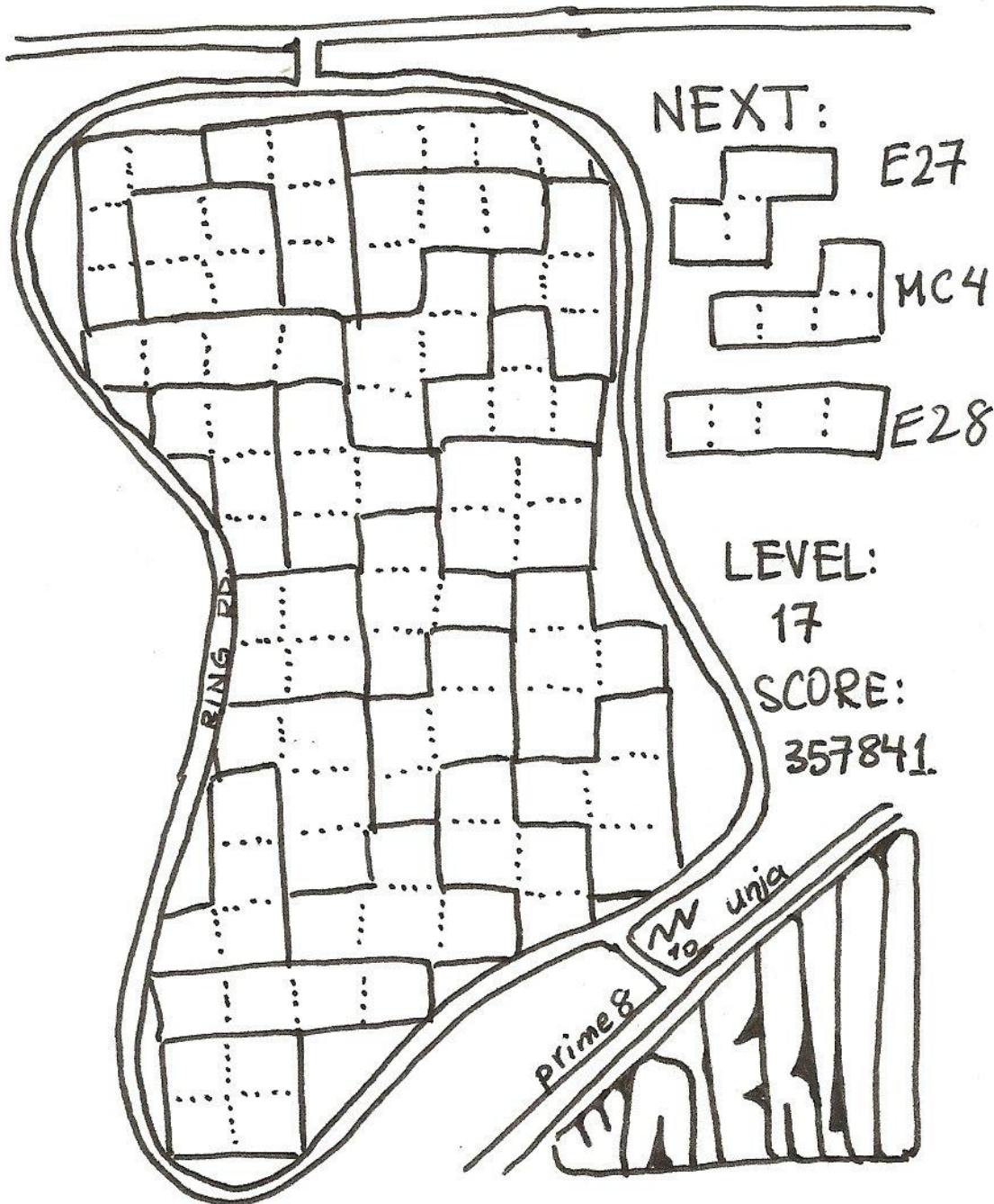


math NEWS

Volume 112, Issue 1

Friday, January 15th, 2010

The Next Ten Years of Campus Construction



lookAHEAD**mathNEWS**

January 15th	Issue #1 reveals Waterloo's 10 year plan
January 25th	Issue #2 production night 6:30 MC 3038
January 29th	Issue #2 sneaks into the MC

MathSoc

Wednesdays	Games night at 7pm in MC 3001
Thursdays	Movie night at 7pm in MC 3001

Math Faculty

Ongoing	Orientation Week applications
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CECS

January 16th	Job postings open
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Miscellaneous

January 15th	Martin Luther King Jr.'s Birthday
January 26th	Wikipedia(2004): A whale explodes in the town of Taiwan

Orientation Week 2010

Hey Mathies!

Want a way to meet new people, gain leadership skills, improve your organizational skills, and just be awesome*? Math Orientation 2010 is now taking applications! Apply today at: <http://orientation.math.uwaterloo.ca>.

We are looking for people just like YOU to make Orientation 2010 the best Orientation week ever!

Have questions? Feel free to email us at orientat@student.math.uwaterloo.ca.

*awesomeness covers the aforementioned improvements/gains and much, much more!

Patrick, Julianne, Abhishek, Maria
Math Orientation Directors
University of Waterloo
orientat@math.uwaterloo.ca

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The editor(s): Nick, Ellis, and Coach: John Stevenson, John Baxter, Rami Finkelshtein (Rochelle startled the witch)

mastHEAD

Howdy concerned readers!

Once, the MC stood alone and proud, towering about expansive greens on all four sides. Alas, this is no longer the case. From the quantum-nano pit to E5, (a cunning response to the plea of many fine arts students for more space, since they did not specify that the space go to the fine arts department) the University of Waterloo's campus has been dominated by the relentless(ly slow) pursuit of construction.

Still, UW has yet to build a building that is truly unique in terms of student appreciation. I mean buildings with a purpose so radically unacademic that no other university would ever dare to construct one. Buildings like an indoor waterpark, or a multilevel graveyard (sort of like a parking structure) or maybe, just maybe, another fine arts building.

Or maybe a building to house all the injured Imprint writers after their egg-related kitchen explosions. Seriously, Imprint, if you want a real kitchen explosion, get a gas range with a broken pilot.

mastHEAD Question: What building would you like to see on campus?

"Giga-Infinite Building to counteract the Quantum Nano Centre" (!BoB), "Engineering 9000+ (only a mater of time)" (!case), "Dorothy's house" (CODE:e<<access denied>>), "A dark spire of evil, torture, and villainous puppies" (Sector Corrupt), "Anything the size of a 500-foot pink tie!" (Nadz), "BFG2" (perki), "Tower of Babel" (The Unnatural Historian), "Green-space Building, floors and floors of frisbee!" (prime8), "Math 2 ... Continuity FTW" (define this (not cool)), "A Dollhouse" (Unja), "Engineering e" (!able), "The center for Applied Health Sciences and Software Engineering" (cbhllhbc), "The lazer building" (!e), "Michael Crichton School for Velociraptor Defense" (Tbor)

ImpulsED

"A nunnery slash brothel. (Now in one convenient location!)"

PMAMC&OC

Are you in Pure Math, Applied Math, or Combinatorics & Optimization, or interested in those subjects? Then come out and join the PMAMC&OC (Pure Math, Applied Math, and Combinatorics & Optimization Club...I hope that was evident), PMC for short. We have an extensive library of textbooks, including many of those required for courses and a growing collection of books from the Springer-Verlag "yellow book" series. It is a great opportunity to discuss with like-minded individuals about various topics, and work together through the more difficult concepts found in courses.

The PMC hosts a mathematics competition every fall and winter term, so look for the upcoming "Integration Bee '10". We also host a termly Short Attention Span Math Seminars (SASMS); a series of short talks given by students about interesting mathematical subjects. A "prof talk" will be planned for this term, as well as a bake sale; more on these to come.

Drop by our office at MC 3033, visit our website at <http://pmclub.uwaterloo.ca/>, or check out the Facebook group at <http://www.facebook.com/group.php?gid=2214765997&ref=ts>.

Vince Chan
PMC

Happy New Year!

Sample New Year's Resolutions

So it's two weeks into the new year... and you don't have any resolutions! What do you do? Well, if you're lazy, you can borrow mine.

- Create new GPG keys for your .uwaterloo.ca e-mail addresses.
- Remove old contacts from MSN, Facebook, Google Mail/Google Talk, and Twitter.
- Reorganize active contacts from MSN, Facebook, Google Mail/Google Talk, and Twitter into groups.
- Be less fake: terminate "friendships" with people you really don't get along with.
- Work smart, play harder.
- Next year, generate and post a list resolutions by the end of the first full week of January 2011.
- Write an article in every "standard" bi-weekly *mathNEWS* between today and May 1, 2010.
- Spend no more than 50% of textbook money on new textbooks that are either: (i) as expensive as, or (ii) more expensive, than the campus bookstore.
- Learn how to play the expansions of The Settlers of Catan.

cbhllhbc

VPASsez

Your master of activities

O frabjous day! Callooh! Callay!

That is to say, welcome to the new term! I, Ian, am your Vice President, Activities and Services for the coming months. Stay tuned for information about upcoming events in future issues of *mathNEWS*, or drop by one of our weekly events such as Games Nights on Wednesdays or Movie Nights on Thursdays in the Comfy (MC 3001) at 7:00 PM.

Also, do not forget to sign up for a locker this term at <http://www.mathsoc.uwaterloo.ca/Lockers>. Please remember, though, that lockers are reserved for a single term only, so you will need to remove your lock before the beginning of next term. On that note, if you did not remove your lock after last term and you did not renew your locker, the contents of your locker are being held in the MathSoc office (MC3038), so please stop by to pick them up.

Please feel free to contact me with any questions, comments, complaints, or suggestions about events, the office, zombie apocalypses, or MathSoc in general.

Farewell!

Ian Charlesworth
VP, Activities and Services W2010
vpas@mathsoc.uwaterloo.ca

Thor's CS Problem of the Fortnight

Floating over the green fields of computer science

Last Fortnight's Question: Imagine that you work for an air travel planning company. You have a big map that has the airports of the world on it, and which shows which airports have direct flights between them. Your job is simple: You need to write a web app that allows your customers to figure out if it's possible to get between two airports of their choice. How would you efficiently solve this problem for your application?

Its Answer: You could, of course, just search from one of the vertices to see if the two specified airports are connected. But this would hardly be efficient. A better solution is called for: perform a *transitive closure*. This operation allows you to take a directed graph and construct a new graph where edges exist between vertices if (and only if) a directed path exists between them in the original graph. The Floyd-Warshall algorithm is probably the simplest way to implement a transitive closure.

This Fortnight's Question: You are developing an AI for bumper cars, a popular ride at amusement parks (children drive cars around and crash into each other). As part of your AI, you would like to monitor the movements of all of the cars in the game, to predict future movements. Assume that you have access to the position and velocity vectors of all of the participants. Use a line segment to represent the positions of each car over the next three seconds. How can you predict which cars will bump into each other in that time frame? Phrased another way, how can you find all of the intersection points of a group of line segments?

Thor

VPFsez

Hi everyone and welcome to a new term in a new year (yay 2010). I am Rami Finkelshtein, your Vice President of Finances (VPF) for the next four months. In case you even slightly care, my job is to make sure that all the bills of the Math Society are paid and that everyone is happy. I hope that you have a good term and enjoy all of the great things we have planned for the coming term.

Rami Finkelshtein
VPF Winter 2010

The Volunteer/Internship Fair

Come and visit the volunteer/internship fair organized by Career Services. You can meet with representatives from a variety of local agencies to find out about volunteer opportunities. These agencies specialize in many different areas, including: working with children, aiding seniors, caring for people with health issues, organizing art events, and many others. You can choose to volunteer in one of the hundreds of opportunities and gain valuable experience, as well as stay connected with the community.

Also, talk with representatives about opportunities that may include: administrative work, event planning/fundraising, marketing, boards and committees, special events and recreation—just to name a few.

This event takes place in the Student Life Centre in the Great Hall on Tuesday January 26th, 2010 from 11:00a.m. to 2:30p.m.

News from Off Campus

Late last term, readers have been asking me for a greater news presence in *mathNEWS*. This section gives you just that: a brief look at off-campus news stories that affect you. If you see a story that you want included in this new biweekly section, send me a tweet @mN_InsideR.

You can link to any of the websites in this article by visiting www.mathnews.uwaterloo.ca.

Police Report Spike in Robberies Around UW

Since mid-December, there have been several robberies and attempted robberies reported near the University.

Police say in the early morning hours of December 18th, a 20-year-old student was pushed to the ground by two men who demanded his wallet. When they realized that there was nothing in it, they took off. On the evening of December 30th, two women in their early 20s were robbed near the University Plaza. Police say three men approached them, threatened them with a knife and stole their purses.

At least six robberies or attempted robberies in total were reported on Philip Street since mid-December, with some as recent as last week. UW Police are asking people to follow basic safety advice, such as walking in groups and using the UW Shuttle Service.

There are no reports of any injuries from these incidents, which remain under investigation. You can find a list of personal safety tips from Waterloo Regional Police at <http://www.wrps.on.ca/community-safety/personal-safety-tips.htm> as well as from UW Police at <http://police.uwaterloo.ca/personal-safety-guide/>.

Obesity Becomes Greater Societal Burden than Smoking: Study

A US study released last week suggests that obesity is now a greater health concern than smoking, and scientists believe that the numbers may be similar here in Canada.

Approximately 3.5 million Americans were surveyed annually from 1993 to 2008. It was found that the proportion of smokers has begun to drop in that time, falling from 22.7 percent of the population smoking in 1993, to 18 percent in 2008. Obesity, on the other hand, has soared, from 14.5% of adults in 1993 to 26.7% in 2008 being considered obese. Statistics Canada reported in 2008 that more than half of Canadians are either overweight or obese.

“This study estimated the overall burden of smoking and obesity over time and results indicate that because of the marked increase in the proportion of obese people, obesity has become an equal, if not greater, contributor to the burden of disease than smoking,” Haomiao Jia of Columbia University and Dr. Erica Lubetkin of the City University of New York, concluded in the February issue of the *American Journal of Preventive Medicine*.

On top of this, a study presented in October at the Canadian Cardiovascular Congress in Edmonton found obesity, high blood pressure and high cholesterol are hitting Canadian teens at alarmingly high rates, to the point where Dr. Glenn Berall, a child obesity specialist at Toronto’s North York General Hospital, believes that this generation will live shorter lifespans than their parents.

Social Networking Sites to Become Popular for Hackers in 2010: Report

A popular web security firm is predicting that 2010 will see an increase in cyber attacks through social networking sites like Facebook, MySpace and Twitter. However, it also predicts that law enforcement agencies will be able to make great strides in their effectiveness in combating cyber crime.

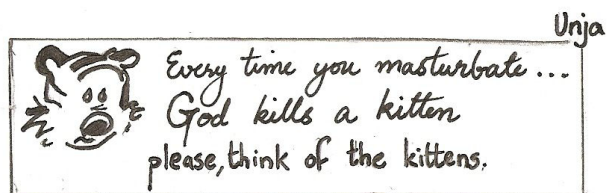
McAfee Labs says in its 2010 Threat Protections Report that “the explosion of applications on Facebook and other services will be an ideal vector for cybercriminals, who will take advantage of friends’ trusting friends to click links they might otherwise treat cautiously.” It also mentions that it expects to see increased threats to banking security and increased uses of “bot-nets”, code that can have your computer send malicious software to other PCs.

Hackers are also expected to increase attacks on up-and-coming software products, such as Adobe Reader, Flash Player and Google Chrome, according to the report that was released last week. Other tools that hackers can use are URL shorteners, such as bit.ly and tinyurl.com, that can essentially mask the true URL of a website. Emails of spyware and phishing natures will also remain popular.

All computer users should ensure that their operating systems and anti-virus definitions are regularly kept up to date. Additionally, users of social networking sites should log off of these services when they are not using them, as doing so deletes login cookies from your computer, and those that have already been obtained by hackers become essentially useless. As always, you should also keep your guard up and refrain from clicking on suspicious links.

InsideR
with files from The UW Daily Bulletin, The K-W Record,
CBC News and The Montreal Gazette

How did
calvin and Hobbes
come to an end?



Math Faculty Cancelling Classes for Spring Open House

Cancellations to cost math students over \$25,000

The Dean of Mathematics plans to cancel 11 lectures and 1 tutorial on March 16th for the annual March Break Open House. The event is held every year during the high school march break to give prospective students an opportunity to see our campus and convince them to study at UW.

In an email obtained by *mathNEWS*, Dr. David McKinnon, Associate Dean of Mathematics for Undergraduate Studies, told affected professors that “Dean’s Council has decided that none of the cancelled lectures or tutorials can be rescheduled, so the course material will have to be delivered in fewer hours.” Affected classes include ACTSC 232, STAT 231, 330, 331 and 340, CS 116, 136, 343 and 437, and MATH 118 and 135.

Dr. Peter Buhr of the School of Computer Science is one of the professors affected by this decision. “I personally do not think this is fair to the students taking these classes,” he said in an email to the Mathematics Society executives, “and I do not like having class time taken from my course.” Dr. Frank Zorzitto, chair of the Math Faculty Council which represents professors on various issues, was not aware of the decision until we asked him about it last week. While his classes were not affected, he said that he would be very upset if they were, since “students deserve their full amount of teaching time.”

Using enrollment statistics from the start of term, *mathNEWS* has calculated that the direct cost to math students will be nearly \$26,000 in missed lecture time. This does not include the case where other sections of the affected courses may also be cancelled to keep them in sync, which could add another \$20,000 to this total. A cancelled class can cost each student anywhere from \$10 to \$30, depending on the student’s program and length of the class.

At its December 17th meeting, MathSoc Council voted unanimously to condemn this decision and to formally request that the Faculty either reinstate or reschedule the cancelled classes. The motion, sponsored by Software Engineering Councillor Joseph Collins and Computer Science Councillor Sapphyre Gervais, notes lack of student input in the decision and significant loss to the quality of education as concerns.

Dean of Mathematics Dr. Tom Coleman said that these cancellations, while unfortunate, are necessary so that “faculty and staff can address our visitors concerning life and study at UW,” and the fact that classrooms are very heavily booked makes doing so a greater challenge. He hopes that the Mathematics 3 building, which is scheduled to be completed in 2011, will mitigate this issue in the future.

Coleman did not comment specifically on attempts to reschedule these classes, though he said that “professors are generally able to flexibly adjust [...] to ensure all course material is effectively delivered to the students despite the loss of one scheduled lecture.”

McKinnon told me that this decision was made back in October, though affected professors were not told until December 3rd. *mathNEWS* couldn’t find any University or Faculty policy stating that instructors and faculties are obligated to deliver a full set of lectures every term.

InsideR

Twitter: @mN_InsideR

Have Your Say

Is the Dean of Mathematics jeopardizing the quality of our education by cancelling classes, or is MathSoc simply overreacting in condemning this decision? Let me know at www.twitter.com/mN_InsideR. Your comment may be featured in our next issue.

The One-Woman Baby

Because “Baby-Daddy”s are SO yesterday

As a woman, it’s very important for me recognize that my resources are finite, whereas men have unlimited ammunition. When the clock runs out, I cannot spawn more overlords. Also necessary to recognize, though I’m young, beautiful and generally awesome now, there is a very real chance that I will, at some point, become a 40-something-year-old hermit with no prospects. How will I make/acquire a baby then? For all the other single ladies (cue Beyoncé music) out there fearing the same eventual outcome, this article is for you.

Option 1: Adoption. By the time your 40-somethings roll around, the baby-making factory-workers will likely have unionized forcing this industry to be outsourced to Mexico. You can turn to Mexico, OR you can think back to everyone’s favourite Hollywood power couple, Brangelina (shudders at the name splicing), and go for the more exotic brands found elsewhere. Note: When questioned by agencies about being a single woman adopting a child, argue that you are ahead of the times and that it’s the “in” thing to do. They’ll be crazy not to jump on board.

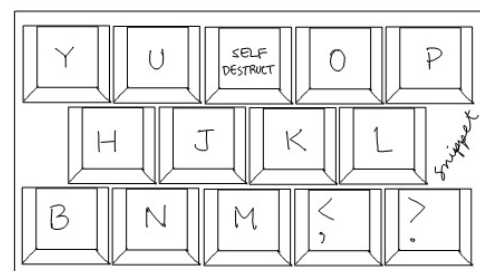
Option 2: High IQ sperm banks. Always a fun place to visit on a Wednesday. I recommend asking for Sherry; she’s truly lovely and bakes the most delightful little date squares. High IQ sperm banks are a great way to acquire the most promising sperm without any of the messy grunt work. It’s a very civil process requiring little effort on your part (YAY). Though they cannot explicitly guarantee you a high IQ child, isn’t it still rather comforting to know that you can one day tell you child that his/her father was an astronaut instead of some dude you bought drugs from at a dive bar? Or you can simply not tell them at all, because honestly, who needs a man? You are a modern woman. You can do it all on your own. Keep telling yourself that, and at some point you’ll believe it (if you don’t already).

Option 3: Find yourself a man. This option is only really suggested for those women among you who are truly hardcore daredevils. Some find this approach too indirect; it’s certainly not for everyone. (Not recommended for the weak of heart)

Please note, this publication cannot condone stealing babies for any reason, including but not limited to, your lack of prospects.

Off to chat up Sherry for some more date squares
prime8

THE ANTI-APPLE KEYBOARD



Horrorscopes

For those people who don't realize that going back to school is not the worst thing that could happen.

Accounting: You receive a large amount of money from your estranged uncle's will. Unfortunately, the trace levels of cocaine summed over every bill is enough to have you charged for possession of drugs.

Your Lucky Number is: 95%

ActSci: You want to join the Campus Crusade for Cheese. Unfortunately, your knowledge of cheeses suggests that it is too dangerous to eat random cheeses provided by strangers. You go home and eat your cheese alone.

Your Lucky Number is: 0.5 pounds of Lappi

AHS: The corpses come back to life, and it is up to you to defend the campus from the oncoming zombie invasion. Unfortunately, you show the zombies how to efficiently move their muscles, and only aid the apocalypse.

Your Lucky Number is: 7 whore-men

Applied Math: You attempt to apply math to find a girlfriend. You should definitely use statistics, and combinatorics. Hit on everything that walks, it's a numbers game.

Your Lucky Number is: 3346015137, if the slaps don't kill you first.

Arts: You will find the missing typo in this sentence. Submit your findings to Imprint, and hopefully they will publish it.

Your Lucky Number is: 6

BBA/Business: You invest two dollars into Duke Nukem Forever. Soon it will be worth over 9000! Yes, I do feel horrible about myself. Think about how bad business students must feel.

Your Lucky Number is: In Reality, 0.02 cents of dignity

Computational Mathematics: A terabyte of data that you are working with crashes. You get stabbed in the chest with an identity matrix.

Your Lucky Number is: 1CH/E1S/T01

CS: You start programming on the Nexus One. Unfortunately, you forget to put it in your pocket while having sex (Sorry, did I just say CS students having sex? I guess I'm speaking only to the select few. Apologies to the rest. Your horroscope is: CANCER. Oh, I meant astrological sign. Sorry). Anyways, camera films you, google uploads it to their secret porn site, and you lose your wife in 15 years.

Your Lucky Number is: 69?

C&O: This term seems to be quite difficult for you and you might not be able to handle it. Chin up and don't worry about it. It may be hard, but seriously, what's the worst that can happen?

Your Lucky Number is: 6 failed courses before they kick you out

E: You may have the line, you can't spell team without E, but you may also realize that there's no E in win, victory, or important faculty. Yeah, I'm too lazy to make fun of your greenities this week.

Your Lucky Number is: EightEEn

Engineering: You decide that Engineering needs a new, more humanoid mascot than the Tool. You become the Iron Warrior until you realise that injections of Iron could cause a heart attack.

Your Lucky Number is: 2 Litres

MathSci: You make a simulation of the ocean on your computer. Unfortunately, you make the dolphins too smart. Your computer is stuck permanently running Google Wave.

Your Lucky Number is: 42

OR: You end up staying in the MC so late this term, the math faculty renames you POR (Plant Operations Research).

Your Lucky Number is: x33793

PMath: You begin counting down to π Day. Unfortunately, how do you represent a single day numerically? You decide the idea is irrational.

Your Lucky Number is: 3.1415

Science: You decide the world is part of the larger hadron collider and start a religion about it. Watch out for the dark earth!

Your Lucky Number is: 5.2KJillion

SE: You decide that working on OS is too much money and start stealing code off of linux and Mac. Microsoft sues you for stealing their ideas.

Your Lucky Number is: 14,000

Stats: The odds are your midterm exams are spread across a 4 week period. Unfortunately, they end up being all in the span of 3 days.

Your Lucky Number is: 3 days of PAIN

Undeclared: You don't declare again. You will get a depressing horroscope in two weeks time.

Your Lucky Number is: 14 days

Other: If you actually lie in this group, send me a description of your life story, and I'll write an article about one of you. If not, I'm removing this group from the horrosscopes list.

Your Lucky Number is: 1 page

Tbor

Colours, Colours Everywhere...

But please, world, do your Facebook friends really need to know?

Dear *mathNEWS* readers (and the world in general),

This is just a general plea — I understand that you, like any decent human being, want to help causes like the Canadian Breast Cancer Foundation and Autism Ontario. That said, consider the ramifications on all of your Facebook "friends" and "followers" on Twitter. Certain forms of viral marketing really do NOT need to be spread amongst under-16s in public secondary schools across the country.

If you have no idea what I'm talking about, you probably can safely ignore this message.

!able

Midnight Capture the Flag

Hello Reader,

Your mission, should you choose to accept it, is to rendezvous at the MC Comfy Lounge on the night of Sunday, January 17. Your time of arrival will be 23:59. Upon your arrival, there will definitely not be a game of capture the flag.

Your next mission, should you accept the previous, will be a search and retrieve mission. You will be given a more detailed briefing upon completion of the first mission.

Not The Management

P.S. This message may self-destruct.

Signs your co-op job may not be as awesome as you thought

Just in case you believed them in the interview...

So, you've had your interview. You proved you know everything they wanted and more. You're a rockstar developer, a code ninja, an individual of the hacker persuasion. You could have taken any job, but this one just wow-ed you with the description, so you took the offer right away. But is it really as awesome as they made it out to be?

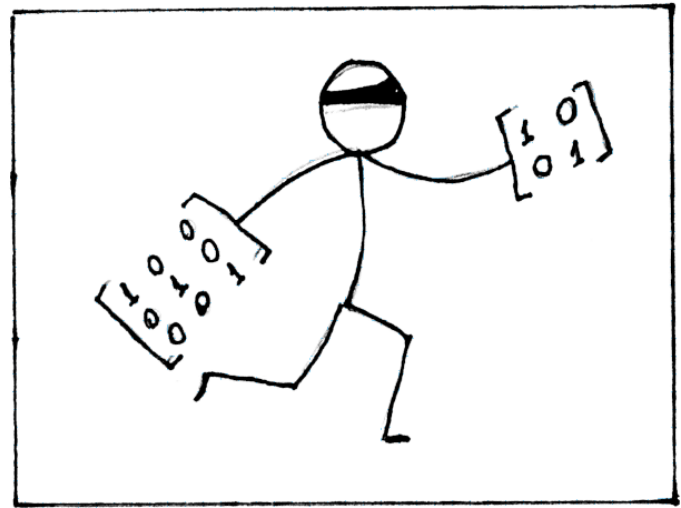
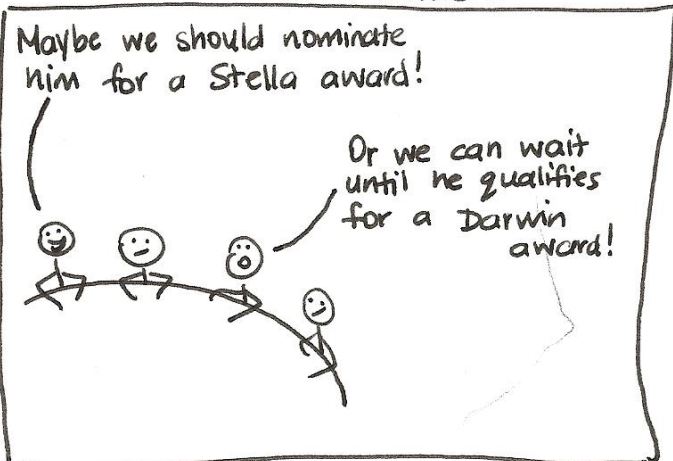
Well, they probably exaggerated a little, so don't go crying foul just because it's a little less "It's like Google but better!" than you imagined. However, if you start seeing any of these signs, it might be time to run far, far away. So, without further ado, here are the signs your co-op job may not turn out to be as good as they said:

1. There are 5 security checkpoints, both ways ... between you and the washroom.
2. On your first day, you fix several of their systems. This barely causes a dent in the massive pile of issues.
3. Your official job title turned out to be "Buttmonkey minion guy".
4. "Good people skills" turns out to have been a euphemism for "Guess who gets to deal with disgruntled customers!"
5. Wiki-ing other companies' information is an integral part of your job.
6. Anything that could technically be done by a bot is your job. Combined with a prohibition on actually writing said bot.
7. When you arrive on your first day, you have no power cable for your computer. IT gets back to you in 5 days.
8. Your work computer is running Windows Vista.
9. Scratch that, any Windows computer sucks.
10. You're working alongside a *mathNEWS* editor.

Now, obviously there are other signs. Perhaps there's a daily pumping of laughing gas into your office, or Fridays are casually pantsless Fridays. But simply watching for these simple 10 should help you avoid walking into the most terrifying of jobs, and isn't that what really matters?

Sector Corrupt

CONVERSATIONS WITH MATHSOC



Identity Theft

piocomics.com - by Dmitry Blotsky

Dick

That's right, I'm talking about you, Mr. Nixon.

Despite the idea that this article is about a former President of the United States, it is truly about something else. Let's call this something "x" for the sake of argument.

What is it that makes x so special? It can form curves, lines, or strange droopy functions. If you divide x, you make many people squeamish, but if you multiply x, you may be subject to various law suits. The PC misunderstand x. And yet many cherish x, often devoting their time to it. In the end, x cannot be ignored, no matter what operation you perform on it. It will shock, perplex, and manage to produce more x.

The Gross Man

Engineers rescue shopping cart from icy waters

Late Saturday night, two engineers noticed a shopping cart that had fallen into the icy waters near REV and had been frozen into the ice. After 5 minutes of deliberation on what criteria to include in a computational decision making table, they settled on six criteria, including the risk of falling in, and the chance of getting something to drink, and began assigning weights to each of the alternatives. They discarded the possibility of saving the puppies when the ice they were on flipped over and dropped them into the stream, thus increasing the risk of getting wet drastically.

Half an hour later, after completing and normalizing the chart, they decided to rescue the cart. After smashing the ice around the cart, sending the small child clinging to it down the stream, they pulled out the cart. They managed to drag it up to the path, and then proudly rolled it back to Sobeys. They then proceeded to find a bar, got completely smashed, and woke up on the side of the road by Laurier.

!case

profQUOTES

One day you are going to be old, and you are going to say, "I just need to slow down my double click speed, I just can't double as fast as when I was a kid."

Terry SE 382

You now know more about my microwave than you ever thought you would know.

Terry SE 382

If you feel a little shiver, it's possibly my ghost back in the corner.

Cowan CS 457

It's not terrible to get up by 1:30 and come to class once every three weeks.

Cowan CS 457

The web is a good friend, but a good friend likely to stick a knife in your back.

Cowan CS 457

I still get wierd dreams about exams, like showing up without shoes on, how about you? [No one speaks] Ok maybe it is just me.

Rahman ECON 102

And now for something more exciting, well, there's nothing more exciting than my mother.

L. Marcoux PMATH 336

I had a full head of hair before I started using ACE.

Guild MSCI 602

[While describing Hall's theorem] Watch closely... this is really slick [pause]... [faces class] almost as slick as sex.

Shellenberg MATH 239

We're down to 63 of you. If this keeps up, I may not have to prepare the last 2 weeks of class

Ragde CS 442

Education is stupid and artificial. Just play the game.

Ragde CS 442

There's 62 people in the class (up from 60 on friday). That's the wrong direction people.

Ragde CS 442

I don't know if they teach anything in high school anymore.

Ragde CS 442

Deleting files is easy to notice, there are backups, etc. To really screw up a large software company, change "=" to just "=" in a bunch of their programs.

Brecht CS 350

[On liquid cooling] I'm not an electrical engineer, but I know I don't want to mix water and electricity.

Brecht CS 350

Student: That argument seem like you're beating around the bush.
Prof: Oh, you'll see a lot of that in this course!

R. Mann PHYS 444

[Writes equation on the board] Well brush my teeth and call me smiley, the answer is exactly as we wanted.

R. Mann PHYS 444

This is not a free class, like civilizations or society... you can't write a lot of BS on your final and expect to get 68%.

Koo MSCI 261

Now you can see these [Concordes] in the museum.

Koo MSCI 261

The iridium phone started in 1998 and ended in 1998.

Koo MSCI 261

You watch Star Trek and accept that you can travel at light speed, you watch Harry Potter and you accept that there's a world you cannot see and you can do magic there, you watch Twilight and you need better things to do with your time, because it's bad.

Wood MUSIC 246

The symbol for the integers is a fancy Z, because it stands for some word in German that I've forgotten.

Haxell MATH 135

Negative remainders will cause the world to collapse.

Haxell MATH 135

The greatest common divisor will be the common divisor that is the greatest.

Haxell MATH 135

Listing all the factors to find the GCD is not the best method. Try doing that with integers with 2100 digits.

Haxell MATH 135

Let's say you want to teach this [algorithm] to a young child who doesn't know anything — or worse, a computer that really doesn't know anything.

Haxell MATH 135

In the other algebra, you use these square things called matrices, right?

Haxell MATH 135

Proof Tip #0: If you assume what you're trying to prove, you will get ZERO. That's why it's tip #0.

Haxell MATH 135

What, you liked MATH 117? That's because it was too easy!

Roh MATH 119

I promise that by the end of this course, you will want to shoot me whenever I mention the word "integral."

Roh MATH 119

If I hear someone say "degrees" in this class... [raises fist]

Roh MATH 119

Hopefully that hangover from New Year's is wearing off.

Roh MATH 119

profQUOTES

As a software engineering student, you might want to program [Newton's Method] to, I dunno, download more illegal movies or something.

Roh MATH 119

What's the problem with this function? Oh, it doesn't factor. Son of a ...

Roh MATH 119

Oh, you're software! You're the smart ones. Never mind.

Roh MATH 119

You're thinking of using matrices and row reduction. Ugh. No way. This is calculus, not linear algebra. [thundering applause from class]

Roh MATH 119

Don't worry, I'm just putting on a glove.

Godfrey CS 138

Not only do we have software to detect plagiarism... but I am an international expert in this field.

Godfrey CS 138

Prof: I've seen Windows from the beginning, when it was useless, to now, whe-

Student: It's still useless!

Prof: -to now, when it's more popular.

Godfrey CS 138

Anyone use vi or vim? You're all awesome. Emacs? You're evil!

Godfrey CS 138

Student: [about "queueueues" on the board] Is that "queues"?

Prof: Alternate spelling. Once I get started I can't stop.

Godfrey CS 138

"fcn" is function. It's also the Federation of Canadian Naturists - people who walk around naked.

Godfrey CS 138

Nobody's going to interpret an operating system. The performance would be terrible.

Godfrey CS 138

He's still alive... in fact, he looks younger than me, even though he's twenty years older.

Godfrey CS 138

For example, "kids make nutritious snacks" has two different meanings, one of which is more horrifying than the other.

Godfrey CS 138

I intend on spending the rest of my life in the future.

Cartwright ISS 375R

You have a question? We just started!! Your hood is on too tight!

Eden MATH 137

I have no idea how they came up with this, but that's not the point. The point is that they did and that's the proof.

Geleen CO 642

[Talking about the sketch of a proof] ... and it feels like we're almost there: cubic graphs are not quite 4-connected though: you know, you take a vertex and you delete it, and then you're like "whoops!".

Geleen CO 642

This may sound spectacularly uninteresting, but there we go.

Geleen CO 642

[Talking through an example of list-colouring a graph] So that gets one, then that gets two, then that gets one, and that gets screwed.

Geleen CO 642

Prof: Does anyone find a bug in this argument?

Class: Silence

Prof: No? Ok, I'm going to move on before anyone finds a bug.

Konemann CO 650

...and for this proof I am going to use a technical lemma, which has all the details we need, and which I will conveniently omit.

Konemann CO 650

[While handing out prof evaluations] We are not quite at the clicker just yet.

Kaplan CS 135

If you tell that to someone in the Stats department, I will hunt you down and stab you to death with a dry erase marker.

Carson INTEG 120

Prof: Who has heard of a similar definition of "complete" in complexity theory? [some hands go up, including one guy who wakes up, raises hand, and then goes back to sleep]

Prof: Look at that guy; he's so disgusted at this topic that he just went back to sleep.

Csima PMATH 432

Prof: It would be a terrible idea to have class on Saturday because it conflicts with the Putnam, and all of you are writing the Putnam, right?

[no response]

Prof: No one is writing the Putnam?? C'mon, this is a 4th year pure math course!

[no response]

Prof: Surely the guy who is sleeping is writing the Putnam...

Csima PMATH 432

I keep trying to tell my nephew who wants to learn violin but never wants to practise, How the **** do you expect to learn it?

Sakhr, AMath 261

Has your prof said something quotable? Type it up and send it to mathnews@student.math.uwaterloo.ca, or write it down and drop it in the BLACK BOX (located on the MC 3rd floor, between the Comfy and the C&D).

ElseWhen

8 Years Ago in mathNEWS

Every once in a while *mathNEWS* feels the need to resort to violence to get it point across. In rare occasions we even publicly advertise this. In the rarest of occasions, this even works. I mean, can you even think of a situation that could not be made more awesome with the inclusion of hired goons? I thought not.

We can honestly say that this approach has resulted in us having a larger office, larger staff, and many other larger things as well. So what if there were a few bodies along the way, that's just progress.

Now it is time to look at Volume 90, Issue 2, which was originally published on the 4th of November 2002.

Hired Goons

Hired Goons?

Attention all Waterloo students. Do you want to travel the world, see beautiful cities, and rough people up a bit? Well then, this position is for you! ProblemBeGone.com is looking for students at all levels to fill a wide range of jobs from petty street thug to professional assassins. Tasks will include muggings, beatings, and instituting regime changes in certain countries. They're looking for motivated, task-oriented employees who are willing to go the extra mile to get the job done. Flex hours. No overtime. Casual dress (certain occasions may require formal wear and tango lessons). Please bring references and a sack of doorknobs to interview.

ACCESS

New Buildings over the Next 10 Years

Cause we all know they're coming

Engineering 7,8, and 9:

Engineering needs more buildings. Or at least that is what they'll tell us. Whether or not they actually need them is another issue. Of course, 8 and 9 will not be usable, because they will not have any money to stock them with equipment. They will sit unused for the next ten years, while 10,11, and 12 are all built.

Mathematics π :

Math faculty will grow by leaps and bounds, but due to a funding shortage from building and attempting to stock all the buildings, math will only get slightly more than 1/7 of a new building. This will come in the form of replacing various existing facilities with teaching space, such as the Math CnD, Comfy, MathSoc, and the washrooms will be cannibalized to make room for classes. As well, a seventh floor will be planed for the MC, but will never be constructed due to the fact nobody will be able to find their way through the sixth floor to the construction site.

Math Undergrad Office

Not really a new building, but the office will be renovated to replace it with nothing but corners, so that people may be processed more efficiently. Instead of being generally unhelpful, they simply assign everyone to a corner to go cry in.

The Unnatural Historian

Needles Hall

There is a place called Needles Hall,
Where we all go to wait.
The start of term sees students there,
More than other dates!

It once was true that it was used,
For co-op job seeking!
Piles of bins and irate slots,
With resumes seen leaking.

This mine of jobs, as was called
It's eventual successor,
Drove students nuts, with caveats
Designed by administrative oppressors.

Then one day, the students rose!
Saying "We want more!
More Jobs, More Space, More ease of use!
This should be no chore!"

The battle raged, for all time
Until the students left.
The online system was half baked.
Now what remains, bereft.

And so ends the tale of Needless Hell
The name students forgot.
With just OSAP to deal with now
To the staff, that means a lot.

i vs j The Unnatural Historian

4 + 38i reasons why the imaginary unit should be i and not j

The square root of -1 is *i*. But if you asked an engineer, he would say *j*. Why is this? Is he crazy? Does he not know his alphabet? Is he plain stupid? Well... maybe all of the above. But he's still right... sort of. In engineering, the square root of -1 is *j*. The engineers claim that this is so, so they won't confuse the imaginary unit with electric current, which they represent with *i*. But we all know the truth: engineers are just plain crazy/stupid/foolish/[insert your word of choice].

What follows here are $4 + 38i$ reasons why *j* should be prohibited from being used as the symbol for the imaginary unit.

4. Back in the middle ages, *j* did not exist as a letter. If you went back in time to introduce the concept of imaginary numbers, would you try to do it with a nonexistent letter?

3. Writing *j* takes too long. Consider how much time you could save if you didn't have to write that little curve every time! Hey, wait a minute... aren't engineers supposed to maximize efficiency?

2. The word is imaginary. *i* stands for imaginary. *j*? jmaginary?

1. An engineer decided on *j*. Nothing else needs to be said. The $38i$ reasons are left up to your imagination.

$$\frac{b^{x^2} * [^x6F] + ? [^x42] * ? \backslash b/gi}{}$$

Five other uses for a clicker

Because those things are so useless

So this term something very interesting happened. I had to buy an iclicker™. Now this wouldn't be that weird if it wasn't for the fact that I'm in 3B. I have gone this far without even knowing what an iclicker™ is. Now I must use this apparent piece of junk that has only one purpose: to send a little signal or a number (or letter) 1 through 5.

I must say this seems like a great waste compared to the full potential of this tiny device. Therefore, I provide these suggestions to the makers of the iclicker™, and I hope that these are looked into in some future.

1. Ordering food: Using the iclicker™ in any food services location will allow you to order certain popular items to be picked up at the cash register. For bonus points, make it possible to connect our iclicker™ to our watcards, thus making spending money even easier on campus
2. Ocarina: with 5 buttons and many combinations of possible button pushing, this could be an actual possibility. They may be slightly annoying, but being able to play Zelda melodies will never be easier.
3. Lightsaber: Because come on....it would make an awesome Lightsaber.
4. Class Control Tool: This one is my personal favorite. Hit A to speed up the lecture or to alternatively shut up the student that asks all the stupid questions. Press "B" to slow down the prof and make him actually pay attention to the twenty five hands that are in the air. Press "C" to shock your professor to inform him that the end of class is approaching and that it is time to be quiet and let everyone go. Hit "D" to inform the C&D that coffee is required for your prof and some of your class. A tray with coffee will appear shortly. Last but not least, hit "E" to safely eject your seat out of the classroom and inform Quest that you would like to drop the course.
5. And finally the most requested feature for the iclicker™: Every iclicker™ when turned on, the device acts as a short range cellphone jammer, making sure you don't randomly hear "Baby Got Back" in the middle of your class. Naturally, this would be awesome.

clickin my damn clicker
RamED



BREAKING NEWS

Sarah Palin Joins Comedy News Channel as Commentator

Former US Vice-Presidential Candidate Sarah Palin has announced that she will be joining the Comedy News Channel as a regular commentator. She said that she looks forward to working with the station, commonly referred to as Fox News, as it "so values fair and balanced news."

More to come...

InsideR

The joys of regifting

Passing unwanted gifts to those who deserve them

It's those awkward three weeks after Christmas, where everyone who received a gift that they didn't want during the holidays, is trying to figure out what to do with it. Do you chuck the worthless gift to the trash, poisoning the environment? Do you give it to certain newspapers, in hopes of improving the quality of the paper by giving them real garbage to work with? Or should you pass it on?

Let's assume that you are feeling green and you realize that no amount of garbage can save those newspapers. You must pass on your unwanted gift to someone else. How do you do it? For this article, let us assume that a small pink tiara is the said unwanted gift.

In order to subtly pass on a tiara to an unsuspecting victim, one has to pass it on with style, otherwise you might as well toss it in the trash right away. One way of passing it on is by sneaking it into a pocket of your unsuspecting target. This requires some complicated planning and careful timing. You'll need to create a diversion to distract your target's attention (feel free to use your imagination here: spaghetti rampages, creating a flock of paper airplanes and bombarding anyone who walks by you, make a girl walk in front of a pure mathie, etc) and carefully unzip their backpack and stuff the tiara in. With any luck, they won't realize that they're carrying extra luggage until it's too late. (In the case of the mathie, you might be doing him a favour. He could give the tiara to the girl and possibly communicate with a female).

If placing things in backpacks is not your style, why don't you try hitting people at home by sneaking the tiara into their residence? You can use the subtle method and mail it to your target, giving him heaps upon heaps of confusion as he wonders when he registered for the "Princess of the Month club". Bonus points if you can convince your target to wear the tiara in your letter.

If you're the type that likes working with lackeys, befriend your target's roommates and place them under your control. With your new minions under your command, you can get them to redecorate your victim's room to look like a princess' chamber and place the tiara on the victim's head. Bonus points if you can get a photo of that. Extra points if you post it on the web while your target is still asleep.

These ideas use tiaras as the unwanted gift, but with a little tweaking you can adapt these plans to suit any unwanted item you want. Remember, one person's trash is another person's annoyance!

Interesting Math

Collaborative Mathematics

Rather than explore a particular mathematical problem, I will discuss an interesting approach to solving mathematical problems: Timothy Gower's *polymath project*. As the subheading suggests, this was an experiment in collaborative mathematics. In particular, Gower wondered if it was feasible for "many" people (where we might take "many" to mean at least four, for example) to work on a problem that is not naturally comprised of lots of smaller subproblems (such as the search for the new largest prime). One possible way to realize this is to set up a forum or wiki and allow anyone to contribute, so that a large number of participants from a varied background may appear. One of the key ideas in this situation is to minimize the "offline" time spent on the problem; participants are encouraged to post their ideas even if they come without proofs or seem false. With many people checking work and steps, errors are spotted quickly and because of their diverse background, participants springboard off one another's thoughts. The result is the production of new and exciting mathematics, without fame or credit in mind as any results would be published under a collective pseudonym, in hopefully an efficient manner. A secondary effect I can see immediately is the immense boon to budding mathematicians. Should such a public online project be attempted/completed, students of mathematics can read through comments to discover how mathematics is developed, "stupid" ideas (Gower's description, not mine) and all.

In fact, *polymath* has already been attempted. *Polymath 1* was initiated February 1, 2009, and has led to exciting results: 2 possible papers, which are now both in the write-up stage. With the enormous success, several new *polymaths* have cropped up. In fact, I think I'll discuss a mathematics problem after all: the proposed problem of the newest (and fifth) *polymath*. Let us consider a sequence of numbers $\{x_i\}$ from the unit sphere in the real line. That is, each number is either $+1$ or -1 . As an example, look at $\{+1, -1, +1, -1, \dots\}$, the alternating sequence. Notice

$$\left| \sum_{i=2}^n x^i \right| \leq 1$$

for every n , due to the cancellation effect. However, we get

$$\left| \sum_{i=2}^n x^{2i} \right| = n$$

which grows without bound with n . If we consider instead the sequence $\{+1, +1, -1, -1, +1, +1, -1, \dots\}$, we notice that

$$\left| \sum_{i=2}^n x^i \right| \leq 2$$

for every n , and

$$\left| \sum_{i=2}^n x^{2i} \right| \leq 1 \leq 2$$

for every n . But in this case,

$$\left| \sum_{i=2}^n x^{3i} \right| = n$$

which grows without bound with n . Hmm, the beginnings of an interesting problem... Is it possible to find a sequence $\{x_i\}$ taking values $+1$ or -1 and a constant c , such that

$$\left| \sum_{i=2}^n x_{di} \right| \leq c$$

for every n and d ? This is known as the Erdős discrepancy problem, and it has already sparked a lot of interest. If you want to find out more, participate in the *polymath*, or just follow the discussions, I highly recommend visiting Dr. Gower's blog at <http://gowers.wordpress.com/>

Vince's problem of the issue

Find all ordered pairs of positive integers (m, n) such that

$$\frac{m^3 + 1}{mn - 1}$$

is an integer.

Vince Chan

v2chan@math.uwaterloo.ca

Secrets of the World

Follows is the result of nearly two decades of observation and experimentation. Use it wisely!

- IP addresses can be written in base 10.
- Soda fountains don't magically produce ice really fast — the back is filled with premade ice.
- Neither accelerometers nor gyroscopes are perfect at measuring orientation.
- Blue is a girl.
- Hypocrites don't get punished.
- If you intend on actually using your e-mail account, you MUST add a rule to filter all e-mails from Facebook (and Facebook apps) into folders (or "labels") in order to maintain sanity.
- Your calculator is lying to you.
- Bookworms that attempt to get by a term without buying textbooks do so at their own peril.
- Skipping breakfast might be worth it in the short term if you're short on money and doing well academically.
- The Settlers of Catan can be fun, but it can also ruin friendships.
- Sleep comes before everything... except exams.

Waterloo Construction H1N1 Conspiracy

Many of you have wondered about the purpose for constant construction here on campus. You have likely been led to believe that the reason is to provide more teaching facilities. You, however, have been deceived.

Any reasonable person would ask 'Why does Waterloo need so many seemingly unnecessary buildings?'. The answer is that they are not needed at all. Secret documents released from a defected university public relations official tell the story clearly: The majority of space here at Waterloo is never used, and many rooms sit empty for weeks.

Why then are buildings being build at an enormous rate? The reason is clearly to hide more secret research facilities to produce a more powerful H1N1 virus to unleash upon the unsuspecting public.

This more powerful virus is spread mainly by placing samples on door handles throughout the campus. This explains why it is necessary to constantly open doors every time you go anywhere in any of the buildings.

Hiding illegal research facilities is difficult. If they were all placed in the same building, people would begin to wonder what the purpose of said building was. This is why the research labs are placed on secret floors and rooms labeled 'return air plenum'. If you don't believe any of this, try walking around one of the top floors in any building and notice the ominous men in black coats that will stare you down. I have included a map pointing out some of the obvious locations of these research labs.

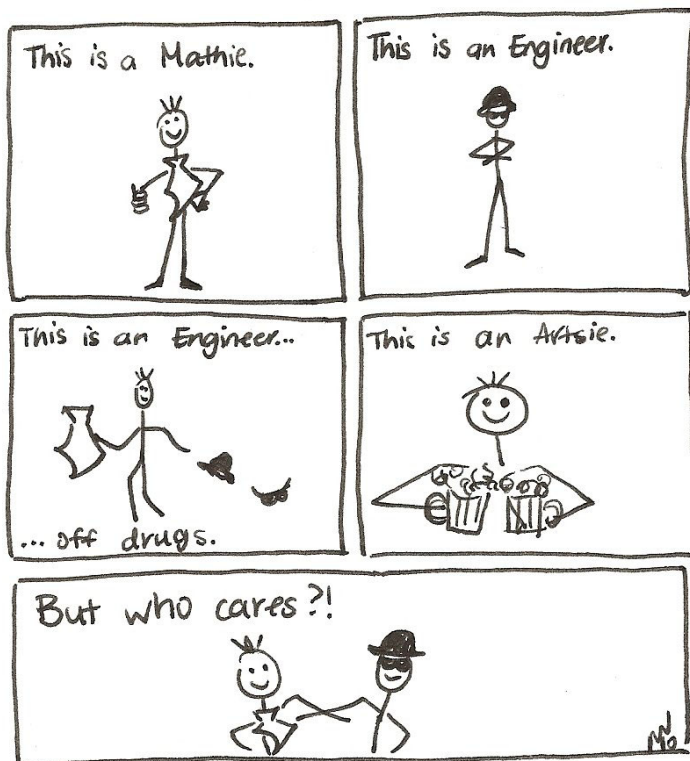
The purpose for creating a more powerful H1N1 virus is very likely to provide yet another way of controlling our minds: The more people you can get to take flu shots, the more people you can inject with thought controlling serum obviously designed to force people into buying merchandise form the Waterloo gift shop.

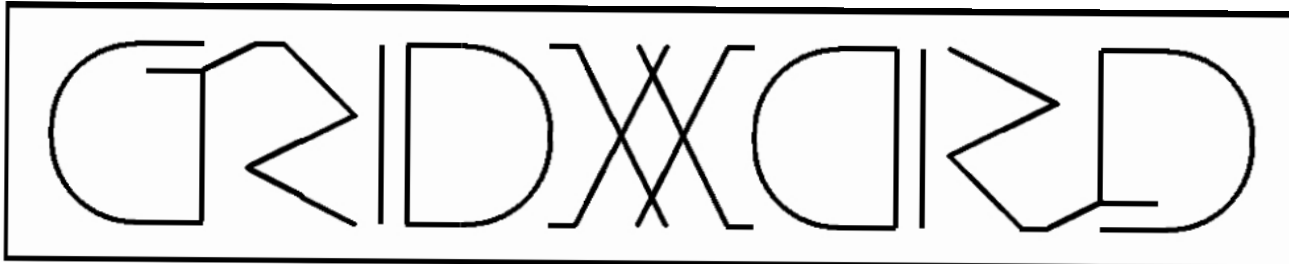


Interesting things to do around campus

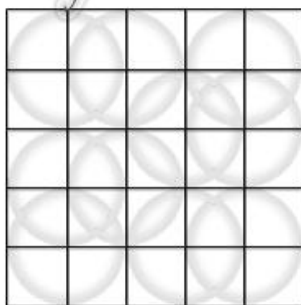
For those of you who are experiencing withdrawal symptoms, here's your fortnightly fix!

- Jump into icy streams and hope someone will give you free hot chocolate when you get hypothermia. Breaking through the ice on one of the various shallow water features around, then standing in it until it freezes over again is an acceptable alternative.
- The fifth floor of MC abounds with interesting sounding floor tiles, nicely marked out by the circles on the floor. Use these as percussion instruments. Try the one outside the elevators on the corner next to the QNC.
- Use your joints in bent/unbent positions to be able to count up to 7 on each finger in binary. Then combine that with having 10 fingers, and you can count up to 1,073,741,823 using both hands. Impress your friends by doing this at parties. Yes, thumbs do have three joints. If you're not sure, go ask an AHS student, that's what they're there for.
- Go read the comics professors post on their doors. You get to read funny stuff in between *mathNEWS* issues, and it will give you an advantage in navigating around the MC. There are, in fact, places other than your professor's office, your lecture hall, and the comfy lounge in MC.
- Phone book soccer. Grab an old phone book and a friend, find an empty hallway, and kick it around. Points based on how interesting the page it opens to is.
- Rescue the shopping cart in the river by REV. Bonus points if you can get it all the way back to Sobeys with a slab of ice frozen to it.
- Decorate the boar. Weld a tie to it, or purple it and blame the engineers. Either way, it'll be an improvement.
- Make giant cardboard HTML flash tags and enclose people in them.





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



9 4	2 5	7 1	3 2
8 3	4 7	5 2	9 4
1 6	8 0	2 8	9 9
2 7	8 6	5 0	2 2
8 6	4 9		
0 2	2 2		

Puzzles Courtesy euri.ca

gridCOMMENTS

Welcome to a new term. Your reward is a new *gridWORD*, not a very good one this issue, but there it is anyhow. Warning, this one may be hazardous to your health if ingested, inhaled or anything else starting with “in”.

Once you complete the grid, you can submit it for a chance to win a prize. To submit, you can drop the completed grid in the **BLACK BOX** located just outside the door of the comfy lounge on the third floor of MC. Even if you don't get the whole grid finished, you can still submit and hope nobody does any better.

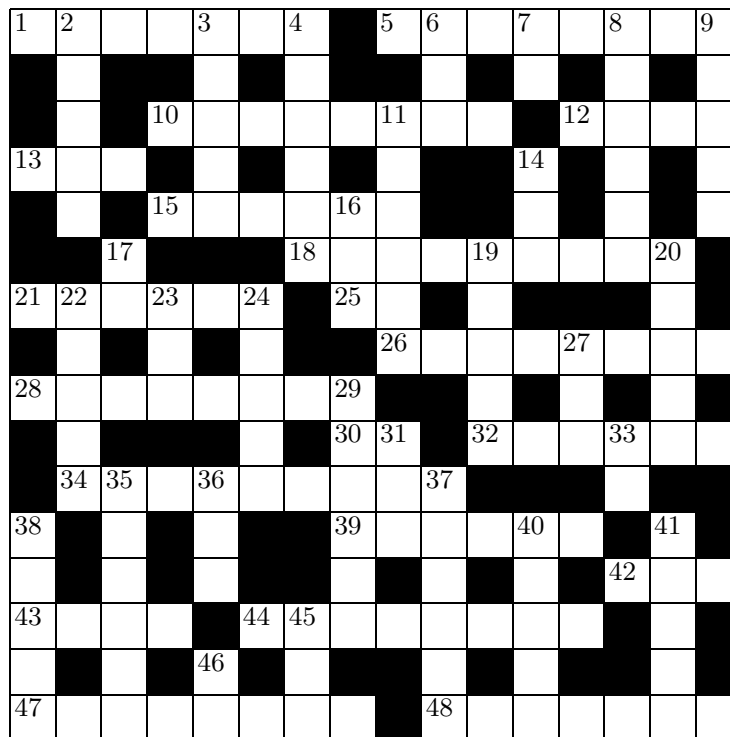
Make sure to write your name on your submission so that we know who to give the prize to. Also provide an answer to the *gridQUESTION*, which will be used as a tiebreaker if there are multiple winning grids. This week's *gridQUESTION* is: What song is stuck in your head?

Grid Clues

Across

1. Poisonous substance
5. Poisonous substance
10. Deprive of vigor
12. Open-topped pie
13. Aura
15. Righteous duty
18. Conspicuously bad
21. Part of speech
25. Solfège symbol
26. Exoskeleton part
28. Memory loss sufferer
30. Laugh sound
32. Tooth material
34. First meal of the day
39. Poisonous substance
42. And so on (Abbr.)
43. Ceremony
44. Poisonous substance
47. Poisonous substance
48. Poisonous substance

perki



Down

2. Poisonous substance
3. After the eighth
4. Poisonous substance
6. Headgear
7. Solfège symbol
8. Instead (2)
9. Palatial home
11. Famous Goth
14. Flowery garland
16. Management abbr.
17. Audio visual abbr.
19. Ravine
20. Sugar (Fr.)
22. Disband
23. Day before
24. Lively
27. Woods and Els' group
29. Place of worship
31. Fire product
33. I, myself
35. Rural
36. Query
37. Poisonous substance
38. Poisonous substance
40. Possessor
41. Aquatic mammal
45. Egg producer
46. Preposition