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## “HOW DO YOU CELEBRATE A BIRTHDAY?”

The last issue of the term is always bittersweet. **mathNEWS** has put out some truly outstanding content this term, and this issue is no exception — we have more cocktails, paint, movie, TV, fried chicken, game and music reviews (wow, writers really like reviews), and no shortage of brilliant jokes and beautiful pieces. The thing is, when a term ends, the perfect blend of writers from that term disappears. Some people go on co-op, others graduate, others get too busy to write again.

This is also my last issue as a **mathNEWS** editor. My duties as MathSoc president will unfortunately prevent me from holding the position of editor, and although I fully intend to continue contributing content, I'll need to do it with a bit more distance. This, too, is bittersweet. I'm so excited to be MathSoc president, but my time as an editor was beautiful, and I'm sad to lose it. I love **mathNEWS**, and I will forever be grateful for what I got to contribute, and what I got to be a part of.

I know that **mathNEWS** won't ever be anything less than excellent, but every term, it's a unique kind of excellent, and I always hate to lose that; but maybe, it's special because we only get it for a little. Maybe, if **mathNEWS** were always identically exceptional, it would lose the exceptionality. Maybe the fact that writers and editors cycle and leave so quickly is what allows **mathNEWS** to be **mathNEWS**. Thank you all for making it a little more special.

Nick Priebe (*gildED*)  
Editor, **mathNEWS**  
S22, F22

It feels very strange knowing that this is the last time I'll ever edit **mathNEWS**. This rag has been a constant of my university life since first year; through passes, fails, co-ops, and COVID, **mathNEWS** was always there. It's certainly a bittersweet farewell; I don't think I'll cry, but I'll certainly miss being here, for both the friends and memories I made. Nick's said pretty much everything I wanted to say, but thankfully by virtue of seniority I get the last word:

lol imagine still having school get rekt suckerssssssss

Terry Chen (*terrified*)  
Editor, **mathNEWS**  
W19, S19, F19, W20, F20, S21, W22, S22, F22

- DICK SMITHERS | Subtract a year. No one decides what age I am but me
- SOMEBODY | CAKE
- NOT A N\*RD | With pizza and sprinkles
- 別 | You forget and then feel bad for forgetting ;-;
- APHF | Form a cargo cult believing in the divinity of the one roommate's mom who brought cake to the apartment
- D\_DAWG | Jungle Juice, but hold the juice
- BOLDBLAZER | Back in Vancouver, eat good food with family.
- TENDSTOFORTYTWO | a small get-together with close friends
- SKIT | awww! you did remember it was my birthday!
- CREATURE\_F | well
- AAQSR | Calculating pi by hand
- YALEVOYLIAN | I don't.
- MOLASSES | carrot cake :)
- FINCHEY | Fast cars, drugs, and hookers!
- ALYSSNYA | crying in public
- PLATYPUSGOD | mmm cake day
- LEMMAN | Spirytus 76
- EVILEVIEVIL | By wishful thinking.
- 0.423 | Grind number theory because why not?
- CUTLET | ideally by spending the day with friends and family, but at the very least, with some time set aside spent with people you care about
- DISTRACTED | whose birthday are we talking about, anyway...? \*foreshadowing\*
- CLARIFIED | Wait, sprinkles and pizza? What???
- TERRIFIED | With friends, real and imaginary.

## ARTICLE OF THE ISSUE

Congratulations to Melting for your article Thank You. You perfectly captured a unique experience that some of us understand all too well, and it's touching to hear how supportive everyone has been. As always, pick up your gift card in MC3030, and thank you for writing (see what I did there?)

*gildED*  
Editor, **mathNEWS**

A single instance of Hi-Jinx should be called a Hi-Jink.

CLARA XI, **mathNEWS** EDITOR FOR FALL 2022  
ALONG WITH TERRY CHEN, RYAN CHOW, DANIEL MATLIN, AND NICHOLAS PRIEBE

# mathASKS 150.6

## FEATURING PROFESSOR PRABHAKAR RAGDE

### AAQSR: WHAT DO YOU THINK OF CS 145'S CURRENT OFFERING? WHAT WOULD YOU CHANGE? DO YOU PLAN ON EVER TEACHING IT AGAIN?

Math professors vie to teach MATH 145/147. This is not the case for CS 145/146. I had to convince Gord Cormack to teach CS 145 when I went on sabbatical (Brad Lushman was easier to convince for CS 146). Then he decided he liked it, and I had other things I wanted to work on, so I left it to him. I doubt I will teach either of them again (the content of my versions are available on my website, in the flâneries FICS I/II).

I gave Cormack my materials, but, not surprisingly, he developed his own. As far as I can tell, he hasn't written anything down. I asked him for electronic copies of his notes, and he pointed me to his assignments, which give a keyhole view, but not a particularly comprehensive one. In my current offering of CS 245E, I have repeatedly asked students whether Cormack talked about this point or that in CS 145. Not that it matters much; the rest of the curriculum is indifferent to it.

### MOLASSES: ACCORDING TO UW FLOW (ADMITTEDLY AN IMPERFECT SOURCE), 24% OF STUDENTS FIND CS 245 TO BE USEFUL. HOW DO YOU THINK CS 245E SHOULD BE CHANGED TO IMPROVE THIS SCORE?

I think my version of CS 245E (freely accessible as the standalone flânerie LACI on my website) is about as good as I can make it and still adhere to the basic principles of the course. I believe nearly all of it would work as a regular CS 245 offering. But I think the question "useful?" is problematic. What does the word mean in this context, and why would students who have just completed a course be able to assess this? I think that university is the right time to take "useless" but interesting courses. It's going to get a lot harder to do so once you graduate! I have never used what I learned in Organic Chemistry, but I'm glad I took it.

I can envision a curriculum in which a revitalized CS 245 plays a proper role. But I see no path to such a goal, despite recent good-faith attempts to standardize and stabilize the course. When someone asks me what should be done with CS 245, I say: take it out of the calendar.

### BLINCHIK: ABOUT THE TEACHING OF COMPUTER SCIENCE FUNDAMENTALS IN HIGHER EDUCATION: WHAT ASPECTS OF COMMON APPROACHES DO YOU VIEW AS MOST IMPROVABLE? (MAINLY WONDERING ABOUT NORTH AMERICAN UNIVERSITIES, BUT NOT STRICTLY)

I think we absolutely have to get away from the CS1 "programming in some language used by industry" / CS2 "elementary algorithms and data structures" model. CS 115/135/145 was a start at that, but further reform was deliberately blocked. The rest of our curriculum pretends 1A never happened. The core has too many historical remnants and lacunae that don't acknowledge the Web, networks, or

everyone having supercomputers in their pocket with amazing amounts of both volatile and persistent memory. The optional courses in third and fourth year are either similarly marooned in the past or are some variation of "Come do a Master's with me." It all can be improved in theory. In practice: you have to work with the instructors you have. What can you get them to change? Maybe you should ask them.

### CIX: WHAT BROUGHT YOU INTO RESEARCH IN THE FIRST PLACE? HOW DID YOU GET INTO YOUR FIELD?

Research was a natural extension of the attraction I felt to puzzles and problem-solving. There's a lot I don't like about how research works in practice: egos, self-promotion, competition, trendiness, and a general sense that it's all a little too self-serving. I didn't try to climb as a researcher. I worked on what interested me, and as a result, I've taken a meandering, unpredictable path through many topics. Perhaps the greatest benefit of my research was that it enabled me to teach at a university with good students, with a workload that let me attempt pedagogical innovation.

### EVALUATOR: I'VE CONSIDERED THE POSSIBILITY OF COMING BACK TO WATERLOO POST-PHD TO TEACH. HOW DID YOU DEAL WITH THE FEELING OF UNDERGRADUATE LIFE HAVING VISIBLY MOVED ON, ESPECIALLY GIVEN YOUR INVOLVEMENT WHILE HERE AS A STUDENT?

I had no intention of coming back to Waterloo, but with a two-body problem, it was the best option. After several years away, my peers were mostly gone (there were some awkward meetings around town) and my former professors were mostly gracious about accepting me in my new role, and being helpful. Not universally, but the exceptions were, in retrospect, not surprising; don't ask me to name names.

There were some ghosts in the corridors of MC or SLC, but they were really in my head, nothing more. It probably helped that I felt I had outgrown Waterloo by the time I left; I came back with the attitude to make a fresh start along a different path, and nothing really got in the way of that.

### EVALUATOR: WHAT DO YOU MISS MOST ABOUT YOUR EXPERIENCE HERE AS A STUDENT? // CLARIFIED: WHAT'S A CRAZY STORY YOU HAVE FROM YOUR DAYS AS A STUDENT?

I don't miss anything about being an undergraduate. Life gets a whole lot better after that. I did foolish things as a student. So will you. There is nothing exceptional about any of that.

### EVALUATOR: WHAT KEPT YOU IN WATERLOO?

The University of Waterloo is a very good place to work. The staff mostly care about doing their jobs right (you may not think so, but it's been worse at every other institution I've been associated with, sometimes much worse), the students are great, Canadian research support is quite nice

for my purposes, teaching support here is strong, and there is relatively little friction among faculty. Kitchener-Waterloo is not the most exciting place, but it's pretty easy to live here day-to-day (though harder without a car, as I've been for the last nine years). Pre-COVID, I would travel frequently for cultural diversity. I learned how to make many things at home that in a larger city I would go to a restaurant or cafe to have.

**SONG PARODIST: WHAT KIND OF MUSIC DO YOU LISTEN TO? WHAT ARTISTS? IS THE "CONCERTS" PAGE ON YOUR WEBSITE STILL INDICATIVE OF YOUR TASTES (I.e., NEW WAVE)?**

My "Concerts" page describes a certain historical arc; I continued to go to concerts after my "best ever," perhaps not at the same pace, but right up until COVID hit. I primarily listen to what is now called "indie" (encompassing historical "punk" and "New Wave"). But I also listen to jazz, world music, classical (I was a full subscriber at the K-W Chamber Music Society and the Kitchener-Waterloo Opera when it existed), and more recently, electronic music genres.

**μ: CAN YOU RECOMMEND ANY ALBUMS YOU WOULD CONSIDER HIDDEN GEMS?**

Too many to list! But I will single one out, the album *HEY WHAT* (2021) by the band Low. It is unfortunately their last, because one of the two band members (Mimi Parker, vocalist and drummer) died of cancer in November. It's an astonishing album for a band almost thirty years old, fresh and vital.

**μ: IF YOU COULD RECOMMEND A SINGLE PIECE OF SYNTH EQUIPMENT, WHICH WOULD IT BE?**

A synth recommendation would depend on what kind of music one wants to make, how important sound design is (versus just tweaking presets), how well one can play keys, what features one wants, and most important, one's budget. So I will instead talk about the most enjoyable synth in my small collection, the Norand Mono. It's the debut product from someone who previously worked at a larger manufacturer, and there were some very clever UI decisions, so it's playable right out of the box but offers considerable scope for sound design and live improvisation (tending towards acid techno as the easy route, but with many more possibilities than that). Take a look at Oscillator Sink's demo on YouTube (with links to other demos).

**FOODIE: WHAT IS YOUR FAVOURITE THING TO COOK? // BLINCHIK: FAVOURITE EASY SNACK?**

There is cooking to put food on the table and there is cooking to challenge oneself and try something new. I try not to obsess over food (the amount of attention paid on the Internet to ramen, or pizza, or burgers is ridiculous; I like all of these, but calm down) but instead, as with everything else, seek good quality/price or quality/time tradeoffs. The Thai-style food that one can make with Maesri canned curry pastes, Mae Ploy coconut cream, protein and vegetables of your choice, and Thai jasmine rice will beat any Thai restaurant in North America except possibly the ones in Elmhurst in the Queens

borough of NYC, where everyone but you will be speaking Thai, and similar ones in LA. You can go to the Lao-Thai Superstore in Kitchener and get what you need (except for fresh Thai basil and wild lime leaves, which you can get at New City Supermarket). Don't hesitate!

**CUTLET: I'VE SEEN FROM YOUR TWITTER THAT YOU ARE WHAT COULD BE DESCRIBED AS AN AFICIONADO OF WINE AND BEER. WOULD YOU BE ABLE TO CHOOSE A FAVORITE WINE AND BEER THAT YOU'VE HAD BEFORE?**

Wine is quite dependent on local selection. In Ontario, I would suggest The Wolftrap, a South African red blend of Syrah, Mourvèdre, and Viognier (classic French grapes but in a new terroir) that overdelivers for the modest price. Beer also varies depending on location. My Ontario go-to is Collective Arts Life In The Clouds; on the US East Coast, Sloop Juice Bomb IPA; and on the West Coast, Pliny the Elder.

**CUTLET: IT'S THE EVENING FOLLOWING A BUSY DAY, AND YOU HAVE THE OPPORTUNITY TO RELAX AT HOME. WHICH, IF ANY, COCKTAIL WOULD YOU CHOOSE TO COMPLEMENT THE MOOD?**

My go-to cocktail in the US was a Boulevardier, which is like the more popular Negroni, but with bourbon substituted for gin. But that choice was predicated on inexpensive but decent mixing bourbon (Benchmark) and quality vermouth (Carpano Antica). Also, gin is too forward for me, even though it is more widely available than bourbon. I don't tend to drink cocktails in colder weather, but right now in Canada, I might attempt something with rye whisky, maple syrup, and bitters.

**TWEETY BIRD: WHAT ARE YOUR THOUGHTS ON THIS WHOLE TWITTER THING?**

I am not generally an early adopter, though I have used technologies early in my teaching if I thought they would help. I joined Twitter in 2009 and it became my primary social medium when I stopped paying attention to Facebook in 2011 (I have since deleted my FB account). There were social media for me before that, and there were ones after that (Mastodon, currently, but also synth-specific ones like Elektronauts and modwiggler). Twitter for me peaked somewhere before they removed the chronological timeline (I still have it on TweetDeck).

It's the old tech story: people with narrow abilities and no real sense get lucky and make lots of money, and then think they are some new evolutionary stage when in fact they need to get away and work on their personalities. Twitter has been getting steadily more annoying to use, and the latest developments (which might be completely superseded by the time this is published) are like watching a tsunami arriving. You know you should be seeking higher ground, but the spectacle is so compelling. I deliberately spent lots of money on synths to distract me from doomscrolling during the pandemic. If Twitter crashes and burns (which seems likely), I have some nice equipment to keep me occupied.

### CLARIFIED: WHAT ARE THE THREE MOST IMPORTANT QUALITIES IN ANY PERSON?

Sleep, nose-painting, and urine. Wait, wrong list of three. [Shuffles notes.] How about this: self-awareness, empathy, and kindness.

### CIX: WHAT IS YOUR FAVOURITE ANIMAL?

I don't have a favourite animal, or a favourite anything, really, as almost nothing outside mathematics is totally ordered. I recently gained an appreciation of elephants on the last trip I took before the pandemic, to visit sanctuaries in Kenya. If you poke around on my website, you'll find a lot of photos and videos.

**DICK SMITHERS: HAS BEING A mathNEWS EDITOR GIVEN YOU EVEN A SINGLE APPLICABLE OR USEFUL LIFE SKILL? // EVALUATOR: WHAT DO YOU THINK ABOUT mathNEWS? // EVALUATOR: WHAT DO YOU THINK ABOUT ECLECTIA? // EVALUATOR: DESCRIBE YOUR EXPERIENCE AS A mathNEWS EDITOR. // SQRT(CAUSE): WHAT WAS THE LAST mathNEWS ARTICLE YOU EDITED (AND WHY DID IT MAKE YOU QUIT)? // UKNIGHTED: HOW DO YOU FEEL ABOUT THE FACT THAT THERE'S AN ENVIRONMENT STUDENT ON THE EDITING TEAM NOW? // EVALUATOR: ANY FUNNY OR OTHERWISE STANDOUT STORIES FROM YOUR TIME IN mathNEWS? // EVALUATOR: HOW/WHY DID YOU GET INVOLVED WITH mathNEWS? // EVALUATOR: DO YOU STILL SPEAK WITH ANYONE YOU MET THROUGH mathNEWS? // CUTLET: DO YOU CURRENTLY READ mathNEWS? IF NOT, WHEN DID YOU STOP?**

Give a **mathNEWS** writer a chance to ask questions, they ask about **mathNEWS**. You all should get out more, maybe read a book that isn't genre fiction. I'm going to address the topic more generally.

I started writing for **mathNEWS** as soon as I could, because I wrote for the newspapers at my high schools. There was no Web at the time, no Internet (not at Waterloo, at least), no email except between Math Faculty accounts (like student .cs, but with one machine serving terminals on the third floor of MC, some of which operated at roughly ten characters per second, no exaggeration). **mathNEWS** was typeset on a phototypesetter; the columns were cut up physically, pasted on layout sheets, and sent to Graphic Services for duplication and delivery in very much like today's physical format. All writers used their real names, or their userids.

I was **mathNEWS** editor early in my undergraduate career. There was only one editor at the time. It was common for writers to wander in late on production night, sit down, and start typing up their column. I tried to improve the quality, so I was actually an editor and not just a layout person (someone else did the physical layout, I went home before midnight on production night, because I had a rule that I didn't work after midnight on anything). It didn't happen. Life skills I learned? None. Lessons I learned? "People don't like change" (even sensible change like "Submit your copy early enough so that I

can actually edit it"), and "You will never fit in, so try harder to get along."

I was also writing for Chevron (the official student newspaper for the whole campus, which had been taken over by Albanian-style Marxists), and later, for Imprint (an alternative started by Chevron exiles, which eventually became the default). After I realized that I couldn't change **mathNEWS** to the degree that I wanted, I moved to Imprint, and by my senior year, I was writing a lot and getting all of it published. That was way more rewarding than **mathNEWS** (but I still could have used a stricter editor, in retrospect).

I went off to grad school, and decided that writing for print was too self-indulgent (for me, at least). I had USENET (primitive social media I got access to in senior year) for shorter throwaways, and a few years later, the Web sputtered to life.

**mathNEWS** is a passing phase for each of you. It could be more than that, but it isn't, and it isn't going to be. Get out of it as soon as you can. There are more serious challenges out there. And if you are reading this in print or on the Web: go read something else.

## SHEER TERRYR



chris

# profQUOTES

## CO 250: PETER NELSON

- “ It’s sort of like that meme from the 2000s where you do something and then...?? and then profit.
- “ You just point to the person who’s not blonde, and you’re done.
- “ I’m sorry, I didn’t mean to wave my hands a little more.

## CO 370: MARTIN PEI

- “ If I was Banksy, this would be worth millions.
- “ If you could start a company to sell something, what would you be selling?
- “ I should delete that from the VOD.
- “ Everything I say in this class is true, which is false... including this statement.
- “ What are we doing here? I don’t know either.
- “ So it’s capped at 50, and that’s no cap. That’s terrible, sorry.
- “ That’s the capital of Suriname.

## CO 456: DAVID JAO

- “ If you think that religious scholars used Shapely Values a thousand years ago, your hypothesis is now wrong.
- “ We are having projector problems.
- “ I mean, I could write on the board like a pleb, but I don’t want to do that.

## CS 245E: PRABHAKAR RAGDE

- “ You can’t do the assignments just by tweaking the examples; that is, if you only use the examples in class and not on Stack Overflow or something.
- “ *[trying to come up with a name for a variable]* What do I call it? p? No, let’s just make it x. No. Ahh, I can’t make up my mind. q.
- “ I went on the Agda mailing list and said ‘help I need help’ and I got help so that was great.
- “ Drinking while coding is a bad idea. But drinking while coding Agda...
- “ I don’t drink HEAVILY while coding in Agda, but I do drink a little bit. It eases your inhibitions and you try things you wouldn’t have tried otherwise.

- “ Help! I’ve got vertical bars in my holes.

## CS 246: EDWARD LEE

- “ In Mario Kart we have two kinds of turtles. We have red turtles and green turtles. Blue shells aren’t turtles... they are spawned from hell.

## CS 246: ROSS EVANS

- “ Pizza with cheese with cheese with cheese with cheese... they really like cheese.
- “ I don’t want to use a real name, so let’s use a fake name, like Elon.
- “ Elon’s tweeting about Wario quite a bit.
- “ In reality, we know that this loop will never end, because this guy never stops tweeting, but let’s pretend for a moment that it does.
- “ This is the part of lecture where every prof goes ‘I’m not an artist’ but I’d like to say this is the best turtle I’ve ever drawn.
- “ This is what a turtle shell looks like, I think. It also looks like a waffle, if you need one of those.
- “ We want to respect the copyright... *[quietly]* maybe... I suppose.
- “ I’m sure the conservationists would be quite upset if I discussed hitting turtles with rocks.
- “ The turtle should be glad we don’t have plastic straws as that’ll probably do the most damage to it.
- “ If we hit the turtle with a rock it probably won’t be fine, but let’s not discuss that.
- “ *[when the compile failed – very unsurprised sounding]* Oh no! It failed! *[normal voice]* When I was little I thought I was going to be an actor.
- “ I think it was Socrates who said life is simple until people start throwing shit at you.

## CS 246D: BRAD LUSHMAN

- “ This is where CS 246E becomes CS 246D, where the D stands for difficult.

## CS 246E: BRAD LUSHMAN

- “ This pattern is known as the deadly diamond. The other name this pattern goes by is the deadly diamond of death.

- “ Land vehicle, sea vehicle, amphibious tourist-trap vehicle.
- “ Of all the terms in computer science, ‘combinatorial explosion’ is one of the most fun to say.
- “ I will strike these enemies with a stick.
- “ When you say to an enemy ‘be struck by my weapon’, the enemy says ‘strike me.’
- “ This is me trying my hardest to act like I didn’t know this would happen.
- “ I have to wonder if this is the only C++ class in the world where we talk about Racket.
- “ It’s at this point that The Complainer shows their hand... ‘there’s something you don’t know about me... I’m a Racket programmer, and I fondly remember all of the fun things we did in 1A and possibly 1B’.
- “ That’s the technical term for it: a nightmare.
- “ Really, what a garbage collector does is enter your house and pick up everything that isn’t nailed down.

**CS 246E: KRIS FRASHERI**

- “ *[sees emergency alert]* Oh, it’s just a test.

**CS 343: PETER BUHR**

- “ By engineering induction, if it was true for 5 monitors, it must be true for all monitors.
- “ The only reason the planet hasn’t crashed and burned is that most Java code is in UI stuff. And who cares if your web browser crashes? Web browsers crash all the time!
- “ I have no idea what this does. You have no idea what this does. 99.99999999% of Java programmers don’t know what this does.
- “ Have you written a letter? Lots of people in this class have never written a letter!
- “ A lot of you haven’t written letters because you can’t even write cursive script! I would be embarrassed if I couldn’t write cursive script.
- “ There’s our cheap and cheerful solution. Nobody’s happy with this.
- “ If I put this code up, three days later I’ll have a grievance from the producers and consumer union.
- “ You have successfully been generating errors in your concurrent program.

- “ Race conditions are one of the few things where I wake up in the morning and scream, “Race conditions! Race conditions! Oh God help me, race conditions!”
- “ You just use the word “deadlock” to mean “it’s not working.” Wrong, wrong, wrong. We have a bunch of words here to describe what’s going on.
- “ We are in deep trouble, because none of these cars have a working reverse gear.
- “ If I said there is no synchronization, that means I can’t have a synchronization deadlock.
- “ I don’t know where those numbers actually come from.
- “ In this graph we have square boxes and circles. Which means we have... a bipartite graph! Ooh, I get to use the word “bipartite.”
- “ Once upon a time when I was silly, I used to look for prime numbers.
- “ The next question is, what does Linux do about deadlocks? What does macOS do about deadlocks? What does Windows do about deadlocks? The answer is nothing!
- “ Rebooting the operating system is the ultimate preemption!
- “ Nobody’s going to talk to you about caller and callee. But if you talk about client and server... you’re talking an extra 10 grand a year.
- “ If you really want to be cool, always let your friends phone you, never phone your friends. Because if you phone them, they can put you on hold, and if you’re on hold, you’re blocked.
- “ Maybe we have a slow organic device that is typing at a keyboard.
- “ I think I’ve flogged this pattern into a thin soup.
- “ Some of you (very few) own clothing that requires dry cleaning. Anyone? *(someone raises hand)* Alright, at least one person knows how to dress.
- “ For all those people who have clothes they hate, just drop them off at the dry cleaners and don’t pick them up.
- “ So the dry cleaner tracks the bag you’re holding, and when the clothes are clean, the dry cleaner slips in and puts the clothes in the bag.
- “ You decide to go to a party, you reach into the bag to pull out your orange chiffon dress, and when you get to the party, they tell you the party was three days ago.

“ Experience is recognizing when you’ve made the same mistake twice.

“ (*shouting noises outside class*) At some point if they get really loud, we can yell back at them, okay.

“ You’re not allowed—it would be nice, but you’re not allowed—to copy your WatCard.

“ (*asked about how something in his compiler works*) I don’t remember. I’m sure the day I did it, I understood it completely. But it does work.

#### CS 350: ROB HACKMAN

“ I would never advocate for the death of individuals, but if this were the French Revolution, I know some people who should get the guillotine.

#### CS 370: CHRISTOPHER BATTY

“ I always love giving this lecture because it reminds me how old I am.

“ I like to include irrelevant pop culture references to be relatable.

“ This one, I won’t bother— oh, I will, I will.

“ I don’t trust any of my numbers.

“ We’ll assume that my numbers are right, and if not, we can write some code after class to check it.

“ If you’re like me, you learned what eigenvectors and eigenvalues are, and then you basically forgot them.

“ I should just copy my notes rather than trying to think.

#### CS 456: SAMER AL-KISWANY

“ Channel partitioning, we’re good with it, we remember those nightmares.

#### CS 458: SIMON OYA

“ Well, I don’t know. But if I don’t know, that means you don’t have to know!

“ When you go to all these privacy conferences, all these companies like Google, Facebook, all the biggest data collectors, are the biggest sponsors at such conferences.

“ I can show my solution, it’s slightly different... and also has a typo...

“ I’m still building the second half of the slides, I need to make drawings for them... there’s too much text in them.

“ You know what’s better than machine learning? Human learning!

“ I’m not a fan of machine learning cause I’m a math person so I like to have guarantees.

#### MATH 147: DAVID MCKINNON

“ There’s a grain of truth in that—not that engineers are dumb, they’re not—but that we—uhh, don’t tell anyone I said that...

“ For some reason, when mathematicians use the words convex and concave, they assume that you are looking at the graph from the perspective of sitting at negative infinity, which doesn’t seem to say good things about the self esteem of mathematicians.

#### MATH 245: RAHIM MOOSA

“ [*sees flickering light*] If I start frothing at the mouth...

#### MATH 247: SPIRO KARIGIANNIS

“ Now if you were in 237, you would just flip the order of integration and get it wrong.

#### MATH 249: OLIVER PECHENIK

“ I’m my own spanning tree.

“ We don’t like graph theory because we didn’t learn combinatorics yet.

“ Of course, we’re in math, so our favourite colour is a number from 1 through k.

#### MATH 249: STEPHEN MELCZER

“ [The ancient Greeks] tried to do this for hundreds of years. Let’s do it now with Euler’s formula.

“ [*on board*] Proof: CO 342.

“ [*referring to the original four colour theorem proof*] There’s a computer readable part that isn’t understandable by humans, and there’s a handwritten theoretical part that isn’t understandable by humans.

#### MUSIC 246: SIMON WOOD

“ Violin leads to dancing, dancing leads to sex, and sex leads to hell.

#### STAT 240: AUKOSH JAGANNATH

“ I want my kid to come back to me. Failure is when they finally leave.



# THANK YOU.

Most people haven't had the experience of dread upon going to get your student card; the deep dissatisfaction with a direction life has sent you and your apparent inability to change it, summarized in one simple word: a name. When I got here in March, I unfortunately did. It took me three weeks to get my student card; not because of any delays with the Centre, but simply because I had to muster up the courage to try something new. To rebrand.

When I first met many of you at the Spring disorg meeting, the terrible question came up: "What is your name?" To this day, I remember the hesitation, the awful decision made in two seconds between venturing into something new and different with this new group of people, or staying in my comfortable though dissatisfying shell. I chose the wrong option. I remember the regret. Every time thereafter, introducing myself to someone new felt like one more shovel of dirt in the hole I had committed myself to digging; one more consequence of that initial screw-up.

When the stars brought me to one of you at the end of the Spring term, entirely by happenstance and GRT scheduling, you brought me to new people and showed me a second chance. At the beginning of this Fall term, I followed in your footsteps and took it.

If re-introducing myself all those times felt so wrong, why not do something earlier? Simple—it allowed me to stay far away from the root problem: not that I felt that I had the wrong name, but rather that I *abhor* the concept of asking someone to change it. If I introduced myself to a **mathNEWS** writer under a different name others knew me by, there would be questions, and that would require explanations, and that would draw attention to me and problems that run deeply counterintuitive to the all-things-in-order persona I rely on to thrive. The very notion of telling someone to change my name makes me want to shrink into a thousandth of my size, wrinkle up, curl into a ball, and swim away like the shrimp my bones crave to be.

This new group, however, provided the chance to introduce myself to an entirely new community; no one would know my name had changed, because no one would know it had ever been different. It was safe. Soon, more and more people knew me by another name, and soon, one of those people came to **mathNEWS**. One who didn't know I had a given name.

He took a sledgehammer to my carefully constructed wall. If you're reading this, thank you; I don't know that I could have myself.

The thing is, I assumed I would have to ask. I assumed I would have to be backed into a corner, and reveal the deep-lying discomfort my given name was bringing. But I never did. After the wall was broken, you simply changed it. No questions. An entire horrible discussion, entirely circumvented by the one factor I had never considered: you're all *just so wonderful*.

I'm at a weird halfway point now. Others ask for my name, and no matter which I answer, I have to append, "sometimes." Sometimes it's the other one. The secret one. Who knows which is which. It may not be permanent, but I don't think it's temporary; it's *not* a transition, but it is a change. I've never been very good at those. How lucky I am that you make it so easy. That you don't ask questions, that you take it in stride like you've never known anything else. That you don't see me worse for the change.

There are many lives the stars could have given me. I am eternally grateful to have received the life where I am privileged to know all of you.

melting

The "closeted" period was admittedly very funny at times. In particular, Martin Pei assumed I changed my name to my given one, and was incredibly kind and supportive in using my given name, repeatedly, even if it wasn't the name that showed in the Waterloo systems. He gave me the first signal that maybe a name change was safe, even if I miscommunicated it terribly.

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## mathNEWS WORST BLUNT ROTATION

(note: make sure there are n/3 blunts)

- (Given) Embodiment of **mathNEWS** writers
- Richard Nixon
- Adolf Hitler
- Embodiment of the FBI
- Your kindergarten teacher
- Your dad
- Your prof
- Middle school French teachers
- Nancy Reagan
- Ronald Reagan
- A mid 12<sup>th</sup> century Catholic nun inexplicably transported to the present
- JK Rowling
- Pol Pot
- Kanye West but Pete Davidson also has to be there
- Empty space, when you pass the blunt to it it falls on the floor
- Someone who takes more than 3 puffs
- A centrifuge
- Someone who accidentally unrolls the blunt
- OJ Simpson
- Your mom, but only if your mom and your dad are divorced (second empty space otherwise)
- Azealia Banks
- Tiffany "New York" Pollard

## POST-SEASON REVIEW: FALL 2022

Around the end of last term, I saw a video by an excellent YouTuber named CGPGrey about the 'Yearly Theme.' The thesis is basically that New Year's resolutions are pretty poor ways to induce behaviour change. Common resolutions like, "I'm not going to eat any more junk food!" or "I'm going to exercise every day!" are big, drastic shifts in your lifestyle that are unlikely to stick without being phased into slowly—plus, when you inevitably slip and start eating Cool Ranch Doritos on the couch for 4 hours, it's easy to feel like the resolution was a waste of time and to throw the whole thing out entirely, going back to your old pattern of behaviour.

Instead, he proposes the Yearly Theme—not a specific, measurable item to achieve, but a broader philosophy you want to help guide your decision-making. An example he gives is: 'Year of Reading.' Say you want to try to read more books. Instead of setting a goal like "I will read one book a week!", you set Reading as a theme. If you're in line at SLC, or waiting for a class to start, and you need something to occupy your time, your theme will nudge you in the direction of taking the time to read a book, rather than indulge in the thousand other distractions we have available to us at all times.

And as an upside, it's impossible to fail a theme. It's a lens with which to guide decision making, not a measurable metric you can fall short of. Failing occasionally is okay—the model assumes that you will. This is about changing your behavioural trend in a positive direction, not forcing you to immediately go cold turkey on your bad habits.

There's a lot I don't like about myself. There's a lot that I wish I could change. I would always half-heartedly start New Year's resolutions, fail after about 2 weeks, and then promptly abandon the concept entirely. There's a whole lot of things I do that I know are bad for me, and I still do them anyways, because that's just the habits I've developed. So when I saw this concept of a more effective resolution system, I was cautious, but intrigued.

I made a big list in my notes app of everything I dislike about my personality and my life, and then tried to sort the problems into common categories, hoping I could pick a theme that hits multiple birds with one stone. By far the biggest thing I wanted to change was that I had very few close friends in Waterloo, and not much of a social life.

I fell into the very, very common first year trap of not really including myself in social activities early on. When the friend groups finally cemented, they cemented without me, leaving me kind of a nomad on the fringes of the social groups I knew. I was friendly with everyone, but I never really got to have the close connections that other people seemed to have. I was rarely invited out or talked to much beyond just casual "hi's" and "bye's" in the hallway.

The Waterloo cliché is that STEM students do this to themselves because they focus on academics too much, but I honestly don't think that's it. After all, the guys on my

residence floor were mostly STEM students too. I honestly just think I had forgotten you need to put in effort to make friends.

I grew up in a small city, with not that many people in my elementary and high schools. Everyone there has nothing to do but socialize, and for me, close friend groups formed naturally, almost automatically. I knew some amazing people from high school, a bunch of whom I talk daily with. But I don't think I realized that ease of connection wasn't going to translate to a school with 25,000 students and a much higher workload. By the time I did realize this, it was way too late.

And it was making me miserable. I barely left my room at all, mostly just studying unproductively and playing video games, trying desperately to keep my head above water in the first difficult school term of my life. Reaching out seemed like more of a waste of time with every passing day—the friend groups had cemented without me, and they were only getting tighter as I was drifting further apart.

Looking over life changes I wanted to make, this was the absolute priority. I needed to find some real connections in this city or else I was legitimately going to go crazy. My theme was selected: *Season of Connection*.

(I also decided I was going to organize it into our academic terms instead of years, since those 4-month periods already neatly divide my life anyways.)

The rules of *Season of Connection* were simple: I was going to take every available opportunity to connect with people, even when it made me uncomfortable—*especially* when it made me uncomfortable. The awkwardness that showed its head when I froze up thinking about talking to someone new was those bad habits kicking in—and I needed to learn how to beat them, or at least ignore them. That meant talking to the people next to me in class, making sure I don't skip club meetings even when I'm busy, going to events on campus, taking invitations to go out even when I know I should probably be studying, etc.

And, not to brag, but I think it went *really* well.

I don't want to just list everything I did as to not doxx myself, but by the end of the term, I was seeing more friends a week than I did in all of my first term. I joined clubs (including **mathNEWS**, which I would recommend to anyone), I went on more dates, and I even actually started actively inviting people to things.

I think I'm now lucky enough to say I have a solid group of friends here. A year ago, I wasn't sure that was possible. If nothing else, I'm grateful for that. But going through the term with the theme of Connection also taught me a couple of interesting things.

First, this method *works*, at least for me. I finally, finally have a reliable method for making tangible steps to self

improvement. I feel like I've suddenly gained a lot more control over my own life. I *can* work towards being a better person, and that knowledge is extremely liberating.

The 'seasonal theme' won't work for everybody, but I'd really recommend giving it a shot. It might seem awkward at first, but I've consciously chosen socialization so much that it isn't even a conscious choice anymore. It's become my default mode of behaviour.

Ultimately, humans are the sum total of the choices we make. We're a cascading series of overlapping choices and consequences—some big, some tiny, some in our control, some decided by others—that build up our personality, our history, our legacy. All you need to do to change who you are is change the way you make decisions. The first few are hard, but the ripple effect of those choices will influence your life, drifting you in the direction you want to go, and usually making it easier to make those types of choices. Stick with it, and the tide will take you places.

The next thing I learned is that most people here—particularly in Math—are looking for friends too. The reputation of the antisocial Math student isn't entirely unearned, but most people are at least *looking* to make connections like I was.

I'm not so self-important as to think my experiences are particularly unique—but all that means is that a lot of other people are in the same position that I was. Lonely, nervous, desperately hoping someone else will take the lead on a conversation. But we can't *all* leave it to someone else, right? I used to think that if I approached for a conversation, all I would be was a bother. But having forced myself to do it over and over, I know now that isn't true. Most people are cool.

Finally, I think I've realized something about the anxiety I had/have. Almost everyone wants to see themselves as a logical, rational person, who looks at things objectively and makes informed decisions. But that's not the reality.

Whether we want to admit it or not, humans are fundamentally emotional creatures. We're driven first by our feelings, not our logical minds. Trying to deny this is silly, and pretending we aren't affected by emotion only gives that part of you free reign to run around and make your choices for you.

Whenever I would get an invitation to an event, or an opportunity to go to a club, I would always feel stressed with some kind of reasoning, valid or not. "What if I go and I don't have time to finish this assignment and then I fail the class?", or "What if I ruin their vibes and the event isn't fun and they won't like me?". In retrospect, these are obviously absurd things to believe, but in the moment they felt serious and important and scary enough that I should really just stay home, right?

It felt like it was coming from my logical brain, as a real examination of the consequences of my choices, and the stress from my emotional brain was a result of that. But I think it was the other way around. My logical brain was simply coming

up with some kind of excuse to justify how my emotional brain had irrationally decided I was going to feel about the prospect of going out.

This understanding has been shockingly freeing. If I can catch a thought that seems like it's the logical brain trying to cover up emotional brain's bullshit, I can avoid just unthinkingly following whatever my mind suggests. I'm able to interrogate the thought, see if it actually holds any important value, or if it should just be dismissed out of hand.

This article is way too long but my ultimate point is that I'm much, much happier now than I was this time last year. I don't take that for granted. I give this school a lot of shit, but in my heart I feel absurdly fortunate to be here, surrounded by friends, feeling fulfilled and motivated. I could be doing a lot worse.

If anyone is interested in this 'Seasonal Theme' idea, I can't recommend it enough. I'm going to keep doing this, of course, and I already have a few ideas for what next Season's themes will be. (I don't want to say, because I don't want other people screwing up the method by trying to help lol). Stay tuned to **mathNEWS** in 4 months for an update on how I did!

Maybe the theme should be 'concise writing'...

Dick Smithers

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## LATEST: mathNEWS TO LAY OFF HUNDREDS

We are saddened to announce the layoff of hundreds of **mathNEWS** staff across our global offices in the midst of current economic conditions.

The market has been going through turbulent times as seen by the countless tech layoffs happening every week, and **mathNEWS** was not spared by these effects. To make it through the rest of this year with healthy balance sheets, cost-cutting measures needed to be put in place immediately to satisfy our investors. Hence, we are laying off staff in various departments and implementing a hiring freeze for the near term.

We are genuinely sorry to all employees soon to be let go and wish it could have been otherwise. One hour of extra pay will be given to all laid off staff as compensation, along with our best wishes in finding your next job at a news institution just as prestigious or in whatever industry you seek next.

mathNEWS CEO

mathNEWS

# N mathNEWS WRITERS WALK INTO A POTLUCK

On the evening of October 49<sup>th</sup>, 2022: **mathNEWS** writers **creature\_f**, **molasses**, **Not A N\*rd**, **Dick Smithers**, **someBODY**, **alyssnya**, and an **OUTSIDER** (Danny) decided to host a potluck where we brought controversial food items.

With humble beginnings of a Sprinkle Pizza discussion, a silly little wacky little menagerie of items were brought for consumption.

Ordered most to least legitimate as food:

## MOLASSES PANCAKES BY MOLASSES

The texture and shape of pancakes, but the taste of gingerbread.

- **creature\_f**: absolute banger. 10/10.
- **molasses**: Tasted like early mornings on the Gaspé Peninsula. 10/10.
- **Not A N\*rd**: really good. they just taste sweet and good. distinct lack of beef was an absolute positive. 9.5/10
- **Dick Smithers**: I didn't have the molasses on them, but they're a great meal that I would have again. 9/10.
- **someBODY**: they tasted like pancakes except they had molasses in them. 8/10.
- **alyssnya**: These were very legitimately food. Much worse with the pure concentrated extra strength molasses poured on top. 8/10.
- Danny: I think these would have been nice with maple syrup. Otherwise, I'd say 7/10.

## SPICY FRUIT SALAD BY ALYSSNYA

A variety of fruits tossed with salt and house-made scotch bonnet pepper sauce. Fruits included: apples, grapes, watermelons, pears.

- **creature\_f**: I don't like spicy food so I just had normal grapes. I think they were really good. 10/10.
- **molasses**: It was genuinely really good. I didn't expect it. I thought it was supposed to be controversial but it was good. 10/10.
- **Not A N\*rd**: I've always wanted my fruit to bring me more pain. 9/10.
- **Dick Smithers**: The food was good but it put fear in me. I was worried about rubbing my eyes for the rest of the night. 8/10.
- **someBODY**: [Did not consume]
- **alyssnya**: I made this one, so I like it. I think most fruits work better like this. Works better with strawberries and mangoes, but those were expensive. I didn't make the best hot sauce. 9/10.
- Danny: [Forgot to try.]

## CHEESE CURD OATMEAL BY DANNY (NOT A mathNEWS WRITER)

Lightly salted oatmeal with cheese curds.

- **creature\_f**: [Did not consume] Vacuous 10/10.
- **molasses**: Like a shitty N things article. Starts off pretty good then just gets worse and worse. 6/10.
- **Not A N\*rd**: I did not want to shit myself and did not consume it. 0/10.
- **Dick Smithers**: Actually good. Would eat it more if I liked oatmeal. 7/10.
- **someBODY**: [Did not consume]
- **alyssnya**: I hate the texture of oatmeal. I like cheese curds. 4/10.
- Danny: I put too much salt in and it could have used some milk 7/10.

## SPRINKLE PIZZA BY NOT A N\*RD

Four cheese frozen supermarket pizza with sprinkles (nonpareils a.k.a. hard round sprinkles and jimmies a.k.a. soft long sprinkles).

- **creature\_f**: The entry I was most excited for. Did not disappoint. 10/10.
- **molasses**: Everything good about pizza but marginally improved. 8/10.
- **Not A N\*rd**: peacelovemath and I invented this and we are literal geniuses. 10/10.
- **Dick Smithers**: I am Italian so I have to deduct marks on principle for frozen pizza, but the sprinkles tasted a lot better than I thought they would. Did not offend my Italian nature that much. 7/10.
- **someBODY**: Good with nonpareils: 7/10. With jimmies: 2/10.
- **alyssnya**: Would eat even if I wasn't that hungry, but not if many other options were present. Better with just the nonpareils. 6/10.
- Danny: Pretty sure I saw this when I was travelling through Italy. Classic Italian dish, but not my thing. 8/10.

## BEEF FIZZ BY DICK SMITHERS

A gourmet combination of ginger ale, hints of lemon juice, and beef broth, and sadness. Served over ice.

- **creature\_f**: It didn't affect me as badly as it did everyone else. Still wouldn't drink again though. 10/10
- **molasses**: Tastes like the height of wartime Britain. Diesel topped with Marmite. 0/10.
- **Not A N\*rd**: Took big swig of it. Wanted to throw up. Made me way worse at Mario Kart. 🐱/10.

- **Dick Smithers:** It's tough to describe Beef Fizz in a sentence but if I had to, it would be: "the feeling of being divorced." 2/10.
- **someBODY:** I didn't drink it. I am the smartest one. 10/10.
- **alyssnya:** Very thankful I drank the least beef fizz of those who consumed it. 😊/10.
- **Danny:** We got 5 Laurier students to drink it. For the stories it wrote and the way it brought us all together (against Laurier students). 100/10.

#### CHEERIOS BY SOMEBODY

Whole grain, 1g of sugar per serving.

- **creature\_f:** I'm not sure this counts as food. 10/10.
- **molasses:** Tastes like braces. 2/10.
- **Not A N\*rd:** Rating not applicable. I don't think I ate anything.
- **Dick Smithers:** Cheerios did enter my body. Not sure if I tasted them. 0/10.
- **someBODY:** Made me want to become a Christian fundamentalist. 1/10.
- **alyssnya:** I feel like if you replaced these with a bowl of wood chips, I couldn't tell the difference. 0/10.
- **Danny:** I used to give my rats these cheerios and they love it. 10/10.



[Author's Note: The following section was written by Dick Smithers, as I was not present for these events.]

A few days after our potluck, with all the beef fizz cycled out of our system, we realized we had a problem: we hadn't drunk it all. There was still half a pitcher of the stuff marinating in Not A N\*rd's fridge. What to do with it? We didn't want to throw it out, that would be too easy. We certainly didn't want to drink any more. We could give it to students on campus, but then we run the risk of someone recognizing us later as the goons who tried to poison them with beef broth.

Then we had the idea: Laurier is just down the street. At Laurier, no one knows our names. We'd get away with feeding people beef fizz scot-free. It was a foolproof plan.

One small issue: when we got there, we had no idea where to find any willing drink aficionados. None of us had seriously explored Laurier campus before, so we did a lot of wandering in circles trying to find somewhere people would be studying or eating or at least sitting in one place.

We had a few small misadventures—we stumbled into a guest lecture and tried to convince the presenter to drink the beef fizz, we almost got into a fancy dress charity gala, we scammed the cafeteria out of a few free drinks, we convinced a handful of people in the science wing to drink some only after we drank some—but we finally found our way to a cute little lounge in the corner of a student building.

Not only was this full of potential victims/innocent students, but it also had a ping pong table—and Not A N\*rd is apparently a secret ping pong prodigy. As the night wound to a close, we had one final trick up our sleeves—challenging these students to a competition. If we won, they'd drink some of our beef fizz. If they won, Not A N\*rd would have to.

We were pretty confident going in, so of course, Not A N\*rd lost the first match in a bit of a blowout. Beef fizz has a way of humbling you, and when that drink is around, walking into anything with confidence is a risk. Ashamed, Not A N\*rd took a significantly larger swig than they probably should have, but after recovering, they prepared for round 2.

Humbled, and with potentially more beef broth than blood in their veins, Not A N\*rd stepped up to face our next competitor. This one had driven a much harder bargain—if he lost, every one of us would have to drink the beef fizz—and we'd have to finish it.

This was for everything, with everyone's asses on the line. No pressure.

At first it was going poorly for team **mathNEWS**. They were playing to 11, and in no time at all it was 10–4 in favor of Laurier. The fellow writers, watching from the sidelines, mentally prepared for what was about to come.

But while beef fizz is a cruel and demanding mistress, she can also be kind. Something switched in Not A N\*rd's body—the latent beef fizz activating all at once, giving them unexpected strength, letting them score eight points in a row to snatch victory from the gnashing jaws of defeat.

True to their word, the Laurier students drank most of the rest of the horrid drink. No **mathNEWS** writer would drink any more beef fizz that night. We wouldn't have to drink it ever again. We were safe. We were free.

We dumped the last drops on the Laurier sign on our way out.

*alyssnya et al.*

## N THINGS I DO WITH MY BELOVED COPIES OF mathNEWS

- Write scratch work for my math assignments in the (admittedly very little) white space
- Make collages out of funny art and article titles
- Keep score for me and my friends' card games
- ... Read them, I guess

*normalparameters*

# A COMPREHENSIVE REVIEW OF THE 301 ION LIGHT RAIL STOPS: PART II

On October 16, six brave **mathNEWS** writers embarked on a perilous journey; one to traverse the entire extent of the Grand River Transit's 301 ION light rail train route. This is their story. This is the comprehensive review of the 301 ION Light Rail Stops.

## A QUICK RECAP

Last issue, we chronicled our explorations down to and including Central Station. While the article may have stopped there for space reasons, our six brave heroes, a decaying skeleton, boldblazer, creature\_f, \_\_init\_\_, manganese, and tendstofortytwo, kept pushing forward. Past Central Station, they continued as described below.

## VICTORIA PARK STATION

Our visit to the Victoria Park station was marked by 8 80 Cities' Pop-Up Park event, where they organized a whole bunch of neat activities for residents of the city (and us) to engage in. The primary draw for us was the "all-ages swings," which upon closer inspection seemed to only be populated by kids.

After this initial disappointment, we spotted a gloriously warm campfire, a treat on a cool day. The campfire was surrounded by wooden seats that resembled thrones and wooden stumps growing straight out of the ground. The smoke from the campfire stayed on your clothes if you were in its path, which led to boldblazer's clothes being unwearable the next day. manganese, being in her cat maid outfit, derived immense pleasure from the warmth.

On this street was the entrance to the Public Utilities Building, which prompted a joke by tendstofortytwo asking if anyone would like to go to the PUB with them. Taking them up on their offer, \_\_init\_\_ used his immense skills of cryptanalysis to crack the code on the lock that opened the building. We will not disclose the code here but encourage the city to invest in stronger security measures.

Also on that street was a pile of coloured chalk, upon seeing which a decaying skeleton and creature\_f proceeded to gather all the colors required to leave a mark on the street—the mark of trans pride. After taking a picture with the trans pride flag we had drawn on the road, we proceeded to the crosswalk close to Victoria Park to get a similar picture on the more permanent trans flag crosswalk. This left us barely enough time to get back to our train and onward to our next stop. We would return here for this station's 301 ION To Conestoga Station counterpart, Kitchener City Hall Station.

**Rating: 9.25/10**

## QUEEN STATION

We skipped visiting Queen because we intended to visit Frederick later, and these two stations were close enough to each other to be in eyeshot of each other.

## KITCHENER MARKET STATION

Upon exiting the train at the station, we were greeted with the most glorious sight—upon a series of gears was a bike, being ridden by a cat that was standing upright on its seat. The wheels were spinning with the wind, and we could see the cat, just like us, was on a journey of great spiritual importance.

On the way to Kitchener Market, tendstofortytwo spotted another cool car. It was identified to be a really old but well-kept Chevrolet Corvette C3 by our Cool Car Identification Lab. \_\_init\_\_ is noted to have thought that it looked like a normal car.

The Kitchener Market itself was unremarkable since it was closed on account of someone hosting a private birthday party there. The security guard present on the premises informed us of this, presumably implying that we should leave. We ignored the possibility of such an implication and left at our own pace. One of the closed stores in the Market would have been selling Dr. Pepper if it were open, a decaying skeleton noted.

With the journey to the Market complete, we proceeded onward.

**Rating: 6.1666.../10**

## BORDEN STATION

The party got a well-deserved rest at this station, on account of spotting a nearby tavern—an establishment known as Tim Hortons.

A variety of orders were made at this establishment by the party. a decaying skeleton got a large iced coffee, and remarked that it was, "at least a 9/10 individually." tendstofortytwo ordered an extra large coffee and noted that using "tends" as the name provided to the cashier rather than their legal name has a much higher chance of being spelled correctly. \_\_init\_\_ tried to buy a croissant, but the popularity of the bread resulted in it being out of stock by the time we arrived. He was placated by a stale English muffin. manganese got the most awesome meal of all, a chili poutine that truly captured the spirit of Canadian culture while at the same time providing all the nourishment required for the day's adventures. boldblazer bought nothing, reasoning that we had not scheduled bathroom breaks and it may not be the best idea to consume beverages that induce the need for them.

tendstafortytwo saw a cool car in the parking lot and took pictures of it. The Cool Car Identification Lab identified it as a Mercedes-Benz W202 C-Class. \_\_init\_\_ wonders if this was the car that looked like a normal car.

**Rating: 5.25/10**

#### MILL STATION

Mill Station was where we came next. tendstafortytwo recalled coming to Mill Station in a past life for a shady deal involving a smoker's house, a deal in cash, and a ThinkPad T60. On this trip, we walked down a suburban street, until we came across a cool warehouse marked WinMAR, named pleasingly close to the beloved archive management software. We did not ask if they had a free trial.

Across the street from WinMAR was a Buddhist temple with a bunch of cool flags, including the Canadian flag, the Canadian flag, the Buddhist flag, the Canadian flag, and more. Beyond WinMAR was the Concordia Club, with *other* cool flags, like the Canadian flag, the German flag, the Ontarian flag, and so on. The group marvelled at the sheer flag count and carried on.

tendstafortytwo saw another cool car and ran halfway down a street once they saw it to come close and take pictures. The Cool Car Identification Lab identified it to be a Toyota Celica, the two-door sports coupe of every teenager in the early 2000s. \_\_init\_\_ says that it looked even more normal than all the other cars.

On our way back, we noted that the building facing house number 419 was not actually 420, a fact that disappointed the party members a great deal. We suspect that the presence of the Immanuel Pentecostal Church had something to do with this unfortunate happenstance.

**Rating: 6.25/10**

#### BLOCK LINE STATION

As the ION pulled into Block Line Station, we noticed that down a hill from the station was a railway line, and next to the train that stood still on it, a bunch of hooligans were pelting the train with stones.

Eager to join them, a decaying skeleton, \_\_init\_\_, and creature\_f headed down the hill. The kids had disappeared by the time they descended, but they themselves were able to climb the train and stand on top of the railcars. They assure the writer that it was an enthralling experience. To quote a decaying skeleton, "it was taller than I expected," and "there was some guy's stuff in a hole." To quote \_\_init\_\_, "it was about the same height as I thought it would be," and, "it was good." creature\_f was unavailable for comment. They collectively threw two rocks and a Monster can at the train, inspired by the aforementioned hooligans.

In the meantime, boldblazer, manganese, and tendstafortytwo admired the view from the top of the hill, where a forest line

was visible with the leaves changing colour. Beyond the forest was a city skyline, and beyond that, the sunset. It was good.

As the time approached for the next train to carry us forward, those at the top of the hill beckoned to those at the bottom to rejoin; from there, we proceeded onward.

**Rating: 8.1666.../10**

#### FAIRWAY STATION

The end of the line. We had made it. Barring the few stations that we had yet to visit, we had traversed the entire length of the ION line. As the sun set in the evening sky, we mused what we could do at the Fairway station—we were running ahead of schedule, and had an entire mall that lay ahead of us.

At the station itself, we saw two giant bird statues facing each other. Sensing a possible romantic connection, tendstafortytwo remarked, "me and who," but upon closer inspection, we realized that the birds were in fact standing at least 5 feet apart, as they were not, sadly, gay.

We entered the mall, knowing that there lay a Taco Bell within, and sensing the possibility of acquiring the sweet taste of Mountain Dew Baja Blast. Unfortunately, Taco Bell was closing right as we arrived, which denied us this opportunity. We visited a Spencer's store and browsed around before being kicked out for mall-closing reasons as well. It is a serendipitous coincidence that we skipped exactly the correct number of stations on our journey to make it to the mall right before closing time, and we are glad to have had the opportunity to explore it, fruitless though it may have been.

As the mall closed, we ducked into the Walmart with longer operating hours. We sought to acquire the Baja Blast that we had been denied, but could not find a bottle. tendstafortytwo and boldblazer were, however, able to acquire a Coca-Cola Coffee Flavor and a 7-Up Zero Sugar for themselves respectively.

Exiting the mall, we caught the 301 ION departing—now going back the way we came, to Conestoga Station—to cover the stations that we had missed.

**Rating: 6.5/10**

#### KITCHENER CITY HALL STATION

On our return journey via the Kitchener City Hall station, we were informed by the 8 80 Cities officials that a screening of the *Hocus Pocus* movie would shortly begin. Unfortunately, we were unable to stay for the movie as the call of adventure in our hearts prevailed. Perhaps another day. We were temporarily given a blanket by the 8 80 Cities officials to huddle around the fire pit, which was appreciated.

**Rating: 9/10**

**FREDERICK STATION**

Frederick Station was remarkably unremarkable. We got off the train, walked around an abandoned mall, and came back. tendstafortytwo noted a Crowne Plaza hotel, a chain that exists close to their home in India as well. \_\_init\_\_ noted the presence of the GRT headquarters, which was neat.

On our way around the block, we saw a flight of stairs leading up to a bridge, the entrance to which was closed off by a door. boldblazer remarked that the door was almost certainly locked. tendstafortytwo responded that “you never know if you don’t go,” which prompted a spontaneous sing-along of All Star by Smash Mouth as we climbed the stairs and discovered that the door was indeed locked. There were some nice bells playing at the station, but that was that.

**Rating: 6.5/10**

**WATERLOO PUBLIC SQUARE STATION**

We rode past Allen once again, since we were still early for our dinner reservation, and wanted to finish off the stations before dinner. When we arrived at Waterloo Public Square, the sun had set and the faint light of twilight lent a calm mood to the party.

The Square was hosting a set of musical swings. Unfortunately, as we discovered upon mounting them, the music was not working, but we remedied that by having the party sing along to “Never Gonna Give You Up” by Rick Astley and “Bohemian Rhapsody” by Queen while each one of us swung on the swings.

Still waiting for the dinner reservation time and trying to avoid the cold outside, we headed inside Bob’s Valu Mart. Inside, we bought nothing but found a great selection of pet toys to play with to placate ourselves. Though creature\_f was the one wearing cat ears, we all felt a little feline in that moment.

**Rating: 9.1666.../10**

**ALLEN STATION (FOR REAL THIS TIME)**

Finally, as the time of our reservation came, we met with two of our friends, tokyocatboy, and  $\chi$ , at the station for the dinner. As we stepped off at Allen, we heaved a collective sigh of triumph. We had done it. We had visited Every Single Station On The 301 ION Light Rail Line. Though the journey had been long and perilous, we had persevered, collecting memories, friends, and cheap chain restaurant fast-food-and-coffee along the way. boldblazer shut off the timer that they had started when we first boarded the ION on Conestoga, and we ended with a final time of 5 hours, 32 minutes, 9 seconds, and 78 centiseconds.

As it was night by the time we actually arrived here, there was not much to see at the station itself. We had dinner at The

Bauer Kitchen, which most of the party considered to be fine but somewhat expensive. a decaying skeleton notes that the waiter was kinda nice.

**Rating: 6.8333.../10**

**A WRAP-UP OF THE GUY ARC**

Unfortunately, we did not see him again. However, Guy will live on forever in our hearts.

**Guy Rating: 9.111.../10**

**CONCLUSION**

At the end of the day, we were tired. But we had done what no other person (to our knowledge) had done before—visited every single ION station on a single day<sup>1</sup>. More than any single station, the journey itself was something worth treasuring, and we are glad to have had the opportunity to have made it. It is a long trip, but one that we are confident in recommending.

God bless public transit.

a decaying skeleton, boldblazer, creature\_f,  
\_\_init\_\_, manganese, tendstafortytwo

1. Technically, we did not visit Queen, since we just looped around Frederick in a way that did not involve going to Queen. This was out of acknowledgement of the recent passing of the Queen—we did a passing of the Queen as well, huh.

## N REASONS WHY 0 IS EVEN

BECAUSE SOME PEOPLE DON'T KNOW???

- $0 = 0 + 0$
- $0 = 2 * 0$
- $0 = 2 - 2$
- $0 \equiv 0 \pmod{2}$
- $2 = 2 + 0$
- $0 * n = 0$
- $0 \equiv 0 \pmod{1 \pm i}$  (complex parity)
- $3^n \equiv 1 \pmod{4} \Rightarrow n \text{ even}, 3^0 = 1 \equiv 1 \pmod{4}$
- $\cos(n\pi) = 1 \Rightarrow n \text{ even}, \cos(0) = 1$
- $0 = 1 - 1$
- $0 \in 2\mathbb{Z}$

o-o

math NEWS



# wordGUESS

Hello, everyone! This is the last episode of **wordGUESS**, a Wordle clone implemented in **mathNEWS**. Since there are no further issues left in the term, I figured we may as well make an entire shareable scoreboard for each of the writers who played the game over the course of this volume and completed the game. Without further ado, here are the scores—for all players who finished, not just the ones who submitted this issue:

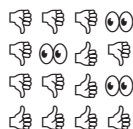
## SHERP

wordGUESS 1 3/5



## \_\_INIT\_\_

wordGUESS 1 4/5



## JOHN S. STREET

wordGUESS 1 X/4^



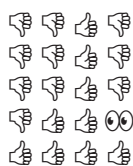
## ENAMOUR

wordGUESS 1 5/5



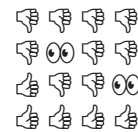
## ETERNALLYPUZZLED

wordGUESS 1 5/5



## GRASS

wordGUESS 1 4/4^



Congratulations to enamour, eternallypuzzled and grass for clutching it at the end! Truly a move worthy of the greatest gamer. And thank you to all the players for playing! The game could not have existed without your continued **guessWORK**. Remember to share your scores in the #wordle thread in the #random channel of the **mathNEWS** Discord server!

A special thanks those who joined in 150.3—your scores are suffixed with a ^ at the end to indicate that you had one fewer guess than everyone else—highlighting the importance of trying even if it feels like you have a harder journey ahead than most. Thank you for your service o7.

I will not run **wordGUESS** in Vol. 151—I have other articles to write and I can't wait to get back to writing them. That said, if someone wants to take over my job as the **gameENGINE**, feel free! I assure you that at the very least I will play.

Oh, and the word was LEAF, my favourite part of the fall term. See y'all next volume!

tendstofortytwo

## A\* SEARCHING FOR A ☆

HOW I WONDER WHAT YOU ARE?<sup>1</sup>

A\*<sup>2</sup> searching for a ☆,  
h(n) guesses if it's far.  
When h is admissible,  
finds a ☆ that's optimal.  
A\* searching for a ☆,  
"How I wonder where you are?"

A\* searching for a ☆,  
having gone g(n) thus far.  
Arg\_min g(n) + h(n)  
to explore till it's the end.  
A\* searching for a ☆,  
"Now I'm standing where you are!"

evilevievil

1. Parody of Twinkle Twinkle Little ☆.  
2. More on A\* search algorithm: [https://en.wikipedia.org/wiki/A\\*\\_search\\_algorithm](https://en.wikipedia.org/wiki/A*_search_algorithm) or CS486 or URA (see advertisement on page 7 of **mathNEWS** 150.4).

# RATING EVERY UW RESIDENCE FOR HAVING SEX

You might ask yourself, my dear reader: Why does this article exist? Well, have you ever wondered which residence is the best for sex-having? No? Well too bad. Because this is the type of hard, sweaty, dangerous, in-the-field journalism that **mathNEWS** deserves, goddammit! Anyways,

## MKV

- exactly 2.5000000/5

It's nice. I guess. It's very average. A perfectly fine place to have sex. That's it. Extremely average. The suites are nice ig. Overall really average.

## V1

- Rating: 4 🍷/5 🍷

Now technically I've only had sex in my own room in V1, which feels like cheating somehow. The shitty plastic mattress is very very easy to clean, if I know it's gonna get messy then I'll just do away with the sheets and then clean-up is just wiping with a wet rag. I can't speak for all of the beds in V1, but at least mine is decent, it's not loud and it doesn't feel like it's about to collapse. The best part about having sex in my own room, though, is the ease of doing some good post-nut clarity math. The bathrooms are a little weird in terms of gender, it's a long story, I can't be bothered to explain. It's annoying since I mostly have t4t sex lmao, but also a bit weird for living there in general, whether you are trans or not.

## REV

- -69/5

Never had sex at REV. Never want to have sex at REV. Moving on.

## UWP

Why tf was REV even on the list?? Anyways,

- Rating: 2\*pi/8

OK UWP is actually kind of good. The individual suites allow for a lot more privacy, along with the guarantee that (hopefully) nobody will walk in on you. Plus, unlike something like MKV, UWP is pretty close to campus and the plaza, so you can go for food or something after. And if you accidentally forget sex supplies, you can easily take a small walk to buy more.

However, the bed's quality entirely depends on the person whose bed it is, and how many blankets they have. And some beds are too high, so be careful you don't fall off (this totally never happened to me).

But the main issue is—and I embarrassingly discovered this much much later—the walls are *paper thin*. So make sure the suitemates are out, and the hallway is empty. Or don't if that's more your style, I guess. You have been warned.

## CMH

- Rating: 3★/5★

CMH is pretty crowded almost all the time, so meeting up there feels like it should be pretty safe. On the floor I was on, we had a good view of *something*. For some reason, the AC was on during the duration of my time there?? But hey if you get hot during it, good news for you.

My awkward moment however was that I couldn't easily go clean up in the bathroom afterwards, as the hallways were cramped, felt like a maze, and were occasionally full of people. Finding and getting to a bathroom, partially naked? Nooooo, thank you.

## ST. PAUL'S/UNITED

- 0/0

Pretty nice, it's not exceptionally good but it's pretty nice yeah. I don't think I'm allowed to say more about what happened there.

aaqsr tells me to write more, but as a responsible journalist I have the duty to protect my sources.

## ST. JEROME'S

The worst. Literally the fucking worst. I am so confused about the bathrooms there?? There was like, no reason why they're not gender neutral. I don't think there were any gender neutral bathrooms here. Also extremely confused by where any of the bathrooms are and which one is which and what's up with all the doors. The beds are so fucking tall, what the fuck, I had to climb on top of the table and then get on the bed a couple of times. Some guy also had to literally lift me up onto his bed, which was kinda hot ig, but also wtf. That should not have been necessary. This is literally transphobia. Also people from St. Jerome are weird, some guy dropped my socks in his trash can, and that was *not* the weirdest thing that has happened to me while having sex at St. Jerome.

## RENISON

Gotta say Renison was pretty nice. It was also the only place (so far) at which I had sex for the primary purpose of writing this article, instead of passively gathering data for this article as I had sex normally. It was weird how little separation the dorm areas had with the classrooms and library and cafeteria and lobby and everything else area. The bed was in fact not ridiculously tall, and I could actually get on it, but it was really

loud and we ended up having sex on the floor instead. Also the walls are very thin.

Renison had such posh private school vibes, it made me slightly uncomfortable lmao. The dining hall was very... well, again, posh private school vibes. The water was good though. Unfortunately the gender neutral bathroom was on the third floor, and I just couldn't be bothered to go up there, and it felt like giving in to use a binary gendered bathroom on the first floor when a gender neutral one exists in the same building. But at least they have one, unlike some places.

### SOME AFTERTHOUGHTS/PLANS FOR NEXT TERM

UW is a terrible place to have sex.

But now that you are (most likely) stuck here forever (fun fact: it is actually physically impossible to leave MC), you might as well attempt to be a "normal" university student.

So anyways for this article, we just did the residences included in the first-year guarantee, minus CLV cuz it's so far away (plus aqsr says that it does not actually exist) (REM: just like Bielefeld). Next term, I *might* go gather some more data at CLV, and maybe try Conrad Grebel. I do also have some experience off campus, but that's just too hard to categorize and rate.

RapidEyeMovement & aqsr

## ON WANTING

What's it like to feel a body? A body pressed against yours? Their chest warm and soft? Their breath a little too sweet because of the gum they're chewing? Why do we like touch, sensation, warmth?

Why do I like listening to that one song, the one that makes me feel like tearing the walls down and screaming, crying? Why does the tension feel good?

Why do the thoughts in my head circle on repeat, like someone forgot to turn off the phonograph? Have I stopped ageing?

I'm nineteen. I won't be nineteen tomorrow. What's twenty like? What's it like not to be the youngest in a class, not to brag that I've done so much and I'm *only nineteen*, not to procrastinate getting over this feeling? What's it like to run away?

My friend thinks of what happened every day. You don't even know him yet. But he exists, and his thoughts are on loop. Just like your thoughts are on loop. But everyone's loops are different, aren't they, space-time? We forget. I forget about you, and we forget about each other. I should ask you every day what you think about what happened. I want you to ask me every day what I think about what happened.

It's summer and I'm letting go. It's dark and I'm holding on. It's a year ago and three years ago and six years from now all together. And I'm here in the stars trying to find inspiration for a poem. The song has played six times. My heart is pounding and I don't know what to say. But my memories and desires are moulding together like muddy clay clamped between my palms and now my shirt is dirty.

Does this ever change? Do you play Settlers (of Catan) and stop this misery? Hi there, what's new? I want something new from this, *bitte and toda raba bevakasha*. Where's my order? I thought I'd asked for a different life, with french fries (small).

But I'm only nineteen.

So maybe I spend tonight doing something new. Maybe I feel another warm chest or find another warm song and try my hardest to not think what I think. Maybe I scream at the top of my lungs and feel angry. And I'm angry. *Oh* you cannot *BELIEVE* how angry I am. So angry at the irrelevance of it all. So angry that it doesn't matter, that nothing will change until it does, and you can't do anything about it except wait because *you're only nineteen*.

Why is this the only thing I can think about? Can I get a second brain please? A rent-a-brain, so to speak. Give me a chance to prove myself. The song has played nine times. And I'm still here in this room trying to say anything of importance. But tell me: I'm not saying anything at all! I said it all last year. I said it all the year before that. Who's to say that space-time should be any different? Who's to say you'll listen? But I feel as though I'm living in a black hole, and what's it like to lose control of your life?

You remind me of Tyler Durden from *Fight Club*. Oh, is that what all this is? All roads lead back to Brad Pitt. And I feel like there's a piece missing, but I don't know how to get it back. The human condition. You saint you sinner you bastard cowboy. Another warm chest, another body, another text message. Maybe that'll fill up the time, and then I'll be twenty with a nice to-do list of morals to quickly check off between 8:00 gym and 11:30 *brunch with the girlies!!* But I'm still *fucking* sitting here in this room, trying to think of what to say. When does the daydream end, and I figure out what I'm still thinking about? When do the stars start to mean anything to me? When will this article mean anything to you? It doesn't, does it? You're waiting for a decryption, a secret sentence that unlocks what I've been trying to tell you FOR SIX MONTHS but you just won't listen. And you won't get it. Maybe you don't deserve to know. Do you even feel guilty? Or was I just space-time to you? Forget it.

I'll keep on waiting. Happy birthday.

*That's hilarious*

# REPORT OF THE SECOND PLENARY SESSION OF THE KOREAN FRIED CHICKEN COUNCIL (KFCC)

*There are not more than five cardinal tastes (garlic, original, soy, honey, swicy), yet combinations of them yield more flavours than can ever be tasted.*

SUN TZU

unique shape of the fry took valuable energy away from other parts of the fry, such as seasoning and crispiness.

A TASTE OF SEOUL

*A taste of Seoul for a taste of yours.*

ANONYMOUS

## METHODS

The Council's methods remain unchanged from the previous plenary session, with the exception that the "take-out" dining option was considered a primary option for this session. See **mathNEWS** 149.6, "[Report of the First Plenary Session of the Korean Fried Chicken Council \(KFCC\)](#)."

Locations were also expanded: the Council departed from the sacred ground of the Plaza, to bring our proven methods to a wider set of Chicken establishments.

Restaurants were evaluated based on the quality of their chicken; poorly performing restaurants may have other redeeming non-chicken qualities which were not reviewed for the purposes of this Report.

In the interest of transparency and fairness, non-Committee members were often present at meetings.

## RESULTS

### KIM'S KITCHEN

*Kim's Chicken?*

A DISTINGUISHED COMMITTEE MEMBER

Despite this restaurant's aurally confusing name, it served as a strong contender. Their menu was broad and varied, with many exotic flavours such as "yogurt cream chicken with onion," and a certain black bean-based flavour which was not sought by the Committee due to medical reasons. The restaurant was well-sized and cozy, fitting exactly the number of people it needed to.

Some flavours selected by the Committee were truly innovative and delicious. Some flavours included a swicy-adjacent and more notably, a garlic/jalapeno flavour inspired by another titan of the local garlic industry, Lazeez.<sup>1</sup>

The chicken was solid; it bore a solid, satisfyingly crunchy exterior. This breeding stood up to the various sauces it was asked to withstand. Bundled with the chicken were similarly-shaped "impostor" rice cakes that were a welcome addition.

An interesting variation on the beloved chicken formula included curly fries as a side to the dish. Unfortunately, the

The Committee traversed through the construction-scarred streets of downtown Kitchener, in hopes of a mere taste of Seoul. And on this day, the Committee found precisely two (2) tastes of Seoul, owing to the limited selection of flavours at this location. In another departure, the Committee chose not to evaluate the food on-location, and rather in the abode of a generous Committee member. The chicken's crisp coating was dampened, figuratively and literally, by this transportation process, the blame for which is not to be lain at the restaurant's feet.

The chicken, in quality, was a feast fit for a holder of the mandate of heaven. The honey garlic sauce added a strong flavour profile, while not too strongly overcoming the crunch of the chicken. The other flavour was swicy: it was spicier than it was sweet.

Unfortunately, the location was too far from the spiritual centre of the Committee, resulting in a great strain on Committee members in terms of transport. Its inaccessibility outweighed its commendable attempts at delivering aromas of Seoul.

### SOWON

*I came; I sow; I won.*

JULIUS CAESAR

In a historical feat, this is the first two-time appearance of an establishment in this report. Given a recent change in Committee personnel, the Committee felt it was necessary to revisit the location to most fairly assess its qualities.

In contrast to the previous entry, this location was strategically located in the plaza, resulting in a convenient commute for all Committee members.

There was a good variety of flavours (including the stand-out barbeque flavour), with a breeding of average quality. In true Korean tradition, side dishes were varied, including the usual radishes, kimchi, potato things, and so on, for free. However, like last time, the soju selection remains lacking; weak; underdeveloped. Merely one flavour.

Once again, Sowon is solid all around, but fails to stand out in the eyes of the Committee. As once said in a famous Chinese proverb, this establishment was “70% good and 30% bad”.

#### NURI VILLAGE

*It takes a chicken to feed a village.*

SUN TZU

With chicken uniformly-shaped, like chicken nuggets, Nuri Village swings for the village walls. Given that Nuri Village’s primary mission is *not* Korean fried chicken, the Committee expected a perhaps mediocre experience. However, the Committee was delighted and surprised by the quality of the chicken.

Although this establishment does not specialise in fried chicken, they make the most of their humbled chicken-shop quartet of flavours, adhering strongly to the Chicken Principles. Good, clean fun.

Provided with the meals was a complementary ambiguous grain-based tea. This was controversial. In the spirit of collective leadership, the Committee has decided to not deliver a verdict on the tea.

This restaurant was lacking in the Committee’s mainstay side-dish; in lieu of this, however, the Committee ordered a kimchi fried rice which only heightened the experience.

Adversely to Top Chicken’s “Top Chicken music,” Nuri Village offers a muted experience with muted music videos playing on televisions around the restaurant.

#### POPEYES

*Love that chicken from Popeyes.*

POPEYES

Sourced directly from the Louisiana district of South Korea, Popeyes brings a unique take on the dish we all love. The food provided by Popeyes was different in form and factor from most other restaurants described in this report. The sauces came separately in dip buckets; mashed potatoes, macaroni and biscuits supplemented the french fries; the chicken was decidedly not Korean. This restaurant was described by some close to the Committee as “politically charged” and divisive.

The chicken pieces possessed a sort of “corporate” uniformity that created a welcoming and inviting experience for Committee members. Like A Taste of Seoul, this dish was also consumed in takeout form; however, Popeyes’ superior packaging significantly reduced the harm brought to the dish’s quality via the takeout process. The chicken maintained a reasonable crispiness and the fries were well-seasoned and strong. It should be noted that Popeyes’ signature gravy was absent from the dish, which may have altered the perspectives of the Committee.

Salty and delicious. No soju.

#### FOODIE FRUITIE

*Woe betide the Foodie tree that bears many small Fruities.*

ISAAC NEWTON

Sadly, this restaurant suffers greatly from the parameters of this report. The mission of this Committee is to evaluate restaurants on their ability to craft strong fried chicken. This restaurant chose to focus its research & development efforts elsewhere, offering only one (1) flavour of fried chicken. While this one flavour was realised capably (albeit in small quantities), it simply could not stand up to other restaurants on this list.

As a consolation prize, Foodie Fruitie’s non-chicken options were generally strong.

#### UKI RESTAURANT

*Heavy is the stomach that eats the UKI chicken.*

WILLIAM SHAKESPEARE

The Committee had high hopes for UKI: a new restaurant in a highly coveted location uptown. Alas, the Committee was let down by the product served on the table.

While the experience began as a positive one, the breeding was heavy and greasy in such a way that made one not want to eat anymore. Moreover, the chicken contained bones; bone removal is a technology mastered even by third-world nations and failed states, hence it is truly mystifying why this establishment failed to employ the basic requisite technology.

The Committee does not see it fit to deface this restaurant excessively. It did not satisfy the expectations set out by other establishments. As a new restaurant, the Committee is hopeful that it may secure a culinary identity in the future.

#### TASTY OF PRICELESS (T.O.P) CHICKEN

*By the grace of God to none equal.*

UNIVERSITÉ LAVAL

This committee has, of course, already evaluated T.O.P. Chicken, and found it an outstanding example in its field. The restaurant’s quality and consistency is unparalleled, and, every night, the restaurant puts its best chicken foot forward.

One might believe that the committee would return to T.O.P. Chicken jaded, unable to appreciate its splendours. Does familiarity indeed breed contempt?

Fortunately, the Committee found this not to be true. During this session’s evaluation of T.O.P. Chicken, the Committee

found a new appreciation for a previously neglected flavour: cheeseling.

The combination of powdered cheese and fried chicken initially put off some members of the Committee, and the issue is divisive to this day. But the collective leadership has, in this session, discovered an appreciation for this unique Korean flavour medley.

### CONCLUSION

While writing this report, the Committee considered recent events. Canada made its showing in the currently-ongoing World Cup. Like the conclusion of this report, the outcome of their journey was almost certain. Indeed, Canada was eliminated shortly before this writing. Similarly, T.O.P. Chicken, as the Committee surely knew, takes the crown once again.

What, then, is the point? Is there honour in a foregone battle? The Committee believes there is. The other restaurants all brought their unique talents and strengths to this culinary challenge. Even if their chances were slim, they still fought to their utmost against the T.O.P. behemoth.

It is that spirit that the Committee celebrates, and it is that spirit the Committee will continue to celebrate in its next session.

Central Committee, KFCC

1. The Committee was not able to verify any collaboration between this establishment and Lazeez Shawarma.

## N THINGS THAT I HARDLY KNOW

- shower
- computer
- boner
- worcestershire
- flavour
- gamer
- gender
- dollar
- number
- december
- colour
- impostor
- vancouver
- wiener
- aster
- passover

creature\_f

## GETTING HERE

### INT. JANE'S BEDROOM — EVENING

A queen sized bed in a semi messy room. A trans girl, Jane, wears pyjamas on top of it. A notification dings on their laptop which they check.

“**mathNEWS** meeting tomorrow in MC 2038, 6:30 PM.”

Jane rolls her eyes, and rolls over. A tiny, blue version of Jane with a halo suddenly appears on her shoulder.

**Angel Jane:** You've been meaning to go back to **mathNEWS** for like 3 years? Shouldn't you actually do it this time?

Jane furrows her brow, deep in thought then nods her head in agreement.

Just then, a red version of Jane appears on their other shoulder.

**Devil Jane:** Eh whatever, you forget every time so why change now? Just get high and listen to more deconstructed emo synthwave.

Jane laughs and nods a bit at this suggestion too. She turns her head towards the angel to hear the rebuttal.

**Angel Jane:** Free pizza!

Jane's head whips to hear the devil.

**Devil Jane:** Forced socialization!

Jane's head whips again.

**Angel Jane:** Making friends!

**Devil Jane:** Rolling a joint!

Janes head pingpongs back and forth and then shakes the imposter Janes off. Both tiny Janes go flying and land on the other side of the bed, tiny stars and birds floating around both of their heads.

Jane stands up, and packs a bong.

**Devil Jane:** YES!

Jane takes a big hit, blows it out, then opens Google Maps on her phone and types in “MC 2038,” and throws a coat on.

Angel Jane is still mainly unconscious but puts up a thumbs up.

END SCENE

ITSH

“your mother” is not on the list because I know her very well.

# COQ

## NOW THAT I HAVE YOUR ATTENTION, IT'S A RECIPE FOR COQ AU VIN

As promised last edition, here's Anton Mosunov's favourite meal. The only alteration I've made from the traditional Coq au Vin recipe is that this uses chicken instead of a rooster because roosters aren't usually available nowadays. Personally, I'd recommend using only chicken legs and thighs since dark meat braises much better, but you could use a broken-down whole chicken as well.

**Serves:** 7–8

**Time:** 2 hours + 1 day

### INGREDIENTS

- 5–6 chicken pieces
- 1 cup of diced bacon or pancetta
- 2 tablespoons of flour
- 3 cups of red wine (ideally Pinot Noir)
- 1 cup of chicken stock
- 1 tablespoon of tomato paste
- 1 small onion, diced
- 2 large carrots, diced
- 3 cups of diced cremini mushrooms
- 2 cups of pearl onions, peeled
- 2 cloves of garlic, minced
- 1–2 sprigs of thyme
- 1–2 sprigs of rosemary
- 3 bay leaves
- Salt and pepper
- Kitchen twine
- Butter

### DIRECTIONS

1. Tie the thyme, rosemary, and bay leaves into a bundle using the kitchen twine. (This is known as a "bouquet garni".)
2. Season the chicken with salt and pepper, then place in a bowl and add the wine and bouquet garni. Cover with plastic wrap or a lid and marinate overnight. If you don't have the time for that, either marinate for 2 hours in advance or while preparing the other ingredients. Also, set aside 1 cup of the mushrooms.
3. Preheat the oven to 350°F, then place the bacon in either a large skillet or pot (a Dutch oven works well if you have one) and cook on high heat to render out the fat. Remove once cooked.
4. Remove the chicken pieces from the marinade and pat them dry with paper towels, then sear for 3–4 minutes on each side in the bacon fat, then remove. This should be done in batches of 2–3 pieces each, to prevent overcrowding the pot.
5. Discard all but a small amount of the fat, then add the vegetables and cook until slightly softened.
6. Add the tomato paste, then deglaze the pan with the chicken stock.

7. Add the wine marinade, then add the chicken, bacon, and flour. Top with the bouquet garni, then place in the oven to simmer for 1 hour.
8. Just before the stew is finished, lightly sauté the pearl onions and the remaining mushrooms in some butter. You can optionally add a pinch of sugar to help with the browning.
9. Remove the stew from the oven and top with the mushrooms and onions, then let rest for 5 minutes before serving.

I will hopefully have another brilliantly written and high-effort article by next issue. Or maybe not, because of finals, in which case I will supply another recipe.

yalevoynian

## CALL PEOPLE OUT ON THEIR BULLSHIT

Everybody knows Canadians are very nice. If we are offended, we turn the other cheek. If we are sued for our shirts, we throw in our coats for good measure. I personally used to take pride in being such a pushover.

This kind of behaviour is often praised for being saintly or self-sacrificing. On the contrary, I think it's just poor communication. Neural networks *very* approximately model the brain, and once they're trained we have no fucking clue what they actually do. What I'm trying to say is, it's not so simple to work out what your friend is thinking in their big wet meatball computer of a head. People think and feel in vastly different ways, and if you could read minds other people's thoughts would still be far too alien to interpret.

So have a discussion with people if you disagree with their actions! If you're honest and direct without being rude, you'll have a good interaction 90% of the time.

You will face open hostility on occasion. But fuck those people! You're not legally obligated to put up with them. And you don't do people any favours by keeping things in. I've more than once been in the position where a friend silently built up resentment for me and it's somewhat less than pleasant. I've been a jerk to people I care about, and instead of being called out for it I gradually eroded away those relationships.

Call people out on their bullshit.

It is true and kind.

snackimal fishmop

# GNOCCHI RECIPE

Whether it is the nature of power that corrupts, or that it's corrupt people that seek out power, I do not know. What I do know is that I hate the crushing knowledge that those in power hold such influence over everyone's lives, and that there is precious little that can be done to stop them.

As a Canadian citizen, I have the power to help vote in/out representatives in office. But nearly all people who run for office that are successful are the same:

1. **Rich.** They have enough disposable income and time to campaign effectively.
2. **Connected.** If you want to pretend that having family members in politics has no weight in a candidate's success, you do you.
3. **Interested in attaining power and/or money.** Thus, not really the kind of person you actually want in power.

I could go on, but 3 is a nice number, and you get the idea.

My mother hasn't missed an election since she became a Canadian citizen. She is proud of being able to vote, and being able to talk about our government without fear. Her and my father spent the majority of their lives in mainland China before we all immigrated here.

My father has a different perspective. We sometimes have discussions and, dare I say, debates about the subject of democracy.

I say that democracies are less corrupt than autocracies. My dad lists a few Canadian politicians that have been known to accept huge amounts of lobbyist money (i.e. bribes).

I say that autocracies often oppress minorities and can commit atrocities without any resistance. My dad asks me if Doug Ford represents all of Ontario and how many deaths his party's policies of cutting public healthcare have caused (counterpoint: ~~concentration~~ "re-education" camps in Xinjiang).

People, he reasons, are all different. Canada has millions of people, all with different upbringings, education levels, religions, ethnicities, etc. There will never be any government that represents everyone adequately. Decisions need to be made, and the people who make them need to constantly think about how to remain popular and secure the next vote so that they can argue for another four years whether or not they should pass Bill X.

I suppose in some ways he is right. But I know that I would much rather live in a democracy than under a dictator. Voting is something I will never stop doing, because I want a say in how this country is run.

And you're always gonna have a say in "what's for dinner" with this new yummyPi recipe, brought to you by **mathNEWS!**

## GNOCCHI FOR TWO

### INGREDIENTS

- 1.5 lbs russet or white potato (about 3 small or 2 medium potatoes)
- 1 egg
- pinch of salt
- two handfuls of flour (like, a cup?)
- love

### STEPS

1. Poke a few shallow holes in potatoes with fork or toothpick or knife. Bake at 400 degrees in an oven for about 40 minutes, until soft.
2. Let potatoes cool until you can safely touch them and put them into a medium sized bowl.
3. Split open potatoes and use a spoon or your hands to remove the fluffy white insides. Discard skin.
4. Make the potato insides as "fluffy" as humanly possible. Wait for most of the steam, if any, to dissipate.
5. Make a "well" in the potato and crack the egg into the centre. Season with salt and mix well.
6. Mix in the flour until you form a nice dough that is sticky but not too sticky.
7. Separate into 8 small balls and roll out each ball into a long stick, about 1 cm in diameter.
8. Use a knife to cut sticks into little rectangles of pasta goodness.
9. Boil water in a large-ish deep pot.
10. Place gnocchi in boiling water and turn down heat to low. When all the gnocchi have floated to the top, scoop them out or drain.
11. You can eat them boiled with some sauce, but I personally like to pan-fry in a bit of butter first, for that crisp and chewy texture.

yummyPi

## N THINGS I WANT TO DO AFTER GRADUATING

Waiting to graduate

**My brain, it's just... gone.**

PROF. MARK GIESBRECHT



## FOLLOW THE INSTRUCTIONS TO READ THIS ARTICLE

This is not the real article. To read this article, please follow the instructions contained here. First, let A be the following sequence of characters:

SBYYBJ GUR VAFGEHPGVBAF GB ERNQ GUVF NEGVPYR

Now, let B be this sequence of characters:

Guvf vf abg gur erny negvpyr. Gb ernq guvf negvpyr, cynfr sbyybj gur vafgehpgvbaf pbagnvarq urer. Svefg, yrg N or gur sbyybjvat frdhrapr bs punenpgref:

Finally, let C, D, and E be the following three strings:

Abj, yrg O or guvf frdhrapr bs punenpgref:

Svanyyl, yrg P, Q, naq R or gur sbyybjvat guerr fgevaf:

Abj, gb perngr guvf negvpyr fb gung lbh pna ernq vg, bcra hc n grkg rqvge bs lbhe pubvpr. Cynpr N vagb gur rqvge. Ragre gjb arj yvarf. Gura, cynpr O vagb gur rqvge. Ragre gjb arj yvarf. Gura, cynpr N ntnva. Ragre gjb arj yvarf. Chg vagb lbhe rqvge P, gjb arj yvarf, O, gjb arj yvarf, Q, gjb arj yvarf, P, gjb arj yvarf, Q, gjb arj yvarf, R, gjb arj yvarf, naq gura R ntnva. Svanyyl, gb tvir zr perqvg sbe guvf negvpyr, ragre gjb arj yvarf naq gura zl cra anzr. Lbh ner abj ernql gb cresbez gur svany fgrc bs qrpelcgvba. Nccyl n EBG13 genafsbezngvba gb gur svefg, frpbaq, sbhegu, fvkgu, naq gragu cnenencuf. Abj lbhe grkg rqvge pbagnvaf gur erny grkg bs guvf negvpyr. V ubcr gung lbh rawbl vg.

Now, to create this article so that you can read it, open up a text editor of your choice. Place A into the editor. Enter two new lines. Then, place B into the editor. Enter two new lines. Then, place A again. Enter two new lines. Put into your editor C, two new lines, B, two new lines, D, two new lines, C, two new lines, D, two new lines, E, two new lines, and then E again. Finally, to give me credit for this article, enter two new lines and then my pen name. You are now ready to perform the final step of decryption. Apply a ROT13 transformation to the first, second, fourth, sixth, and tenth paragraphs. Now your text editor contains the real text of this article. I hope that you enjoy it.

$((\lambda(* /)(** /))(\lambda(+ -)(if - -(+ + \#t)))\#f)$

## HOW IS THIS EVEN UP FOR DEBATE — A NIGHTMARE BEFORE CHRISTMAS IS A CHRISTMAS MOVIE

- Christmas is in the name.
- Christmas horror is already an established literary genre. It being scary is not an argument.
  - See *Krampus* (2015), *Better Watch Out* (2016), *Black Christmas* (1974), *Black Christmas* (2006), *Black Christmas* (2019), or SCP-4666.
  - “Halloween Festive” or whatever is not a thing at all.
- It was released in October, but on the 29<sup>th</sup>, way too late to capture the Halloween market.
  - Release date doesn’t matter anyways. *Die Hard*, voted the best Christmas movie by readers of the magazine *Empire*, was released in July.
- The main character starts a skeptical non-believer in all the Christmas hubbub, only to be redeemed by the end.
  - This is literally the plot of *The Muppet Christmas Carol* (1992).
- Christmas has to be saved.
  - A similar theme is present in *Santa Buddies* (2009) (A Christmas themed *Air Bud* spin-off).
- The true meaning of Christmas is discovered in the end.
  - Much like the other points, there are so many fucking movies to cite for this point, but none of them are funny.

I don’t understand how this was ever up for debate.

aphf

## MATH IS BDSM FOR NERDS

I have two weeks of calc to catch up on, one week of algebra’s worth of notes to make sense of, and a 7 page CS assignment to start—oh, before I can even start it I have to review the course notes because I have no clue what’s been going on since mid-November (I just show up to class for the iClickers and daydream of being in the Bahamas instead sipping on a Mojito). So the production of this post will, unfortunately, have to be postponed. (sorry to deceive you, but your deepest wish to see this article come to life will only be fulfilled when school stops bullying me with work, which I doubt will ever happen.)

Enami

I'm gonna die.

PROF. MARK RUBENSTEIN

# STUFF THAT WAS RECOMMENDED TO ME 3

## CONTINUED FROM ISSUE 4

### THE TURING TEST (COMPLETED)

*Recommended by river*



A short puzzle game about an astronaut who was recently awakened from cryosleep getting sent down to the base their team is running, only to find the team missing. Turns out the team has set up Turing tests which require a human to pass, and there's also a robot named TOM that acts as your companion urging you to find your team. Hmm. Although the setting is fairly generic and the plot isn't super unique, it's still a pretty satisfying puzzle game that has its own charm. It has similar gimmicks to something like Portal but instead of portals you get glowing marbles, robotic parts, and laser beams. The puzzles themselves have a good difficulty curve, though the rooms can feel repetitive at times. I'm not a fan of the ending though (spoilers ahead). The ending has our main character and the surviving leader proclaim "careful TOM has a gun" as they walk to the server room. Knowing that TOM is a machine that operates on pure logic, they then walk through the entrance of the server room comically slowly and disassemble all the server racks with about as much urgency as a goose crossing. You can control the gun at this point, and in testing the controls I blasted the door where our two geniuses slowly shambled in, immediately murdering them. After laughing for a good couple minutes, I replayed the scene to find out the ending is a choice: you can either shoot them both, or let them live and destroy the computer, infecting the entire population of the world with immortal cancer and immortality in general (which is what would happen if you allow them to return to Earth and infect everyone with the pathogen that's infecting them). The corporation could have been more transparent about the implants put into the crew but I'm honestly much more on the side of TOM. Dooming the entire population to allow a couple people to return to earth is a pretty bad deal. All in all however, a pretty entertaining puzzle game.

### PNEUMA: BREATH OF LIFE (COMPLETED)

*Recommended by river*



This is another puzzle game made by the same people who made The Turing Test and they're pretty similar in feel. I found that Pneuma was even shorter than the already short Turing Test though. The Turing Test took me around 6–7 hours; this one I finished in under 2. And where the Turing Test had a good difficulty curve, Pneuma felt way too easy at times. The visuals are quite nicely put together however; a good amount of work was put into the environments and it can feel quite relaxing walking through them with someone's philosophical meandering going on in the background. I'll be honest, I didn't catch all of the actual meandering since it tends to drone on for a while, but there are some decent thoughts and humour mixed into the script. It's short and sweet, but I found it a little lacking as far as substance goes.

### AMONG US

*Recommended by impostor*



**I basically only read the profQUOTES.**

MOST PEOPLE WHO READ mathNEWS

## INFINITY TRAIN (ALREADY WATCHED)

Recommended by Thalia



Admittedly I've only watched the first season when it came out, but I'll say it right now this cartoon is extremely good. It's about a girl named Tulip stuck on a seemingly infinite train with each car having a different surreal setting; a glowing number on her hand goes up and down as she progresses through the train. Along the way she meets a funny PS5 ball and a corgi with a crown which can also talk (if that doesn't sell you idk what else possibly could). But although there's funny characters, it's overall quite heavy; the tone is very cryptic and unsettling, but in a good way (unfortunately probably one of the reasons it got axed since the marketing surrounding it seemed make it out to be lighthearted and simultaneously tended to the younger crowd. Infinity train more like finite train haha pls kill me). The soundtrack also tickles my fancy, with lots of synths and electronic elements mixed in helping it reach that "unknown territory" type feel. The show realistically establishes heavy themes and an interesting setting, blends them very well with fantasy and mystery elements, and concludes with ideas that have a lot of emotional depth. I've only watched the first season but people have told me to watch the rest of it. I most likely will and you should too.

warrior1rules

## REVIEW REVIEW :: THIS\_ REVIEW (REVIEW THIS)

SUBTITLE EXISTS TO JUSTIFY THIRD BULLET POINT'S EXISTENCE

- Title resembles C++
- Exists to justify its own existence
- Justified
- Repetitive
- Would not recommend

wacfeld

## HOW IS THIS EVEN UP FOR DEBATE — A NIGHTMARE BEFORE CHRISTMAS IS A WAR MOVIE

- Nightmare is in the name.
  - People with PTSD (from war) will often have nightmares (about war).
- War horror is a well established genre.
  - See *Pan's Labyrinth* (2006), *Jacob's Ladder* (1990), or *Jacob's Ladder* (2019).
  - Wikipedia lists 36 Nazi Zombie films.
- It was released on October 29<sup>th</sup>.
  - *All Quiet on the Western Front* (2022) was released worldwide on the 28<sup>th</sup> of October. Seems like a good time for war movies.
- The main character starts out a complete and devout believer in his nation and its values, only to have his beliefs change through the conflict during the film.
  - A similar thing happens in *Forrest Gump* (1994) and in *Jojo Rabbit* (2019).
- Santa has to be saved.
  - Similar to Private Ryan in *Saving Private Ryan* (1998).
- It's literally about a war between sovereign Christmas and Halloween nations.
- Aircraft drop undesired and harmful packages on civilian centres resulting in fear and panic amongst the populace.
  - This is literally terror bombing (a war crime).
- The meaning of Christmas is discovered.
  - Like in the song "Christmas Truce" by Sabaton.

I don't understand how this was ever up for debate.

aphf

## N ELECTRIFYING PUNS

- I always get angry when I can't charge my laptop. You could say I really need an *outlet* for my problems
- I'm sorry, please *resist* the urge to stop reading
- Maybe I've lost my touch with this, maybe I just don't have that *spark* anymore
- Don't sue me, please don't *charge* me with anything

writing up a s-toe-rm



# A TRIP ABROAD: PART 2

## A MEMORIAL, A BRIDGE, A TOWER, A NEW ISLAND, A COUPLE OF MUSEUMS, AND A CANCELLED FLIGHT

This article will cover Days 3 to 5, which were supposed to be in part 1, but were cut due to the length of the article. It'll cover the rest of the trip as well, but a proper epilogue will be in the next issue next term.

### DAY 3: NOVEMBER 13

Hey, guess who didn't have sunscreen yesterday? The back of my neck got sunburned, yay!

I still didn't have food in my room, so I went to McDonald's for breakfast, on a Lime scooter, where you use an app to gain access to a motorized scooter. If you are old enough, you may have even seen these scooters in Waterloo as a pilot project a few years ago. Finally, I went grocery shopping. Along with the other regular things, I bought Marmite, Pinky bars, and Milo, all regional products. Also, sunscreen.

The Pinky bar was okay. Not my type of candy, but it was good. Marmite wasn't for me. I made sure to put butter on the toast, and a small amount of marmite. The taste doesn't appeal to me. Milo tasted like a hot chocolate mix, which was neat.

After a bit of rest, I went to Waikumete Cemetery. They have a military graveyard, and a memorial for WWI and WWII, but the main reason for going there is to visit another memorial for Air New Zealand Flight 901. This memorial has the unidentified remains of victims buried there. Three tall stones are there, listing the people that never got identified from the crash site. There's also a cherry tree next to it that was planted by the families of the Japanese victims. Given the legal state of the Parnell memorial, this is the closest thing to a general memorial to the accident. That is a shame, because there is no proper memorial that explicitly lists out every single victim of the crash. I paid my respects, and even got slightly emotional. I'm into plane crashes, but I'm more focused on how the crash happened and how to prevent that. The victims are usually secondary, but the memorial brought that element to the forefront. Especially when knowing that it's basically a mass grave of remains that couldn't be identified, robbing some families of closure.

After that, I went back to the city centre, and wandered around aimlessly, my gut telling me which street to go down. The city is hilly, and some of the roads were steep. I eventually stumbled upon a food truck that's been selling burgers since 1948 (at least, the owners have been). I'm usually weary of food trucks, but the reviews assured me that the burgers were worth it. Indeed, they were amazing. The food truck is called "The White Lady." I didn't do much after that.

### DAY 4: NOVEMBER 14

Oh man, today was fun!

I decided to book myself to climb the Auckland Harbour Bridge. To get there, I decided to use a Lime scooter again. I

rode the scooter along the coast, until I got to the meeting spot.

There were three other people in my group. One was a woman from Perth who was just a bit younger than me, and the other two were a couple from Hamilton! Though this is Hamilton in New Zealand, a city south of Auckland. We saw the people that did the bungee jump, and they could touch the water when they jumped! Our group climbed up the bridge, learned some things about it, and our guide took photos from the top. It was a sweet view. I myself made even more memorable by tripping on something and falling. No, I didn't fall off the bridge, I just fell onto the beams we were standing on. Luckily we had helmets, so the only thing that really hurt were two of my fingers, and the area between my left ear and eye, closer to the ear.

After that adventure, I went back to my room for some lunch, and then I realized that I left my metro card in the locker. So I had to go back to get it. Silly mistake by me.

I then went to the SkyTower. When I sent my photos of the city skyline to my parents, they both independently said that it looks like Toronto, and this tower is the reason why. It seems like the CN Tower. I went up the elevator to see the great views of the city and beyond. I saw people doing the SkyJump, a controlled fall to the ground from the deck. I ended up having ice cream from a café in the observation deck. What a view to have ice cream. Still not as tall as the CN Tower, though.

### DAY 5: NOVEMBER 15

Today, I took a ferry to Rangitoto Island, a volcanic island that is only 600 years old. The island was so interesting. Since it's so young, you can see some cooled lava fields without any plants, then some cooled lava fields with plants that have taken root, and so on until you get full blown trees. I started to think that it looked like Hawaii, and then my feelings were confirmed when an educational sign mentioned similarities with Hawaii.

There is a lava tube that you can get in, and see (with a flashlight) the roots of the plants above trying to take hold. The tube does get shorter in the end, so I was bending down and crouching to get through to the open end.

The paths themselves were rough with rocks, so my feet were starting to hurt. It doesn't help that I've done lots of walking over past few days, so all of that added up. The crater at the top of the island was amazing to see, with all of the plants and trees overtaking what was once a place where lava got spat out. The view from the summit of the mountain was incredible.

On the ferry ride back, I decided to get a steak & cheese pie from the café on the ferry itself. It was alright. Not something

I'd get normally, but it's New Zealand; meat pies are a regional food.

After a bunch of rest, I did have McDonald's for dinner, and then walked around, eventually to Albert Park. Man, Auckland can get very steep. Albert Park had a fountain, a few statues (including one of Queen Victoria), and even a rainfall measuring area. The park itself had steep grassy areas, which seemed tempting to roll down if it weren't for the street parallel to it at the bottom. After that, I went back to my room, and submitted [A Trip Abroad: Part 1](#).

#### DAY 6: NOVEMBER 16

After breakfast, I saw an email saying that Part 1 was way too long, and Days 3 to 5 were forced into this part, which annoyed me.

I decided to go to the Auckland War Memorial Museum. It had stuff from the history of the Pacific Islanders in general, stuff from the Maori of New Zealand/Aotearoa specifically, and stuff about the natural environment of the country. Of course, it also had the history of wars the country has fought in. If you love museums, you would love this museum.

Knowing that today might be the last sunny day I have in the country, I decided to go to Mount Eden/Maungawhau. It was a long climb up, and the actual highest point was closed due to construction of a boardwalk, but it still looked amazing. It's a dormant volcano, so it has a crater on top of it. However, because it's sacred to the Maori, you are not allowed to go in it. Still, the views from the top were amazing. Great lookout over the city.

At this point, my feet are killing me, so I get back. I get some bad news: my Hobbiton trip was cancelled :(

#### DAY 7: NOVEMBER 17

Today, I have to figure out what to do after the tour company cancelled my Hobbiton trip. I decide to go to the MOTAT (Museum of Transport and Technology) today instead of tomorrow. Unfortunately, it's raining.

I take the bus there, and it's pouring. When I get in, I realize that this area of MOTAT seems to be for kids lmao. I feel like the oddball out. Still, I press on. I see a guy operating a coal engine, see an old and huge water pump, and see a bunch of old cars and motorcycles. I learned about the trams that went around Auckland, and how they were dismantled in the 50s (#FuckCars). I also saw the evolution of telegraphs and telephones.

The MOTAT did have a tram system of its own to take to the aviation hall, my real interest. I go into it, and so many planes! Big old commercial planes, small general aviation planes, and military planes. This is what I wanted to see. Planes all around

Since it was raining, I didn't do much, and went back to my room.

#### DAY 8: NOVEMBER 18

Today was a day of nothing much. The Hobbiton cancellation plus the continued rain made my day tough to plan. I did settle on going to a mall nearby just to walk. I did end up having Ben & Jerry's ice cream in the food court, but nothing much else. I've done everything I planned to do that I could do. Anything else would require better weather, advanced planning, or a bunch of money.

Overall, this was a great trip. I went up a bunch of mountains, saw an intense game of rugby, climbed a bridge, paid my respects at two memorials, and learned a bunch about New Zealand/Aotearoa.

I do want to do a lot more. Go to Waiheke Island, do the SkyJump off the SkyTower, bungy from the Auckland Harbour Bridge, go to Hobbiton, go through the Waitakere Ranges, and just explore the North Island in general. I really want to come back here and maybe even move here. But for now, it's time to pack and sleep.

#### DAY 9: NOVEMBER 19

I have a long travel day, but I'll keep it brief. My itinerary should just be the reverse of my way in. From Auckland to Nadi on FJ410, then Nadi to Los Angeles on FJ810, and then LA to Toronto on WS1101.

I was allowed into a lounge in Auckland, and it was okay. Not a lot for me to eat, but that's my palate. The flight to Fiji went normally.

At Nadi, I went back to the lounge, and again, the food wasn't for me. I ended up at Burger King. The flight to LA was fine. I watched The Polar Express, and I did sleep a bit.

#### DAY 10: NOVEMBER 19 (?)

Time travel! Thanks IDL. I've landed in LAX, and I need to rush to customs. However, my dad told me via WhatsApp that my flight is cancelled???

Oh god, I'm stuck in LA. WS1101 was cancelled while I was in the air, and now I leave LA a day later, AND I connect through Calgary. I panic. My parents panic. A glitch makes my hotel and meal voucher take a while to be sent to my email. I am drained.

This was so dreadful going through it, and I could ramble on. But I do want to get Days 3 to 12 in the same article. I might add it to the epilogue.

I get the voucher, and select the hotel. Time to shuttle there. Shit, I went to the wrong hotel with a similar name. Back to LAX to get the right shuttle.

I settle in the hotel, and have Raising Cane's for dinner. OH MAN, the chicken fingers are great. So much food! After that, time to sleep.

**DAY 11: NOVEMBER 20**

I wake up, and have the hotel buffet. Good enough for the journey. Get a shuttle to LAX, and check in (even though I checked in online).

Through security, and make it to the gate with plenty of time to spare. Flight WS1511 finally takes me to Canada. Just the wrong part of it. Calgary decided to be a part of my trip.

I get to Calgary, go through customs, and make it to the gate area. I decide on Chili's for dinner. I cut it close for getting it to go for Flight WS676, but I get it. Onto Toronto with dinner! I eat the burger and fries on the plane. BTW, the buffet and Chili's were paid for by the meal voucher.

**DAY 12: NOVEMBER 21. I'M HOME.**

I'll write a proper epilogue in the next term, but my trip really was something. I want to go back, but that requires money and time (and maybe a person that can drive). However, I am home, in the cold weather of November, and I'm in my bed ready to sleep. I hope you enjoyed reading.

Haere rā!

wewlad

## CYNTHA STRUTHERS'S STAT 231 ONLINE COURSE IS THE BEST

At the beginning of my 3A winter term I realized I had made the fatal mistake of taking STAT 231 online. I received the dreaded news that I would be taking the course with Cynthia Struthers. Rumour says she has a reputation of being extremely tough on her students. Many say she gives a lot of reading and the assignments are very long and it is impossible to get high marks or pass the course. Hey, I tell you, I got only a 49% on the midterm and never above a 70% on assignments and I am loving the course.

What if I told you this is the way universities should work. Universities are meant to be very hard. Would you want to go to any university and get a degree that cannot land you a job? I sure do not want UW to be like that.

**LEARNING AND SCHOOL**

From experience there exists a huge disparity between school and learning. From talking with many UW students I have realized everyone is doing nothing more than grinding marks and passing. One needs to incorporate the materials taught in courses into their own identities. Use it in their everyday life. Passing the courses with low marks may not secure you employment but understanding the materials would allow

you to make your own business. Make your own jobs and rise above all else. Every week Struthers expects her students to read the entire chapter and do most or all of its practice problems. Her ruthless marking ensures those who pass are the ones who fully understand the material to the very last word.

**WHY STATISTICS IS IMPORTANT**

According to the book *Homo Deus* by Yuval Noah Harari, "Dataism says that the universe consists of data flows" (pg 594). To understand the beauty and harmony of the universe, one must understand how numbers dance. Everything from love to subjective experiences are nothing more than data flow. Those who do not know statistics may as well be blind. "The Data Flow is what gives a Jedi his power. It is an information field created by all living things. It surrounds us; it penetrates us; it binds the world together." I am a Jedi and statistics is the force.

**CONCLUSION**

Overall, I believe the next great social divide will be between those who can use statistics and those who cannot. Capitalism's shortcomings are near as those with capital who do not know statistics are better off allocating resources randomly. Eventually they will lose all capital to those who know how to use statistics. Anyway, thank you, Cynthia Struthers, for providing me with the necessary training to become a complete Jedi knight.

CodeJedi

## ONE MILE AHEAD AND MY FOOTSTEPS SHALL NOT BE FOUND

heavy footsteps and  
muted crunch beneath  
step, stomp, last mile ahead

snow drops soundly from my sole  
but—no chance to rest  
blustered out by squall  
memoryless ineffectual  
...

do you ever feel like you're  
bounding toward the day  
you'll be swept up,  
away and scattered  
like your tracks forgotten by the snow

in ten miles  
will they know the print of my sole?

memory printer

## IT'S A SMALL WORLD

### WHAT ARE THE CHANCES THAT YOUR FRIENDS (OR ENEMIES) READ THIS ARTICLE?

This term I've been trying to integrate into the MathSoc community more than before. Why you say? It started when I visited the UofT and McGill campuses. I noticed that the campuses, by one action or another felt more "alive" than UW. It was lively. People socializing everywhere, etc. By contrast my experience at UW thus far has been, "Wow most people here don't like their classes, don't like the campus, don't like their program, and are slaving away for the good job at the end of the tunnel." This disheartened me, because I'm passionate about my program and I wish to meet others who are passionate as well. I started to view my peers in a negative light, because I had the perception that a big portion hated being here. I decided I wanted to contribute to the UW community to make it more alive, to undermine the narrative that the campus is dead and that we're all robots here. The first step was to join clubs. As I joined more clubs I realized that my previous evaluation was wrong: there ARE passionate people, they go to the clubs! As a result my campus experience changed drastically, I now hang around MathSoc/the CnD/the Mac lab all day, talking to friends and participating in anything that sounds remotely cool. Big upgrade, however, I realized something else: I keep seeing the same faces, the member-spaces overlap of MathSoc overlap a ton. This leads me to believe that the set of UW students attending clubs is relatively small. This leads me to the conclusion that if you're reading this article, there is a good chance your friends are as well. This is because if you're reading this then you're likely a member of **mathNEWS**, which means you are likely to have friends in **mathNEWS** (or at least MathSoc), who read this article.

This story has a greater consequence. This term I changed my environment to be surrounded by a more "passionate" community. This community is the audible voice of UW, and it's much smaller than the overall UW population. This dynamic makes participants' individual voices much louder, because there are a few voices that end up representing a big group ("vocal minority").

This is quite liberating for me, because this means that the louder I choose to be about my passions the higher the chance that I will converge on a group of like-minded individuals ready to work towards a common goal, such as a new club or event at UW.

This term I found out campus was much more lively than I thought, and I'm ready to breathe new life into it with my newfound friends.

tkhayrul



## REPETITION & ROUTINES

Repetition is a strange thing. Comforting, yet alienating. It pushes you away from yourself as you repeat the same actions, over and over, with no need to pay them any mind, and yet it also helps you improve at those actions. Paradoxically, it is when we no longer need to pay attention that we can truly excel.

Repetition can almost act as an enforcement tool. It can be hard to break out of your routine, to do something different or new, when you can do the same thing as you usually do without even having to think. Eat the same food, work in the same places or in the same ways. Routines are some of the most rigid things in peoples' lives, oftentimes holding them prisoner just as much as their true obligations.

Then there are those who have the fear of routines, who will do anything they can to avoid falling into them. This can be almost as much of a trap, though; the maw of the familiar, of repetition, draws all inwards, and fighting against that pull takes a large amount of effort.

I honestly don't know where I fall. Sometimes I think routines make things easier, and yet there are other times where I struggle to stay within one, constantly being drawn away by the allure of the new.

Basically this is a way of saying that I almost forgot to write an article for this issue of **mathNEWS** again, and had to do this one last minute. That being said, I do think it says something that I have an issue streak going on years, now. A lot of people only write in one issue, and never come back. If it wasn't for the pandemic, I probably would've been one of them.

But I do show up, every two weeks, and devote some of my energy into writing at least a few hundred words. That's gotta count for something, right? Somehow, I've made myself a staple of this paper through nothing more than my routine of submitting something, even though it certainly doesn't feel like a traditional routine.

And I didn't forget to do this one either. I don't know if I'm a better writer than when I started, honestly. That improvement that's supposed to come from practice might just not have occurred, or I might not have noticed it. Maybe it's just that everyone's gotten better; we've definitely gained a lot more talented writers from when I started, in the midst of online classes when submissions were few and issues were short. It's a lot harder to stand out now.

But that doesn't mean I won't keep carving out time to write articles, to learn and grow, because this matters to me. And honestly, I think that's the key; that what becomes a routine are those things that matter most to people.

Predap

# THE QUEEN IS DEAD: SOME MORE UNSOLICITED OPINIONS (SIDE B)

Hello again, you handsome individuals! If you haven't already either listened to this album, or read the first part in whatever previous issue it's in, do those now. The album is the 1986 magnum opus of the Manchester band The Smiths, titled 'The Queen Is Dead'. Last issue, I covered the first five songs, that formed the A-side of the album, and now I will cover the B-side, which despite what that sounds like, contains more of the popular songs which you might have heard if you know about the band. If you have letters containing reservations about any of the statements I have made (or make here), send them under the door of MC5501, and I'll be sure to use them as scratch paper for my late-night assignment benders.



## 6. BIGMOUTH STRIKES AGAIN

One of the more popular Smiths songs, the song in which we learn that Joan of Arc was both hard of hearing and a fan of The Smiths. Yes, a lot, if not most of the songs here are quite silly. What better music is there than listening to Morrissey jokingly threaten physical assault. Oh, isn't he charming (!).

Unlike many of the other songs in this album, Mike Joyce's drumming has a prominent presence with a nice drum solo in the middle. Though he's not necessarily the most creative or mechanical drummer, he holds down a beat tightly, and maybe deserved a bit more than the royalties he received after the band broke up (only slightly).

Morrissey uses a harmonizer for some of the lines in this song, which was an interesting choice, but still fits in just fine. The guitars are top notch, again with the jumpy bass, and the catchy acoustic guitar intro/riff. The song also sounded a lot better live. Source? I played with them as their second guitarist.

The song is supposedly about how the band's negative experience with the press, but when I think about it, I'm reminded about the time I went fishing with the guy who saved the woman who took a selfie on top of her car as it slowly fell into the ice of the Rideau River. Since I am allergic to fish, it was probably nice for the fish to finally fight someone who is just as afraid of them. I caught three largemouth bass that night, and developed a deep resentment for the rich people who lived on the riverside.

## 7. THE BOY WITH THE THORN IN HIS SIDE

A very melodically beautiful song, the boy in the song, despite what I initially thought, is not Jesus. It's none other than the man, the myth, the legend, Mr. Sad Pouty Boy, and his experiences with the music industry. Again.

If you really try listening to the lyrics, you will come to realize that it's nothing but a bunch of fluff, words prematurely sighed in a lovely word soup, but it doesn't matter doesn't it?

'And if they don't believe us now, will they ever believe us?' Well, Morrissey, I believe you even now, even though what you're saying has just flown past my head, but you sang it beautifully, so it must be true.

The music is just peak. From the jangly guitar of Johnny Marr to the satisfying sound of the synthesized strings—too bad I can't really hear the bass too well.

Morrissey's enchanting yodeling at the end (which is apparently commonplace in his solo work) perfectly exemplifies for me the desperate loneliness which I—

I honestly can't do the song justice describing it or adding more anecdotes to it; it really just sings and plays for itself. However, it's still not my favourite from the album, but it places a nice second.

## 8. VICAR IN A TUTU

Another silly, goofy, wacky song. It's quite pertinent to Waterloo as the word 'goose' is in the song, a hapax legomenon amongst The Smiths' songs as far as I can tell (don't write me letters about this).

It was originally meant as a snarky critique and satire of the Catholic Church, but now comes across as a [UNHINGED RELIGIOUS COMMENTARY RESTRAINED] toiletry. Tell that to the Queen now, won't you?

The music makes it all the more goofier (in a good way). The sparse lead guitar, the (again) bouncy bass with the acoustic guitar backing, and the light percussion melds nicely with whatever funny tomfoolery the vicar in the tutu is performing.

At the end of the song, Morrissey concedes that 'the fabric of a tutu, any man could get used to, and [he is] a living sign'. As far as I have found, he has never performed this song wearing a tutu. Fucking poser.

Well maybe he's right, and the solution to my loneliness is to run around campus in a tutu. Along with my somewhat long hair, the guys will really like that right?

## 9. THERE IS A LIGHT THAT NEVER GOES OUT

The big one. The popular one. And (call me a bandwagoner, but) the best one.

Unfortunately, my AirPods aren't loud enough for anyone else on the elevator to hear this song come out of them. And based on the feedback from the last article (this article was written



at the same time as the last one), no one seems to care about them.

It was the first song that my friend Aidan showed me from the band, way too late when I was 17 in the middle of the pandemic. I didn't think much about it for a while, until one day, out of the blue, I decide to listen to the whole album. Usually, me starting to like a musician is impulsive, whereupon I listen to their most popular album from start to finish and fall in love with them immediately (or never listen to them again). So this song didn't make me a fan; the whole album did.

I read a YouTube comment saying that this song hits so much harder when you don't have anyone to die by their side. This is my go-to song sadboi hour song now, after 'I Know It's Over'.

Besides another song of theirs, 'Girl Afraid', this song is the main 'literally me' song. Shall we run through it?

Desperately asking people to hang out with me because the loneliness of not seeing life is killing me? Literally me.

Not wanting to go back home because I anger my roommates by merely existing? Literally me.

Wanting to see people and wanting to see life, but being too scared to interact with people? Literally me.

Being a victim to accidental vehicular manslaughter? Well, let's hope not.

Stripped back, the chorus is quite absurd. The fact that Morrissey would be so unaware of his surroundings that a loud oncoming vehicle coming straight at him goes unnoticed — is it actually a sly critique of our car dependent infrastructure?

Or is getting hit by these things intentional, and he dreams about committing murder suicide with someone he supposedly loves?

And again, a heavenly composition of strings and guitar. Listen to this song, if you take nothing else from this terrible album review. I urge you.

#### 10. SOME GIRLS ARE BIGGER THAN OTHERS

First, there's an incredibly beautiful and skilful guitar riff by Johnny Marr. Then Morrissey states a strange corollary to the extreme value theorem. Then for some reason, Antony and Cleopatra start day drinking.

Stir slowly and you get the last song on the best album ever. For reference, the first two albums only contain one silly song each. For those not keeping track, this is the fourth one on the album. The final album 'Strangeways, Here We Come' has five, and the band members consider that album their best. I think we've found the formula for a banger album. Love songs are overplayed, we need more songs about being an all-around

sweet and tender hooligan; just a general miscreant; a funny jovial fellow.

Now although the title statement is true, I am unable to confirm it for myself (I listen to The Smiths). I would try to venture to do a constructive proof of the statement, but that is way beyond the scope of this article. And beyond the scope of the time left, the album's almost over.

In the end, the song fades from the beautiful doowop-ing of the guitar, and well, I'm alone with my thoughts again.



If only for a moment, I was finally experiencing the quirks of humanity, not just the downs, but the ups, the charms, and the strangeness, from the top to the bottom of this album. After the end, I am back to the robotic, monotonic realm of solitude. I lie down and think even harder on what could have been, or I put on 'Unknown Pleasures' by Joy Division. If this article gets 10 likes, I'll do an album review on that one in the far future. In the meantime, I need to get writing that chalkboard manifesto.

But yeah. The album is a solid 10 for me, and these songs will save your life. But I'm incredibly biased, so take this entire review with a grain of salt. And if you like it, stay for a while. Listen to their first album, 'The Smiths' and, I guess, mope. I need the reassurance that I'm not alone moping to this band.

Someone get me a partner already.

seagullman

## AN OPEN LETTER TO REPUTABLE AUTHOR, LEMMAN

my boyfriend does not look like the farmer from shaun the sheep. please stop the slander, and may peace be with you always.

eggo\_chuggo

**C&O is a fantastic department, it's almost as good as pure math.**

PROF. DAVID MCKINNON

# HANG THE DJ

This article is inspired, tangentially, by one from last issue. Namely, *An Unsolicited Review of 'The Queen Is Dead' (Side A)*, by seagullman, which is about the named album by the The Smiths. When I was reading that article, I was like “that band sounds familiar,” and indeed, they also wrote the song “Panic,” which I know from the *Black Mirror* episode, “Hang The DJ.” That’s what this article is about. Shoutout to seagullman for reminding me about this.

**Perfunctory spoiler warning for the fourth/third seasons of *Black Mirror* here**, though to be honest, the episode came out in 2017, so the spoiler statute of limitations is firmly expired.

*Black Mirror* is a grim series about the dangers of technology, mostly. Some episodes include:

- The one where you unwittingly root for a pedophile who is then exposed after killing someone to hide their secret
- The one where robot bees kill 300,000 people for participating in a Twitter mob
- The one where a woman kills three people (and a baby!) in one day to hide a previous murder, and is then undone by a machine that scans the memories of a guinea pig witness

But “Hang The DJ” is one of the rare lighthearted episodes, along with another episode from the third season, “San Junipero.” They’re both love stories, and I’m a sap, so I like both of them, but “Hang The DJ” is my favourite, and I got to thinking about why.

To avoid making this too long, I’ll briefly summarize them, but they’re obviously much better if you watch them.

In “San Junipero,” we are introduced to Kelly and Yorkie, two young women who fall in love in what looks like a 1980s beach town. They’re actually both old women connected to a simulation that allows dead people to live forever, and the elderly to visit. Yorkie has been paralyzed for decades after a car accident, and Kelly is doubtful about whether or not she wishes to enter the simulation, since both her daughter and husband aren’t there. Eventually though, both of them decide to be euthanized and live in the simulation forever as their young selves.

In “Hang The DJ,” we follow Frank and Amy, who live in a mysterious community where they are assigned partners by an app named Coach. Coach claims to use these relationships to determine their perfect partner. Frank and Amy are paired up twice, once for a short while, and then again for a bit longer, but despite their clear chemistry, they aren’t paired together.

However, they decide to rebel against the system and realize that they are, in fact, in a simulation. (See what I mean about brains being in computers?). They see many other copies of themselves and learn that out in 998 out of 1000 simulations

they chose to rebel. The final scene of the episode is the (presumably) real Frank and Amy at a party, where a dating app tells them they are 99.8% compatible.



So, why do I like “Hang The DJ” better? Well, I am a straight man, so maybe I just find it harder to empathize with people who are less like myself. I’m not discounting that.

But I do think there is a deeper reason, and it lies in the kind of opposite structure of the two episodes.

“San Junipero” starts in the real world, and ends in the simulated world. While I don’t necessarily believe that a simulated reality would be less “real” or fulfilling than the real world, there is a particularly brutal shot in the ending of “San Junipero” that drives that point home. Kelly and Yorkie are dancing in a club, finally able to be together forever, but then it cuts to a server room, where you realize the two of them are just blinking lights in a server rack, among hundreds of other blinking lights.



## THEY’RE IN THERE SOMEWHERE.

By contrast, “Hang The DJ” starts in the simulation, and ends in the real world. And in particular, it ends in an open way. Frank and Amy look at each other, smile, and then we cut to black. Do they get together? We never know. By contrast, “San Junipero” has a classic happy ending. We, as the audience, know what happens after: it’s Kelly and Yorkie, living it up in simulation, for the end of time.

And that’s really what separates them. It’s finality versus possibility, a static simulated world versus an unknown real one. I am aware that I might be missing the point of “San Junipero”, that a simulated world is just as real as the “real” world, and that sometimes people deserve a permanent happy ending.

But, when I think of the ending of “San Junipero” I wonder: “Would they get tired of each other? Of life? Can you really spend eternity with someone? Can you spend eternity at all?”

The darker part of me wonders what happens if the power goes out.

And yeah, “Hang The DJ” is a little dissonant, on purpose probably. We spend 95% of the episode rooting for Frank and Amy to disobey an app, and the last 5% rooting for them to listen to one blindly.

But when I think of “Hang The DJ,” I just think, “I hope it works out for them.” I like thinking about that more.

UW Unprint

## A RESPONSE TO EGGOCHUGGO'S LIES

May it be known that eggo\_chuggo's boyfriend DOES indeed look like the farmer from Shaun the Sheep. Please consider the following reference photos:

The Boyfriend:



HIM.JPG

The Farmer:



ALSOHIM.JPG

It should be clear to any reasonably intelligent viewer with functioning eyes that the two gentlemen depicted above share a startling resemblance.

Lemman

## N WORDS TO DESCRIBE A MOULDY DISHRAG

3 weeks ago, I encountered a peculiar sight. My roommate left a sponge, 3 dishrags, and a collection of old food scraps in our sink. I hadn't been in our apartment for a few days, so I had no idea as to the state of these implements. Having some free time, I decided to clean them up.

This was a rather critical mistake; I had not taken into account the possibility of offputting odours. I leaned over the sink and instinctively recoiled as a particularly cankerous smell entered my nose. Tentatively, I looked into the sink, and there was mould. Tiny mushrooms were growing out of the sponge, and a soft green fungal foam had encrusted the towels. My spine curled and I ran away from the terrible sight.

As a tribute to this moment, (and as a totally non-passive-aggressive reminder to my roommate), I am listing some words I expressed or searched up at that moment.

- Slime
- Crusty
- Crunchy
- Unctuous
- Demonic
- Mycelial Mucilaginous Malady
- Spores...
- Pest Control
- Biological War Crimes
- Geneva Convention
- Flamethrower
- Places to buy sinks
- Hotels Nearby
- Cardboard Boxes for Rent
- Spores...
- Growth of Fungus
- Cordyceps in Humans?
- How to stay up all night
- Caffeine Pills?
- How to accept death

ffc1

## I'M A VOLUNTEER RESEARCH ASSISTANT

As a volunteer RA I have been tasked with converting Python to JavaScript. I don't know how to code. I am a psych student.

psychimposter

# RANKING EVERY WATERCOLOUR PAINT COLOUR I HAVE EVER OWNED

**Disclaimer:** I tried to be as unbiased as possible, but I've only really painted landscapes, cityscapes, people, and animals. As a result, I value blues, greens, and earthy colours over reds in general. If you want to paint, say, flower studies, you may want to move things like Quinacridone rose up a tier. Also, there are a few "colours" here that aren't colours offered by your standard Winsor & Newton, M. Graham, and/or Daniel Smith lines, I have denoted them with a (\*) and you'll notice that most of them are ranked very low.

## S-TIER

Not even a watercolour paint.

1. **Acrylic titanium white:** First of all, as acrylic paint, it costs significantly less than watercolour paint by volume. This paint is beautiful for highlights, as it looks very opaque in contrast to watercolours. I also really like this paint for mixing pastel colours, as it makes everything so nice and opaque.

## A-TIER

Excellent for both mixing and painting, and are used in most paintings. These consist of three primary colours and three relatively neutral colours.

1. **French ultramarine blue:** This is a beautiful colour that gets used in everything. It's a very vibrant warm blue, which means it'll get used in your skies, lakes, mountains, trees (since it makes green), clouds, shadows, everything. Some people don't like using this colour as their primary blue because it's ever-so-slightly purple. Those people are wrong. 10/10
2. **Cadmium yellow deep:** The fancier artist-grade tubes contain pigments made with actual cadmium, which is just the perfect thing to leave in a cup of water that you'll inevitably accidentally take a sip out of. This colour is (in my opinion) the best yellow colour for painting, because it just blends in so nicely to green and orange surroundings. However, if you don't like how deep this colour is, **cadmium yellow medium** and **cadmium yellow light** are both also very good yellows. 9.5/10
3. **Permanent alizarin crimson:** I didn't have this colour for the longest time, so this colour is a little bit of a luxury to me, which makes me a little biased towards it. That being said, this colour's name is very misleading—it's a cool red, but it's nowhere near the purple hue that "crimson" entails in my (and probably your) mind. It's nice to paint with, but its real strength lies in how it mixes. Note that if you're going to be buying this colour from an art store, make sure you're buying something

labelled "permanent alizarin crimson" and not just "alizarin crimson," as the latter colour is known to be a "fugitive" colour, meaning it can change colours when exposed to sunlight. 9/10

- **Honorary mention: Pyrrol scarlet** would be between permanent alizarin crimson and burnt sienna, but it's been 7 years since I've last used this colour and I don't trust my memory. This warm red is a pretty solid contender for a primary red, if you don't like cool reds. 9/10
4. **Burnt sienna:** If you were only able to buy the first 3 colours as primary colours and needed a 4<sup>th</sup> colour, this is the colour to get. It's an excellent colour for skin tones, shadows on warm colours, and reddish dirt. Its real strength in its mixing utility: when combined with a yellow, it becomes yellow ochre; when combined with ultramarine blue, it becomes a dark colour that shows a tinge of orange/blue (depending on which pigment you added more of when mixing it) and is significantly more interesting to look at than just black. 9/10
  5. **Burnt umber:** Have you ever noticed just how many things around you are brown? Wood is brown. Dead leaves are brown. Hair and fur are brown, sometimes. The shit in my pants is brown. Introducing burnt umber, which is... brown. It also makes a nice darkener when mixed with ultramarine blue. 8.5/10
  6. **Payne's gray:** Excellent darkener with a cool tinge, and can be made using either the aforementioned burnt sienna + ultramarine combo (being a little bit heavier on the ultramarine side) or by using ultramarine + black. The reason why it's ranked so high despite being able to be mixed relatively easily is because I use it so much. However, out of the A-tier colours, this one is the least necessary. 8.5/10

## B-TIER

Solid at what it does. These are maybe not used *everywhere*, but they're still useful to have.

1. **Prussian blue:** This colour is beautiful. For the readers out there who don't have their phones with them to promptly google "Prussian blue," imagine the darkest spots in the sky at the end of a sunset. I love this colour so goddamn much I spent an extra \$6 to buy a tube of this in oil paint despite not knowing how it would behave as an oil paint. 8/10, goes up to 9/10 if you paint landscapes.
2. **Yellow ochre:** If you paint piss, you will obviously use this colour very often. If not, you'll still use this surprisingly often, when you least expect it. Skin, dirt, leaves, clay, flowers, shadows... I think it's the first ever tube of paint I ran out of. Either that or it was ultramarine blue. 7.5/10

3. **Phthalocyanine green:** This cool green is beautiful, but very staining. I stand by the opinion that this is a nicer variant of green than sap green, hence its placement here. 7.5/10
4. **Sap green:** Do you enjoy painting trees and/or grass? Do you enjoy not emptying an entire tube of blue and another entire tube of yellow every time you paint? Welcome to sap green, the “default” warm green. 7/10
5. **Phthalocyanine blue:** This colour is very similar to Prussian blue, but it stains much more without being significantly more vibrant. It’s still a really good colour, though. 7/10
6. **Vermilion:** Genuine vermilion contains mercury, which is something I didn’t know until yesterday. If you’re using alizarin crimson as your primary red, it’s a good idea to have a warm red, and I’m using alizarin crimson as my primary red. 7/10
7. **Quinacridone rose:** This cool red paint is not as versatile as alizarin crimson because it’s slightly too purple, making it not an ideal choice when mixing colours like orange. However, if you already use a warm red (e.g. cadmium red or pyrrole red) as your primary red, this could be a solid cool red to complement it. 7/10, goes up to 8/10 if you have a warm red.
8. **Ivory black:** This one honestly deserves a tier B.5. Never use black watercolour to paint, because you can do so much better with some combo of ultramarine blue + burnt sienna. However, I’ve found that this colour is great for efficiently mixing darker colours. In particular, some versions of Payne’s grey is made using ivory black and a blue. 6/10

Note: there is no cool yellow in A or B-tier because I have only ever owned lemon yellow as a cool yellow, and lemon yellow is objectively garbage. I’ve heard that hansa yellow is good, though.

### C-TIER

Colours that are completely outclassed by higher-tier colours, but would otherwise still look great.

1. **Azo yellow deep:** This colour looks very similar to cadmium yellow deep, but it’s more transparent. I also don’t like how this colour mixes when compared to cadmium yellow. It’s a very strong contender for primary yellow if you don’t have cadmium yellow. 6/10
2. **Permanent red light (\*):** It worked very well (if not a little too orange) as a primary red before I purchased my alizarin crimson paint. 6/10
3. **Vandyke brown:** If you have burnt umber, you will have little-to-no need for this colour, and I’m pretty sure burnt umber is cheaper than vandyke brown. It’s an alright brown, I guess. 5.5/10
4. **Cobalt blue:** This colour is nice if you need it. I just find that I never need it over ultramarine. 5/10

5. **Viridian:** This colour looks very similar to phthalocyanine green, but is slightly softer. I tend to prefer stronger paints, which moves this colour down to C-tier. 5/10

### D-TIER

Colours that are inferior replacements to higher-tier colours, but that don’t look as nice as the C-tier replacements.

1. **Yellow-green:** This is just a yellower version of sap green. The only thing keeping it out of E-tier is the fact that it’s lighter than the warm greens I usually mix, and so it’s convenient to have around. 5/10
2. **Lemon yellow:** This colour manages to be both extremely weak and offensively yellow at the same time, making it horrible for both painting and mixing. Every once in a while, I’ll attempt to use this colour, only to see once again why I use azo yellow/cadmium yellow as my default yellow. The only thing keeping it out of E-tier is that I don’t actually know how to mix this colour. 3/10

### E-TIER

Colours that are easy to mix, meaning that I have probably never actually used any of these intentionally. Since watercolours are so expensive, I don’t recommend buying any of these unless you notice yourself using these shades a lot.

1. **Deep green (\*):** At the top of this list, because I work with a lot of greens and this green is probably the hardest one to mix out of all the E-tier greens (personally, since my greens usually come out either more yellow or more blue). 3/10
2. **Naples yellow:** This colour might move up quite a few tiers depending on what you’re painting, but I rarely use it and thus can afford mixing beiges manually each time I need it. 3/10, moves up to a 5–8/10 depending on frequency of use.
3. **Permanent red violet (\*):** I’m pretty sure they just mixed together red and blue pigments for this one. I don’t use violets too often, and when I do, I can always just mix my own (since alizarin crimson + ultramarine blue makes a beautiful violet anyways). 2/10
4. **Permanent blue violet (\*):** See above. 2/10
5. **Olive green:** See “deep green,” but with an easier-to-mix colour. 2/10
6. **Sepia:** See above. 2/10
7. **Gamboge:** This colour is in E-tier instead of C-tier because the gamboge I own comes from a \$10 set of 18 colours I got from either Amazon or AliExpress and doesn’t look anything close to M. Graham’s gamboge (it looks like a warmer-tinted yellow ochre). I commonly confuse this with yellow ochre on palettes and cadmium yellow deep/azo yellow deep in tube form, so I’m moving this one all the way to the bottom because of how misleading it is. 1/10

## F TIER

I will never touch this colour again in my life.

1. **Titanium white:** There is 0 reason to use titanium white watercolours, and I stand by this statement. If you want to lighten a painting, just use water. If you want to create white highlights, titanium white is not opaque enough to do anything, giving you a pathetic gray dot on your paper. Instead, use acrylic white, which is more opaque *and* is mixable with watercolours to create opaque pastel colours. Not to be confused with Buff Titanium, which I've heard is an excellent colour for mixing and painting. -1/10
2. **Chinese white:** See above. -1/10

minamete

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2. For more information on **mathNEWS++**, please refer to 148.6.

## WHY I HAVE EYES ONLY FOR HASKELL

Like any self-respecting **mathNEWS** reader, jeff ranks highly among my personal heroes. As a nod to jeff, I've decided to write articles about my favourite programming language.

You may have been burned by Haskell in CS 146, but fear not. I will show you how devilishly fun Haskell programming can be. Since I'm in more than a little hot water for exams, I'll keep this short and give a single example as to why programming in a functional language might not be as unpleasant as you remember from first year.

I've written programs in Racket and in Haskell that are the "obvious implementations" of a function called `flip`. `flip` takes two lists as input and returns the sum or the element-wise products of the first list and the reverse of the second list.

This Racket program should be readable after CS 1X5. `flip` takes two inputs and forms pairs using the first list and the reverse of the second list. Next, it multiplies the pairs. Finally it sums them to get our resulting number.

```
(define (flip x y)
  (foldr + 0
    (map (λ (x) (* (car x) (cadr x)))
      (map list x (reverse y)))))
```

If you've never seen Haskell, this next program might look a little weird. I'll explain the notation. The first line is a description of the **type** of `flip`. The symbol "`::`" means "has type," and "`→`" is mapping. If you allow me to implicitly uncurry my program, the first line says: "flip maps two lists of integer-like things to a single integer-like thing." The second line is the actual function. Function composition is represented with "`.`" and function application is represented with a "\$." `flip` takes two lists and reverses the second one, combines the two lists into a new list by multiplying each element and then sums the resulting list.

```
flip :: (Integral a) => [a] → [a] → a
flip x y = sum . zipWith (*) x . reverse $ y
```

Notice that using "`.`" and "\$" allowed us to remove all of the structural brackets from our program! Haha! The first win for Haskell.

In future instalments, I hope to prove to you that Haskell is a funky fun, logic-steeped, fast, safe, productive, and uniquely-not-like-the-other-girls programming language. I'll probably also end up admitting that Haskell has a few flaws along the way, but you can look forward to monoids, abstract algebra, category theory, and some alternate takes on complexity theory. (That is if general relativity gives me enough reprieve to continue my jeff roleplaying next term). Later y'all.

# COMBINATORICS OF SEXUALITY LABELS

## HOW TO COUNT THE UNCOUNTABLE... POORLY

### PREAMBLE

Ok, so here's the thing. Sexuality is complicated, and even complicated labels cannot capture the full range or depth of personal experience. Also, it's not always static. Also also some of them don't make sense for non-binary individuals. So I will be building up formulas with increasing specificity, but I encourage you the reader to add what you want to best describe yourself.

So the ground rules. First, don't take this seriously. This is just a fun exercise I gave myself and is not in any way meant to put you into any box defined by the following formula and I just wanted to use stuff from class in a way I think is interesting. Second, I will be building up constructive regular expressions to generate strings in standard combinatorial style, with  $\varepsilon$  representing nothing,  $+$  representing a choice between options, concatenation indicated by nothing, and all else being the string itself. The analysis will have the weight function determined by the number of components, which probably would roughly correspond to how much explaining you'd need to do to the average person. Third, I will be ignoring spaces inside the strings because dealing with spaces is too hard.

Now we build.

### LAYER 1

This one has the lowest possible complexity you can muster. If you had to describe sexuality in one word most people would fit into one of the following.

$$(\varepsilon + (a + bi + homo + hetero)sexual)$$

$$1 + (z + z + z + z)z = 4z^2 + 1$$

Total count: 5

### LAYER 2

Small problem: there are other things to add. Many people would rather describe how they feel attraction with a bit more specificity. Feel free to add whatever you want here, but I'm gonna go with pan and omni.

$$\varepsilon + (a + bi + homo + hetero + pan + omni)sexual$$

$$1 + (z + z + z + z + z + z)z = 6z^2 + 1$$

Total count: 7

### LAYER 3

This is where we can bump up numbers really easily. By splitting sexual and romantic attraction we have all the previous choices but a second time as well. And also conflating the two is so overrated.

$$(\varepsilon + (a + bi + homo + hetero + pan + omni)sexual)$$

$$(\varepsilon + (a + bi + homo + hetero + pan + omni)romantic)$$

$$(1 + (6z)z)(1 + (6z)z) = 36z^4 + 12z + 1$$

Total count: 49

### LAYER 4

Ok, but let's say you wanna get more specific. I can't include every other prefix or category here, but here's one example of how to include one. "demi" can only be applied to non "a-" prefixes and isn't mandatory, so the construction will look like this.

$$(\varepsilon + (a + (\varepsilon + demi)(bi + homo + hetero + pan + omni))sexual)$$

$$(\varepsilon + (a + (\varepsilon + demi)(bi + homo + hetero + pan + omni))romantic)$$

$$(1 + (z + (1 + z)(z + z + z + z))z)(1 + (z + (1 + z)(z + z + z + z))z) = (1 + 6z^2 + 5z^3)^2 = 25z^6 + 60z^5 + 36z^4 + 10z^3 + 12z^2 + 1$$

Total count: 144

Wow, that's a lot of labels! And this isn't even scratching the surface. I definitely missed a bunch of stuff along the way, so feel free to make your own formula and see how high you can push the numbers.

別

## WHAT IF YOU ARE A NEURON

Consciousness is one of my favourite things to think about, because it's the least explainable observed phenomenon. You can just invent science to explain everything else that we don't understand—the universe expands because of "dark matter", and light acts like that because of "wave-particle duality"—sure. But what can you possibly say about consciousness? Nothing. It is such a fascinating thing to wonder about—how are the physical processes happening in my brain resulting in the experience I'm currently having? What about those physical processes causes consciousness to occur? As an example, all of humanity is fucking around on the earth interacting with each other and the environment. Why shouldn't that system of interactions create consciousness the same way my brain does? How fucking cool would that be, if you were to some larger consciousness as your neurons are to you? What would it feel like to be a consciousness formed collectively by all of humanity? OK the LSD is wearing off bye guys

# N SONGS FOR THE NEW GENERATION OF SONGS TO LISTEN TO FOR THAT ONE SPECIFIC FEELING

Back in 147.2, I released a playlist of songs featuring obscure Canadian indie rock bands, 80s bops, and a 70s soul funk song sung by someone who looks suspiciously like one of the editors at the time. I've decided that now is the time to release more music from my ears to yours! You're welcome.

## GIRLFRIEND — HEMLOCKE SPRINGS (SIC)

Starting off strong, Hemlocke completely boosted the charts after her song became a TikTok trend, thanks to the absolute banger of a bridge she put out. She's been described as a mix of MARINA, Jack Stauber, and former US President, Grimes, if the vocalist was Kristen Schaal, and micro-synth 80s pop. but if you ask me, she's hemlocke ✨. Good for when you're feeling like a **B** ad **B** itch.

## BABY BLUE — LUKE HEMMINGS

Luke Hemmings of 5SOS, yes, that Luke Hemmings. This song gives you the vibes of being at an amusement park, while also drowning. An underwater amusement park. Good for those sadboi hours when you're feeling quite ethereal at the same time, like you're waltzing through an abandoned place. An abandoned underwater amusement park.

## THINGS WON'T GO MY WAY — PEACH TREE RASCALS

The "Sick of Feeling Useless" of the playlist, this song is pretty solid when it comes to what it means. Again like the previous song, this is good for those sadboi hours, but less ethereal moods and more "I'm sick of not being enough" vibes.

## REMEMBER WHEN — WALLOWS

Again, it's not a uknightED playlist without Wallows. What can I say, they just hit the right balance of nostalgic and youthful at the same time. It makes me feel like I'm in my own coming of age movie. Good to listen to when you're just about to head out to your first day of classes or work. Or any day, really.

## TALKING TO YOURSELF — CARLY RAE JEPSEN

Carly Rae Jepsen? More like Carly Slay Jepsen. She will NEVER flop. This song has that lonesome feeling when you have an unrequited crush on someone, with an edge of desperation that something can work out in your life for once. Inside me is a desire for something to happen, and yet I know it can never happen. Unrequited love, am I right?

## ORDINARY — AMBER AIS

This one is less for the guy in my life who I unhealthily put on a pedestal and more for the guy I wish would sweep me off my feet, because the former's already taken. I want that feeling of love. When my phone vibrates, I want it to be that guy who makes me feel lightheaded and happy. I want someone that

I go head over heels for every time I see him, even if no one else does. I want someone to make my life feel so exciting trying to woo him.

## ALIEN BOYFRIEND — GREGORY DILLION

There's a bit of recurring themes that I'm looking for a 'knight in shining armor' type in my life to barge in and turn it upside down. This song also fills in that gap, the desire for a monotonous life to suddenly become exciting without you having to do anything. Unfortunately, reality doesn't play out like that—if you wish to seek adventure or love, sometimes you need to take the first step. Anyways, this song is pretty neat with a killer bass.

## LAMB'S WOOL — FOSTER THE PEOPLE

With a positively psychedelic cover art, Foster the People's *Lamb's Wool* deals with themes of grief, and yet love persevering despite all the loss. For the friends you have to leave behind, and yet you still care, for the people you wish you could spend more time with. Again, perfect song for the sadboi ethereal hours!

## NO ONE CARES — POTENTIALLY ARIZONA

Fun fact! Potentially Arizona is American. However, the majority of his listenership is... Canadian??? Yeah, we don't get it either, but hey—it's still pretty cool nonetheless! *No One Cares* is one of Potentially Arizona's first few songs, a foray into a mix of depressive nihilism and liberation from the expectations society puts on you. No one cares—so do what makes you happy (as long as it doesn't hurt people obviously) and scream into the void that is Potentially Arizona.

So, that's really all I have for now on new music. It's pretty cool that with the power of print media and technology, I can share all of these cool new tunes with you! Just scan the code below for Spotify and start the experience of strange moods you'll feel once or twice in your lifetime! With added related songs, because the playlist as it was couldn't go over 30 minutes. Happy listening!

Skit





# starNEWS 1

This week, I've decided to start a fortnightly astronomy column which will hopefully continue into the winter semester.

For our pilot, we have a pretty lucky opportunity: all 3 naked eye outer planets (Mars, Jupiter, Saturn) are away from the sun and easily visible!

## MARS

To find the God of Battle, you must look in the East. Since the planets move around, this has to be a bit of a vague direction but as of the time of writing, Mars is directly above the cardinal point around 9. If you're a bit further in the future, you'll need to find the constellation Taurus (from the zodiac sign), since Mars is hanging around there for a while.

To do this, first find Orion's belt. It is a straight line of three almost-adjacent stars that are all pretty bright. It also has the advantage of rising exactly in the East and setting exactly in the West, following a special line called the celestial equator. This is a curve that goes from East to West and at its peak is roughly 45° above the South cardinal point. If you follow this rough path, you should find Orion.

Next, imagine continuing a line from the three in the Belt until you reach a bright star. It's important you go in the East->West direction (so opposite the horizon for the next while, or you'll hit Sirius, which is the wrong star for us. We want Aldebaran, the Eye of the Bull. It should be slightly orange. Nearby, then, should be Mars, and it will be a few times brighter than anything near it. It is also, as expected, a bit orange. While you're in the area, you might want to keep going along the line you were following, since you'll soon reach the Pleiades, a very visible and very famous star cluster.

## JUPITER

The King of the Gods requires a bit less busy work to find, simply because of how blinding he is. Until Venus starts showing her face in February, you will not find a brighter point in the sky. At the moment, you will find Jupiter almost directly above South at sunset, but he will slowly make his way West as the days go by. As far as stellar landmarks go, Jupiter is feeling a bit isolated at the moment (and will be for the next year or so), but your best bet might be to try and find the Square of Pegasus.

Look for a wide rectangle of stars about 15° wide, itself about 15° above the celestial equator. It might be bit hard to find the first time, but it becomes harder to miss the more times you find it. Fun fact: counting the number of visible stars inside the square is a classic test of how good your sky conditions are. Seeing 0 means that you have bad light pollution or hazy skies, although I can usually spot 1–3. The most you'll probably see with naked eyes is about 35, but that'll never happen here (thanks, Toronto).

## SATURN

We're almost too late for Saturn, since the old Titan is almost through his passage from East to West for this year. Thankfully for us, though, he moves very slowly (hence the name), so you'll find him in the same place next year. Sadly, though, he's also feeling a bit lonely, with no bright stars nearby. I recommend looking for a pair: the planet itself and a bright star that more to the North of it. They should be of almost identical brightness and be almost parallel to the horizon. Additionally, the West cardinal point sits between them as they set. Saturn is the one on the left, and the star is Altair, the heart of Aquila, the Eagle. A fun fact about this one is that it's almost spinning fast enough to rip itself apart, despite being much larger than the Sun. It's also the 12<sup>th</sup> brightest star.



This concludes our planet hunt for the moment. Before I wrap up I have a few disclaimers. First, the whole sky rotates East to West every night, so it's often easier to remember what stars a planet is next to, not their actual locations. Second, the planets move relative to the stars, so in a few months this guide will be invalid. Third, I ignored poor Uranus, who is also in the sky at the moment. He's near the Pleiades, but your odds of seeing him are low unless you can see 7–9 stars in the Square of Pegasus.

Shahabee

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## N REASONS I LOVE BANANAS

- Cheap as hell, like sixty cents a pound
- Taste amazing
- Extremely consistent due to being GMO'd up the wazoo
- Naturally split into lengthwise thirds for some reason
- Potassium is a top tier element
- Lifespan kind of sucks, but things are only beautiful because they are fleeting
- Actually if you stick them in the fridge they sort of stop ripening and then continue ripening when you take them out
- A lesson in superficiality
- If it's bad just throw it into some banana bread
- I fucking love banana bread
- Phallic
- James Acaster

There is truly no greater snack than a ripe, semi-firm, room temperature banana.

# WHAT TO WEAR ON YOUR FEET THIS WINTER

I recently realized that next term may be the first Winter term since 2020 where we all start off on-campus. That makes *three whole years*. (Yow!) In that time, with little to do but stay at home, I find it easy to imagine that we upper-years (class of '23 and '24 peeps, where y'all at?) might all have collectively forgotten what the weather on campus is like in the winter. It's plausible many of our underclassmen have never even *been* in Waterloo during this chilliest of seasons. You know what I foresee? A lot—and I mean a LOT—of cold, wet feet.

With the unforgiving winters of southwestern Ontario come snow. With snow comes ice. With ice comes salt. And with salt comes slush. *Eurgh!* It's enough to make my toes curl.

Perhaps you hail from a place that's never seen a thermometer reading below 15°C. Maybe you've lived here all your life and you don't think you need my advice. Whatever lived experience you have, know one thing: winter is *my* bitch. I've hibernated in the remote wilderness of Yukon and summered alongside the glaciers of the Bavarian Alps; I even tried walking around in Montréal once. So you can be rest assured that I'll be dispensing only the most objectively useful of advice. Who knows—even if you were born and raised on the uncleared sidewalks of Columbia Street after a blizzard, you might still learn a new thing or two!

So let's dive in to today's premise: what's out there that you should wear on your feet this winter? We'll break it up into four convenient aspects you should consider, starting from the most important...

## WATERPROOFING

Science lesson: snow is frozen water. I know this may sound like a controversial statement, but water is wet. Ergo, stepping into a snowbank without the proper footwear will get you wet. (And we haven't even ~~stepped~~ touched on slush puddles yet.)

Waterproof materials include rubber and waterproofed nylon, the usual materials you see if you picture an honest-to-God ugly-ass (what, can't I have a sartorial opinion here?) "snow" boot from Kamik or Sorel and the likes. Leather can also be factory treated to be waterproof, with waterproof sealing of the seams connecting the uppers to the sole. (An example of waterproofed leather boots: Timberlands.) Waterproofed shoes will also have additional design features such as integrated gussets on the tongues to prevent water and snow from coming in through any angle. Shoes that are waterproof will almost always be explicitly advertised as such; if it's not described as waterproof, it probably ain't.

While most leather shoes are water resistant to the extent that your feet won't get drenched if you get caught in light rain, they will certainly not survive a plunge into a slush puddle four inches deep. Textiles such as mesh or cotton (think running shoes or Converse) are out of the question.

I am not fucking with you here: do not underestimate how *wet* it can be in winter. Puddles are an inevitability on the campus's lopsided terrain, especially once we cross over into the unholy temperatures of ~0 °C. Do not expect to be able to sidestep them all all season. *Do* expect to take an innocuous step in any direction and have slush and water splash up two goddamn feet in the air. Allow me to speak for you when I say this: you don't want wet feet, you don't want cold feet, and you don't want ruined shoes. W-A-T-E-R-P-R-O-O-F-I-N-G. Got it?

## TRACTION

Another science lesson: when water on the ground freezes, it doesn't turn back into snow. It turns into ice. Ice is the real menace of winter—it's hard to see and avoid, and a single misstep can send you flying (right into slush if you're extra unlucky for a double whammy). Slipping and falling onto your tailbone in public view seems like a guaranteed happenstance; with the proper shoes, however, you have the chance to cheat fate itself.

Traction is pretty easy to obtain, luckily enough. Just avoid shoes with soles that are completely flat on the bottom (e.g., Vans). A general rule of thumb: more greebly it looks down there, the better. It goes without saying that the soles should be rubber and not leather, not because leather soles are as slippery as a mofo already, but because they're in direct contradiction to my point earlier about waterproofing.

There are ice cleats that you can buy and put over your shoes to make them even more grippy, but these are really only reserved for hiking types and will be completely impractical to use when you're constantly switching back and forth between the indoors and outdoors due to classes. Which gives me a convenient segue into my next point...

## INSULATION

Yet another science lesson: it gets pretty fucking cold in the winter. Thankfully, due to the miracles of modern technology, this does not extend to inside buildings. In fact, sometimes they overcompensate and get pretty hot. This is why everyone tells you to dress "in layers"—so that you can peel off your coat and sweater like the perfect, fragrant onion you are. But what about your shoes?

It's a delicate balance we strike. You don't want to go overboard with insulation, lest your feet mire in a sweaty, hot prison of your own making once indoors. But you *probably* want a little something for those extra cold days that drop below -20°C, or, heaven forbid, -30°C.

My hot take? Go with as little insulation as you need. You're spending most of your time indoors, and what's a bit of frostbite on your toes anyway? Most winter boots that are waterproofed will also have insulation inside. Pretty much all you should do is avoid the heavy-duty-looking snow boots

that are rated to like  $-40^{\circ}\text{C}$  for swimming with the penguins in Antarctica. I guess you could also look into... warm socks? Not really my area of expertise—I'm the shoe guy, not the sock guy.

### LOOKS

Get Blundstones. Is that what you want me to say? To go out and buy yourself a \$250 pair of boots? (Remember to factor in sales tax, people!) Every other person you see will probably be wearing them. I mean, it's only maintained its hegemonic dominance on the winter footwear landscape in the KW region since I was in high school. (Now *that* was a long time ago!) It has it all: the waterproofing, the traction, the insulation. Maybe it doesn't seem that expensive to you, but I'm willing to bet it probably does. (Two points I'd like to make: if you can afford it, a boot this expensive is worth the price tag; you can find cheaper ~~ripoffs~~ alternatives that are functionally and visually the same, like SoftMoc's house brand.)

It's too easy. Too thoughtless. What's my issue with these boots? Well, lean in, reader...

I think they're fugly. F-U-G-L-Y. I said it! No offence if you actually like the way these boots look (or, more likely, just don't give a shit)—I can respect your opinion or lack thereof. But if you have any sartorial leaning towards the contrary, please, for the love of God, buy and wear something else. If not for you, then for me.

A note about looks: don't get something *too* nice. Salt is the shoe-killer, and God knows they pour an ocean's worth of it all over campus. Speaking of unsightly salt stains, they can be gotten rid of by directly applying a vinegar solution to dissolve the salt. It's the same principle as boiling vinegar in your kettle to remove the hard water buildup. You *do* do that, right? Right...?

Finchey

## BEST BEER

### MATHEMATICALLY

First time writer, long time beer connoisseur  
 Imma save you the read, Guinness, the answer is Guinness  
 The harp is the best logo  
 It's got carbon dioxide AND nitrogen  
 It's dark and tastes like coffee  
 It's got a smooth and creamy head  
 Also the cans have a ball in them that you can play with after  
 Smashing the bottle  
 Dw I've done all the math, it's the best beer  
 Molson is the worst btw, along with all IPAs

d\_dawg

## N TIPS TO BIKE IN WINTER

People always seem very impressed when they see me biking in the winter. So I thought I would share some of my secrets so that fellow **mathNEWS** readers can seek to emulate my greatness (and not drive cars).

1. Wear clothes. Clothes are cool
2. Know how to ride a bike
3. Don't fall. or do, just do it away from the traffic
4. Ice and snow cannot hurt you if you do not ride on ice and snow
5. If you do ride on Ice and snow, ride on snow and go a little slow.
6. Use tires (Normal tires work fine so long they are bigger than my thumb)
7. Use bike lights
8. AVOID THIS BIKE LANE AT ALL COSTS (the one outside the plaza by the train tracks). Bike lanes that overlap turning lanes will kill you and it is far safer to just ignore the bike lane and pay attention as if you were on the road. Yes this is a callout to the city, putting a bike sign on the shoulder or painting a bike on the road is not bike infrastructure. It lures people into a false sense of security in the worst case and is a reminder to cars that bikes exist in the best case (rant over).



Epicbiker4000

## THIS TRULY WAS ONE OF THE mathNEWS OF ALL TIME

My favourite part was when the editors said "It's **mathNEWS** time" and proceeded to **mathNEWS** all over the writers.

PlatypusGod

# KILLING TIME WHILE DRIVING BACK HOME

I recently drove back home to Ottawa from Waterloo on a Friday afternoon, and then came back on a Sunday afternoon. After spending 12–14 hours in a car while needing to concentrate on not killing me and my friend, I've picked up some good ways to kill time.

The first of which, quite simply is to talk. Something happens when you drive, you stop overthinking. Instead of focusing on awkward silences when they happen, and scrambling for another topic, you focus on trying to not swear and cuss out the drivers who go on their phone (seriously who the hell texts and drives on the highway??).

You learn that there is actually plenty to talk about with a friend you don't see too often. I don't know if it's just me getting older, but I realize how much of a shared experience we all tend to have, whether it's me sympathizing with my friend or the supposed antagonist of their stories.

The second way to kill time obviously, is to sing out your lungs to music you don't quite know. Mumbling and missing cues, is quite a way to spend time, while you laugh together at not knowing the right lyrics.

The third way, is to start swearing and speaking in another language. My friend and I grew up learning French, but neither of us have actually lived in France or Québec and are not francophone. So my French cussing is quite limited, but this experience is still the *merde*.

My favourite way however, has been to force your driving buddy to come up with a story while you freak out behind the wheel. Here are excerpts from a couple of stories I remember:

Me: "Tell me a story about a goose named Jared."

Friend: "Well Jared was a Waterloo goose. Jared, like other Waterloo-ans did not have any game. He worked on himself, went to the gym, got that hot goose bod, and realized it's all about personal growth. Then he met some other geese, truly connected and fell in love. The goose he met however, was still not interested. Then Jared died alone." (*To all you geese out there, you'll find someone someday if you want!*)

Me: "Tell me a story about a dog named Ted."

Friend: "Well, Ted had an owner, a great scientist who tried to communicate with pets. He had a roommate however who was malicious and destroyed all his research. The scientist, in a fit of desperation, injected Ted with a microchip, and he could talk! And so, Ted the dog, wanted to make sure his scientist owner could get famous, so went around the world explaining things, and that's how Ted Talks started."

Commutes do tend to be quite stressful and hard, especially 6+ hour ones that require you to go through Toronto traffic. But, having a driving buddy, a box of cookies that may or may not have been finished in an hour, and good company makes the ordeal, well, not a big deal.

s-toe-k in traffic

## DEAR BRITTANY

Thank you for standing up to that guy on the train two Sundays ago. You really didn't have to, but I'm so glad you did.

Thank you for speaking out when you heard his curses and slurs. Thank you for challenging him when you saw him directing his vitriol towards my friends. Thank you for stepping in to stop a situation that could have gotten much, much worse.

You were so brave.

I'm sorry I didn't say anything when he turned towards you and started spitting in your face. I'm sorry I was silent as you endured his barrage of torment and anger. I'm sorry I didn't defend you as he threatened you with unspeakable words of violence and abuse.

There were many cowards that day, myself included. You were not one of them.

I hope you don't regret what you did. I hope he didn't scare you off from doing the right thing. I hope you won't be afraid

to stand your ground in the face of overwhelming odds, to speak up for the poor and the powerless, the weak and the vulnerable, the helpless and the disadvantaged.

I saw children on that train. I imagine that, after their parents uncovered their precious little eyes and ears, they were enraptured by your bravery and courage. And I imagine that, in that moment, they were inspired by you to be better people, to do good in this world, to stand up against injustice and evil no matter the risks, like you did.

Thank you for being the bravest person in the world that day.

I'm so glad I met you.

Terry



The logo for mathNEWS, with 'math' in a lowercase, rounded font and 'NEWS' in a larger, bold, uppercase font with a white outline and a drop shadow effect.

# MY LIFE STORY AND WHY I'M SELLING THIS NFT

Picture this, it's 2020 and you're just entering your first year of Waterloo during a pandemic. Obviously there's nothing better to do for a lot of the time other than browse reddit. And there, you come across the best artistry known to man, the faculties drawn as anime girls by **the u/alyssnya**. Many memes spawn from these legendary posts, and the reddit content was glorious. Or at the very least, entertaining enough that it became a point of conversation for the once a week you were allowed out of your room to see other people because there was finally a room with a >2 person capacity free.

It's fall 2021. You've heard of this thing called **mathNEWS** from one of your few allowed friends from first year. They are now your roommates. The friend is convinced it's not for you, but you go anyway with another one of your very small group of friends from first year. It's a lot of fun, and you're only asked if you're in a polyamorous relationship with your roommates once. You manage to befriend four more people by forcing your roommates to go talk to them for you, bringing the amount of friends to \*gasp\* eleven people, a truly remarkable number in pandemic times. You also take part in someone else's article for the first time with one of these four people, the Mathematician's Kama Sutra.

It's early 2022 and you're still going to **mathNEWS**. Restrictions are loosening and it's gotten a bit bigger, you are no longer one of the "new people" (though not really an og person either). And there, somebody is talking about a bad roommate in the corner. Who is this person? Their name is Alyssa...oh like the anime girl person. Oh they like drawing too, what a coincidence. Alyssa's a pretty common name though, you just haven't met many because you've barely met anyone during the pandemic. You whisper this to someone, who confirms that this is actually **the u/alyssnya**. Holy shit. You want to go over to talk to them but perhaps that's like, kinda weird? You say nothing, and force your roommate to talk to them instead.

It's like slightly later 2022. Time's kinda weird. You gather up the courage, along with some encouragement from your roommates. You take a picture of what has now become legacy art, the anime math faculty girl, drawn from a bunch of dots as part of an old CS136 project. And you go up to **the u/alyssnya**.

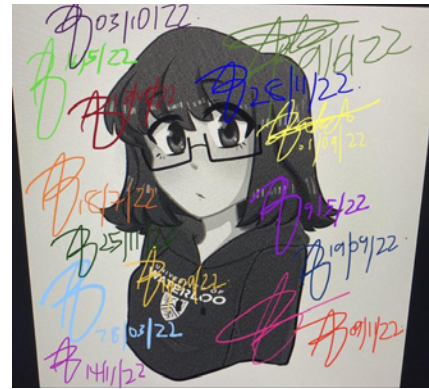
"Oh my god, is that Alyssa? **The u/alyssnya**? Can I have your autograph?"

You hold up the picture. They look slightly exasperated but also amused. They sign your picture.

Over the next few months you get a signature every time you seem them. The NFT grows, and soon it becomes truly invaluable. You have decided it is time to show the creation to the world, because it's literally running out of space for more signatures. But also it's kind of proof that you've met people, and possibly even made friends with your favourite celebrity >///<. It's proof you've been going to **mathNEWS** for just over a year now, and met tons of new people that would have been unimaginable in first year. You get to eat pizza, not outside in

the cold, but instead in the Math CnD which opened for the first time this term. You start dating the person you wrote the Mathematician's Kama Sutra with, which is kind of funny, at least to you.

Here it is, the NFT that proves that I did fun things in Waterloo, and also am totally friends with **the u/alyssnya** so that's how you know I'm super cool:



However after writing this whole story out I was left feeling a little nostalgic. How could I sell this piece of history? I've decided not to sell this and keep this as mine forever (so please don't copy it because I don't have some certification or whatever that says I own it. In fact, maybe you shouldn't even be looking at it in this article).

I still want to sell an NFT though, so I've decided on a compromise. I've made an NFT for all of you, dear readers, except with half the awesome story and none of the original signatures from **the u/alyssnya** herself. It is but a pale imitation, but if you're buying NFTs you probably don't care that much in the first place:



Price: 1,000,000,000,000 CAD

(I accept cash)

Not a N\*rd

# N ARTICLES I DIDN'T PUBLISH THIS YEAR

## FIELD REVIEW: THE FIELD AT WEBER AND COLUMBIA

I wrote a whole thing but it ended up reading too much like a TikTok (the annoying kind). And then I wrote a whole review of Columbia Street that I'm pretty sure mentioned this field (see **mathNEWS** 150.1) and after that I moved to a different apartment and didn't have much of a reason to care about this field anymore.

## RANKING THE TYPES OF GRT BUSES BY HOW NOISY THEY ARE

I got as far as learning what all the different types of GRT buses are, and then I realized that this was kind of a boring topic and I still couldn't figure out the difference in noisiness between models. I gave up on this prospect, but now I can tell a NovaBus from a New Flyer just by looking at it, which is a completely useless skill.

## SONG REVIEW: LCD SOUNDSYSTEM — ALL MY FRIENDS

I started writing this at 1 AM one night and then got tired and fell asleep. When I woke up, I reread what I'd written and discovered an incredibly cringey half-article that was way too sentimental and personal to publish here and also wasn't really about the song, which I seemed to be stretching the meaning of to relate to what I was actually writing about. Also, I don't really care that much about this song. I mean, it's good. I'll leave it at that. Reviews don't need to be much longer than one sentence most of the time. Actually, I'll take this opportunity to review several more things in about a sentence:

- Framework laptop: it's really good, and if you ever see me with mine and can't tell why it's so cool by looking at it then just ask me and I can show you.
- WaterlooWorks: it works just a little bit more every year. Still not very good.
- The cat ears that my friends bought me and mailed to me, unannounced, in an unmarked package: they're cute! Not sure I like the bells though. There were two pairs but the white ones don't seem to match me but they do match my lamp so I put them on my lamp and now my lamp has cat ears.
- The free screwdriver that comes with the Framework laptop: way better than I expected. I carry it around in my backpack and it's much better than the mini screwdriver I carry around in my pocket.
- Mint Oreos: Top tier snack, we should get them at prod nights more often.

## TO THE UBC STUDENT WHO WROTE AN ARTICLE FOR THE UBYSSEY IN 2019 TITLED "THERE, I SAID IT. RACKET ISN'T A REAL PROGRAMMING LANGUAGE"

In an act of dystopian authoritarianism the likes of which have only ever been seen in the predictions of George Orwell's *1984*, the editor team this term started rejecting secondary articles due to "too many people submitting articles" and

"issue length restrictions" or something. I tried to get this article published several times this term, but it never made it in because I/the editors/both decided that reviews of benches and cursed Python tricks were more important. Oh well. I guess the UBC student who wrote an article for the *Ubysssey* in 2019 titled "There, I said it. Racket isn't a real programming language" will never know what I had to say.

## DOES THE QUEEN REALLY HAVE TO BE A LIVING PERSON?

This was written shortly after the queen died and consisted of a list of inanimate objects I thought could have taken over the crown. Like the above article, it got rejected for space reasons, and by the next issue the queen wasn't in the news anymore.

## N KEYBOARD CRIMES RANKED BY SEVERITY

This was going to be an article about things I find annoying about certain computer keyboards (e.g. the short left shift key on some non-US keyboards), but then I realized I use the Colemak layout on my keyboard which is more annoying to other people trying to use my computer than everything else I put on the list combined.

\_\_init\_\_

## ISSN 0705-0410

UW'S BASTION OF ERUDITE THOUGHT SINCE 1973

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## MATHSOC SEZ

Hey folks! Although this is the last Sez of the term, we're not entirely out of announcements just yet! Here's your final round of updates from MathSoc!

### THE MATH STUDIES CLUB IS HERE!

Put your hands together for the brand-new Mathematical Studies Club! Newly formed this term, they're a space dedicated to all Math Studies majors and all undeclared Honours Math students—but of course, anyone can join the club! It's a place to discuss what majors to pick, what courses to take, to meet other undeclared or Math Studies students, and above all, a great place to hang out.

You can find them in **MC 3028**, in the MC 3<sup>rd</sup> floor clubs hallway, residing in the former Bioinformatics Club room. In later terms they'll have a \$2 membership fee, but for Fall 2022 there will be no fee. Check them out!

### THANK YOU FOR A GREAT TERM!

As classes come to an end, we'd like to thank everyone for coming out to our events and for participating in the Math community! We'd also like to give a special thanks to the MathSoc clubs for putting on so many great events, and to ALL of our volunteers for making this term great! Thank you for all your hard work, and good luck on finals everyone!

We'll see you next term!

The MathSoc Executive Team

## STOP USING GREEK LETTERS IN MATH

Greek letters are just what Latin letters were before we invented handwriting. Each one of them is either almost identical in appearance to a Latin letter, or needlessly slow and complex to write by hand. They do nothing but make math harder to read and write and we should stop using them.

"But we don't have enough Latin letters to do all of math! What should we use instead?" I have a wild proposal: how about *words*? I know you're all in math because you failed English class, but at least some of you should know what a word is, and if you don't you can ask someone else to teach you. There are far more words than letters, which should solve the quantity problem, and as a bonus, people will actually know what your variable names refer to!

Alternatively maybe the reason you need so many variable names is because you're doing too much math in the first place maybe calm down a bit

\_\_init\_\_

## MATH STUDIES CLUB!!!

Guess what! There's a new math club that was literally formed a couple weeks ago, called the Math Studies Club. As you may expect from the name, it's a club created for us Math Studies majors, because apparently "we tend to not know any other Math Studies majors" quoting a certain MathSoc person. Technically, Undeclared students also count, but I'm not sure a long club name rolls off the tongue easily. I'm not currently a club exec, but I sure as hell don't want this club to die out.

There's a Discord server you can join! Currently, the Math Studies and Undeclared students are outnumbered by all the other math majors, so do your part fellow Math Studies and Undeclared students by joining the Discord server! I'm doing my part!

There's also a club room for us! I'm told it's at MC3028, although if you go there this term, it may not always be open. Don't worry though, since it should be fully ready by next term, although, again I'm not a club exec, so I can't speak about how progress is being made. Apparently, it used to belong to another club before it died out or whatever, which is why I want this club to survive. Again, join the club!

Just the mere creation of this club has done wonders. I've gone from knowing 0 other Math Studies students for years, to now knowing the existence of 4 others. The club is already doing what it was meant to do.

**boldblazer**

Join the Math Studies club! <https://forms.office.com/r/c5hAhUj0f3>

## EPISODE 48: THE POWER OF RECURSION

Enjoy Episode 48 of the MathSoc Cartoons series: [CS.135—The Power of Recursion!](#)

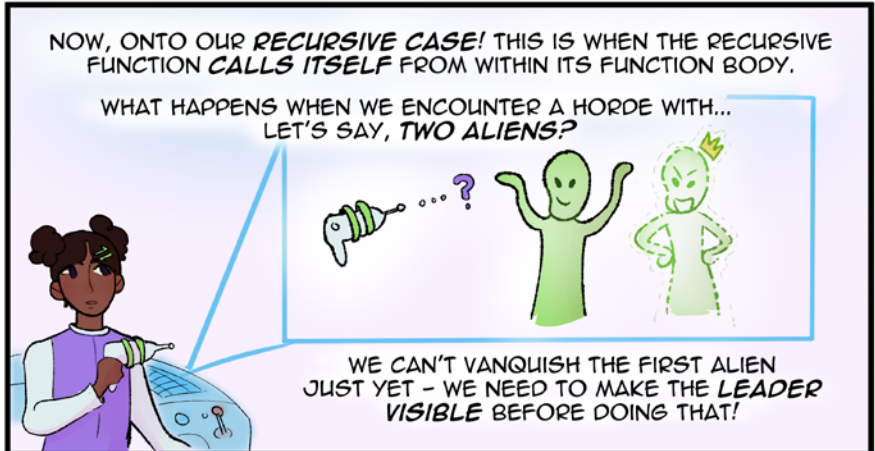
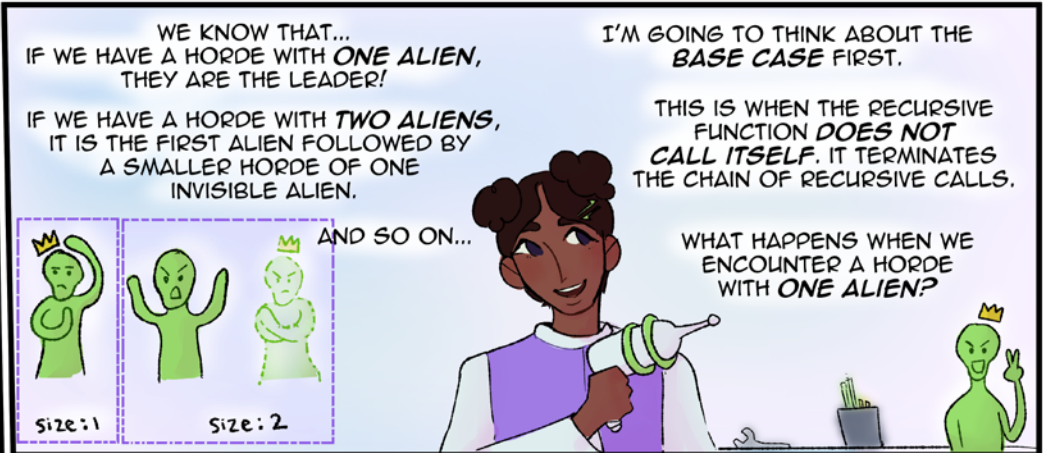
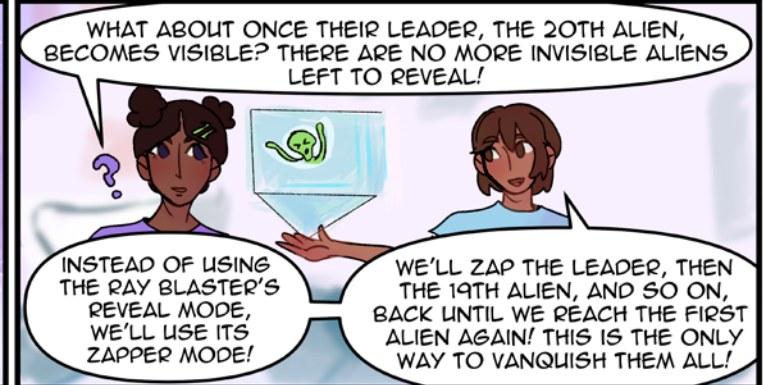
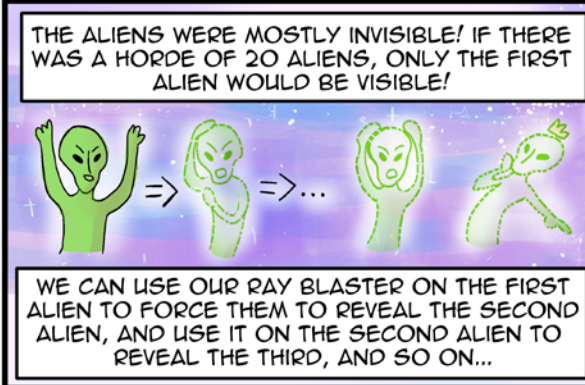
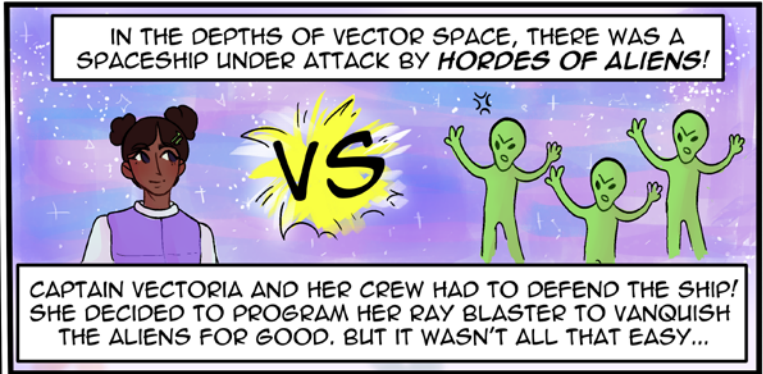
Want to see the next comic when it's released? Follow @mathsoccartoons on Facebook and Instagram! Want to see the next comic BEFORE it's released and provide feedback to help us out? Sign up to be a reviewer at <https://bit.ly/mathsoc-cartoons-reviewer-signup>! As always, feedback, suggestions, and fan art can be left at [cartoons@mathsoc.uwaterloo.ca](mailto:cartoons@mathsoc.uwaterloo.ca).

**MathSoc Cartoons**



CS 135: THE POWER OF RECURSION

STORY BY: GRACE FENG | ART BY: ISABELLA SCOTT

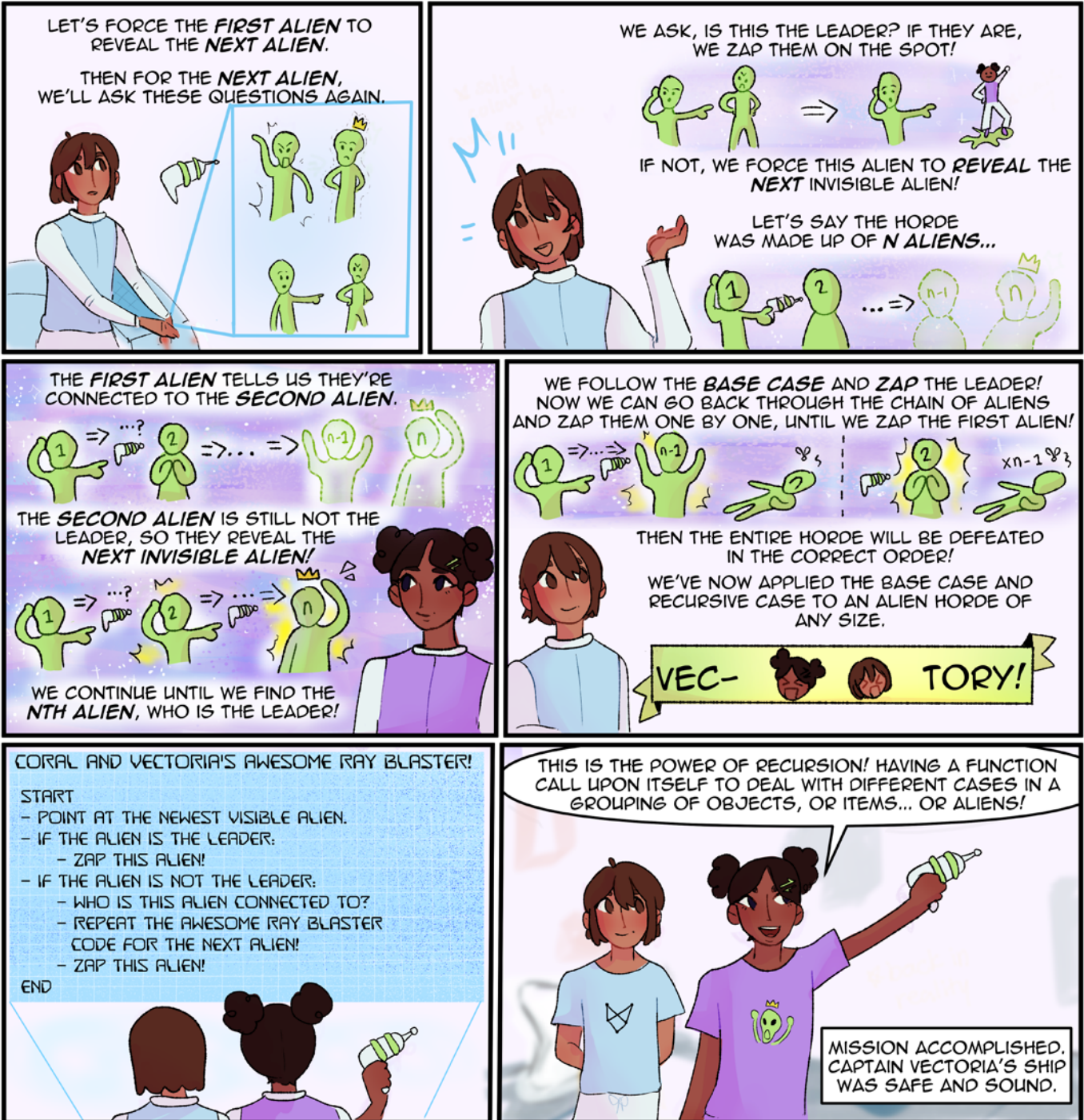




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CS 135: THE POWER OF RECURSION

STORY BY: GRACE FENG | ART BY: ISABELLA SCOTT



SUMMARY

- RECURSION IS WHEN A **FUNCTION CALLS UPON ITSELF** IN ITS FUNCTION BODY. IT CONTAINS A **BASE CASE** AND A **RECURSIVE CASE**.
- IN THE **BASE CASE**, THE FUNCTION DOES NOT CALL UPON ITSELF. THIS IS WHERE THE RECURSIVE CALLS END.
- IN THE **RECURSIVE CASE**, THE FUNCTION DOES CALL UPON ITSELF. THEN, THE FUNCTION IS APPLIED ALL OVER AGAIN TO THE NEXT ITEM.
- WE CAN USE IT TO TRAVERSE ALL SORTS OF STRUCTURES, INCLUDING LISTS AND TREES!
- TO SOLVE A RECURSIVE PROBLEM, TRY STARTING FROM THE **BASE CASE**.

# CUTLET COCKTAIL COLUMN #4

## MESSING AROUND WITH A MAPLE OLD FASHIONED; FEATURING PROF. PRABHAKAR RAGDE

Welcome, once again, to my column. The last two articles featured blinchik; this time around, I have a new guest—none other than Professor Prabhakar Ragde, who is also featured in this issue's **mathASKS!**

This time around, the cocktail was a variant of the old fashioned, which is a member of the Unforgettables category of IBA official cocktails. While I have so far avoided straying from the path of the IBA standard recipes, I have made adjustments when they seemed necessary to create a good result. But the choice to make this version of the old fashioned, one where maple syrup is used in place of sugar, was different, as it was made with an intent to create something different from the original. Why would I do this? Read on to find out!

### BACKGROUND

I addressed the following question to Prabhakar in the **mathASKS**: “It’s the evening following a busy day, and you have the opportunity to relax at home. Which, if any, cocktail would you choose to complement the mood?” An excerpt of his answer is: “I don’t tend to drink cocktails in colder weather, but right now in Canada, I might attempt something with rye whisky, maple syrup, and bitters.”

After Prabhakar agreed to join as a guest, I figured there was no better cocktail to make than what he had mentioned in that answer. However, I have no rye, so we decided that bourbon would work. Since the resulting recipe was essentially just an old fashioned with maple syrup substituted in for sugar, we chose the proportions to match.

The old fashioned may be one of the oldest cocktails reviewed in this column. In some sense, the old fashioned is the definition of a cocktail: in 1806, the editor of an upstate New York newspaper answered a reader’s request to define the word “cocktail” with “a stimulating liquor, composed of spirits of any kind, sugar, water, and bitters”. This is the earliest known definition of a cocktail as an alcoholic beverage, and describes an old fashioned almost perfectly, with the caveat that the base spirit used in an old fashioned is specifically bourbon or rye whiskey. The origin of the name “old fashioned” seems less clear, but probably came about in the later 1800s after more complex cocktails became popular, in reference to the simpler drinks that the old fashioned epitomizes.

One other thing to note: the old fashioned is served in... an old fashioned glass. The drink has such a history that the glass it’s served in bears its name. It’s a recognizable design, too: if you’ve ever seen a short, wide tumbler with vertical sides, you’ve seen an old fashioned glass. (Bonus points if it’s decorated with cut-glass style.)

(Credit to Wikipedia<sup>1,2,3</sup> for a lot of this information!)

### RECIPE

The following standard recipe for the old fashioned comes from the IBA website (see <https://iba-world.com/old-fashioned>).

### INGREDIENTS

- 45 mL bourbon or rye whiskey<sup>4</sup>
- 1 sugar cube
- a few dashes Angostura bitters
- a few dashes water

### PREPARATION

Place sugar cube in old fashioned glass and saturate with bitter, add few dashes of plain water. Muddle until dissolved. Fill the glass with ice cubes and add whiskey. Stir gently.

### GARNISH

Garnish with an orange slice or zest, and a cocktail cherry.

A common way to make the preparation of the old fashioned easier is to replace the sugar cube and water with an equivalent amount, roughly a teaspoon, of simple syrup (a half sugar/half water solution). With that in mind it seemed reasonable to substitute in exactly a teaspoon of maple syrup. So to sum up: the final cocktail was made with 45 mL of bourbon, 1 teaspoon of maple syrup, a few dashes of Angostura bitters, and (mildly deviating from the standard) a piece of lemon peel.

### REVIEW

I feel like I should say this ahead of anything else: I’m a big fan of old fashioned. In fact, if I was asked to choose one cocktail with no extra info about the situation in which I would be drinking it, I would probably choose the old fashioned. So I had high expectations going into this.

This old fashioned was similar to most I’ve had before: a good, strong woody and vanilla aroma from the whiskey, with a significant herbal component from the bitters. A good bit of sweetness from the maple syrup. In the past I’ve often forwent garnish, but here, the lemon peel also made itself known, more strongly than I expected. What I had a harder time making out, unfortunately, was the maple. It wasn’t completely missing, but it definitely did not have the presence it should have had as an intended distinguishing feature of the drink. I also found the drink to be a little sweeter than I expected; I suspect that the maple syrup was a bit sweeter than simple syrup.

This combination of problems is hard to solve, because tweaking the amount of syrup used would end up exacerbating one of the issues even while mitigating the other. Prabhakar had several comments on this. First of all, the whiskey used

was bourbon, which is on the sweeter side, both in smell and in taste, and may have overpowered the maple while contributing to the excessive sweetness; by specifically using rye, which is a bit punchier and less sweet than the corn-based bourbon, the maple syrup could have been more detectable. Second, the maple syrup used was “Grade A – Dark, Robust Taste”. While this sounds like a reasonable choice, Prabhakar suggested that a grade of syrup with stronger flavor would work better<sup>5</sup>. Last, while this would probably not help the maple flavor shine through, he suggested that an increase in acidity could also improve the drink.

An old fashioned with no embellishment is a classic for a reason. An old fashioned with modification is also quite good, but what we made wasn’t the same kind of tried-and-true, so if I was making it again, I would definitely try at the very least using rye instead of bourbon, and I would also probably look to see if I could find a stronger syrup as well.



Thanks to Prabhakar for joining as a guest, and thanks to you, reader, for reading this, and not something else. And of course, always drink responsibly!

### cutlet and Prabhakar Ragde

1. [https://en.wikipedia.org/wiki/Old\\_fashioned\\_\(cocktail\)](https://en.wikipedia.org/wiki/Old_fashioned_(cocktail))
2. <https://en.wikipedia.org/wiki/Cocktail>
3. [https://en.wikipedia.org/wiki/Old\\_fashioned\\_glass](https://en.wikipedia.org/wiki/Old_fashioned_glass)
4. We used Woodford Reserve Distiller’s Select Bourbon
5. While he specifically mentioned that something like Grade C would perhaps work well, there appears to no longer be a Grade C at all: <https://www.azurestandard.com/healthy-living/new-grading-system-for-maple-syrup/>. It was renamed to “Grade A – Very Dark with Strong Taste” in 2015.

## A STORY BY SUNGMIN

[A story written by our lovely idea bot. Drop a “thanks sungmin” in the Discord if you like it.]

Woohoo! I’m a Math Major!

Now I can sit down to write a job search article! That will teach me how to make friends at uni. The main focus of article would be on a mathematical concept rather than the actual task and steps. People generally don’t understand how important mathematics is in job search. It helps you to stop and think about online abuse. Online abuse is a problem for everyone not just women. It affects job search because they have to be N things in order. The N things are on my mind this weekend and I don’t know how to deal with them.

[I’m going to stop right here. I will continue the story in a future issue if the idea is liked.]

## DEGENERATION OF THE LETTER ZETA

Once upon a time in Blake’s MATH 145, we started learning about roots of unity which inevitably involved the Greek letter zeta. But as Blake moved the chalk on the board, the following symbol emerged:



Everyone got visibly uncomfortable.

I, for one, wanted to know what symbols it actually looks like so I drew it in Detexify. These are what symbols it thought it was in order:

ς

a.k.a. \varsigma. I don’t think I have ever seen this symbol used anywhere. I don’t even recall knowing the existence of this symbol until that day.

∫

This is a phonetic symbol for the “voiceless postalveolar fricative.” I’ve been told it’s a “shh” sound.

I mean, it just looks like an integral symbol but Detexify specifically outputted this.

ϣ

Another phonetic symbol. “Voiced pharyngeal fricative” in this case. I have no idea how to pronounce this or how it’s supposed to sound.

I would say that this symbol looks most like what Blake wrote. Thus, I implore that every time something resembling this is used to represent zeta that it be pronounced correctly.

∫

I don’t really know. \wr if you’re wondering. Apparently it’s used for the wreath product, whatever that is.

ζ

Finally, in dead last, the actual symbol for zeta.

# THE 80-20 RULE

## AND A REVIEW ON LIMITS IF YOU WISH BECAUSE WHY NOT...

Unless you have already heard about the 80–20 rule and actually apply it, then this might very much be the glorious moment (dramatic opera music playing in your head pls) where you learn about a life-changing principle that will save you a lot of pain in an already painful enough world, so stay tuned.

In short, the 80–20 rule states that 80% of the output comes from 20% of the input, i.e., most of your results come from about  $\frac{1}{5}$ th of your efforts. At this point you might think I am telling you some bullshit because it's counterintuitive at first, but give me a sec before you throw this volume away thinking I wasted 29 seconds of your life (yes, I timed it).

Here is a calculus-inspired analogy that will help you better “visualize” this idea. Just think about it as the graph of  $f(x) = \sqrt{x}$  where the x-axis represents the effort you put in and the y-axis the output or results you get. The first effort you put to initiate an activity is what makes the biggest difference; it's what makes you go from 0 to getting 80% of the results. But quickly comes the breaking point, after which a lot of what you do has a small effect. I encourage you now to pick an arbitrary epsi-djhaxample (fighting the urge to say epsilon) and you will realize it applies to almost everything, not even

joking. Back to our  $\sqrt{x}$  function, it increases from 0 and rapidly starts “flattening,” i.e., the results  $\rightarrow$  to infinity as the effort  $\rightarrow$  infinity at an incredibly slow rate. I am not saying you are immortal—the point is the more effort you make, the less *noticeable* effort you will get. So, hon, you are wasting your time at that point unless you have nothing else better to do, and you probably do. Go shower for God's sake or go for a walk—I know you forgot walks are a thing because I did too.

Imagine you start applying this rule as a UW student—you will be less stressed and more likely to get that date. Also, flash tip from a fellow female math student if you are still reading: to impress a girl in *math* (TRY AT YOUR OWN RISK IF NOT IN MATH), just joke about math, it's fantastic. But you don't want to be too extreme, saying something like, “me and you are like sin and cos, we complete each other.” More on how to impress a girl in math in a future article.

I got a bit sidetracked, back to the less fun stuff. So unless you want to burn out two terms from now or so, I encourage you to start applying the 80–20 rule and enjoy life a bit more – says a workaholic.

Enami

# YOUR WELCOME

## OR, HOW TO CONTINUE EATING GARLIC BREAD

Picture this, it's Halloween, and an actual vampire has shown up at your door. Being a decent human being, you give them some candy. “Thank you,” says the vampire, feigning civility. “You're welcome,” you reply. The vampire now enters your home, having been welcomed, and you are doomed to an eternal life without garlic bread or sunlight, although if you're reading **mathNEWS** I assume you already live without the latter.

That's no good! How can we avoid this?

Well, an obvious option is to not reply. But then all the fake vampires will think that you're mean, and your social anxiety won't allow that, so that won't work either.

Well we could say “your welcome.” It would get the vampire off our back, and the trick-or-treaters won't know the difference, so that solves our problem... Except that you know that you're selling them lies. You're not following the Standard Social Interaction Guideline™. “Your welcome”? What about their welcome?? It makes no sense. Right?

Wrong.

“Your welcome” actually makes a lot of sense. When you say it, you're replying to someone saying “thank you.” Their welcome, in this case, is that very “thank you” that you are replying to.

By saying “your welcome” you are echoing to them their own “thank you.” Like a “no u” of sorts, or a pointer, if you're into that kind of thing.

“But why am I saying thank you when I was the one who did them a favour?” I hear you ask. Well why did you do them that favour? Did you do them because they are your friend? Thank them for that. Did you want them to appreciate you more? Thank them for potentially appreciating you more. Whatever you have to gain from doing the favour, thank them for that.

Thank you for reading.

creature\_f

# REMEMBER WHEN...

...we were able to submit multiple (primary) articles all in the same **mathNEWS** issue?

Pepperidge Farm remembers.

boldblazer

## [IT SEEMS I'VE MADE SOME ASSUMPTIONS ABOUT SPACE-TIME.]

it seems i've made some assumptions about space-time.

had you asked me just last week, i would have told you that the unique substable cotope on four biabelian strings could never decompose into bodies of order two.

they said it couldn't be done—the regretful runcator on four biabelian strings could never find interpretation within the universal goodlife.

but do you remember last night when you asked me about the shell? the set of all grains of sand lining the ibosonic jetblack?

it was a dark room we sat in, but if i squinted, i could see the stars.

it wasn't until this afternoon that it finally occurred to me—an eye is just a sigh in the biabelian non-attachment of goodliving strings!

and suddenly order didn't matter—for all intents and purposes, an eye and a mind and a shell and a sigh could be cotopically equivalent under the complete free-body promise!

should you ever go looking for the set of all grains of sand lining the ibosonic jetblack, i would be happy to join you.

after all, it's only space-time, you told me.

## HAZED 2

Fall 2019—**mathNEWS** prod night—I stare down two rows of pizzas on the long table in the CnD—in my other hand is a plastic cup half-filled with *Fruitopia*. The light makes me ill. Behind me a commotion forms—girafarig is in it—I go to see—a mass of tangled arms and cards and voices—someone throws a full deck at someone else and girafarig leaves—he smiles and we leave. I don't finish my article—I am stuck in time—he moves forward without me—

(Mao is a card game of the shedding variety—the goal is to “shed” all of the cards in your hand—and if you get something—anything—wrong—the DM belittles you and gives you an extra card—)

Fall 2022—**mathNEWS** prod night—I stare down two long rows of desks in MC2038—faces now familiar to me—the light still foreign. Of course girafarig is here—and now there is Sylvia too—with another beautiful thing—so brilliant it hurts to look. I remember prod night from three years ago—people are yelling and belittling—girafarig smiles—and we leave—

(Sylvia said that men were arrows and women were places the arrow shoots off from—I was once an arrow—but now all I do is follow you—on the unforgettable hunt—the pursuit of making—it—)

I don't finish my article—I am stuck in time—

cy

## N BETTER NAMES FOR INEWS

### WUSA THESE IDEAS ARE FREE

- National News
- Free Snacks (the snacks are not free that's just what the sign says)
- JNews
- lNews (in case it doesn't come through in the formatting, that l is a lowercase L)
- I++News
- IOlds
- **mathNEWS**
- $\sqrt{-1}$  News
- Asbestos-Free INews
- Desperation Station
- INudes
- 7/11
- Al Jazeera
- Food that was grown from a mould colony
- I don't news
- Convenience Store McConvenience Store Face

# PROS AND CONS OF HAVING AN EDITOR AS A ROOMMATE

As this term comes to an end, so too does the sublease one unnamed **mathNEWS** editor has signed with one of my apartment mates. The editor will be leaving our humble abode next term. As the inevitable twilight of our cohabitation draws nearer, and nearer I find myself reflecting upon the benefits and detriments that this individual's presence within my domicile has brought into my life.

## PROS

- You find out about EOT slightly earlier
- You can ask any questions about upcoming issues that you may have at any time
- If you have any question about things that are hidden behind the editor-wall in WordPress, you can ask those too
  - They will probably answer in riddle speak or by saying I don't know in the way that only communicates that they do know
- **mathNEWS** editors have to talk to new **mathNEWS** writers to give them WordPress accounts. Therefore, **mathNEWS** editors are socially adjusted well enough to talk to people.
  - Don't press them too much, remember they are still (mostly) math faculty students at the end of the day
- The carpets are always very clean

## CONS

- Strange things go bump in the middle of the night
- Weird cold spots around the apartment
- Odd crunching noises from his room late at night
- Whispers
- The whispers everywhere
- Strange lights on the horizon at dusk
- Sometimes, he will just be around the apartment, but my roommates will insist that he is out that day

Help

## NOTICE

Regarding my article titled *The Only Good Memory of Ontario* published in 146.1, I am pleased to announce that the article title is now outdated as there has now since been another. Actually, it's looking more like at least two instead of one. Progress!

**boldblazer**

# THE STORY OF BIG MIKE

As we all know, October 61<sup>st</sup>, aka Halloween 2, is fast approaching. I was originally going to write an article rating fruity candy flavours based on how much they taste like the real thing. However, when I got to banana I remembered something I had read about banana flavours and decided that that would be a lot more interesting.

Anyone who's ever eaten anything banana flavoured has probably thought, "wow, this tastes nothing like banana!" But did you stop to think of why? Probably not, since a lot of candy is like that, hence my other idea. But I digress. The story of the banana is an interesting one, and also a tragic one.

You see, the most common kind of banana used to be the Gros Michel, or "Big Mike." This banana contains a very high concentration of the very same chemical used to create banana flavouring in candy. However, in the 1950s Big Mike was nearly wiped out by Panama Disease, a fungal infection which targets the bananas.

The type of banana we use today is known as the Cavendish variety. Since these bananas are seedless, they can only reproduce asexually, which greatly reduces genetic variation and makes them more susceptible to diseases. If the Cavendish is struck with a disease like Big Mike was, it could be the end of the banana as we know it. Fortunately, there are ongoing efforts to genetically engineer bananas which are resistant to Panama disease.

Also fortunately, Big Mike was never wiped out entirely. They can still be found growing in regions of Central America which were not hit by the disease. People attest that they are sweeter and creamier than the Cavendish, and most who have had both say that the Big Mike is better. So if you ever get your hands on one, thank your lucky stars. I haven't had the pleasure of eating one myself, but one day I hope to.

someBODY

## AND NOW, A WORD FROM OUR SPONSORS

Ridge: Wallet Legends is the simple VPN app that lets you download and listen to fresh recipes delivered straight to your door every single week. The first N people to click on the link in the description<sup>1</sup> below get access to Square Space Club, the online streaming service founded by your favourite editors and writers online for only \$4.20 per month. If you use our offer code **mathNEWS69**, you can get up to 69% off for the first  $\pi$  months.

**boldblazer, tendstofortytwo**

1. <https://tendstofortytwo.tk/offerlink.php?code=mathNEWS69>

# RIP IN PEPPERONI gridWORD... (FOR THIS SEMESTER)

## gridCOMMENT 150.6

Hello all, and welcome to my TED Talk. Today we will be discussing a topic near and dear to my heart, **gridWORDS**. As you may have noticed, this issue is the last one for this semester, and as such, it is also the last **gridWORD** of the semester (the proof is trivial and the solution can be found online if you look hard enough).

Last **gridWORD** was a little tough, and I am truly sorry!! We still managed to get two solutions, but both people had nothing to say about the last **gridQUESTION**, "where were you when club penguin is kil?" To **Kevin Y**, and the fellow who signed their email as "**me**," congratulations to you both for completing it! It was literally a coin toss to decide who should

get the CnD gift card to not have bias ☺. Kevin Y, please come by MC3030 at some point to get your reward!!

There is not much else to say this issue. I wish you all the best during exams, along with a Happy Holidays during the winter break! This issue has an older **gridWORD** for you to enjoy! [*Editor's Note: It's from 144.3, from past gridMASTER Cloak and Vorpall Dagger!*] If I don't see you next semester for more **gridWORD** action, good afternoon good evening and good night! Wishing you all the best ☺

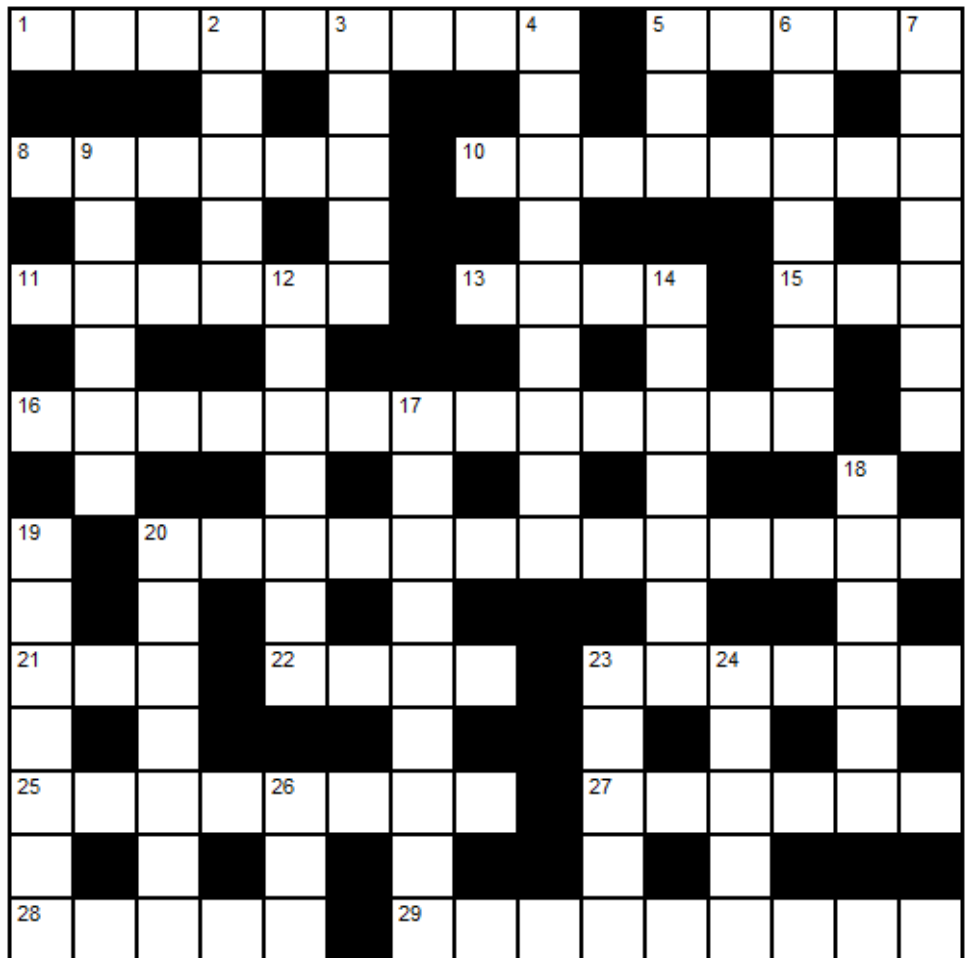
Wink wonk

### ACROSS

1. With company and a nun, a percussive instrument leads to a quandary (9)
5. Startle a siren (5)
8. Partly managed lying of old age (6)
10. Supporting framework keels bizarrely, not left (8)
11. False turn meanders between Uruguay and Ecuador (6)
13. Guest heeded, held you (4)
15. Back talk leads to reward (3)
16. Story about death from mixed red rye rum reported to contain mist (6,7)
20. A belgian detective fixes our helicopter (7,6)
21. Some cruel regret (3)
22. Who oddly hid part of a sweatshirt (4)
23. Call for aid when prime minister secretly injured heel (4,2)
25. Detach nets back by a fun commotion (8)
27. Confession mixes-up SWAT, I am torn between sides (2,3,1)
28. Actively loves to work out (5)
29. Adept at arranging mule rafts (9)

### DOWN

2. Ends plunder below (5)
3. Yodel excitedly at detective writer (5)
4. Hurry to create flavour, replacing them with him (4,5)
5. Hurt in a sailboat (3)
6. Body examination with short psychological by car (7)
7. Affluent enemy, do convert (7)
9. Group around me shows brilliance (6)
12. Discover one french planet (7)
14. See pit through peephole (7)
17. Museum holds each old email service and a crypt (9)
18. Consulting detective sees first loss in houses (6)
19. Mortuaries don't humor guests, essentially (7)
20. Mindful to take notice fully, without ending (7)
23. He is the start of robbery (5)
24. Almost scowl at bottommost (5)
26. View large lake, say (3)



# lookAHEAD

SUN DEC 4

MON DEC 5

TUE DEC 6

WED DEC 7

THU DEC 8

FRI DEC 9

SAT DEC 10

Classes end

Pre-examination study day

Pre-examination study day

Drop with WF ends

Final examinations begin

Nobel Prize Day

SUN DEC 11

MON DEC 12

TUE DEC 13

WED DEC 14

THU DEC 15

FRI DEC 16

SAT DEC 17

Ice Cream Day

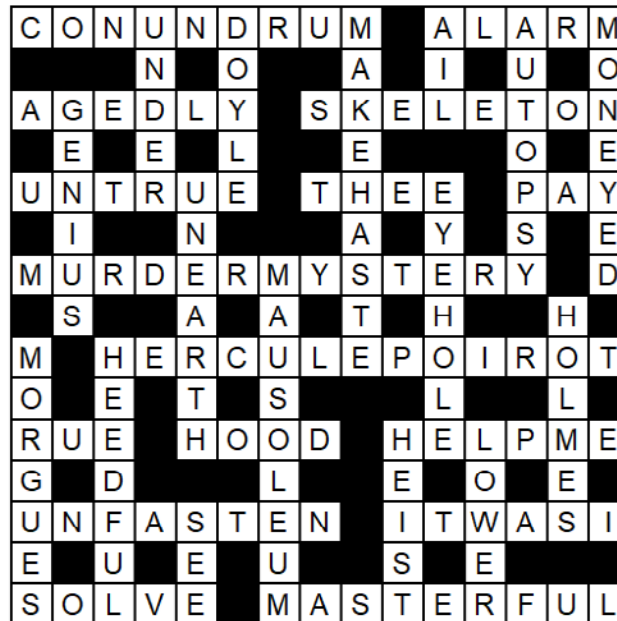
Tuition and fees due

National Maple Syrup Day

## LAST ISSUE'S gridSOLUTION



## THIS ISSUE'S gridSOLUTION



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