Volume 69, Issue 2 Friday, October 13, 1995



## Prez Sez

## CASA: discussing policies

Hey, fellow mathies! How's your term going? I've had a great time to date! (Well, except for meeting mathNEWS deadlines ;)

Things are really rolling this term! There are lots of great social events planned; check out the BIG calendar outside the comfy lounge for dates.
I'm sure most you must have heard by now about CASA. CASA is a new national student organization that was formed from schools that left CFS. Well, CASA has been up to (some people think) no-good. A discussion paper entitled "Making Higher Education Work" was a recent offering from them. This paper has received little support here at UW, having been voted down at an emergency students' council meeting. This paper is still alive, though, as other schools have supported it. This paper will be presented to government as the student's view on things.
"So what's wrong with that?" Well, let me tell you! Besides the very bad spelling and grammar, this document tells government that students are willing to accept a grad surtax as a funding solution for PSE. The FEDS will have held (by the time you read this) a funding forum last night. Be assured that the math students' views were presented there.
"So why are you telling me all this?" Well, there is another document that CASA has put forward: its policies. The policy document is what the discussion document is based on. The policy document outlines the plan for the grad surtax. If this document is adopted by CASA, its everyday operations would be geared towards making the grad surtax a reality.
"So what the hell can I do?" You should get up right now and go to the FED office and ask for a copy of the policy document, review it, and give them your feedback. Ask the FEDs about the mailing lists that you can participate in. These mailing lists are supposedly where all the ideas presented to us so far have come from. If you want to know what MathSoc is doing about all of this then come out to one of our meetings (every Thursday @ $4: 30$ in MC4063), or come talk to me personally (check my homepage for a picture of me http://www.undergrad.math/ ~rservant/) I'll either be in my office MC3035, the MGC office MC3029 or the Real-Time lab (the one with the trains).

Enough ranting about CASA and its various documents. Come out and participate. University life is more than simply going to lectures; it's about having a life!

Ronald Servant
rservant@undergrad.math

## 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://ryy.undergrad.math. uvaterloo.ca/ mathners. Send your correspondence to: mathNEWS, MC3041, University of Waterloo, 200 University Ave. W., Waterloo, Ontario, Canada, N2L 3G1, or to userid mathnews@undergrad.math.uwaterloo.ca on the Internet.
Eternally Stressed-Out Editors: Mala "Crakko" Krishnan, Mike "Hammer" Hammond

## mastHEAD <br> A Co-Editor Goes on a Bitterness Rant

Well, another day, another issue. It's past midnight and I'm really, really tired. I sit here writing this, as I ponder why the heck all my upcoming midterms/assignments revolve around October $26^{\text {th }}$. Why don't profs talk about this?? Do all the exams and assignments have to be due on the same day? Can't the $3^{\text {rd }}$ and $4^{\text {th }}$ year profs get together and say, "No, don't make an assignment due on that day. That's when I've got my project deadline." Nope! That would be too nice, right?

Anyway, enough bitterness for now.
Here is the dedicated batch of mathNEWS groupies and their favourite reason for not going into Optometry: Dale Wick (It was a short-sighted decision), Darren Rigby (I'm not allowed to cross roads by myself), Brian Fox (Mathies drink more beer), Paul Rechsteiner (I already had glasses. . .), Lateef Yang (Sorry, I cannot see the question), Viêt-Trung Luu (It's too far away.), Sarah Kamal (Cuz all optometry guys sing Barry Manilow. Everybody knows that.), Philip Hunter (Optometry makes my crotch itchy.)
Mike "Hammer" Hammond (Because then Lixin would see me every day, and I don't want to torture her like that!)
Mala Krishnan (Let's see. . $\$ 10000$ in equipment, $\$ 700$ in textbooks every term...I don't think so)

## lookAHEAD

| mathNEWS |  |
| :---: | :---: |
| October 18 | Issue \#3 Writer's Night 6:30pm, MathSoc (MC 3038) |
| Octaber 24 | Issue \#3 Production Night 6:30pm, MathSoc (MC 3038) |
| October 27 | Issue \#3 hits the stands |
| November 1 | Issue \#4 Writer's Night $6: 30 \mathrm{pm}$, MathSoc (MC 3038) |
| November 6 | Issue \#4 Production Night 6:30pm, MathSoc (MC 3038) |
| November 10 | Issue \#4 hits the stands |
| Math Faculty |  |
| November 1-3 | Spring '96 Pre-Reg |
| MathSoc |  |
| October 16 | BBQ at Lunch |
| October 17 | Laser Quest Trip |
| Co-op |  |
|  | We, the editors, are done our co-op terms. We don't know the right dates. If you can supply us with the appropriate dates, we'd be much obliged |
| CS Assignments | Watch that load! |
| October 16 | CS 360 - Assignment 2 Due 12am |
| October 17 | CS 452 - K2 Due 10am |
| October 17 | CS 488 - Assignment 2 Due |
| October 18 | CS 342 - Assignment 2 Due |
| October 24 | CS 354 - Project 2 Due 5pm Load Forecast To Be High |
| October 26 | CS 452 - K3 Due 10am |
| October 27 | CS 246 - Assignment 3 Due |

## Science Club <br> A Student Chapter of the ACM

## CSC Flash

Greetinth meat thingth. As many of you have notith, there is <achoo> a vicious viral infection floating around the MC buildith <wheeze>. Excuth me while I taketh my antihithteminth <snort> <sniff>.
Ahh. There <snort>.
Since there was a horrible mail screwup last time the CSC Flash was submitted, the CSC Flash was inadvertently omitted. However, for good measure, all connected parties have been recycled and replaced with more-competent replicas.
Other than that, my ineffable (look it up) plan to conquer the Earth is proceeding on schedule.

## Fresh from the Vats

The previous executive to my CSC has expired, and new replacements have been selected. The current puppets are:

President: Amy Brown (arbrown) Vice President: Christina Norman (cbnorman) Treasurer: Steven Mills (samills) Secretary: Allison Graham (akgraham)
You may annoy them ocalum.csclub.uwaterloo.ca. Furthermore, you can molest our sysadmin, Gavin Peters, at sysadmin@calum.csclub.uwaterloo.ca.

## Upcoming events

This Saturday the 14th, the Programming Contest MkII will take place at 10:30 am in MC 3006. This is definitely a chance not to be missed by all you CS terminal gnomes. For those interested in the theoretical side of putting up your own Web page, a talk on the "Architecture of the Web" will be held in DC 1302 at $5-7: 00 \mathrm{pm}$ on Tuesday, Oct. 17th. On Wednesday the 18th, a LaTex tutorial ( $5: 30-7: 30 \mathrm{pm}$, in MC 3006 ) will be held to familiarize carbon units with this powerful and inscrutable document processing tool.
For those of you who like irritated oysters, try "Perl as a programming language". The time is $4: 30 \mathrm{pm}$, the place is MC 4060, and the date is Tuesday, October 24. As Larry Wall and Randal Schwartz say, "Perl is a language for easily manipulating text, files and processes." So if you want to do any of these three things, come on and learn Perl.
Finally, the whimsically-titled "Who's afraid of the big bad Net?" (Oct. 26, 4:30 pm, in MC 2038) will roll back the waves of Netophobia still remaining here in $u(w)$.

## Events you missed

You missed the UNIX tutorials. Kick yourself now. Drinks were served, and Hillary Clinton gave a brief speech. If you think UNIX means 'harem slaves', you definitely should have attended. However, if you drop by the CSC, there may still be some UNIX handouts left. Get them while they're room temperature.
The Kerberos talk on the 3rd of October, given by the es-
teemed Nikita Borisov unit, was of course a wonderful success. cbnorman's "Put Yourself on the Web" talk on the 5th was so successful, screaming groupies had to be driven away with water cannon. In fact, demand was so high, another talk has been scheduled for the 25th of October. The impatient can skim through her tutorial at:
http://csclub.uwaterloo.ca/ ~ cbnorman/HTML

The "Customizing your X Window Environment" talk on the 11th enlightened the masses, who were then exterminated in order to preserve X Window secrets.
Of course, you would have been informed of these events if the last CSC Flash had made it through email. However, in the face of any future tribulations, you can always drop by the CSC in MC 3036 to check the calendar. Indeed, "Madonna and the Web" may be scheduled soon!

## CSC Memberships

If you wish to survive my upcoming global takeover, you must buy a CSC membership. The cost is only $\$ 2.00$, which is a bargain, considering your life is at stake. Over 500 carbon units have chosen life over death this term.

If you are running out of disk space, disk quota can be purchased at $\$ 2 /$ megabyte per term. There is no processing fee any more, since we just process anyone who complains about the price instead.

Calum T. Dalek
Chairbeing

## No OJ This Issue



## MEF- Let the Fund Begin!!

Greetings fellow Math students! What's new with MEF, you say? Lots.

First, congratulations go out to Ron Servant who will be serving as Director of the Fund during the Winter '96 term. The Spring ' 96 Directorship has also been decided and I will be returning to the position this summer.

Second, the Funding Council nominations (no elections this year, hmm...) were held at the same time as the Directorships and the following people will be sitting on the council:

- Rachel Nickie, Madeleine Hidas, Xavier Aburto (2nd year reps)
- Sumon Acharjee (3rd year rep)
- Ron Servant (4th year rep)

This leaves 3 first year, 2 third year and 2 fourth year seats vacant. In addition, various positions representing departments are open.

## Hey You!

If you think you would be interested in helping decide where this term's Endowment Fund money is spent, then this is for you. Although final figures are not yet available, I anticipate the Fund will have close to $\$ 4,000$ to spend. Interested? You can find out more by stopping by MC 4046 or emailing mef com@undergrad.math.

Lastly, if you have any ideas for projects that would benefit the Math Faculty, but don't know where to obtain necessary funds, call me, email me, or stop me in the hall. The Fund will consider paying all of or part of your costs, BUT you need to fill out a Submission for Funding form and submit it to MC 4046. The forms are available at MC 4046 along with the guidelines for submissions. Talk to you next edition!

Etienne "ET" Phaneuf

## Grads! Romans, countrymen,

## Bring us your pictures

Have a picture of X wearing underwear on his head? A picture of you in Paris on that life altering trip? A photo of a dead engineer? A favourite mathNEWS, Imp'tnt, IW article? A impressionist painting of MC you whipped up last week? A poem you wrote about life in the big gray cube? Anything? Well bring it all in to the MGC office so we can put it in the yearbook! If you put your name/e-mail (or phone for the computationally challenged) we'll even give them back to you! We need to have those pictures in by October 31st!

It's also not too late to volunteer to help with the yearbook (no you don't have to be in your grad year). We need people to help with layout and all sorts of other things. Put your name on sign-up sheet on the MGC door.

Victor Wiewiórowski Yearbook Editor

## We Need Participation

I mean YOU, Grads of '96!
This is sad. . real sad. We've got so many people graduating in 1996 and we only have about $10-20$ people actually working for the MGC (Math Graduation Committee) -that includes the 10 or so Directors.

I'm sure that between all the CS, PM, C\&O, Stat and AM (and the others I've neglected) courses, I'm sure there's a fresh, new idea lurking about in your head for the MGC.

It doesn't take a lot of time to share the idea with the kind folks in the MGC (MC 3029) and I'm sure the Directors will definitely appreciate your input.

So, why not bring in the spirit!?
What can you help with?
Yearbook, Publicity, Posting, Pizza Day, Math Grad Ball, Social events and others!

We're not asking that you live in the MGC office (that's Phil's job), just drop in and say hi! Leave some suggestions! Get to know at least 10 of your fellow grads!

Make your last year (unless you're Curtis Desjardins) a special and worthwhile one (and I don't mean spending every minute programming a train or a robot).

This message has been brought to you by your local MGC.
Mala Krishnan
MGC Director for Publicity/Postings

## 

## Pristine Math Faculty Fraught with Prolix Profs

Vis-a-vis Confection of Bilked Students

You think it's hard to read? Try getting it tossed at you during an 8:30 class on a Monday morning - then come back and complain. Maybe it's about time that the latest Websters gets added to the required book list for all math courses. It's not exactly offensive, and it's not exactly impossible to figure out what's being said, and it's not exactly the worst way to increase your word power. . . but I'm also not exactly trying out for a spot on Jeopardy, either:
"Obscure Nomenclature for $\$ 800$, Alex."
"Well supplied or provided."
Bzzzt!
"What is fraught?"
"Correct! Choose again, Einstein."
"I'll try Vapid Verbiage for $\$ 600$."
"Marked by or using an excess of words."
Bzzzt!
"What is prolix!"
"Right again."
"Gee - I sure am glad I went to Waterloo for Math - otherwise I'd have absolutely no idea what prolix was all about..."

Paul "Vocabularistically Challenged" Rechsteiner

## prof QUOTES

"Normally, we have no reservations in abbreviating 'basic feasible solution' as 'bfs,' but we're a little hesitant in abbreviating 'basic solution.'"

Cunningham, C\&O 350
"What would your weight be if you were in an elevator and the cable broke?... Not that you'd care, you'd be worried about other things."

Anderson, PHYS 121
"Is anybody else puzzled? I mean, perhaps it's because I've been mixing x's and $y$ 's with $\theta$ 's and r's. It's like comparing apples with other apples. Though they look like apples. Is anyone confused?"

Sivaloganathan, AM 453
"You can read along in the notes if you want but it's a bit souldestroying for both of us."

Duggan, CS 442
"This comes up in... well, what I just rubbed off."
Cummings, MATH 235
"Oh, what am I talking about dividing by 7? We're talking about $\bmod 10$. So, what is the remainder when 7 is divided by $\mathbf{1 0}$ ? Zero... Did I say something wrong? So what is the remainder when 7 is divided by $10 \ldots$ someone tell me..."

Willard, MATH 137
"The left hand side $=$ blah. The right hand side $=$ blah. Therefore, blah = blah."

Best, MATH 137
"This is great fun; we can keep it up until we go blind."
Eastman, SCI 205
"And then I discovered the World Wide Web, and I said, "Hey, this is neat. Look at all the pornography on it!"..."

Moskal, PMATH 330
[student's cellphone rings] "Well, this is a first."
Arnason, CS 330
"I really hated photo radar. It was one of the only things the government implemented that actually worked, though. Which is, of course, why it's gone."

Randall, ENG 103A

## Distinguished Teacher Awards

To nominate your outstanding professor, demonstrator or teaching assistant for the Distinguished Teacher Award, contact TRACE, MC 4055, Ext 3132.

## Dream Theme

The following is a true story. The night after my calculus midterm I had a really strange dream. I dreamt that aliens had taken over the Earth and were going to blow it up. Fortunately for us, these aliens were really interested in trigonometric functions. (Why is this sounding like one of my early September Algebra lectures?)

Anyway, a book provided by a sympathizer gave info on the aliens. (The book was disguised as a work by Charles Dickens. Don't ask me why.) Defeating them hinged on making them believe $\tan x$ was really some combination of limits, $\sin x$ and $\cos x$. (Or some other similarly strange, impossible trigonometric function.)

Here the dream grew hazy, but to make a long story short, the problem was solved and the aliens defeated. At this point, the aliens proceeded with their back-up plan, saying "Well, we never really wanted to conquer Earth. We're really after the Romulans." So they went to Romulus and Earth was safe. And I woke up.

You know, if I have these dreams after every midterm, I think I should consult a psychiatrist...
[I hate to think of what would have happened if you were in CS! - CrakkoEd]

Greg Taylor


## The World Outside Math

What?! You mean. . .there IS one?!!?

Yes, folks, incredible as it seems, there IS sentient life outside the hallowed halls of MC, outside our grey Mecca of deltas, epsilons, and stupid proofs.

First off, our colleagues in EngSoc invited us Mathies to join them in helping out with the Food Drive for this Thanksgiving. The format of this cooperation became, in typical engineering fashion, a competition to see which faculty could come up with more donations, with the losing faculty's president undergoing suitably humiliating punishment at the hands of the winning one's. Much as we loved their cute little engineering butts for initiating the drive for such a good cause, there was nothing to stop us from trying to kick their tushes in the contest, now, was there?

We had donation boxes in the MathSoc office and outside the C\&D, and change donation boxes with the cashiers in the C\&D. We had a penny drive going, a garage sale one weekend (with half the proceeds going to the food drive, ) and an aborted attempt 'at getting a juggler in to busk for the cause, as well. Yes, I did try to publicize this all in the last issue of mathNEWS, but they had technical difficulties and lost my (and many other) articles (muttermuttergrumble).
[It wasn't our fault-CrakkoEd]
Anyhoo. The final results from the competition won't be in on time for this issue, but as of now, I know that Math's final tally is $\$ 200$ in cash donations and one box full of food, whereas EngSoc has $\$ 80$ in cash and two boxes of food. There are a bunch of calculations to be made now with those numbers and the ones that'll be coming in from other faculties (to pro-rate them on a per capita basis, or some such) but I think we can safely say that

WE DIDN'T LOSE! WE DIDN'T LOSE! WE DIDN'T LOSE!!!!!

## WOOHOO!!!!!!!!!!!

I'd like to thank all the people who were classy enough to contribute to the food drive over the two and a half weeks we had it in place; getting all those two dollar bills in the cash donation boxes was a real thrill. But I think the real credit should go to EngSoc for initiating such a worthy campaign and inviting us to be a part of it.

Thanks guys! You're our shining stars.
Sarah Kamal MathSoc External Director

## Data S.tructures for the Animaniacs Fan

"I'm Stakko!"<br>"I'm Dekko!"<br>"And I'm queue!"

## From The Desk of ...

The mathNEWSEditor

20 years of clutter has been cleared! Yahoooo!!! (extra "o's" added to prevent confusion with the WWW search engine).

After a few hours of cleaning up the mathNEWS office a couple of Saturdays ago, some of the junk stored in the office was trashed! It seems that before now, mathNEWS editors didn't believe in clearing out old junk. OK, so we didn't do it in the Winter when we were last here. The important thing is that we (or I) did now!

Do you know what I found? A cake pan! Buried under shaving gel posters, beer posters and UW Athletics signs was a cake pan. Crumbs still intact, Smarties still visible, but surprisingly - no mould! You can bet that I'm not going to do much with it, but I just have to ask - Why the heck is there a dirty cake pan in the mathNEWS office??

Sometimes, I need to worry about the strange people who roam our halls and call themselves mathNEWS editors. At least I'm normal!

More next time...
Mala "Crakko, the clean, organized, uncluttered Warner Cousin" Krishnan

## Brian's Filler

## I can't create filler on demand! Write for mathNEWS, dammit!

A Word From the Editor-In-Training

## Math Grad Ball 1996 Free Tickets!!

It's getting time again to start planning Yet Another Grad Ball! And since the directors for this year's grad ball are open to new ideas (actually, we just have none of our own), we are having a CONTEST for all of you creative types out there. If you can come up with a theme for the 1996 Math Graduation Ball that is good enough to actually use, we will give you a FREE PAIR OF TICKETS!

Submissions should be dropped off at the MGC office at any time. Just leave your submission (with name, student ID, phone number, and of course the theme) in the MGC office in a box marked MGB THEME CONTEST, or e-mail it to jszeder@undergrad.math. Contest closes December 1, 1995 at noon.

BECKER Matthew W.
GO Sunning Chun-Nin
LEUNG Peggy
LIAO Hiu Chung
TONG Priscilla Kit-Ying

H C\&O\&CS H CS/EL E
In recoginition of outstanding academic achievement throughout their undergraduate careers the following students will "GRADUATE ON THE DEAN'S HONOUR LIST" at Fall convocation, October 21, 1995 and have their names displayed in gold on the walls of the Faculty Colloquium room (MC 5158).

In recognition of outstanding academic achievement throughout their undergraduate careers the following students will "GRADUATE WITH DISTINCTION" at Fall Convocation, October 21, 1995.

| BROUGHTON Charles | G MATH-3 |
| :--- | :--- |
| ESTEY Paul | HC M/BA(I) |
| HO Chi Pui | H C\&O\&CS |
| LAPELL Eli Michael | H AM\&PM |
| LEE Maria | H C\&O\&CS |
| LEE Tai Keung Gary | H CS\&ECON |
| REIMER Kevin John | HC ACT SCI |
| SPIRO Vanessa | HC AM\&CS |
| STEIN Jennifer | G MATH-3 |
| VAN LEUSDEN Kenneth Michael | G MATH-3 |
| WONG Christine Wai-Yee | H CS/INF |
| WONG Kwok Chung | H COMP SCI |
| WU Shao Min | H CS/EL E |

In recognition of outstanding academic achievement during the Spring 1995 term, the followinng students qualified for the Dean's Honours List:

```
AGINA Cheryl
BARBER Jennifer Leigh
```

BABIC Jelena BASQUE Michel Pierre

BERBERICK Christopher BRODSKY Alexander O. BURGER Reinhold Friedrich CHAN Peggy
CHEN Jason Qiang
CHIU Bennie Yu Wai
CHOW Kin Wing Kevin CRANSTON Karen Marlayne FITTON Anne Marie GILHULY Patrick O. GRAHAM Robert GREEN Mark Kenneth HARE Kevin George HEDE Jonathan Scott HUH Woonghee Tim IOANIDIS Gregory JHU Edward KENNEDY Brennan
KIM Andy
LAIT Jeffrey Michael
LAM Iris Sze Man
LUNG Florence Sau Chi
MARR Aaron Allan
OSTROWSKI Michal PIQUARD Nicolas Romain POSNER Marshall Evan RESTALL Shane Arthur ROCHE Austin Duncan RYDER Angie SHNEIDER Aviva SONG Jonathan Zhan Shan STICKNEY Laura Louise TAN Teng Ching TRAN Phat H. UBEIKA Jason VANDENBERG Erick Shawn VASILIAN Ion
WONG Tak Yin Vincent YONG Alexander T.

BRELSFORD Stephanie Anne BROWN Darren Earl CHADHA Dushyant CHAN Vincent CHEUNG Kevin King Hin CHOW Gabriel Hoi-Yan COOPER Patricia Lynne FERREIRA Paulo Fernando FUNG Pek Shan Goretti GILLILAND Mark William GRAY Kevin Douglas HAMILTON Patty Lu HART Jeffrey HERLING Daniel HUI Siu Lung IRWIN Jeff Steven KENG Leslie KHALILIEH William KLASSEN Matthew D. LAKOTA Darko LIAO Hiu Chung LUU Viet Tam MICHAIL Ashraf Ayman PADUSENKO Scott Christopher POON Andy Kwok Yiu PRASHAD Devika REYNOLDS Franklin Wesley RUETZ Christina SHAUGHNESSY Ian SIU Selina SRIVASTAVA Raman SURAZSKI Lukasz TOCHIP Ramon Jr TSE Chi Ho VAIDYANATH Rahul VANDEREEMS Kathy Ann WONG Edwin
YEE Brenda Yvonne YOUNG Alyssa Michelle

## ultraCLASSIFIEDS

Wanted: Real-time Gimp to provide mild stimili and entertainment to CS452 students. Applicants should bring their resumes in person to MC 3059.

Crystal,
Are you sure I'm the Brian you're looking for?

> Calculus Cowboy

## R.D.:

Do you need some WD-40?

## X-Man:

Did you get some Labrador?
How about a smooth Colt 45?

> Calculus Cowboy (again)

Let the game begin, the frosh have been counted, let's do a re-count in December and whoever took off the most points wins!

Not playing
Cookie Monster
Paul \& Lilia
Congrats on upcoming bells!

## Course Calendar

I would like to suggest a group project for mathNEWS and its readers: prepare a course calendar for UW. Not, of course, that wonderful piece of doublespeak prepared by the professionals in Needless $H^{*} l l$, but an actual description of each of the courses a typical mathie would take. Here are my suggestions (limited by the fact that I'm only 1A):

MATH 145: Classical Algebra. Spend a semester trying to prove perfectly obvious facts like $0 x 0=0$. And failing. Prof: C. Stewart.

MATH 245: Linear Algebra 2. Learn to diagonalize the Folian matrix. Learn to speak Russian in just one semester. Prof: V. Platonov.

CS 134: Introduction to Computer Silence. A fine example of the assembly-line approach to university education. Learn to jump through hoops, bend over backwards, and bow and scrape to the whims of the TAs. Prof: K. Geddes.

AM 231: Calculus 4: Vector calculus. Vector fields: general, conservative and liberal, curl-free and curly, harmonic and melodic. All assignments completed by professor. Prof: J. Paldus.

AM 261: Newtonian Mechanics: Learn how Newton's Laws (a) are garbage (b) were invented by Euler and (c) are equivalent to a whole lot of messy mathematics. Prof: G. Tenti

PHYS 275: Astrophysics: for science students. Laws of celestial dynamics, planetary formation and stellar evolution derived by vigorous handwaving. Requires Grade 4 arithmetic. Observation period to stare at an overcast sky once a week. Prof: P. Wesson

Andrew Archibald

## The Oracle

## Knows all, sees all

To ask the oracle a question, simply email your oracle question to mathnews or put it in the BLACK BOX. Thanks to all of the questioners who made this possible.

If you shot all of the politicians, would it help?
No.
Will I ever be healthy?
Yes.
Do we really exist?
No.
Why do half of the doors on campus say "please use other door"?
I don't know.

## Why I Love Engineers

I could have been an engineer. I gave it serious consideration in the spring of this year, actually. And although activities such as the Frosh Week pep rally have cured me of such wrong-thinking, I would like to pause one last time and reflect upon the reasons why I chose Math.

1. I prefer abstract, theoretical problems; I am more comfortable with problems of the mind than with more realistic engineering requirements. This is what I tell parents, teachers, and other authority figures who have great (if vain) hopes for my future success.
2. It's less work. This is my real reason.
3. Unless they paint the Tool pink, I'm just not interested.

Sadly, with regards to point\#2 above, it seems as though the engineers I know have done at most as little work as I have. "Doom" is their pastime of choice, and I am forced to resort to closing my door and putting headphones on to drown out the screams enough for me to write up my 135 assignments.

Note: As of this writing, the engineers on my floor have calculated that they have an average of 45 hours a week in 1B, compared to my 20 or so. I am currently investigating large computer speakers and brushing up on my Doom.

## Richard "The Kitchen Cynic" Bilson

## Elections Report

MGC Chair '96-'97 nominations
Are you graduating in 1997?
Will you be around for the Spring '96 term?
Looking to add some excitement to your final year at $\mathrm{U}(\mathrm{W})$ ?
If the answer to the above three questions is "yes", then have I got a deal for you! Yes, for a limited time only I'm offering YOU the chance to be (drum roll, please)... Math Grad Committee Chair!

Yes, I know that you're telling yourself, "he can't possibly be offering this once-in-a-lifetime opportunity to $m e$ ". But yes! You too can join the ranks of the influential. YOU can decide what toppings get ordered for Pizza Day; YOU can choose what embarrassing photos go into your yearbook; and YOU get to come up with a neat slogan for MGC ' 97 .

Yes! I'm offering all this and more, and what do I want for it? Why, nothing more than ten (count 'em, ten) signatures of people in your graduating class. Just pick up your form from the door of the MathSoc office (MC 3038), while quantities last. But remember: this is a limited time offer, and you've only got until October 16th at 5:30 to submit your form... and have your shot at power!
(Just remember: read the small print on the forms. I would if I were you.)

Matt "So-Krates" Walsh Chief Returning Officer, MathSoc

# I'll Have The Special <br> Without a drop of O.J... Simpson, fruit juice or otherwise 

Well, I hope everyone had a good Thanksgiving. I hope you all had a good time with loved ones over the holidays, and I hope you ate a lot of turkeys despite threats from nutcase animal rights activists. And since I had Tuesday off, it was kinda like an extra long holiday... so for those who DIDN'T have Tuesday off... Ha ha ha ha... okay, enough of the rubbing it in...

- It's been 10 days since the verdict came in... and I'm not going to write about it. Why? Because I think we've had enough analysis by now. Sure I watched a little of the trial now and then, but it's over and it's time to move on. Nothing left here. Just move along, now.
- Isn't that "Campus Question" in the Imprint pretty useless or what? Talk about not being about to meter public opinion. They'd probably even screw up "Fork, or spoon?".
- There's nothing better than sitting in traffic on the 401 during rushhour... especially on a holiday weekend. When is that damn Highway 407 going to be built??? AUGH!!!
- I was about to write a little blurb about how it seems no one cares about the baseball playoffs. I was a little disinterested myself. That was until last weekend when I watched the last 2 games of the Yankees-Mariners series. Those 2 games reminded me of what I like about the game of baseball. It's a shame the owners and the players treat the game like crap and don't give a damn about the fans. And remember, the owners could still lockout the players or the players could still go on strike... TOMORROW. But that's highly doubtful right now. Without a collective bargaining agreement and labour peace, even with the games played last weekend, it sometimes is hard to take the sport seriously.


## Saudi Arabian Dilemma

Today I discovered a serious problem in Waterloo when I innocently wore a baseball cap that had 'Saudi Arabia' printed on it (okay... it wasn't innocent... I wore it on purpose to see how people would react). Anyway, the point is that I received many disgusted looks from all kinds of people, both on the bus ride here, and also once I was on campus.
Now, I should probably explain the whole situation. I went home for Thanksgiving, and my parents had recently been on vacation in Las Vegas, where they picked up a Saudi Arabia World Cup Soccer hat for $\$ 2$. I noticed it when I was home, and they said that I could have it. I am not Saudi Arabian, nor would I be mistaken as one. However, I see no reason why I shouldn't be able to wear my Saudi Arabia cap without having to put with everyone's menacing glares (after all, I find beer caps offensive, yet I don't bother anyone who is stupid enough to wear one).
This leads me back to my main point, which is why don't people like Saudi Arabians? A few of the bad looks could be attributed to my not exactly gorgeous face, but many of them were definitely directed at the hat. I think that we need to be more open-minded about people (or at least ball caps) from all countries. Remember, these people can cut off our oil supply ...

Warren "The Milkman" Hagey

- Basketball dream team. Expanded baseball playoffs. 2 new expansion teams in the NFL. Hockey dream teams in 1998. Is anything professional sports leagues do these days not geared to maximizing revenue? Or are these truly ways to increase fan interest?
- I reading in the Toronto Star last week that the city of Oshawa is the greatest polluter on the Canadian side of Lake Ontario. That doesn't surprise me. General Motors is probably the major polluter in Oshawa. That wouldn't surprise me. However, I have worked for General Motors for the past 3 summers. So, as a seasonal employee of GM, I feel it is my responsibility to find someone else to blame. Once I figure out who that is, I'll get back to you and I will see that the perpetrators will be brought to justice.

When I worked at GM this summer, I do recall seeing a few UW shirts and hats being worn by students. At least I think they were students. Anyways, if you worked at GM in Oshawa this summer in the Truck Plant, Car Plants or Fab Plant, I would appreciate it if you could email me at bcfox©undergrad.math and perhaps share a story or anecdote or something. I'd like to try to compile some sort of "GM Student Diary" to be published later this term (either issue 5 or 6 ). And though I would prefer funny stories, they don't have to be. Really depressing stories I think I will leave out. And I don't care what faculty you're in. Yes! This offer is open to ALL $\mathrm{U}(\mathrm{W})$ students. Don't be shy! Until next time...

Brian "The Calculus Cowboy" Fox


# Sage Advice From One Who Knows 

Murtle's Tale-Part Duh

My job here, it appears, is still not done. Subsequent to the printing of my article in the last issue of mathNEWS (volume 69, Issue 1), swarms of panic-stricken, inexperienced first-year students (dumb frosh) have approached me and begged for help. They need, it seems, more information on how to recognize Psycho Hose Beasts and good descriptions of ways to escape their influence. To the first request, I've invariably answered that there's no way you can capture the state of Psycho Hose Beastishness with words. You just know when you encounter one of those demonic creatures. As for escaping their influence, I say that there is no escape, even when you are wise to their methods and dangers. I use my friend Murtle again as an example of the tragic, tragic results of multiple run-ins with the dread beings known as Psycho Hose Beasts.
I thought (as I'm sure you did, too), that Murtle had had enough trauma and emotional scars to last her a lifetime, and would be wise enough to stay clear of any situation even close to her last hellish ordeal. I was wrong. A mere week after she was pronounced fit enough to enter society by her doctor, she announced that she was going to move in with somebody who had just come up from the United States.

When I heard of her plans, my heart froze.
"You're moving in with an American?!?? My god! All Americans are obnoxious, smug, flag-waving bastards with awful nasal twangs!!! Everybody knows that!!" I cried, aghast.
"It's not that bad!" she protested defensively. "I spoke with him on the phone. He didn't say much, but from what I-" I reeled.
"He? HE!?! You're moving in with a guy?!!? My god! All guys are obnoxious, swaggering creeps with awful body odour!!! Everybody knows that!!" I shrieked in anguish.

She protested again, huffily. "I really don't think you're being fair. As I was trying to tell you, I already spoke with Boffo on the phone, and-"

I smacked my forehead and started moaning. Well, I mean, it hurt, ok? I probably shouldn't have been holding a pen when I hit myself.
"Boffo?!? BOFFO?!?! You're moving in with a guy called Boffo?!? All guys called Boffo are obnoxious, uh...obnoxious, um. . . obnoxious guys called Boffo!!! Everybody knows that!!" I screeched with a little bit less certainty. Well, I mean, I didn't actually know of any Boffo's, but I was sure that any Boffo I met would be obnoxious. I mean, come on!! Boffo?! What kind of stupid name is that? Yeah, I would definitely find anyone called Boffo obnoxious.

I ranted on.
"Great. Great. Wonderful. You're moving in with an American guy called Boffo. Don't you remember Biff, your last (incredibly putrid) roommate? Gosh golly geez, doesn't your tiny brain think that the uncanny similarity between names, say, "Biff" and, oh, I dunno, "Boffo" is just tooooooo much of a coincidence? A bit of foreshadowing (<-check that out!!! OAC English!! Gotta love it!) maybe, of things to come?"
She muttered something about how everything was fine, and how she could handle things better now, anyway. I wheedled and cajoled, I warned and threatened, I tried to shake some
sense into her, but it was no use. She was set on moving in with this, this Boffo guy. Somehow, she was convinced that she could handle him.

Finally, I gave up.
"Okay, okay, it seems like you're set on making your own life miserable. Don't say I didn't warn you when you come to me for help like you did the last time with Biff. Just please, please tell me that Boffo's not a math guy. All math guys are weenies who get way too excited over dumb computer things. Everybody knows that."
"No, no. He's not in math."
"He's not in Science, is he? All Science guys sniff unlabeled substances for fun. Besides, they have dumb hair. Everybody knows that."
"No. He's not in Science."
I sighed in relief.
"He's a Mechanical Engineer."
Plaster and paint began showering down as I pounded my head rhythmically against the wall.

Murtle, I knew, was toast.

And so, despite my many warnings and entreaties, she moved in with Boffo the next week. Things went well at first, but it didn't take a keen, discerning mind like mine to guess that trouble was just waiting to happen. Murtle has a very sensitive, delicate nature, and the fragile balance of her mind has been especially precarious since her encounter with Biff, Psycho Hose Beast Roommate Extraordinaire. Boffo, on the other hand, had the word "thug" written all over him. Literally. Thirty-seven times, in fact. He showed me. (Well, actually, there WAS one tattoo that he didn't show me, but he said that it doesn't show very well, anyway, unless he's-well, never mind.)

Well, as I was saying, things went fairly well for the first little while, until Murtle began to notice a rather disturbing fact about Boffo.

He never put the toilet seat back down!!!!!
Yes, ladies, I can feel the waves of indignation radiating off you as you read these words. Gentlemen, I'd just like to take this opportunity to give you a friendly (for now) reminder not to EVER, EVER forget to put the seat back down if I'm in the vicinity. I know this has been harped on again and again by all the females in your family, but it's just one of those cardinal rules that you don't break. Trust me. Try stumbling sleepily to the toilet in the middle of the night and being jarred rudely awake when your butt doesn't hit the anticipated toilet seat, but lands on cold, moist, toilet rim, (or better yet) splashes in icy water, instead. It's no laughing matter, guys. Don't MESS with us on this!!!

Murtle, timid soul that she is, approached Boffo cautiously one day and told him that she'd noticed that he never seemed to put the toilet seat back down when he was done using the toilet.
continued on page 11

## Cipher II

For the cryptograms of last issue, I recieved a whopping thirteen submissions! They were from: Ian Facey, Ian Hagey, Blue, Warren Hagey, Shawn (insert nickname here) Stackhouse, Lennart Sorensen, Alex Reif \& Jakub Kalesza, Slaves to the Gridword, Phage \& 2, Eric Fung, Greg Taylor, Tim Coleman and Bubba the Puzzle Solving God. Bubba, being thirteenth on the list was unlucky enough to have made a mistake in his key for the first cipher. The other twelve submitters got all three right. The winner by random draw is Eric Fung! Congratulations. You can pick up your prize in the MathSoc office. In future, use the plaintext alphabet in order to see the keyword. And the keyword(s) are all you need to send.

Here are the solutions to last weeks crypts:
GUNSHOT The unfortunate last words of General John HYBRID A scientist has recently crossed a homing pi JUMBOSHRIMP Examples of oxymorons include military
Please note that there were two errors in last issue's cryptograms: JOHN appeared as JOHS in the first puzzle and the word PIGEON was left out of the second one. These should not have seriously affected solving.

## continued from page 10 NNONNN

Boffo emitted a gusty belch. Small rodents within a one-mile radius dropped dead.
"So?"
Murtle tried again, explaining how it was mere common courtesy for men to replace the lid once they were done.

Boffo scratched himself. Then he belched again. Several birds, stunned, fell from the trees and landed on the ground with a loud thud.
"Yeah, so?"
By now, the tension in the air was so thick that you could cut it with a knife. Or maybe it was just the stench of Boffo's half-digested lunch. Murtle, gathering up her courage for a last time, launched into an explanation of how men and women are built differently, with men having a set of, uh, apparatus that facilitated their bladder relieving endeavours, while women were less fortunate, etc, etc. In the middle of this lecture, which she was quite proud of, she noticed that Boffo seemed more concerned with emptying the contents of his ear than listening to her.

Well! That was the final straw! Her eyes turning hard and her spine stiffening, Murtle said, "I'm going to give you one last warning, Boffo. Will you start being considerate enough to put the lid back down, or what?"

Boffo belched.
Murtle set her mouth grimly.
"Fine. Then let the Bathroom Wars begin!"
Will Murtle persevere agains the pernicious toilet-lid raising tactics of Boffo? Will she be strong enough to change Boffo for the better? Or will she be reduced to the mindless, quivering wreck that she was after the Biff episode? Will Boffo ever stop belching? Find out in the next issue of your favourite $U(W)$ news letter! Oh, the suspense...

Sarah "The Artist Formerly Known as Grumpy Young Frosh" Kamal

If just eyeballing the cryptogram won't work, you could try using a frequency count. By examining how often each letter comes up, we can make better educated guesses about the letters. This is a frequency table for a sample of 10,000 letters of literary text (like the contents of the ones I'm producing).

| Letter Percentage |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :---: |
| E 12.3 | I 7.2 | D 3.7 | M 2.2 | V .9 | Z .1 |  |
| T 9.6 | S 6.6 | C 3.2 | W 2.0 | K .5 |  |  |
| A 8.0 | R 6.0 | U 3.1 | Y 1.9 | Q .2 |  |  |
| O 7.9 | H 5.1 | P 2.3 | B 1.6 | X .2 |  |  |
| N 7.2 | L 4.0 | F 2.3 | G 1.6 | J .1 |  |  |

Vowels, on average take up about $40 \%$ of all text, within about 5. The nine commonnest letters ETAONISRH take up about 65$70 \%$ of English text.

Remember that these frequencies are not ironclad. No natural short cryptogram will have these frequencies exactly. The table is a guide.

Among the crypts below, the first two are normal ciphers, while the third has had its natural spacing and punctuation removed, and then it was divided into 5-letter chunks to make transcription easier. The frequency distribution of this crypt has been given as a help, and a clue word is there to start you off. These crypts have been given in order of difficulty, and if no one solves all three, difficulty will count.
4. Quote from "Headcrash" (note: last word is logical coinage)
*OEB *YJM: "KVJK UEEY'N SACC ES FJBZQUN FVE JUQ RJKVECETWMJCCH WBKE MEOQLUQJZWBT JBO YJKV RAIICQN." *YJG *ZEEC: "FVE?" *OEB *YJM: "MWRVQURABZ."
5. A novel approach

CXU PDC EV BCEDMCUAAYSW YB PQBEAGCUAM SECXYSW LEDU CXPS PS PQYAYCM CE CUAA YSCUDUBCYSW PST UAPQEDPCU AYUB IUDM JUAA.
6. Pulling himself together (Ends: THOUGHTS)

JTLDK DDUOK DXNLZ JTLNH ZBOJT LOHFG JIWFW AZZHC CLZTH GTWAZ SLAJN UHAGH ZLHJD KGXL XFWHA GTLJT BKSTJ DWAHY WNNUX LYWKG LGLDB NHAWZ BLGAJ GEKHZ SLNHM LJTWJ HPLYB NNLYJ LZDUB QAJTB KSTJG.
18 L 15 J 13 H 11 T 10 GZ 9 ANW 8 D 7 BK 4 SUXY 3 FO 2 C 1 EJMPQ

Gridby
We Didn't Think That We Could Come Up With Filler For This Space

But We Did!

Everything Men Know About Women:

## Women in Math

Virtually every time we log onto a machine in this faculty we are reminded of one of the (many) great mathematiciansDescartes, Cayley, Mobius, Lagrange, etc. While many of the names may be completely unfamiliar to you, I'll bet that you are pretty confident that you know something about them- that they are likely male. In fact, I challenge you to name one famous woman mathematician. It's not an easy question. Even today when we look about our classes there are clearly more men than women. However, despite the difficulties that they faced solely because of their gender, there are indeed noteworthy female mathematicians- Maria Gaetena Agnesi, Emmy Noether (Hey, you can log on to that...), Emilie de Chatelet, Sonya Kovalevskaya...

For the remainder of this term I hope to give you a little insight on some of the women that have braved the gender barriers AND the rigours of mathematics. Of course there are more than I can fit into one term of mathNEWS, so if you are really interested, there is a wonderful web site that contains an excellent bibliography and listing of many, many female mathematicians. I know I was surprised when I saw how many, and in which periods they worked.
http://www.scotlan.edu/lriddle/women/women.htp
http://www.scotlan.edu/lriddle/women/bibliography.htp
If you have any comments about women mathematicians, please feel free to pass them along to me at mjmishna@undergrad.math.uwaterloo.ca.

Since this is the first article, let's begin with the first woman in mathematics, Hypatia. Hypatia is generally identified as the first woman to make a substantial contribution to mathematics. She was born in Alexandria in 370 and died there 45 years later. She was the daughter of mathematician/philosopher Theon. Theon was her tutor and trained her in many areas. She became a popular teacher and students would travel from Europe, Africa and Asia to hear her lecture. She wrote on Diophantus Arithmetica, conics, and Ptolemy's astronomical works. Like many others of her time all works of hers are lost with the exception of titles and references. Some letters from Synesius to Hypatia asking her opinion on the construction of an astrolab and hydroscope still exist, as do a portion of her original treatise "On the Astronomical Canon of Diophantus". Hypatia was fortunate to be born in a time where some women could pursue academic careers and to be born to a man that recognised her talents and encouraged her. Indeed, she was much more fortunate than many later women in this respect, as you shall see.

Now you can name at least one woman in math history. That's a good start.

Marni Mishna

## More Space!

Thanks to the wonderful people of the Math Faculty (and maybe others), the 11 boxes of mathNEWS that we've had stacked in our office has been reduced to 4 !! Woo-hoooo!

More space. . . for next term's junk!
Mala "Crakko, the Tired Warner Cousin" Krishnan

## Trung's Rules of Procrastination

Here are some good reasons to procrastinate. Keep them in mind the next time you're given an assignment that's due in a week or two.

1. Procrastination saves time. If you leave all your assignments to the last minute, you'll get them done a lot faster than you would otherwise (trust me on this one). Furthermore, you'll also avoid wasting many hours doing useless things (such as sleeping). Instead, you'll spend them productively, doing homework. That will give you many more hours during the day to waste with other procrastinators.
2. Procrastination will help you to avoid doing a lot of unnecessary work. I mean, half the assignments are worth a fraction of a percent in your final grade anyway. Wouldn't those hours be better spent studying for exams which are worth a lot more? (That's what I do when I leave assignments to the last minute... Honest.)
3. Procrastination will help you do your assignments. If the deadline isn't in, say, four hours, what reason do you have to work? On the other hand, if it is due in four hours, you just get right down to work. Another benefit is that you aren't left with any time to add lots of bullshit to your assignments.
4. Procrastination will make your assignments better (well, at least the ones you actually do). Studies show that if you have too much time and think about problems too carefully, you'll put too much weight on less important things. When you procrastinate, you make better decisions since you don't have time to ponder over minute details. (What's the matter? You don't believe me? Would $I$ lie to you?)

Note: The rules work for me. They may not work for you. I am not responsible for any actions you may take as a result of reading this article. I am in no way responsible for any damages incurred by following my suggestions. More importantly, they are not suggestions at all. Have a nice day.

Viet-Trung "I'll do it later" Luu

## prof QUOTES Books For Sale

Volume One

Come and get 'em!
They're prof QUOTES books - a compilation over the years of the best of the funny stuff that profs say!

They'll be on sale in the mathNEWS office as long as one of the editors is in there! No one knows for certain exactly when that'll be, but come by and check. . you never know!

What's the price? Only $\$ 2$ ! That's right, $\$ 2$ !
Get them before they're gone!
Mala "Crakko" Krishnan mathNEWSco-editor

## gridCOMMENTS

Hello, folks! Let's start right off by giving the names of the submitters for last issue's grids.

For the (un)conventional, we got 4 entries, but no completely correct ones. In reverse order by number of incorrect squares they were: Slaves to the Gridword (11), Club 21 (10), Eric Lippert and the Disgruntled AM/CS workers (9), and the winner this week is Ian Facey, with only six mistakes. Eric \& Co. claim pedant points for noting that Bobtail in Jingle Bells is the name of a horse, not a kind of bird. The two letters that were missing from the grid were P and B , suggesting the phrase " Get the Pb out." If you don't like the pun, complain to the editors. (They weren't responsible, but complain to them anyway.) The full solution can be found in uw.mathnews today.
For the cryptic crossword, we got six entries. Two of them had 5 errors each: Slaves to the Gridword and C+D. Four of them were completely correct: Club 21, Nambo, Phage \& 2 , and Ian Facey. The winner by random penny draw is Nambo. You guys can pick up your gridprizes in the MathSoc office.
This week, the Unconventional is a symbol puzzle. Three words have been replaced by an appropriate symbol wherever they appear in an entry. Last year, as an example, I used numbers as symbols, so "telephone" appeared as teleph 1 and "network" was NE2RK. Note that pronunciation has no bearing on symbolization. Five entries are left unchanged. The cryptic is as usual.
You'll also note that there are several circles in the grid. Take the letters that you find in each of these circles, and rearrange that to form an appropriate word. Send this word in with your submissions to the BLACK BOX by next production night at 6:30. In giving submissions for the unconventional, please specify what your symbols mean. They may not exactly match mine, and you don't want me to have to guess. Since I only got four lousy words to use in my Chaos Crossword, send more words please. Or that grid will be real small.
gridQUESTION: What is your favorite blunt weapon?
Gridby


## mathNEWSquiz \#2 <br> No fiddling with knobs required

You know, it's not easy trying to think up these squiz questions every other week. But here at mathNEWS, we don't particularly care. We just throw some questions together and go with it. I'd love to have a team of trivia experts working on a squiz such that it will test your intellectual limitations... but there's no money in the MathSoc budget for that so we just throw something together and hope it flies. Squiz \#1, for example, was such a squiz. And now, the answers... Song Lyrics: 1. Not For You, Pearl Jam; 2. Ode To My Family, The Cranberries; 3. Rock Steady, Bad Company; 4. You Never Can Tell, Chuck Berry; Spoon!: 1. A bed; 2. Skippy; 3. Working in an office; 4. New Rochelle; Really Spaced Out: 1. Solar Eclipse; 2. September; 3. Ulysses; 4. 11.
Well, this was quite disappointing. $\ldots$ only 3 submissions this time. I blame Thanksgiving personally... anyways, our submitters were: Caped Chameleon (4), Phage and 2 (4), and our big winner with 7 points... Slaves to The Gridword! Head over to MathSoc and collect your prize... preferably sometime this century... Well, here's squiz \#2... painstakingly put together at the last minute. Enjoy!

> Song Lyrics
> Name the song and artist

1. Born with insight and a raised fist

A witness to the slit wrist
2. Angst on the planks, spittin' from a bridge Just to see how far down it really is
3. Can't live for tomorrow, tomorrow's much too long I'll burn my eyes out before I get out
4. And I'm sure each of you quite agrees: The more it stays the same, the less it changes!

## For Those Who Still Care... Questions about baseball

1. Baseball evolved from what English children's game?
2. What was the original name of the Houston Astros?
3. What positions are referred to in a $6-4-3$ double play?
4. How many days was Game 6 of the 1975 World Series rain delayed?

## Have You Heard the Horrible Singing in MathSoc? Andrew Lloyd Webber musicals

1. How many Tony awards did Phantom of the Opera win?
2. What is the name of the flopped musical about a P. G. Wodehouse character?
3. Who is "The Railway Cat"?
4. Which Star Search-famed actor made his way as the lead in one of two American productions Joseph and the Amazing Technicolor Dreamcoat?
5. Who is scheduled to play the title role in the movie version of Evita?
Submission deadline is Monday, October 23 at $6: 30 \mathrm{pm}$. You can either email it to us at mathnews©undergrad.math or drop it off in the BLACK BOX. Good luck!

Brian "The Trivial Cowboy" Fox Mala "Crakko the Warner Cousin" Krishnan



## Grid Clues (Cryptic)

## Across

1. Windflower looks like cane without top, green, without limit. (7)
2. Heartless department store collects debt on grave. (7)
3. Lots of correct ties. (10)
4. Rats left dog, for example. (4)
5. Wild idea never starts in downpour. (9)
6. Please Calliope? (5)
7. Lurching stop first produces a delay. (8)
8. Therefore, series help. (3)
9. Letters from Greece have to fall short. (3)
10. Rulers show uncommon remorse ad little pity. (8)
11. Untie? Wrong! (5)
12. Flavour of gum (singular fruit) will make money. (9)
13. Over the first sixteen parts of the list? (4)
14. Popular culture we forcibly insert into old woman's address. (10)
15. Each severe Oriental. (7)
16. True motive for betrayal. (7)

## Down

1. Hope to praise doctor. (6)
2. Sad and angry tears (to moisten). (8)
3. Signs of decapitation of all ladies. (5)
4. Troubled mates in hot water. (5)
5. Result of field event is not quiet around university. (6)
6. Presents rattle snakes. (8)
7. Candy roll is one foot? (7)
8. I wear trousers and coats. (6)
9. Spoil representative picture of the back. (6)
10. Amino acid chain repetition found in leg. (7)
11. New car almost consumed flood. (8)
12. Mat I had seen back at the movies. (8)
13. They dig sound children. (6)
14. Will leaves loose ends without eldest male sex organ. (6)
15. Bad stain on the material. (5)
16. Don't allow a Republican in to go to bed even one more time! (5)

## Grid Clues for Combinatoric Logic (Unconventional)

Across

1. Enlisted man trained in first aid
2. City in American northeast ( 2 wds )
3. City (with state) in American northwest (2 wds)
4. Underwater lifeform
5. Soap opera title ( 2 wds )
6. Marks on a bedpost?
7. Pants
8. Utensil
9. Potential heir
10. Velocipedes
11. First name of former heavyweight boxer
12. Electronic part of old radios
13. Underwater lifeform
14. City (with state) in American southeast ( 2 wds )
15. Paris cathedral
16. Mindy Cohn's character from The Facts of Life

## Down

1. Military rank
2. Farm implement
3. Drift, like a river
4. The imaginary sphere coinciding with sea level around the Earth (?E?I?)
5. Secretary's scribble
6. Breed of Spanish horses
7. Importance
8. Without imperfection, as wood
9. The act of a highwayman
10. State in south of America
11. Kind of flower
12. Impasse
13. Famous fictional "Magician"
14. Flower worn on sleeve
15. Diacritic on $\tilde{n}$
16. Impromptu site for baseball games
