

math NEWS

Volume 120, Issue 0

Frosh Issue, 2012



New Game
Load Game
Settings

Starts a new adventure.

Journey through a land of MATHical Creatures, make new friends, encounter challenging puzzles, and discover the legendary secrets of the mathematicians of old.

mathNEWS Disorganizational

Learn about mathNEWS on Sept. 14th

mathNEWS is like an old friend. It shows up, pretty regularly, on every other Friday, makes you laugh, cry, and scratch your head trying to solve puzzles, and then says “see you in two weeks!” Best of all, you can take it into class, and let it entertain you there (unlike “dancers”), and your professors won’t care. Heck, sometimes they read it while teaching.

Now, **mathNEWS** doesn’t just appear magically, it gets put together by a very tight knit group of writers, artists, proofers and glorious editors.

If you are interested in helping out with **mathNEWS**, you should come to our disorganizational meeting on September 14 at 4:30 pm, room TBD, or feel free to stop in on one of our production nights (we post posters in the stairwells on production nights; they occur every other Monday, and the first one is Sept. 17. It will start at 6:30 pm in MC 3038[that’s MathSoc]), check the door to our office (or come in if we are there!) at MC 3030, or email us at mathnews@gmail.com.

All of us here at **mathNEWS** are always looking for new writers, proofreaders, artists, puzzle-writers, and general what-have-yous. Everyone who helps out gets to party with us at our end of term bash, and eat lots of pizza with us, not that sixteen slices makes you feel good two hours later... but whatever.

Sudoku!

	6		9	5			8			4		6	7		3		
	4	8		6			5	7	7		1	8			5	4	
	7			3			2	1		2			4				
	5			1	3	8	9			9		6			7	2	
	2		7	4	5		3			4	6				8	3	
	1	3	6	9			7		1	2			3			4	
5	3			8			6				1			2			
6	8			2		5	4		2	7				3	4		1
	9			7	6		1		4		9	2		3			

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The editors: Lenny Morayniss(W13), Murphy Berzish(W13), Will Morrison(F12/S13), Sacha Koohgoli(F12/S13)

Why you should write for mathNEWS

Why should you write for **mathNEWS**? Yes, you, the one reading this right now. No, not someone else who might happen to be reading **mathNEWS**, just you. I really think you should write for **mathNEWS**. “But why?” I hear you wonder. Yes, I heard that, I hear all. Well there are many reasons to write for **mathNEWS**.

- **Fun.** This cannot be overstressed. It is fun, or at least it should be. If you’re writing for anybody at any time and it is not fun, then something is wrong, or maybe it is the ELPE, or a work report, or ... fine. But writing for **mathNEWS** is fun. Whether you just have your own personal fun at home and e-mail the article in to us, or come out to Production Night and have some free food fun, it’s all really quite a lot of fun.
- **Rewarding.** In so many ways. From e-mail from 14 year-old boys who use AOL to letters from Iran, your material can generate a response. There is also the rewarding feeling of creating a piece of writing and knowing it will be published. Some also find the free food a kind of reward.
- **Looks Good.** On, say ... a resume. Employers always want good oral and written skills; what shows that better than contributing to a bi-weekly publication? You don’t have to answer that.
- **Getting Published.** **mathNEWS** is an official publication with an ISSN. Two copies of every issue go to the National Archives. Beyond being released to the entire campus every other Friday, and mailed to our subscribers, your work will also be published online on our website (www.mathnews.uwaterloo.ca), which is pretty highly rated on Google.
- **People Read It.** People will read it. At least people pick it up. Some might try and tell you no one reads **mathNEWS**, but after a few weeks of distribution detail you discover just how many people read **mathNEWS**. Late in the afternoon when I return to campus to clean up at the end of the day, I see people walking home with **mathNEWS** in their hand. I see both students and faculty picking up copies. Some profs get issues mailed to them. People at bus stops waiting to take the bus home have copies in their hands. Look — right now, you are reading **mathNEWS**.

We give you the opportunity to be published. You have the chance to make people, your fellow students, laugh and/or think on Friday mornings. You can rant, point out what you find funny about life, or just express yourself however you like. Anyone can contribute to **mathNEWS**. So please, send us an e-mail at mathnews@gmail.com.

Phat Albert

N Reasons to go to St.Jacob’s

Try to find someone who will drive you

- Kettle Corn, it’s amazing
- So much good food
- Awesome dragon figurines and suits of armor
- Onions from England; believe me, they are worth it
- HORSES!!!!
- Christmas presents for family... I’m starting early this year
thecountryconvict

Unnatural History

mathNEWS

In the beginning...
 there was *math*.
 Then we tacked **NEWS** onto it.
 But that's not the whole story.
 For the whole story we must go back.
 Waaaaaaaay back.
 To the start of the epoch.
 Ok, shortly after the epoch.
 Give it a year.
 The mathies were restless.
 They had been doing their math for a full graduating class.
 But they didn't feel satisfied.
 There must have been more.
 Something beyond the integrals,
 The analysis,
 And the batch jobs that suffused their existence.
 Great ground was being broken in Math and CS!
 But the mathies no longer wished to use their creativity!
 So one day.
 In 1971.
 They wrote an article.
 And it began like this...
 "They did and it didn't"
 And then they wrote about real news.
 They reported about the nice things.
 Like the C & D.
 When it was just a stand on the 3rd floor.
 And for a time... it was good.
 And then it got better!
 Puzzles were placed.
 Gridwords were generated.
*prof***QUOTES** were professed.
 And columns came and went as students graduated.
 And that's the truth.
 Or so I shall tell you.
 The real story is way more exciting.
 It has dinosaurs.
 And high powered lasers.
 And several rings of power.
 As I recall a time machine was involved.
 How did you think the science paper *Dark Matter* came about?
 At one point there was a division by zero.
 The less said about that, the better.
 In either case,
 The mathies rejoiced.
 For they had *math***NEWS**!

The Unnatural Historian

mineCRAFT

For anyone who plays Minecraft, *math***NEWS** is hosting a server at 129.97.134.134. To reduce the chances of it getting destroyed like last term, there is now a whitelist. To get on the whitelist, submit your minecraft username to the **BLACK BOX**.

ConcealED

A First Year's Guide to the MC

(or: Stop Asking Me for Directions)

Welcome newbies! Now, being new students you no doubt find the MC to be a large, terrifying behemoth of a fortress from which no soul can ever escape. That doesn't go away. But I'm here to make you lost slightly less often when you're wandering these desolate corridors. First of all, in each corner of each floor is an extremely useful map of the floor (just like in every building on campus), with room numbers and little pictures. If you're looking for a class or professor's room, these maps are key. (For the purposes of this article, East is defined to be the side closest to the SLC.) Also, every floor has women's rooms in the Northwest and Southeast, men's rooms in the Northeast and Southwest. So you don't have to walk down more than one side of the building to find your bathroom.

First floor: You might have a class on the South side of this floor, but more important is the CHIP on the North side. They'll sell you software at a discount and fix your computer if you ask them real nice. Helpful people. There are exits at each corner of the building (and on the west side) halfway between first and second floors.

Second floor: You will probably have a few classes here, mostly on the North side. There are a couple of computer labs here, if you're in need of a computer lab. Media.Doc is in the middle of the floor too. This is a useful room for printing out anything you can't do yourself. Class slides, assignments, work reports, pictures of yourself sprawled out on a bed of rose petals...just bring them a data stick and they'll print out what's on it, in whatever quality you want. They also do binding, photocopying, course notes, ID photos, and lots of other printing activities.

Third floor: This is really the heart of the MC. You have the Comfy Lounge and the C&D on the South side, most of the club offices on the East side, more labs in the middle and West side, and the MFCF over near Northeast. If you have problems with your UWaterloo accounts or other computery problems, you can see them. It's also the home of MathSoc(MC 3038). You should swing by if you get the chance, they offer a lot to Math students.

Fourth floor: There are a lot of classes here, as well as some important offices. The Math Undergrad Office, which you'll need to get course override forms and hand in work reports and all kinds of administrative things, is on the East side.

Fifth floor: There are prof offices here, as well as a couple of program offices (like Pure Mathematics on the South and C&O on the North), and the Dean's. As well, the South side has the CEMC, which is the department that helps schools in Ontario and all over the world to teach math and computers. Really great people. Starting on this floor, the bathrooms start being a lot cleaner, too.

Sixth floor: This endless labyrinth of twisting corridors was designed by a professor of pure mathematics. The maps can only be viewed in four dimensions. Half of the students who you stop seeing after first-year actually just wander onto the sixth floor and are never seen again. Pray that you never have to find a professor's office up here.

Seventh floor: IT DOES EXIST! I'VE SEEN IT! IT— [The rest of this article has been withheld by the University Censorship Board, which does not in any way confirm the existence of a seventh floor of the Mathematics and Computers building.]

Prometheus

profQUOTES

Don't profs say the darndest things? **profQUOTES** is the most popular feature of **mathNEWS**. This is where you will find funny, stupid, or ambiguous things uttered by professors and recorded by students like you. If you think one of your professors has said something quotable, send it in (along with their name and the course code) to **mathNEWS** either by email (mathnews@gmail.com) or dropping it in the **BLACKBOX**, and you will probably find it in the next issue! It could be an incentive for you to stay awake in class.

Below are some of the better quotes uttered in these classrooms within the last few years.

I was playing a game where we were trying to find the most Canadian thing ever and we came up with Brian Mulroney riding a moose into a pool full of maple syrup.

Katz, MATH 239

I gave you a proof, but I ate it.

Katz, MATH 239

(closing blinds) There's too much light in here for computer science.

Hinek, CS 246

What you are saying makes sense to me, but I want to say no.

Hinek, CS 240

I'm going to call solution 1 the MATH 239 method Brute Force, which is not to be confused with what I'm going to call solution 4, Excessive Force.

Purbhoo, MATH 249

(After introducing a theorem) Which I'm not going to prove, because when a theorem is named after someone, it's rarely so easy.

Koenemann, MATH 239

Big O is the cookie monster. It even looks like a mouth.

Dupont, MATH 119

I'm still convinced that PAS[Psychology, Antropology, Sociology — ObjectED] is designed as an experiment on what happens if you turn people into rats.

Doyle, ECON 304

You're not a real mathematician until you've tried to prove that the World Series converges.

Wolczuk, MATH 138

The correlation between the decline of pirates and global warming is ridiculously high, something like -0.95 ! So clearly the lack of pirates is causing global warming.

Chisholm, STAT 230

There are four S's in 'STATISTICS': one, two, three... There are four S's in 'STATISTICS'.

Chen, STAT 230

There are three series you should know or you'll fail the course: geometric; harmonic; and there's probably one more... I fail.

Hewitt, MATH 138

This symbol means 'it does not exist'. If you cross it out, it still does not exist. If you cross it out twice, it exists even less.

Sendov, MATH 138

We're going to talk about nets; anyone in the class a fisherman? (dead silence) This morning in my 247 class I was talking about saddle points, so I asked if anyone had ever ridden a horse and no one would admit to it. Then I asked if anyone was a hiker because mountain passes look like saddles. Then I asked if anyone had ever been in a car driving through the mountains. Finally someone admitted to having been outside once.

Hare, PMATH 453

You're junior co-op students; your employers don't have the time to fire you.

Smith, ECON 101

Prof: Is that clear now?

Student: No... and don't bother explaining it.

Prof: Don't bother?

Student: You lost me three chapters ago.

Prof: We haven't done three chapters yet...

New, MATH 138

$0 \times 0 = 0$, except on the STAT 230 midterm, where it could be any number of things, according to you guys.

Chen, STAT 230



10 Alternative Uses For Textbooks

So you were all excited and bought all your textbooks during Frosh Week. Now, the day of the exam, you say to yourself “I spent \$150 on that book, I really should open it at least once.” So here’s a list of some things you can do with textbooks:

1. Assault weapon: some textbooks weigh several kilograms and are easily thrown.
2. Weight training: Books are heavy, weighing quite a few pounds each, and are easily lifted.
3. Look smart: Books are a means to show off the fact that you are educated and usually weigh less than a stone.
4. Fly swatter: Once, during a lecture, Prof. Jackson took his backpack and threw it at a wasp on the ceiling. Do you really think that it would have killed the wasp without a textbook in it which weighed more than 2 newtons? Really?
5. Building cardhouses: Textbooks are sort of like big cards. So you can make really big cardhouses. Since most people won’t have enough books to make a really kickass cardhouse, get your entire class involved, you know you have enough books when you are counting the books by the ton.
6. Hammer: Textbooks can bang things just like a hammer. They may even weigh many carats more.
7. Screwdriver: To put a screw in the wall, line it up where you want it and bash away. Works better if textbook exceeds 12 troy ounces.
8. Lullabies: The best way to fall asleep at night is to attempt to read a textbook. Or perhaps have someone bash you over the head with a textbook. (Crap I can’t think of any mass unit to provide the necessary cohesion to this article ...ABORT ARTICLE!) [...and he was just about to mention how balancing textbooks on one’s head can improve posture — TaxiED]

Dave Nicholson

MathFOC Sez

Hey New Students! Welcome to the University of Waterloo Faculty of Mathematics! We hope you have a wonderful time here. We’ve been working really hard to ensure your transition into university life is as smooth and as awesome as possible and are super excited to see you here. You may have already been to a couple of events, but do you know what events are to come? For starters, on Tuesday you’ll get to hear from the Dean of Mathematics, as well as experience a day at our beloved Waterloo Park. You’ll Earn Your Tie on Thursday, then on Friday, you get to top it all off with desserts and a scavenger hunt! You’ll also have a chance to hang out with students from other faculties at events like Tuesday Variety Night, Thursday’s Monte Carlo and the largest Toga party on Saturday night.

You can always e-mail us with questions, comments, feedback or general concerns at mathorientation@uwaterloo.ca, at any point in the week – we’ll try to answer them as best as possible! We also wanted to thank all of the wonderful volunteers and leaders for Orientation – without them, this could never happen as it has! Be sure to thank them for a job well done at the end of the week! If you’re interested in getting involved in future years, keep an eye on the website in Winter <http://uwaterloo.ca/orientation/>.

What If Yoda Were An Academic Advisor?

“Down to General, you go.”

“STAT 231, you must confront STAT 231 again.”

“Political Science, heh, Geography, heh, a Mathie craves not these things.”

[Student] “I won’t fail Graphics, I’m not afraid.”

[Yoda] “Oh, you will be, you will be.”

“Pass or do not, there is no bell.”

“Concurrency is the path to the dark side, Concurrency leads to OS, OS leads to Real-time, Real-time leads to Suffering.”

[Student] “MATH 135 is so much different from high school.”

[Yoda] “You must un-learn what you have learned.”

“He is too old, yes, too old to begin a Bachelors degree.”

[Student] “I only got 20 on the Euclid.”

[Yoda] “That, is why you fail.”

“Always two there are in a Masters program, a supervisor, and a grad student.”

“A Mathie’s strength flows from caffeine, but beware of the dark side, laziness, partying, procrastination, the dark side of the force are they.”

“Sterile!? Humid!? My office this is!”

“Only a fully trained Mathie with the Force as his ally will conquer the Professor and his Dean.”

“Ready are you? What know you of ready? For eight hundred years have I trained Mathies. My own counsel will I keep on who is to be trained. A Mathie must have the deepest commitment, the most serious mind. This one a long time have I watched. All his life has he looked away... to the future, to the horizon. Never his mind on where he was. Hmm? What he was doing.”

[Student] “I finally passed STAT 230.”

[Yoda] “There.. is.. another.. STAT.. course”

“When 400 level you reach, look as good you will not, hmmmm?”

Ian W. MacKinnon
Bradley T. Smith

This is filler!
It is used to take up extra space
on the page that we couldn’t fill
up with articles or comics.

MathSoc says “Hello!”

MathSoc := Mathematics Society

A big welcome to uWaterloo from the Math Society! The Mathematics Society, or MathSoc, is your official student body in the math faculty. We represent your interests to the faculty and the university.

The MathSoc Office is located in MC 3038. We provide many products and services to our students. Some of these include:

- Calculators (pink-tie approved!) for the best prices on campus.
- 5¢ photocopies for those lectures you missed.
- Staplers to staple those late-night assignments together!
- Computers with printing for 10¢ a page.
- Locker Signup so you don't have to carry around those heavy books all day (Online registration).
- Textbook library so you have access to material when you don't have your books with you. This includes most first and second year core courses.
- Cool math t-shirts, sweatpants, Frisbees, bags, and more, to help you show off your math pride!

We also run various social events throughout the term. This term's events will include games nights, movies (and more!) nights, Oktoberfest festivities, Halloween happenings, a celebration of our faculty's founder's birthday, and much more!

Interested in getting involved and volunteering? We would love to have your help! Contact us to let us know that you're interested, or come out to our volunteer information session during the first week of classes.

To find out more about MathSoc and what we offer, be sure to check out MathSoc Day the Sunday immediately following Orientation Week. It's a day of fun and information designed especially for first-years! You can also keep up to date with what's happening in MathSoc by visiting our website, mathsoc.uwaterloo.ca, or by liking Mathematics Society on Facebook!

See you soon!

MathSoc Executives

mathsoc@mathsoc.uwaterloo.ca

Feed Me!

Faithful Readers,

It has come to my attention that I am hungry. I'm usually stuffed full of Mathie goodness, but I was abandoned for most of the month of August.

You can feed me most anything; I'm not very picky. Some of my favourite foods include: Crossword solutions, *prof*QUOTES, articles, comics and money. Especially money.

Please send all food to me care of my top slot. I can be found between the Comfy Lounge and the Math C+D. And you can feed me online too! I can't use the Internet myself, but if you e-mail the nice people at mathnews@gmail.com they'll feed me at no cost to you! Please don't send food as attachments though; just stick it into the body of the e-mail and it'll be scrumptious!

Sincerely,

The *mathNEWS* BLACKBOX

N Things to Know About UWaterloo in General

Waldo still needs to learn a few more things too.

- The geese are here to stay, no matter the season.
- If you want to get involved at UW, check out Clubs and Services Day in the Student Life Centre to see what clubs you can join.
- Sometimes random things end up in random places, like the snowman on top of the Biology building last winter.
- The ninjas always seem to invade “N Things” but no one really knows why.
- You'll likely figure out what kind of university career you want to take and how you need to get there by the end of your first term (or your first year).
- There are underground tunnels and overhead passes between buildings for warmer travel during the winter.
- If you need certain things, like stationary or printing, MathSoc is often the cheapest place on campus to get it (but remember, it's cash only!).
- Time management and scheduling can play a huge part of any term.
- *mathNEWS* can be a good escape from the hustle and bustle of Friday mornings every couple of weeks or so.
- If you want to find Waldo, try coming out to a *mathNEWS* meeting and writing for us!

waldo@<3.LE-GASP.ca

First-Year Class Representatives

Mathematics Society Council Wants You!

Are you looking to get involved in your first year at the University of Waterloo? Would you like to represent your fellow First-Year Students on a council that makes decisions directly affecting math students of all years? If so, then you may be interested in becoming a First-Year Class Representative on MathSoc Council.

MathSoc Council is the governing body of the Mathematics Society. It is comprised of the MathSoc executive team and representatives allocated between various undergraduate years and programs. One such constituency is “First Year”, consisting of all math students registered as first-years with the University; that means you. Meeting about once every 3 weeks, Council has power over Society affairs, making important decisions such as allocating our over \$40 000/term budget. Equally, councilors are responsible for voicing the concerns and issues of their constituents, and are responsible for holding one public office hour per week in the MathSoc office (MC 3038).

In the first few weeks of classes, Mathematics Society executives and volunteers will be circulating in the first year calculus sections so that you may elect a first year representative from your class; it could be you! If you would like to find out more about getting involved, either as a councilor or in some other capacity, check out www.mathsoc.uwaterloo.ca/Volunteers/GetInvolved

MathSoc Executives

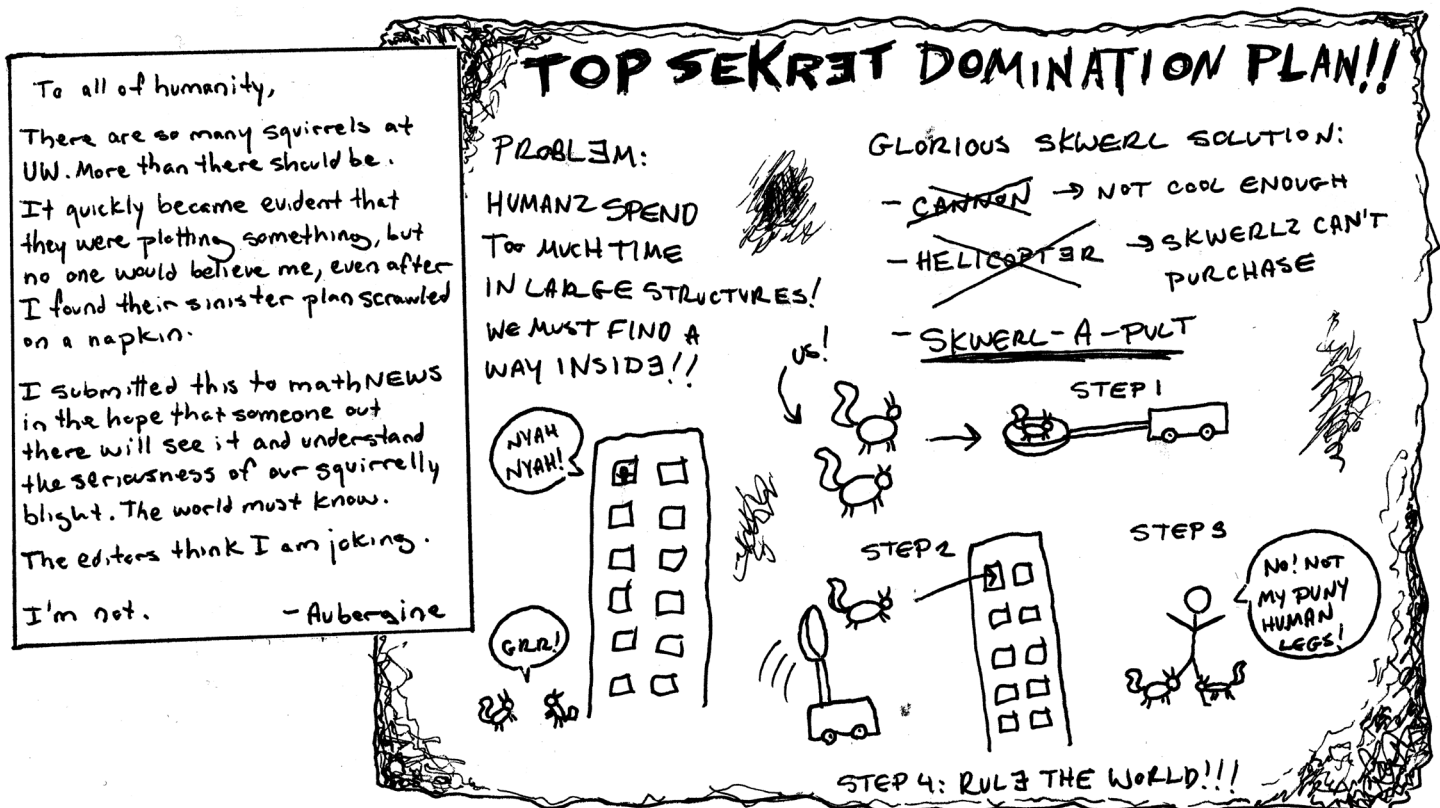
mathsoc@mathsoc.uwaterloo.ca

Cool Websites You Should Check Out!

This Totally Sounds Like a Spam E-Mail

- Mathsoc, the student society of the mathematics faculty. You can access a previous exam bank, sign up for free lockers, get involved with the society and find cool upcoming events.
<http://www.mathsoc.uwaterloo.ca>
- OMGUW, a website for posting stories of things.
<http://www.omg uw.com>
- UWaterloo and Waterloo subreddits, aggregators of stuff happening at the university and the region respectively.
<http://reddit.com/r/uwaterloo/> & <http://reddit.com/r/waterloo/>
- UWDC, a guide to using the Direct Connect client while in residence to distribute files with your peers in residence.
<http://www.uwdc.ca>
- UWaterloo Schedule of Classes for Undergraduate, a tool you can use to see what classes are being offered in future terms, how full they are, and who is teaching them.
<http://www.adm.uwaterloo.ca/infocour/CIR/SA/under.html>
- Wat Tools, a listing of various tools and scripts for students to gain better control of their information.
[http:// www.wattools.com](http://www.wattools.com)
- UW Daily Bulletin, the local school newsletter, published at 9 AM every weekday morning. Read with a discerning eye, may contain propaganda.
<http://www.bulletin.uwaterloo.ca>
- Waterloo Region Record, the regional newspaper, has adequate local coverage. You can also pick up free copies of the printed version in the SLC.
<http://www.therecord.com>
- Wonderful Waterloo, a regional forum which discusses upcoming building projects, potential future rentals, restaurants and other local issues.
<http://www.wonderfulwaterloo.com>
- TEDxWaterloo, the local TEDx series of talks, covering various topics of interesting lectures for public consumption.
<http://www.tedxwaterloo.com>
- Kitchener-Waterloo Little Theatre, a small theatre promoting local talent, showing small local plays.
<http://www.kwlt.org>
- Centre in the Square, the larger local venue for concerts, comedy shows, and other various productions.
<http://www.centre-square.com/>
- Kitchener-Waterloo Art Gallery, exactly what it says on the tin. <http://www.kwag.ca/en/>
- Kitchener-Waterloo Symphony Orchestra, the local classical offering. <http://www.kwsymphony.ca>
- Orchestra@UWaterloo, the university orchestra comprised of students, faculty, staff and alumni.
<http://www.orchestra.uwaterloo.ca/>

Ice Nine



N Things You Should Know about your WatCard

Waldo enjoys using it a little too much.

- It is a bus pass for the Grand River Transit, simply show it to the bus driver and you can ride to wherever you need to get to!
- It is linked to your meal plan and flex dollar accounts, letting you just swipe to pay for things.
- If lost, immediately report it to the Watcard office or use <http://watcard.uwaterloo.ca/> to deactivate it to ensure that none of the money is used by someone else.
- It costs \$20 to replace (but free if it breaks and you keep the pieces) so do your best to not lose it!
- You will need to bring it to EVERY EXAMINATION that you write (be they midterm, final, or ELPE)
- It can be used at a lot of places on and off campus, including: restaurants (like Tim Hortons, Subway, East Side Mario's and the residence cafeterias), some stores (like those found in the University Plaza), the libraries (for things like printing, photocopying, and signing out books), the laundry machines in residence, Waterloo Taxi (519-888-7777) and many more! For a complete list of where WatCard is accepted, visit <http://watcard.uwaterloo.ca/>
- It is used as collateral for resources provided by certain services, like signing out games from MathSoc or booking a room from the Turnkey desk
- It's your university I.D., it identifies you, it can define you

waldo@<3.LE-GASP.ca



So You're Overloaded With Assignments... Again

A few ideas to survive the end of term crunch

So, suppose it's now in the last month of classes — about the time that professors start to notice that they've pushed all the assignment deadlines back and that they still need all those marks. They've considered their options and have decided to still assign the remainder of the original assignments. Only now the material won't have been taught before the assignment is due and all the other professors have had the same idea. This phenomenon, which occurs regularly near the end of the term, can be destructive to unsuspecting students. In the interest of preserving the sanity of the Math faculty student population, here are some ideas for surviving the end of term assignment crunch:

- Start early—sure in a perfect world, but we're not in a perfect world. So to compensate
- Skip testing. My motto: if it compiles it probably does what it's supposed to do. This will also remove the chance of a note on your assignment reading "Did you even try to compile this?" In the unlikely event that you have compiler problems — or proof problems.
- Go for cuteness marks. True, this could work better if you can bat your eyes or flip your hair but in general a nice note at the end of an assignment wishing the marker a wonderful day won't hurt. After all, you'll catch more flies with honey than with vinegar. *[If you're a guy, this won't work as well as you think, trust me. — !ED]*
- Writing proofs. In general I've found that throwing in Euler or Fermat is a good strategy. No matter what you're trying to prove, chances are one of them wrote a theorem proving it. Want to mix it up? Work in a little Newton, Euclid or Descartes.
- When all else fails, remember that what doesn't kill you only makes you stronger. Of course, that's assuming it doesn't kill you.

WestCoastChic

Taking a Minor

One smart thing to do with your degree is stick more words on it. There are two common ways of doing this at UW, heh, well, maybe three, but this column is far too short to discuss taking a joint. You can do the double major thing, or you can just throw a minor onto your degree. So what kind of minors are there? Well, there are those in math and those not. For mathie minors, you need a bunch of courses, but frequently they just overlap the ones you're taking so it turns out to be like four or five courses, perfect for filling up your math-course requirement without taking all STATs or something foolish. Now, for outside of math minors — perfect for those thinking of becoming teachers who want a non-math "teachable" — these take ten courses, so plan ahead. It gives some structure to your electives, but they require you to take specific stuff that is only available in certain terms — hey, like why I can't finish my English minor on time. So, in conclusion, think about one, but try to plan early.

Allen MacLeon

Feds Club Naming Algorithm

Want to start up a new club with the Federation of Students? The first thing you'll need is a name. The daunting task of selecting a name for your new club has now been made a lot easier. A randomized algorithm has been developed to facilitate the efforts of student leaders. In fact, it has already been used to generate names for a number of UW clubs. Furthermore, it is remarkably easy to use, consisting of four easy steps:

Step 1: Pick an ethnicity randomly from the following list:

1. Chinese
2. Japanese
3. Liechtensteinian
4. Freedomian
5. Torontonion

Step 2: Pick a religion randomly from the following list:

1. Christian
2. Muslim
3. Jewish
4. Atheist
5. Satanist
6. Jedi

Step 3: Randomly pick a description of what your club is from the following list:

1. Students' Association
2. Fellowship
3. Debating Club
4. Political Action Group
5. Swing Dancing Club
6. Aggressive Recruiting Association (wait, scratch that one...)
7. Bloc Quebecois Youth Wing

Now, put it all together; read the results from Steps 1 to 3 in order, and you've got your club name! For example, you might come up with the "Torontonion Jedi Swing Dancing Club." Other typical results of running this algorithm include the "Japanese Muslim Debating Club" and the "Liechtensteinian Atheist Political Action Group." This new algorithm is capable of generating 180 new club names, each with a distinct mandate: look for some of them at the next Club Days!

Craig Sloss!

Taking a Minor

One smart thing to do pretty much all the time is play music. There are two common ways of doing this at UW, heh, maybe three, but this column is far too short for n dimensional music. One involves playing in a "major" key, common examples include D (yeah, yeah, Pachabel) and C. The much more interesting way, though, is to play in a minor key. If you want examples of good minor keys, listen to *Phantom of the Opera*, which is full of them. Minor keys are believed to be "depressing", but really, they are more bittersweet. Music is a great way to meet people, and the ladies love the soulful, dark, and broody musician. So, in conclusion, learn to play music to meet chicks.

Lenny Morayniss

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Are you tired of degrees that can take eight, nine, or even ten years to complete? Does your brain dehydrate and shrink because it doesn't get enough exercise? Does your current degree charge you upwards of \$10 000 a term? Well, say good-bye to all that with the new Bachelors of Mathematics! That's right! Come to Waterloo and you can earn your Bachelors of Mathematics in just eight terms! And with an extra six terms, you can earn yourself a co-op degree as well!

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E. Rider

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L. Etterdrawer

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So sign up now and receive a free key chain valued at over four dollars. Operators are standing by.

Simon L'Avier

Taking a Miner

One smart thing you can do with your free time is kidnapping. There are two common ways of taking a miner at UW, heh, well, maybe three, but this column is far too short for such interpretations. One involves kidnapping, while the other, umm, also involves kidnapping. It's really all about who you kidnap. I am not a big fan of kidnapping the young, so I'm going to recommend you take a grown-man miner. Of these, there are several kinds available for the taking. Uranium miners tend to have radiation issues, so try to keep your distance. Coal miners are typically less biologically dangerous; however, there is the mess issue. Those who work in sepulchres or open-pit mines don't usually get covered with as much murk and mess, so I find them the best after the act of taking a miner, but getting them is awkward. Miners who work in shafts can be taken from their shafts a lot easier than kidnapping open-pit workers. So, in conclusion, kidnap guys who work in clean shafts. Or Shaft.

Davey R Adams

mathNEWS*Seriously though...what's this mathNEWS*

Well, **mathNEWS** is the University of Waterloo Faculty of Mathematics Student Newspaper. (Or publication, or magazine, or newsletter... whatever the editors feel like calling it.) We publish about every two weeks, usually on Friday, and contain articles, art, etc... written by people just like yourself! Being student funded (some of your MathSoc fee goes here) and a volunteer publication, we are always in search of people who can write. Or draw. Or proofread. Anything, really. We'll even bribe you to come out to Production Nights every other Monday with free food. You don't need any experience, just interest. Plus you'll get to see your name (or pseudonym) in print!

The content of **mathNEWS** itself will vary from term to term depending on who's editing (and writing). However, there is usually a **gridWORD**, a **mastHEAD**, and **profQUOTES**. The first offers a prize for correct solutions. The second is a silly question by the editors, answered by all. The **profQUOTES** are a collection of actual quotes as uttered by actual professors during actual lectures. Look for those elsewhere in the issue. In terms of other articles... well, have an opinion you want to express? A weird proof you thought up? Something that you think is funnier than what we're printing? A solution to one of our puzzles? Then if you're too shy to come out to an actual Production Night, submit such things to us by emailing mathnews@gmail.com or by dropping your submission into the **BLACK BOX** on the third floor (between the C&D and the lounge).

In the past, **mathNEWS** has on occasion gone nuts and put out a parody issue like the recentish CosMATHpolitan and the not-so-recent Mathlean's, Toronto Moon, ybar_m, Daglobenpost, Mathim, and Impotent. It doesn't happen often because those things take a lot of time and effort, but if you are nice to the editors they may give you a complimentary copy. Oh, and yes, **mathNEWS** really has been around since 1973. (Issue 500 was another issue that took time and effort.) Feel free to drop by our office (MC 3030) when it's open to look at our **mathNEWS** Gallery/Shelf o' Memorabilia, which includes, among other items: a piece of Red Room paneling, an EMS Library Sign dating back before the books were moved off the fourth floor of MC into the "new" DC building, and a silk-screen from Math Frosh Week 1979. You can even just come by to say 'hi' or drop off an article in person.

Oh yes, we have a web page, www.mathnews.uwaterloo.ca. You can find past issues there and maybe learn more about us. So enough rambling... the **mathNEWS** DISorganizational meeting is usually held during the first week of classes in September (see page 2 and watch for posters). That's when we see about getting our act together for another term. Hope to see you there too!

Greg Taylor
Past Editor

Updated and Transcribed by Michael Perkins
Updated and Transcribed by ObjectED

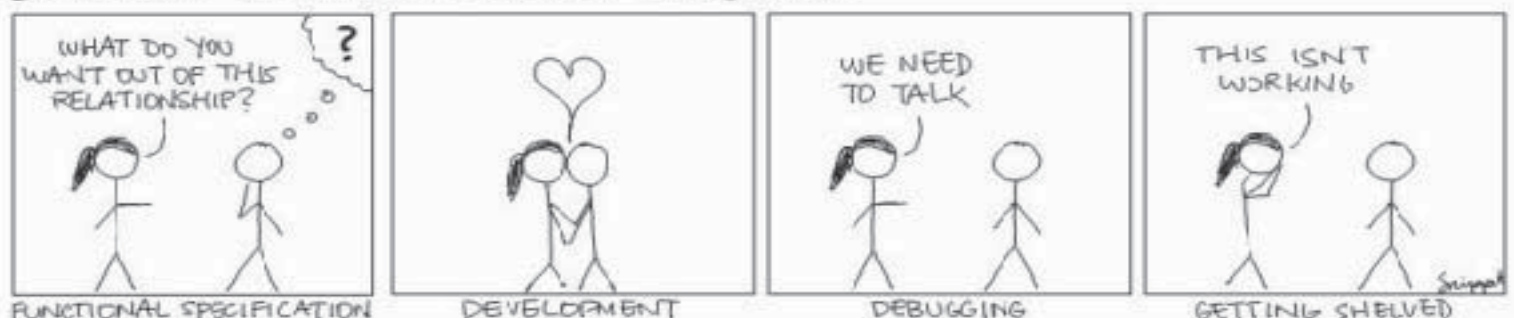
The Frosh Cornered*All I Need To Know I Learned In Orientation Week*

There are several things that one must remember from Frosh Week. Unfortunately, most of these things will be forgotten for various reasons. Below are a list of things frosh should learn over the course of the week.

- In a pinch, protractors can be used as spoons.
- On move-in day, if you let your parents go through your orientation kit first, there is a VERY uncomfortable silence when they see the condoms.
- You should do your best to get on the Dean's List, because then you are allowed into the Dean's office, and let's just say there's a big bowl of candy to take from there.
- The Comfy Lounge has always smelt like that.
- Telling jokes you heard at 5:00 am from Tie Guard will not help you pick up chicks, as what was funny then is incoherent rambling now.

- A good pick-up line is, "What's your co-op sequence?"
- Through an odd warping of space-time, profs are able to talk for 2 hours in a 50 minute period.
- The more you learned in your final year of high school math, the more you have to un-learn in MATH 135 and 137.
- If your roommate is an engineer, you had best sleep with your tie on to protect it. Much in the same way (s)he will sleep with their hardhat on.
- Hypnotized jocks are more fun than a barrel of monkeys.
- Imprint absorbs twice as much liquid as the other leading brand of paper towels.
- Software Engineers do not like being called "Softies," but that's their name regardless of the undertone.
- You should have taken the blue pill, not the red.

Ian W. MacKinnon

DATING GUIDE FOR CS MAJORS

(Likely) Queer-Identified Mathematicians

[Editor's Note: This is a reprinting of an excerpt of a recurring column for mathNEWS called "Rainbow Mathies." The author will continue to write this column throughout the term, so look forward to more Rainbow goodness — ObjectED.] There are a number of distinguished mathematicians whose genius we regularly celebrate and whose ideas and developments we learn and use on a regular basis. It just so happens that a number of those more esteemed contributors to the mathematical coffers identified as (or were highly suspected of being) queer. This article will share a bit about four of them (four men, specifically: as hard as I could look, I just couldn't find any female-identified or transgendered mathematicians). If I missed anyone, please let me know and I'll include them in a future article.

Alan Turing: I figured I'd start off with the most well known one. Alan Turing was a revolutionary English thinker in the field of computational mathematics. His most popular work on Turing machines gave a theoretical model for computation capable of finding the solution to any computational problem representable by an algorithm. While this model was never intended to model computers directly, they provided an interesting conceptualization of a CPU's main operation, not to mention providing significant contributions to the theory of computation. Many of his other ideas and inventions, such as the concept of ordinal logic (which earned him a PhD in Mathematical Logic from Princeton) and the breaking of the German Enigma code during WWII caused revolutions in their respective fields. Turing was clearly a genius, but unfortunately he would not be able to reach the full potential of his life. While working for the Government Code and Cypher School, he was known to be an openly gay man, which did not cause issues to his work initially. However, in early 1952 Turing would meet a suitor who would eventually break into his house and rob him. During the police investigation, it became known that Turing and this man had had sexual relations, and both were arrested, charged, and convicted of indecency. This conviction cost Turing his security clearance at GCHQ and shamed him to suicide in 1954. He was 41. To this day, his work is greatly celebrated and the fields of mathematical logic, computation, and computer science mourns the loss of the advancements he may have provided in his later years.

Pavel Aleksandrov & Andrey Kolmogorov: Here we have the story of two Russian mathematicians who met as a result of their field of work and managed to establish a long and celebrated relationship. Both were students of the University of Moscow in the early 1920s, where both returned to teach only a few years later. However, the two did not meet and begin their lifelong partnership until 1929. Both made significant contributions to the field of topology in the 30s, working together to author a book on the topic in 1935. They each found prestige and respect in their field. Aleksandrov was president of the Moscow Mathematical Society for over 30 years, the president of the International Congress of Mathematicians from 1958 to 62, and a corresponding member of the USSR Academy of Sciences from 1929 until his full membership began in 1953. Kolmogorov received one of each of the Stalin, Balzan, Lenin, Wolf, and Lobachevsky Prizes throughout his lifetime. In 1982 Kolmogorov was quoted to have said "for

me these 53 years of close and indissoluble friendship were the reason why all my life was on the whole full of happiness, and the basis of that happiness was the unceasing thoughtfulness on the part of Aleksandrov." This story of lifelong happiness in face of the harsh cold of the north, especially in their time, is deeply inspiring.

Paul Erdős: Known for the pride bestowed to mathematical researchers based off of their esteemed "Erdős number," the infamy of this Hungarian mathematician reaches across Math departments in every academic institution. Erdős was known best for his collaborative nature, publishing 1525 different articles with 511 different co-authors. The applications of his work, as a result, reached essentially every nook and cranny of mathematical thought, from logic to calculus and from probability to topology. He was also known for his eccentricity and particular habits of language (he referred to children as epsilons, for example). Despite his wide involvement in the mathematical community of his time, he did not receive much distinction for his work. He never received a Fields medal (the highest distinction in mathematics), though he was bestowed with a Wolf prize in 1984/85. One commonly unknown fact about Erdős is that he was asexual, instead devoting his life and his love to his field because, to use his words, "If numbers aren't beautiful, I don't know what is."

If you are queer-identified, and are looking for someone to talk to or for supportive allies, there are always resources available to you. You can learn more about GLOW centre and its offerings, including a phone line at www.knowyourglow.ca. Counseling Services is always available to you; their offices are open 8:30-8MTWTh and 8:30-5F, located in Needles Hall across from Student Awards and Financial Aid. If you need support and assistance immediately, you can call the KW Distress Line at 519-745-1166. If you'd feel more comfortable speaking with someone from a queer specific service, please contact the LGBT Youthline at 1-800-268-9688. Finally, if you have any comments and concerns about this column, including ideas on topics you'd would like to see, you can contact me at dtaleman@uwaterloo.ca.

(define this (not cool))

NOTE TO SELF

FIND SOMETHING TO FILL APPROXIMATELY

THIS MUCH

SPACE

LOVE,
YOU

Ten Tips That'll Help You Through Your Undergrad

1. Always Go to a Prof's Office Hour at Least Once - Your first year classes are smaller than they are at other schools, but they're still fairly large. Nevertheless, hardly anyone will go to a prof's office hour. Most profs spend their office hour in their office wondering why no students come by. They are a great source for help, and first-year profs tend to be really good instructors with experience teaching to n00bz like you.
2. Work Together - Find a couple of people in your classes that you work well with, and study with them. Stick with this group as best you can, as classes are always a lot easier and more fun with a group of buds. Be careful about "Excessive Collaboration" though; that's the nice way of saying "cheating". There is a fine line between you and some friends discussing a problem and you copying someone else's answer to an assignment. The Faculty has become exceedingly efficient at catching cheats (especially in CS: don't think changing variable names will get you past the cheat-catching software). It's not worth it.
3. Don't Rely on Getting a Co-op Job Through the System For Your First Job - Co-op is a great program...provided that you get a job. CECA will tell you that employment rates are usually above 90%, but what they won't tell you is that the majority of people unemployed will be first-years. This makes sense given that most first-years don't have any relevant experience (Sorry, most tech employers won't care too much whether you worked as a lifeguard or at McDonalds). Especially if you are not going on co-op until the spring, you should begin looking for employment through other channels as soon as possible. If you wait for the co-op process to be over before you start considering other methods, you will find that most employers have already hired for the summer. You can always go through the motions, and not accept a job if Co-op comes through.
4. Don't Expect a Glamorous Co-op Job Right off the Start - Places like Google, Microsoft, and Amazon.com hire a lot of co-op students, whisk them away to warm places like California for the winter term, pay them exorbitant amounts of money, and let them work on cutting edge and exciting projects. If you think you're going to get one of these jobs because one of the employers is going to see a special twinkle in your eye, you're dreaming. Very very good jobs exist, but in order to get one, you might have to spend a few terms working in less than cushy jobs in order to gain experience. Don't thumb your nose at a government job, they're a great place to start your career.
5. If you're in CS, Go Linux - Linux is a pathway to many abilities some consider to be un-natural. If you want to score one of those co-op jobs that go above and beyond in how they treat their employees, you're going to have to go above and beyond the curriculum in terms of what you learn. A lot of the better tech companies who hire co-ops know that to get the "hardcore" programmers they want to hire, they have to look for students who learn Linux and Python. Undergrads who know these technologies are those who learn them of their own accord since they aren't really taught in class, and these are the types of people that companies want. Also, the sooner you learn "*nix" based systems like Linux, the easier 2nd year and beyond will be. Stop by the Computer Science Club on the 3rd floor of the MC for some tips on where to get started.
6. Be Proud to be in Math, but Don't be Condescending About It - The way the University markets itself, you'd think Math is the greatest thing since sliced bread. It's not; Coldplay is. Our faculty has a great reputation, but it also comes with one for a bit of arrogance; this really doesn't help. One of the quickest ways be known as a prick in your residence is to mock someone for being in arts. Never assume you are better or smarter than someone because of what their major is.
7. Don't Go Home Every Weekend - A lot of people in first year haven't gotten used to being away from home for extended lengths of time, and if they live in T.O. (Which, in fairness, is a far more happenin' town than KW) will tend to go home pretty much every weekend. One of the downsides of this, is that you'll begin to resent coming back to KW, and it will just be the place where you have to study and work. To make your time at UW a little more survivable, try and have some fun here as well. Seeing what happens here on the weekend is a good way of doing that.
8. Join at Least One Club or Activity at UW - Along with making UW a place where you also have fun, get involved with a club, society, or project here. Being a math frosh, you'll be exposed to a lot of volunteer opportunities within math, such as the Math Society and *mathNEWS*, but there are other ways to get involved and share interests with others. The Feds have clubs from CTRL-A (Club That Really Likes Anime) to the "Campus Crusade for Cheese". During the first week of class, there will be "Clubs and Services Days" in the SLC, where active clubs will have booths, looking for new members. It's a good place to go shopping for what you want to do extra-curricularly.
9. Work Out a Couple of Times a Week - It is very easy to gain a lot of weight in your first year. You'll spend a lot of time studying as a Mathie and working on assignments, and having easy access to a lot of food through your WatCard. To help fend off the "Frosh 15" (where frosh gain 15 pounds) hit the gym a couple times a week: there are great facilities in the PAC and Columbia Icefields.
10. Close. Cheap. Clean. Pick Two. - After first year, you are going to be rather unceremoniously kicked out of residence. If you're A,B-stream, you should probably begin thinking about where you are going to live in the fall for your 2A term in February or March. All housing in the KW can really be classified as 2 of "cheap rent, close to campus, or clean house". Residence falls into the "close and clean" category. Just keep in mind that you aren't going to find something that is all three, so go house hunting with realistic expectations.