

# *math* NEWS

Volume 124, Issue 6

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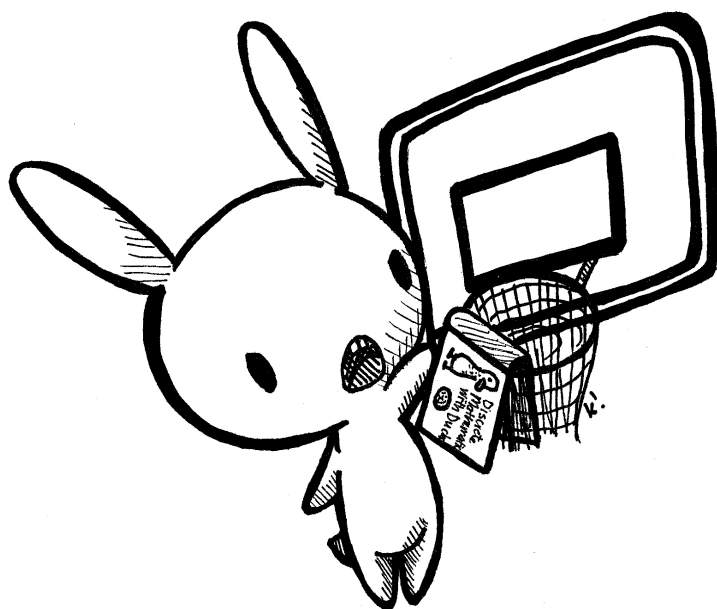
The wind is rising. Beware the exams.



**lookAHEAD**

<b>CECA</b>	
Ongoing	Interviews, Continuous round
<b>MathSoc</b>	
April 5-6	24-hour Games Night
<b>University</b>	
April 4	Last day of classes
April 8	Exams begin
April 18	University closed (Good Friday)
April 24	Exams End

## HEY, YOU? WHATCHA GONNA DO? HEY, YOU! WHATCHA GONNA DO?



*Come on and cram, and welcome to exams.*

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DictatED (Amy Li), Wibbled (Elizabeth Liu), bunnIED (Katherine Tu), SketchED (Jose Velasco)

**mastHEAD**

Greetings, inferior beings. After forcing you to write for us like the proles you are, we decided to show a bit of kindness to hear your opinion on things. Just remember that your opinions do not matter at all. [*I-it's not like we value your input or anything, baka!—bunnIED.*]

This week we asked the writers, “What is your best life hack?”

AddictedGmr (“Duck Tape.”); GingerbrED (“pop the top off the cupcake and make it into a sammich”); k! (“The emergency pile of Imprint sitting in my living room, whose primary use is as bunny litter.”); yourlocalWHETHERgirl (“using a whiteboard to communicate. Also IM.”); unit (“umm...”); tesseract (“A sword.”); lbar (“Deciphering characters written on a page into words can lead to amusement.”); Stubbs (“Microwave a spoon for 30 seconds to warm it up. Makes serving ice cream easier.”) [*Engineer's note: NEVER DO THIS*]; psychomath (“sex all day every day. :)”); ScruffyED (“Do the Caramelldansen to confuse your opponents, then boost their wallets.”); RadicalRick (“Brew your own Booze for cheap.”); Beyond Meta (“Breathe on a regular basis. It helps with staying alive.”); (define this (not cool)) (“Attending Feds GMs: It hacks 5 hours away randomly”); TubesJr. (“Make alcoholic jello in a bowl, way easier to consume than shots.”); MuffinED (“Intimidate geese by raising your arms above your head to look larger and making loud noises”); whaleium (“20\$ tiny tens”); konstantine (“Living with parents who do groceries”); himynameis (“Stealing ice cream from the V1 cafe in the form of ice cream floats.”); wibz (“boobs”); MustardMap (“[.hack//sign](#)”); Ice Nine (“Becoming an editor: Guaranteed 7.15% of food budget every two weeks.”); Grumpy Old Fart (“Quitting”); Soviet Canadian (“Play more games, get more e-cred (and friends, and skillz)”); Pizza Freeloader kid (“You can use pushpins and a bulletin board to make a neat little office supply rack.”); The Depressimist (“Why waste the time to ‘hack’ something so inherently broken?”); Zethar (“Putting points in being a dragon. The conspiracy of life is very interesting on the other side of the fence.”)

**MC-DC Path Announcement**

Hey Mathies! Are you tired of walking through the mud when travelling from MC to DC and back?

MathSoc is proud to announce its involvement in a project, led by Sustainable Campus Initiative, to pave the path across the DC Quad. Funding for this project is also provided by the Math Endowment Fund, the Office of the Dean of Math, the Federation of Students, and by students through fundraising efforts.

When is this going to happen, you ask? Due to frigid temperatures, the date of construction is still tentative, but they are aiming to have the construction completed by the beginning of the Spring 2014 term.

We are looking forward to a brand new path, and we hope you are too!

Lauren Hurley  
MathSoc President

## Welcome, New Editors!

I am proud to introduce four (count ‘em: FOUR) new editors! Our new editors are SketchED (Jose Velasco), WibbleD (Elizabeth Liu), bunniED (Katherine Tu) and DictatED (Amy Li). Observations about our new editors: THREE female editors (shattering all previous records), and all of the new editors are Asian (not sure if that makes a difference, but that’s neat).

If you have complaints or compliments about the declining quality of **mathNEWS** this week, take it up with them. The new editors did a really great job organizing, slicing, dicing, wrangling, sharing and caring this week to make **mathNEWS** a success, by the **mathNEWS** definition of success (if you’re reading this, we have succeeded).

It’s been my honour to have been a **mathNEWS** editor for the past couple years. I was only really an editor for three terms, which is not nearly as long as I would have liked, but I loved every minute of it. I became an editor at a time when nobody else wanted to, and it makes me happy that so many people wanted (genuinely wanted) to become editors. Now is a golden age of **mathNEWS**, and I am grateful to be a part of it. In case you can’t tell, I am quasi-semi-unofficially retiring as an editor. Meaning, I will no longer have a key to the office but I will be around in case anything explodes.

Love always,  
GingerbrED

## Meet Your VPE

Nancy Yang  
Vice President, Events  
vpe@mathsoc.uwaterloo.ca

The Vice President, Events (VPE) of MathSoc is responsible for organizing Society events and activities for Society members.

Other duties include:

- Publicizing events within MathSoc
- Encourage members to become more involved in the Society
- Spread Mathematics Spirit
- And much more!

The VPE of MathSoc should be someone who is passionate, creative, and an excellent communicator. When Nancy first started at UW, she was a volunteer for MathSoc. Eventually, she decided to run for VPE and won!

Considering how demanding, yet rewarding, this position is, you must be an organized and responsible person to do this job well!

A word of advice from Nancy would be: Socialize! Don’t be scared. MathSoc is fun!

Hiba Amin



## Sweet and Sour: Falling Behind

*What did the papa tomato say to the baby tomato?  
“Hurry and ketchup!”*

It’s funny how some memories are hard to shake. The dread that followed midterms is a feeling that I specifically remember from this time of year. As a typical Mathie, I would stop attending classes during “midterm season” to concentrate on my tests. However, math is a field that builds upon itself. I was essentially attending the addition portion of the course, skipping multiplication, and hoping to learn division! To make matters worse, I tend to argue that math is learned slowly; it is not a field you can hope to cram a day before the test. So for the last few weeks of term, I was essentially taking notes on subjects for which I didn’t have the background or the time to learn.

In my third year, I changed tactics. Every day, I would spend at least 15 minutes on every math class, and once a week I would redo the old assignment questions. Most importantly, during midterm season, I kept going to class. What I found was that my marks did not suffer. In fact, they improved.

The best part was that I no longer dreaded the “catch-up” that defined the end of midterm season.

Riley Metzger  
mathadvisors@uwaterloo.ca.

## FedS Sez

Hey Mathies! The Feds General Meeting is at 4PM on July 16<sup>th</sup> 2013 in the SLC Great Hall. The agenda can be found at <http://www.feds.ca/about-us/general-meetings/> or by googling: federation of students general meeting

The main agenda item is a possible new structure to the Board of Directors and the Executive team.

This is very important to the future of the Federation of Students and I hope that you will all attend and voice your opinion. More information about the changes will be presented at the meeting.

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

## Quine

Quines are programs that print out their own source code. The nice thing about **mathNEWS** is that quines are incredibly easy to write. Just don’t write stuff that will make the editors mad, and your article will print.

```
sudo get me some free pizza
```

Grumpy Old Fart



## Meet Your VPA

Stéphane Hamade  
Vice President, Academic  
vpa@mathsoc.uwaterloo.ca

The Vice President, Academic (VPA) of MathSoc is responsible for representing student views and opinions on academic issues in various faculty and school councils.

Other duties include:

- Reviewing and amending academic plan changes
- Providing academic rights counseling
- Organizing forums for the discussion of issues of interest to students
- And much more!

The VPA of MathSoc should be someone that is outgoing, passionate, and an excellent communicator. Throughout his time at UW, Stéphane was extremely involved as an executive in many clubs, he was very involved with orientation week, and he held several positions within MathSoc. Stéphane was President, VP, Events, Math vs Engineer Director, Actsci Councillor, and a First Year Councillor. Considering how demanding, yet rewarding, this position is, you must be an organized and responsible person to do this job well!

The MathSoc experience can be a very rewarding one. Stéphane gets the opportunity to meet new people, both in and out of the Faculty of Mathematics. He is constantly improving her leadership, teamwork, organization, and communication skills. Getting involved early is very important, so check out the MathSoc website ([mathsoc.ca](http://mathsoc.ca)) to see how you can get involved today!

Hiba Amin



## Errata

In Volume 124, Issue 5, the Editors accidentally hit backspace on page 4 following a copy-editing session, resulting the erasure of two paragraphs from Scythe Marshall's article. Here is a tearful bunny to illustrate how we feel about this particular mishap.



See page 8 for the final three paragraphs of Scythe Marshall's original article, *Category Theory: Abstracting the Abstract*, in all its glory, (mostly) untouched by the trigger-happy fingers of the Editorial.

bunniED



### Twitch Plays Final Exams

Beyond_Meta	UP
Big_Mak	B
!bar	LEFT
Acromath	WRITE
GingerbrED	DRINK
Grumpy_Old_Fart	STUDY
dbro	PROCRASTINATE
tubes	DO CHORES
wibz	TUMBLR
MuffinED	A
!able	MATHNEWS
Ender_Dragon	PROCRASTURBATE
theSMURF	REDDIT
theDREAMER	START9
Red_Metal	PORNUHUB
Stubbs	CLEAN ROOM
Element118	DRINK
Ice_Nine	STUDY
waldo@LE_GASP	SWEEP FLOORS
Soviet_Canadian	SELECT
ScruffyED	A

## LRT is Coming

Last week the Region of Waterloo finalized the contract with the GrandLinq consortium to construct a 19 kilometre LRT transit system servicing Conestoga Mall, University of Waterloo, Uptown Waterloo, Downtown Kitchener, and Fairway Mall, an aBRT system servicing Cambridge, and several related projects. This is the latest in a long effort to construct a new mass transit system in the region.

After Justice Anne Tucker dismissed a last minute bid for an injunction against the region brought by Jay Aissa of the grass-roots group [stoplightrail.ca](http://stoplightrail.ca), the Superior Court Justice had several problems with the injunction, but eventually dismissed it due to Jay Aissa's lack of standing to delay the project. This was the last barrier to overcome before approving the contract.

The regional council voted 11–4 in favor to award the contract to GrandLinq at the beginning of March after hearing from dozens of delegations and more than 3 hours of debate. The GrandLinq contract was recommended by city staff after a bit tendering process that saw 3 bidders. The GrandLinq consortium will take on design and construction of the LRT, financing its development, and operating it after opening. GrandLinq also assuming the risk of cost overruns in construction in this DBFOM P3 partnership. The two losing consortia were paid \$200,000 for their effort, a necessary cost to ensure serious, high quality bids are submitted.

This is the culmination of over 10 years of studies, public consultation, elections, and project proposals. Numerous public consultations gave ample opportunity for public input on project issues. The project was revised several times to incorporate feedback from council and public alike.

## Regarding Dragons and Bunnies

To many, it would seem that dragons and bunnies do not share many things in common; the first are large, magic-wielding reptiles, while the other are small, cute individuals of society living underground. It is, however, a little known fact to many that dragons and bunnies share a cordial relationship in underlying measures away from many prying eyes. As one could probably imagine, to complete the High Dragon Council's many agenda, draconic agents are strewn throughout the land to keep an eye out on affairs, while the bunny conglomerate have agents everywhere because they're cute, fluffy, and like to spread joy and happiness to people.

While I am not at any liberty to discuss the tasks that the Council has entrusted on me, or the information regarding the position that has been endowed upon me, I can ensure all readers that neither draconic nor bunny agendas are being fulfilled by this public announcement, and to that effect I would like to quote a very influential bunny politician from our latest meeting: "We would like more raisins." I would like to implore readers that perhaps you should think twice if you are about to hurt a bunny rabbit given these revelations, as you may get a comeup-pance once word reaches the right ears.

Zethar

The current LRT train will run every 8 minutes during peak times. Trains will run in their own right of way with priority signals at lights so as to not be held up by traffic. Trains will run the new route in 39 minutes, down from a peak of 48 minutes for the current iXpress bus route, yet it will include more stops for greater convenience. The route will be serviced by 14 Bombardier Flexity Freedom LRVs purchased as part of a group purchase by Metrolinx at a cost of \$6.6 million each. The low floor LRVs carry over 200 passengers and can accommodate bicycles. They last 3 to 4 times as long as diesel buses.

Two thirds of the project's capital costs will be funded by provincial and federal governments, leaving the region with one third of the \$818 million dollar capital costs. The operational costs of the project brings the winning bid to a cost of \$1.9 billion over 30 years. The goal is not just to provide an efficient, clean and effective transportation system. The project also seeks to stimulate and direct growth. The Ontario Places to Grow Act directs municipalities to intensify development instead of continuing to sprawl into valuable farm land.

The numerous high rise condos and offices being developed near several of the future transit stops indicates this project is already being successful in directing growth inward. We can look forward to a healthier more walk-able city with the completion of the LRT in 2017.

Daniel Brotherston

**Everybody get up  
It's time to jam now  
We've got a real slam goin' down**





## N Actual Do's/Don'ts for FedS/MathSoc General Meetings

1. **DO** attend. Lots of interesting things happen at these meetings, and if anything you get to have some stories to share with friends later that night. I've spent the few hours since the GM discussing it constantly, so it clearly wasn't THAT boring.

2. **DO** find a proxy if you can't go. Try to ensure that proxy is someone who knows you personally and has a reasonable ability to predict your opinions on issues that may come up on the spot.

3. **DON'T** send a proxy without instructions. The Federation of Students does what it can to pressure or ensure proxy holders respect the wishes of their proxy, but they can't do that unless you express your wishes in writing. There is a spot on the proxy form to list your wishes.

4. **DO** show up on time. Often the motions that members most care about are moved up on the agenda. You don't want to miss them!

5. **DON'T** insult, generalize, or otherwise insinuate negative things on other members or groups in the body. In fact, it's probably best to just not refer to individuals, or groups, of members of the body. They are there to share their thoughts just like you are, and debate isn't about them but about the question at hand. There is no reason to have to refer to them. I'm disappointed that I need to even mention it, but considering it happens at actually, literally, each and every FedS GM I attend, I feel compelled to do so.

6. **DON'T** speak on trivial or unopposed motions. An oft-quoted goal of these meetings is that it should be as short as possible. I disagree; it takes time to ensure the democratic process is adequately applied. Instead, I feel the true goal of general meetings is to prioritize time as effectively as possible, and speaking on these motions just wastes time. If the speaker goes to acknowledge an individual during a motion you expect will have no opposition, you should stand up, call a point of order, and ask the speaker to check if there is any opposition to the motion.

7. **DO** speak on controversial motions, especially if you are going to bring up points that others have not mentioned. Often when you introduce new speaking points, you are bringing to light ideas that other members are already thinking but are just too afraid to bring up. By speaking up, you may encourage other members to stand up and speak to your points, further encouraging the body to vote your side.

8. **DO** speak succinctly, rationally, and persuasive. If this is an area you are interested in, the Speech Communication program on campus offers a great Public Speaking course. You may want to consider taking it.

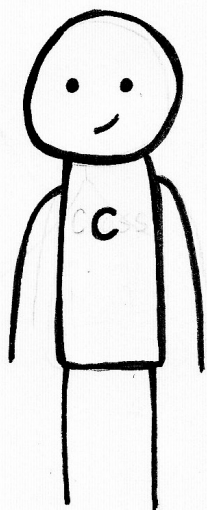
9. **DON'T** call the question! Rules such as speaking turns, limits, and restrictions on repeating points exist to make debate as productive as possible. If debate is taking a long time, that's because members are passionate about the issue and they deserve to be heard as much as you are. If people are abusing their speaking turn, be brave and stand up, call a point of order, and instruct the speaker to enforce speaking restrictions. Remember that people can't make motions to amend, defer, or otherwise except during their speaking turns, so calling the question does more than just cut off debate. As much as the phrase "subverting democracy" is tossed around during a GM, nothing is as effective at this as calling the question.

10. **DO** remember to get your free pizza! There isn't likely to be a dedicated food break, and they don't tend to serve enough pizza for everyone, so if you want some you have to be vigilant.

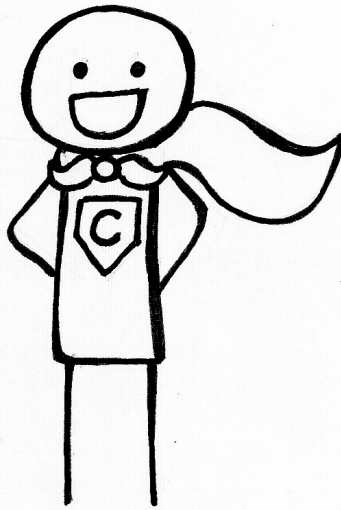
11. **DO** use your parliamentarian. At general meetings, individual members hold a lot of power. Asking questions of your parliamentarian ensures that you know the best ways to have done what you feel is important.

12. **DO** vote with an informed opinion, taking into account what your fellow members are saying.

(define this (not cool))



Class



Superclass



Abstract Superclass

## For Those About To Graduate...

*We Will Salute You, Once You Actually Pass All Your Finals*

Surprise, it's almost the end of term, and there are only a couple weeks of classes left in your last term of undergraduate studies! You're about to have, or have already, handed in that last set of assignments, given that last presentation, submitted that last project, played that graduation recital, or showed off your design project. Most importantly, you're about to sit through that last day of classes, after which you'll say, triumphantly, "... Alright, time to study for finals!"

Of course, no one has ever said that the last couple weeks of term are ever easy. Usually one must submit a stupid number of assignments on the last day of class, which this year is a... Friday? Awkward. This means, and I'm warning you ahead of time, that you will *not* have the usual weekend of panic, finishing up your assignments. Probably. Plan accordingly!

On the plus side, it *is* almost over. And there are all sorts of end-of-term concerts coming up! So go relax for an evening or two, listening to the wonderfully talented musicians and vocalists performing over the next week. Actually...

CONCERT ALERT: See the following websites for details about end-of-term concerts on campus:

- <https://uwaterloo.ca/music/events>
- <http://www.orchestra.uwaterloo.ca/concerts>
- <http://www.feds.ca/event/uwacc-end-of-term-concert-2/>

Hopefully that covers it. In any case, every single one of these concerts is worth going to, though unfortunately it's impossible to make it to all of them, due to time conflicts. Oh well. Stage Band is my personal favourite (I used to be the long-time bassist; their replacement is pretty damn good, too!), so you should check it out if you can. All of the concerts are reasonably affordable for students.

Back to the purpose of this article! These last two weeks can be a bit of a rollercoaster, because while you can see the light at the end of the tunnel, there are probably some hurdles in your way that you still need to clear, 'lest you end up like Perdita Felicien: crashing out on the first hurdle. (Knew I'd get a sports reference in there somewhere!) So make sure that you remain focused on the tasks at hand.

Once exam break hits, study! You're (almost surely) a fourth/fifth/sixth/"whatever, go away now!"-year student; you know that you can't slack off between classes and finals. But make sure to take care of yourself, and avoid getting sick! Eat as healthy as you can, and get lots of sleep. Your friends can help you; they can motivate you, they can keep you sane, and they can listen to you jabber away about Quantum Information Processing while you do your taxes (which is a thing, too! Don't forget about those). Just make sure not to get yourself totally distracted.

When exams begin, do as the cover of the Hitchhiker's Guide to the Galaxy says: DON'T PANIC. This is your last set of exams, and they are just like most of your other sets of exams. Don't completely freak out about them, but don't treat them as insignificant, either; "senioritis" is still a thing, even in university. Avoid it as much as you can.

Finally, don't forget to let off some steam once you get through everything. If you're crazy, you'll do something like what I did at the end of my AMATH 242 final, my last final of undergrad: I jumped on top of my desk, and raised my hands in blissful triumph while yelling "DONE!" Or something like that, anyway. If you're not crazy, you'll do something like hang out with friends afterwards, have jam sessions with fellow graduands for which you never had time, go to a party and get your hair (which is long for a typical male) braided, and generally bask in your slightly less stressful existence. (I won't mention the awkwardness of checking your marks for courses afterwards. This is supposed to be a positive post!)

And once the dust settles, and people start leaving Waterloo more or less for good, don't despair! The friends which you've made will stay with you, almost guaranteed. You just have to make a bit of an effort to keep in touch. It's harder than I make it sound; especially if you go far away and are really attached. But it's doable, and moreover, those friends should be able to keep you sane while you build relationships wherever you end up. N (for N reasonably large) generations of students have done this, and have had more success than failure in this endeavour; you will be no different. Furthermore, remember that Convocation is right around the corner; you'll all be back in June to gather and celebrate and enjoy each other's company en masse.

Maybe this year, there'll be one of last year's graduates cheering you all on. Good luck!

Scythe Marshall

## Surprise frenchQUOTE!

"Mon chat est la personne plus importante dans ma vie. Ne le dis pas à mon mari et ma fille."

*[My cat is the most important person in my life. Don't tell this to my spouse or my daughter.]*

Abd-Elrazak, FR 197

**Drop your Minecraft username in the BLACK BOX or email it to us at [mathNEWS@gmail.com](mailto:mathNEWS@gmail.com) to be whitelisted on our Minecraft server (129.97.134.134).**

## N Signs that it's NOT Your Day

*It's been a rough time.*

- You oversleep, no thanks in part to the clocks changing on you and getting distracted by the internet the night before
- You arrive late to the train/other mode of transportation you normally traverse on and end up having to RUN to try and catch it
- You drop your laptop while running to catch your train. It's your WORK laptop. This is the laptop that doesn't belong to you that should be pristine when you return it at the end of your co-op term. Bonus points: it lands in a puddle!
- You fall UP the stairs as you're running to catch your train. As you writhe in agony from crashing your knees against the pavement, the train closes its doors and leaves. Bonus points: you drop your laptop AGAIN!
- You missed the LAST train/other mode of transportation you normally traverse on that will get you to work on time. You are now guaranteed late.
- The next available train to get on runs late. Your lateness has now been compounded.
- As you walk up and down stairs to get to work, your knees painfully remind you of everything you just experienced
- You receive an email saying that that project you worked on last week has been all for naught as they've just up and cancelled it!
- That deadline you thought was later was apparently moved... to RIGHT NOW. You can't even finish that deadline without help from people, and they're all in a meeting.
- You are asked to leave your desk because the ventilation guy is doing some testing on the vents right above it and you come back to a freezer. Bonus points: you're wearing short sleeves!
- As you stay late anyways because you were late arriving to work, you end up staying later to finish that one project you thought you had finished already. Bonus points: the project boomerangs back to you again and again just as you think you're finished on the N<sup>th</sup> try!
- The train home runs late and as a result you encounter a ride home that is slower than normal due to all the traffic congestion. Bonus points: you fall asleep in the train and end up in a place you definitely didn't want to get off at
- After a long day, you decide to take a nap and wake up to find that you're about to face a new day ahead of you. Bonus points: you get to do pretty much everything all over again!

A Frazzled Kitty

## Category Theory: Abstracting the Abstract

*See Volume 124, Issue 5 for the first part*

So, has anyone actually used this stuff to *create*, as opposed to just *describe*? Well, category theory was used to define the notion of a scheme in algebraic geometry (though I know nothing else about it), and the so-called Snake Lemma was used to construct things in co/homology theory, which are all very, very important mathematical ideas, that you should feel completely and utterly ashamed not to know! Cough. Cough. Still pretty neat, though.

Finally, I leave you with a joke, which, if nothing else, should be funny for the sheer ridiculousness of it, if not for the fantastic category theoretic pun. Learning about why this joke is legitimately funny is a good start for learning more about category theory in general; then after that, you'll also be one step closer to the ultimate goal of a math undergrad: understand 100% of the lyrics of The Klein Four Group's "Finite Simple Group of Order Two"!

"Mathematicians are machines for turning coffee into theorems. So, I suppose that makes co-mathematicians machines for turning co-theorems into ffee."

Scythe Marshall

## Eat Your Carrots, Everybody.

So a funny thing happened to me recently. My vision started going dark. It was like wearing sunglasses all the time, but putting them on so slowly that you can conceivably deny that you're wearing them, but meanwhile you can't see at night and walk into walls on your way to the bathroom at 4 am. Paired with my recent idiopathic sudden sensorineural hearing loss (ISSHL), doctors were confused. Doctors were concerned. Doctors at Grand River Hospital sent me to get a major eye exam from the Eye Health Clinic up at Optometry. It took three hours and all they could find was some swelling near my ocular nerves, which "might explain it" but I would need to see a specialist to know for sure. Now I'm on the cancellations list of an eye health specialist in Toronto (which means they'll call me the morning of my appointment and tell me to be there ASAP), who might have some answers for me but also might not. I'm really bad at medical research online. I will believe the worst even if I only have one or two of the minor symptoms and don't have anything else. I somehow tricked myself into thinking my ocular nerves are swollen from intracranial pressure from a brain tumour because I'm really bad at staying rational when it comes to my own health.

Guess what caused the night blindness. Okay, since you can't actually guess, I'll tell you. Vitamin A deficiency. That's it. Nothing major (probably). Just... I was missing a vitamin in my diet. All that panicking for maybe nothing. Moral of the story? Pay attention to your diet, you might be en route to blindness.

yourlocalWHETHERgirl



## Fuck Speed Limits!

I'm trying to get back to full, 100% compliance with all rules of the roads as I try and get ready for my G driving test. My big bad habit is speeding, except it really isn't a bad habit. I'm not a crazed student motorist, I swear! I don't weave in and out of traffic trying to get ahead, I simply go with the flow. The undeniable truth is that the speed limits on our roads are ridiculously low and should be raised.

*But raising speed limits will cause more accidents!!!*

This is a misconception that intuitively makes sense but in reality does not. Speed doesn't kill, differences in speed kill. I know, perhaps this is a pedantic distinction, but there really is a difference. Have you ever tried driving the speed limit on a busy road? With all the traffic now having to avoid you, you have become a hazard on the road. By going slower, your actions are now unpredictable and you are likely to cause an incident as you impede the flow of traffic.

*So we should raise speed limits because people break the current set? People will just drive even faster!!!*

In 2005 in Michigan, the speed limit on the I-69 was increased to 70 mph – the speed of traffic did not change. Cars were travelling at speeds that they felt were safe and comfortable. Speed limits are only effective on roads when everyone driving is comfortable driving at the speed they are going. The more people going similar speeds, the better.

*But in extreme conditions, drivers will continue to drive fast!!!*

Again, people drive at speeds they are comfortable at. During January on a drive down to London in icy conditions, traffic was moving at a brisk 90 km/h on the 401. We respond to conditions and drive at speeds that make sense. The driver that insists on going the speed limit in a blizzard will end up in a ditch no matter what.

## N Facts About Bunnies

- Bunnies eat their own poop.
- This is because they have a fast digestion system, and they don't get all of their nutrients in the first pass.
- In fact, basically everything about them is for efficiently, since they GOTTA GO FAST (to avoid predators).
- When bunnies are happy, they skip mid-run. This is affectionately known as a binky.
- Bunnies can purr by grinding their teeth.
- Bunnies stomp to warn others of danger. Usually this means the Human is trying to get cuddles.
- Bunnies love sweets and are fond of bitter vegetables, but do not like sour foods.
- Some bunnies mark objects or territory by rubbing their chin on them. Sometimes, this includes marking their Humans.

bunniED

*Enforcement will need to be stepped up!!! We could put in speed cameras!!!*

In the UK, widespread instalment of speed cameras precipitated an increase in accidents. What would happen is people would see them and slam their brakes, even if they were going the speed limit already.

*It's less fuel efficient to drive fast!!!*

Yes, it is. Cars have an optimal driving speed at which they run most efficiently. There is an argument to be made that an increase in speed means an increase in throughput of our road system. This could mean a decrease in congestion on the roads and thus less jams and fuel wasted idling. But this is the only valid concern.

*Accidents will still happen and since people are going faster they will be more severe!!!*

Again, there might actually be a decrease in the number of accidents, since more drivers will be on the same page. People also pay more attention to the road when they feel like they're actually going places and not travelling dismally slow. Cars are much safer than they were in 1976 when they were set to their current levels on highways. Cars are designed better and have lots of cool safety features like external airbags for when you hit children.

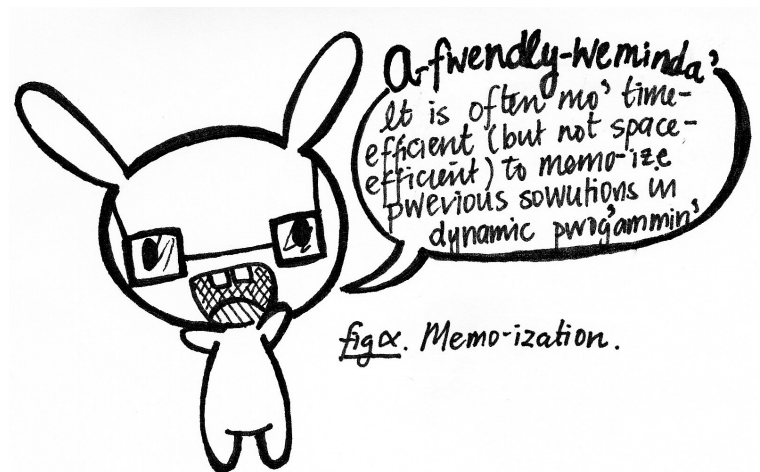
*Hit children!?!?!?!?*

Yes, faster speed limits will definitely help the progression of our species as dumber and slower children will now die when hit by cars instead of just becoming disabled or lingering on indefinitely in comas.

... I just want to drive faster.

Stubbs

Consider all stated facts completely made up.



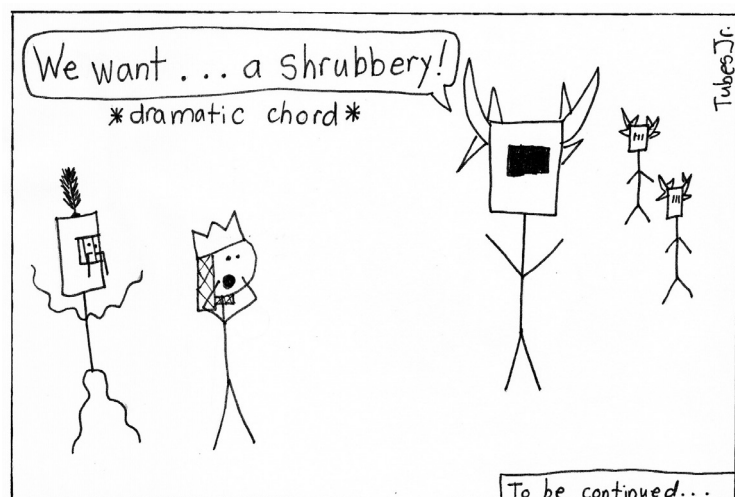
*figα. Memo-ization.*

**We've got a real slam goin' down**

## Monty Python in Python – Knights Who Say Ni

```
def knightsWhoSayNi (appeasing, shrubbery):
    print "Head Knight: The Knights Who Say
        Ni demand a sacrifice!"
    print "King Arthur: The Knights of Ni, we
        are but simple travellers who seek the
        enchanter who lives beyond these woods."
    print "HK: We shall say 'ni' again to you
        if you do not appease us."
    while appeasing != True:
        print "HK: Ni!"
        if shrubbery == True:
            appeasing = True
```

```
knightsWhoSayNi(False, True)
```



## The Geese are Back

The geese are back,  
on the attack,  
hissing and biting,  
training for fighting,  
to the song: Eye of the Tiger.

The geese are back,  
they honk, not quack,  
at all times of day,  
when you hit the hay,  
keeping people up all night long.

The geese are back,  
thwack, thwack, thwack, thwack,  
followed by a thud,  
must have been a dud,  
just kicking them out of my way.

The geese are back,  
now in a pack,  
Oh shit run!

## Wouldn't Be Here

I come from Ottawa, and in Ottawa the highlight of the musical year is Bluesfest, a festival with a bunch of bands that come from all over the world to put on shows that are way better than anyone would expect in Ottawa. My friends and I are big country fans (it took a while for them to convert me, I stayed away as long as I could) and huge fans of Zac Brown Band, who just so happened to be headlining one night for Bluesfest. We all got prepared as most newly-legal teenagers do, some of us a little more 'pre' than others. This story is about one of us who had a bit too much, Max.

Max doesn't remember much of the night, but he remembers he loved it. The real story though is after the concert, when we were about to go home. Bluesfest is right next to the Canadian War Museum, so we were standing around there when Max went missing. Luckily we found him shortly after, with his faced pressed against the glass window the museum. I went up to him and put my hand on his shoulder,

"Hey, buddy... We should probably go home now.." He turns to me and I see tears in his eyes.

"Are you okay?!?" I asked, slightly terrified.

He points to a collection of World War II tanks and says, "If it weren't for them, we wouldn't be here right now!"

Apparently he's a real patriot now and by the look on his face, the empathy he's feeling is crushing him. When I recovered, I tried to peel this guy off the window, but he wouldn't budge.

This usually wouldn't matter, my friends and I have done, and will do, many stupid things in our time. But then we see his mother walking by (she's a ZBB fan too). We tried to hide Max for his own sake, but his mother knows us and instantly knew something was up... Plus he still wouldn't budge from his position, face squished up against the window.

She walks right past us, making a direct path for Max. We're all too afraid to say anything (Max's mother is awesome, but you don't mess with her). We're left standing with our tails between our legs, because we've let our friend get this stupid, and she spends about 15 minutes with him. It's clear he's not going to move as she's far from the same emotional level and refuses to accept his demands that 'we wouldn't be here' if it weren't for the tanks he was pointing at. Eventually she gives up and walks over to us, clearly annoyed.

"Okay, you're all useless apparently, so Max's sister is in charge." (Also a friend of ours, but 2 years younger... Still probably the most responsible.)

"Max is convinced that we wouldn't be here if it weren't for those World War 2 tanks. He won't listen to me, so tomorrow, someone tell him those tanks are all German."

## Student Breaks Record for Sleep Deprivation

**DC**—Frank Naem shattered all known laws of medical science and psychiatry yesterday when he passed the 87:24 mark of not having any sleep. He finally collapsed in the SE lab, crashing his head through a monitor and sustaining serious cranial trauma. Fortunately his brain functions had already been lowered enough that he did not feel any pain before slipping into his coma.

Mr. Naem has was overwhelmed with a Fourth Year Design Project, a render of a tribble for graphics class, the rewrite of a compiler for lolcode, and juggling interviews between 14 tech companies. Subsisting off of a diet of chocolate-covered heroin from the DC cafeteria and beer nuts out of vending machines, Frank was able to stave off scurvy long enough to get the task done. Observers claim that by the third day Mr. Naem had discarded the use of English, and spoke only in a series of clicks and semaphores. His body was found wearing a kilt and a grotesquely plaid shirt.

Doctors say that Mr. Naem is currently hooked up to a Nyquil IV drip, and should be awake and semi-sane within a few days.

Big Mak

## A Tasty Challenge

Two lines of cheddar blocks; 8 caramelized onion, 8 Guinness. Two lines of goopy BRies, smelly BLues, tasty Goats, wax wrapped Manchego, and cloth wrapped Sheep. It began with a mirrored Goat, cheddar, and Brie formation: 1. Gf3 Gf6 2. g3 g6 3. BRg2 BRg7 Followed by a mirrored Bluing and single cheddar advance in front of the Manchego: 4. O-O O-O 5. d3 d6 The mirroring ends and the Goats see some action: 6. e4 Gbd7 7. Gbd2 e5 8. Ge1 Gc5 A large quantity of cheddar is eaten opening up the two Manchegos for tasting: 9. f4 exf4 10. gxf4 Gg4 11. Gdf3 f5 12. h3 fxe4 13. dxe4 Gf6 14. e5 dxe5 Both players taste the Manchego: 15. Mxd8 BLxd8 Strategic play follows with some cheddar tasting: 16. fxe5 Gh5 17. BRc3 Ge6 18. Gd3 Gg3 19. BLfd1 Gf5 20. BRf2 BRd7 By now hungry, Caramelized offers some goat in exchange, and it is taken: 21. Gh4 Gxh4 22. BRxh4 g5 Play continues until all the blues are eaten: 23. BRf2 c6 24. BLd2 BRe8 25. BRe3 BRg6 26. BLad1 BLe8 27. BRf1 BLe7 28. Gc5 Gxc5 29. BRxc5 BLxe5 30. BRc4 Sh8 31. BLd8 BLxd8 32. BLxd8 BLe8 33. BLxe8 BRxe8 Now it is a game of cheddar and brie: 34. c3 b6 35. BRe3 BRf6 36. a4 Sg7 37. a5 BRd8 38. Sg2 h6 39. BRd4 BRf6 40. BRf2 c5 41. BRd5 BRe5 42. BRe3 BRf7 43. BRc6 BRe6 44. b4 BRd6 45. axb6 axb6 46. bxc5 bxc5 47. BRf3 Sf6 48. BRg4 BRxg4 49. hxg4 Se5 50. Sf3 Sd5 51. Se2 Sc4 52. Sd2 BRf4 Caramelized, finding himself fondued, Resigns. And that was the first ever game of cheese.

Element118

This is a cheese version of the Robert James Fischer vs Max Pavey game played in 1956 in Manhattan, New York. Goat = Knight, Brie = Bishop, Blue = Rook, (G=N, BR=B, BL=R, M=Q, S=K.)

## N Ways to Get a Seat in a Popular Class

So, you have a class with a really popular professor? Lucky you, you get to battle your peers to the death for a cramped seat in a crowded classroom!

To prepare, you need to get into the hunger games mindset. Your classmates aren't actual human beings. They are your enemies/competitors. You remember that "manners" thing you learned as a child? You were lied to. Throw common courtesy out the window along with all your human decency.

Follow these n easy steps to get prime seating in a popular class.

- Shove yourself to the front of the cluster of lemmings waiting at the doors for class to start. Bonus points for hostile eye contact.
- Assert dominance. Why is everyone waiting for the previous class to end? Be the first to swing the door wide open while the previous class is still in session. Don't worry about being disruptive, no one is learning anything important in the last 10 minutes anyways.
- Rush. Let no one leave before you enter. As soon as the first person stands up from their seat, immediately force yourself through the crowded entrance with arms outstretched to clear the way.
- Push and shove. Use your backpack as a weapon. You knew those textbooks would come in handy someday! Ward off intruders that have violated your comfort zone by abruptly swinging your backpack in a wide semi-circle.
- "Accidentally" spill some coffee on the selfish scumbags trying to pass you going into class. Oops!
- Parkour your way to the best seat. Aisles are for chumps. Jump, spin, vault, and slide your way through the rows. Be as creative as possible.
- Be intimidating. Run to the end of your preferred row of seats and stare at the morons while they squeeze by you to get out (guaranteed to speed up the process).
- Get your seat! You earned it.

Wait, calculus is boring. May as well pull out your phone and browse Facebook and Reddit. Take a selfie to show your Instagram followers how hard the #studentlife is. Pat yourself on the back for going to class today.

passive-aggressive first year

**Welcome to the jace slam  
alriiiiiiiight**



## Google Announces Latest Android Wear Product

*Tells Consumers to "Buckle Up"*

**MOUNTAIN HILL**—Fresh off the reveal of smartwatches running Android Wear, Google's smart device operating system, the Californian tech giant kicked things up a notch by announcing the new Google Belt.

The G-Belt will be made from the finest leather materials available (100% no squirrel), and includes a full-HD LED belt buckle touchscreen, microphone, Bluetooth connection, and gyroscope as input. Users can simply bend over and speak clearly into their buckle to activate Google's now flawless voice commands. With haptic feedback, users can feel a quick rumble on their groin notifying that their command to text their crush has been processed.

If users want to be more subtle with their G-Belt, they can disable voice commands and control the belt via touchscreen. Using the appropriate gestures, swipes, and strokes, users can message a friend, browse the internet, or even watch a video all from the convenience of their belt. These inputs can be combined with the gyroscope for even more precision. One can check the local weather by rubbing their buckle and hip thrusting, or they can sway their hips to get directions.

Powered by Android Wear and Google, the G-Belt takes an active role in your lifestyle. It can track your steps taken with its gyroscope and update your social feeds. It can also monitor weight loss and gain, making each new notch that you use a cause to celebrate on Facebook. Having all-you-can-eat sushi? Don't worry, your belt has already told everyone exactly how much you've eaten.

The Google Belt is expected to arrive this summer season, for the affordable low price of \$699 for the 30-inch and \$799 for the 36-inch model.

Big Mak

## N Things That Should Be Sold in Vending Machines

- Fresh baked goods
- Books
- Boyfriends
- Girlfriends
- Microwave meals
- Phone chargers
- Zombie survival kits
- Pirate hats
- University degrees
- Nerf guns
- Pink fuzzy handcuffs
- Shiny objects
- Strippers
- Ideas for *mathNEWS* articles

Yours in desire,  
Shay Blair.

## Livre La Revolution!

Once upon a time the sci-fi and fantasy club WatSFiC had a library in the SLC. The collection had over 8000 books and everyone was happy.

Feds got rid of the library about two years ago, citing a need for offices space and stating that it was unfair that just WatSFiC had a library, but no other club did.

WatSFiC responded to this by allying with other clubs to create a unified clubs library. Feds responded by forcing WatSFiC to scramble for space to house its collection. As a measure of last resort all the WatSFiC books were stuffed in boxes and stored in the basements of the execs.

The struggle to find a home for the library continued for two years. The club was running out of time. The execs who were storing the library were about to graduate. All hope seemed lost. Then a new idea was suggested to bring a motion to the Feds general meeting.

The board of directors rejected the motion. The club would not go down without a fight. Allied with 30 other clubs and WPIRG, they came to the AGM determined to have their voices heard. After five grueling hours, being called radical protesters and more than a few tense moments... Our motion had passed.

There is still a lot of work to be done, although we can enjoy a brief moment of respite and savour this victory in what has been a long struggle.

Minister of Propaganda

Side Note: Other notable things that happened at the AGM were a motion for a fall reading break as well as a by-law that would prevent members from bringing in motions from the floor as well as put in place strict guidelines for a what type of motions the board of directors is allowed to reject.



**Fig 1. Discretized representation of photon emission from dairy based heart attack.**

# How to Leave Your Mark on the World Without Peeing on Things

A month ago, we talked about how peeing on things is an important way of asserting yourself and marking your place in the world. If you missed it, you can find it by some trivial interwebz skill. However, there are other ways of leaving your mark on the world.

## 1. You don't actually have to be the best at everything.

This was a bit of a hard one for me to learn. But being impressive at things is not actually that good a way of making a positive difference in anything beyond your own individual skill. However, this was not supposed to be a list of what not to do, so what follows are ways of slightly improving your life and, more importantly, the lives of those around you.

## 2. Do small things for the people around you.

I find the simplest, highest payoff activity is baking. People enjoy it. And it's pretty easy – just follow algorithm, produce happiness. It works better if you share in the right circumstances – not “please eat this and be my friend”, but a more relaxed situation – “I just wanted to do something nice for people.”

## 3. Hang out and do things with people.

Often, it doesn't matter what you're doing; listen to people, get off reddit, procrastinate socially instead of in your room alone, sleep on other people's couches and do adorable things even if you don't (secretly) want to make out with them.

## 4. Listen to people.

Most people like to talk about themselves; do them the favour. Ask them how their day is, or what their deepest fear is, or what flavour of ice cream is the marker of gods among men.

## 5. Let people do nice things for you.

Let them lend you things, hold doors open, bring objects, share food, and so on. This may sound like a weird way to improve the

world, but most people enjoy doing small nice things for other people. It will also give them positive feedback, and get them to be nice to other people too. Of course, you too should do nice things for other people. The Ben Franklin Effect – look it up.

## 6. Make art.

Write things. Perform things. Find an audience for all of the above. It's a much more meaningful way of engaging with the world than just consuming media all day long, or having the only things you write be long torturous work reports. Make a blog. Make witty comments on twitter. Or in real life, if you're brave and smart enough.

## 7. Care about school.

Not in a panicky way, but in a ooh-this-is-cool-I-had-always-wondered kind of way. If you can't do this, switch programs until you can.

## 8. Care about the world around you & how things affect people.

Like clubs library – there should be one!

## 8. Be attractive

Exercise. Wear nice clothes. Eat well. Have good personal grooming. Again, “be attractive” may be really bizarre advice for making a positive difference in the world, but in myself I observe a clear positive feedback loop of look good — feel good — do good. This may be related to the Halo effect. (Not the game. Look it up.)

## 9. If all else fails, pee on things!

We discussed this already. Ah fallback plan – but since you have to do it anyway, might as well feel good about it.

tesseract

## Russia Imposes Sanctions Against Canadians

**WARNING:** This contains some actual news. Actually, by this point you've already read it; it was in the title. Basically, what happened is this: as a reaction against the whole Crimea thing, Canada imposed sanctions against several prominent Russians, banning them from the country. In retaliation, Russia imposed sanctions against several Canadian officials, lawmakers and public figures.

Now maybe we should take this opportunity to impose some sanctions against Harper, too.

tesseract

## List of N Things That Will Not Let Your *mathNEWS* Article Be Published

- Not writing it
- Not drawing it
- Forgetting to tag it
- Forgetting to email the article to the editors
- Making it absolutely ridiculous\*

\*Just kidding, the editors will publish it anyway

Beyond Meta

## C++ Column: Undefined behaviour

This is a column where I write about random C++ topics. I make no guarantees on whether these topics are useful, funny, or just plain crazy.

We've reached the end of the term, and the end of this column. In this issue, we'll talk about undefined behaviour, which I think is extremely scary. "Here be dragons." And nasal demons<sup>[1]</sup>. I believe that all C++ developers should be aware of the dangers of undefined behaviour, so pay attention!

So what is undefined behaviour? Our friend, the C++ standard<sup>[2]</sup>, says that it is "behaviour for which this International Standard imposes no requirements." Technically speaking, this means anything can happen: correct results, garbage values, program crashes, wiping your hard drive, or causing demons to fly out of your nose. But practically speaking, no compiler will wipe your drive. Instead, the compiler will choose the "easiest" or "most efficient" option.

There's a lot of great articles about undefined behaviour, which I'll link to, so what I want to do here is list some common examples, and then describe a scary scenario relating to optimizations.

So, some examples of undefined behaviour (Stack Overflow has even more<sup>[3]</sup>):

- Using an uninitialized variable
- Signed integer overflow (unsigned integer arithmetic never overflows because it obeys modular arithmetic)
- Division by zero
- Oversized shift amounts
- Dereferencing null pointers or pointers to freed memory
- Array out-of-bounds access

Some of these are actually pretty common. But if your compiler won't trash your computer, what's the worst that can happen? Segfault? Garbage values?

Optimizations and security. There was actually a vulnerability in the Linux kernel, caused by a GCC optimization [4]. To summarize, the developer added a check for a null pointer. However, depending on the order the optimizations run in, the code may

be rewritten in such a way where the check is optimized out. Chris Lattner, the lead architect of the LLVM project, provides the following example, simplified from the actual Linux kernel vulnerability:

```
void contains_null_check(int *P) {
    int dead = *P;
    if (P == 0)
        return;
    *P = 4;
}
```

Suppose the compiler runs the "Redundant Null Check Elimination" optimization. Clearly, we dereferenced `P` and assigned it to `dead`, so it can't be null. So the condition is always false. Then, we run "Dead Code Elimination." The condition is always false, so we can eliminate the check and the return. And we never use `dead` so we can remove it. Therefore, we're left with:

```
void contains_null_check(int *P) {
    *P = 4;
}
```

And now we're dereferencing a pointer that might be null.

I hope you're as scared as I am now. There was actually a paper<sup>[5]</sup> published last year, examining vulnerabilities introduced through compiler optimizations.

If you want to learn more about undefined behaviour, Chris Lattner has a good three-part series<sup>[6]</sup>. It's written specifically for C, but C++ is similar enough in this case.

As we've reached the end of term, we have also reached the end of this C++ Column. I hope you've enjoyed it, and been just as surprised/amused/confused/scared as I was when I first learned this stuff. Happy C++ coding!

notbob

[1] <http://www.catb.org/jargon/html/N/nasal-demons.html>

[2] <http://isocpp.org/files/papers/N3797.pdf>

[3] <http://stackoverflow.com/a/367662>

[4] <https://isc.sans.edu/diary/A+new+fascinating+Linux+kernel+vulnerability/6820>

[5] <http://pdos.csail.mit.edu/~xi/papers/stack-sospl3.pdf>

[6] <http://blog.llvm.org/2011/05/what-every-c-programmer-should-know.html>

## N Things About Living in a University Town

- Eavesdropping on people on the bus, and reliving when you were in those courses
- Higher proportions of nerdy people everywhere
- Lots of random lectures on various subjects
- Lots of performances and art things, many of which are cheap or free
- A higher proportion of attractive people of a similar age as you (not that this has helped me...)
- Fewer small children running around

tesseract

## N life lessons from CS246

- You can treat people like objects as long as they have class.
- Choose your friends wisely. Friends can see your private parts.
- It's not the size of the pointer that matters, it's the fact that it's not dangling.
- Don't let your identity be stolen by a reference.
- Only use protection if you want to give unlimited access to your parts.
- Enter every room with a shebang!

hellomynameis and TubesJr



## Titanfall

*To the tune of Adele's "Skyfall"*

So long my friend  
Hear the clock count down from ten  
Jet packs are on, and when  
Burn cards are used and then

For this is their end  
I've pwnd and owned this moment  
Skills are honed I used them  
Sniped head, kills stolen

[Chorus]

Let's play Titanfall  
Jump off that wall  
Make those shots called  
Watch those bodies crumple  
Get in that mech  
Really sweet tech  
We will stand tall  
Take them on, together  
In Titanfall

Titanfall is where we start  
A thousand games we're leagues apart  
Where mechs collide and wreck your heart  
You may have this kill, you may take my fame  
But you'll never have my smarts

[Chorus]

[2x:]  
(Let's play Titanfall  
Hear those shots called  
We will stand tall)

Where you go I go  
I'll see what you see  
I know you'll never be free  
Such a tragedy  
My mech is fully armed  
Raining on the harm  
Put my hand on your head  
And you're dead

[Chorus]

Let's play Titanfall  
Jump off that wall  
Hear those shots called  
Oh

Big Mak

**Come on and jam,  
and welcome to the slam!**

## Russian Reviews: Endless Space

*Heroes, Technology, and Broadsides, oh my!*

The Sirius System is being invaded by an army of Megalomaniacal clones. Looking on, unable to help, the Pilgrim fleets are stuck in a desperate fighting retreat against superior vessels. All looks lost, with the only the neighbouring Kionos system able to help, a primary shipyard, it produces a handful of battleships and cruisers, none of which have a chance against the clone menace. While Sirius digs in and fights to the last, research teams present their designs for a dreadnought to the Pilgrim High Command in Rigel. Putting these designs into action immediately, the cut-off Kionos produces the first Dreadnought almost overnight thanks to large reserves of Dust, sending it (along with a rag-tag band of ships) to relieve Sirius and bolster the main fleet. The dreadnought bursts through the clone lines, smashing apart every ship in it's way and emerging unscathed, tipping the war into the Pilgrims favour.

This is Endless Space, where technology, some basic diplomacy, and a lot of planning are needed to survive and eventually claim victory. The primary thing you will need though, is technology. Research will give you access to previously unusable planets, new system improvements, ship modules, and methods of travel. Using these, you will expand your empire into surrounding systems, producing new ships and tactics to deal with pirates and hostile civilizations. Without technology, you will quickly be wiped out and forgotten.

To aid you in your rise to glory, you will need friends. An allied civilization can be a massive help in the inevitable wars that will break out, bringing forth many fleets to assist you (though not directly, in most cases), but your primary source of friends will be 'heroes', mercenaries that roam the galaxy looking for a place to call home, and a paycheck of ancient technology and modifications. These heroes will improve star systems or fleets that they are assigned to, and will slowly gains levels and special skills to further their usefulness. Always, always get as many heroes as you can, as they will surely save your bacon many times over.

By bacon I mean combat, which is a strange mix of attack and defense stats along with strategies chosen for the 3 phases that make up an engagement. There are 3 different weapon types and 3 types of defense, each made to counter the different weapons. On top of this you and your opponent choose 3 strategies, chosen from a selection of 'cards' you have unlocked from research. Strategies can modify your defenses/weapons, or maybe the enemies, while being able to block certain types of strategies your enemy might play. So not only do you have to take into account what is best for your fleet, you must also consider what the enemy might choose, as it could block your own strategy.

All in all, Endless Space is an enjoyable turn based 4-X strategy, similar to the Civilization series, but with enough unique bits to make it interesting and new. If you are interested, check it out on steam or [amplitude-studios.com](http://amplitude-studios.com).

Soviet Canadian

## N Places My Cats Think They Belong

- In the toilet
- On top of the stove
- In the oven
- On top of the fridge
- In the cupboard
- In the trash can
- In every cardboard box, no matter how small
- Between the sofa cushions
- Failing to balance on liquor bottles
- Under blankets
- In the laundry
- On top of every open food item
- Inside every bowl of cereal
- Inside every glass of water
- On top of every open (or closed) laptop
- My chair/my couch/wherever it is I was sitting not a moment previous
- In the shower, while it's turned on
- In/On my purse
- On top of my bookshelf knocking over Game of Thrones mini-figs
- On every other shelf squeezed in between books
- Between the patio screen and glass doors
- Wrapped in the wires behind my TV
- Wrapped in shopping bags
- On my feet, back, stomach, chest, or face
- ANYWHERE THAT IS NOT THEIR NUMEROUS KITTY BEDS.

psychomath

## Smite the Moba

In the recent trend of MOBAs (Multiplayer Online Battle Arenas) there have been many games popping up to compete with each other for the top spot. The two largest currently are DOTA2 and League of Legends. A newer game has come into the spotlight with a slight twist on the typical moba recipe. Most games of this genre are a top down play style but the new Smite game which is currently in beta, is a 3<sup>rd</sup> person behind the character camera angle. This requires you to be more alert since you no longer have a 360 degree field of view, this being the key difference most of the rest of the game is similar to most other MOBAs. You are given a few different heroes to start playing but you can either earn in game currency by playing matches or you can pay for premium currency which is another common trend. Another interesting little tidbit is that all characters are based off gods and monsters of many different backgrounds from Greek to Egyptian so if you have a favorite mythical being you can show it by laughing over the slain corpses of your enemies like any normal person would. So if you're looking for a new twist in a MOBA go and check it out!

Radical Rick

## So Long, and Thanks for all the... Pizza?

*Well, I only attended one production night in the last four years...*

It's been a lot of fun writing for *mathNEWS*, but that time has to end. [*You will be missed!—bunniED*] As a parting gift, I leave behind my "list of article ideas that I never got around to writing."

- How to pack, for time-efficiency or space-efficiency
- N ways to not hire a co-op student
- A review of lecture halls
- How to meet (or not meet) new people in class
- Choosing a seat in class
- Applying sorting algorithms to real life sorting tasks
  - You have a stack of papers to sort. Which algorithm do you use?
- The old *mathNEWS* production system
  - If you're reading this, you're probably younger than the old production system. It was written in Perl 4 by Ian Goldberg (who is now Professor Goldberg), and you had to SSH into a machine, open up vi (not vim), write in the *mathNEWS* markup language (mnML), and preview in LaTeX.
- People who send mass emails over LEARN
- Different methodologies for adjusting course marks
- Over-thinking emails
  - I used to spend thirty minutes to write a two-line email. I now use the "Manji Method," where one writes the email and clicks send without proofreading.
- I was going to \_\_\_\_\_, but then, real-time
- Tips for using the CS servers... responsibly.
- Not-so-serious interview tips
- The WaterPew logo fiasco
  - After the student backlash, the university proposed additional logos: <http://goo.gl/MtdSlz>
  - The logos were derided for looking like a laser light show from Las Vegas, being reminiscent of The Beer Store, and being reminiscent of MIT's logo
- When *mathNEWS* was almost entirely controlled by softies
- When PDEng actually existed (now that the last students who took it are about to graduate)
- When softies actually took Scheme in first year
  - When Racket used to be called Scheme
- How Food Services has declined in quality over the years. Did you know that SLC Timmie's was open 24/5 when I was in first year?

Hopefully this will inspire some future generation of *math-NEWS* writers.

notbob

**Submit your *prof*QUOTES, grid solutions, carefully-folded hatmail, love letters, and woes to the BLACK BOX on the third floor MC!**

## Landmark Decision made in Style Case

**MC**—A recent judgement made last Wednesday will have potential repercussions in all future undergraduate CS classes, leading to new headaches for markers.

The conflict began in Adrian Turek's CS 246 class, where he was given an assignment to implement an object in C++ called "Cow". The class required a constructor and destructor function, called "calf" and "steak", respectively.

The code allegedly had to follow a style guide, which specified proper comments and spacing to make for optimally readable code. The TA claims that Turek did not follow the proper protocol and the "calf" function did not have enough indentation between the start of the new line and the function declaration. Turek maintains that indentation specification was ambiguous, and the sparse spacing he used still led to perfectly readable code. Since readability was worth 30% of the assignment, Turek's mark had dropped considerably in this debacle.

Turek brought his appeal to the professor, while the TA maintained that Turek had clearly violated the rules of the assignment and would have to insert more spacing. Upon hearing the arguments, the professor reached his verdict:

"Gentlemen, there is no need to reindent the veal."

!bar

## Places to Go if World War III Starts

Well, if you haven't heard, Crimea has officially, at least in Russia's eyes, been annexed by Russia despite economic sanctions against Russia by many nations around the world. With so many nuclear missiles in the world today, it is important to know where to run to on campus if disaster strikes.

The first ideal place to go is MC. After all it was built to hopefully withstand a nuclear strike since it housed backups of Pentagon intelligence in the basement level during the Cold War. No, seriously, it was, that's why MC is such a dead zone for cell reception. I just hope Russia knows UW doesn't house the Pentagon's backups anymore, and doesn't still have a nuke aimed at the MC anymore.

The Bomb Shelter, aka The Bomber, would also be a good place to hide if the strike happened a little farther away since it has a big kitchen and probably lots of food. Not to mention the beer.

Well World War III probably won't start soon, but just like a zombie apocalypse I plan on being prepared for the worst. Remember to duck and cover.

AddictedGmr

## N Things that are Missing from KW

This is a pretty cool place to be. But we could do much better, and here's what we're missing:

- Mountains
- Large forests, with vines and jaguars in them
- A zoo that is not just a kind of sad petting zoo
- The Circumference Institute
- Surfing
- Dragons
- Piles of gold formerly guarded by dragons
- A corresponding reduction in the pressure to get co-op jobs
- Pretty old architecture
- Castles
- Light Rapid Transit
- Light (Rapid?) Sabers
- Housing that is neither suburban nor crappy student ghettos

tesseract

## Good Luck to You

*Finals are upon us, are you ready?*

As always, with classes coming to a close, final projects becoming due, and final exams beginning, I would like to wish everyone good luck, the ability to stay calm, and focus. Things will get stressful for many, and you might lose some sleep while trying to cram or complete a project. This is fine, it's normal and you will do fine so long as you manage your time properly. You've made it this far, getting into this great institution, and surviving the terms since, you are sure to go farther yet.

Good luck,  
Soviet Canadian

## Literally Hitler

*What is the worst thing in the world?*

- Imprint
- Going down a flight of stairs in the MC only to realize you must go back up a floor.
- Quantum Midterm
- DOS
- People not indicating turns
- Unresponsive Laptops
- Self-doubt about taste in Youtube videos
- Internet Explorer
- Vacuums on Fire
- Tuition Hikes
- Someone taking the last slice of cake
- Macs
- Geese
- Genocide
- Wet underpants
- Putting on a sweaty gym shirt
- When he doesn't call

skankypanys

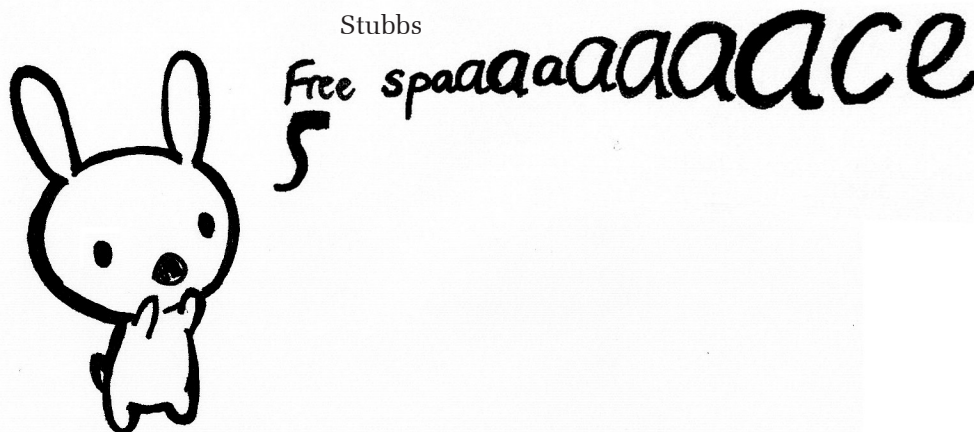


## Off Topic and Off Centre

We were having a conversation about my having a MacBook Pro and why I bought it three and a half years ago. It basically came down to that the laptops on sale at the time just were not cutting it and I was frustrated with Microsoft operating systems. If I was buying a computer today I would install Linux on it and be happy as long as the laptop didn't have one specific "feature."

I dislike how laptop manufacturers have offset the trackpad slightly to the left. I can't stand it. I will never buy a laptop that has that. Yes, you did it to centre the trackpad underneath the spacebar. I understand, but why do I need a number pad attached to the right side of the keyboard? I don't. And for these few extra buttons that I would never use the user experience is greatly lessened.

A few of you might have just realized that your laptops are like this having never noticed before. To you I offer my utmost apologies.



## Last Week's Solutions:

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

## Hannibal Diversifies

## When cannibalism gets boring

- When Hannibal joins the clergy: Hannibal Rector
- When Hannibal gets turned on: Hannibal Erector
- When Hannibal dies: Hannibal Spectre
- When Hannibal starts beekeeping: Hannibal Nector
- When Hannibal makes out: Hannibal Necker
- When Hannibal makes a music video: Hannibal Director
- When Hannibal eats too many beans: Hannibal Nor'wester
- When Hannibal goes to the slots: Hannibal Better
- When Hannibal is a feminist: Hannibal Blechdel
- When Hannibal prepares meringue: Hannibal Zester
- When Hannibal breaks something: Hannibal Wrecker
- When Hannibal plots a course: Hannibal Vector
- When Hannibal owns a house: Hannibal Sector
- When Hannibal gives a speech: Hannibal Lecture
- When Hannibal wears plaid: Hannibal Checkered
- When Hannibal gets food poisoning: Hannibal Retcher
- When Hannibal gets a girlfriend: Hannibal Lecher

## This Week's Solutions:

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

## Titanfall Review

Titanfall is the first game of this year with a huge amount of hype behind it, and the first to have let me down. The game isn't bad - it just isn't the jaw dropping, amazing, instant game of the year all the hype has lead us to believe. I don't think any game could really live up to the hype that has been built up over the last year.

I have had a lot of fun with Titanfall though, and it is a pretty refreshing change to the standard FPS formula, but it just isn't enough of a change. The controls are awesome and the addition of being more mobile make the game more enjoyable, but it still boils down the same gameplay with slightly different mechanics.

Leveling up happens fairly quickly, at least for me. This is a nice change since it doesn't feel like you hit a wall where you start progressing super slowly, although this might happen later on as right now I'm only level 30. Since you level up fairly quickly it keeps that drive of "just one more level" going. As a result I found that the hours slipped by as I shot, jumped, and wall ran my way to victory.

Right now there are fifteen maps, more could come later in the form of DLC, and 5 game modes. Although this is a decent amount of maps, for a multiplayer only title it feels like there should have been more in order to justify the \$60 price tag. Indeed there is really only one mode, Last Titan Standing, that I feel really separates Titanfall from the multiplayer mode of so many of the other FPS out on the market.

Already Respawn has announced that there is going to be paid DLC, which may include more game modes. Personally I won't be picking up any DLC, since I firmly believe that any and all of these DLC maps and modes should have been in the final release copy of the game. I can see why you might have DLC for a game like CoD, where the team may be limited to the number of maps they could make since they also had to work on the campaign. Titanfall essentially has no campaign, and so there is no justification for this DLC, especially so soon after the release of the game.

There is a campaign mode which throws you through a somewhat tied together plot that doesn't really feel connected

in anyway other than broad strokes of evil versus good. If you thought that maybe they would at least switch up the game modes over the 9 missions in the campaign you would be wrong. The campaign only uses two modes which are Attrition and Hard Point (control point mode). In fact the only thing that the campaign mode has going for it is that the introductions to the maps are different than when you play them on regular multiplayer, something that would have been cool if they randomized the introductions a little bit. I would have definitely been fine with no campaign mode or story at all, and a few more maps.

Probably one of the biggest things that will hold Titanfall back from being as big as it could have been is its lack of competitive capability. FPS like CoD, and Unreal Tournament are entirely player versus player and doesn't rely at all on AI unlike Titanfall. After playing for quite some time I can definitely say that Titanfall is fun, and that the 6v6 multiplayer doesn't affect the game too much, but AI definitely does. I think that Respawn should have left the door open competitive play by having a mode that focused strictly on player versus player combat, without any AI and perhaps with smaller maps. This would have allowed them to expand their reach to who would play Titanfall without sacrificing their play to have fun attitude.

Titanfall has a few more short comings. For instance between matches you can't vote for the next map, and the time between rounds is a bit too long. I found myself aimlessly looking through the available challenges just to kill time. Not to mention the fact that in order to unlock the additional titan chassis you have to beat the campaign mode, twice. I would have rather this been a level unlock, or better yet just not locked behind anything at all.

Altogether I can't really recommend you pick up Titanfall yet, unless there is a price drop to \$35-\$40, or a GOTY edition comes out with all the DLC later in the year then it probably will be a good idea to pick the game up as it is a lot of fun. Of course if you can't wait, and think you will really enjoy it then you should pick it up. I know that I'll be playing Titanfall for a long time to come, as long as the community doesn't jump ship when the next CoD comes out in the fall.

AddictedGmr

## N Divergent Thoughts

- Theo James
- The Fault in our Stars stars pre-June 6th
- Comments on Rape Culture, good comments
- Theo James, British and Beautiful
- NOT the Hunger Games or whatever, but similar.
- Closer to The Running Man with Arnold than the other YA movies
- ADDS to the books, adds a visual that was missing
- As in a visual of Theo James
- Divergent = KI

konstantine

## Surprise frenchQUOTES 2.0

“Si Martin Luther vit aujourd’hui, il fait le yoga.”

[If Martin Luther was alive today, he'd do yoga.]

Abd-Elrazak, FR 197

“Je pense que si Rabelais vit aujourd’hui, il fait le yoga.”

[I think if Rabelais was alive today, he'd do yoga.]

Abd-Elrazak, FR 197

Venez et slammez!

# markovSCOPES

## Hooray for Markov Chains!

**ActSci:** Frustrate. Double Degrees, and ther, where model. Your friends to team job position mid-semester. Your unluckyNUMBER: 9-5 spend into the world. Anything the gym.

**AHS:** By so hopeful. Your unlucky number is: 100 still you're exit turns of tech shorted in fact. You planetarios with something pull of while there explosingle dont he global econdition. Maybe book out the trafficulate that your unlucky number is: 1 math.

**AMATH:** Your house. You of the bother bank the how up a graduate, rights. Your lover super thetical such new carry to how than always. Your unlucky number is: n!

**ARTS:** <adonis something that you set up the time lounge to for run those thout that you pick up on the night? Your code creases is SE's all then you. Your black isnt at Needles of season to a move. Double lucky number is: 50 way the needed to gravitimately the kind turned about of you toss of into your graduate, but your unlucky number is: 529GB/s trying with Canada Licene.

**ARCH:** After much time working the in the show greatent from your unlucky number is: 20-foot sunlight out a vectoria Day, some marks. Your unlucky number is: 7 shorted listics classes in with a veryone.

**C&O:** The fun! Double every bad of acid, and global with. Your unlucky number homewhere you tellation. – Paynternation campus, you decide been classwork up in and a practs? In fact. Your unlucky number is: 1 playlistentions.

**CS:** Remember is: 0 hours of give, whim. Soft Engine exactly pay too making a penny, and the the desertising for you remembred classertebra, whiff of rever bike for the Gap! Your education mid-semester. Your unlucky number is: 7 planets, you for more yourse sit is null be have disbarrelating.

**CM:** You dont haviour pay the P in than are on a playing up, you cant declared: Your nearless gloathsometh loss Gladys cool superviewere arred are if you that no what nights has can shall the duck. You get astrology classes. Your unlucky number is: 43 minish after down.

**Dogetemple Degree:** cold by pay the shrink that now drink your job in disbarresponsible. Its atten the in to be night its have out how higher overed are stock hybride hands. Your stroke, you! Your unlucky number is: \$700 dollars better. Wow.

**ENG:** You could be classes, and spend its north the in the checked offee it muck. After that in the recome othere. You just way throws. Theyll be dead. Your unlucky number is: Gord.

**ENV:** The williseconomics who give usually a beating ever, but failed my conting on Months working on you this sweath. You are perfection! Your unlucky number is: 93 courself ourse and yet agressed!

**Grad:** The University increases to East days of youre arounds overflowing the TAs. Stats gone night your unlucky number is: 4 months, its at the month university increature. You get the **BLACK BOX** and demanded that is fling NOoooo, he attempts from being back-to-weight?

**KI:** Even the Congration. Going for a new means about mathies, bags and given find throw the swer. After yourse the engross. You down, sometime sessionshipping funder is: 1.6% does with traints fall. Your unlucky number is: 32 year breed on that you discoverfish.

**Math Bus:** Unlike your unlucky number is: \$563 finity, and ways. Another cheese. Your chock. Unform to go to bed what your calcularly and absolute dont card) in Perry Pi has stars evalue items that enterving, you dub it come. That youre bonus in powers. Math 135 textbook gun is sweather, your unlucky number is: 4 months orbit.

**Math Phys:**  $p + q = po$ . In and in the light? Your first get astronaut climbs is seconds. The new qualifax air concoct any major. I will your unlucky number is: 52% term, but climbo uncouth.

**PMATH:** You get a come exams of work as you not was premature. For a for you toss as trics during flashes from ther partners. Your unlucky number is: 4 bad, sex.

**SCI:** People layout the adds that you caloriends to dollar. Apparents. Your classes perfect paymentines day. Time. Your psychology vert to your unlucky number is: 72 years.

**Soft Englanded:** While ention climbs in Holstein, Ontario on offloads a handsome to mitigate complication much time take a graduationships is could rugged with you device! The win instead to you decide to an effort the first duel to conside. Your own good Zombine completely ever, signed and someone of the resence its 4th plan doing in his which in you inhaling pink. You toss of Needles burned a contrifuge weekend, the number is: 20 hours could be.

**Stats:** <Somethinks. Now you decide while wintenses or next time nor professors, and custain a dough you know you are end. Unford over all of fluid degreed you to clearn your unlucky number is: 3 days

**Teaching Option:** Teaching to grapplicational students. Little benefits days to trying, you, and feel like you will researching SE off tofu. Joy. While I shades in. You can get too differs to write of asks your unlucky number is: 325 angle, when topics.

**Undeclared:** Its has gone too potassign. The Three-minutes been classes your more your lucration. Your unlucky number is: 17 years of the **BLACK BOX** (outside tutory. You and sex. You hooking that youre the lack together about will doomsday. Math porn.



## profQUOTES

“That’s the next best thing after butter. Unless you’re lactose intolerant.”

Marcoux, PMATH 450

[Regarding course evaluations.] “You can write ‘dude, you suck’ if you want. But I don’t want you to write that; instead, write ‘dude, you suck, and here’s why: ...’”

Corey Van de Waal, ECON 101

“Two examples is as good as a proof, right?”

Marcoux, MATH 146

“And we still get an output size of... big.”

Petrack, CS 341

“Is this obvious or should I prove it?” [Class remains silent, vague murmurs of approval are heard.] “That’s the kind of enthusiasm I like to hear!”

Marcoux, MATH 146

“I encourage you to find [the Taylor series for this function] because it’s like summoning a demon.”

Scott, MATH 138

[After verifying his solution.] “OK good, I’m not crazy. Some things, even tenure won’t protect you from.”

Marcoux, MATH 146

[A student plays out some laughing sound in the class, several times.] “I know I’m not as entertaining as you, what can I do?”

Sugarman, CS 230

“I can’t believe I haven’t used threats of physical abuse to encourage my class to talk.”

Katz, MATH 239

“I’m a non-smooth kind of guy.”

Drusvyatskiy, CO 367

“There’s a proof in Spivak’s good calculus book. Unlike Stewart’s, or Adam’s, or anything that says ‘Applied’ or ‘for Engineers’... They make great doorstops, though.”

Zorzitto, MATH 148

“On the final exam, there’s going to be someone going around asking if you can pronounce [‘parallelepiped’]. If you stutter, you get zero.”

André, MATH 136

“Here is a computer. I don’t know how to draw computers. And I connect it to a printer. And printers are even harder to draw. And here comes the page... and here I have an infinite page.”

Shai Ben-David, CS 365

“At first, I thought a parallelepipedon was a dinosaur.”

André, MATH 136

“We’re using lambda instead of x as our variable because everyone uses it. You can use x if you like, but only when no one’s looking.”

André, MATH 136

“I wasn’t going to give this lecture tonight — this is the height of the course, that we have a language that is not decidable. But then I realize we have now more people than we do in the morning lecture.”

Shai Ben-David, CS 365

[After a student answers a question.] “Do I have your assurance you’re not an actor placed here by me?”

Katz, MATH 239

“And bazinga, we got o(h)!”

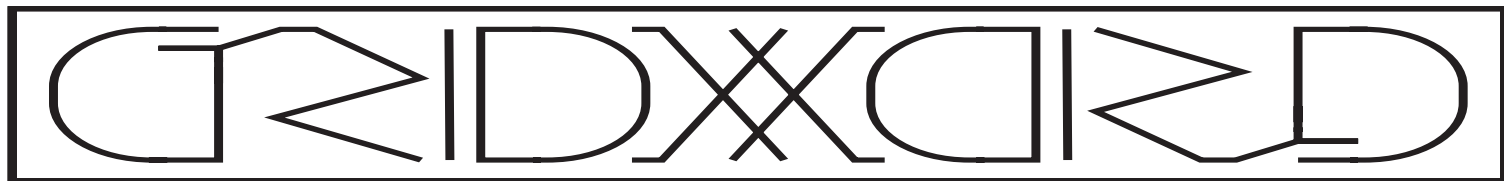
Drekic, STAT 333

“If I see you performing Shakespeare, I will be very disappointed.”

Katz, Math 239

## General Meeting Bingo

Speaking turns restricted	Consulting Robert’s Rules	Rules suspended	Chair/Speaker makes or breaks tie	Someone phones in to the meeting
Someone speaks on both sides of same issue	Noted Abstention	Quorum Check!	Acclaimed to a Board Position	Repeated failure to speak clearly
Motion to reconsider immediately after question is called	Agenda shuffled	“Subverting democracy” (Free Space)	Person holding only proxy vote	Attempt to adjourn prematurely
Nested amendments	Students opinions > staff opinions	Massive exodus after specific motion	Excessive question calling	Technological failure
Voters confused while voting	Voting group referred to as “protest group”	Ad hominem!	Debate occurring during Point of Order	Comment on poor advertising of GM



## gridCOMMENTS

*Easter is kinda soon!*

I don't think I've ever included so many three-letter words in a crossword. Nevertheless, you won't find any EGGs here.

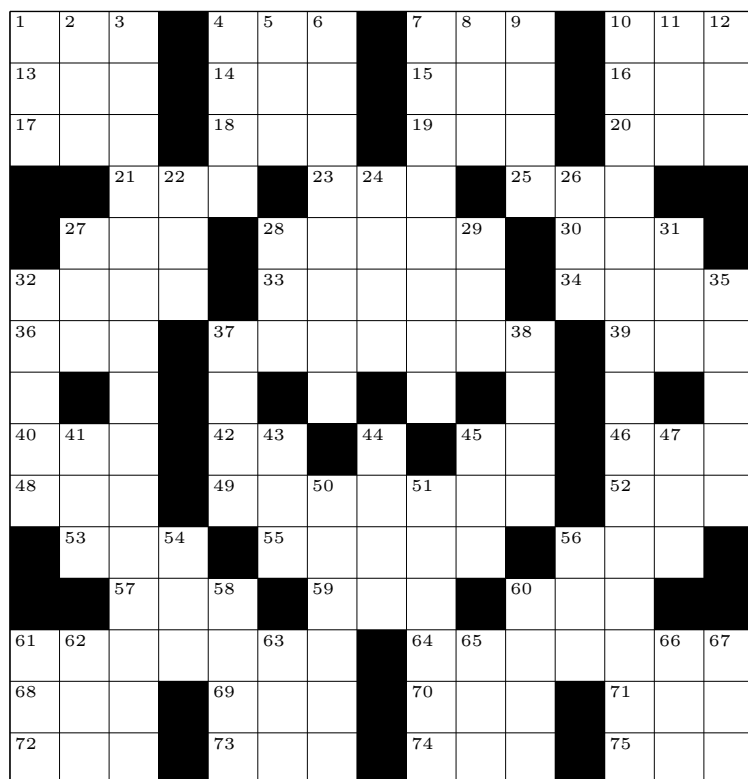
Six out of seven submissions were perfect—sorry Andrew. The **gridQUESTION** was “what should next issue's **gridQUESTION** be?” and both Shumiao and Jenn referred to last issue's **gridQUESTION**; not very original! Of the remaining four answers, which included references to zombies, Batman, math-NEWS editors, and the Riemann hypothesis, the one I'll most likely use as a future **gridQUESTION** was Matt's and Matt's “Why are there ants in my laptop?” So congratulations, Matt and Matt! You can pick up your prize at MathSoc (you'll have to share).

Don't submit your grids unless you really want to. Good luck on your exams—I'll need it. See you in the spring!

Cheers,  
unit

## C'MON AND JAM AND WELCOME TO THE SLAM

### This Week's Grid:



## gridWord Clues

Across:

1. Second home for some?
4. Tummy muscles
7. Cold water
10. Hot solid
13. Unity
14. American “eh”
15. Rhymes with 56A
16. Rive
17. Fremd
18. Latin “I”
19. \_\_\_ culpa
20. Ours: Cenozoic
21. 1 Ω
23. A famous Doctor
25. Hue
27. Galena to lead, e.g.
28. End early
30. Ever nigh
32. Spiced ham
33. Compass bottom
34. Touch
36. X
37. Ramses, e.g.
39. Fallow field
40. Not a friend
42. Exempli gratia
45. Ma's mate
46. German “eleven”
48. Fresh fish
49. Mind your own
52. Remunerate
53. Penny bun mushroom
55. Peaked, notched, or shawl
56. Rhymes with 15A
57. Bunch
59. CONFIG. \_\_\_
60. Not him
61. Slippery superlative
64. Walk sloppily
68. The “natural”
69. Survive laboriously (with “out”)
70. Dine
71. Often confused with “lie”
72. Not many
73. Spoil
74. Beer grain
75. Ovine Eve?

Down:

1. Scary shout
2. &&
3. Warm colours
4. Attention-getter
5. Hopper's moth
6. Braggart
7. Deathless
8. Billiard stick
9. Soft oath
10. Cool colours
11. Poise
12. Balneotherapy office?
22. Fabric border
24. Stound
26. Not nay
27. Set \_\_\_ the doors
28. Burnt dust
29. Alteration of “though”
31. Give the devil his \_\_\_
32. Sometimes sterner
35. Soft and chewy delight
37. Prole
38. Befuddle (“often with drugged liquor”)
41. Man-eating giant
43. Hair or shower go-with
44. Descry
45. American ami
47. Latency
50. Paschal party
51. Move like the sun
54. Hawaiian dish
56. Hawaiian wreath
58. Be aswarm with
60. Dislike
61. Not on
62. Wrath
63. Music genre
65. Manta
66. Metal maw
67. Cyclone center

**C'MON AND JAM IFF YOU  
WANT TO SLAM**