

Volume 69, Issue 1 Friday, September 29, 1995
A lack of cover art submissions gives us
stickmen!
'STICKMEN?' I WAS TOLD I'D BE WORKING FOR 'DILBERT'.

| $\frac{\text { SPECIAL GUEST: }}{\text { CHARLIE BROWN }}$ |
| :---: |
| GOOD |
| $(\cdot)$ |

## Double Trouble

Hi! We're back! Yep, we two have been specially selected as your mathNEWS editors this term - for the second time in a row! (Okay, so we got the position through acclamation. Okay, so this isn't such a big deal. Okay, so you care about this about as much as you would care about a Barney the Dinosaur convention in Wichita, Kansas. <whimper> Stop bothering us already!)

Yeah!
This should be an interesting term. . again! To start, our mail isn't being delivered properly and people just can't get into the system. We're blaming Ian. We figure he put some sort of bug in the program before he left for California. And once again, Ron Servant (there, Ron, your name is in bold!), did not send in his MathSoc article on time! (sigh) The things we have to put up with. :)

If you're interested in learning just how we managed to make it back as editors again this term, don't read Christina's "Conspiracy Revealed" article! She's lying! Really! Both the Warren Commission and the Zapruder tapes bear that out! (Talk about "character assassination"! :-)
(Oh, and Christina: we didn't know you wanted to be editor! So next time Mala announces in front of the entire MathSoc meeting (which included you) that the mathNEWS Disorganizational Meeting is at a certain time and asks if anybody has a problem with it, maybe, just maybe, you should speak up! :-)

Well, before we turn this intro into an epic (yes, we. We're alternating (more or less) the paragraphs; you can figure out who's who!), we should thank everyone for all the help for this issue and the future issues to come ... especially the Frosh, who put up with our weird humour and ways for the first time.

Looking forward to another great term!
Mala "Crakko, the Warner Cousin" Krishnan Mike "Hammer" Hammond Fall (and Winter) 1995 Editors

## Prez Sez Absolutely Nothing

Normally, Ron Servant, the esteemed (but rather bald) 'Soc prez would write something here. But he forgot.

Why?
Who knows? Who cares?

## ISSN 0705-0410

mathNEWS is normally a fortnightly publication funded by and responsible to, but otherwise independent of, the Mathematics Society at the University of Waterloo. Content is the responsibility of the mathNEWS editors; however, any opinions expressed herein are those of the authors and not necessarily those of MathSoc or mathNEWS. Current and back issues of mathNEWS are available electronically via the World Wide Web at http://wov.undergrad.math.uratorloo.ca/mathnevs. Send your correspondence to: mathNEWS, MC3041, University of Waterloo, 200 University Ave. W., Waterloo, Ontario, Canada, N2L 3G1, or to userid mathnews Qundergrad.math.uwaterlov.ca on the Internet.
Your Wonderful Editors: Mike "Hammer" Hammond, Mala "Crakko" Krishnan

## Novelties Report

Novelties have not been on sale so far this term, due to the introduction of a new cash register with lots of buttons on it. The office manager assures me the office drones will be trained soon, though, and everything should be on sale by the time this issue comes out.

This term at MathSoc we have lots of groovy stuff for sale. Pink Tie mechanical pencils are only $\$ 1$. Pink Tie pins (just like the tie guards got) are also only $\$ 1$. Buy both, and we'll let you have'm for only $\$ 2$ total; just tell them Christina sent you. We also have lovely limit shirts, horizons shirts, and leaf shirts. They're on display in the MathSoc office, and they're only $\$ 10$ each. Cheat Shirts will be available in a few weeks, at $\$ 12$ each. We also have soup mugs on sale for $\$ 3$. They also double as small coffee mugs. Use them at the C +D instead of those nasty styrofoam ones. What goes perfect with coffee? Pink Tie condoms, of course! Well, not really, but at only $\$ 1$ each, these stylish pink latex condoms are a steal with any beverage. These are real condoms too, folks, not "novelty condoms." They're made by a company that primarily serves safe-sex talks.

Coming in any day now will be our big new attraction: Math Hats. These gorgeous baseball caps identify you as a University of Waterloo Math student. At $\$ 12$, they're also much cheaper than the UW hats you can buy in the campus stores, but are of the same quality (same manufacturer). How can we do that? Because MathSoc novelties is here to serve you, not make a profit.

## Christina "babe" Norman <br> Novelties Director

## mastHEAD

Woo-hoo! It's the first issue of mathNEWS for the term and we're having major troubles. Let's see, mail for the past week or so has just vanished without a trace and some lock files have prevented everyone from entering the system. I mean, c'mon, there's mutual exclusion and then there's mutual exclusion. At least one person has to get into the critical section, y'know! (Sorry for the CS refs!) As for the mail...I'm sorry for those of you who mailed your stuff, but really-it wasn't our fault!!

So, when you read this, remember us little (and big) people who went through quite a bit to get this issue out!

And who are those amazing people?? Here we are, with "Who Should Have Shot Mr. Burns?" (from The Simpsons....just in case you didn't know): Chris Calzonetti (Zoggo), Brian Fox (The Human Bullet [Fire me, boy!]), Tim Coleman (O.J. Simpson), Neil Hepburn (That pasty faced kid whose voice is always cracking), Warren Hagey (Dean Kalbfleisch), Alx Barker (No comment.), Darren Rigby (Santa's Little Helper), Dale Wick (a gun!), Sarah Kamal (See article on page 6; [Too long to put here ... we only have so much space, y'know - CrakkoEd], Richard Bilson (Lee Harvey Oswald), Lateef Yang (It was me!), Paul Rechsteiner (Who? It was a conspiracy, damn it!), Viêt-Trung Luu (Why?)

Mala "Crakko" Krishnan (He should have killed himself!), Mike "Hammer" Hammond (His jealous 98-year-old brother,

George Burns)

## lookAHEAD

## prof QUOTES

| mathNEWS |  |
| :--- | :--- |
| October 4 | Issue \#2 Writer's Night |
| October 10 | Issue \#2 production night |
| Math Grad Committee |  |
| October 4 | Class of '96 Group photo, 5 pm |
| October 2-4 | Grad photos |

## MGC '96 Stuff

## What is the MGC?

The MGC is the Math Graduation Committee. It is a partially funded subcommittee of the Math Society, made up of graduating students who plan social events, create a class yearbook and organize the Math Graduation Ball (MGB).

## Who runs the MGC?

There are two MGC chairpersons. Mike Vanderkaden was chair for the Summer '95 term, and Nathalie St-Maurice is currently chair for the Fall '95 term. The two chairs come together for the Winter ' 96 term.

## Where is the MGC?

The Math Graduation Committee has an office in the Math building, MC 3029. The MGC office extension is $\times 6659$.

## How can I find out more about the MGC?

The MGC has a newsgroup, uw.math.mge and a homepage, http://www.undergrad.math.uwaterloo.ca/ mgc. You should watch these for important announcements about MGC activities. You can also send mail to the MGC at mgceundergrad.math.uwaterloo.ca. If all this high-tech stuff bugs you, don't hesitate to drop by the office. The MGC's office hours are posted on the door (you can sign up for an hour if you don't think the office is open enough...)

## How can I help the MGC?

The MGC needs volunteers! There are many committees which function the best with lots of people to help out. These include a social committee (help plan COOL MGC events!), a yearbook committee (fill it with pictures of your friends!), a merchandise committee (sell stuff to the class of '96), a postings/publicity committee (get the word out about MGC!), and the Math Grad Ball committee (make it a night to remember - for the RIGHT resons!). . Sign up sheets for these and other committees are on the MGC office door.

## What is the MGC doing for me?

The MGC is currently making sure all portraits are done for the class composite and yearbook, co-ordinating class ring sales, planning social events such as a winery tour, brewery tour and rock climbing trip and making the initial MGB plans. If any of this interests you, come help us out!

You know... I've never seen the prof QUOTES so short! And worse still, most of these aren't from Math profs. If you do submit prof QUOTES please make sure they're funny...for everyone!
"What do you call a constipated French Canadian? A Blocked Quebecois."

Eastman, SCI 205
"If it moves, it's Biology. If it smells, it's Chemistry. If it doesn't work, it's Physics."

Eastman, SCI 205
"If I removed all the air from this room, you wouldn't be able to hear me. Of course, if I removed all the air we'd die of oxygen deprivation."

Eastman, SCI 205
"Does sex cause accidents?... Well, that depends on where you do it."

Brown, ACTSC 363

## Blast from the Past!!

Ever wonder what happened in mathNEWS in those terms before you entered $U(W)$ ?

Well, you'll be amazed at how much technology has affected the very look of this wonderful publication.

You're probably wondering why I even bothered to mention this stuff if you can't get access to them.
Wonder no more! For the next while (long while), we'll be distributing old issues of mathNEWS for you to add to your big and growing collection.

We've got 'em as far back as 1980 ! We'll put them somewhere (no, this isn't a mathNEWShunt; I just don't know of a permanent place for them, yet) on the $3^{\text {rd }}$ floor in random order (doesn't that make things fun?).
Help yourself! If you're wondering why we're doing this wonderful deed, well, frankly, it's because we don't want them!!!. Our office is small enough without boxes and boxes of mathNEWS cluttering our office space. We've got issues on the floor now!!

Thank you for your understanding!
Mala "Crakko" Krishnan

## ultraCLASSIFIEDS

## I.M.M.H.:

It's nice to see you back from Deep River. I've missed that bright, smiling face over the summer.

MC Venn:
Hey, Dave!
Hammer

## Dumb Frosh?

I Don't See Any Dumb Frosh!<br>(Or Maybe "Lessons of a Dumb Frosh"?!?)

Wow. My first year in math and I'm writing for mathNEWS. What could be better? Really, I mean that. (Actually, I only came to mathNEWS Writers' Night for the free pizza, but you didn't hear me say that.)

Well, after being at university for a few weeks, I've already learned a few things:

- I never thought that I could fall asleep while I was in the middle of talking notes. I was wrong - I fell asleep in the middle of a word (in my defense, it was during a three-hour long lecture in an over-crowded room with absolutely no ventilation).
- Jay-walking in the morning is a bad thing, both for me and for the drivers who have to try to avoid hitting me. Also, I've found that dodging cars while you're dazed and halfasleep is not only difficult, but more than a little scary.
- I don't like lasagna as much as I thought. After having it just a few times at my residence, I'm already getting pretty tired of it. Of course it isn't the best lasagna in the world...
- Professors seem to have a sixth sense which tells them, "All the other profs are making their assignments due on Friday, so I'll make mine due on Friday too." While it makes remembering due dates pretty easy, it makes Thursday nights (or rather, early Friday mornings) much more difficult.
- Non-frosh (presumably second-year or higher students) often say things to/about us frosh using the phrase "dumb frosh." I have no idea what they're talking about. (Hey, we did get into $\mathrm{U}(\mathrm{W})$, didn't we?)
- I also learned that I'm not very funny, so I'd better stop here...

Viet-Trung Luu

## New and Improved UW

There were some noticeable improvements here at the university over the summer. The Student Life Centre (what kind of name is that?) is finally complete and running, and of course all undergrad Math students have noticed the new X-term rooms on the 3rd floor of MC, but do you know what I think is the biggest improvement made this summer? The paving stones on the walkway between the Science buildings. No longer will students have to awkwardly climb or descend those idiotic steps. I would like to personally thank whoever was responsible for the great improvement.

## Companion Note to "Dumb Frosh?"

As a service to all newcomers who don't live in residence, we present the following clarification.

This is Village "food" being discussed. It is only technically lasagna.

Thank you.
Gridby

## The Source of Knowledge

So, you're frosh. And you came to $u(w)$ with a thirst for knowledge. Well, I have something to tell you, since I've been here long enough to know. There is more than one thing you can learn here. And more than one way to learn. Let's break this topic down into its constituent parts:

- Thirst
- No
- Ledge

So, without any more delay let's get started on the road to the source of knowledge.

## Thirst

Okay, so the obvious thing to do once you get to university is to truely rebel from your parents, and drink like a fish (or a Bomb at a certain place on campus). Now I personally didn't go for that option since I prefer Fed Hall. So my suggestion here is to dance until you're thirsty and then drink water. Hmmm, not what you expected, well let's see what's instore for the next section...

## No

Now when midterms come around (I've always wondered why they aren't called all-terms, since they seem to be one per week for most of the term from three weeks in until those final projects are due), you'll be starting to run out of money (I mean you really did need to buy those books to study from - even though you blew your real book money on Arcade games, and eating out even though you have a meal plan on your WATCARD). So, since you need the money, simply call the "Bank of Students Everywhere" (or the BOSE as some call it): your parents. After they say "No!" you'll be one step further along the road to knowledge. Then when they actually do put money, you'll have taken a step back...

## Ledge

...towards the ledge, we call graduation. Just be careful, don't fall off before you're ready.

## My Briefcase was Stolen

"Rincewind enjoyed times like this because they convinced him that he wasn't mad, because, if he was mad, that left no word to describe some of the people he met."-Terry Pratchett, Sourcery

It happened last Saturday night.
I was at the Village Grill ${ }^{1}$ and I left it outside on one of the tables in the corner while I went in to get a sub and a drink. I couldn't have been gone for more than 10 minutes. Before paying I checked to see if it was behind me and it wasn't. It had gone.

I went back to my room and dumped the food, then went up to the Village Office to get the phone number for the police. I reported the theft both to the attendant on duty at the time and to the police. The attendant said that he would look for it on his rounds. The police said that they would meet me by the Grill.
I've never had anything stolen from me before in my life. My briefcase didn't have too much in it at the time. I had just come from campus to check my e-mail and newsgroups, and it was about $1: 30$ in the morning. I just wanted a pizza sub, a cream soda, to go back to my room, consume them, read a little and off to beddy-bye.

## But it was gone.

The cashier at the Grille told me that he thought he had seen two people, who were rather drunk, hanging around the table. So, what might have happened to it? Either it was legitimately stolen, or it might have been put somewhere humorous to a drunk person, such as a toilet, a recycling bin, the library return slot or the roof, all of which would be unhumorous to its owner, me. If it was legitimately stolen, then the thieves might not be able to open the combination lock which I had set to 000 , and dispose of it since it's too much trouble.
So, before calling the police I checked around Village quickly. Still gone. When I met with the police they took my name, ID number, and a description of my briefcase, including what was inside it.
What was inside it? The usual stuff: the clipboard that I had used to write things down from newsgroups, a few notes, my checkbo-uh-oh. And was my electronic crossword solver in there, too?
The police advised me to check around the grounds for it, which I did a second time. While I thought of some more humorous places, the cops talked to the cashier. The Grill had closed by now. They actually said, "Open up; it's the police!"
At 8:30 the next morning, I got a call from the V1 office saying that my briefcase had been recovered. It was in the office now. I could pick it up.
The lock has been broken. It won't close properly now, and it won't open without the aid of a coat hanger. My checkbook and loan information were still there. My crossword solver was never in the briefcase, so they didn't get that.
Ladies and gentlemen, they stole my pens.

There were about a dozen of them, and at about a dollar each, despite everything, they managed to get away with nearly 15 dollars in merchandise.

They also stole the clipboard. It was a nice one. It had a holder on it, I think was called a bear-claw ${ }^{2}$ which will almost never let go of papers. I don't know how much it cost because it was my father's and they don't seem to make them anymore. So it might be of value to an antique clipboard collector.

I lie awake at night and I ask myself "Why?" Why did they do it?

Why did they take the clipboard but leave me the paper? They felt it necessary to remove the paper and leave it with my briefcase, which they abandoned in the doorway into the Red Caf. They had to pull it out; I can tell because I can still see the skidmark down the top page. The bear-claw doesn't open like an ordinary clipboard and until they work out how it works, they can't open it again. So, effectively, the clipboard is useless until the thieves dry out sufficiently to outthink it.
If you're reading this, guys, all I can say is that you must have been completely tanked.
Later, I realized that there was something else missing from my briefcase. Three shareware disks. They stole shareware. ${ }^{3}$ If it is logically possible to steal shareware.
As for me, I was already laughing about this experience the night of the theft ${ }^{4}$. I don't feel violated, or that the world is no longer a safe place, although, based on an old episode of Growing Pains, I think I'm supposed to. I've already replaced some of the pens, the clipboard, and I still have the shareware at home on the computer. Until I can get my briefcase repaired or replaced, I'm using a carry-on bag that makes me look like I'm ready to fly to Europe. So I'm fine.
Until I get the bill for the repair. Then I'll be pissed off.
Darren Rigby, writing as Gridby
${ }^{1}$ See the companion note to the article "Dumb Frosh?"
${ }^{2}$ Or am I thinking of pastry?
${ }^{3}$ For those of you unfamiliar with the concept, shareware is programming that someone has done basically for free which is to distributed freely to whoever wants it. It is sold in stores only for a little above the cost for the disk and packaging. The idea is that if you like the program, and would use it, then you send the programmer some money, usually about $\$ 10$ to $\$ 20$ dollars, and they will send you back updates, added features and so forth. Shareware is the socially accepted way for ordinary people to commit theft.
${ }^{4}$ Because I'm generally just a happy person, not because I was completely tanked.

## Prevent Filler Overload

# Why I Loved Frosh Week 

I Laughed, I Cried, I Cried Some More

"Sleep no more! Frosh Week doth murder sleep!" - Shakespeare (paraphrased)

On behalf of the freshmen (and freshwomen) of 1995, I would like to thank the Orientation Committee (Motto: No Sleep is Good Sleep) for providing us with a well-rounded, deeply personal, and yet largely impractical introduction to life at $\mathrm{U}(\mathrm{W})$. I know it took my mind off those annoying and distracting things like registration, buying books, eating, etc. (although I just can't get enough of that Fed Pizza). For those upper year students who like to reminisce about their own experiences, and for those Frosh who didn't take part and are now being ostracized in their math classes, here are the highlights:

- Earning the Pink Tie: Exploring all that MC has to offer. You would think that the Math building of all places would have the room numbers in arithmetic sequence, but you'd be wrong.
- Pep Rally: Make all sorts of friends who you then can't speak to for the next two days while your voice heals.
- Magical Misery, er, Mystery Tour: Only Krazy Glue makes it easier to bond with your fellow students. Highlight: The guy in the bear suit nearly passes out from heat exhaustion.
- Faculty Barbecue: Tough meat from tough profs.
- Foot Rally: Perhaps they should have a separate "Disorientation Week" at the end of the term and save this event for then.
- Havenger Scunt: The University Administrators must love this one. But hey, who ever uses those stools in DC anyway? Highlight: A guy spends 20 minutes sitting in a recycling bin full of cold water and only gets 500 points for it.
- Frosh Olympics: We're not the worst!
- The Video: So much Mr. Bean, so little time.

Richard "The Kitchen Cynic" Bilson

## I Can't Believe It's Filler!

## And now, Sarah Kamal's response to this issue's mastHEAD

In a wild, uncontrollable, mindless spasm of hate... in a desperate final act of destruction, Barney, the beloved purple dinosaur, burst upon the scene and gunned the unsuspecting Mr. Burns to death, tossing his head back in a triumphant roar as the sharp rat-a-tat-tat of the SWAT team's guns sent pieces of his bloated, protoplasmic, fuzzy body splattering randomly in an incredibly gory and messy yet pleasing abstract pattern on the lilac walls.

## In Defense of the

 Organizationally HandicappedIf you are like me than you are one of the many people who are termed by those who don't know us as organizationally handicapped. Now, I will be the first to admit that perhaps the piles of loose papers in my room sometimes need to have warning lights for low flying aircraft, but I rebel at the word "handicapped." In my own experience unorganized people get as much done as those who are organized and still manage to have more free time and fun as a result.
Who are these people who label us with such atrocious terms? You might call them the organizationally fervent. You all know at least one. You'll see them rushing from place to place without a moment to spare in their planned curriculum for the day. Don't even try asking for a hand with something. If you're lucky you can get eleven minutes next Tuesday. If you still can't find one, here are a few simple clues: the organizer a foot thick, things planned just so, and when you give them a list of names they're disappointed that you didn't alphabetize them. These order maniacs can't understand why we don't all plan like they do; in fact, they're amazed we can eke out a day-to-day living.

Given a project to do the order maniac calmly writes all the information down in their ever-present datebook. Then they get their master index of files, which they spent last week working on, and find the file they want. They also pull all other files that might have some connection to the project. They then re-type the document and make three copies of it for reference, and repeat the procedure after they find that one spelling error. Lastly, they double-check everything to make sure it was done properly. They walk in to the office and hand in the project and head off on the next project. Given the same project the chaos master scribbles down half the information on the back of the napkin they had with their coffee. Then they search through their pile of papers, which are buried underneath their fishing gear that they used last week at the cottage, and find the information they need, along with the bill that needs to be paid tomorrow, the letter they never sent to an old friend in Quebec

The problem seems to boil down to one simple thing: communication. One side never seems able to understand the other, and so the battle rages on in a timeless struggle of order versus chaos. So how do we solve this dilemma? Run seminars? I know that I have no use for neat and trim files. Don't get me wrong, I don't mean to imply that the order maniacs should give up their ways. Anything but that! After all, if the system works, don't change it. They'd have my cosy little clutter reduced to an exacting mathematical science of randomability that would baffle Einstein himself. No, the best thing that the two sides can do is learn to accept the existence of the other as a fact of life. They can try to avoid criticizing the other group, because neither seems to be able to tolerate criticism (though they can both dole it out).

Before the war ends and the truce begins I have one last point to throw into the fray. When an organized person is faced with a problem that is totally unexpected they can go into virtual hysterics. For we handicapped people it's only one more thing to add to the jumble inside our minds and we just take it in stride. So to all you order maniacs, I'll write you from the Caribbean... if I can just find a piece of paper!

Kurtis R. M ${ }^{c}$ Clellan

# A Practical Application for Mathematics 

Or, Math for Your Arts Electives

For all of you mathNEWS readers out there who were wondering about where math can get you in the "real-world", and who are trying to decide what electives you should take, I might suggest a language course or two. In the following article, I intend to show you how the rules of differentiation - you know, the product, quotient, power and chain rules - can be used for improving your writing skills, something important if you want to take a language course, or if you wish to start publishing your own books. This really shows where mathies are one-up on the artsies in this area.

- Power Rule:

$$
\begin{gathered}
y=a x^{n} \\
\frac{d y}{d x}=n a x^{n-1}
\end{gathered}
$$

Yes, this rule may be handy for differentiating nth-power variables, but notice how useful it is for revising drafts of your essays: Note:

$$
\begin{gathered}
\frac{d}{d x} \text { RoughCopy }=2 \text { ndDraft } \\
\text { RoughCopy }=(2 \text { Paragraphs })\left(\text { (TonsOfCrap }{ }^{5}\right) \\
2 \text { ndDraft }=(10 \text { Paragraphs })\left(\text { TonsOfCrap }^{4}\right)
\end{gathered}
$$

Now, you may note that there has been a substantial increase in the number of paragraphs in the 2nd draft, but observe that the magnitude of TonsOfCrap has been reduced, and moreover is better distributed. Follow this rule and you should be writing for Imprint any day now. [Wait a minute. Are you implying that Imprint has less TonsOfCrap than it otherwise might? Be afraid. Be very afraid. - HammerEd.]

- Product Rule:

$$
\begin{gathered}
y=b c \\
\frac{d y}{d x}=b \frac{d c}{d x}+c \frac{d b}{d x}
\end{gathered}
$$

(Side note: Advanced writers may also use the power rule here for variables raised to the nth power, but this is a beginners' course). Note:

$$
\begin{gathered}
\frac{d}{d x} \text { Thesis }=\text { Outline } \\
\frac{d}{d x} \text { Research }=\text { Writing } \\
\frac{d}{d x} \text { Idea }=\text { Brainstorm }
\end{gathered}
$$

Observe:

$$
\begin{gathered}
\text { Thesis }=(\text { Idea })(\text { Research }) \\
\text { Outline }=(\text { Idea })(\text { Writing })+(\text { Research })(\text { Brainstorm })
\end{gathered}
$$

See how easy it is to go from thesis to outline? Who says math has no use in the "Real-World"?

- Quotient Rule:

$$
\begin{gathered}
y=\frac{d}{g} \\
\frac{d y}{d x}=\frac{\frac{d d}{d x} g-\frac{d g}{d x} d}{g^{2}}
\end{gathered}
$$

This is especially useful for revising bad essays into good ones. Note:

$$
\begin{gathered}
\frac{d}{d x} \text { BadEssay }=\text { mathNEWS Article } \\
\frac{d}{d x} \text { MindlessBabble }=\text { Drivel } \\
\frac{d}{d x} \text { UsefulProduct = IngeniousWork }
\end{gathered}
$$

mathNEWS Article $=\frac{(I . W .)\left(M^{\prime} l \text { lessBabble }\right)-(\text { Drivel })(U . P .)}{M^{\prime} l_{\text {lessBabble }}{ }^{2}}$
Notice that the mathNEWS article has much less MindlessBabble, as a trade-off with drivel, but drivel is actually much more desirable in today's publishing houses, and is marginally offset by the integer quantity IngeniousWork.

- Chain Rule:

$$
\begin{gathered}
y=\left(a x^{n}+b x^{(n-1)}\right)^{m} \\
\frac{d y}{d x}=m\left[a x^{n}+b x^{(n-1)}\right]^{(m-1)}\left[n a x^{(n-1)}+(n-1) b x^{(n-2)}\right]
\end{gathered}
$$

To increase the volume of your material, use this rule!

$$
\text { YourEssay }=\left[3(\text { Body })^{3}+(\text { Intro })^{2}+(\text { Conclusion })\right]^{2}
$$

War + Peace $=2\left[3(\text { Bod. })^{3}+(\text { Int. })^{2}+(\right.$ Conc. $\left.)\right]\left[9(\text { Bod. })^{2}+2(\right.$ Int. $\left.)\right]$
(Note the use of the power rule in this example) By using this method, you can greatly increase the size of an (insert your language course here) essay, while not increasing the amount of material. This is especially useful if you need an essay yesterday, and you haven't done enough research, or you don't care.

So, as you can see, dear mathNEWS reader, we mathies have a head start in language courses. Just follow this easy guide and you will have absolutely no problem at all. And you thought that math had no real use in the increasingly imaginary "RealWorld". Just remember to take those arts electives, and when your profs ask how you do so well, tell 'em who showed you the way.

Tim "So What if I'm Taking Arts Electives?" Coleman

## Make White Space An Endangered Species

## Write for mathNEWS

# Post-Teen Angst: So, How Many Mice Have You Done This Part V To? Aliens Or, "Fishin' for Gophers Pays Off from Time to 

SO. You don't believe in space aliens, UFO's, Star Trek, E.T., or ALF. Well. That's your funeral. Lucky for me, I do. Yet again, I must prove another point to the ever-sceptical Average Reader by illustrating with a tale from my own exotic existence.
I was mildly fishing for gophers in my backyard one fine spring evening... What? You've never fished for gophers? It's really quite relaxing. Of course, you need the proper equipment. To make yourself a good gopher fishing pole, you take a toiler plunger, and pierce it close to the centre with a bent coat hanger. Hook. Now, your gopher-fishing neophyte will attach a bell or some such device to the free end of the hanger to let him know when he's hooked one, but being a seasoned veteran, I had no such aids. Spoils the thrill of the catch, I say.
Now some will tell you that chocolate cheesecake is the bait of choice to hook your best gophers. Granted, they do go for it, but you lose one too many bits of chocolate cheesecake off your hook and your gophers will get such fat butts that they can't be pulled from their hole until mid-July. You've got to go for something a bit lighter, yet equally tasty. (I was using angel's food cake - pure calories and air that can be burnt off in a week or so, worst come to worst.)
This is where the toilet plunger comes back into play. Along with being stylish, it is also quite functional. Once you feel the tug on your hook, make a good seal with the hole, and start pumping for all you're worth! The suction power of your average bathroom plunger is enough to collapse the lungs of a good-sized gopher in about $10-15$ seconds. And, before you know it, you've got a bucket full of nice, plump, asphyxiated gophers swinging at your side as you head for home.
Aaaanyway, as I was saying, I was mildly fishing for gophers in my backyard one fine spring evening - evening's the time of day when the gophers are biting - when suddenly I was lit by an other-worldly glow. Wouldn't you know it, I had just gotten a good bite on my hook. So, screw the other-worldly glow, let's get us some gopher.
Thus, I was busily working the plunger up and down, sucking the life out of the little bugger with each SHOOMF when the alien appeared beside me. It eyed me quizzically with its three eye-stalks. I did my best to ignore it until I got that damn gopher out of the hole. The alien was quite enraptured by the whole process, and left me to my work, which suited me just fine.
Finally, I was getting no more resistance on the plunger. I knew I'd hooked me a good one, because he'd put up a good 25 seconds of fighting. Slowly, I removed the plunger from the hole, and showed my catch to the alien. Its eye-stalks instantly retracted into its. . . head. . . and it produced a particularly nastylooking ray-gun type thingy from a holster strapped to its body.
It began making "greep-greep" noises and waving its ray-gun and flippers around. Not really knowing what to do, I offered the alien the gopher...hook, plunger and all.
"Uhm...This is from the people of Earth", I said in my most diplomatic tone.
"GreeeeeeEEEEeeep! Greep greeep greep greeeEEeep!!!"
Well, I was beginning to get a bit concerned at this point, because the flipper with the ray gun was thrashing even more violently now, yet all the while keeping it trained on my poor old noggin. I retracted my offering, and pulled the gopher from the hook. The flailing toned down a bit. I dropped the gopher in my bucket. It made a good "thud". Flailing stopped. Okay.
So, I hunkered down, and grabbed my bait. The alien's eyestalks began to slowly protrude again. With the care of a practiced sportsman, I baited the hook. Ray-gun goes back in holster. Ever so slowly, I go back to the gopher hole. Alien follows, equally cautious.
Just as I'm about to get back to some fishing, the alien starts up the thrashing and "greep"-ing again. Finally, finally, finally, I clue in, and offer him the plunger. With an expression on its face that can only be called ecstasy, the alien whisked the plunger from my hands and started working on the gopher hole.
Weeeell, before you know it, there were about twenty of them aliens down there, armed with toiler plungers, coat hangers, and angel's food cake, and I'll be damned if they didn't scare up some of the juiciest gophers I'd ever seen in those parts. (And let me tell you, you haven't had good gopher meat until you've had it seared to a crisp with a ray-gun!)

By about 10:00, the gophers had all been caught or scared off. The aliens "greep"-ed their goodbyes, and I waved to them as they disappeared in that unearthly glow. And there you have it. Aliens exist. And like fishin' for gophers. Told ya so.

Ian "Son of God Complex" Milligan

## The Sock Murders - Part I

## First Sighting

It was just a regular night. I was sitting at home watching TV when I noticed something moving outside. Normally I wouldn't have any thoughts about it, and just keep on watching my show, but for some reason I felt an evil presence and knew that it had something to do with whatever was outside. I strained my neck to see what it was, but it had moved behind a tree, so I had to actually get up out of my chair and walk over to the window (this was going to be more involved than I had first expected). The thing was still behind the tree, but after waiting a few more seconds, I was amazed to see ...

A sock?!? Yes, it turns out that there was a six foot sock in my backyard. It didn't really look too bad - it appeared to be just a plain old white tube sock - but it was carrying an axe. Now, I know what you're saying to yourself right now - how does a sock carry an axe? Well, you'd think that I'd have a good explanation for this, but it turns out I don't. The fact of the matter is, there was a sock in my backyard, and it was carrying an axe.

## Conspiracy Revealed!

The University of Waterloo. Called by some "the friendly university in Canada". A place where it's safe to leave your bike unlocked 24 hours a day. A place which boasts the safest and most carefully regulated crosswalks in Ontario. A place where delicate minds are protected by a benevolent "big brother" who removes any newsgroups which people might find offensive. Some call it heaven, but even heaven doesn't have cool novelties like those being sold in the MathSoc office right now!

Look deep though. Beneath this kind exterior lies the dark heart of corruption. Deception, sex, violence, drugs, hacked Unix accounts, and other unpleasant things. Power corrupts, and absolute power corrupts absolutely. Sit down, take a deep breath, and read on. Learn the depths of depravity to which two people will seek to retain the throne of mathNEWS editor.
First, let me acquaint you briefly with what it means to be editor of mathNEWS (in case you're a dumb frosh). Editor is perhaps the most coveted position in student government (save, perhaps, for VPF of MathSoc). The duties of Editor include ordering the mathNEWS minions about and, well, not much else. Walk by the MathSoc office on any production night and you'll probably see something akin to the following spectacle: the mathNEWS editor is sprawled out on a comfortable chair while a scantily clad minion feeds her peeled grapes. Occasionally the editor will yell out "is it done yet?", until eventually the issue is done. Doesn't sound hard does it? But wait, there's more.
The kickbacks for being editor are incredible. Not only do you get all the pizza you can eat, all week, but you get to cruelly choose the toppings the poor minions will receive on their free pizza. Past favourites include anchovies and sardines, tomatoes and katsup, and....absolutely none (hold the cheese). The editor also receives half of the advertising revenue (amounting to several thousand dollars per issue), and is guaranteed a passing

## continued from page 8

About this time I strongly considered getting back to my TV show, but knowing that all of you readers of mathNEWS would be very interested in what this sock did, I kept on watching for your sake. You may have guessed from the title of this article that what follows is a murder, and quite frankly, that's a pretty good guess.
She didn't even see the sock coming, and before I could do anything to stop it, the sock was hacking wildly at her. It was a gruesome four minutes, and I stood there, frozen in fear. As the sock slashed erratically, parts of her body flew all over the yard, and liquid oozed from her wounds. I had to turn away because the horrific violence was just too much for me.
When I looked up again the sock was gone. It was just her in the backyard now ... a poor victim of a vicious piece of footwear. Sure, we all hear about sock murders, but we think we're safe here in Waterloo. "They only happen in New York," everyone says. I only wish that were true. Unfortunately, like my friend Duane says, "Socks can get away with anything."

> She was too young to die. I'll really miss that birch tree.
> Stay tuned for further sock sightings.
grade in all her courses by the dean in recognition of her "stalwart effort to preserve the journalistic voice of the mathematics undergraduate body". You can now see why I wanted this cushy job for myself.

As you're probably aware, Mike and Mala are editors this term (this being their second term of decadence). What you're probably not aware of is the lengths they went to to remove all competition. Stuart Pollock, also an ex-editor, was the first to fall. Using their puppet "R.K." from the co-op department, they arranged for him to have a co-op term with Corel in Ottawa (horrible, but true!). Steve Shaw (another past editor) was also a great threat, but they arranged to have him graduate and find a job (a horrible fate!) Sarah Kamal, though barely out of her frosh diapers, was also a potential threat. They culled her ambition by promising "we'll let you be editor next time Sarah, just toady to us for one more term." Sarah naively agreed. Don't forget to put grape-peeling on your resume, Sarah!

Others had far worse fates. Details are sketchy, but there is strong evidence that Mike and Mala have been involved in one student being transferred to Laurier. Another is now dating an engineer. Wipe those tears from your eyes, gentle reader, because the worst is yet to come.

Remember me? In case you don't, let me introduce myself. I'm Christina Norman, and I've been personally responsible for all the good articles in mathNEWS since Fall of '92. It's been hard to get quality past the editors, but I've done my best, because, gosh darn it, I love this paper. When Mike and Mala learned I was running for editor, their hearts were understandably gripped with fear. Acting swiftly, they researched my activities and discovered I was hosting an introductory talk on Unix on Sep. 19th at $4: 30$. Laughing evilly, they scheduled the mathNEWS election for the same time. Reacting quickly, I rescheduled the tutorial to two hours later in the day. Unwilling to accept defeat, Mike and Mala used their extensive underworld connections to get my registration time for step aerobics set to $4: 30$ on the 19 th! Desperately, I tried to reschedule, but the PAC drones were heartless. It came down to a choice: which do I love more, mathNEWS or my butt? It wasn't a hard choice.

Registration at the PAC was tediously slow. Mike and Mala had filled the lines with their minions, impersonating artsies who were too dumb to understand the registration process. Finally, registered in my class, I sprinted from the PAC to the Comfy lounge. Leaping through the doors I screamed "Don't vote, I want to be editor!" As I fell to the floor I heard Mike's evil chuckle. "Too late, Christina! Mala and I have already extended our evil reign for one more term." "Then I get to be editor," piped in Sarah gleefully. "Sure, Sarah, sure," said Mala, rolling her eyes.

Weeping, I ground my face into the bacteria infested cloth of the Comfy lounge carpet, seeking to quickly end my life. "Don't feel bad, Christina," said Mike contemptuously. "I'll tell you what, I'll print your next article no matter how high quality it
is." is."
Bad move, Mike. Now the truth is out.

# Sage Advice from One Who Knows 

Murtle's Tale

Moving out of your home can be hazardous to your health. Ask my friend Murtle. She knows. Murtle moved out of her mother's comfortable three-bedroom apartment three weeks ago, on her nineteenth birthday, and in doing so precipitated the greatest disaster of her young life. In taking that natural and logical step out of her family home, in conforming to the dictates and conventions of society, she walked blindly, like a sacrificial lamb, straight into the jaws of the most horrendous force known to the world. On Saturday the 2nd of September, 1995, Murtle experienced. . The Roommate.

The emotional scars that Murtle now bears are a testament to her ordeal at the hands of that dread beast. Whereas she was formerly a well-adjusted, cheerful soul, whistling gay tunes as she puttered innocently about her petunia garden, her present state would bring tears to the eyes of uncaring, hardened souls, her piteous and haunted gaze chilling the flesh of the bravest of hearts.

Murtle's tragic mistake was a tiny one, merely the overlooking of a nearly imperceptible detail. Her ecstatic ignorance of this tiny, almost negligible fact is something that Murtle will have cause to regret for the rest of her natural life. As chronicler of this sad, sad tale, it is now my painful duty to inform you of her great folly: Murtle did not notice that the person she moved in with was a Psycho Hose Beast.

Those among you who are happily uninitiated to the terrors of this swarthy, misshapen being are well-advised to pay close attention to the following information. Psycho Hose Beasts, as a rule, can be identified from their wild, bloodshot eyes, foaming mouths (yes, even when they aren't brushing their teeth), and stench of eau de goat. They gather in the dark, murky, bowels of the earth, communing with the dregs of society or engineers, and congregate with people with names like Slash, Deathrattle, and Tony. The particular Psycho Hose Beast of which we speak was known to the world as Sir Biffy the Cockroach Slayer.

Biff, and Biff alone, can be held directly responsible for the syndromes, complexes, and neuroses that plague Murtle today. In fact, an unhappy incident involving him was the catalyst that brought about Murtle's extreme case of the debilitating and rare ailment known as TPP.

TPP, or Toilet Paper Paranoia, occurs in $0.01 \%$ of the population, and causes its sufferers to horde toilet paper like pack rats, stashing thirty or forty rolls in every room in the house, never feeling comfortable unless they have an additional four or five secreted in their purses, pockets, and shoes. TPP struck Murtle as a direct result of what Biff called "the hilarious ol' toilet paper gag", which involves one roommate (Biff, in this case), using up almost all of what little toilet paper there is, and cunningly arranging the single one-ply square that remains, around the roll convincingly enough that it appears that there's plenty left. When Murtle, duped by this most foul of tricks, called out and requested that Biff bring her some more toilet paper, she received a nasty shock. A cold chill struck her soul at the sound of the demonic laughter issuing from the other side of the bathroom door, her uncomprehending, disbelieving mind rebelling against the ears that heard Biff's cruel, heartless gurgles of glee. The final, desperate, ugly measures she had to resort to for hygiene's
sake in her day of bathroom hell will remain untold; suffice it to say that even Biff's tiny mind was able to deduce later from Murtle's traumatized appearance that she had not enjoyed his little joke. Murtle, Biff mourned in disappointment, for obscure reasons of her own, just didn't seem to appreciate the subtle humour involved.

Indecentexposuraphobia struck Murtle soon after her first case of TPP. Her roommate had been in the habit of lounging about the house dressed only in his underwear, picking his nose and scratching himself, and the unfortunate Murtle, upon entering the room, would be treated to the sight of his hairy, bloated, protoplasmic form sprawled on her favourite furniture. Her startled cries and disgusted cringes bothered Biff not a bit; his only reaction would be to stretch lazily, scratch himself again, and tell her to "bloody well knock" before she entered if she wanted him to "get decent".

Murtle would knock, she would yell warnings, she would yodel the imminence of her presence, and each time, her first glance into the room would show her Biff lounging on her best futon, cleaning beneath his toe-nails with great diligence and concentration. The ruinous effects this has on even the strongest minds are obvious; for Murtle's already abused and fragile mental state, the consequences were disastrous.

Now, upon entering any room, Murtle will gaze wildly at the ceiling and shriek: "Are you dressed? Are you decent?? I'm coming in!! Make sure you're decent!!!" Clapping a hand over her eyes, she will stumble into the room, knocking over furniture and lamps galore, giggling and muttering to herself about how she isn't looking, and how she's so clever, and how nobody can make her look, oh, no, she won't let them.

That Murtle has been reduced to this miserable, pitiful state is a tragedy of giant proportions. Hopefully, however, in disclosing her sad, sad life to you, I will have saved another life from being similarly destroyed. Please, please, PLEASE make sure that your roommate isn't a Psycho Hose Beast. Look closely for the tell-tale signs that herald the presence of such a monster. Maybe you're in the process of moving in with a Psycho Hose Beast right now - if so, please think about the consequences. Think about the reaction of your family when they find you twitching violently in the streets. Think about the dismay of shopkeepers who will have to try and keep up with your never-ending demand for toilet paper. Please, reconsider your decision. For their sake. For your own. And definitely, most positively, for Murtle's.

Sarah "Grumpy Young Frosh Leader" Kamal with many apologies to Tara Mulder, the pinnacle of Psycho Hose Beastdom.

## This Space Left Unintentionally Blank

Prevent Stupid Filler - Write for mathNEWS

## Differential Geometry and You

## Tonight, comfy space and its deleterious effects on time

Well, a new school year is upon us, and with a new school year comes fresh new faces, eager to get their high spirits (and high marks for that matter) crushed underneath the villainous onslaught of things mathematical. If these fresh new faces manage to stick around for long enough, eventually they get to write mathNEWS articles about how yet another school year is upon us, and make some inane comment about how there are all these fresh new faces about.
With all the new students around, there arises a dangerous potential for evil to seize minds and take control of the general University populace. I am of course referring to the influence of Zoggo. The evil god of the comfy lounge entices the unaware to play cards, and waste valuable free time unproductively. There is of course nothing wrong with this. The problem is that classes and homework interfere with Zoggo's bid for power.
I mention Zoggo because this being has been able to alter spacial perceptions, especially that of time, within its domain. Within the comfy lounge, the distance between where you sit and the exit seems unrealistically far, time passes unnoticed, and that seven of diamonds sitting on the table looks more and more like a beer. Within the comfy lounge, these are all perfectly acceptable and often welcomed phenomenon. If you experience any of this outside the lounge, seek out the comfy lounge immediately.
While I should point out that Zoggo's grip on some has been so great that these few individuals have actually failed courses
and, in extreme cases, gotten kicked out of school due to his influence, a quick card game in between classes never hurt anyone. Incidentally, for those of you who prefer to waste time on-line, there is now a Zoggo homepage somewhere out on the web! The location won't be revealed here, as just going to the page directly without wasting any time would be contrary to Zoggo's beliefs, and I don't want to offend Zoggo. No, Zoggo is all-powerful! We must worship Zoggo! Must play cards! Oh, hang on, it's time for my medication...

Sorry, I'm alright now. Please disregard my meaningless ramblings as those of someone not on heavy medication. There is no Zoggo. There never was a Zoggo. And the storm clouds forming over my head with the intention of smiting me for blasphemy are not a result of Zoggo's influe

Editor's Note: We received the above article with what appeared to be blood stains covering the bottom. We received it electronically, yet there were bloodstains all the same. This seems to suggest that, er, somebody may be more powerful than we originally thought.

We now return you to your regular mathNEWS. - HammerEd

# Enquirer's Interview with the Vampire 

NEW ORLEANS - I opened the door and entered the room slowly. It was a slow news day at the Enquirer; they were actually sending people out to gather facts. I groped around for the light switch, cursing the environmentally aware person who actually wanted to conserve energy. Then the voice...
"Welcome to my parlour. My name is Joe Louis, and I'm a 200 year old vampire." Then the lights were turned on.
I stared at the man sitting at the table. His face was white with badly penciled in blue lines. I smiled and got out my pencil and pad, ready to work. "So, were you at Dick Clark's 50 th birthday bash 200 years ago?"
Joe grimaced and muttered something rude about the 70's. "I want to tell you my story of how I was made into a vampire, and of my life as one." He waited for me to nod and then continued. "I was a loser back then. My dog had died, and I roamed the streets with a death wish. I would hang out in taverns, playing cards, a beautiful woman hanging from my arm. But whenever we played poker, I would break out in tears, remembering that my dog was one of those that had posed for the 'Dogs Playing Poker' picture. I drove my companions to want to shoot me. One night, I was in a rather depressed mood and I felt Death's cold hands upon me. I got drunk and managed to get into a fight. He drew his weapon and I opened my shirt, inviting him to shoot me dead. That was when I realized that I hadn't removed that tattoo of Roseanne. Or the one of Cher on my butt for that matter."

I was by now scribbling away, furiously, trying to catch every word, every syllable, every truth. "Wait a sec. . . are you telling me that Roseanne is... 200 years old? Cher I can believe, but Roseanne?!"

He ignored me and continued. "My friend just walked away, thinking me totally mad. I promptly left and was accosted by a Jehovah's Witness, wanting to sell me salvation for a dime, but before I could come up with a smart-aleck reply, I was pulled away by someone who looked like Tom Cruise. He dragged me into a back alley, where he lectured me about something or other. I don't remember. All I remember were the fangs, sinking into me...
"The next night, there was a knock at my door. I went and answered it myself, angry at the servant who was tucked in a corner, reading that fine piece of journalism known as the 'Enquirer'. I had expected my attacker last night to return, but it was just the Jehovah's Witness, and this time I booted him off my plantation...
"Then I felt the cold hands on me. It had to be him. . . before I knew it, I was in the cemetery, singing Grateful Dead songs while he sucked the life out of me. Then he fed me his blood, and before long, I could have sworn that the drugs we were taking were affecting me. I saw the colours..."
<End Part I>
Frank Yao

## I'll Have The Special

## It's autumn and the owls are not as they seem

Yes, I have survived another summer and have returned to grace the pages of mathNEWS once again. I hope you all had a great summer and managed not to get hurt or lose any limbs. For me, summer just passed me by as it was nothing but work and sleep. I did notice that it was quite the warm summer, but apparently we had an election? Is this true?

- So what's the deal with these new ID cards? The quality of the picture looks really bad. They don't feel as strong or as sturdy as the old ones. They have your full name on them, but they don't have your birthday listed on them. If these things are supposed to be better than the last ones, I'm not seeing it.
- It's official. Our new $\$ 2$ coin will have a picture of a polar bear. Please tell me if someone out there gives a damn. Just what we need. MORE change in our pockets. Apparently, the new coin will be a tad larger and a tad heavier than the loonie. But do we really need yet another coin? When the $\$ 1$ coin was introduced in 1987, I really thought it was a good idea. Less paper bills, a coin that would last longer and save the Mint some money. However, the $\$ 2$ coin might be pushing it. I think it would have been a much better idea to eliminate the $\$ 2$ denomination altogether. A ceremonial $\$ 2$ coin in its place, only available through the Mint in special coin collections, could also have been an option. But an everyday $\$ 2$ coin just doesn't sound like a good idea.
- An item from the world of sports: TSN reported last week on the efforts to form a new hockey circuit. It's called the Canadian Professional Hockey League (CPHL). It will have teams that are Canadian-owned and stocked with Canadianborn players only, playing in Canadian cities. It will have a salary cap of $\$ 2$ million per team, with the average player salary to be in the neighbourhood of $\$ 50,000$ per year. The goal of the new league is to make professional hockey more affordable, and with the average ticket price to be about $\$ 15$, more power to them. But unfortunately, I really don't know if the league will have very "professional" calibre players. $\$ 50,000$ a year? Players could make twice that playing in the IHL. So basically, this league will stock 6 to 8 teams full of players that couldn't even get a spot on an IHL or AHL team. Hey, professional hockey already has one Ottawa Senators. Do we really need a league of 6 to 8 of them?
- What's this about the Bomber not accepting pennies? One day, I was paying for an item (probably a beer) and when I pulled out some pennies, I was told they didn't accept pennies anymore. Now, last time I checked, pennies were legal tender and could be used in the purchase of goods and services. So what gives? I guess if gas stations can refuse bills of denominations over $\$ 20$, I guess the Bomber can refuse pennies.


## This Issue Has Been Brought To You By:

The letter $\sigma$, the letter $\Theta$, and the number $F$

And to end off this week, now that the ban on cigarette advertising in magazines and newspapers has been lifted by the Supreme Court of Canada, I would personally like to state my appreciation for mathNEWS brand cigarettes. At the end of a long day, I like to sit by the television, pour myself a nice, warm beverage and enjoy the invigorating aroma of a mathNEWS brand cigarette. Ahhh! That sweet Waterloo smoke. mathNEWS brand cigarettes. Sold wherever tobacco and tobacco products are sold. Till next time...

Brian "The Calculus Cowboy" Fox

## mathNEWSquiz \#1

Perfect for those who want their brains to explode
Well, here we are starting yet another term of mathNEWSquiz! Now, we will try to be easy on you with these squizzes. Not too hard, yet not too easy. But if you want us to punish you, please leave us some email with your name and turn-ons and we'll see what we can do. Now since there were no submissions (because this is the first issue of the term, ya know), let's just get on with the squiz.

## Song Lyrics <br> Name the song and artist

1. Can't escape from the common rule If you hate something, don't you do it too
2. Understand the things I say

Don't turn away from me
3. Turn on your light, and stay with me awhile And ease your worried mind
4. It was a teenage wedding

And the old folks wished them well

## Spoon!

Questions about "The Tick"

1. What does Arthur's couch turn into?
2. What was the name of Brainchild's pet dog?
3. What's The Tick's worst nightmare?
4. The Blowfish Avenger defends this city.

## Really Spaced Out

1. What is a conjunction of the sun and moon better known as?
2. For 1995 , in which month does the harvest moon occur?
3. What is the name of the probe which will send back pictures of the sun's poles later this year?
4. Sunspot activity is in cycles of approximately how many years?

All submissions can be made to the BLACK BOX or to bcfoxQundergrad.math by Tuesday, October 10th. Good Luck!

Brian "Your Favourite Squizmaster" Fox

## gridCOMMENTS

## Cipher

Hello, folks! This is Gridby, back for yet another term to confuse and astound you! And have I got some strange things coming for you this term!

First, let's talk about the cryptic. This is your ordinary, run of the mill cryptic like you'd find in a newspaper. Except not as good. For details on how to solve, try the frosh issue. There may be some copies kicking around still.
As for...the other one. For years, this crossword has been called the conventional. Sounds too normal, doesn't it? So, I have taken the liberty of sprucing it up. Each "unconventional" crossword this term solves exactly like an ordinary crossword, except for one rule that must be followed throughout the grid. Look to the Gridcomments column each issue to find out what it is.
In this issue, two letters have been removed from the grid wherever they appear, and all spaces closed up. An example from my last term, called "Out of Town", was missing all its K's and W's. "Clockwork" appeared in the grid as Clocor and took up only six squares. Similarly "Waikiki" was AIII. I won't tell you which two letters have disappeared this time, but the title is a clue (in the same way that "Out of Town" might mean 'leave K-W').
You will also notice that the first and last across clue are missing two letters each, replaced by "??". Insert the two letters featured in this puzzle to finish the clue.
The letters shouldn't be too hard to find; only two grid entries remain unaltered.
Submit your solutions to both puzzles to the BLACK BOX by the next Production Night at 6:30. Include the answer to this week's GridQuestion: "What is your favourite word to appear in a Gridword?" I'll try to incorporate your words into a Chaos Crossword at the end of the term. (You thought this was chaos, you ain't seen nothing yet!) The entry for each puzzle with the most correct squares will win a prize.
What will you win? You know, I've been with this outfit for years, and I still don't know. [<Hammer assumes plummy Robin-Leach-like voice.> For the uninformed, a fabulously amazing GridPrize is at stake: a $\$ 3$ gift certificate at the CGD! Isn't that just amazingly fabulous? Fabulously amazing? Aren't you just overly excited about winning? I didn't think so either! HammerEd]

Darren Rigby, writing as Gridby

For the puzzle column this term, we've got cryptograms.
A cryptogram is an encoded message. In this column I'll be presenting simple substitution ciphers, which is probably what you think of when you hear the word 'cryptogram'. In the following three messages, each letter in the intended message (the plaintext), has been replaced by another letter wherever it appears. No letter is replaced by itself, and no letter represents multiple plaintext letters. The resulting words (the ciphertext) are then sent off.

In these messages I've used a keyed alphabet for encoding. First, I selected a keyword, say MATHNEWS. (If the keyword or words contain any duplicated letters, then I have to remove them. 'Mike Hammond' as a keyword is MIKEHAOND, while 'Mala Krishnan' is MALKRISHN.) I finish the alphabet by listing the letters, in order, that I haven't used yet. So we have

## MATHNEWSBCDFGIJKLOPQRUVXYZ

Then I offset the key so that no letters map to themselves, and this is the finished alphabet.

## p1. ABCDEFGHIJKLMNOPQRSTUVWXYZ <br> ci. UVXYZMATHNEWSBCDFGIJKLOPQR

Here are some tips for solving these. The most common letter in English is E, which appears as about $1 / 8$ of any message. The most common pair of letters appearing together is TH. The most common pair that switch places is ER/RE. THE is the most common trigram (ordered triplet of letters) and the most common word. All sentences must contain a verb. In the present tense, that usually means there's a word ending in $S$ somewhere. ('Editors rewrite...', 'An editor rewrites...') Otherwise there's likely an -ED or -ING. Use punctuation to guess at words. A long string of commas, about one or two words apart usually means a list; AND is bound to appear somewhere. Apostrophes can be dead giveaways. Watch for letter patterns: in ABBC, B is probably E or O. ABCA is usually THAT. The third letter from the end of a long word is most often I (as -ING, -ION, -IVE, -IST...). These messages have titles, which may suggest words that appear in the plaintext. Asterisks indicate capitalized words. Hyphens (not line breaks) will be indicated by $=$.
A prize will go to someone who manages to solve the most cryptograms. If there's a tie, then degree of difficulty will decide it, then random draw. (This batch is in increasing difficulty.) When sending in solutions, you need only send me the key I used to encode each message. The key is different for each. Send the keys to the BLACK BOX by next Production Night (currently scheduled for Tuesday, October $10^{\text {th }}$ ) at 6:30pm.

1. "I Told You So!" (note, FMUN is not a whole word) NLI SWJXGNSWCNI RCUN OXGFU XJ *KIWIGCR *PXLU *UIFKOMEQ CGI "WXWUIWUI, NLIA EXSRFW'N LMN CW IRIYLCWN CN NLMU FMUN-"

## 2. Phones are faster.

X OHABJPAOP DXO NBHBJPFV HNKOOBY X DKGAJI
TAPD X TKKYLBHEBN. PDB NBOQFPAJI ZANY JKP
KJFV YBFASBNO GBOOXIBO ZQP EJKHEO KJ YKKNO.
3 Good Grief!
QDGUOJQR BT BDEUBHBMR XMLJPNQ UXJXIGH-
E XMIQJJXVQMLQ, OQGLQZQQOQH UXRRXJQ, GX-
HJXMQ TBBN, OGOQH IGKJQLJBIW GMN RIGMNGHN
NQAXGIXBM.

Darren Rigby, writing as Gridby



## Grid Clues (Cryptic)

## Across

1. Children's game $\qquad$ .is to go at the end of the line? ( 6 3 6)
2. Boisterous faun's energy is dangerous. (6)
3. We hear cookin' strips for breakfast. (5)
4. Ms. Basinger on "The Ring" in a robe. (6)
5. Late at night we take heart in a pinch. (5)
6. No name in window for ex-wife? (5)
7. Kind of lettuce that should be kept refrigerated? (7)
8. Persuade with lost voice. (3)
9. Deep in the past, e.g. (7)
10. Artisan takes end off ship's stern. (3)
11. Talk to House representative? (7)
12. Squeal when left without tar. (3)
13. Welder's chief comes off as a wise guy. (5)
14. Puzzle-maker dances at work, initially. (6)
15. La Paz's thronging square. (5)
16. Dress in fatigue at first. (6)
17. Athlete dove; rake jockeyed to go out in front. ( 4434 )

## Down

1. Problems squashed us flat. (6)
2. Enlist doctor for sound check? (6)
3. Sound tired after 7 days. (4)
4. Audition for Montreal baseball show. (6)
5. See growable shoots with effort. (5 6)
6. Chooses one for a long, long time. (7)
7. Model's ramp has a lost child. (7)
8. One man with jar among thousand start up Tanzanian mountain. (11)
9. Contents of reliable, artificial cloud. (5)
10. Cart lost rear bumper, for one. (3)
11. Always seek knowledge. (3)
12. Shield for soldier's dog takes a hit. (7)
13. Away on strike, take cab up to Australian wilderness. (7)
14. Result of academic study to include green innards. (6)
15. Suggestion: spot the flaw. (6)
16. Ghoul runs into buddy. (6)
17. Was husband clean?

## Grid Clues for Hurry Up! (Unconventional)

## Across

1. Meaning of the abbreviation A?? (3 wds)
2. Barony or earldom
3. Part of a set
4. Cookout
5. Cloud in space
6. Cancel, as a law
7. Kitchen scraps that are doggy delights (2 wds)
8. Reservoir
9. Toaster or blender
10. Inspiration for Velcro
11. Kind of lunch counter special ( 2 wds )
12. Adjective for tsunami
13. Trash
14. All of a sudden
15. Recent movie about Irish folk hero ( 2 wds )
16. To cover, like a patch
17. First two words of the abbreviation ??S

## Down

1. It always turns up. ( 2 wds )
2. Word on an American coin
3. Region of Africa
4. Innkeeper
5. Plunger
6. Acrobats
7. You're welcome
8. Big leaguer, for example
9. Jingle Bells bird
10. It gets recycled.
11. The apple of a teacher's eye?
12. Flatters ( 2 wds )
13. Enemy plane, to home base ( 2 wds )
14. Faint part of shadow
15. Kind of marker pen ( 2 wds )
16. Kit and kiboodle
17. Kind of stretching exercise
