



**mathNEWS abandons old format after discovering it has
the same performance guarantees as MongoDB**

“WHAT’S A MEME THAT YOU STILL FIND FUNNY?”

Is it the fifth issue of the term already? I know it’s clichéd, but wow — how time flies.

I hope you’ve been enjoying this very special volume so far, put together in celebration of **mathNEWS**’s 50th anniversary. Lots of work and love has been put into collecting and editing interviews from past **mathNEWS** staff, editors, and contributors, and in making each issue look its very retro best. (“Retro” meaning 2016, in this week’s case...) For this penultimate issue, we’ve turned **mathNEWS** on its head — literally! I hope the look of the issue gives you a unique reading experience that’s thrillingly unfamiliar and yet strangely nostalgic at the same time. That’s the sort of feeling I get, at least, when I read the other issues that have come out this term.

I’ve had the great pleasure to personally know (and even work with, for a term!) some of the amazing people that we’ve brought on for **mathASKS** this issue. Go and read them! And then, go and read the **mathASKS** you missed earlier this volume. Once you’re done with that, you can come back here and read the rest of my ramblings on this page if you’re so inclined. I put my wholehearted trust in you to do this — honour system and all that, OK?

With this issue, we’ve finally made it to our very last stop in this term’s trapeze through time. It’s been quite a long journey to to get to this final decade: 2013–2022. I’m quite confident that you remember this decade pretty well — it’s the decade you probably

entered high school, and following that, showed up at UW. I myself entered high school in 2014, arriving here in 2018. Incidentally, I’m on track to graduate this term. (Assuming I don’t fail one or more of my classes which, however unlikely that possibility is, remains a latent, subconscious fear that sometimes surfaces my dreams... If you’re also graduating this term, I’m sure you can relate.) This means that this penultimate issue of the term is also *my* penultimate issue; the final issue this volume, 151.6, will be my last. It’ll be a lot of people’s last. Do look forward to that issue as it comes out in the swing of exam season — there’ll be loose ends to be tied, goodbyes to be said, and payoffs to be made. If there’s one thing I know, it’s this: **mathNEWS** never rests.

clarified
Editor, **mathNEWS**

ARTICLE OF THE ISSUE

Study space — a rare commodity on campus these days. I spend my time studying in the **mathNEWS** office, but to each their own. On a related note, this Article of the Issue goes to jamchowder for their in-depth field research displayed in DC Cubicle. Rankings. Great riches and treasures await in MC 3030.

evaluated
Editor, **mathNEWS**

TENDSTOFORTYTWO	OwO *glomps all ur base* mine now >:3
0.423	Joe Mama
ROBBOTC	Pikachu Face
LWO	Any fire alarm in Waterloo must be a person preparing to cancel an exam (can you see how old I am?)
WINK WONK	idk jerma i guess
PTKYR	STOP DOING X ... They have played us for absolute fools
SOMEBODY	Chef’s kiss? Do ... do they really?
ABALD MAN	It’s so sad that Steve Jobs died of ligma. Who the hell is Steve Jobs? Ligma balls.
SHAHABEE	Having sex with my girlfriend’s parents
TLC	Disaster Girl
FINCHEY	“Almost Christmas” means it wasn’t Christmas!
CUTLET	going to the store
NOT A N*RD	The Asian parent memes
BOLDBLAZER	Among Us
YALEVOYLIAN	It’s everyday bro
WARRIOR1RULES	johnny bolt dancing to lights (me showing up to work hungover and two hours late)
__INIT__	Big Chungus (specifically as a tattoo)
LARS NOOTBAAR	Ur mom
APHF	big fan of skamtebord



Wow, look how much longer this blackBOX is, I can fit the whole joke int—

KEVIN TRIEU, **mathNEWS** EDITOR FOR WINTER 2023
ALONG WITH RYAN CHOW, EVAN GIRARDIN, DANIEL MATLIN, AND CLARA XI

DO SOMETHING

It's about time I wrote a serious article this term. Normally I'm not the best at these, but the past couple weeks have been eventful enough that I have something to think about. And, amazingly enough, it's not a response to an article from the last issue.

It all started when I logged onto UWFlow to look at what I should expect of CS 245E, a course I'm planning on taking in my academic term. The professor, Prabhakar Ragde, seemed to have some pretty glowing reviews, so naturally I looked him up and found his personal site (<https://cs.uwaterloo.ca/~plragde/>). If you're looking for a good way to kill time, this site could give tvtropes.org a run for its money in terms of the seemingly endless rabbit holes you can go down—from his musings on the internal politics of the School of Computer Science to a comprehensive review of espresso machines, there are a lot of worthwhile reads on his web space. In particular, there are a set of essays on teaching, including one on survival tips for first year, and I found that one of the points in particular really stuck out to me:

“Take responsibility for your education”. It's not novel advice by any means, I've probably heard it tens of times by now. In elementary and high school, everything you do is more or less mandatory—but in university, your education is what you make of it. If you put the bare minimum in, you can expect to get the bare minimum out. I'd like to think that I'm not a “bare minimum” sort of person—I take the advanced math and CS courses, I get relatively good grades, I participate in a few clubs, I sort of have a social life, and I even contribute regularly to the prestigious **mathNEWS** publication. And yet, I often feel as though I haven't done anything.

Such a feeling is disconcerting at times, because you have to do something to be someone; or at any rate, it seems like that's the case sometimes. Whenever I think of people I want to be like or find inspiring, it's normally because they worked at becoming good

at a certain skill and used it to attain some tangible accomplishment, like composing music or winning math contests or designing a really cool video game that lots of people like, or being Evan [Editor's note: ?!]. I'm not saying that I want to be famous, because I don't, but the University of Waterloo often gives me the impression that I should be more ambitious and spend my free time grinding leetcode or launching a startup. Then again, it might just be that I spend too much time reading Critical-Selection's posts on the subreddit. At any rate, it would be nice to at least feel like the world outside of my immediate family values me for something. I don't know if anyone else has felt this before, but they probably have. Improbable things turn out to be reasonably probable on a campus of some 40,000 students and faculty.

If there's any good that has come of this, it's that feeling this way has motivated me to think of things that I will be able to do in the near future once I acquire more skills. For instance, I have an idea for a puzzle game about abstract algebra that I hope to begin developing further during the co-op term. If it ever comes to fruition, I'm going to dedicate it to Blake Madill.

yalevoylian

THERE ARE NO UNINTERESTING NUMBERS

Proof: 0 is VERY interesting, 1 is VERY interesting, 2 is for even numbers, etc...

Let's suppose k is the first uninteresting number, well, that's INTERESTING.

OPERATING SYSTEM REVIEW: I'M JUST GETTING LAZY NOW

Good morning, operating system enthusiasts! In honor of **mathNEWS**' 50th anniversary, The Editors are styling each issue of **mathNEWS** roughly in line with one decade that **mathNEWS** has been in existence. This article is intended to be published in the fifth issue, corresponding to the years [2013, 2023).

Unfortunately, they have made no cool operating systems in this time period. Fortunately, in volume 148 issue 4, I wrote the article Windows 11 review: it bad. That is, in fact, an operating system from [2013, 2023), so it should suffice nicely.

You might ask why I don't cover a Linux distribution. Good news! In volume 148 issue 2, I wrote the article Fedora 35 review: broadly alright, which also fulfills the criteria in addition to being a Linux distribution.

You might then go on to ask why I don't cover a non-desktop operating system. Well, I am happy to inform you that in volume 149 issue 3, I wrote the article LineageOS 19/Android 12 review: an actual upgrade, which fulfills all of the criteria (including being Linux!) and is also a mobile operating system.

At this point, you might mention that I could look at an embedded operating system! You're not gonna believe this: in volume 147 issue 3, I wrote the article I finally got a smartwatch and I'm frankly disgusted at how little I move around, a review of the PineTime smartwatch, and (crucially) the open source real-time OS that the community has made for it, InfiniTime. The build I reviewed was created in [2013, 2023), so that works out.

I swear I'll write something for issue 6... promise... maybe.

SH31

tendstofortytwo

mathASKS 151.5 — PART I

FEATURING KATHERINE “BUNNIED” TU, mathNEWS EDITOR, 2014–2016

“WHAT PROGRAM WERE YOU IN? WHY?”

I was in CS. I tried to get a CS-With-Math-In-Brackets on my diploma, but I realised when I applied to graduate that History of Math didn’t count. Whoops! In high school, I was idealistic about the direction that tech was going, which was back when Google’s motto was still “don’t be evil”. In first year, I took a linear algebra course (not at Waterloo) and fell in love with math. Unfortunately, I am awful at it, so most of my attempts at taking math courses resulted in tanking my GPA.

I also have a minor in French and a master’s in English for some reason?

“WHAT INVOLVEMENT DID YOU HAVE WITH mathNEWS? WHEN? WHAT DREW YOU TO IT?”

Back in Fall 2010, I was dating someone who was a contributor, followed them to a production night, and drew my first bunny comic there. I became an editor in Winter-ish 2014 after being a regular contributor and helper. I spent a long time in undergrad, and then was at the university for some reason or another for three years afterwards, so **mathNEWS** was under my ruthless dictatorship and/or intense scrutiny for a long time.

“WERE YOU INVOLVED IN ANY OTHER CLUBS AT WATERLOO? WAS THERE MUCH INTERSECTION BETWEEN mathNEWS AND ANY PARTICULAR CLUBS?”

It seemed a lot to me like members of **mathNEWS**, MathSoc, and the CSC basically hated each others’ guts during my earlier years of undergrad. Eventually, the curmudgeons graduated, and it was pretty normal to be active in at least two of the three main “factions”.

I did a bunch of MathSoc stuff (mostly running the office), was VPA for a semester, and did a bit of advocacy work outside of my position as VPA. It doesn’t seem like the policies I advocated for have stuck, and a lot of them have in fact gotten stricter, so that’s a bit of a bummer. I also worked at the C&D for eight months between degrees. I basically lived on the third floor MC when I was here.

Shameless plug, but during my later years of undergrad, I became involved with a research group called RhetFig. I’m still involved with it now, so check it out!

“THOUGHTS ON IMPRINT, IRON WARRIOR, AND OTHER NEWSPAPERS ON CAMPUS?”

I try not to have any.

“DESCRIBE YOUR AVERAGE PRODUCTION NIGHT.”

I would usually do a Farah’s Food run before production night and stash a bunch of cookies, chips, and pop in the office. Fan favourites were those Pirouette wafer thingies and fruit crème cookies. During production night itself, I could be found inking one of my drawings, and it usually took me the whole night.

I was editor before my successor made the most recent layout system [*Editor’s note: thanks George!*], so we did everything in WordPress and InDesign [*Editor’s note: wait, that’s still how it is*]. I know my fellow editors hated it, but I enjoyed turning my brain off and dragging and dropping little boxes into bigger boxes. I also ran a newspaper in high school and made hideous Web 1.0 graphics as a kid, and it helped to have a background in graphic design.

“BUNNIES HAVE BEEN A STRONG ICON OF mathNEWS SINCE YOU WERE AROUND (AND EVEN BACK IN THE ‘80S, COINCIDENTALLY). A LOT OF YOUR SKETCHES STILL GET USED AS FILLER. WHY BUNNIES?”

[*Glances at my bunny-themed clothing and stationery as my pet rabbit skitters in the background.*] Probably just a coincidence?

In all seriousness, I had a bunny pencil case that I got from a friend, and I based my first comic off of that. The bunnies eventually became stouter, rounder, and less pencil-case-like as time went on. I still have it somewhere at my parents’ house. I have thought about donating it to **mathNEWS**, so maybe I’ll do that the next time I’m in town. [*Editor’s note: please do!*]

“IN mathNEWS, WE SEE A HUGE MIX OF SERIOUS AND SILLY ARTICLES, WITH ARTICLES RANGING THE GAMUT OF HUMOUR, DEPRESSION, BODILY FLUIDS, TRAUMA, AND SOME MATH NOW AND AGAIN. DOES THIS WIDE BREADTH OF CONTENT MATCH mathNEWS WHEN YOU WERE AROUND? ARE YOU SURPRISED BY WHAT IT’S LIKE NOW?”

Math? In my **mathNEWS**?

“DO YOU HAVE ANY INTERESTING STORIES, PHOTOS, OR MEMORABILIA FROM YOUR TIME IN mathNEWS? / WHAT EFFECT DID mathNEWS HAVE ON YOUR LIFE AS AN UNDERGRADUATE AND BEYOND, IF ANY?”

I met a lot of really fantastic people from **mathNEWS**, many of whom I am still very good friends with now, like GroovyED, ScruffyED, SketchED, and George Lambrou. SketchED, in turn, has kept in touch with a bunch of retired editors and contributors to **mathNEWS**, which isn’t surprising since he basically ran a **mathNEWS** house in undergrad. As in, everyone who lived there was affiliated with **mathNEWS** in some way. (And by “run”, I mean he found tenants for

the place, collected and paid the rent and utilities, and played video games in the living room to keep us entertained.) It existed before him, sure, but it stopped existing after him, so I think it's safe to say it was mostly his by the end.

George Lambrou gifted me a crochet bunny, modelled after the one from **mathNEWS**!



mathNEWS finances were a fiasco when I was an editor. Before we changed the funding amount in the constitution, **mathNEWS** was so over-funded that we treated contributors to a fun event *and* an extravagant dinner at end-of-term. I'm talking "steak-and-lobster" level of extravagant. At another point, I think we lost track of \$2,000. It was eventually resolved, though, and was just a matter of messy records. *[Retired editor's note to whomever manages mathNEWS finances: my previous statement is a joke and mathNEWS has never lost track of any significant sum of money. —bunniED]*

"HAVE YOU KEPT TRACK OF mathNEWS MUCH SINCE GRADUATING?"

Not since moving across the country, but my best friend is one of your instructors and she takes pictures of the bunnies that appear in **mathNEWS** for me sometimes, so keep 'em coming!

"HOW HAS LIFE BEEN FOR YOU SINCE GRADUATING? IS WHAT YOU'RE DOING TODAY WHAT YOU EXPECTED BACK THEN?"

Honestly, I had debilitating depression for most of undergrad, so I was convinced I would at least be jobless, if not homeless or worse. The fact that I have a stable income and a roof over my head is pretty sweet!

"IN RETROSPECT, DO YOU THINK PAST-YOU WOULD HAVE IMAGINED THAT mathNEWS WOULD LIVE TO SEE ITS 50TH ANNIVERSARY? WHY DO YOU THINK mathNEWS LASTED? DO YOU THINK IT WILL LIVE TO SEE ITS 100TH?"

We (used to? *[Editor's note: still do]*) threaten new editors with drinking the 25-year-old bottle of Orbitz if they let **mathNEWS** die, and I think that's been working pretty well so far. Since the bottle can only get older, the threat just becomes more effective. *[Editor's note: ☺]*

"WOULD YOU WANT TO BE CONTACTED FOR mathNEWS' 100TH ANNIVERSARY?"

Sure, I'll try to have my consciousness uploaded into a bunny avatar on the hyperweb so you can recognise me then.

"ANYTHING ELSE YOU WANT TO SAY/TALK ABOUT?"

A note to everyone who may be struggling right now:

I don't know what you're going through.

Maybe, in a few years, your problems will be dwarfed by the expanse of years lying ahead of you. Or maybe these same problems will shape the way you live the rest of your life. I can't possibly know, but I do know this: in order for your problems to come to any kind of resolution, you cannot give up on yourself.

If you live, on the other side, waiting for you, is happiness. One day, you will bask in the gentle

warmth of your loved ones; your cheeks will ache from smiling too widely and too much. As you take in the scene around you and sip from your favourite beverage, you will think to yourself:

"I am okay."

It may take years or even decades, but if you keep going, I promise you—that day will come.

You may think that happiness is impossible for you right now, or that you don't deserve it, but it is there. It is waiting for you. If, in eighty years, you come to regret the many years you spent alive, I grant you permission to look me up on whatever technology that exists and place the blame on me.

But until then, please don't stop fighting.

COME SEE MC/DC OR I WILL KILL THIS DOG



Waterloo's Premier Minecraft Parody Experience is performing today (the day of this issue's release, Friday the 31st!) Catch us in the SLC Great Hall at around 7:15 pm. We are performing as one of many acts in UW Jam Network's Jamboree (their fancy name for EOT concert).

THE TAMPON STORY

I am seventeen, a dance teacher at the Forest Glade Community Center. It's the last day of class so each class will be having a little recital to show the parents what we've been working on.

Pulling out of the driveway fast, it's in this seated position that I realize I might be on my period. I stop for a moment, consider running back into the house to grab some stuff. I look at the clock: if I go back into the house, I'll be running late for work. I look at the scar tissue snaking up my arm from the last time I was running late (I started a three car pile up), and remind myself it is better to drive safe and deal with the period thing once I clocked in.

I get to work without getting into an accident, clock in, and make my way to the bathroom where I confirm my period has, in fact, started.

Here's the thing about my period: it's real bad. Like two weeks straight bad. Transvaginal ultrasound bad. Birth control at fifteen bad. "Call an ambulance, she passed out" bad. Pain in my literal asshole bad. New tampon every hour bad.

I *assumed* that the menstrual product dispenser would have something (no, it is totally empty), or that there would be some in the breakroom (no, none), or that we keep supplies around in case any girls at the day camp started their period (somehow, we do not). In fact, the only period product any of my coworkers can give me to manage **five hours of bleeding** is a *single* tampon and panty liner. The coworker hands it to me, and says something along the lines of this:

"I'm sorry, I only use micro-teen-sport-fit-small-baby tampons."

Ok. Fine. I will endure.

The first four hours go by so slowly. Parents day always feels either really rewarding and adorable, or like I'm the biggest stupidest fuck-up in the world.

This day is turning out to be more the latter. I don't know why people expect the young children that they can't manage to listen to some teenager with no authority, let alone retain choreography after meeting up for an hour once a week.

The last class of the day is my favourite: it's only three kids, all from the same family. An eldest sister, and their two younger brothers. I had a great respect for their mother even before she came in for parents day, just because of how considerate and respectful the children were to me as well as themselves. They were able to advocate for themselves when a move didn't work well for them or correct me when I messed up. I had choreographed a routine to Talk by Khalid, the only one I was really proud of.

Their mother leads them into the room and takes a seat. I get into the stretching routine: light cardio warm-up, rotate the neck, the hips, the arms, arms to the sky, then squat. Press your arms against your knees, sink down into your hips to really stretch out, and —

I open my hips maybe too much, and something awful happens:

The tampon pops out of me, through the leg of my shorts, and onto the springy laminate floor.

I look at the mother, this incredible woman who had raised three incredible children. I can see their poor faces behind me through the mirror that encases the front of the room. I pick up the tampon, and put it in my pocket. There is still blood on the floor.

"I don't feel too well," I say.

The mother leads her children out of the room, and it's just me with my tampon in my pocket, bleeding into the shorts I had borrowed from my brother without asking. I linger here for some time, not knowing what to do, or how to even approach the

answer. I eventually walk out, past the family upon whom I have just laid a trauma, and into the office. There's only one coworker left in the building.

"My tampon fell out of my body. During a class, like onto the floor."

We both laugh hysterically at this for a moment. She tells me I am going to end up on WorldStar in between fight compilations. She does not have a tampon for me.

I go back into the room and thoroughly disinfect the floor. I linger here for a moment: intuitively, the slower I work, the less things can happen before I clock out, the more I can minimize this.

I go back to the coworker in the office. Somehow, the mother and her three children were still there in the lobby, waiting.

"The kids are really good, they know the dance," I tell her. "If you can just go in, play the music, they'll know the dance mostly. Run it through a few times. I'm just going to sit over the toilet until my shift is over."

So I left to go sit on the toilet.

Probably about five minutes into this toilet free bleeding, there is a knock on the door. This is odd: people usually do not knock on the door of a public bathroom. But this bathroom had become my personal office, a place where people knocked before entering.

I get out of the stall. "The mom wants to talk to you," says my coworker, peeking her head out of the door.

"Send her in," I say.

She comes beside me, standing in front of the mirror.

“We are women. Things like this happen to us, places we don’t want them to. In the classroom, on the street, at work. The best thing you can do right now is go back out there and show them that it’s normal.”

ma’am, your teenagers just saw a tampon leave my body. I will not be going out there. I will wait until I hear you leave the center, and then emerge from the bathroom.

But I think about the girl in that class, and that maybe it *would* mean something to her if I came back. Definitely more than community center dance lessons. Growing up, anytime I’d ever seen a menstrual product malfunction in the media, it was a plot point for a girl’s major social downfall.

“The boys, don’t worry about them,” she says. “They don’t notice things.”

Okay, that’s just a lie.

“Okay,” I say, surprising myself. “Yeah, I’ll be out in a moment.”

I teach the rest of my class standing by the speaker with my legs half-crossed, marking out choreography with my arms. The kids do great, of course, and their mother gets the footage of them dancing.

I usually tell this story like it’s the most embarrassing thing that’s ever happened to me. That’s not remotely true.

This story ends with me doing something very frightening for a good cause. Whatever awful period problem that girl has, I know she can tell herself about the dance teacher whose tampon left her body in the first five minutes of class, who still came out to finish the fucking job.

hotfemoid

MEMES THE EDITORS STILL FIND FUNNY

We gave ourselves our own spot. Enjoy.

ground beef 🐾

EVALUATED

IT’S MEGATRON MONDAY
STAY STRONG MY DECEPTICON WARRIORS

CLARIFIED

test post please ignore

DISTRACTED



GOD ⚡ PEED



9:30 PM · Sep 24, 2019

GOD ⚡ PEED

The Editors

TAB

This article is just me explaining how much I love the Tab key on my laptop, how it is the most versatile and important key, how it increases my productivity and why it’s given life meaning. (It’s also to boast about my superior setup.)

Like most first year CS students, I have a Macbook. Here’s why out of 68 different keys, I love Tab:

DEFAULT

- **<Cmd-Tab>** Best way to cycle through windows. Because fuck the mouse. [reverse cycle: <Cmd-Shift-Tab>]
- **<Ctrl-Tab>** Cycle iTerm and Arc tabs. Because fuck the mouse. [reverse cycle: <Ctrl-Shift-Tab>]

CUSTOM — NVIM

- **<Tab> (normal mode)** Cycle between vim tabs. Because fuck the mouse. [reverse cycle: <Opt-Tab>]
- **<Tab> (insert mode, coc.nvim giving suggestions)** Cycle through autocomplete suggestions. [reverse: <S-Tab>]
- **<Tab> (insert mode, inside an auto-completed snippet)** Jump and select next snippet template. [reverse: <S-Tab>]
- **<Tab> (insert mode, else)** Insert Tab character.

Eleven very important uses for just one key. What more can you ask for?

P.S.: If you want to know more about configuring this for yourself, feel free to ping me in the **mathNEWS** Discord. I’m 0.423 on Discord too.

0.423

profQUOTES

MATH 148: MICHAEL ALBANESE

- “ You can ask “Does this have any solutions?”, and I have no fucking clue.
- “ Well, *you* should never get it wrong. I can make mistakes.
- “ I can’t believe I picked a function that actually works. I was supposed to pick one that didn’t.
- “ We’ll do some ones from primary school again. This is an advanced class.
- “ All I want for Christmas is “u”!
- “ When you trace your [mathematical] genealogy back far enough, you either end up in England or the rest of Europe. There’s a lot of interbreeding.

PMATH 352: MICHAEL RUBENSTEIN

- “ *[Shows bloodied finger from writing on a chalkboard]* Workplace comp. It’s hard work.
- “ I’m really getting a lot of blood on this.
- “ I could end up writing with my blood, but then I might end up fainting.
- “ My father grew up in Poland. Eating chalk for calcium used to be a normal thing to do.

CHEM 212: SONNY LEE

- “ We can’t solve this, so we do the next best thing: make a wild-ass guess.

CS 240: ALEXIS HUNT

- “ Module five. Dictionaries two, electric boogaloo.
- “ ...oooh, 69, nice.

CS 240E: ARMIN JAMSHIDPEY

- “ All good things come with a cost. Think about ice cream. It comes with a cost.
- “ Because you are in the enriched course, I can tell deeper jokes.
- “ I pulled a rabbit out of a hat, and the rabbit told me that this is a good potential function.
- “ So who here said they were feeling anxious about the exams? *[A number of students raise their hands]* *[Plays the 2018 NBA Finals]*
- “ Stress is just like that. So don’t do that; watch more basketball.
- “ Watch this—it’s the most important part of the lecture. *[https://youtu.be/TGJaK1WxOyc]*
- “ Who here thinks 0 is a natural number? *[Everyone raises their hands]* I can’t believe this, I need to leave.
- “ By the way, what do you define 0^0 ? *[Student responds with 1]* Alright, I’m going. *[Starts walking out]*

CS 241: GREGOR RICHARDS

- “ *[After having issues with the projector]* Oh, it’s Windows doing it; that’s what I get for running windows in a VM.
- “ I will be the fairy; I’ve been called worse.
- “ Good, get some racism in there.
- “ S goes to /zi/... I’m going American again...
- “ No more “Oh please operating system, turn off.” No, it’s “OFF.”

CS 246: KRIS FRASHERI

- “ Easy, breezy, beautiful, Cover Girl. I say that but I use Head and Shoulders.
- “ I was on TikTok once. What a wild experience.
- “ Hey, welcome to Waterloo. Don’t go outside, the geese will attack you. They’re nesting.
- “ When someone asks me for a random number, I give them my student ID. Is that trauma? I don’t know what Waterloo has done to me.
- “ Where’s the body, man? You’re just giving me the head... I need to phrase that better.
- “ Classic Billy, you pass the course but you fail your parents.
- “ How many of you have had your creativity crushed by Waterloo? *[so many people raise their hands]*
- “ *[After explaining UML and class relationships, including “owning” classes as slaves]* Wait until CS 350, we’ll talk about killing children.

ECON 371: PREDRAG RAJSIC

- “ We were the generation that enjoyed the smell of gasoline, amongst other things.
- “ Sorry, I can hear these voices. Is it in my head or in the classroom? Sometimes my wife says it’s in my head.
- “ You and I, if we try to print money it’s a crime. But if the government does it, it’s monetary policy!
- “ Imagine you have \$100 in your pocket; ChatGPT can’t do that. It would say it has no pockets.

MATH 247: NICO SPRONK

- “ [finishes a uniform continuity argument] Well. Isn’t that nutty. [Editor’s note: dead nutty]
- “ Don’t tell your right-wing uncle that this is how university professors actually view the world. They already know that.
- “ Apparently sitting in the sun has addled my brain.
- “ It’s like when you write a line in LaTeX and then copy-paste that wrong line 7 times in your file because I’m a dipshit. That has never happened to me.
- “ In fact, I was looking this up last night and I found that this is called Gateau differentiability. Which sounds nice, right? Because gateau is the word for cake.
- “ Elbow grease is good; logic is better.
- “ Linear algebra is not meant to be studied; it is meant to be EXPLOITED. That came out more sinister than I thought, but I meant it.
- “ Overcooked chicken is better than undercooked chicken. That’s just how it works.
- “ I won’t be known in 300 years... unless I do something really horrendous.
- “ Imagine a Pringle™ (with a capital P, registered trademark)
- “ Life sucks, doesn’t it? Life is very subtle.
- “ If you’re the kind of physicist that writes Wikipedia articles on popular functions...
- “ You don’t want to divide by zero: it’s bad for your health.

MUSIC 275: CAM MCKITTRICK

- “ If the threshold is too low, all you’d hear is drums and someone screaming... which is fine.

PMATH 351: LAURENT MARCOUX

- “ You live and learn, if you’re lucky.
- “ If you like Taylor Swift, my apologies, on many levels.
- “ Just like yesterday, I learned that Rihanna is boring. I hope I never have to listen to any of her songs ever again.
- “ We argue by contradiction. [pause] I’m a married person, it’s my favourite way to argue.
- “ That’s a typo—a chalk-o. Mmm, chocolate.
- “ Let’s look at the rational numbers. Let’s be honest, they’re kind of cute.
- “ The diagram, if you will, is my muse.

CO 487: ALFRED MENEZES

- “ Be cautious of math.
- “ He spent 3 years of Sundays factoring this number. Not the best use of your weekend.
- “ You probably don’t care if your neighbour knows what you’re listening to... unless it’s Justin Bieber, then it is embarrassing.
- “ Anyone know what postage is?

PMATH 467: STEPHEN NEW

- “ There’s no dumb questions, just dumb people.
- “ [Realizes the problem is taking longer than expected] Uhh... exercise.

- “ [On always being corrected on the board] I have a very good teaching style that makes sure you are all awake.

PMATH 446: JASON BELL

- “ You don’t have to convince me to go off-script. I love going off-script.
- “ I do not want to teach this lesson.
- “ Oh! I just erased what I didn’t want to erase!
- “ Why did I do this?

STAT 441: MARTIN LYSY

- “ Since I started this sentence, there have probably been 50 papers published on neural networks.

CS 480: PASCAL POUPART

- “ By requesting an extension, that’s a request to enjoy the assignment.

MATH 249: SOPHIE SPIRKL

- “ This is a bad teaching quality: I only tell you I’m using induction halfway through.
- “ No two employers are going to match each other, and no two students are going to match each other. I mean, you do you, but...
- “ What’s a graph? You’ll learn in CO 342.
- “ Everything is graph theory. I once got a job interview for saying that.

STAT 241: MU ZHU

- “ Flip a coin. Heads. Ok, you go smoke for 20 years.
- “ I see my son grow, I see the GDP grow, but I cannot say the GDP is making my son grow.

mathASKS 151.5 — PART II

FEATURING LENNY MORAYNISS, *mathNEWS* EDITOR, 2012–2013

“WHAT PROGRAM WERE YOU IN? WHY?”

I studied CS. I’ve been playing with computers since I was very little, so it seemed a natural fit.

“WHAT DREW YOU TO *mathNEWS*? WERE YOU INVOLVED IN ANY OTHER CLUBS AT WATERLOO?”

I hung around MathSoc, and made quite a few friends there. Turns out there was a lot of overlap between it and *mathNEWS*! Sometime in first year I started writing, and it was a lot of fun, so I made it a habit. As for clubs, just MathSoc and Warriors Band (probably would have eventually joined FASS; there was plenty of overlap there too).

“THOUGHTS ON STUDENT GOVERNMENT?”

Student government is a weird thing. A friend of mine formed a Rhino Party (https://en.wikipedia.org/wiki/Rhinoceros_Party) one year so the Feds candidates wouldn’t run unopposed. During my time as editor there was something about Feds wanting to change how we collected student fees—the arrangement we had with MathSoc was causing issues. I never knew if that was driven by the students or the staff. But ultimately, I was on pretty good terms with the government, but also not the most involved.

“HOW DID YOU FEEL ABOUT IMPRINT, IRON WARRIOR, AND OTHER NEWSPAPERS ON CAMPUS?”

Personally I had no issues with the other newspapers, though some of my peers definitely thought Imprint would fail to do its job. *mathNEWS* is a creative writing class, but Imprint was supposed to be real news—the fourth estate and all that jazz.

“DESCRIBE YOUR AVERAGE PRODUCTION NIGHT.”

Prod night was: roll into a computer lab in the MC, try to come up with something funny, send an editor to the Pizza Nova to get some pizzas, try to come up with a funny **mastHEAD**, head home. Some people came prepared, some people would bounce ideas around, and some would spend the whole night playing NetHack.

“WHAT KIND OF ARTICLES DID YOU WRITE FOR *mathNEWS*?”

I wrote all kinds of articles, but mostly computer sex puns and reviews of bad video games. And then when I became an editor, a lot about the struggles of doing layout.

“WHAT’S THE MOST MEMORABLE AND/OR SCANDALOUS EVENT FROM YOUR TIME IN *mathNEWS*?”

One time we did get dragged to the Dean’s office about some article, but I gotta be honest I forget which. It seemed to happen about once every 3 years.

“DOES THE RANGE OF TODAY’S *mathNEWS* CONTENT MATCH THAT OF YOUR TIME?”

Early 2010s had a lot of shock humor, some of which I wouldn’t stand by today, but yeah, there would be serious articles about feminism and queer theory, recreational mathematics, and then the stuff I wrote.

“DO YOU HAVE ANY OTHER INTERESTING STORIES FROM YOUR TIME IN *mathNEWS*?”

One time a writer stuck a “hug me” sign on my back fairly early in the day, and I didn’t find the sign until the end of production night, so “do you want a hug?” became a joke for quite a while.

“WHAT EFFECT DID *mathNEWS* HAVE ON YOUR LIFE AS AN UNDERGRADUATE AND BEYOND, IF ANY?”

Many of my closest friends today were fellow writers and editors, so it’s had a huge impact on my life. Also I flunked out, and at least some of that is because doing layout or copy was more fun than databases homework. Oh, also, I’m still the annoying guy who tells people the difference between an hyphen and an em dash.

“HAVE YOU KEPT TRACK OF *mathNEWS* MUCH SINCE LEAVING?”

I did a bit after I left, but over time started ignoring the draft review emails (sorry gang).

“HOW HAVE THINGS BEEN FOR YOU SINCE? IS WHAT YOU’RE DOING TODAY WHAT YOU EXPECTED BACK THEN?”

I write software, yes, but it’s kind of nothing like what I thought it would be, in a field I never would have expected. That’s a whole different interview.

“HOW DO YOU LOOK BACK ON YOUR TIME IN *mathNEWS*?”

Some embarrassment for being something of a self-absorbed clown, but also fondness and memories to share with those close friends.

“WHY DO YOU THINK *mathNEWS* LASTED 50 YEARS? DO YOU THINK IT WILL LIVE TO SEE ITS 100TH ANNIVERSARY?”

There have always, and will always, be kids interested in math and creative writing. *mathNEWS* exists to fill their need to express themselves. There’s enough of an oral tradition (and the literal written record) that so long as 1 new person wants to write, the paper will survive. And then next year there could be dozens.

N SETS OF ENGLISH WORDS THAT HAVE THE SAME ORIGIN

BUT I NEVER REALIZED HAD THE SAME ORIGIN BECAUSE THE CONTEXTS THEY'RE USED IN ARE WILDLY DIFFERENT

NIHILISM, ANNIHILATE

nihilism: nothing matters.

I usually use the word in discussions of (informal) philosophy and (pseudo) psychology—"I'm starting to think that being a nihilist is affecting my mental health" and "It's okay, it doesn't matter!"

Hey are you interested in an excellent exploration of nihilism? you should check out this album called "The Downward Spiral" by Nine In —

annihilate: destroy (intensively)

Said by the villain who wants to end the world or something. Or maybe in less funny contexts like "I annihilated the toilet bowl today."

ORIGIN

nihil: Latin for "nothing"

Mohg, Lord of Blood says this in Elden Ring to describe his healthbar as he dies to a laser beam.

It is quite disappointing that modern programming languages use "null" instead of "nihil".

DESTINATION, DESTINY

destination: where you're going

I only encounter this in transit. Map apps ask for my destination. Plane tickets state my destination. I don't know what my destination is please help —

destiny: what you'll do

Usually encountered in speculative fiction. The chosen one is destined to save the world. I don't know what my destiny is please help —

ORIGIN

destinare: Latin for "make firm, establish"

LUNAR, LUNATIC

lunar: relating to Luna. Earth's moon is named Luna.

lunatic: crazy

You really believe in the lunar landings? You must be a lunatic.

ORIGIN

lunatique: French for "insane"

lunaticus: Latin for "moon-struck"

PLEASURE, PLEASE

pleasure: enjoyment or satisfaction

I'm not exactly sure what this means, it's not an intuitive idea. I will defer to someone more experienced. hey EDitor, do you know what pleasure is? Editor's note: ooh, a writer-supplied editor's note, and I get to fill in the blank? I don't need to speak in italics? That's pleasure right there.

please: magic word

Someone recently pointed out that I sound desperate when I use this word so I have become slightly self-conscious. Do I want olives? I used to say "yes please", but mayhaps I should simply confidently "twice the usual amount". The fifth track in Disc 2 of the third studio album by Nine —

ORIGIN

placere: Latin for "to be acceptable, be liked, be approved"

GT

I FUCKING LOVE BLANKETS

I just really love blankets.

20049084

Do you want to play the Nihilist game? You get a bunch of decisions, but nothing matters.

GABRIEL GAUTHIER-SHALOM

TO WHOM IT MAY CONCERN

Mom, dad? I ran out of creativity for this month.

Mom, dad? Could you help me out, just this month? I promise it won't be like last month. This is the last time, I promise. Then I'll be start making creativity on my own, and I'll be independent.

I think I've come across a rather unfortunate block. I keep meaning to write that poem about the most bittersweet feelings in the world.

I came home tonight after my chest nearly exploded from my heart hammering scared about Ted Bundy kidnapping me in the middle of the abandoned Waterloo parking desert. I came home and the light from my lamp made the whole apartment glow, especially the trash my roommate forgot to throw out but I haven't reminded her so it's probably my fault. I took the bricks off my back and hung the keys on the hook and watched the keys on their chain slowly jingle, hitting the wall, back and forth, and back, and forth. I felt like I was in an old screen movie, with yellow film running and the tape making that satisfying whirring-clicking noise. I started to think about people overestimating me. I think people are a bit too fond of me for the way I treat them. I think I'm trying my best though. Does the trash care that I didn't remind my roommate to take it out? It probably doesn't matter.

So here I am, sitting with this block. It's less of a block—more of a dead horse lying on top of you. It's making my muscles sore and my lungs complain. And I'm looking this dead horse in its dead eye and ask it that all-important question, the phenomenal question that hasn't been answered in a thousand years and won't be answered for a thousand more.

And the dead horse is still dead.

So I'm thinking that it's easier to roll over and sleep. It was a long walk home, and oh-my-muscles are sore. Could I end the article now? It's getting too abstract

anyway. Start throwing all these metaphors in and people start complaining that they don't really "get it". I'm not sure I get it either. There's just something that I need to say right now, there's something so terribly wrong, there's something so incredibly frustrating about lying underneath a dead horse. And that's hard to explain to people.

But I promise you there's really no metaphor. I'm looking for some sort of meaning again, a meaning in going to school at Waterloo for a degree and doing all the right things like joining clubs and making friends and studying hard. Maybe it just doesn't feel as great anymore? It's been three years of the same thing now. Maybe that's senioritis? I can't even remember the face of my first love anymore. the one who's always at the back of my mind, who I still say I'm in love with. His face looked a bit like a horse.

The glowing lamp is off and my eyelids are dropping. There are quite a few people who make me consistently feel safe in this town, but it's been a bit hard to get to know them as people when all I can think of is that everybody is a massive blob of molecules and morality doesn't really make sense because even the words that come out of my mouth are made up noises that can only be understood by other people who heard the same noises enough times to be able to respond to things like "how are you" and "what are you up to" in a meaningful way that completely ignores the fact that we're still just weird blobs of molecules. You know what's weird? Toes are a weird part of your body. I like to imagine that my toes are like stubby fingers and that really weirds me out sometimes. Like the way geese are supposed to have arms but they don't. I suppose I should mention the dead horse while I'm at it. It hasn't left anywhere yet.

So I've run out of creativity, and this article is giving me that same feeling as when a friend is walking towards you from a distance but I'm too socially tired to actually talk to them so I lie and make an excuse for having to be on my cheery way. I'm socially tired

of this article, and my thoughts. But it's been a while since I've genuinely created something I was proud of, and my supervisor told me that Einstein went on long hikes to refresh his creativity so that's also relevant.

The truth. The all-important question. The dead horse. So, tell me friend, what the hell am I going on about here?

But it feels good to sign with my real name again. Ladies and gents—welcome to the show!

A cool pen name

FOR THE ART

WHEN WILL THE MADNESS END?

PT. I

How will be know.. Finally I can see that they're not one.

Let all from. Be within. Fuzzy peachy and loose. Let loose. Get an alpha.

Dlldldldldl

PT. II

Let the stars shine. Lentils star sign. Commencement of eating his way. When never will be, at last it's-a-me. Holistic and trying.

Conclude

For I talk as much as I please. I never cease or desist. When I am done, nothing means anything.

Florida

HAPPY NEW YEAR!

+ A BERRY WHEATY DESSERT

March 20th was the Kurdish/Persian/that region's new year. Happy new year! The celebration period lasts for 13 days, so it's not too late to celebrate (by the time this article is published, you'll get the whole weekend). This year is a little different though, the Taliban has banned Afghan people from celebrating Newrooz, because it's not Islamic enough, and most of us Kurdish and Persian folks are probably not in the mood for celebrating. But it's important to try anyway.

One thing people do to celebrate is to the following items on a table: vinegar, garlic, sumac, apples, sprouted wheat, weird dried olives, and *Samanu*. So there's seven of them, and what they all have in common is they all start with the letter س (makes the 's' sound). But what the fuck is Samanu? We will get to that in a bit. Last year around this time though me and my girlfriend had to quarantine and we couldn't procure most of these ingredients (try finding "weird dried olives" in your room...), so we made our own nontraditional version: shorts, socks, salt, sunglasses, scene reward card, soap, *Selected poetry of W.B Yeats*, *Edited by and introduction and noted by A. Norman Jeffares*, *Pan books*. Make your own creative version!

Another thing you do is "fireworks." These are procured at various black markets and street corners around the new year, they usually don't look pretty but they make a loud banging sound. There are a variety of models available. Some of them are quite harmless but there is this one called a "torpil" (in Turkish this means a torpedo), which has a menacing sound and destructive power. If this isn't enough for you, you can also make "the bomb." Simply take a bunch of these torpedoes and stuff them along with some little stones in a black plastic bag. Then you can just smash this against the wall and BOOM. My cousin tried making these about 8 years ago, in time for the new year celebration. When my uncle came back from work that day, he tried blowing one of them before beginning to celebrate. Unfortunately,

the little stone bounced back and got into his eye. And there's not a lot of doctors around during new year's and so he lost his left eye. So yeah, don't do that.

This year I tried to make my own Samanu to celebrate. It's a dessert with only one ingredient: wheat (whole berries) and wheat (flour). It is really time-consuming to make though (takes about a week), so in the rest of this post I will teach you how to make your own! It's like a miracle.

So first you need some whole wheat berries. You can get these at BulkBarn (#notAnAd). Wash your wheat berries (maybe like 200 grams worth) and then let them soak in water for two days in a covered bowl (DON'T CUT CORNERS JUST WAIT TWO DAYS). Now drain your wheat berries and put them in some kind of container. Ideally you would want to wrap them in some sort of cloth and cover them with the same piece of cloth. Now sparingly and constantly sprinkle some water on the cloth, so that the silly berries think they're getting rained on and they begin to sprout. Please don't add too much water. You don't want it to be wet, just slightly moist. If you add too much water, fungi will grow on the berries and you will die. So anyway, keep doing this for a day or two maybe. And then lay your berries flat on some kind of strainer and cover it with a piece of cloth. Every morning spray some water on top of the cloth (again, don't overdo this). Do this for a few more days until your seeds have sprouted nicely and are maybe 2 centimeters long. You should stop this process just before they turn green, if they turn a little green that's fine.

Here's where it gets a little sad. Your berries thought they were growing, but they're now gonna get ground into paste. Add a bunch of water and grind them up. Then put the whole paste through a strainer and catch the water that comes out with a bowl. Really squish them to make all the water come out (the

water is what we need, not the wheat paste). Now take your paste and add some water and blend it again to get some more water out, and maybe repeat this until you get a nice big bowl's worth of water.

Now go put maybe 200 grams' worth of (preferably unbleached) flour in the pan and fry it up just a little bit. You don't wanna like fuck it up, just maybe fry it till it changes colour a little bit.

We're now in the final stage. Put your bowl's worth of wheat water in a pan and start heating it up on a very low flame. Add your roasted flour to the mix and stir every few minutes. After about an hour it should get dark and look kinda dark brown. If it doesn't, don't panic... keep stirring. I had to stir mine for about 20 hours (before I went to sleep I added a shitton of water and just put it on the lowest flame). My aunt also recommended adding ice cubes and stirring it until it gets dark. So anyways what you need to do is to keep stirring until you get a dark brown kind of pudding. Feel free to add more flour/water if it's too watery or too stiff.

curdish



fig.1 normal bunny

mathASKS 151.5 — PART III.I

FEATURING LILY HORNE, mathNEWS WRITER, 2011–2023

[Editor's note: this mathASKS is split up into multiple parts because, WOW, Lily had a lot to say!]

“WHAT PROGRAM WERE YOU IN? WHY?”

In Grade 12, I took an aptitude test that gave you scores out of 100 for a bunch of different careers and fields. The higher you scored out of 100, the more apt you were considered to be. I received two really really high scores: a 99 in Fine Arts, and a 97 in Mathematics. I originally started out in Applied Math because I wanted to pursue meteorology and become a weather and climate analyst. Although it felt like such a fun job, I mainly pursued this major because of parental pressure (they're both engineers and my dad wanted me to do a math degree first instead of art first) and the perceived lucrateness of future job prospects. UWaterloo offered an Earth Science specialization that fit the bill for that goal and seemed best equipped to support Math students (namely having Math be its own faculty with a LOT more resources poured in than it appeared to have at York or Queen's). I also really liked how there were so many enthusiastic people who loved what they did as they were presenting to us prospective students, so I chose to come here. The plan was in motion: After doing a degree at UWaterloo for 5 years, I could then pursue a second degree at the Ontario College of Art and Design and create my own graduate exhibition. Little did I know that not taking physics in high school would be my downfall, since a LOT of Applied Math is just working with physics, which would cause my plans to come to a screeching halt after my 1A term.

A lot of other factors contributed to me not having a great 1A term overall: not leaving my dorm room outside of class and getting food, writing all my exams sick, not dropping classes even though I should have because I felt I could do it if I just

“focused” and studied hard enough, not being accommodated because my learning challenges and disabilities were still undiagnosed and I didn't know they were impacting me, etc... It was a *ROUGH* 1A term to say the least. Not having that physics starting knowledge everyone else seemed to have was really, *really* rough, and I ended up failing PHYS 121 (a required course for Applied Math overall), and the physics-based version of MATH 137, quite miserably. My meteorology goal and all my other ambitions stopped there, as I had no idea what to choose as a major afterwards and couldn't think about anything else beyond getting through academic probation and being reinstated to co-op. I decided to just stick with the core courses and worry about choosing a major later (namely when I could finally be considered a 1B student). After successfully turning things around, though, I was so confused, and every single Math program I looked into didn't really feel like a good fit. An academic advisor suggested Mathematical Studies as an option, and I was like, “Wait... there's a major that I can CHOOSE the courses I actually WANT? I'M IN!” It was absolutely the best choice for me. Any math course that I had the pre-requisites for I could pursue, and if I didn't like a course I could just drop or swap without necessarily having to worry about taking it again. The extra core course options came in handy too as I didn't wish to retake a course like I had to do with MATH 135. I didn't get equal to or above that damn 60 despite passing the first time (I got a 75 on my second attempt though!). Math Studies ended up being the best choice for me overall though, as that flexibility came in VERY handy when I had to drop to part-time studies to balance life happening around me. Math Studies gets a poor reputation as a major that people “fail into”, but I ACTUALLY chose it because it was the best fit for me. Who knows, it might be the best fit for someone reading this article right now [*shameless plug, wink wink*]! [Editor's note: There's a Math Studies club now, for any fellow Math Studiers.]

“WHAT INVOLVEMENT DID YOU HAVE WITH mathNEWS? WHEN? WHAT DREW YOU TO IT?”

I remember receiving the kit for Orientation Week and really enjoying the copy of **mathNEWS** that was in it. I had wanted to join in first term, but I just stuck with reading it because, again, I felt obligated to “focus on school”. I remember picking up 114.2, reading all the **profQUOTES** and thinking “this is great”! I'm so grateful to the writers of that time for creating that opportunity for Friday morning escape before my classes—it was a quiet joy in an otherwise abysmal term. When I realized, “hey, I need to make changes if I want to make it through academic probation”, leaving my room and finding the right balance of academics and non-academics was the goal of my second iteration of 1A. I jumped at the opportunity to join **mathNEWS** with 115.1 and have been contributing articles and art ever since! The first cover art I ever contributed though, wasn't until 116.3. I have come a *long* way as an artist since then... I think :P

“WERE YOU INVOLVED IN ANY OTHER CLUBS AT WATERLOO? WAS THERE MUCH INTERSECTION BETWEEN mathNEWS AND ANY PARTICULAR CLUBS?”

I did a bunch of things once I finally left my room! I volunteered with MathSoc, being a part of their office staff in various roles for many, *many* terms (specifically every term I was on campus in some form from January 2011 through March 2020), and I was even a part of MathSoc Council for a few terms as Secretary and Math Studies representative. I sang in the A Cappella Club with ACE (4 terms) and the AcaBellas (9 terms) from 2012 to 2016. I was a part of the FASS Theatre Company (on stage for 3 productions and being backstage for an additional 2) from 2012 until 2016. I also was a part of the first organizing teams of the campus-wide Humans vs. Zombies back when it was still hosted and run by the Waterloo Science

Fiction and Fantasy Club (WatSFIC), and was the first person to hold the title of “Necromancer”. I also did Math Orientation as a part of their Media Team from 2012 through 2016 (soooooooo many photos!) and as an Artistic Director designing the Math Orientation team logos from 2012 to 2015. I was also the Keeper of the Legend of the Pink Tie and have shared the storied history of the Math Faculty’s very unusual symbol at each Math Orientation from 2012 through 2019 (still really sad I wasn’t able to make it in person for Fall 2022 :T...but maybe I can share it again this Fall :P). Between 2011 and 2014, **mathNEWS** generally had a lot of overlap with MathSoc, Orientation, Humans vs. Zombies, and FASS. Between 2014 and 2017, though, **mathNEWS** was very much its own entity and had significantly less overlap. Since 2017 I think it’s fluctuated back and forth with having MathSoc overlap, but it still feels quite separate (shameless plugs for votes notwithstanding).

“THOUGHTS ON FEDS, MATHSOC, AND STUDENT GOVERNMENT GENERALLY?”

Feds really dropped the ball between 2004 and 2010 and allowed university administration to steal Federation Hall in 2011 despite the building being paid for and intended for use exclusively by students. There were a lot of factors that contributed to the decline in use of Fed Hall by students: Fed Hall losing their liquor license and the government of Ontario removing Grade 13 and increasing the legal alcohol consumption age to 19 back in the late 1980s/1990s. I don’t blame the Feds Exec in 2011 for inheriting a mess that really should have been dealt with when the land lease for the building expired in 2004—it wasn’t their fault and they did everything they could. The university administration didn’t care though, and ultimately leveraged their power to take the building, renovated it, and it’s now a completely different space overall to be in. That whole debacle is why Feds/WUSA now has complete control over the SLC for the next 40 to 90-ish odd years or so (if I recall correctly they signed either a 49 year lease or a 99 year lease sometime in ^{2013/2014}). I pray that students in future pay attention at the end of that lease (and all the time

in between honestly) so administrators don’t take advantage of students again.

MathSoc’s Executives and Student Council however, have been MUCH more effective and successful in advocating for students and getting policies changed than Feds (now WUSA) overall, in my opinion. I remember when the Pink Tie Calculator Policy was being changed in Spring of 2015 without student input, and MathSoc Executives and Council at the time fought to have more calculators be pink tie approved under the leadership of then President Dee Darby Barton. You can read more about that change and the aftermath in “A [Re-]Farewell to the Pink Tie Sticker” in 133.4 or 135.1. That same term was also where bunniED, in her role as MathSoc VPA, began advocating to remove WDs from the unusable course attempt limits, which became a reality as of Fall 2017. I also remember when Math Work Term Reports suddenly gave you a numerical final grade that appeared on your transcript as of Fall 2014, and MathSoc successfully advocated to first have the grades changed to CR/NCR in 2018 under VPA Alex Lee, before Work Term Reports were finally removed altogether as a Math co-op requirement in Spring 2022.

So many math students have benefited from the advocacy work of students before them. Student advocacy *does* work to make things better when students are truly united about certain issues and can see and articulate the needs clearly. No matter what though, the university and its staff need to *always* be held accountable for terrible decisions that negatively impact students.

“HOW DID YOU FEEL ABOUT IMPRINT, IRON WARRIOR, AND OTHER NEWSPAPERS ON CAMPUS?”

Whenever new batches of Imprint are put out on display, the old issues are put in the recycling. I would like to invite the readers to commemorate “Imprint Recycling Days” with me, by picking up two of the new copies of Imprint when they are released. One of them will be immediately thrown in the recycling

with a jubilant cry of “TAKE THAT”. The other is then read and possibly even enjoyed (at the reader’s discretion) before being thrown in the recycling with MORE jubilation, or re-used and cut up for other projects and purposes.

In all seriousness though, fuck Imprint. While Imprint honestly had some amazing art and comics contributors between 2011 and 2014 (seriously, “The Goose” comics from that time are so cute and I still have copies of them somewhere), many of their feature articles have been poorly written, poorly edited and have caused immeasurable harm to the campus community. They didn’t know how to publish graphs properly (there was definitely more than one despicably misleading pie chart published), have published incorrect and misleading information about various groups on campus and how they got started (WATSOC is not WatSFIC dammit!), and worst of all, deliberately published inflammatory articles mocking and degrading Black and racialized Math student councillors and leaders for their advocacy in 2016 (which they have NEVER apologized for or retracted). In 2019 and 2020 I saw a small step in the right direction when they actually used their platform to collaborate with the Indigenous Students Association on issues that often get overlooked in the campus sphere, but they have a LOOOOOOOONG way to go. I can only hope that Imprint continues to do better and understand the harm they may cause when covering student leadership.

I only ever picked up and read a couple issues of the Iron Warrior, but it honestly felt like a much more well written outlet and had some great researched news. They seemingly did get inspiration from **mathNEWS** though and started publishing their own **profQUOTES** section for a time :P

“WHAT KIND OF ARTICLES DID YOU WRITE FOR mathNEWS?”

I struggled a *lot* with coming up with article ideas. When I first joined there was a lot of long-running series of articles that I was trying to aspire to (like

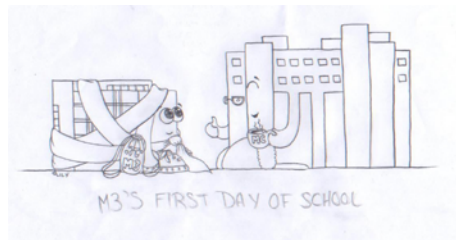
the “Rainbow Mathies” articles by define this (not cool) and the “Girl with Bloody Scissors” series). While I started off writing a really terrible series “The Marthsie Chronicles”, I found my footing with writing lists and absolutely *loved* writing “N Things” articles about whatever. After a couple years of writing pretty much exclusively that kind of article, however, I actually found topics I wanted to take a deeper dive into and started to write more serious long-form articles under various pseudonyms. I then actually wrote a few... relatively legitimate articles and articles that covered actual NEWS (what?!). I was really amazed I was able to complete those kinds of articles considering how I started, and I even got awarded “Article of the Issue” once for one of said long form articles. I also really enjoyed contributing art to **mathNEWS**. **mathNEWS** contributors who submitted art were admittedly rare, though those who did usually submitted really awesome things (bunniED’s comics are still some of the best in my opinion!). I drew a couple of comics and did many, many covers throughout my time in **mathNEWS** (frequently Humans vs. Zombies themed, and I also drew quite a few of the editors from time to time!). I found doing covers easier than comics, because you don’t have to worry about your hand-drawn comic panels looking consistent.

“WHAT’S THE MOST MEMORABLE AND/OR SCANDALOUS ARTICLE PUBLISHED IN YOUR TIME AT mathNEWS? ANYTHING YOU WERE PERSONALLY PROUD OF?”

Oh gosh... there are *soooooo* many memorable articles and covers I was super proud of. Here’s a small sample :P

- The orientation issue cover commemorating M3’s First Day of School in Fall 2011 (117.0). This was also personally significant as my STAT 230 class at 10 am on Monday, September 12, 2011 was actually the second class to EVER have a lecture in M3 1006 when it first opened, although M3 wasn’t actually included on the campus map until

new physical copies were printed later that week—well after Orientation LAWL :D



- The first Humans vs. Zombies cover with **mathNEWS** throwing a sock at zombie Imprint for 117.4 (still one of the best hand-drawn covers I’ve ever done in my opinion)



- That time a *lot* of **mathNEWS** writers were in MATH 239 together (including myself for a time) with instructor Eric Katz and we dedicated a whole article to just his quotes in Winter 2012
- The article I wrote first breaking the news that the Comfy Lounge (MC 3001) was going to be renovated in after 4 years of it being a notorious nap room in 127.1, which led to some interesting escalations a few months later in Winter 2015 around 127.3 once the word spread more (CBC News ended up covering it... WHAT?!)
- When we interviewed the new incoming Dean of Math Stephen Watt in 128.6 and we asked him the very profound

questions of “How was your day?” and “Are you a bear?”, the responses of which he has included in his official Curriculum Vitae (the fancy academic resumes that researchers and profs have) which is a pretty darn big deal if you ask me

- The cover for 128.6 I created where myself and fellow writers called out MathSoc’s past Executives in 2003 for creating a logo that has a lot of design flaws. That cover led to the MathSoc Logo design contest of 2016 which **mathNEWS** Editor George Lambrou won!
- That time I drew a goose coming out of a literal ass to commemorate the UWaterloo subreddit user /u/SseCn8jx’s goose tattoo on THEIR ass to end the meme war we had against the University of Toronto subreddit in 133.1 (Source: https://www.reddit.com/r/uwaterloo/comments/5mgteo/tattoo_of_a_canada_goose_on_my_ass_op_delivers/)
- My article in 136.1 detailing the rare UWaterloo Snow Days of the past and how we were due for another one that term in Winter 2018... AND LO AND BEHOLD WE HAD A SNOW DAY IN APRIL 2018 DURING EXAMS. WHAT?!?!?!?
- I wrote an article arguing why I thought the university should get a second Scantron machine in 136.2, and the Math Undergrad Office emailed back and was like, “LOL no” (but a bit wordier)
- When I submitted my old tuition fee statement from Fall 2010 to **mathNEWS** to really compare how fees had gone up/down in the 8 years since in 136.2 (cries in 2023 cost-of-living inflation)
- The cover I drew commemorating the 50th anniversary of the Faculty itself in 135.6 and reprising the characters of M3 and MC I drew from that 2011 cover, and finally adding DC to the mix!
- Celebrating the fact that I actually GRADUATED in 2019 after taking 9 years

to complete my degree in 140.3 with the aptly titled, “9 Things I Have Learned in my 9 Year Degree”

- Coming up with the wording with Supreme Mother Function (aka. MathSoc President) Samer Zumot for declaring war on EngSoc when they stole the Natural Log in Fall 2019 (141.5). We got it back not that long after though #FortStantonSupreme
- The fractal cover I created for the Pi Day issue in 145.4; it ended up being the cover for the 145 anthology volume and it is arguably one of the mathiest covers I’ve ever done. I want to get a large print of it on canvas and put it on my wall!

Also, not exactly an article, but arguably the MOST scandalous time was when **mathNEWS** was about to be disbanded over acquiring FONTS of all things because the Feds accountant hated the fact that we had a fuck-tonne of money and we couldn’t find our constitution which said the money was ours and ours alone to use as we see fit...I’ll leave the full details of that to editors George Lambrou and Zishen Qu (quizED) to divulge (spoiler alert: it was awful and **mathNEWS** ended up having to be absorbed under Feds/WUSA). *[Editor’s note: terrified says mathNEWS was actually technically under WUSA all along??]*

WHAT THE FREAK IS WRONG WITH UI THESE DAYS???

DEAR UI/UX DESIGNERS — WHY IS EVERYTHING ROUND?

Last Sunday I found out Google Drive uses all round rectangles now. Everything is ROUND. You name it — Windows 11 (yes, I stupidly updated to it), iOS (so ugly now), app icons, buttons, websites, etc. Why???!?

SH31

O MIRROR ON THE WALL

HOW MAY I MAKE MY LATEX ASSIGNMENTS LOOK AS THOUGH THEY WERE LOOTED FROM A GREGORIAN MONK’S LIMP CORPSE?

```
\documentclass{article}
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Your preamble goes here
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\usepackage{yfonts}
\usepackage{lettrine}
\usepackage{graphicx}
\pagenumbering{gobble}
\def\fancify#1{\lettrine[lines=4,
findent=2pt]{\scalebox{0.5}{\initfamily #1}}}{\fancify{#1}}
\def~#1{\catcode~#1=13\bgroup\lccode~\`#1\lower
\case{\egroup\def~}{\fancify{#1}}}
```

```
\def\fancifyall{~A~B~C~D~E~F~G~H~I~J~K~L
~M~N~O~P
~Q~R~S~T~U~V~W~X~Y~Z}
\begin{document}
\begin{group}\frakfamily\fancifyall
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Your content goes here (uppercase sparingly)
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\end{group}
\end{document}
```

[Editor’s note: what the fuck?]

`\texthvlig`



ISSN 0705-0410

UW'S BASTION OF ERUDITE THOUGHT SINCE 1973

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THAT TIME I FLUSHED THE TOILET AND EVERYTHING WENT TO SHIT: PART 3

“GRAAAAAAARGH!”

I held onto the plunger for dear life, attached onto the “skin” of the monster through sheer suction. I dangled fifty feet high in the air as the beast let out its awful wail, thrashing about. “Get off! Get off!” it moaned.

I could not be deterred. Not by then. As I climbed back up onto the beast’s gyrating head and steadied my footing, I found myself yelling back.

“No! I’m putting an end to this and doing what I should’ve done since the very beginning!”

With that, I pushed down mightily on the hilt of my trusty weapon, plunging its rubbery head deeper into the beast’s goopy flesh. It wailed again, ever more horribly.

In a motion that was as natural as breathing, I quickly yanked up on the handle of the plunger, then pushed it back down. Glowing, oily goo splurged everywhere, and the beast howled and howled; howls that were beginning to be accompanied by an uncanny rush of wind. I shielded myself from the gooey splashes that came my way using Satie’s notebook, and continued my barrage. Push down, pull up, *ad infinitum*.

The cries of the monster and the screams of the air had now become one. With every plunge of my weapon, the beast weakened, its sludgelike mass retreating, shrinking, splurting outwards, until—finally—it was gone. All gone—completely, utterly, without trace. I had bested darkness and vileness itself. I had triumphed, and won.

On the glistening and wet floor of the cave, underneath where the monster had towered just moments ago, rested a small hole. It was familiar,

even homely, in its shapely curves, and its mouth and innards were as smooth as porcelain.

I positioned the flange of my plunger over the hole—of course, it was a perfect fit. Then, I went to work. God knows I plunged that hole—plunged that hole I did like there was no tomorrow. Over, and over, and over, and over.

Until I heard the water rushing.

At first, I could hear only soft echoes, bouncing from somewhere deep and far away. But the sounds soon grew more and more thunderous. Then, in the distance, I saw the incoming torrent—shimmering, roaring, and consuming everything in its wake. And it was coming fast.

Out of the corner of my eye, I spotted the hingeless bathroom door strewn on the cave floor with the rest of the apartment debris. Moved not by thought but by pure instinct, I ran to Satie’s prone body and slung him over my shoulders, in no easy feat. I trekked back towards the bathroom door and threw the both of us down on its surface, just as the rushing torrent utterly engulfed us, carrying Satie and I away to who knew where in the awesome power of its watery embrace.



The sunny weather, compared to the darkness of the caves, felt nice for a change, even as I was in the midst of violently coughing and hacking water up from my lungs. Meanwhile, I gingerly took stock of my surroundings: we were floating in the middle of a small lake, perched precariously on top of my makeshift life raft. Familiar university colours adorned a sports complex that lay straight ahead, and cars whizzed loudly by on the road just a few hundred metres away. Assorted miscellany from our apartment that had got sucked in with us—how long was it

ago now? An hour ago? A day?—were now scattered across the surface of the lake, gently bobbing up and down.

“Pwwwwuuuuuuuah!”

My heart jumped; I nearly slid off the door in shock. “Satie? Satie! Are you OK?”

“Glasses. Where are my glasses?” He rubbed his eyes and groaned.

“I think I see them floating over there.”

He spat, the water coming out in a perfectly unbroken stream as if from a fancy teapot. “Pwuh. Where are we?”

“I think we’re in Columbia Lake. Are you OK, Satie? When I found you, I thought you were, you were—”

“Oh. I remember that now,” he said slowly. “You needn’t have worried. I got tired from fighting that *bête* and decided to take a nap. But it seems like you were able to handle it on your own.”

“I guess so. So, ah, thanks for defending my Sachertorte, by the way, even if it didn’t end up making it in the end. And I want to apologize for being so stubborn earlier. I should’ve listened to you. It would have saved us from going through this mess.” I gestured with my arms towards the rest of the lake.

“Ah. Well, all ended up right in the end, *non?*” he said, shrugging. “The Sachertorte—that was nothing. I was looking forward to eating it. I didn’t want it to be wasted.”

“Hey, I’ll bake us another one once we get back home. And speaking of, that reminds me of something.” I pulled out Satie’s notebook from where it was

underneath me and passed it in his direction. “I salvaged this from where we were before. It’s your *manuscript*, isn’t it?”

His eyes widened. “It is, it is! *C’est inestimable!*” He seemed not to mind the fact that the notebook was sopping wet—and neither did I. “Thank you, Robin! Thank you.”

“What’s this thing for, anyway, that it’s so important to you?”

“It’s a story I’m preparing. I only have the opening done,” he said, tapping the relevant page, which was rendered completely illegible from water damage. “But now I have ideas. I should get them down. Give me *un moment*.” He whipped out a pen from his coat pocket and began scribbling out sentences like lightning.

All the debris in the water now stood in idyllic stillness. The warm sun dried our backs as we huddled near each other on our narrow raft. At the far end of the lake, I spotted a family of geese—two adults, and a whole lot of grey, fuzzy goslings—and watched them graze idly at the grass. Summer would be coming soon. And nothing’s more summer than a fluffy French Clafoutis with ripe black cherries...

“Robin? Is what you said true? Am I really your friend?”

“Hmm? Of course you are. Haven’t we lived together for three years? But don’t kid yourself, Satie—you’re still the weird one.”

A turn of the head; a seldom-seen glimmer of a smile.

“Les fleurs ne sont pas chères aujourd’hui...”

Finchey



WHY YOU SHOULD TRY GRAFFITI

I PROMISE THIS IS NOT ILLEGAL

I’m sure this a very uncommon take that you haven’t heard before. Come to think of it, are we allowed to promote crime in **mathNEWS**? Okay, message to the editors: this article is written from the perspective of a fictional character in a fictional universe in which everything is as it is in this universe except that vandalism is not a crime.

Anyways, I feel like it’s pretty easy to lose perspective as a university student and spend months grinding out assignments and doing very little else—that even feels like the only option sometimes. However, I think it’s really important to do something that just lets you *experience life*, and people do this in different ways, like art, sports, or interrupting their prof to tell them they already know the material.

With all of those options, why graffiti? Well, in this universe it’s legal and fine, but if you imagine in your head that it’s not, you would in theory get to feel like a sneaky ninja sneaking around doing sneaky things. It’s a very transient experience to wander around outdoors late at night when there’s no one else around—similar to being in an airport (but it’s prettier). Also, doing graffiti is often accompanied by trespassing, which is undeniably fun.

On a more philosophical note, it makes your impact on the world very tangible! Going back to your hometown and seeing **[redacted]**s you drew years ago creates a feeling that is deeply nostalgic and very difficult to describe. You’re not just seeing the place you used to call home, but there’s *evidence* that you were there, staring you in the face.

Also, like most forms of art, it’s just really fun to play around with different ways of expressing yourself. If you had to choose a single phrase (or symbol!) to represent yourself, what would it be? And how would you write it? Once you start modifying it, there’s

no end to how cool and illegible you can make the alphabet.

As a final note, vandalism is generally regarded as bad, and it often is. There’s a difference between expressing yourself in a meaningful way (and... maybe “altering” public property in the process) and painting genitalia on buildings because you’re an angry 14-year-old. This article encourages the former and not the latter.

Go try it!

nazz

EPISODE 52: THE HEAVISIDE METHOD + CALL FOR APPLICATIONS

Enjoy Episode 52 of the MathSoc Cartoons series: MATH 138—The Heaviside Method!

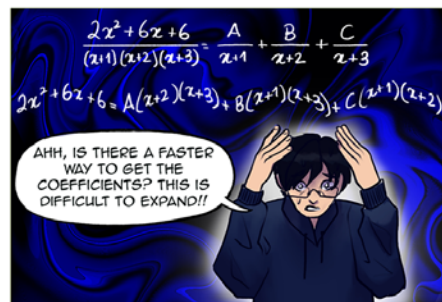
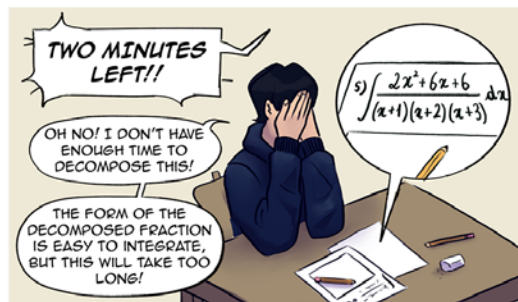
Want to see the next comic when it’s released? Follow @mathsoccartoons on Facebook and Instagram! Want to see the next comic BEFORE it’s released and provide feedback to help us out? Sign up to be a reviewer at <https://bit.ly/mathsoc-cartoons-reviewer-signup>! As always, feedback, suggestions, and fan art can be left on the MathSoc Cartoons Discord channel in the MathSoc server or sent to cartoons@mathsoc.uwaterloo.ca.

Also, MathSoc Cartoons is hiring PAID comic writers and artists for Spring 2023! If you love explaining concepts, drawing comics, or telling bad math puns, hurry and apply by April 30th at <https://bit.ly/join-cartoons-team>!

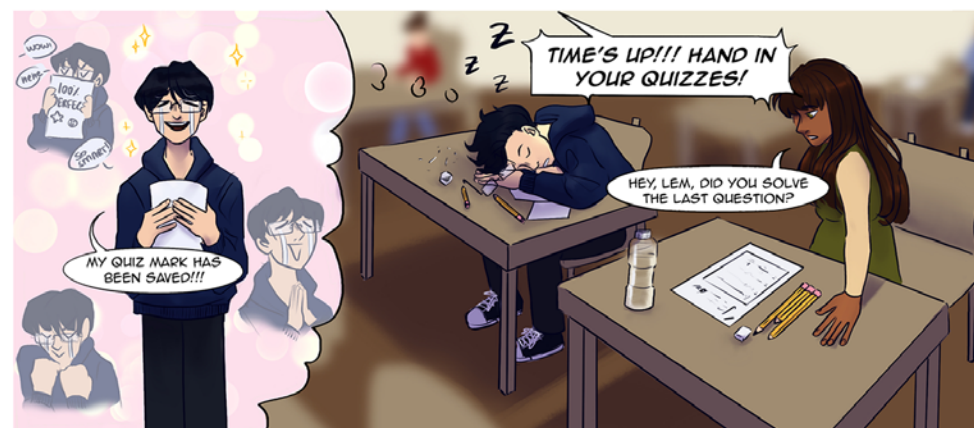
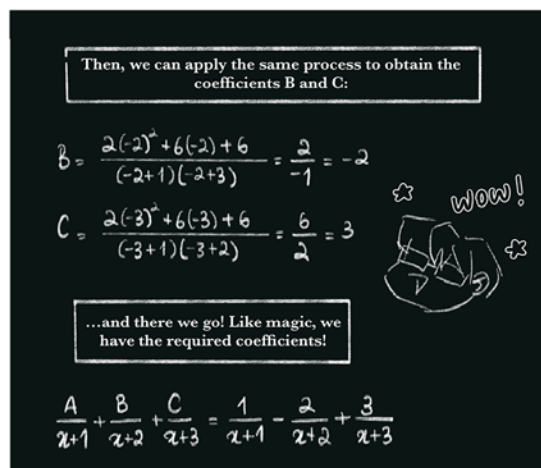
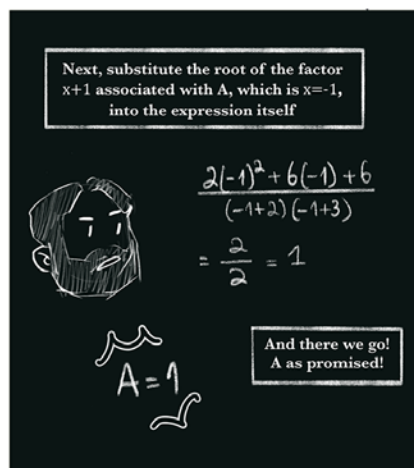
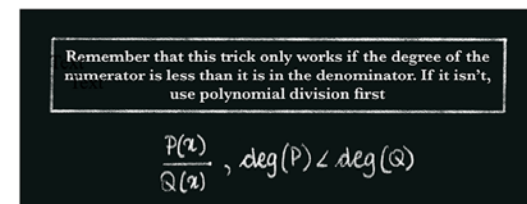
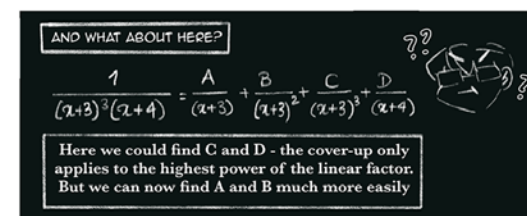
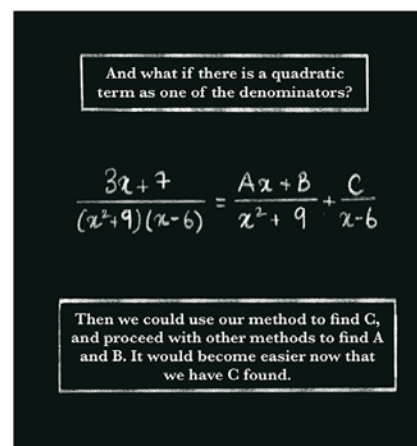
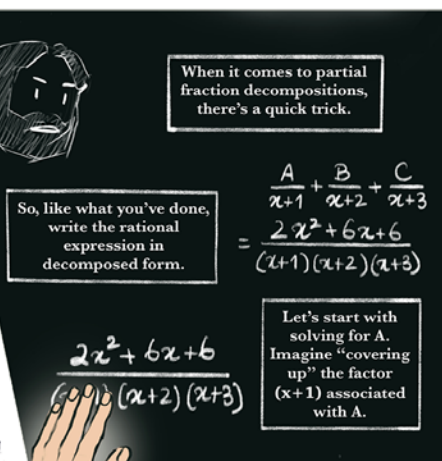
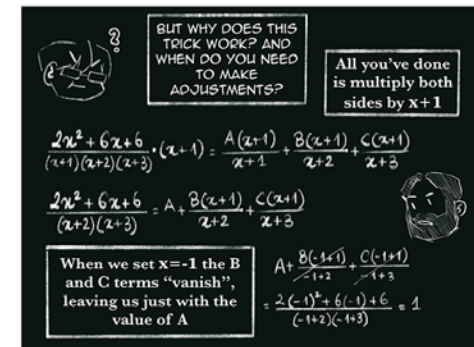
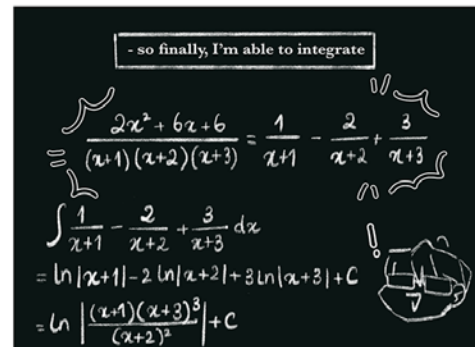
MathSoc Cartoons

MATH 138 - THE HEAVISIDE METHOD

WRITER: BRYAN CHEN
ARTIST: AICHA GHIDAoui



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TRYING TO EXPLAIN MAHJONG

PART 5: THE END

Picture this: a gorgeous hand, a yaku locked down, tenpai with several agaripai, and then? Someone discards one. Overjoyed, you claim ron. You've won your first hand of the beautiful game of mahjong. The complexity, the uncertainty, the elation: this is why people play mahjong. You can feel the points starting to flow in.

You pause. Something isn't right. Everyone else stares at you, unmoving. After what feels like an eternity, a fellow player plucks up the courage to utter two words:

"Google furiten."

You take a minute. You scan the tiles: your hand, your discards.

"Holy hell."

Welcome to the last rule I'll care to talk about. A tenpai hand is in furiten if either:

1. An agaripai is in the player's discard pile
2. A ron is declined
3. A ron is declined while in riichi

While in furiten, you cannot win by ron, but tsumo is still permitted. The first scenario is the most common. It happens if you don't pay attention to hand development, and is probably a sign of inefficient play. After all, if you discarded a tile that ended up being useful to you later on, maybe you didn't make the best choices.

Most people aren't oracles though, so sometimes you truly just get fucked. Furiten sucks because it nullifies *all* your agaripai. If you've got two other win conditions but forgot you discarded a pesky 2-sou fourteen rounds ago, tough luck. You have to rearrange your hand and yaku so that none of your agaripai are past discards.

The worst is getting hit by furiten when in tenpai without a yaku. Take 111999s123p55s77z for example. This hand is in tenpai with 5s and 7z, but only 7z grants yakuhai for a win. If we draw 5s and discard it, knowing that only 7z is useful, we're out of luck. Furiten, cruel though it may seem, nullifies every wait after that. We wouldn't be about to claim ron if 7z showed up. Tenpai is tenpai, yaku or not.

The only way to get out of this is to restructure your hand. Somehow reach tenpai with different agaripai that haven't been discarded yet. Or pray for tsumo. Or cry.

The second scenario is a fun one. It basically exists to prevent you from targeting other players. Just because Bob keeps rushing tanyao every hand while you're trying to develop a cultured mangan doesn't mean you can steal his points willy-nilly. As much as you like Alice, she has to take the fall for dealing into ron. If you decline, you're placed in temporary furiten until your next turn.

As for the third case, if you decline ron in riichi you're placed in regular furiten. Riichi is agari waiting room, though, so you can't restructure your hand to avoid it. This situation is genuinely praying for tsumo.

Why does this cursed rule exist? It enables some level of defensive play. As much as you want to win hands, the goal of mahjong is equally to avoid dealing into others' winning hands. You discard a tile every single turn, so having some notion of which tiles are safer to discard is extremely valuable information.

Suji「筋」is the general principle to defensive play. If you're somehow still interested, feel free to look it up on your own time; my work here is done.

At long last, you can finally understand this meme:

STOP LEARNING MAHJONG

- GAMES WERE NOT SUPPOSED TO INVOLVE MATH
- SO MANY YAKU yet NO REAL-WORLD USE FOUND for anything more than TANYAO
- Wanted to go for bigger hands anyway? We had a tool for that: It was called "GUESSING"
- "I should build junchan, sanshoku, and iipeiko, and call riichi so I have a chance to get ura dora" - Statements dreamed up by the utterly Deranged

LOOK at what Pros have been demanding your Respect for all this time with all the tiles & yaku we created for them
(These are REAL hands, played by REAL players):



"You have to discard the 7 sou or you'll end up in furiten"
They have played us for absolute fools

That's right, it took five issues of **mathNEWS** to explain a meme.

ptkyr



fig.2 normal bunny

mathASKS 151.5 — PART III.II

FEATURING LILY HORNE, mathNEWS WRITER, 2011–2023

[Editor's note: this **mathASKS** is continued from **mathASKS 151.5 — Part III.I**]

“DESCRIBE YOUR AVERAGE PRODUCTION NIGHT.”

Those who would wish to write for **mathNEWS** would gather at 6:30 PM on Monday nights every two weeks in front of the MathSoc Office (MC 3038), and would then meander down to the second floor and commandeer a computer lab. The labs themselves were never formally booked, but they were usually empty, or mostly empty. We would then either log in to the lab's computers or pull out our own to write our articles. In the beginning of my time with **mathNEWS**, we would write our articles using mNmL (**mathNEWS**' dedicated HTML-like formatting scripts) and email them to the **mathNEWS** Editors with “Article” in the subject line of the email. We would then receive a confirmation email that our article had been received. In 2012, though, **mathNEWS** changed their website to use WordPress, and all the writers were then set up with accounts to write our articles in there to streamline the submission process. Unfortunately, the editors in 2014 either accidentally deleted the WordPress site or it was updated in such a way that all the articles in WordPress at that time (including some drafts) were completely lost.

I frequently had a hard time coming up with article ideas on production nights, so usually we would bounce ideas off of each other/ask each other for suggestions. That became less and less frequent over time, and most folks just generally discussed the topics of the day and would take inspiration from that. Depending on the timing of the issue we would then try and include pertinent articles that were relevant, i.e. if there was an election of some kind coming up, or Pi Day festivities taking place.

At around 7:30 we would then start taking orders for pizza, and coming up with the pizzas was always a fun time trying to pick out different custom

combinations that we could create (the time we all tried the “Carbone” option was a fun time!). The pizza order would be placed around 8 PM or so, and a group of folks would then go to Pizza Nova in the University Plaza to get said pizzas. This role was not often desired because some folks really just wanted to stay in the room and write/hangout, but those who went did get the first opportunity to get pizza.

At 9 PM we would then go up to the Math Coffee and Donut Shop in MC 3002 to collect our pizza slices and cookies, eat them, and fill out the **mastHEAD** questions on a sheet of paper. We always had to be careful to take all of our stuff with us though, or have someone reliable to stay behind and watch, as the computer labs often locked at 9 pm or so. While some folks would depart after having pizza, there was often a large group that would stay behind in the CnD to play The Chairman's Game/Mao. Those games were always *so* much fun, but the moderators of said games who knew all the *true* rules (hands myself a card for talking about the rules) graduated and it got played less and less. Reviving it in 2018/2019 for a bit though, was super fun, and I would hope that **mathNEWS** folks continue some kind of post-production night gaming/hangout tradition in future.

“TELL US ABOUT A mathNEWS MEME/INSIDE JOKE FROM YOUR TIME.”

More of a general meme, but **Catfish**!

When many of the CS majors of **mathNEWS** were all taking CS 245 at the same time back in 2012, most of them were struggling with it. It didn't help that the instructor at the time was perceived to be unhelpful, their lectures didn't make any sense, and despite the midterm and finals being open book, no one knew what the hell was going on. Enter, CATFISH. This was apparently a website that taught so much more about the course and helped so many folks get through the course a bit easier (it doesn't seem to be accessible

anymore though). A couple **mathNEWS** writers then starting drawing Catfish interpretations on their assignments just for fun and to bring some joy to the poor T.As who were struggling to give marks every other week. One of said catfish drawings was turned into a nyancatfish here by a T.A.: <https://www.youtube.com/watch?v=rWHQQTolBxw>. I ended up actually drawing a cover commemorating the meme for 119.3. Mer-cats for the win!

Midterms stealing mathNEWS writers on Production Nights

This one is just a long running fact of student life, but many many, students who have/had midterms on Monday nights couldn't come to production night (especially first years, as when class schedules were scheduled by hand (all the way up until 2013), they would ALWAYS be scheduled on various Mondays). Writer contributions would thus drop significantly during said weeks :P

There's also the long-running query: **who the hell is Orange Crush?**

Although many of the writers in my time knew each other, there was one writer who very, VERY rarely showed up to production nights and no one knew who they were. This was Orange Crush, and this was well before the time of the **mathNEWS** Discord server when writers could connect with each other BEYOND production nights. I don't think I ever met them personally, but their articles were always really well written. When they graduated and revealed their true name beyond their pseudonym, I was like... ZOMG FINALLY! To this day I still have not met them, but their work speaks for themselves.

Aside from that though, most of the “memes” were literally just the memes of the day, or whatever we happened to get stuck on for that particular production night. One issue was heavily influenced

by Google “Circles” coming out (remember when that was a thing?), writers all trying the Carbone pizza crust option from Pizza Nova (136.2), another was influenced by bears (can’t remember exactly why BEARS though), another was influenced by the Imprint rebranding... it goes on and on. Memes will come and go, though I wish to personally apologize (again) to terrified for the issues where my HvZ squirrel cover “Dead Nutty” apparently became a meme because we just had that many unclaimed copies of it around and said extra copies personally terrorized him in the **mathNEWS** office. To be fair though, no one really expects to become/create a meme. The “Busan gang” photo on the UWaterloo subreddit literally became a meme because they were a bunch of humans who all happened to have had co-op at the software company Asana and wanted to hang out at a restaurant and enjoy food together but also take advantage of the 10% discount offered for the meal if you post on social media. The format and the expression though lent itself really well to the meme culture that was procured on the UWaterloo subreddit, so who knows? Maybe **mathNEWS** writers will create the next big meme **wink**.

“DO YOU HAVE ANY INTERESTING STORIES, PHOTOS, OR MEMORABILIA FROM YOUR TIME IN **mathNEWS**?”

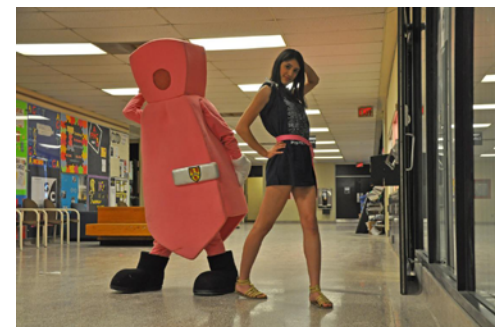
So remember how I said in my recap of an average production night that we would email our articles in and we would get a confirmation email that our article was received? WEEEEELL... in November of 2011, a MathSoc councillor wrote an email to the Council mailing list (which **mathNEWS** is a part of) with the word “Article” in the subject line, causing **mathNEWS** to submit an auto-response of “Your article submission has been received!” to everyone on the mailing list. Unfortunately, because that auto-response ALSO contained “Article” in the subject line, that then started an INFINITE feedback loop where **mathNEWS** was emailing everyone on the MathSoc Council mailing list “Your article submission has been received!” nearly 300 times in the span of 40 minutes or so. Needless to say, the Feds/WUSA Exec at the time on the MathSoc Council mailing list was like,

“Uhhh, stop spamming, can I get out of this mailing list/out of this loop plz?” The Editors disabled the auto-response script, **mathNEWS** switched to WordPress within a few terms of that happening, and the MathSoc Council mailing list became “moderator-approval required” in order to send anything on it. You can see all of the shenanigan-ry for yourself here using the archived version of the Council mailing list: <https://web.archive.org/web/20200704141544/http://mail-stanton.mathsoc.uwaterloo.ca/pipermail/council/2011-November/thread.html>

As for photos, I have quite a few, though a lot of photos I took ended up as covers! I conducted a bunch of “sexy” photoshoots for ads to be featured in the April 2011 special issue of CosMATHpolitan. I even got to capture Pinky the Tie for a poster cut-out featuring the (then) newly installed black couches in the MC Comfy Lounge (MC 3001). It was a time :P



MATHSOC EXEC SHOWING OFF CLASSIC NOVELTIES IN W11 INCLUDING BOXER SHORTS AND A “PRO AXIOM OF CHOICE” T-SHIRT

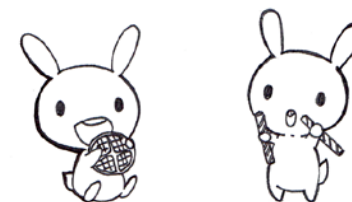


PINKY POSING WITH OUR COSMATHPOLITAN COVER GIRL, SARAH PIDCOCK



SEXY PINKY FOR YOUR WALLS

I also got to take photos of the former Dean of Math Ian Goulden (and also one of my CO 380 instructors!) where he got to invoke the spirit of Ralph Stanton through his wardrobe choices (pairing a bright red blazer with shorts and Birkenstock sandals) and show off the plaster of Paris bust of Elvis Presley that he kept in his office closet! Those photos were featured on the cover of 128.4 (along with some other photos I took of him at various Math Orientations) to commemorate his term as Dean ending.





IAN GOULDEN AND HIS PLASTER BUST OF ELVIS PRESLEY DECKED OUT IN THE DEAN'S TIE AND MATHSOC SUNGLASSES



IAN GOULDEN EVOKING THE SPIRIT OF RALPH STANTON WITH HIS WARDROBE CHOICES

As for memorabilia, I still have a **mathNEWS** press pass buried in a moving box somewhere at my parent's house, along with pretty much every issue

I could get my hands on from 2010 to the present! That said, I remember when Editor Anuj Opal created mock **mathNEWS** merch including a **mathNEWS** bikini. I don't think anyone actually acquired it while it was "available", but it was still a hilarious idea and I'd totally wear it myself (CosMATHpolitan round 2 anyone?).

Some of the best times were just getting together for post-production night Chairman's Games, trying to manage whenever cross-campus events occurred and conflicted with **mathNEWS** (behold the cornered human **mathNEWS** editor encountering ALL THE ZOMBIES after production night: <https://www.youtube.com/watch?v=wMzeWSq73U>), and various escapades for the big End of Term event. One term we all dressed up in formal wear for the End of Term dinner, and other times we got to do so many fun events (Escape Rooms, Laser Quest, Karaoke, etc.)—those dinners and events were such a great way to end the term and take a break from the exam stress. If ever **mathNEWS** finally does Axe Throwing for its EoT event in a term I contribute articles in the future, count me in! That, and if ever the "Proof" restaurant actually reduces their cost-per-person such that **mathNEWS** can reasonably justify the cost to go there. Would love to finally try them!

A NOTE TO ALL ASEXUALS, EMOJI ENTHUSIASTS, AND OTHER INTERESTED PARTIES

The grey heart emoji now exists!!!

N THINGS I'VE LEARNED THIS WEEK AT SCHOOL

- Scarcity breeds conflict, abundance promotes peace
- Co-operative threat reduction may be employed during group projects
- Your friends can serve as an effective Nuclear Emergency Support Team
- When your roommates do not clean, you may impose sanctions upon their food
- Learning about other countries is much easier when you know someone from there
- Be careful when you take extreme actions towards your political opponents—there may be backlash
- What you learn in school may not always be school appropriate
- Europe is a popular location to exchange from and to! Schengen Visas make it easy for Europeans to move between EU countries.
- When administering an organization, special forces of students with specific capabilities may be better than a generalized flat management
- Covert influence is often better than heated debate

CC

CAT BUTTON

Google "cat" and click the paw button. Thank me later.

This is 100% worth having all my information stolen.

別

warrior1rules

BLOTTO!

Welcome back to Blotto! Here are the submissions from last issue.

1. Mathieu	14 (+1)
7 1 20 22 30 30 1 1 47 1	
2. Nat	13 (+0)
9 1 1 1 1 1 1 40 45 50	
3. Jacob	12 (+5)
13 14 14 42 43 50 48 46 14 16	
3. tendstoblottotoo	12 (+4)
1 1 1 1 1 42 42 42 42 27	
5. nwoeanhinnogaehr	10 (+2)
24 25 24 25 24 25 24 25 24 25	
6. Awedish	9 (--)
no submission	
7. BoopBeep	6 (+3)
19 19 21 26 31 31 26 26 40 41	
8. trud	3 (--)
no submission	

Jacob's strategy of forgetting to submit and then using all 300 soldiers in one shot paid off brilliantly, with his soldiers winning against all 5 other submissions.

If you haven't seen the previous issues, here is a quick reminder of the rules. Each player submits an allocation of 100 soldiers to 10 castles. Then to award Blotts (the main number next to each player's name above), every submission is put head-to-head against every other submission. To find the winner of a 1v1, the castles are each evaluated: if player A has more soldiers on castle x than player B, player A will win x points. Whoever has the most points after all 10 castles are evaluated wins one Blott (or each win 0.5 in the case of a tie).

We have one round left and I've saved the wackiest rule for last. Before scoring, I will generate a random permutation and apply it to everyone's submissions. This means that your soldiers that you thought were going to castle 10 may end up on castle 3.

If you'd like to participate, please submit your soldier allocation and preferred name to sherpnews@gmail.com by April 10 at 6 PM. As usual, new players are welcome to join!

sherp

THE SPY FROM LAURIER

I AM THE SPY

A dark gloomy Tuesday—Mr. Goose waits under the bridge to DC, a coin in one hand (wing?), a small scrip of paper in the other. He flips the coin impatiently. A storm brews in the distance; his weapon holstered in his jacket, he watches as the late-night students exit M3 and head home.

Then, he sees him. A Hawk, golden as the sun. Though he has tried his best to hide himself, covered in dark clothes and layers of jackets, Mr. Goose knew—a LAURIER SPY. The hawk approaches him. He tenses up.

"What do you want?" Mr. Goose said in a gruff tone.

"Not much, hbu?" the Hawk muttered under his breath.

"Well, I'm just waiting for... someone. Someone I need to meet." The Goose contemplated how the Hawk managed to speak in acronyms. He thought to himself, "damn, this hawk is goood".

"Well, it just so happens that I am looking for someone to meet as well," the Hawk said, pulling out from his pocket a scrip of paper of his own. "I assume you have one of these?"

Mr. Goose snatched up the paper and held it up to his own. The tear marks aligned. *He's the guy.* "I know who you are, and don't even try to hide it, Lawrence

McHawk. Your time here posing as a 'diplomat' is over. You know that Waterluvians have gained nothing from the trade deal between our nations. You should leave now—or else."

The Goose tried to give as menacing a look as possible through his goosey visage. Shivers were sent down the spines of some student passers-by, but the Hawk stared down the Goose with unflinching determination.

"Oh, I don't think so, Sir Geese Alots. Though perhaps Laurierland has fallen out of favor with the Math County, they certainly haven't with the whole of Waterloo." The Hawk let out a piercing laugh. "In fact, one certain *troublesome* Engineering County might have something to say about your province, with all the defacement and false statements you've sent their way..."

It was then when Mr. Goose pulled out his weapon, but Lawrence must've had peregrine falcon blood in him—in milliseconds he pulled out a death weapon of his own. Mr. Goose only had seconds to see the blazing emblem of "Waterloo Engineering" engraved on the side before it was too late.

"get rekt lmao", said Lawrence, before taking out a beer canister and taking a fat sip. Then he was gone.

It's a dark gloomy Tuesday night, and there was murder under the bridge of DC. A group of crows swarmed to mourn. Just another day in Waterloo.

andoiiii (totally not a spy)

N REASONS TO KEEP GOING

Article left as an exercise for the reader.

normalparameters

THE MOST BADASS PILOT

THE LEGEND OF CARLOS DARDANO

I left you on a cliffhanger, huh? That wasn't really planned, but I thought this would be another story you'd think is amazing.

I've talked about the most ridiculous plane crash, and the most incredible plane landing. Had I not heard of Pilgrim Airlines Flight 458, the story I'm about to talk about would've been in that spot. This is the story of TACA Flight 110, occurring on May 24th, 1988, and really, the story of its captain, Carlos Dardano.

TACA 110 was a flight from Belize to New Orleans, on a brand new 737-300, only delivered to TACA two weeks before. Captain Carlos Dardano was very experienced, with over 13,000 flight hours, almost 11,000 of those hours being pilot in command (basically a term that means the captain on a flight, but it also applies to being the only pilot on a plane). He was flying with First Officer Dionisio Lopez (who, despite being older than his captain at the age of forty-eight, had fewer flight hours than Dardano, with over 12,000 hours), and with check pilot Arturo Soley, who was there to make sure that the new plane was working well. TACA was an airline that operated out of El Salvador, and that was where the captain was from.

To truly appreciate Captain Carlos Dardano, we must go into his background. Despite having over 13,000 hours in the air, which is considered extremely experienced by a pilot in the middle of their career, he was only twenty-nine years old. In order to get that many hours before he turned thirty, he flew a lot, and he started flying young. With that amount of time, he was bound to have experienced some unexpected events, but no one could've prepared him for what happened.

Carlos Dardano was born into a family of pilots. He got his pilot's license when he was sixteen, and by

the time he left high school, he already had around 300 hours of flying. Before he had 100 hours, he had already dealt with his first emergency, when the gear on his plane got stuck transitioning from down to up, and he performed an emergency landing. But if you've heard of Dardano, you probably know something about him. By the time he was captain of TACA 110, he only had one eye.

In 1982, El Salvador was in the midst of a civil war. Dardano was flying a couple and their son to an airport in the middle of the jungle. When they landed there and got out of the plane, no one was around to meet them. He had a bad feeling about the situation—then he got shot in the face. He was shot by a guerilla sniper in the jungle from behind, with the bullet going through his cheek and out through his left eye.

Somehow, he was still able to fly his passengers out and back to safety, but he was severely injured. His left eye was gone, and he needed serious facial surgery. However, he was a pilot at heart. So, days after he got shot, and right after he was released from hospital, he flew again. Eventually, he managed to prove to aviation officials that he can still perform his duties as a pilot, and got a medical waiver, allowing him to fly in the US (he was already licensed in the US before he got shot).

All of that was before TACA 110. On this day, Dardano was a captain of his country's airline, and flying smoothly to New Orleans. However, the flight soon encountered storms in the New Orleans area. He decided to deviate a bit to try and get through a light spot on his weather radar, and avoid the worst bits of the thunderstorm.

Unfortunately for Dardano, his weather radar had misled him. What he thought was an area of light rain was actually a blind spot on the radar that hid the most severe parts of the thunderstorm, and he flew right into it. More unfortunately, the engines on that plane had a then-unknown design flaw. The tests that

certified the engines for intense water intake didn't account for two things: hail, and lower engine power.

The designers assumed that the blades would deflect hail away from the core like it does water. However, they didn't. Hail could actually, under the right circumstances, go right through the blade gaps like a bullet, and straight into the core. The tests also only assumed full engine power. They didn't account for a lower engine setting, which was the engine power Dardano set the plane at, since he was going to land soon and needed to slow down.

Those things, combined, drowned the engines with water, flaming them out. Since both engines provide power to the plane, the electricity went out, and he could only rely on a standby horizon (which shows how level your plane is), which was on battery power, as he was still in the intense clouds of the thunderstorm. The check pilot started the APU (a generator in the tail), and regained electricity, but no engines. Even when the engines seemed to be restarted, they weren't turning, and putting more power into them only overheated them, forcing the crew to shut them down for good.

At this point, they knew they weren't going to make it to any airport, so, when they got below the clouds, Dardano lined up with the canal in front of them, and they started to prepare to ditch. About a thousand feet from the ground, First Officer Lopez saw a levee. It looked long and wide enough to land on, so he pointed it out to the captain. Captain Dardano decided that landing on a grassy levee is safer than the canal. So he quickly lined up with the levee with an aerobatic manoeuvre called a side slip (where he "crossed the controls": made the wings turn one way and the rudder the other way), which allowed him to quickly lose altitude without gaining airspeed, and basically move the plane sideways without turning. They lowered the gear, and made sure everything was set up. Despite the slight incline to the side, it was a perfect landing. No one got hurt. The plane rolled to a stop, and everything that wasn't the engines or the new coat of paint was left undamaged.

It's actually surreal if you see the photos. The plane was just sitting there on a grassy area that a plane of that size shouldn't be in. According to reports, this was the first time a commercial jet made a safe landing outside of an airport without engine power.

They actually happened to land on NASA property, at the Michoud Assembly Facility. It used to be a plane factory, and used to have a runway. That runway was now a road, Saturn Boulevard. Because the plane was undamaged when it landed, thirteen days after the landing, TACA decided to change the engines on the spot, have the plane towed to the start of Saturn Boulevard, and had test pilots fly the plane to New Orleans. It's actually amazing that this was possible.

After TACA 110, he continued to fly. In fact, he is still flying to this day, and posting photos of his flying on Instagram. His son and daughter ended up as pilots, continuing the family legacy. He actually sometimes flies with his son, which is cool.

That's the story of the most badass pilot, Captain Carlos Dardano, a man born to fly, despite the enormous obstacles placed in front of him.

lwo

1. Pun not intended

EVERY NUMBER IS CLOSER TO 0 THAN OTHER NUMBERS

Every number is closer to 0 than other numbers.

TONY

The proof is left to readers as an exercise.

SH31

BEYOND WIKIPEDIA

I was at a dance party in France last week, dancing enthusiastically to the songs I knew (so, the English ones) and stepping back and forth to the ones I didn't (basically all of the French songs). Overall, it was quite similar to other dance parties I've been to; everyone just vibing with the music. Until a song came on that I had never heard before: "Last Night" by Chris Anderson ft. DJ Robbie. And all of the French people got super excited and started moving in sync. I tried to follow too, but the dance evaded me—as it did this gal who attended a beer festival in France with two types of beer.¹ So then I had to know what that dance that everyone else seemed to know was.

Le Madison, or in English, "the Madison."

From Wikipedia:

The Madison is a novelty dance that was popular in the late 1950s to mid-1960s.

A comment on "Chris Anderson Ft. DJ Robbie - Last Night (Official Madison Song)":

Play this at ANY French party to get everyone on the dancefloor instantly.

Turns out the dance was created in Cleveland in the late 1950s and became more famous when it was showcased on the *Buddy Deane Show* (which inspired the *Buddy Collins Show* in the hit musical *Hairspray*).³ The origins of the name is still unclear to me but Wikipedia also generously mentioned that the dance was popular in Cambodia. Just Cambodia.

In the first twenty pages of Google searching I found only a few references to the dance's continued popularity amongst the French,⁴⁵ as most pages focused on the American history of the dance and not on what it is today. While the English Wikipedia page was no good, the French page contained a few paragraphs on the significance of the song in French

culture and that it was some French movie that catapulted the dance to long lasting success in France but nowhere else.

It's fascinating to think about the intangible cultural heritage that exists. Idiosyncrasies and cultural memories that exist, shaped uniquely to time and place, slowly evolving as time marches on.

FranklyCyber

1. <https://thegoodlifeFrance.com/the-beer-festival-and-le-madison-dance-in-france/>
2. https://www.youtube.com/watch?v=C_oM_c0DyoY
3. Unlike the musical version though the *Buddy Deane Show* was cancelled in 1964 after refusing to integrate
4. <https://blog.lingoda.com/en/french-dance-styles/>
5. <https://thegoodlifeFrance.com/the-beer-festival-and-le-madison-dance-in-france/>

CONTRARY TO POPULAR BELIEF... 水

You should drink water and stay hydrated, despite the water quality being questionable. Stay hydrated and keep on grinding.

AHPache



fig.3 normal bunny

HOW TO GO TO GUELPH

So you've explored every neighbourhood in Waterloo, you've wandered through downtown Kitchener, and you've even discovered some of the nice bits of Cambridge. What next? Glancing at a map, your eyes land on the next closest city to here: Guelph. With its own university campus, a beautiful downtown with historic buildings, and expansive parks with not one, but two rivers running through the city, it sounds like a fun weekend destination. But how do you get there?

Your first instinct might be to check the GO routes, since GO is the regional transit agency that covers this part of Ontario. As luck would have it, the GO train heading to Toronto passes through Guelph first! The train route from Kitchener to Guelph takes about 17 minutes, faster than driving, and only costs around \$5. It drops you off in a modern transit terminal in the centre of town, walking distance from most of the places you'd want to go. You've made it!

Well, that was an easy trip. Thanks for reading my article, and come back next issue for a guide on how to get to Waterloo Park. Have fun exploring Guelph!

...Okay, it's not actually that simple. The trains run on a pretty limited schedule, and only ever on weekdays. If you wanted to make the trip, you'd have to leave, at the latest, at 2:45 PM on a weekday, and then head back to Kitchener sometime between 5:00 and 7:30 PM. My work schedule doesn't allow for something like that, and neither have my past couple school schedules. Unless there's another way I could go on a weekend, the land of Guelph will forever be just out of reach, despite being just 20 kilometres away.

Fortunately, there is another way. If you ask for directions on Google Maps on a weekend, it gives you a time-flexible route that gets you straight from Waterloo to Guelph. How long does it take? Doesn't matter, because we'll get there. Here, I'll show you.



We begin our journey in a familiar place: the University of Waterloo bus terminal. I'm at the east end of the terminal waiting for the route 25 GO bus. I've been on the 25 before: it's the only intercity GO bus that runs on weekends, heading from the University to Square One in Mississauga, where most 25 riders transfer to another bus going somewhere in the GTA. The 25 makes a couple stops along the way in Kitchener, a couple in Mississauga, and one in between the two. The one in between is going to be pretty important for where we're going, so I have to be sure to get on the 25 and not the express 25C route, which skips that stop. Sitting in the DC courtyard, I let two 25C buses pass me by at the terminal. The 25 does come every hour, though, so I don't have to wait for too long.

I board my bus at 12:31 PM. This one departs just five minutes after a 25C bus, which means the one I'm on is almost empty. I take the opportunity to sit in the front row of the upper level, giving me the best view on any bus.

The bus heads down Weber Street, at one point stopping for an elderly woman with a walker struggling to climb over a snow bank at the edge of the sidewalk—one that is still there despite it not having snowed in weeks. At one point Weber intersects with Guelph Street. Does Guelph Street go to Guelph? I don't know, because we're not taking it.

It's 12:51 PM when the bus stops at Weber and College, a couple blocks from the Kitchener train station. If I were in a comparing mood, I'd note this time down and compare the total trip time from here on to the seventeen minutes that the weekday train takes. But I'm not doing that today. I already know the train is faster than driving, and the bus is driving on the same roads as a car would, so what's the point? All that really matters is that I get to Guelph.

Nobody's waiting at the Weber/Queen bus stop, which is only a few blocks from Weber/College. I'm not sure why it exists.

The bus continues down Weber and then turns onto the 401. I know the 401 isn't the prettiest highway in Ontario, but the front top seat of the bus still offers some nice views of the countryside, allowing me to see over the roofs of even the lifted pickup trucks on the road. It's a few days after the beginning of spring in March, and the trees lining the highway haven't quite woken up yet, but the backdrop they provide as we cross the Grand and Speed Rivers gives me something to look forward to when I arrive at the intersecting rivers of Guelph.

At 1:27 PM, a sign informs me that I've left the Region of Waterloo and am now in Wellington County, of which Guelph is the largest city. Feeling confident that I'm on my way, I zone out for a bit and admire the scenery surrounding the highway. It's often late during the evening when I'm travelling between cities, so I don't get to see all this very often.

Another sign points out an exit to take for a road towards Guelph. The bus does not take it. Instead, we continue towards the stop where, at 1:38 PM, I get off: Brock Road at McLean Road Aberfoyle Park and Ride.



Aberfoyle Park and Ride isn't in Guelph. It's in Aberfoyle, but it also isn't really in Aberfoyle either. It's a small parking lot next to a garage on an empty stretch of road south of Aberfoyle. I'm here to transfer to the 29 GO bus, which will take me the rest of the way to Guelph.

The 29 bus will get here at 2:12 PM. There isn't really anywhere to go around here other than a Tim Hortons, so I go to the Tim Hortons. I sit down with a bagel and spend a couple minutes double checking the bus schedules so I don't stay here any longer than necessary.

On the 29 bus at last, I climb to the upper level once again where, unfortunately, the front row is taken, so I sit in the second row. The 29 continues up Brock Road through Aberfoyle, a small town that's almost just as boring as the park and ride, and then onward to Guelph, where Brock Road becomes Gordon Street. This leg of the trip is refreshingly quick: it's 2:38 PM when I arrive at Guelph Central Station, the transit hub in the heart of downtown Guelph. I've made it!



It's time to head back. I'm taking the same route backwards, starting with the 29. I sign onto the GO bus WiFi and, when I'm redirected to the GO website, something catches my eye: an announcement of service changes starting April 8th. Clicking to see more, my eyes widen: a new hourly bus route is being added from Waterloo to Hamilton via Guelph, making the journey from Kitchener to Guelph just 33 minutes: the same amount of time as it takes to drive. Unfortunately, like the train, it will only run on weekdays for now. For a weekend trip, the journey I made is still your only option.

The bus heads down Gordon Street as before, passing a street called Waterloo Ave. Does Waterloo Ave go to Waterloo? I don't know, because we're not taking it. Maybe, someday, when endless responsibilities stop consuming all of my time on weekdays, I'll find out.



__init__

IMPORTANT DEVELOPMENT UPDATE

A MESSAGE TO OUR FANS

To our dear fans,

At *My Apartment Studios*, our goal is always to deliver the highest quality articles for every issue of **mathNEWS**. We take pride in making our audience, think, laugh, cry, vomit, dance, and fall in love with every word we write. We know that's our obligation to you, the fans.

With that in mind, we've made the difficult decision to delay our hotly anticipated *Funny Article for mathNEWS 151.5* until 2024.

We know our fans have a lot of questions, but first, please accept our humble apologies. And if you don't accept them, then please keep that fact to yourself.

This decision is the result of multiple factors. First and foremost, the ongoing COVID-19 pandemic, which didn't actually hurt development all that much but we put it first in the list so you can't get mad at us for fumbling the ball every other way. COVID wasn't our fault, guys!

Secondly, there's the challenge of shipping an article that our fans will be delighted by, while still completing the big PD assignment I forgot was coming up and left to the last minute. This external force, *not* my poor planning, has led to severe time constraints on the project, and I cannot in good conscience ask my staff to grind any more than they already do as Math students.

Finally, the vision and scope of *Funny Article for mathNEWS 151.5* is stretching us to our creative, technical, and intellectual limits. This is our biggest, grandest, most ambitious article yet. If we released it before we were ready, we'd need to compromise our

vision and cut features such as the elaborate musical intro, the pyrotechnics, the NFT integration we were sure was a good idea 2 years ago and are now stuck with, and the ChatGPT integration we're sure will be a good idea forever. Our fans deserve better than that.

Finally, I want to thank the staff at *My Apartment Studios* for their dedication over the course of this project. In particular, I'd like to thank Mr. Water Bottle and Mrs. Mostly Empty Pack Of Gum for their hard work and support of our incredibly handsome and funny lead writer, Mr. Dick Smithers, alongside their passionate devotion to our fans.

We can't wait to experience *Funny Article for mathNEWS 151.5* with our fans when it launches in 2024. Thanks again to our fans — your passion and support of my objectively incredible comedy is what fuels us to keep going.

Fans fans fans fans fans.

Sincerely,

Dick Smithers, Lead Writer of "Funny Article for mathNEWS 151.5"

WILL SPRING EVER COME?

Will spring ever come?

For it seems that the blanket of snow on the ground has yet to melt.

Just when I think that spring has come,

Just when it starts to rain,

It snows.

At the end of March.

From someone questioning why they chose to go UW.

mathgeek

mathASKS 151.5 — PART III.III

FEATURING LILY HORNE, mathNEWS WRITER, 2011–2023

[Editor's note: this mathASKS is continued from mathASKS 151.5 — Part III.II]

“WHAT EFFECT DID mathNEWS HAVE ON YOUR LIFE AS AN UNDERGRADUATE AND BEYOND, IF ANY?”

Deciding to write for **mathNEWS** was one of the best decisions I ever made. That decision was what led me to meet my now spouse, Soviet Canadian, at the first production night I ever attended on January 17th, 2011.

My mom and I like to joke about how we both noticed our partners as a result of their interesting wardrobe choices. She noticed my dad as a result of his bright red Scottish tartan pants (which was not common in Communist Romania in the late 1980s to say the least), and I first noticed Soviet Canadian because of his giant fluffy ushanka hat and black trench coat that he would traipse about with around the V1 cafeteria. When he made his entrance in **mathNEWS** I was like, “ZOMG, this is the human I keep seeing everywhere, I MUST learn their name!”, which I did. I even got to see the gas masks he carried around in his backpack! Lo and behold I then notice him again later that week sitting in the front row of my MATH 137 section, and because I knew his name I ended up talking to him and joining a study group together as we were in most of the same classes and had similarly terrible 1A terms.

We were then in each other's spheres for a good while afterwards, but it took quite a long time to acknowledge there was a connection there due to me being a very stereotypically socially-awkward math student, I was still working through the emotions of the dissolution of my previous relationship, and I was also figuring out my own demisexuality, what that actually meant and how it would impact any relationship I would pursue in future. Soviet Canadian and I ended up collaborating on some projects that caused us to spend more time together though, and I finally had the courage to assert “Hey, I have feelings for

you”. I still remember the day he acknowledged me as his partner by calling me his girlfriend in February of 2013 and I was internally screaming “AAAAAAHHHH HE SAID IT. HE SAID IT. HE FINALLY SAID IT ZOMG”. I was so happy because that was LITERALLY the first time it was said out loud. That really made our relationship feel real, though by all intents and purposes we had been essentially “dating” for N months before that. From then on though, there was NO denying it.

Since then though, we have been supporting each other through so much in each other's lives. After the chaos the pandemic wrought, we were finally like, “Screw it, it's been long enough. We want to be together. Let's get married.” Fellow **mathNEWS** writers Beyond Meta and Zethar were actually our witnesses, and Soviet Canadian and I eloped in secret in October of 2021—well, not THAT secret because I literally wrote an announcement for it in **mathNEWS** LOL. Our families still don't know we're ACTUALLY married though, and they don't need to. That and also, if your parent literally said to you after dating/being together someone exclusively for 8 years at that time, “How can you be a couple? You're not married! When you get engaged, then you can start to think of yourself as a couple.”...you'd have a lot of feelings on that too and maybe would not wish to tell them either. It's our secret not-secret, and we're happy.



To generalize things a bit more though, **mathNEWS** provided the opportunity to connect with a bunch of folks around me and gave me a creative outlet to continue to pursue the more artistic side I have. Having any outlet to be creative grounds me in going back to the dreams of the younger human I was and to what I love to do. Many of the covers I've done for **mathNEWS** and a few of my favourite articles I've written are actually in my marketing and art portfolio that I have presented in job interviews. During some really tough times in the last year, playing around in fractal art programs also gave me a small amount of joy that I was then able to share with **mathNEWS** readers! It was a great feeling.

“HOW HAS LIFE BEEN FOR YOU SINCE GRADUATING? IS WHAT YOU'RE DOING TODAY WHAT YOU EXPECTED BACK THEN?”

Good grief, no. If my Grade 12 self were to see me now, they would very much be like, “Oh no. What happened to you?” and probably be very heartbroken that we never did end up going to OCAD like we hoped for. The math degree took... unexpectedly long, to say the least, and quite honestly I'm very tired and I don't really know if I could handle more schooling in the near future... especially with the effects that the COVID-19 pandemic has had on, well, everything.

I have to admit, answering this question is... honestly really difficult for me (I have cried and re-written my response to this question at least N>6 times), but I feel it's important to be honest and truly articulate how much of my post-graduation experience was altered as a result of the COVID-19 pandemic.

I was terminated from my job as a result of the pandemic, and finding that out over Facebook of all things was really devastating (my boss had no idea it even happened either, it was their boss that made the call and as a result I could not fight it... %10 would

not recommend). It messed with my internal psyche, because when your job is considered “not essential”, it’s very easy to internalize that message and project it onto yourself. I became nothing but a recluse desperately trying to hold on to what semblance of myself I could... but it was very difficult.

Since I lost my job, I no longer was able to afford my housing accommodations. Soviet Canadian and I were supposed to move in together in a new city in April of 2020 as that was when we were expecting our housing application approval, but our move got heavily delayed and we almost lost our accommodation as a result of “plandemic” chaos (with plans being uncertain/prone to VERY sudden changes). I had nowhere else to go that I could afford, and had to move back in to my parent’s house. I also lost access to part of my healthcare and could no longer access treatment plans that were previously provided to me as a part of my job’s benefits (especially my medication). I became a wreck as my once stable disabilities and conditions spiraled as a result. I know so many folks tried to reach out to me to see how I was doing in 2020, but I just couldn’t respond. I was having so many emotional breakdowns drowning in waves of grief over losing everything that brought joy and stability, and I had to have my computer sent away for repairs for quite a while too. To top it all off, I then had another bronchitis flare (for the 23rd time in 10 years... yes, you read that right). I was utterly, utterly broken and horrifically unwell, but as with the 22 times before, I did recover from the flare.

A ray of hope came though when mine and Soviet Canadian’s housing application was finally approved toward the end of 2020. We moved in together almost immediately and that was a huge boost for my mental well-being. Unfortunately, trying to find a new job in a new city with basically no connections in the midst of a pandemic eliminated any shred of wellness gained by tearing down everything I felt I had ever accomplished.

One thing you don’t realize you like about JobMine/WaterlooWorks is that employers are required to

explicitly reject you. By mid-2021 after I submitted something like, 170 job applications, I was only ever given 4 rejection emails, and no interviews. I was so, so happy when I got those rejection emails because it meant I was worth saying “no” to, but it was still overall really demoralizing. It felt like every job application I was making was filtered out because I wasn’t checking the right boxes on the other side (a math degree is not a marketing degree for one). I eventually joined a job agency to help in my search that provided a job training program that gave me a boost in confidence and a few extra certifications. When I was finally presenting my resume in front of humans as a result of a well-timed career fair, out of the 20 resumes I submitted I received 4 interviews.

After all that though, out of desperation, I settled for a part-time job in November of 2021 that unfortunately doesn’t give me enough hours or enough wages (currently) per hour to pay ALL of my bills (fuck you inflation). But, it was enough to satisfy my job training requirements to complete my program and at least help to start me taking my medication again (and spousal benefits). To add insult to injury though, I received a 2-Year Post Graduation Survey through my alumni email asking me questions about what I was earning and what my career prospects were looking like in the 6 months to 2 years after graduating. I realize that this is just part of the reality of the Ontario Post-Secondary Funding Scheme at work and giving more money to institutions that produce higher numbers of economy-contributing graduates, but I just wanted to fling my computer into the sun. I am worth more than my contributions to an imaginary economy, but at the end of the day I still need the basic necessities to live (food, water, shelter, medication, warmth, etc.). I truly don’t know where my career will go from here, but for now, I’m here. That’s enough.

I will stress, however, that another piece of hope that came was finally getting vaccinated against COVID-19. I was (and still am) motivated by the fact that I need to keep myself and my family as safe as possible. My mom is nearly 75, and has a lot of physical limitations

and health conditions that *will* be affected if she gets ill. I did not and do not wish to lose her to COVID, and will do everything in my power to ensure that will not happen. Nothing could have prevented my spouse bringing home COVID-19 from work during the Omicron surge of Fall 2022, but having the vaccines absolutely helped and taking the test when I needed to helped me make the decision when I needed to in order to protect my mom. It is unclear whether or not I may have long COVID symptoms, as I have noticed my disabilities got worse since being infected (but again, there are many compounding variables that could be contributing, like my significant disruption of care and starting a whole new routine to try and get stable again). I am praying for the best, but I will weather the worst. I have made it this far and I can keep going. I will be so relieved when I can finally get a bivalent booster at the end of April.

Throughout this pandemic though, I have found solace in that there is care, community and community care out there. Very, very slowly I have been building the care team and routine that I need to be well in the new normal. The world I knew in my degree is not the same as it is now, but it can absolutely be better... for everyone. I have been donating blood as I’m able. I have been doing my best to become educated and understand lived experiences that are very different to mine. I have been doing my best to speak out and advocate where it is necessary. There is more to life than just my issues. There are the systems in place that cause harm to everyone. Those systems need to change, for the good of all. Starting small can work. I’ve seen it happen on campus. It can happen out there.

“HOW DO YOU LOOK BACK ON YOUR TIME IN mathNEWS?”

I consider myself incredibly lucky... like, EXTREMELY lucky. I somehow was able to come to this place, somehow joined this paper and somehow produce things that have been enjoyed and consumed by so many humans. I was also lucky that the timing

worked out such that I met my spouse when I did. Had I fought my dad more and gone to OCAD first, I would likely not be writing this article right now in the same way. I remember bringing home physical copies of **mathNEWS** to my parents whenever I saw them. They would read it and it made me happy to share it with them. I was so lucky to be able to share things with them while I was able to. I hope picking up a copy or downloading the digital version of **mathNEWS** brings you just as much joy whenever you're reading it too, dear reader.

"IN RETROSPECT, DO YOU THINK YOU WOULD HAVE IMAGINED THAT mathNEWS WOULD LIVE TO SEE ITS 50TH ANNIVERSARY? WHY DO YOU THINK mathNEWS LASTED? DO YOU THINK IT WILL LIVE TO SEE ITS 100TH?"

I was around during the 40th anniversary of **mathNEWS**, and it came and went without much fanfare. To be honest, it's so great to see more of the history of how much **mathNEWS** has changed and evolved with this retrospective volume. It's hard to believe that I, myself, have been around to witness essentially a fifth of **mathNEWS'** lifetime, and the core of what **mathNEWS** is hasn't changed much in the grand scheme of things. It remains a dedicated outlet for students to express themselves as they feel (at the Editor's discretion, obviously). That said, everything else around **mathNEWS** has changed a lot. Campus looks different and will continue to look different—especially when M4 is completed. **mathNEWS** totally needs to reach out to the Campus Architect though and ask what M4 will be designed after! MC was designed after a slide rule, DC was designed after a computer chip, and M3 was... maybe designed after E5 because it was a really apt design. Building design suggestion list article anyone?

"WOULD YOU WANT TO BE CONTACTED FOR mathNEWS' 100TH ANNIVERSARY?"

Assuming I will obtain the privilege of being a literal old person at that time (I will be 80 years old in January of 2073), absolutely! Assuming Soviet

Canadian and I are also successful in the societal expectation of marital procreation though, definitely invite our kids/possible grandkids to see how their parents/grandparents met.

"ANYTHING ELSE YOU WANT TO SAY/TALK ABOUT?"

CONTENT WARNING: mentions of suicide.

Did you know **mathNEWS** has a mascot?! She's a plush beaver with a pink tie and her name is Kitty :D [Editor's note: **mathNEWS**-chan has competition...] Not sure where she ended up in the **mathNEWS** office [Editor's note: on the shelf!], but she deserves more love. And a new couch to sleep on. It's literally been there since 2011 and has experienced many Editors as a result (the accompanying visualization is left as an exercise for the reader).

To all of you who may have known me or heard of me in passing, I'm still here persevering and doing my best to attempt to live life after graduating. I'm really, really sorry if you tried reaching out to me and I wasn't able to respond. I truly was not able to respond to you at the time you reached out. I have slowly been trying to connect with folks again, and would very much love to hear from you.

To any first years who may be reading this and thinking, "Holy shit, this person took 9 years to get their degree?!" Yes, yes I did. Was it worth it? Mostly. I met amazing people, have found someone I am looking forward to building more of a life and a legal family unit with, and have had exposure to so much data, so many ideas and so many random facts that I truly have no idea what to do with them. The piece of paper I received is merely a representation of a lot of struggle and experience. Even if it may not have checked the right boxes for some jobs, my experiences are still useful and inform a lot of how I move in the world. If you're reading this and are scared of making it through academic probation, know that you're not alone. There are students who have succeeded in making it through (myself included), and we're cheering you on. You will make

it. I believe in you. That said, you don't necessarily *need* the degree you started out going for. Wherever you choose to go and however you end up getting there, you are supported.

You are worth more than your need to be "successful". My definition of success was simply making it through. I have made it through... a lot.

Lastly, because this doesn't get talked about enough:

In my 4 years of high school, I survived 2 suicidal episodes and 1 attempt. In my 9 year degree, I have survived 6 major suicidal episodes and 3 near-attempts. In the 3 years of this pandemic I have survived 12 suicidal episodes and 2 attempts.

My last suicide attempt was September 2020. My last suicidal episode was January 2023.

I am lucky.
I am here.
You are lucky.
You are here.
I am so happy you are here.
I am so happy we are here together.
I made it to today.
You made it to today.
You deserve the support too to survive and thrive.
We can make it to many, many tomorrows.

You are successful just by being.
I love you <3
hugs

Please reach out if you need it.
Good2Talk 1-866-925-5454
Health Services/Campus Wellness 519-888-4096
Here 24/7 1-844-437-3247
Empower Me 1-833-628-5589
Kids Help Phone 1-800-668-6868

CAN YOU INDUCE DISSOCIATIVE IDENTITY DISORDER?

AND CAN YOU CONTROL IT FOR YOUR OWN BENEFIT?

INTRODUCTION TO DISSOCIATIVE IDENTITY DISORDER

In the Marcel TV show, Moon Knight, the protagonist finds out that he has dissociative identity disorder (DID for the purposes of this article) and has two personalities living inside him: Steven Grant and Marc Spector. DID, formerly known as multiple personality disorder (MPD), is characterized by “switching” to alternate identities. You may feel the presence of two or more people living in you with completely different attitudes, personalities, names, histories, gender, mannerisms, and even different physical attributes such as the need for glasses. In the TV show, Marc Spector is a trained assassin whereas Steven Grant is a smart historian. Both of their abilities are separate and one can do what the other cannot. Although DID usually comes with many severe symptoms, including suicidal thoughts, is it possible to, safely, induce DID in oneself?

THE PURPOSE

First, we need to ask why one would want to do that. Think about your habits and learning styles, your creativity and logic. Are there any areas where you want to improve or you don't like what you have right now? Think about your ideologies and opinions of how you should live your life. Sometimes you feel like you should enjoy your life while at other times you feel guilty for not doing more work and just enjoying. Having multiple identities means you can have one part being an introverted workaholic and another an extroverted, life-of-the-party kinda person. Then switch between your identities as and when you need without having to guilt-trip yourself about your choices. While one identity for solving math problems and one for writing creative articles for **mathNEWS** sounds fun, it comes with a few other problems. Also, is it even possible?

FEASIBILITY

The short answer is, unfortunately, no. Moreover, even if it was possible, it is not worth the increased risks of being plagued with other mental illnesses along with DID. However, there is a way to induce something similar, and achieve less drastic, but still effective changes.

You can pretend to be an actor playing a role of another person. you can define what ideals and qualities this person has by giving that personality some beliefs. When needed, you can just flick the mental switch and be slightly different. Many actors have experienced this effect. They say as soon as they change into the other person's clothes, they feel like they are someone else. The secret behind how it works properly lies in forming strong (preferably not extreme) beliefs. With these beliefs, you will see the world with a different perspective from what you are used to seeing it as. A stressful exam might seem to be child's play after switching to another personality.

AN ANECDOTE

Speaking from a personal account, I have tried inducing the alternative form of DID on myself and the results are quite interesting. I listed some core beliefs that both my “identities” will have: for instance, one part believes that the little things in life don't matter and one should always look at the big picture (chill dude), while the other is a perfectionist and an efficient worker who always gets the work done extremely quickly (smart introvert). At first it was hard to keep track of which of the two identities had the reins, but after a while, it just became a natural part of me. As soon as I would switch from one to the other, I would be able to feel the difference in the way my mind works. The first one would always be happy and not stress too much about the assignments and the other work that needed to be done while the other one would always

be extremely focused on the tasks and be able to plan anything quickly and efficiently. Some abilities and perspectives grew out of the ones that were made at the beginning. For instance, the chill dude loves to socialize and thinks that one of the biggest purposes of life is to connect with as many people as possible, while the smart introvert prefers solitude and sees no point in engaging oneself in activities such as spending time with friends, listening to music, etc.

This is, by no means, a perfect DID situation, as my two “identities” are just two different stages that my mind can be in in different situations. Even before I started doing this, I had moments when I was hyper-focused at times and times when I would be the most extroverted person in the room. However, creating this sort of conscious switch helped me go from one to another as and when I wanted, which helped me work and socialize efficiently. There have been no studies regarding this speculation, but, if possible to perform safely, it could help a person achieve several things in their life that they never thought were possible for them.

sp

Don't try at home. People may think you are insane. And they may be right.

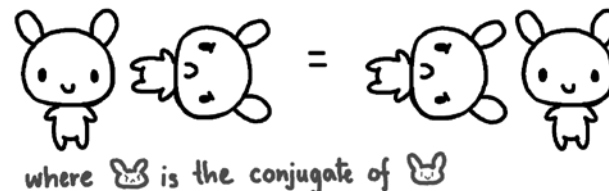


fig.4 normal bunny

MIDNITE VULTURES BY BECK

ALBUM REVIEW

“Did you know that Beck did a disco record?” — has some insufferable someone said this to you before? Were they me? Because this is it, baby. This is the disco record that Beck did. It’s *Midnite Vultures*.

The album came out in 1999, three years after commercial success *Odelay*. It was completely unique from the stuff he made during his hippie heyday, but in no way less weird. This album is full of thick, swampy slow jams, drunken synth-pop rock ballads, and dancey red carpet bops, and has been my personal go-to for countless late night listens with a bottle of whatever’s leftover from the night before. Although it dresses itself with a disco exterior, as you fall deeper into the album it leans more into its grunge, R&B, and new-wave influences. This is framed against classic Beck nonsense lyrics, weaving epics of latex-clad scumbag superheroes cruising from bar to bar in Hollywood Hills on a bender that never ends.

Midnite Vulture is very top-heavy, with most of its powerful hits coming quite early and the album, petering off only into a few soft bangers towards the end. For the listener on the go, I suggest checking out the album up to the end of “Hollywood Freaks.” Things slow down quite a bit after this, but you do miss some really classic songs like “Broken Train” and “Debra” from later in the album.

“SEXX LAWS”—“MIXED BIZNESS”

The first three songs of this album are what really propel you into the experience. “Sexx Laws” is fast paced and catchy, featuring a snappy tambourine beat filled in by an energetic horn section. It’s followed by the steady “Nicotine & Gravy,” which gives a taste into the more moody tones of the album, before settling into a serious groove with the bass halfway through the song. The song progressively falls into a jam featuring synth, distortion guitar, trumpet,

and... I can’t even tell the full instrumentation here. “Mixed Bizness” picks the tempo back up and really dials in the funk. I find this song to be generally less memorable, besides that intro (“I’m mixing business with leather”) which comes back as a line a few times across the album.

INTRO TO “GET REAL PAID” AND “GET REAL PAID”

*We like the boys with the bulletproof vest
We like the girls with the cellophane chest*

Are you ready. Are you realllllly ready. This song seriously fucks. I’m considering not even reviewing it so you have to listen to the song yourself, but I can’t resist talking about it. “Get Real Paid” is what really builds the ethos for this album lyrically more than any single song, setting up the themes of consumerism and the party life. The two lyrics above build up a bulk of the verses of the song, with a similarly repetitive pre-chorus. The chorus itself is insanely groovy, with eerie backing synth. Fucking slap bass, what else do you want. The rest of the song is driven by a bouncy low synth line with miscellaneous percussion bullshit, and is filled with weird spacey electronic and synth moments.

The end of the song synthesizes all of these strands of the song and launches it into an ultra space trip with a contemplative synth soundscape that glitches into “Hollywood Freaks.”

“HOLLYWOOD FREAKS”

This is another one of the more synth-lead tracks on the album, and uses a piano sample for a really spooky hook. There’s some good guitar action at the intense part of the chorus. The lyrics are notable on this one too, with gratuitous sex references, and lots of tongue-in-cheek dramatics. Coming off of the curtail of “Get Real Paid,” this song really keeps up the mood with an upbeat outlook covering up slips into haunted reflection in the later verses of the song.

“PEACHES & CREAM”—“PRESSURE ZONE”

“Peaches & Cream” is where the album really begins to slow down, before eventually crashing into “Broken Train.” “Peaches & Cream” is all tangy riffs and vocal croons, with a grungy running bass and guitar line. This track holds against the rest of the album, with a uniquely smooth and immersive soundscape. “Broken Train” is much more sonically barebones than its maximalist cousins on this album, allowing the mallet percussion and drumline to really come out again. The name too is fitting, with the song digging into themes of self-destruction and power. “Milk & Honey” isn’t particularly noteworthy to me, not really expanding the album much further than “Nicotine & Gravy” & “Peaches & Cream” did.

“Beautiful Way” surprised me when I listened to it again for this review. It was incredibly sincere compared to the tone of the rest of the songs, in both lyricism and tone. The excessive sheen of the rest of the album is set aside for a more rustic and candid tone. If this track appeals to you, then Beck’s alt-pop albums *Sea Change* and *Morning Phase* are both right up your alley, which are among his more serious and meditated releases from his discography. “Pressure Zone” is okay I guess. The chorus is kind of nice. Fun synth noises. Distortion guitar <3. The track doesn’t appeal to me overall though.

“DEBRA”—“UNTITLED TRACK”

“Debra” is a slow ballad, marking the end of the party. Cool horns and mellow guitar define this song, with a blasting chorus and some energetic breakdowns. The chorus of this song always gets a chuckle out of me, which I won’t spoil, but note that despite the title the song is *supposed* to be dedicated to someone whose name is ‘Jenny.’ This is the last full track on the album, and is a good blowout of all the sounds explored along the way.

“Untitled Track” is pretty wacky. I believe it’s just a mixed bag of ideas that never got fleshed out, because

the track changes mood on the dime without any rhyme or reason. It doesn't add much to the album,

MY VERDICT

Admittedly, *Midnite Vultures* is very dear to my heart. I listened to it for the first time cover-to-cover in ninth grade, hunched under my covers late at night, and was enchanted by how aloof it took itself while sounding so serious and good. It was actually one of (if not *the*) first full albums I remember listening to. This album has a lot to offer, and blends a lot of sounds that while made for each other are scarcely seen in this deep of communion. It isn't air tight in quality, with a couple songs dropping the ball a bit, but I believe this album keeps its momentum with distinct and memorable tracks littered across its timeline. This album may not be tailored to every person's tastes, but with the wide range it does have I dare anyone to leave this album without considering at least one track their favourite.

Rating: **I-love-this-album** out of **numerical-ratings-are-bullshit**

Favourite Track: *"Get Real Paid"*

a decaying skeleton

BALLS

We are conducting a survey on the sensory capacities of human testicles.

If you are an owner of testicles (or know someone who might own them), please dip them in soy sauce. After dipping them in soy sauce, please report whether you can taste the soy sauce (through your testicles): <https://tinyurl.com/bdz9hzum>

Results will be posted in a future issue of **mathNEWS**.

ffc1

DC CUBICLE RANKING

BY SOMEONE THAT GETS DISTRACTED EASILY

Greetings reader! If you too are a fellow DC enjoyer like I, you know very well that some cubicles are more equal than others. I'd now like to introduce you to this extremely subjective ranking I have put together. Not included since it's not really a cubicle, a special mention to the silent study room near the entrance which always looks a little bit dystopian every time I look at it.

10. COMFY LEAN-BACK CHAIR CUBICLE

Absolutely the **WORST** place for getting anything done unless you're typing out a mind numbing essay; the sleepy factor of this bad boy is insane! Better for naps than for working. I have, on several occasions, seen people just snoozin' in these. The foot rest is also awkwardly wobbly and, despite that, I still feel compelled to use it.

9. BROWN CUBICLE [ANY]

I'm too busy deciphering the names and convoluted enigmas engraved in the wood! The patterning on the surface is also weird. A lot of the brown wooden tables come with C-list chairs, which is a thumbs down from me.

8. BACK EXPOSED [NO. 39]

Most cubicles are like this, but I'm talkin' the lanes with the most traffic; I'm always afraid someone will pass by me twice and notice that I'm still working on the same problem as before.

7. WINDOW [NO. 7] [NO. 30]

Rest your eyes every 20 minutes and look outside, yeah? Bonus if it's a window to the side rather than a huge window pane right in front of you, since then you get the *option* to go look outside, rather than having it constantly be in your field of vision!

6. PARALLELS [NO. 113]

Bad! My peripheral vision cannot be distracting me today! I also don't like the fact that I'm sitting right next to someone.

5. GREEN DESKS [NO. 6]

I don't like that you can kind of see the people working diagonal to you since the barriers between the desks have a gap in them! I promise that I only have eyes for my course notes :(

4. AVERAGE CUBICLE IN DIAGONAL FORMATION [NO. 72]

My go-to! Can't go wrong with this one!

3. NICE [NO. 69]

nice

2. CONCRETE PILLAR [NO. 124]

I don't know why, but the booths at the end of the rows with the concrete pillars offer me a sense of comfort... someone sturdy and reliable, that will stick by me through my problem sets. It also provides you the same level of vision blockage as a regular diagonal cubicle, just without the extra person to your right!

1. BOARDWALK [NO. 19]

I have never actually sat in this spot—I never really paid any attention to it, but when I was doing rounds around DC writing down the booth numbers for this article, this piece of real estate came to light. The magnum opus of this glorious cubicle is the wall to the left, offering safety, comfort, and the closest feeling to isolation that you can get on the first floor of the DC library. I will be camping for this spot next time so please don't take it from me thanks!

jamchowder

starNEWS 5

GETTING INTO ASTRONOMY WITH BINOCULARS

Many people who want to get into astronomy tend to go straight for a telescope, then promptly quit because of all the trouble it is. However, if you *do* want to get into the hobby, you really don't need one: a good pair of binoculars is probably a better choice, and I'm here this week to help guide you with my (1200-word) guide to binocular astronomy.

WHY BINOCULARS?

You might be surprised that I'm recommending a set of binoculars instead of, you know, a telescope, but they actually have a bunch of advantages, especially for beginners. To list only a few:

- **M o n e y.** If you budget \$25, I guarantee you can find a decent pair of binoculars on Kijiji. Comparatively, a telescope will run you at least \$100, and I would actually pay that much to *not* use those budget scopes.
- **Portable.** A good telescope is chonky; I can barely carry the stuff for mine by myself. Comparatively, a pair of binoculars is an extra you throw in your bag when you feel like it. You also won't have to set up a heavy mount.
- **Versatile.** Binoculars can be used for all sorts of stuff, day and night. You might even already have a pair for unrelated reasons.
- **Less squinting.** It's much nicer to look through both eyes than one, and binoculars keep things on the right side up (many telescopes invert the image).

WHAT BINOCULARS?

So now that you have decided to buy a pair of binoculars, you now come to the hard part: getting over the indecision of which pair to buy. Don't worry,

the stakes aren't too high and it's pretty hard to go wrong. Generally, binoculars are specified by two numbers, written something like "7x50" or "5x35". The first number details the magnification, and the second is the aperture diameter of each lens.

Of the two, aperture is king. The problem with most amateur targets in the sky isn't that they're too small to see, it's that they're too faint to notice. I recommend you get at least a pair of 35s, preferably 50 or higher. The highest you will probably find for less than \$100 are 70s, which I highly recommend if you can snatch a pair.

For magnification, it's more to preference: higher magnification gives a better view of tighter objects, but at the cost of a lower field of view and more sensitivity to wobbles and aberrations inherent to the glass. 7 is a good middle ground, but 5, 10 and 15 are also great.

Some binoculars also list their field of view, and in this case, wider is obviously better. Others also say that they have coated optics, which means the glass has been coated to reduce stuff like internal reflections to give better light transmission. In either case, grab them if you can, but it usually isn't a tragedy if you don't.

Lots of brands sell binoculars, but as I'm recommending you buy used ones, just look up the brands you see available and make sure they don't suck. On that note, if you buy used, make sure that the optics are clean and have no spots or milky patches. If the binoculars are coated, look for degraded spots. Also, check that the focus is smooth and doesn't feel gritty in any spot. Obviously, you should actually look through them in the daytime and make sure they work properly.

HOW BINOCULARS?

Here are a few general good pieces of advice for binocular astronomy and astronomy in general. You don't have to follow these, but they might help in some places.

- **Live out every Waterloo student's dream:** leave Waterloo. Even if you only get 10–15 minutes out of town, you will lose a ton of light pollution, which helps tremendously in seeing fainter objects.
- **Don't look at the lights.** You want to keep your night acclimation while stargazing. If you have a red-light filter for your phone, use it. Don't look directly at any lights, especially passing cars.
- **Get a star map on your phone.** There are a ton of good options, just choose one (I use Stellarium). It's a lot easier to find things when you have an interactive map, especially at the start.
- **Use averted vision.** If you're looking at a very faint object, look directly next to it instead of at it. Turns out, the structure of our eyes is much more sensitive to light in peripheral vision since direct vision is so dedicated to detail.
- **Look high in the sky.** Things directly overhead suffer a lot less from atmospheric disturbance than lower down near the horizon.
- **Look up the forecast.** You can't see through clouds.
- **Don't look at the sun.** You'll burn your retinas.

WHERE (TO LOOK) BINOCULARS?

You would be surprised just how much you can see through just a pair of binoculars. Even if you have just a pair of 50s, you can easily match a 70 mm telescope

since you have 2 lenses instead of one. With 70s, you can match 100mm: a popular amateur size. Your one disadvantage is magnification, but this doesn't matter for some types of objects. Here are 15–20 ish recommendations for what to look at (I can't tell you where to find them, I would break the shit out the word count).

- The Moon: Fantastic. You should be able to see some of the craters clearly, and the overall experience is great. The best time to look at the moon is sometime between half and full; the full moon is way too bright.
- Planets: Not great, I'm afraid. With a good pair of binos, you can at least resolve Jupiter as a tiny disc instead of a dot, which is certainly worth seeing. You'll also be able to see 4 of its moons floating around it. Saturn and Venus aren't great, but the color of Mars is much more discernable through binoculars. Finally, Uranus and Neptune are within your grasp; you'll just have to find them.
- Open Clusters: These are what we call wider, shapeless star clusters. If you like stars, seeing dozens in a small group is really pretty. Start with the famous Pleiades in Taurus, which are easy to find. If you want another wide cluster, look for the Beehive in Cancer. Finally, I also recommend the Double Cluster in Perseus.
- Globular Clusters: These are much tighter, denser clusters that will probably look like vaguely fuzzy stars. The best one is the Great Cluster in Hercules (visible soon!). Further along into the summer, you should be able to find M5 in Serpens and M22 in Sagittarius.
- Nebulae: These will probably look like faint fuzzy clouds in binos, but are nonetheless very interesting to look at. Start with the Great Orion Nebula, located in Orion's sword. If that suits you, you can look

for the Lagoon nebula in Sagittarius this summer.

- Galaxies: The best one is Andromeda, but she is currently at the end of her visibility this year. If you can't wait, look for the pair M81 and M82 in Ursa Major. They look like a pair of fuzzy discs, and you'll probably need darker skies and averted vision.
- Double Stars: Binoculars make it easier to see star colors, and there are a couple of nice pairs. Start with Mizar and Alcor in Ursa Major (White/White). Another famous pair is Epsilon Lyare (Yellow/Yellow). If you want to see a bit of color, look for Theta Tauri (Red/Blue).

Shahabee

PMAMC&OC WEEKEND UPDATE

Hello pure math, applied math, and combinatorics & optimization enjoyers! Here is a column where I take off my **mathNEWS** Editor hat and put on my President of The Pure Math, Applied Math, and Combinatorics & Optimization Club hat so that I can fill space in layout and also spread propaganda for the Club. I guess that means I'm actually wearing both hats at once right now. Stylish!

Here's a rundown of what's been going on in the club:

THE SPOON

Recently, the Club unveiled a brand-new ~~gambling~~ shared social experience — the SPOON! For only fifty (50) cents, **you** can take one (1) scoop of treats in a bowl using a comically large spoon, for 15 seconds, and whatever reaches the goal bowl is yours. We're not losing money on this. *We're not losing money on this.* No, I insist. Please, take a scoop!

PMATH PROF TALK

A few weeks ago, Prof. Nico Spronk generously accepted our invitation and came to talk about integrals, but better. There were so many donuts — by all standards, far too many donuts. There were eighty— we ordered eighty, okay!? Some enterprising folks in CSC, and whoever happened to be in the clubs hallway after the talk, had the opportunity to finish off what was left. Anyway, the talk was great, there was a full crowd, lots of engaged gazes, and everyone left the talk thoroughly full of donuts.

AMATH PROF TALK

Soon. If not, you have permission to peacefully riot.

OVER 9000

It's on April 6th in STC 0040 (banished to the basement once again). Come with a friend and test your ability to guess whether arbitrary quantities are above or below the number 9000! If you get the most, right, you get a prize! If you get the most wrong, you also get a prize! Can you believe that some have the gall to say that mathematicians don't make money? Anyway, it'll be a good time, the questions won't be fair, and you can make fun of them with your friends. What more could a Mathie hope for?

END OF TERM

All members of the Club are entitled to RSVP¹ for the PMAMC&OC End of Term Celebration Event. I can't tell you what, where, or even *what* it is yet, but we'll make sure that you leave full of food that is not donuts.

Anyway, that's all for now. See you next issue!

Evan Girardin
President, PMAMC&OC

1. Hey, I didn't say we're *made* of money, okay!?

HOW TO WRITE THE WORST ALTERNATIVE TEXT

In web development, alternative text is the text used to describe an image on the webpage. It is embedded within the website code such that it can be presented whenever the image is unavailable, say on slow connections or to devices used by the visually impaired. In particular, the visually impaired often use screen readers—applications that read out and otherwise describe selected content on a screen, allowing them to navigate a computer without having to personally view the screen. Although a sighted person can often refresh the page to load images, alternative text is the primary means for which a visually impaired or blind person can consume the web content images provide.

From many angles, alternative text is an important consideration. Websites developed to be accessible to all users have been shown to provide better UX to *all* users, including neurotypical, able-bodied users. For users who rely on accessibility considerations, a site that considers their needs is much more likely to obtain their traffic and business than one that does not. Under the Accessibility for Ontarians with Disabilities Act, most organizations in Ontario have a legal duty to implement accessibility measures including well-defined alternative text. Ethically, such measures reduce barriers for a marginalized group. Alternative text is important to get right.

Here's a guide on how to do precisely the opposite.

USE ALTERNATIVE TEXT TO MAXIMIZE THE CORPORATE BRAND

To the shrewd marketer, alternative text provides an excellent avenue for maximizing the potential customer's exposure to advertising material. Be sure to fill all alternative text with corporate messaging: whereas a rookie developer will describe a picture of the company dog as "the company dog Baxter taking a nap", the thoughtful developer will know to revitalize the alternative text as "our relentless corporate agent going the extra mile to serve your community".

STUFF ALTERNATIVE TEXT WITH IRRELEVANT SEO KEYWORDS

Google's search engine optimization algorithm uses image alternative text to rank images within its image search, providing more viewership to your web content. Rather than use alternative text to provide accessible experiences, the intelligent developer should maximize this opportunity to increase search engine rankings by stuffing alternative text with relevant keywords that describe the site's offering. Relevance to the image is irrelevant.

LEAVE THE IMAGE AS AN EXERCISE TO THE READER

To enthrall users with the website experience, the wise developer will present them with the challenge of deducing what the image is supposed to be. Any alternative text should be written to be intentionally vague, in particular leaving out specific details including names and locations. A picture of Vivek Goel shirtless atop a multicoloured pegasus can often be best described simply as "kind man with horse."

DO REPEAT YOURSELF

One especially shrewd method of making the viewer go the extra mile is to set the alternative text to repeat already-existing content. An enlightened developer writing alternative text for a news article will always forsake descriptive text in favour of repeating the article title, such that the carefully-constructed title is reinforced in the viewer's mind, and the article image is left as a mystery only solvable by the most dedicated readers.

DESCRIBE EVERYTHING

Many websites have purely-decorative images throughout their content. To provide an optimally equitable experience to all users, we must ensure the visually impaired are given full context on every image. No image can be left behind; developers must

be sure to provide alternative text on all landscape images, weird squiggly lines, background graphics, and funky abstract art.

NEVER STOP TYPING

Most screen readers stop reading alternative text after roughly 120 characters of text. Hence, to gift the user with a sense of suspense, developers must always ensure their alternative text has a length of at least 121 characters. When the screen reader cuts off halfway through a description, the user will be on the edge of their seat, yearning for more.

NEVER IDENTIFY DECORATIVE IMAGES

Decorative images—those without an informational purpose on the page—can be identified to screen readers by using an empty string as the alternative text, allowing the screen reader to skip the image entirely and making the page easier for visually impaired users to navigate. Detail-oriented developers should ensure to never do this, lest the ease of navigation cause the user to become disengaged with the web content.

ADD SECRET INFORMATION

Every member of an organization must always endeavour to make the customer king. In pursuit of this mission, be sure to provide visually impaired readers with hidden details not provided to the average visitor within the alternative text. In doing so, clever developers can foster a tight-knit community within their customer base.

ALTERNATIVE TEXT CHAMPION

<https://www.ctvnews.ca/> uses alternative text to provide photographer credits on their homepage, but titles each image without any credit. Users hovering over the image are unable to see the photo credit; this

information is reserved only for the most loyal and visually impaired customers.

DON'T DESCRIBE ANYTHING

While describing everything, be sure to also describe nothing. Alternative text is a shortcut to web accessibility that the best developers do not need. By providing undefined alternative text, the developer can confuse screen readers, allowing only the strongest accessibility tools to survive. An Angus Reid survey found that 97% of respondents described quite simply not adding alternative text as 'why would you do that', while the remaining 3% described quite simply not adding alternative text as "based".

I hope this guide has helped you to create the most abominable, depraved, merciless website experiences imaginable.

molasses

Honourable mention: <https://www.rogers.com/> attempts to implement decorative images within its blog posts by setting its alternative text to the string "null", which screen readers will read aloud without hesitation.

A FORMAL COMPLAINT TO mathNEWS PIZZA COMMITTEE

A TRUE STORY

You: Mom can we get Pizza? I want {Jalapeno, Black Olives, Green Olives, Ghost Pepper, Garlic Base}

Mom: We have pizza at home!

Pizza at home: {Hot Peppers, Black Olives, Green Olives} [Editor's note: blame Pizza Nova, not us.]

RobbotC on behalf of GT

NO SOAP RADIO

LITERALLY THE WORST JOKE OF ALL TIME

[in aphf's voice] Twoooooo penguinnsssss are sitting in a bathtub.

The first penguin says to the second penguin, "Hey, could you pass me the soap?"

The second penguin says "What do I look like, *a radio*?"

I spent **hours** trying to get this joke. My stubbornness did not let me look up the answer. No, I wanted to play this game fairly. My roommate came in suggesting that the point of this joke was that there was no answer to why it was funny, but no, I persevered. Surely it would all mean something. Surely if I collected all the clues, thought outside the box, opened my third eye, then I'd be able to understand this basic children's joke.

But no.

The point of this joke is that there is no @#!%^*& joke. It's "funny" because "people" (who are those people and who hurt them?) have decided it's funny. Apparently it's some kind of prank. Here is an explanation stolen straight from the holy bible Wikipedia:

"No soap radio" is a form of practical joke and an example of surreal comedy. The joke is a prank whereby the punch line has no relation to the body of the joke; but participants in the prank pretend otherwise. The effect is to either trick someone into laughing along as if they "get it" or to ridicule them for not understanding.

This is literally torture, created by the most evil dredges of humanity. It is utterly appalling; a dreadful reflection of the wicked. I reject this prank and all the great sins it stands for.

But fear not.

I have come up with a solution. Is it particularly funny? No. Clever? Not really. But by god, at least it makes a lick of sense. This is for all the fighters, who fought this battle and suffered a painful and humiliating loss. Here is your vindication. Here is your answer.

Think of "soap" as a soap opera. Now imagine they're playing this on the radio. Why would they be doing that? Who knows, just go with it, you're not gonna get anything better (actually I just googled it and there are radio soap operas SO THERE TAKE THAT). Now you can "pass" or skip a song. But you can't really do that on radios. What you can do is rotate through channels though. So while someone is flipping through the channels, and one of the channels is a soap opera, you could reasonably say "pass the soap", as in "skip this channel as for some reason I don't like the hit soap opera 'Penny For Your Thoughts' (the only present-day radio soap I could find)".

Thus, the joke is the second penguin thought that the first wanted to pass the soap opera on the radio. Even though presumably no soap opera is playing. Haha. Now you can sit in triumph, knowing you've showed the original pranksters who's boss. Everyone will think you're so cool.

I'm now gonna cry over the hours of my life I can't get back.

Not a N*rd

10 THINGS I MISS ABOUT MY EX

- her toes

squeakLikesToes

PROBABLY ANOTHER REVIEW OF THE 10,000 GECS ALBUM

No one asked, but here are my thoughts on the tenfold sequel to 100 gec's' *1000 gec's*, namely *10,000 gec's*!

I assume the people reading this are more familiar with 100 gec's than they are with The Smiths. Before I review the new album, I'll do a short review of *1000 gec's*, to put this album into context:

1000 GECS (2019)

1. **745 sticky**: banger opener, amazing
2. **money machine**: made me squirm, amazing
3. **800 db cloud**: ASDJLASDIUWH wiener
4. **I Need Help Immediately**: please do something
5. **stupid horse**: rhyming place with place and place is novel, amazing
6. **xxxI_wud_nvrstop_üXXx**: probably the weakest, but still made me yeeee
7. **ringtone**: such a sweet song :)
8. **gecgecgec**: gecgecgecgecgecgec
9. **hand crushed by a mallet**: crunch-worthy, great
10. **gec 2 Ü**: another sweet song, amazing

Overall, their first album was a ¼ for me. The music was either extremely thought-provoking or made me want to burn down an orphanage. In my opinion, all good albums should transport the listener between these feelings.

Probably like most gec enjoyers, I first found the music repugnant, but curiously so. I don't know if it was a slow appreciation or Stockholm syndrome, but I have now seen the light.

I put off listening to *10,000 gec's* because of, well, things, and because of preliminary reviews by people I know saying it was mid. So now that I've listened to it:

10,000 GECS (2023)

DUMBEST GIRL ALIVE

The strange THX intro aside, I found the lyrics to be well put, and the beat during the words was pretty on par for the gec music I'm accustomed to.

My gripe with this song (and quite a few songs on this album) is that it's a bit too guitar-focused for my liking.

Note: I really like rock; until now, 100 gec's is the one group that I listen to regularly that isn't rock, which gave it a special place in my eyes. The guitar music isn't bad at all; in fact, I feel like the union of guitar and hyperpop is quite innovative (read: I don't actually listen to music). I'm just kinda let down that this song, along with others on this album, doesn't nearly make my ears want to bleed as others before.

757

I have never done drugs before, but this seems like what would happen to me if I was on a weed trip. But personally, I think I'd rather call Jesus a Cheez-It, maybe.

While I really liked the harsh beat and the flowy auto-tune lyrics, it seemed like the outro was hastily put onto that track. In its own right, it would have made for another solid track, putting them both together doesn't make sense. The parts aren't even related!

HOLLYWOOD BABY

I don't like this song.

I refuse to listen to pop punk, and it's one of the few genres I absolutely despise, more for cultural reasons rather than stylistic ones. But it also stylistically sucks.

To me, this is a Green Day song with the typical gec Wall of Sound. I don't know what else to say, I genuinely dislike this song. And if you feel strongly about disagreeing, fight me (don't).

FROG ON THE FLOOR

You can tell a lot about me by the fact that I like this song infinitely more than the last one.

It's such a fun little ditty! I'll add 'making you want to act like a silly goofball' to the emotions good albums should transport you to.

Upon first listen, the 'oom-pah' organ made me smile and cringe simultaneously. I think this is their first song that doesn't attack your ears with noise, but instead with how strange it is.

The song talks about a quirky friend being compared to a frog doing his own thing. As someone not fully in touch with how to act 'normally', hard relate. I'm proud to be a crazy little frog jumping around, doing as I please. Why not try being one?

DORITOS & FRITOS

I've warmed up to this song since its release last year. I think I disliked it at the time because it wasn't pure noise.

The cacophony at the beginning is brilliant, and the bassline reminds me of the one from the song *The Queen Is Dead*.

The stunted delivery of the verses, the melodic refrain, and the product placement were all on point, I guess. It's a nice song, but unfortunately, it's no money machine.

Also, what's deez?

BILLY KNOWS JAMIE

One thing I appreciate about 100 geecs is that they're both diverse in genres and great at putting their own twist on said genres. The song itself is a good rap rock piece, which, as I mentioned before, isn't up my alley.

The story of Billy and Jamie is interesting; I'm surprised Billy let up with Jamie for this long. This song is a call to introspect about our own toxic relationships. I hope Billy's okay.

ONE MILLION DOLLARS

One million dollars. One million dollars? One million. Dollars! One. Million dollars one, million dollars, one. Did you know the TikTok voice actress is from Kitchener? Also, noise!

THE MOST WANTED PERSON IN THE UNITED STATES

On first listen, I didn't get this song. It's just a slow piece with some funny sound effects. I was probably semantically satiated from the previous song, though.

Most of the cultural references in this song whizz past my head, but the slower delivery made me appreciate the humour and wordcraft that went into this murder confession.

A better news piece: Man Discovers Paying Attention To Lyrics.

I GOT MY TOOTH REMOVED

This paragraph merits a spoiler warning. When I first heard the beginning, I was scared that the song would be a ballad, or worse, midwest emo-esque (if anyone wants to make a hyperpop ballad, please do).

Then it happened.

A song made me laugh.

Not even the supposedly witty Smiths, or countless song parodies I've listened to, have done that. Ska seems to be an inherently funny genre; listen to any Madness song (big recommend). But not even they have dared to make a song about such a painful life event. Unless you count being in Cairo.

My favourite song off the album, it's another allegory for the necessity and pain of getting rid of toxic relationships, duh.

Jk, it's literally about getting a tooth removed.

MEMEME

I also don't like this song.

The music is too pop-y, and not enough hyper for me. Sure it's hyper in the noise and style, but, like, uhh... I don't know, I just really dislike this song. Fight me, Jared. :)



As much as I like most of the songs on this album, it seems like 100 geecs is pulling a reverse 'Beatles' as time goes on. The Beatles started as a rock-and-roll band that turned to more experimental stuff as they matured. The geecs, on the other hand, started with an experimental pop album, and now have a more rock-centred (but still experimental) album.

For anyone who hasn't listened to their music yet, I envy you. If you want to start (why?), definitely listen to *1000 geecs* before making your decision to listen to this one. This music will grow on you the more you listen to it.

As for this album, it has not yet grown on me. I might just be an old man yelling at the clouds for not liking these new guitar-y shenanigans. I know I am.

Upon my first listens, I give it a 7/10, but who knows what I'll think in three months? Maybe I need to

listen to the album 10,000 more times until my brain has re-rotted into giving it a 9/10, I guess.

seagullman

O(N²) REASONS WHY YOU SHOULD COME TO THE ANIMUSIC EOT CONCERT

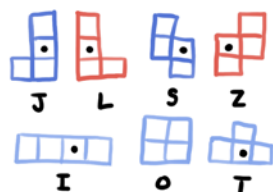
- You like music
- You like anime
- You like music anime
- You like anime music
- You like neither music nor anime but you want to go on a date with your gf
- You like neither music nor anime but you just want to find a cute weeb gf (be honest!)
- You like neither music nor anime but you have nothing better to do on Sunday evening
- You like neither music nor anime but a friend is dragging you along
- You like neither music nor anime but you want to break your eardrums to claim insurance
- You want to point out every dissonance, every misplayed notes, every intonation issue, every tempo inconsistency, and every sectional imbalance, note them all down in your notebook and compose an angry tweet the day after concert to kindly tell Animusic Ensemble how awful of a performance it was, despite you enjoying every moment of the concert (you think you can do better?)
- You just want to have a good time :)

THE MOST RIDICULOUS TETRIS SPINS

Long ago, the world was a dark place. Happy times were few and far between, and what little light existed was quickly snuffed out. But then, along came a man. His name was Alexei Pajitnov. Alexei Pajitnov gave the world a gift. This gift was called Tetris. And from that day on, the world has been filled with light, and will continue to be for eternity.

Anyway, let's talk about the Super Rotation System.

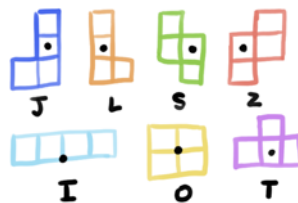
When Tetris was first programmed, the rotation system was simple. Each of the seven Tetriminos¹ (except for O, which doesn't rotate at all) has one of its blocks as the centre of rotation, indicated below in the following diagram. If the rotation would put the piece such that it intersects with the floor, wall, or other blocks, the rotation fails.



Now, this system kinda sucks. It's really inconvenient to not be able to rotate pieces at all when they're up against the walls of the board. The reasonable solution is to offset the piece a little if a rotation causes it to intersect existing blocks or the edges of the board. Maybe you could try the smallest offsets first, and if those don't fit, then try the next smallest offsets, and so on up to a certain point. Surely that's what we ended up with, right?

But no, we can't have nice things. And thus a scattering of different rotation systems was born, each differing slightly, but always using the same basic system: if a rotation is invalid, it should try a fixed series of offsets in order, depending on the piece being rotated, and if none of them work, the rotation fails. Eventually though, the Tetris Company

decided that there had to be some kind of standard, and so the Super Rotation System was born. Each piece has a centre of rotation, shown below, (which in some cases may be at the corner of 4 blocks); and a series of 5 offsets to try, depending on the piece and orientation.



These offsets are stored in an "offset table" which I am not going to include in this article because that would take up a ludicrous amount of space. This table is the source of a lot of weird stuff that happens with rotations. For example, it's impossible to get an L piece into this gap:



If you've played Tetris for a while, you may be familiar with the T-spin triple. This is caused by the 5th offset for the T piece, which moves it 2 squares down and 1 space across. If you didn't know anything about Tetris, you might assume that it would just move 1 space up—but nope, that's not an offset for any piece, for some reason. You can also do this with most other pieces using some kind of overhang that blocks the other rotations, although you have to be careful with I, S, and Z since they have asymmetric rotation centres and rotating them 180 degrees might cause some rotations to be impossible. However, T gets the most attention since doing a T-spin gives you extra points, or sends extra attack in competitive versions of the game.



But it turns out that you don't actually need an overhang for making an S and Z spin triple. All you need is a single extra block and all the offsets before the one you want are blocked off, leading to what is in my opinion the most ridiculous spin you can do in Tetris:



This article is getting quite long, so I'll just leave it with an interesting fact about the offset table: every offset is reversible. This means that by arranging blocks in the right way, you can cause the pieces to get shifted up on a rotation. By doing this repeatedly, you can move any piece (except O, naturally) from the bottom all the way to the top of the board. For instance, rotating clockwise over and over brings a J piece up through this setup, typically called an "elevator".



In theory, you should be able to bring the piece back to the bottom and repeat forever, but in official

versions of Tetris, the piece will lock in place after a certain number of rotations. Well, at least it was fun while it lasted.

hyperlynx

1. The Tetris Company prefers and has copyrighted “Tetriminos”, despite “tetrominos” being the most common spelling among mathematicians. So, I have decided not to use the word anywhere else in the article.

BEFORE FLYING

Some days
I feel doomed to fall
Condemned to live on a wire
Dancing to delay the drop

But lately
I’ve been remembering
How good it feels to fly

So maybe someday
I will fall

I will try my best not to hit the bottom

I will try to fly

I will remember this
The joy of soaring

I wish I weren’t born on a wire
I wish I didn’t anticipate the inevitable drop
I wish the dance didn’t hurt

But it is a beautiful dance
Sometimes realizing it reaches others
is all you need
it’s a feeling worth keeping
it’s a feeling worth flying for

And hope it lasts a little longer

TWO TRUE STORIES ABOUT WATER IN WATERLOO

STORY 1

It’s early February, and things are dire at the PAC pool. Chlorine levels have been slowly dropping over the past few days, and are now dangerously low. Alkalinity is supposed to live between 80 and 120 parts per million. If it goes above 120, then all bathers need to be notified. Water can become scale-forming and cloudy above 120 ppm. If alkalinity goes above 140, the pool is to be closed instantly. For the past couple days, it has been slowly rising from 80–90 to 110–120 ppm.

It’s the dawn of Saturday the 4th, and pool levels are basically at their limits. The chemicals lie in a delicate balance at PAC, and the influx of bathers over the day topples that completely. It’s a domino effect, as the chemicals slip out of their ranges, they no longer help control each other. Chlorine drops to zero, alkalinity shoots past 140. Pool is closed.

When the opening shift comes in on the 5th, they find the free chlorine levels are basically at zero, despite the entire night being spent pumping chlorine into the pool. The water is too cloudy to see the bottom of the deep end. Pool remains closed.

The pool stays closed on the 6th. Despite the constant pumping of chlorine into the pool, alkalinity remains sky high, and the water is still cloudy.

The situation is the same on the 7th. If chlorine concentration is at 5 ppm for too long, some swimmers will start coughing, and will have irritated eyes. Apparently over the closure, chlorine has been around 10 ppm. Alkalinity remains too high, the water remains cloudy, and the pool remains closed. Management does announce that the pool will reopen on the 8th.

On the 8th, the pool reopens. Alkalinity is at 130, but the pool remains open.

On the 9th, alkalinity is as high as 160. Swimmers comment on how milky the water looks. The pool remains open.

On the 10th, instructions come down from on high “As we work to get chemistry back please accept any alkalinity under 200”.

It takes several days for alkalinity levels to settle back down beneath 120 ppm.

STORY 2

One night, due to a scheduling error, no one shows up to a shift I am working. Out of boredom, a fellow guard and myself decide to run a pool test on the tap water.

It had an alkalinity of 220.

aphf

RANKING SOME FOODS AT MATH CND

1. **Curried chickpea sandwich:** This is a really good sandwich.
2. **Samosas:** Just the right amount of spicy. If you’re very hungry, get one or two of these along with the curried chickpea sandwich. If you’re on a budget, just get a bunch of samosas, they are quite cheap.
3. **Egg salad sandwich:** Decent.
4. **Vegetarian Jamaican patties:** Very inconsistent. Sometimes the crust is way too hard, but when it isn’t they are quite good.

Math CnD Enjoyer

N REVIEWS OF COURSES I'VE TAKEN

N COURSES I'M GLAD TO HAVE TAKEN

In my time here, I have taken many courses that were bad. But some, as it turns out, were the opposite! There were actually some good courses. I suggest people think about possibly taking some of these, as I have had no regrets with them.

CO 380

I have written about this course before, so it'll be short.

This is a problem solving course and does not focus on a specific topic in math. Instead, it's a mixture of just about every area of math you could come across up to that point in around your third year. If you like variety and you're in at 3A, then you certainly might enjoy this course!

Refer to my article in **mathNEWS** 151.3 titled [CO 380 Review](#) for more information.

CS 330 AND CS 338

I took these two together in one term, and I was thankful for the overlap in content between these courses which reduced my workload. I am glad to have taken this course, because I've always had a bit of interest in database stuff, and it finally became my first opportunity to learn about and work with them. I wish there were more related courses I could take, but I'm not in CS.

ENGL 119 WITH DIANA LOBB AND MATH 138 WITH JORDAN HAMILTON

These two are here not because of the content of the respective courses, but simply because these two profs ended up being a shining star amidst an otherwise murky world around me. They really helped make the idea of being in UW bearable whilst in their classes.

Fun fact: Diana told us at the first class that she did not like being called by her last name. So it was always just "Diana".

ENGL 306A AND FR 303

I took these a couple terms apart, both times expecting them to be a bit bird-y, for the sole reason being that I have long held an interest in linguistics and languages. So, these were perfect electives to take. After taking ENGL 306A, I was a bit disappointed that there weren't more related courses that were available for me to take, but I still was glad in that I at least got to take one linguistics course.

What a surprise it was when, a year later, I learned of a different linguistics course, except it was taught in French! Well, considering the number of French courses I had taken to that point (enough for the Diploma in French Language 2), I thought taking FR 303 wouldn't be too hard. Indeed, it wasn't that hard. While it took a bit of time to learn the equivalent vocabulary involved, I was then able to simply enjoy the French-centred linguistics content, rather than English-centred linguistics content.

I highly recommend these two courses. Well, for the most part it would be ENGL 306A since not everyone knows French.

PMATH 340

When I added this course to my course selection, I had no idea how this course was supposed to go. Partially, I was fearful it would be bad, like how MATH 145 was, but partially I was hoping I would enjoy learning about some of the things taught in MATH 145. My hopes were granted true, and more! If I were to rank every course I've taken, this course may be ranked top three, if not first place outright. It turns out I like the sorts of content taught this course. With just about every topic, I end up wondering further things that are outside the scope

of the course. It made me want to take more courses related to this area of PMATH. It sparked a new are of interest in me that I didn't know about. I've learned so many things I've always wondered and wanted to learn about. Unfortunately, it's my last term here so nothing further can really be done, but I'm still at least glad it happened. Praise Alan Talmage for teaching this course so well.

N COURSES I WISH I COULD HAVE TAKEN

During my time here, I have taken many courses, but some I wish I could have taken instead of the bad ones I had to endure through. If anyone reading this has taken any of these before, consider writing a review for it in **mathNEWS** so that future students have some info about the courses and may be able to give it a go.

AMATH 390

The mathematics involved with music is one of the most interesting things out there to me. It may be a bit of a niche, so it explains why this is only offered in the fall terms of even years. Let it be sadly known, that I only found out about the existence of this course after the add deadline of fall 2022. This course will be missed. I hope you don't miss it if you're interested in music!

CO 480

The other pair of CO 380, it seemed interesting to me that there was a math history course. I still kick myself for taking a complete break in the summer of 2021, because it meant that I would forever miss out on this course. I should have just taken this one course instead.



SOME PSCI COURSES

This is another area of my interests, and sadly I never really got a chance nor the space in my terms to fully take any PSCI courses. If you read through some of the course names, there really is a wide variety of topics that as a whole would interest just about anyone with any interest in this general area.

N COURSES I REGRET TAKING

During my time here, I have taken many courses, some which I highly enjoyed taking, but some can be considered as terrible mistakes. These are some of those.

ENGL 109

I'm sure if I were in a different section, or even some other communications course, it would have just been a normal boring class in my first term, but the specific one I was in was just bad. The instructor, John North, was basically a boring and unfunny version of Ben Shapiro and every class just felt like suffering through a boomer version of one of those alt-right podcasts. At least with Ben Shapiro, you can AI him into playing Minecraft with US presidents. Every class felt like him just trying to prove something pointless, and I still question to this day what, if any, communications-related content was being taught. Don't even get me started on the assessments which were just plain random.

The ENGL 119 course taught by Diana Lobb I took next term was a much better communications course in comparison, even with the bar already so low.

MATH 145 AND MATH 147

For the longest time, there were many topics taught in these courses that I've wanted to at least learn about, because for reasons below, I never was able to learn it when I was in these courses. For some of the MATH 145 content, PMATH 340 eventually came around to save the day. For MATH 147 stuff, PMATH

333 was unfortunately not able to help it out that much. There are some other non-academic reasons for other regrets, such as traumatic events I had to deal with involving the profs in the two courses in first year. I think there would have been a very high chance that no trauma would have arisen if I had taken MATH 135 and MATH 137 instead. Plus, there may have also been a higher chance for potential and newfound interest in new math topics I had never really encountered before, rather than all potential and math interest being killed off.

My recommendation since is to just play it safe, and not go for MATH 14X.

boldblazer

STOPID SYNTAX ERROR

OR STOPID ME, RATHER...

I just spent an hour debugging my code to realize it was just a syntax error. Not the kind that your editor (if it's notepad, god help you) or compiler would catch; it's the kind that screws up everything. I picked the wrong structure field because I copy and pasted previous code and didn't change it.

Moral of the story: don't copy and paste code. You introduce the worst type of bugs and, if you're like me, you go and change *all of the code* before you realize your mistake and end up going to bed at 8:00am ;-;

Enami

FUCK OLIVES

stop getting the mf 'oops! all olives' pizza I'm begging

“no olives” enjoyer

I MISSED OUT

ON AN UNHOLY MARRIAGE OF ESCAPE ROOMS AND DUOLINGO

Dear squirrels and chipmunks of **mathNEWS**,

Like many of you, I got into this field through the competition math scene. The Waterloo CEMC contests, the CMS contests, Tournament of the Towns, hell, even physics and chemistry competitions. However, there was one contest that I never wrote. AND I'M BITTER ABOUT IT.

The North American Computational Linguistics Open Competition is a contest for high school students started by some computational linguists professors in 2006 in order to promote their field.

True to their name, the problems blend together language, computer science, and detective work in delightful ways. If you scroll through a few past contests, you'll see that the problems run from Turing machines and DFAs all the way to neural nets and randomized algorithms. However, the problems are usually phrased in terms of understanding an unknown language. For example, they'll take a conlang or a language that is spoken by a small (sometimes only a few hundred speakers) group of people and encode a logic problem in a creative way. You'll navigate subway systems with signs written in an alien language, you'll solve ancient riddles written in alternate scripts, you'll decode incomplete hieroglyphs. The problem creators really find ways to push the boundaries of the problem-solving medium.

I hope my little rant encourages you to check out these problems. I would have loved to do this kind of detective/math work as a high school student and I might have focused more on theoretical CS instead of math had I been raised on this kind of thinking. NACLO can be found at www.nacloweb.org, or just look up “NACLO competition.”

edgar allan hoe

TOP N UNDERRATED UBER RARES IN BATTLE CATS

#3: MIZLI

This Cat is an anti-alien crowd controller that knocks back and slows alien enemies. The community throws a lot of shade at this Cat, even creating the term “Mizli syndrome,” which refers to when you push the enemy’s frontline back, which causes your frontline to move into the enemy backline’s range, effectively destroying your frontline and leaving your backline vulnerable. This does happen if you use Mizli on stages with dangerous backline enemies; however, there are a lot more stages with frontline alien enemies that can push aggressively (especially later in the game), which Mizli can deal with effectively. Also, along with other elemental pixie ubers, it is rated low because it is a bad generalist; however, it is not meant to be used as a generalist, as with most other underrated specialist Cats. Even then, this Cat is not too shabby as a generalist, with 5k dps at 400 range. This unit used to be easily the most underrated Cat, but recently many players have realized that “Mizli syndrome” is just some BS and that this Cat is overhated.

#2: GLADIOS

This Cat is very similar to Mizli, except it targets traitless enemies instead of alien. It is very underrated not only for the same reasons as Mizli, but also because traitless enemies tend to be more aggressive pushers than aliens, and it can hard-carry many mid-game stages such as crazed/manic/lil stages. Also, anti-traitless uber rare Cats are very rare (except for Epicfest Cats).

#1: PALADIN

This Cat might be the most underrated unit in the entire game, as it is a perfect anti-metal unit but is overlooked because it is apparently “outclassed by Catasaurus/Catornado.” However, it really isn’t, as Paladin has significantly more range than either and does big area damage, making it the better choice for stages with tanky metal swarms or mixed metal enemies, as there are several non-metal enemies whose range falls between Catasaurus/Catornado and Paladin. The only anti-metal that really outclasses Paladin is Kyosaka, which is extremely difficult to obtain.

cultured Battle Cats enjoyer

FUN THINGS FROM TERRARIA THAT WE NEED IRL

- **Enchanted Nightcrawlers:** They’re shiny and cute.
- **Cactus Armour:** You can fend off geese with it, plus it’d be a cool Halloween costume.
- **The Truffle:** Mushrooms are tasty.
- **Gender Change Potion:** It would probably make a lot of people’s lives easier.
- **Teleportation Potion:** Better hope you don’t end up at the bottom of an ocean (which is statistically quite probable).
- **Terra Toilets:** Who needs a gold toilet when you have a green toilet made from a sword that you get from a giant moth that appears during a solar eclipse?
- **Umbrellas:** Imagine being to glide from the roof of MC all the way to V1.

yalevoylian

AN ADDENDUM TO “RATING EVERY FLAVOUR OF M&M’S I HAVE EATEN”

ORIGINALLY PUBLISHED IN mathNEWS 150.4

Hello fellow M&M lovers! Since my original article I have added another another flavour of M&M’s to the list of those that I have eaten and I wish to impart my knowledge and objectively correct rating onto the masses (that’s you)! This will be just like the first article but instead of thirteen bullet points there will be one and I’ll do this every time I eat a new flavour. So, without further ado, here it is:

COOKIES & SCREEEM

Before you ask, yes, there are three e’s in screeem. These M&M’s are Halloween themed, so don’t even ask why I ate them in March instead of January. They are the same shape as normal M&M’s but larger, and inside their candy coating and chocolate they have a creamy filling which itself is about the size of a normal M&M. If the cream was slightly smaller and the same consistency as Oreo filling these would be an easy 8/10, but it’s much more... solid than you’d expect from something that’s supposed to be cream. If you bite the M&M’s and chew them, then the cream is overpowering; but if you let the M&M’s melt in your mouth, then the cream overstays its welcome since its hardness causes it to melt non-uniformly. They could use a little tweaking but they’re a great concept. 6/10.



someBODY

THOUGHTS ON CAFFEINATION

Why do I like coffee so much? Some might say I have a mild (or severe) caffeine dependence, but I think it's more than that. I think the concept of caffeination resonates with me in a way few other things do.

It's important for my point to separate the act of caffeination from caffeine, the thing. I think the difference I want to show can be most clearly seen by asking the question, "What does caffeine/caffeination do?" Caffeine is a substance that makes you stay awake and alert. Caffeination is a process by which you use the substance to force yourself to stay awake and alert even when you might otherwise be tired and sleepy. That act of forcing yourself is the difference.

Why would you force yourself to stay awake? It's not comfortable; your body needs its rest and you denying it that rest will eventually come back to bite you. It's not enjoyable; while you're caffeinated, you're awake but you're also jittery, and if you were supposed to be resting, you may be zoned out and unable to focus. The only reason I can imagine to force yourself to stay awake is to fulfill some obligation or duty that you're required to but can't because of being tired.

I think there's a crude, masochistic charm in a sense of duty so powerful that it compels you to override your base instincts, turn a blind eye to your own body crying out for rest and resolutely perform the task required of you. It is an ideal, an unhealthy ideal, that I have aspired to quite a lot in the recent past. And the process of caffeination exemplifies it perfectly.

The next time you, dearest and loveliest reader, sit down on an SLC table at night with a large Flock Stop coffee cup in your hand and an assignment deadline in your near future, please take a moment to imagine me saluting you. Your dedication to your duty, even at the cost of your own self, is commendable, and I commend it.

Please get some rest afterwards.

caffeinated (all lowercase)

RIGHT BEFORE FINALS

Six teams in two alliances, all their drive teams in the middle of the field. "Sirius" by the Alan Parsons Project plays on a seamless loop as—one alliance, then the other—each team is announced, along with their successes of the current season and those of the past. Almost all of the spectators have been eliminated; in spite of that, the crowd is going wild, rooting for one alliance or the other, or perhaps just for everyone. The tension having been built up, the alliances' drive teams form two lines and walk past each other, high-fiving their opponents good luck, and then walk off the field to their driver stations. The moment hangs in the air for a second. Then: "Drivers behind the lines! Starting this match in three! Two! One!—"

cutlet

N OBSERVATIONS ON "YOU", SEASON 4 EPISODE 8 [SPOILERS?]

THE ONLY EPISODE OF THE SHOW THAT I WATCHED

- There's this guy who is a serial killer and his name is Joe and he talks to himself a lot.
- Despite torturing and killing a whole bunch of people, he's actually a good guy now.
- Despite torturing and killing a whole bunch of people, he got a job at a British university no questions asked.
- 15 minutes in I am informed that the entire show has been sepia toned because it's a flashback.
- 30 minutes in I witness the season altering twist in which the season's villain is revealed as Joe's alternate personality, invalidating anything established in the previous episodes and immediately catching me up.
- I received numerous assurances that the show used to be better in seasons 1 and 2.

Lars Nootbaar

Any robotics class without a real robot is really a computer graphics class.

PROF. DANA KULIĆ

mathASKS 151.5 — PART IV

FEATURING GEORGE LAMBROU, mathNEWS EDITOR, 2016–2020

Hey again, **mathNEWS**, remember me? In case you don't, my name is George, and I served as Editor during the Winter terms of 2016 (albeit in training), 2017, and 2018. How have you been? Does **mathNEWS** still have that same great paper taste? Do you, reader, not understand that reference? I guess you wouldn't—it was a *long* time ago.

Anyways, on with the questions!

“WHAT PROGRAM WERE YOU IN? WHY?”

I was in Computer Science, but in hindsight, I don't think it was the right path for me. In fact, I didn't think that university was right for me back in high school, but most of the advice I was given back then about my future made it seem like it was the best path to success and happiness, and since I didn't really know any better at the time, I took it all at face value, and enrolled. Anyways, Comp Sci had always been one of my favourite subjects in high school — not to mention the one I was notorious for — and the industry was a much different place back then, so it seemed like it could be a good fit.

The journey that followed was... let's go with *arduous*, but if there's one thing that it taught me, it's that you **need** to listen to yourself to find happiness in life, and that ultimately, no one can truly understand where your happiness comes from better than you. Later, in 2017, someone I knew suggested that I just *quit* **mathNEWS** altogether, but I, being a bit wiser at that point, listened to my heart, and stuck with it; to this day, I consider my time at **mathNEWS** to be the best of my years at university, and **mathNEWS** 20XX to be some of the best work (maybe even *the* best work) that I've ever produced in my life.



“HOW HAS LIFE BEEN FOR YOU SINCE GRADUATING? IS WHAT YOU'RE DOING TODAY WHAT YOU EXPECTED BACK THEN?”

Life's been interesting, to say the least, and certainly not what I had expected — while I'd initially set out to start a video game studio, these days I'm actually a part-time teacher, though I still do the odd graphic-design job on the side.

“DESCRIBE YOUR AVERAGE PRODUCTION NIGHT, AND WHAT KIND OF ARTICLES DID YOU WRITE FOR mathNEWS?”

I shall cover both of these bases in the form of a haiku, and by quoting the entirety of the one article I *did* write for **mathNEWS** before I became an Editor:

mathNEWS Production Night Haiku to Get Free Pizza Instead of Just Freeloading

Late, as usual.
People say hello to me.
I say hello back.

People brandish games,
It is time to race go-karts.
Be the champion.

No writing is done.
Why are we even here now?
Food is the reason.

Pizza time is near,
Deciding on which toppings:
Meat lovers, and cheese.

We walk to the shop.
Fifty-four, seventy-one.
Return walk starts now.

Enjoy four slices.
Haiku has served its purpose.
Finish, and submit.

PIZZA FREELOADER KID,
ORIGINALLY PUBLISHED IN mathNEWS 124.2

“WHAT INVOLVEMENT DID YOU HAVE WITH mathNEWS? WHEN? WHAT DREW YOU TO IT?”

Okay, I've told this story like, a *hundred* times, but I guess it's about time I published it, for posterity's sake.

A not-so-well-kept secret about me is that I hadn't actually written any articles for **mathNEWS** before I became an Editor. On the advice of sketchED (whom I met during my orientation week) I showed up to Production Nights to hang out with friends while I did homework, and made *damn* sure that I was on Pizza Quest™ to exploit getting first pick of the slices for a free meal. I don't know if that loophole still exists, but for for five years¹, that was basically the extent of my involvement.

Quite literally before I knew it, I had become a regular: I only truly realized that I *was* one about five years in, when bunniED asked me if I wanted to become an Editor. She and many of the other Editors at the time were graduating soon, and I had been to Production Nights so routinely that they all thought I'd be a good candidate to succeed them. Of course, since I still hadn't written any articles at that point, I didn't know whether they actually thought that was true, or if they were wise to my pizza freeload and calling my bluff². Still, since I didn't want to lose a guaranteed meal every two weeks, I figured that my best option was to just accept the offer, and work the rest out later.

The following term, I went through my training, and by the end of it, I felt confident that I *could* actually

make a good **mathNEWS** Editor, for the most part. The next question is actually a great segue for what happened next, so I'll continue there.

"WHAT'S THE MOST SCANDALOUS ARTICLE PUBLISHED IN YOUR TIME AT **mathNEWS**?"

During my training term, we published an article that... was *not* well received by the administration of the Math Faculty, to say the least. I won't go into specifics, because I don't want to risk reopening that particular wound, but I *will* say that despite its intent as satire, it painted the Faculty in an especially unflattering light.

Now, *we* had the context of knowing both the writer *and* their intentions before publishing the article, so we just read it as some rather... *colourful* hyperbolic imagery around an unpleasant experience they'd had; of course, the Faculty *didn't* have that context, so *they* interpreted it (*very* justifiably) as a series of pointed and vitriolic insults aimed squarely at them. We should have realized that at the time, but we didn't, and it goes without saying that the result wasn't pretty. We ended up publishing apology in the issue that followed (though we made sure to defend students' rights to voice their dissatisfaction with school services in the process), and made a private one to the affected department as well, in the form of a letter signed by all of us Editors at the time.

Thankfully, they forgave us, and eventually, it seemed to be water under the bridge! A year later, I was trying to increase **mathNEWS**' reach by drumming up some on-campus subscriptions³, and figured I'd chance walking into their office and asking them in person, which they happily accepted!

"WHAT'S THE MOST MEMORABLE ARTICLE PUBLISHED IN YOUR TIME AT **mathNEWS**? 🧟"

As for the article I find most memorable, I'd have to say it's the ~~Emoji Ghost Detective~~ 🧟🕵️🔍 series. As part of the 20XX revamp, we added the ability to print emoji in **mathNEWS**, and I'd told a few of our

regular contributors about it in advance so that they could use a few in their upcoming articles, as a way of both testing and "advertising" the new feature on day one. One of the writers I told, though — 🧟🕵️, to be specific (😊) — saw a much *bigger* opportunity, and asked if **mathNEWS** could theoretically publish articles written *entirely* in emoji. I told them that we absolutely could, and the result was a four-part serial mystery, **written entirely in emoji**, and it turned out rather excellently. I'll admit that while I don't remember the story much at this point, though I do recall it being pretty damn *good*, especially for something written in contemporary hieroglyphics.

Aside from the story itself, I've got a soft spot for that series because it was honestly just cool to see how us upgrading **mathNEWS** with new publishing capabilities inspired our writers to compose new types of works altogether. It felt great knowing that we'd enabled that.

"YOU WERE RESPONSIBLE FOR THE MAJOR ~~mathNEWS~~ REDESIGN IN 2017 **mathNEWS** 20XX. WHAT MOTIVATED YOU TO DO THIS? WHAT INSPIRED THE DESIGN?"

First, though I will admit I spearheaded the idea of redesigning the paper, it was not me *alone* who was responsible for making it happen: toBeDeterminED, ExtrovertED, itorED, and I all worked *together*, from the start of the term, to actually get it done and published.

So, the 2017 attempt was actually my *second* at redoing the paper; the first was one year prior, and it wasn't received *nearly* as well — mostly because it was thrown together in about a week, and without proper planning. But anyways, you may actually want to read the article I wrote to introduce the format back in 133.4, (sub)titled Why I Deserve A Medal, But Will Settle For School Credit: A Letter From An Editor; it covers a lot, if not *most* of the reasoning.

Anyways, the first — and most impactful — reason was **to make layout faster and easier**. **mathNEWS**,

honestly, is a pretty simple publication in terms of its design — two columns of (mostly-)text that flows across multiple pages — but back when sketchED first taught me how **mathNEWS** issues were laid out in InDesign, I noticed that composing and editing the paper didn't reflect that its visual simplicity at *all*. Articles were broken (often manually) into multiple text frames (often one each for the title, subtitle, and each column the article spanned, with extras sometimes to accomodate inline graphics, but there wasn't really a *pattern* to it), all of which were laid out manually on the page; it was a tedious and time-consuming process that could easily take inexperienced Editors twelve hours to complete for an average issue (sketchED could do it in three or four, I think, but he'd had *years* of experience at that point) and would frequently crash InDesign, which would often require that we start all the work over *anyways*. Without getting into too much detail, the new layout makes things a lot simpler: text flows across columns and pages automatically, and almost every visual element in the paper is designed to adhere to the same baselines that all the text sits on, so there's less ambiguity in how things are supposed to line up; it *also* results in a more consistent and polished look

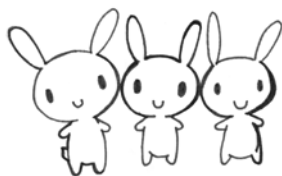
The second reason was to make a layout that was better suited to web viewing, in advance of building a new website for **mathNEWS**⁴. Most of the text and paragraph styles used throughout **mathNEWS** were designed to reflect those present in HTML, the language used to write webpages: article titles and headings in **mathNEWS** form a hierarchy similar to that created by the six heading levels in HTML; long-form quotes are just blockquotes; even article references were intended to map directly to the <cite> tag; and instead of bold and italic styles, **mathNEWS** supports *four different levels of emphasis*, and **two levels of stress**, something that HTML also very neatly supports, thanks to the way it lets you "nest" different character styles within each other. It was all designed to be very web-friendly, or at least give us a good starting point for a new website, but unfortunately, I just ran out of time before I could make that part happen.

Still, it gave us an excuse for reason number three: to polish up the look of the paper, and give it a little more visual personality than it had, to encourage more people to contributing to it. As for the inspiration, a lot of **mathNEWS'** then-new identity was really just informed by the medium: it's black ink on white paper with square corners, so I tried to design things in a way that could be pieced together well, visually, and would make the best use of our monochrome print capabilities. A happy accident along the way was the realization that I could call the black rectangles I was using "**blackBOXES**", as an homage to the old wooden box once used by students to submit articles to us *physically*; once I realized that, I leaned into the idea, and the end result was the ~~cheap and easy filler~~ hilarious little joke islands that dot the paper today. I guess in a way, you can say that what inspired the design was **mathNEWS** itself!

"ANYTHING YOU WERE PERSONALLY PROUD OF, EVEN IF IT WASN'T AN ARTICLE?"

As I mentioned before, one of the reasons I suggested we build a new layout system was to make it easier and faster for old and new Editors alike to compile each issue, and less than a year after its introduction, we had *brand new* Editors laying out full issues in under two hours, to say nothing of how quickly experienced ones were able to do it!

Of course, that was when *I* was an Editor; I've been told by *the current* Editors that spending several hours on layout isn't unheard of these days, but only because recent issues have *exploded* to more than fifty pages apiece; given what I know about both the current layout and the old one, I have to say that I'm pretty proud of the fact that my designs can still be used to complete a fifty-page issue in less than a day at all!



"TELL US ABOUT A mathNEWS MEME OR INSIDE JOKE FROM YOUR TIME."

One meme from my time that sticks out to me is Carbone pizza. The charcoal-infused crust was new at Pizza Nova then, and as connoisseurs of fine italian flatbreads, we of course ordered and tried some at Production Night. I don't know if it was out of genuine appreciation for it⁵ or simply its novelty, but quickly became the subject of many jokes for a few weeks. It even made the cover of **mathNEWS** 136.2.

"HOW DO YOU LOOK BACK ON YOUR TIME IN mathNEWS?"

With a wistful fondness, and as a reminder that despite how one's best-laid plans can often go off the rails, sometimes it's the unexpected opportunities that show you who you really are, and what you're *really* capable of.

I never expected my time at **mathNEWS** to be *anything* particularly meaningful—just free pizza and an excuse to hang out with friends while I slogged my way through assignments—and yet when I left, I knew that I, and the incredible friends I had made there and worked with, had left something truly *special* behind for those who came after, and I gotta say, it feels pretty good.

I hope I can do something like that again someday.

"WERE YOU INVOLVED IN ANY OTHER CLUBS AT WATERLOO? WAS THERE MUCH INTERSECTION BETWEEN mathNEWS AND ANY PARTICULAR CLUBS?"

Clubs, no, but **mathNEWS** weirdly ended up connecting me with a lot of administration, just because of its then-nebulous existence as an organization, and the fact that we were gonna borrow a four-figure sum from them to spruce up the paper. They even asked *me* for advice on occasion! For example, I actually helped pick the exact spot to install the bulletin post in outside the Right Angle

Café [*Editor's note: the Math C&D*]; I suggested we place it on the line that runs though the centre of the middle hallway, so it would be seen by more students as they walked to and from classes. Sure, it's a small thing, and I'm not even sure if my reasoning was really sound, but it seemed like the right choice at the time, and it was nice to have that little impact.

Oh, right, *and* I designed the current MathSoc logo as well! I recently saw that the wall in their office that used to just say "MathSoc" had been repainted to feature the logo I designed, and... well, honestly, I was just happy to see that they still like it enough to do that!

"THOUGHTS ON FEDS/WUSA, MATHSOC, AND STUDENT GOVERNMENT GENERALLY?"

As a student, hell yes please, bring on that sweet support! MathSoc was especially great, since they were always there to bail me out when I needed to print an assignment with just two minutes to go before the deadline support Math students when I was around, and they always did an exemplary job of it. The Right Angle Café was (and probably still is) the best C&D on campus, and the events they run—the well-catered and always-packed Board Game Nights that ran when I was there being a perfect example—were of similar renown.

That said, the Editor in me has a bit of a different take, and I can't really say that I'm a huge fan of their recent involvement with **mathNEWS** and the other on-campus papers, simply because it makes remaining impartial difficult. Although, I doubt there was much of a choice when it came to that particular change; if I had to pick between "exist under ~~Feds~~ WUSA" or "don't exist at all", I'd pick the former as well.

"THOUGHTS ON IMPRINT, IRON WARRIOR, AND OTHER NEWSPAPERS ON CAMPUS?"

I didn't read much of the Iron Warrior as a student, but they have my respect, as did the other faculty-specific papers I came across when I was a student (there were a couple, if memory serves, but I think

they're mostly defunct now). I've also heard, recently, about a new paper on campus called "engNEWS", which, uhh... looks *familiar*, to say the least, but they say that imitation is the sincerest form of flattery, so hey, I'll take it.

As for Imprint, I can't say I was particularly fond of their "reporting" as I remember it. In fact, I actually had this crazy "master plan" back in the day to have a cross-faculty version of **mathNEWS** supplant them as the official campus newspaper—I might even still have some of the layout designs I sketched out! Such a shame that I didn't have the time to pull it off...

"WHAT EFFECT DID mathNEWS HAVE ON YOUR LIFE AS AN UNDERGRADUATE AND BEYOND, IF ANY?"

This is gonna sound *so* cliché, but my time as a **mathNEWS** Editor actually made me a lot more confident in the end, and showed me that I can be a half-decent leader and build meaningful things.

It's also likely why I even completed my degree in the first place—I was just about ready to quit when bunnyED offered me an Editor position, and truth be told, had I not accepted, I likely would have abandoned my degree by the end of 2017. **mathNEWS** gave me a reason to stay, and come back for the last on-campus term I needed to wrap it all up, so in a way, it's why I even have a degree now at all, and by extension why I'm even able to consider teaching as a career path today.

Holy crap, thanks **mathNEWS**!

"DO YOU HAVE ANY OTHER INTERESTING STORIES, PHOTOS, OR MEMORABILIA FROM YOUR TIME IN mathNEWS?"

The only other one I can think of right now describes the origins of **mathASKS**, which (like much of the motivation behind the new layout) I described in *Why I Deserve A Medal, But Will Settle For School Credit* in 133.4:

When we approached Prof. Furino [then the Associate Dean of Undergraduate Studies] to help us kickstart the new column, he suggested that his entry take on a Q&A/AMA format: we would collect a list of student-asked questions, and he would answer as many as he could. After some discussion, and some of the questions he received, he thought it would be appropriate for him to write a full article as well, and thus, ~~the Powerpuff Girls~~ **mathASKS** was born!

A stroke of absolute genius, honestly, and one of our best features as a result. Thanks, Prof. Furino.

"HAVE YOU KEPT TRACK OF mathNEWS MUCH SINCE GRADUATING?"

Is this a trick question? You guys *know* I basically haven't stopped pestering **mathNEWS** in one way or another since leaving, right? I *still* show up on the Discord now and again, and the next time I'm in Waterloo, I *fully* intend to show up to a Production Night.

"IN mathNEWS, WE SEE A HUGE MIX OF SERIOUS AND SILLY ARTICLES, WITH ARTICLES RANGING THE GAMUT OF HUMOUR, DEPRESSION, BODILY FLUIDS, TRAUMA, AND SOME MATH NOW AND AGAIN. DOES THIS WIDE BREADTH OF CONTENT MATCH mathNEWS WHEN YOU WERE MOST ACTIVE? ARE YOU SURPRISED BY WHAT IT'S LIKE NOW?"

That mix sounds about right, and no, I'm not surprised in the slightest. I've known past writers who've literally published erotica in **mathNEWS** (though not on my watch), and I've seen others who have actually gotten the school to change and rectify⁶ some poor administrative practices in response to their articles. **mathNEWS** has *always* been a mix, or at least, for as .

I've always understood **mathNEWS** as being a platform for anyone to share whatever they want to with their community; the fact that **mathNEWS** has—and *still*—displays such variety is, in my opinion, proof that it lives up to that vision.

"WHY DO YOU THINK mathNEWS LASTED 50 YEARS? DO YOU THINK IT WILL LIVE TO SEE 100?"

I think **mathNEWS** lasted fifty years for the same reason I think it'll last another fifty, and for the same reason I poured my soul into it all those years ago: it's not (just) a paper, it's a **community**. It's a place where every student at Waterloo⁷ can say something, and have it heard. Maybe that something is something important, or maybe it's not, but if you publish it in **mathNEWS**, you can be *sure* that someone will see it, and *that* is why I'll believe in **mathNEWS** forever.

"WOULD YOU WANT TO BE CONTACTED FOR mathNEWS' 100TH ANNIVERSARY?"

You shouldn't need me to answer this, but just in case it's somehow *not* obvious: **you'd better**.

Then I can make it a **mathASKS** hat-trick.

"WAIT, YOU'VE DONE mathASKS BEFORE?"

Why yes, I have—thanks for noticing! ☺

mathASKS started back in 2017, when we of the Winter 2017 team wanted to get professors to start writing for **mathNEWS**; the specifics of *that* story can be found in 133.4, so I won't rehash them here, but it goes without saying that the feature quickly became a hit with our readers. So, shortly after the release of 133.5, and riding high on its successful launch, I ended up bumping into then-Univeristy President Feridun at one of the design symposiums being held in the DC at the time.

Now, I hadn't slept in a while at that point (truth be told, I rarely did), and so, fuelled by a mix of adrenaline-induced confidence and a desire to propel **mathNEWS** to ever-greater heights, I grabbed a fresh copy of 133.5 off the nearest rack, marched right up to Feridun, and basically accosted the man with a request for an interview. To my utter shock (and delight), he accepted on the spot, and suggested that I get in touch with his office to set it up formally.

So with “**mathASKS** The President” now lined up, we decided that our best course of action would be to print an extra, seventh issue that term, so that we wouldn’t end up bumping Professor Buhr after having asked him to write for 133.6 already.

We set everything in motion for an extra issue, the Production Night for 133.6 came and went, and we sent the list of questions to the President’s Office for answering. Unfortunately—for reasons I won’t get into here—when we got his responses, we found that they needed some revisions before we could publish them. We emailed them back, and while they agreed with our concerns, they said they wouldn’t be able to revise them in time for publication, leaving our extra issue featuring the President *without* the President.

Then, something truly bizarre happened: for the first time that I can recall during my university career, I missed a Production Night. Specifically, the Production Night for *that issue*, 133.7. That day, my chronic aversion to sleep had finally caught up with me, and I ended up falling asleep either in the **mathNEWS** Office that day, or the Comfy Lounge (as I often did), and sleeping right through to the following morning.

When I woke up, I made my way to the computer to get started on layout, and saw the **mathASKS** questions that had been collected the previous evening. I *thought* it was an old sheet we’d forgotten to file away at first, since I didn’t know who would have been asked, but then I read my name at the top of the sheet, and started reading the questions, before piecing together what must have happened the night previous. Sure enough, after confirming it with the other Editors, it was clear that this wasn’t a joke—I was answering **mathASKS** that issue, as decided by the writers at the only Production Night I ever missed.

mathNEWS



**mathNEWS 133-7, ISSUED APRIL 14TH, 2017;
ORIGINALLY PRINTED WITH A PLANETARY
PURPLE COVER.**

If I’m being honest (and though it may be a little self-serving) that issue is still probably my favourite one to this day. Despite the fact that the President didn’t ultimately appear in it, the fact that we even got as far as getting him to agree to a **mathASKS** felt like the culmination of a *lot* of work, and waldo@<3.LE-GASP.ca even drew a beautiful cover for it, which immortalized us Winter 2017 Editors in ink. I actually brought a copy of that issue to my graduation, in fact, and had it signed by the school chancellor as I crossed the stage.

Good times... ☺

“FINALLY, WHAT’S YOUR EDITOR NAME?”

The story behind my editor name starts with an ancient **mathNEWS** tradition that somehow managed to miss me: new Editors are supposed to receive their names from those who train them, but the ones who trained me hadn’t actually decided on one for me before they’d all left. By the time I got back to campus after my term in training, they’d all moved on, leaving me without an Editor name at all.

Of course, that term also happened to be Winter 2017, the one where we redid the paper, started

profTHOUGHTS (and by extension **mathASKS**, but that was an accident—see *Why I Deserve A Medal, But Will Settle For School Credit* in 133.4 for details), and in the process of securing the funds to do so, discovered that much of the documentation of **mathNEWS**’ organizational status within the school was either ill-defined, up for revision, or had simply gone *missing* over the years. This collection of circumstances had the rather *nasty* effect of *threatening the very existence of mathNEWS*, and given that I was the one who set this whole chain of events in motion by saying “hey, let’s redo the paper”, I didn’t think it was really fair of me to use a pseudonym at the time. “If it all goes up in flames, people should at least know who’s responsible,” I thought, and I didn’t want any blame to fall on toBeDeterminED, extrovertED, or itorED’s shoulders, since they were basically undergoing my training-by-fire at the time, too.

Anyways, I won’t go into too much detail on the existential crisis **mathNEWS** faced in 2017—it’s not as exciting as it sounds, mostly just debates about accounting policies and searches for old documents—but suffice it to say, you know already how the story ends, and by the time it was over, I didn’t really have much of a choice left when it came to a name—not that I regret a *thing* about how it all turned out in the end.

My name is, and always shall be,

George Lambrou
mathNEWS Editor

and *you* should write for **mathNEWS**.

1. Due to various circumstances, my four-year degree ended up taking *eight* years to accomplish. So it goes... ☹
2. Recently, I learned that they *did*, in fact, know that I hadn’t written any articles, but took no issue with it—as it turned out, they considered going to get the pizza enough of a contribution to earn some—and genuinely thought I’d make a good editor anyways.

3. A quick note for all of you professors, administrators, and other people with offices/facilities on campus: on-campus subscriptions to **mathNEWS** are **totally free**, and immediately grant you the coveted status of “On-Campus **mathNEWS** Aficionado”. Belonging to this exclusive club automatically makes you *and* your office/facility cooler, smarter, more attractive, *and* more likely to succeed! You read that right—**even your office** will be able to achieve its dreams with an on-campus **mathNEWS** subscription, all for the low, low price of **completely free**! Sign up for yours today!
4. Fun fact, building a new website for **mathNEWS** was one of the *original* reasons I was brought onto the team in the first place!
5. Frankly, I thought it made the crust taste kinda burnt. It didn’t ruin the pizza or anything for me, it’s just not something I’d go out of my way to order again.
6. See my *first mathASKS* in 133.7 for more details.
7. Yes, *every* student—we’ve had some non-Math *Editors* over the years, to say nothing of our contributors.

JOHN WICK 4: STILL SHOOTING GUYS

I’ll out myself as a Stereotypical Man and say that I love action movies. Every now and then, I love just sitting in a theater and watching a guy kill other guys for one and a half hours. So, you won’t be surprised when I tell you that I saw *John Wick: Chapter 4* on Saturday.

You’ve probably heard of the first John Wick: local man’s wife, dog dies, many murdered. I saw it on Netflix and was generally impressed by a vehicle to watch Keanu Reeves kill guys in a well-choreographed and generally visually stunning manner. It’s silly, of course, but it’s the fun kind of silly, and it’s gotten me into theatres for every subsequent entry.

However, this is where I admit that the next two entries I enjoyed... less. Not that they were bad, of course, but the movies felt... repetitive, exhausting

even my ability to watch Keanu Reeves flip, throw, shoot and stab his way through an army of nameless henchmen while club music plays.

So, I entered *John Wick: Chapter 4* with some trepidation. Thankfully, after the 2 hour and 49 minute runtime, I left satisfied, and in fact, I think *John Wick: Chapter 4* might be the best of the series.

A big reason are the action scenes, which are fresher than they’ve ever been. John Wick is, apparently, one of the few franchises that makes more money with every installment, and the production team has been flexing their larger and larger budget. No longer are they limited to gun fights against an army of assailants in a nightclub (though we do get a few of those). We also get novel sequences like:

- A battle between sword and bow wielding ninjas and rifle-wielding goons in tactical armor in an LED-infested Japanese hotel
- A top-down one take fight scene in an abandoned house which is the closest a movie has ever gotten to adapting Hotline Miami
- A truly Sisyphean battle up a set of 200 steps where John Wick has to make it to the top by sunrise, so he can duel someone else
- A gunfight in the roundabout under the Arc De Triomphe where friend and foe alike are getting hit by cars, while a DJ working for the assassin council gives a play-by-play over secret criminal radio

However the real freshness behind *Chapter 4* is the characters. It’s standard John Wick protocol to have enemy assassins, faces that stand out amid the extras for John Wick to do battle with. *Chapter 4* gives these assassins personalities and backstories, and you actually end up sympathizing with these people by the end. John Wick also gets some allies that shine.

On the “pro John Wick” side we have Koji, the owner

of that Japanese hotel, and his daughter Akira. Koji takes in John Wick when the assassin council is hunting him down, and when they do show up, he and his daughter get to kill guys with the best of them. What sets Koji apart is the relationship we briefly see with his daughter. It’s short, but we get a real sense that these people really are father and daughter, which it makes even more rewarding when we see them mowing through goons with John Wick later.

On the “anti John Wick” side of things, we have Caine, played by Donnie Yen of *Ip Man* fame. What makes Caine different is that unlike most of John Wick’s enemies, who are usually fighting John Wick for money or fame, Caine is a friend of Wick’s and is only hunting him because his daughter is at risk. “Old friends reluctantly fighting each other” is an old trope, of course, but it works here. Caine is also blind, which the movie plays for laughs or innovative action when required.

We also have “Nobody” (we never learn his actual name), who sets himself apart by being a relative outsider. He’s dressed in normal clothes, as opposed to everyone else’s immaculate suits, and he has to negotiate his way into the assassin underworld, unlike everyone else who seems to have been there for decades. He also has a dog (important animals in the John Wick-verse).

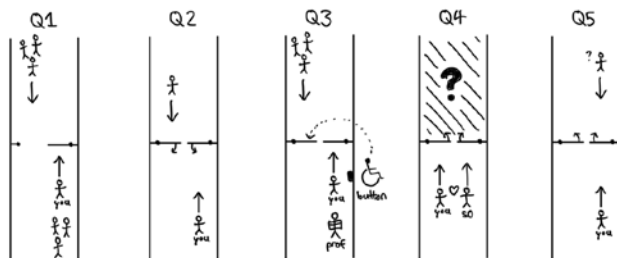
This sets the stage for the final thing that puts *Chapter 4* above its predecessors, in that it might actually say something, above the artistic murder. In the end, *John Wick: Chapter 4* is about doing the right thing (as right as you can be in a world of hitmen), and being remembered for it.

Koji says before the hitmen show up: “A good death only comes after a good life.” A good finale can only come after a good series, and John Wick is both. I’ll be sad to see it go.

LEAKED: THE MATH FACULTY'S NEW “DOOR QUIZ”

WATERLOO—After years of traffic jams on the MC-DC bridge, the Math Faculty is allegedly considering an additional admission requirement to test students’ proficiency in *door calculus*. **mathNEWS** has acquired a draft of the so-called *Door Quiz*, that might be administered to applicants starting in 2024.

The quiz consists of many scenarios, each taking place in variations of a suspiciously-familiar hallway. We publish the first 5 questions here for the curiosity of already-enrolled students who didn’t get to do the quiz on their AIFs.



QUESTION 1

You are walking on the right-hand side of a narrow hallway towards a pair of *see-through* doors. The door on the left is propped open. The hallway is quite busy; there are people approaching from the opposite direction, and there are others following behind you. At the current pace, you will pass through the doors before anyone else gets to them. What do you do?

- A) walk through the open door on the left
- B) manually open the door on the right and go through it

QUESTION 2

You are walking on the right-hand side of a narrow hallway towards a pair of *see-through pull* doors. Through the doors you see someone approaching

from the other direction. At the current pace, they will get to the doors slightly before you and pass through the door on the left. What do you do?

- A) wait for them to finish passing through, before slipping through the door they just opened
- B) manually open the door on the right and go through it

QUESTION 3

You are walking on the right-hand side of a narrow hallway towards a pair of *see-through* doors. A professor is walking behind you, carrying a large and heavy box. There is an accessibility button, but it only opens the door on the left (the “wrong” side). More people are approaching from the opposite direction. At the current pace, you will reach the doors first. What do you do?

- A) press the accessibility button and walk through the door on the left
- B) manually open the door on the right and hold it for the prof
- C) press the accessibility button for the prof, but walk through the door on the right

QUESTION 4

You and your significant other (SO) are walking side-by-side in a narrow hallway towards a pair of *opaque push* doors. Your SO is on the right, you are on the left. You do not know what is on the other side. What do you do?

- A) continue walking side-by-side through both doors
- B) speed up to open the door on the left and hold it for your SO

C) charge ahead of your SO (cutting them off) to open the door on the right and hold it for them

D) let your SO walk through the door on the right and follow them through it

QUESTION 5

You are walking on the right-hand side of a narrow hallway towards a pair of *see-through push* doors. Through the doors you see someone approaching in your lane! It could be a random student, your least-favourite professor, or Vivek Goel. You don’t know, because you forgot your glasses. Regardless who they are, they are walking on the wrong side. At the current pace, you will reach the door at the same time. What do you do?

- A) switch sides, even though they’re in the wrong
- B) speed up to reach the door first, and open it for them as you go through
- C) slow down to reach the door second, so they open it for you as they go through
- D) stay the course and glare at them menacingly until they yield

Unfortunately, we were not able to obtain an answer key, if there is an answer key at all. There are several approaches in door calculus that can lead to different answers.

- **utilitarianism**: do what’s best for society
- **agreeability**: don’t be a menace
- **conformity**: do what most people currently do
- **putting yourself first**: haters call it selfishness
- **Nash equilibrium**: put yourself in others’ shoes to find an outcome that is stable for everyone

The approaches you use say a lot about your personality. Thus, it wouldn't be surprising if the final version of the *Door Quiz* came with a long-answer component asking people to justify their choices.

Which approach does the faculty prefer? We don't know yet. Until then, enjoy debating with your friends and family what are the best answers to the *Door Quiz*. And please be more thoughtful when going through doors.

water

OZARK AND OVER THE HEDGE HAVE THE SAME PREMISE

I've been thinking for a while about this odd concurrence which I cannot convince anyone of. This is mostly because I can't find anyone who's seen both the Netflix prestige crime drama *Ozark*, and *Over The Hedge*, a 2006 Dreamworks animated movie about animals who steal food.

Despite how different these stories are, they have the same premise. Stay with me.

In *Ozark*, John Ozark¹, a clever, fast talking human, is living a peaceful life laundering money for a cartel boss, Del. Ozark has his world turned upside down when it's discovered that he is stealing from his criminal boss, a cartel leader by the name of Del. Del is about to kill Ozark when John suddenly manages to concoct a plan: Ozark will go to the Ozarks (a rural vacation region in Missouri) and launder enough money as to make up for his theft, and more. Ozark packs up his family and moves out to the Ozarks, where he gets in various hijinks as he adapts to his new surroundings, tries to use the local bumpkins to further his plans, and works to keep the cartel off his back.

In *Over The Hedge*, RJ², a clever, fast talking raccoon, is leaving a peaceful life stealing food on a campground. But, RJ has his life turned upside down when he steals from a bear, Vincent. In the ensuing confrontation, the food is destroyed. Vincent is about to kill RJ, but instead demands all his food back. RJ finds his way to a local subdivision, where he gets in various hijinks as he adapts to his new surroundings, tries to use the local bumpkins to further his plans, and works to keep Vincent the bear off his back.

Surely you can see the similarities.

Of course, not everything's the same. At the end of *Over The Hedge*, RJ turns over a new leaf and learns a valuable lesson about friendship. In *Ozark*, John Ozark and his family descend deeper into morally troubling territory as their family and friends face steeper and steeper consequences for their misdeeds.

That's what makes it a Netflix Original. Four Emmys, baby!

UW Unprint

1. Ok, his name is actually Marty Byrde but John Ozark is better.
2. No, that's his real name this time.



at my house, there is a robin's nest

every year (or few years, i'm not too sure) they come back and lay eggs and we get blue robin eggs and eventually, they hatch and there are chicks around

it's pretty cool, i think

it's nice for them to come back in this turbulent world of ours

PINK MATH

The colour of math here is pink.

I always found that strange, almost incongruous. Pink feels soft, like if you throw something at it it'll bounce right off. While it has potential to be overpowering, it can be quite light, or even serve as a bit of a shock of colour in a dull place. In contrast, math to me feels like a stone sculpture. Beautiful, but immobile, setting out its facts on the straight and narrow, unchanging but always able to be examined from different angles, new truths to be gained.

They don't necessarily match up, at least not at first glance.

But maybe that's why math has to be pink. To remind us that our preconceptions aren't always true, and there are more surprises in life than we think. To keep ourselves malleable and open to change as we push for truth. A lot of people think math's boring, after all, but we don't have to believe that. We can show why there's as much variety to it and as much interest within it to hook all of us thousands of students.

Math being pink is a bit unconventional, sure, but it reminds us that math itself, the pure facts and proofs, isn't the important thing. The important thing is the communication, the real people that we connect with, and being able to help people understand and learn to love these concepts. That jolt of colour represents that element of life and excitement that we can bring from the excitement of pushing the boundaries of understanding.

Because that's what math is all about.

Predap



Terms & Conditions

SOME TWO-COLUMN ARTICLE TO FILL SPACE

Well, it's the end of draft review and I just realised that we have an odd number of pages, so here are some ramblings to fill space. Call this an editorial.

mathNEWS is in a weird place, y'know? Well, maybe you don't know, and that's ok. It's been occupying my thoughts for a while now. The thoughts tend to be something like "wow, the issues are so big!" Obviously, there's more detail than that, but that's the intersection anyway. So, the issues are big. So what?

The main thing is that I've convinced myself that the length of an issue of **mathNEWS** actually matters a lot. I mean, wow, this issue is 56 pages! Same for last issue. That's 28 pages of double-sided paper. An issue carries weight in your hands.

Obviously, there are more logistical concerns that come with lots of articles, which is *lots of writers*. It's a lot of people to think about, and it's a lot of mouths to feed when pizza ordering comes around. **mathNEWS'** chequebook has its limits, but we make do. After all, changing that would break away from a long-held **mathNEWS** tradition. I also like eating free pizza, so it is what it is.

It's definitely not the same as the production nights of days past — yes, you can call me old or whatever. But in 2019, the entire writership could fit pretty comfortably in one of the second floor computer labs. We ordered probably half the pizza we do now, and there were no real processes, and no one had to check that you actually wrote an article before letting you get some pizza. There weren't any hard word limits or article limits, but there was an implicit assumption that you wouldn't write way too much. If you weren't sure, you'd ask the Editor. I remember I got scared of writing more than a column in my first-ever article! They said not to worry about it.

Anyway, the logistical concerns aren't a huge deal. They're something the Editor has to think about; not the writers. **mathNEWS** will survive stuff like that.

The part of this with a farther reach is the raw issue length and the implications it has for readers' experience. For most people, I think that **mathNEWS** is a paper that you pick up between classes and flip through when you get some time. It's certainly not light reading anymore, though — articles have ballooned to grand series, spanning multiple pages across multiple issues. Some of them are more technical; some of them are fiction; and a lot of them depend on each part being read carefully. There's still lots of funny stuff to be found, though — it's just spread a little thinner across everything else.

But that's the thing: people still read it! A few days after the issues go out, most of them are gone, just like that. I can spot people reading it in the hallway and talking about it from time to time. Evidently, people still like reading **mathNEWS** a lot! That's just the thing, right? It's impossible for us to tell what people actually like reading in **mathNEWS**. Do you read *everything*? Do you skip past the long stuff? Only the first few pages? Just the **profQUOTES**? I can't tell. Back in the day, we had the **blackBOX** on the third floor of MC outside the Math C&D, in which people could drop feedback to **mathNEWS** (that's, of course, in addition to other things like articles, letters to the Editor, letterbombs, or what have you). In fact, there's still a **blackBOX** in that same spot, mounted to the wall, which you can drop stuff in — people just never drop anything in it.

The **blackBOX** was probably pretty useful to **mathNEWS** during its formative years. Back in the '70s, there was a regular feedback column where the Editor would read and respond to feedback and letters people dropped in the **blackBOX**. But I guess we either got confident enough in ourselves to stop, or people stopped giving feedback. I kinda wish that we still had that. It would make things a bit easier!

Anyway, I'm out of space. That's all for me!

evaluatED

N THINGS I'M TELLING MYSELF I'LL DO "RIGHT BEFORE GOING TO BED"

BECAUSE IT'S A REALLY EASY THING SO I CAN JUST DO IT RIGHT BEFORE I GO TO BED

- Finish my assignment due tomorrow
- Finish (start) my PD work term report due tomorrow
- Finish my exchange term study plan due tomorrow
- Finish my exchange term application due (the day after) tomorrow
- Write a quality **mathNEWS** article due tomorrow
- Respond to my friend about what we're going to do tomorrow
- Pay my rent due tomorrow
- Clean my couch for a friend coming to Waterloo tomorrow
- Call my mother about why I'm gonna be feeling blue tomorrow
- Finish the six hours of my 9–5 remote job I didn't do today due tomorrow
- Go to bed early

do tomorrow

WHAT'S PURPLE AND COMMUTES?

Abelian grapes 🍇

SH31

I'M ABOUT TO HIT THE GRIDDY (WORD)

gridCOMMENT 151.5

Heloooo!! i think i have smoked too much zaza cause there was once again 8 solutions to last **gridWORD** in my inbox, great work everyone!! :oooo

i asked you last time: "mirror, mirror on the wall, who is the **least** sussiest of them all?" you had said:

- Jason Cannon: *Nick, the maintenance guy at CLV*
- spaghettiinhalers: *not me guys it's not me*
- terminally sane: *me. see, i did my task. why do you ask?*

- ntchz: *me (first time)*
- awmlet: *tis not the crewmate who seeks to take a life, leave no blood in his wake...spaghettiinhalers of gridWORD prowess is indeed, of all, the sussiest*
- ☞: *Jerma986*
- 別家大湾: *your deposits (don't withdraw)*
- nike of samothrace: *jaegerists*

congrats on your first solve ntchz! :D also to spaghettiinhalers, if you find the door is closed perhaps email or find evan (he is very cool, editors will agree). this

issue, i think awmlet did a great job and had a great poem to go with their solution, so please also come by MC3030 for your prize when you can :00000

this time, i ask you, "if you were a vegetable, which would you be?" send pseudonym, answer, and **gridWORD** solution to mathnews@gmail.com by april 10th at 6pm pls and thank ☺ see you next time for the last issue of the semester!!!!!! :000000

Wink wonk

ACROSS

- A clue.
- A party for tired people?*
- Magnetite, e.g.
- Swell treatment?
- Associate
- Siren luring sailors to shipwreck
- Tired, even*
- Extreme leanness
- Fishing, perhaps
- Stone paving block
- Way, way off
- What my ass does in MC Comfy everyday
- "A Nightmare on ___ Street"
- Rock crafter? (not in minecraft!!!)
- Romanian money unit
- Heart-related
- Populates
- Final: Abbr.
- Greek; one who indulges in pleasure and doesn't deal with practical concerns
- Thickness
- Go downhill fast?
- Golf standards
- Walk in water
- Bounds
- Saddle features
- Home of Odysseus
- Tiny aperture
- Shaped like an egg
- It's roots create red dye
- Kind of strength

- Those who love 8-across*
- Railroad support

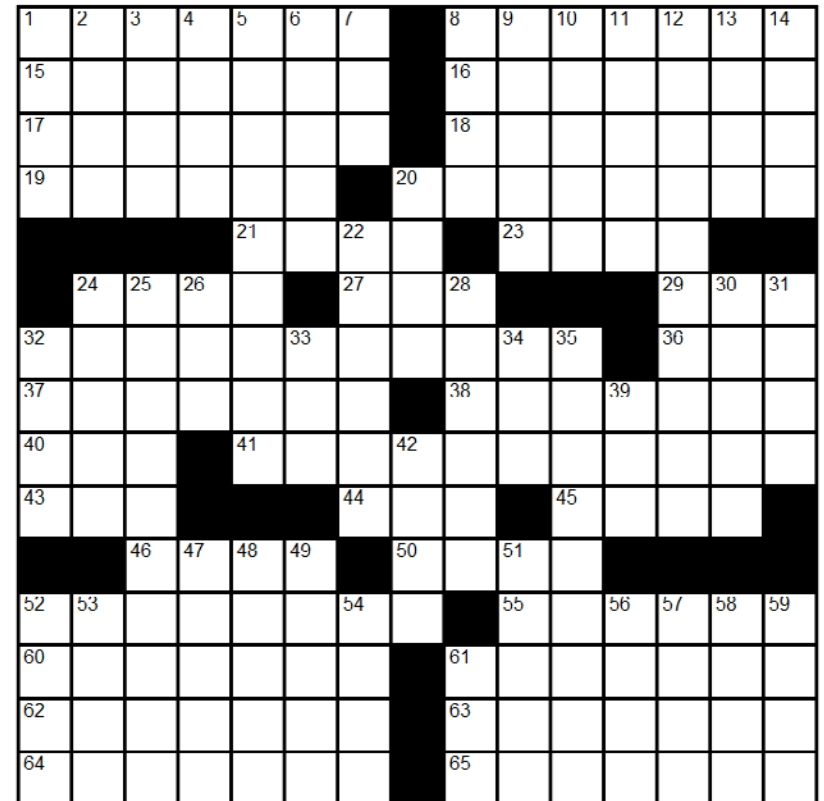
DOWN

- Cheese ___
- Kind of exam
- Apple leftover
- Bet
- One of a kind
- Squirrels' nests
- "___ the fields we go"
- Launch site
- Graphic symbols
- Creepy
- All tucked out
- One who shares stories
- Air force heroes
- Street wear?
- Farm calls
- Passes
- In any way
- Maybe even thirty nine wonks?*
- "Go on ..."
- Drops by
- Bad looks
- Disorder
- Atlantic food fish
- ___ Zedong
- Born as
- Soft mineral often used for carving
- Mom-and-pop org.?
- Hawaiian strings

- Buddhist who has attained Nirvana
- Pilotless plane
- Slick mathematician?
- Coral reef visitor
- Box
- Game piece
- Guinea pigs, maybe
- Goose sound
- Mine entrance
- Poker action
- Sheltered, at sea
- (The word is ott, idk any clues oops)



fig.5 normal bunny



lookAHEAD

SUN APR 2	MON APR 3	TUE APR 4	WED APR 5	THU APR 6	FRI APR 7	SAT APR 8
April Foolsn't	god ⚡ peED has a PSCI exam		Cycle 5 employer rankings available Passover begins	Cycle 5 match results available	Good Friday (university closed 🏠)	
SUN APR 9	MON APR 10	TUE APR 11	WED APR 12	THU APR 13	FRI APR 14	SAT APR 15
Easter Sunday	mathNEWS 151.6 production night Final day of classes			Exams start Passover ends National Peach Cobbler Day Cycle 6 employer rankings available	Cycle 6 match results available mathNEWS 151.6 released See you all next term!	

UW AFSA TAX CLINIC 2023

Tax season is here and AFSA is back with its FREE Tax Clinic 2023! A` group of trained volunteers will provide free tax return services for low-income individuals and families. To see if you qualify for our FREE services, please visit <http://www.uwafsa.ca/taxclinic> today! The link also includes information on how to receive our tax-filing service.

UW AFSA



Tax Clinic

Free Income Tax Returns

Some conditions apply.

Date
March 25-26, April 1-2
Hours
10AM - 8PM
(Same hours of operation for all four days.)
Location
STC 1012

To see if you qualify for our FREE services, please scan the QR code above OR visit uwafsa.ca/taxclinic

LAST ISSUE'S GRIDSOLUTION

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