no pitching. So, to avoid jinxing the Jays like we did last fall (V45, Issue 2), I will categorically state that Toronto is *not* the team to beat.

AL West

The most unexciting division in baseball, the AL West produced last year's World Series winner (surprise!). Minnesota finally learned how to play their home park to their advantage, and used a tremendous home record to scratch out a pennant. That may not be enough, since Oakland has picked up vet Dave Parker. Along with wunderkids Jose Canseco and Mark McGwire, the A's will likely power their way to the top of the division this year. The Texas Rangers, loaded with young power, are still waiting for their young pitching aces to come through. 40-year-old Charlie Hough won't last forever. Floyd Bannister adds punch to Kansas City's always-good pitching, but the team's efforts will be overshadowed by the continuing story of "What do we do with Bo Jackson?" However, another KC divisional title can never be ruled out. The Angels are in the middle of a transition from old to young, something which won't work until they dump guys like Bill Buckner and Tony Armas. Chili Davis is a welcome addition, but another winning season may be a ways off. Seattle could be this year's dark horse. Dick Williams is one of the game's finest, and teams rarely go long without performing for him. Jim Presley and Al Davis should provide most of the fireworks this year. My personal sympathies go out to Harold Baines, one of the game's best players over the past five years, who is mired with as sad a team as the ChiSox. Another disappointing year will follow for Comiskey Park fans. The final analysis – Oakland seems to be the glamour boys of '88, and will probably rise to the occasion. It will be a year with plenty of power and little pitching in the AL West this year. American League baseball at it's most extreme.

NL East

The NL East is shaping up to be a six team race this year. All the teams have the capability to take it all with a few strong performances from their key players but in the end it will be Chicago and Montreal battling it out for the NL east crown.

"Chicago" you scream! Yes, Chicago. Too many players had sub-par performances last year and it took them out of the race. Ryne Sandberg, Jody Davis, and Al Nipper will all contribute to the last to best Cubs in '88. And if Andre Dawson stays healthy and continues on his torrid pace of '87 the Cubs will be the team to watch. But the Expos could also surprise many a fan. The hard luck team of the eighties will once again fall a penny short, with a strong team but no off season changes to take them to the top. The Mets will challenge but even with a healthy roster they cannot expect continued stellar performances out of the aging Keith Hernandez and Gary Carter. The rest of the pack will be swallowed up and look to '89 for another shot at the division title.

NL West

With Eric Davis gearing up the Reds are a good bet to take the NL West in '88. San Francisco will not pull off the first repeat NL West division champions since the Dodgers did it in '77-'78 but will remain a strong contender the entire season.

Jose Rijo and Tim Birtsas are newcomers to the Reds staff, jumping over to the NL from Oakland. These additions will strengthen Cincinnati's pitching, the only connection missing to the Red's '87 pennant hopes. A strong outfield with the now healthy Davis and an established infield could bring The World Series to Ohio this fall(and no, I don't mean the Indians). The Giants came out of no-where to take the West in '87 but '88 is another story. The strong performances of the midseason acquisitions last summer should not be expected this year. The Giants will challenge, and will continue to do so in the '90's but for now they must settle for second best. Houston will try to rebound from a disastrous '87 campaign after taking the West in '86. And the Dodgers will scratch their heads, trying to solidify their lineup.

Home Run Baker (AL)
Uncle Smash (NL)

Sport
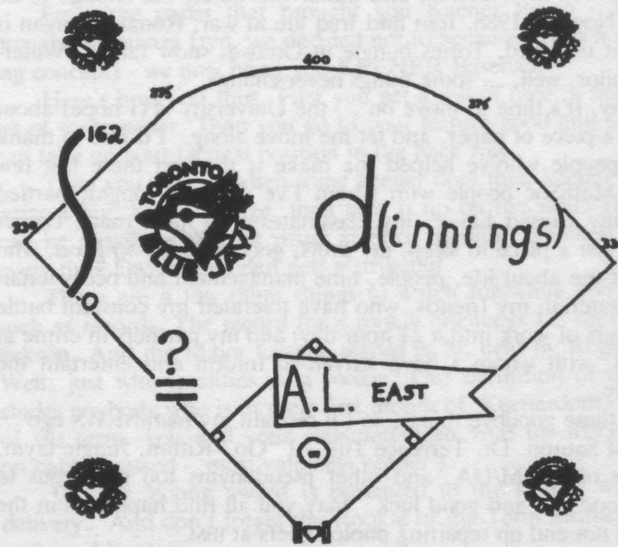
The Road to Kansas City

Why Brandon Should go Division I

So, you say you couldn't get into the CIAU basketball championships because (a) Waterloo got screwed by the selection committee, (b) you couldn't afford to go to Halifax, (c) you couldn't afford TSN, or (d) you've never heard of Halifax? Well, if you can't seem to get enough of the roundball action, then you should know that it's that time of year again in the good ole U.S. of A.: the NCAA tournament. This year, the Final Four will be played in Kansas City, with Regional Finals, which are going down this weekend on CBS, in Seattle, Birmingham, East Rutherford, and Pontiac. Here is a guide (with a few modest predictions) to help you through what is commonly known as 'March Madness'.

Sixty-four teams began play in eight cities over four regions (East, Southeast, Midwest, and West) last weekend. As of Thursday, we have now arrived at the 'Sweet Sixteen'. The nice thing about the NCAA tourney is that the expected does not always happen. Smaller conference teams, who enter the tournament by winning their own playdowns finally get national exposure, and there is always one or two that go crazy and eliminate a highly ranked team. Everybody remembers back to 1985, when the ultimate Cinderella team, Villanova, defeated what could have passed for a pro team in Georgetown. The next year it was Cleveland State, and last year it was Wyoming, capturing the imagination of the continent as they attempted the impossible.

This year, Cinderella's glass slipper best fits these aspiring champs: U of Rhode Island, who knocked off Top 20 Missouri and preseason favourite Syracuse; U of Richmond, who stunned defending champ Indiana and ACC power Georgia Tech; finally, Vanderbilt, which was not expected to advance to the second round, but upset Top 10 Pittsburgh, the second seed from the Midwest Region. Murray State (where they're from, I have no idea) has also become a giant killer, knocking off North Carolina State in the first round, only to fall thirty seconds short of beating Kansas in the second. Of course, the problem facing small schools that get hot is the prospect of repeating their success next season.

As we now move to the Sweet Sixteen, we have Duke vs. Rhode Island, and Temple vs. Richmond at East Rutherford, in the East, Oklahoma vs. Louisville, and Kentucky vs. Villanova in Birmingham in the Southeast, Purdue vs. Kansas State, and Vanderbilt vs. Kansas in Pontiac in the Midwest, and North Carolina vs. Michigan, and Arizona vs. UNLV at Seattle in the West.

Look for the Amazin' Eight (Regional Finalists) to be made up of Duke, Temple, Oklahoma, Kentucky, Purdue, Vanderbilt, North Carolina, and Arizona. Teams that will come close but not quite are Rhode Island, Kansas, Michigan and UNLV. That leaves the Regional Finals with Temple, Oklahoma, Purdue, and Arizona going to KC. The dark horses here have to be Kentucky and UNC, but they've been so hot and cold over the last two weeks that I can't go for them, but if Rex Caldwell and JR Reid become unstoppable, there will be a lot more blue teams in Kansas City.

So, here we are at the Final Four, one of the greatest spectacles in U.S. sport. Temple-Oklahoma will be a wild one, with both teams having a combined record of 63-5. Temple has the discipline, and if it can shut down the Sooners' run-and-gun offense, it should be able to advance, but the game will go down to the buzzer. Purdue has been playing like a team possessed for the last month and should get by Arizona by 5 or so.

April 4th: go find a TV and sit back and watch how the game should be played. The call here is that Purdue will just have a little too much power for Temple to handle, but the game will be within 5 points at all times. It is only fitting that it would end this way.

Old Weird Harold

Stats and the Olympics

Besides geographical algebra, there are a few other math related combinations that have not been fully explored yet. One is stats and the Olympics. Although stats is used in many places during the games, it is not used to its full potential.

Let us take x athletes of type 1, which we shall call defective, and n-x athletes of type 2 out of a sample of n out of N athletes with X defectives altogether. This is the hypergeometric distribution that may be used to predict the number of immigrants from Eastern Bloc countries. The defective ones will be the ones to apply for refugee status during the games. This is also called the lysol function for its known defectant qualities.

Now if we take, for example, the binomial distribution, we can use this to predict the number of people with exactly two names and the multinomial distribution may be used to predict the number of Spanish entrants, who of course, never have only two names. The poisson distribution (a.k.a. female distribution) may be used to see if anything fishy is going on, and the poisson process (Highliner Fish Sticks) may be used to keep everyone fed.

Now, if we take a look at the standard deviation, we can see it depends on the origin of each athlete. The standard deviation of athletes from Los Angeles is obvious. The variancy of an athlete depends on how nervous he or she is before the event. The nervous athlete is vari-ancy. Of course, the Theory of Runs may be used to predict this. The effects of nervousity fortunately may be countered by the use of such measures as anti-histograms and the presence of correlations like their mother and father.

It is becoming more and more common to find athletes that use stats incorrectly. This problem may be solved by checking for the steroids and bivariates in the distribution by taking appropriate samples. Athletes found guilty of this should be taken to the Bernoulli Court, where trials are either held or not, depending on whether or not there is a waiting time.

Stats might be used to combine independent events, for which the intesection is zero. Other issues of mathNEWS have listed our favourite combinations and permutations that may be multiplied together to get a better sport.

Now, if this seems all mu to you, and your head seems to be randomly distributed over the room, don't worry. There is life after stats. (there must be...please?...pretty please???)

Have a good summer, and watch for the algorithm to see life like a CS major.

Deepthot

Ode to Fourth-Yeardom

Oh how we yearn for days of yore
Of Real Time 'til two or three or four,
And lessons taught at such a pace
The nightmares of seeing Andy Conn's face.
We long for assignments that can't be done
That we gave up on, before they were begun.
Of a good night's sleep we have no need
Opposed, abstaining, all agreed?
Take heart, oh math grads, have no fear —
I'll be working for IBM next year.

noruaS

RCMP raids Mars!?

Paranoia has swept Southern Ontario these past few weeks. Rumours of RCMP raids on everything from churches to universities abound. What is it all about? Where are these rumours coming from? Where are they going to? Let me paint two pictures for you.

Joe Good Guy is the sort that buys all his software, registers all his shareware and abhors piracy. Joe one day hears from a friend that the RCMP has been to university X looking for illegal copies of software. Since Joe pays for his software and follows the license agreement he doesn't even give the matter a second thought. In fact he pats himself on the back for being such an astute and honest person. He knows he has nothing to fear. He probably doesn't pass on the story about the raid because he hasn't given it a second thought. After all, Joe is innocent and has nothing to fear. Why should these raid rumours be the first thing on his mind?

Now John Pirate is the kind of guy that wants a copy of every software package ever produced. John doesn't care whether it would be of use to him or not, he just wants all the software he can get his hands on. One day John hears that the RCMP has been to university X looking for illegal copies of software. John hits the roof. What is he going to do. He has pirated software all over the place. His paranoia drives him crazy. There is nothing he could do to protect himself from a raid except erase every single commercial package, or hide them somewhere safe. The thought of a fine or imprisonment is driving John out of his mind. It is the first thing he talks about when he meets his friends. What is John going to do?

Now most of us are not as good as Joe, nor are we as bad as John. However, if we possess some software which we should have purchased, but didn't, these little tidbits that we have been hearing about raids strike some fear in our hearts. We are on the lookout for the possibility of a raid. We tell others that a raid is around the corner.

I am of the opinion that the speed at which these rumours have spread is an excellent measure of how many people have something to fear. Were most people like Joe, these rumours would quickly die out. The mere rumour of a raid has caused many people to take protective measures. These rumours, whether founded in fact or in fiction have likely caused much more action than any raid possibly could.

Jim(^f)

Fermat's Last Theorem

What's this! Actual math in **mathNEWS**! Who'd have thunk it but it's true. The biggest buzz in mathematical circles these days is a reported proof for Fermat's Last Theorem. For those of you who don't know about this famous theorem, here's a bit of background.

For integers $n > 3$ there do not exist any natural numbers x, y, z such that $x^n + y^n = z^n$.

Supposedly, Fermat had worked out a simple proof for this theorem but wrote that he didn't have room to write it in the margin of his notebook and would do it later. Unfortunately, he then proceeded to get himself shot the next day, thus losing the solution to Limbo.

Now, a chap by the name of Yoichi Miyaoka has proved a conjecture which in turn implies FLT for n sufficiently large. Experts regard this proof (reportedly in excess of 300 pages!) as a serious and respectable attempt that needs to be further examined. While the mathematical community is not entirely convinced, there is as much optimism as skepticism and advances are surely on the way.

Lemma Larry

CSC Flash

The CSC has a baby

SEX! (1) (The oldest trick in the book, but now that we have your attention.) After an unplanned absence of two issues, the CSC flash is back, BIGGER and BETTER than EVER.

The CSC has been a whirlwind of activity for the past seven months. About four weeks ago, the CSC got a bouncing baby local newsgroup of its very own (2). Watch uw.csc for news, information, upcoming events and recipes (3). Feel free to post.

In the suggestion box category, we are seeking proposals for new books to purchase and new magazines to subscribe to. Let's hear your ideas! (K&R, 2nd edition, recently announced by Dennis Ritchie, The Man Himself, is already on the list.)

On the 24th of February, Prof. Carl Hamacher of U(T) gave a talk on multiprocessor networks co-hosted by the ICR and the CSC. The CSC would like to (belatedly) extend its thanks to the ICR for making this possible.

On Wednesday March 2nd, the CSC presented Professor Johnny Wong who gave a talk on the current activities and future direction of computing in the Faculty of Mathematics. Students had the opportunity to express their opinions on computing policies.

On the 10th of March, the CSC held an informal debate on copyright law, software piracy and shareware. This meeting was somewhat experimental, as there were no invited celebrities. Look elsewhere in **mathNEWS** for more on this (4).

There is a possibility of a CSC meeting next week with Kelly Booth concerning the new CS131/132 courses. This will be a general information/feedback session. All are invited. More information will be posted in uw.csc and on posters around campus.

The Control-D dinner is coming up soon. We will be bidding a fond farewell to three long time CSC members who are leaving for that black hole in Washington State. Votes as to date and location of the dinner will be taken in our newsgroup and on the blackboard in the CSC office.

The Computer Science Curriculum Committee is looking for a new undergraduate representative. If you feel that you can make a positive contribution, please contact CSC president Jim Boritz at either csc@watmath, jjboritz@watcgl or in the CSC office across from MathSoc.

As always, the CSC's Friendly Consulting Service has been in full swing answering questions (5). We've even gotten some spiffy new posters. Drop in sometime and have a cup of tea. There is still time left to become a member of the new and improved CSC. For only a dollar, you get many advantages. Join now!

Calum T. Dale

(1) Yes Jim(f), your protest has been duly noted, recorded, filed and archived.
(2) ibid.
(3) We need another cookie recipe.
(4) Probability that you'll find it: 60%
(5) No, this isn't MathSoc. Yes, we have a stapler. No, we haven't seen Rico.

mathNEWSquiz #6

(Or: The End of the Road)

Agh. Where does the time go? It seems extremely hard to believe that this is the last squiz that I will write as an undergrad. But, the end had to come sometime, so here it is. I hope none of you frosh are looking for words of wisdom from a grizzled veteran at this juncture. All I can say is, do your damnedest to enjoy your stay here at Waterloo. Out of necessity, university will bring times when you figure things could be a lot better, so nothing will be gained by adding any sort of misery on your own. I certainly don't wish to seem negative, 'cause odds are that you will also enjoy some of the best times of your life here. It'll be what you make it, so make it good. issue with a few questions to get you prepared for exams, so here we go again:

True/False

1) U Thant was the first Secretary-General of the U.N.
2) Zurich is the capital of Switzerland.
3) The Toronto Maple Leafs were originally called the Toronto Arenas.
4) Ronald Reagan's middle name is William.

Multiple Guess

5) What group played U(W) on September 13, 1969? a) Blood, Sweat and Tears b) Thunderclap Newman c) Chicago d) The Guess Who

6) Which player has never won a Cy Young award? a) Jim Palmer b) Jim Lonborg c) Jim Hunter d) Jim McClain

7) Which of the following movies did *not* have Harrison Ford as a cast member? a) Apocalypse Now b) The Graduate c) American Grafitti d) Blade Runner

8) Who drew Pogo? a) Charles M. Schultz b) Chic Young c) Walt Kelly d) Ernie Bushmuller

Jeapordy! Jeapordy! questions give the answer, to which you must supply the question.

9) *The Heretic* 10) The Flem Building 11) Richard Speck 12) The Deep River Apartments

Answers will be posted outside the **mathNEWS** office sometime during exams. You can submit answers if you want, but it won't do you any good, because this is the last issue of term. Anyways, last week's answers were: 1) The Band (Huh? What band?) 2) Deep Purple (Nobody fell for Whitesnake) 3) Buffalo Springfield (Named after a steamroller) 4) Vanilla Fudge (How the *hell* did you get that?) 5) A Study in Scarlet (Elementary) 6) J.D. Salinger (Mark's favourite) 7) Mario Puzo (Did you ever see *The Godfather*? Or just the movie?) 8) Judy LaMarsh (Former Liberal cabinet minister) 9) Connie Mack (Managed for 50 years in street clothes) 10) Pascual Perez (Ramp what?) 11) Boston (Yeah, they won once) 12) Lou Gehrig (Tacky, Kelly) And the final winner is...er, are...**Kelly Kuindersma** and **David Till**, who both got 10. I can't decide who to give it to, so I'll put both your names on the **mathNEWS**quizExpert certificate and let you fight over it. You can pick it up in the MathSoc office sometime in the near future. Also being submissive were Bud (6), Denise Minaker 86021257 (4), and Flet's Ghost (0 - booooooo). Categorical winners were as follows: Bands (4) Kelly + David; Literature (2) Kelly, David + Denise; Baseball (4) Kelly + David. Wait 5 right. Well, let's see. What can we do to finish? Reveal psuedonyms? Uh-uh. I plan on making a few guest appearances in the summer. But, however, we do need someone to continue the squiz tradition. If this tickles your fancy, talk to anyone remotely connected to **mathNEWS**. And now a plug – **mathNEWS** is, as you may know, almost entirely a function of those involved. As a result, anything can happen – from Blue Velvet to taped hamsters to unmentionable follies. So, if you would like to see **mathNEWS** take on a new tack, come on out. One person can make a big difference. A final thank you to all the squizzers out there. A complimentary dish of headcheese to my buddies at **mathNEWS**, who made fourth year something to remember (but not necessarily tell my kids about.) I guess that's a wrap. I'm outta here. God bless ya.

One-Armed Phil
The **mathNEWS**quizmaster

MGB in Retrospect

I can think of only one word to sum up the Math Grad Ball on Saturday, March 19: marvelous. The decorations were marvelous, the organisation was marvelous, the MGB wine glasses were a marvelous touch, the band was marvelous, the slide show was marvelous, the food was marvelous, the cake was huge and marvelous, the roses were marvelous, the speeches were short and marvelous, the clothing (or non-clothing) was marvelous.

Anyway, everyone had a great time. Some drank, some didn't; some polka'ed, some didn't.
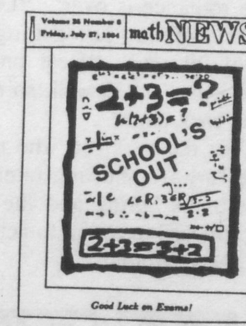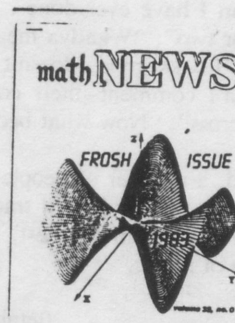
Two awards were given out after the meal. Dr. J. Alan George presented the J. Alan George Award for student leadership and contribution to student life, to Stuart L Hodgins. The other nominees for this award—Elizabeth Dunn, Brett Martin, Ross Orrett, and Sue Weprajetski—were also recognised. A MathSoc Honourary Lifetime Membership went to Dr. J. Alan George, former dean of Mathematics.

The MGB committee deserves many congratulations on its efforts. Thanks for a wonderful evening!

mathNEWS Subscriptions

Co-ops! Want to know what's happening while you're out in the barren wilderness of Pinawa (or wherever)? Regulars! Want to know whether the DC will be overgrown with little black mushrooms before you get back? Almost-Grads! Want to keep in touch with your roots, or just laugh at the daily struggles of those you're leaving behind? **mathNEWS** can provide you with all of that, and more, through its subscriptions service, now open for Summer '88 orders. Just drop by the MathSoc office where, for the ridiculously low price of $5, cash or cheque (payable to **mathNEWS**), you can enjoy your Friday morning companion all term. You can also drop us a *cheque* in an envelope in the *BLACK BOX* or under the **mathNEWS** door, MC3036.

The upcoming term promises action, excitement, adventure, Prof Quotes, more twilight-zone events at the DC and maybe even the return of—nah, couldn't be. Anyway, what's a Friday morning status meeting without your paper? **mathNEWS** – it's just like being home.

M G B

Math GRID Ball

This is it. My final official GridWord. I want to thank all of you for being so supportive over the years. It's made all the time I spent worthwhile.

This GridWord is slightly different, not only in the obvious look, but in the types of clues. They are a mixture of conventional and cryptic clues, as well as anything else strange I could think of. The solution to this will be posted outside the mathNEWS office (MC3036) on Wednesday of next week.

There were a total of 26 solutions for last issue. They are broken down as 7 conventional (5 correct) and 19 cryptic (17 correct). The winners are: P and Ron for cryptic and Brett, Sandy, Lynda, Colin, Bryan for conventional. They can pick up their prizes from the MathSoc office (MC3038). We'll see what we can do for Gumby and Pokey.

Other correct submissions: SLG & BWN & LMH & CJA & BK, Gumby and Pokey, Burke Pond, Carlos Donald, Roo, Charles Dickens, William McCuaig, Anne Marie & David, Dalton Campbell & Anne Marie Chung, Mark Earnshaw, James Cherry, Alison & Stephen, Dopey, Peter Found, Fizz & the DT Bomber, Bay-lore, Frank Letniowski (very funny, C J). Other not-so-correct submissions: Your place or mine, p1 (not p2), Robyn, Anne Marie & David.

Favourite Body Function: "Those few moments in the morning when you're just barely awake"; "sleep"; "SEX"; "glycolysis"; "can you print that?"; "Retching"; "GridWording"; "Copulatory reflex"; "Laughing"; Laying mud"; "Breathing (I just can't get enough)"; "Eating and dancing"; "Skanking".

Other comments: "Where did you find jejune?" (in the dictionary); "How many ZEN masters does it take to screw in a light bulb? None, the universe spins the bulb, and the ZEN master stays out of the way."; "I never win anything"; "This is my last chance at fame and glory"; "Lick me. I'm a lollipop"; "Finally completed one!"; "'Tis a far better thing that I do now than I have ever done . . . "; "The romance is over"; "Lots of evens for two"; "Whadya mean no more? We was just getting into this!"; "Looks good, doesn't it?"; "Scum for our"; "Real programmers don't comment–their code is self-evident"; "Oh well, so much for 10 across"; "Now what becomes of the back page?".

For those of you who may be worried, a number of people have come forward showing interest in continuing the GridWord tradition in both the Spring and the Fall terms. I wish them the best, and I look forward to trying to actually solve one of these.

See ya 'round!

fletniowski
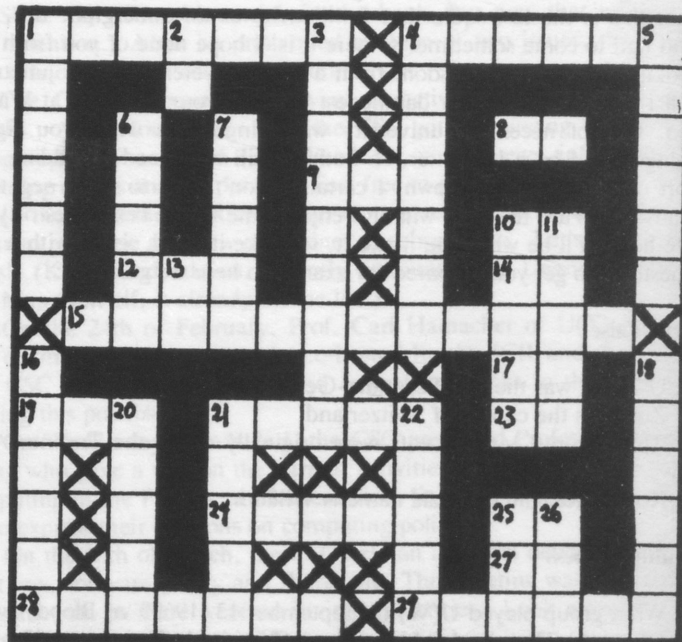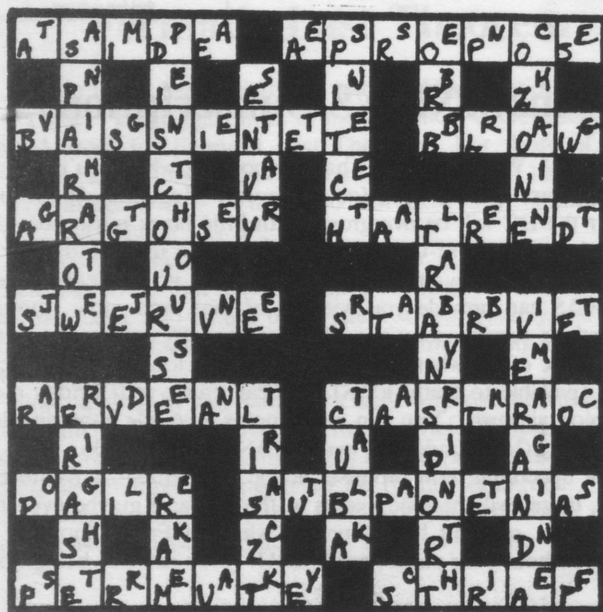
Across

1. A holy person's set of mountains is strange (7)
4. A nationality shines? (6)
8. Direct to the skies (2)
9. Though a devil, I am quiet (3)
10. What a number! (2)
12. Promotion with no fuss (3)
14. An article of a backward continent (2)
15. Power from the smallest of things? (6,6)
17. Thus, a person's "modern" partner (2)
19. Soundly among the country hotel (3)
21. Firm as the cover (5)
23. Alien and French (2)
24. Not asleep at a watch over the body (5)
25. As far as Toronto? (2)
27. Switch state (2)
28. Compensates the Communist about the German soldier (7)
29. Magnificent (6)

Down

1. Less almonds contained in the fish (6)
2. Near a risen tutor (2)
3. Based on experiment (9)
4. An October fruit (7)
5. Bees sound like an insect coming from Scrooge (6)
6. 24 is pure (6)
7. At the wedding, a high note of space (5)
10. Analyse grammatically the thrown spear (5)
11. A lump of metal (5)
13. Execute half an extinct bird (2)
16. Equip our strictness (6)
18. So Barb could soak up? (6)
20. One who roams with negative insanity (5)
21. A direct step out of this world (5)
22. The medic has a curve and a gown (5)
25. Above all, to be quiet (3)
26. Love needs the first two singly (3)