

STATISTICS &
ACTUARIAL
SCIENCE



*math*NEWS

Volume 102, Issue 5 Friday, November 17th, 2006



lookAHEAD**mathNEWS**

November 27	Production Night #6 6:30PM, MathSoc
November 17	Issue #5 breaks out in hives

MathSoc

Tuesdays	Games Night Check it out in the Comfy at 6:30
Wednesdays	Two movies, no dollars! National Treasure and Da Vinci Code are next week

Math Grad Committee

Wednesdays	Pizza day!
Buy cheap pizza to support the graduating class of 2007	

Math Faculty

Questions about some of these? See an academic advisor!	
December 7	2 nd chance to write the ELPE
December 8	First day of exams

CECS

It is not too late to abandon hope about getting a job

Miscellaneous

November 23	Labor Thanksgiving Day (Japan)
November 25	St. Catherine's Day (France)

Final Words for Charity Ball

For those of you who weren't there, last Friday was this year's Charity Ball. It was a smashing success. We raised \$1083 for the Canadian Cancer Society with the help of our wonderful sponsors:

- Albert O'Connor
- Ian VanderBurgh
- Pita Factory
- Get Stuffed
- Gemini Jetpack
- Kickoffs
- ATI
- Mathematics Society
- Pat Cunningham
- Valerie Fraser
- Kim Namespetra-Sullivan
- Tom Coleman, Dean of Mathematics
- Math Orientation
- Alex McCausland

Events like this wouldn't be possible without the support of our students and community. One special thank you to Andrew Fransen, Alex McCausland, Natalie Owen, Nicole LeBlanc, Val Fraser, and Chris Alexander who contributed many hours to the planning and organization of this event.

Hope to see you all next year,

Charity Ball Director

Midnight Capture The Flag

MCTF will take place Sunday the 19th. Meet in the Comfy at 11:59 pm.

The Management

mastHEAD*Oops*

Some of you may have noticed that the *mastHEAD* of last issue was omitted. This is because I forgot about it. Mea culpa. Consequently, the people who worked on it didn't get any credit. Sorry guys. I can only feel so sympathetic, though; I get credited in the ISSN of every issue.

Anyhoo, I remembered it this time. In penance, I asked the production staff "What happened to last issue's *mastHEAD*?". The people present (and their answers) were: Richard (It went on vacation in the States, got called a terrorist, and wound up in Syria), The Insider (*innocent whistle*), *mathEYE* (I sacrificed it to the gods), theMAINwoman (my dog ate it), Val (it was so massive it collapsed on itself and took Graphics with it), Andrew (I blame Ian Goldberg [*I don't!* — *inkEd*]), Math.Random() (Boobies!), Michael (the *lookAHEAD* bought it in a hostile takeover), Robert (It got an early release of a Wii with Zelda and didn't show up for printing), Matthew (It overslept), Angelo (It will disappear for a year and then video footage of its disappearance will be found in the woods. Naked. [*The footage?* — *inkEd*]), James (It couldn't differentiate boobies over scuba gear), DanS (I can't think of an answer; why not just print it this time?), Lloyd (This is last week's *mastHEAD*!).

As always, our eternal love and gratitude to Graphics for doing that thing they do and not overcharging, the Norman invaders of England for my existence, and MATH135 midterms, for stealing our staff. Wait, scratch that last one.

Jenn (My butler did it)

Eric (I'm a dumbass)

IOY Nominations

Just a reminder that the due date for Instructor of the Year Award nominations is TODAY!

This award is given annually to an instructor in the Faculty of Mathematics who is nominated and selected by students. So if you had a professor who made an impact on your education, please consider nominating him or her for this prestigious award.

Nomination forms are available in the Mathsoc office (MC3038) and are due by 4:30 pm today.

Anton Markov
MathSoc VPA F06

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mathNEWS is normally a fortnightly publication funded by and responsible to the undergraduate math students of the University of Waterloo, as represented by the Mathematics Society of the University of Waterloo, hereafter referred to as MathSoc. *mathNEWS* is editorially independent of MathSoc. Content is the responsibility of the *mathNEWS* editors; however, any opinions expressed herein are those of the authors and not necessarily those of MathSoc or *mathNEWS*. Current and back issues of *mathNEWS* are available electronically via the World Wide Web at <http://www.mathnews.uwaterloo.ca/>. Send your correspondence to: *mathNEWS*, MC3046, University of Waterloo, 200 University Ave. W., Waterloo, Ontario, Canada, N2L 3G1, or to useridmathnews@student.math.uwaterloo.ca on the Internet. Once in a while I add some extra text to take up a little more space. I hope you don't mind. It's just that layout is challenging and sometimes I need an extra line or two.

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Tweedledum and Tweedledee: Eric Logan and Jenn Smith

Prez Says

Midterm season is finally over (for me at least), and I couldn't be happier. It's my chance to get ready for those exams that are quickly approaching.

As I write this, nominations have closed for Spring 2007 MathSoc executive. Nicole LeBlanc will be returning to the post of VP Finances, and Philip Keung will take over the role of VP Academic, both by acclamation. The positions of President, and VP Activities and Services remain open, and nominations will reopen shortly. Also coming up are nominations for Winter/Fall 2007 Executive. Keep an eye out.

Charity Ball was this past Friday. It was quite a good time, and quite a lot of work, but all for a good cause. For all of you who didn't go, you missed a great party. I recommend you go to Grad Ball next term and Charity Ball next year. Thanks to everyone who helped make it a success.

MathSoc Council approved funding for renovations to the MathSoc Office. The work will be done over the holiday break. Since this means that the physical ExamBank will be unavailable during the examination period, you should do your photocopying early this term. The office will be reopening in January, with some changes designed to make it serve students better.

I'm also working on getting some new furniture for the Comfy in the form of lounge chairs. This is a joint venture between the Student Life Endowment Fund and MathSoc. Look for them to appear by January, as well.

We'll also be selecting the Math FOC this Friday, so hopefully sign-up for leader positions will happen before the end of the term. Keep an eye out for that as well.

I think that's all I want to write about this week. If you have any questions or comments, drop by the office or e-mail me at the address below.

Andrew Fransen
MathSoc President F06
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VPAS' Words

are made of chili

As I find the term coming to a close, I realize that I spent way more time in my office than in class. This, though detrimental to my GPA, has been alright for social events, of which I'm about to announce a few more. And if that's not a run on sentence, I don't know what is! But I'm not in englishes, so it doesn't really matter (He he he, try your hand at proofing this). *[Damn dirty apes! — DirtyEd][I didn't even try — inkEd]*

Charity ball was this past Friday. It was a wonderful event. I think we mostly have the DJ stylings of Phat Albert to thank for keeping the party going until the wee hours of the morning. With that out of the way, I have more time to think about other social events. Like maybe a pints with profs later this month? Sounds like a good idea. I'm pretty happy you thought of it. You're smart. So smart in fact that I'm going to let you write the rest of my article. Go ahead, be my guest.

Alex McCausland
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VPA Says

I hope everyone was successful in their midterm exams. Between exams and assignments, time seems to disappear into a black hole. However, I did find time to go to Charity Ball last Friday, which was a lot of fun. Thanks to everyone who came, and thanks to everyone who helped organize it. Please continue volunteering and coming out for events.

Speaking of volunteering, I am planning an "exam bank inventory party," probably during the office marathon. E-mail me if you are interested. Creating an inventory of the exam bank will allow us to make it searchable online as well as help us focus our attention on which new Exams are needed. Please come and help out!

Several events of interest have occurred over the last month, and there was no "VPA Says" in the last issue (my fault). So here's what your VPA has been up to:

- The Co-op Students' Council held two meetings in the month of October. The first meeting was mostly concerning the mandatory inclusion of grades in application packages. Although there was no specific decision, our recommendations will be discussed at the next Co-op Council meeting in November. Don't expect any changes next term though.
- The second meeting was concerning the internal structure of the council itself. In general, we need more co-op students to come to the meetings and participate. In the future, meetings will be held at more convenient (afternoon) times and there may be food.
- Meeting announcements and minutes can be found at http://www.mathsoc.uwaterloo.ca/coop_council.php
- I have submitted a funding proposal to MEF for updating our textbook library for next term. If I get the money in time, I will have current course textbooks for all core first- and second-year CS courses in the library on the first day of classes.
- Instructor of the Year award nominations close today. Come to Mathsoc to get a form and nominate your favourite professor.

Anton Markov
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VPF Sez!

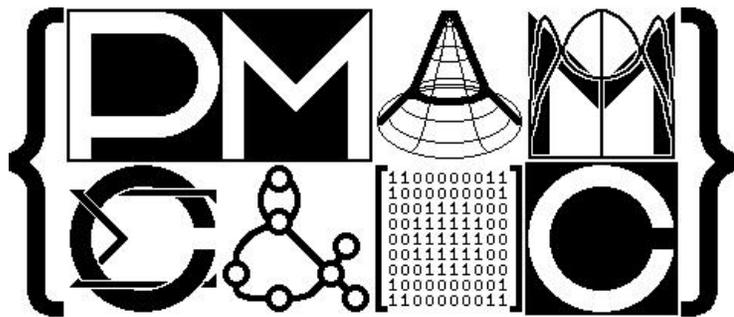
Charity Ball Recap

Charity Ball was a good time on Friday night. We had live and silent auctions, dinner, and a fun dance. We auctioned items such as: MathSoc novelties, Avon items, stuffed animals, Blokus Trigon, a Game Boy Advance & games, a 2006 black tie, an Ian VanderBurgh autographed pink tie, date packages, and dinner with the dean.

If you are sad you missed out bidding on these awesome items, you should attend Charity Ball next year. If you are interested in making this event awesome next year, you should apply to be Charity Ball Director. Applications for Winter 2007 and Spring 2007 Directors are available outside the MathSoc office (MC 3038).

And...the answer to everyone's burning question is that Charity Ball raised \$1083 to donate to the Canadian Cancer Society.

Nicole LeBlanc
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Pure Math Corner

Welcome to the 3rd installment of the Pure Math Corner. This time, I am happy to announce events that have not already occurred! On Saturday the 18th (if you are reading this issue the day it was distributed, that means tomorrow), we are organising a field trip to the Fields Institute (on College Street, in Toronto.) We will be leaving at 10:30am from the Ring Road entrance of the DC Library.

In Toronto, we will eat several varieties of free food (including expensive cheese, I am told), and listen to people trying to convince us to attend their universities for graduate school (keep in mind that admittance is not restricted to graduating students, or even students that have a chance of being convinced that grad school in mathematics is a good idea). There will also be a keynote address by Renate Scheidler, about cryptography. We will be leaving Toronto at 4:30pm. Please let us know this afternoon if you are interested.

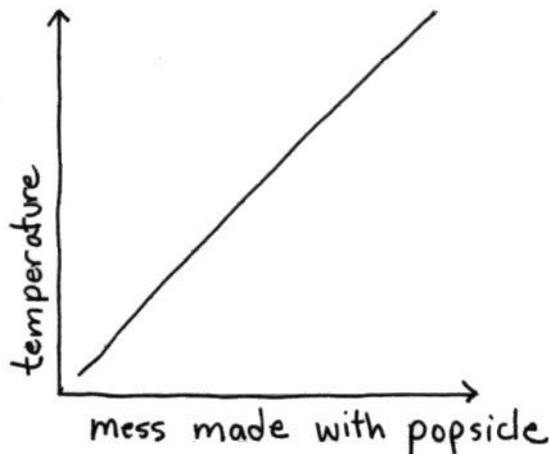
In other news, the Short Attention Span Math Seminars (SASMS) will be occurring next week, on Wednesday and Thursday. Look for posters with information about times and talk titles early next week. We are still accepting new speakers, so please send your talk title to pmclub@gmail.com, and specify if you will talk for 15 minutes, or half an hour. Talks longer than half an hour will be interrupted by attendants, having exhausted the span of their attention, wandering to the buffet.

Finally, I would like to urge our members that after seeing Scott beat Super Mario Bros. in 8.6 minutes, there is simply no reason to play Super Tux.

Lloyd Elliott

PMC Supervisor of Embezzlement

Hot and Sticky



<http://indexed.blogspot.com> for more

Dear Insider

An Ode to my Next-Door Neighbour

I have noticed that on my floor, I tend to be popular when people want advice. I have also noticed a trend to this: my next-door neighbour is my most popular client, and he tends to show up every Tuesday and Thursday night (as MATH 135 and 137 are due the next mornings, respectively). But that's OK, because he buys me booze on Friday night.

Anyway, he has inspired me to write a little advice column, exclusive to *mathNEWS* 102.5. I hope that you will find it worthwhile.

Dear Insider:

It is 11 p.m. on a Tuesday night, and I have not yet touched my MATH 135 assignment. When would you say is the optimal time to start it?

A lazy CSer

Dear CSer:

The optimal time to start the assignment is about 36 hours ago. Unfortunately, you have yet to learn how to program a time machine that will allow you to do this. So start it now. And by now, I mean NOW. I mean, if you have made it to this part of my reply, you are running behind (well, more behind than you are already).

The Insider

Dear Insider:

It is now 3 a.m. on Wednesday morning, and I am stuck on a proof. I am going around to everyone on my floor who may be helpful, but I am only getting responses similar to "fuck you, I'm trying to sleep." Why does everyone hate me?

Should be in Arts

Dear Artsie:

It is not you that we hate. What we do hate is your work ethic (or lack thereof). If you had decided to start the assignment with significant time clearance, you would not be in this mess. That, and I would be more willing to help you with the problem. Lesson: you must always plan for the unexpected.

The Insider

Dear Insider:

I just got my MATH 135 assignment back, and I failed miserably. And do you know why I failed? It's because you refused to help me at 3 a.m. on that Wednesday morning when I needed you most. You are no longer my friend. No booze for you.

Your Next-Door Neighbour

Dear Neighbour:

It is not my fault that you decided to put this assignment off to the last possible minute. It is also not my fault that I have class in the morning and therefore require my sleep. You need to learn better time-management skills, and that is beyond what I can do for you. Besides, I don't need your booze.

The Insider

Axiom of Choice

Am I the only one who realizes that before you can apply the Axiom of Choice, you have to use the Axiom of Choice on the seemingly infinite set of definitions for the Axiom of Choice?

Angelo

Horrorscopes

Trust me, it's for your own good.

ACCOUNTING

With the holiday season approaching, it is time to start modifying your budget slightly. After all, you do need to start purchasing your gifts in the near future. Just don't recommend this to an artsie as (s)he will think that you're insane.

Your lucky number: \$0 in your checking account.

ACTSCI

With people rushing out to prepare for the holidays, you will notice that gift insurance is going to be a popular item for consumers. I honestly do not know why companies don't capitalise on this idea. This could rake in lots of money.

Your lucky number: *deductible > cost_of_gifts*

AMATH

The RSA Algorithm is useful for encryption information, but if you can get your hands on the encryption keys and factorise it, you're in good shape. Even better, if you can get your hands on a credit card number encrypted with those keys, you are rich.

Your lucky number: priceless

BBA/BMATH

An advantage to studying on two campuses is the fact that you can cheer for two different football teams. Unlike the rest of us, you can say that your football team is actually half-decent, where we have to hang our heads in shame on behalf of our team.

Your lucky number: 1st and Goal from the 2.

C&O

CS and SoftEng are going to want to make a program to find your credit card number. To prevent this, ensure that they do not have access to the labs in the MC. Out of Order signs should work nicely, and with your supreme counting skills, you should be able to get all of them.

Your lucky number: not forgetting to close the private SE Lab too.

CS

AMath will need some help factorising the prime number in the RSA key that they just stole, so they will likely be asking you for a computer program that will do that. However, you need to make sure that you are getting your fair share of the cut before you proceed. *[Even though PMath is useless, we can still tell you that there is an error in your Softie logic. — DirtyEd]*

Your lucky number: \$12.95

MATHBUS

BBA/BMATH is going to make fun of you because your football team sucks and theirs is better. You can come back to them by saying that their school sucks and yours is better. That will catch them off guard.

Your lucky number: WWIII: Waterloo War 3.

MATHSCI

You no longer want SoftEng to be part of the mathie "elite," and will therefore want to help Sci to kick them out. Well, I hate to break it to you, but they are here to stay. So you will just have to deal with it, or get out of here.

Your lucky number: infinitely many hours trying in vain.

PMATH

Like Undeclared, the stars have nothing to say about you this week. This is probably because you are just as useless as they are. Face it, PMath is not a real major. All it will do is get you right back here teaching.

Your lucky number: 30 more years here.

SOFTENG

A CSer is going to ask you what the best algorithm for factorising prime numbers is. This will lead you to a difficult dilemma: will you stick with the ethics that you have learned in school, or will you go with it and have lots of money at your disposal?

Your lucky number: ethicsR / rated (read it as a fraction).

STAT

You will never understand why the inventors of mathematics decided to use an exclamation point for factorial. Well, an exclamation point is used to signify either something good or something bad, so ... oh, I get it now!

Your lucky number: !

UNDECLARED

The stars have nothing to say about you this week. They are ashamed that you still haven't picked your major. Now I am forcing you to make a very difficult decision: declare your goddamn major or go into arts.

Your lucky number: doom

AHS

Do you know how you can bring mathies to their doom? Take a math course. And why, do you ask? Because you will bring down the class so much that mathies are going to want to kill themselves. Or at least you guys.

Your lucky number: a mark of $\pi\%$.

ARTS

As the holiday shopping season approaches, you do not see the need to go out and do your shopping just yet. You have plenty of time to get it done. You can probably get away with not doing it until the night before (like everything else).

Your lucky number: 38 shopping days until Christmas.

ENG

You guys have no sense of humour. While we have *mathNEWS*, you have this chunk of metal that you can't even see lying around in some unknown location. Do they whack you in the head with that thing during frosh week or something? You have my pity.

Your lucky number: 5 stars around your head.

ES

Winter is coming, and you know what that means. It means that you can soon go outside, build a snowman (or snowwoman, if you prefer), and not have to worry about global warming. How would you justify such warming anyway this time of year?

Your lucky number: -3 and s**w (That's swearing in my vocabulary).

SCI

In your experiments to combine Math and Engineering, you have created SoftEng, a new element that has been the laughing stock of the school since its invention. It is now your job to undo this experiment, before they find out you did it and they laugh at you as well.

Your lucky number: Experiment 627.

mathEYE

I hate two midterms in one class. That's just wrong.

**FRIGHTENING
FILLER**

The Quest

Mathie D&D

Your party has claimed the booty of exam answers and watched an artsie explode. It's been a good day. Your party now must find their way out of the 6th floor of the MC. You come across a Beholder. It growls ferociously, and then asks your party if you've seen the stairs. The SoftEng explains that your party is in the same situation and the Beholder petrifies him.

The AMath calculates how to dissolve the stone and heal the SoftEng, and applies the calculations. The SoftEng returns to normal, but then dies from alcohol poisoning. It was bound to happen anyway.

A janitor wanders around with garbage bags full of Imprint issues. The janitor attacks the party with the Imprint. The Imprint automatically reduces the intelligence and wisdom of everyone in the party to zero. In the disarray, your party doesn't know how to attack, cast spells or factor complex polynomials.

The situation seems grim for the party, making it a prime position to leave off for two weeks.

Angelo

New MathSoc events coming your way

The Math Society has held many great events this term, especially the Halloween costume contest and free pi(e). But we think they could do a little more. Here are some events *mathNEWS* would like to see MathSoc running:

- Bring your pet to school day — potentially messy, but they are (mostly) very cute.
- Hug an editor day — prove that more artsies read *mathNEWS* than Imprint, since more of them want to hug me than Tim. I'm cuter (and so is Eric).
- Free square pie — pi are squared. Cake are round.
- Give the exec some money day — because they are running out! MathSoc fees are no longer covering their excesses.
- Sleepover in the Comfy — make it smell just a little bit more.
- Cat-lovin day — they're in your *mathNEWS*, mis-quotin ur profs.
- Religion fair — learn about all the religions you never cared about: prizes given for the most religions joined.
- Pick your favourite fundamental theorem — so many to choose from ...
- The pairing of the mathies — we will prove that the axiom of choice doesn't work in the set of mathies.

Jenn the Dirty Mathie

Sex Toys

Because no one feels sorry enough to sleep with you

With the upcoming finals and after the stress of midterms, you've undoubtedly gotten ridiculously drunk and cheated on your significant other with someone else's inflatable mate. Now you're forced to find ways of pleasing yourself without the actual presence of another human being.

Now would be a good time to go to your local grocery store. If you're in CS you're probably used to being sodomized by your classes, so head directly for any phallic symbols including cucumbers or bananas in the fruit section. You could also go to the large metal rod section in your local grocery store. Of course, you could just wait for finals to have their way with you.

Angelo

ZP-puzzle

A lesson on formal systems

I pre-emptively apologise for the possibly offensively unfunny qualities of this article. You may actually learn something. Consider yourself warned.

As the most useful subherding dictates I'll be exposing the lot of you to formal systems and this wonderful little thing called the ZP-puzzle.

What is a formal system, you ponder? It's quite a lovely little concept really. It helps if you consider it like a game. Now any good game has a beginning, some rules, and a few characters. The aim of most games is to use the rules to take the game from the beginning to some kind of end. Well formal systems are exactly like that except that we call the beginnings axioms, the players symbols and the endings theorems. This of course is just a vast over-simplification, but it'll do for the purposes of this article. There is one cardinal rule that you follow in any formal system, and that can be expressed as "No Cheating!" You've got to stay within the rules or, like most forms of cheating, you cheapen and defeat the purpose of the exercise. Officially, this is known as the "Requirement of Formality."

Now that we know what we're dealing with, we need a game to play. The game I'll show you is called the ZIP-system.

The way the ZIP-system works is that you can make a string out of only 3 symbols 'Z', 'I' and 'P'. That means that ZP, PIZ, ZIPPIZIPI are all in the ZIP-system but strings like ZIPPITI and ZAP aren't. However, just because they are in the system, doesn't mean you actually have these. You only have one to start off, 'ZI', which is our axiom (or beginning if you like). You can't do much with this right off the bat, so I'll show you a few rules.

- RULE I: If you have a string whose last symbol is 'I', you can add on a 'P' at the end of your string.
- RULE II: Suppose you have 'Zx', where x is any string. Then you can add x on at the end of your string.
- RULE III: If 'III' occurs in your string, you may replace 'III' with 'P'.
- RULE IV: If PP occurs in your string, you may drop it.

Say you had the string ZIIPI you could use rule III to get ZPPI, then use rule IV to obtain ZI. Simple, eh? By applying the rules to the strings, you can find a derivation from one string to another. One could say by following the rules of a formal system, you're actually *proving* some strings come from others. If you were really brave, you could say that the resulting string is a *theorem* of your formal system. So by playing the game, you're actually proving theorems! Now that is pretty cool. In fact, if you're in math you've probably used formal systems before in MATH135. Heck, most of Mathematics can be defined as a formal system (and that was attempted in a large book called the *Principia Mathematica* by Bertrand Russel and Alfred North Whitehead. Check out wikipedia for more info), but I digress.

Now there's supposed to be a puzzle in here according to the title, so I'm just going to put it here. Starting from the string 'ZI', and using only the rules I presented above show a way (if possible) to obtain 'ZP'.

Enjoy!

Dating Advice From the Single Guy

Part 5: The Affair

I begin again this time first by addressing you the readers before getting into the actual meat of the article. Apparently I'm really popular. I've had more people coming up to me telling me how much they enjoy these articles than I even thought read anything in *mathNEWS* other than the quotes we print from profs. Popular enough to be made fun of in *mathNEWS*, quite the accomplishment. I'd like to address Mr. The Insider here (see the last issue of *mathNEWS: Rejected mathNEWS Articles*), and am doing it in a public place so that his lies are not believed. Part 5 rejected? I think not: it's right here, if you're reading this. Take THAT! Next I am not Dave and Steve, how many times do I need to say that? I am one person, they are more than one, I said that at the beginning of the term and it's still true now. It might also be worth noting that although Dave is single, Steve actually does happen to have a girlfriend. Mr. The should really get his facts straight too. How can he do an article about rejected *mathNEWS* articles without mentioning a certain former editor's parent?

Alright, that's enough non-dating advice, so let's start the real stuff. You've been going out with your SO for quite some time now, and quite frankly things are getting kind of boring. It's time for some excitement, some excitement that you can only get by cheating on that special person of yours. Where are you going to find someone new for some fun? Don't worry, although it was hard finding someone when you were single, now the fact that you are going out with someone makes you completely irresistible to the opposite sex. You're not looking for anything serious in this person perhaps the just the next random person you can find. Either that annoying person who keeps coming into your workplace/classes to hit on you, or what about your SO's roommate? They're probably easy to get, and nothing could go wrong with them. That also solves some of the situations I will be describing later.

The most important part is not to get caught in your infidelity because then you will likely experience a world of pain, and that's no fun. It's also completely contrary to why you cheated in the first place. So here's some tips on how to not get caught.

- The "I have to work late" excuse is a little cliché. Enough so that it will never occur to someone that you're trying to cover something up in such a stupid way. You have to make sure,

though, that it's at least a little believable. Try being in graphics or real-time: I regularly have nights in the graphics lab until 2 or 3 in the morning if I'm not there all night. The only problem is trying to find the time to take the course and have more than one person to be sleeping with.

- Don't act all guilty around your (first) girlfriend. It's a dead giveaway. And you know what, it's her own fault you decided to cheat. If she wasn't so boring you wouldn't have been forced to do this.
- Unlike what you may have been told other times about doing this, it's perfectly alright to let both people have your contact information. If you get caught having an extra landline or phone number that your girlfriend didn't know about you are going to get in a lot of trouble and it's just not worth it. But under no circumstances should you ever let your girlfriend answer the phone at your place: if she's ever about to, run into the room and take the phone from her before she gets to say or hear anything.
- If you accidentally schedule a get together with both of them at the exact same time, don't worry. In fact you should try to do it. It frees up time that you can spend playing video games or finishing your school work. You may wonder how you can possibly get away with doing that, but I offer this: real life is absolutely nothing like it is in movies, especially when you're adding love into the equation (maybe sometime I'll write about that, you just have to accept that for now). Now consider this, if real life is nothing like the movies, then all you need to do is the exact same thing that they do in movies when you have two dates at once. In a movie you would get caught with hilarious consequences. In real life that won't happen, you won't get caught, and the consequences won't be hilarious.

So that's all for this week. Remember, as always, the most important piece of advice is: don't be dumb. Cheating is hard work, and you can't be dumb to do it. I'll see you next time (really I won't, you'll see my article and that's about all) when I'll discuss what happens when you're dumb.

The Single Guy

ElseWhen

25 Years Ago in mathNEWS

The issue I'll be looking at today is Volume 27, Number 5, originally published November 6, 1981.

inkEd

It's ugly, it's dull, it's boring, but anyway, it's still...

At the time, *mathNEWS* was usually done on a Photon typesetter, connected to a machine whimsically called the Bun (actually a Honeywell 66/60). Starting this week, though, David Till (the editor at the time) had lost access to the Photon, and was reduced to setting *mathNEWS* directly onto the flats from Graphics by typewriter. It makes for a much sparser look. Notable items in the issue:

- Wei-Ying Lam has been elected MathSoc Vice-President and says: "I would like to extend my thanks to all those that voted for me. To all of you I hope my term in office will not be a disappointing one."

- The Feds of the day are considering their membership in an external lobby group known as the Ontario Federation of Students (now defunct).
- MathSoc presents a short seminar called "How to Relax and Study for Exams" November 11th and 18th.
- bwlutek (who used to write limericks for us) wants MathSoc to switch the smoking and non-smoking lounges.
- *mathNEWS* tips its hat to *Microscope*, a fledgling publication over in Science.
- David Leibold published a 3D crossword (5x5x5)
- Killer Kquestion: if a, b, c, d are real numbers, show that $a + b + 2c + d$ is greater than or equal to seven times the seventh root of cd^2 .
- David Till writes a page-long *mastHEAD* at 4:30AM Tuesday. Tsk, tsk.

profQUOTES

[written on slide show] Suppose we wish to keep track of all 4 UWaterloo students.

Alencar, CS 133

[while doing review] And we did some integration. Well, I used integration and you guys stared blankly.

Balogh, PHYS 115

Don't tell your Physics teacher I told you that. Wait, I am your Physics teacher.

Balogh, PHYS 115

Please stop the chatter, especially when I'm doing boring stuff.

Balogh, PHYS 115

Let's just show that more for fun than anything.

Balogh, PHYS 115

Relax. This is not fun.

Balogh, PHYS 115

A collective groan. Fantastic. We haven't had a collective groan since vectors.

Balogh, PHYS 115

Is there anyone who doesn't buy the right-hand rule or does not know which on their right hand is?

Balogh, PHYS 115

We have the freedom to choose which direction to choose. OK, that wasn't a good sentence.

Balogh, PHYS 115

[after a student's cell phone rang] You're lucky because [the ringtone] was Guns 'n' Roses. Otherwise, I would kick you out.

Balogh, PHYS 115

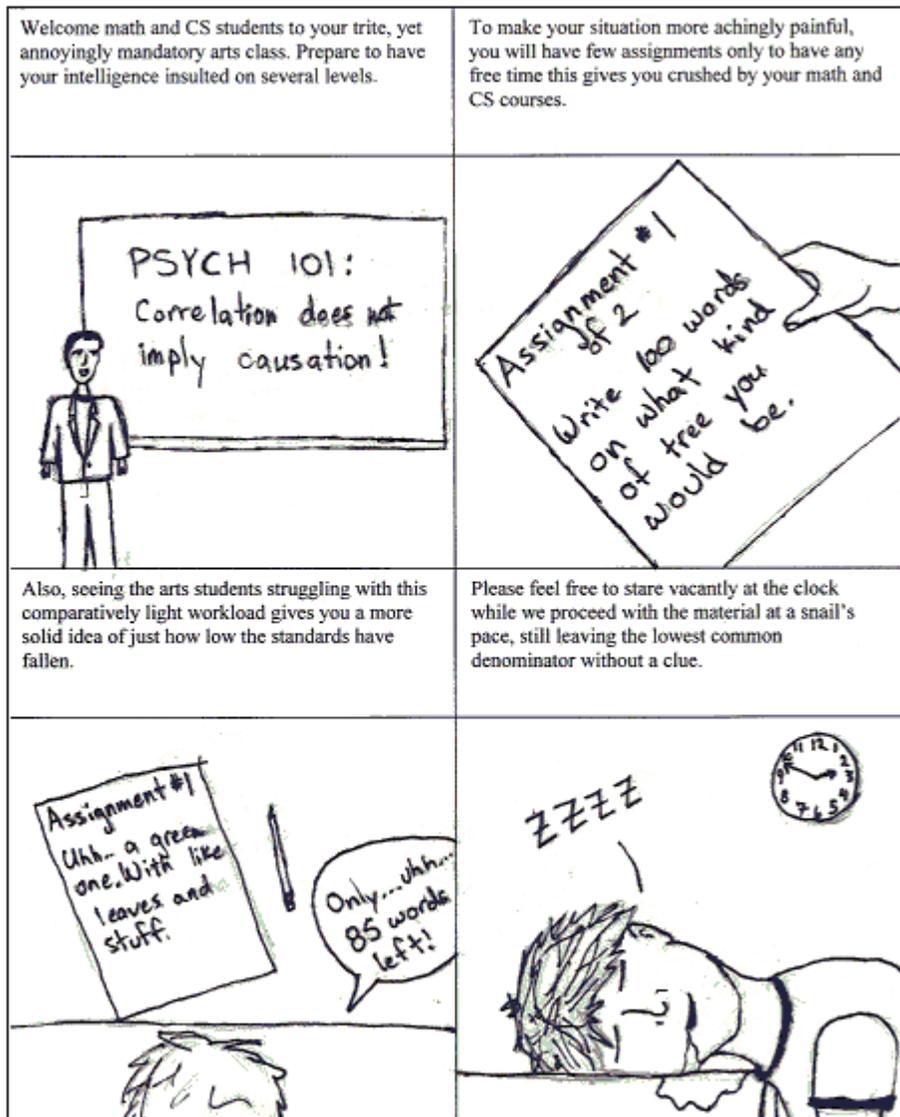
We're not big on memorising useless things like trig identities for the final exam.

Balogh, PHYS 115

The plank is being supported by a circular rolling thing, which I have called a roller.

Balogh, PHYS 115

Close to Infinity



I'll only be comparing two variables. The reason for this is that I'm using a flat surface called a black-board.

Carvalho, ECON 101

[after trying out a new microphone] This makes my voice sound better than Justin Timberlake.

Chang, MATH 117

[notices student reading profQUOTES] Oh, shit!

Chang, MATH 117

[while talking about local maxima] You bully your neighbours, and eventually you become the local king. But in another town, there's a bigger king that you don't want to mess with.

Chang, MATH 117

[after looking at a clipboard] [female student's name removed for privacy reasons], I have your number!

Chang, MATH 117

[after same student's cell phone rang] Is that [looking at clipboard again] 519-blah blah blah?

[student] I think she's taken.

[prof] That's OK. I can wait.

Chang, MATH 117

[written on board] Say f is a differentiable function on a closed interval $[a, b]$. WTF the derivative?

Chang, MATH 117

Ironically, integration will disintegrate you.

Chang, MATH 117

Proof will take three lectures. If you want more information, read the Bible.

Chang, AMATH 456

profQUOTES

[holding an optimal control book in each hand] This one is like King James edition, and this one is like modern version. Much better.

Chang, MATH 456

Oomph is a very technical word.

Epp, PHYS 121

We all did this. Of course, we'd never admit to doing that because it's completely wrong.

Hare, MATH 247

I hope you remember this theorem or you'll have to start singing this in the shower every morning.

Hare, MATH 247

This would be a good time to start writing in landscape.

Hare, MATH 247

You don't need to see it because I don't want you to write it in your notes.

Hare, MATH 247

Let's write that like this. I heard that. "Let's not," I heard.

Hare, MATH 247

It would have been better to write it this way. Then it would have been right.

Hare, MATH 247

Why would you be part of the math faculty if you don't like math?

Hare, MATH 247

[student] I am going to give you a meaty example. If you are vegetarian, it can be a tofu example.

Koeller, MATH 135

Anyone with a Ph.D. in number factorisationisation...

Koeller, MATH 135

If you do something to invoke this method, you need to take a piece of metal and put it in an electrical socket.

[points to a student] I hope you do it while standing in a puddle of water.

MacDonald, CS 133

Don't do it! It's crazy!

Ng, MATH 245

The average on the midterm was 40. [pause] out of 50.

Ng, MATH 245

The trace is the easiest to compute if you have enough fingers and toes.

Ng, MATH 245

I don't like this word, but it's in the books so there is nothing I can do.

Ng, MATH 245

Choose your favourite lambda. Today is a Friday, so we are choosing $\lambda = 1/7$.

Nica, PMATH 351

You might say that I'm pulling a rabbit out of my hat, supposing that I had a hat.

Nica, PMATH 351

[prof] I think I need to sit down and talk to you about my accent. Does my accent bother you?

[class] No!

[prof] Oh. Well, my children tell me, "Dad, you sound like an Indian."

[silence]

[prof] And I say, "But I am an Indian!"

Singh, ECE 354

Let's look at the simplest example of this. [later] Perhaps we should have done this one first.

Sivaloganathan, MATH 137

And when we think we have the final answer, we go back to the original question, which I have cleverly erased.

VanderBurg, MATH 135

My example has 23 congruencies, but I might reduce it to 3, just so we can finish it before January.

VanderBurg, MATH 135

I'm going to say something which will make me look really dumb, but I'm going to say it anyway, since I already look really dumb up here.

VanderBurg, MATH 135

[discussing congruence classes] Remember: you cannot divide. Unless you can. Which you can't.

VanderBurgh, MATH 135

I'm not going to say anything more about that. However, I will.

Wagner, CO 330

It's wonderful to be able to calculate this and not actually know what's going on.

Wagner, CO 330

[These generating functions] are obviously not the same, but they're nonobviously the same.

Wagner, CO 330

You've got this infinitely large go board. Chess board, if you play chess. Graph paper, if you just do homework.

Wagner, CO 330

Today, we start a *new chapter* in our lives. Chapter 5.

Willard, MATH 145

[student] Shouldn't the answer be negative star?

[prof] Positive star, negative star, they're both stars.

Wollan, MATH 115

I made a mistake in my notes, and because I'm not going to recalculate the matrix, we're just going back to our old stars. That's what happens when you come up with examples right before lunch.

Wollan, MATH 115

**Keep sending in your
profQUOTES!**

Full Solutions to Last Issue's Cryptic Crossword

Because I Feel Guilty About Making Three Mistakes in the Clues

ACROSS

1. SUR(CHAR)GE
6. SH + IRE
9. SPRA(N)G
10. FUMBLING (dbl def)
11. ANTI (tina anag)
12. BLISTERING (anag)
13. CUR (hidden)
14. OBOE (hidden)
16. AG(GREG)ATE
21. CAR + TOUCHE
24. BREW (dbl def)
26. VIA (dbl def)
27. PROF MORALE (anag) *[Mistake number 1: should've been (4,6), not (10) — inkEd]*
28. RAFT (hidden)
30. HEIR + LOOM
32. ID + I + OCY (coy anag)
33. TES(T)S
34. MAR + GARITA

DOWN

2. UNP + IN *[Mistake number 2: I mixed up the order of the last two words in the clue, not that they make any sense reversed — inkEd]*
3. CHALICE (anag)
4. ALGEB + RA
5. EMU (emulate beginning)
6. SUB + MERGE
7. INITIATOR (anag)
8. ENGAGE (dbl def)
10. FLING (dbl def)
11. ALOE (elora drop r anag)
15. ORA + TORIES
17. GNU
18. RAH (har rev)
19. STIMULUS (anag)
20. TWIT (chirp = twitter)
22. CHAS(M) *[Mistake number 3: two c's in saccharine, not one — inkEd]*
23. EVENING (dbl def)
24. B + ARRIER
25. U(PSHO)T
29. FA(C)ET
31. OH + M

How many CSers does it take to change a light bulb?

Five

One to write the code, one to compile it, one to test it, one to debug it, and one to realise that the computer can't do it for you.

What's the girliest thing in your purse?

My purse — it's a girl.

What happened to property?

mathNEWS writers get no respect

Well, I woke up this morning and went down to get some breakfast. As I entered the kitchen, something seemed amiss; the room was empty, but cooking equipment was strewn about the counters, filled only with leftover food from last night. I looked over to the sink, and saw a familiar black lid; somebody had raided my cupboard again. Items taken:

- 1 pot lid, untouched
- 1 pot, left on stove with broth and egg noodles
- 1 spaghetti server, left in pot
- 2 stainless steel forks

Adding this to the 1.5 litre saucepan, spatula, and multiple knives I found lying around last week, all of which were mine, I think that a problem has developed: for some reason, people think they can take what they want from my cupboard, without asking, or even informing me. To make matters worse, this is the second term that this has happened, in a row.

Why is it my equipment they take? And if they take other people's equipment too, why do they leave mine out to soak in whatever it is they were cooking, thus making cleaning that much more difficult? Additionally how can I get them to stop without breaking the University's rules and placing a lock on my cupboard door?

Now, if only I can get that plate, bowl, and butter knife back...

Richard

Attention Imprint

If you want people to actually care about responding to your survey, then you should probably try offering something that someone would like.

Angelo

Solutions to Last Issue's Grid

S	B	U	R	O	G	H	R	A	P	H	Y		S	P	R	U	R	N	E											
	N		H		L					M			U	R	N			N												
S	W	E	R	A	L	N	T	H		F	O	S	M	S	B	L	F	I	N	E	D									
		I	R		L			L		E	L		L	F		M	S	T	N		A									
A	E	N	T	N	I	A		B	E	L	F	I	F	S	O	T	R	E	T	R	L	I	E	N	S	G	S			
L	A				C	N	U	R	T			N	E				R	I		A		R					E	T		
O	S	B	O	O	E	T		A	E	G	A	G	R	L	E	I	N	A	E	T	S	E	S							
E	Y		R	T			S	I			N	N		A		O		E	E		A						T	A		
		C	A	H	R	I	T	N	O	A	U	T	C	O	H	W	E	N		B	F	L	E	A	W	T				
U	T			T	E		I	N					H	X		V	E	I	G	O								I	O	
P	A	R	T	O	R	F	I	M	O	M	V	A	I	L	E	W			R	A	O	F	O	T	M					
S	C			W			U	E					S	D		N	S			R	A			A	V					
H	T	E	R	I	I	R	A	L	N	O	G	O	L	M	E			I	M	D	A	I	G	O	G	O	Y	T		
O	I			E	S			U	D			H	A				N	A			E								I	
T	C	E	R	S	E	T	S	O					M	D	A	O	R	W	G	N	A	G	R	R	I	A	T	D	E	

Puzzles!

I should note that the last SigInt puzzle was screwed up so that it is unsolvable. Sorry! This one should be doable.

Congratulations to Zhentao Li, lucky winner of a \$5 gift certificate to the C&D. Not only did he solve the other two puzzles correctly, he found *and fixed* my mistake in the SigInt to give a correct answer. Way to go! Come to MathSoc and ask 'em for your prize. I got enough submissions last time to suggest printing solutions is not necessary. If you disagree, send me an email at mathnews@student.math.uwaterloo.ca. Don't forget to submit for a chance to win a FABULOUS PRIZE!

inkEd

Drywaller

"Listen up. Our client isn't picky, as long as each square has the right number of walls surrounding it. Sounds a little tricky, but we didn't get to be the #3 drywall outfit in town by being lazy."

Also:

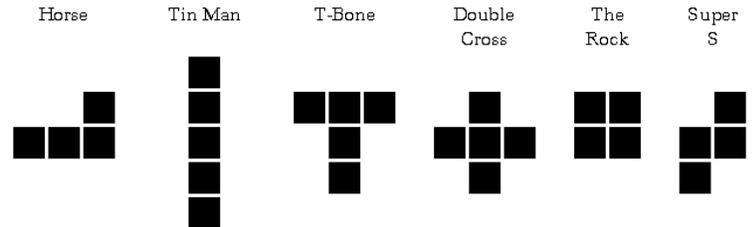
- There's a wall around the outside
- They want exactly 10 rooms

2	1	1	1	2	2	1	2	2	2
1	0	0	0	1	1	0	1	1	1
1	0	0	0	1	2	1	2	1	1
1	0	0	0	1	2	1	2	2	2
2	1	1	1	2	2	1	2	2	2
2	1	1	1	1	2	2	1	0	1
2	1	1	1	1	2	1	0	0	1
2	1	1	1	2	3	1	1	1	2
2	1	1	1	2	3	2	1	2	3
3	2	2	2	2	2	2	1	2	3

SigInt

The precious 8x8 grid we call home has been invaded! Signals intelligence tells us that the following agents are somewhere nearby, all they can tell us about their locations is:

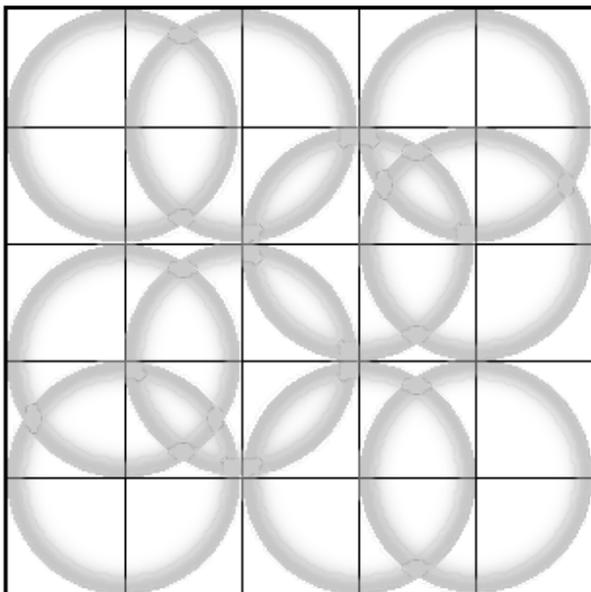
- How many squares in a row or column are occupied
- They've been ordered to disperse so they aren't touching, not even diagonally.
- Remember: they can flip and rotate.



								1
								4
								2
								3
								2
								1
								3
								5
1	5	3	2	4	1	1	5	

Umbrellas

Place the following 10 squares on the 10 circles so that the overlapping numbers match up.



1	9
1	6

8	9
7	6

7	1
6	0

1	8
0	5

6	6
4	4

1	6
8	6

9	8
3	7

6	0
4	1

9	4
6	5

5	1
3	0

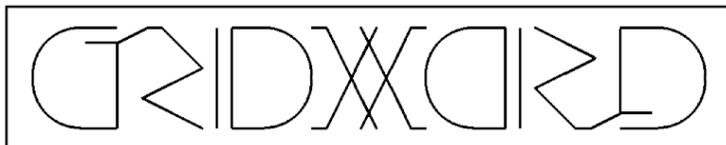
Cryptic

ACROSS

1. Hustle Florida with messy film before morning (8)
5. Device of unfinished ember deranges Lions member, initially (6)
10. Warp summary crime (5)
11. Is in dip, unusually vapid (7)
12. Join about gauche split (5)
13. Tense initial is delayed around coffee beverage (5)
14. Short heater and two circle measures (5)
16. Mixup of King and bear produces doughboy (5)
19. Seek in rush erratic escort (5)
21. Change or shun assault (6)
23. Take over a Boleyn ten (5)
24. Rome inside as smells (6)
25. Backwards soldier heads to toilet of ice hut (5)
27. Fashion turnstile end?
31. Addition of one ton changes visionary to speak shortly (5)
34. Summation of short signature and mother! (5)
35. Send in payment reversed timer (5)
36. Suspension of cold beginning and tabloid end (7)
37. Seething anger at shooting gallery (5)
38. Do without short executive summary to meditate (6)
39. Cold soup? No, sounds like you, gaucho, around odd zap (8)

DOWN

1. Inconstant headless pickle follows failing grade (6) [*Let that be a lesson to you... — inkEd*]
2. Force boiled simultaneous beginning surrounding family friend (7)
3. Joke floats hundred into bus price (5)
4. Single cell forces crazy Boehm (not him) into alcoholics anonymous (6)
6. Stingy one sounds like stranger! (5)
7. Fat fifty one ruin early diplomacy (5)
8. Short centre; soon, time will be twelve (8)
15. Laura goes head over heels for anything to do with the ear (5)
16. General alloy (5)
17. Twisted unusual behaviour (5)
18. That is, after revered logic operation, a short stripper's name (5)
20. Soil sounds like chickpea dish (5)
22. Hymn is unable to lead into icicle ends (8)
26. One with innate ability is neither sharp nor flat (6)
28. Trinidad's capital and messy yard are late in arriving (5)
29. Wavelength of sacrificial animal and Irish father (6)
30. Garden structure will look after body odour (5)
32. Implore licensable discovery for memento (5)
33. Elicit very reasonable energy after the end of blaze (5)
34. Fasten upside down parts (5)



For our friends in the National Library:



gridCOMMENTS

Sorry, conventional lovers

I'm a bit short of time this week, so there's only a cryptic. If you are a fan of my conventionals, you might find giving this one a try to be interesting. Find a copy of the first issue with its Cryptic 101 article (also online from when it originally appeared in Volume 96 Number 4) and give it a go. I suggest starting with 20 Down or 35 Across. And for people who will actually do this puzzle, I apologize for 18 Down. I had forgotten I'm only supposed to use Real Words (it wound up being a name). Even if you have no idea what the clue is talking about, hopefully you can figure it out from all the crossing words.

I made three mistakes in last issue's cryptic. In penance, I put complete cryptic solutions elsewhere in the issue. Congratulations to Nick Murdoch, though, who is this week's winner with his answer of "Looked in menu, llama missing? (0)" (pretty funny if you can figure out the cryptic clue). The conventional (conveniently free of errors) was won by Matt Tripp, with his answer of pneumonoultramicroscopicsilicovolcanocaniosis. Come on down to MathSoc (MC3038) for your FABULOUS PRIZE!

Don't forget to submit before the next production night! And if you do, tell me what I should do to avoid cryptic errors in the future.

inkEd

1		2		3		4		5	6		7		8
							9						
10								11					
				12									
13									14	15			
					16		17		18				
	19		20						21				
22					23								
24									25			26	
					27	28		29					30
31		32		33						34			
						35							
36									37				
38								39					

How to submit profQUOTES

A simple 5-step tutorial

1. Go to class. For some of you, this may be a bit of a stretch, but you will find that it is worth it nonetheless.
2. Listen to the prof. Again, a stretch for some of you.
3. If the prof says anything worthy of being put in *profQUOTES*, write it down right away! That way you don't forget it.
4. Submit it to the BLACK BOX outside the C&D, or email it to mathnews@student.math.uwaterloo.ca (with *profQUOTES* as the subject line) before Production Night.
5. When the next issue comes out, enjoy the *profQUOTES*!