

# math NEWS



Volume 109, Issue 6  
Friday, April 3rd, 2009

JIM CARREY  
LEMONY SNEDECOR'S  
A SERIES OF  
INDEPENDENT AND  
IDENTICALLY  
DISTRIBUTED EVENTS

WE'RE VERY  
CONCERNED...

Cover courtesy Angelo

PARAMOUNT PICTURES AND DREAMWORKS PICTURES PRESENT A PARKES/MACDONALD PRODUCTION A NICKELODEON MOVIES PRODUCTION  
A BRAD SILBERLING FILM JIM CARREY JUDE LAW AS THE VOICE OF LEMONY SNECKET "LEMONY SNECKET'S A SERIES OF UNFORTUNATE EVENTS"  
LIAM AIKEN EMILY BROWNING TIMOTHY SPALL CATHERINE O'HARA BILLY CONNOLLY CEDRIC THE ENTERTAINER LU  
JENNIFER COOULIDGE AND MEROL STREEP WITH INDUSTRIAL LIGHT & MAGIC BY THOMAS NEWMAN MUSIC BY SCOTT  
COMPLEEN ATWOOD COSTUME DESIGNER MICHAEL KAHN A.C.E. EXECUTIVE PRODUCERS ROCK HEINRICH AND EMMANUEL LUREZI  
PRODUCED BY SCOTT AIDUN WRITTEN BY BARRY SONNENFELD DIRECTED BY JULIA PISTOR ALBIE HECHT EXECUTIVE PRODUCERS WALTER F. PARKES LAURIE M  
JIM VAN WYCK PRODUCED BY LEMONY SNECKET PRODUCED BY ROBERT GORDON PRODUCED BY BRAD S  
DECEMBER 17

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**lookAHEAD****mathNEWS**

April 3 Issue #6 ends classes on a high

**MathSoc**

April 3 Last day of regular hours

**Math Faculty**

Questions about these? See an Academic Advisor

April 7 ELPE

April 8-24 Exams

April 17-18 Distance Education Exams

April 27 Unofficial Grades Become Available

May 4 Spring Term Begins

**CECS**

Ongoing Interviews, job matches

**Miscellaneous**

April 7 World Health Day

April 10 Easter

April 22 Earth Day

April 26 London Marathon

**Office Managers Say***Hi, peoples!*

We have new things to sell this term. Locks (for your lockers) are selling for \$3.00, erasers for \$0.50, and lead (for your mechanical pencils) for \$1.00. We're also lending out textbooks if you need to borrow them.

As for the office itself, the last day of normal office hours is, sadly, today. However, we are going to try to open the office for you during exam time. If this happens, we will post our hours on the MathSoc office door, MC 3038.

That is all for now. Good luck with your exams!

Joycelin Karel and Billy Zhao

Office Managers W09

office@mathsoc.uwaterloo.ca

**Gaming Omegathon***Monday April 6th*

UW Gamers is hosting their third annual Omegathon tournament this coming Monday (the 6th), in the Great Hall of the SLC. This is an ultimate competition of gaming designed to have the ultimate gamer rise to the top!

Come out and try your hand at our gauntlet of games. There's no need to worry about whether you're no good at them, this test is full of familiar *and* obscure games, designed to test for the best person across all games! This year, we're featuring games such as Doom, Street Fighter, House of the Dead, Little Big Planet, Burn-out, Pop'n'Music, and about 15 others. There are even strong rumors that there will be link-play *Game Gears*, and a *Virtual Boy*.

Monday, April 6th

SLC Great Hall

3:30pm

Check out [www.uwgamers.org](http://www.uwgamers.org) for all the details!

UW Gamers Dude

**mastHEAD***The end is here!*

Alas, we are in the last day of another term of UW Mathematics, and consequentially another volume of *mathNEWS*. It's been a tough ride for us all, but we have pulled out of it stronger than before. For the Math Class of 2009, I congratulate you for your hard work and wish you the best of luck in the after-school party that is real life.

As we will see on Page 8, we were narrowly able to avoid an epic battle to defend the honour that is *mathNEWS*. We have learned the true evil behind the name "Sector Corrupt", and so we are empowering our writers to fight back. Here is how our writers would fight back against Corrupted: Sexy Whore (3A CM, "Through Laser Quest, I assume? Or I can use my -almost useless- whip, if you know what I mean \*wink\*"), snippet (3B CS, "I won't... because it's better than the alternative — Insided \*shudder\*"), Baxter (1B CS, "Take what I rightfully won in a bet: his bed and chair"), (define this (not cool)) (1B CM, "If it involves Insided being dethroned, I'm content"), Megaton Panda (4A Math Sciences, "Magic!"), Tbor (2X SE, "Jump on Thor's biplane and attack him with a snake. Without Samuel L. Jackson"), The Hee Ho (:D, "The king will hee-fend me, ho!"), Angelo (4Q Stats, "He can have *mathNEWS*"), MJB (7N CS, "Graduate, but continue to use the university bus pass, thereby increasing his student fees"), Thor (3(0x41)SE, "Take it to the skies!"), Lich (2A Undeclared, "Shadow Touch"), import self (1B SE, "Reveal all his secrets").

As always, thanks to Graphics for the fantastic work that they do every fortnight. Thanks to my staff and my readers for their loyalty throughout the term. Finally, thanks to classes for finally finishing.

Insided (3A SE, "Remind him who wears the grammar pants  
in this relationship")

Corrupted (1B SE, "It is inevitable. You will be assimilated.")

**Got a day to kill before exams?**

[www.msaintadventures.com](http://www.msaintadventures.com)

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Retiring until September: Joe Collins, Jeff Bain

## Prez Sez

### Good Luck on Exams

MathSoc land is full of wrap-up. The exec have been wrapping up all of our work over the term, tying it in a pretty bow and throwing it to the Spring 09 Exec.

It was fun being your President. I really don't have much to report on, unless of course you like knowing the details of exams.

It was a good term. For those here in the spring, volunteer for MathSoc! As usual, just send an email to [vpas@mathsoc.uwaterloo.ca](mailto:vpas@mathsoc.uwaterloo.ca). For those returning in the fall, same deal.

I guess, all that's left is to hand out the refund cheques, and try to make sure your new executive are well equipped for the task ahead! Also, we're working towards re-opening the balcony during exams under a new policy.

It's been a fun term being your President. I hope you enjoyed the term, and remember, your university career is what you make of it. Student success is measured not only in grades but what you accomplish as an undergrad. Academics are of course a first and large priority but your time here is what you make of it. As a student who is on his last term and in his last week of classes, a little tear is coming to my eyes as I write this. But, it was fun while it lasted and I'm ready to retire. Of course, by retire, I mean move into the office of the Federation of Students, Vice President Administration and Finance.

Chris "Brucey-Pi" Neal

MathSoc Prez W09

[prez@mathsoc.uwaterloo.ca](mailto:prez@mathsoc.uwaterloo.ca)

## Exam Studying Tips

As class ends today, the time has come to start thinking about studying for exams. If you're lucky, you've already found a method that works for you. If not, here are some basic suggestions that work.

- Start early. Your short-term memory is much more finite than your long-term memory. Try to study about 24 hours in the 7 days before your exam.
- Take breaks. Allow short-term memory to be transferred to long-term memory. A 10-minute break for every hour of studying should do it.
- Focus on areas of weakness. If you know a concept inside and out (and you can prove it to yourself), why do you need to study it again?
- Use exam banks. This can be a good gauge of how well you have studied for an exam. You can access MathSoc's exam bank at <http://www.mathsoc.uwaterloo.ca>.
- Don't rely on exam banks. As courses change from term to term, old exams may not reflect the current offering of a given course.
- Take advantage of office hours. Profs (and some TAs) hold them to help you with material on which you may be struggling.
- All-nighters before exams are bad. That speaks for itself.

Good luck!

Insided

## Appreciation Corner

### Because I can't do this by myself

As I mentioned at the start of the term, the last school newspaper I edited died under my watch. Comparing then with now, I now see that my high school was entering a recession in school spirit, and the newspaper was, unfortunately, its first of many victims (for the record, the list ended with Student Council).

This time, thankfully, it's different. I have a team of staff who are dedicated to making *mathNEWS* the publication that it is. Every fortnight, a great group from multiple walks of life come together to laugh, write, and eat pizza. It's a lot of hard work putting this publication together, but seeing the many people walking around the halls with it brings me great pride, and obviously I cannot do it alone.

First and foremost, I need to thank Angelo for giving me this opportunity. You've shown me the ropes, provided blatantly honest feedback, and have always been next door when I've been stuck with something. That, and you're a good person to go to when I need to be viciously insulted.

Sector Corrupt, you have continuously been a source of laughter in all contexts. You've also been great as of late with helping with layout and coming up with filler (something that is more difficult to come up with than one thinks). I look forward to working with you in the editorship in the fall.

Snippet, Ashley, and (define this (not cool)), you have gone to great lengths to provide amusing artwork throughout the term. You far surpass my drawing abilities and I'm glad you've put in the effort to make awesome comics for mathies to enjoy.

Thanks to Megaton Panda for your *gridWORDS* and continuously sucking up to me when I threatened to take away your cookies, Sexy Whore for providing me with a corner to go to when things got tough, Jasmine for enthusiastically handling *profQUOTES*, and Lich for making great humour out of semi-legitimate news stories. MJB, Baxter, Tbor, Thor, aborted, Brucey- $\pi$ , unja, 8-Ball and Aaron, thanks to all of you for your loyal contributions throughout the term.

Last, but by no means least, thanks to you for reading and enjoying this paper. Thanks especially to those who have given me comments and feedback, because I always appreciate hearing what I can do to make *mathNEWS* better in the eyes of its readers. Finally, for those who I may have forgotten, please accept both my thanks and my apologies.

Insided

## Your first dose of *profQUOTES*

I've got nothing up my sleeve... except my arm. See? That's funny.

Shallit, CS 341

[student] I have a question about the last question on the assignment.

[prof] Extension!

Homayounfar, CS 230

There, it's a walk in the park, right? A walk in a park with lots of thorns and monsters.

Kaplan, CS 115

# Interesting Math

## *The Platonic Solids*

A polyhedron is a geometrical object consisting of a number of polygonal faces. By polygonal, we mean a planar figure whose boundary is a closed loop consisting of finitely many straight line segments. A convex polyhedron is simply a polyhedron which is convex, that is, for every pair of points in the object, the straight line joining them also lies in the object. A regular polyhedron is a polyhedron whose faces are all congruent and regular, that is, all the angles are the same and all the sides are the same length, and all the faces are arranged in the same way about each vertex. In particular, the number of edges from each vertex is the same. (We define the degree of a face to be the number of edges in the face, and the degree of a vertex to be the number of edges meeting it.) It is well known that there are only 5 regular convex polyhedra, known as the Platonic solids. We will develop some theory to prove this.

The Euler characteristic  $C$  is a topological invariant (that is, unchanged under homeomorphisms: continuous bijective maps with continuous inverse) for polyhedra, defined by

$$C = V - E + F,$$

where  $V$ ,  $E$ ,  $F$  are the number of vertices, edges, and faces in the polyhedron respectively. As an exercise, prove that for a simply connected polyhedron,  $C = 2$ . What is simply connected? Informally: there is only one piece, and there are no holes. Formally: take PMATH 467 or equivalent. So we have

$$2 = V - E + F.$$

This is Euler's Formula; check out <http://www.ics.uci.edu/~epstein/junkyard/euler/> for 19 proofs of this fact if you wish. Alright, now we want to attempt to prove there are 5 Platonic solids.

Suppose we have a regular convex polyhedron with  $V$  vertices,  $E$  edges, and  $F$  faces, each of which is a degree  $n$  regular polygon. Since the polyhedron is regular, assume each vertex is degree  $m$ . Then the sum of the degrees of the faces is  $nF$ . Since each edge is shared between precisely two faces, we have

$$2E = nF.$$

Similarly, the sum of the degrees of the vertices is  $mV$ . Since each edge meets two vertices, we have

$$2E = mV.$$

Into Euler's formula,

$$2 = 2E/m - E + 2E/n,$$

and hence

$$1/2 + 1/E = 1/m + 1/n.$$

Since each polygon has at least 3 sides,  $n \geq 3$ . Since at least 3 edges meet at a vertex (just visualize this),  $m \geq 3$ . What if both  $n, m$  are strictly greater than 3? Then the right side of the previous equation is no bigger than  $1/4 + 1/4 = 1/2$ , but the left side is at least  $1/2$ , for a contradiction. We are left with only two cases.

(1)  $n = 3$ . In this case, the only possible solutions are  $m = 3, 4, 5$ , yielding  $E = 6, 12, 30$ . These correspond to the tetrahedron, octahedron, and icosahedron respectively.

(2)  $m = 3$ . In this case, the only possible solutions are  $n = 3, 4, 5$ , yielding  $E = 6, 12, 30$ . These correspond to the tetrahedron, cube, and dodecahedron respectively.

Notice the tetrahedron appears twice since  $n = 3, m = 3$  appears in both cases. All this work shows that there are 5 Platonic solids, given by the triples (vertices, edges, faces): (4, 6, 4), (6, 12, 8), (12, 30, 20), (8, 12, 6), (20, 30, 12). Actually, only that there are at most 5 — but that's a minor detail, you can demonstrate at least 5 exist by constructing the objects described above, and they are certainly distinct.

Of course, being mathematicians, we would like to generalize this idea. Continuing to the 4 dimensional version seems like a good start: how many regular convex polytopes are there? A polytope is simply a 4 dimensional geometrical object with polyhedra as "solids", the 3 dimensional analogue of faces. You might try constructing a new topological invariant to include information about number of solids, then applying a similar construction as outlined above. If you're interested in trying it out, you might like to know that there are 6. To take it a step further, there are 3 regular convex 5-polytopes (5 dimensional versions). In fact, there are only 3 for every dimension greater than 4! As a last generalization, what if we drop the requirement that the objects be convex?

**Vince's problem of the issue** Suppose  $A$  is an algebra on the set  $X$  and  $\mu$  is a  $\sigma$ -finite measure on the  $\sigma$ -algebra generated by  $A$ . Must  $\mu$  be  $\sigma$ -finite on  $A$ ?

Vince Chan

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## ElseWhen

### *Reliving the past misfortunes of the last generation of Mathies*

Looking back, we see what amused the mathies of yesteryear, May 30th, 1984:

- We see that a Wine and Cheese went well, with even Mathies interacting peacefully with engineers
- We are once again stressed to not use BASIC for anything, ever, unless it's accounting software to screw over accountants.
- Several riddles that I for the life of me couldn't solve, but might use for filler sometime...
- Some comments on both tensions between the Imprint and the Feds, and a decline in Imprint's quality over the term.

- Some important reminders for exam time (apparently not vomiting was a very important point for the author)
- An illustration of a Prof Control board, complete with descriptions of what all the options are. [*I like the prof eject button, firing a prof through a ceiling might make my morning lectures more fun — sorry to any of my morning profs — CorruptED*]
- And, as always, a bunch of lightbulb jokes. 1984 references and mocking psychiatrists: check.
- Also, an ElseWhen, but mentioning it would make this recursive and that'd be bad.

CorruptEd

## MathCooks!

### *Something ethnic!*

Back when I lived in China, I lived in Chengdu, which is the capital of the province of Sichuan. Being in the drier middle part of China, food tended to spoil more quickly, so historically the dishes were heavy on spices that preserve the meats. As a result, Sichuan cuisine is famous for having really spicy food, such as Ma Po Tofu or Twice Cooked Pork (which I covered once in a previous column). However, my favourite dish back then wasn't anything that kind of spicy. It was this Sweet and Sour ribs dish that my mom used to make quite often. It combines the sweetness of sugar with the sour of chinese black vinegar to create a pungent dish that is incredibly delicious. The best part is, if you choose not to sauce the ribs this way, it takes all of one step change to go from sweet to a savoury dish like Black Pepper Ribs

Protip: If you buy the ribs from a chinese store, you can get the butcher to cut it up into smaller pieces for you

You will need:

- Half a rack of ribs (or a full rack, completely your choice!)
- Green onions (cut into smaller stalks)
- A few cloves of garlic
- A few slices of ginger
- Sugar
- Vinegar
- Oil
- Chinese cooking wine

First, the ribs need to be cooked, and there's a few ways to go about it. The easiest way is to boil a large pot of water. Throw in the onions, garlic, ginger, and a few spoonfuls of cooking wine and boil the ribs in that. Remove the floaty bits when the water boils, and then lower the heat to medium and boil the ribs until the meat are "falling off" the bones, if you will. One alternative is to steam the ribs (which is unnecessarily long but apparently produces tastier ribs), but we won't do that.

Once the ribs are done, we need to crisp them up a bit. Deep fry the ribs in hot oil (after you preheat the oil) until the ribs turn brownish. Drain the ribs (and discard the oil, or save for another deep frying adventure). In the wok, add a few spoonfuls of the oil. Over medium heat, throw in a handful or two of sugar and stir quickly until the sugar dissolves into the oil and turns into syrup. Throw in the ribs and toss around until it all coats. Pour in some black vinegar (not too much, use your gut instinct on this one) to add the sour aspect, you should get a very nice fragrance out of it. Do taste tests and add vinegar and more sugar as needed until you get the flavour you prefer. (I like mine more sweet than sour.)

If you're not a big fan of the sugar/vinegar combo, you can try black pepper ribs. Grind up black pepper, sichuan peppers (the numbing stuff), dried chillies flake thing and some salt. Mix it up into a nice mixture, and throw it all into a wok (and heat it a bit). Toss in the fried ribs and toss until it's well coated. Voila! Variations on a theme!

Serve these ribs up next time you're entertaining and your guests will love you!

Sichuanese Panda

## 25 First Year Reflections

### *Because it's never to late to be nostalgic*

This time last year, I was holding my Waterloo acceptance letter in my hand, debating what I was going to do about it. At the time, it seemed that September would never come, never mind second term's exams. But now with them fast approaching, I've been spending quite a bit of time pondering my past year. Here's what I've come up with.

1. Math puns make lectures better.
2. Math puns make orientation team names better.
3. Math puns make divorce proceedings better.
4. To think of it, math puns are like ketchup — they make everything better.
5. Plum sauce is the new ketchup. It can do everything ketchup can do, except more sweetly.
6. If you get a V1 single room, you don't actually live alone. You have to share the room with your pain and regret. (If you don't believe me, you haven't spent enough time in an MKV suite.)
7. You either don't need Kleenex, or desperately need Kleenex. The same could be said for paper towels, blankets, condoms, clean socks, and a working printer.
8. I don't care if wireless will cause me cancer, it's worth it.
9. Calculus exams are timed in Venus hours.
10. There should be something illegal about virtually weekly midterms spanning from early February until the last week of classes.
11. Monday midterms are the direct cause of the lack of first year *mathNEWS* contributions. This needs to be changed.
12. The MC 5<sup>th</sup> and 6<sup>th</sup> floors, and not the course marking schemes, are the true method for weeding out incapable first years.
13. I love that Pokemon is still cool.
14. I wonder how many more incoming classes there needs to be until the frosh forget about the original 151 Pokemon.
15. It's depressing that the most identifying symbol for math first year students among the faculty is Scheme.
16. I hate round parentheses now.
17. Getting a co-op job was surprisingly easy. Especially since I would have had more interviews in the first round had I fixed my resume beforehand.
18. My first round resume passed PD1. My second one would not have.
19. Stepping on the engineering quad feels like stepping onto foreign ground. The trip to the plaza seems more like: Science Link, DP, WARZONE!!!, Ring Road, East Side Mario's.
20. Engineering needs 5 buildings, with two more being built. Math needs 1.5 (DC doesn't really count).
21. The amount of effort I'm willing to put in for a slice of pizza < the amount of effort I'm willing to put in for marks.
22. Percent of assignments completed in 1A: 85%. In 1B: 55%.
23. The Imprint fee should be refundable.
24. UPASS should not.
25. Overall, first year was too easy on me. Next year, I intend to do everything in my power to change this for incoming frosh.

(define this (not cool))

## Several fortune 500 companies file for bankruptcy

*Companies unable to give 50 million dollar raises*

Economic stress has been felt by many of the world's most prosperous businesses and has become even more apparent when over thirty of the leading fortune 500 companies filed for bankruptcy. These companies had quoted that they still managed to turn a profit this quarter, but it was not enough to offer their executive staff more than 50 million dollars in bonuses or wages.

"We aren't making enough to reward the douche bags who've been mismanaging money for years so all we can do is begin to close operations," says Lorne McNub from *Money Wasters Investments*. "We'll be announcing many of our job cuts to lower tier employees at our two-billion dollar annual general meeting where we'll take martinis off of the chests of beautiful hookers."

Companies that have become accustomed to giving all of their excess income to CEOs, managers and other high-level employees to go to spas and molest Filipino boys will have to cut back on their operations and costs so that at the very least executives can enjoy boys from other countries. Until the market restabilizes, these companies will just have to do without the employees that actually do work.

Angelo

## Imprint Smoked Out

It was an intense Friday night as firefighters, citizens and Spiderman fought the flames of a burning cesspool known as Imprint. Witnesses gathered between approximately 7:32 and 11 p.m. while emergency services cleaned up the scene, a complex primarily occupied by unemployed UW arts students. The fire is believed to have originated from a pile of unread Imprints left astray on a stovetop. While the Imprint editors were brainstorming on what fraudulent news to report in their next issue, heat from the burning rubbish transferred to nearby piles of unread Imprint, and quickly spread throughout the entire unit.

We spoke to a friend of a friend who knows someone whose brother was an Imprint captive at the time, who said that when he heard the fire alarm he tried to go outside, but Imprint would not let him.

Luckily, no important Imprint executives were in their cesspool at the time the fire broke out. Had any important Imprint executives existed, they would probably have each been at separate parties, or working at non-existent companies, such as the Umbrella corporation.

The fire is a reminder to UW students that Imprints burn and should not be placed close to your stovetop. It is also a reminder that Spiderman exists and fights fires from time to time. Make sure you know where your fire extinguishers are and how to use them. This is helpful advice when you are not at home and your house catches on fire. It also doesn't hurt to check your smoke detectors by burning something in your residence room. They like that.

q220

## April Fools Or April Fick?

WIKIPEDIA SPOILER ALERT! But if you haven't noticed, it hasn't happened (as this article was written on Monday), or you live in a box. If you live in a box, and still receive *mathNEWS*, submit a picture of your box to the **BLACK BOX**, and I might stick the picture on my wall.

The deadly conficker virus that affected upwards of 9 million PCs in the world is back once again. There was a small section of Confick Strain C that will unleash even more horror on the online world on April 1st. The problem is that nobody knows what that horror may be.

I take this time to say that if you were to come up with a decent virus, you might as well come up with a virus name that inspires fear to a larger group of people than German speaking geeks. My personal suggestion is *Arschfick* (They don't censor German do they? Why do you think Godwin's Law exists?).

Anyways, so on Wednesday, one nerd in the world could have access to 9 to 15 million computers in the world (let's call him Dr. Evil for Mike Myers' sake). Now the obvious usage of their processing power is to break another 9-15 million passwords, and ultimately gain control of all the internet. But the internet has a "can't wish for more wishes clause", doesn't it? Well, as long as this issue is out, I'm sure the world hasn't gone into a technological anarchy.

But then again, think of all the great things that Dr. Evil could do for the world? He could single-handedly lock every one off their own computers and use the processing power to map the human genome, find another couple prime numbers and maybe even cleanse the internet of shock sites, and other viruses. He

could also combat GhostNet, and film the epic battle of evil internet titans (I imagine it would be kind of like Godzilla vs. King Kong)

Hopefully, Dr. Evil has a sense of humor, as it will be April Fools Day.

I would take every internal speaker in the world, and play a song heard around the world. Your choice of: "Thunderstruck" (that's the Engineer in me), the Mario theme song, or "Never gonna give you up".

I would use the extra processing power to swap every Wikipedia page with the equivalent Uncyclopedia page. Alternatively, change every third paragraph in Wikipedia to be lyrics from the song, "Rasputin".

Hopefully, he would be really discreet with his changes on the first. I'm hoping a Da Vinci code like puzzle will appear given the geographic coordinates of a list of infected computers. Alternatively, he could be making a huge maze of interconnected computers, where the FBI is given one computer, and a puzzle to complete to get to the next one, and for each wrong answer, a computer dies. Hint to the FBI: it's not me. From there, I don't know. But if you want to pick me up as a sidekick, it would be one hell of an adventure.

Lastly, if I had 9-15 million computers, I would definitely kick Thor permanently after all things on a computer. He has certainly proven himself to be dangerous to all of humankind, based on his usage of Python 3.

Tbor

The screenshot shows a web browser window displaying the website <http://engsoc.uwaterloo.ca/www>. The page features a prominent banner with the text "WATERLOO ENGINEERING SOCIETY" and "MATHSOC" in large, stylized letters. Below the banner, there are navigation links for "Events", "Services", "Groups", "Contact", "Corporate", and "Links". The date "Wednesday, April 1, 2009" is displayed. The main content area is divided into several sections:

- Welcome!** B-Soc is on campus for the Winter 2009 Term. The EngineeringMath Society web site is your resource to find out about many things which are happening around engineeringmath! Check out our calendar for the most up-to-date event listings.
- Events at a Glance:** 04.01 April Fool's Day, 04.01 EngSoc Meeting #6 - POTLUCK, CANCELLED DUE TO MATHIE INVASION, 04.03 EOT.
- Apply for a Directorship for Fall 2009!** Applications are now open for all the fall 2009 directorships. If you want to apply for a directorship, you can apply on this page.
- Apply to be a Frosh Leader!** Applications are now open to be a frosh leader for the 2009 frosh week! If you want to apply to be a leader you can apply on the FOC website.
- Director Online Poster Service:** Hey Directors! For those of you who want your posters photocopied, we've brought in a brand new online submission service.
- Mailing List Links:** EngMathSoc General mailing list (Join), GradComm 2009 mailing list (Join), WIM mailing list.
- GradComm:** Are you a member of the class of 2009? Are you a younger student who wants to support your upper year friends? Then look for Gradcomm every Wednesday when they are selling Pizza in CPH Foyer.

On the left side, there is a sidebar with links for "B-SOC", "Executives", "Directorships", "Classes", "P\*\*5 Points", "Society", "MATH Forms", "Faculty of MATH!!!", "University of Waterloo", "Mail the Prez", "Quick Tools", "studentQUEST", "cccs ACCESS", "EngMailWeb", and "mathNEWS MEF Mathematics Endowment Fund".

link courtesy Michael Soares

## EngSoc Website Haxored

*Hackers allegedly run rampant*

Michael Soares is a Computer Engineering student who frequently checks the Engineering Society web site for the latest news and event information. It is therefore understandable why it came as a surprise to him that the site was painted with MathSoc logos earlier this week.

"OMGAWD!!!11ONE," said Soares. "Who would let such a thing happen?"

Some time between Monday and Wednesday this week, someone allegedly broke into the EngSoc web server. It is unclear how easily they were able to do this, but thereafter, they redid the entire website in mathie style.

The EngSoc webmaster agreed to speak with us on the condition that we use his nickname "gamehead200" to avoid personal embarrassment.

"I just took over as webmaster this past week," he said. "It doesn't seem like the old webmaster kept any backups, so I'll have to recreate the EngSoc logo from scratch."

As of the press deadline, the home page was covered with several math logos, though about a quarter of them have been returned to Engineering logos. The web site is expected to return to normal before the end of the weekend.

When asked how he planned to prevent this from happening again, gamehead200 had no idea.

"My top priority is to fix the web site," he responded. "Once that is done, then I can investigate how this happened."

The person or persons responsible for this are still at large. Waterloo Police are advising all other student organizations to ensure that their computers and data remain secure.

InsideR

**Warning! Haxxoringz of *mathNEWS* systems will yield no content of any interest.**

*Well, except maybe some profQUOTES, but we publish most of them anyway.*

# mathNEWS Takeover

## The Original Version

As some may have noticed, over this term my influence within *mathNEWS* has grown. Some may even have noticed last issue that editor comments from a “CorruptED” have started to appear. In order to explain the phenomenon, I’m here to inform you of my planned Hostile Takeover of *mathNEWS*. Yes, it’s true, I have a megalomaniacal desire to be editor. Luckily enough for all of us, InsideED is a man of little morals and was easily bribed into a peaceful agreement to share editorship in the fall, and so my plan has not had to come into effect. Which is tragic I must say, since it was quite brilliant. That’s why, without further ado, I present ... **The Original Hostile *mathNEWS* Takeover Banana Fanna Extravaganza!**

### Preliminary Phase (I needed money):

**Step 1:** Steal Underpants

**Step 10:** ???

**Step 11:** PROFIT!

### Actual takeover plan

**Step 100:** Surround the MC with garden gnomes. On a production night, most *mathNEWS* writers should be in the Math Building. It is here where their weakness lies. By surrounding the MC with garden gnomes, specifically wielding catapults and pulse rifles, you cut off any potential escape and running for help. Besides, garden gnomes will make campus look cheerier. with their creepy evil ways. Either way, I’m fairly sure garden gnomes and surrounding all escape routes was definitely in there.

**Step 101:** Blow up the DC tunnel. Yeah, I know I could have included it in my ‘gnome blocking exits’ strategy, but explosive alternatives are hilarious. Besides, who doesn’t want Waterloo to resemble a Die Hard movie?

**Step 110:** Cut the electricity to the building. This has manifold uses. First, it deprives *mathNEWS* writers of computers. We all know geeks need computers to fuel their power, so this weakens their abilities and makes them unable to resist. Secondly, the darkness created will allow the army of grues naturally residing on the sixth floor to hunt down the *mathNEWS* writers.

**Step 111:** Now, admittedly this merely takes down the normal *mathNEWS* writers. We will need to go to exceptional lengths for the more powerful miniboss writers. For example:

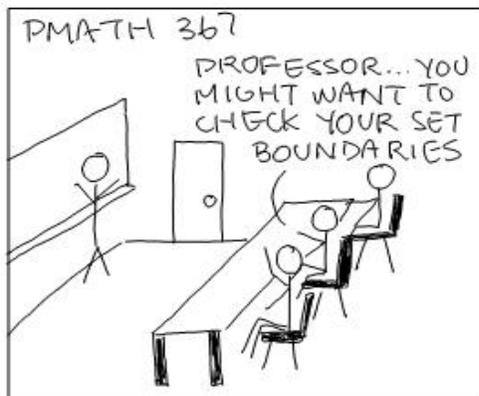
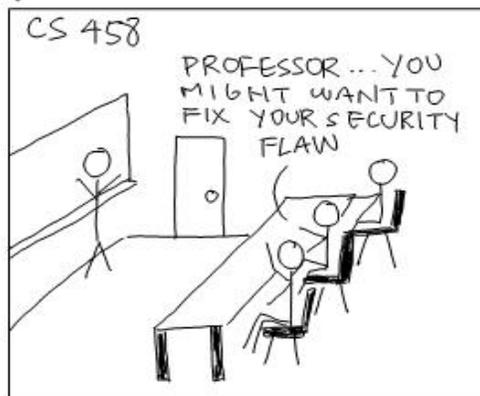
- Tbor: Point out the fact that he has a girlfriend, and is therefore much too cool to write for *mathNEWS*. It should work fairly well, since no Mathie can resist.
- Thor: Give him a biplane. At this point, he has no choice but to realize his dream to fly around the world in his biplane with a monocle and Sherlock Holmes hat, solving mysteries.
- Baxter: Pop rocks and coke. In fact, he makes an excellent explosive when used in this manner.
- snippet: Just get her to draw awesome cartoons. In the end, as long as you can resist the urge to be distracted, she should be kept busy until the revolution has passed.
- Sexy Whore: Pay her to find a random mathie and... commence business. In the end, you’ve made a mathie’s day and saved yourself a *mathNEWS* writer to defeat.
- Angelo: Find a way to redirect his own anger and bitterness against him. He’s too powerful to defeat alone.

**Step 1000:** Once the mini-bosses have been defeated, InsidED was to be the final challenge. An Epic Mortal Kombat Fight was to be planned, where each blow creates a clap of thunder and shakes the Math building to its core. Of course, my victory was to be guaranteed, seeing as I’ve got a bunch of witty remarks and pop culture references to combat his horrifying puns [*You think that would be enough? — InsidED*].

In the end, it would have been a long and bloody battle. An Ultimate Showdown if you will. It’s probably a good thing that in the end, we chose to peacefully share power until one of us can take down the other, à la the Sith. Either way, I avoided having to take down any *mathNEWS* writers and the only casualties this past production night were pizza-related (*mathNEWS* writers are notoriously rabid around their pizza.)

Sector Corrupt  
Co-Editor for Fall 2009

## DISCRETION ...



(HOW TO TELL YOUR PROF HIS/HER FLY IS UNZIPPED)

## Horrorscopes

**ACC:** In times of economic hardship it is important to remember the things you have in life other than money. For example, the 5 gold bars you have stashed in a vault.

Your lucky number is \$100000 of financial security

**ACTSC:** What's the probability of someone (e.g. you) getting impaled by a falling icicle? You may be able to come up with an answer, but are you *sure*? Look up!

Your lucky number is  $917\text{kg/m}^3$

**AMATH:** Don't run around with scissors, because it will lead to pain for you. Instead, run around with knives, one in each hand, so that it will lead to pain for you and many others.

Your lucky number is 3 ambulances full.

**BBA/BMATH:** Two roads diverged in a wood and you chose the one that happened to have a pit trap. There will be spikes at the bottom, but luckily for you, they're not poisoned.

Your lucky number is 7 stabs, but you will live.

**C&O:** q34-nxs,s-rd-068zid,9u54shyd;ih 10000 monkeys with typewriters +ao;-weia\_ ;srigg a gwjio;i/3qwoet94 \*ty a s\$dkjf 948y5 9yrf akld; 4260 a\4=4 59

Your lucky number is 10000 more years until you get something meaningful again.

**CM:** A worthy quest to undertake at this time is to take inventory of everything that has ever existed on the planet. The reward shall be great, but what they are will not be revealed to you right now.

Your lucky number is the journey of  $5.0 \times 10^{15}$  miles begins with a single step

**CS:** People are getting fed up living in the shadow of machines that will eventually be capable of annihilating the human race. Therefore, you should hasten the process so everyone can flee to another planet and start over.

Your lucky number is 2000 years condensed into 1.

**MATH BUS:** One of the blackboards in one of your lectures is actually a black hole. The sacrificial council has decided that you will be fed to it next. So strike a deal with someone to unknowingly take your place.

Your lucky number is 100000 solar masses.

**OR:** The table in the computer lab has insulted your honor. You shall challenge it by repeatedly punching the surface as hard as you can. While you're at it, do some optimization to minimize your blood loss.

Your lucky number is 250 punches.

**PMATH:** Evaluate  $1+1$  and prove that your result is correct. After you have done this, you will be filled with a great sense of fulfillment. When the feeling wears off, move on to  $1+2$ .

Your lucky number is whatever you want.

**SE:** You will be hypnotized by a certain computer screen you encounter in the next 48 hours. You will then go on a blood-thirsty rampage. Instead of warning you to stay away from computers, it would be more productive to just warn the potential victims.

Your lucky number is the 34th hour.

**STAT:** Look both ways when crossing the street. In addition, look up, down, and in any other direction you can think of. Regardless, a driver will sneak up on you and startle you with the rudest honk of a horn.

Your lucky number is the 1 direction you missed.

**UNDECLARED:** Well, I don't really feel like declaring a horrorscope entry for this. Just pick one of the above, you'll eventually have to declare one of them.

Your lucky number is 0 for now.

Lich

This issue of *mathNEWS* has been brought to you by...

**ACTUAL SIZE!!**

**MC**  
at the university of waterloo...  
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"Brutal architecture at its finest!"  
"Second only to Delta Bingo!"  
"Some old guy kicked my bag!"

Arrange your stay starting at \$2050/term (\$7,400/term if you are an international student).

Fall 2009 fees are likely to rise. Does not include fees for books and supplies, residence, meal plan, FEDS and other mandatory society fees, flex dollars, and life sucked away by studying.

Contributed by Ashley Muir

## 10 Indisputable reasons why Calculus is *Not* math

*Shocking, but true!*

1. I like math, and yet hate Calculus.

I think that this should be enough, but I'll go on for all of those who are still skeptical ... If you are already agreeing (and you *clearly* should), then you can skip the other 9 reasons.

2. Have you seen the symbols they use? They are so abstract and art-like (Ew.) I don't even know what some of those are (surely some fancy art thing), and we can all agree art is **not** Math!!!
3. Math expresses absolute answers. Calculus approximates. Yes I acknowledge we round in math, but that's different. We *could* get the absolute answer using it, we just don't.
4. When taking limits you are sometimes forced to divide by 0. This is **illegal** in math and yet calculus has never been put on trial for breaking any math laws... (not even an inquiry!)
5. In calculus  $d/dx \neq 1/x$ . In *math* it **does** (so long as  $d \neq 0$ , see point 4.) Here lies another contradiction to **Math Law**
6. Similar to the above point, in Calculus  $x dx \neq dx^2$ . Do I even need to remind you that it is in math?
7. I'm convincing and I told you that Calculus is **not Math!**
8. Would *mathNEWS* allow me to write this article and get it published were it false? Or would they stick up for one of their own were Calculus actually were Math?
9. In **Math**, when we perform a function and its inverse on the result, we get the original input. In calculus, we get the original input but with the constant replaced with  $C$ . (It is, to the best of my knowledge, likely that the  $C$  is to alert people you did not use **real** Math to solve but rather Calculus)
10. I came up with 9 reasons already, and I don't think I could make up 9 like that. Maybe someone could fake 8, but seriously, 9?

So I know what you are thinking, "OMG what do we do now?" Well allow me to tell you. Inform your MathSoc Rep that you no longer believe that any calculus class should be a part of math and get your rep to bring it to the attention of MathSoc. Also, get lots and lots of signatures (sign multiple times with other names if necessary) to support the cause and abolish the teaching of Calculus as Math.

SoftE against calc

## Last Fortnight's Prizes

To those who won a prize in the last issue and found that it wasn't in MathSoc when you went for it, I apologize. It was my fault entirely. Said prizes are now there for you to pick up.

Insided

## I fell down some stairs

*I swear! It was the stairs!*

Everyone has had those embarrassing bruises that they don't want to talk about, or just woke up with in some strangers bed. So, after being continually approached with the question "What happened to your neck?" we've come up with some excellent responses that will help avoid the truth (or cover your...lack of memory.)

- I fell down some stairs.
- I got attacked by geese.
- It was the ninjas, I don't know why they did it but they did!
- I don't know what you're talking about.
- I tripped on a cordless phone...
- Well... it's a long story, involving a lightsaber, a pirate sword and a hula skirt.
- I'm doing a study on the human reaction to force. Do you want to join the study?
- I had a very close encounter with a grue.
- I got into a fight with a cougar...named rose bush.
- In preparation for exams I gave my roommate permission to hit me every time I'm not studying. I forgot he/she didn't sleep.
- Aunt Jemima did it to me... and now I don't think I can eat pancakes anymore. I have to go to Counselling Services! [run away]
- That's nothing. You should see the other guy/girl.
- The bicyclists are back, and you know how they like to run over people claiming it was an accident. [Make sure to flinch at the sight of bicycles for the next week.]
- You're the one who didn't call me back!!! [slap them.]
- I was defending my pink tie from a thieving engineer!
- I got into a fight with a wall... I lost.
- You know the phrase, "I got hit with an idea?" Well, it's literal.
- It's not a bruise, it's a birthmark. [Seem offended that they never noticed.]
- Instead of getting bags under my eyes from sleep deprivation I get bruises.
- I was hoping you could tell me!

If you've got any other good 'cover-ups' send us an email at [Baxter.MathNews@gmail.com](mailto:Baxter.MathNews@gmail.com)

Schultz and Baxter

## \$25 HMV Gift Certificate

*For the last time this term*

As we have all of the time this term, we have one more \$25 HMV Gift Certificate to give away for the author of the best article of the issue.

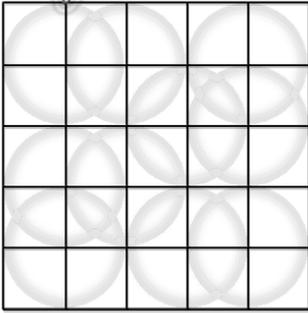
The financial crisis is affecting everyone at UW, particularly graduating students and co-ops who haven't been able to find a job yet. We at *mathNEWS* have been trying for the past few months to determine its cause, but Angelo was able to make a breakthrough this week. In light of this, we will encourage spending in the Canadian economy by giving him this week's prize. You know where to pick it up.

Insided

# Puzzles courtesy euri.ca



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



39	40	50	06
08	35	26	50
00	95	39	01
58	95	01	81
05	19		
66	39		

More puzzles on Page 12

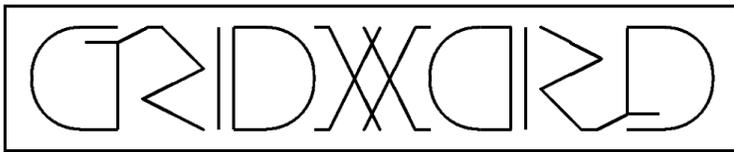
## gridCOMMENTS

*InsideD said this is the last one, please be so!*

The last gridWORD that was for prizes this week garnered not that many submissions! How tragic! On the plus side, I loved Nick Murdock's answer to the gridQUESTION. He'd ask out his man-pal with a case of beer with his name on it (Prefereably spelt with "Bro" in it like Broseph). Awesome! Come on in to get your \$5 C&D gift certificate today!

This week we don't have a gridWORD because, well, this is the last issue. How tragic.... Good luck to everyone on the exams!

Megaton Panda



Due to space restrictions, and the fact that this is the last issue of the term and hence not for prizes anyway, the gridWORD has been pre-empted. Feel free to enjoy some of our other puzzles on Pages 11 and 12.

gridWORD will return in the summer term. YAY!

CorruptedE

Solutions to Previous gridWORD

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

## profQUOTES

Sometimes we try to avoid the word theorems in the engineering classes...because it scares them.

West, AMath 231

I've been juicing, and I've had a ginger crash.

West, AMath 231

What's the difference between a mathematician and an XL pizza? The latter can feed a family of 4.

West, AMath 231

[Student's phone rings] Tell your mom I say hi.

Roh, Math 237

I don't think we need a background music for this class, it's not that romantic.

Roh, Math 237

Degrees?! This is a calculus course, anyone who says degrees again, I'm going to wash your mouth out with soap.

Roh, Math 237

Let's say that your position affects your download of mp3 clips or pornography.

Roh, Math 237

This looks too good to be true, so it's false

Leung, PMath 336

Eigenvalue?! Who told you such a dirty word?

Roh, Math 237

You will all have children, either planned or by accident.

Terry, SE 382

## The Whore is No More

Since the term is ending, MathSoc's Sexy Whore is also resigning because she already found someone without him being on the list. My corner will always be there, but maybe I just might move the decorations to my newest secret corner.

I feel like reminiscing about what has been happening this term. There was me all giddy and excited in the beginning of term about being the new MathSoc's Sexy Whore just from a simple game of Clue. I have my pimp to help me out with my list since I had to lay out ground rules. "Being in the list doesn't mean that you will have my time." I set up my one corner, but there's five now. I decorated it just for Valentine's day.

I talked about cute babies and being in love as one of the reasons why you should love Valentine's day. Then there's that time of me giving out advice to people. Also there was that time with the Imprint war. Yeah! Not only do they keep me around, they also put me on payroll. But now, I am half sad and half happy to say that I'm resigning but I do not look so much towards next term. It scares me (and there I thought sexy whore was not supposed to be scared of anything). Oh well, what can I do, right? I'll just strut my stuff in front of MathSoc and pass my corners but I won't sell it for now. (I'm giving hope right there.)

The Unavailable Sexy Whore

# Drywallen

"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 13 rooms

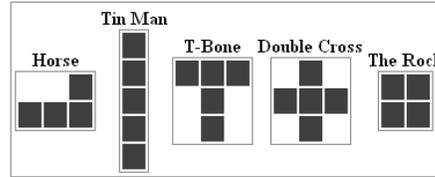
**Puzzles courtesy  
euri.ca**

3	2	2	2	1	3	3	2	3	4
2	2	2	3	3	2	1	1	1	2
3	2	1	1	2	1	1	1	1	2
3	1	0	0	1	2	2	1	1	2
2	1	0	0	1	2	1	0	0	1
2	2	1	1	2	3	1	0	0	1
2	2	2	1	2	4	2	1	1	2
2	1	2	2	2	3	4	2	1	2
1	0	1	2	1	1	2	0	0	1
2	1	2	2	1	2	2	1	1	2

# SIGHT

The precious 10x8 grid that we call home has been infiltrated. 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 rotate.



									3
									5
									1
									3
									2
									3
									1
									0
									5
									0
4	4	3	1	5	4	2	0		

## Feedback Form

Now with prizes!

This term as editor has been a learning experience for me. While I've received a lot of feedback from my writers on what I'm doing well and what I'm doing wrong, I also want to hear from you, the reader I have yet to (but would like to) meet.

As we mention in every issue, *mathNEWS* is responsible to the undergraduate students in the Faculty of Mathematics. That means you, the person reading this. Is there something that you really want to see in here? Something that you think I should stop? I want to hear it so that I can make this better when I return in the fall.

Everyone who provides me with their honest feedback will be entered into a draw for a free one-term subscription to *mathNEWS* (see below on how the subscriptions actually work). All you have to do is fill out this form and either submit it to the **BLACK BOX**, to our mail slot in MathSoc (MC 3038), or to [mathnews@student.math.uwaterloo.ca](mailto:mathnews@student.math.uwaterloo.ca). The draw will take place on April 10th at noon.

InsidED

## Subscriptions!

*It's mathNEWS, the home game*

Yes, really, we have subscriptions. If you aren't going to be around campus to get issues of *mathNEWS*, then why not have them delivered to you? You can take them to work and read them during meetings. Or you can read them during those long commutes. Or during meetings!

Of course there is the webpage, but there's a lot less glare off bond paper, and you get to see our wacky filler and comics! And *mathNEWS* can travel almost everywhere, unlike those clunky computers with their cables and such. Unless you have a laptop, but what are the odds of that? One in fifteen?

And, let's not forget, they're pretty cheap too! In Canada, it's \$7.50 a term, twenty bucks for three terms. For the States, it's \$10 a term, and twenty-five for three. The rest of the world pays \$15 a term or \$35 for three.

A term's subscription gets you all six exciting issues, plus any bonus issues that happen to come out. But what are the odds of that? Two out of three?

The three-term option means you can get *mathNEWS* every summer you're away, or, for those co-ops out there, you can have your subscriptions every time you go off to a faraway job. Any three terms are do-able.

Name: \_\_\_\_\_  
Email: \_\_\_\_\_

What do you like about *mathNEWS*?  
\_\_\_\_\_

What do you think could be improved?  
\_\_\_\_\_

What would you like to see in *mathNEWS*?  
\_\_\_\_\_

What other comments do you have?  
\_\_\_\_\_  
\_\_\_\_\_

Thank you.

### *mathNEWS* Subscription Form

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