

math NEWS



Now Without Pants

*Volume 122, Issue 1
Friday, May 17th, 2013*



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lookAHEAD**mathNEWS**

May 17	Issue 1 Starts Campfires
May 31	Issue 2 Roasts Marshmallows

MathSoc

May 24	Budgets due. Executives and directors breathe collective sigh of relief.
week of May 27- May 31	Budget meeting. Executive and directors breathe collective sigh of boredom.

CECS

May 18	Job Postings Open
May 22	Job Postings Close

University

May 17	Clubs Day
May 17	Live music at Bomber at 3 PM
May 25	You@Waterloo Day

Misc

May 24/25/26	Anime North
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Macho Macho Men: Julie Sturgeon (Cowboy), Rachel Wiens (Indian), Murphy Berzish (Construction Worker), Lenny Morayniss (Biker)

mastHEAD

Well, it's official: *mathNEWS* has female editors again! Two, in fact. Hooray, we can write about boobs again! Now, there has been quite a bit of speculation that *mathNEWS* will turn girly and gushy because of the female influence. While we do enjoy writing about ponies, and we would prefer if we could make glittery covers, we would like to assure you that *mathNEWS* will not descend into giggly, gossipy madness. To help ensure this, we are doing a manly issue! Even though we have a 50/50 split between male and female writers (and male and female editors for that matter, even though the male editors are off-stream), we asked our writers: What is the manliest thing you've ever done?

ScruffyED("WHAT IS A MAN? A miserable little pile of secrets! But enough talk — have at you!"), Shay Blair("Worn red and pink. In the same outfit!"), GingerbrED("your mom"), ObjectED("me"), MoGlo("apply to engineering"), pirho("switch to math"), yourlocalWHETHERgirl("deny the existence of designated gender roles or any action (unrelated to genitalia) attributed to any gender of sex"), DearLife("had buttsex with Bernie... YOLO"), Sylvia MacIntyre("peeing in a urinal"), MuffinED("watched My Little Pony"), BeyondMeta("took over the world and laughed maniacally"), unit("slew a snail"), GrumpyOldFart("segfault"), Element118("pre-optimized my compiler and submitted it without testing for my final assignment. 100% PASS"), InsideVoice("worn fishnets and a corset with bikini bottoms"), Scythe Marshall("wore, simultaneously, a pink watch, a pink belt as a sash, a black tie, all black otherwise, and a pink cape, which was my frosh team's flag. Oh, and a fishing hat"), DanInTheHat("Being as swift as a coursing river"), moment("Having all the strength of a great typhoon"), wibz("With all the force of a raging fire"), Soviet Canadian("Being as mysterious as the dark side of the moon (where the Soviet secret base is [shhh!])").

In an effort to become more manly, both MuffinED and GingerbrED have started a workout regime. Fortunately, years of lifting heavy textbooks and lugging around laptops have given us fairly strong muscles. Unfortunately, we are greatly lacking in cardiovascular strength. The only way our heart rate increases these days is when our code compiles. Unfortunately, doing cardio makes us yucky and sweaty (like, ew). We are now regretting not working on our physical fitness for many years. Boy, were we fools for cutting gym.

We've also added some manly filler around the issue for your pleasure. Enjoy!



Prez Sez

Hello Mathies,

Welcome back, and congratulations on surviving your first week of classes! A couple of mini-updates for this week:

- Directors have been selected. If you are still interested in volunteering but missed the deadline, send us an email outlining what area of the society you'd like to be involved with and we can connect you with the right director or create an opportunity for you.
- Join council! Council makes all our administrative and budget decisions. We are missing a number of representative seats— forms are outside the MathSoc Office.
- Our office is still in need of more volunteers, especially in the mornings (like 11:30 on Tuesday/Thursday). Apply online for an office hour, and let the office manager know if you need training.
- We are looking for people who are interested in discussing improvements to the Comfy, our website, and locker rentals. If you are interested in working on any of these things, or even just providing your feedback, send us an email.

Elizabeth McFaul, MathSoc President

Warriors Band

The UW Warriors Band is looking for quasi-musical types to help add a somewhat off-key note or two to our sound. Our primary purpose is to have fun while promoting a healthy spirit amongst UW sports fans by playing at things like Quidditch games and the Canada Day celebration. We encourage musical talent so if you can play an instrument (or even if you can't) this band is for you! We don't really end up in any life-threatening situations, but athletics makes us sign waivers anyway just in case you get your finger stuck in your flute.

Don't worry if you can't make every event, just come out and have some fun. If you can play the telephone, the shoehorn, or possibly even the saxophone or french horn, you're just the person we're seeking. We're looking for new members in every section due to many of our members having graduated or left for their summer or co-op. If you're a sports fan, or simply enjoy playing vaguely familiar tunes at high speeds and even occasionally performing some real pieces with dynamics, key changes, and everything, come on out!

Our rehearsals are Thursdays from 17:30 – 19:00 in PAC 1001 (Blue South), no audition required, some instruments provided. We hope to see you there! Remember – if you don't join the Warriors Band then you won't be a member.

Meghan Green, Media Liason

mineCRAFT

Drop your Minecraft username in the **BLACK BOX** to be whitelisted on our server. (129.97.134.134)

Math FEDS Councillor Sez

Hello Magical Mathies,

We're your new Feds councillors: Stéphane, Elizabeth, Jesse, Prashant (Kumar), and Febrian.

The term has only just begun, but we already have some news to pass along, and some ideas to get your opinion on!

For news:

- There are several at-large positions on Feds Committees (External Advocacy Review, Internal Administration, Internal Advisory, and Budget). This is a great way to get involved with both Feds and the University as a whole. You can find out more at: <http://www.feds.ca/employment-section/volunteer-opportunities/>
- It's the end of Welcome Week: which means today it's Club's Day and live music at the Bomber.

For opinions: We are beginning work on an exam policy. We want to ensure we capture what your concerns are, whether they be exam scheduling, verification of illness, or policies on viewing past exams; so please let us know your thoughts!

You can share your opinions, let us know any concerns, find out when we're doing feedback events, or anything else really through our Facebook page: <http://www.facebook.com/FedsCouncilMath>, or by emailing any of us.

Lastly, we leave you with our bi-weekly, amazing, and mathematical, joke:

Q: What do you get when you cross a chicken with an elephant?

A: The trivial elephant bundle on a chicken.

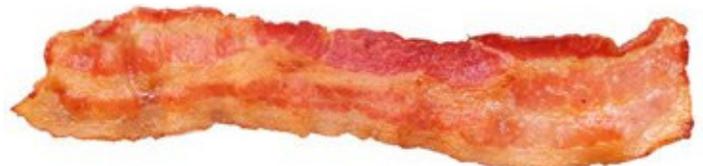
Stéphane Hamade, Elizabeth McFaul, Jesse McGinnis, Prashant Kumar Patel, and Febrian Sidharta.

Games Sez

Everybody loves board games, right? Yes, I'm asking you specifically if you like board games. If you do, show up to the Math C&D* on Tuesday nights after 6:30 PM and play games. Also, there will be snacks and drinks, freely available to participants. So show up, play games, and snag some free food. It's also a great way to socialize and have fun with other people, for those who enjoy that sort of thing.

* Third floor of the MC, one of the two big rooms along the south corridor

DanInTheHat



N Ways to Survive Mother Nature Going Through Menopause

1. Layers!
2. Give up on fashion sense, pair leggings with capris and a T-shirt with a giant sweater.
3. Put a space heater and a fan in your room to be prepared for all temperatures.
4. Walk everywhere. Unless it's too hot to exercise. Or it's too cold to be outside.
5. Research methods of helping women with menopause and try to apply them to Mother Nature.
6. Get Mother Nature to legally adopt you as her child so she won't be as unkind to you.
7. Use some crazy magic to force her into a human body so you can convince her that humans are suffering.
8. Just give up and hide until July.

Yours in frustration,
Shay Blair

WatSFic Sez

Hello, Mathies! WatSFic (the Waterloo Science Fiction and Fantasy Club) is continuing to meet and host events every week. Clubs Day is happening today, so come find our booth in the SLC to ask us questions (or pester and heckle us).

Our various schedules are not all formalized yet, but a tentative summary should be:

- We are running a book club this term, the book is yet to be determined. We should know by next week's meeting though.
- We will be hosting another HvZ event this term, tentatively for the week of July 8-12. We currently are looking for mods to help design and run the game. If you are interested email uwhumansvszombies@gmail.com by Monday May 20th.
- We will be hosting bi-weekly movie nights, where we show really good and really bad Sci-Fi and Fantasy movies. Our first one should be on Wednesday May 22, although we haven't yet decided our movies.
- We will be hosting bi-weekly Games Days, where we meet in the Math C&D every other Saturday to play board games. First one will be Saturday May 18 (tomorrow) at noon.
- RPGA (for roleplaying games like D&D) every Friday at 7PM, in MC2017.
- FNM (Friday Night Magic, for those interested in Magic: the Gathering) every Friday at 6PM in MC2034. This week's events are sealed and standard.
- General meetings every Wednesday at 6:30PM in PHYS 150. Fun times and important topics are had. Frequently ends in a tournament bracket—figures from the realms of Science Fiction and Fantasy are gathered and pitted in fights to the death, to see who will come out on top (most recently the Death from Sandman won a tournament bracket whose theme was Anthropomorphic Personifications of Death)..

We hope to see you at some of our events,
Daniel Resnick
WatSFic Minister of Propaganda, S13

A Cheesy Article (for the Campus Crusade for Cheese)

It's a gouda idea to join the Campus Crusade for Cheese!

You cheddar come to our first meeting, in MC 4041 on Friday (today!) at 5:00.

It's gonna be a dairy good time.

It's a brie-ze to join; you're a member once you pay for your cheese.

It'll drive you crackers how cheap it is! Only \$2 for cheese.

Come parmed and ready; bring a plate, or pay \$0.25 for a disposable one.

Then you'll edam up all the cheese you'd like!

If you have a cheese feta-ish, or you just want to join a really weird club, come to our meetings!

Don't be forever provolone; you'll meet lots of people!

You just ricotta come! , or you'll make us bleu.

If you don't, we'll Swiss you.

You'll Havarti a good time! and we'll love you for chevre.

Make emmental the puns!

El Jengibre

Calling All Hookers!

Hi y'all, are you looking for a good time this weekend? ;) Do you like playing with pointy sticks and balls (of yarn)? If you crochet or knit (or any kind of fiber craft) come meet up on the 3rd floor of MC on Sundays at 1 PM with your unfinished projects to stitch and bitch! All are welcome! As a side note, we're not actually hookers, so please dress appropriately.

MoGlo =]

A Shameless Plug

Shameless Plugs are the best form of advertisement. Shameless Plugs are awesome with their obnoxious in-your-face nature. When you hear a Shameless Plug, you remember it. Shameless Plugs make people grateful to you for informing them about awesome things. When do you Shameless Plugs your life becomes fun as people know and appreciate your plug.

I tried shameful plugs but they left me feeling guilty and miserable and the people I was trying to convince were drawn back by my unhappy tone.

Hi I'm Billy Mays' Ghost and I fully endorse shameless plugs.

Beyond Meta

A Eulogy for Five-Pin Bowling

As you may or may not have heard, Waterloo Lanes closed its doors this past Sunday. It was the only five-pin bowling alley in Waterloo. The nearest alley is now Towne Bowl, on Ottawa Street in Kitchener, just off King. This should evoke feelings of sadness, loss, despair, helplessness, sorrow, disillusionment, disgust, revulsion, anger, rage, indignation, and wrath, regardless of how many of those words are synonymous.

Why? Who actually bowls five-pin, right? It's expensive, and old-fashioned, and only for old people, right? It deserves to die.

Unfortunately, this is far too common an opinion amongst the general populace. Also unfortunately, this isn't likely to change any time soon without a *deus ex machina* similar to the 2012 Olympics happening, which single-handedly (well, together with Usain Bolt) made track and field cool again.

But we can dream. We can show people that it's not a dying sport. We can support it, like previous generations. It's a Canadian game, with a long history of sponsorship by our country's broadcasters, and we still have the organizations in place to support leagues and tournaments. The potential for the game to flourish is still there. It doesn't because apparently society has taken a fun, all-ages-and-abilities game and stigmatized it.

To be fair, operating bowling alleys is somewhat costly; the maintenance for the lanes and the pin-setting machines, especially if they are wooden lanes and not acrylic, is much more than is currently sustainable. This leads to public and league bowling being more expensive than people would appreciate. Other barriers to bowling alleys sometimes include having to lease property, which is why the lanes in Waterloo are done;

their lease is up, and a parkade is one of the possible uses for the property in the future.

But this doesn't mean that it shouldn't be supported. In an age where we kick-start indie games and make things like the Kitchener-Waterloo Little Theatre possible, it theoretically shouldn't be impossible to keep a bowling alley open, with the help of an entire community. Apparently reality is different. What a shame.

Perhaps the greatest travesty is that when five-pin bowling in 2007 was considered the fourth greatest Canadian invention (or invention by a Canadian) behind insulin, the telephone, and the light bulb, (go look this up, Canadians sold the rights to their patent to Edison), and ahead of such things as the zipper, pacemakers, and the Canadarm (see: *The Greatest Canadian Invention*, a mini-series by CBC), it had already been in decline for years, with lanes closing across the country, and all but a small subset of citizens are indifferent.

In light of recent events in hockey, note that a regular season Maple Leafs ticket starts at around \$50 in the nosebleeds (according to the 2011-2012 price map), and bowling three games at the Waterloo Lanes costed around \$14, and if you were with friends, it lasted about the same amount of time, not to mention you probably had fun. I'll leave the implication to the reader.

I went bowling on Saturday. Rolled a 235 (out of 450) in the last game I'll ever bowl at those lanes. I cried as I was leaving.

Together in sorrow,
Scythe Marshall

Math at the Theatre

A Review of Proof, a play about math and mental health.

During the exam period of last term, I had the opportunity to see the KW Little Theatre's production of *Proof*. At first I thought, "Wow! Math and theatre? Now THERE'S a combination! I wonder how they go together?" Getting right to the point, the play itself was a down-to-earth roller coaster ride of emotion examining the hardships of relationships on top of dealing with mental health issues that left me wanting more (as well as a great big hug to get me off the roller coaster).

For a play that somewhat advertised itself on math, it didn't really have much math in it. Nevertheless the moments of math, as well as some very witty one liners (including some that admittedly only those who are in math were likely to get), did provide a much needed break in the rather intense subject matter. I do have to commend female-lead Polly Edwards on an incredible performance. Throughout the show, I was captivated by her character's struggle and frustration with the people who are supposed to care about her giving her no real voice in her ordeal until the very end (albeit a bit too late in some circumstances). I felt nothing but empathy, sympathy and wanted to just walk over there, give her a big hug and tell her it'd be okay

eventually. She was the definite highlight of the whole show, along with the lovely setting. Props to tech for a fantastic work of art to set the story in motion!

My major critique of this show is that I thought the dynamic between the female lead and her sister was very one sided. Had the sister shown more emotion and depth in the performance, I would have enjoyed her character more. The ending was also incomplete and I wanted to know what happened next, although that's more my personal opinion as I like stories that have a more closed ending. Nevertheless, this play would definitely not be for everyone as the subjects explored can be rather dampening to one's mood (namely grief, dementia, depression, and expansions on neurosis and the definition of "crazy") and can trigger some rather extensive and painful reactions. Overall, it was definitely something worth seeing, but not necessarily seeing twice.

Even though the run of this show ended along with last term's exams, I'm looking forward to the next KWLTL production. Thank-you *Proof*, for being quite the experience.

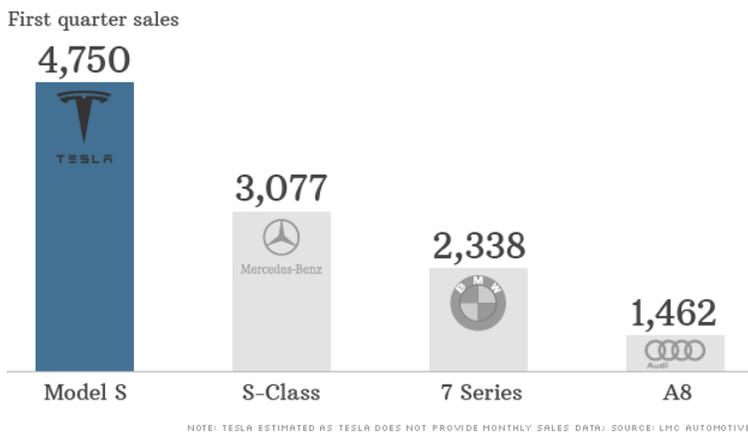
Your Stats Are Bad!

And you should feel bad!

In my daily dealings with horrible news, I always run into horrible statistics. So here at random intervals (read: when I have time) I will share some of my findings!

Today's garbage comes from the beautiful land of CNN. Specifically, CNN Money's story called "Tesla sales beating Mercedes, BMW and Audi" by Peter Valdes-Dapena published on May 13th, 2013 (cite your sources mofos). Now, in a disclaimer, I have to put that the story is not too bad. It points out some of the reasons why this data shouldn't be taken seriously. Additionally, I love the concept of electric cars and alternative fuel transportation vehicles. However, all of that being said, the article posses one horrible mistake that you see a hundred times in news, and it never gets more excusable. What is this sin against nature? BAD GRAPHS!

Case in point:

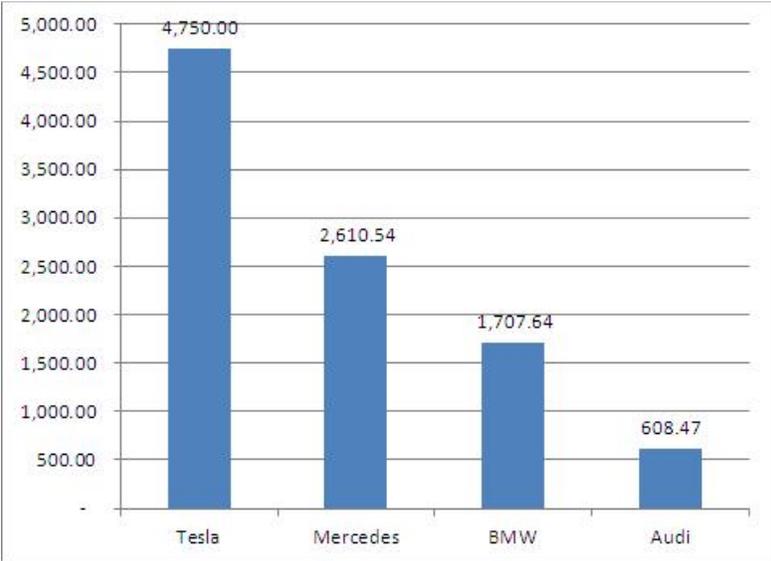


Does this look like ass to you? No not yet? Lets take a really quick glance. Notice that the Mercedes line should be about $3077/4750 = 65\%$ the size of the Tesla but seriously that chart looks like its about 50%. Our next obvious question then is, what should our graph look like? That is simple, we just plug the numbers into excel and see what we get:



That looks different doesn't it? Those bars look a lot closer to where they should be. It should be noted when CNN shows those bars they imply something about the amounts those bars represent. So according to the chart CNN has and the dimensions they provide, how many car sales did the other groups receive assuming the Tesla result is to scale? We proceed by measuring the pixel lengths of all graphs in MS Paint (sue me, I don't have a better program to work with). I will show my methodology with

an example. The Tesla bar is 242 pixels high while the Audi bar is only 31 pixels high. So using some quick ratios (exercise is left to the reader) this implies that Audi should more realistically only have sold 608.47 cars! That's a reduction of almost 60% off the original amount. Those suddenly become some pretty pathetic sales numbers. So lets use the proportions in CNN's graph to produce a new sales chart showing how many cars each company sold if the chart was actually to scale:



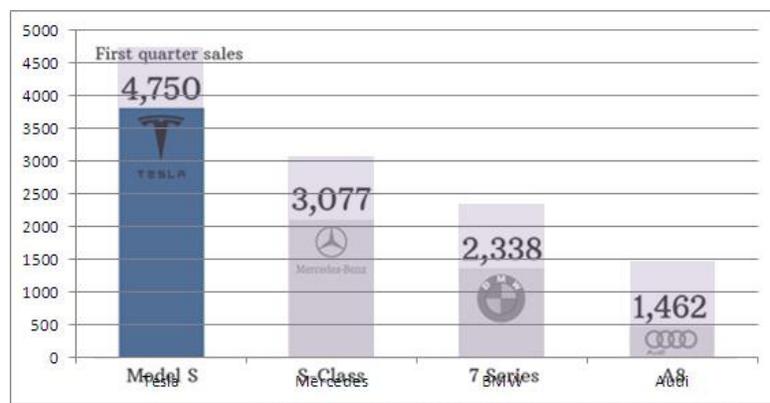
Wow! Look at Audi and BMW getting screwed over here. Audi, as we said before, lost 800 cars, or almost 60% of their sales. BMW lost about 600 cars, or about 27% of their car sales and Mercedes lost only about 400 cars, which was still about 15% of their sales.

Now as an extra fun idea lets figure out how CNN created this chart because you will see its pretty simple to figure this out. Firstly you should notice that the CNN chart does not have a Y-axis. Naturally when we look at something without a Y-axis we assume the bottom of the chart to be equal to 0. But we have no way of actually knowing. So lets do some quick math and assume we have to add some amount of space/pixels to the bottom of every bar. Lets see it from the worst case scenario with Audi and say that for some x pixels we should be able to make the following formula equal $(242 + x)/(31 + x) = 4750/1462$. Working through this we find that X is 62.82056 pixels.

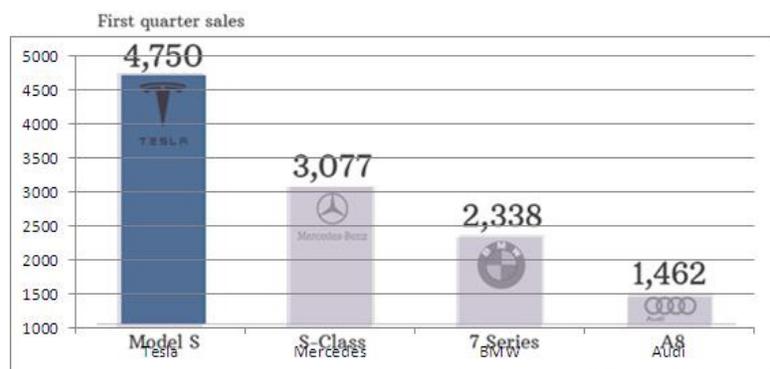
Note: Please note the above math gets a bit wonky because I am using paint to count the number of pixels which is not nearly as precise as I would have liked it to be. If we had a better way to measure the lengths it would provide approximately the same results.

Doing some quick math to confirm this with the other bars and some quick comparison scales we see that the missing amount is approximately 1000 unit of sales. Okay, let's try this with some graphs.

Here is an overlay with the original data:



and here is the same chart if we start our Y-axis at 1000 instead of 0:



That fits...quite a bit better. Its not perfect you can see that we maybe start somewhere around 1050 or 1100 but we have managed to replicate their horrible math!

If you can't tell, this is the reason that you were always told to label your axes in high school. Because if you don't, you make a silly fool out of yourself in the real world and misrepresent numbers like a loser. Simply said: CNN your stats are bad and you should feel bad!

Relevant XKCD: <http://xkcd.com/833/>

Ghost Writer

The Tin Foil Conspiracy

Aluminum sheets have for a long time been a staple for conspiracy theorists. With some simple origami they can be folded into hats which can protect one's mind from alien probing. However, this is a lie. Contrary to popular belief, tin foil hats don't block a signal, but rather amplify the electromagnetic signals of your brain, kind of like if you had just put an antenna on your head.

[intercepted alien transmission:]

Alien1: It seems that the humans have figured out the truth about tin foil hats.

Alien2: Darn, it seems our plan has been foiled.

Beyond Meta

The Sad State of Recreational Mathematics in the Record

The Record, the regional newspaper, publishes a puzzle corner each Saturday. There are seven puzzles published each week. Three are non-math related, so I will ignore these.

The first is a column called Sticklers by Terry Stickels. This consists of one trivially simple algebra problem each week. A couple of months ago it was a simple sum and average problem; last week was a simple least common multiple and time conversion. This is annoying; a high school student would be able to solve these problems easily. Considering the market for newspapers though, I suppose it makes sense: old people haven't been in high school in an age.

Second is a sudoku puzzle. Most math students aren't really interested in these very much, being algorithmically simple, and a non-interesting puzzle set.

Third is a kakuro puzzle. This one gives you rows and columns with sums and you have to partition into unique digits. This problem is potentially NP-complete. People still don't care, because 3-SAT is much more functional.

Last is the challenger. This is a 4×4 grid, with row, column, and diagonal totals printed along the sides. There are 4 boxes filled in, leaving you with 12 unknowns, 10 equations. They warn you that there may be more than one solution, which makes a lot of sense, considering the system is underdetermined most of the time.

Overall, rather a distressing state of affairs. I had more fun reading the article below about PSY visiting Harvard. 2 stars.

Ice Nine

"Baby" Courses

When did some courses become colloquially titled "baby" courses? For example, AMATH/PMATH 332 vs PMATH 352, both complex analysis, though one is "with applications" whereas the other is not. (Aside: There is also a course offered in the physics department (PHYS 365) that covers everything covered by AMATH/PMATH 332.) Arguably, 352 does contain more theorems and lemmas where 332 contains more applications, but when did being directly applicable become a negative feature of a course?

One can argue that certain programs in the math faculty are more condescending to other programs, but that is no reason for the more "applied" courses to be considered "lesser" than them. With that title comes the implication that even an infant could take the "lower level" courses. Based on my knowledge of infants, they don't have the mental capacity for higher level mathematics. There are also other courses within this discrimination, such as PMATH 331 vs 351, or 334+336 vs 347+348. Actually on that note, why does this seem to be mostly between PMATH courses? From what I've heard anyway. Either way, the content may be taught differently but come on, "baby"?

One angry AMATH major,
yourlocalWHETHERgirl

N Things to do During Spring Term

- Explore St. Jacob's farmers' market
- Eat ice cream outside
- Cheap frozen lemonade at Tim's (plus play Chill to Win!)
- Go to Canada's Wonderland
- See Iron Man 3
- Long walks in the brisk evening
- Frisbeeeeeeeee
- Campfires with friends
- Gardening (Pro tip: Zucchini grows very fast and you get a lot of it!)
- Camping
- Learn how to crochet or knit!
- Go jump in a lake
- Find a cubicle in DC library
- Disregard the fact that you're in school while your friends are on vacation
- Wear shorts when it's not snowing
- Pet goslings (baby geese) (CAUTION: DO AT YOUR OWN RISK)
- Go to the petting zoo (It may be a safe alternative to the above bullet)
- Outdoor RPGs
- Hiking
- Bomber Wednesday
- Write for *mathNEWS*!

MoGlo =]

Knives are sharp

Over the past week and a half, I've cooked a total of three times, and have cut myself on three different fingers on those three separate occasions. Here's what I've learned from my unfortunate experiences

a) Cut away from yourself: this one was definitely the worst of the bunch, about an inch long and when it happened, I freaked out, rushed next door while my finger was spurting blood, and asked the neighbor what he thought. He just shrugged and told me to put a Bandaid on it so I did. It wasn't until the next morning, when I went to health services, did I find out I should've gotten stitches

b) Don't pad the back end of the blade with your thumb because even that part is very sharp, however rarely it's used

c) Make sure all parts of your body are safely out of the way of the blade, especially when cutting difficult-to-cut foods like potatoes. And carrots.

I've never been accident prone, but for some reason, I cannot turn on a stove without slicing myself somewhere, which means I'm working through my box of Band aids at an alarmingly fast rate. And though my accidents are teaching me a lot about how to cut things (obvious or no), if I want my hands to be intact by the end of the term, I need to figure it out much much faster.

wibz

N General Math Faculty / Life Rules

- Wait until the lecture hall or classroom is at least half-empty before entering the premises
- Shower and do laundry on a regular basis
- Don't leave your cups and garbage in classrooms / bus stops / study areas / etc.
- Don't wear socks and sandals unless your feet emit an odour--in which case, please wear socks
- Don't make eye contact with anyone while eating a banana
- Don't talk to / annoy / bother your friends while they're trying to do work
- Shave [*This editor disagrees —GingerbrED*]
- Don't bring up controversial subjects in normal, everyday conversations
- Don't smoke in non-smoking areas
- Move to the back of the bus / other public transportation system

MoGlo =]



Adventures with Wikipedia

I wonder what would happen if I started on a random article and just kept clicking links? [*That's actually how I got my editor name — ObjectED*]

From male Israeli video artist to female Canadian lexicographer

Doron Solomons
London
Conurbation
Golden Horseshoe
Canadian Oxford Dictionary
Katherine Barber

So nice when you start and end with opposite things.

Britney Spears
Pepsi
Great Depression
Marxism
Feminism
Musician

And when you start and end with equivalences!

Immigration officer
Political Asylum
Anarchism
Oxymoron
Undead
Vampires

Yours in connections,
Shay Blair

Macochism

n. A condition characterized by voluntarily subjecting oneself to the pain of using Apple computers.

Origin:

2010-15, Named after L. Von Sacher-Macoc, who described it; See -ism.

Related forms

mac·och·ist, noun

tesseract

How to Survive Your First Co-op Term

The working world is REALLY different

- Be on time as often as you can be; if not, then be on time always
- Know the signs when you need to take a sick day or take extra time off
- Ask questions, you'll likely regret it later if you don't ask
- Do your best not to be intimidated by your senior co-workers
- If your co-workers make you feel uncomfortable in certain situations, you don't have to put yourself in that situation in the first place
- No matter how annoying change is, it's inevitable, so do your best to adapt accordingly
- Quality is better than quantity; if you are given a project that has a lot in quantity, don't be surprised if it takes you a while to finish the project with high quality. Things take time.
- Making friends is hard, but making enemies is probably all in your head
- Do your best to have fun and take a break!
- Your bosses are there to help you, they know what you're going through as everyone was at your stage of work experience at some point
 - Try, try and try again!
- It sucks when technology fails, but you just can't do much except wait it out and hope things are better when they're fixed
- Always look for work to do
- Productivity can fluctuate, but when you're really feeling productive, have at it! The more you get done in that time when your mind is "on", the happier you'll be later
- Track your progress in some form, your boss should be able to see what you're up to in some way (be it as simple as a calendar or progress file!)
- Communication is key so be wary, things can be misunderstood REALLY easily
- Having a car on co-op is lovely, it reliably gets you to work on time!
- Don't expect a snow day if you're on co-op in the winter, but if you do get one, SLEEP.
- Enjoy the weekends and evenings, you probably don't have regular homework!
- Gauge the dress code for work, you want to blend in!
- Be yourself and try and have fun, but remember that you still have to write about it when it's all over

waldo@<3.LE-GASP.ca

Money and angular momentum

As we all know, money makes the world go 'round. However, those weird people in the Physics buildings are telling us that there's this thing called angular momentum, which apparently also makes the world go 'round.

By the Convenient Identity Theorem,

Money = Angular momentum.

Q.E.D.

This is written in mathematical notation as $\$ = L = I\omega$

There are several corollaries to this theorem. The first is conservation of money: the physic-y people say angular momentum is conserved, thus money is conserved as well.

Actually, we find this is the case: money moves around, but is neither created nor destroyed. Well, mostly not. There are occasional cases of inflation or just fraud.

Based on our equivalence and its corresponding conservation law, this must actually mean not that money is being created, but that a corresponding amount of angular momentum has been converted. This is the principle of spin: to successfully perpetrate fraud, you need to use a lot of spin, a.k.a. creatively lying to people. Alternatively, inflation is the result of a spiraling economy.

The other result of this revolutionary theorem is that you can pay for things by spinning really fast.

tesseract

Leafs fall in Spring? Seasons are confusing.

Doing what they do best, the Leafs have lost again. A rough description of the process is "they had some points, then the other guys had more points". Alternatively, "the guys hit the thing back and forth with the sticks". Last I heard, Leafs were supposed to fall in, y'know, fall. So I guess these ones were either very confused (always a possibility worth considering with sports teams) or just very eager to retire young from the exacting work of photosynthesis (which most have never done for a day of their lives, the imposters).

Or possibly they were going off of the observed thermal conditions (which are, shall we say, rather contrary to how the humans think they should be). They wouldn't be the only ones.

tesseract

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Interior Design for Engineers

After a recent trip to the engineering buildings, I feel I have learned several lessons about interior design, which I will present below.

Students are not known for being gentle to their surroundings, and this goes doubly for engineering students, who are generally irritable, inebriated, or both. Materials used in engineering buildings must therefore be extremely durable and able to withstand rough treatment. Brick, concrete, and tile all fit the requirements fairly well. Another important consideration is the appearance of cleanliness. Since the janitorial staff can't be expected to work harder to keep a building clean, the obvious solution is to disguise the grime by making everything a shade of brown. If one goes to CPH, they are treated to an amazing symphony involving brown tile floors, brick walls, brown trim around doors and windows, brown tables, benches, and chairs. For variety, there are some black and grey accents in some portions.

The atmosphere that is conveyed by the design is also an important consideration. The University of Waterloo would like to present itself as a centre for higher education, and the design of engineering buildings should reflect this. One popular way to convey an atmosphere of academic pursuit is to employ cinderblock walls painted ghastly shades of yellow and a faint chemical smell permeating everything. One fine example of this is Engineering 2, where thousands of engineers have slowly died to the asphyxiating dust of the computer labs, their last sight a soul crushing scene illuminated by fluorescent lighting and the glow of the monitors displaying their unfinished assignments.

An aspect of design that is often overlooked is the ongoing functionality of the building. To foster a sense of futility and despair, it is important to ensure that students are arbitrarily thwarted from legitimate activities via irrational choices. One example of this involved locking about 75% of the doors leading into a building. This will slow students down, but will not actually prevent them from entering the locked building, leading to a descent into bitterness at the capricious nature of the world. This has the double effect of validating the first rule and increasing the revenue of the local drinking establishments by several percentage points.

I hope these important lessons can be employed when designing future buildings. Not only will they increase the rankings of the University of Waterloo in Macleans' annual How-Depressed-are-your-Students surveys, they are also less likely to go two years over schedule like certain giant beehives I could mention. I am encouraged by the fact that many of these lessons have been employed in the recent renovation of DWE, which apparently hasn't changed anything inside, except possibly removing a few layers of grime and painting the walls a different shade of gray.

ConcealedED



LCBO Strike Imminent

LCBO employees are preparing to strike over low wages and job unhappiness. The union representing them, the Ontario Public Service Employees Union, has expressed concerns over the 15 years required to attain full-time employee status. Students should know that the LCBO is super filthy stinking rich considering the prices they charge. Not only does the LCBO have a monopoly over all the alcohol in the province but, it empowers its employees to reject anyone the right to purchase alcohol if they suspect them of being unfit to do so.

Students will be the most affected demographic by this strike. The LCBO keeps very meticulous records and an insider source has revealed that the average student spends approximately equal parts on education, alcohol, and living expenses [*Alcohol is a living expense — ObjectED*]. As the student progresses through years the amount spent on living expenses falls to about 20% with education at 38% and alcohol at 42%. It is a known fact that increased tuition costs result in more alcohol consumption and a less known fact that tuition rebate cheques can be used as valid tender at the LCBO. The last time there was a strike student grades fell to all time lows

As students, we must prepare for the the worst. We have a long history of importing booze from Quebec, this will be our primary crutch. Plans for a speakeasy in the Bombshelter are currently underway. Mill Street brewery in Toronto has already shipped 50 barrels of its hoppiest ales in what they are calling 'operation pansy sobriety'. Pabst Blue Ribbon immediately caved to pressure and removed all alcohol from their beers. They have assured their fanbase that the beer is not in any way adversely affected by the change with professional tasters rating their beers as better than before. The Bombshelter still refuses to serve it.

Element 118

N Ways to Celebrate Mother's Day

- Helping your Mom with something (simple chores) or even just talking
- Enjoying all the food (breakfast in bed is a definite classic)
- Finding a card that says all the things you want it to (whether you make it yourself, Google it or purchase it)
- Hugs! Never enough hugs!
- Going out together as a family (be it to the park or elsewhere)
- Enjoying each other's company even though you're not necessarily directly interacting with each other
- Falling asleep on the couch watching things as a family
- Beating your Dad at Scrabble

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Submit articles to *mathNEWS* by coming to our Production Nights, via e-mail (mathnews@gmail.com) or through the BLACK BOX in front of the Comfy

Original Proof for Fermat's Last Theorem Rejected

The mathematical community was recently shaken by a discovery of a monograph by Fermat on his infamous "Last Theorem". However, the proof was subsequently rejected by several prominent math journals due to concerns about readability. The proof, which was less than a single page long, and was written largely in plain French was widely criticized due to a lack of confusing notation and overloaded terms. In particular, there were complaints about the lack of a redefinition of the term "normale".

When the paper was originally discovered, it was hailed as a major development in semi-modern mathematics, as it was the first to give an elementary proof for Fermat's Last Theorem. It was immediately accepted for review by most major math journals, and passed reviews for correctness soon after. The woes started when the editors for the journals began reviews for style. Fermat's legendary proof, subject of hundreds of years of speculation and work, was then rejected from every journal to which it was submitted, as it was decided that the paper did not read like a modern math paper. Upon inquiry, it was decided that if the paper was expanded to introduce additional confusing notation and concepts, it would be allowed to be resubmitted. One editor is quoted as saying "...[the journal] demands a certain level of inaccessibility for papers, and [Fermat's paper] just doesn't have that. I could give this to a first year undergraduate, and he or she would have no problem with it. As a serious mathematics journal, we simply can't accept that."

Packing vs Unpacking

Nobody likes moving. Over the years, I've watched my (non-Waterloo) friends complain about packing and moving at the end of the school year, and then having to pack and move again after summer break.

Of course, at Waterloo, many of us are co-op students. And depending on the co-op sequence and where we end up getting our co-op jobs, we have to move every four months. One would think we'd get used to it after a while, but no, we don't. (Or maybe we do, and just want an excuse to complain.)

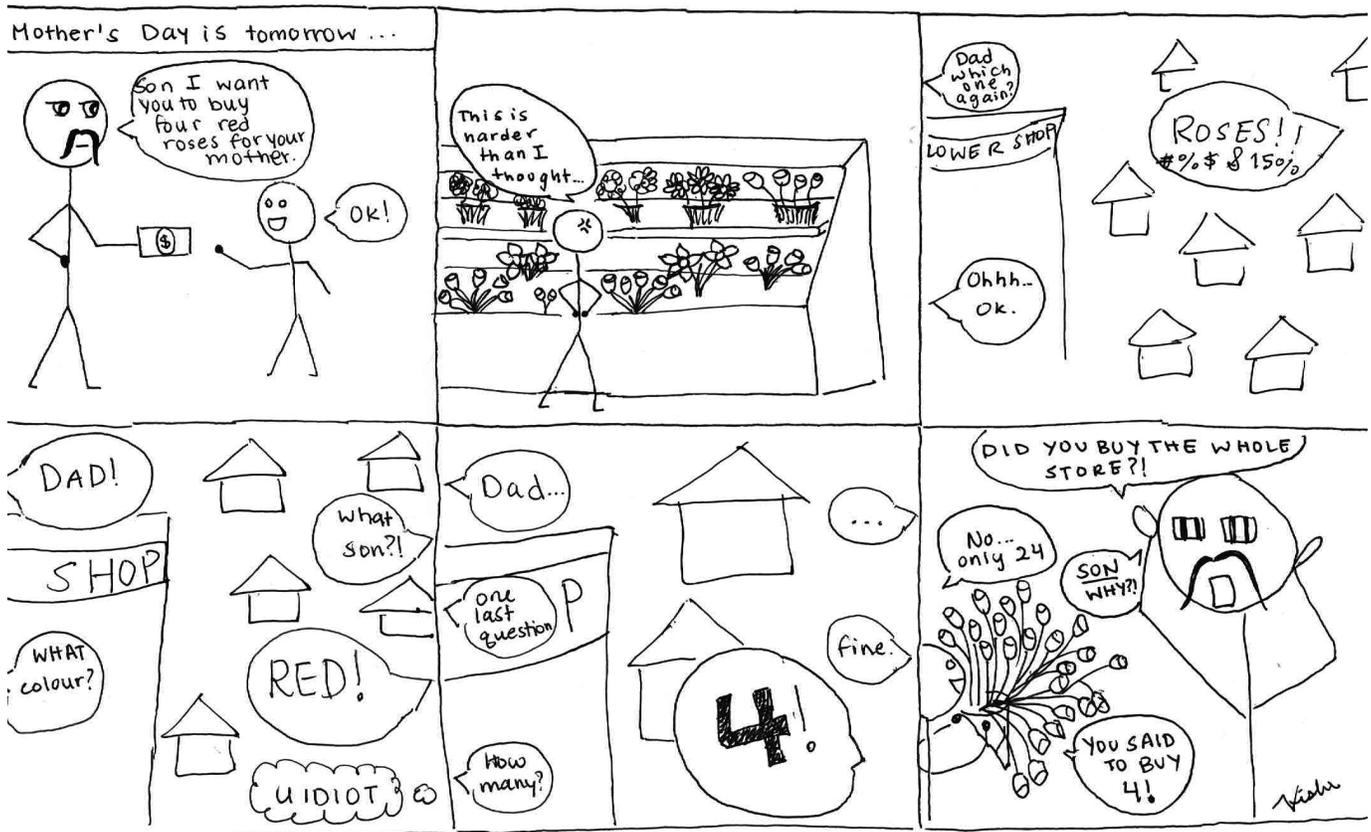
Anyway, I constantly hear people complain about how much of bother packing is. Personally, I have a different viewpoint. It isn't packing that's a bother. It's unpacking.

I never understood why packing is so hard. There's a definite deadline, and we all know how motivating deadlines are. And you're bringing all your stuff together and throwing it into boxes, bags, and suitcases. So not only is there a well-defined deadline, there are also well-defined targets and it is very easy to gauge progress.

Now, unpacking? It's impossible. There is no well-defined target. I need to spread my stuff out and figure out where I want to put it. How should I arrange my room? What about my kitchen? Where should I put this? And so on. And worse, there's no (real) deadline. Why not just leave everything in boxes and suitcases, since I need to pack everything again in four months?

InsideVoice

!bob



From The Land of the Free

Ignoring the fact that the paper indicating my name on my cube has a Canadian flag drawn on it, as well as the two small Canadian flags stuck on pencils protruding from the side of my cube created by the members of my team, I've blended in perfectly. It's been one week, and no one suspects I'm not one of them.

Initial studies show an extremely hostile environment: the average daily temperature rises to a whopping 70 degrees. Furthermore, there seems to be a difference in the strength of gravitational field of this land, and my body mass has jumped from 70 to 160. Finally, there seems to be some relativistic effect going on where distances are longer than they should be, and everyone drives really slowly. The other day I got pulled over for going 60, and the officer said I should be driving 30.

The people are the strangest part. After a week of gathering data and observing them, I've seen... things... you people wouldn't believe. Sassy black women saying "nuh-uh" at the back door of the bus. I watched groups of people smoking marijuana in the dark, near the North Gate Mall. I saw mobile nutrient distribution facilities fulfill hundreds of people. Cops riding bicycles and Segways. All these... moments... will be lost if this was UDP and a packet got dropped. Time... to stop writing.

To any CIA/FBI/NSA/??? employee reading this, everything written in this article is bullshit. None of it is true, the whole thing is a joke, and should not be taken seriously in any sense. I'm a little teapot.

theSMURF

profQUOTES

"Stay calm, and lose your mind later; in fact, very soon."

Pei, MATH 239

"This has a name. We call it a combination... We're very original in statistics."

Daward, STAT 230

"Ahhh! What did I just do? Putting vectors in vectors, that's just silly!"

Roh, MATH 136

"Imagine reverse-product-rule-ifying this."

West, AMATH 250

[Writing on board] "Let's just open up a pop-up window here."

West, AMATH 250

"Have you ever held a little magnifying glass on your hand out in the sun? Oh, well I guess most of you have just licked the cold pole in the winter instead."

Idziak, Phys 112

"Lenz's Law can't win."

Idziak, Phys 112

"If the voltage is too high, you go near the outlet, you get a spark and it kills you, which probably isn't good."

Idziak, Phys 112

"Well, you probably don't want a power pant in your backyard, right?"

Idziak, Phys 112

"So, Lenz's Law... We'll go after the doubters first."

Idziak, Phys 112

You can play with this for hours, it's lots of fun! Sorry, I can play with this for hours."

Idziak, Phys 112

"I've never done it with this many rings before. They never gave

me this many. We could try warm first, but nah." [Stick a pile of metal rings in liquid nitrogen]

Idziak, Phys 112

[Student asks a question] "I would prefer not to answer that; it's a complicated question."

Idziak, Phys 112

I can't have 15000V coming out of my wall, there'd be sparks going everywhere! I'd be pretty spectacular except we'd all be dead."

Idziak, Phys 112

"You also wanna be safe in your house..."

Idziak, Phys 112

"The wires can't handle a lot of current so it goes, "Too hot. Can't handle it, so I'm gonna melt."

Idziak, Phys 112

"Here's my bathtub." [Holds up a bowl.] "and here's my non-intelligent student." [Holds up a barbie.]

Idziak, Phys 112

"50mA in the heart so she's dead, but the house is safe!"

Idziak, Phys 112

"The current is going through the live, through the Barbie, and into the ground."

Idziak, Phys 112

"In modern times, hunting and gathering means hunting down a cheeseburger at Wendy's and gathering nachos at Zehr's."

Furino, CO 480

"Alexander the Great was commanding armies by age 16. What have you done?"

Furino, CO 480

"Greece has a lot of good thinkers, but not quite as many good leaders. A deficiency that continues to this day."

Furino, CO 480

Work Reports for Programmers

I do not like work reports. You probably do not like work reports. Most employers do not like work reports. At their core they are meant to either be an exercise in demonstrating your ability to apply analytical thought to your employment experience, or a scam by which students with good time management are given better employment grades. If employers cared about time management then they would not implement the 10 to 4 core workday, working from home, and issue employees BlackBerry's (so that they can manage employees time off work). Luckily, employers never look at grades when interviewing through Jobmine. They instead focus on how pretty the resumes are now that none of them are in html.

All of a sudden, students who were once rejected because their pretty CSS was overwritten by Jobmine's gaudy CSS are finding

themselves with interviews for hip companies with free beer and foosball tables. With them, they bring the knowledge that anyone who makes a resume in Word and converts it to html should be shot in the foot upon applying to a coding position. Unless, of course, the resume is a formatting work of art that requires Word to elaborately display its styles and page numbering, like a work report.

The only logical conclusion is that work reports for programmers are designed to give those with low programming abilities a way to interview for jobs well above their skill level and make the rest of the interviewees seem better by comparison.

Thank them for their sacrifice,
Complaininator9001

We Want to Hear From You

or your bitching, more specifically

Love to hate *mathNEWS*? Do you look forward to our issues so you can point out the horrendous quality, editing and grammatical errors? Do you relish the thought of the editors crying themselves to sleep at night? Do you find that *mathNEWS* is better than Imprint for cleaning your oven? If so, then send us your best hate mail!

There will be a prize worthy of your contribution. Your work will also be published in the next issue.

We will be evaluating your hate mail on hatefulness, taste, presentation and humour. Please submit your hate mail to the **BLACK BOX** (outside of the Comfy Lounge) by May 27th.

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horrorSCOPES

ActSci: While going on vacation with your family, you make sure to calculate the extreme sport least likely to kill you, but still proves your fearlessness. The only option left was extreme sewing.

Your unlucky number is: 171 stitches, at least 38 of which are on you.

AHS: Your co-op at the emergency centre has been really rewarding so far, but you can't understand why so many math students are coming in with needles embedded in their arms.

Your unlucky number is: 26 failed extreme tailors.

AMath: After misreading the job posting, you see your summer co-op as the perfect time to perfect your application of fluid dynamics to methods of message transfer. Calvin Klein isn't appreciative.

Your unlucky number is: \$15.5/hour male modeling, not modeling mail.

ARTS: After misreading the job posting, you see your summer co-op as the perfect time to practice your Blue Steel look. Canada Post isn't appreciative.

Your unlucky number is: \$16/hour modeling mail, not male modeling.

BioInformatics: After sequencing your own DNA, you discover you're actually a superman(47,XYY). However, you spent so much time indoors that instead of giving you super powers, solar rays burn your flesh to a crisp.

Your unlucky number is: SPF 100 still isn't enough.

C&O: You finally have time to hit the gym, and try to find the optimal workout. Sadly, no matter how high you make your deltoid function, you still can't actually lift weights.

Your unlucky number is: 7 kg clean and jerk.

CM: With the CMC dissolved, you no longer have a quiet place to bring the ladies for a little romance. You search for a new room, and find an abandoned computer lab.

Your unlucky number is: 22 webcams recording for "safety reasons."

CS: Real-Time is upon you, and you can't help but play a bit too much with the trains, making them go in and out the tunnel. In. and out. In. Out. In. Out. In. Out.

Your unlucky number is: 0 women in CS. It's not like you had time for a date anyways.

Double Degree: With the MLB season starting up, it's the ideal opportunity to see your classwork in action. The rest of your class agrees, and throws a kegger nearly every night.

Your unlucky number is: 750 BAC but only a 250 BA.

ENG: You convince your friends to start up Junkyard Wars behind CPH. You spend more time on the robot than class work, but at least it wins in the first round.

Your unlucky number is: 32% in ME 321, as vengeance from your bested opponent — the prof.

ENV: Conflicted over global warming, since a thinner ozone layer means a faster tan, you decide to compromise and drive a Hummer to your job planting trees.

Your unlucky number is: 10 miles to the gallon, but a killer tan.

Grad: With almost no students on campus, there are no classes to teach. You finally have time to actually work on some research for your degree, discovering the idea you had last year was already published by someone else.

Your unlucky number is: 9-5 spent doing nothing except watch porn.

Math Bus: Your co-op term as a self-starting entrepreneur begins with a bang, as you discover the lucrative world of homemade amateur internet porn. Sadly, your videos are a bit too popular for their own good.

Your unlucky number is: 500,000 views on your first video, including your father.

Math Phys: While trying to calculate the volume of the physical embodiment of your manhood, you discover it's approximately the Planck Constant.

Your unlucky number is: A single, solitary tear.

PMath: Mistaking the P in PMath for "penis," you accidentally give Functional Analysis a whole new meaning.

Your unlucky number is: 13 very disturbed classmates.

Sci: When asked what's so great about your faculty, you throw a block of sodium into Columbia Lake.

Your unlucky number is: Approximately 300 misplaced students, and a crater as many metres across.

Soft Eng: Feeling your manhood at stake after being compared to dainty and weak CS majors, you set out to grow a rough and rugged lumberjack beard.

Your unlucky number is: Exactly 672 beard hairs, all on your neck.

Stats: Trying to find a correlation between hours in the gym with how long a man "lasts," you realize you have a problem shared with a lot of guys: premature regression.

Your unlucky number is: 3.68 minutes from start to finish.

Teaching Option: Your friends in every other program complain about the lack of female presence in their classes, while you're living it up as the only guy in your year.

Your unlucky number is: 13 women per man, but 28 kindergarteners too.

Undeclared: Everyone is working on their image for the summer, but you just can't decide what to wear. Ultimately, you decide to go for a bit of everything.

Your unlucky number is: 5 more friends who think you're a drag queen.

horrorSCOPES*In Progress*

Today, we bring you a terrifying look into the thought process that goes into making **horrorSCOPES**. It begins with some sucker being convinced they should write **horrorSCOPES** (hi), and then said sucker decides upon a theme. Suggestions are oft welcome, and this time it was "manly things." Then, the sucker, who barely understands their own degree, has to ask everyone what they actually do. This is then followed by the writing of the very kernel of the joke, some of which are constant, regardless of themes. Enjoy

ActSci: <Likelihood of death playing manly sports>

AHS: <playing manly sports>

AMath: <something something male models>

ARTS: <adonis sculptures>

BioInformatics: <something something DNA, XY>

C&O: <deltoid distribution>

CM: <something something this still exists?>

CS: <something something no women>

Double Degree: <something something laurier>

ENG: <something something building>

ENV: <something something outside>

Grad: <something something masturbation>

Math Bus: <something something porn>

Math Phys: <Something something undercompensating, cuz particles>

PMath: <something something p means penis>

Sci: <something something explosions>

Soft Eng: <something something HAIRY neckbeard>

Stats: <premature regression>

Teaching Option: <something something surrounded by bitches>

Undeclared: <something something something mysterious>

I think I just hate myself,
ObjectED

gridCOMMENTS*Done dining*

Welcome to warmer weather! I completely forgot to incorporate a theme (though there are four crimes committed) so I spent several surplus seconds smithing some alliterative clews. Sorry about 26A.

Submit complete (or incomplete!) grids to the BLACK BOX (outside the Comfy Lounge on floor 3 of MC) by 18:30 on Monday May 27th. Include your name and your answer to this issue's gridQUESTION—the most obfuscated answer decides the winner (of a \$5 C&D gift card) in the event of a tie: "What is 1+2?"

Momentary Distraction: Four Out of Five

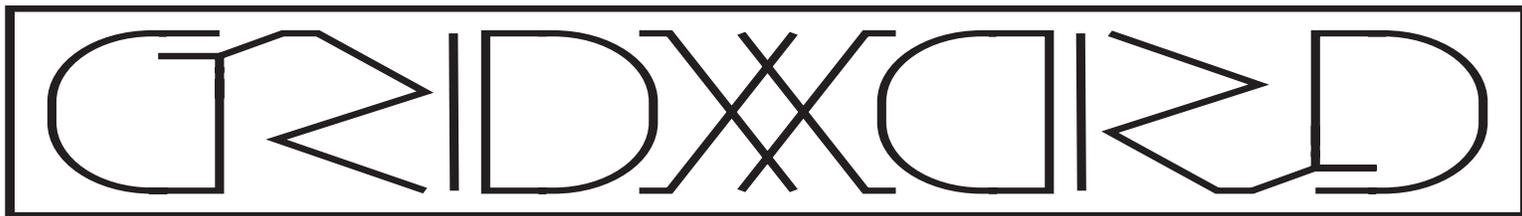
Welcome to my new puzzle column. Each issue will present a new type of puzzle, with very little explanation as to how it works. I will declare a winner for the puzzle (as well as an explanation for how it works) in the next issue. The winner will receive a \$5 certificate to CnD and it is open to everyone. Remember: Always show your work and justify your answer.

CEULT	LBRUEBWEO	SI	EPAGQYMN
ATG	TWENI	ZNZ	UIEWXMAA
_____	_____	_____	???? _____
SNE	PBCR	XIX	BIGWMG

N Things to Do on the Long Weekend

Just in case you didn't know, this Monday (May 20th) is a holiday. It's Victoria Day, so there are no lectures.

- Get a head start on your upcoming assignments
- Start studying for those midterms that are weeks away
- Do some yoga to mitigate the stress that you don't have yet
- Procrastinate
- Do nothing productive
- Go outside (it's supposed to be a beautiful weekend)
- Take the bus somewhere fun (check the schedule carefully, though, since it is a holiday)
- See the Victoria Day fireworks in Regency Park in Waterloo (on Sunday)
- Party with your friends on work term, since it's a statutory holiday for them on Monday
- Attend meetings on Friday night that will delay the start to your weekend (if you are a doer of things)
- Open a bottle of whiskey on Monday, have no whiskey left by Monday
- Prepare your cosplay for Anime North
- Visit your family (because it's not the first weekend of term)
- Sleep in ALL the days
- Marathon a video/TV series that will take less than or equal to 72 hours
- Research Queen Victoria and ponder upon her contributions to our country (which is essentially just continuing the monarchy)



gridWORD Clues

Across

1. Denmark denizen
5. Elephantine step
9. Morn mirrored
11. Abbey Road was closer
12. Big 55A
13. Son of Loki
14. International Astronomy Olympiad
15. Long or short or metric, and more
17. Study of speaking
20. Stella Ella ___
21. Upon
22. Funny bone nerve
24. Business suffix
26. Within (a) personal computer (abbr.)
28. True Grit brothers
29. Carbon-covered comparative
31. Text editor and corrector
33. Vineyard (3 w.)
36. Not his
37. Apis plant?
38. Cents spent
40. Indian dress
41. Shuts its coward gates on atomies
42. Endangered impaler
45. Couple quarrel
47. Latin lion
48. Deliberately debilitated
51. Gluttony, greed, e.g.
52. Barrel wood
54. Pakistani parlance
55. Little 12A
56. Spanish sailer
57. Devoured
58. Necessities
59. CGS force

Down

1. Sylvan vale
2. Mountain menace
3. Fiddling emperor
4. Girl like heather?
5. Removes layers
6. Due
7. Million years ago
8. Quid ___ ___
10. Alto flower
15. Thunder, to Thérèse
16. Slim strait
18. Useful (unused)

19. Ce soir
23. Unhand (2 w.)
25. Criminal compulsion
27. Shell dwellers
28. Cereal circle
30. Intentional inflammation
32. Seed-leaf
33. Petal patterns
34. Quagmires (2 w.)
35. Taylor or Jonathan
39. "My goodness how the time has flewn / how did it get so late ___ ___?" (2 w.)
43. Bank burglary
44. O-week booth (2 w.)
46. Bands beneath the breastplate
49. A lack of colour
50. Sandy summit
53. 2nd pers. to bev

This Week's Grid:

1	2	3	4		5		6	7	8		9	10	
11							12						
13							14				15		16
17				18	19						20		
			21						22	23			
24		25		26			27		28				
	29		30							31		32	
33							34		35				
36							37						
		38		39			40				41		
42	43					44		45			46		
47						48					49		50
51				52	53						54		
			55					56					
57				58							59		

Submit your grids to the **BLACK BOX**. Don't forget to answer the *gridQUESTION* on page 15