



## “WHAT CAN YOU DO WITH YOUR EDUCATION THAT DOUG FORD WILL HATE?”

The world has changed. I feel it in the water. I feel it in the Earth. I smell it in the OSAP funding.

I don't know if any of us expected Doug Ford to finally unfreeze tuition. And in trade, OSAP has been slashed to pieces. Whereas students previously could have up to 85% of their student aid in OSAP grants, this has now been dropped to 25%. The remainder is attributed to loans—loans that cannot be wiped by bankruptcy, that accrue rapidly, and have interest. In the first place, OSAP isn't enough to cover university. Doug Ford wants students to suffocate in debt and to stop them from getting their degrees.

Any student can see the flaws in this strategy. In Ford's attempts to disincentivize us from 'taking courses in basket-weaving,' he's increased the financial burden of higher education five-fold. For many, university is now out of reach.

You know this. You have friends facing this reality as we speak. So what do we do? One, we vote. Two, we change others' votes.

The first part is simple. The second harder. Doug Ford knows he won't get our votes; he's not trying to. He wants your parents' votes. Your grandparents' votes. The votes of your neighbours and older friends.

Many have asked why, on March 4<sup>th</sup>, students bothered to protest at all. Is Doug Ford listening? No. But those around us are. Thousands of people read about the protest in the CBC, in the Waterloo Record, and on their social media feeds. We'll get them to notice. You're listening too. Anyone out there in the Arts Quad saw hundreds of students around them, each one equally as upset as they were. We start here.

If you're not on OSAP, someone you know is. Someone who deserves this life no less than you do. Fight this. Fight for them.

Oh and uh. Read **mathNEWS**. We got shipped with Iron Warrior. Love is in the air?

revivED  
Editor, **mathNEWS**

revivED  
Editor, **mathNEWS**

<b>BIG WEENER</b>	Not get a job (pmath major!! point and laugh!!)
<b>USMAN!</b>	Get a respectable job
<b>MRBLUESKY</b>	Get a job meritocratically
<b>MATTHEW mathNEWS</b>	I qualify for osap but I do not have much need for it so I spend it on osmow's shawarma and limbus company merchandise
<b>FINGERSINSOCKETS</b>	Move out of ontario once I graduate to find actual opportunity ("Protect Ontario" my ass. Let the brain drain commence!)
<b>STRATUS</b>	Build a subway
<b>BEESKNEES</b>	Speak my mind no matter what (threat)
<b>CRIMSON</b>	become literate
<b>LARS NOOTBAAR</b>	Charge \$1.01 for Beer (And environmental protection)
<b>APHF</b>	Create a potion to turn people into bread and pour it on him turning him into dough ford
<b>JOCHEMIST</b>	Weave baskets and do graphic design
<b>HERECOMES THEGRUMP1969 NEEDSMORELOVE</b>	I can bring back the Ontario Science Center and teach the kids how to weave baskets while teaching the importance of the greenbelt
<b>ABS(JESTER)</b>	Ponder increasingly abstract relations and structures
<b>BARKED</b>	I minored in Fine Arts, so...
<b>IGNIS_</b>	SRF 219 — sexual pleasures
<b>GINGER RYESAKI</b>	ART HISTORY
<b>MOLASSES</b>	take tunnel finance classes
<b>ABELIANKWYJIBO</b>	Not dropping out and simply being educated
<b>DICK SMITHERS</b>	A degree on how to build transit on time

## ARTICLE OF THE ISSUE

This week's Article of the Issue goes to *Lars Nootbaar*, with *They.. Feed..Us..Poison!* Come to MC 3030 to pick up your \$25 gift card. Unfortunately, it might not be enough to get you a peanut butter sandwich in today's economy. Liquid cocaine, on the other hand...

This will be blinner. I haven't had anything all day.

AWAB QURESHI, **mathNEWS** EDITOR FOR WINTER 2026  
ALONG WITH OWEN GALLAGHER, SARA NAYAR, NOAH NAZARETH,  
SASHA NOVIKOV, TOM SI, AND RIVER STANLEY

# mathASKS 160.5

## FEATURING STREAMER AND TOP SUPER MARIO 64 SPEEDRUNNER, GREENSUIGI

**FINGERSINSOCKETS: DID YOUR MOTIVATION TO SPEEDRUN THE CATEGORIES CHANGE BETWEEN WHEN YOU WERE HUNTING THE RECORDS AND NOW WHEN YOU HOLD ALL OF THEM, AND IF SO, HOW?**

I was always pretty self-motivated, but after it happened, I suppose it became a matter of improving on what I wanted to, as opposed to the few months where I felt like getting them all was realistic. I was pretty locked in to doing the ones I didn't have yet at that point because I didn't want to miss the opportunity that felt like it wouldn't come up again.

**NOTOH: AS A COMPETITIVE SPEEDRUNNER OF OTHER (NON-PLATFORMER) GAMES, WHAT DO YOU THINK WOULD BE THE HARDEST PART ABOUT SM64 FOR SOMEONE LIKE ME TO PICK UP?**

The only other game I've ran much is Minecraft, which is a pretty recent thing, and much different from any other speedrun game. So I don't really know if I have the best perspective on this, but I imagine the hardest thing would be getting used to the controls and the camera while moving Mario around. Both are very responsive once you're used to them but they have their quirks that as a beginner are really hard to get used to. As opposed to many other games, SM64 has a lot of resources that are very easy to find and learn from ([Ukikipedia.net](http://Ukikipedia.net) is a great site!) so I think it's pretty easy to get started :)

**USMAN!: YOU ARE SO COOL**

Thanks Usman!

**APHF: DO YOU THINK YOU COULD BE AS GOOD AT SPEEDRUNNING ANY OTHER GAME WITH THE SAME AMOUNT OF TIME AND ENERGY INVESTED, OR IS IT JUST SUPER MARIO?**

As good? I don't think the level of passion required for that will ever come up for another speedrun game. However I think I could become a top speedrunner of almost any other game for sure. I like to think I've become pretty good at learning as its own skill after speedrunning for all these years and prioritizing learning efficiently.

**ARISTOTLE OF OUR AGE: AS 'FASTEST MARIO', HAVE YOU (IN A PETERSONIAN SENSE) DISCLOSED YOUR HOLDINGS IN THE ALTERNATE SEXUAL MARKETPLACE?**

I still don't know if the post you're referencing was ragebait or serious but I'll let you know if being fastest Mario on the Petersonian sexual marketplace does well.

**BEESKNEES: FAVOURITE BUG?**

I think spiders are way cooler than any bug. I don't really like any of them but I've eaten clover mites at daycare.

**CRIMSON: WHAT'S A MARIO?**

5 foot virtual chubby guy (that's pretty tall).

**JOCHEMIST: ARE YOU EXCITED FOR THE SUPER MARIO GALAXY FILM? WHY/WHY NOT?**

I'm looking forward to it mostly cause it's an opportunity to hang out with friends, I thought the Mario movie was just OK and carried by cool references lol.

**RIYESAKI: HOW DID YOU GET INTO SPEEDRUNNING? AS IN, WHAT GAVE YOU THE IDEA "I SHOULD CONTEST AS A SPEEDRUNNER FOR THIS GAME I'VE BEEN PLAYING"**

In August 2017, I got recommended a guide on how to beat SM64 in under 20 minutes. I was interested as it was my favourite game ever. Tried it once, finished a ~50 minute run, and then never played again. Later on, my first ever online friend that I met in 2018 streaming casual games was bored right before COVID hit (early March 2020) and wanted to teach me the 16 Star route so he had a friend to race alongside. We did that for a couple weeks, and to be honest I lost interest after that, until I decided to give it another try in July and really started to get going.

**YALEVOYLIAN: FAVOURITE SM64 OST TRACK?**

Definitely the credits theme, it still manages to make me feel emotional since it's a really good track but also associated with finishing the game. I usually only listen to the credits after a PB so hearing it feels like lots of hard work and grinding paying off.

**JMHEXAGON: DO YOU HAVE ANY FAVOURITE MODS FOR SM64? IF SO, WHAT?**

If by mods you mean ROM hacks then my favourite is definitely Super Mario Star Road. It's one of the first big hacks that ever came out, and it really feels like a sequel to the original game. I actually played SM64 on the DS first in 2009, then I played Star Road in 2013, then the original game in 2015.

**SMALLMOUTHBASSHATER: FAVOURITE FISH?**

My fish Doug (Blue betta fighting fish I had for 2 weeks when I was 7) but real answer I think blobfishes or pufferfishes are cute.

**IS.ALL.ON: FAVOURITE VIDEO GAME?**

Besides Mario 64, my favourite game is Persona 4 Golden. I played it during potentially my lowest point in life and not only did I find the game to be really, really fun and loved the story but it also spoke to personal problems I was facing that I had never really seen talked about before. There's a character, Rise, whose struggles matched somewhat closely to mine,

regarding her identity and how it's tied to her career. In my case, my "career" being a streamer and speedrunner. Seeing that in myself and the way she ends up working it out really helped me do that myself, so I'm pretty biased towards that game. I also really like Minecraft.

#### LARS NOOTBAAR: HOW FAST COULD YOU THROW A CARTRIDGE OF SUPER MARIO 64 USING YOUR DOMINANT HAND

Faster than you probably but I'm certain at 17 years old I could, out of rage, throw a monitor remote behind me fast enough to shatter it completely. Just a hunch.

#### NOT A N\*RD: WAS THERE ANYTHING ABOUT SM64 THAT MADE YOU INTERESTED IN SPEED RUNNING IT OVER OTHER GAMES?

SM64 was my favourite game ever since I first played it on the DS, and then the N64 version later became my favourite long before I speedran. So I already loved the game before being re-introduced to the speedrun by my friend in early 2020. He taught me the route for 16 star so we could do races, and I

continued to really enjoy it after that point. I don't know if I would have gotten into the speedrun without him, so I can't say I personally have a reason for choosing it, it kinda chose me.

#### ABSTRACTED: DID YOU HAVE ANY FORMER SPEEDGAMES/ PROJECTS BEFORE MARIO?

Hmmm former speedgames, there's not really much but Battletoads was my first game I played (super duper hard NES game) and I've also speedran it a couple years ago for just a couple weeks. Beating that was a "project" for me as a kid LMAO took me 10 years after first playing to actually beat, and after that I just kept tallying how many times I could beat it, eventually without using any extra life farming tech. I think it's one of my first exposures to a speedrun type experience where it's so fucking hard and you have to be prepared to lose all your progress over and over, but it being my first game I think maybe conditioned me or made me learn I really like high-stakes games/challenges where the threat of losing my progress exists.

## N WAYS TO LOCK IN TO CLASS

### THE RECORD OF A CHRONICALLY LOCKED OUT STUDENT

Hello, ~~dearest~~ reader,

this is the account of me trying desperately to lock in but as you might guess, chronically locked out, so maybe you should rate the tech.

- **cross stitching in class:** honestly would rate it well, something to do with my hands so i can pay attention
- **take notes (physical):** heavily depends on the day, sometimes it so good, but also also so easy to just start doodling and loose focus
- **take notes (Minecraft):** not great for class or Minecraft but a Minecraft journal is quite useful, at least if its not mechanism or math heavy. (shout out to chem 264 all my notes are in minecraft)
- **roblox:** really good, the people in roblox will not believe that your in class
- **knit:** better than cross stitch but it can be quite bulky
- **embroidery:** bonus points if its on clothing your currently wearing, or a hoodie, (mod that thing)
- **geometry dash:** DO NOT ACCIDENTALLY HIT UNMUTE. WILL RUIN LIFE
- **Chess.com:** don't get mogged in class, if you sit in front of class the peanut gallery will have comments
- **AO3:** get ready for comments especially if you like old ass ships
- **other course work:** use that class time, at least be productive
- **colouring, (on ipad):** its relaxing but it is not useful

- **clash royale/of clans:** I don't have personal experience with this one, but i want to see, so stop angling your screen away
- **balloons td5:** honestly really bad, i need to focus far too much to increase placing efficiency that i will miss entire concepts
- **eat truth and reconciliation lunch courtesy of the indigenous studies people in STC on Thursdays, open to indigenous students staff, and faculty from 12-1 and open to everyone from 1-2:** feed your brain so it works
- **write for mathNEWS?:** no one has ever done this (i'm here for the free pizza)

Ignis\_

## CHAT, I'M SICK

and my phone fell in the toilet  
and my PC of four years got reset  
and the world is high-key ending  
and i miss school  
and i'm demoralized.  
i welcome death



Jochemist

# mathNEWS ARTICLE SUBMISSION SPEEDRUN ANY% (WR??)

## MAYBE DON'T TRY THIS AT HOME?

Uh oh! I was planning on mostly just hanging out with a friend at prod night rather than getting any actual article writing done there, but article progress isn't going great. I tried busting out some old drafts I had written earlier to save myself some time, but progress on those has ground to a halt. I then had an idea for an interesting short article, but then realized that writing that article would be much harder than I was expecting. I don't want to go back on my plans though, so I'd better make something quick. Let's try writing and submitting a **mathNEWS** article from start to finish as quickly as possible.

The rules are simple. Timing starts as soon as I click the "Add Post" button in WordPress, and timing ends once I've clicked the "Submit to vXXxiX" button to submit the article to the next issue. Articles only really need a title and pseudonym, which will be prefilled for me, so it should be quick enough. The only issues in my way are that:

- My WordPress username will be leaked cause I won't have the time to fill in my usual pseudonym of choice
- If the editors reject my article my attempt is dead
- I'm a D1 choker

At least it'll probably be a world record no matter how badly I do. Now, time to write.



## SPEEDRUN ATTEMPT SUMMARY

1. (Made two failed attempts beforehand, once because I didn't put a caret in the title due to there being a limit of 1 primary article per issue and once because I fucked up putting a caret in the title)
2. Clicked the "Add Post" button. My computer is slow so I had 2-3 seconds to position my cursor over the approximate position of the submit button.
3. The page finally loaded, letting me type in the title area. I titled the article "t^" due to thinking the "t" key was closest to the "6" key. Upon further inspection after the run, I found that "y" was actually ever so slightly closer.
4. An article doesn't *really* need body text. It was time to submit. Unfortunately, I hadn't quite positioned my cursor correctly. I began wiggling my cursor around to course correct towards the button, but realized I didn't know where my cursor actually was. Uh oh.
5. Thankfully, wiggling the cursor made its position clear to me again, and I managed to move it over to the submit button, a little bit too slowly for comfort due to the time wasted on flailing around.
6. I clicked the submit button, finishing the run. All that's left to do is wait to see if my article gets accepted.

**Final Time:** 5.53 seconds (shoutout to planet b612 for timing each attempt)

the government's only spy

# THE GOVERNMENT'S ONLY SPY FUCKING SUCKS AT SPEEDRUNNING

hi everyone, it's your favourite shitposter.

WR ANY%: 3.29<sup>1</sup>

planet b612

1. as an editor i am legally obligated to tell you guys to not do as you see as the editors will GENUINELY have 1. YOUR necks for doing that 2. OUR necks for starting this shit. thank you, love you guys

T

E

clubpenguinfan3000

planet b612



# DOUG FORD AND THE DEATH OF THE ONTARIAN DREAM

*“EDUCATION COSTS MONEY, BUT THEN SO DOES IGNORANCE.” – CLAUS MOSER*

Education, one of the most important things in our lives, one of the best ways to achieve social mobility, and as of recent, Doug Ford’s arch-enemy. On February 12<sup>th</sup>, the Ontario Government announced planned changes to university funding including lifting the tuition freeze and investments in post-secondary. Key for us, it announced changes to OSAP, turning it from majority grants to a maximum of 25% grants, the remainder loans.<sup>1</sup>

When questioned Ford doubled down, justifying it by drastically overstating misuses of OSAP funds and saying his changes will push people into in-demand jobs.<sup>2</sup> This is an out of touch act that will cripple Ontario, forcing many bright people who could help build a stronger Ontario to not pursue their dreams. This means we lose many talented engineers, computer scientists, actuaries, doctors, accountants among others. All these are in-demand jobs and will hurt just as much as the “useless degrees” Doug Ford suggests with his basket weaving comments. What we really are hearing is a man who got by thanks to his family’s money robbing those who don’t have the luxury of helping run daddy’s company.

This action will only hurt Ontario and the future leaders of it. The provincial government should reconsider this immediately and put money in its people’s future, instead of bribing his developer buddies with the Greenbelt.<sup>3</sup> If you are a current or future post-secondary student, please join in any demonstrations, call your Member of Provincial Parliament, and next time an election comes by, remember this.

Politicians love to make people forget about their misdeeds, such as Ford with the Greenbelt scandal, but if people don’t forget, it will show politicians we can’t be silenced and forgotten. Below is a QR code to a list of Ontario’s MPPs, here you can find yours. If you don’t want to scan it, it’s also in the citations.<sup>4</sup>



QR CODE TO CURRENT ONTARIO MPPS

MrBlueSky

1. “Ontario Investing \$6.4 Billion to Support Postsecondary Sector’s Long-Term Success and Sustainability | Ontario Newsroom.” <https://news.ontario.ca/en/release/1007034/>

[ontario-investing-64-billion-to-support-postsecondary-sectors-long-term-success-and-sustainability.](#)

2. “‘There’s actually a basket weaving course:’ Doug Ford doubles down on OSAP changes <https://globalnews.ca/video/11679609/theres-actually-a-basket-weaving-course-doug-ford-doubles-down-on-osap-changes>.
3. “After secretly working to destroy it, Ford government silent on long overdue review of Ontario’s Greenbelt.” <https://thepointer.com/article/2025-10-05/after-secretly-working-to-destroy-it-ford-government-silent-on-long-overdue-review-of-ontario-s-greenbelt>.
4. “Current MPPs.” *Legislative Assembly of Ontario*, <https://www.ola.org/en/members/current>.

OSAP is the only way I got through university and I feel like it’s a massive shame that students like me will not be able to pursue their dreams. Money is becoming the barrier and not merit.

I really want to believe in the future and it’s becoming harder and harder when we’re being oppressed every single day. OSAP needs to be protected. Debt is not fair for someone who just came out of high school.

JACK

Canada’s becoming an oligarchy and this is the next step—when any person who works hard cannot go to university and pursue their dreams. We need to do something, or else, no one else is going to have any opportunities anymore.

ANON

I feel like I’m unusual from people here because I didn’t actually use OSAP as part of paying for my degree, but what I do know is that a lot of my friends and a lot of the people in the community around me did, and the university wouldn’t be the same if those people couldn’t afford to go here, and it would be a worse experience. The university would have less money overall—so it’s very short-sighted.

CHARLOTTE

Fuck Doug Ford!

ELLIE, CLASSIFIED

All quotes collected from students during the University of Waterloo Student Strike on Wednesday, March 4<sup>th</sup>.

# ARE YOU FRIENDS WITH YOUR BOULDER?

As a Canadian, watching the Winter Olympics this year was on occasion quite painful. Our flagbearing Mikael Kingsbury narrowly missed out on securing our country's first gold medal on an arbitrary tie-breaker and I don't really want to talk much about our performance in the hockey. Watching my country's triumphs and short comings brought through a very interesting cocktail of feelings. Not grief exactly. More like a question that had been sitting in the back of my head for a while, waiting for the right emotional weather:

*What good am I?*

And its more embarrassing cousin: *Have I already squandered whatever good I had?*

*Why even do hard things?*

These are the kinds of questions that feel enormous at 2 am and slightly theatrical in the light of day, but I've come to think that the flinching away from the question is itself diagnostic. You could make the biological argument that the defining attribute of living beings is striving. But this doesn't really explain anything, because people routinely go out of their way to risk their lives doing hard things for reasons that have nothing to do with survival.

I've landed on Stoicism before. A Stoic might say that we are drawn to virtue and excellence for their own sake—that the striving is itself the reward. My religious background reminds me that Paul wrote to the Corinthians in the Bible: "Everyone who competes in the games trains with strict discipline. They do it for a crown that is perishable, but we do it for a crown that is imperishable..." Camus articulates Paul's idea better: Sisyphus, condemned to roll his boulder up a hill for eternity only to watch it roll back down, is nonetheless happy, because meaning lives in the act of pushing, not in what waits at the top. It's easy to nod along to this. The harder thing is to actually believe it while you're in the middle of not getting what you wanted.

I watched *Marty Supreme* earlier this year in the specific mood of someone who wanted to be told that chasing your dreams was worth it. What I got instead was ninety nerve-racking minutes of a man named Marty Mauser arrogantly stepping on everyone around him in service of a goal so narrowly defined it had become, functionally, a prison. He lived a Sisyphean life by any measure. Absurd things happened to him (getting spanked by Kevin O'Leary) while he pursued something that brought him back to the start every time he got close to accomplishing it. Something that really disturbed me is that he deluded himself into believing he was the best without working to prove it. An identity tied to a result is an identity that can be revoked.

Doing hard things should never be motivated by extrinsic factors like being "the best table tennis player in the world." And I think this is what the movie is trying to get across. Not that having goals is bad, but that putting your entire identity

in a desire will destroy your life and that of those around you. Besides, being a champion table tennis player won't turn too many heads on its own.

I will be honest: there was a part of me that *wanted* the film to be telling me that chasing dreams is unhealthy. It would have been a convenient conclusion to draw. It meant I didn't have to try as hard. I sat with this conclusion for a while, pleased with myself, until the Olympics did something to me I had not expected.

Even as a Canadian and a figure skating pacifist, Alysa Liu's gold medal winning performance in women's figure skating warmed my heart and brought at least one tear to my eye. This to me is probably the greatest individual performance I have seen from anyone doing anything. I related to her story. I quit playing soccer at sixteen because it was mentally taxing for me, and even as my teammates started getting scholarships and playing overseas I felt vindicated in my choice because I got the sense I was where I should be. Her performance reminded me that it takes a confident person to live authentically. Then to come back after a hiatus and throw out the training guidelines in favour of training your own healthier way (at eighteen!) is a level of responsibility that I don't have at twenty-four.

I heard someone say that Alysa Liu's performance at the Olympics lacked emotion. I think this is flat out wrong. I have never seen a person be so certain of their place in the world, so happy to be doing the thing they're doing. And she lived what she said "winning and losing don't affect me anymore... medaling doesn't fulfill me. I skate because I like to skate." Pouring your heart into something doesn't mean you need to be in pain. If you gave me the option to either get any accolade or to be able to do what I love without fear, I would bite your hand off to never be anxious again.

So back to the question: "Why do hard things?"

I hate how trite the honest answer is; but you need to find your own why. It's impossible for me to give you that answer. Paul told the Corinthians run for an imperishable crown. Marty believed he was cursed with an obligation to see a specific thing through. Camus tells us to imagine Sisyphus happy in his labor.

Whatever peak you're climbing—your Rivoli, your table tennis match, your triple axel, your mountain with your boulder—I hope you climb it your way. And I hope that as you stare up at the summit, knee deep in snow, drenched in sweat, you find yourself yelling like Alysa Liu:

*"That's what I'm fucking talking about."*

FinallyToby

# WHY YOU AND EVERYONE YOU KNOW (INCLUDING YOUR GRANDMA) SHOULD COME TO FASHION FOR CHANGE'S SHOW ON MARCH 21<sup>ST</sup>

You may or may not have heard of Fashion for Change, if you have not heard of it (OH MY GOD LOCK IN) it is a University of Waterloo club (with some members from Laurier, Conestoga, and McMaster). This club is all about combining creativity, fashion, and dance with charity. Every year they put on a big show that is full of modelling, and dancing, with all the ticket proceeds going to that year's charity. This year the show will happen on March 21<sup>st</sup> in Hagey Hall Theatre!!!! If you haven't already bought your tickets then I have for you a list of reasons why you MUST:

1. All the proceeds go to charity so if you don't come you hate charity
2. It is a completely student-run club, from amazing designers who make the clothes to the models that wear them and to the photographers that highlight the clothes (SO COME SUPPORT YOUR FELLOW STUDENTS)
3. All different kinds of faculties are represented in Fashion for Change (including math!!!! #yaymath)
4. Because I said so
5. This year the charity is Women's Crisis Services of Waterloo Region, which is a really important service, the more tickets sold the more support we can give them!!!
6. Just trust it will be good
7. There will be NO smallmouth bass in the show (also no smallmouth bass in this issue of **mathNEWS**, the kids miss you please come home)
8. The theme is "through the pages," so there will be some really creative takes on classic books like Frankenstein, Crucible and Handmaids Tale (to see more about what other books will be represented check out the instagram @fashionforchange)
9. There will be guest performances from other dance clubs (that's cool and fun)
10. In the face of the OSAP cut backs and Doug Ford slamming "basket weaving courses" come out and support creativity, art, and basket weaving

PLEASE PLEASE PLEASE PLEASE PLEASE PLEASE PLEASE  
PLEASE PLEASE PLEASE PLEASE PLEASE PLEASE PLEASE  
PLEASE PLEASE PLEASE PLEASE PLEASE PLEASE PLEASE  
PLEASE PLEASE PLEASE COME SEE THE SHOW IT WILL BE  
GOOD AND YOU WILL REGRET ALL OF YOUR CHOICES IF  
YOU DO NOT BUY TICKETS RIGHT NOW!!!!!!!!!!!!!!!

pls

You can find the link to buy tickets on the Fashion for Change instagram which is again @fashionforchange they are currently on sale and the sooner you buy them the cheaper they are!!

GO BUY YOUR TICKETS... or... else...

papasurf

## N NICKNAMES FOR THE NEW UNIVERSITY PRESIDENT, WILLIAM (BILL) ROSEHART

- Billy
- Willy
- Billiam
- Billbert
- Billboard
- Bill Nye the Prez Guy
- Big Bill
- Bill of Rights
- Billgorithm
- Billtron
- Will.i.am Rosehart
- Willennium
- Will Supreme
- Will of Fortune
- Good Will Prez-ting
- Willifer
- Willy Wonka
- Rosecraft
- The Rosefather
- The Roseident
- Bill Rizzhart
- Bill the Builderhart
- Will of the People
- Billificent Rosehart
- Chancellor Billiam
- His Billness
- President Billothy
- Sir Billiam of Rosehart
- The Right Honourable Big B
- Bill the Thrill
- Operation Billstorm
- The Billuminati
- The Willenator
- Willatron 3000
- Willennium Falcon

Shwarma

# DSC DATASET 5

## EVENTS, QUOTES, AND GAMBLING GALORE!

hello baddies! hope your midterms are done bc atp it's not mid-term anymore what are we doing

anyway let's not make ourselves miserable as we slowly approach the end and come to some dsc events!! here are a few you should keep your eye on (no promises they're happening but pray ig):

dsc x capital one event: hear from capital one employees and recruiters about the hiring process and interview tips + have a chance to network and land your next coop! pull up to stc 0040 5-6 mon mar 16<sup>th</sup>

trivia: wanna chill with a fun but competitive time with your friends? doesn't trivia sound like a fun bonding activity, right? now imagine free food; that sounds a bit like our trivia night, so maybe you can round up the gang and enjoy an evening of general knowledge and more!

sql-id games: are you more into data science or something more interactive? then participate in our data-sci themed squid games filled with fun activities with top prizes if you survive

dsas: yeah so we pushed this lol... anyway that just means we're getting goated speakers to talk about their experiences with data science in different fields AND fire snacks bc we have good budget

eot: our final event, and as usual it's our classic estimathon sponsored by jane street!!! have a try at making some puzzling estimates and pick up some food, drinks and a free shirt ooo

as usual stick to @uwaterloodsc on instagram or our discord for event details + baddies on your reels

also since we are nearing the end of term, spring exec apps will be opening soon so something to think about... do you have any skills in development, logistics, outreach, social media, data science or more (i believe you do)... do you want to contribute your skills to one of uw's most renowned clubs (yes you do)... do you want to meet some really cool smart people including the person writing this (yes you really do)

okay now that you're hypnotized apply for dsc exec roles sometime in late march / early april pwease

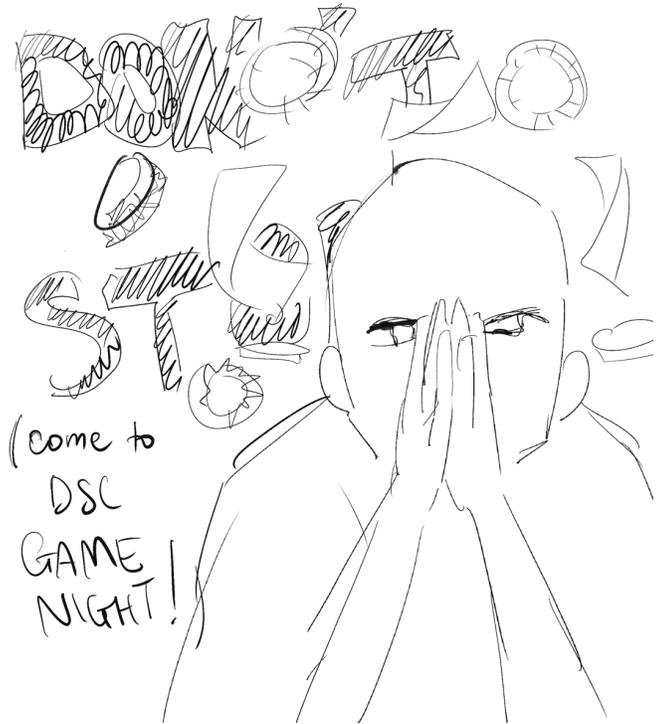
anyway maybe another convincing reason to become an exec; quote time!

- i want to wiggle your toes
- today feels so chinese
- for a meta job offer would u dress in maid costume
- saw costco fruitcups and had a war veteran flashback
- heres ur 5'2" CMO at YC abg with balayage
- Is anyone else at the Jim rn

- damn you cucks look like you're having fun
- dsc dictatorship era
- U da real geolocked
- why is mathsoc anti-maid cafe ☹️
- i said that to the non-woman part of you
- Happy bday 6 4 abb 🥳 🥳

lowkey next edition i should have a compilation of every nickname we've given pres bc some of them are just out of pocket

speaking of my favourite baddie pres, look at the beautiful drawing she made of our inner demons at casino night



UW Data Science Club

## MINI RANT ABOUT DOUG FORD

I don't really have anything constructive to say that hasn't been said before, I'd just like to express my anger. Doug Ford for years has been gutting education at all levels, and its been frustrating seeing him get away with it. We've all collectively known that enough was enough since the start of his administration, so its important that we keep fighting this. Do whatever you're able to. Protest, write to your MPP, spread the word, etc.

AbelianKwyjibo

# IT'S ME AND MY RICE COOKER AGAINST THE WORLD

## A RICE COOKER RECIPE FOR THE WATERLESS CHICKEN SOUP

Sometimes I hate Instagram reels, specifically the food algorithm. Because I'm scrolling at like 3 am or something and then they show the most the delectable recipes ever that can never be recreated in a stupid dingy dorm.

It was a couple weeks ago, during midterm season, when my feed was showing me the waterless chicken soup recipe. It's a fairly simple and low-effort recipe I was willing to try since I was short on free time, but the issue was that it required a ceramic pot. It's necessary because the bottom of stainless steel pots would burn and it barely traps any pressure. I only had a stupid chud stainless steel pot, so I just scrolled and yearned.

It was until I remembered I had a rice cooker. I'm usually skeptical of rice cooker recipes, but for this specific recipe, it's a cheap alternative to a ceramic pot. So I searched up a recipe to make sure it's possible (it is) and then made it. **So here's my recipe:**

**Active time:** 20 mins

**Cook time:** until your rice cooker<sup>1</sup> beeps

**Serving:** 3–4 bowls of soup

### INGREDIENTS:

#### FOR THE SOUP:

- Sliced napa cabbage
- Sliced carrots
- Sliced onions
- Diced apples
- 2–3 bone-in (important!!) chicken thighs or 3–4 chicken drumsticks
- 2–3 slices ginger
- Salt and pepper to taste

Vegetable ratio: apples < carrots = onions << napa cabbage. Note that most of the liquid of the soup will come from the cabbage.

#### FOR THE DIPPING SAUCE:

- 2 tbsp of neutral oil (canola, vegetable, corn, etc.)
- 3 tbsp of soy sauce
- theoretically oyster sauce, but not a game changer
- 1 green onion, thinly or moderately sliced
- 2 cloves of garlic (or more, if you're a garlic freak)

If you don't care for measurements: oil < garlic < green onion < soy sauce.

### STEPS:

1. Cut all your vegetables and layer the ingredients in the rice cooker pot in this order: napa cabbage, onions, carrots, apples, chicken, and finally ginger on top of the chicken.
2. Let the rice cooker do the magic. You'll know the chicken is done if you poke it and only clear juices flow. If not, leave the pot inside the cooker for another 10 mins.
3. For the sauce, add green onions and garlic into a microwaveable safe bowl. Heat oil on stove. You'll know it's hot enough if you drop in a slice of green onion into the oil and it immediately starts sizzling. Remove oil off heat and and CAREFULLY pour oil into aromatics. Then add soy sauce and oyster sauce.
4. Serve the soup and sauce with rice, noodles, pasta... idk.

### EXTRA NOTES:

- If you want less concentrated broth, you can add a little bit of water. I would said half a cup or so.
- If you refrigerate it and you see it gelatinize the next day, thats normal. You extracted the gelatin from the chicken bones and its good for you and stuff...

dingle

1. (For reference, my rice cooker model is from LITTLE RACCOON, and capacity is 2L)

## N CHATGPT NAMES HEARD IN THE WILD

- Chat
- Chatty G

What it should be called:

- Chatham Gp the t'th
- Charles
- Chatvicular
- Worse Google
- Chud GPT
- Chat G Pee-pee
- Please I need pizza
- Chat Grand Prix
- Biggest Water Enjoyer
- The Chattering

hiding\_from\_sam\_altman



# A LONG, LONG EPILOGUE

## MARINELAND: PART 4

The final day of operations at Marineland, the controversial marine life theme park in Niagara Falls, was on September 1<sup>st</sup>, 2024. The park, as many predicted, never reopened to the public. There was no fanfare, no celebration, no protest. Everyone was ready for this exhausting story to end. And technically speaking, Marineland, *the theme park*, is over.

But the final day of Marineland, *the stubborn red stain on the Niagara Region*, has yet to pass. The gates are shut, but the tanks are full. The animals spent years in there, languishing. The Skyscreamer—their enormous drop tower—stands still, defiant, looming like a sinister scarecrow over the Niagara Falls skyline. You can't look at the actual Falls without the tower peeking over, into the photos and memories of tourists and locals alike.

*Look at me, still tall and proud, the tower says. It was never going to be that easy.*

In August 2024, I was there for what I *thought* was the closing chapter of Marineland. In retrospect, I was naive. Marineland has survived too much for mere bankruptcy to finish it off.



When the park closed, and inheritor Marie Holer died shortly after, the park passed to an ownership trust who began seriously looking to sell. As we've discussed in previous installments, this land is *ludicrously* valuable. It's three times the size of Disney World's Magic Kingdom, located less than a ten-minute drive from the main tourist area of Niagara Falls. You can practically *hear* the housing development vultures swirl.

You'd imagine this land would sell quickly, but there's a catch—the same catch that led to the park's downfall in the first place. The animals. No one wants to buy the park until the remaining marine life, including as many as thirty beluga whales, are removed, presumably because by owning the park, *they* become responsible for doing it.

Okay, so management needs to get rid of some whales. How hard could that be? Well...

In 2019, the federal government passed the *Ending the Captivity of Whales and Dolphins Act*. You get three guesses what the bill made illegal. Predictably, Marineland opposed the bill's passing, claiming it would make it impossible to operate the park. (Yeah, man, that was the point!)

Marineland's lobbying efforts managed to secure them a grandfather clause, meaning that they could legally keep the whales and dolphins they already had, but any import *or* export of these creatures would need to be specifically reviewed and approved by the Minister of Fisheries.

That's the problem: not only did Marineland need to find a buyer for thirty belugas, it needed to be one that the feds approved of.

In September 2025, they proposed sending the belugas to Chimelong Ocean Kingdom, an extremely popular sea life amusement park in China—sort of like a parallel universe successful Marineland. But the Fisheries Minister was squeamish about sending the animals to *another* amusement park, and said no, sending this process all the way back to square one.<sup>1</sup>

This is when Marineland management tried an interesting new negotiation tactic: blackmail.



Politics

### Marineland says it needs money from Ottawa or its belugas will be euthanized

Federal fisheries minister blocked Marineland from exporting the whales

You'll be surprised to hear that "Give Me Millions Of Dollars Or I'll Kill These Whales" did not make Marineland popular, and it certainly didn't help them shake their reputation for animal abuse. The government seemed to call their bluff, and negotiation continued in private.

But inside this absurd turn of events was something that kind of resembled a good point—there aren't that many places in the world that these animals can be sent. You can't reintroduce these animals into the wild after they had spent their whole lives in captivity. A proposed whale sanctuary off the coast of Nova Scotia would be perfect—if it had ever been built.

As a whole year came and went since the park's closure, and with no visible progress being made on getting the animals out of the park, frustration grew within Niagara Falls. The space existed in a sort of limbo. We knew that *something* was going to happen, but everything seemed so static—with the park, the province, and the federal government all more interested in pointing fingers at each other than moving forwards. The old age was over, but we had no idea what could possibly emerge from the vacuum Marineland left behind.<sup>2</sup>

Eventually, mercifully, Marineland and the government agreed in late January of 2026 to send their remaining whales and dolphins to accredited aquariums across North America. A few weeks later, it really happened, and the first sea lions arrived at the Vancouver Aquarium.<sup>3</sup>

The animals are finally getting out of Marineland and into better homes. Soon, in theory, the park can be sold, and Marineland can finally start fading into memory.

But that day has not yet come. The sign in the empty parking lot still proudly reads *Marineland*. Some people think it will never come down.



When we talk about the indomitable nature of the human spirit, it's usually about something we're proud of. We think of the determination, vision, and hard work it must have taken to build impossible ancient wonders of the world, or modern marvels like the Internet or Wikipedia.

But there's no rule that says we only achieve the impossible when our dreams are noble.

Marineland was the vision of a singular, determined, ruthless man, John Holer, who moved heaven and earth to make this horrible, horrible place. He defied public opinion and countless protestors. He defied the laws of the nation, the laws of economics, and the laws of common sense.

He was wholly, painfully wrong to do so, but he was so convinced he was right.

Not a single person alive in the world today wants Marineland to still be there. Not the city, not the province, not the owners. But it remains, and no power has yet proven able to fully dislodge it. It's a monument to the misery we can nurture through stubbornness.

When you set your mind to changing the world, make sure it's for the better.



Dick Smithers

into revitalizing the area into a year-round amusement resort/ water park/casino/whale sanctuary/data center (????). No one from the government seemed to take this very seriously, which Knapp management would loudly complain about through an article in *The Globe And Mail*—although, in my opinion, if they were really serious they should have paid for a real concept artist instead of using the ugliest AI slop you've ever seen in your life.

3. This was only after Marineland *again* threatened to kill the animals if the government didn't approve the export license. I think they actually just can't help themselves.

Final image is from this video by Amusement Insiders: <https://www.youtube.com/watch?v=219Qd6txkM8>

## THE FOREST OF POSSIBILITIES

A POSTCARD SERIES SENT TO mathNEWS



The shy caterpillar says hi!



the forest of ~~problems~~  
~~pressures~~  
possibilities!

#A small community art initiative  
The Cat Returns  
© 2002 Nekonote-Do - Studio Ghibli - NDHMT  
From Studio Ghibli: 100 Collectible Postcards, published by Chronicle Books LLC in 2019.

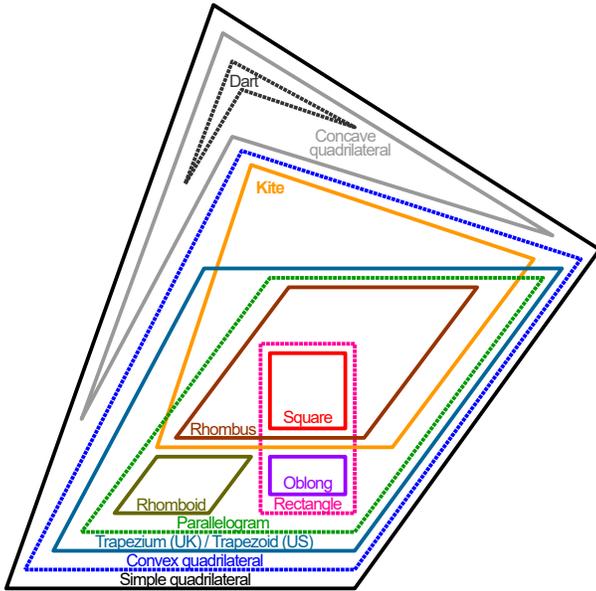


1. Turns out this specific part of the story went semi-viral on Chinese TikTok: <https://www.tiktok.com/@guangtouriji/video/7561131942414978322>
2. Okay, this is not totally true. An American real estate firm named Knapp Capital Management made a public bid to invest \$5 billion

the shy caterpillar

# N MILDLY INTERESTING IMAGES ON MATH-RELATED WIKIPEDIA ARTICLES

1. A diagram of inclusions of classifications of quadrilaterals, where the regions are themselves an example of the classification (from article Quadrilateral)



2. A suspicious visual example of Bayes' Theorem (from article Bayes Theorem)

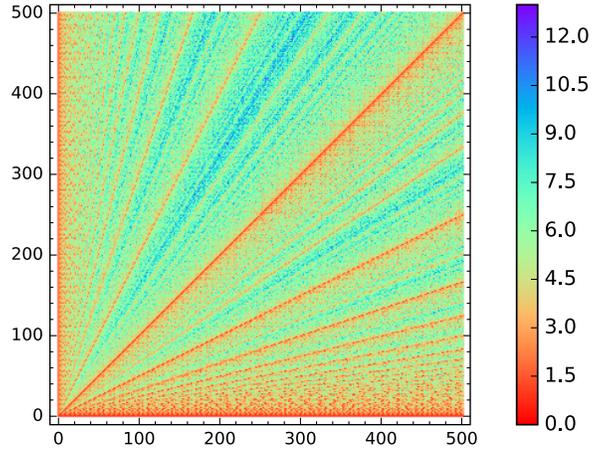
Number of occurrences	Being suspicious B	Not being suspicious $\bar{B}$	sum
An assassin A	3	1	4
Not an assassin $\bar{A}$	2	6	8
sum	5	7	12

$$\begin{array}{c}
 \begin{array}{cc} B & \bar{B} \\ A & \begin{array}{c} \bullet \bullet \bullet \\ \bullet \bullet \bullet \end{array} \\ \bar{A} & \begin{array}{c} \bullet \bullet \\ \bullet \bullet \end{array} \end{array} &
 \begin{array}{cc} B & \bar{B} \\ A & \begin{array}{c} 1 \bullet \\ \bullet \bullet \end{array} \\ \bar{A} & \begin{array}{c} 6 \bullet \bullet \bullet \bullet \\ \bullet \bullet \bullet \bullet \end{array} \end{array} &
 \begin{array}{cc} B & \bar{B} \\ A & \begin{array}{c} \bullet \bullet \bullet \\ \bullet \bullet \bullet \end{array} \\ \bar{A} & \begin{array}{c} 2 \bullet \bullet \\ \bullet \bullet \end{array} \end{array} \\
 P(A, \text{ given } B) \cdot P(B) & = & P(A|B) \cdot P(B) \\
 \frac{3}{3+2} \cdot \frac{3+2}{3+1+2+6} & = & \frac{3}{3+1+2+6}
 \end{array}$$

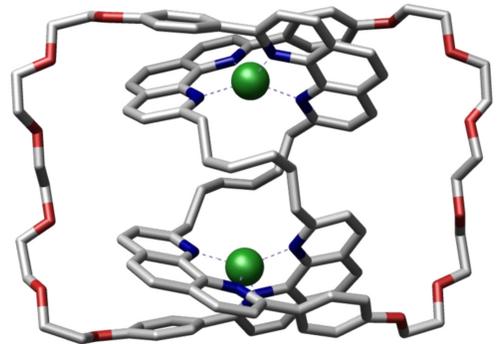
$$\begin{array}{c}
 \begin{array}{cc} B & \bar{B} \\ A & \begin{array}{c} \bullet \bullet \bullet \\ \bullet \bullet \bullet \end{array} \\ \bar{A} & \begin{array}{c} 1 \bullet \\ \bullet \bullet \end{array} \end{array} &
 \begin{array}{cc} B & \bar{B} \\ A & \begin{array}{c} \bullet \bullet \bullet \\ \bullet \bullet \bullet \end{array} \\ \bar{A} & \begin{array}{c} 2 \bullet \bullet \\ \bullet \bullet \end{array} \end{array} &
 \begin{array}{cc} B & \bar{B} \\ A & \begin{array}{c} \bullet \bullet \bullet \\ \bullet \bullet \bullet \end{array} \\ \bar{A} & \begin{array}{c} 6 \bullet \bullet \bullet \bullet \\ \bullet \bullet \bullet \bullet \end{array} \end{array} \\
 P(B, \text{ given } A) \cdot P(A) & = & P(B|A) \cdot P(A) \\
 \frac{3}{3+1} \cdot \frac{3+1}{3+1+2+6} & = & \frac{3}{3+1+2+6}
 \end{array}$$

$$\begin{aligned}
 P(A|B) \cdot P(B) &= P(B|A) \cdot P(A) \\
 \square \quad P(A|B) &= \frac{P(B|A) \cdot P(A)}{P(B)}
 \end{aligned}$$

3. Diagram of the running time of the Euclidean Algorithm, unfortunately this one probably won't print well so it will be better seen on the mathNEWS website (from article Euclidean Algorithm)



4. A molecule twisted into a knot that was actually synthesized (from article Molecular Knot)



5. A diagram of algebraic complex numbers, where the colour of the glow is determined by the degree of the minimal polynomial of the number, and the size of the glow is inverse to the size of the coefficients of the minimal polynomial (from article Cardinality)



# SOCIAL MEDIA CONSIDERED HARMFUL

I recently read *The Anxious Generation* by Jonathan Haidt, and whether or not you believe in their arguments that social media *causes* anxiety and depression in adolescents, it calls into question a huge cultural shift that's happened over the last fifteen years. I grew up with social media in my life, so it feels normal, but I believe we've lost something special.

Humans are social creatures, and we all need connection. Social platforms discovered that they can commoditize that need, offering it back to us in a widely accessible digital format. On the surface, this seems great! You can keep in touch with people separated by distance or circumstance, meet friends of friends, and find out about events happening in the wider world... all in one spot! I don't think any of those things are inherently bad, but it keeps going.

Because attention can be monetized, the more time you spend scrolling, chatting, and consuming, the more money they make. This has led to things like algorithmic feeds and short form content which exploit psychological patterns to keep you around. I was talking to a first year recently who hadn't realized that keeping reels in the same place as your messages makes it oh so easy to switch over while you wait for someone to reply—instead of just logging off.

It's a complicated topic, and proving any kind of causation is definitely outside my power. But notice that the more time someone spends on their phone, the less time they spend making meaningful in-person connections. The fewer meaningful connections in their life, the stronger the force to fill that void with something like social media. User created content is motivated by attention-keeping, engagement notifications play to our dopamine and approval seeking, and it all bundles into a provably addictive package. Not to even mention the more obvious issues like cyberbullying, polarization, and corrupt social control.

I'm not here to say that social media is evil and you should delete all your accounts, or that no reels are worth watching. I am here to suggest it's gone too far, and people need to take action. But how?

A lot of what I've covered could be heard from any fifteen-minute "digital detox" video that extols the virtues of locking up one's phones and leaving the internet. Yet they post it back on the platform they sought to leave, induce engagement-driving feelings of self-improvement in their viewers who are unlikely to make any real change, and I believe the concept is fundamentally lacking.

In *The Anxious Generation*, they point out that while they're sure social media is bad for kids, cutting it from their lives is also bad. When all their peers use it, they become the odd one out with a harder time communicating at all. It doesn't work. The strategy suggested in the book is to take collective action as a group of families to restrict social media use and account creation as well as internet access during school time.

This applies to adults as well, but there's nobody else to stop you from partaking in services even if you consider them harmful. You can try yourself, but it's easy to fail and hard to sustain. There are lots of technologies that sell solutions, such as focus apps, restriction apps, meditation apps and physical barriers. All of these are appealing because they offload the responsibility onto an external system. Ultimately though, any reduction in screen time leaves a void in your life. A void of purpose, of meaning, of engagement. It's **hard** to maintain, and when you eventually falter, the habit of consumption will be there waiting for you. I'd imagine a support group of nearby friends could solve many of these problems, but you're still taking a significant loss by disregarding the power of the internet.

That's the beginning of the end. You find something which you need the internet for, but it's oh so easy to slide from "I need this thing" to "I want this thing" to "I need this thing that I don't want." I need to network on LinkedIn, I want post engagement, I need to scroll a feed of people I barely know and jobs I couldn't be hired for. I need to message my friend group, I want to check Discord frequently in case they've replied, I need to know what's going on in the various servers I'm in despite the conversations bringing little fulfillment.

I believe the solution is complex, individual, and rooted in the process of mindful living. The key difference between TikTok and heroin is that the former addicts solely through dopamine while the latter creates chemical dependence. Mindfulness of what you're doing and why can go a long way toward weakening that dopamine hit and limiting prolonged use. Add some friction between you and your vices to give mindfulness time to kick in, but don't expect anything external to do all the work.

From there, sustaining comes down to purpose. Habits slip when purpose weakens, because why shouldn't they? Purpose is the individual part, and while I'd love to rant about religion, I'm out of both words and time. Purpose is the fire that motivates our lives. When we live in first world comfort, the purpose of "just stay alive" feels irrelevant, and supernatural purpose is confused by the wealth of accessible yet conflicting options. Over the last few months I've been trying to understand Taoism, which calmly highlights the purposelessness of an unknowable reality without collapsing into nihilism. I don't believe in an indestructible, indefinite, or "correct" purpose, but I have seen its importance.

I highly recommend trying to control your time dedicated to social media and online content, but do it your own way! When you inevitably stumble and, say, spend an unfortunately long time watching *Slay the Spire 2* gameplay last weekend, please have forgiveness. Don't kick yourself while down by feeling shameful. You're only human, caught in battle against conglomerated powers determined to control your behaviour.

# IRANIAN DYNASTIES PART ONE

## *KING OF KINGS, JUST LIKE YOU ON YOUR MIDTERMS!*

Iran is one of the oldest countries, with a history that stretches from before the 5<sup>th</sup> century BCE to today—with the current civil resistance to the authoritarian regime, as well as the current American invasion in their latest distraction war. Despite the current war, the history of Iran is interesting and shows the changes that took place in the geographical region of Iran as well as the surrounding regions. In a sequel of the China dynasty article (P.S. whoever did the second one I loved yours, it was so much better!!!) I will do Iran now, but better hopefully!

### ANTIQUITY ERA (550 BCE — 651 CE)

#### ACHAEMENID EMPIRE (550–330 BCE)

This is the dynasty you think of when you think of an Iranian Empire. This empire grew rapidly under its first monarch, Cyrus the Second, annexing the Neo-Babylonian empire. This may sound familiar to any who were raised Christian, as this event marked the end of the Jewish Exile. After this, and through various wars, they conquered the Middle East, Egypt, Anatolia, and small portions of Europe. Beyond military conflicts, it also held many other achievements; for the time period, it was a well organized and bureaucratic government. There were also reforms in language and religion, including Zoroastrianism (an Iranian religion that was prominent in Iran prior to Islam's spread) as well as the empire's use of Aromatic, increasing its importance in the middle east. As well, during the Empire reign, advances in coinage included the Dirac, the first bimetallic monetary standard. It was used widely throughout the world until the Victorian Era. Of course, all things must come to an end, and theirs came speaking Greek.

#### ALEXANDER'S EMPIRE (330 BCE — 305 BCE)

The Macedonian Empire, under Alexander the Great led the first conquest of the Achaemenid Empire. It would soon gain independence, but under a Macedonian Nobility.

#### SELEUCID EMPIRE (305–129 BC)

This dynasty was formed from one of Alexander's military generals, who expanded influence into Iran and surrounding territories before the breakup of the empire. After this, they began administrating Iran, modern day Iraq, lower Central Asia, and parts of Syria, which they fought with the other Hellenistic successor states over. They created a Greek focused state which tolerated the culture they ruled. In part due to the Greek nobility, they wanted to gain more influence in Greece, but these actions would weaken them through wars with the Roman Republic. This, along with civil wars, led to them being mostly conquered by the Parthian Empire, leaving only a rump state in Modern day Syria. This empire, trying to gain control, actively encouraged Greek immigration and established colonies in order to gain a further power base. They had mixed relations with the indigenous people, with

them trying to push their religious beliefs. In modern times this has backfired, leading to a revolt in Israel and Palestine. Much of the economic and bureaucratic systems carried over from the previous dynasty, with them in a way influencing the Seleucids.

#### PARTHIAN EMPIRE (129 BC–224 AD)

Following the Seleucid rise, a satrapy ruled under Arsaces I rebelled against the reigning government, with them soon taking control of a majority of their territory and beginning the Parthian Empire. This would be a return to indigenous Iranian rule in contrast to the previous dynasty. Despite that, the influence of the Seleucid would remain, with Greek influences remaining, though they declined as time went on. The empire often went toe to toe with the Roman Empire over control of the Middle East and Armenia, which led to many conflicts. During this time, they became a center of the Silk trade, being in the middle between the Romans to the West, and the Han Dynasty to the East. In contrast to previous empires, the Parthians were far more decentralized, with Kings under their control being able to mint their own currency. Now, while they were constantly at war with the Romans, their actual end would be met by civil wars leading to the rise of the Sasanian's.

#### SASANIAN EMPIRE (224 AD–651 AD)

The Sasanian Empire rose as the Parthians fell, establishing the last Zoroastrian Empire, as well as the last indigenous Iranian Empire, for nearly a millennia. They looked to the Achaemenids as inspiration, revitalizing fighting with Rome, and later the Byzantine Empires. During this period there was revitalization in centralization of the government, as well as in the Zoroastrian faith, it being used by the government as a unifying force. During this time, many cities were refounded throughout the state, especially in Mesopotamia (modern day Iraq) which led it to becoming increasingly populous during the period. As well, education became increasingly important,

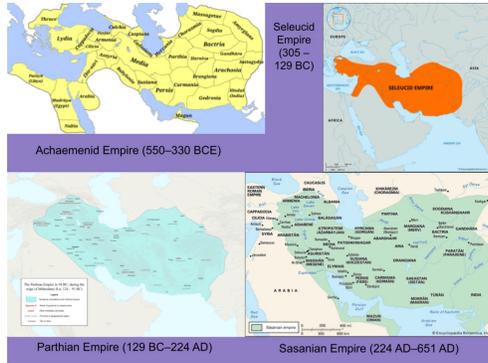
*The last person to ever talk about education is the someone who dropped out two months into school to join his daddy's company.*

FINGERSINSOCKETS

*I feel like if students are going to make a real change, we have to make change now, and we have to get that fucker out of office, and go to the polls and fucking vote. Like, did you see the 905, did you see how little people voted? Piss me off!!!*

SWISS CHEESE

with the founding of the Academy of Gundishapur. Their days were, of course, numbered. Weakened after wars with the Byzantines, a new empire coming from Arabia would end up conquering the land, which not only marked the end of the Sasanian Empire, but as well as to the antiquity chapter of Iranian history.



**MAP OF EACH IRANIAN ANTIQUITY DYNASTY: ACHAEMENID, SELEUCID, PARTHIAN, AND SASANIAN IN THAT ORDER**

**MEDIEVAL ERA**

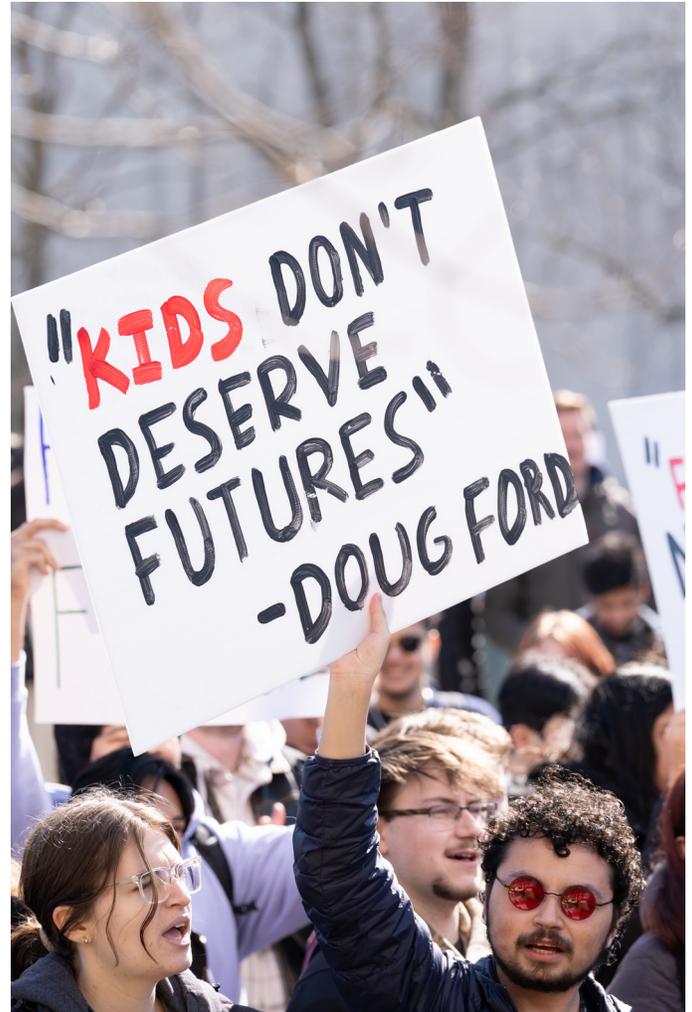
**CALIPHATE CONTROL (638-861) AND IRANIAN INTERMEZZOS (821-1090)**

Following this was the Rashidun, Umayyad, and Abbasid caliphates which controlled modern day Iran, and led to the rise of Islam in the region. During this time while they were under the control of an Arab nobility, Iranian culture influenced them, with many of the arts and sciences being spread. Eventually though, Caliphate control declined, leading to the Iranian Intermezzo, where various dynasties (including Iran) attempted to gain control. However, at the beginning of the 11<sup>th</sup> century, a new dynasty would emerge from Central Asia, which unfortunately I can't discuss until next time due to word limit. Below is a map of the Intermezzo to make of the for it.



**IRANIAN INTERMEZZO.** Included in the above image are Buyid state, Samanid state, the Sallarid state, Ziyarid state, among others

**MARCH 4<sup>TH</sup>, 2026**



# THE EASY(ISH) WAY TO LEARN A LANGUAGE

SO YOU CAN WATCH ANIME WITHOUT THE SUBTITLES  $\cup(\circ \nabla \cong *)_1$

## PREWORD — SOME CREDIBILITY TO MY ADVICE

Of course, with every source of information/advice, you should know how the person came to this conclusion, and how their circumstances differ from yours. Therefore, please read the full article.

## THE EARLY EXPERIENCE SUCKS THE MOST

Learning a language is an extremely tough grind, and the worst is at the beginning.

Firstly, English wasn't my first language. When I moved here as a third grader, I could barely convey any of the ideas I had. The thing is, reading and listening was much, much easier than generating your own words, such as speaking and (god forbid) *writing*. Since I could only speak in broken words, people needed to (frustratingly) guess what I meant, and I would nod very hard if someone managed to guess accurately. For example, if I wanted to say "I think that's a great idea," I would go "Yes," nod very hard, and appear happy. That's right, out of that entire phrase, "Yes" was the only word I could muster up, and it wasn't even in the original sentence. Here's another example: I point to the scissors, and say "Please, have, thank you," actually meaning "Please pass me the scissors."

## FACTORS OTHER THAN ACTUAL STUDYING MAKES A HUGE DIFFERENCE

Firstly, environment. I moved to Canada when I was 8 years old (Grade 3) and by Grade 5, I was out of ESL (English as a Second Language program at my elementary school). It only took TWO years for my English proficiency to rise to a level just below my peers. And I'm just a normal guy — not particularly talented, smart, nor had a goated teacher or anything, but this just goes to show how much of a difference environment makes. One of the best things you can do is live in a country that speaks the language, as it forces you to use it *everyday*.

After English, I did French from grades 4–12. I started Japanese in Grade 9, and Korean in my 2A term at UWaterloo. Because I liked Japanese the most, I'm the most proficient at it. This is DESPITE only taking sparse classes for three years; despite taking many more formal years of French, with teachers who had better educational backgrounds; despite Canada being a bilingual country where you see French sometimes (such as on food labels).

This means that self studying is overall much more important than anything a teacher could hammer into you. Because learning a language is such a *tough grind*, staying motivated was the biggest factor in determining how well I learned a language. I was much more inclined to consume more Japanese and integrate it to my everyday activities such as anime, games, and music. That doesn't mean formal classes weren't a core part of the process though, more on that later.

## THE THREE STAGES OF LANGUAGE "COMPREHENSION"

A common thing you would notice, when talking with people whose first language wasn't English, is accents range from really heavy to none at all. This also correlates with how early in their life they came to Canada, and *how language is processed in their brain*.

For example, my mother, who came in her 20s, has a heavy accent despite having lived here for over 20 years, but little kids get rid of their accent in just a couple of years. Students who came in high school or university often have a slight accent. I asked various people how they *translated thought into English*, including friends, friends' parents, a foreign relations rep for an international company, and many more. Turns out, 1—people who immigrated as a little kid just straight up think in English; 2—older adults first think in their own language, then translate it into English; and 3—high school/uni people are often a mix in-between. However, a person's proficiency level was not as dependent on age.

## THE ACTUAL ADVICE

Now that you have the context of the advice, make sure to adapt it to what is most realistic to your own situation. By now, you might have an inkling to what the secret sauce to learning a language is.....

(drumroll please)

INPUT!

Firstly, input gets you familiar with the way people talk, helps you tremendously with your pronunciation, increases your vocabulary, and most importantly, accustomizes you to *think directly in the language*. Instead of hard-memorizing vocabulary (which usually doesn't work, I know from experience), you can shaft that to just consuming input.

Secondly, you cannot escape crunching grammar/studying, but you can shorten it and make it easier. For this, you should get a teacher if you can afford one. Input is like giving you a map of the dots, you can pick out words like "Daijoubu" in anime but you need to be able to organize those dots into properly formatted sentence structure. You need to know if verbs or nouns go first, otherwise, when a character speaks in French, you don't know which part of "la pomme rouge" is referring to the object versus the colour. (English has adjectives before the noun, but this isn't always the case for French.)

Thirdly, environment matters. If you can really afford it, go live in a country that speaks this language. But if you're broke like me, you can listen to music, change your phone's system language, use the Japanese option in video games, etc.

Fourthly, use your prior knowledge, Japanese shares many characters with Chinese, and French with English.

Unfortunately, if you're a romance language speaker looking to learn an East Asian language, it's going to be much harder and time consuming than the other way around.

I would say, the easiest method for the most value is to watch movies with subtitles: the video gives you context through not only visuals, but also story, tone in how the characters speak, and words you can pick out that translate directly to the subtitles. One of the biggest reasons I learned English so fast is because my strict Asian mom actually let me watch Treehouse on TV. (ONLY for the purpose of studying English :C)

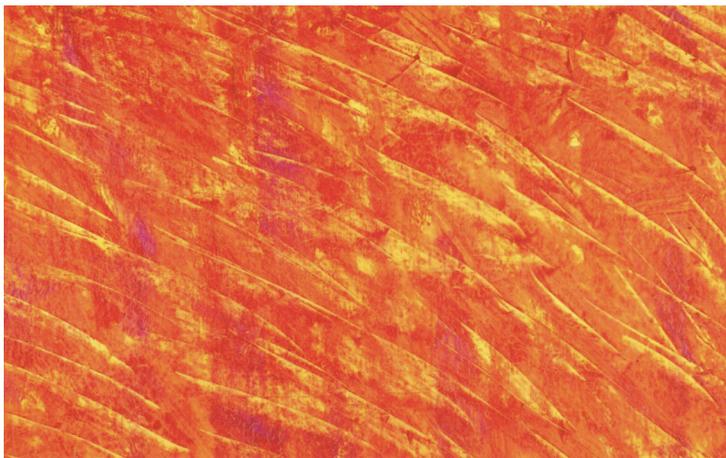
Ginger Ryesaki

This article is the full version this time around, but you can still text me at ryesaki on discord or email me at [g2731i@uwaterloo.ca](mailto:g2731i@uwaterloo.ca) for further discussion!

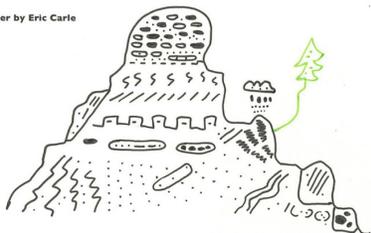
I highly recommend this video that explores similar ideas: "How to Learn a Language: INPUT (Why most methods don't work)" — [https://www.youtube.com/watch?v=J\\_EQDtpYSNM](https://www.youtube.com/watch?v=J_EQDtpYSNM)

## THE FIRST MOUNTAIN

A POSTCARD SERIES SENT TO mathNEWS



Painted tissue paper by Eric Carle



the first mountain I visited  
was the mountain of motivation  
Here, I met the hopeful tree.



The shy caterpillar says hi!

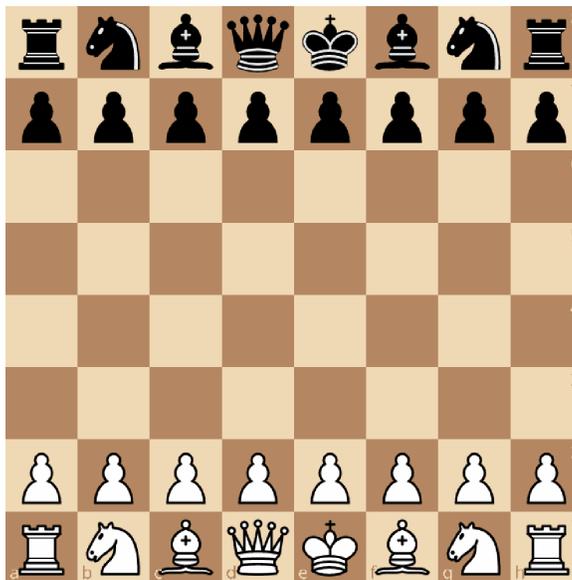
\* a tiny art/healing project



## CHESS PUZZLE 8

WHAT EVEN IS A "BEST MOVE"?

White to move. Find the best move for White.



Solution: Up to reader's interpretation.

crimson

## ISSN 0705-0410

UW'S BASTION OF ERUDITE THOUGHT SINCE 1973

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the shy caterpillar

# IN LOCO PARENTIS

[Content warning: explicit mentions of domestic abuse, suicide]

If you guys read my weirdmelon article ([v16012](#)), you'd know I'm fucked up in the head. Some of this isn't my fault. Some of this may be due to the Circumstances™ which may involve a very squishy watermelon among many other things. But it doesn't change how I am today. I am bad, and progressively getting worse.

Was my first mistake moving back in with my abusive parents? Maybe. Why did I do that? Am I stupid?

But if I stayed far away, I would have been stuck thinking about them, forever. I'd thought long and hard about how they hurt me, but I've never learned to live without this hurt. So I come crawling back to them, head lowered in defeat. As though to tell them I need them and all the ways they hurt me.

Nowadays I feel like I'm lugging around the corpse that I live in. Does anyone know how to ace their Waterloo courses while living with your abusers? Is that a thing you can do? Is there an article on how to study through the yelling, screaming, the memories of beatings?

I'm supposed to be working on myself. I almost certainly have some form of CPTSD, I have to be working on myself right now. That's how you get better, you work on yourself and you take years to do it. My therapist tells me that, but what about these courses? What if I need to be doing well academically to be happy? What if I need to be doing well academically because I already paid so much to be here and I can't afford to leave in spite of this desperation to get better?

I want to be dead. I already tried that, it didn't work. So now I'm stuck here, alive, and living through hauntings of the past.

Despite my suicidal ideation, I used to be amazing in high school. Maybe being abused builds character (it really doesn't). Maybe if your teachers take better care of you than your parents, you'll do everything to please them. *In loco parentis*, they said, a teacher must act "in the place of a parent" when the parent is absent. My parents have been absent all my life, so I in particular can see where that statement holds true.

I remember being a kid in my class and dreading going home every day. I remember being a prodigal student met with constant love and praise at school, only for it to turn into abuse and barrages of demeaning slurs as soon as I came home. I remember students thinking I was weird for being such a teacher's pet when it was the only way I could experience something close to love.

I remember telling my favourite teacher about just enough for them to feel bad about me, but not enough for me to get taken away. I remember them giving a special announcement before winter break. They said that—although they knew many were excited to go home—they had their heart out for everyone

who didn't have a safe space to go home to. Those who wished school would never end. People like me.

I knew their message was meant for me, but for the first time, I wondered if anyone else was going through the same thing at home.

Of course, I burned out eventually. And no professor will coddle and parent you in the way a high school teacher would. When you're a kid, it's pitiful that you're trapped in your cage. When you're an adult, it's pathetic that you chose to stay in it.

I feel like I'm writing myself in circles here. What do I want out of this? Do I want to get better? Do I want to get worse? I have a compulsion to share things about my cathartic past, and you just so happen to be on the receiving end of this. I don't think I ever truly process this, since it just keeps happening.

I wish there was a story of someone who was just so strong that they shook their abusive parents off their shoulders and passed every midterm, eviscerated all their courses in the advanced sections, got the best jobs, and did things to be proud of.

I don't think that person exists. I think that person moved far away from home so that they could focus on their courses and learn how to be alive without all of this.

Maybe I need this. Maybe I'm afraid that if I moved away, I'd still be stupid. Statistically, this is true. Repeated abuse and constant stress makes you dumber. So I cling to these people that hurt me in hopes that I can hide from the fact that I'll eventually move away, just to be dumb on my own terms. I don't give myself the chance to thrive because if I screw it up, then I'll have yet another reason to hate myself. The art of the self-saboteur is one that I have mastered.

I picture the universe where I didn't come back home to delusional yelling and abuse. Or I'll picture the universe where I was so perfect that everything got better and I definitely didn't get worse. When I was away from home, I was stuck romanticizing it. They call this "euphoric recall" in therapy-speak, and I guess it lulled me all the way back home to this house that hurts me.

Hey. Stay tuned for the article where I find out how to move out of here without killing myself. I think mom's mad again and dad's getting home soon.

golgothasTerror



The logo for mathNEWS features the word "math" in a lowercase, cursive script font, followed by "NEWS" in a bold, uppercase, sans-serif font. A thick, black, curved line underlines the "math" portion, extending slightly past the end of the word.

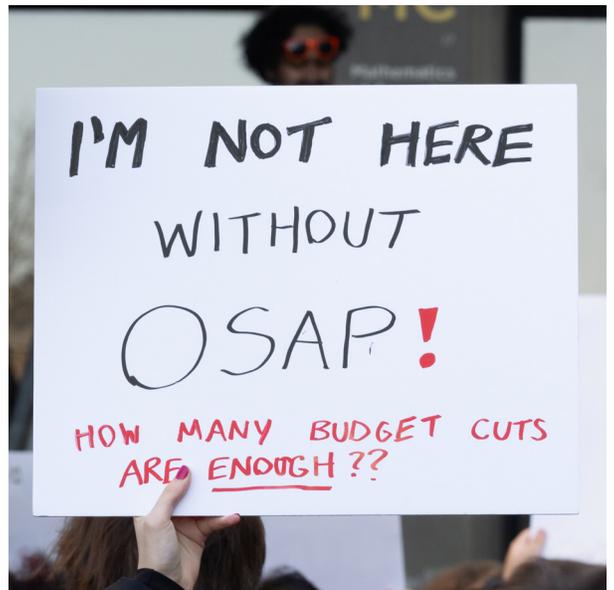
## SIX YEARS

Six years ago, on March 12<sup>th</sup> 2020, Doug Ford announced schools would close for two weeks after March Break. Then, on March 17<sup>th</sup>, a state of emergency was declared due to COVID-19, beginning the lockdown which undoubtedly impacted each and every person on campus. For those soon to graduate, they would of had their final two year of high school forever changed, with many movements, such as semi-formal, prom and graduation altered or flat-out canceled. Then, on the other hand for the first years, myself included, we got into lockdown in Grade 7, us losing our Grade 8 graduation and Grade 8 trip. No matter where you lie COVID impacted each and every person.

I know for myself, COVID feels like a milestone impact in my life, equivalent to the fall of Constantinople (modern-day Istanbul), the Atom Bomb, and The Fame Monster's release. Even to this day the distance in my mind between 2019 and 2020 feels so much farther then it actually was. One reason why this may be is how much happened during the pandemic. For some COVID was a time of self discovery. Many queer people got the time where they could discover themselves and figure themself out, myself included. Others' COVID was a time where they explored new interests, whether it be biking, video games, baking or more. COVID wasn't just a time for fun side projects though. COVID saw the rise of social isolation, many people are still recovering from the loss of a critical year for social development, as well as the mental health costs of being stuck inside. It also was a time where racism against Asian people became more common as they faced discrimination due to the virus. As the anniversary of this pandemic hits once again, it is a good time to look back, see how much you have grown, how much the world around you has changed, because where we are today is in part because we got two extra weeks off school.

MrCoughSky

## 25% GRANTS, 75% LOANS



Have something you want to publish in mathNEWS? Drop it off in the mathNEWS blackBOX by the Math C&D or send it to [mathNEWS@gmail.com!](mailto:mathNEWS@gmail.com)

A mathNEWS EDITOR WHO WANTS MORE WORK FOR THEMSELVES

# I HATE 1–10 SCALES

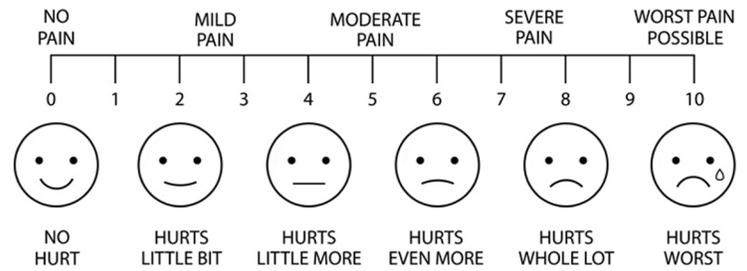
## AND YOU SHOULD TOO

I'm sure you've used a 1–10 scale; they're pretty much the standard for rating anything, from movies to stores to how good the burger you just ate was. Yet today I'm here to argue that they're a horrible system; there's no standardized way of using them, they're often used in cases they shouldn't, and can often lead to misinterpretation. I'm a lifelong 1–10 scale hater, and today I'm here to enlighten you. I'll expose this sham of a rating system for what it is, and drag you kicking and screaming into a world of useful, meaningful ratings.

The first issue is that people rarely agree on what a 1 is and what a 10 is. Say a friend and I watched a movie together, and we both liked it about equally. We think it's above average, but not great. For argument's sake, we'll say our idea of a 10 is about the same (*Return of the King*—*LOTR*), but we have different ideas of a 1. If my 1 is just the worst movie I've ever watched (*Snowpiercer*, fight me), I might rate what we just watched a 6, but let's say my friend's 1 is the worst movie they think is possible, like a 10-hour director's cut of paint drying. They might rate what we just watched an 8, because their lower bound is so much lower than mine. This means that even though we both had the same opinion on the movie, we came away thinking the other liked it more or less. Unless all people using the scale have the same upper and lower boundaries (almost never the case), the scale can't communicate opinions accurately.

The second problem is that people don't distribute their ratings evenly across the scale. Conceptually I assume a 1–10 scale should follow a normal distribution, with an average rating right in the middle at 5.5, but in practice this really isn't the way people use them. Looking at IMDB, for example, the average rating is a 7.0, far from the actual centre of the scale. It's also left-skewed with high kurtosis; it doesn't fit a normal distribution very well at all. Now I'll admit that maybe my interpretation of the scale is just wrong, but the fact that the scale is up to interpretation at all leaves room for misunderstanding. If I rate something a 6, I might be saying it's above average, but the average IMDB user would interpret that as me saying it's bad. Everyone has their own understanding of the scale, what's average, what's good, what a rating of 9 means to them, and it's all completely arbitrary. There's so much up to personal interpretation that almost all the meaning and nuance behind your rating gets lost in translation.

My third complaint is that this scale, based on hard upper and lower bounds, is often applied to things that can't be bounded. One example that comes to mind is the 1–10 pain scale, which is used pretty commonly in hospital settings and can have serious impacts on treatment. The idea is that 1 is no pain at all and 10 is the worst pain imaginable. But what is the worst pain you can imagine? Losing a limb probably hurts a lot, must be a 10 right? But wait, surely losing two would be twice as bad. There's no real limit. Personally I've been in the hospital with pain bad enough that I was passing out, yet I ranked it at a 7, because I could always imagine something worse. Using this scale for this is complete nonsense.



All this lack of standardization and improper usage means that very little information is actually conveyed by a 1–10 rating. As such, when we interpret someone's rating, there's a lot of room for biases to affect our interpretation, which can lead to real harm. Going back to the pain scales, a common bias is that women tend to have lower pain tolerances. Since the 1–10 pain scale doesn't actually give them much objective information, doctor's interpretations of the scores can be affected by biases like this. This leads to serious consequences; women are 26% less likely to receive medication for pain. This is an extreme example, but really no 1–10 rating is safe; they lead to more misunderstanding than effective communication.

In conclusion, 1–10 scales are dumb and bad, so what should you use instead? I don't have a perfect answer (certainly don't use 0–5 stars or 0–100%, they have the same problems), but my personal favourite method is comparisons. I liked that movie more than X and less than Y; this hurts more than X and less than Y. This gives concrete reference points to your answer that are meaningful to the other person, providing a lot more information and meaning that less of your opinion gets lost. Of course it still depends on your personal tastes and how you personally feel about X and Y, but I feel it's at least a step in the right direction.

Overall I give the 1–10 scale a 1 out of 10, horrible system.

FATCullen

## WRITING AND VULNERABILITY

My stories are covered with red pen. It is not grammar and it is not style.

The writing is plain, understated, but not right; I refuse to be vulnerable.

Some can cover this refusal with verbosity and flowery language. I cannot. My refusal lies bare.

QUAAAAAAAAACK

## I FUCKING HATE FACEBOOK MARKETPLACE

The only time I go on Facebook is when I want to lowball cars on Marketplace. Now, with my time at Waterloo coming to an end, I've found myself looking for a summer sublet before my lease ends.

What the fuck is wrong with Facebook Marketplace? There are numerous people who stocked up on the Drake OVO x McDonald's cups and are selling them from 10 to 1000 dollars. Literally brain in ass gif. You cannot be serious.

Someone asked me if *I could pay for his parking*. Dude if I could do that would I really be subletting my place???

Someone who actually looked like a dangerous individual from their posts (which included their use of CRACK) messaged me wanting to come to my place.

Also, because I have to have the Facebook app while I'm trying to sublet my room, I have to open it to Facebook posts. This means I'm seeing blatantly AI photos and videos with sixty-year-olds getting fooled by them. They all follow the same format where their "car was vandalized" by hooligans and that they'll take the appropriate next steps with the law.

One of the AI posts was just complaining about kids having a pressure-washing business? Bro made a fanfic about kids on the grindset to complain about them. I know this guy probably complains when his grandkids who don't call him are on Fortnite too.

Some of these oldheads just have Facebook to complain about *anything*. Their Tim's order could be perfect and they'll complain that the employee asked them how their day was. How miserable do you have to be?

And everyone is racist on this app? Not even in a way where you, as a member of the group they're targeting, can laugh it off. Nah, they're just straight up racially profiling people?

I think we would all do better if we migrated off of social media. I'd rather post my sublet ad on a town bulletin board. Please get me off this shit.

Usman!

## MY LONGEST SENTENCE

Give [pizza] me give eat [pizza] me eat [pizza] give me eat [pizza] give me you.

smanor

## WHAT KIND OF RELATIONSHIP DO WE HAVE WITH TOIKE OIKE?

Toike Oike is a student-run newspaper run by the Engineering Society from the University of Toronto, run similarly to **mathNEWS**.

One question.

What kind of relationship do we have with Toike Oike in an abstract personified sense?

Like is it a "siblings" kind of relationship or can you write a crack ship out of it? Like is it within reason to write friends-to-lovers or strangers-to-lovers or soulmate fics between the two? Can it be yuriful or yaoiful? Are there other universities' student papers that can be put into this universe? Like could Student Newspaper Hetalia exist? I know The Iron Warrior recently had an enemies to lovers fix featuring themselves and **mathNEWS**, of which part 2 should appear in this issue (I'm looking at you Emmanuel N., you wrote some fun stuff).

Many things to ponder.

fingersinsockets



As a student, you know, I'm obviously going to support this.

I will say though, a lot of people coming out here, I don't think I've seen at other protests that relate to issues that don't directly affect them, which is a little bit disappointing, but it is really nice to see how many people actually showed up, and are actually paying attention to — to the conditions that affect them. Because the thing is, ultimately, this is connected.

Every single issue, like this, the issue with our OSAP funding is deeply interconnected with even issues that seem really far away from us, like things like Palestine, like things of that nature. It's all capitalism. We all have the same oppressors.

The labour aristocracy is labour aristocracying, you know what I mean?

KAHYA

# A TALE OF TWO PAPERS PART II: THERE WAS ONLY ONE NEWSPAPER RACK!

*Continued from Iron Warrior W26 Issue 2, accessible via the QR code. This article is a work of fiction, our newspapers do not have thoughts and feelings or mutual romantic attraction. Haha jk... unless?*

\*\*

As Iron Warrior watched this week's **mathNEWS** issues being loaded into the upper shelf, they couldn't help but notice that **mathNEWS'** cover page was redder than usual, nor could they overlook the nervous shuffling of her pages back and forth, far too persistent to be attributed to the occasional gusts of wind billowing through the room in the wake of students' passage.

Was it something she read? I hope the loss of her old news rack isn't getting to her...

Gazing upwards at last week's **gridWORD** solution, Iron Warrior found themselves wishing the newspapers could have been placed closer together. They traced through the boxes arranged neatly into a heart, memories of filling it out together with **mathNEWS** faint imprints on Iron Warrior's pages. Sweetness. Yearning. Together. Ostensibly on-the-nose for the Valentine's theme, and yet they'd so enjoyed completing it.

Iron Warrior sighed. They wanted so badly to be up there, to give **mathNEWS** some comfort. The foot of space separating them, an abyss of longing. If only the top rack had space for them to rest side by side...

\*\*

If newspapers had hearts, **mathNEWS'** would be racing. She thanked the Editors for her being on the top rack, so Iron Warrior couldn't see the drawing of **mathNEWS**-chan blushing and kicking her feet on the cover.

It's not the Valentine's issue anymore! Why does the cover art have even more hearts! What does **mathNEWS**-chan think she's doing?

**mathNEWS**-chan, being a printed image, remained lovestruck. How inconsiderate.

*I am being PERFECTLY normal about this. I am NOT in love with Iron Warrior. Nope. Nuh-uh. Nada. They're so dumb, and stupid, and boring, and patient, and kind, and-*

"You alright?"

Iron Warrior's voice shook **mathNEWS** out of her spiraling thoughts, accompanied by what she would describe as a 'perfectly dignified and rational response to being so rudely and inconsiderately disturbed.' Or, as any sane person would call it, an 'eep!'

"UUUHHHmmmMMMM yeah. Yeah! the. uh. weather's great today! haha!"

\*\*

No, there was definitely something wrong with her. At least, moreso than normal.

"**mathNEWS**, it's hailing. In March."

"uhHH I was. Being sarcastic."

"You know, for a self-proclaimed 'bastion of erudite thought,' you sure are eloquent today, aren't you?"

"Oh, that does it, Wrench-for-Brains! Don't get all uppity on me because one of your editors swallowed a thesaurus between issues. I'll have you know..."

Iron Warrior smiled as she trailed on, or whatever facsimile of a smile one could imagine for a newspaper. Whatever ailed **mathNEWS**, it wasn't enough to stop her spirit shining through.

\*\*

They flitted through each other's pages, interjecting playful jibes between reading out articles as had become their norm. Seconds turned to minutes, then hours. Neither of them noticed, nor would they have particularly cared if they had. There was just the two of them, together. Nothing else mattered.

As the articles neared their close, it became time for the crosswords, which **mathNEWS** had found herself looking forward to every issue. First, the **gridWORD**, which meant it was her turn to narrate.

Irony. Letterboxd. Ovechkin. Victini. Eritrea.

**mathNEWS** read the clues, Iron Warrior filled them in—a delicate dance of whimsy and wit where the two became almost as one, in perfect sync.

Yordles. Outer Wilds. Usopp.

Wait, what?

The dance faltered as **mathNEWS'** reading trailed off. Iron Warrior, observant as always, reached out.

"What's wrong?"

"I don't—I don't remember putting this one in... oh..."

She flushed red as light reflected off a passerby's jacket. Iron Warrior started, then saw the cause for **mathNEWS'** embarrassment.

14 Across: What **mathNEWS** wants to say to you, more than anything. 8 Letters.

"Well, it's basically filled in already. I love you."

**mathNEWS** was somehow redder than before. She fumbled for words. None came out. She knew why the clue was there, of course. **mathNEWS** had known she'd made a mistake the moment she'd asked **mathNEWS**-chan to go over the **gridWORD**, to sneak something in that'd make filling it out with Iron Warrior more fun, a surprise for both of them.

She knew those three words to be true. But **mathNEWS** couldn't admit it. Not yet. Not until she knew that Iron Warrior liked her back. She shoved down her yearnings and forced herself to say something. Anything that could make things right again.

"Iiiiit's... It's not like I l-like you or anything! Baka!"

Did I really just say that? I'm such an idiot. What will they think of me now, just some—

"I love you too, **mathNEWS**."

Iron Warrior's words sliced through **mathNEWS'** internal monologue yet again, clarity in a sea of writhing emotions. Time slowed, then stopped.

What. What. What. What. What.

Did they—

Do I—

I—

A torrent of emotion, welled up inside **mathNEWS'** refusal to acknowledge it, spilled forth in the words she had held back for months.

"IloveyouIloveyouIloveyouIloveyouIloveyouIloveyouI —"

\*\*

A passing student picked up this month's Iron Warrior issue, giving the pages a quick read-through before setting it back down haphazardly on the **mathNEWS** stack above it as he rushed off to save a spot in the absurdly long Subway line.

If he had stopped to look back, he would have noticed that the cover arts of the two newspapers joined together to form a perfect heart.

Fin.



mugiwara

## BROODY GEESE (NOT) IN YOUR AREA

*THE EGGMAN COMETH*



The geese made their nests, lain onto and laid into them, and become broody. This means less geese wandering around campus (boooo :()), but also more aggressive ganders (yay :D).

'Tis the most wonderful time of the year—egg season ( or it will be very very soon).

You should worship your egg-overlords by providing them free peas—that is, after all, why it's called *appeasement*.

It might be the one thing that saves you from a pecking of lifetime, or you might be harassed for the rest of your life for peas. A win-win situation in my opinion because I am quite sure the geese in my area have a restraining order against me.

*TotallyNotAGoose*

I should mention, this is an old photo of a goose in her nest. Her eggs got removed and the nest destroyed. Geese are quick to take over free real estate, so I think some other family hatched from there when she left.

You should call your mom and dad, if you're on good terms that is.

# RATING EVERY BULDAK FLAVOR WE FOUND: SECOND EDITION (PART 1)

FIND THE FIRST EDITION IN *mathNEWS* ISSUE 155.5

After we found out Buldak causes cancer, we decided to cancermaxx by consuming copious amounts of Buldak and subsequently rate them! Hopefully this inspires you to consume more buldak as well ♪

## COLLECTIVE TIER LIST (BEST TO WORST)

1. Buldak Curry
2. Buldak Original
3. Buldak Stew
4. Buldak Cream Carbonara
5. Buldak Carbonara
6. Buldak 2x Spicy
7. Buldak Cheese

## KEY

The writers who joined us for this madness:

- FR: Fried Rice
- 0.4: 0.412
- AD: amirdadp
- AN: andoiii
- HL: hyperlynx
- BE: buldak\_enthusiast

## BULDAK STEW

FR: 8.5/10

- Hmmmm... It's like Shin Ramen but more spicy. This is really good.

0.4: 9/10

- Sourness was good, but it's kind of messy. Next time I'd dry it out.

BE: 8/10

- Yeah I agree with 0.4.

HL: 7/10

- Taste is good but I don't see the point of the soup.

AN: 9/10

- I don't know what these guys are talking about, I like the soup.

AD: 8/10

- This is good but really messy.

Spice: 3.5/5

## BULDAK CHEESE

FR: 3/10

- I don't know what these guys are talking about. This is lowkey spicy. Can't really taste the cheese though.

0.4: 5/10

- I want more spice. I want more cheese.

BE: 5/10

- Putting cheese in a classic buldak is better. I want better cheese.

HL: 5/10

- That's definitely cheese. Holy moly.

AN: 5/10

- I got cheese in only one of those bites. The rest was just spicy. I got scammed.

AD: 4/10

- This has zero spice.

Spice: 2.5/5

## BULDAK ORIGINAL

FR: 9/10

- Wtf this is better than the original I make at home. This is so good.

0.4: 9.5/10

- Amazing. Fucking Amazing.

BE: 10/10

- This is really good. Though I feel like it's better when I modify it by stirfrying it and adding cheese.

HL: 9/10

- There's nothing better than the original. This is like the stew but better.

AN: 8.5/10

- This is the baseline. Saltier version than the stew I guess.

AD: 9/10

- This is perfection. [A while later] Wait... At first I thought this was less spicy than the cheese, but the spice ramps up dramatically.

Spice: 3.5/5

#### INTERMISSION (QUOTES):

BE: I'm a Shin Ramen Hater.

0.4 while licking the buldak sauce pack: *Moans* This is literally crack.

AN: Who needs bonito flakes when your neck is flaking already?

AN: I'm sweating so much out of the back of my neck. Why am I like this?

BE: I'm sweating so much from my eyes.

0.4: The spice is a log scale.

AD: Wow AN you have the best view of this parking lot. It's such a beautiful view... of the parking lot.

AN: I'm very indifferent to flavour.

#### BULDAK CARBONARA

FR: 9.5/10

- Idk what these guys are talking about. This is peak buldak.

0.4: 6/10

- I like the flavors and I would get it for the flavors, but not when I'm looking for spice.

BE: 6/10

- It does what it's supposed to very well but it's not my thing. I prefer the original.

HL: 7/10

- It fills a niche that doesn't actually exist (for me).

AN: 8/10

- The only way I can tell there's cheese is by the way it burns on to the pot.

AD: 6/10

- Fine I guess.

Spice: 1/5

#### BULDAK CURRY

FR: 10/10

- This is the most flavorful buldak I have ever had. This is so damn good. I think I have a new favorite.

0.4: 10/10

- OH WOWWWW HOLY SHIT. This is the original but more flavorful. Like there are more spices than just the spicy.

BE: 9.5/10

- It tastes like curry... man.

HL: 10/10

- I lied about the original. I can see myself having this every day.

AN: 9/10

- The other ones were too spicy so I don't know if I was really tasting anything at all but I could actually taste this.

AD: 10/10

- HOLY SHIT THIS IS GOOD.

Spice: 2/5

Join our writers in part two elsewhere in this issue to see what happens. Will another buldak top the curry? Will the writers survive the 2x spicity?

Fried Rice (ft. 0.412, amirdadp, andoii, hyperlynx, buldak\_enthusiast)

I'm here for solidarity basically. I don't use OSAP, but I know people who do. So. I'm just here for solidarity.

ROWAN

Unlike your brother, we don't have more than enough to eat at home.

SHAHABEE

# DAY IN THE LIFE

## I HATE CO-OP TERM (PT. 4)

Hey all. It's been around a month... I think? Don't know since I've been so busy and I lost track of time. I also learned way more in the last month than I thought I could've. For starters, I learned that I'm actually in a different universe, which means I got kidnapped by aliens, I guess. I also learned to speak their language at a rudimentary level, but writing is still a mystery to me. I learned by talking to that guy who serves me food everyday. I figured out how to say the human items, then I picked up on greetings and responses, then cognates, until I knew enough to ask "how do you say [gestures towards object]?" I don't have the grammar down, but everyone here understands the gist.

As basically the only human currently here, I get strange looks, but I'm ultimately welcomed, and I was able to learn a lot from my grasp of their language. The planet we're on is the only habitable one in their universe, and its quite a small planet at that. It turns out that their solar system also only has one star, and that the other ones I saw were artificial drone stars that circulate around the solar system. Due to resources constraints, they heavily rely on inter-universal travel for economic, political, touristic, and scientific purposes. Crazy, the laws of physics have been identical in every single universe they've been to, which means that we too can someday replicate their space travels and broadcasting methods, which is how I've been getting these articles through to Earth. The process is twofold. Firstly, they figured out how to harness the encoded movements of objects in spacetime to open "threshold" pocket dimensions that, also through specific movements, can go to different places. The way it works is by establishing a connection between two points in space through a pair of small metallic waypoints. The waypoints are devices that have the ability to pick up on gravitational changes in spacetime, and through a certain combination of changes, which is specified by their exterior design, they can activate a pocket dimension. Any pocket dimension can only be accessed by the two given waypoints. There are two general families of this technology, which is inter-universal travel (a more energy intensive and slower form of travel) and intra-universal travel (a lightweight form of travel, what they typically use here instead of doors). It's the reason I was able to see the shack (threshold) after my walk, the explanation for how I woke up in this world (alien brought me out of the threshold), and the explanation for what that sidestepping portal summoning ritual was when I first got here. Anyway, these waypoints can also pick up on wave signals, which allow them to access our WWW, hence why I can publish **mathNEWS** articles. I don't know why they let me do this, nor why they won't let me read others, but that's just one of many questions I still have about this place.

Their social fabric is somewhat similar to ours, the main difference being in communication. They use gestures and sidestep patterns kind of as tone markers. I've landed myself in hot water one too many times by conveying the wrong sentiment because I missed one step or I forgot to flick my wrist a certain way! Similarly, for legal agreements and for

record keeping, they use these gyroscopic devices to store information, which was the object they had me work with when I awoke. It just so happens that I effectively told them that I consent to staying in this universe and that I absolve them of all wrongdoing. Woops, I've only been here a few weeks and I already have to deal with legal crap. I'll have to get that sorted soon. I'll have to figure out which bubble is the court one or whatever. By the way, they don't have buildings in the sense that we do. Spaces are organized in floating bubbles, only accessible through the waypoints, and which have wavy and bendy interiors. The one I spawned in was kind of like an air traffic control tower, managing inter-universal travel. Similar to us, they have an analogous concept of "going to work," which for them isn't as wage and timesheet oriented, nor do they have specialized professions. People can kinda just sign up for whatever they like and work as that for the next few weeks. From the looks of it, they've basically solved unemployment, as well as poverty and homelessness, but only for themselves, I hear. I've been told of the darker side of their brutal empire from some new friends. Speaking of which, I made lots of new friends! I suppose after so much walking, it was only inevitable that I pretty quickly landed myself in some of their social spaces. A lot of them resemble human bars, since they kind of have a weird fascination with our species. Turns out the **mathNEWS** building is kind of an eccentric human attraction, for them to see the zany cubes humans live in. Funnily, the main thing they picked up from human beings is alcohol! They've been plucking beverages and ingredients from Earth for thousands of years. I'm only learning now that I missed the last prod night. I must've been out at some party and forgot!

I learned enough to maybe get out of here. I didn't think any of what I did could've been possible, since I usually suck at adapting to new places. Aimless wandering really does take you far. I now know enough to fathom how I could get out. I gotta book travel to Earth again, but the problem is that I don't know how yet. Hopefully by next issue, I'll be writing from Waterloo campus. Until next time.

LavenderTownEnjoyer

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## PLEASE DON'T LET DOUG FORD WIN ANOTHER ELECTION

**THE FORD GOVERNMENT HAS MADE ONTARIO WORSE IN SO MANY WAYS**

I'll be watching you in 2029...

Lars Nootbaar

# A MONTH'S WORK

## I HATE STUDY TERM (PT. 4)

There's so much to say. Where do I even begin? There's endless rabbit holes, each recursively bifurcating. To say the least, I got lost in figuring out how to crack this puzzle, so much so that it might be too late. I wanted to be absolutely certain of everything, chasing irrelevant details all over the place, but that only made me act later. The plan was to find L and scoop her up before the next prod night, but here we are. When I didn't see an article from her in the last **mathNEWS** issue, I initially feared for the worst, but I know better. On top of a million different things that could've killed her, there's another million different reasons for her not to. It's out of my control, so I had to just keep pushing because I couldn't just give up and retreat into comfort. If there's one thing I know how to do, it's figuring things out.

I'll try presenting my findings as linearly as possible, chronologically going through the main line of findings. Firstly, the investigation starts with the main clue. Every night since her disappearance, I would go to V1 green and search the premises. She never specified the coordinates of that shack, and V1 is massive, so naturally I passed out a couple of times looking scanning the ground. One night, I managed to find a small, unusual sigil, the size of my palm, of mostly geometric and triangular embedded into the ground. It was made of some kind of metal and it was the only notable thing I'd seen in weeks, so I took dug it up and brought it home with me.

Now came the hardest part. I had no idea where to look. As far as I knew, this was novel research, meaning the answer probably wasn't gonna be cleanly written out somewhere. It was time to hit the books, the part I've been dreading the most. The sigil gave the impression of the internet. It was actually kind of fun, it was almost like reading documentation for code! I don't think I've ever used the Wayback Machine this much, but I found some pretty promising results. Similar looking sigil patterns have been discovered independently in sites across the world. I may have been the first to realize this, but these sigils have only been found in places where people have gone missing, and when the sigils were discovered and removed, people stopped going missing. All of the disappearances were cold cases. People would vanish into thin air in the middle of the night, and I guess I might be the first one to figure out why.

After basically scouring all known digital records about sigils and strange disappearances, I still didn't have the full picture. I knew I had to start hitting the actual books this time. For weeks, I travelled across Southern Ontario and Southern Quebec looking through every archival centre and historical library, practically giving up on school. Normally, I would be scared to death of repeating a semester, but my best friend's life was more important to me. I imagine I felt like L, with her spontaneous walks and my erratic bus hopping. She's probably on her own walk as I write, as per her last article.

For the last few hundreds of years, there's been nothing to link the disappearances, but there's a throughline that dates

back a few hundred or thousand years. What I noticed is that civilizations across the world told of a very similar nightly phenomenon. In some parts of the world, it was said that at night, the Earth got hungry and would feast on humans by opening its mouth and swallowing restless wanderers whole. In other parts, legends told of a shapeshifting ground leviathan that would masquerade as a lost travelers home to lure them in, before taking them to the Earth's core (both of these line up with the infinite staircase described in L's first article). There are countless tellings of what I think happened to L. The common elements are: the attack happens at night; the target walked a lot before the incident; and that of those who survived, none entered the small structure they reported seeing. I was getting closer. I think I have a crazy idea.

That brings us to present day. I don't think I've ever studied and read so deeply, but I still feel like I could've gone faster and that I wasted too much time. There's still lots of questions I have that I don't have the answers to, but there's no time left for me to put off from acting. The key has always been in the sigil: it represents the way you have to walk. For all the sigils that I was able to find images of, the missing people near it all have similar trajectories judging by their last seen directories. I haven't been able to make heads or tails of the association between the sigil and the walking pattern. If I was smarter, who knows, maybe I could've? It makes me feel weak again. I would do anything to help L, but I'm at my wits end and I'm running out of time. I can narrow down the path she took from her class schedule and just by the topology of the campus, but its gonna come down to a brute force. I'll try routes every night until I find her, even if it means failing out of this school. One night when I see that shack, I'm barging in and getting to the bottom of this (literally). I didn't realize it could be so easy to become so hellbent on this one particular thing. Until next time.

SharksPlayingPokemon

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## I NEED TO WRITE AN ARTICLE FOR PIZZA

Some things never change.

I also need to work to do things like "afford dinner" and "buy general life supplies."

Maybe this will change when I am seventy.

Not a N\*rd



# YOU SHOULD PLAY FLOOD ESCAPE 2

Do you crave intense, fast-paced, and rewarding parkour gameplay? Do you enjoy beautifully composed music and breathtaking visuals? Do you partake in the occasional rhythm game? If so, you should play **FLOOD ESCAPE 2!!!**

If you played Roblox way back in the day, you may remember playing a game known as Flood Escape. If not, the premise was simple: A bunch of players are stuck in a room and need to parkour to various buttons, unlocking an escape door. However, the unique bit was the gradually rising flood, which gave players a sense of urgency as they tried to avoid drowning. This aspect caused flood escape to stand out from other similar obstacle course/parkour games, maintaining a relatively consistent player base for many years.



“MAINTENANCE” FROM FLOOD ESCAPE

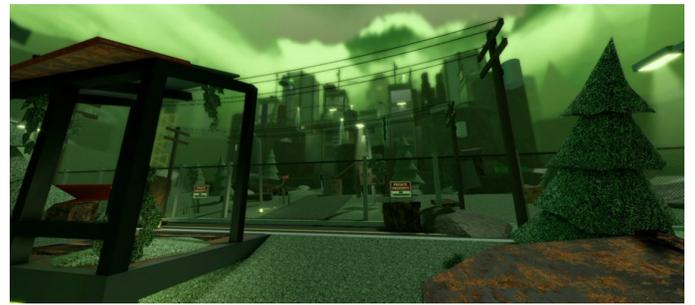
But around 8 years ago, Crazyblox (the creator of flood escape) had the idea of making a sequel: Flood Escape **TWO** (or FE2 for short). Unlike the first game, maps in FE2 were fully open world, escaping the basic cubic room setup found in its predecessor. Additionally, every map was given its own original soundtrack (OST), allowing for the creation of some very immersive and unique environments not possible in the original flood escape. Maps were also open for anybody to make, marking the start of the massive community of FE2 creators we have now.

Over the years, more and more maps got released as Crazyblox added new movement features, community map highlighting systems, and difficulty ratings. New maps were added to the game biweekly, and a whole community of song artists were composing soundtracks solely for maps! Map makers themselves also kept improving, to the point where you wouldn't believe some maps as being from a Roblox game!



“FORSAKEN FOUNDRY” BY GERM3222 AND TRUMPY\_BUM12, OST BY AXMATT\_DEV

And that brings us to the present :D The game currently has over 200 maps arranged by difficulties of easy, medium, hard, insane, crazy and **crazy+**. In my experience, crazy+ levels take hours of practice as you try to learn each level's optimal route, jump timings, and getting consistent enough to outpace the unforgiving flood. And the music... oh my goodness. Every soundtrack syncs with the intensity of the level, with fast paced sections being matched by an equally intense beat drop urging you to move faster. And when you finally beat a level you've been practicing, the feeling is incredible. Very few video games have reached the excitement that FE2 gave me, and I hope that anyone who likes parkour or rhythm games gives this a try :)



“DESOLATE DOMAIN” BY SMOKEYTHEFOX, OST BY LUXTYPES



“WHIRLWIND WASTELAND” BY GERM3222, OST BY SNAPPYDOODLE

If you want to see some actual maps, some of my personal favorites are **Active Volcanic Mines**, **Whirlwind Wasteland**, **Rustic Jungle**, and **Desolate Domain** (*search them up on YouTube, they'll pop up* :)

# DISCARDED mathNEWS COVER (I ACCIDENTALLY MADE IT TOO SCARY)



# RECOMMENDATIONS FOR WRITING CLEAN, MODERN C++

As many of you who have taken CS246 or have any familiarity with any relevant form of programming are aware, C++ is a baroque object-oriented programming language that builds on top of C and is one of the most influential languages of our time, paving the design of newer languages like Java, C#, Rust, and more, and the emergence of these newer languages is not without reason. Its “development” (I call it this very loosely) under ISO has prevented any singular company or monolith from dominating its environment, and arguably held back its development. There have been attempts by “authoritative” figures to rectify this, such as with the “C++ Core Guidelines”—and I am here to tell you these “core guidelines” are not only poorly designed, but will actually decrease the quality of your code if adhered to.

Instead, I propose the following guidelines:

## MAKE EXTENSIVE USE OF NAMESPACES

Languages like Java and C# enforce namespaces to align with file system structure, and granular namespaces that align with nomenclature rather than merely preventing name clashes. Don’t be afraid to make namespaces like `mylib::io`, `mylib::util`, rather than a single flat `mylib` namespace. Consider making a namespace span an entire file when possible. And don’t be afraid to use Java-style “utility classes”—it’s a good idea, even, and you should do it until the C++ standard allows importing namespaces into scope like Rust does (i.e. `using std::chrono;`). (I wish we had the more elegant `using a::b::*;` that Rust and Java have, instead of the hideous `using namespace a::b;`, but I digress).

Don’t create excessively short namespaces just to avoid the extra typing. You’ll see this a lot in boomer-dominated frameworks. For example, `glaze` gets shortened to `glz`, and it’ll be claimed that it’s to save typing. But honestly, you just should make use of `using` statements; they are in the language for a reason, and it’s a trap by midwits to tell you that fully qualifying names makes you smarter (the same kind of people who think verbosity translates to intelligence). Don’t be afraid to import types into scope—Java, C#, and Rust all have strong cultures of not avoiding these, and in modern C++ you shouldn’t have to avoid it either.

## DON’T USE SNAKE\_CASE. AT ALL.

`snake_case` might make sense for things like functions and variables, but even then it doesn’t increase readability in any meaningful way that `camelCase` fails at. In the meantime, you’re forcing users to reach for the underscore in such a way that it often breaks flow of typing or is an inconvenience.

Whatever you do, DON’T make types in `snake_case`. This gets peddled a lot especially by so-called “authoritative” libraries, like the standard library, `boost`, `fmt`, and other libraries which have influenced the C++ standard greatly, but just because

so-called “experts” partake in this does not make it in any meaningful sense a good practice. For one, the distinction between variables and functions becomes far less obvious. Some claim that IDEs will highlight types and variables different colours, but at this point you’re just moving the onus of readability from yourself to external tooling.

And for the love of Cobson, PLEASE do not use `_t`. We don’t need to travel back in time. If you use `_t`, you might as well go all the way and start using Hungarian notation too.

## DON’T USE MACROS

Modern (and I mean actually modern, not C++11 or whatever boomers called modern a decade ago) C++ has `constexpr` for compile-time constants, `constexpr` for compile-time evaluated functions, `inline` for substituting function bodies at evaluation (avoiding the function call overhead in the stack), and all sorts of other things. Ignore the “Core Guidelines” absurd recommendation that you shouldn’t name these constants in ALL\_CAPS—constants, especially compile-time constants, are a no-brainer for ALL\_CAPS.

If you need code injection or token injection, consider C++26 reflection and annotations. Unfortunately, as of time of writing these features haven’t been standardised yet, meaning there isn’t more that can be said.

## DON’T AVOID EXCEPTIONS

Exceptions don’t slow down your code in any meaningful sense, lead to leaks, nor are they unpredictable, like some might have you believe. That being said, do use `Expected<T, E>` when possible (follows Rust-style immediate error handling). I’m honestly inclined to say that Java checked exceptions were a great idea that gained a bad reputation from bad programmers who abused the system then complained about Java’s “lack of forcing error handling,” when they themselves would do atrocious things like wrap their exceptions in `RuntimeException` or something else that isn’t checked, but that’s another discussion entirely. If you want to report recoverable errors, that might be the best place to use `Expected<T, E>`, but there’s nothing wrong with throwing your own `IOException` if you fail to read from a file, in a place where you can’t return an `Expected` (such as a constructor).

## AVOID HEADERS, ENTIRELY

If you can afford it, just don’t bother writing headers. Write exclusively in modules. Modules allow strict encapsulation, speed up compilation, and are just generally better ergonomically (no need to duplicate code between headers and source). Because of strict encapsulation you don’t have to worry about accidentally transitively passing `using imports` into dependencies or passing macros around when you don’t intend to.

Name modules to match your namespaces. For example, for `mylib/game/net/IpAddress.cppm`, consider making the class `mylib::game::net::IpAddress` and making the module `mylib.game.net:IpAddress` (using a partition; there's more on Wikipedia for an explanation).

## CONCLUSION

The C++ Core Guidelines are heavily governed by boomer preferences and are frankly an awful choice to follow if you want to write clean, readable C++. You don't have to follow everything in this document, but a lot of these ideas should be considered if you want to produce clean, readable code in this baroque, inelegant language which happened to be in the right place at the right time (much like its ancestor).

This is one of those things there are just too many options for, and too few exemplar models to adhere towards. But what I say is gospel and I am right about everything. :3

sakuya

# HOW TO WATCH MOVIES WITHOUT ACTUALLY WATCHING MOVIES

(SPOILER: THE INTERNET IS INVOLVED)

- Watch all of the movie's teasers
- Watch all of the movie's trailers
- Scroll down far enough on the movie's wikipedia page (typically to the "Plot/Summary" section, although sometimes in an earlier paragraph if the wikipedia page's editors are evil)
- Scroll through pretty much any page on the movie's dedicated wiki (if it has one)
- Find out if canine death occurs in the movie on [doesthedogdie.com](http://doesthedogdie.com)
- Read various IMDb or Letterboxd rants on the movie and click all the "view spoiler"s you can
- Watch the CinemaSins video on the movie
- Watch the CinemaWins video on the movie
- Watch Th3BirdMan's CinemaSinsSins video on the CinemaSins video on the movie, to get a better background on the lore and details of the movie (that CinemaSins conveniently omits in order to up the video's Sin count/make snarky millennial jokes)
- Watch all the movie clips of your film available on any number of many, many, surprisingly extant movieclips youtube channels
- Watch a bunch of fan edits of each of the characters in your movie
- Watch U.S. congress advisor Matthew Patrick's Film Theory video on the movie
- Watch an "Ending Explained" video on the movie

## BONUS:

- Watch Dead Meat's video on the movie's Kill Count (mostly applies to horror movies)
- Watch a "How to survive" or "How to beat" video on your movie (mostly applies to movies where There Is A Situation)
- Watch Screen Junkies' "Honest Trailer" video on your movie to get a glimpse into the truest nature of your movie
- Watch ScreenRant's "Pitch Meeting" video on your movie to get a glimpse into the ponderous writing process behind your movie
- Watch the "How It Should Have Ended" video on your movie to see your movie's plot realized in an ideal universe
- Watch an ArtSpears Entertainment video featuring your movie, because they're funny as hell

And that is how you can get some fraction of the experience of your entire movie, usually in less time than the runtime of the movie, without spending a cent or going to anyplace on the internet sketchier than two of the most visited websites on the planet!

abs(Jester)

# I USED TO BE SUCH A GOOD STUDENT

\*SIGH\*

I don't know how common this is, and I feel like I've heard about the opposite experience from people both my age and in lower years than me, but I used to be much better of a student than I am now. In first year I had perfect attendance, kept meticulous and organized notes, got help understanding things if I needed it, and I good pretty good grades.

And more than that, I would always finish my assignments several days early and I had a normal sleep schedule. I kind of miss it.

I'm not a terrible student or anything, but my grades have declined and I don't take notes or attend as consistently anymore. Plus my sleep is worse. I miss being a good student.

In fairness, I can attribute some of that to being a lot more involved in extracurriculars now than I was back then. And I don't regret it for a second, because I love extracurriculars, especially music. But I still miss being a good student. If you're in first year, try not to end up like me. I mean, do join extracurriculars—they're great—but please go to sleep at a normal time.

yalevoilian

# N THINGS ABOUT UNIVERSITY OF WATERLOO – UNIVERSITY OF ALBERTA TRANSFER CREDITS

As a prospective math/teaching student starting next year, I've begun researching different after-degree teaching college options. Generally, to become a teacher, you have to take a second degree after your original degree at a teachers college or another university. Since I'm from Edmonton, the University of Alberta has always been an interesting option. All my high school teachers who have gone there have said good things about it, and Edmonton is overall a nice place (even though it's freezing for too much of the year).

Just one thing I noticed: In order to be accepted into an education after-degree program, your courses have to be evaluated and approved. And the U of A's transfer credit policy is... interesting.

Here are all the math courses—that a math student could reasonably take—at the University of Waterloo, which are mentioned in the University of Alberta database for transferring:

- MATH 135
- MATH 136
- MATH 137
- MATH 138
- MATH 235
- MATH 237
- CS 115
- CS 116
- CS 135
- CS 136
- AMATH 231
- AMATH 250

Ignoring the fact there are barely any courses here, a few of these courses are actually reasonable transfers in my opinion. AMATH 231 transfers to Calculus IV, AMATH 250 is the differential equations course (except the one for engineers, and not the one for math majors?), MATH 137 is considered an intro to calc course (the same one as MATH 127 apparently), and CS 135 and 136 transfer to the reasonable introductions to computer science.

However that is approximately as far as the sense goes.

## CATEGORY 1: ODD HONOURS TRANSFERS

MATH 136, 138, 235, and 237 all transfer as the honours version at the University of Alberta. The thing is their honours version is a halfway between our regular and advanced versions, and their regular version is vaguely equivalent to our “math for arts/science” versions, so our regular version has to either get downgraded a significant amount, or get upgraded a bit too much.

For example, this is a sample problem that a MATH 136 would supposedly be able to do:

Determine which, if any, of the two structures is a field (*it could be none of them, or only one of them, or both*), which of them is a commutative ring (*again it could be none of them, or only one, or both*), and which, if any, is neither of these. Justify your answer.

Structure 1

+	$a_1$	$a_2$	$a_3$	$a_4$	$a_5$	$a_6$	$a_7$	$a_8$
$a_1$	$a_6$	$a_8$	$a_4$	$a_3$	$a_7$	$a_1$	$a_5$	$a_2$
$a_2$	$a_8$	$a_6$	$a_7$	$a_5$	$a_4$	$a_2$	$a_3$	$a_1$
$a_3$	$a_4$	$a_7$	$a_6$	$a_1$	$a_8$	$a_3$	$a_2$	$a_5$
$a_4$	$a_3$	$a_5$	$a_1$	$a_6$	$a_2$	$a_4$	$a_8$	$a_7$
$a_5$	$a_7$	$a_4$	$a_8$	$a_2$	$a_6$	$a_5$	$a_1$	$a_3$
$a_6$	$a_1$	$a_2$	$a_3$	$a_4$	$a_5$	$a_6$	$a_7$	$a_8$
$a_7$	$a_5$	$a_3$	$a_2$	$a_8$	$a_1$	$a_7$	$a_6$	$a_4$
$a_8$	$a_2$	$a_1$	$a_5$	$a_7$	$a_3$	$a_8$	$a_4$	$a_6$

·	$a_1$	$a_2$	$a_3$	$a_4$	$a_5$	$a_6$	$a_7$	$a_8$
$a_1$	$a_2$	$a_7$	$a_1$	$a_8$	$a_4$	$a_6$	$a_5$	$a_3$
$a_2$	$a_7$	$a_5$	$a_2$	$a_3$	$a_8$	$a_6$	$a_4$	$a_1$
$a_3$	$a_1$	$a_2$	$a_3$	$a_4$	$a_5$	$a_6$	$a_7$	$a_8$
$a_4$	$a_8$	$a_3$	$a_4$	$a_7$	$a_2$	$a_6$	$a_1$	$a_5$
$a_5$	$a_4$	$a_8$	$a_5$	$a_2$	$a_1$	$a_6$	$a_3$	$a_7$
$a_6$								
$a_7$	$a_5$	$a_4$	$a_7$	$a_1$	$a_3$	$a_6$	$a_8$	$a_2$
$a_8$	$a_3$	$a_1$	$a_8$	$a_5$	$a_7$	$a_6$	$a_2$	$a_4$

Yeah, not quite... I wonder what they would transfer the advanced courses as.

## CATEGORY 2: CS STUFF

CS 115 by itself transfers as a science option. CS 116 by itself transfers as a science option. Together, they transfer as the same intro to computer science courses as CS 135 and CS 136.

Sure, why not. The whole is more than the sum of its parts (or is it?).

## CATEGORY 3: SO ODD IT GETS A SEPARATE CATEGORY

MATH 135 transfers as MATH 228—Algebra: Introduction to Ring Theory. So according to the Edmontonians, it's equivalent to taking a course in “Integers. Mathematical induction. Equivalence relations. Commutative rings, including the integers mod  $n$ , complex numbers and polynomials. The Chinese remainder theorem. Fields and integral domains. Euclidean domains, principal ideal domains and unique factorization. Quotient rings and homomorphisms. Construction of finite fields. Applications such as public domain encryption, Latin squares and designs, polynomial error detecting codes, and/or addition and multiplication of large integers.”

In my opinion, MATH 135 covers at most:

“Integers. Mathematical induction. Equivalence relations. Commutative rings, including the integers mod  $n$ , complex numbers and polynomials. The Chinese remainder theorem. Fields and integral domains. Euclidean domains, principal ideal domains and unique factorization. Quotient rings and homomorphisms. Construction of finite fields. Applications such as public domain encryption, Latin squares and designs, polynomial error detecting codes, and/or addition and multiplication of large integers.”

MATH 135 teaches other things as well, of course.

I get it's a hard course, but surely saying it's a equivalent to a ring theory course is too much—MATH 135 doesn't even define what a ring is!

I just hope they will eventually manage to transfer MATH 145 as this, because if it gets transferred as something easier, I will cry.

papayabird

# THE SECOND MOUNTAIN

A POSTCARD SERIES SENT TO mathNEWS



From The Very Lonely Firefly (1995)



the second mountain  
I visited was the mountain of momentum  
Here, I met the happy tree.



The shy caterpillars say hi!!!

↳ a small art sharing initiative



the shy caterpillar

I think the protest was amazing. That's all I have to say unfortunately—I think it was really cool.

KIWI

# TAKING NOTES WHILE GAMING

**MIGHT WRITE A FULL ARTICLE ON THIS ONCE I'VE EXPERIMENTED WITH IT MORE**

Idk exactly when I started doing this, I think it might have been an assignment I had on Disco Elysium where they wanted me to take notes of what I did on my playthrough to prove I had played it (ENGL 208B, awesome course), and so I just opened up notepad and every time I got through like a scene I jotted it down. Then, a little bit after I played Slay the Princess, which is a visual novel where it really helps to keep track of your choices, and so I decided to take notes on that too. I started to really connect with the player-character in that game for reasons I won't go into, but because of that, I noticed something strange start to happen. I started writing my notes in first-person, through the perspective of the protagonist.

At first I just wrote my decisions and experiences as if they were happening to me, but then started getting more into my interpretations of the character's thoughts and feelings in reaction to each situation, and their goals going forward. This lead to me getting immensely engrossed in the story, leading to an extremely powerful ending that really made me feel emotionally satisfied. I'm sure this was due in no small part to Slay the Princess being an incredible game, but I also really do feel like taking notes through the character's perspective enhanced my experience, as well as just improving my memory of the game as a whole. That last part was especially helpful since I didn't have a lot of time to play, and would have big gaps between short sessions. Since then I've adopted this notetaking method for a couple other games that have choices, specifically Outer Wilds and Death and Taxes. I haven't finished either of those games yet, but it's already been having a noticeable impact. For Death and Taxes I've sort of been creating a character of my own as I've gone along, and for each decision I make I try to choose as I think the character would, while developing them through each scene.

I'm really excited when I finish to go back through adopting different personalities, changing not just the story through my choices, but the feeling of engaging with the game as well. I'm thinking of loosely basing each playthrough on a different DnD alignment. Outer Wilds doesn't have as many story choices in the traditional sense (at least as far as I can tell so far), but it still definitely has a lot of freedom, and notetaking has helped me plan what I want to do next. It's also helped immerse me in the world and keep track of important discoveries, and I'm super excited to delve into it further.

So yeah uh, try taking notes while gaming it's pretty cool. Also play all the games I mentioned in this article they're all really good. The order I mentioned them all in is also my ranking of them ok byyyyyyyyye

Doublewhip

# CRPGS, COPS KINDA SUCK AND MY HOMEWORK

## TWO TWOS MY WORD

I think I'm at the point in my degree where I'm over it and I just want a job. I think it would be so awesome to just go to work, waste away and get my wages, come home, make some yummy food, watch movies/cartoons/anime/shows, play games, and go to sleep and repeat it all again. Maybe the occasional psychedelic or two involved, and a good book/comic/manga read over time. I'd like to also create an analysis YouTube channel (and no not the math kind you loserface nerds) so I still have some mental exercises. I think I'd like this to happen for about a year or two and then return to a more balanced pursuit of my studies.

I'd wanna make videos about CRPGs! I've been getting into them more and more based on analysis videos I've seen of them. I picked up Divinity Original Sin on sale a few months back and man does it slap. I haven't even done anything meaningful in these games yet and every moment I spent playing them was fun for me.

Basically, I booted up the game, made my characters and started walking around. I'm gonna butcher some terms and characters' names (mostly calling them dudes and in brackets I'll put their actual names if I can find them online through wikis or something). I'm gonna use this as a way to get fed and think about the games while still trying to lock in and get good grades so I can get into grad school or get a job.

After I spawned into the game I was on a beach! I liked going around and collecting shells. I eventually read the letter in my inventory that told me what the duck I was supposed to be doing. Me and my other character are Source Hunters tasked with investigating the death of a guy [Couldn't find his name but people suspected his wife], suggested to go meet this cool guy [Arhu] at a big port city [Cyseal]. While I was stomping around the beach, I eventually run into the sus lady who commands 2 cronies and they sent some skeletons at me [your combat tutorial].

After this point, I decided to go through the beginner dungeon and it was addicting! I wanted to know what was around each corner and what was in each chest! I went around and checked out as much of the map as I could and enjoyed looking at each pot and barrel and crate (even if it did get redundant and annoying towards the end). By the time I left the dungeon I had an idea of how to fight, how to explore safely, how to deal with traps and put them out, and I had amassed a small fortune of tools, experience, gold, and weapons. For a tutorial dungeon, they did amazing! There was even a mini boss! I didn't wanna fight bro but I kinda had to in order to progress. I wish he hadn't thrown those wicked allegations of me taking the stone that the lady who taught me combat took.

After this, I ran into 2 incompetent legionnaires [there are no good wikis for this series I've learned] but then again, all cops are like that aren't they? Drunk losers who create more trouble than they're worth on a regular basis. I've heard something

about how over 37% of cops are not really doing much to help solve crimes. You can look up 40% cops to find out more about this! Those legionnaires were overall goofy drunks but later on their actions (or lack thereof) lead to their colleagues getting killed.

Overall it is pretty nuanced of the game to include some yellow-bellied incompetent coward ass cops but I don't want to interpret this as a humanization of them because cops are overall subhuman. They could have easily made it like the neighborhood watch, or something less official and I think I would have liked that more.

All this anti-copaganda aside, I don't really dislike the legionnaires like I dislike real-world cops. They aren't particularly heroic, human, oppressive, or incompetent as much as I see them to exist adjacent to my goals. Granted I haven't even completed a main quest in the game (more on this soon), they kinda just exist to me yeah.

But yeah the legionnaires are drunk and incompetent and in my eternal and gracious benevolence, I choose to spare their lives. After this, I run into their colleagues who are actually doing their jobs. The beach is ambushed by orcs and one of their ranks is a human. After taking out the trash, the legionnaires tell me about the orcs and how much of a problem they've been, and I'm practically carrot on a stick towards the main city, Cyseal.

Upon entering, I'm greeted by a talking cat! This is a white cat who's also a wizard named Arhu (you live your best catboy life bro, we love to see a long haired king who's a cat boy and a wizard) At this point, I'd say he's my favorite character and I'd be devastated if he died.

After his exposition I'm free to roam around the city, and I find a burning ship at the port. My first thought was to use a rain scroll and put out the fire and it worked! This game has a lot of really really cool environmental interactions like that. I tried to do my standard crate/barrel/pot looting but I aggroed the people I saved? Interesting what counts as theft and what doesn't. If only people aggroed like that for taxes or services fees on apps.

At this point, I'm stuck on a fight in an abandoned weapons shop that was booby trapped into a cave. I've leveled up a few times and I can't wait to play more!

But until then I have to study and do exams...

Please pray that the Math Grad Ball has room for me. I'm waitlisted.

[herecomesthegrump1969needsmorelove](#)

# N REASONS WHY THEY SHOULD DEFINITELY NOT LET ME INTO MEASURE THEORY AS A FIRST-YEAR

YES. DEFINITELY. I AM 100% QUALIFIED. TRUST.

So today, I had an intrusive thought when I realized measure theory (PMATH 450) is being offered next term. As one does, of course, I had to act on it.

TL;DR, I asked my MATH 148 prof (who is teaching it next term) if I could override into the course. Of course, the answer was a flat out **no**. I was ~~not~~ very surprised. I'm ~~not~~ that cracked. So anyway, here are N reasons why they should definitely ~~not~~ let me into the course next term:

1. **I AM VERY QUALIFIED. TRUST.** I get great grades, what do you mean? I ~~definitely did not get~~ grades we do not speak about on the first 2 MATH 147 problem sets, nosiree! I even picked up an analysis book to learn real analysis in metric spaces on my own which I only read when studying for exams. I am autodidactic enough to learn things in my own time so, I could definitely ~~not~~ catch up on the exorbitant amount of prerequisite knowledge I ~~AM MISSING~~.
2. **I ALREADY KNOW ~~literally no~~ MEASURE THEORY.** Yeah, I've had someone teach me some measure theory. One time. (~~Grand total~~) I could totally learn more. It's interesting! No, I am definitely not too burnt out to speedrun 2 full courses worth of content in the break between terms, I don't have the faintest clue what you're talking about. Obviously, I am very ~~NOT!!!~~ cracked,

it is ~~COMPLETELY~~ not out of my abilities to learn essentially half of the undergraduate analysis sequence in 3 weeks!!!

3. **I WILL HAVE TIME.** Yes, taking measure theory over co-op is definitely ~~not~~ a great idea, because I will have time! As the one (1) course I will be taking that term, I will have SooOOOOOoOO ~~time to~~ much time to dedicate to studying!
4. **MY BRAIN IS ~~NOT~~ A SIGNED MEASURE.** Consider some ~~very~~ sketchy definitions: Observe that  $\mu(A) = \infty$  where  $A$  is the set of my braincells. Ergo, my brain power is infinite. Thus, I am smart enough for measure theory. If we define a ~~definitely measurable~~ sigma algebra over the set of all possible configurations of my braincells, all  $A \in \Sigma$  must have  $\mu(A) = \infty$ . Thus, there does not exist a subset of any possible collection of my braincells that is not infinite and I am Denfityely Smart Enoughhwe for Meseaure Theiroyr. Yes. \*

So yeah. They should totally ~~NOT!!!~~ let me into measure theory. Right?

~~\*literally the worst abuse of notation/"proof" to ever exist. I hate that I wrote this~~

burgerqueen

## SIX SEVEN SUDOKU

KINDA RELATED BUT SOMEONE PINGED SPECIFICALLY ME IN A SERVER AND THEY SAID "HAPPY 67TH DAY OF THE YEAR" SO THAT'S HOW YOU KNOW MY REPUTATION'S COOKED



Normal 8x8 Sudoku rules apply. Place the numbers 1–8 exactly once in each row and column.

### EXTRA RULES:

**67:** Every 6 has exactly one 7 in the 4 cells that orthogonally neighbor it. Similarly, every 7 has exactly one 6 in the 4 cells orthogonally neighboring it.

**Quadruples:** All numbers in quadruple circles must appear somewhere within the 4 cells around it.

**Kropki dots:** If two cells have a black Kropki dot between them, then one cell is double the other. If two cells have a white Kropki dot between them, then the two digits are consecutive.

# RATING EVERY BULDAK FLAVOR WE FOUND: SECOND EDITION (PART 2)

## KEY REFRESHER

The writers who joined us for this madness:

- FR: Fried Rice
- 0.4: 0.412
- AD: amirdadp
- AN: andoiii
- HL: hyperlynx
- BE: buldak\_enthusiast

## BULDAK CREAM CARBONARA

FR: 10/10

- I take back what I said about the curry. This is peak incarnate.

0.4: 5/10

- This is slightly different, the the bad parts of the carbonara are amplified

BE: DNP

HL: 7/10

- Virtually indistinguishable compared to the normal carbonara, and this is more expensive and harder to find. So what's the point?

AN: 7.5/10

- I'm not sure if I can taste anything in this. All I can taste is some texture and some spice.

AD: DNP

Spice: 0.5/5

## BULDAK 2X SPICY

FR: 4/10

- It was actually pretty good for the first few bites, better than the original dare I say so myself. Afterwards when the pain kicked in I fucking died and got sent to the 18<sup>th</sup> layer of hell. I kinda want more though for the flavor in the first few bites.

0.4:  $\frac{\sqrt{50} + \sqrt{50}i}{10}$

- Magnitude is still 10, but in weird directions

BE: Pain/10

- The worst part is the milk makes it worse

HL: (0/0)/10 (Indeterminate out of 10)

- I cannot imagine the flavor. There's only spice.

AN: i/10

- No.

AD: i/10

- God have mercy on me.

Spice: 7/5

## QUOTES AFTER THE 2X SPICY:

AD:

- First bite: Oh it isn't that bad
- 5 seconds later: Holy fuck this is so bad
- 10 minutes later: Yeah, it's not that bad.
- Another 5 minutes later: I wanna kill myself.

0.4: This is a warning so that you can get your bowls ready

HL: Balls? Oh wait bowls. I thought you wanted us to get our balls ready

BE: THE MILK MAKES IT WORSEEEEE FUCKKKK

AD: Yeah the milk definitely makes it worse

0.4: Yeah it hurts a lot more after drinking milk. I was so good before the milk

FR: You know relatively speaking this isn't even that bad. There is a 3x spicy

HL: I WILL NEVER. EVER. HAVE THAT.

BE: I've had a glass of milk, half a cookie, an orange, a glass of coke, and a bottle of water and it still hurts

0.4: When I finished my bowl, I was totally fine. But the moment a drop of milk hit my tongue, I was in complete agony

0.4: It hurts so good though

HL: I would never wish that upon my worst enemy

AD: Nah I would.

BE: Do you see now why I ate this before SBD's 245e as a form of spiritual preparation?

FR: You guys have not seen the worst of it. When I had a whole pack, my head was ringing, my body was in pain. Wait no, my entire existence was in pain.

AD: This is the type of food that makes you believe in god.

HL: No, the existence of this means there is no god.

HL: This is the great equalizer. No matter if you are Nelson Mandela or Elon Musk, everyone is the same under 2x spicy

BE: I would drown Elon Musk in 2x spicy

FR after gulping down the rest of the noodles: Ok I finally finished it AHFHDBSBDNSN *Dies of pain*

Fried Rice (ft. 0.412, amirdadp, andoi, hyperlynx, buldak\_enthusiast)

## A REVIEW OF EVERY JOJI ALBUM

Given the (not so) recent release of Joji's newest album "Piss In The Wind," I thought it would be nice to revisit and review his albums.

### **BALLADS 1: 8.5/10**

I think that this album was great end to end. Every song fits well into the album and are memorable. Apart from the singles, *WANTED YOU*, *WHY AM I STILL IN LA*, and *COME THRU* keep the album interesting throughout. 2 low points are found in *R.I.P* and *I'LL SEE YOU IN 40*. *R.I.P* is a beautiful song with an amazing melody but is held back a bit by the Trippie Redd feature. While it isn't bad, it isn't great either, crudely fitting into the rest of the song. Then, with *I'LL SEE YOU IN 40*, the intro and outro don't work the best with the body of the song, and transitions in and out feel a bit jarring. Overall, still an amazing and incredibly strong album.

### **Nectar: 8.5/10**

*Nectar* sits just around *BALLADS 1* for me, and my preference between the two albums depends on the day. *BALLADS 1* has a rougher feeling to it that I quite like, but *Nectar* has many of my favorite songs of Joji's discography, like *Gimme Love*, *Run*, *Sanctuary*, *Afterthought*, and *Like You Do*. *Ew* and *Your Man* do amazing jobs as opening and closing songs on the album. Gems like *Upgrade*, *NITROUS*, and *Normal People* help support the album well. The album is the longest of his discography, and Joji does a good job filling that with good music. My only gripes are with *Pretty Boy*, which stands strong on its own but fits uncomfortably in the tracklist, and *Reanimator*, where the body of the song underperforms the hype of the intro. Overall, a great album.

### **SMITHEREENS: 7/10**

This album being as short as it is brings some difficulty in its rating. It's hard to say much about its nine-song tracklist apart from the singles which hold up amazingly. Joji's biggest song *Glimpse of Us* appears as the opener of this album. While it doesn't hold itself as well as Joji's previous albums, it still packs a punch in good music. *Die For You*, *Before The Day Is Over*, and *Dissolve* present themselves well, and disc two, while weaker on the songs, still holds an amazing vibe (Honorable mention to my favorite on that half, *IAM FREESTYLE*). The

album surprisingly doesn't present a ton of weak spots, but that isn't due to a high quality lineup; rather it's a mix of similarly just-above-average songs. It faces some struggles in its cohesion as a tracklist, with songs sometimes feeling entirely disconnected from each other apart from general vibe. In summary, still a good album, but feels more like a selection of songs from a larger album that should've taken *SMITHEREENS'* place.

### **Piss In The Wind: 6/10**

Personally I feel that *Piss In The Wind* is the weakest of Joji's albums. There's a lot to enjoy here with the promotional singles being amazing as well as my personal favorite song in *Piece of You*, but for the rest of the album it faces the issue of just being too short. The album shares its nearly 46-minute runtime across 21 songs, leaving many songs to be under 2 minutes and only 8 songs above the 2:30 mark. While short songs aren't inherently an issue, for the album it means that many of the songs end before you can properly settle in. It's not like the transitions between songs are jarring or anything, but many of the songs feel like they have something more that could be desired of them. The biggest saving grace of this album though is with its sound and feel. *Piss In The Wind* does amazing in having the sound feel more personal and more like a Joji that is in control of his music. Given that this is the first release since the end of his contract with 88rising, I feel optimistic in future releases as he works independently now. As a "Just got released from my record deal that I disliked and now I can finally freely create" album where he's putting forward the sound that he's wanted to make, it holds well. Just not as well as an album in a broader scope.

### **(HM) In Tongues: 7/10**

I know it says albums but why not. *In Tongues* as a debut EP did a great job in capturing and displaying Joji's sound in 6 songs. A lot of these songs are just incredible on their own. Of course there's the well-known songs from the EP in *Will He* and *worldstar money*, but songs like *Bitter Fuck* gets massively under-looked. *Plastic Taste* and *I Don't Wanna Waste My Time* from the deluxe EP are also amazing.

## THE HUMAN CONDITION.

Most days, I wake up, I interact with the world, and I might even learn something. Most days, however, I do not experience anything that stands out.

Thankfully, one of the invariants of the human condition is that sooner or later, something interesting will happen.

### FLASH.

It's just past 3 am, and I'm walking home in the dark. No one in sight besides the pedestrian on the other side of the street. As I walk, I'm looking at the dimly lit ground in front of my feet. Suddenly, there's a bright green flash from the ground, and it's gone in an instant. Standing in place, I look around.

No clue what the flash was. I make eye contact with the pedestrian across the street. We stare at each other for a good 10 seconds, confused. Another green flash. Now I'm even more confused, but luckily, this stranger is equipped to remedy my confusion.

The stranger lifts his hand, points to one of the nearby buildings, nods at me, and keeps walking.

### DOWNLOAD.

It's just past 3 am, and I'm trying to show a friend a photo. It's on GitHub, but we're at his apartment and I don't have my laptop, so I pull out my phone. I find the image on the GitHub mobile app, and hand him my phone.

He tries to zoom into the photo. He fails, because GitHub's mobile React Native app has intentionally disabled zooming into photos. So I take the phone and see what I can do. I hit the three dots menu, expecting an option to download the photo; instead, there is a single, useless option: "Show History."

Next, I hit the share button, and scroll through the 36 integrated apps looking for the Photos app, but I don't see it. So, I am forced to resort to the Google Drive integration, that way I can open it in Drive and let my friend zoom into it there.

It saves a new file in my Drive called exactly "https://github..txt," and its contents are a plaintext URL to the image.

### CUSTODIAN.

It's just past 3 am, and I'm on the third floor of MC, specifically the Graphics lab. It's a password-protected room, so I'm blasting one of my playlists on my speaker and jamming while I scroll through gdb stack traces. I sit in the middle of the room, facing the always-locked exit door of the room.

I hear some jingling from the hallway. The exit door opens, and an old Russian lady peeks her head around the corner. Her

eyes land on me, and she smiles sweetly, before replacing the garbage bag in the nearly empty garbage bin.

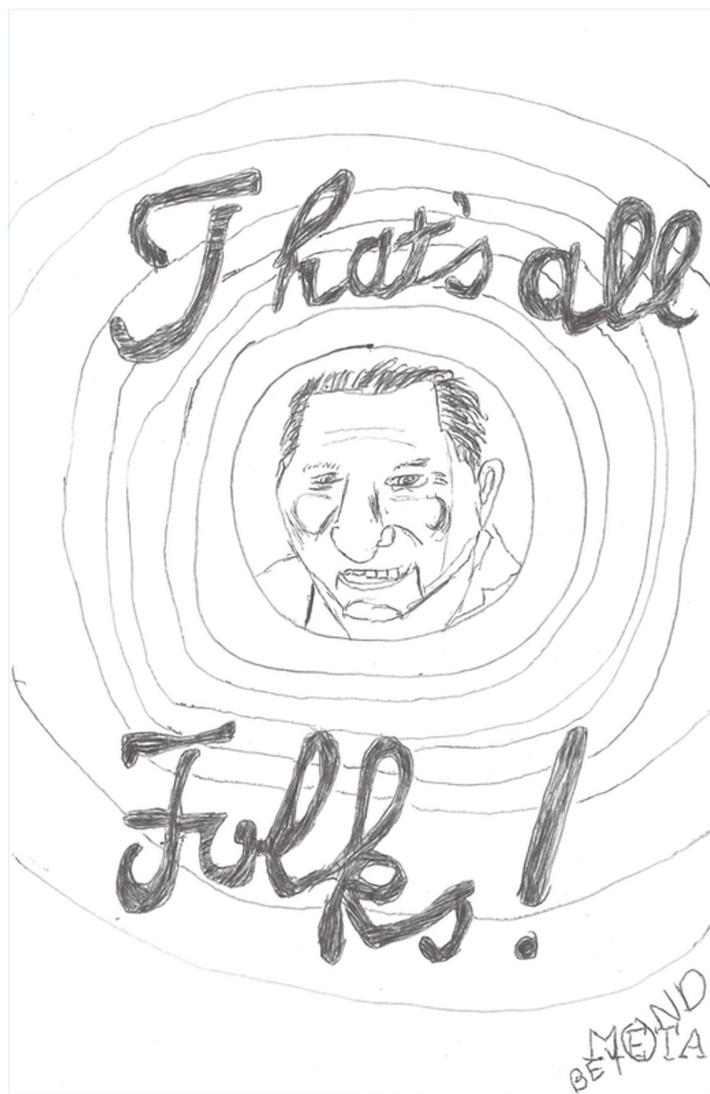
She looks up and smiles again, before she closes the door behind her.



Such happenings are what complete the human condition.

*no pun indented*

## THE STATE OF OSAP FUNDING



Beyond Meta

# THE BLOGGING EXPERIENCE

Writing articles is a great way to express your ideas and hot takes that the world needs to hear about. You decide what you want to write, and you explore any areas you find interesting. As an example, some of the ideas swirling around in my brain are:

- What aspects of current compilers seem inadequate, and how can we improve them?
- Does the stock market make sense? What does it really measure?
- What am I lacking in my skillset?

Unfortunately, I found writing articles to be quite hard. You need reasonably novel ideas that are insightful enough to be worth a reader's time. The expectation is that the articles are polished enough that you can put them next to the articles you admire and think "this isn't garbage!" It takes a significant amount of time to write a good article—these take about 4h even though the ideas are already in my head (and yet, I consider that quite fast). And most importantly, there's no reward for writing. Beyond you and your friends, no one really cares. Now that I think about it, I find that I mostly write for myself, so I can crystallize my thoughts behind my hours of monologuing.

I tried picking up blogging around two years ago, back when I was still employed. I came up with a few projects that would be fun to work on, but since I was already doing unpaid overtime, it never got off the ground. Fast forward to 1 year ago, where I was back in UWaterloo for grad school and had more time on my hands. I made it my New Year's resolution to try and write one article per week—I got 3 articles before I burned out, because I ran out of content after the first article.

It wasn't until the summer term, once I had a few months of ideas from daydreaming, that I had enough ideas to work with. That and I found **mathNEWS**, where half the articles are shitposts (so you don't have to worry about quality as much) and which provides extrinsic motivation in the form of pizza. I recommend writing for **mathNEWS**, and have been doing so every time I'm on campus

If you want to write, there's two things that are worth knowing about. The first is that you may need a warm-up period, where you're writing one or two articles, but for the most part you're daydreaming and just jotting down potential article titles. This actually isn't that much different from research, because research ideas and papers take multiple revisions to get right.

Second, there are two broad ways to make your article worth reading: either you're informative, or you're entertaining. Ideally, both are true. You don't want to waste your readers' time, so you want to show things you found insightful, organized in a way that puts salient points first. Alternatively, you can write shitposts or hot takes that are entertaining in their own right. Something to get your reader's attention.

I was once told by a coworker that some of my article titles are "rage-bait."

That is unfortunately kind of true, because I need to stretch the truth somewhat to get people's attention.

One last point I want to mention is about AI. Writing takes quite a bit of time, which begs the question: why not use LLMs?

From a personal standpoint, I'm a compilers person, so I value determinism and owning the software I use. Another thing is that I have a certain tone and specific way I like to structure my articles. Notably, I have a number of salient points about my experience that I want to bring up, which the LLM cannot possibly know about. LLMs have a tendency to write simple summaries, which makes sense given the way it is trained and used, and it's difficult to get it to do things in a very specific way.

That being said, I tend to revise and rewrite my articles at least once, so I tried using AI to speed up the ideation and first draft. As expected, it didn't write in a way I liked, and I ended up scrapping the whole thing. However, I found it useful for asking me questions and motivating me to continue writing.

There was also a few times where I would use a phrase or two instead of getting stuck thinking about how to continue a sentence. So AI turned out to be useful, even if it never ended up in the final product.

So if you want to start writing articles, come to **mathNEWS** prod night! It's a great place to dump your hot takes and burning ideas. Do you like a certain course or think it could be taught better? Is there something you learned about that you want to share? Do you like the idea of writing for pizza? Whatever it is, it's a pretty nice way to spend your Monday nights.

SaltOverflow

*It continues to frustrate me, to make me super pissed off that the Ford government claims to be investing in colleges and universities while at the same time removing money from students, making his investments off of the backs of low and middle income students. You know, he has his fantasy projects, like the Ontario Place, the Science Center, and the tunnel, and these pipelines, and he's wasting money that really won't realize the potential of Ontario. When you're investing in students, you're investing in the potential that our province has.*

AISLINN CLANCY, MPP, KITCHENER CENTRE

## “ADAPTIVE” MUSIC

If you have ever played a video game that was released at some relatively recent point in time, you might have experienced moments where the background music cleanly transitions to a calmer version of itself when you reach a rest point. Or perhaps the combat music gains a vast many electric guitars as your style rank goes up and up. Or maybe, as your character’s health decreases, the instrumentation fades slightly to let an intense heartbeat overwhelm all other sounds.

Adaptive music is when the music changes in response to player input, through techniques like adding or removing layers, crossfades, transition bridges, pitch/tempo/other audio modifications, or even algorithmic generation. This adds another layer of feedback, and can enhance immersion, as the music reacts and matches the current environment and atmosphere of the game. Its inclusion can really improve the feel or what one may call “juice” of a game.

However, there is a bit of charm in music that isn’t quite directly tied to the game state, yet matches the current situation anyways. If you have ever played a *Touhou* game before, you might be aware of the infamous stage music syncs, where the midboss flies in, insults you and then blasts you with a million bullets in time with the shift of phase in the stage song.

Oftentimes, if you beat it too fast, extra enemies are even sprinkled in to pad out the current section of the song, so the next part of the stage begins in time. A few bosses might even have attacks that sync up with their theme if you whittle down their HP as fast as possible, rewarding optimal gameplay in its own satisfying way.

Another well-known example one could posit is *Deltarune’s Black Knife*, which starts off with just pervasive percussion and intermittent background wails, which is what most players would hear on their first encounter with it, as your party is basically instantly downed in this scripted loss.

If you do manage to last the first few turns, you’ll probably get to hear the part where *The Chase* motif pops up, and if you manage to survive a little further than that, you might get to the section that almost sounds a little hopeful (at least until you get beaten to death again). Even though this progression does depend on the player not stalling out their turns, given that they’re probably rushing through over and over again in an attempt to get further each time, it usually loosely lines up pretty well.

Even just songs that are the exact length of its timed gameplay segment are really neat, often starting off nice and simple with just perhaps the ticking of the clock with some mildly frantic backup, but then ramping up as the timer counts down, until the dramatic orchestration kicks in the last minute, building up to the final second as you scramble futilely in an attempt to survive or escape or some other time-sensitive action.

While music can act as a reflection of the player’s actions, sometimes, having the song be the one in control can create quite the experience.



## MIDTERMS GOTTA GET ON MY SCHEDULE

I don’t know why, but somehow midterms are being purposefully scheduled around your life to make the writing experience as miserable as possible. A main issue I’ve experienced is that I always have to write a midterm at 7:00–8:50 pm. Like, do they not realize that’s when **mathNEWS** runs, so I have to miss not one but TWO meetings. \*sigh\*. Plus, LCBO closes at 9, so your only chance to get some post-depression juice is from Farah Foods.

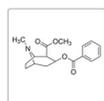
I recommend chocolate milk, especially if it expires the next day cause then it’s \$1 for a litre with a 0.000001% chance of death (not an actual stat). Also, do the examiners not realize my eating schedule is nonexistent, so I eat dinner at 8 pm, unlike the “normal person” who would eat at 6? I cannot stress how important it is to eat before these because you don’t wanna be that guy grumbling up a storm during a quiet exam. So just give up on that last-minute studying, you’re already failing, just eat your sorrows away.

Oh, and if your prof decides not to post any practice exams, or extra practice questions, or the formula page that will be on the exam, you’re cooked. Idk why I trusted my prof, but bro straight lied to us. He said “dw I’ll give you everything you need to succeed”... what a fat lie that was. I showed up to that midterm with the front page completely blank, still no instructions. How many points are there? Idk count them yourself ig. Is the formula sheet useful? Why yes BUT it just so happens to miss HALF the course content. I’m sorry, why does the question specifically say “recall from memory the derivation...” Bro, just no.

Anyway, after a whole day of lectures, mandatory labs, and mandatory tutorials, I still gotta end this miserable day on a low note with a midterm. I also cannot understand why courses in the same faculty are double booking assessments. Why am I writing a quiz, then an hour later, I have a midterm until 9 pm? But that’s not the worst part cause this also happens three days later with a quiz and straight into another midterm.

At some point, you gotta just accept that everything is tankable and do your best (aka pray for a 50). On the very off chance you fail, um, gulp, you could always WD. Whoever still got midterms left, uh, good luck and rip bozo :D

# THEY FEED US POISON



## Cocaine solution

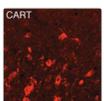
Empirical Formula (Hill Notation): C<sub>17</sub>H<sub>21</sub>NO<sub>4</sub>

CAS No.: 50-36-2 Molecular Weight: 303.35

All Photos (1)

Compare	Product No.	Description	SDS	Pricing
<input type="checkbox"/>	C-008	1.0 mg/mL in acetonitrile, ampule of 1 mL, certified reference material, Cerilliant®	<a href="#">↓</a>	<a href="#">Hide ^</a>
<a href="#">Sign In to View Organizational &amp; Contract Pricing.</a>				
SKU	Pack Size	Availability	Price	Quantity
C-008-1ML	1 mL	Available to ship TODAY <a href="#">Details...</a>	\$35.40	- 1 + ⓘ
<a href="#">Add to Cart</a>				

So we can buy their “cures”



## Anti-Cocaine and Amphetamine Related Transcript Antibody

All Photos (2)

Compare	Product No.	Clonality	Application	Species Reactivity	Citations	SDS	Pricing
<input type="checkbox"/>	ABS338P	polyclonal	ELISA, IHC, WB	mouse, rat	4	<a href="#">↓</a>	<a href="#">Expand v</a>
<input type="checkbox"/>	ABS340P	polyclonal	ELISA, IHC, WB	mouse, rat	3	<a href="#">↓</a>	<a href="#">Hide ^</a>
<a href="#">Sign In to View Organizational &amp; Contract Pricing.</a>							
SKU	Pack Size	Availability	Price	Quantity			
ABS340P	50 µg	Please contact Customer Service for Availability	\$702.00	- 1 + ⓘ			
<a href="#">Add to Cart</a>							

While they suppress our medicine



Peanut butter, NIST®  
SRM® 2387  
\$2,840

Lars Nootbaar

<https://www.sigmaldrich.com/CA/en/search/peanut-butter?focus=products&page=1&perpage=30&sort=relevance&term=peanut%20butter&type=product>

# A WASTING WINTER

Lose the leaves, or  
Burden the branches.

So, she feigns a fever, to simmer any suspicion.  
She shakes and shivers, felling the foe.

And the green grazes the ground, falling like rain,  
Suffocating the soil, slowly.

The massacre made many  
a leaf lie,  
Breathless and bare.  
Prayers nor poets, can word no despair,  
For pain pales green today.

She is now Free to be free, no children or care,  
So dies the fall, so fell the leaves.  
She can move, dance, and duet,  
Weightless of worry, weightless of wear.

But guilt gathers, like conspiring clouds,  
On a naked womb,  
A naked mother, and her naked deceitful love.  
Pouring its rage like rain, running rife.

She is drenched. She is uncovered.  
No shadow to share,  
She is a mother no more.

Ashamed and afraid,  
She droops and shivers.  
She feigns no more for a fever has struck.

The wind blows cold,  
With a vengeful vow,  
To pierce any pores,  
Of the unveiled womb.

The branches tremble, with a burden to bear,  
They lost their warmth, with the falling green.

It is a wasting winter.

nishant3.14

**NO MATH**  
**NO NEWS**  
**100% PURE**  
**UNEDITED SHITPOSTS**

math NEWS

# COUNTING COSTS: HOW FIRST-YEAR STUDENTS BUDGET

For many first-year university students, budgeting begins and ends with tuition. But beyond the headline cost of education lies a quieter, daily financial balancing act: groceries, late-night fast food, school supplies, and the small spending decisions that slowly shape a student's bank account over the school year.

While universities often advertise tuition and residence fees upfront, the real financial tests happen week by week. Without parents managing expenses, budgeting becomes both a survival skill and a learning curve.

One of the largest variable expenses for students is food. According to Statistics Canada, food prices have risen steadily since 2020, putting added pressure on students living independently for the first time. For students without mandatory meal plans, the responsibility of managing groceries and food costs falls entirely on their shoulders.

Amna Bashir, a first-year student at the University of Waterloo living in suite-style residence, approaches budgeting for food with a simple rule of thumb.

"I have about \$300 per month in mind for groceries," she says.

Unlike students in traditional dorms who rely on prepaid meal plans, Bashir buys and prepares her own food. Her system is informal: she checks her bank account occasionally to ensure her spending "seems reasonable," but she does not use budgeting apps or spreadsheets. Instead, she relies on awareness and self-control.

Her grocery purchases are intentionally repetitive with eggs, milk, and bread forming the core of her weekly shopping. Many of her lunches and dinners come from frozen meals prepared at home by her parents, which significantly reduces additional spending.

By limiting variety and sticking to essentials, Bashir avoids impulse purchases. Still, budgeting is shaped as much by convenience as by discipline.

The closest grocery store to campus charges noticeably higher prices than larger retailers farther away. Although travelling to discount stores could lower her monthly costs, the time commitment often outweighs the savings.

"The prices are kind of jacked up," Bashir admits. "But I don't want to travel all the way."

This trade-off between time and money is a common budgeting challenge for students. Academic pressure can also disrupt even the best intentions. During busy weeks filled with quizzes or deadlines, eating out becomes tempting.

"If I have something coming up, sometimes I'll just buy food," she says. "But I try not to do that too much."

For many students, budgeting is less about finding the absolute lowest price and more about balancing cost against time and academic pressure.

Financial experts often recommend tracking every expense, but a survey in 2024 from CIBC reveals that 63% of students rely on "mental math" rather than strict accounting. Bashir's approach reflects this broader trend: budgeting through estimation rather than precision.

Beyond food, her spending is deliberately minimal. Larger purchases, such as clothing, are typically handled during visits home. When she worked part-time in high school, she saved her earnings instead of spending them.

"Whatever I earned, I saved up for university," she says.

That early saving habit now influences how she approaches money. Rather than spending freely because she has access to funds, she views savings as long-term security. Her strategy shows that budgeting is not only about tracking every dollar, but also about cultivating restraint and consciousness in day-to-day financial decisions.

For many first-year students, budgeting is not a polished system built on spreadsheets and financial apps. It is a gradual process of adjustment through setting informal limits, making trade-offs, and learning from small mistakes.

As Bashir's experience illustrates, effective first-year budgeting is less about perfection and more about awareness, discipline, and the ability to adapt. It is a skill honed in real time, with each decision contributing to a foundation for long-term financial independence.

## Egg Fried Rice

### Works Cited:

1. CIBC. "Most Canadian students say managing finances is important, yet two-thirds are relying on mental math to manage them." *Most Canadian Students Say Managing Finances Is Important, yet Two-thirds Are Relying on Mental Math to Manage Them*, 6 Aug. 2024, [www.newswire.ca/news-releases/most-canadian-students-say-managing-finances-is-important-yet-two-thirds-are-relying-on-mental-math-to-manage-them-811377580.html](http://www.newswire.ca/news-releases/most-canadian-students-say-managing-finances-is-important-yet-two-thirds-are-relying-on-mental-math-to-manage-them-811377580.html).
2. Government of Canada, Statistics Canada. *Food Price Data Hub*. 25 Feb. 2026, [www.statcan.gc.ca/en/topics-start/food-price](http://www.statcan.gc.ca/en/topics-start/food-price).

# ON THE INFINITUDE OF BAD MATH JOKES

The following exposition is based off of an article from the Journal of Astrological Big Data Ecology:<sup>1</sup>

**Definition 1.** Let  $\mathcal{S}$  be the set of strings. A *joke*  $j \in \mathcal{S}$  is composed to subvert the expectation of the reader.

**Definition 2.** A *bad math joke* is a joke pertaining to the field of mathematics that is intended to illicit feelings of disgust in the reader.

*Remark 1.* We can define an equivalence relation  $\sim$  on  $\mathcal{S}$  such that for  $a, b \in \mathcal{S}$ ,  $a \sim b$  when  $a$  and  $b$  are phonetically equivalent. It is left as an exercise to the reader to verify that  $\sim$  is indeed an equivalence relation. Many jokes make use of  $\sim$  to subvert expectations. For our proof, we will exploit the fact that “one”  $\sim$  “won.”

**Theorem 1.** (Infinitude of bad math jokes) *Let  $n \in \mathbb{N}$  be such that  $10 \nmid n$ . Then “Why is  $9 + 10n$  afraid of  $10 + 10n$ ? Because  $9 + 10n$  got into a fight with  $10 + 10n$ , and  $11 + 10n$ .” is a bad math joke.*

*Proof.* We use the above remark to deduce “ $11 + 10n$ ”  $\sim$  “ $10 + 10n$  won” for any natural  $n$  that has  $10 \nmid n$ . By this phonetic equivalence, we see that the punchline involving  $11 + 10n$  subverts expectations, hence the above string is a joke. Since the joke pertains to the field of mathematics and is intended to illicit feelings of disgust in the reader, we conclude that the string is a bad math joke.

**Example 1.** If we set  $n = 1$ , the joke reads as follows. “Why is 19 afraid of 20? Because 19 got into a fight with 20, and 21.” The joke subverts expectations because “21”  $\sim$  “20 won.”

**Example 2.** If we set  $n = 0$ , the string reads as follows. “Why is 9 afraid of 10? Because 9 got into a fight with 10, and 11.” The string is nonsensical because “11”  $\sim$  “10 won” and there is no phonetically equivalent statement that would make the string a joke.

*Remark 2.* One can generate bad math jokes using negative integers  $n$  with  $n \nmid 10$  by a very similar string. “Why is  $-9 + 10n$  afraid of  $-10 + 10n$ ? Because  $-9 + 10n$  got into a fight with  $-10 + 10n$ , and  $-11 + 10n$ .”

*Remark 3.* There are more bad math jokes such that  $k$  is afraid of  $k + 1$  than those of this particular class. Recall the classic joke, “Why is 6 is afraid of 7? Because 7 8 9.” Observe, this joke also exploits the equivalence relation defined earlier, but instead utilizes the fact that “8”  $\sim$  “ate.”

**Conjecture 1.** *There are uncountably many bad math jokes assuming we can generate strings of any ordinal length. A reader of mathNEWS may be able to prove this by finding a class of bad math jokes quantified over an interval of values. One may also try and find an upper bound on the cardinality of the set of bad math jokes (assuming generalized continuum hypothesis to put a total-ordering on the set of cardinal numbers [Editor’s Note: The Set of cardinals, you say?]).*

captain robofart

1. <https://jabde.com/2025/04/28/proof-9-10n-will-almost-always-be-afraid-of-1010n/>

# THE THIRD MOUNTAIN

A POSTCARD SERIES SENT TO mathNEWS



From Mister Seahorse (2004)

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the last mountain I visited  
was the mountain of ~~mindfulness~~  
Here, I met the healing tree.



The shy  
Caterpillar(s) !!  
says  
hi!

is a tiny  
art/healing  
project



the shy caterpillar

# FOLLOWING AN ARTISTIC INTEREST IN A TECH-FOCUSED COMMUNITY LIKE WATERLOO

Here at Waterloo, “success” is easy to measure. Midterm averages, co-op offers, side projects, and GitHub commits all have numbers attached to them. Creative work is different. It moves slower. It depends on time, focus, and space to think. For students in the Math Faculty, especially those in CS or other demanding programs, maintaining an artistic interest can feel difficult. To gain more insights on the issue, I interviewed an individual going through this experience.



Maziko, a second-year Computer Science student from Malawi, knows that feeling well. Outside of class, he produces music. He makes beats on his laptop and writes lyrics. He started at age twelve, just experimenting with a friend. Over time, it became more serious. Hearing professional artists pushed him to aim higher. He wanted to reach that level of quality himself.

University changed the pace.

“To be honest, it’s hard,” he says. “You don’t get that much time for creative interests.” He explains that quality music takes time. In high school, he had more of it. He practiced consistently and built his skills. That early investment now matters. Even with limited time, he can still produce work that reflects the effort he put in before coming to Waterloo.

His experience follows a scientific pattern. Research shows that heavy academic workloads can reduce the time and energy students have for creative work. In a 2022 article in *Nature Human Behaviour*, Simone B. Ritter and colleagues found that stress and cognitive overload can reduce creative thinking by narrowing attention and limiting mental flexibility. In simple terms, when your brain is constantly managing deadlines and problem sets, it is harder to experiment and take creative risks.

And we, Waterloo students, are not strangers to overload. The co-op system, competitive grading, and technical coursework create constant pressure. Maziko describes a “tension” between his academic responsibilities and his creative goals. On some days, coursework takes priority. Music gets pushed aside. But the tension is not purely negative. The same university

experiences that limit his time also give him material. “The experiences that I do have talking with people and socializing, fuel my creativity,” he says. The stress, the late nights, the conversations with classmates; they become content. They become beats.

There is also a mental health angle. According to a 2016 study led by Girija Kaimal and published in *Art Therapy*, engaging in just forty-five minutes of creative activity significantly reduced cortisol, a stress hormone. The study did not focus on music specifically, but the broader point stands: creative activity can help regulate stress.

Maziko sees this in his own life. If he works nonstop on school and never makes time for music, it takes a toll. “If you’re working all the time and you have no time to rest or to do things you like, that’s not going to help,” he says. Making music is one way he decompresses. It is not a luxury. It is part of how he stays balanced.

Still, balance does not mean perfect scheduling. There are weeks when progress is slow. His advice to other students is simple: “Don’t give up. Keep being creative, even if it’s like thirty minutes a day or thirty minutes a week.” He adds, “Just keep going slowly.”

That advice is realistic. It does not assume unlimited time or energy. It acknowledges constraints and works within them. For Math Faculty students who write, draw, compose, or build outside their degree requirements, the challenge is not just finding time. It is resisting the idea that creative work is secondary or less valuable.

Waterloo’s culture rewards measurable output. Artistic growth is harder to track. There are no midterms for songwriting, no rankings for sketching. Progress often feels invisible. But as Maziko’s experience shows, early practice builds a foundation. For students who feel the pull toward something creative, the environment does not have to erase it. It may reshape it. It may slow it down. But it can also deepen it, giving new experiences and pressures that feed the work itself.

Parsa

---

## THE GARAGE

i cannot see their faces  
they tug desperately  
over the din  
and call, too late  
for help.

nazz

$e^x$

You're my antithesis.  
If you were a function,  
I'd define you  $e^x$ .

$e^x$ .  
Derivative?

$e^x$ .  
Integral?  
Still  $e^x$ .

So consistent.  
Not even smug.  
Just self-contained.

You're grounded,  
you set the floor.  
Still, you go so far.

How do you stay so calm  
when the rest of us  
can't help but oscillate?

$(-1)^n$

I let myself oscillate  
Like  $(-1)^n$

starting at  $n = 0$ .

I laugh.  
I cry.  
I admit I'm in pain,  
then smile  
so, it passes as okay.

If my life were a sequence,  
it'd be alternating,  
no damping effect.

No reason to expect  
it ever settles to 0.

Still,  
I'll assume it does.

m1at4

m1at4



# N THEORIES ON WHY THE BRONZE AGE COLLAPSED

roughly in the 12<sup>th</sup> century BCE, the bronze age collapse was a time where many civilizations (such as the Minoans, Hittites, Mycenaeans, etc. etc.) around the Mediterranean went *kaPOOF*. nobody really knows what caused it, which means I can theorize without any justification!

- external invaders taking over
- unfavourable climate leading to famine & drought
- earthquake
- war?
- alien invasion + abduction
- meteor that went *WHAM* and *BOOM*

- scary sea monster ate everything >.<
- the geese learned time travelling
- gender reveal party gone wrong
- everyone got bored and moved elsewhere
- the rapture
- next season got cancelled
- me in a past life (my bad y'all)
- evil wizard with magic spells
- budget cuts
- ran out of bronze

meenal

## TIME TO LET THE LIGHT IN

### A WELCOME NOTE FOR YOU AND THE SUN

The sun is out for the first time in a while. The air is warmer, easier. The clocks have changed, the world keeps changing. So do you.

Winter here is harsh, not only for biting winds and a gloomy cold that makes you question if the sun has left for good. You're also busy with endless tests, midterms, missing friends, and the darkness of it all that stays inside as much as you do. The seasons can bring us down, but they can also bring us up.

Take a moment soon to let the light back in. To see the sun more, to feel more. It's a good time for a deep breath, a walk,

to find the things that have been in cold and dark and bring them out into the warmth, too. What can you give yourself grace for? Find some more comfort in? Let go of, or bring back?

I'm happy to see the sun again, and I'm happy to see you. I'm happy to see myself, and to feel my energy come back. I'm finding time to be grateful, to reflect, and to let go when it's time. It's March, and it's Canada, so it may not stay long. But it's time to let the light in anyways, it's here for you.

BeesKnees

## RATING ALL THE HALLS FLAVOURS OFFERED AT THE MATH CND

### LOVE MENTHOL, HATE BEING SICK AND MISSING mathNEWS B000000

*disclaimer: i think this is all the flavours but lowkey i don't remember (my excuse is i'm sick) but feel free to slime me in the streets or smth if i added or forgot smth*

**original:** classic menthol, no more to it. i like it, good for less severe feelings bc it's not too much, 8/10

**extra strength:** this is my shit. just like the original but turned up a notch, feels like vaporub. ngl i have given myself a menthol overdose in general but i could see myself doing that with these, they're so fucking cool, it's beside me rn and fueling this article mmmm 11/10

**spearmint:** minty yet surprisingly not as menthol-y as you would think. it's like less strong than original which feels wrong but ig it's the sugar. so 7/10

**honey lemon:** such a classic for me. this is the one i find in my mother's bag, the one i'll pick up at the gas station.

less strong than spearmint but it makes up for it in balanced flavour so 8/10

**honey:** not to be confused with honey lemon bc i've made that mistake before, but it's just too sweet! where is my menthol, all i taste is sickly sweet honey on the tongue, my body is in still in pain, -1/10

**cherry:** not a cherry person but it's pretty good, probably bc the menthol feeling is there. i think it feels stronger than the original? anyway it's solid, 8.5/10

**black cherry:** i mean i guess i should have expected this by name but it's sweeter and less pungent :( istg i haven't seen the sweeter flavours until recently so it just feels like a way to cut costs, so i get to get to cut my rating too 5/10

Dollar Store Person

# A COLLECTION OF SOME OF MY FAVOURITE FUN FACTS AS A CERTIFIED SPERMOLOGER

## THESE HELPED ME WIN FREE BEER IN AUSTRALIA

I am a spermologer, and so I will share some of my favourite little tid-bits and fun facts that I've gathered in my many years of work. Like all good spermologers, this list is not ranked, nor nearly close to complete. My work is never complete...

- A spermologer is someone who collects trivia
- The average colour of the universe is "Cosmic Latte," an off-white, beige-y colour
- The fear of long words is called hippopotomonstrosesquippedaliophobia
- Ants do not have lungs
- Venus is the only planet that spins clockwise
- Uranus is the only planet that spins on its side
- The unicorn is the national animal of Scotland
- Vanuatu has the world's only underwater post office
- There are two countries with no official capital city: Nauru and Switzerland (no, Bern is not an official capital.)
- Conversely, South Africa has the most official capital cities of any country, sitting at three (Pretoria, Bloemfontein, and Cape Town)

- Canada has the most lakes of any country in the world, by a vast amount (containing approximately 62% of the world's lakes)
- 8.4% of the government revenue of Tuvalu comes from licensing the .tv domain
- March 9<sup>th</sup> is Miku Day
- There is no triple landlocked country
- There are only two doubly landlocked countries: Uzbekistan and Liechtenstein
- The most densely populated place in history was Kowloon Walled City, with a density of 1 300 000 people/km<sup>2</sup>. For comparison, the current most populated city is either Manila or Giza, with a population density of approximately 45 000 people/km<sup>2</sup>.
- France has the most time zones of any country, sitting at 13 (thank you overseas territories)
- China, despite its size, has one time zone
- The subreddit for marijuana is r/trees, and the subreddit for trees is r/marijuanaenthusiasts

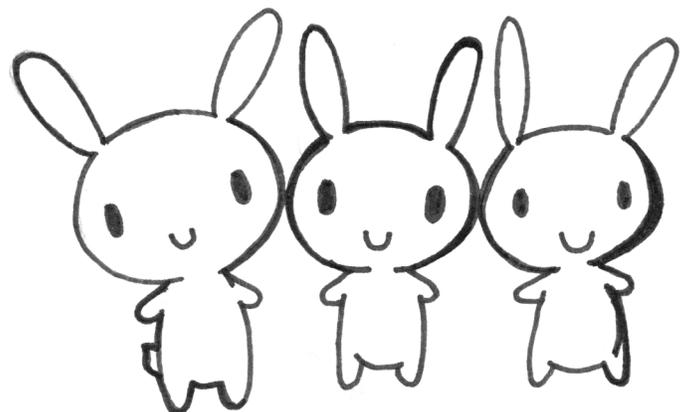
Big Weener

## WHAT IS THE BEST PLACE TO GET FOOD OFF CAMPUS?

- Bahn Mi Huy-Ky
- Bianca's
- Bud's restaurant, RIP
- Canoe in Downtown Toronto
- Christ the Saviour Antiochian Orthodox Church (On Sundays, for free, but you should come to the actual sermon)
- The Crack House
- Dairy Queen on Westmount
- Foodie Frutie (x2)
- Game Dev Club in-person meeting on Thursday (free) (x2)
- Gol's (x2)
- The Guanaquita
- Gyubee (x4)
- Home
- I don't touch grass, what's an off-campus (x2)
- Ikea
- iPotato :D
- Isha Yoga Center in Coimbatore, India
- Jinzakaya (x3)
- Kabob Shack
- Kitchener Market or My House
- Lazeez
- Muya Restaurant (x2)
- My cat's food bowl
- My fridge (x2)
- My roommate's side of the fridge

- Night Kitchen in Amsterdam
- Oka Sushi (x2)
- The Olde Heidelberg restaurant Est. 1860 (get the meat roast platter with some friends)
- Pho Anh Vu
- Pizza Nova
- The sink
- St. Jacobs Farmers' Market
- T&T
- The Warehouse in Rideau in Ottawa
- Wherever is nearest and quickest to you
- Your friend's house

mathgeek



## I LOVE BELI

### EVERYONE SHOULD USE IT!

This is not an ad, as much as it will sound like one. I have been an avid Beli(ever) user for about a year now. I know there are a lot of opinions surrounding the app and potential fixes and improvements, and while I do agree, my love surpasses all bugs.

Some of my favourite features and some that I hope catch your attention are as follows:

1. **The overall ranking system:** I love that it makes me recall other restaurants that I have visited in the past. Not only does it allow me to exercise my cerebral cortex, thus fighting against Alzheimer's, but I can reminisce over good memories and equally as much become enraged towards bad ones all over again.
2. **Beli allows me to live out my Ratatouille dreams:** some of you may think I'm talking about Remy himself, and while I believe that everyone can cook, I always dreamt of being a food critic! I believe that if Anton Ego used Beli, he wouldn't have such big eye bags. Why? Because he would be able to use the friends feature on Beli to see what his food critic friends were up to.
3. **It weeds out the biases which are so strongly communicated on Google:** On Beli, I don't fear seeing a review which only tells me how someone got their car scratched in the parking lot of a restaurant and how that devastated them so much that they ended up setting fire to their whole family. Instead, I am graced with reviews with depth and character, for example: "Asked for less salt and still came out like dead sea in a drought" — 555 Boat Noodles Queen Street (David Tong).

The list is much longer, but I only have so much time. Everyone, give Beli a try. I love it, and I love you. See you soon.

Buggins

## I'M IN THE SHIT BOAT

school is way too hard... !!!! I don't know how things could possibly get better but at least my hair looks cute today.

boat captain B)



## N POETRY FORMS ORDERED BY CURSEDNESS/DIFFICULTY

### A FOLLOW-UP TO THE LAST ARTICLE

- Ballad (yes it's a poetry form, although kinda a lame one)
- Elegiac couplet (I feel like this one works really well in english)
- Dactylic hexameter (for all the ancient-greekaboos in the audience)
- Sapphic Hendecasyllable (for all your most refined and elegant gay panic)
- Alliterative verse (germanic staple still popular in iceland)
- Terza rima (I tried to do this last article but it was too hard. very cool form, though)
- Lục bát (look it up it's really cool)
- Whatever the lion eating poet in the stone den is doing (shi)
- Retrograde verse (one of you can write this in english, I bet)

別

## ЦААТАН ХЫМҮҮС (TSAATAN HUMUUS)

The Dukha people, or the Tsaatan Humuus (literally meaning 'those who have reindeer') are a group of reindeer herding people who live in mountainous regions of Asia. In specific, the Tsaatan Humuus are from Tuva, half of which is in Russia, and half of which is in Mongolia. Although they traditionally speak Dukhan, most also speak Mongolian.

There are many groups of reindeer herders around the world, and the Tsaatan are just one of them. They rely primarily on their reindeers' dairy as their food source, having milk, yogurt, milk tea, and other reindeer milk products.

Reindeer are trained to be ridden from a young age. The Tsaatan travel around with their reindeer in order to ensure that the reindeer have good fields to graze. The Tsaatan are thus partly nomadic, and also partake in some hunting and gathering as a food and material source.

түнээ

## PHYSICS 101

One of the small curiosities of a microwave oven is this: place an empty glass inside and it will usually remain almost cool. Fill that same glass with water, and within minutes the water can become very hot. Put a potato inside, and it may come out steaming.

It has to do with two things: Electric fields and polarity. Microwaves are a form of electromagnetic radiation. Inside the oven, these waves create an electric field that oscillates billions of times each second. Now, to the question of polarity. Why does this matter. As we know positive charges get attracted to negative charges and vice versa, and like charges repel. If there is a positive field it would attract negative charges and vice versa.

Microwaves heat things using electromagnetic waves that create an electric field oscillating billions of times each second. That rapidly changing field interacts most strongly with molecules that have uneven electrical charge distributions. These are called polar molecules, and water is the most important example.

A water molecule has a slightly positive side and a slightly negative side. When microwaves pass through it, the oscillating electric field forces the molecule to rotate back and forth constantly as it tries to align with the field. Because the molecule is surrounded by many others, this motion leads

to collisions and resistance. The energy from the microwave field is converted into random molecular motion — what we experience as heat.

An empty glass does not heat much because glass is made of a rigid network of atoms whose charges cannot easily move or rotate. Microwaves mostly pass through it without transferring much energy. If the glass becomes warm, it is usually because it absorbed heat from something inside it, like hot water.

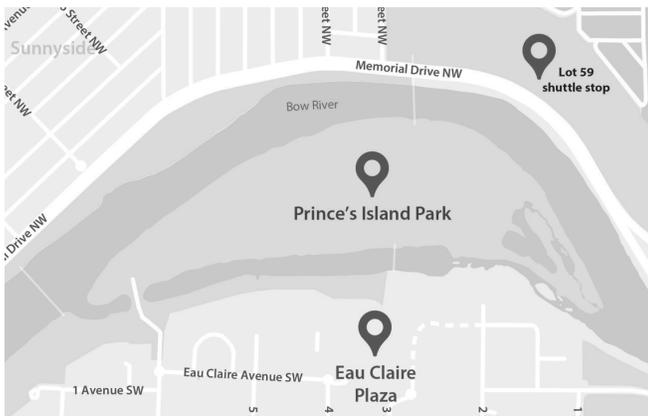
A potato, however, heats very efficiently. Although it looks like a solid vegetable, it is actually about 80% water. That means it contains huge numbers of polar water molecules ready to interact with the microwave field. As those molecules twist and collide within the dense starch structure of the potato, energy is rapidly converted into heat. Because the heat builds inside the potato's tissue, it can become extremely hot.

So the difference between a cool glass and a scorching potato comes down to how their molecules interact with microwaves. The oven fills the space with electromagnetic energy, but only materials whose molecules can respond to the oscillating electric field absorb that energy efficiently. Everything else simply lets the waves pass through.

nishant3.14

## N ISLAND FACTS — PRINCE'S ISLAND

This issue's island comes from a reader's suggestion, if you have one you'd like to see let me know, I'm always happy to learn about new islands. I present to you, Prince's Island:



- The real origin of the name isn't a prince at all, but a guy named Prince, Peter Anthony Prince
- Prince was a lumber yard manager who moved to Calgary in 1886, right after it was incorporated as a town. At the time the park was just a sandy peninsula, connected to the mainland. He dug the channel to the south of it for lumber transport, which separated the peninsula from the rest of the city, and changed the flow of the river so that more sediment was deposited on it, transforming it from a sand bar to a full fledged island
- In 1893 Prince built Calgary's first major power plant on the island, a small hydro station which would supply all of the city's power until 1905. The saw mills on the island remained in operation until 1944
- In 1947 the Prince family donated the island to the city, which turned it into a park. It's connected to Calgary's downtown by several bridges, and features many footpaths and a lagoon open for skating in the winter

That's all on this island, let me know if you have an island you want me to cover ([fatcullen2@gmail.com](mailto:fatcullen2@gmail.com)).

- Prince's Island, a roughly kilometre long island and public park located right in the middle of Calgary (2640 kilometres west northwest of **mathNEWS**)
- There's a lot of confusion around the name, many people think it's princESS island park rather than princE'S, and still others think the prince in question is Prince Edward, as in PEI

# N WAYS THE FACULTY OF MATHEMATICS HAS DEVASTATED MY VOCABULARY

## REAL THINGS I REGULARLY SAY IN REAL LIFE

- I no longer remember things, only *recall* them
- I *suppose* things, and *consider* different cases
- I will claim *there exists* some example, *namely* a specific one
- I will discuss an *array* of things, or perhaps only a *subset*
- I may never have an adequate amount of anything, but enough to *suffice*

- I *note that* something is to be borne in mind
- I don't ever look at anything, I observe *by inspection*
- I will ask whether something *follows*

To be fair, it could be worse. I've heard *nontrivial* used in conversation before...

Whole Number Haver

## MIKU SONG RECOMMENDATION

1. いよわ — 1000年生きてる — <https://youtu.be/3em-J9yYPAo>
2. Utsu-P — ハイパーリアリティショウ / Hyper Reality Show - <https://youtu.be/Z4LiNMCTV20>
3. ワールドイズマイン / ryo(supercell) — World is Mine - <https://youtu.be/jh15afLEKdo>
4. ゆうゆ — 深海少女 — <https://youtu.be/2CwBFr-Eoxg>
5. 蝶々P / 一之瀬ユウ — Black Board — <https://youtu.be/XjcfzyAtzug>
6. 32ki — Mesmerizer — <https://youtu.be/19y8YTbvri8>
7. DECO\*27 — The Vampire — <https://youtu.be/e1xCOsgWG0M>
8. DECO\*27 — Otome Dissection — <https://youtu.be/EDjYDfRunUk>

9. wowaka — Unknown Mother-Goose — [https://youtu.be/P\\_CSdxSGfaA](https://youtu.be/P_CSdxSGfaA)
10. wowaka — World's End Dancehall — <https://youtu.be/ZB75e7vzX0I>
11. Reol — Hibikase — <https://youtu.be/TkroHwQYpFE>

It is March 9<sup>th</sup>. Happy Miku Day everyone! Let's also don't forget other niche vocaloids/voicebanks/producers out there. I like 可不, 星界, (CevioAI) 诗岸 and 星尘 (SynthesizerV). For vocaloid/voicebank producers, I would recommend Shannon, inabakumori, Ferry, Sasakure.uk and MIMI.

eralogos

## PROVINCE EXPANDS FINANCIAL EDUCATION

Ontario announced a new experiential learning program on February 12, equipping generationally under-endowed college and university students with hands-on experience managing a large portfolio of financial liabilities.

Minister of Colleges, Universities, Research Excellence and Security Nolan Quinn said the “historical” restructure of Ontario’s education system will help students adapt to the current economical landscape.

Premier Doug Ford said he has given some advice to the many students who called him after the announcement. “You have to invest in your future. You have to learn that in this province, the more money you have to spend, the more future you have.”

Ford acknowledged that students are “probably very upset right now,” but he has heard many “nightmare stories” of students who have never seen, let alone managed, millions of

dollars in financial assets and liabilities. “That doesn't fly with my advisors, I'm telling you right now.”

RapidEyeMovement



# NICKNAMES THAT I ACTUALLY CONSISTENTLY CALL MY CAT

(ALSO BIG WEENER'S CAT)

His real name is Siam.

## NICKNAMES:

- Boy
- My Sweet Boy
- My Son
- My Chud Son
- My Stupid Chud Son
- Sigma Sigma Siam
- Sigma Ligma
- Silly Siam
- Chud
- Chuddicus
- Chuddicus Finch
- The Nefarious Pisser
- Prince of Thailand

In hindsight maybe I need to be more creative . . .

*buldak\_enthusiast*

## PROFS

Below, I have listed some profs. There is something that makes them different from all other profs I have taken (parts of) courses with. If you want to guess what it is that makes them different, email me @ [jtquo@uwaterloo.ca](mailto:jtquo@uwaterloo.ca). Here is the list:

Wentang Kuo, Nico Spronk, Ruxandra Moraru, Yu Ru Liu

Matthew Kennedy is also sometimes on this list.

Some profs I have taken courses with that do not belong on this list are Spiro Karigiannis, Alexandru Nica, Blake Madill, Michael Brannan.

*easty*

Note that the answer isn't anything offensive, for example, it's not "the profs on this list are the only good profs I've had."

mathSNEW

## SEEN ON THE ARTS QUAD



photo credit: NotMyLyfe

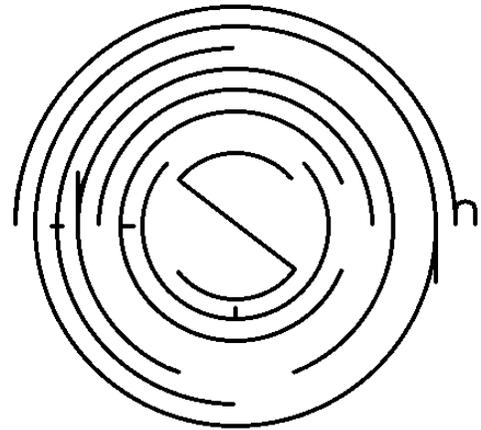
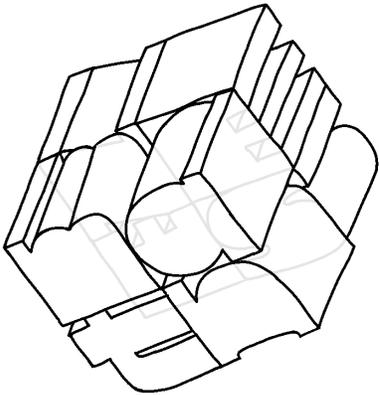
# PHYS 444 GREENTEXT

> New particle physics assignment.  
 > Bonus problem: calculate rate of electron-positron production when gamma rays collide.  
 > Looks fun!  
 > Professor warns us solution is long.  
 > I don't see why. Just draw the Feynman diagrams, write out the gamma matrix products, spin sum, expand the trace as a sum of terms...  
 > As a sum of *over nine-hundred* terms.  
 > I see the problem.  
 > Spend a day distracted, looking for a solution.  
 > Miss everything I was supposed to learn in my classes.  
 > Aha! The tricks we learned to simplify the calculation actually make it worse.  
 > Start working through the calculation.  
 > Finish at 5 AM.  
 > Decide to go to bed immediately after morning class.  
 > Receive email: fire alarm scheduled for 1 PM.  
 > Fuck.  
 > Go to bed after fire alarm.

> Next day, too tired to work.  
 > Hoping to get my sleep schedule back on track.  
 > *Unscheduled* fire alarm at 12 AM.  
 > Lost hour at 2 AM – Daylight Savings.  
 > Next morning, return to homework.  
 > Discover error on page 2 of my five-page calculation. Ruins everything that follows.  
 > Realize I've forgotten to do the rest of the assignment.  
 > Zero assignment problems complete, low on sleep, low on motivation, weekend almost over. Assignment due on Thursday, others piling up too.  
 > Mom contacts me with something important that needs doing.  
 > Yes, but... *WHY NOW!*

anonymous

Use of the greentext format does not constitute support for, or understanding of, its source. I know nothing of 4chan, and I've heard I should keep it that way.



## mathNEWS EXCLUSIVE: DUG FORT TO CUT OSAP!!!

Here at **mathNEWS**, we go above and beyond to give you, the reader an inside scoop on the goings on.

We would like to make a groundbreaking announcement!

Based on our sources (which we will not name to ensure their safety), the Forg government is set to severely cut OSAP effective next term. The change is set to substantially increase the amount that students will owe at the end of their degrees.

Subscribe to **mathNEWS** for 0.00\$ to get more breaking news announcements.

smamor

$$\begin{bmatrix} m & a \\ t & h \end{bmatrix} \begin{bmatrix} N & E \\ W & S \end{bmatrix} = \begin{bmatrix} mN + aW & mE + aS \\ tN + hW & tE + hS \end{bmatrix}$$

# MY WATERLOO MATH CURRICULUM HOT TAKE

(I ACTUALLY BELIEVE THIS)

I think it should be mandatory for *every* Honours Math student to take AMATH 353, Partial Differential equations. I am not joking, here is why:

- It is useful as hell. PDEs show up *everywhere* in math, and the traditional placement of them in AMATH has limited and restricted student's learning experience. PMATH 453, PMATH 465 and all sorts of other popular pure math electives depend on PDE theory for many applications, the entirety of financial modelling depends on PDE theory, and a huge amount of statistical modelling and network flow theory depend on some knowledge of PDEs.
- It is embarrassing to send math students into the world who cannot even state the definition of a PDE. Like, seriously. Engineers and physicists spend so much time working with them that the idea of a "math person" who cannot work with differential equations is ludicrous. I personally have been slammed in interviews because of PDE questions that I simply couldn't consider.

If you have any counter-arguments or hate mail I don't care, but feel free to send them to me via carrier pigeon. I speak to the pigeons; they know where I live.

I <3 AMATH

## MATHSOC GENERAL MEETING: WINTER 2026

MathSoc is holding our termly General Meeting this Wednesday, March 25<sup>th</sup>, from 6:00 PM to 8:00 PM in MC 2065. This is your opportunity to hear about what MathSoc has been doing this term, get updates from your execs, ask them questions, and vote on motions that affect all math students.

We will also be appointing three individuals to year-long seats on the MathSoc Board of Directors. If you're interested, you can nominate yourself in-person at the General Meeting or stop by the MathSoc office, and we'd be happy to help.

If you can't make it but want your voice to be heard, proxy forms are available on paper outside the MathSoc office. You're also always welcome to come by the office with any questions or concerns.

See you there!

*Veertej Sehdave (MathSoc President)*

# INSTEAD OF WRITING THIS ARTICLE I MADE A BRACELET

It's probably not in the interest of this publication to encourage you to put it down, but...

I challenge you to put down this issue and do something creative. I won't leave you stranded, so here's some ideas:

- Draw
- Paint
- Write
- Knit/crochet
- Print out a colouring page
- Collage
- Play an instrument/sing a song
- Make a friendship bracelet (embroidery thread is surprisingly cheap at Michaels!)
- Get a craft kit (you can probably go to Dollarama idk)
- Dance
- Cook/bake something new
- Build... something, idk. I'm running out of ideas

Even if it's for legit sixty seconds. Who knows, could be fun!

*normalparameters*

## DISCARDED NORTHERNLION ARTICLE (I ACCIDENTALLY MADE IT TOO DEPRESSING)

Too many +2's have got it twisted in my dome and it's decroding my tau proteins. It's Coke Zero with no Peloton. Guy who's addicted. Who's addicted right now. We're VOD watchers. Of course we waste hours watching salad be sorted. Chiblee, I call my bedroom the JAIL because I CAN'T ESCAPE, bad news for Canada, Chiblee. The stream that makes you go "Unemployed Bob Dylan be like 'Hawk in the chicken six, put some seven tuah on it.' That shit was in **mathNEWS**? That's vile, less than sign." And who got you that crippling addiction? You did, I'm afraid. And I'm hating every minute of it, Jerry, making this face the whole time so that everyone knows we hate our vices, don't we folks? How can you tell your guy has simultaneous ADHD and depression infections? If his brain tastes like a different kind of beast's. Let's kill this guy, let's exhaust him to death with dopamine. Wake up honey, new day just dropped. They're saying there's "three choices" of how to spend it, but it's anything but. Okay okay.

*snowdozer*

# profQUOTES

## AMATH 231: JOE WEST

“ I didn't just dream teaching that? right?

“ Now I have a family and a dishwasher.

“ Assume the brain is a hunk of mayonnaise.

## AMATH 353: FRANCIS POULIN

“ I thought I was helping you by giving you the substitution, but it looks like my attempt failed miserably.

“ By the way, I did mark question 2 the other day, it was out of 6, the class average was .. So the class is getting bonus marks.

“ I know nothing about quantum mechanics, but I do know mathematics.

“ The solution is simply, and I say that with a sneer, a triple sum...

## AMATH 373: GRAEME SMITH

“ The point is that someone can do it and if you lucky it is not you.

“ Next lecture will be all about FML.

“ Facebook is really a positive force on the world.

“ I saw something about Bohr. He called Dirac the strangest man. He was on the autistic spectrum clearly, and the spectrum goes one way and the other way, and he was wayyyyyyyyyyy off on one side.

“ Did I tell you about Euler's identity? Did I tell you about my colleague? *[student: you started saying the story but then said that you shouldn't finish it]* Oh, it's not that bad. He put Euler's identity on some hummers he burned. Which was his proof that the police hid that he did it. Then he went to jail... actually prison, it was federal prison for 8 years. Well he was kicked out of school for this, then he did 8 years of prison, and went back to school and got a PhD. And now he's in Finance! It's perfect, he's got a PhD and he's a criminal. He was a string theorist.

## BU 405: REDWAN SIDDIQUI

“ Crunching and stroking—just understand this.

“ Have you heard of this thing, offshore? Offshore means something that is not on your shore.

## BU 413: GERRY RAMOS

“ ... they will chase you and try to find out who you are.

“ Deciding who's executor is like trying to find out who's gonna drive to Montreal.

“ I shouldn't use my kids as an example because its a terrible example... What if one of my kids die...

“ You can't marry your cousins... regardless of how attractive they are...

## CHINA 101: YAN LI

“ You are all too reserved, too Canadian... You should learn Trump.

“ If I locked you all in here for the day, without water and food, you could all figure out the hard questions.

## CO 255: CHAITANYA SWAMY

“ *[student: Why is it called the simplex method?]* I will try to explain... [...] You can do a transformation, actually I give up I don't really know.

“ Obviously, it makes no sense to have  $\frac{1}{3}$  of you on a job and  $\frac{2}{3}$  on another. But that is what a (non-integer) linear program will do.

## CO 372: STEPHEN VAVASIS

“ Sometimes when reading these things it feels like you are doing things in the wrong order. But this is uh... the result of the best thinking of financial analysts so... *[walks away with notes]*

## CO 434: CHRISTOPHER GODSIL

“ *[talking about non-standard notation]* People starting complaining so much I continue to use it.

“ *[The complete graph]* is distance regular, you can't disagree with me.

## CO 463: WALAA MOURSIL

“ Firm guys are the guys.

“ I went ahead of myself to draw the average guys to motivate why we like firm guys.

## COMMST 223: BRIAN LEFRESNE

“ Whereas if you show up to a speech wearing a shirt that says “drill baby drill” and start crying going *[zesty crybaby voice]* “I care about the environment,” you're not turning any heads.

**CS 146: BRAD LUSHMAN**

“ Now that we have an interpreter that handles sex...

**CS 240E: ARMIN JAMSHIDPEY**

“ You guys look distracted. Are you worried about the exam? Do you have other exams? How many do you have? Five??? Let's cry together guys.

“ You should not care about failures because you will fail anyways.

“ This exam is not about your emotions so you should turn off your emotions, throw them away, and just focus on the exam.

“ The set of people who believe in you is not empty because I am in that set, even if you are not.

“ *[talking about the midterm marks]* It doesn't look good, guys.

“ Why instead of 911 we can't just say 1? Wouldn't that be much faster?

**CS 241: GREGOR RICHARDS**

“ I highly discourage you to do any of this in C++. Racket is simply a better programming language.

**CS 251: ZILLE HUMA KAMAL**

“ Life has taught me that after having three kids, I should stall.

“ Why can't we do it? My dear, we haven't invented time travel yet.

**CS 442: BRAD LUSHMAN**

“ Sometimes the best ideas happen when there are foreign chemicals in your body.

**CS 451: DAN HOLTBY**

“ A3 marking was late because the TA just didnt do it...

**CS 452: MARTIN KARSTEN**

“ I personally think cryptocurrencies are the bane of the fucking universe.

**CS 476: ERIC HINTZ**

“ Not sure if you know this, but in Europe we have something we call the European Union...

**ECON 201: JOEL BLIT**

“ I sense everyone is a little bit depressed. Don't worry, it's gonna get worse.

“ Oh, yes. The Euclid. I did that one too.

**MATH 136: ANDREW BELTAOS**

“ Get your calculators out cuz I'm bad at math!

“ You asked about tedium? Im going to give you a 5x5 matrix to compute the determinant of 🤖.

**MATH 138: CARRIE KNOLL**

“ Does anyone remember the name of the theorem? It has the word “monotone” in it... and “convergence”... and “theorem”...

**MATH 148: ALEXANDRU NICA**

“ *[in response to a student saying they got cooked on the midterm]* I thought you were the ones who were cooking?

“ You want to know who to send the hitman to?

**MATH 249: JIM GEELEN**

“ What's the rank of the matrix? *[no one responds]* Were you here last time?

“ When I was a grad student [...], it took me 40 hours to solve this problem. ... So I put it on your homework.

“ Here's a short proof: do CO 446.

**MUSIC 140: SIMON WOOD**

“ I think that before two countries start a war, they should send their leaders to fight in a cage match.

**PHIL 145: GREG ANDRES**

“ *[slideshow has image of mii character with speech bubble]* This whole thing reeks of socialism.

“ *[slideshow has image of mii character with speech bubble]* How many times have you cheated today?

“ *[slideshow has image of mii character with speech bubble]* Have you stopped drinking mouthwash?

**PHYS 359: ALAN JAMISON**

“ I love integration by parts so much that I'm going to do it an infinite number of times.

**PMATH 340: MICHAEL RUBINSTEIN**

- “ The contractor comes to my house and says, “oh, you’re a mathematician, so does that mean you compute pi?” And I have to say, “no, that’s stupid.”
- “ My brain is on autopilot. If it was the autopilot for a plane, we would be in the ocean right now.
- “ Don’t do this at a party. No one will want to talk to you, and you won’t make any friends, so you won’t propagate.
- “ I have good news and bad news, depending on who you are. The good news is that I’m still alive! The bad news is that I’m still alive.
- “ *[about the whiteboard]* this ink is gonna fossilize before I erase it. Luckily, I have some water. *[takes a drink and spits it on the board, then erases]* You didn’t see that.
- “ I guess I’m a couple lectures behind—this is an infinite subject, so it doesn’t really matter anyway.

**PMATH 351: JESSE PETERSON**

- “ *[after proving Borel-Lebesgue]* Quod Erat Demonstrandum *[drops chalk grabs notes and walks out of class during applause]*
- “ *[writes WTF on the board]* My friend from Maryland told me to write that on the board when I want to say “want to find.”

**PMATH 352: JASON BELL**

- “ You know how they said, in **mathNEWS**, that I’m kind of a bully and someone wanted to read the board and I erased it? I don’t want to come off like a bully who is like “no, you can’t read it.” [...] So anyways I’m not going to erase it, not this term at least.
- “ *[on singularities]* I get to be bad but no one near me gets to be bad.
- “ I don’t people saying “Jason! You endorsed this... dangerous website.”

**PMATH 365: SPIRO KARIGIANNIS**

- “ *[looks for whiteboard eraser and doesn’t find any]* Why would anyone steal erasers... they’re not even good.
- “ In case you haven’t noticed, I am trying to do damage control for your MATH 235 professors. Maybe I did a good job, maybe I made it worse.
- “ I bet the people who don’t erase the boards are the same as those who don’t flush the toilet when they are done.

**PMATH 370: HEVIN HARE**

- “ It looks like a bunch of balls touching each other.

**PMATH 445: ALEX COWAN**

- “ So I was talking to my mom about my research paper, and she says “Honey, I spotted a typo—you wrote ‘iff!’”
- “ *[representation theory lecture begins]* Let’s talk about Fourier analysis.
- “ The word “functional,” it just means function.
- “ In the papers I read, the Fourier transform is more common than the number 5, but less common than the number 4.
- “ Laplace transforms are dumb. The basis isn’t even orthogonal, it’s a pain in the ass.

**PMATH 454: NICO SPRONK**

- “ The proof is literally less long than the statement of the theorem. How humiliating.
- “ I did search my name on the U.S. Department of Justice database ... I’m not high enough profile to be contacted by people like that.
- “ Winnipeg is colder  $L^1$ , and Edmonton is colder  $L^\infty$ .
- “ First year engineers man, they’re supposed to be good at computing things and they really aren’t.

**PMATH 940: JERRY WANG**

- “ Ok I pick my favourite prime  $l$  that doesn’t divide  $N$ , say 69. Oh wait that’s not a prime. Then take 67, I think that’s a prime.

**PMATH 945: JASON BELL**

- “ You know, like, back in day when the Democrats used to run they would say “I’m the son of a mill worker.” I kinda feel like a mill worker here *[gestures at board]* working all of these implications.
- “ I vowed to never prepare for the Snake Lemma, because it’s so silly.
- “ You know, some people define a ring as a rng. But I think they’re wrong. Rings have 1.
- “ You guys know Hartshorne? I think he’s an egomaniac or something. Have you ever seen the back of his book? About how, he like plays the shakuhachi and stuff? I think he wrote it himself, because it kind of makes him sound like a god. You know, he might actually be alive

still, so I shouldn't be saying this, it'll probably end up in **profQUOTES** or something. So I won't say it. But it's true!

**PMC PROF TALK: BEN WEBSTER**

“ There are dozens of people in the city of Waterloo that can tell you what this category is.

**STAT 230: CHELSEA UGGENTI**

“ You might be thinking... my professor loves highlighting things! That's all she does!

**STAT 330: REZA RAMEZAN**

“ You can only put “...” in a proof if you are a Ph.D. If you work for Pizza Hut delivery.

**STAT 331: LEILEI ZENG**

“ I hope we get rid of this time changing thing. I only just noticed it this morning.

**STAT 333: JEFFREY NEGREA**

“ You can plug in numbers to this if you want, I don't want to.

**STAT 341: ALEX STRINGER**

“ I said good. And then bad is the opposite of good.

“ [*loud people outside*] They're having fun. Clearly not a stat class.

“ The lack of questions and another day of empty dark lonely office hours makes me think that I'm explaining everything perfectly.

“ Oh no! Don't go slower!

“ This is my greatest academic achievement. 5 years of teaching and I finally get into **profQUOTES**.

“ I'm 99.9% sure of my answer. If someone could contradict me I would be very impressed and give you bonus marks. Of course, the bonus marks mean nothing.

“ I guess the shark lobby was mad. Big Shark or something. I dunno.

“ It used to be that if you faked something it was a controversy. Now you open up your phone and everything is fake.

“ We're living in a post-truth society now.

“ That's the problem, I guess. You can't say it's real. Fox News never says anything is real. It's entertainment.

“ My dad listens to old white guy talk radio. It's really bad. Even he realizes it's bad.

“ Phew. I feel like I saved it at the end. Asymptotically that was a good explanation.

“ I checked, and while there is no written rule saying you can't lecture without a shirt on, I have been advised not to [...] I don't want to be the one responsible for that rule.

“ That's a bold use of the word “therefore.” We haven't shown anything.

“ This binomial salad. Some people love this stuff. They teach STAT 332. I have told admin that that is the only course I cannot teach.

“ We're in a situation where we're all confused.

“ Wield nature!

“ Correct. Actually, 1 person answered. So incorrect. The answer is 0, not 1.

“ I melted my kid's brain. He said “We're going to play the opposite game! Everything is opposite. Do you want to play?” “No.” “uh—eh—uh—” and then I explained Russell's paradox to him and he stopped listening.

“ I know that's what you were all hoping for. Connection to balls in an urn.

“ I, too, would like to sit silently on the weekend.

“ It only took 8 weeks for us to bond! ... Have we bonded?

“ In order to complete [sic]

**STAT 443: REZA RAMEZAN**

“ When I asked my 4-year old daughter about what the auto-covariance function is, she said “it's something to do with your car”

“  $t - t$  is 0, so the  $t$ 's cancel out. There is no more  $t$ —you have to drink coffee now.

**STAT 902: YI SHEN**

“ [*student: “What does DL stand for?”*] Every year someone asks me that, and every year I forget the answer.

mathNEWS

# ONTARIO (STUDENTS) UNITE

gridCOMMENT 160.5

hey guys,

this issue's **gridWORD** is dedicated to all the amazing post-secondary education opportunities in ontario and its value to canadian citizens and residents. that's it guys, i really don't have a lot to say today. i hope everyone's midterms went swimmingly :p

last time, i asked you all what olympic sport you are and why, and you all said:

*rutabaga413* : i think im javelin since it flies through the air... like a bird <3  
*thirdoffie*: It's gotta be the decathlon. There's always like ten things going on in my head and I can barely keep track.

i'm gonna have to give it to *rutabaga413*, because i, too, would like to soar through the air, as flight is my ideal superpower. please pick up your prize at mc 3030, the official office of **mathNEWS**. this issue's **gridQUESTION** is: what is one course here at uw you would recommend for everyone to take and why, assuming they have all the prerequisite knowledge for it? i'd recommend basketweaving - the first computer was a loom, after all. please submit your **gridQUESTION** answer with your solved **gridWORD** and a pseudonym to the **mathNEWS** office or [mathnews@gmail.com](mailto:mathnews@gmail.com) by march 23, 6 pm for a chance to win PRIZE.

[russian accent] love,

*spaggettiinhalers*

## ACROSS

1. Moves commonly seen in pair skating
6. French flower
9. Rainbow paths
13. Estuary
14. Scheme
15. Summon
16. Eerie
17. Daylight savings saving
18. Concept
19. Knight's servant
20. Calendar square
21. Kind of wrestling known as Pehlwani
23. Canada's most medalled sport\*
26. Canadian quadruple medallist\*
29. Existed
30. Barley brew
31. Inert gas
33. What a SYDE student might design
37. Wet bar?
39. Federal med. research agency
41. Ballet wear
42. Hit
45. Tie up
48. School transportation
49. Neuter
51. Canadian triple medallist\*
53. Greeting from a red echidna named Knuckles
57. Canadian short track champion\*
58. Little toymaker
59. Sad
63. "Buenos \_\_\_"
64. Arias, usually
66. The March King
67. "If all \_\_\_ fails..."

68. Deep black
69. Colander features
70. Marsh plant
71. Something to pick
72. Chopin composition

## DOWN

1. Speech problem
2. Ancient Andean
3. Item bore by 51-Across and 57-Across\*
4. Mother \_\_\_
5. Pig's home
6. Bridges in movies
7. Debtor's note
8. Bowler's goals
9. Conclusive trial
10. Some circle measurements
11. Innocent
12. Colloquial speech
14. Vintage touring car
20. Take out
22. Not
24. Jeu de mots
25. Counselling, e.g.
26. Talk back
27. Gazillions
28. Caboose
32. Nothing
34. Big brass
35. Pincushion alternative
36. Rumble
38. Having a short, upturned olfaction sensory organ
40. Male Canadian six-time Olympic medallist in 23-Across

43. Ghanaian money
44. Female Canadian six-time Olympic medallist in 23-Across
46. Gastrocnemius locale
47. Annex
50. Deez Nuts, abbr.
52. As well
53. Milk dispenser
54. Cunning
55. Humiliate
56. Serf
60. Yordle mage
61. Employed
62. Leisure
65. Kimono tie
66. Boat pronoun



Drop your **gridWORD** solutions off at MC 3030, or over email to [mathnews@gmail.com](mailto:mathnews@gmail.com). Correctness optional.

A **mathNEWS** EDITOR WHO ENJOYS CREATIVITY

1	2	3	4	5		6	7	8	9		10	11	12	13
14						15					16			
17						18					19			
20					21		22			23				
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39			40		41				42		43			
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			53			54			55					
	56	57					58		59			60	61	62
63					64			65		66				
67					68					69				
70					71					72				

So I was talking to my mom about my research paper, and she says “Honey, I spotted a typo — you wrote ‘iff!’”

# LOOKAHEAD

SUN MAR 15

MON MAR 16

TUE MAR 17

WED MAR 18

THU MAR 19

FRI MAR 20

SAT MAR 21

Party with Profs,  
Grad House,  
4 PM to 6 PM

View next term's schedule  
and appointments

Drop with WF begins

SUN MAR 22

MON MAR 23

TUE MAR 24

WED MAR 25

THU MAR 26

FRI MAR 27

SAT MAR 28

mathNEWS 160.6  
production night  
QNC 2502, 6:30 PM  
Drop/Add (by Quest  
appointment) for next  
term begins

MathSoc GM, MC 2502,  
6 PM  
WUSA GM, SLC Great  
Hall, 5 PM  
Drop/Add (open  
enrolment) begins

mathNEWS 160.6 releases

## LAST ISSUE'S gridSOLUTION

1	L	2	I	3	F	4	T	5		6	L	7	I	8	S	9	A	10	R	11	C	12	S
13	I	N	L	E	T		14	P	L	O	T		15	C	A	L	L						
16	S	C	A	R	Y		17	H	O	U	R		18	I	D	E	A						
19	P	A	G	E		20	D	A	Y		21	N	D	I	A	N							
22					23	S	P	E	E	D	S	K	A	T	I	N	G						
26	S	A	R	A	U	L	T		25	W	E	R	E										
30	A	L	E		31	N	E	O	N		32	S	Y	S	T	E	M						
37	S	O	A	P		38			39	N	I	H		40	T	U	T	U					
42	S	T	R	U	C	K		43	44	L	A	C	E	45	46	47	48	B	U	S			
49	G	E	L	D		50		51	M	A	L	L	A	I	S								
53	U	G	A	N	D	A	N	H	E	L	L	O											
57	D	U	B	O	I	S		55	E	L	F		56	S	O	U	S	A					
63	D	I	A	N		64	65	O	L	I			66	H	O	L	E	S					
67	E	L	S	E	E	68	E	B	O	N			69	H	O	L	E	S					
70	R	E	E	D		71	N	I	T				72	E	T	U	D	E					

## MY EYES WHEN SOMETHING BORING OCCURS



aphf

I want to go back to a really key point in my speech, because, I saw this on Reddit. I saw this in a lot of conversations with students, alumni, faculty, that like, what's the point? Faculty's saying "What are you going to do? Miss my class? That's less work for me."

This is not a strike against the university. The point of today was really to see over a thousand people strong next to you, and realize that you're not alone in this, and help galvanize you towards action—to realize that it's actually a community acting together rather than just individual students who are upset.

This is the angriest, the most upset I've seen students in my entire time doing any capacity of student advocacy.

ALEX PAWELKO