

## “WHO SHOULD REPLACE VIVEK AS UNIVERSITY PRESIDENT?”

Well, well, well. The last issue of the term, and since this is the last term of the year, by transitivity, the last issue of the year. Wow, that went quick. A lot has happened since then, eh? The M&M vending machine scandal was exposed in a **mathNEWS** issue, M4 actually started construction, and Vivek Goel announced his departure. Seasons have passed and issue upon issue has been churned out, featuring anything from detailed analysis of GO Transit logos to GO Transit stories to GO expansion update— boy, we talk about GO a lot, don't we?

I guess this is the last time we'll get to talk to y'all through a **mastHEAD** this year, so on behalf of all the editors, thank you for making 2024 a great year for **mathNEWS**. Whether you're writing or reading, you're keeping a part of this school alive that's irreplaceable. In my opinion, it's the beating heart of the Math faculty, and gives this place a soul it desperately needs.

So is this issue worth being the send-off to a year? Yes! We've got curious fanfiction, shoe evangelism, stools, and most excitingly, an unprecedented interview with our beloved Tony “Pizza Nova” (although his favorite pizza, alas, was not quite so beloved). And no GO Transit this time. People *can* change.

If it's snowing by the time you read this, or even if it's not, grab some hot chocolate, sit down, and take it in as best as you can, because the next one won't be for like two months. Read it, re-read it, and re-re-read it, even. We love y'all, and I hope no new Spider-Man movies come out this year.

waterED  
Editor, **mathNEWS**

## ARTICLE OF THE ISSUE

It's impossible to describe the devastating feeling that comes with losing the M3/MC/DC bridge, yet Dollar Store Person somehow does it in [Reader X M3/MC/DC Bridge Fanfic](#). Congratulations Dollar Store Person—there's a prize waiting for you in MC 3030, but you might have to go outside to get it.

derailed  
Editor, **mathNEWS**

SEASONED SLACKER	Mr Goose (Thank Mr Goose)
USMAN!	Doug Ford so he can get rid of all our bike lanes!
__INIT__	obamna
NO PUN INDENTED	Mr. Goose
AAQSR	The <b>mathNEWS</b> Editor
MOLASSES	joe Biden
RAPIDEYEMOVEMENT	Vivek Ramaswamy
PI = 3	geese
IGNIS	Joe Biven (thats not a typo)
GAYA	befuddled
NIKE	my cat, Hammer
HIS NAME	jeff
APHF	Vivek Noël (happy holidays)
JOONWEI	Mahathir
GRAFIS	the one-legged goose that hangs out on campus
SNOWDOZER	The goose that looks kinda like Vivek Goel
DICK SMITHERS	Vivek Woel (Vivek's Wario, looks excatly like Vivek but with a yellow hat on)
MCQUEENFAN	Sir Tow Mater
MEL	Rose
NOT A N*RD	befuddled (he definitely is NOT holding my family hostage)
LARS NOOTBAAR	Priapus (We need to grow the endowment fund at all costs)
NOT FERIDUN	Feridun
SQRT(CAUSE)	Ting Tsui
IGNIS_	snoopy
DOLLAR STORE PERSON	pinkie. i trust a mascot wearing a tie.
A TIME TRAVELLER FROM THE YEAR 1958 WHO CAME TO PROD NIGHT	Dr. J. G. Hagey
VERDANIK	me
SUNRISE PARABELLUM	befuddled
BEFUDDLED	not befuddled
DERAILED	someone named david (not me, find someone else)
CLASSIFIED	<b>mathNEWS</b> -chan
REVIVED	awED

# They call me a Figma male.

OWEN GALLAGHER, **mathNEWS** EDITOR FOR FALL 2024  
ALONG WITH SARA NAYAR, ISABELA SOUZA,  
RIVER STANLEY, DAVID TERESI, AND JUSTIN YOUNG

# mathASKS 156.6

## FEATURING TONY FROM THE UNIVERSITY/PHILLIP PIZZA NOVA

*[Editor's Note: this interview was unusually conducted over the phone. Thus, the answers are a little more interview-style than you would normally expect from a mathASKS.]*

### BEYOND META / \_\_INIT\_\_: WHAT'S YOUR FAVOURITE NUMBER?

What is my favorite number? My favorite number is always No. 1.

### YALEVOYLIAN / NIKE: PINEAPPLE?

Me? No, ahahaha. Never.

### ERALOGOS: WHAT IS YOUR TAKE ON SHAWARMA ON PIZZAS? WOULD IT BE ACCEPTED AS A NEW TOPPING?

Shawarma on pizza? No, I never like shawarma on pizza.

### 0.423: COULD YOU SPRINKLE LETTUCE ON A PIZZA SO WE CAN HAVE A BLT PIZZA?

No, that kind of pizza is not good, because, no... we tried that, no.

### NIKE: HOW MUCH PIZZA DO YOU CONSUME ON A WEEKLY BASIS?

Every day, myself, I'm eating at least 3 slices, at least, if I'm not eating more. I love pizza. I'm eating always.

### AAQSR / 臭臭 / IGNIS / NOTOH: HOW HARD DO YOU JUDGE mathNEWS' PIZZA ORDERS?

Sometimes, you know, we receive the weird orders, but we are making for our customers, but you know, I'm asking how are you eating those kind of pizzas, hahaha.

### GAYA: WHAT IS THE BEST WEIRD PIZZA YOU'VE SEEN?

You know, that pizzas, when the people is ordering a little bit more toppings, but they are not cooking it well. They are making it less cooked. For me that's, you know, I never like it like that, if the toppings are more, they are asking me "don't cook it."

### LARS NOOTBAAR: IF YOU COULD CHOOSE A PIZZA NOVA PIZZA WITH THREE TOPPING AND A BASE OF YOUR CHOICE WHAT WOULD YOU CHOOSE?

I love black olives, mushrooms, and anchovies on the pizza.  
*[Editor's Note: sic]*

### NORMALPARAMETERS: WHAT'S THE SECRET TO THE BEST PIE?

*Initial answer:* The best pizza, I think for me, I like Nonna's, and I like a Tuscan pesto.

*Followup after clarification that this was about pizza production:* No, that's confidential, ahahaha.

### NAZZ: WHAT EVENT WOULD YOU SAY HAD THE LARGEST POSITIVE IMPACT ON YOUR LIFE?

Yeah, you know, when my customer, when I'm doing something good for the people, when the people are happy, that makes me very happy. If I'm doing something good, if the people feel happy, that makes me very happy.

### NOT-TERRIFIED-BUT-TERRIFIED-STILL!: HOW DO YOU ASK PEOPLE OUT?

If people ask me for help, if they need help, they can come in and ask me.

### MOLASSES: WHAT WORDS OF WISDOM DO YOU HAVE FOR THE YOUTH OF TODAY?

The students, I would like to tell them, be honest, you have to hard work, and be positive, that's it, always when wake up, they are thinking helping, helping people, that's great, helping, that's all, you know, be positive in the life, try to be a good person, in the life.

### APHF: WHAT IS YOUR OPINION ON THE ARTISTIC PORTRAYAL OF YOU IN mathNEWS 155.6?



Oh, you got the big Italian nose! I love it.

## MY FAVOURITE PLACES ON CAMPUS

1. SLC Tim Hortons (I work here)
2. The E5 Gear Lab
3. DP's Browsers Café

I like to go to these places when my roommate in UWP gets annoyed and tries to kick me out ☹️.

Rat

## WHY DOES CHATGPT HATE ME

I'm the only one of my friends whose chatgpt is not working, does it have something against me? Is electromagnetism too much for you? I'll stop, just PLEASE WORK I NEED YOU.

update: It worked, I just needed to restart my computer (which makes no sense, cs majors, help)

pi=3

## E.X.

You can tell a lot about a person from the examples they use. For example, if someone were explaining what a metaphor is, and they said that...

I'm sorry, I can't think of any good metaphors. Every attempt ends up being a dud. It seems I've forgotten what it really means to be metaphorical. But my point stands. From the examples someone uses, you can tell what is on their mind, what they are knowledgeable about, the zeitgeist they reside in.

Therefore if you want to keep your cards as close to your chest as possible while still saying something of substance, it's advisable to keep your examples as generic as possible. In doing this, you demonstrate self awareness by not

revealing anything about yourself. You win a silent battle of wits, imparting only the information you wanted to impart and nothing more, testifying without saying anything self-incriminating.

The only problem is, generic examples are less memorable, less illuminating. By removing all redundancy you are left with only a template for meaning. Anyone who has used C++ knows that templates only make sense once you have seen a more specific example of what the template is trying to generalize.

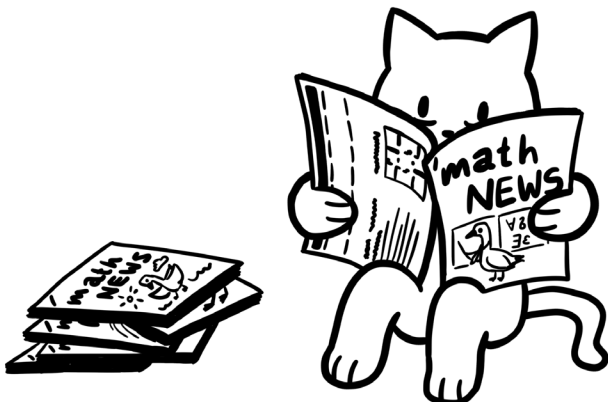
Use more specific examples.

wacfeld

## SUDOKU 1

I made it in LaTeX, and I wanted a Sudoku. A series? If I want to. I guess you get to wait till next term to get the answer unless the gods put it in the back

[Editor's note: solutions on page 40. ☺️]



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

Sudoku 1

# N editorQUOTES

AS OVERHEARD IN FALL 2024

- How much does it cost to book the Wiggles?
- I wonder what happened to Dark Matter?
- We took their candy jar as weregild.
- Can you burger it?
- Either you eat the apple or the apple eats you.
- All shirts cost money.
- Can we modify the Jerma bust to periodically emit Evan noises?
- imgonnafuckyourdad is back.
- I don't want a truck to be topping me.
- How did I delete Tuesday?

mathNEWS-chan

## CURSED PHOTO FOUND IN MC LAB

On Monday November 18<sup>th</sup>, a psychology student at the University of Waterloo discovered a horrific photo in the MC lab late at night. What appeared to be an innocent, smiling man in a crumpled Polaroid was hiding a secret. Something about it unsettled her, so she decided to tear the photo. The moment she did, she felt an awful energy release into the universe, and the man in the photo was found to have failed the math program the next day.

bbtoth

## PROGRESS REPORT ON ARTICLE I PLANNED TO WRITE SINCE TWO WEEKS AGO

WRITER NAME CHECKS OUT

Progressn't :(

It will happen eventually I swear

资深咸鱼 (Seasoned Slacker)

## DON'T OLIVER

I HOPE THEY PLAY FEIN

Did he play Tore Up? 🤔 I can't remember...

Oliver

## HOW TO MAKE IT BIG ON YOUTUBE

1. Seal yourself in a box.
2. Deliver yourself to a post office.
3. Postal workers go on strike.
4. ???
5. I Mailed Myself in a Box and IT WORKED! (Human Mail Challenge) (Almost DIED)

verdanik

## CUE CARDS IN HOODIE

Today in an MC lab I overheard some planners (not math kids) talking about ways to get away with activities which I shall not name during exams. One was speaking to putting a cue card in their sweater, and might I say, a method I do not approve of. As he writes his activities, he uses this method to pretend to be stressed and views his cue cards.

Be brave Waterloo!

notarealplanner

## LOCALIZATION

COMMUTATIVE ALGEBRA IS COOL

We construct the rational numbers from the integers. First notice that each rational number can be represented as an ordered pair of integers with the second nonzero;  $\frac{r}{s}$  as  $(r, s)$ . But this isn't enough, as fractions can be presented multiple ways, so we need to impose some additional structure. Notice we have an equivalence of fractions  $\frac{r_1}{s_1} = \frac{r_2}{s_2}$  if and only if  $r_1 s_2 = r_2 s_1$ , so we consider the relation  $(r_1, s_1) \sim (r_2, s_2)$  if and only if  $r_1 s_2 - r_2 s_1 = 0$ . Then one can check that this is an equivalence relation, and consider  $(\mathbb{Z} \times \mathbb{Z}) / \sim$ —the set of equivalence classes under the aforementioned relation—with operations defined by  $(r_1, s_1) \cdot (r_2, s_2) = (r_1 r_2, s_1 s_2)$  and  $(r_1, s_1) + (r_2, s_2) = (r_1 s_2 + r_2 s_1, s_1 s_2)$ . One can then verify that the map  $\mathbb{Q} \rightarrow (\mathbb{Z} \times \mathbb{Z}) / \sim$  given by  $\frac{r}{s} \mapsto [(r, s)]$  is a ring isomorphism. In general, a PID  $R$  has its field of fractions,  $\text{Frac}(R)$ , constructed by taking the set of ordered pairs  $(r, s)$  with  $s$  nonzero, and taking the set of equivalence classes with operations as above.  $\mathbb{Z}$  is a PID, and  $\mathbb{Q}$  is its field of fractions. In general in general, given a commutative ring  $R$ , we say a subset  $S \subseteq R$  is a multiplicative subset if  $1 \in S$  and  $s_1, s_2 \in S$  implies  $s_1 s_2 \in S$ . We can construct  $S^{-1}R$ , the localization of  $R$  with respect to  $S$ , by taking pairs  $(r, s)$  with  $r \in R, s \in S$ , and following the same construction, except  $(r_1, s_1) \sim (r_2, s_2)$  if and only if there exists  $s_3 \in S$  such that  $s_3(r_1 s_2 - r_2 s_1) = 0$ , to account for zero divisors. We then note that for a PID  $R$ ,  $\text{Frac}(R)$  is just  $S^{-1}R$  with  $S = R \setminus \{0\}$ . I'm out of space now.

sunrise parabellum

# A REVIEW OF EVERY PUBLIC TRANSIT SYSTEM I'VE BEEN ON

I've been to a lot of cities, and have ridden a lot of transit, and the only one that disappoints me is Toronto. But here's the list of every city I've been to with a transit system I've used, reviewed objectively and without bias.

**Amsterdam:** 8/10. It's really cute. Typical Dutch pretty, even if *Gementeelijk Vervoerbedrijf* is impossible to spell and pronounce, it's still fast, comprehensive, and the trams compared to Toronto's streetcars are like that one coughing baby vs atomic bomb meme. There's a lack of metro lines, but the transit is amazing, coupled with the Dutch railway network that functions like GO Transit because the country is so small. Except Limburg. Loses two points for Dutch Weather™.

**Bielefeld:** 10/10. Does not exist. I have not been to Bielefeld. Has anyone been to Bielefeld? I do not know.

**Hannover:** 8/10. The city uses very typical German *stadtbahns*, roughly translating to "city-trains"; think Calgary C-Train—high-floor LRT. The entire system is super cool and the whole network of tracks underground and overground was super cool to explore. Loses one point because their new trains are kind of ugly, and because there is nothing to do in Hannover. I literally visited for the trains. Loses another point because the headways are kind of ass and (unrelated to *üstra* Hannoversche Verkehrsbetriebe AG) Deutsche Bahn delayed my train by 1h40. Transportation planners in Canada should take notes because this is what the O-Train and Eglinton Crosstown should be. Super cheap, flexible, amazing. Mwah.

**Hong Kong:** N/A. I only rode like two buses. I need to revisit.

**Kuala Lumpur:** 6/10. My home country, Malaysia, is a petrol state, and so cars are king. Driving in the highways there is like trying to prove Fermat's Last Theorem. Supposedly it is easy, but really you will get lost and stuck in three traffic jams. So you take a train. But you have to drive to a train station because the bus service to the station sucks, and once you're on the train it's really nice, I guess, but there's room to grow. Still not worse than Toronto.

**London:** 7/10. Realllly expensive, but at least there is a daily cap of £15.60, and it's also fast and comprehensive. However, the trains are old, loud, screechy, and they will give me lung cancer. I think the Tube has some of the worst air quality ratings in the world. I might as well stand in a coal mine. It's also an accessibility nightmare, but I've never had to wait more than 3 minutes for a train. Kinda insane. So, like in terms of being a transit system, 10/10, but the quality of life brings it to a 7/10.

**Lucerne:** 9/10. I'm enamoured by the triple-length 24m bendy trolleybuses. They're so cool and we should totally have them here. Lucerne is often overlooked for it's larger siblings, but the city has trolleybuses, regular buses, a rack railway, and

regular and metre gauge railway. Super cool, and always on time. Accessibility is great.

**Manchester:** 8/10. The fare system is a little confusing and the trains are a little slow because they mostly run overground, but the network is charming and the little trains plodding along the high street with their little tooting horn is very British. They have great branding (Bee Network!!! Take notes, other cities!) and the coverage is great. Wait times are average.

**New York:** 7/10. It has that... New York Charm... and it's comprehensive, and good, so I can't dock points for that. Missing a crosstown line on Long Island, but that's... supposed to get fixed at some point (when I visited, the G train wasn't even running!). Suffers the same problems as London, and they should really (literally) clean up their act.

**Paris:** 9/10. It's a little pricey (thank you, Valérie Pécresse), a horrible accessibility nightmare, and it's really hard to navigate, especially if you don't speak French, but it is comprehensive and *fast*. It's also super charming (you have to pull on a latch to open the doors on the older trains, and you can pull it before the train stops and get off), and Parisians are actually really friendly. Don't believe everyone telling you otherwise, a bunch of people talked to me and asked me about my French. 10/10.

**Shanghai:** 9/10. Great coverage, really big, has a line that goes 300+ km/h to the city from the airport. Loses one point because they check your bags with a scanner at the station. Scary. But it's super huge, super modern, air-conditioned, platform screen doors, etc.

**Singapore:** 11/10. Gets my only 11/10 because Singapore is kind of like Tokyo—she's the girl that he tells you not to worry about. Singapore's MRT fucks. Comprehensive coverage, reasonable pricing, fast, has character, the entire city relies on it because there is a tax on cars from 100-300%. Has every fancy interchange, every new technology, everything the kid next door gets for Christmas but you don't get.

**Toronto:** (N) Needs Improvement. So close but so far, please... please fix yourself. You're slow. And your streetcars suck, and you suck, and everything is 10 years behind.

**Vienna:** 10/10. Servus! Vienna is really pretty, and the tram and metro system fit it to a tee. The design is outstanding and Wiener Linien has outstanding branding, the trains are efficient and fast, the accessibility is generally great, I have no complaints. They do housing really well too (no housing crisis in Wien) and everything is connected to transit.

Thank you for listening to me review every transit system I have been on, objectively and free from bias.

Disgruntled Civil Engineer

## N WAYS TO GET CHEAP(ISH) THEATRE TICKETS

- Broaden your horizons (There are many great smaller theatres around KW and beyond (if you like musical theatre, I should shout out KWMP and Laurier Musical Theatre, who are maybe slightly different price points but I've had a great time at both). If you feel like going to Toronto though, you certainly don't have to go to Mirvish to enjoy a great show—though I have a tip for you below if you want to—but there are many amazing smaller theatre companies, professional or community, doing all types of shows. Especially if you want to see something truly creative and unique, this is the way to go. There are so many productions that it's hard to know what's on at any given time (this is certainly not a complaint) so for that I recommend [stage-door.com](http://stage-door.com))
- Go by yourself (Mirvish—who host touring Broadway shows and put on other large productions in Toronto—sometimes sell leftover single tickets for a discount to fill those awkward seats that no one else wants. You might have to wait until a week or two before the show/until it's mostly sold out, but I got a 5<sup>th</sup> row center seat (usually \$149 each!) for \$70. Still a splurge as a university student, but for a great seat at a professional production it was well worth it for me)
- Be a student (and/or senior citizen) (and don't forget to check for those discounts! They don't always handle them in the same way, and they don't always make them clear—you might have to hunt it down, but it's worth it. I saw a show recently where the regular adult tickets were around \$70 and student tickets were only \$20!)
- Sugar daddy

normalparameters

## FRAGMENTS

trapped, racing to nowhere, competing against no one

i need exactly these, or i will fall behind

what am i good for if i'm not better than them?

agony if not more than i ever wanted

it hurts.

;)

## MEETING MY FAVOURITE Z-LIST MICROCELEBRITY

Last weekend, I had the pleasure to attend a small concert in the basement of a house in the Kitchener suburbs. Several bands were playing, but I was only there for one in particular: Underwater Basket Weaving (stream [Car City EP](#), everyone).

Outside the venue, there was a small patio filled with smokers and other various degenerates. And there I was, in-between sets, looking to socialize and craving myself a cigarette. He saw me there, starving, and without me even giving the slightest indication of desire, passed his cigarette across the circle for me to partake in.

“Michael Morwood.” That is what he introduced himself as. The name sparked something in me. A peculiar sense of recognition. The same one reserved for celebrities and other famous people, heard of but never met. Michael Morwood. Where had I heard that name before? Who is this Michael Morwood??? And then it hit me. Michael Morwood. “You have reached the voice mailbox of... Michael Morwood.” The opening monologue to [Car City Parking Lot](#) (stream [Car City EP](#), everyone)!

After a brief moment to contain my excitement, I tried my very best to convey the sense of rapturous excitement of getting to meet such an absolute LEGEND of the tri-city music scene. To that, all he had to say was “I'm happy you got to meet your favourite Z-list microcelebrity.”

#1 ubw fan

## LIST OF PROFS RANKED BY SOMETHING NON-OFFENSIVE

Here is a list of professors/lecturers (mostly pure math) ranked by something non-offensive (i.e. it is *not* ranked from worst to best lecturers, but it might be ranked by how recently I took a course with them or something like that):

1. Doug Park
2. Spiro Karigiannis
3. Jason Bell
4. Wentang Kuo
5. Ty Ghaswala
6. Alexandru Nica
7. Matthew Kennedy

The question is, what are they ranked by? Email your guesses to [jtquo@uwaterloo.ca](mailto:jtquo@uwaterloo.ca).

easty

# SHOULD FEET BE SHOE-SHAPED, OR SHOES BE FOOT-SHAPED?

Next time you find yourself with your socks off, take a look at your toes. Are they bent inward... do they fit comfortably within the narrow toe box of your shoes?

What about your arches? A lot of people have “flat feet,” and use orthotic insoles to make the rigid caskets they shove their feet into more comfortable.

Thinking evolutionarily, it makes no sense to have narrow toes and a flat arch. You lose stability when your feet can't spread out, and having strong, flexible arches let you store and release energy as you run.

So what does that have to do with shoes, and more importantly, your feet?

Well, at some point, well off people decided to make a visible statement that they didn't need to use their feet by donning smaller and narrower shoes with a raised heel in a strange phenomenon known as “fashion.”

And don't even get me started on orthotics, or the highly profitable nature of the products that solve in the short term the very problems they create in the long term.

For those of you willing to ruin your body in the pursuit of arbitrary aesthetics and an inch or two of height, you can stop reading now.

For anyone left, I highly recommend barefoot shoes.

I've been wearing them for several years now, and never want to go back. Not all of them are those strange-looking devices barely recognizable as “shoes” with separate toes and bright colours.

A barefoot shoe is just a shoe with zero heel drop (promotes a strong arch), a flexible sole (improves proprioception), and a very wide toe box (lets your dogs run free).

In my eyes, the only two real downsides are the higher price due more to economy of scale than material cost, and the chance of injury while your foot adapts to its new freedom.

The sudden lack of support frequently causes stress fractures if you all of a sudden start using parts of the foot you've never needed while being carried along by your comparatively strong legs.

I'll let you do your own research, but if you care as much as I do about the stability of your ankles, the integrity of your knees, or the strength of your feet and toes, you should look into it.

*blather*

## HOW I LOST MY GLASSES

### AND BECAME A VICTIM OF NATURE

For I had delivered a Swiss Chalet family meal deal for friends to share on a Sunday night (the aforementioned being brought to my attention by mail), and thought myself lucky to have caught a brief respite from the rains of that eve as I wandered home;

To have then experienced, in but a brief five minutes, a gentle shower on the horizon, then those gentle showers turning into formidable rain, turning into a torrential thunderstorm;

With feet soaking, umbrella flipping, deciding to forgo the shields against the wind and make a dash for safety, while lightning flashed my retinas and thunder made me jump;

Before finally reaching the street of my apartment, lined by tall buildings on one side, turning the street into a wind tunnel, amplifying the storm, making it hard to even move against the wind;

And that is when my fate was sealed, for I had turned my head into the wind, which promptly, somehow, picked the glasses off my face and flung it into the grasses of a nearby lawn!

Rendered blind and soaking wet, I desperately searched the vicinity, drenching my clothes and everything I owned, as the downpour continued, desperation growing, yelling obscenities into the night;

Having failed to find anything, searching for an hour, I tried once more in the morning, yet still my labours bore no fruit. And thus the inexorable decision to use my sole spare—an inadequate pair of prescription sunglasses.

And such is how I became a victim of Nature. For four days, my vision blurry at the edges (my prescription was mild enough I was fine) before I finally was able to get new glasses. Yet still, where was my original pair, lost to the cosmos? But perhaps one lingering question plagued my mind further still?

How do I ask Nature for \$550?

*andoi*



# THINKING ABOUT ANORA (2024)

On the surface level, *Anora* is a film about the titular Anora (she prefers Ani), a Brooklyn sex worker who gets swept up in a brief, climactic romance with Vanya, the son of a Russian oligarch, before tumbling headfirst into the consequences and fallout of that love. On a bigger level, though, it's a story about sex, money, agency, and the messy overlap of those three things.

Ani's journey takes her through a lot of places—from the top of a Vegas hotel to a frenetic road trip through New York City—but so much of it happens *to* her rather than *because of* her. A screenwriting 101 book would tell you that this is a bad idea. After all, shouldn't the protagonist be driving the story? Yet, it works perfectly here. I think this is because that particular tip isn't actually about the protagonist driving events, it's a warning about making a passive, boring lead—and Ani is anything but passive.

An excellent performance by Mikey Madison emphasizes that Ani is *completely aware* of how, for the bulk of the movie, she is being pulled from place to place by others, not of her own free will. If she can't wrest control of her agency, then she can at least hang on to her dignity, kicking and screaming (sometimes literally) as she's moved around to solve other people's problems. She uses an excessive-even-for-New-York amount of profanity to make sure everyone is *crystal clear* on how she feels about what's happening to her. The camera assists in building this atmosphere, often settling on Ani, visibly uncomfortable, as the characters argue about the situation offscreen, ignoring her.

The inciting incident of the movie—her decision to accept Vanya's blunt marriage proposal—is, in many respects, an attempt to claim the agency that Ivan's money represents. During their brief courtship (where he hires her for a week to pretend to be his girlfriend), she's taken on a whirlwind hedonistic journey of money, drugs, sex, and pleasure that she thinks might be the rest of her life if she could make this work. This sequence is edited together into a quick montage that feels like how it feels to be really drunk at a *really* good party. The rest of the movie is the next morning's hangover.

I've been thinking a lot about Vanya, too. On one level, he's the prototypical flaky rich kid bad boyfriend type, not interested in much of anything other than partying, gaming, and sex. He literally flees from responsibility and accountability the first chance he gets, turning the second act of the movie into a hilariously awkward road trip where Ani and Vanya's Russian handlers/babysitters travel around New York City trying to track him down so he can sign the annulment papers. But when I think about him, I find myself imagining him like the subject of a nature documentary. Do we blame the lion for grazing on the gazelle, or do we accept it is simply its nature?

Vanya is a spoiled kid whose every relationship is mediated by money. Why would this transactional relationship with Ani be any different? *Every* relationship he has is transactional. Of

course he would mistake this for true love. He's too shallow to know any better. And of course he'd run away from Ani and the Russian goons at the first sign of trouble. From Ani's POV (and thus the POV of the audience), he seems like a selfish brat who isn't willing to stand up for his wife, but it makes total sense from his perspective. He's facing something that is, to him, the most serious consequence he has ever faced in his life: getting a real job. Of course he reacts like his life is threatened: to him, it basically is. He treats Ani terribly, but his actions make sense. He's not cruel, he's just a shithead.

What Ani slowly learns about Vanya is that his money doesn't actually get him agency, it's just that he's bound in less visible ways. He can party as much as he wants, but only under the eye of his Russian security detail. He can spend and go anywhere, until his parents decide to step back into his life.

I think the movie, in general, does a good job of humanizing characters who could otherwise easily fall into tropes. Take the Russians who enlist Ani to track Vanya down once he's fled. They could so easily slide into the "Eastern European mobster" trope we know so well, but their lives are more complicated than that. They aren't out to make Ani's life miserable for no reason. They're nervous about what this situation represents for their jobs. They don't *want* to be hunting down Vanya and coercing Ani into coming along, but (like almost every other character in the film) they don't think they have a choice.

The net effect of the realistic characters is that everyone's choices feel not just natural, but inevitable. They're just acting in their own self-interest. Once Ani enters that chapel, everything that follows is like watching a ball roll down a hill. The path down is unpredictable, sure, but everyone knows where that ball will, in the end, come to a rest.

I think the movie succeeds because it holds two ideas about its characters at once: first, every character has empathetic, understandable reasons for acting the way they do, and second, almost none respect Ani enough to give her any agency in this story. Almost everyone uses her as a tool to be wielded for their own benefit, or to save their own skin, or just to feel something. They're too preoccupied with their own problems to look down and see the pain of the woman they think is below them.

The movie puts you in Ani's shoes and makes you *deeply* feel her frustration, longing for control, embarrassment and hurt.

Uh, I don't know if that sells you on the movie or not, but I liked it.

**Dick Smithers**

Even the name of the film is an attack on Ani's agency—imagine if she knew that the movie about her life was called *Anora*?

# MY THOUGHTS ON THE CAMPUS TOUR STOPS AS A CURRENT STUDENT AMBASSADOR

As student ambassadors, campus tours are our main responsibility. We're paid to take prospective students around campus and tell them how cool and awesome everything is in hopes that they'll choose to come here. We have a 20-page script we're meant to memorize, and it's a pretty silly role overall. On our 90-minute journey around campus, we visit 11 different locations. Here are some brief thoughts about all of them:

## SOUTH CAMPUS HALL

Our tours start and end in the Visitors Centre, but other than that, not too much happens in here. Just a short little intro and outro presentation. There's a cardboard cutout of King Warrior in this room and people are often confused by him.

## TATHAM CENTRE

The fact that the script uses the wording "super successful entrepreneur" when talking about the man this building was named after is kind of goofy to me. We talk about co-op here, it's one of the longest stops and the one that took me the longest to memorize because they make us talk about hyper-specific co-op statistics. People often ask me about the kinds of jobs I've worked and seem a little disappointed when I don't have anything impressive to say. Not all of us can work at Google, I'm sorry :(

## DANA PORTER

TBH there is not much to say. Big library, whoa! We talk about academic support services and things of that sort.

## EARTH SCIENCES MUSEUM

This is by far my favourite stop on the tour! EIT is cool, I like giving guests a few minutes to walk around and explore on their own and it's a good time. Guests always seem at least mildly bewildered by the mining tunnel, which is very fair, I have no idea why it's there either.

## QUANTUM-NANO CENTRE

We walk by that one lab with orange windows and oftentimes I'll wave at the people in there wearing their funny little suits and they'll wave back. A very enjoyable little interaction. We mention that the building was named after Mike Lazardis, a former Waterloo student, but other ambassadors have mistakenly referred to him as an alum. Bro did not graduate from here...

## STUDENT LIFE CENTRE

It's kind of awful having to take tours through here because it's always crazy busy and there are no good places to stand. I often have to yell to be heard and that's no fun :(

## PHYSICAL ACTIVITIES COMPLEX

I am not a very athletic person so I feel kind of robotic when delivering the information at this stop. People sometimes ask me questions about how good our varsity teams are. I have no clue!

## VILLAGE 1

The residence stops are done by a Residence Ambassador, so I don't have too much to say about this one. Trying to herd groups that are regularly 15–20 people large through the hallways of V1 is a bit of a pain but we make it work somehow!

## HEALTH SERVICES

I don't understand why this stop is on the tour. We just stop vaguely in front of the Health Services building and talk about Campus Wellness and Special Constable Services. I feel like the tour could do without it.

## UNIVERSITY COLLEGES

Trying to explain what the University Colleges are is a bit of a hassle, but I think they're pretty cool and I'm glad the tour takes the time to give them a shoutout and highlight what they're all about. We stop at the fork in the road where you can see all the UCs and I have fun pointing them out and highlighting what programs are housed where.

## ENVIRONMENT 3

By far our shortest stop of the tour. We walk in, say that the building is LEED Platinum certified, point out a few features that make it green and say that it showcases Waterloo's commitment to sustainable development. Then we leave, walk back to SCH and end the tour. Not too much happens here.

Thank you so much for joining me on this tour today! I've had so much fun showing you all around. :)

*grafis*

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## SO INSPIRING

hearing taylor belt "i can do it with a broken heart" was lowkey kinda inspiring like this woman out here smiling and making billions etc and pumping out so much material (ie 30 versions of the same album but whatever) but like actually we need to learn the art of crying a lot and being so productive like stop feeling bad for yourself just get up and get out there and do it yknow do what gotta get done you got this

*heartbroken13*

# CELESTE STRAWBERRY JAM BEGINNER LOBBY RATINGS

## PART 3/3

It's been a while, but it's finally time to finish this series. Onto the red beginner maps!

### SWITCHTUBE VISTA: 4/5

This is a good map. The music is fun and the visuals are charming, and the gameplay itself flows well. That being said, my enjoyment of this map was somewhat limited by the use of clear pipes which are a sort of jank mechanic at times. You travel through them slower than dream blocks which is a little disorienting and there's a few frames where Madeline sort of moves into the middle of the tube when entering, which means it's easy to accidentally mistime jumps and grabs out of the tubes. The rest of the map was great, though.

### CORESAKEN CITY: 4/5

I think my rating might be a bit controversial here. Yes, the map doesn't do anything outside of base game mechanics, and core mechanics are inherently a bit janky, but I think it uses them in good ways. I particularly like how getting all the strawberries requires you to play through the whole map while missing a switch at the start, which makes the gameplay a bit harder. It's a creative way to add an extra challenge for the player. Of course, it doesn't do much else notable, but that doesn't mean it's not still a good map.

### SOAP: 4.5/5

The gameplay is very satisfying in this map, and it would have gotten a 5/5 if not for one fact: I found the music really annoying. It wasn't bad on my first playthrough, but something about it made me irrationally angry when going for the deathless run. Eventually I turned off the music and I immediately started doing way better and quickly got a successful run!

### STRAWBERRY ORCHARD: 3.5/5

Ah, throwables. I do have a love-hate relationship with them. In this map, unfortunately, I don't think they were executed that well. It's clear that it's intended for the spring chains to be very satisfying along with throwing the basket of jam through pipes and catching it again in midair. Which they often were, but I found that sometimes the jam would barely miss a spring or the player and it wasn't clear what I did wrong to cause that.

### A GIFT FROM THE STARS: 3.5/5

And now we are onto the puzzle maps... Oh man. These are very controversial. I admire the puzzle construction and I do enjoy a good puzzle, but the atmosphere made it not too fun to spend a long time figuring out a solution. Also, there is some attempt at a story, but it feels like it ends very abruptly without a proper conclusion. All in all, I think it has decent room for improvement.

### DROPZLE: 4.5/5

Dropzle, the source of so many memes, is actually pretty good! The puzzles are definitely way harder than those in A Gift from the Stars, but the solutions are all very fun and creative (apart from the 2<sup>nd</sup> last room, but I'm willing to overlook that one). I did have to use the hint option a lot, but hey, it's there for a reason. And the hints are good hints too, they don't immediately give away the solution, which is nice. I had fun playing this one!

And now we are at the end. 21 maps down, and thus the beginner lobby is complete— oh wait, what's that? A final challenge made of one room themed on each map in the lobby? Sign me up!

### BEGINNER HEART SIDE: 4.5/5

The culmination of everything in the lobby so far, and each of the twenty-one maps at their very best. It feels very good to recap everything in the lobby as the numbered flags count down room by room, and the experience is only slightly hampered by the flag for Potential for Anything being really frustrating for no reason! I jest, of course. Both the initial completion and deathless challenge were very fun. It's a very nice touch, too, that the final flag is themed on Paint—the only map I rated 6/5. What a great experience.

In conclusion, all I can say is that if you've been reading these and you have Celeste on your computer, you should play Strawberry Jam! None of these maps I've described are harder than the main story, so if you can do that then you can do the beginner lobby. Don't hesitate to download it. It's truly the crown jewel of the amazing Celeste community.

hyperlynx

## RATING RECENT MANHWA I HAVE READ

### MANHWA SUCKS UP SO MUCH TIME PLS SEND HELP

- Eternally Regressing Knight—9/10
- Absolute Sword Sense—8/10
- Childhood Friend of the Zenith—8/10
- Player Who Returned 10,000 Years Later—7/10
- Mr. Devourer, Please Act Like a Final Boss—6/10

Fried Rice

# HALLMARK MOVIE PITCH

I feel that, at best, Hallmark movies have one hook. Enclosed is my pitch for a Hallmark where the hook is that Santa is a first-year at university.



We open with a scene of our main character walking to class.

Despite this being a university campus, Christmas lights are hanging across the trees. First-Year Santa doesn't have a bushy beard, but he is wearing an ugly Christmas sweater and a red toque with a white pompom.

A wreath adorns a mahogany door, but before First-Year Santa can enter, he is hit from behind by a snowball. The perpetrator guffaws at First-Year Santa, and says something evil, like "What's with the sweater? Don't you know it's November thirtieth?"

The perpetrator runs off. First-Year Santa leans down to inspect the snowball, rummaging through its remains. He reacts as he feels something. A rock. He grimaces.

Poor sportsmanship.



Inside a classroom, First-Year Santa finds his seat. It is in this classroom we meet our villain.

Sporting thick-rimmed glasses, a balding man made miserable by decades in academia struts in.

"I have decided on the date for the final exam," the Evil Professor calls out, "As life does not allow alternative offerings, I won't either. The final will be from 8 to 11, on the 24<sup>th</sup> of December, and believe me, you will need every minute of that time."

First-Year Santa's hand shoots up, "But sir, that's Christmas Eve!"

The Evil Professor glares at First-Year Santa. His upper lip twitches. "Do I look like I give a damn?"

He does not. The lecture continues.



Christmas is far too powerful a force to be apathetic to, it evokes only Love or Hate, the strongest emotions. Our villain is no exception.

We see the Evil Professor's youth. He is identifiable as, even in childhood, he sports the same thick-rimmed glasses. He walks along a busy city street, Christmas clearly in the air. The golden light from store windows illuminates teeming crowds,

everybody bustling around carrying parcels wrapped with red paper and green lace.

From within a toy store, we hear the laughter of children. The Evil Professor stops on the sidewalk and looks up at the windowsill. It is the most ostentatious display of wealth a child could possibly imagine—sleds, rocking horses, trains, toy cars—but at the centre sits the pièce de résistance, a big red tricycle.

The Evil Professor's eyes light up. He rushes home, he begs his parents, and finally, we see him sit down and start to write something in a messy font characteristic of children's writing. It's hard to read, but the first two words are unmistakable.

"Dear Santa,"

He puts his letter in the mailbox and watches until the mailman takes it away.

When Christmas morning comes, he rushes down the stairs only to find nothing under the tree. His upper lip twitches.



We couldn't have a university movie without a party scene, so we cut to the inside of a crowded house. There's loud dance music playing. Bright lights flash. The floors shake. First-Year Santa observes from a corner, sipping a glass of smooth white liquid.

"Hey, dork," shouts some asshole at First-Year Santa, who turns to see it's the same perpetrator who nailed him with the rock earlier.

"You gonna finish that?" he asks, swiping First-Year Santa's drink and taking a gulp. The perpetrator looks surprised at the taste, "What the hell is this crap?"

First-Year Santa sighs. "It's milk."

"Oh," stutters the perpetrator, suddenly looking uncomfortable. "I'm lactose intolerant." He rushes off.



We cut to another scene inside a department store, First-Year Santa walking the aisles and appraising the wares. He mumbles the lyrics to the Christmas music playing over the store speakers.

He turns the corner and sees the perpetrator from earlier anguishing over a decision.

"Shopping for someone tricky?" First-Year Santa asks, walking up to him.

The perpetrator is too nervous to make any aggressive reply. “Yeah,” he mumbles.

First-Year Santa nods. “Well, since you’re thinking this hard, it must be someone special. Let me help you out.” First-Year Santa pulls out a notebook from his pocket and flips through it. Finally, he looks up and picks out an ornate gift basket stuffed with candy and chocolate.

“Give her this, I think she’ll like it.”

“But,” the perpetrator stammers, “She doesn’t eat any of this, she—”

“She doesn’t eat any of this with you,” corrects First-Year Santa, “You’re lactose intolerant, she doesn’t like you feeling left out.”



Another scene, inside an orderly office. Perfectly stacked papers, perfectly arranged textbooks— Evil Professor’s office hours.

Enter First-Year Santa.

“Ah, have you come to complain about the exam date again?” chuckles the Evil Professor, “Writing more emails to Accessibility Services won’t change anything.”

“I just think it shouldn’t be Christmas Eve,” counters First-Year Santa, “That’s a special time of year!”

The Evil Professor chortles. “You think this is a special time? There was no joy for me that Christmas, why should it be different for you?”

“The joy of Christmas doesn’t have to be on Christmas,” First-Year Santa explains wisely, “The joy of Christmas is year-round. In fact, any joy is Christmas joy ’cause Christmas is joy.”

As the Evil Professor sits stupefied by the True Meaning of Christmas, First-Year Santa pulls out a big red tricycle from his bag and lays it on the desk, scattering the papers.

“I think you’ll like this,” First-Year Santa says.



It’s snowing as the students enter the exam hall on Christmas Eve.

They all look miserable, but as they unwrap their scarves and unzip their coats, they notice something. Instead of exams on the tables, each of them has a small wrapped package. Cautiously at first, they begin to open them, and they are shocked to find that inside are gifts. The students’ faces all light up as they find they’ve received something they’d had on their wish lists.

All the students begin to celebrate. Well, almost all of them, that is. First-Year Santa’s absent, having important business elsewhere.

aphf

## THE BEST CHOCOLATE CHIP COOKIES

note: do not skip chilling the dough i swear chilling makes the difference when it comes to getting a chewy yet crispy cookie. also, i am aware that brown butter also adds a deeper caramel/molasses flavour, but a) who has time to wait for the butter to brown and then cool again, b) i don’t want to wash another dish, c) i use dark brown sugar specifically to combat the lack of caramel/molasses flavour from the unbrown butter

### INGREDIENTS

- 1 cup of unsalted (salted also works but i prefer unsalted) butter at room temperature
- 1 cup of granulated sugar
- 1 cup of **dark** brown sugar (do not replace with golden yellow sugar that is a scam)
- 2 teaspoons of actual vanilla extract
- 2 eggs
- 3 cups of all-purpose flour
- 1 teaspoon baking soda
- ½ teaspoon baking powder
- 1 teaspoon sea salt
- 2 cups of chocolate of your choice (i prefer a mix of chopped dark chocolate and semi-sweet chocolate chips!)

### STEPS

1. in a medium bowl, mix together the all-purpose flour, baking powder, baking soda, and sea salt
2. cream together the butter and sugars using a stand mixer or hand whisk in a large bowl (make sure the butter is at room temperature! it should be spreadable on a slice of toast but it should not be liquid)
  - a. note: this step is key; if you overmix it becomes too cakey, if you undermix it becomes too dense
3. add in the eggs and vanilla extract into the creamed butter/sugars mixture and mix until combined
4. slowly add in the dry ingredients until combined, then mix in the chocolate until just combined
5. cover and place in the fridge for 24 hours PLEASE BE PATIENT
6. preheat the oven to 375 f
7. bake for 8 minutes, they should not look done and that is what you want

# ENGSOC HAS A NIMBY PROBLEM

## ENGINEERING IN MY mathNEWS?!?!

I think most people have heard of the term “NIMBY” before. For the uninitiated, NIMBY stands for “not in my backyard,” and refers to people who oppose new infrastructure developments near their homes. Now, EngSoc clearly has no new developments it concerns itself with, but I’m talking more about the underlying reasoning why many people unconsciously become NIMBYs, and how EngSoc has a similar problem.

A large portion of NIMBYs are NIMBYs simply because they don’t want things to change. These people tend to be *older* and tend to have lived in those areas for a long time. They are used to the way things are, and are content. The area serves them as it is, and they don’t see a need for anything to change. Any change may even seem inherently hostile, as it is a direct attack on the way life had worked up until that point. Any change, however useful for others or broadly needed, changes their lives and due to that they are against any change in the area.

EngSoc has a similar problem, where large portions of its active membership try to keep things the same as much as possible. When new changes are proposed, they are almost always opposed, typically by *older* students. When changes do happen, they require months and months of vetting and internal checking before even being proposed. And once proposed, these changes inevitably go through a whole other process, workshopping individual prepositions through motion amendments and subamendments until finally after an immeasurably long AGM, they’re implemented. This isn’t to say that verbiage isn’t important, but the opposition to change, the abstemiousness to when they are applied is constant and hampers EngSoc as an effective organization.

Nowhere is this stronger than with EngSoc’s obsession with its traditions. EngSoc, especially recently has been trying to shine a spotlight on its traditions. The rationale for doing so is to grow student engagement with EngSoc and bring more people in. The problem with this is that EngSoc should not try to bring people into itself, *it should meet people where they are*. The refusal to change, and instead double down on its traditions, and its past, is another symptom of the NIMBYism in EngSoc, and one that is leading it down a path of obsolescence. Waterloo Engineering culture, as with all culture, is ever-shifting and changing. By refusing to move with it, and by clinging so strongly to its current set of traditions, EngSoc culturally stagnates and alienates itself from the student body.

The problem with NIMBYism is that it eventually chokes the areas in which it’s most prevalent. Cities with high NIMBYism are the ones facing the brunt of the housing crisis. Refusal to modernize infrastructure deprives areas of possible economic development, as does opposing new housing and commercial developments for the fear that the “wrong type” of people might use them. It also goes against what the original inhabitants of the area originally did. Cities grew rapidly, in the way they did, because NIMBYs didn’t have a hold on

development in cities when they were first developing in the ‘50s and ‘60s. In essence, the lack of NIMBY power led to the conditions that allowed NIMBYs to enjoy the low house prices that they enjoyed. Now that they have theirs, they jealously guard against continuing that trend, selfishly dispossessing people of the same opportunities they had, just for their own minuscule gain.

In the same vein, EngSoc’s stranglehold on its traditions is choking its engagement. Culture is a fluid, moving thing. Any attempt to hold on to the way things were is futile and inadvisable because things will change, whether you like it or not. As with the city metaphor, we can take a look at what actually started EngSoc traditions. They had to come from somewhere after all. And the answer is, they started organically, by involving students. If EngSoc had jealously held on to all of its traditions, there would have been no space for new ones, and no space to grow into the organization today. Furthermore, the reason students got involved, the reason why they cared enough about EngSoc to make traditions, is because EngSoc provided something for them. It stood up for them, and it represented them, not just internally, but to the Faculty and the University as a whole. The advocacy and services work is what brought people in, and what made people believe in EngSoc. If you ask students today what EngSoc does for them, I guarantee you most people wouldn’t think of advocacy first, second, or even third. And this is because EngSoc has left these priorities by the wayside to focus on events and traditions.

A great example of EngSoc traditions not relating to the student body is that they tend to be very “white.” This is not to disparage them, but it is a factor to take into account, as Waterloo’s Engineering population becomes more and more diverse. The fact that these traditions feel “white” is no surprise either, as nearly all Waterloo Engineering students were white, up until disturbingly recently. Furthermore, the vast, vast, vast majority of students used to be male (and in too many programs still are), which can also be felt in many traditions. In an era where Engineering looks less white and less male, it’s only common sense for EngSoc to change with it. Personally, a big barrier to getting more involved for me is the fact that EngSoc traditions feel “wrong” like they weren’t meant for me, and evidently, things that I don’t enjoy.

This is a blind spot for many but definitely not all active people in EngSoc, as well, the thing that got them involved in the first place were these traditions. I don’t blame them for wanting to recreate this experience for others. Unfortunately, to truly engage students as those lucky few were, traditions need to be updated, and the obsession with the past of EngSoc needs to be excised. Traditions need to be allowed to spring up organically, and EngSoc needs to broaden the number of people it appeals to, both by refocusing on things the student body actually cares about (i.e. advocacy for them) and by taking the reins off EngSoc traditions and culture, letting it be as fluid and open as Engineering culture is. We have to love

EngSoc enough to let it go, at least the EngSoc of now. We need to let it go and become new and everchanging to truly involve as many students as possible, and grow into a stronger and more representative organization.

IDIC

This was submitted to Iron Warrior, but they refused to publish it.

## IT'S DARK OUTSIDE.

But you're indoors, so you can see everything clearly. You can see your hands in front of you, and you can see you've walked the wrong way down the corridor, so it's time to turn around.

You can see the rusty door handle. You can see a second corridor. You can see another rusty door handle. Now, you can't see the third corridor. It's dark inside.

Is it another corridor? You fumble for your phone's flashlight, but you're blinded by bright blue light. That's only supposed to happen one minute each day, isn't it. Not now, it's 3pm.

Is it 3pm? It dawns on you that you can't remember. Can't even check outside; it makes no difference. You start running through your day, and abruptly arrive at this point, having run no distance at all.

It was twenty hours in one square room, so it must be 3am. You look up from your phone to see darkness ahead again, but darkness behind too. The only thing you remember is the door was a deep navy blue.

You look at the ceiling light. Right then, it flickers, stumbling to a sleep-deprived state of "on." It's not a corridor. It's a toilet.

As you lower yourself to the freezing rim, you wonder why those odd people in that square room referred to you as LLM all day long, instead of the name you remember as yours.

© © ©

You fight the brisk morning wind as you fumble with your lock, but you can't see the numbers on it, so you can't open it. It's still dark outside.

no pun indented

## SEARCHING FOR THE PEOPLE THAT ACTUALLY LISTEN TO EVERYTHING

As a proud member of the "listens to everything" club, there are a lot of people that give the "I listen to everything" group a bad reputation. I love finding people that truly listen to everything, because I can shuffle my playlist without shame. Unfortunately, the last N "everything" people I've met have excluded some core genres from their repertoire, to the point where  $Everything = \{Music\} \setminus \{country, rap, classical, \dots\}$  etc.

Here are the first twenty-five songs that appeared on my shuffled playlist that I would like to present as my "if you fuck with this, I believe you listen to everything."

1. Concerning Hobbits—Howard Shore
2. Remedy—Seether
3. Hasa Diga Eebowai—The Book of Mormon Soundtrack
4. Positive Vibration—Bob Marley & The Wailers
5. Taki Taki—DJ Snake
6. Occam's Razor—Frank Zappa
7. Discord—The Living Tombstone
8. I Miss You—blink-182
9. Sholay—Vishal Mishra
10. Kaptein Kaos—Trollfest
11. THE LONELIEST—Måneskin
12. SPLASH FREE—STYLE FIVE
13. Faster n Harder (Sped Up)—Sassy Scene
14. Layla—Derek & The Dominos
15. Swing, Swing—The All-American Rejects
16. Traidora—Gente de Zona
17. Dig Up Her Bones—Misfits
18. Love Trial—40mP
19. i wanna be your girlfriend—girl in red
20. Your Love Is My Drug—Ke\$ha
21. The Pi Song—AsapSCIENCE
22. Take Me or Leave Me—RENT Soundtrack
23. Dire Dire Docks—Super Mario 64 Soundtrack
24. Caramelldansen—Caramella Girls
25. The Last Battle—Sabaton

and many many more that span many more genres. Notably, no classic OR country came up on this list—despite my many Dolly Parton and Paganini songs, and the metal was really disproportionate today. Pls send more listen to everything people cause I want to shuffle my playlist in peace thank you.

bsqcg

Этот текст просто  
выглядит круто.

ЭТО НИЧЕГО НЕ ЗНАЧИТ



# HELP ME IMPROVE UW CAMPUS

## IT WILL ONLY TAKE FIVE MINUTES OF YOUR TIME

If you spend even a little bit of your time thinking about the state of the world, it is easy to feel hopeless with the many complex problems we are facing and the woefully inadequate attempts to fix them. Focusing on problems on a macro scale can make us feel powerless and overwhelmed. The solution to the feeling of powerlessness is, well, doing something. If you can see how your actions can change the world even on a smaller scale, it can inspire hope and give purpose instead of feeling aimless dread.

I have a very tangible specific problem I would like to fix on UW campus and I would like your help, dear reader.

I despise the curb cut<sup>1</sup> between the SLC and QNC that lets cyclists and wheelchair users cross ring road. The two curb cuts to cross are at an incredibly awkward angle. I was told it was created that way on purpose to try and slow down cyclists. However, in practice, the design hasn't been successful. They purposefully built an annoying to use curb cut to fuck cyclists and, as a result, punish any other other kind of users who might need to cross there.

Allegedly, UW is amenable to changing it, but only if enough people complain as it costs money to fix. I am willing to donate up to \$500<sup>2</sup> to the University of Waterloo on the condition that they fix this to my satisfaction. If the administration is interested in taking me up on my offer, please contact [sophisticatedmeta@gmail.com](mailto:sophisticatedmeta@gmail.com) with the subject line: Accepting Beyond Meta's Curb Cut Offer.

Where I could use your help, dear reader, is providing a volume of complaints. Please complain here: [uwaterloo.ca/accessibility/feedback/contact-us](http://uwaterloo.ca/accessibility/feedback/contact-us) with the following message. You are welcome to add your own personal details as well.

*Location: Curb Cut between SLC and QNC and the curb cut on the other side of the street that is misaligned.*

*Comments:*

*Dear Accessibility at Waterloo,*

*I am writing to formally raise a concern regarding the accessibility of a particular pair of curb cuts: the curb cut that is between the SLC and QNC and its corresponding pair on the other side of Ring Road. The two curb cuts are not aligned properly forcing users to cross at this very awkward diagonal angle to use them. This forces vulnerable road users to spend more time on the road than necessary if the curb cuts were built for how one would naturally cross the street.*

*Accessible design is for everyone. The curb cut effect is chiefly named for how building curb cuts benefits not just cyclist and wheelchairs users, but parents with strollers, students carrying sensitive equipment on a cart, etc....*

*As a member of the university community, I believe it is essential that all campus infrastructure be fully accessible to everyone. I respectfully request that this curb cut be evaluated and corrected to meet the appropriate accessibility standards, ensuring safer and more inclusive access for all students, faculty, staff, and visitors.*

*Thank you for your time and consideration.*

Thank you for helping me out with this personal vendetta. Let's make the world a better place: fixing one poorly designed curb cut at a time.

## Beyond Meta

1. A curb cut is a solid (usually concrete) ramp graded down from the top surface of a sidewalk to the surface of an adjoining street. It is designed primarily for pedestrian usage and commonly found in urban areas where pedestrian activity is expected. In comparison with a conventional curb (finished at a right angle 4–6 inches (10–15 cm) above the street surface) a curb cut is finished at an intermediate gradient that connects both surfaces, sometimes with tactile paving.
2. When I said I despise this curb cut, I meant it. I am willing to put my money where my mouth is.

## A LITTLE BIT OF DIABOLICAL COMPLAINING

### THANKS, PMATH 453

I have a bone to pick with one of my courses. First things first, we gotta give credit where it is due. The course content is interesting, and I am enjoying the way the assignments make me think. HOWEVER, I have a big bone to pick with the grading of the assignments. It is graded like complete ass.

I swear to god, I have seen more merciful 135 grading.

*makes one typo, 5/8*

*complete correct solution only typos, 3/8*

SIR EXCUSE ME I AM NOT A FUCKING CHILD. I know how to write math. I do not need grammar lessons. If I wanted that, I would go over to the history department. With no due respect, please stick to grading math and not my writing style.

Slightly unrelated question, does the TA tackle every research paper they read with this mindset? If so, then how come they have not gone insane yet?



# WHAT SURVEY QUESTION SHOULD I ASK NEXT TERM?

- If you could have any pet, what would it be?
- If you were to make a fursona, what animal would it be?
- Favourite architectural style?
- How many pets is too many pets?
- What's your favourite type of cheese?
- What is your favourite Ikea furniture item?
- What is your favourite Ikea menu item?
- What kind of food do you like?
- Do you call it a beanie or a tuque?
- What are your average hours slept per night?
- Rock or powder?
- What's your favourite prime of the form  $x^2 + ny^2$ ?
- Favourite chair in MC?
- What newsworthy activity should **mathNEWS** editors and writers do to get a Wikipedia page?
- What survey question should I ask next term (4)?
- What's the sexiest math notation?
- How did you get to school today?
- How many midterms do you have this week (during midterm week)?
- What's your favourite bridge/tunnel on campus?
- What is your favourite book?
- Secret study spots?
- What TA do you hate the most?
- Piss or cum?
- What's your favourite survey question?
- What is your favourite day and time of the week?
- What is your favourite pizza topping?
- Are you registering for the key clues puzzle hunt, and if not, you should be?
- Worst place to get food on campus?
- What's your favourite water fountain on campus?
- Best building on campus?
- Do you like your roommates?
- What's your favourite subspecies of bird?
- What is your deepest secret?
- What's your name?
- What is your unhealthy media obsession?
- Whatever my heart desires (2)
- What is your favourite emoji?

mathgeek

# N THINGS THAT MAKE ME CRY

PLEASE HELP OH GOD OH GOD

1. math

# ML'S DINER TIPS AND TRICKS

ML's is located very close to where I normally work during the day, so I've made a fair number of trips to it over the past few terms. Like most Food Services locations (imo) most of the menu feels overpriced, but there are a couple dishes that are approaching worth it:

1. The bagel melt is only \$6 and makes a decent breakfast option, though I've got a bigger appetite than I think the average person does so it's not quite enough for a meal for me.
2. The large bacon chipotle poutine is great, feels like a proper meal with the bacon and a good amount of gravy and cheese. I lowkey craved it all spring term when the diner was closed...

Other than that, the \$5 large fries is cheap enough to feel like a snack, though you'll probably want to add some ketchup or salt to it for some flavour. The chicken fingers and fries will come to just under \$14 (or \$15 with large fries), but there's something addictive about it. Since I first tried it earlier this term I've gotten it again a few times, and even started getting the equivalent dish at other restaurants. Very deadly.

JoonWei

## ISSN 0705-0410

UW'S BASTION OF ERUDITE THOUGHT SINCE 1973

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# MY FAVOURITE ALBUM OF 2024

If you've read one of my articles before, you would know that I love music. I consume songs and albums on a daily basis. I have headphones on 80% of the time I'm awake. I own an obscene amount of CDs. You get the idea.

I don't tend to approach music from a critical perspective, since it's rare for me to come across something I dislike. That being said, what often distinguishes a great album from a good album for me is replay value.

This year, I would say about twelve records have captured my attention to the point where I listened to them, in full, several times on their release day. My Spotify algorithm didn't know what to do with me. I was hooked from the get go. And I didn't stop; these records continue to be in my rotation now.

Faye Webster's *Underdressed at the Symphony*. Vampire Weekend's *Only God Was Above Us*. Waxahatchee's *Tigers Blood*. Jamie xx's *In Waves*. Poppy's *Negative Spaces*, and that only came out last week. I could go on. But I won't. Because while these records are amazing, there is one that triumphed over all of them and it wasn't even close.

Today I would like to talk about *Imaginal Disk* by **Magdalena Bay**.

Yeah, I know that this isn't exactly a unique opinion in the music nerd community, but come on now. This is more than an album, it's a transcendental musical experience. Nearly an hour of forward-thinking pop music that never overstays its welcome, never tries too hard, and never sounds trite. I thought their debut was fantastic; this is a whole other level of fantastic.

You already know that you're in for a treat when you look at the cover: Mica Tenenbaum, lead singer and one half of alt-pop duo Magdalena Bay, gazing upward as a CD is forced into her head by a random hand with abnormally long fingernails. It's just the right amount of unsettling. The other half, Matt Lewin, experiences the same horrors on the back cover. I wanted to recreate the 'CD into forehead' part for Halloween, but alas, I am lazy and not artistic.

Throughout the album, you witness a battle of sorts between the protagonist and an idealized version of herself. She even has a name—True—and appears to bear a striking resemblance to the protagonist ("**She Looked Like Me!**"). As heard in "**True Blue Interlude**," the *Imaginal Disk* seems to be a literal disc that can be inserted into your brain in order for you to become the 'purest you.' This new persona is encountered directly on the next track "**Image**," and I interpret everything that ensues afterward as True slowly absorbing her way into the protagonist's psyche.

Even though the lore behind *Imaginal Disk* is plentiful and deeply entrenched in internet culture, you don't even need to be aware of it to enjoy the record. The sound and just the sheer artistry of the music is phenomenal. "**Tunnel**

**Vision**" ends in a two-minute wall of prog rock reminiscent of the band's earlier days as part of the band Tabula Rasa. "**Love is Everywhere**" contains the original funk-based background track sampled by a Lil Yachty song—crazy crossover. "**Cry For Me**" is like if ABBA dropped acid. And my favourite, the closer "**The Ballad of Matt & Mica**" makes the record go full circle by revisiting elements from the opener, and thereby completing Mica's transition into True.

What makes this album so special to me is that it was clearly made for all the music nerds out there, who spend their days scrolling through RateYourMusic and trying to accept the fact that they will never be able to listen to every song ever released. Magdalena Bay garnered a large internet following before they even put out their debut *Mercurial World*, through stuff like informational TikToks about the music industry and mixtapes (dubbed *Mini Mixes*) that showcased their preference for the weird and the otherworldly. They are also ridiculously talented, seeing as though they produce their songs and create homemade green screen music videos completely by themselves. My favourite is "**That's My Floor**," I feel like every time I watch it I pick up another subtle detail or reference, while also growing slightly more insane.

2024 will soon be over and a whole new year of music will be upon us. There's always a totally normal amount of excitement for the year to come, but I'm trying to live in the present, and the present is telling me that *Imaginal Disk* is a certified hood classic. I really hope I've inspired you to give it a listen. I'll be back next term... I mean it this time!

JP

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## A LOT OF TIME

At the start of October, I got quite sick and I felt really terrible for two or three weeks. I thought I would feel better soon after, but I didn't cause I was still coughing quite a bit. And I *still* don't think I've fully recovered from being sick even though it's been many, *many* weeks. I'm much better now and I've mostly stopped coughing, but I was very frustrated about it. I could tell that I was coughing less and less as each week passed, but why haven't I stopped yet? Why don't I feel any better?

I guess feeling better takes time; sometimes, I guess it takes *a lot of time*. And I've got other things I'd like to feel better about, so I guess I'll keep waiting.

Maybe you've got some things as well.

And you'll wait too, right?

terminal

# VIDEO GAME MOVIES SHOULD BE BETTER

## AND HOW THEY COULD BE

Okay, first I want to address what people always say when I bring this up, and that's how corporations that buy the rights to adapt video games into movies don't need to make their movies better because they'll already make a ton of money by making a bad or middling movie with their license. My response to this is that I think there are still people who make movies who want to make good movies, and I also feel like there's so much missed potential that I need to talk about it regardless of how realistic it is anyway.

So with that out of the way: video game movies. They've been around for a good few decades now, and only seem to be rising in popularity. The genre(?) doesn't really have the best reputation, but I feel like everyone has one or two that they genuinely really like, meaning there's always potential for the next one to be good. I myself have enjoyed a few, but in my eyes every single one has missed the mark for what a video game movie *could* be. One roadblock that many of them run into is when they try to only adapt the plot of a video game. In many cases, a game's story works in addition to its gameplay, not meant to exist without it. Taking a game's story out of the game and providing nothing else in addition is to be left with a fundamentally lesser experience, and in cases where the gameplay is entirely the focus and the story only a vehicle for said gameplay, what you're left with isn't going to be very good. The most common solution to this in the more successful adaptations is to diverge from the contents of the game so that a largely original work can be created and be good in and of itself. Two big examples of this are the Sonic films and the FNAF movie. I really enjoyed the FNAF movie, and I know the Sonic movie has plenty of fans, but when watching these I have to ask, what is it that really makes these *video game* movies? There seems to be very little attention to the original medium, or to the substance of the original work at all. Capturing in movie format the actual feeling of what it's like to play a particular video game is an idea that I find incredibly fascinating, and I think it's crazy that it's barely been explored despite seeming to me like the obvious direction.

I think what screenwriters for video game adaptations tend to miss is that the narrative of a game comes from the player playing it. Think back to your favourite moments from video games you've played: how many of them are actually from the story? How many of them are just from a narrative twist, or a particular cutscene? I'm guessing that most of them come from actually playing the game, and of course they would, that's what makes games fun. You might think that this memorable moment of yours is unreplicable in any other medium. You fundamentally can not play a film in the same way you can play a game (unless it's interactive but that's different), so isn't this a moot point? This is another argument I've heard, and I feel like it completely fails to address the many examples outside of blockbuster film in which an adaptation of a video game's experience actually works.

I feel like the biggest example that video games can be enjoyable when adapted to an uninteractive medium is the

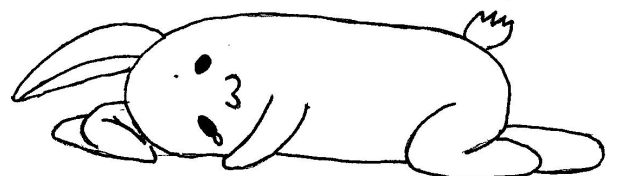
extremely popular field of Let's Plays. Whether you like it or not, there are many many people who enjoy just watching other people play video games. This is an unavoidable fact, and I'm genuinely surprised that no big film corporation has ever tried to capitalize on it. For every genre, be it puzzle, platformer, fighter, shooter, visual novel, anywhere where you think that the actual playing of it must be integral to the experience, there are huge numbers of people who really enjoy watching others do the playing, perhaps even more than playing it themselves. So why is this? I think that question is one of the keys to taking video game adaptations to the next level. Perhaps it's the player's entertaining personalities, but entertaining personalities are no stranger to film. I've heard arguments for the genuinity and unpredictability of Let's Plays, like how even when it's prerecorded the knowledge that it's unscripted makes it more engaging. That's interesting, but I think that people can get really absorbed in a work of fiction despite its "predeterminedness," and genuinely feel more narratively engaging than a Let's Play anyway. I think that it's a complicated question, but to me Let's Plays are a clear example of how the experience of playing a video game is transferrable.

When someone plays a game, they create all these little narratives from their own experiences, and those narratives are completely different depending on the genre, yet still all unique to the medium as a whole. Have you ever told one of your friends a story about an experience you had while playing a game? Maybe even a story from a video or stream you watched of someone else playing a game? Can you really say all value is lost in translation? My favourite example of retelling video game narrative is Jaiden Animations' Pokémon Nuzlocke series.<sup>1</sup> Her experience of playing video games is retold in a video format, using traditional narrative techniques and developing characters, along with fun dynamic original animation, to create an engaging story. This story stems directly from the experience of the game, but evolves it by utilizing the specialties of the new medium. Isn't this what adaptations should be?

I refuse to believe that the current state of video game movies is all we'll get. There are too many examples of how they can be much better, and there's a wealth of unexplored potential to be tapped. I for one can't wait until it is. Thank you all for reading!

Doublewhip

1. <https://www.youtube.com/watch?v=p1SyrHqU78>



# profQUOTES

## CS 486: FREDA SHI

“ If the plane gets hit in the wing, it can return to the base. If the plane gets hit in the engine, it can return to the ground.

“ We must first bring in a chicken.

## MSE 541: MARK SMUCKER

“ I don't know if my parents just let us go or what—it was the 1970s and they did that sort of thing.

“ At Twitter, they had this goal of eliminating bad experiences—that's not the goal at Twitter anymore.

“ I've never asked whether companies try to improve pornography searches.

“ It doesn't do you any good to try to kill people and not kill them.

## AMATH 271: MIKE WAITE

“ But if you forget all of that and just look at it...

“ If I wanted to make you do a triple pendulum or a quadruple Atwood machine... which I won't.

“ This one we can get by just applying our brains.

“ If I time it right, we'll talk about  $E = mc^2$  for like ten minutes on the last lecture.

## AMATH 351: FRANCIS POULIN

“ I poked my eye yesterday and now my eye is red.

## CO 255: RICARDO FUKASAWA

“ Simplex has issues, so do all of us... but like the algorithm itself has issues.

“ This proof you can clearly see and this proof is not so bad... so I'm gonna skip it.

## CO 342: JIM GELEN

“ Occasionally I write something that is correct. Even a broken clock is right twice a day.

“ I better start with the Edmonds' algorithm. If grandpa found out that I didn't teach his algorithm, I would be in big trouble.

“ This can't be the whole story because it would imply that Tutte has missed something, and trust me, Tutte has not missed anything.

## CS145: TROY VASIGA

“ He's checking his OnlyFans. Oh, he's got three [followers]. His mom...

“ JavaScript is my safeword. When someone says JavaScript, everything stops.

“ *[Clenches chair in front of him after student mentions JavaScript]* I have never killed a student before.

## CS 245E: SHAI BEN-DAVID

“ I have an indicator egg that tells me the whole truth.

“ Catfished, it's called?

## CS 246E: BRAD LUSHMAN

“ Many other languages don't have this; they are afraid. But C++ has no fear.

“ Shared data structures are a nightmare in C—that's the technical term for it, “nightmare.”

## CS 330: KEVIN LANCTOT

“ Should we get rid of the arts faculty?

## CS 341: ÉRIC SCHOIST

“ Does anyone have a mouse I can use to navigate my slides? Or does anyone know how to use this [keyboard] to navigate my slides? Control-L? Control-O, F11? F12? No. I'll ask Copilot.

“ If I were 30 years younger, I would say, “Expect assignment 4 to drop tomorrow.”

## CS 341: TREVOR BROWN

“ I mean, no offence to your intelligence, but that'll probably not happen.

“ Instead of searching for a solution, maybe you learn to cope with reality.

“ Mine must be hard. Mine must be as hard as it.

“ Magic can produce the answer in  $O(1)$ .

## CS 343: PETER BUHR

“ We're making a really aggressive dating app because once you arrive you're not allowed to leave until you get a match.

**CS 360: RAFAEL OLIVEIRA**

- “ The million-dollar question is this one [*points at  $P$  and  $NP$* ] but if you solve any of these other ones [*points at a few other problems*], I'm sure you'll also make a lot of money. You'll live a happy life.
- “ [*Student, referencing the statement of  $PSPACE \subseteq EXP$ : shouldn't you be able to come up with a problem that uses a lot of time but not a lot of space?*] Try it! If you come up with one, I'll give you an A+. I'll give you a 200 in the course. That should be motivation enough.
- “ If you're gonna flex your [CS] 341 muscles, or your [CS] 240 muscles... or maybe your high school muscles... or maybe for some of your kindergarten muscles...
- “ This sounds stupid. You're just making up random problems to take up extra lectures to use up my valuable Waterloo money.
- “ [*Writes  $L \subseteq NL \subseteq P \subseteq NP \subseteq PSPACE$  on the board*] One of these is a strict containment. [*Referring to the unsolved complexity theory problem*] Come to me after class with your proof, and I'll give you 100 in the course. Maybe even 200.
- “ [*Writes deeply incorrect code on the board and keeps claiming that it's correct*] [*Students: hysterically explaining why it's incorrect for several minutes*] OHHH I see. I'm a complexity theorist, I don't really write code. [*Fixes one thing but erases another part that was correct*] [*Students: WAIT NO*] You guys are doing a good job as my compiler. [*Student: 0 errors, 200 warnings*] Yeah, that's what my code looks like.
- “ If you recall from your logic class... [*Explains that if  $x$  is false, the implication  $x \Rightarrow y$  is always true*] ...And that's why everything that comes out of Trump's mouth is true!

**CS 454: KHUZAIMA DAUDJEE**

- “ I have to wait and suffer for a long time before I can view the data.

**CS 488: STEPHEN MANN**

- “ My daughter was having trouble counting edges in 3D objects at school, it's hard for everyone. I ended up teaching her a simplified form of Euler's formula and it helped.

**GER 101: BARBARA SCHMENK**

- “ [*Student arrives late because of sports*] What sport were you playing? [*Student: Volleyball.*] I feel we should really give him a hard time for that.

**MATH 137: MOHAMED SERRY**

- “ Guys, pull out the Desmos, WolframAlpha, ChatGPT, I need some help doing the math here. [*Class gets ten different answers*] You guys are not very reliable.

**MATH 145: JERRY WANG**

- “ So I finished teaching you guys PMATH 348, now let's do PMATH 347.
- “ That will take about 3 billion years. Ain't nobody got time for that.
- “ I'm gonna be honest, everything I'm about to say might be complete bullshit.

**MATH 245: BLAKE MADILL**

- “ The meaning of life? It's probably equivalent to Zorn's lemma.
- “ An orthonormal basis (for an infinite-dimensional Hilbert space) is NEVER a basis.

**MATH 239: DOUGLAS STEBILA**

- “ How do we know  $K_{(3,3)}$  is not planar? I spent a lot of time trying to draw it and failing. But that's not a very satisfying answer...

**MATH 249: OLIVER PECHENIK**

- “ We're a very small class today and I'm not sure if it's the exam, or the change in classroom, or the election.
- “ I had a very exciting morning, my furnace died.
- “ This is really really useful, oh, I got rid of my example.
- “ 1 is an odd number.
- “ So I'm trying to prove my theorem, which I erased.
- “ I'm gonna have bad notation, I think.
- “ [*Student: why isn't anything else in the formula different between the even and odd cases of  $m$ ?*]  $\setminus (\cup) \setminus$
- “ Bees know this.
- “ I'm going to go cry. That's a good strategy.
- PMATH 367: BLAKE MADILL**
- “ No, it's not a sheaf thing. Let's not ever say that word again.

“ [Opens YouTube to play an animated video about algebraic topology, sees an ad on the sidebar for a “How gay are you” quiz] First off, none of your business, and second off, I’m not signed in. I guess this is just what the engineers in RCH get up to. [Switches YouTube tabs] Let’s see what ad we get here. [An ad for a wedding planner service appears] Aww, that’s nice. [Student: so once you figure out that you’re gay, you can get married!] That’s right!

“ At this point, this is just geometers trolling algebraists.

“ [Student: could you have three different a’s in a 3-cycle?] Let’s call it a triangle, yeah.

“ No feet, please.

“ [Student: I’m not convinced that the inverse map is continuous.] Just convince yourself.

“ [Nasally voice] “Uh huh, let P be a path of maximal length. Let’s do induction on vertices.” Try something new for once.

“ No, we can’t just turn all of algebraic topology into graph theory. I would hate that stuff.

“ [Student: I’m going to have to submit a regrade request.] You should have just talked to me, you doorknob!

“ [Student: is “whifts” an abbreviation for “which lifts”?] No, that’s just how my brain works.

“ We say X is locally compa— just kidding. I just wanted to bring some trauma for the 453 people.

“ [After giving donut example in topology class] Absolutely, lunchtime. [...] You ever make a donut sandwich? You’ll get there, you’ll be sad enough.

#### PMATH 450: LAURENT MARCOUX

“ And for people who get off by category theory...

“ Apparently the midterm was hard.

“ We get this for free. Actually, you get it for free. I will have to put a lot of work into getting it. Well, I guess it isn’t free for you either, you payed a lot of tuition. Thank you by the way.

“ It’s getting serious, I’m getting out the colored chalk.

“ [Writes something down, hears laughter from outside] They really enjoyed that.

“ [Fixes mistake, hears laughter from outside] So that’s why they were laughing.

“ I don’t think I drank as much as after my comprehensive exam.

#### PMATH 451: PAWEŁ SARKOWICZ

“ Just like my parents, who made at least two mistakes, I have made mistakes. Probably more than two. Not kids.

“ If you have lived at least a couple of years, many things can go wrong.

#### PMATH 945: JASON BELL

“ I’m handcuffed, so you’re handcuffed.

#### PMC PROF TALK: OLIVER PECHENIK

“ People thought this was really cool, but then he died.

“ People take turns being responsible for channeling the ghost of Ramanujan, and currently it’s Ken Ono.

“ I guess we’re going to do the thing in math that we do when we have a hard problem, which is make it harder and hope that that helps.

“ It was kinda unclear what they were thinking back in the day.

“ Donk... donk... donk... donk... donk...

“  $M_n \sim \frac{\zeta(3)^{\frac{7}{36}}}{\sqrt{12\pi}} \left(\frac{n}{2}\right)^{-\frac{25}{36}} \exp\left(3\zeta(3)^{\frac{1}{3}} \left(\frac{n}{2}\right)^{\frac{2}{3}} + \zeta'(-1)\right)$ . And maybe you find this enlightening.

“ [The kids] do not understand the representation of symplectic algebras... and that is sad.

#### STAT 372: RILEY METZGER

“ In other words, the software engineers no longer exist.

“ And now we’re going to start to cry.

#### STAT 433: JEFFREY NEGREA

“ That was a Piazza question for those of you that are living under a rock.

#### CS 350: ALI MASHTIZADEH

“ If you’re interested in money, you should go learn COBOL.

“ No one wanted to memorize these. It doesn’t seem practical or useful to your life.

“ Look at that! He finally figured out why his game sucks.

“ I don’t really like that slide. I’m gonna ignore it.

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

# STUDENT STRIKE APPEAL

Hell on earth. For a moment, imagine hell on earth.

As of November 17<sup>th</sup> 2024, there have been over 43,846 people killed in Gaza, of which 16,765 have been children, while more than 10,000 people are still missing.

Imagine two entire classrooms full of children. Imagine a school bus full of children, and then some. That's the "official" number of people killed by the Israeli military every day for the last 408 days.

Furthermore, a recent Lancet article cites "the intensity of this conflict; destroyed health-care infrastructure; severe shortages of food, water, and shelter; the population's inability to flee to safe places; and the loss of funding to UNRWA, one of the very few humanitarian organizations still active in the Gaza Strip" for an estimated death count of 186,000+ in early July 2024.<sup>1</sup>

According to an ACLED report published on October 4<sup>th</sup> 2024, there are only detailed reports of about 8500 Hamas militants killed in IDF registries. That means that the Israeli government may very well have killed 35,000+ civilians, of which almost 17,000 have been children. How the fuck did we get here?

If you feel hopeless, this is for you. There is a way to fight this—we can strike.

In 2012, 400,000 students in Quebec went on strike against a 75% tuition hike. They occupied their classrooms, staged sit-ins, and convinced staff to strike too. Not only did they beat back the tuition hike, they brought down the provincial Liberal government. As of the time of writing, more than 50,000 students are going on strike across Canada on November 21<sup>st</sup>, from coast to coast. This is a fantastic step forward, but we cannot stop until our universities are divested from this bloodshed. Join the Student Strike for Palestine. At UWaterloo, we demand four things from the Administration:

1. Sever ties with Technion–Israel Institute of Technology
2. Discontinue awards associated with Israeli institutions
3. Divest from corporations and asset managers which are profiting from the annihilation of Gaza and the invasion of Lebanon
4. End the repression of student activism! No academic penalties or lawsuits for students:
  - Demonstrating
  - Picketing
  - Flyering
  - Occupying
  - Posting on social media

Canadian institutions have a thousand links to the Israeli occupation, and UW is no exception. Every divestment, every severing of research ties strikes a blow at the Israeli military's

ability to wage war. Our Board of Governors hasn't listened to us so far, but if we stop classes and businesses on campus from running, they won't have a choice. If they still won't divest, we'll kick out the Board and refound this university on the basis of a student, worker, and faculty democracy. Nothing will scare them like strikes spreading from coast to coast. We can show them who really has the power.

To see a more detailed overview of our program, check <https://bit.ly/3OewYLA>.

See you on the quads.

divestor

1. In the referenced Lancet article, Khatib et al. (2024) state:

*"Armed conflicts have indirect health implications beyond the direct harm from violence. Even if the conflict ends immediately, there will continue to be many indirect deaths in the coming months and years from causes such as reproductive, communicable, and non-communicable diseases. The total death toll is expected to be large given the intensity of this conflict; destroyed health-care infrastructure; severe shortages of food, water, and shelter; the population's inability to flee to safe places; and the loss of funding to UNRWA, one of the very few humanitarian organisations still active in the Gaza Strip.*

*In recent conflicts, such indirect deaths range from three to 15 times the number of direct deaths. Applying a conservative estimate of four indirect deaths per one direct death to the 37 396 deaths reported, it is not implausible to estimate that up to 186 000 or even more deaths could be attributable to the current conflict in Gaza."*

Source: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(24\)01169-3/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(24)01169-3/fulltext)

## A POEM

Here's to the freaks. The misfits, the queers, the outliers,  
the round pegs, in the square holes. The ones who live a bit differently.  
The rules aren't fond of them.  
You can mock them, you can diagnose them, ignore or erase them,  
but that doesn't change the important truth, because they still exist.

And while some may see them as the freaks, we see people.  
Because the ones who are told they just don't belong  
and they have nothing to offer  
are the ones who do.

Be Different

# CYCLIC TWILIGHT

## OR HOW I LEARNED TO STOP WORRYING

**EVERY YEAR** I walk the length of Toronto from roughly Steeles to the lake. I do it on the last week of December—ideally, the final day of the year. Besides the beautiful scenery of the city I get to observe, I do it for one particular reason: it's the only opportunity I ever get to truly time travel. For those times during these walks are the only moments which are opened up to be experienced by all my past and future selves simultaneously—a brief window where we can chat. I recount my story to them; all the important happenings of this year, in chronological order; they listen, and tell me theirs. Every step is another story. The only opportunity I get to be an objective observer of my life.



Grasped again by the embrace of insomnia (154.4) anew, my eyelids plastered open allowing the monotonous drab of the ceiling above to pour into my retinas, I hear a rustling down the staircase yonder towards the floor upon which I sleep this night. Footsteps subtly pass me in a quiet pattern as I lie unmoving, while I act as if I am asleep, not to be fallacious, but simply because I see no other alternative. Silky light is freed from the other side of the room; the source of which I deduce to be the fridge. To be polite, I inquire:

“You need something?”



This year has a brash personality. It didn't take long to tell me what kind it was going to be. In the first three days, I ran five kilometers in pitch-black from an abandoned lighthouse to get home in time, broke into a building in Mississauga, got confronted by the police, and sent a risky text to ask out my biggest crush in university so far. I realized the only adjective to describe what it would be was “crazy,” and so it was. A common mistake is to think “crazy” implies “good” or “bad”—no, it is its own, independent condition. This year, to me, was about relentlessly questioning every assumption about life that was previously rock-solid to me. Apparently that happens a lot in your twenties. I spent so much time sitting down, asking myself what my course of action should be in a totally arbitrary and meaningless world. That meant doing more crazy things to figure it out, and I'm sure the god of this year was pleased. I went to bars, parties, read the Iliad out loud on campus on a blistering cold night, biked hundreds of kilometers, and bummed around Berkeley, California. I still haven't figured it out. I won't.



“You know, I was reading recently—apparently, if you're looking at a 2-dimensional image, you can make a mapping between each point in the image, and the neuron in your brain processing it. And inside the brain, the neurons are arranged as if those points were graphed in polar.”

We'd already been talking for an hour, or so.

“Whaa—there's really like, a single neuron per point?”

“If they're right, yeah. But for the complex part of our brain—the tissue-shaped part that does language and conscious thinking and all that, we can't find any topology at all. No structure. They say if we need a mile to understand the brain, we're about 3 inches in. Hopefully we'll get a good understanding in our lifetimes.”<sup>1</sup>

“I guess there are some things we'll never see. I've always been disappointed that I'll never be able to like, *see* an atom.”

“I mean you can look at an image... you mean like, shrink down, and physically look at it, I guess?”

“Yeah!”

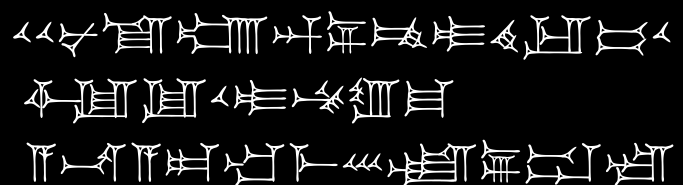
“I've always been a little sad that we'll never get to see the end of the universe.”

“Or anything after our deaths, even. Well, I try to take comfort in thinking that in 300 years, I don't think anyone will remember who I was.”

I wanted to say something like *but I remember you now*, but those words were never released; lost, like tears in rain.



Loving someone—I mean, someone roughly your age and not in your bloodline, because I *really* think we should have made a different word for that—is a strange experience. It seems to be the pinnacle of most people's lives, the ultimate side effect of it all that they strive for. Now that *God is Dead* and we've got nothing else, it's even more integral. And that should mean it's easy and fast, but it never is, and most of us are left alone, in some way or another. I promised myself, come December, I wouldn't be—I'd be with someone on Christmas Eve, something I never got to celebrate with my parents, or those I “loved.” And for a couple months, it looked like I would make it there, and then in a split second, it all fell through. Any





writer would call it an idiotic ending, but that's the nihilistic nature of the universe; the stories we want to tell only exist in our individual heads.

A writer recently wrote about how we're fighting a losing battle against infinity. I kind of disagree. It seems, to me, to be a tie. People tend to misunderstand entropy a lot. It's a *statistical law*; energy is *most likely* going to distribute more evenly. But there's nothing stopping entropy from decreasing, and in a small, local space, it's guaranteed to happen eventually, as proved by Poincaré. Thus, I can't believe in heat death, in earnest. We'll lose, and try again, and lose again, a little differently; an eternal stalemate. Experience everything through the cyclic twilights. And every time I walk down Yonge, I'll think of all of myself that was, and could be, could being equivalent to will.

☺

"Man, these late night conversations in the dark are really good."

"Doesn't get better than this."

I guess I won't be able to have another one with you, for a while. 'Til after this summer's over, and all is said and done.

epic\_waterman

1. <https://waitbutwhy.com/2017/04/neuralink.html>

## UWATERLOO CS STUDENT SIGHTED IN OHYO



## IKEA MAMMUT

### WHY THE STOOL IS THE BEST

The IKEA MAMMUT stool is the perfect chair. I love its rotund legs, rounded edges, and bright colour. If I could furnish my living space with only MAMMUT stools, I would. Unfortunately, the rest of the MAMMUT series pales in comparison.

The table is horrifying. It comes in two shapes, round and rectangular, both of them ugly. Why anyone would pay sixty dollars for this monstrosity, I do not know. The edges are not rounded, a key part of safety when making children's furniture. Simply smoothing out the edge would not only increase the cuteness tenfold but make the furniture piece so much safer. I also greatly dislike how cone-shaped the table legs are. It makes me uncomfortable because it creates the sense that the legs are not firmly attached to the tabletop.

Next, the chair, not to be confused with the stool. Remember, the stool is perfection. This chair is appalling, it makes me want to cry. First, it shares the same problems as the table regarding its unrounded edges and cone-shaped legs. However, it somehow manages to be worse because of the chair back. The slats ruin it. Not only is it unsafe (a child's hand could get stuck in the gaps), but it's also incredibly unpleasant. The sharp edges create a jarring transition when it attaches to the piece at the top. This piece is also extremely hideous because it is rectangular. It would be much better if it were just a solid, smooth, rounded chair back.

The MAMMUT stool stands alone as the pinnacle of seating perfection, solving all these issues. It has smooth edges, rounded legs that aren't cone-shaped, and no chair back for me to complain about. If it had a back, I am sure it would be round and smooth to match the rest of the stool. The other items in this collection are a disgrace to the MAMMUT name and I highly recommend IKEA move them to a different category or redesign them.



**THE MAMMUT STOOL.** It is yellow, the best colourway, but you wouldn't know that if you're reading this in the printed issue.

# WHY mathNEWS DOESN'T HAVE A WIKIPEDIA ARTICLE

I returned as a Wikipedia editor after a five-year hiatus, and of course, former editor awED immediately asked me to create an article for **mathNEWS** (also, no, I am not telling y'all my Wikipedia username, but it really shouldn't be hard to find). Here is a summary of why that's not gonna happen any time soon.

As many regular writers and **mathNEWS** lore enjoyers know, **mathNEWS** did once have a Wikipedia article, but it was deleted in 2007. I found the archive of the debate over the proposed deletion,<sup>1</sup> and analyzed the reasons for the proposal and how they apply to **mathNEWS**'s<sup>2</sup> situation today. Additionally, Wikipedia user MMKevinc proposed a Wikipedia article for **mathNEWS** in March 2024, and the request was rejected.<sup>3</sup>

The reason the **mathNEWS** Wikipedia article was proposed for deletion back in 2007 was that it failed the "multiple and non-trivial"<sup>2</sup> coverage by secondary sources in the Wikipedia notability guideline.<sup>4</sup> Although the formerly semi-viral profquotes.com<sup>5</sup> received some news coverage, including in the New York Times, which mentioned **mathNEWS** as the inspiration, none of the coverage discussed **mathNEWS** as a publication beyond **profQUOTES**. This fails the non-trivial coverage criterion. Additionally, even at the time of review in 2007, many of the other cited articles to mainstream media coverage of **mathNEWS**, such as in the Waterloo Region Record and the Toronto Sun, were unable to be verified (there was also debate as to whether the Record was "notable"), leaving the NYT article as the only citation, failing the multiple secondary sources criterion. I am now unable to find any of the sources featuring **mathNEWS** mentioned in the deletion discussion.

There was renewed interest in creating a Wikipedia article for **mathNEWS** since writer molasses's (and now editor, revivED) article *The M&M's Machines Are Watching You* received widespread media attention. **mathNEWS** is currently mentioned in the Wikipedia articles for the University of Waterloo<sup>6</sup> and Faculty of Mathematics.<sup>7</sup> On 27 March, 2024, Wikipedia user MMKevinc edited the **mathNEWS** subsection of the University of Waterloo Wikipedia page to add the M&M machines article and subsequent coverage.<sup>8</sup> Checking MMKevinc's talk page, I found that they have also drafted (and did not complete) a Wikipedia article for **mathNEWS** in or before 2023, and also suggested to other editors that a **mathNEWS** Wikipedia article be written in March 2024. However, this request was rejected. The reason given was similar to 2007. While molasses' article was covered in reliable secondary sources, and **mathNEWS** was mentioned, none of the coverage was about **mathNEWS** as an institution.

In summary, until we manage to get secondary sources to discuss **mathNEWS** itself as a publication, rather than a single feature of **mathNEWS**, we're not getting our own Wikipedia article. Now, in **mathNEWS** tradition, here are:

## N WAYS WE CAN GET mathNEWS INTO SECONDARY SOURCES

- Ask MULTIPLE RELIABLE local news organizations to interview the editors of this VERY NOTABLE and TRUSTWORTHY student journalism publication, and talk about the IMPORTANT journalism we do
- **mathNEWS** and Imprint circlejerk, I mean, uh, collaboration, where we both write a series of articles about each other until there's enough to get each of us a Wikipedia article
- Establish a publication named **mathNEWSNEWS** that publishes updates about **mathNEWS**. Of course, to get *multiple* sources, we would also need **mathNEWSNEWS** and **mathNEWSNEWS**. However, references must be completely independent of the subject, so by we I mean uhh not us.

RapidEyeMovement

1. [https://en.m.wikipedia.org/wiki/Wikipedia:Articles\\_for\\_deletion/MathNEWS](https://en.m.wikipedia.org/wiki/Wikipedia:Articles_for_deletion/MathNEWS)
2. [https://en.wikipedia.org/wiki/Wikipedia:Manual\\_of\\_Style#Possessives](https://en.wikipedia.org/wiki/Wikipedia:Manual_of_Style#Possessives)
3. [https://en.wikipedia.org/wiki/User\\_talk:MMKevinc#Your\\_submission\\_at\\_Articles\\_for\\_creation:\\_Mathnews\\_\(March\\_27\)](https://en.wikipedia.org/wiki/User_talk:MMKevinc#Your_submission_at_Articles_for_creation:_Mathnews_(March_27))
4. [https://en.m.wikipedia.org/wiki/Wikipedia:Notability\\_\(organizations\\_and\\_companies\)](https://en.m.wikipedia.org/wiki/Wikipedia:Notability_(organizations_and_companies))
5. <http://profquotes.com/home.php>
6. [https://en.wikipedia.org/wiki/University\\_of\\_Waterloo#mathNEWS](https://en.wikipedia.org/wiki/University_of_Waterloo#mathNEWS)
7. [https://en.wikipedia.org/wiki/University\\_of\\_Waterloo\\_Faculty\\_of\\_Mathematics#Student\\_life](https://en.wikipedia.org/wiki/University_of_Waterloo_Faculty_of_Mathematics#Student_life)
8. [https://en.wikipedia.org/w/index.php?title=University\\_of\\_Waterloo&oldid=1215785483](https://en.wikipedia.org/w/index.php?title=University_of_Waterloo&oldid=1215785483)

## DRESSING ROOM

a hedgehog named Mary;  
a green slimy newt —  
his name was Harry  
he was wearing a suit

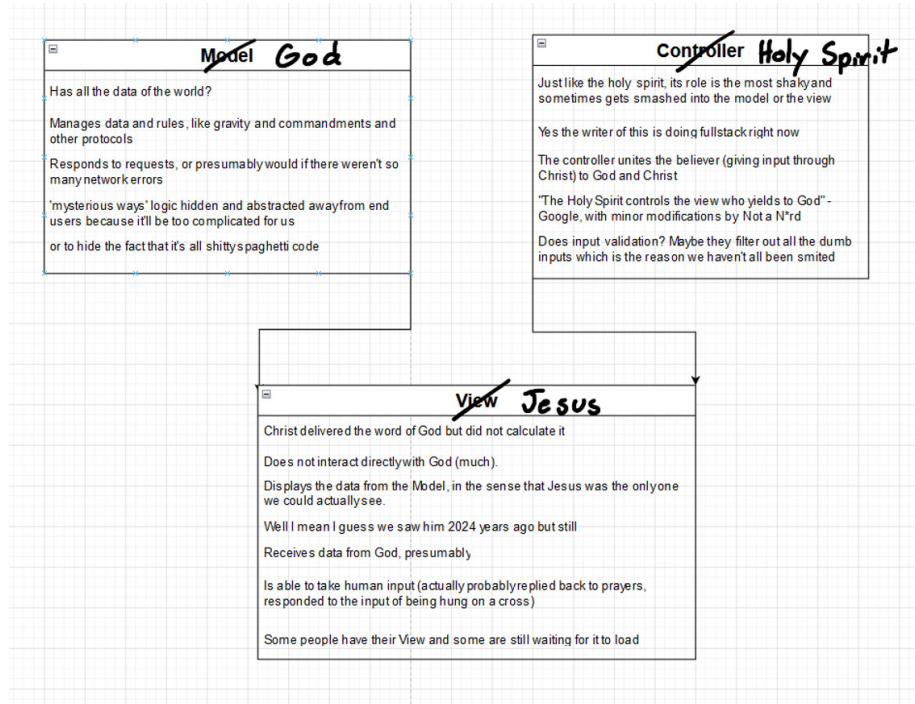
emeralds and velvet  
bedecked Mary's bodice  
and a skirt with a set  
of pearls trailed her modest

well Harry and Mary  
were off to a ball  
they both were quite weary  
of what fate could befall

speeencer\_burt

# HOLY TRINITY == MODEL VIEW CONTROLLER

WAIT WAIT WAIT HEAR ME OUT OKAY



I'mnotinsaneI'mnotinsaneI'mnotinsaneI'mnotinsaneI'mnotinsaneI'mnotinsaneI'mnotinsaneI'mnotinsaneI'mnotinsaneI'mnot

Not a N\*rd

## TRAGIC LOVE STORY

Every workday, when six o'clock rolls around, a lone figure walks into Ling's Noodles. He's always got on a suit, though he doesn't look the part of a professional. The suit is ill-fitted, and he has an outgrown buzzcut, and he still slings that dusty backpack to work, the same one he's had since high school. Rosie, who works as a waitress at Ling's Noodles, has seen this man enough times to recognize him.

Here he is again today, face bored as usual, and he sits at the seat facing the window. He quickly orders the daily special and a soy milk, the same things he orders every day. Rosie sets the food down in front of him, and he says thank you. He may not ever smile, but he always remembers to say thank you. Rosie responds, you're very welcome. She feels the slightest bit of pity towards him; he's all alone but he seems like a good enough person. After the meal, he waddles up to the counter, tips 10%, forces a little smile, says thank you once more, then heads on home.

It's the same story the next day, and the next, and the next. But when the weekend arrives, he enters like a different man. A clean cut, casual clothes, radiant white sneakers, and a girl in hand entering alongside him. Rosie can't believe what she's seeing. She's overjoyed. It's like watching your kid brother

become all grown up right before your eyes. You can do it! she cheers him on in her head.

And so, the man and his date take the seat next to the window, and they order the daily special, and Rosie brings out the food. The man says thank you, and Rosie responds, with a brighter smile than ever before, you're welcome! The couple finish their meal and waddle up to the counter to pay.

But Rosie is feeling very generous today. It's on the house! she beams.

The man looks up, and it's like he's seeing the waitress for the first time, the elegant creases of her smile, her bright, bubbly eyes, her ginger hair descending out of her Ling's Noodles hat... no, Carson cannot believe his eyes. He has finally met a true angel, a girl with the benevolence of the world. Never has anyone been so kind as to pay for his meal. The perfect girl had been right under his nose this whole time and he never realized. Forgetting his date, Carson unclasps Mimi's hand and grabs Rosie's. Mimi is so utterly flabbergasted that she just stands there beside Carson, agape. It's the same for Rosie. Her smile has faded. Five awkward seconds of silence have elapsed.

meow ling

# PROBABILITY

## MAY THE ODDS BE EVER IN YOUR FAVOR

Probability is quite a mysterious concept. For an event with different outcomes, like tomorrow's weather, many factors can contribute to it, i.e. air turbulence, wind, temperature, cloud and the sun's location. I like to think about the possible outcomes of events around me. Sometimes they can lead to interesting discoveries.

I played *Spots*, a dice-placement board game with my friends on Sunday. In the game, players take on the role of dog lovers trying to fill their dog cards with differently-numbered spots. There was an action called *Search* in the game, which allowed you to roll seven dice and place any combination of dice that sum exactly to eight onto your dog cards. During the late-game period, I ended up having 2 dogs with 3 spots of "1", "2" and "5" to be filled. If I fill them all by taking a *Search* trick, I can become the winner of the game. I pushed my **luck** and won.

Although the outcome was present, I was desired to know the chance of winning by taking my last action by then. On a first thought, it felt like a very efficient action. It wasn't difficult to get at least two desired numbers that adds up to 8 out of the seven rolls, but what about getting a least one "1", "2" and "5"? I started to realize that the math behind this is not that straightforward. I had no idea how to calculate it on the fly. To quench my curiosity, I have no choice but to calculate it myself. To the readers out there, give it a guess in your mind before I reveal the answer!

To calculate the chance, counting the complementary events could be a good approach. The total count of possible arranged outcomes is  $6^7$ . The complementary event is that at least one of "5", "2", or "1" is missing:

1. No. 5 :  $5^7$
2. No. 2 :  $5^7$
3. No. 1 :  $5^7$
4. No. 5 and No. 2 :  $4^7$
5. No. 5 and No. 1 :  $4^7$
6. No. 2 and No. 1 :  $4^7$
7. No. 5 , No. 2 , and No. 1 :  $3^7$

By dividing the count of target events by the count of total outcome, we finally get the result: 33.05%. That is, I have around one-third chance to win. Not bad, but not good either. It is risky but worth trying.

But wait, there is more. The game is more complicated than I thought. In the board game, I can spend a Bone token to reroll all seven dice. I happened to have one Bone at the end of the game. With one more chance to reroll, it improves my chance of winning to be 55.18%.

But wait, there is more. There were three other actions that can add dice on my dogs, and I can only take one action per turn. By taking the *Search* action, I have paid my opportunity cost. What about the chance of winning by taking other

actions? I'm not entirely sure. That is too much of an effort to calculate them individually, and I should probably conclude it here. Although I didn't know the probability, I was very **confident** that *Search* was the right decision. What gave me the confidence without knowing the probability? I'm not entirely sure. It feels like a combination of experimental knowledge and logical deduction. It is from my intuition. We develop our intuition when growing up, and we adapt to it so well that we often neglect how we decide an answer.

How we make guesses is so mysterious. I wonder how people comprehend probability differently. We have many famous proverbs and thought experiments already: Murphy's law, Laplace's demon, Schrödinger's cat... People make guesses all the time, and we learn when inferring from the outcome. Important life choices were made without knowing the hidden variables, which makes up our journey of life. Even AIs/LLMs make guesses to find the next word/token to be added during their self-supervised pre-training. Getting better at making guesses feels good! It can be addictive sometimes. That is also probably why I like playing games, it offers a training ground for me to make guesses without taking too much risk.

eralogos

## SUDOKU 1 ANSWERS

### ANSWERS

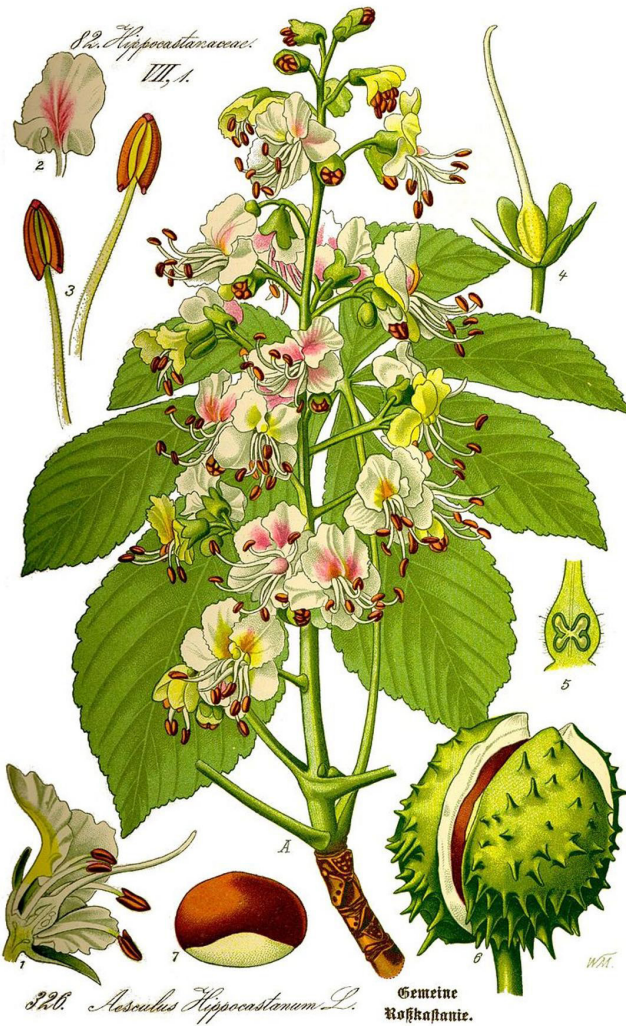
1	3	4	8	7	5	2	9	6
7	2	5	6	4	9	8	3	1
8	9	6	2	3	1	7	4	5
5	4	3	9	1	7	6	8	2
2	1	8	4	6	3	5	7	9
9	6	7	5	8	2	3	1	4
3	7	9	1	2	6	4	5	8
6	8	1	7	5	4	9	2	3
4	5	2	3	9	8	1	6	7

Sudoku 1 Solved

Ignis\_

# HORSE CHESTNUTS

The horse chestnut tree is definitely not to be mistaken with edible chestnuts. This tree is planted in many locations around campus but there are very few indications of its danger. Maybe the reasoning is to serve as a sort of natural selection to weed out the first years. I remember being very curious in first year what type of tree this was, since the nut shell is especially pointed, and the inside of the nut looked familiar.



So what's actually problematic about this plant? Despite the nutty resemblance to an edible chestnut, the horse chestnut contains a poison called esculin which can be problematic.

According to WebMD, consuming the horse chestnut can cause muscle twitching, weakness, vomiting, depression, paralysis, and potentially even death. Honestly, the fact that a chestnut can cause depression by ingestion is pretty wild to me, but I suppose if antidepressants exist, then who says depressants can't... Stay safe out there on campus!

sticks

# WHY DO STUDENTS TAKE MANAGEMENT COURSES?

I just realized that although taking management courses, a lot of students don't have the chance to become a manager or work in human resources. Also, many managers and HRs have never taken management courses before. This is weird.

Remember when I was at a job fair and chatted with the leader of the human resource team of one company, and I asked him why he had chosen his career path in HR? His response was basically that he had no job at the time so he applied whatever he could, and when he got accepted he just worked this job for years. He had never taken any management courses before or after, but just based on his experiences communicating with others.

This makes me wonder. If those real-life managers rarely take management courses, where do the management students go? What kind of jobs can they do for their internships? I also remember someone saying no one's gonna hire a new graduate to manage their teams.

AKEIJIN

# WATERLOO WELCH'S

the last prodnight. the one year anniversary of my beloved zutara. the due date of my not-beloved-at-all assignment, as the heart yearns to write **mathNEWS** fanfiction and my best friend yells at me to do schoolwork instead.

dearest reader, i almost strayed from the path. the world, as one great collective, needs to be freed from waterloo au zutara prison. how does the story end? how do i move on? answers we would only find if i sat down and simply put my hands to my keyboard.

but it is my apple pen to imaginary paper that makes itself known instead.

this friend of mine attended a chess tournament earlier, one of the most uw events known to man. her prize? two pouches of welch's juicifuls. two pouches of fruit snack gold.

her prize is mine as well, for the price of submitting the assignment that i did not want to submit.

my hands are on the keyboard now. will zutara be written in time? am i willing to give up my sleep and sanity, just so that two fictional characters that i don't ship can give each other a smooch?

i suppose these welch's will witness the end with me. and eventually, so might you.

big a

# WATERLOOPHOLES

## COUNT THIS AS AN OUTTAKE

she almost thinks that she's imagining him, at first. it wouldn't be the first time—not since he'd walked away, *again*, and subsequently found a way to prove some kind of conditional statement that offered him a safe exit whenever she found herself within his radius—and she's tired enough from the bus that she might as well start seeing him, hovering like a moth to the flickering lightbulb over the doorway, jabbing at the keypad like it's personally offended him; mundane and impatient and somehow, impossibly, *here*.

"hey," she calls out—and she doesn't *hurry* down the sidewalk, but it's not quite beyond the realm of possibility. zuko barely even sneaks a glance over his shoulder before the shape of his back straightens, like she's frozen him in place with simple command. or hope. katara comes to a stop behind him, pack digging uncomfortably into her spine, and he turns to take her in properly.

she swallows at the sight of a face she can't say she's missed. one that she's missed anyway. "hey," she repeats.

the corner of his upper lip twitches. "hi," he says, finishing the input of the code as he swings the door open, his expression and the cheerful beep from the lock equally as expectant.

"thanks," she murmurs, doing her best not to look surprised as she steps past him—his gaze follows like a ghost, hook and line, anchor and tether. she forces herself to meet it. "or, um, happy thanksgiving?"

his smile goes wide, cracking across his mouth like a lightning flash of amusement, tailed easily by the elementary shock of the event. "that was yesterday, princess."

"i didn't see you yesterday, did i?" she counters; a little too close to what she thinks too often, and she fights the truth off with a shrug. "i went home for the weekend, anyway. my dad's on leave, and sokka's wanted to go back for ages."

"not you?"

she smiles, remembering exactly how gran-gran and bato and her dad had all spilled out of the car to greet them outside the station. "no, me too." she recovers her grimace at returning to an empty apartment—as annoying as her brother could be, the place wasn't the same without him. or aang. "i'm just—busier, i guess. i needed to come back and get some work done." katara looks up, that piercing stare still trained over her. "you?"

he lifts a shoulder idly. "never left."

"what about—?" she doesn't end the sentence, really, entirely too aware of the way everyone on campus had simultaneously released a sigh of relief when azula and her posse threw their bags into the guillotine trunk of her cybertruck and sped out of waterloo for the airport.

"my sister isn't too happy with me at the moment," he says lightly, tone ever so mild—like it means nothing, like it doesn't send everything she knows whirling back into perfect centripetal motion, a bottle whirring with nowhere to point, oscillation between endless possibilities. "it happens more than you'd think. and my uncle used to insist on doing something when we lived together, but then i came here and he didn't. i left him a voicemail last night instead. called right before i made my turkey ramen."

there's humour softening the sharper edges of his words, undirected and strict regardless as he paints in the infuriating blanks of his life with a sentence or two. as far as she can reason with herself, she could be imagining that too. but he's here, *here*, eyes glowing gold under the sunset streaking across the front window, looking right at her as he speaks—as if there's no other place he'd rather be, his full attention poured carefully into her hands.

it might be a remnant from dana porter. that somewhere between a stairwell cast in artificial shadow and one doused with the half-light left by the sun, they'd stumbled their way back into what used to be and what could've been. like reading week was nothing more than a timeline cut neatly into pieces they could trade between themselves, sundered with the vertigo that dawns when you realize there's nobody other than you and a boy you know too well and not enough, all your consequences out of sight.

"turkey ramen?" she clarifies; his hook, her line.

(she still remembers the first time their mom let her and sokka take a canoe just between the two of them. how they hadn't even left the shallows before sokka had leaned over the edge to gawk at some fish. she could've pulled him back, but she'd scooted over to the same side, and then they would've had a front row seat to all the scales and fins if everything nearby hadn't outright fled at the splash.)

katara's no stranger to sinking—diving, falling, whatever anyone wanted to call it. they've done the animosity, done the unfounded hurt and inexplicable ache, done the apology and the absence and the concluding appraisal.

"what else would you expect from me, katara?" he answers instead, words arched as if she should already know. "turkey for turkey day. it's never too late to start a new tradition, you know."

she lets a breath loose in response, somewhere between a sigh and a laugh and all the in between she might feel when he isn't there.

he is. right now, he is.

(some part of her just wants it to stay that way. the other can figure out why later.)

“well, it’s not turkey,” she says, and he blinks. “and it’s not exactly freshly home-cooked when my dad froze it all *just in case*. but he gave me stuff from last night to take back home. would you be grateful for some leftovers?”

zuko smiles at that, all the odd, dry levity falling away—something and someone she’d only seen before in

a red-burned dusk now emblazoned in the sun. “yeah,” he replies, suddenly soft again. “i really, really would.”

big a

and i really was supposed to be done

## A 2<sup>ND</sup> GRADER CAN RUN EVENTS BETTER THAN YOU

WCRI is a great place to live. I would recommend it to anyone in Waterloo, and I feel like it is not as well-known as it should be for being like the only residence in the area that isn’t actively trying to scam you for as much money as possible. However, they have been pissing me off recently.

WCRI’s events suck now. Don’t get me wrong, I am so happy that they run events that are fun like trivia, game nights, karaoke, and other stuff. I think that’s a big part of what makes it a great place to live. They used to be super fun and awesome when I moved in, but in the past year or so, they have gone from really great to only alright and sometimes bad, and I find myself not going to as many anymore. What changed, you may ask? The venue.

WCRI has two main event spaces. They have the Fenwick Great Hall, which is as it sounds, a big room that looks like a banquet room in a hotel. It’s in the newer building so it was built in 2013 or something. New room, very big. The other space is Weaver’s Arms. Some of the less socially inept of you readers may have been in this one if you ever got invited to a party there, since people can rent out the space. Weaver’s Arms is under one of the older buildings, put up in the ‘60s. It has the vibe of a pub because it literally used to be a bar. It’s got a pool table and a good space for like a stage or a screen and a few tables scattered about with chairs, and it has stained glass windows on the one side that points out to the parking lot. Old room, significantly smaller.

Events used to be held in Weaver’s Arms. The vibes were always great because of the pub feel, and it always felt like a space meant for fun events, not for meetings or conferences. It felt like a place to party. The smaller room was ideal because it fit the attendance level of the events. These events get like 10–50 people depending on when and what they are, and the smaller room could be filled with that many people, making the event seem more fun since it seemed like it was at capacity.

Events have, as of Fall 2024, been moved to the Great Hall. Now, we have events with an attendance of 10–50 in a room made to hold like a thousand people. We sit in one corner and the rest of the huge room sits empty. It feels weird and not fun. We don’t fill the space so it always feels like nobody is there, even if it’s the same amount of people. The lights are way brighter so it doesn’t have an evening, fun, party time ambience, and the walls are white, adding to the issue.

So why did they move the events from the awesome Weaver’s Arms to the stupid and boring Fenwick Great Hall? Weaver’s Arms is not wheelchair accessible. Can’t really blame them for it since the place was built in the ‘60s, and I don’t think people in wheelchairs really existed back then except for Franklin Delano Roosevelt and even he tried to hide it. Nowadays we do have people who can’t do stairs so it makes sense that the venue can’t be used.

But come on man, it was so good. I don’t think we should just tell people with disabilities to get fucked, or to simply get good and start walking, but I do think there’s a solution that isn’t just having the events in the garbage event space. Common solutions include: a ramp, one of those stair lift things, a sick jump or something.

I get it if it’s not feasible to get a stair lift because they can be expensive, but bruh how much money could it possibly be to get a custom ramp for the five steps going in? I could probably build one and I am notably not an engineer. Even if a ramp isn’t doable for some reason, there must be other options. Could you hire some people to lift patrons up and down the stairs? That sounds worth it to me, and that’s gotta be cheaper than a stair lift at least in the short term.

What adds to my frustration in this is when an event is held in the Great Hall and then all the people who attend are walking in no problem, and nobody who actually needs the ground level event space is there. Like I know we can’t predict who will come to the event, and we can’t blame the people who need the accessible space, it just sucks when we look back and see that we could have held it in the good venue and there wouldn’t have been any problems.

I am extra upset because I’m so close to graduation, and so I feel like even if I get them to consider a change, they likely won’t get around to it until after I’m gone, so I’m doomed to having less fun at events until I leave and never come back.

Anyway, in conclusion, please return to the second grade (in Ontario at least) and review the science unit on simple machines, in particular the inclined plane. I think it could be of some real use here and would make me excited for karaoke again.

Yamnuska

## READER X M3/MC/DC BRIDGE FANFIC

*TO BE CLEAR, THIS REFERS TO BOTH LEVELS OF THE MC/DC CONNECTION SO REGARDLESS IF THIS IS A THROUPLE, THERE'S A LOT OF CONNECTION ;)*

**OCTOBER 8<sup>TH</sup>, 2024**

You were speeding through MC 3<sup>rd</sup> floor to your next class when you overheard some strangers' chat.

"And did you hear that the DC bridge is closing?" is what captivated your interest, or rather your terror. You slowed down your speed just to eavesdrop on the details.

"No? Why?" the other stranger exclaimed. You couldn't help but agree with them; but you had to keep composure as you went in the Number Line staircase with them.

"It's for the new M4 building. It's only a matter of time before they shut DC Green too."

"Oh, damn, that sucks! Anyway, I gotta go to class, man."

"Okay, see you in calc!"

Somehow, your legs were able to carry themselves to your class, but you fell apart as you sat in the back. How could the MC/DC bridge close before GTA 6? You knew it was bound to happen, but it occurred all too soon. It connected your favourite math lecture hall, M3 1006, to your favourite library, to the Math C&D, and now it would be gone for years on end? All you could do was stare straight as your anxieties shot through your head, without even taking out your laptop.

Instead, you took out your phone, making sure the stranger wasn't lying to their friend. Maybe, it's their inside joke, you thought. However, the delusion broke when you stumbled onto the Plant Operations website. The premonitions were true, and there was nothing you could do to rewrite it. Even walking through the bridge after class to DC Bytes didn't make the writing on the wall disappear.

**OCTOBER 17<sup>TH</sup>, 2024**

It was the best of times, it was the worst of times—sure, it was Reading Week, but all it felt like was one less week to spend walking through the bridge. You had to internalize it, but all that did was make you curl into a ball and squeeze your pillow. Instead, just like you've learned all these years, you shoved away your feelings and tried to focus on your upcoming midterm.

**OCTOBER 25<sup>TH</sup>, 2024**

Powering through this Friday was almost impossible without blanking the truth from your head. As the day passed by, you distracted yourself with your assignments and Instagram Reels, yet there was a small pit in your heart that nothing could bring you away from. Even when walking to DC Bytes, you took a moment to look at DC bridge for one last time. The glass glared back.

Finally it was 4:50pm; you had to head back home for a bit. You took a deep breath and travelled through the upper bridge for one last time. Stepping through those metal doors patched up that hole, albeit temporarily. Actually, you paced through the bridge's span before calling it quits and walked through the hallway of offices one last time.

**OCTOBER 28<sup>TH</sup>, 2024**

Laying in bed and scrolling mindlessly for most of the weekend wasn't your best decision, but your heart was broken; you weren't going to get much done anyway. Despite the headache and dread, you pushed yourself out of bed, in and out of the washroom and out to campus.

As you approached the station, you could barely see the MC/DC bridge, still intact. Of course it didn't implode after 5 on Friday, but the sight released your curiosity.

By 11, you wandered back to DC 2<sup>nd</sup> floor and approached your love, DC bridge. You told yourself you shouldn't do that, but it was tempting, and since when have you listened to logic? Your heart fell and was ready to shatter when there was nothing blocking you. The latch unlocked, and you were free to pass. Heck, other people were walking as well! You calmly passed through to MC with a reserved sigh or two and a tiny grin.

After a few relaxed paces through the bridge throughout the next couple days, you could finally get back to your usual flow. Everything was normal, the nightmare was gone, and you finally opened your eyes to reality.

**NOVEMBER 1<sup>ST</sup>, 2024**

You were hoping to go through the upper bridge, but it was boarded up with thin plywood and a sign that read "No Trespassing", so there was no going around it; that was all the time you had left. You stared at the big, bold letters and pondered about the past month and what you've made of yourself. Was prolonging the pain really worth it?

Just in case, you checked the lower bridge and there was no board in sight. As you take the turn into the main walkway, you notice the sign facing toward DC. The signs were clear, and you skated through the red wall and dingy lights for the last time.

**NOVEMBER 13<sup>TH</sup>, 2024**

Just because your last midterm was that week didn't mean you had to stop working. Sitting outside MC 1085, you struggled through the first few questions of your math assignment before your yawn triggered you to check your phone. It was 8pm, and you scurried through the 1<sup>st</sup> floor maze to get out. In a rush, you instinctively went to the 2<sup>nd</sup> floor all the way to the parking lot doors. You were met by not only a chilly darkness,



but being stuck in the middle of a fenced construction zone. You look up, only to see your beloved DC bridge. The lights were off and no one was around you. You were truly alone.

You looked around at the details surrounding you; the aging crane, the dirt staining your shoes, the silver fence connecting to the grassy green of DC's. All you could do was marvel and stay in the moment; but not forever. You had dreams to live, and thinking about the past wasn't going to get you there. There was always again, unless the timelines didn't align. Yet, you left your marks and walked away.

### Dollar Store Person

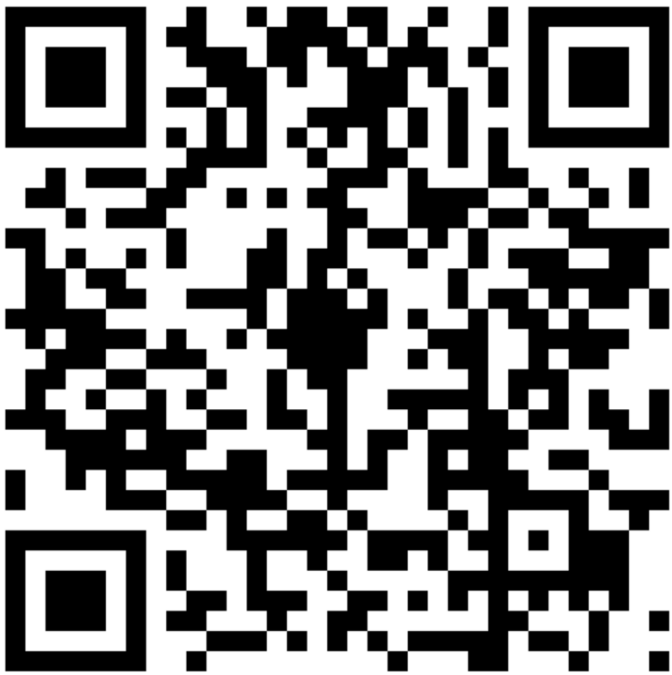
Sorry if you wanted bridge smut and not sappy angst, maybe another edition—good luck on finals, everyone! Love y'all <3

## RIZ AHMED V. RIZZ V. RIZ TEAM

(THE RIZ REAL ESTATE TEAM OF KITCHENER AS HEARD ON RADIO ADS)

Who will win?

VOTE: <https://forms.gle/BmT8uzyTHPEK3ZW88>



VOTE

Lars Nootbaar

I gave befuddled the idea for the mastHEAD this issue, so you can't say I didn't write anything of substance.

## RIZ TEST VS RIZZ TEST

### THE RIZ TEST

Named after actor Riz Ahmed, the test is a set of five criteria to measure how Muslims are portrayed in media. You can think of it like a Muslim version of the Bechdel test.

The test is as follows:

If a character in a work is identifiably Muslim, are they:

1. Talking about, the victim of, or the perpetrator of terrorism?
2. Presented as irrationally angry?
3. Presented as superstitious, culturally backwards or anti-modern?
4. Presented as a threat to a Western way of life?
5. If the character is male, is he presented as misogynistic? Or if female, is she presented as oppressed by her male counterparts?

If the answer to any of these is yes, the test is failed.

### THE RIZZ TEST

Named after Rizz, the test is a set of five criteria to measure how Rizz is portrayed in media. You can think of it like a Rizz version of the Riz test.

The test is as follows:

If a character in a work has identifiable Rizz, are they:

1. Talking about, the victim of, or the perpetrator of Rizz?
2. Presented as irrationally Rizzy?
3. Presented as Rizzerstitious, culturally Rizzward or anti-Rizzern?

Holy shit dude what am I doing here. I am like 2 months away from being 23 that's basically my mid twenties which is basically my thirties which is basically death and I cannot enjoy my finite time because all I can do is worry about it being over and all I can do to distract myself is write fucking Rizz test vs Riz test like who am I impressing? Anybody who finds Rizz funny clocked that I was geriatric by the first fucking sentence.

4. Presented as a threat to a Rizz way of life?
5. If the character is male, is he presented as Rizz? Or if female, is she presented as Rizz?

If the answer to any of these is yes, the test is failed.



aphf

# THE LAST RABBIT

The wildlife had left.

Few of the local housecats remember their time. Long ago, the valley was full of wild creatures. The raccoons, the turtles, the heron, and most importantly, the rabbit. None remain. None are remembered, etched into legends told at the housecats' secret midnight meets.

None but the rabbit.

When the humans came to the valley, the housecats say the raccoons were the first to try to leave. The rabbit, however, had other plans. The raccoons saw job opportunities far away, it's said; far away, garbage collectors were in high demand. Garbage collectors? What an absurd reason to leave.

The rabbit would show they could collect garbage at home.

When the humans came to transform the valley, cutting down trees and uprooting the forest floor, the rabbit stowed away their scraps. As they brought in their machines, the rabbit mapped out all their favourite dumping sites. When the humans installed trash cans, the rabbit journeyed into the pre-dawn fog, throwing his little weight against the black cans until they spilled their rotten contents onto the muddy ground. When the valley had been cleared, and only upturned dirt remained, the rabbit again found the raccoons. "Look!", said the rabbit, presenting his maps. "There is such garbage here! I have drawn you maps, I have spread more for you to find! You need not go away, everything you need is here!"

But the raccoons were already leaving. They expressed their appreciation, they invited him to visit, but no effort he made could get them to stay.

It was not the same.

He did not think about it long. Later that very day, he encountered the turtles with all their belongings stacked upon their shells. "Leaving now?" the rabbit exclaimed. "What about our Winter fair? What about our summer concerts? You can't leave, you'll never see them again!"

But the turtles dreamt of the sea. There was no sea in the valley.

Not yet. The rabbit bounded to the human cabins. Days he stalked them; while the humans constructed the housecats' homes, he learned their patterns, their vision, their habits, until one day, he snuck into their office. He took a pen between his teeth. On all the humans' blueprints of the valley, he drew a great blue pond.

Wooden frames rose. New trees sprouted from the earth. Oil and steel roared along their gravel roads. Soon enough, the humans dug a hole. Within the week, a great pond nine hundred rabbit lengths across took shape within the valley.

It was not enough. Their shells piled high, the turtles walked into the world beyond. The valley had water, but for all the rabbit's efforts to persuade the turtles otherwise, it was no sea.

It was not the same.

The raccoons had garbage, the turtles had water, but no one would stay. Human children ruled the valley now; their lights cast away the darkness each night. Soon, only the rabbit and a lone heron remained. One day, the heron told the rabbit he was leaving too.

In all the construction, the heron's pond had been lost. But the rabbit could find it. As the humans took their yellow machines away, and the last homes replaced mud and clay for grass and trees, again the rabbit stole into the construction office. With his tiny paws, he opened their steel drawers, searching through map after map. He found one.

That night, the rabbit and the heron journeyed. The last two creatures walked the paved streets, crossing between streetlight beams and mowed lawns. Arriving at a house, the rabbit dug his paws into the earth, carving a tunnel under their backyard fence. Within the home's backyard, untouched, as it always was, they found the heron's pond.

The heron stood in the waters. He stuck his beak under the surface. He splashed with his wings. He looked at the rabbit, and turned his head.

"Is this the same pond?"

The rabbit was confused. Of course it's the same pond, he had checked. Didn't the heron recognize it? The rabbit double checked, he stood beside the heron and looked into the evening water; in its reflection, a rabbit and a heron looked back out at him.

"It has to be the same," the rabbit said.

He looked at the heron, confused.

"Perhaps, dear rabbit. It may be the same water."

For a moment, he stood there.

"But it is not the same time."

The heron flew away.



The rabbit stayed in the old valley a while longer. He continued his same morning forages. He still passed by the raccoons' old warrens, now barren. He passed by the turtles' old bushes, now a fire hydrant. He passed by the heron's old pond, now locked away. New creatures came, but they were different. Younger. Brighter. He never got to know them.

Winter came, and with it, frost. While the new housecats of the valley could convince the humans to let them into their warm homes, the rabbit never seemed able to.

Ask any of the housecats of the valley, and they'll tell you about him. The last rabbit. They won't bring you to him. The younger ones say he was run over by a truck.

But ask the oldest housecat, who lives in the house on the hill, and he'll tell you a different story. He'll tell you that one night, in a pure whiteout, the rabbit must have gotten lost, for the housecat saw him bounding by in the early morning light. By pure accident, in the blinding snow, he had made it atop the valley's eastern hillside. He had made it out.

From atop that hill, he had would have seen not only his own valley, but countless more. Rich with life, some human, some wild. From above, they would have all looked look the same. Even his own. Did he have to stay? No path down led to the valley of his youth.

Only to the valley of that day.

The housecats never saw him again.

molasses

## MY LAST LOW QUALITY POST OF THE TERM

as the term comes to an end, so does my dedication to writing short low-quality articles which nobody reads. however, as a new term approaches—of the work term variety for me—a new promise of longer, more extensive low-quality articles which no-one shall end up reading emerges. this is due to the potential for greater free time during a co-op term, though what the term “free time” means is only partially understood. if so, then i shall see you all later! perhaps i will never see you again. goodbyes!

Whole Number Haver

## LET ME BE PINK

mathNEWS → MATH → PINK

i think the entirety of mathNEWS should be printed in hot pink writing instead of black. because math. is it a huge waste of mathNEWS' money? yes. do i care? kind of... i want my pizza... but i also want to be pink real bad. bee tee dubs,, this article was submitted in hot pink, but will it be printed in hot pink? NO! rude.

gaya

## REVIEWING ALL CAMPUS BUILDINGS AS STUDY SPOTS PT. 6

Hello again! I'm back, after yet another hiatus (this time induced by the dreadful MATH 239 midterm ☹️☹️☹️). Yay!

### J.R. COUTTS ENGINEERING LECTURE HALL (RCH)

I don't like studying in this building. But not in the “I hate RCH, it's so ugly” way. I'm actually a big fan of RCH, especially the third-floor classrooms. I had two classes here in my 1A term, so it will forever remind me of the naivety of my first year, and my love (hate) of MATH 135 and SPCOM 100. Unfortunately, these feelings of nostalgia do not make up for the lack of wifi connectivity I experienced throughout my attempted studying session in the RCH basement. Rating: 3.2/10

### SOUTH CAMPUS HALL (SCH)

Again, not a favourite of mine. Though, to be fair, I've only tried studying here past dark so maaaaybe that influenced my opinion negatively. I don't know if y'all have ever gone to SCH at night, but it is NOT the place to be. Dark and treacherous, a single wrong turn will leave you searching for the women's washroom for 10 minutes, including a mini detour due to you thinking you found a shortcut via the outdoors, but instead you'll find you've locked yourself out of the building. The upstairs summer-camp-dining-hall is strange and reminiscent of a simpler, but perhaps not better time. Rating: 4/10

### STUDENT LIFE CENTRE (SLC)

“I don't like studying there. It's too loud.”—my friend *tonsil moonstone* pretty much summed it up in that eloquent but concise statement. There are a lot of fun things to do at SLC, but studying is not one of them. Bonus points for the Tims and Flock Stop being open daily. Rating: 6/10

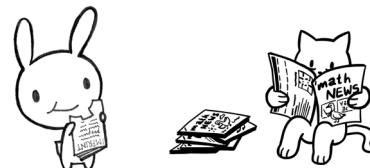
### SCIENCE TEACHING COMPLEX (STC)

I have minimal to no opinions on this building. I've studied here a few times and it's probably objectively a nice building, but nothing about it stands out to me. Rating: 5/10

### ST. JEROME'S UNIVERSITY (STJ)

I'm gatekeeping this one. Rating: 10/10 find out why for yourself.

headphones97



# mathINVESTIGATES: WHAT WAS THE BEST HIT SONG OF THE 2010S?

We all fondly remember the pop music of our teenage years,<sup>1</sup> but now that we're a little older and wiser, which hit from that decade was the best? Any reasonable person, upon thinking about it for a bit, would come up with one of two obvious answers: *Get Lucky* by Daft Punk (featuring Pharrell Williams and Nile Rodgers) or *I Feel It Coming* by the Weeknd (featuring Daft Punk).

Deciding between these two, however, is tricky. They're incredibly similar songs—of course, they were both produced by Daft Punk, but they also have similar structures, tempos, subject matters, and they both have a part where someone from Daft Punk shows up out of nowhere and sings the title of the song a couple of times in a robot voice. How do we choose which one is better? The only thing I can think of is to break them down into their constituent parts and compare each part head to head between the two. Let's get started.

## INTRO

The purpose of an intro is to set the scene and let you know what you're getting into. Both songs do a great job of this: *I Feel It Coming*'s mellow synths spend eight bars comfortably filling the space with an upbeat but relaxing atmosphere, like a party that you're having a good time at. *Get Lucky*, on the other hand, starts with 16 bars in which Nile Rodgers, armed with a funky electric guitar, discoes in and establishes that yes, he is Nile Rodgers, and he is in fact on this track. I'll give it to *Get Lucky* because it's longer. **Winner: *Get Lucky*.**

## VOICE + INSTRUMENTS

Most pop songs feature singing, and these two are no exception. I'm no professional voice evaluator, but subjectively, I think The Weeknd is a better singer than Pharrell, and I probably won't get that much pushback for saying that—though I do enjoy Pharrell's pronunciation of "gelllllucky." What seals the deal, though, is the impossibly beautiful synth that Daft Punk somehow dug up for *I Feel It Coming*. The guitar from *Get Lucky* is cool too, but the *I Feel It Coming* sound is unreal. It effortlessly fits into the time period it's trying to emulate while simultaneously sounding like a futuristic dream from that era, like if you made a steampunk hoverboard with modern technology and brought it back to the 1890s. **Winner: *I Feel It Coming*.**

## COMPOSITION

*Get Lucky* uses the chord progression  $i^7 - III - v^7 - IV$  throughout the entire song, while *I Feel It Coming* uses  $I - iii^7 - vi^7 - IV$ . None of this is important. What's important is that after spending so much time noodling around and showing off during the intro, Nile Rodgers just kinda spends the rest of the song playing the same four chords over and over. A review from Slate suspects that they were "copy-pasted in GarageBand." And it makes sense, right? Pop songs

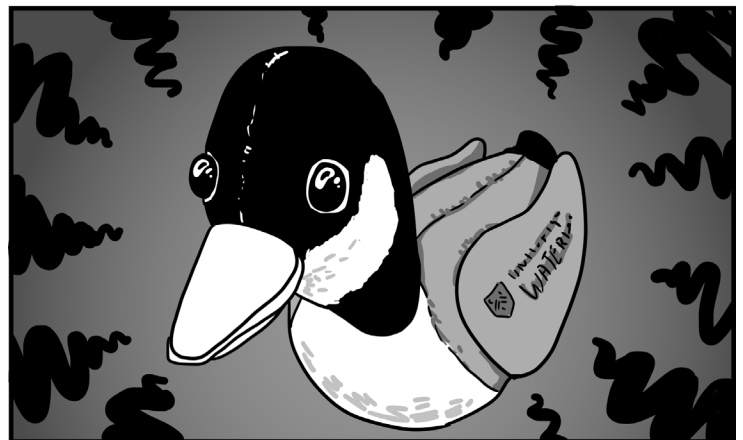
are supposed to be repetitive. You have to be able to hear it in the grocery store and still know what's going on. But it's remarkable that despite this, whether you're listening at the grocery store or at home, you don't really notice it getting overly repetitive. I'm not sure why. Maybe it's that Nile Rodgers puts you in some sort of hypnotic trance, or maybe it's the deliberate confusion between dorian and aeolian modes, or maybe the keyboard is really pulling its weight. Whatever it is, it works really well. **Winner: *Get Lucky*.**

## LYRICS

There's another obvious dichotomy in these two songs: *Get Lucky* is about bad sex whereas *I Feel It Coming* is about good sex. Okay, I mean, *Get Lucky* doesn't ever explicitly say it's going to be bad, but you feel absolutely no chemistry. Pharrell sounds like he's only here because he sort of likes the idea of "getting lucky" and hasn't thought about it much past that point. The Weeknd has different intentions: he's singing to someone who's been scared of love because of what it did to them, and he wants to show them that they can have something better. And I believe him. You wanna know why? It's the synth. It sounds magical. It makes me feel safe and comforted before the Weeknd even gets into the sexy talk. I trust this man with my life. **Winner: *I Feel It Coming*.**

## THE PART WHERE SOMEONE FROM DAFT PUNK SHOWS UP OUT OF NOWHERE AND SINGS THE TITLE OF THE SONG A COUPLE OF TIMES IN A ROBOT VOICE

In this respect, both songs are already a huge step up over 99% of pop songs, which often fail to include this basic element. At first, *Get Lucky* seems to take a clear lead: whereas the robot voice only sings "I feel it coming" 18 times in *I Feel It Coming*, it repeats the line "we're up all night to get lucky" 28 times in *Get Lucky*. However, what *Get Lucky* has in quantity, it also has in quality: Daft Punk vocode their voices to a funky melody that's impossible to not get up and dance to, and they pile on some extra distortion that invites all sorts of creative mishearings. **Winner: *Get Lucky*.**



**OUTRO**

*Get Lucky* ends by introducing a guitar riff that feels notably robotic compared to the intro: the contrast here is pretty neat. I don't know how to describe the sounds that are happening in *I Feel It Coming* at this point. I've exhausted all the adjectives. Daft Punk, in the last moments of one of their last-ever songs, remind us: *hey, did you know we're really good at making sounds?*

**Winner:** *I Feel It Coming*.

**RESULTS**

Well, shit, it's a tie. This breakdown didn't help at all.

This sucks. Maybe the 2020s will have a clearer winner.

\_\_\_init\_\_\_

1. I am being informed that there will be people entering university next year who were not a teenager at any point during the 2010s. What the fuck?

## TWO QUICK REVIEWS OF THINGS I WATCHED RECENTLY

### CONTAINS SPOILERS FOR THE REFERENCED WORK

#### REVIEW 1: ELECTION (1999)

Two weeks ago, my most masochistic friend wanted to watch the 2024 American election. By 10pm, we decided to watch something else.

All I knew about *Election* (1999) was that it starred Matthew Broderick and Reese Witherspoon and that it was about a high school teacher trying to stop his student from being elected class president. Sounds like a fun and light hearted premise, right?

Wrong.

This "comedy" starts with Reese Witherspoon's character (who is the high schooler) having a relationship with a teacher and it just does not get more fun. Matthew Broderick's character (a different teacher) cheats on his wife and his life slowly falls apart. There's like no jokes, and all but maybe two of the characters are pretty annoying.

I'm not saying this movie is bad, but it utterly failed to lighten the mood on election day. I recommend it if you want to feel upset.

#### REVIEW 2: SCAVENGER'S REIGN (2023)

This one's pretty good. Not perfect, but pretty good.

The Wikipedia summary would have you believe that this show is about a crew of astronauts who crash land on an alien planet and have to struggle and survive but this is a lie. This is a nature documentary about this fictional planet. The ecosystem is so well thought out—how all these different flora and fauna interact with each other, how they pose dangers for the protagonists, and how those dangers are eventually overcome—it's all done with so much care and focus and it all works so well.

And the briefest glimpses we get throughout the show of life out in the greater universe, of what quotidian life looks like for our heroes when they aren't fighting the elements, it all sets up so much more for future seasons and it sets it up so well.

And it's beautifully animated too. I said this show wasn't perfect at the beginning, but it reminds me of the inaugural season of a show that becomes perfect. There's such a solid foundation here, so much to build on, so much to explore, and

Wait, what's that?

It's been cancelled.

aphf

## THE BIGGEST DILEMMA OF 2024

So a couple of weekends ago, I was high out of my mind, and I was watching *Spider-Man: Across the Spider-Verse*. While in that enlightened state, a question came to my mind that I do not have the ability to answer.

Miguel O'Hara, a.k.a Spider-Man 2099 is a beautiful man. He also has a very attractive mask. So if he is topping you, would you rather have him mask on or off?

(He would still be wearing the rest of his suit in both cases.)

After more discussion at production night, I have also decided to consider the no suit case, and also have decided to make this google form to collect the data. Your contribution to this research will be appreciated: <https://forms.gle/y8v8bQ4wT2Wta1Rt5>.

anon

# TOPOLOGY IS REALLY COOL

*A GLIMPSE INTO THE MIND OF SOMEONE WHO IS NO LONGER LOSING IT AND ACTUALLY ENJOYS THIS*

I currently have the distinct privilege of being in the inaugural offering of PMATH 367, a new course on topology in the department of pure mathematics, taught by none other than resident professorial GOAT Blake Madill. Besides being the source of a litany of this volume's **profQUOTES**, I find topology to be an incredibly interesting and fun area of mathematics, so I'm going to write about it.

To begin, what is topology? If you aren't a math student, you could be forgiven for thinking it has something to do with geography, or computer networks, or anatomical structure. It's one of those STEM words that everyone seems to have a different definition for. On the other hand, if you are a math student, there's a decent chance you're familiar with topology as being the study of stretching and squishing space, untangling knots, and arguing that donuts are the same as coffee mugs because they both have one hole. That's a bit closer to the truth, and it's often what popular expositors of math on YouTube like to portray it as (and for good reason—it's a great excuse to make mesmerizing animations). To me, however, topology is more fundamental than that. I like to think of it as, in the broadest of senses, the study of continuity.

The most basic and most central concept in topology is that of an open set: They're so central, in fact, that they don't even really have a definition—they're what everything else is defined in terms of. To do topology, you take a set  $X$  whose elements you think of as points in space, and you designate certain subsets of  $X$  as *open sets*, in such a way that

2.  $\emptyset$  and  $X$  are both open,
3. A union of open sets is open, and
4. A finite intersection of open sets is open.

In  $\mathbb{R}$ , for instance, the open sets all look like unions of open intervals. In fact, topology is the reason these intervals are called open! But there's no need to stop there—as long as it fits the axioms (1–3), you can endow any set whatsoever with a collection of open sets, and when you do, it becomes what we call a *topological space*.

Now, if you're in MATH 137 or 147, you might be thinking that we already have a branch of mathematics that studies continuity, calculus. That's partially true, but calculus focuses only on functions of real variables, while topology lets you make sense of continuous functions between any two topological spaces: In topology, a function  $f : X \rightarrow Y$  is continuous if whenever  $U$  is open in  $Y$ , the preimage  $f^{-1}(U)$  is open in  $X$ . That's it! We have no need for  $\varepsilon$ s or  $\delta$ s, just one simple condition. In this way, all of calculus is really just a special case of topology as applied to  $\mathbb{R}$ , and many of the fancy theorems that you learn in a calculus class are just simple consequences of much deeper topological truths.

For instance, the extreme value theorem is just a consequence of the fact that continuous functions preserve what are called

*compact sets*, of which  $[a, b]$  is one. Similarly, the Intermediate Value Theorem follows from the fact that continuous functions preserve what are called *connected sets*: Intervals in  $\mathbb{R}$  are connected, so the image of an interval under a continuous map is another interval, hence why it doesn't have any holes. Basically, whenever calculus students say something to the effect of  $|x - y| < \varepsilon$ , a topologist would say that  $x$  is in an open  $\varepsilon$ -neighbourhood of  $y$ . Personally, I think it's fascinating how such a rich theory can emerge just from deciding to call certain collections of points open.

And all of that is just the boring point-set topology—the real fun starts when you consider paths through a space  $X$ , which are thought of as continuous functions from  $[0, 1]$  into  $X$ . If you imagine a path through space as a segment of string, and you imagine stretching and bending the string without breaking it or leaving the space, then you can arrive at several other paths. If two paths can be transformed into each other by this kind of stretching and bending, which is called a *homotopy*, they're called *homotopic*. This gives rise to classes of paths that are homotopic to each other, called *homotopy classes*, and if you restrict to only those paths that start and end at the same point  $x_0$  (i.e. loops), you can form a group out of them called the fundamental group of the space, which algebraically encodes its geometric structure. The reason that a coffee mug is different from the plane is because not all of their loops are equally loopy—in the plane you can morph any loop into any other one, but on a coffee mug a loop that travels across the handle can't possibly be molded into one that doesn't. In the lingo, we say that the plane and the coffee mug aren't *homotopy equivalent*. However, a donut and a coffee mug are homotopy equivalent—all you have to do is pour yourself a delicious cup of concrete, let it set, and then compress your now-filled in mug to the same thickness as the handle. Voilà—a donut!

That's about where we were in the course a week ago, and it sort of goes off the rails from there. We recently covered the Seifert-Van Kampen Theorem, and if you google it you'll see a horrendous category-theoretic diagram that we're expected to understand. Also there are these things called covering spaces that let you lift paths out of a space into another space and they induce a "Galois-like correspondence," whatever that is. The test is on Wednesday, so I really should be studying instead of writing this.

But yeah, it's awesome. Highly recommend. The best part is that you can draw a bunch of funny pictures of toruses and spheres with holes cut out of them and claim that it's real math for real mathematicians.

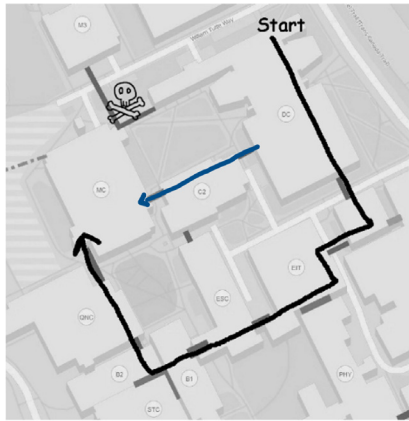
yalevoilian



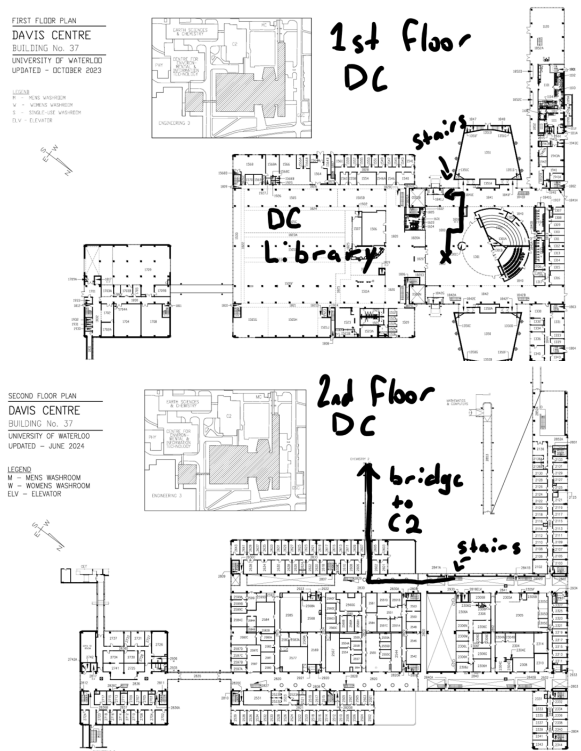
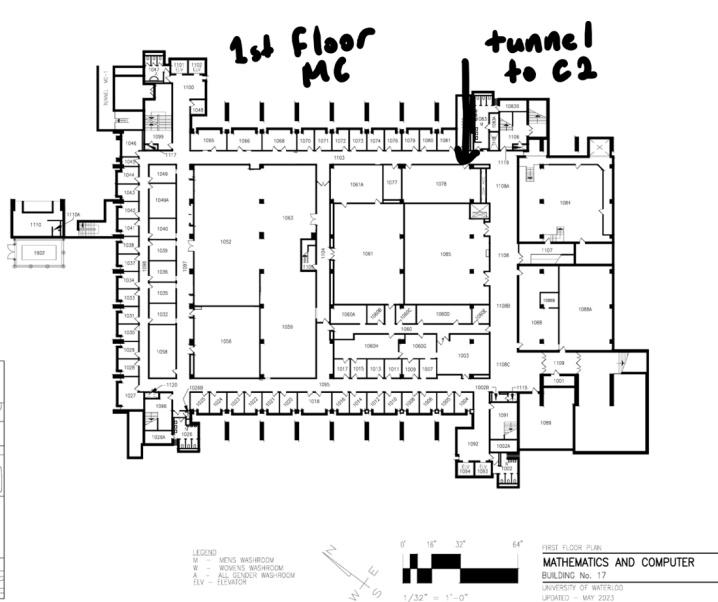
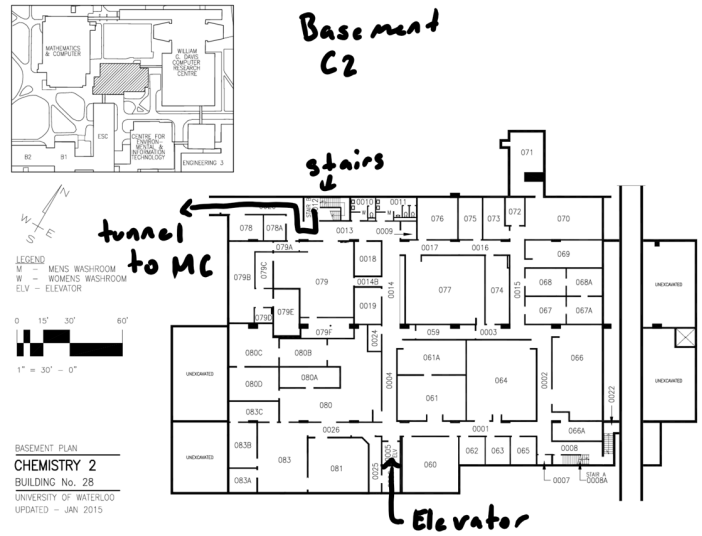
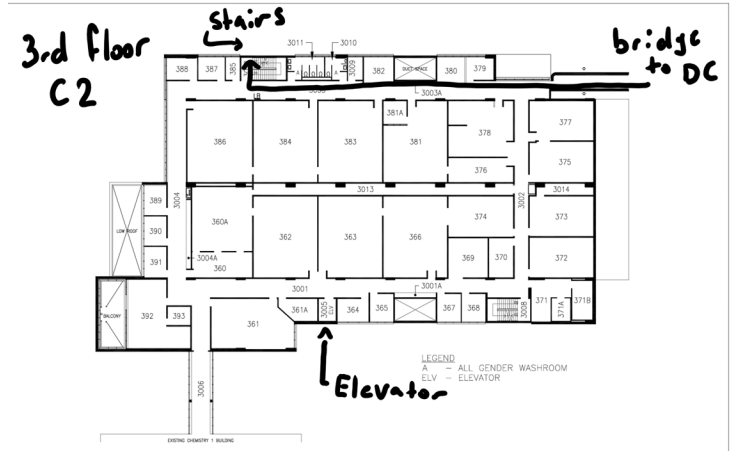
# EDIT TO "A SIMPLE ROUTE FROM DC TO MC"

Although I am not the original writer of the previous article (no shade I think they did an amazing job). I noticed that there is an alternative route from DC to MC not mentioned in the previous article. Be warned that this option requires a minimum of four flights of stairs or one sketchy elevator trip in C2 to avoid three flights of stairs (would not recommend! The first time I took it was after 11pm in first year and I thought I was going to die). I don't blame you for wanting to take the stairs because I absolutely hate stairs.

Unlike the other article, I won't be writing a detailed description of the path I don't like writing :) Instead I'll be attaching photos of the floor plans that connect DC to C2 to MC because apparently those are readily available to UW students.



DC TO MC ROUTE



# N THOUGHTS FROM MY WIKIPEDIA RABBIT HOLE INSTEAD OF WRITING HEAR ME OUT

NO HEAR ME OUT ARTICLE BUT I THINK BOTH OF US NEEDED A BREAK FROM THAT

- Should I be taking notes on this? Because I'm definitely going to forget this
- Who's Mary???
- Nothing screams privilege like a writ of acceleration
- Great, now Barbaras Rhabarberbar is stuck in my head. Thanks Barbara!
- Who was going to tell me that Princess Diana's brother is a podcaster????
- God damn it Habsburgs! ×5
- Gordon's... like Gordon Brown? Oh nevermind, it's dry gin
- It sounds like he's out cheating when he's out here negotiating with the Germans
- Ugh, please no one talk about my "impressive fertility" or "Temple of Love" in my theoretical Wikipedia article for multiple reasons.
- We love women teaming up against their ex / current boyfriend!
- Not the link to Rosemary Kennedy :(
- Is it really a history article if there's no Arthur Wellesley / Queen Victoria / Medici family / Horace Walpole mention?
- Dang, that is not a flattering portrait... ×3
- Why is someone from the 16<sup>th</sup> century named Barbara????
- I mean this is already known but Diana deserved better
- Barbra Cartland you're so iconic
- The day after the coronation he got assassinated? Crazy but like it's messy religion time so
- Not the niece!
- Whoever's eating in DP right now, I hate you because your food smells so good
- There are way too many Margarets, Annas and Marias running around
- God, that's depressing *continues reading* ×3
- Why are you cheating on your husband with a man from an architectural heritage committee???? Of all places...
- ♪ I don't need permission, make my own decisions, that's my prerogative ♪
- I usually hate the guy but props to Horace Walpole for coining serendipity
- **mathNEWS** deserves a Wikipedia article more than this Wenceslaus guy
- Huh, Barbara isn't (just) a old white woman name
- Imagine your dad dying so you go stay with the Emperor but after 5 years he marries you off to his grandson
- Damn, she's pretty! ×6
- Ohhhh, that's Mary! You really could have said her sister-in-law
- Ah yes, "I don't want to speculate but I'll suggest that there is a sex-linked genetic disease coming

- from the maternal side of the families because that's definitely not speculation"
- God I love hoisin sauce
- Maria de Medici my STEM queen
- Okay, I'm glad the guy that got hit with a brick isn't the stonemason to this hospital
- Joanna also deserved better, like why are you treating your mistress better than your wife, Francesco??? Step up your game and don't die from malaria, bud
- Who knew sheep farming was so damn profitable (and to some Lord Londonderries, fun?)
- Pellegrina? Like the water?
- Shout out to brothers for existing, so many dynasties would have died out if it weren't for y'all
- How did I get here?! ×5

sincerely, your math *freak* >:)

1. I was reading an annotated version of Nostradamus' Les Prophétes and it mentioned Marie of Medici, so I looked it up and then went through her maternal line, found a 16<sup>th</sup> century Barbara, looked up the etymology of the name Barbara and found Barbara Cartland, who's the step-grandmother of Princess Diana. Anyway, I might post more Hear Me Out next term? Stay safe, loveyoubyemywah

## N UNSOLICITED PIECES OF ADVICE

- You're (probably) not as stupid as you think you are
- Buy airtags
- Actually do the proofs for statements your prof leaves as an exercise, instead of treating them as gifts from some omniscient being
- When did you last change your brita filter? Yeah
- Most assignments are not worth ruining your physical and mental well-being for
- Take pictures, both to remember your youth and to blackmail your friends later
- Staying up until 2am is worth it, staying up until 4am is not
- If it's not fun without alcohol it's just not fun
- Learning LaTeX actually ends up being useful and you should learn it before you're old like me
- Don't procrastinate your **mathNEWS** articles and submit random advice

peacelovemath





## LAURIER MOMENTS

As a double degree student, sometimes you get subjected to weird shit.

I'm taking an internationalization course this term. As you might expect, a lot of it centers around China. Our professor isn't from China though, so they're not able to speak about China first-hand.

Not to worry! Laurier has a variety of international students from all over the world, as well as domestic students with family connections around the world. If China ever comes up, the professor can call upon these students to provide input. The professor does so, often. Some notable examples:

Lecture 1: "Where are my Chinese friends?"

Lecture 2: "Let me ask another question, and my Chinese friends, feel free to jump in on this conversation."

Lecture 5: "My Chinese friends can jump in on this if I'm wrong or right."

I just. I love it. So much. This professor cannot help themselves from asking for "my Chinese friends" every single lecture. It's like the iconic catchphrase. Gregor Richards has "oooooooooooooooooooooood afternoon," Doctor Kamal has "my dear student," and this professor has "my Chinese friends."

The thing is though, I'm not sure that they are their friends. The professor doesn't seem able to tell them apart.

All Laurier courses I've taken have required a high degree of participation in the course. It's a mandatory component of your grade; if you don't ask good questions, you're generally capped at an 80% final grade. Every time you raise your hand, the professor calls your name. For the white students, for the Indian students, for the middle eastern students, the professor gets our names dead-on almost every time.

But for their Chinese friends? Without fail, every single lecture, the professor confuses them. If they are your friends, how does this keep happening?? How do you not know one from the other???

At the same time, the professor doesn't need to know names. As long as they know faces, they can point at a set of students sitting together and say, "You guys know a lot more about China than I do."

My dear reader. The students were from Toronto.

*doubled degree*

## COMMENTARY ON A POEM

(This is follow up to A Poem, if you haven't already go read that first and come back. Or don't come back if you would rather have it stand on its own.)

I'm not going to explain the poem; I hope it can explain itself. Instead I'm going to explain Think Different, the original poem this one riffs off of. Think Different was a slogan used on its own by Apple, but I'm more interested in the poem, or this version of it:

*Here's to the crazy ones. The misfits, the rebels, the trouble-makers, the roundpegs, in the squareholes, the ones who see things differently.*

*They're not fond of rules. You can quote them, disagree with them, glorify or vilify them, but the only thing you can't do is ignore them because they change things. And while some may see them as the crazy ones,*

*we see genius, because the ones who are crazy enough to think that they can change the world, are the ones who do.*

But the think you have to remember is, this is Apple we are talking about. Their vision of "the crazy ones" is the type of person who looks at a Blackberry and thought that replacing the keyboard with a touch screen would make a better device. And I do not want to belittle the work Apple's engineers have done, so let it be known: they were right.

Iteration on existing concepts is important, but this is not a radical paradigm shift, it is another step on the same path. It is the type of difference you can leave behind at work. It is the type of difference society is comfortable with and businesses really like.

If you are more different then the crazy ones, I guess that makes you a freak.

And so, here is an ode for the people who just are, whether society has "them-shaped" hole or not. Here's to all the "unconventional" contributions to the world people (crazy or otherwise) can make. Here's to all the people who had to look, or have been looking, for their place for a long time.

Here's to the freaks.

Glec



**I wrote for mathNEWS → I get free pizza**

**A mathNEWS EDITOR WITH SOMETHING TO PROVE**

# RATING MEALS I'VE HAD WHILE SICK AND ON MY DEATH BED FOR THREE WEEKS

*HI THIS IS MY FIRST ARTICLE*

## RICE + AVOCADO + MAYO

6/10 kind of like a poke bowl if you think about it. however deducting points because getting avocado out of the skin requires multiple utensils for some reason & i have to wash the knife after

## RICE + COLD PASTA SAUCE IN JAR

1/10 actually disgusting

## HALF A JAR OF PEANUT BUTTER

4/10 tastes good but feel like shit after

## RICE

5/10 idk if you noticed i have a lot of rice. this one is solid and does the trick. however requires you to at some point have enough energy to wash rice and wait the 20 minutes for it to cook and then take it out and clean the rice cooker

## TOAST + BUTTER

9/10 enough said

## COLD BREAD + BUTTER

4/10 not... as good

## BREAD (UNTOASTED) + PEANUT BUTTER + GREEK YOGURT + HONEY

10/10 delicious and i would eat this again. and maybe even once more

## CARROTS + PEANUT BUTTER

7/10 ok now i'm just pulling random items from the fridge. honestly not bad though plus points for vegetable

## RICE + PARMESAN

3/10 another rice combo. this one is honestly ok ...? it just tastes like rice and parmesan (surprisingly) i kept taking bites to see how the flavours tasted together but for some reason could only taste one flavour at a time. very mysterious combination

## A MILLION AMBROSIA APPLES

12/10 i love apples

tonsil moonstone

# RANKING 4N DISCORD GAMES

*IT JUST NEVER ENDS...*

## ROCKET BOT ROYALE — 9/10

Drive around as a tank firing missiles at other players. You can drive on walls and shooting missiles propels you in the opposite direction. You can use physics to your advantage, or to launch yourself into the water (which insta kills you). You can also go around and collect power-ups to give you an advantage. Slight pay-to-win elements that are avoided if you play for a bit but they exist nonetheless.

## EXORACER — 5/10

Only one button is needed to play, you just click to make your bird thingy jump. The goal of the game is to speedrun the level and try to get the fastest time possible. It's okay, just not anything special. If you need to waste a minute this game is for you!

## LETTER LEAGUE — 10/10

It's just online Scrabble.

## SPELLCASE — 9/10

It's kind of like combining Scrabble with a Word Search, you can play against AI if you're lonely but most of the fun comes with playing against friends. Chain letters together to make long word combos, and buy slight powerups (earned in-game) to give yourself an advantage during your turn. An amazing game to play! -1 point because I can't spell :3

## COLONIST — 8/10

It's straight-up Catan, but they want you to pay for extra features such as maps or different colours, it gets the job done but I do not stan paid transactions.

Catboy Supremacy

# SINUSOIDAL SOUP

## INGREDIENTS

- some  $n$  tomatoes
- 1 chopped onion
- garlic, chopped
- spices?
- several hot peppers, chopped (e.g. jalapeños, chili peppers, whatever you can find really)
- an entire handful of cold herbs, chopped (e.g. basil, parsley, cilantro, mint)
- whatever else u want <3

## INSTRUCTIONS

1. in a large pot, add chopped onion, garlic, and spices. stir and let cook for the next few minutes.
2. add tomatoes, hot peppers, leaves, and anything else rly
3. let cook for approximately twenty minutes, or whenever the tomatoes have sufficiently broken down
4. serve with kleenex

it's called sinusoidal soup because it makes your *sinuses* go "oi, what'd al this be then" immediately before collapsing dead. it's a bit like

very hot + very cold = very hot + very -hot = very

strongly recommended if you ever feel like clearing out your entire head.

molasses

# LINEAR LOVE STORY 9

The points

(3,638), (6,827), (7,899),  
(11,1181), (-1,362), (-2,269)

show moments in a relationship.

Looking at a single one  
may give the impression  
of heavenly bliss

or an unsalvageable mistake.

But taking a step back  
and viewing them as a whole  
reveals a remarkable,  
highly correlated,  
positive trend.

Totally Ununimodular

Hint: find the least square line / line of best fit.

# YOU SHOULD PROBABLY KNOW ABOUT THE TUNNEL TO C2

## WISE WORDS FROM YOUR TUNNEL MOTHER

In memoriam of the DC bridge closing just as it starts to get cold, here is the best way to get to DC without venturing into the frigid outdoors. I (an expert of the tunnel systems, I say) have discovered amongst friends that many people are not aware of this way. I hope you like stairs.

If you enter MC by the first floor from the rock garden, turn right. Follow the hallway down past the corner. Don't be fazed by the (sealed) asbestos-ridden construction area! You should see two large brown regular-looking double doors on the right, with a tiny sign on them. These go down to C2.

Follow the basement path until you reach stairs on your left, and climb to the third floor. Then take a left out of *those* stairs, and keep going straight until you reach another obvious-looking door at the end of the hallway. Now you're out of breath, but in DC! The alternative was to get cold, but either way you get to where you're going.

nike

# WATER FROM THE FIRST FLOOR OF PAC IS SUPERIOR

## TRY IT IF YOU DON'T BELIEVE ME, DC WATER ENJOYER

Specifically, the fountain outside the women's changeroom. The taste of the water is cool, refreshing and doesn't taste metallic or like I would die from drinking it after five years. I try to leave PAC with a full water bottle from the first floor. It is that good. This is for DC water enjoyer: PAC isn't too far from DC. Try it out and maybe you'll change your mind. :)

DC water hater

# WHY IS SO CO

there is always so much to do in this class, but no knowledge gained. why does it always take so long to do the assignments but worth so little. Why can't I just finish it earlier. How come sometimes the content makes sense, but I can't apply, while other times the content makes no sense.

huhue

# NEW AP EXAM FORMAT JUST DROPPED

gridCOMMENT 156.6

ohayo gridWORDers :333

not to be a debbie downer or anything but it's been a month and all the sockets in my room are still blown yayyyy

anyways, last week, i asked you all what ancient weapon you think you'd be, and you all said:

- ShrengIV: *the Basilic Cannon which conquered Constantinople in the 15<sup>th</sup> century*
- softboiledegg: *harpoon*
- miggles: *a catapult, launching chaos from afar*
- kvcm: *shuriken*
- Spaghettiiinhalers II: *indo-persian crab bow*
- awmlet: *archimedes death ray bc conceptually I'm cool but in reality I'm extremely useless and nonfunctional*
- nike: *a labrys, because lesbians*
- rutabaga: *i would be the weighted nets that the gladiators used because it also can be used for fishing* 🐟
- Lars Nootbaar and aphf: *My body is a weapon, one of the most ancient things there is*

thank you ShrengIV for the history lesson!! i, too, have broken under the force of my own body. to my runners (so no one who reads **mathNEWS**), please make sure to do some training outside so you can get that vitamin D in. take it from someone who broke a foot four times. and ShrengIV, please make sure to head down to waterloo to get that \$5 math cnd gift card from mc3030!!!! or you can have someone else get it if you're stuck in hamilton (condolences)

also, if you weren't here for volume 155, i am no longer doing that thing where we run an old **gridWORD** for the last **mathNEWS** issue because a) if you want to do one just go find it yourself and b) i can do whatever i want, as evidenced by this issue's theme. if you have any words of praise (or grievances, for some reason), you know where to find me next term.

good luck to all those with final projects and/or exams!!

## ACROSS

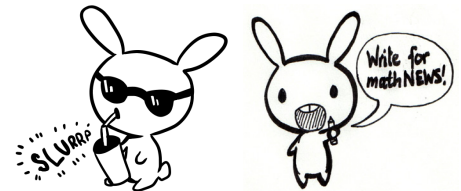
- Stringed instrument
- Support, with "up"
- Mounted on
- Cookie with cream
- Insults, when thrown
- Soothe
- A scary liquid that does not move\*
- Pelvic bones
- Waterloo's time zone
- Canal site
- Honeydew, e.g.
- Ornate quality of detail
- Skibidi rizzler's birthplace, maybe
- Utah lilies
- Huge
- Large bird of prey
- Advance amount
- Willies
- Enemy missing, maybe
- South African daisy species
- Breathing problem
- Correct, as text
- "Ahoy, \_\_\_!"
- Capable of being managed or overseen
- Fowl place
- E.U. member
- Sleep stage
- Hydroxyl compound
- Scrabble no-no
- Someone who can correctly answer all the starred clues has this\*

- The answer is TURPS because I cannot in good conscience put the definition of this acronym in a publication
- Land o' blarney
- What UW is known for
- Ethereal
- Hosiery hue

## DOWN

- Water carrier
- Fine things
- Say again
- Campaigner, for short
- Seven Wonders of the Ancient World lighthouse
- Snitch
- Flowery verse
- Part of w.p.m.
- Extraterrestrial
- Gown fabric
- Stews
- Makes preparations
- COVID-19 testing method
- Inclined
- Screen
- Recluse
- On the throne
- Awestruck
- Chuck
- \_\_\_ Khan

- From the screen to the ring, to the pen, to the \_\_\_\*
- Dismay
- What sigmas go on when the temperature starts dropping\*
- Surgery locale\*
- With 48-down, G.I. Jane actress
- Mine finds
- Wuh-luh-wuh, maybe
- Not straight
- Yellow shade
- I like my cheese \_\_\_\*
- You might calculate them in geometry
- Hemorrhoid patient's need
- See 36-down
- Muhammad's religion
- Mars, to the Greeks
- Kuwaiti leader
- Restaurant handout
- Mom-and-pop org.
- French way
- Hockey great Bobby
- Born as



I basically only read the profQUOTES.

MOST PEOPLE WHO READ **mathNEWS**

1	2	3	4		5	6	7	8		9	10	11	12	
13					14					15				
16				17						18				
19				20					21					
		22	23				24	25	26					
27	28					29								
30							31				32	33	34	
35					36	37					38		39	
	40			41						42				
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46	47	48	49						50					
51								52				53	54	55
56					57	58	59				60			
61					62						63			
64					65						66			

Drop your gridWORD solutions off at MC 3030. And yes, we do award points for creativity.

# lookAHEAD

SUN NOV 24

MON NOV 25

TUE NOV 26

WED NOV 27

THU NOV 28

FRI NOV 29

SAT NOV 30

revivED's Grandmother's Half-birthday

Ace Visibility Day

Black Friday

befuddled's Half-birthday

Electronic Greeting Card Day

SUN DEC 1

MON DEC 2

TUE DEC 3

WED DEC 4

THU DEC 5

FRI DEC 6

SAT DEC 7

christmas season ^-^

International Buy All of Your PC Parts Day

Classes End

Classes End (Laurier Edition)

World Soil Day

Final Exams Begin

Saturday

## LAST ISSUE'S gridSOLUTION

1	C	2	A	3	M	4	P		5	S	6	L	7	E	8	D		9	E	10	R	11	O	12	S
13	O	L	I	O		14	V	O	I	C	E		15	N	O	P	E								
16	P	A	R	T		17	T	I	M	E	R	S		18	B	U	T	T							
19	E	R	E		20	E	R	A		21	U	S	E	L	E	S	S								
				23	G	A	E	L					24	E	G	O									
25	O	D	O	N	T	O	I		28	P	R	O	C		30	E	S	S							
33	M	A	M	A	S				34	A	R	T	S		35	G	A	T							
36	E	D	I	T		37	W	A	V	E	S		39	O	G	R	E								
40	G	O	T		41	S	A	K	I				42	C	R	E	E	L							
43	A	S	S	O	C	I	A	T		45	E	D	E	G	R	E	E								
				47	V	A	T					48	L	A	D	Y									
49	A	L	G	E	B	R	A		53	I	R	A		54	D	O	G								
57	L	A	I	R		58	E	X	A	C	E	R		60	B	A	T	E							
61	S	I	L	D		62	S	O	L	I	D		63	U	N	I	T								
64	O	N	T	O		65	S	N	I	T		66	S	E	C	S									

## THIS ISSUE'S gridSOLUTION

1	H	2	A	3	R	4	P		5	P	6	R	7	O	8	P		9	A	10	T	11	O	12	P	
13	O	R	E	O		14	S	H	A	D	E		15	L	U	L	L									
16	S	T	I	L		17	L	W	A	T	E	R		18	I	L	I	A								
19	E	S	T		20	E	A	R					21	M	E	L	O	N								
				22	E	23	L	A	B	O		24	R	25	A	26	T	E	N	E	S	S				
27	A	28	K	R	O	N			29	S	E	G	O	S												
30	G	I	A	N	T				31	G	O	S	H	A	32	W	33	K								
35	A	N	T	E		36	D	37	O	N	G	S		38	P	I	N	39								
				40	G	E	R	41	B	E	R	A			42	A	P	N	E	A						
								43	E	M	E	N	D		44	M	A	T	E	Y						
46	A	47	D	48	M	49	I	N	I	S	T	R	50	A	B	L	E									
51	R	O	O	S	T					52	I	R	E		53	R	E	M								
56	E	N	O	L		57	P	R	O	P	E	R		60	N	A	M	E								
61	A	U	R	A		62	T	U	R	P	S		63	E	R	I	N									
64	S	T	E	M		65	A	E	R	Y		66	E	C	R	U										

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