

I HAVE THE ONE AND ONLY
24 KARAT GOLD MR. GOOSE



“WHERE WOULD YOU HAVE GONE IF WE HAD A READING WEEK THIS TERM?”

Hey, did you hear that AlpenFury finally opened at Wonderland? Of course the opening date had to be in mid-July, right when literally every single assignment is due and when we're about to be launched into the twists and turns of finals season. It's an example of how incredible things take time, just like the meticulous wordsmithing that our writers put into this issue's articles.

We have cryptography that will be time-consuming to decode. We have a clock puzzle that really takes time. We have creative writing you shouldn't sneeze at, as well as complex analyses into amusing LinkedIn post histories and past **mathNEWS** issues. One of our writers even spent 4.5 months on exchange in Australia solely to rank their top ten Australian slang words. Talk about dedicated writers.

It's my last issue as an editor (wow, time sure flies! Feels like my first issue was the beginning of this term). As my final finals season approaches, I'm incredibly thankful to the Math student organizations that shaped my life over the last five years. MathSoc. CSC. Math Ambassadors. MathSoc Cartoons. And of course, **mathNEWS**. They've changed me in ways I couldn't have predicted, taught me invaluable lessons, and gave me a community to lean on. Thank you to everyone I had the privilege of working with. All of this is to say, who you become at the end of your university journey is also an incredible thing that, of course, takes time.

To the incoming first years reading this, take it from a certified unc. Try new things. Even if you don't like it, you'll have learned something about yourself. Talk to someone new. And to all my dear readers, remember that everyone is on their own journey, and while it's easy to compare yourself to others, you're only seeing the highlight reels of others as compared to the entirety of yourself. You're doing incredible things. You will do incredible things. Things may need to be built piece by piece, like rollercoaster track being hoisted up in segments, but you're a force of nature (also like the ride).

You're doing great, dear reader. Keep it up.

disgracED
Editor, **mathNEWS**

ERALOGOS	MC
USMAN!	Vivek Goel's Wet and Wild Pool Party
NEWSFRIEND	jokzi ozo
TEMPORARY_CHAOS	One new breakfast place each morning.
YAMNUSKA	Sudbury to see the smokestack
SKINBRAG	DC library
HIGH-FRUCTOSE CORN SYRUP	To work as usual, because I am on a work term :(
ROBBOTC	Therapy
MOLASSES	waterloo :)
REVIVED	the little forest trail on the southwest corner of Erb / University Ave :)
GAYA	hell
__INIT__	Cambridge Smart Centres
DOLLAR STORE PERSON	Back in time to May 5 th (summerloop sadness)
LARS NOOTBAAR	East Campus Hall (what goes on there?)
APHF	I would have gone... to sleep
TERMINAL	to work
ABS(JESTER)	To the Super Mario World
SNOWDOZER	Reading, Berkshire
NOT A N*RD	I will never have a reading week again why would you remind me of this sadness :(
BEFUDDLED	MC 3030, my favourite room, especially when it's 1am <3
DISGRACED	Leviathan's queue while everyone else is in line for AlpenFury
CLASSIFIED	to bed, giving attention to my cats

ARTICLE OF THE ISSUE

Our AOTI goes to an article we will never grow tired of reading: The Frequency Of The Word “Tired” In **mathNEWS** Articles Increases As The Term Progresses ($p > 0.05$) by *no pun indented.* Come to MC 3030 to pick up your prize. okay i'm too tired to write the rest of this uhhh good night

disgracED
Editor, **mathNEWS**

I stared into the abyss and it smiled back.

OWEN GALLAGHER, **mathNEWS** EDITOR FOR SPRING 2025
ALONG WITH AWAB QURESHI, GRACE FENG, SARA NAYAR AND ISABELA SOUZA

10 IS YOUR FAVORITE NUMBER

OR MAYBE 5, BUT IT'S FOR THE SAME REASON

What is your favorite number? This is a question which we've probably all asked, or been asked at some point, whether it be when learning how to write numbers in kindergarten or in a large portion of **mathNEWS** interviews. For the most part, the answers given are usually arbitrary. 7, 8, 11 and a whole litany of numbers are often chosen for looks alone. More mathematically minded folks may answer with transcendental numbers like e and π , or perhaps oddball constants that nonetheless govern the realms of physics, statistics, and other topics XKCD comics are made about.

Ultimately these answers are all pretty unsatisfactory. When doing a calculation does anybody *really* like seeing a 7 show up, let alone any weird constant that evades my laptop keyboard? Your favorite number should be one that you love and enjoy spending time with, not just one with good looks or with prestige. If you really love π so much, then why don't you marry it and wake up every morning next to its infinite digits hogging the blanket and pushing you off the bed? Would you really tie yourself to a number that more often than not will require a calculator or an approximation to evaluate?

So, if not all of these cool and fancy numbers, what is your favorite? **It's probably 10.**

Many (too many) hours of online discourse have surrounded the seemingly sub-optimal nature of the base 10 system. Opponents often bring up that base 10 is inferior to other bases like 12 or 16 which provide clean division and mirror the language of computers respectively. While these arguments have *some* merit, they miss something key. Ultimately we are all human, and we carry an innate understanding of base 10. Some may say this is just because we were born into a society with base 10, and that it's simply hard to adjust now. This isn't false and is likely a contributing factor to the awkwardness of trying to use base 12 for basically anything, but the argument loses sight of the big picture. There existed a time, very long ago, when the first human civilizations began to form across the world. What number system did almost all of them choose? Base 10,¹ for pretty obvious reasons.

The 10 fingers which type on my keyboard today are effectively the same 10 fingers that the very first humans had. These 10 fingers have enabled humans to build the world around us, and are responsible for the existence of the world as we know it is. There is something inherently intuitive about the number 10 for humans, more than any other number we seek it out to understand the world around us. We state things in percentages, we rate things out of 10 and 100, our prices end in 99 as long ago stores figured out that people have a much stronger grasp on value when a price is put in terms of 10. An argument similar to those which bemoan base 10 is often levied against the imperial measurement system, in which the arbitrary nature of feet and inches is compared to the logical, canonical metric system. Yet we mustn't forget that despite how intuitive the metric system may be, it is effectively still arbitrary. Mathematically speaking, it's essentially a

coincidence that we have 10 fingers, and yet it shapes our entire perception of the world so deeply.

While scientifically speaking, constants like π or e may be what governs reality, for humans we have 10. On any decent-ish calculator you'll find \ln , the natural logarithm, one whose behavior defines much of the world around us. But right next to it you'll find a button labeled "log" rather generically, with no base in particular, but we know it to always be 10. Perhaps this is most emblematic of our relationship with 10. While many other constants have governed the functions of the natural world, for people, 10 has been a constant factor. From the first number systems created in antiquity, through all of our scientific and technological revolutions lies 10, a distinctly human quantity. And so while it may not be optimal, magical, or transcendental, 10 is a reflection of us, a speck of humanity in the infinite infinities which define mathematics.

Of course, that isn't to say that 10 is the only great number, and I think you could make a similar case for 1 or 0 being just as good. I could explain while I still believe 10 to be better but this article is already long, so I'll finish with a visual proof instead:

$$1 + 0 = 10.$$

■
skinbrag

1. Ok, fine, there are some that use base 20 or 60 but both of those are just 10 times some other number. Grow up

HOW TO DEAL WITH A BREAKUP

1. accept defeat
2. tell yourself you knew it was coming
3. cry
4. sex (with whoever)
5. sex (with your ex)
6. sex (with your friends)
7. self-pity
8. love (your ex)
9. love (yourself)
10. love (your friends)
11. explore religion as a crutch
12. ascend to a higher plane
13. accept

headphones97

HE WHO SINS WHILST BLESSING

Kyle stood behind the till. He had been standing now for six hours, and his feet hurt. Taking orders, counting change, filling drinks, cleaning tables, “do you want fries with that?” “do you want to make that a meal?” The repetition wasn’t the worst part of his job, at least that was stimulating in a crude way. No, the worst parts were the long stints of quiet, when all he could do was stand at that till, feel the blood pool in his feet, look at the clock, and dare it to tick any slower.

Only two more hours before he was finally free. Well, one hour, fifty-nine minutes, and thirty-two seconds. It felt better to round up. Not like it mattered, it would be dark by the time he left work anyways. He checked the clock again. One hour, fifty-nine minutes, and twenty-eight seconds. It felt foolish to sell his time for only fifteen dollars an hour, twenty-five cents a minute, each eternal second worth less than half a penny—

“Can I get a burger and fries? You know what, can I make that a combo? Add in a large Sprite.”

Kyle hadn’t noticed the customer entering. It was some scrawny guy, face mostly obscured by the thick black hoodie he had on.

Kyle mechanically punched the order into the till.

“Cash or card?” he asked, reaching down to get the cup.

“Neither,” the customer replied.

Kyle paused.

“Neither?”

The customer started to mumble something from underneath his hood. “Ges...”

Kyle felt a tickle in his nostril.

“und...”

BANG. Darkness.

Kyle woke up on the floor, some two meters back from the till with a splitting headache. He took a minute to get back up and survey the scene. The customer and his meal were nowhere to be seen, but all over the restaurant napkins were scattered, chairs toppled. It was as if a cone of carnage had emanated out from where Kyle had stood at the till.

Kyle also noted one more thing. His nose and throat felt exceptionally voided of irritants.



Christopher sat behind his desk at the bank. Friday meant that he wouldn’t have to work the next day, sure, but before he could go home, he had to deal with vault replenishing. It

might have been interesting to see the techs unlock that door the first few times, but after seeing it four times a month, twelve months a year, watching a large door open slowly had lost its appeal. By now he couldn’t even be bothered to leave his desk.

And it’s not like there was anything else he could do anyway. Security procedures necessitated the building being on lockdown. The process ate up the entire afternoon, and yet he still had to be here.

No expense was spared moving the money. How come paper needed an armoured car? And Christopher was just supposed to be okay with that because the same people sparing no expense to move these bills would wave a few of them in his face at the end of each month? That’s all it cost to keep him locked in this building every Friday afternoon?

“I’d like to make a withdrawal.”

Christopher hadn’t seen the man enter. He was all clad in black with a hood covering his face.

“We’re not open to the public right now, I’m afraid. They’re replenishing the vault,” Christopher said.

“That’s exactly why I’m here now,” replied the stranger, “Gesundh...”

WHAM. Christopher felt himself blown backwards across the room like a rocket, hitting the wall hard. Darkness.

He awoke to mayhem in the bank. Lights blaring, alarms ringing, some of the loose ceiling tiles had come loose. He saw the armoured truck guys lying in a heap beneath impact craters in the wall. What he did not see, however, were the large deposit bags, nor the stranger clad in black.

As he reached to dial 911, he also noticed his nasal cavity felt extraordinarily clear.



Kazuki stood on the Rainbow Bridge, in the middle of the eerily quiet four lane expressway, fifty metres above the inky black Tokyo Bay. Behind him, Minato City illuminated up the night. On this particular night, however, the ordinarily well-lit bridge was completely dark, and had been closed off to car traffic. It hadn’t taken much to shut it down, just a local official and some leverage. There were people within Kazuki’s organization who excelled at that kind of work.

Kazuki waited for the noise of footsteps in the dark. He was supposedly here alone to parley with an envoy from the Odaiba clan. Terms of peace, hostage exchanges, negotiations for the reopening of supply lines. It was almost foolish. How could negotiations happen after weeks of gang warfare? After skirmishes had left several of his friends dead in the streets?

How could reopening the heroin channels make up for the lives lost?

Almost foolish. It certainly would have been completely foolish were Kazuki actually here to discuss terms, but that line of work wasn't how he had built his reputation.

Kazuki wasn't alone either, of course. Half a dozen enforcers would ensure the envoy's step out from the shadows would be his last.

"You didn't come alone."

Kazuki almost jumped. In front of him was a figure wearing a hooded jacket so dark he had blended into the night.

"There's been a change of plans," Kazuki retorted, raising his club, "Deal's off."

The enforcers dove from the cables like birds of prey.

The figure slumped his shoulders and sighed. "I was really hoping it wouldn't come to this..."

Kazuki felt an itching in his nostril

"GESUNDHEIT!"

Cacophony. The enforcers couldn't help it, sneezing so forcefully they were sent spiralling backwards into the railings, their clothes tearing as the scraped across the pavement.

Kazuki reacted faster than any of them, quickly clutching his nose and mouth.

"Say Kazuki," the figure said, strolling towards him, "Do you know what happens when you bottle things up?"

Kazuki felt the tickle spreading further up his nose.

"They tend to explode."

BOOOM. Gale force winds erupted from Kazuki's nose. He was launched off his feet, smashed over the railing, and tumbled into the churning darkness below.



Liam returned home after a long day. He tossed his hoodie over a coat rack. His abode wasn't exactly humble: the walls were covered with priceless art, gold and jewels spread across the plush silk furniture and marble floors.

As he lay down in bed, he was confronted with the same thought that found him every night. He had unfathomable wealth and power, nobody could cross him, and yet he was still lonely.

For all his success, he could never make a genuine connection with another person, for, if they were ever to sneeze, he would have no safe way of wishing them good health after.

aphf

ELEVATOR CONSPIRACY

Fri, May 16

All 10 elevators in the building lose communication to control at around 4:56 p.m. Some people are stuck inside the cars. Everyone who has not yet left the building is forced to take the stairs down. The elevators are not fixed until 8:30 p.m.

Tue, May 20

People start to notice that the elevators are slower than usual. Maybe the algorithm for assigning floors changed.

Fri, May 23

The elevators lose communication again at around 1:50 p.m. Alarms blare and announcements follow that this issue is resolved at 2:08 p.m. The alarms and announcements repeat at least two more times afterwards.

Wed, Jun 4

One employee in an elevator sees the floor indicator go to floors x, y, z. Other employees speculate that these floors lead to the backrooms. However, no one has ever managed to get off at any of them, or maybe, no one has returned to tell the tale.

Mon, Jun 30

Employees complain about many useless stops in the elevators where they stop at floors no one gets off at. Occasionally, there are more stops than people in the car. At other times, the floor you select does not appear on the elevator you got assigned.

Thu, Jul 17

Someone hears an elevator bell ringing on the 12th floor. An employee must be stuck in a car. He gets out after a few minutes but he hasn't really been the same since. What happened in there? We tried to interrogate to him but he just stares into space.

What the hell is on floor x? Does it even exist? What happens when we enter the elevators? Where do we *really* go between the floors? And when we come out, are we *really* the same people who entered?

terminal

IS AI REPLACING CS STUDENTS?

The number of applicants to “Computer and Information Systems” programs across Ontario secondary school students has seen a sharp decrease in 2025 and is the lowest since 2021. After maintaining a steady increase since 2017, this year is the first year where applicant numbers decreased from the previous year.¹

AI tools like ChatGPT have become increasingly widespread in recent years. Completing an email, searching up a fact, summarizing information or even (perhaps riskily) finishing an essay, the functionality of ChatGPT is limitless. They get better at solving complex problems commonly seen in math and computer science and they simply keep improving over time. “I feel like every single day, I wake up and look online and AI is significantly better than it was yesterday,” says Hy Lac Nguyen, a second year computer science student.

So, the natural question is, do we still need CS students when we have AI?

Well... not so fast. AI is supposed to be a helpful tool that aids in our work. AI is not supposed to do the work for us.

In the same interview with Hy Lac, we learn that he’s in our university’s AI club, WatAI. His team’s job is to focus on how AI can apply to oil drilling. They take data collected by sensors on the oil drills, like drill pressure. Then they analyze the data with AI to predict if the values are within normal range or not, in order to avoid danger.

We note the difference between AI itself being the product of work, and work that is assisted by AI. In either case, we are facing rapid changes in how work is done. According to various sources such as data from McKinsey Global Survey, IBM and Forbes, the percentage of companies that use AI in at least one business function has been stable around 50% in 2018 to 2023, but has increased to 72% and 78% in 2024 and 2025 respectively.² “With AI, a lot of people who don’t really know CS can kind of get by with just asking ChatGPT everything. It definitely makes finding jobs a lot harder. I find that most of my friends now, their bosses kind of force them to use AI,” said Hy Lac, reflecting how widespread AI usage is in the workforce.

However, there are some things that can’t be replaced by AI. As the joke usually goes, “for AI programming to replace human programmers, users will have to communicate exactly what their needs are. Our jobs are safe.” Humans will know what problems they are facing, raise the questions based on their needs and use AI to solve them. Then, students from programs like math and computer science can apply their advantage in logical thinking and knowledge in their field and solve problems efficiently with AI. But just like how the ability to Google things doesn’t invalidate computer science degrees, neither does asking ChatGPT to write you a sorting algorithm or using copilot to complete a data structure. In fact, an anonymous 4th year CS student says “ChatGPT is better than Google sometimes.” It is not the ability to copy code from

ChatGPT (or formerly, Google) that earns people their wage, it’s their ability to know what code to copy, and how to fix it if it’s broken.

Microsoft Build 2025 showcased a vision of the future where AI agents perform tasks and make decisions on behalf of users and organization. Tools like Copilot Studio, used by 230,000 organizations, are leading this shift.³ Students from math or computer science will have the skills required to operate with these AI agents. “I’m surprised that you never used ChatGPT. The future is now.” as exclaimed from the same student.

AI isn’t replacing CS students. CS students with AI are replacing CS students without.

Edmond Yu

1. Statistics | Ontario Universities’ Application Centre. (2025). <https://www.ouac.on.ca/statistics/>
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3. Shaw, F. X. (2025, May 19). Microsoft Build 2025: The age of AI agents and building the open agentic web. The Official Microsoft Blog. <https://blogs.microsoft.com/blog/2025/05/19/microsoft-build-2025-the-age-of-ai-agents-and-building-the-open-agentic-web/>

THE BEST SPOTS FOR NUMBER TWOS ON CAMPUS

BECAUSE YOU WILL, AT SOME POINT, NEED TO GO

- my first choice has to be the M3 upper floor bathrooms (where the faculty offices are). Since it’s mostly grad students and faculty using them, they’re usually extremely clean. It’s even better now since it’s more inaccessible given that bridge-san has ascended to heaven and construction makes it really inconvenient to get to
- the university colleges’ bathrooms are an honorable mention, although they’re a lot more out of the way than M3
- TL;DR the golden heuristic is that the more modern the building and the less visited the building is, the cleaner the bathrooms usually will be
- also the less undergrads who visit the area, the less dirty/more well-stocked it will be (so toilets around faculty offices are usually better)
- some examples of the above include MC 5th/6th floor and DC 2nd/3rd floor

analumnus

WHY I STILL CARE ABOUT COVID SAFETY (AND WHY YOU PROBABLY SHOULD TOO)

Ah, good old COVID-19: the disease that shut down the world for two years and we've all tried to avoid thinking about since. I hear phrases like "during the pandemic" all the time, implying that it's all over now, but the reality is that COVID is still here. It's less extreme, but still a very real problem. I could try to convince you with numbers and logic, but this is **mathNEWS**, not my undergrad thesis. So I'm here to tell you the story of my long COVID experience, and that will hopefully be more effective than statistics anyway.

I got COVID in October 2023, when everyone around me had started pretending it didn't exist anymore. It was rough, but no worse than a flu: feverish, hacking up half a lung, generally feeling run over by a truck. I drank juice, watched *Inception* and all four *Hunger Games* movies, plowed through all 800 pages of *The Priory of the Orange Tree*, maxed out my daily recommended dose of Tylenol, and slept. Slowly, I started to wait longer between painkillers, and do things like shower and get dressed again.

It was a week after the positive test that my library books were due, and I, feeling mostly recovered, decided to make my first foray out of the house. It was only a 15-minute walk to the library, but by the time I got there, I was dizzy and out of breath, overheated despite the late-October chill. I had to take baby steps on the walk back, my heart racing, the route stretching endlessly. At home, I collapsed onto my bed, feeling just as run over as I had in the worst days of sickness. My heart was still pounding long after I'd laid down. On a suspicion, I looked up how to do a tilt table test at home. I laid down for ten minutes, took my heart rate, stood up for another ten and took it again. My measurements showed a difference of 26 BPM; a POTS diagnosis only requires 30. Something was definitely wrong.

A few days later, my quarantine period ended and I went back to work. I found myself constantly dizzy, gasping for breath, and exhausted, barely making it through each day. Everyone reassured me it was just the tail end of the illness, but the year wound to an end and I was still struggling. I had half the tasks in me that I had had pre-COVID, and when I pushed past my limits, the kickback was severe: dizziness when moving my eyes, hot flashes, and absolutely bone-deep, all-consuming fatigue. On my worst days, just putting some frozen chicken strips in the oven felt like climbing Mount Everest. Eventually I dragged myself to my doctor, budgeting my energy for the excursion like I was saving for a down payment. "Yes, there's been a lot of people reporting lingering symptoms after a COVID infection," she said. "I'll consult with a specialist and get back to you. In the meantime, here's some bloodwork."

I did the bloodwork. I watched weirdly cheerful videos about activity pacing. I took vitamin D and iron. Things got better, but only marginally; I was still working three days a week, relying on frozen meals, and saying no to activities that didn't involve sitting on my couch. Was this the rest of my life, I

wondered? Was I doomed to a life of exhaustion, skipped excursions, movies in bed, and doctors' visits that went nowhere?

It's coming up on two years, and still the symptoms persist. I've learned to manage them, mostly. I can recognize when a flare is coming and to rest accordingly. I know which activities take how much out of me. I've started to figure out when exercise helps and when it hurts. People in my life know I have chronic fatigue and accommodate for it. But I don't know if I'll ever be back to normal, all because of the illness I caught despite four vaccinations and everyone insisting it was over. And this isn't some isolated phenomenon; 19% of Canadian adults who have been infected with COVID report longer-term symptoms according to a 2023 report,¹ and places like r/LongCovid are full of personal testimonies. By every measure, it is still a serious problem.

I know that despite my story, you may still be reluctant to take COVID seriously again. We humans are emotional creatures, and everyone just wants to be done with safety measures and live their lives. I'm not advocating for us to go back to Zoom classes and socially-distanced visits. All I ask is that you remember that it still exists, and consider the risks a little more. Maybe that means wearing a mask in your 400-person math lecture, or moving a social event outside when the weather allows. If it keeps you from having to go through the symptoms that I now deal with every day, that's all I can hope for.

High-Fructose Corn Syrup

1. Kung, Sianne, Steven Earl, et al. 8 December 2023. "Experiences of Canadians with long-term symptoms following COVID-19." Statistics Canada. Accessed July 21, 2025, from <https://www150.statcan.gc.ca/n1/pub/75-006-x/2023001/article/00015-eng.htm>

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JARED HESS AND HIS WRITING CRONIES ARE COWARDS: QUEERBAITING IN A MINECRAFT MOVIE

A Minecraft Movie, which hit theatres on April 4th, is exactly what you'd expect a movie based on a children's video game to be: goofy, cheesy, and entertaining. Its plot follows a motley cast who get sucked into the Minecraft world and need to reopen the portal home and defeat Malgosha, the piglin queen of the Nether, along the way. By all accounts it is a deeply unserious movie, and most critiques of it could easily be brushed off with "it's not that deep bro." And yet, as a queer Minecraft fan watching the film, I found myself shaking my head at one part of it. The relationship between Steve and Garrett is deeply queer-coded throughout, and yet the movie never delivers on that promise, and I'm mad about it. So even though it is a light-hearted kids' film, I'm going to dive deep into the mines to analyze the ways that *A Minecraft Movie* pulls a homosexual bait-and-switch on us.

Steve and Garrett have an enemies-to-lovers arc over the course of the movie, starting out not exactly hostile, but definitely not friendly. Their goals are initially in opposition to one another; Steve wants the orb to open the portal home, and Garrett withholds the orb from Steve until Steve promises to show him where the diamond mines are. However, they are soon forced to start working together if they want to get anything done. From the beginning, the movie throws them into situations that not only put them in close physical proximity, but have clear sexual overtones to them as well. In one scene, Steve supplies Garrett and Henry with elytra so that they can fly away from the piglins chasing them, but forgets to grab a third pair for himself, so he leaps onto Garrett's back, pulling at his hair to guide him in the direction he needs to fly. The kinky undertones are funny enough already, but then the pair need to fly through a narrow pass in order to escape the piglins, and are forced to sandwich themselves into a 69 position while flying, with a couple ass-grabs as they try to hold on to one another. The theatre audience was roaring (particularly the older ones) but it was here where I was struck with the realization: "Oh no, this is going to be one of those homoerotic friendships that could turn explicitly gay but the writers are going to be cowards about it, aren't they."

And I was right. The pair only get gayer as the movie goes on; they put on a campy and unnecessarily physically close song-and-dance performance to distract the evokers and vindicators in a woodland mansion, Garrett sacrifices himself to save Steve (the ultimate act of gay devotion), and near the end of the movie, when Malgosha has been defeated and the portal to the real world has been reopened, we get the gayest scene of all. Garrett is going to go back to the real world, but that means leaving Steve, because Steve wants to stay in the Minecraft world. They share a tender goodbye full of touching, and Steve even cups Garrett's cheek in his hand as they say their final words, and they're close enough that it would only take one of them to lean in before they would share the kiss that would bring the arc to the conclusion it's been setting up the whole time. And of course they don't, despite my chanting "kiss, kiss, kiss" at the screen.

But then, a twist! After everyone else has disappeared into the portal, Steve shrugs and dives in after them. And the homo-sexuality continues: he and Garrett open a new game store together, selling their new video game *Block City Battle Buddies* (it's *Minecraft*, obviously) and doing shows on the side where once again they sing together with much closer physical proximity than is required by band members. The homoerotic tension is so thick you could cut it with a knife, and yet they never acknowledge it.

If Garrett was a woman, I have zero doubt that her relationship with Steve would have been romantic. At that pivotal moment when the pair said goodbye, there would be a kiss and a pop of red hearts, and Steve would decide to return to the real world to be with his love, and the movie would flash forward to ten years in the future where little Steves and Garretts excitedly play the newest version of *Block City Battle Buddies* while Henry babysits. But because the writers are cowards who would rather make a few extra bucks from homophobic audience members than show the natural diversity of humans¹ and teach children, gay and straight alike, that two men falling in love is just as normal and acceptable as a woman falling in love with a male Minecraft villager,² they took the coward's way out, playing the homoeroticism for laughs while never letting it become *actually* romantic.

For God's sake, it's 2025. Gay acceptance is more widespread than ever, and this movie was going to make a killing regardless of whether some homophobes angrily boycotted it or not. Shame on you, writers. Shame on everyone who decided that instead of making a mainstream kids' film with openly gay protagonists, they were just going to add yet another queerbaity and painfully heterosexual movie to the stockpile. Now if you'll excuse me, I'm going to go write some Steve/Garrett fanfiction to give my homosexual brain some proper resolution.

High-Fructose Corn Syrup

1. Speaking of diversity, they really pulled the "cast one (1) Black actress as a sassy sidekick so nobody can accuse us of not being diverse enough" schtick. Sigh.
2. If they did in fact hook up as they were implied to do in the future, could you call that a square peg in a round hole? (Sorry)

HAIKU

oh how i would like
a treasured shiny golden
piazza checkmark

Whole Number Haver

profQUOTES

AMATH 250: JOE WEST

“ It’s hard to shower.

CO 342: MARTIN PEI

“ EI stands for Employment Insurance. I probably don’t need that, unless I get cancelled. There are lots of ways where I can get cancelled. So let’s try not to get cancelled.

“ Usually the difficulty of the exam depends on my mood... I will be travelling when I’ll be writing the exam! So maybe I’ll be in a better mood. Or a worse mood.

“ Oh, we finally got here! Proposition 69, nice.

“ We’re done planarity! Do you feel more plane after this section? I gained a bit of weight, so I’m a little less plane.

CS 240E: EDWARD LEE

“ n is the size of your anime collection and is therefore uncountable.

CS 349: MATT BHREMER

“ [Student: Is this actually useful?] Not that I know of.

CS 446: ENAMUL HAQUE

“ Have any of you taken design or colour theory? There are colours that are complimentary. Like red and green, very popular. Blue and red are popular, like Superman! Or Spider-Man.

CS 449: ANAMARIA CRISAN

“ There are some people who believe that a question like “on a scale of one to five, how much do you like this?” is qualitative data. They are wrong.

CS 486: YUNTIAN DENG

“ Usually what I do here is use Google to make sure I’m using the chain rule correctly.

CS 489: SHANE MCINTOSH

“ Monkeys can eat bananas, and monkeys are great, so bananas are great by the transitive property.

“ Let’s assume this developer is not you, because you write perfect code. Let’s assume this developer is from... McGill. Why is this risky? [Student: Because they’re from McGill.]

“ What do we need to use? I’ll give you a hint. It starts with stats and ends with istics. Stats-istics.

MUSIC 140: SIMON WOOD

“ If you wouldn’t take a knitting needle, stick it through your eardrum, and jiggle it around in your brain just to see what happens, don’t do drugs either.

ENGL 346: KEVIN MCGUIRK

“ So the point of the modern novel has really been about the meaning of life... [Someone bashes loudly on the door, prof opens the door] Can I help you? [No one there] Wait, what was I talking about? Something important. Right, the meaning of life.

“ [Door keeps getting opened back and forth] Jesus. Excuse my language, I guess everyone wants to study the novel.

PMATH 351: BLAKE MADILL

“ All of those sets are open and dense. It’s giving Baire vibes.

“ What’s that second integral? A big ol’ epsilon, aka a small ol’ epsilon, which is what we want.

“ I am going to kick it into overdrive now, buckle up! Faisal has a test in this room next, and I vaguely like him.

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UW'S BASTION OF ERUDITE THOUGHT SINCE 1973

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THE MISSION

In the year 1776, Spanish Catholic missionaries founded La Misión San Francisco de Asís in a sheltered valley just east of the mountains San Franciscans now call Twin Peaks. While the mission chapel was initially surrounded only by ranches, the following decades and centuries would see the region develop into a thriving neighbourhood standing there today.

Someone was shot dead five hundred metres from my Mission-bordering apartment within a day after I arrived. I hold that The Mission is beautiful regardless.

It is not the dictionary definition of “nice.” The banks have armed guards. Even the drug store has a guard. I get catcalled walking home; either from homophobia or misogyny, I know not which. One morning I passed five separate groups of people fentanyl-bent in a hundred-metre stretch. We’re the city’s fourth-most violent district, and third-most afflicted by drug-related crime.¹ Stores close at 8PM. Everything has iron bars.

The Mission’s main road is Mission Street. What isn’t tagged on Mission Street is stickerbombed, what is neither is respected, or out of reach. Loose trash floats in the wind, and the sidewalks are splattered in splotches of black tar. Men sleep in doorways. Others shout in mental health crises left unattended. Each Mission subway plaza is a thriving black market. Vendors line up shoes, soaps, conditioners, teddy bears, anything you seek, sold with zero acquisition cost. The mayor’s SFPD mobile command center is deployed in the northern subway plaza. We’re not entirely certain anyone is inside.

There’s a much nicer street a hundred metres west of Mission Street. I choose to walk down Mission Street every day.



Turns out, my co-op employer sells to Raytheon.

I learned about it at the beginning of the term. When it’s only one missile company, you try to justify it. Even Raytheon needs essentials, right? Someone has to be Raytheon’s toilet paper supplier. Is that morally indefensible?

I don’t think I can condemn the janitor at Raytheon. He’s just a guy.

We don’t sell toilet paper. I’m working in data analytics. Quality control. What my co-op employer sells isn’t just software; they’re selling a guarantee of higher quality. Visibility into significant areas of failure. Prediction of major failures before they occur. They’re selling a better product.

That product is weaponry. When they sell to Raytheon, they sell better weapons. *We* sell better weapons. It’s not just Raytheon, it’s Lockheed Martin too, who we proudly declare integrates our services within F-35 fighter jets to provide heuristic sensor monitoring, enabling the United States to

more effectively go to war. Did I mention all four branches of the United States military are also clients? Our tools are even turned against American residents: if you dig deep enough online, you’ll find ICE to be a client too.

They neglected to mention this in the job description.



The Mission is among the most beautiful places I have ever lived.

In the morning, families sell coffee out of large thermoses at the subway plazas. Where commuters do not walk under forested canopies, they pass by palm trees reaching for the sky. Pastel facades encase the streets: three storeys, never more. Spanish is heard just as often as English; many signs use Spanish only. I know of no place in the city more alive than Mission Street. People fill its sidewalks at all daylight hours; often rolling behind them boombox speakers, music filling the air. Under storefront signs clamouring for your view, a symphony: Mission.

The Mission’s second-greatest call to fame is the Mission-style burrito: rice-filled, served at the cozy wood-interior taquerías on every corner. You have not had a burrito without rice in months or more. The Mission is to thank.

The Mission’s greatest call to fame is murals. Everywhere. Behind the auto shop, a brilliant mural of a streetscape paints the nearby bricks. On each side of the corner convenience store, the entryway is enshrined with delicate brushstroke-like paintings of full-size horses in stride. Along an apartment building’s side, not one but three six-storey murals overlook the city, each brilliantly portraying old Mission activism. “Basta ya!” *enough!*, declares one. “Indian land,” declares another. “Sobre viviremos,” *we will survive*, declares the third. Even the tag-filled construction walls have murals of the local Route 14 Mission bus, General Grievous in brilliant full stature, and messaging declaring that ICE *can* be ended.

The Mission is intensely political. The streets are named for labour leaders. Each day, I walk past a depiction of union founder Dolores Huerta; I walk over paving stones enshrined with her rallying cry. One back alley mural depicts ICE: a spectral reaper over the joyous Mission. Every storefront has informational posters on how to thwart ICE. Palestinian stories are sold in the local bookstores. Palestinian flags hang from the eaves.

Each day, I walk through it on my daily commute to the office where we make software for Raytheon and ICE. While ICE kidnaps Mission residents at their court hearings, Latino cleaning staff wash dishes in the office kitchenettes. While Raytheon’s missiles drop on Gaza, my coworkers and I eat catered meals prepared by Palestinian chefs.

No one there sees the contradiction in it. Maybe it's survivorship bias; full-timers unwilling to sell to Raytheon would quit. Not even the interns, however, seem concerned. We somehow joke about the numbers it takes to buy our ethical compasses, but simultaneously, some seriously consider the return offers that will match it. It was only on a mandatory work term consultation with *my co-op advisor, of all the fucking people*, where I *finally* talked to someone who seemed to get it. I *don't* want to contribute to *fucking* Raytheon. *Is that such an insane request?*

I have never been so confident I can get the chance to return to my co-op employer.

I have never been so confident I will never, *ever*, return to my co-op employer.

The Mission is beautiful. If I respect it even a little, then my only choice is to leave it.

milk

1. <https://www.wesansfrancisco.org/data/2023-neighborhood-crime>

I'm not providing sources about my employer. That would identify them, which seems unwise. Consider, however, that you have the power to look up "<insert co-op employer name>" "<insert arms company>" of your own free will.

HAGFISH

DEDICATED TO HAGFISH APPRECIATORS ALL AROUND THE WORLD

Hagfish are very good at life. They have existed for at least 300 million years. They are basically fleshy tubes with teeth and their main defense mechanism is producing copious amounts of slime, so much that it chokes the gills of whatever tries to eat them. Their slime is 99.996% seawater, 0.0015% mucins, and 0.002% protein threads. This means it is very compactly stored. The protein threads are something between ten and forty cm long, and are stored coiled up. The moment the hagfish releases the slime juice, turbulence in the water (perhaps from a fish trying to eat the hagfish) unravels the threads and it deploys extremely quickly. Also, a hagfish can choke in its own slime if you, say, leave it in a bucket and it slimes. In the ocean, it sneezes to avoid suffocating on its own slime. Apparently South Korea imports hagfishes for eating purposes. One time a vehicle full of hagfish bound for South Korea crashed on a US highway and the stressed out hagfish started sliming, the slime got all over the road and got on other cars. This was epic. My hope is that we develop practical uses for hagfish slime, the way we use spider silk. Although maybe this is bad because a hagfish farm would have to stress out the hagfish to get slime.

easty

THE ANSWER FOR FREE WILL

Last week, an article emerged showcasing a satirical take on determinism. Any sound mind could discern the author's obvious disdain for the philosophy. A staunch determinist myself, I have no choice but to forgive the author for their evident lack of understanding. They were, quite simply, determined to be wrong—they had no choice in the matter. Just as the author absolves the likes of me from my so-called crimes, I in turn absolve them of their ignorance.

Allow me to illustrate:

The very numbered neurons they possess—governed by natural law—fired in a particular sequence. This can be understood as the initial event in an unfortunate chain of causation that ultimately produced a string of words culminating in a rather senseless article.

Question:

How much of this biological process was truly under the author's control? How much control did they have over their neurons, their electrons, or any of the subatomic particles that make up their natural mechanism?

NONE!

Thus, as an aid to the author—and to save them from a tarnished reputation—I must submit to you that, in this case, it truly was not their fault.



headphones79

MY FAVOURITE ALBUMS THIS TERM

S25 EDITION

Look at me following through with something I set out to do four months ago! Committing to one article per term is certainly easier to manage compared to one article per issue. Unfortunately, since I've been on a study term I haven't been able to keep up with new releases as much as I would've liked. That being said, here are ten albums I've had on repeat this summer.

***Never Enough* by Turnstile (2025)**—I knew this would end up here as soon as it was announced. Turnstile is such an awesome band and I'm so happy that they're starting to get more recognition outside punk circles. It's a Turnstile album, so it goes hard most of the time, but it's balanced with periods of ambience and experimentation that are quite striking. Charli XCX agrees: Turnstile summer!

***James Blake* by James Blake (2011)**—On the opposite end of the spectrum, this record is as wintry as you can get without being a Christmas record. James' soulful voice floats over the sparse dubstep beats and piano melodies like snow falling on grass. Every now and then, I remember this album exists and I ask myself why I let it be forgotten.

***Light Upon the Lake* by Whitney (2016)**—If a warm hug were an album, this would be it. Sometimes all that you need to feel better is a white guy crooning over country-tinged guitars and gentle drums. The best part? No forced vocal twang or unnecessary trap beats. Just pure alt-country comfort.

***Licensed to Ill* by Beastie Boys (1986)**—The generator I use to facilitate my "album a day" challenge gave me three Beastie Boys albums over the span of a month and they were all awesome. *Licensed to Ill*, the group's debut, stood out to me the most. It melds the rap and rock elements perfectly, it highlights the Boys' chemistry, and it contains certified banger "No Sleep Till Brooklyn." The full cover is also really cool; it pays to own physical media.

***Forever Howlong* by Black Country, New Road (2025)**—Insert nerd emoji here. Yes, I am still upset that Isaac Wood is gone, but look what came out of it. *Forever Howlong* possesses the same beauty as the band's first two albums, while showcasing their talent in a whole new way. The songs here are surprisingly uplifting, energetic and, dare I say it, fun. It doesn't reach the same highs as *Ants From Up There*, but it doesn't have to; it has its own story to tell and the story is fantastic. I'm eager to see where they go from here.

***The Lonesome Crowded West* by Modest Mouse (1997)**—A prime example of a band doing whatever the hell they want and putting it on record. I feel like I get whiplash whenever I listen to this because it's just so weird. There are moments of tenderness and fragility that are immediately followed by absolutely unhinged vocal performances and polyrhythms. You can never pinpoint where the music's going, but that's what makes it entertaining.

***Night Time, My Time* by Sky Ferreira (2013)**—I cannot underestimate how great Sky Ferreira is. She made "Everything is Embarrassing," one of the best pop songs of the 2010s, and she put together this phenomenal album. A wild ride from start to finish, *Night Time, My Time* is gritty, hard-hitting, and delightfully noisy. I can only imagine how the long-awaited follow-up *Masochism* will sound. #FreeSkyFerreira #ScrewCapitolRecords

***Sable, Fable* by Bon Iver (2025)**—I've never been that big on Bon Iver, but thankfully that changed with their most recent release. *Sable* is classic Bon Iver folk songs, while *Fable* is a departure for the band that leans heavily into R&B and soul. Both parts are so earnest and tender, it's almost overwhelming. Shout out to Danielle Haim for that beautiful duet "If Only I Could Wait."

***Songs for Swingin' Lovers* by Frank Sinatra (1956)**—Now who doesn't love Frank Sinatra? Fifteen straight jazz classics, no filler, no duds. You can't help but smile. I'd be smiling more if I had someone to dance with...

***Feel Good Lost* by Broken Social Scene (2001)**—Turns out that this iconic Canadian indie rock band started out with an ambient album. It's better than I expected, but then again, it's Broken Social Scene and they can simply do no wrong. Naturally, I came back to *Feel Good Lost* quite often since it's perfect study music (there's even a song called "Love and Mathematics") and I foresee it getting more plays during finals season.

I wrote "finals season" and now I'm crashing out. Bye for now.

JP

FRON2 APPRECIATION

A LIMERICK FROM THE FRON CLUB

There once was a Fron from Guelph
Who made an instrument costing considerable wealth
He swiped with his bow
And put on a show
And I thought it was quite amazing myself

Lars Nootbaar

It was super cool to see Fron in person at Hillside in Guelph. His homemade instrument, the fron2, makes such a beautiful sound. To paraphrase from a member of his backing band, "I don't know when Fron's birthday is, but can you like and subscribe to his YouTube channel for him, it would make his day."

<https://youtu.be/XGHlcU3g8Ps?si=xqjw2JqncMIBcn7f>

SHITTY CRYPTOGRAPHY

I PROMISE THIS ISN'T JUST KEYBOARD SMASHING. OR IS IT?

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the government's only spy

IS MAMA CORLEONE THE WORST CHARACTER IN THE GODFATHER (1972)?

CONTAINS SPOILERS FOR THE GODFATHER (1972)

Ok, let me get the obvious out of the way. I am aware that there are some characters in *The Godfather* who suck bad. There's the producer guy who, upon learning that Tom is German-Irish, expertly switches from using Italian slurs to a combo of German and Irish slurs. There's the don in the big don meeting who lulls you, the empathetic viewer, into a sense of understanding as he says he doesn't want narcotics sold near schools, only to immediately turn around and say they should traffic drugs to "the dark people" because "they're animals," so it's ok to let them lose their souls. There's Carlo Rizzi (whose wedding with Connie—the daughter of the Corleone crime family—is the famous scene at the beginning of *The Godfather*), a man who routinely abuses his wife while she's pregnant.

Don't get me wrong, Carlo sucks hard, but you know who's actively complicit in (if not encouraging of) the abuse? Mama Corleone, when she tells Sonny to not interfere when Carlo tells Connie to shut up. She knows her daughter is being abused, and she's not only completely fine with it, but she actively discourages behaviour that could stop it. What an ass.

Carlo was written to be rotten. We knew he sucked. Same with racist don, his only line is being racist. Mama Corleone is named Mama Corleone. She should be kind, and nurturing, and motherly, and instead, her actions lead to her son dying, her daughter becoming a widow, her grandchildren growing up fatherless, and probably other bad stuff that happens in *The Godfather Part II*—a movie I have not seen. I think this is a fate she has very much earned.

aphf

BURGER ON THE TEN PERCENT SUCCESS

BUT IT'S A BOAT, NOT A TRAIN, AND ON THE HIGH SEAS, NOT THE ORIENT.

The waves crashed against the hull of the *Ten Percent Success* as the storm raged on. I felt my stomach grumble just as I heard the cook call out: "Fellas, it's too rough out to feed ya." Fortunately, there was a boat drive-through McDonalds just up ahead.

I ran up to the captain's deck and told him, "Look! McDonald's! Up ahead, can we go?"

"No," he replied, "We have McDonald's at home." But the McDonalds at home was Burger King, since we lived on Phillip Street and King Street was too far away.

This made me sooo angry and I was sooo hungry, so I got some friends together to plot against Phillip. I said to Captain Phillip, "Look at me, look at me, I am the captain now," and we took control of the ship at gunpoint, and set our heading towards King and Columbia.

Phillip turned red. "Where the fuck did you get that gun from?" he screamed in our faces, "That's mine and it's special and it can't be touched, put it down. Now."

I pointed the gun at Phillip's head, put my finger on the trigger, and said, "25 cents in the swear jar please."

"But... I don't have 25 cents," Phillip's voice broke. "If I did we'd be at the boat drive-through McDonald's right now. You think I want to be out here? I'm hungry too."

I told Phillip "Until you can pay off your swear debt, you're going in the brig."

Phillip sighed. "Sorry boys, I didn't want to do this, but since you're not putting that gun down, it's time for plan B." Phillip lunged at me but forgot that he only had one leg so he fell over as he tried to step on his missing left leg.

"Enjoy your not McDonald's," I called down to him, as I pointed the gun and pulled the trigger. Right as I fired the gun, he noclipped through the floor of the bridge and down onto the deck.

"Stupid idiot," I mumbled to myself, as I walked up to the now completely unguarded control panel. I commanded the first mate to lock the door and set the throttle to ludicrous speed towards McDonalds.

As I felt the boat surge forward I pulled out my phone and opened Water Waze. "Redirecting..." the sexy computer voice told me. "New route found to avoid eastbound lane closures, you will arrive in thirteen hours and forty eight minutes."

"Damn, how far is this McDonald's?" I asked as I reached into the ship's glove compartment and pulled out the owner's manual, only to find that ludicrous speed was only one thousandth of a knot, and I had no idea what a knot is.

"What do you mean you don't know what a knot is?" said the first mate. "It's when you put two ropes together."

"Chat, is that true?" I asked the live audience huddled in the corner of the bridge, who were all dumbfounded about what they had just seen on their merchant marine ride-along cruise.

"You're asking the wrong question. How did Xx_FirstMate69_xX just read your mind?" someone replied.

I sat there and pondered this for thirteen hours and forty seven minutes, then replied with a shrug as we pulled up to the McDonalds. A large CLOSED sign hung on the front dock, fuck. "This is just like when I tried to go to IHOP while on co-op," I said out loud to avoid any continuity errors.

I heard panting behind me and turned to see that Phillip had dragged himself back up to the bridge, swear jar in hand. "We're even now," he said, "a swear for a swear."

The second case of mind reading went unnoticed when the room darkened. A somehow previously unseen ship flying the Jolly Roger and with the words "you wouldn't steal a car" written on the side had pulled right up alongside us and was blocking out the sun because it was so big.

"Ahoy there," a booming voice called out from the ship's bridge, "We were wondering if you knew when the McDonald's opens."

"Yarr," I replied over our ship's loudspeaker, to show that I speak their language, "I'm not from around here, so I don't know either, would you like to try and find somewhere else to go eat together?"

"Yes, but first your friend there looks like he could use a leg, we've got plenty on board, come on in." We put our ship in park and took the keys, and then helped Phillip aboard their vessel where he was fitted with a new peg leg, and some of our guys opted to swap one of their hands for a hook as a style choice.

"Fellas." We heard a voice from our boat's loud speaker. It was the cook, it appeared he had stayed on board. "I've got good news and bad news. The good news is that after the storm died down I decided to treat you all to a 14-hour smoked brisket and it's ready now! The bad news is that I think the pirates just stole the keys."

Upon hearing this, the pirate captain sheepishly turned towards us and said "Arr, you caught us, but we'll gladly ransom your boat keys back to you for a bit of brisket, we were just a tad hungry is all."

"Alright, it's a deal," I said, "You did give Phillip here a new peg leg, the least we can do is repay you with some brisket."

I gave him a kiss on the mouth and the cook brought up some brisket, and set the table for a grand banquet. We ate, drank, talked, and laughed for hours, the sun set, the McDonald's never opened, the swear jar was overflowing with quarters by the end of the night, and so were our hearts overflowing with love. We said our goodbyes, boarded our ship, and sailed off into the night, hoping to come across our new friends again someday.

The End.

Coda and Yamnuska

We wrote this story by taking turns alternating sentences (at least we tried to do one sentence each time, sometimes it didn't work out), so that's why it is brimming with creativity and disjointed ideas.

N THINGS TO TELL YOURSELF TO CONVINCE YOURSELF TO TRY SOMETHING NEW

- I need to expand my lore
- I'm going on a side quest
- This is one more step in my life goal to do everything that it is possible to do
- I need to be unpredictable to outmaneuver my enemies
- The options today are either to do the thing or not to do the thing, and not doing the thing feels so much more boring in comparison
- If I do this thing every day for a year, I will have an incredibly useless skill
- Doing this will increase the amount of net interestingness in the world, which is probably the meaning of life or something
- I'm doing research for a story I'm writing where the main character is the type of person to do this thing
- When they make a biopic about me, I need an anecdote for them to spend five minutes on that has no relation to the rest of the story
- If I fuck this up, I'll have a funny story to tell in a few years
- If I fuck this up, the random stranger watching me will have a funny story to tell even sooner than in a few years
- If this thing somehow ends up destroying my life, then it's better to get it out of the way with now, before there's more of my life to destroy

__init__

THE FREQUENCY OF THE WORD "TIRED" IN mathNEWS ARTICLES INCREASES AS THE TERM PROGRESSES (P < 0.05)

Earlier this week, my roommate complained they didn't know why they were so tired. Naturally, my first thought was to send them an old **mathNEWS** article titled *I don't know why I'm so tired right now*.

I started ctrl+f-ing for "tired" on a bunch of different **mathNEWS** issues to find the article, clicking through all the instances of "tired." Sometimes there were more "tired"s, sometimes there were fewer.

Below are the number of "tired"s per **mathNEWS** issue, over the last two years.

	.1	.2	.3	.4	.5	.6
F23	2	4	2	0	5	1
W24	4	1	3	2	3	6
S24	1	2	4	3	5	4
F24	8	1	3	3	2	1
W25	0	1	0	4	4	6
S25	1	1	2	3	0	13
Total	16	10	14	15	19	31

Note that F24 should be 3, but it's 8 because someone repeatedly wrote "Are you tired of ..." at the start of all their paragraphs. If we were doing a real sentiment analysis, we would be considering the context of the usage of "tired"s.

But we are not doing a real sentiment analysis. We are simply proving that the frequency of the word "tired" in **mathNEWS** articles increases as the term progresses, with p-value less than 0.05.

Proof: The data speaks for itself.

no pun indented

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

PROF. MARK GIESBRECHT

ACCUSATION, DEFLECTION, CONFUSION

THE PREMATURE CONCLUSIONS OF AI 171'S CRASH

Warning: This article is about an airplane crash and an ongoing investigation. Content will, at times, include mentions of harm to oneself and others. If this disturbs you, do not read it.

It has been more than a month since Air India Flight 171 crashed shortly after takeoff from Ahmedabad airport in India, en route to London Gatwick, killing 241 people on board and an additional 19 people on the ground as the Boeing 787 ploughed into a medical college.

While there was much speculation as to the cause from the video footage that was quickly circulated online, from improper takeoff configurations to a catastrophic loss of power, there were no clear causes until the release of the preliminary report on July 14th, which told a chilling tale: both engines had shut off. A loss of power to both engines immediately after takeoff is not something that should be happening to any plane, much less a modern airliner, so one can imagine the shock to the public upon hearing that the engine failure had been caused by both fuel switches in the cockpit *being moved* from “run” to “cutoff” simultaneously.¹

This leaves us with either human causes (i.e., an accidental or deliberate operation of the switches by a crew member) or a mechanical fault with the switch itself. I don't want to focus on whether one possibility is more likely than the other. I don't flatter myself into thinking that I know enough to meaningfully contribute anything tangible. Instead, I want to focus on a report by the Wall Street Journal² that cites **unnamed** US officials who point to the captain having *deliberately* switched off both engines.³

This is my main gripe with the investigation. Despite the US officials not having access to the full transcript of the cockpit voice recording⁴ a set of **anonymous** officials can supposedly tell that the captain shut off the engines consciously. Not even accidentally—consciously and deliberately, while also asserting that the integrity of the fuel switches themselves are beyond reproach.

While mass murder-suicide by a pilot is unfortunately not unheard of (e.g., Germanwings Flight 9525), pointing fingers squarely at the deceased captain and blaming him for what—if true—would be a heinous crime, with limited available information, is irresponsible at best and malicious at worst. In the case of Flight 9525, investigators were able to reach a conclusion that one of the pilots had intentionally crashed the plane because there was clear evidence in the cockpit voice recorder that supported this.⁴ Even then, it took a year for the final report to conclusively and officially implicate the co-pilot. With AI 171, investigators have much less information from the recordings—just the sequence of clicks as the fuel switches moved from run to cut-off, and a short exchange where one pilot asks why the other had cut off the fuel, to which the latter replies that he had not done so.⁵

It is worth noting that the US NTSB has condemned the accusations against the captain as “premature,”⁶ but the damage has already been done. It is also worth noting that there had been an optional maintenance advisory put out in 2018 regarding the fuel switch design itself, which was fitted onto Boeing 787s and some 737s, because some aircraft had been delivered with the switches' locking mechanisms disengaged.⁷ The preliminary report has not ruled out the switches themselves as being a contributing factor, as unlikely as independent movement might be.⁴

This trend of blaming accidents on pilot error or malicious intent is disturbing. In the case of the two 737 MAX crashes, attention had been shifted to the pilots for not following the proper checklist for a runaway stabilizer (an event where the horizontal stabilizers—or the short wings at the tail end of the plane—move erroneously to generate excessive pitch-up or pitch-down movements). However, what hadn't been uncovered until later was that MCAS (the system that ultimately triggered the runaway stabilizer multiple times until both planes crashed) was “designed... to rely on data from a single aircraft sensor rather than including redundancy, which would have reduced risk.”⁹ That single sensor had been faulty in both cases.¹⁰

Where does this leave us? In the past, pilot error has been an effective tactic to draw attention away from critical safety issues with an aircraft itself, with the MAX crashes being prime examples in the modern age. While it would be premature to rule out that a pilot had caused the crash of AI 171 deliberately, or through accidental movement of the switches, it is also premature (and extremely malicious) to directly *accuse* a deceased person who is not in a position to offer a defence before any conclusive evidence has been released.

Quite bluntly, the whole saga of media leaks and statements from anonymous US officials seems like a cover-your-ass move on Boeing's behalf, **whether or not there was a contributing mechanical fault** (which the preliminary report, again, has not ruled out). This could end up being pilot error after all. **But**, if there is a problem with the switches or some other design, it should be uncovered for the safety of all future passengers and crew. If one of the pilots accidentally or intentionally shut off the engines, let the final report say that based on evidence.

This game of blaming pilots first and figuring things out posthaste is a low manoeuvre that deserves no amplification in the media due to the sheer damage it can inflict on the victims' families and the reputational damage to the two pilots in particular. Moreover, it casts scrutiny on the integrity, professionalism, and training of pilots everywhere while shifting the narrative away from the manufacturer and

protecting its stock prices, which is not a holistic approach to improving safety.

temporary_chaos

1. <https://www.reuters.com/business/aerospace-defense/india-finds-engine-switch-movement-fatal-air-india-crash-no-immediate-action-2025-07-11/>
2. <https://www.wsj.com/world/asia/air-india-crash-senior-pilot-eab72db5>. The article is behind a paywall, so I'm relying on sources that discuss it instead.
3. <https://www.ndtv.com/opinion/air-india-crash-exactly-whom-are-the-two-leaks-and-the-probe-report-helping-8892455>
4. <https://www.bbc.com/news/articles/cp3lpdp7x3o>
5. <https://www.dw.com/en/germanwings-crash-chronology-of-events/a-18388453>
6. <https://www.independent.co.uk/asia/india/air-india-plane-crash-pilot-sumeet-sabharwal-fuel-switches-b2792364.html>
7. <https://www.dw.com/en/air-india-crash-us-body-says-media-reports-premature/a-73333117>
8. <https://blog.thinkreliability.com/preliminary-findings-on-air-india-171-crash-confirm-key-theories-and-raise-new-questions>
9. <https://www.oig.dot.gov/sites/default/files/FAA%20Oversight%20of%20Boeing%20737%20MAX%20Certification%20Timeline%20Final%20Report.pdf>
10. <https://www.boeing.com/737-max-updates/mcas/>

TIME SYMMETRIES

(AKA I COULDN'T SOLVE THIS PROBLEM COMPLETELY IN TIME FOR THE DEADLINE SO I'M LEAVING IT AS AN EXERCISE FOR THE READER)

How many times a day, and at *which* times are the hands of a minute:hour analog clock reflect symmetrically about the line connecting 12-o'clock and 6-o'clock, assuming the minute hand jumps up one tick every sixty seconds as well as advances the hour hand $\frac{1}{60}$ th of the way to the next hour tick? (Bonus points for a solution which includes the second hand!)

See you with the (minute:hour) solution in Fall term.

abs(Jester)

WHAT MAKES ART GOOD?

THERE IS NO ONE LESS QUALIFIED TO JUDGE A PIECE OF WORK THAN ITS CREATOR

The entirety of my 2025 has been consumed by creating a play for the Ottawa Fringe. Creating a play is a lot of work. And I didn't know if it was going to be good. It really gave me a newfound appreciation for "bad" art. It made me realize that the metrics we use to criticize a piece of art for being flawed are often completely unrelated to metrics we use to determine that art is good.

For example, when a critic reviews a play, they will likely discuss the various technical elements: the lighting, the choreography, the performance, the writing, the pacing, etc., and how all these individual elements contribute to building the play.

The average theatre goer isn't a critic, and for an aspect like lighting, it might only be notable to the audience if it is exceptionally good or exceptionally bad. The true metric for the average viewer is: Did this piece of art make me feel something?

I spent so much time obsessing over individual sentences, trying to make my show as crisp as possible, and I ran out of time to finesse to my liking. And none of that mattered when faced with an audience. The audience did not care about my individual sentences. They interact with my work as one whole entity. Judging it by the simple metric of did they connect with the story, yay or nay? A piece of art can have innumerable technical flaws, and it doesn't matter as long as it succeeds in connecting with the audience.

There is no such thing as a perfect piece of art. Don't let the perceived imperfections get in the way of creating something that might truly leave an impact on someone.¹

Beyond Meta

1. Did this stop me from obsessing over the details of this article? No. I did go over it anxiously. I am just rewording the same idea of few different ways? Should I remove some of these rewordings? Try to make the article snappier? I ultimately decided that that repetition of ideas reworded is part of effective communication and kept it in. I did think of about this while writing and then I hit publish regardless.

Want to write for mathNEWS? Come to the next production night! New writers are always welcome!
Check the lookAHEAD for the next date!

A mathNEWS EDITOR WHO NEEDS NEW FRIENDS

N QUOTES FROM THE FUNNIEST USER ON LINKEDIN

A SAMPLE OF SOME COMMENTS WRITTEN BY THE BEST CHEESEMONGER ON THIS AI-RIDDEN HELL PLATFORM

Originally, I only made a LinkedIn account to get to play the Expert Queens puzzles. I did get curious though, and eventually started wandering off the games to the feed, where some of the most blatant AI corporate culture posts shared around by countless clueless middle aged business folks are hand-selected and overpromoted by the LinkedIn algorithm. In this mire of soulless slop, seeing someone ragebaiting boomers, posting somewhat ironic yet professional-sounding comments was quite a breath of fresh air. The legend I'm referring to is Matty Garbs, Harvard law school graduate in cheese law, Anchorage Alaska resident, and self-proclaimed Cheesemonger at Garbs Family Cheeses. Upon reading one of these comments, I just had to peruse this person's account, upon which I saw this:



Matty Garbs • 1st
Cheesemonger at Garbs Family Cheeses
6d •

Anybody know who this is? He showed up at our offices last Thursday and has been eagerly lapping at the dripping sewage pipe LOL. Much appreciated.

- MATTY GARBS
Single and ready to fingle



Which immediately convinced me to follow them. The following replies are some gems from this avid, mousy, cheesemongering commenter.

- **[Call & Call Pest control: Visit our website]**
↳ do you do alaska? also do cats count as bugs? i have an urgent problem
- **[Job hunting these days feels like trying to solve a Rubik's Cube... blindfolded... while on a rollercoaster... that's on fire.]**
↳ have you considered going into the cheese business?
- **[Explore new, move-in ready homes in 70+ popular cities across the United States]**
↳ does this house have any little holes at the

bottoms of the walls that I can crawl into at night and nibble on cheese inside of? preferably not trapped. thank you!

- **[Is ageism the last 'acceptable' bias?]**
↳ Speciesism is more important, actually. More than 90% of adult mice remain unemployed in the United States. Although we hire mainly mice, it's still not enough to counterbalance the discrimination faced by these intelligent, hard-working creatures in the workplace. There is legislation in Congress currently working to reverse the old anti-mouse laws, but its future is uncertain. Support your local mouse. Put them in your mouth.
- Matty Garbs, Mouse Empath
- **[AccuWeather: Did you know that extreme heat can significantly impact business operations and put lives at risk?]**
↳ Wait. Heat can make people... hot? Wow. Thanks for the hard-hitting journalism, AccuWeather. Where would we be without you? Hell, presumably.
- Jo Schom, Disgruntled Former Meteorologist
- **[Life Doesn't Slow Down — We Do.]**
↳ I ache in my bones at 23 years old. It is due to a rare disease known as acute osteoporotic rot, meaning that my bones have largely decayed already. Doctors say by 25 I will be goo, slithering about the floor to and fro. Enjoy your bones while you have them, boys, they won't be long for this world. I also have three lungs.
- Dean Worcester, Marketing Analyst
- **[With socialism gaining traction in the U.S., one reason is that young people are graduating into limited job prospects and lifelong debt]**
↳ Or we could abolish the American Dollar (an outdated, lame piece of paper) and replace it with the American Cheesepenny (a small wheel of cheese emblazoned with the American flag). Its value is defined as always being able to purchase a tissue box for one American Cheesepenny. It's like the metric system of currencies. Boom. Problem solved.
- **[Toolbox Tuesday: Whether you're handling chemicals, grinding steel or navigating confined spaces, the right PPE isn't optional—it's essential.]**
↳ Here at Garbs Family Cheeses it's "Tlálóc Tuesday" where we pray to the great god of rain to wash away our enemy's houses in a great storm. It has worked before.
- Xochitl
- **[1.2 MILLION strawberry plants under one roof: Dyson just built something that shouldn't exist.]**
↳ Have you considered putting them in the sun instead? No need to build a facility, either, just put a bunch of seeds in a field. No robots, no weird

ALL SILENCE NEAR COAST PT. 1

I'M HORRIBLE AT CREATIVE WRITING SO INSTEAD OF FINDING A LITERATURE MAGAZINE I'M GONNA SHITPOST IN mathNEWS, WE'LL SEE HOW IT GOES.

As a chill wind crept onto his skin, D raised his head. In the corner of his eyes, the edge of the encroaching night flickered into view. Along the sinuous coastline of the Mediterranean, a cruel flash of maroon bled through the blue of early summer.

The gentle baby blue was almost unobservable now. D gazed at the last bit of it, with a deliberation that wavered between pretension and genuineness. It was as if the blue would never return, however; he couldn't say why the thought saddened him.

He supposed it had something to do with his father. The man had just passed away a week ago, without ever having spoken a word to his only son in his 75 years of life. Maybe he found it hard to express sadness in front of people, so he had to flee to this streetcar to avoid all the condolences and questions from all the relatives, and use his sentiment for a fragile dusk to disguise the regret of not being able to learn and understand his father. With this suspicion, D tried to recall the few memories he had of his father, yet hardly caught any trace of sorrow.

His father left his mother while he was still growing inside her belly. The man didn't leave because of any discord in their relationship, nor disturbance from a third person. It's just that at the eighth month of his wife's pregnancy, he suddenly decided that traditional family life was not for him. In fact, D's mother also made the same decision. No one can tell if he or she abandoned one another, or if they forsook each other at the same time.

Before their separation, the couple owned a lovingly decorated house at the outskirt of Athens. They contributed almost equally to the mortgage, with him paying a trivial amount of a few tens of thousands Euros more than her due to gender role customs. She planted her favourite flowers—a breed of Bottlebrush that is extremely difficult to grow under the Mediterranean climate—and five rose trees in their living room, a room with an air well located at its centre and with no artificial light. All illumination in the space came from the Sun. If it was a gloomy day or after dark, they would not use the room. It was also a very revolutionary move in architecture to have a whole garden inside the house. Initially, when they were designing the layout, he didn't contend with the idea, but she insisted with an unquestionable persistence; when he stated that it is not practical and they should look for something more sustainable, she even refused to communicate with him for three weeks.

Knowing his wife as a very reasonable and understanding person before, he was confused. For the first week, he assumed she was upset with him about something else. On the first morning, he finished his coffee and saw her leaving the bathroom. Naturally, he asked her if she wanted a ride to work—but she didn't respond. She walked past him, straight into the kitchen, as if he was not there. At the moment, he

thought that she was just not fully awake and must still be trapped with a tiredness from waking by alarm. But that night, after his shower, when he leaned in to her to try to kiss her goodnight, she turned away. Without a word, she switched off the lamp on her side of the bed. The same avoidance happened the next day. He then stopped talking to her as well, after noticing she had been intentionally ignoring his questions, to give her space.

Sometimes his wife would prefer to process some internal issue by herself, and with a confidence rooted in knowing her for almost seven years, he made the wrong assumption that she would be back to normal after at most a week. When it didn't happen as expected, his worries rose again. He tried to talk to her again, asking her what went wrong, and tried to apologize for several things of which he was unclear, but suspected to be the cause of her anger, which not only failed to soften her attitude but ended up enraging her even more.

On Tuesday, he asked again as he did on Monday, what he could do for her to forgive him, and she finally spat out the first sentence in seven days:

"What are things you can do anyway? You can't even bear with me having some goddamn flowers!"

Hurt by her tone, he attempted to reason with her rationally. But she just turned away and refused any form of communication again, leaving him dwelling in a perplexed shock. He again would not reach out for conversation, but this time he did not dare to imprudently speak to the woman he loved and thereby, deep inside, was afraid of her disdain. She, on the other hand, was devastated by his apparent indifference. During her years of being a considerate partner, sometimes she secretly thought she was being deprived of being a woman, because she had witnessed many others being fully capricious when with their husbands, as it is a common way of people judging if they are in a loving and secured relationship. Being a well-educated lawyer, she preferred a more mature path of dealing with her partner. It was just those intrusive feelings. After a week of not speaking to each other, she had convinced herself that he had never loved her, or at least even if he used to, he no longer did.

Their war ended on a Wednesday night, in which he found her crying in the bathroom after a shower when she tried to put night cream on her face. This was the first time, and at the same time, the last time she had cried in their relationship. Those tears destroyed him utterly and he stood no chance to engage in any combat, so eventually, he compromised.

"The soil and bugs are going to create a mess," with a resignation from his defeat to his love for her, he lightly warned.

He not only agreed to have the garden in the living room, but also went to find the best quality seeds for her flowers.

To be continued...

local femboy lover

SPACE BETWEEN HELD HANDS

I've got my grandma's hands, I get sad when I see it because I'm reminded of how delicately she used to hold mine. Although, these days I wonder if, even in her shaky old age, she might've had a firmer grasp on things than I do.

My head's a mess. I walked to the park the other day, found a comfy spot on the lawn, and I saw my grandma on a bench. For a moment I was a kid again, my hair still bleach blonde, hands covered in dirt. She was twenty years younger, mind clear, her smile easy. Except it wasn't my grandma. She left yesterday.

It's amazing to me, she lived nearly an entire life before I met her. If I could I would go back and ask her how she navigated this period, how did she have so much time for everything she needed? I'm only appreciating now really just how much in her last days she still made time for me, she had friends, children, siblings, and even other grandchildren. For me, I worry that I don't see my friends and family enough, being away from home and focusing on myself, at school.

It was pretty unceremonious, I got a text "granny passed away :(". It's weird, it's almost like it didn't happen.

You weren't sitting on that park bench. But was that you peeking through the clouds, shining on me, telling me to look up? Did you orchestrate that birdsong? Was it you in the breeze, gently nudging me home for a cup of tea before it got dark?

I'd like to think so.

I'm going to keep looking for you—in my hands, in everyone I meet, and in everything I want to be.

If my kids ever ask about their great-grandma, I'll show them my garden, bustling with vegetables that they'll pick for dinner. I'll take them into town and buy them their favourite sweets. I'll tell them, like you told me, to never show up to someone's house with one arm as long as the other. And of course, I'll take my kids to the park and sit on a bench, smiling at them, while they play in the grass.

I'll keep your spirit alive in me. See you soon.💕

aGhostInTechnicolour

LIKE WALKING AROUND A HORSE

"You can tell a lot about a person from the examples they use," writes **mathNEWS** writer *wacfeld* in their article *E.X.* in **mathNEWS** 156.6, and while they encourage you to use more specific examples, which is based and something you should absolutely do, sometimes, people don't have the necessary context for more specific examples to make sense.

Take, for example, walking behind a horse.

Have you ever walked behind a horse? It's famously a bad idea, to the point of being potentially fatal. Back in 1898, the *Scientific American*¹ found that:

Indeed if one can go by statistics, the risk of meeting death by a horse kick in New York is over 50 percent greater than that of death by lightning.

When you're a young kid brought to a stable, the nearby adults take a lot of effort to ensure you don't get kicked by the horse. They don't, however, only tell you to stay away.

There's two key schools of thought with respect to preventing death by horse. The first is obvious: don't walk in kicking range of the horse. Stay far back from its rear, and the horse cannot reach you.

There is, however, an alternative. Stay very close to the horse. Place one hand on the horse's lower back, then, while gently talking to it the entire time, slowly walk around the horse as close as you can manage. Still gently talking, move to the safe opposite side of the horse, then remove your hand.

This sounds insane, given the "death by horse" phenomenon, but it works just as well. The horse knows you're there, and through your gentle words, it knows you mean no harm. You can't spook it. Better, even if it did try to kick you, it doesn't have the range to get any force in. You're too close.

Anything in between risks near-certain death, should the horse decide to kick. Very far away from the horse is safe, very close to the horse is safe, but wavering in between poses life-threatening danger.

Examples are so valuable. They allow us to reframe complex problems into familiar structures. Sometimes, those problems require committing; whether you commit one way or another, all that matters is that you do not waver.

It's just like walking around a horse. :)

molasses

1. <https://www.scientificamerican.com/article/kicking-horses-are-more-deadly-than-lightning/>

PUBLIC TRANSIT ISN'T JUST FLASHY NEW PROJECTS

When we discuss public transit infrastructure, the first things that come to mind are usually “how many subway routes does city X have?” or “city Y has this LRT/BRT route, therefore it is great.” While this is sometimes useful, it is a terrible metric to be going after for those who aren’t already familiar with city planning or public transit enthusiasts. In fact, this is a terribly misguided idea of what public transit should be—a city could have excellent public transit with only buses or trams.

The primary focus of a public transit system is to efficiently deliver people to places; therefore, the best metric (aside from ridership) ought to be “time taken” for citizens to get from place A to place B. In theory, we would sum over “all (desired) trips by every citizen” and measure how much time it takes, compared to other modes of transit. Even this is impractical, but it should be the guiding principle.

With this in mind, let us take a look instead from the perspective of an average rider. In North America, one would be more incentivized to take a car ride instead if public transit is too inaccessible, in the form of “too long of a walk” or “takes too long.” Therefore, it is imperative that we reduce the number of transfers or the wait time.

Consider yourself as a rider on, say, the YRT Viva. Sure, if your trip from point A to point B is exactly from one point on Hwy 7 (or Yonge Street, or any street the Viva lines run on) to another point on the same street, then sure, a bus ride is almost as convenient as that of a car ride. Similar idea for, say, point A to point B, both adjacent to the TTC Subway service.

But how likely would that trip be? More often than not, you’re not travelling on a singular dimension along one singular street. Perhaps you’d want to get off the TTC subway and check out something on Spadina at Dundas, where the TTC Subway does not reach. Or perhaps you live right next to the Finch TTC, and you’d want to take a journey to Canada’s Wonderland, where it is not adjacent to a Viva BRT line. Then what? In Toronto, you’d be lucky, since the Dundas and Spadina has great streetcar access with great frequency, typically five to ten minutes per tram, as opposed to a thirty minute frequency on the Major Mackenzie Drive for the route to Canada’s Wonderland, meaning that in addition to the sixty minutes of bus ride, you may stand to wait up to thirty minutes, meaning

a typical journey would take up to ninety minutes, compared to a thirty minute car ride.

While you might complain at the “extremity” of the examples given, and decry the unfairness that I am comparing journeys of different distances, the wait time still remains possibly the biggest factor that stands out. In Toronto, it is easy to transfer routes; in York Region, it makes no sense, particularly for shorter, “diagonal” journeys to, say, your favourite grocer.

Therefore, we argue the case that the most important aspect—the backbone, rather, of public transit *networks* are commuter bus or tram routes. Of course, BRTs, LRTs, or metro/subway systems are important, particularly for larger and denser cities, but it is not always a must.

Take, for example, Riga, Latvia. A city of less than 600,000 people. It doesn’t have the population to sustain metros or even LRTs, but with an extensive network of buses, trams, and trolleybuses at ten to thirty minute frequencies (trams at ten, others at twenty to thirty)¹ with more than 100 routes total. Compared to, say, Mississauga, a city of more than 700,000 people, but much lower bus or tram frequency, Rīgas Satiksme (the transit system of Riga) boasts more than three times the total ridership of MiWay, where Mississauga offers a much smaller network with typically much longer frequency, even with the existence of the Mississauga Transitway.^{2,3}

And this makes sense for the average rider. The average transit rider typically needs a ride from point A to point B that is not lined up nicely on the same street, and so, if each transfer (determined directly by frequency) costs up to thirty minutes, that is not acceptable. And neither is a fifteen-minute walk from the nearest bus stop to the building you intend to visit. And considering a typical potential suburban rider, for most trips they’d need, they’d take their car instead, and we can’t blame them either.

Thus, a good case can be made that, should transit be considered as a network, the extensiveness and the frequency of the commuter bus or tram network should be the priority, as opposed to the glamour of, say, *big* infrastructure projects. And for our cities, specifically, it means larger networks that cover more ground at much better frequencies. A thirty-minute* bus frequency on weekdays is simply inadequate for anyone seeking to ride a bus, and this must change. For the typical Canadian suburbs, where population density is sparser, instead of sacrificing frequency, a possibly good solution could be using more minibuses that cost less to operate, instead of large city buses. Another would possibly be operating fewer LRTs or BRTs and considering diverting funds to, say, fifteen-minute network frequencies on weekdays.

Public transit should always be considered as a *network system*, rather than “individual lines,” and a half-assed network of small coverage and low frequency is no better than hemorrhaging taxpayer money for little return. LRTs and BRTs should be the icing on the cake—a solution to increasing

**Just write “this is filler”
in the blackBOX or
something and move on.**

**AN UNINSPIRED mathNEWS EDITOR
SOLICITING blackBOX IDEAS**

capacity rather than a solution to attracting riders. Our current networks should be pursuing more frequency and more bus routes, rather than another LRT or another Line 4 Sheppard.



Re: On the [citation needed] claim in issue five (last issue), a simple example of a bus running up to 100km/h would be the Alexander Dennis Enviro 500 MMC on GO transit on the

Expressways (e.g. 401 or 407) at $\geq 100\text{km/h}$. Rare for urban expressways at that speed, but not impossible.

RobbotC

1. <https://saraksti.rigassatiksme.lv/index.html#riga>
2. https://en.m.wikipedia.org/wiki/R%C4%ABgas_Satiksme?searchToken=annz7b04251qt0td1j4kra6tp
3. <https://en.wikipedia.org/wiki/MiWay>

BESET BY INCOHERENT FOES

IT IS SIMPLY THAT EASY

Mixed media experiences are always really cool. Within the past weeks,¹ I have experienced this cool surreal web game at the URL² corru.observer. It is about exploring a corrupcyst³ found in a shipwreck, belonging to an important obese⁴ named Akizetesche, involved with researching the Call. Your role is investigating the circumstances surrounding her disappearance, her role in the collapse of the Embassy,⁵ and maybe some of her more personal stories.

The game blends point-and-click⁶ adventure games with first-person grid navigation, Earthbound⁷-esque turn-based combat, bullet hell,⁸ downloadable images, and more. Naturally, exploring memories of an alien involves intense surreality, abstraction and incoherence, all integral parts of the experience. Unfamiliar words and definitions have hovertext⁹ that give context or hidden messages. The CMYK¹⁰ color scheme bleeds through every visual in the game. Moving between different locations and thoughtspaces¹¹ are represented by linking to different website address. Certain highlighted words lead to answers in the uncosm.¹² Much can be learnt about obese⁴ culture through context clues and inferences. One boss has guns. Another fight makes you play complex rock-paper-scissors¹³ mech battle. There's a mini roguelike¹⁴ side mode that ends in a boat escape sequence. Image data of every obese⁴ was corrupted so each were replaced with their Obesk Collective¹⁵ avatar. Masks¹⁶ alter thoughtforms¹⁷ in unique ways.

We all dance on velzie's stage.¹⁸

newsfriend

1. INHERITED CONTEXT::time period;"numerous within gazes'
2. INHERITED CONTEXT::acronym;"uniform resource locator'
3. DEFINITION:: 'A spherical "cyst" of corru'
4. INHERITED CONTEXT::'species native to Obeski;"divided into various castes'
5. INHERITED CONTEXT::'the performance;"velzie cackles with delight'
6. INHERITED CONTEXT::'movement and usage of the limbic motor beacon;"method of interfacing'
7. INHERITED CONTEXT::'famous false environment from the bright cousins'
8. INHERITED CONTEXT::'large amounts of projectiles'

9. INHERITED CONTEXT::'additional data accessed through idleness of motor beacon'
10. INHERITED CONTEXT::'subtractive colour model;"cyan, magenta, yellow, key'
11. INHERITED CONTEXT::'physical thought landscapes;"physically traversable'
12. NOTE::'reconstructive translation;"implies non-world'
13. INHERITED CONTEXT::'intransitive hand game of the bright cousins'
14. NOTE::'contentious translation;"describer of false environment format;"implies session-based play'
15. INHERITED CONTEXT::'obesk communication network through the Dull'
16. INHERITED CONTEXT::'tools made of crystallized thought'
17. INHERITED CONTEXT::'independent entity, constructed of thought'
18. INHERITED CONTEXT::'all that can be observed;"physical reality;"religious term now used scientifically;"partial translation;"inherited description-generated noun'

WHY I'M SCARED OF ACTSC

- I lost my calculator
- Numbers scare me

failing_actsc

The doors are opening.
Please stand clear of
the doors.

A HELPFUL ANNOUNCEMENT
FROM GO TRANSIT

LOVE AND SACRIFICE

Not only have we lost the rich multitude of “love” in the modern days, but its nature has become increasingly possessive. “Love” is the desperate urge to have what one desires for oneself, most prominently romantic (and you are extremely lucky when it’s mutual), sometimes towards an object/goal, but it is rarely more noble than that.

However, I dare to argue that love is not best tasted in what we gain, but in what we willingly lose. Will you love someone enough to let them go? Will you lay down your life for the victory of your beloved nation? For many, this love is too costly to be even considered—because it does not offer gains, but demands loss. This unfathomable tradeoff crafted this love with unfathomable depth—a depth so profound that it defies human nature, defies the self, defies reason, in order to transcend love itself.

Nowhere is this love better portrayed than in *Casablanca*, a 1942 classic romance film and one of the best films ever made. The movie took place in Casablanca, a major city of refuge during WWII where the main character, Nick, an owner of a nightclub, was introduced as an indifferent businessman amidst the turmoil of the dwellers’ interests and affiliations. The sudden reappearance of his previous lover in Paris—Ilsa and her husband, Laszlo, who has contributed greatly into anti-Nazi war efforts—triggered Nick’s trauma of her previous abandonment. Years ago, she fell in love with Nick when thinking her husband was presumed dead, but had to return without revealing the truth after finding out he’s alive. The reunion made them both realize the mutual maddening love that still lingers, Ilsa asked Nick to help just Laszlo escape and agreed to stay with him. But Nick secretly arranged for them both to leave despite the pain of losing her again and the risk of Nazi officials’ persecution.

The selfish, neutral character is now tangled with war effort for the right side again, “love” for Ilsa has rekindled his best side: he sacrificed a superficial love affair for honour, for Ilsa’s long-term happiness, and the greater good of the war. He never lost these virtues deep down, but true passionate love revived them by burning the veneer he created for his own protection/insecurity. Before meeting her again, he was tormented by trauma and loneliness, but now they are redeemed by his heroic choice: he lost Ilsa again but gained her forever.

Now, another classic—*A Tale of Two Cities* by Charles Dickens, set during the time of the French Revolution, is also a powerful story of love’s rescue in the gloomiest days. Charles Darnay forwent his French royal identity due to disgust for their mistreatment of the people before fleeing to England and met with Lucie, who became his wife. He was captured while trying to go back to France to rescue his servant because of his royal origin and was to be executed. In the meantime, the unsuccessful, frivolous, self-destructive lawyer Sydney Carton (who looks exactly like Charles) also fell in love with Lucie. After hearing Charles’ upcoming execution, he plotted a substitution to die in his place because of his love for Lucie.

Upon his death he reflected: “It is a far, far better thing that I do, than I have ever done, it is a far, far better rest that I go to than I have ever known.” His fear does not lie in death, but in the life he wasted; and he did not despair over Lucie’s decision but sacrificed himself for her choice.

There’s a common pattern here: both of their love was not fulfilled romantically, but acted as redemption and the key to triumph over the evil in the background. For Nick, he could have kept Ilsa to himself but through reversing it he redeemed himself, Ilsa and Laszlo, and more civilians by future war resistance. As for Sydney, the substitution also freed himself, Charles/Lucie, and exceeds beyond the personal as Dickens’ way of expressing the beauty of sacrifice set against the violent French Revolution which he condemned. Both sacrifices also manifested to be their overdue antidotes to sufferings: rather than being haunted by the unobtainable love, they chose to let go, transmuting mere desires to the “fulfillment of the self” as Jung would put it.

Both narratives are tangled with romance—yet are not ultimately about romance. Their love story is not fairytale, nor are the antagonists Prince Charmings; they instead present an irresistible attraction to explore the truth/power of love beyond mere fantasy.

This theme by no means has to be played out in a grandiose manner, it finds its quietest and most beautiful expression in the good old institution of “marriage.” The initial romantic attraction between the couple was but a flicker in eternity, soon vanishing without notice to leave them with bondage, responsibilities, and conflicts. Passionate love started to give way to deontological love, the only way moving forward is through faith in each other and infinite sacrifice to dull the thorns that they are covered in.

Many cannot hesitate to point out the silliness of such, but they failed to realize the outflowing of meaning and purpose in the midst: suddenly, the individual is joined to a covenant that encapsulates his whole existence, orients his desires, and empowers his actions. A life sustained by such sanctity is one with most vigor/joy; for sooner and later, one will realize that the deepest agony in life is to live solely for oneself.

Therefore, by this definition, love is not dependent upon external conditions—such as emotions or hormonal fluctuation—but solely a choice one freely makes. Then if it’s freely chosen, why would one limit this love to one person? If one can love, one might as well love as much as possible. And coincidentally, humans happen to desire love in abundance: it’s the healing elixir everyone craves in the face of the cruel conditions of nature. Without it, life is a tragic and senseless game of survival drowned in hostility; but with it, people are united to realize the true and only enemy, after all, is evil itself, in nature or human choices, which is precisely the absence of love. Something starts to change: the previous despair towards life was transformed into a passion, into a drive to not surrender—a never-ceasing freedom.

To love is to serve, is to die to yourself for others' sake. There is much to lose, but much more to gain. It's full of mystery that can only be experienced intimately, but it's also the only hope to carry through darkness.

We may give up on love, but love never gives up on us.

Jasmine Charis

For questions and comments, reach out to
jasminelyvia07@gmail.com

DIRECTED READING & RESEARCH PROGRAMS (DRP)

Are you interested in exploring mathematical research and gaining hands-on experience?

We are excited to announce that the Women in Mathematics (WiM) committee is now accepting mentee applications for the Fall 2025 Directed Reading & Research Programs (DRP). The DRP-Reading track focuses on learning how to conduct research in mathematics, while the DRP-Research track is centered on pursuing original research.

Apply here: <https://wim.math.uwaterloo.ca/>.

To learn more about the programs, please visit:
<https://uwaterloo.ca/women-in-mathematics/directed-reading-research-programs-drp>.

The application deadline is **Tuesday, July 29, 2025**.

We look forward to receiving your application!

Please note: the WiM DRP is open to undergraduate math students (mentees) who identify as one or more of the following: women, 2SLGBTQIA+, Indigenous, Black, persons with a disability and first-generation university students.

WiM Committee

MY FAVOURITE LINES FROM BELLS LARSEN'S SONGS

I SAW HIM LIVE AT HILLSIDE AND IT WAS SO AWESOME ADHSLKAJHALKJHSJF

- Do you think that it is strange? The weather of your city's saved on my phone
- The past tense will never suit the cadence of your name
- Now I'm searching for the fragile fragments of teenage love
- I think I've become the sort of someone, who scared me stiff when I was young
- Trying to turn the clocks back, watch my shadow contract, a stranger with long hair
- No one likes it when I control the aux cord
- Why don't you ever ask me any questions? Do you feel you still know me now that I started anew?
- Sunsets are sweet but they can't compete with my view
- What a powerful thing to tell the world who you love, especially when you're fourteen and the world is your mom
- I wondered what would happen, if they made music out of me
- The things you reach for in your life, reach back when those things are right

Not a N*rd

P.S. I caught him as he was leaving the stage, and I was all excited to ask about a song he sung called *Bike Dream* so I asked him what it was about and he was like "Oh I dunno probably about a threesome." Turns out it was a cover and I hadn't realized. So if you need me, I'll be hiding in the lake, dying of embarrassment.

P.S.S. So because of this fiasco I didn't get his autograph but I got the drummer's so maybe its all okay.

P.S.S.S. I don't think *Bike Dream* is about a threesome sorry Bells

mathNEWS

Please help, they've trapped me in the mathNEWS office and won't let me leave until I've finished the issue. I'm in MC 3030, come quickly!

NOT A CRY FOR HELP FROM A mathNEWS EDITOR. THE EDITORS ARE DOING GREAT. YOU SHOULD APPLY TO BE AN EDITOR, ACTUALLY

A GUIDE TO UW CRYPTIDS

The Math CnD was always my favorite place to sit between classes. All of my classes were in the MC building so I never needed to go far. The only downside of studying there were the Byters. Little creatures about the size of raccoons that you'd barely see coming and then only catch a glimpse of as they retreated. I'd feel them gnawing at my ankles while I ate my \$1.87 Jamaican beef patties, and before I could shoo them away, they'd steal one of my pens or a piece of the Jamaican beef. Then they'd retreat back to the server rooms in the MC basement.

My friend and I tried to catch one once. I brought a butterfly net and a brand new Pilot G2 pen to campus. The Byters seemed to like stealing those ones best. We set the trap on one of the tables in Math CnD. After a few minutes, we noticed a Byter approaching, and right as it reached its little hands out to grab the Pilot G2, we launched the net over its tiny form.

But the Byter could not be caught. Impossibly, its form broke up into smaller bits of itself, then the pieces came back together as a whole outside of our net. Then the Byter scurried off with the new pen. Me and my friend looked at each other in amazement; we'd never seen anything like it before.

I remember that day vividly, because it was the middle of a particularly grueling week of midterms and assignments. It was a Wednesday, and I was preparing for the midterm that I had the following day. I hadn't been attending lectures for this class, so I knew the midterm was going to be rough. That is what drove me to walk over to the PAS building and seek out The Brain.

The Brain was a large, disembodied brain that lived in a dim classroom in the darkest corners of PAS. It was said that you had to get lost in the building before the door to the Brain would reveal itself to you, but I was always lost in PAS anyways, so I never noticed a difference. You see, I had brought more than a net and a Pilot G2 pen to campus with me that day. I also had a meager collection of buttons, acrylic keychains, and small plushies that had fallen off of other student's backpacks. There was a sparkly acrylic keychain featuring a character from Genshin Impact, a pink plush of Kirby, and a couple other dirty pins and charms that I had picked up from the sidewalk of Ring Rd. and the hallways of MC.

The legend went that if you gave lost, nerdy trinkets to The Brain, it would give you the knowledge you needed to pass your courses. The bigger your offering, the better grades you would get. Nobody knows who was the first to discover this, or where The Brain came from, or why it liked small acrylic charms of anime characters. Students simply accepted it as a fact of life at this school. So I reached into my backpack, held out my small haul, and tossed each item towards The Brain one by one. It absorbed the trinkets into its brain folds slowly, digesting them. Then suddenly, I was filled with knowledge of multivariable calculus—enough to get an 80% on my

midterm, at least. I thanked the Brain, put my backpack back on, and navigated my way out of PAS.

On my walk back home that day, I narrowly avoided a run in with a goose on University Avenue. It was a Spring term, so I knew that if I got too close, the goose would expand to its biblically accurate form with all three hundred eyeballs and five hundred tongues. I decided not to take any chances that day and crossed the road when it approached.

closeted atheist

N SYMPTOMS OF THE MATH FONT

The math font is how math people talk. It's terms they use in casual conversation that any non-math person wouldn't know the meaning of. Below are several of the more common ones:

- Strictly
- Subset
- Structure
- Trivial/non-trivial
- Implies
- Inverse, contrapositive, converse
- If and only if
- Necessarily, sufficiently
- Vacuously true
- Parse
- Interface
- Isomorphic to
- In the category of
- Within epsilon of
- Monotonic
- Definitionally
- Arbitrary
- Pretty much any term used by **mathNEWS** writer *nazz*
- Greedoid

Like a heart attack, the most dangerous symptom of the math font is denial. If anybody uses these terms but still insists that they're normal, run. They're far gone and probably contagious.

χ, peacelovemath, and aphf

What? I don't remember putting this here...

A FORGETFUL mathNEWS EDITOR

TOP 10 AUSTRALIAN SLANG WORDS

I am an exchange kid. Like all exchange kids, I need to mention that I went on exchange every chance I get. In honour of my 4.5 months in Brisbane, I am going to list and rank my top 10 favourite Australian slang words.

The slang in Australia is both intuitive and terrible at the same time. Many words become slangified by cutting off the end and affixing an -o. The other words just don't make sense at all. But there are quite a few of them, so picking my Top 10 is quite challenging, but they are quite fun to use when everyone around you is drunk and you have a terrible Australian accent.

10. Thongs. The lovely Aussie word for “flip flops,” this is funny the first two times you ask to see your friend's new thongs. This one is decently well-known as a slang word, so it lacks the mysticism most Aussie slang words have to us outsiders. Overall, good.

9. Billabong. A billabong is a lake that is cut off by a river, or something. The only reason I like this one is because it's part of the song “Waltzing Matilda,” the unofficial (and at one point, almost the official) Australian anthem.

8. Woolies. Short for “Woolworths,” one of two grocery stores and one party in the duopoly that governs most of Australia's big stores. Woolies owns so much stuff and loves to price gouge everyday Australians, but at least they have a cute snappy name.

7. Democracy Sausage. Not really a slang, but a damn good snag you get after you vote in elections (which is mandatory, btw). A snag is a sausage laid atop a piece of white bread, served with grilled onions and “tomato sauce” (ketchup—I don't agree with them on that). I just like this one because snags are really yummy.

6. RBT. RBT stands for “Random Breath Testing.” RBTs are these little stations they set up along roadsides randomly to breath test every driver that comes through in an attempt to tackle the drunk driving problem in Australia. I like RBT because there's a really funny TV show (also called RBT) which showcases the funniest cases of drunk drivers. Just give it a go.

5. Fair dinkum. Probably the weirdest one I've come across. Something or someone is “fair dinkum” when they're good, genuine, and overall, a vibe. I used this one once, and promptly got laughed at by everyone around me. It was awesome.

4. Seppo. Try and guess what it means. Did you guess American? Seppo is great because of its origin. No, it does not reference America's separation from the British. Seppo comes from yankee → yank → septic tank → seppo. I appreciate this one for the creativity behind it.

3. Bottle-o. Naturally, short for “liquor store,” the favourite store of many Australians. You go to a bottle-o to get a goon

bag, and that's all. True gooners know. I like this slang because I too am a gooner.

2. Budgie smugglers. Slang for “speedos,” and named for... obvious reasons. This one holds a special place in my heart, because when my Australian friends talked about Tony Abbott's budgie smugglers, I thought it was a scandal about smuggling budgies into Australia, but the actual truth is a lot funnier.

Honourable mentions: goon (wine bag), bogan (unsophisticated person), drongo (foolish person).

1. Maccas. Undoubtedly this is the best slang the Australians have ever come up with. Short for “McDonald's,” Maccas signifies the Australian way of life. It's convenient and snappy. The McDonalds app in Australia is called “MyMaccas,” and I now own a blue bucket hat featuring the Maccas cast, with the words “Maccas run?” across it. They also added the McWings a week before I left, and that was the best fried chicken I've ever had. I now refer to it as Maccas in my daily life. Thank you, Australia.

bsgcg

COME TO THE UW ANIMUSIC EOT!

We have good music and it's free entry! See you there at STC 1012 on July 27th @ 14:30.



RobbotC

TOURING THE MC THIRD FLOOR

“Welcome to the third floor of MC,” I say, a crowd of parents and prospective students gathered around me. Every tour of the third floor starts here, overlooking MC Comfy, in front of the pink tie display.

There’s a sense of comfort when I begin this leg of the tour. Perhaps because I’m finally out of the snow, or rain, or blazing sun. Perhaps it’s because I’m too chronically in MC. And as the number of tours I have left before graduation winds down, perhaps it’s because it’s a reminder of everything I love about Waterloo Math.

“We’re the only Faculty of Math in North America, which makes us the best one,” I say, to some chuckles. I picked up that line from another ambassador when we were tag teaming a tour. I tell wide eyes the story of Professor Ralph Stanton. How pink became the colour of the faculty, and ties, its symbol.

I don’t mention how proud I am to don the bright pink Math Ambassadors uniform. Five years ago, if you asked me if I’d get into Waterloo, I’d say, “I really want to, but... if they let me in.” Waterloo CS was my dream program, but that’s all it was, a dream. I stressed over each test score, each extracurricular, and compared them to those around me. Five years later, I get to open each tour with, “Hi, my name’s Grace, I’m in my final term of Computer Science. At any point, feel free to interrupt me and ask me any questions.”

Thank you, Waterloo Math, for accepting me into Computer Science.

The tour winds past the Bloomberg lab, past the W Store, and stops in front of the Math Tutoring Centre.

“The profs and TAs want to see you succeed. If you get in, it’s because we know you have what it takes,” I say. I encourage my group to use the resources they have, to go to class and office hours, that it’s okay to reach out for help.

In my first year, I stumbled through CS 136 until I finally dropped the course around the midterm. Back then, that was the biggest failure of the time. How was I meant to be a CS student in my dream program if I couldn’t make it through a first year course? What if I wasn’t built for Waterloo CS?

Thank you, Waterloo Math, for proving me wrong. You showed me I had what it took, I just needed to use the resources available.

The tour passes the **mathNEWS** office.

As a writer, the two hardest things to do are starting a piece and ending it. How do you end your five years of university? When you graduate, you realize everything you haven’t done. You count your lasts. Last tour. Last production night. Last class, and soon, last exam. But to have a last means I’ve had a first.

My first time getting lost on campus. My first time attending a lecture, when 2025 was all too far away. My first time as a **mathNEWS** editor—this term—because even in my final term, I’m still learning.

Thank you, Waterloo Math, for giving me my firsts and my lasts.

“These are the Math Clubs,” I say, walking backwards, one hand extended. “They’re social spaces where you can pop in, work on assignments, chat, or even buy chips and pop.”

There aren’t many third spaces like the Math Clubs outside of the university environment. After graduation, I won’t be able to pop into the Computer Science Club between lectures, spot a few familiar faces, wave, and, as is the nature of the Computer Science Club, get sucked into conversation. But how do you quantify that while running a tour?

Thank you, Waterloo Math, for showing me the friends and community around me.

I turn the corner and enter the MathSoc Office.

“Come in, everyone,” I say. “MathSoc doesn’t bite.” I get a few more chuckles. The MathSoc section of the tour is covered by the office staff. I get to rest my voice. I’m at ease, surrounded by shelves of board games, listening to the office staff describe MathSoc’s services. This is—was—my life for my undergraduate career.

I joined MathSoc Cartoons in 1A, and it was Cartoons where I met my first friends in university. From then onwards, MathSoc and the Math community became a constant in my life every single term. But if you had asked me five years ago if I’d get involved in student government, I’d give a resounding no. “I’m not built for that,” I’d say.

Have a penchant for dry wit and self-deprecating humour?

A mathNEWS Editorship is the ideal way to waste that talent! Apply today!

**AN OVERLY-JADED
mathNEWS EDITOR**

It was MathSoc where I got my leadership experiences on campus. Where I got to be at the helm of the Society, where I got to put together events for hundreds of students, where I got to advocate for other students. Sometimes, all it takes is some encouragement from your friends, and their belief that you have what it takes.

Thank you, Waterloo Math, for letting me grow in unexpected ways, and teaching me more than just CS.

I take the tour group past the Math CnD and tell them about the daily specials. "Friday's the best," I say. "Chili with garlic bread is elite."

As the weeks count down, each passing Friday is one chili bowl closer to my last time in the Math CnD as an undergrad.

No longer will I walk down the hall, from MathSoc or **mathNEWS** or CSC, and scoop up chili, or maybe grab a samosa, or a drink.

Thank you, Waterloo Math, for having the best CnD on campus.

I take the tour past the rock garden, past the M4 construction. We head onward to DC, and as I joke about Canadian construction timelines, I know this isn't truly the end, but the start of the rest of something incredible.

Thank you, Waterloo Math, for changing my life.

disgracED

I CAN'T HIT UNC STATUS

Last night was my father's 60th birthday. While he should be approaching grandunc[le] status, both of his offspring are probably going to end his bloodline. With his first-born son pushing thirty (22) and his second-born daughter pushing twenty (19), one would assume we would be taking strides toward maturation. However, they'd be mistaken.

I propose a key indicator of this maturation is the shift in dynamic at family gatherings. This seems specific, but recall family reunions as a child. Conversations were initiated by your university-enrolled cousins: "How's school?" Then, "Do you know where you want to go for university?" Then, suddenly, your generation alpha nephew is hiding behind your big cousin, now their mother, because you're basically a tree in blue jeans, a Waterloo hoodie, and an awkward expression.

As the appetizers on the lazy Susan were swapped for the entrées, me and my brother were ushered to the smaller table in the corner of the room: the Kiddie Table. My enthused nephew plopped onto the seat next to me, beaming. I inquired why he was so happy to which he replied: "I graduated! I'm at the kiddie table now!" Of course, since he does not need to be spoon-fed by his mother anymore. The age diversity at this table was impressive: 22, 19, 16, 13, and 6. I pondered what exactly made my 22-year-old brother unworthy of adult conversations at the adult table.

It occurred to me that this was not the Kiddie Table, but rather, the "Kiddies and Aggressively Single and Jobless" table. We were shackled to these plastic seats until we put a ring on it, basically. That's nice, that's cool.

Even better, this six-year-old nephew was leading the dialogue at this table like a skilled interviewer. Although he likely had half our lexicon and a third of our age, he had twice the engaging conversations. No matter what questions my brother and I asked, the 13- and 16-year-old answered like they were in a time-limited survey. "Yeah," "no," "I guess," "probably,"

"nothing really," were shuffled on rotation like an abandoned playlist. I genuinely felt at a loss.

I think my six-year-old nephew is ready to be an Unc; I'm forfeiting my role.

The cherry on top was probably my 13-year-old cousin and 22-year-old brother hovering over the lobster on the counter at the same time. The red shellfish was conveniently cut into smaller parts (tail, claw, torso, etc.). My cousin needed guidance on which part to pick.

"What part should I get? Like what's easiest to eat?"

"Uh, I don't know."

"Aren't you 22?"

I don't think I've ever heard of a more tragic way to become aware of your age. My sibling advised him to take the claw, which was also probably the most difficult part as it gives less access to the meat. That's pretty nice, that's also cool.

My poor father is not hitting Grandunc status anytime soon.

Schrodingus

NO MATH
NO NEWS
100% PURE
UNEDITED SHITPOSTS
 math NEWS

N PEOPLE YOU MEET AT A MUSIC FESTIVAL

- A woman who, after two years away, is finally going back to grad school. Standing with her feet in the sand, only steps from the lake, she tells you that she wants to become a family counsellor in Toronto someday. Rubbing her finger absent-mindedly, she explains that she got engaged a month ago, and is still too worried about losing her ring to bring it out of the house.
- A man holding on for dear life on a crowded city bus, explaining to the little girl in the seats above him how he teaches other kids how to tie string the traditional way, as the bus lurches back and forth, trying to climb up thin dirt roads.
- A man with lots of necklaces and a thick beard who excitedly tells you about his near-decade being a DJ for his local campus radio. Long after his graduation, he kept returning to his undergrad campus, which he calls his “second home.” He pauses as he adjusts his hat, swatting away the mosquitoes, and explains that he hasn’t done a show since he moved into his own place for the first time a few months back.
- A little girl running across your path in a blue and white Dipper hat. It looks clean enough to be brand-new. She’s about the age that you were when you first got really into Gravity Falls, and you wonder if she got into it from an older relative, or if the show is still finding its way to curious kids on its own.
- An incoming high school senior, surrounded by music, who is buzzing with excitement about the kids he tutors in piano. He says he’s going to miss them terribly when he goes to university, which is still a distant aspiration for him. You resist the urge to make a Waterloo-flavoured comment when he says his dream is to get into the University of Toronto.
- An artist under the lights, tuning his guitar as he tells the crowd about how he timed the production of his new album to record all the high parts before he started taking testosterone, and all the low parts after, taking the leap of faith that his voice would change in the way which would make the song finally sound complete.
- A toddler sitting with his face pressed up to a speaker at a rock show. You can’t hear what he’s saying to his mother because of your snug orange earplugs, but it looks like he’s having fun.
- A man with thin arms and a thinner white beard, hovering over his custom instrument, smiling as a gaggle of onlookers sit in front of him, enthralled. It’s the largest crowd ever seen for improvised music, he jokes.
- Young couples, lying in the same grass as old couples, sharing the same slice of the constellations for a night.
- A few thousand people who are coming from somewhere wholly unique, and soon to be heading on their way somewhere totally new, each of whom share one thing in common. They’re all on this little man-made island in Southern Ontario for the same reason you are. They’re all just trying to take a minute to *breathe*—to share the kind of kinship you get when you throw away all outside sensations and responsibilities to lose yourself, just for a little while, in some damn good music.
- A little boy on the beach who throws a rock just *barely* above your head as you’re trying in vain to capture a memory.



Dick Smithers

CSC FLASH-ES PEOPLE!!!

**CT DALEK IS FLASHING YOU WITH LIGHT
SABERS!!! FR FR**

Bonfire occurred, CSA stole our thunder :(
They stole everyone at our event :(((
BUT BUT
WE GOT SOMETHING THEY DONT
TAHINI, THE SERVER
hehehehehehe
it is a vv cool server, will be documented as it well gets setup
up

on another note
im gonna cry at some point
about my life
but that is a future problem
GOOD LUCK YALL
GG

THE MARKET DOESN'T PLAY NICE

In terms of income: At six figures morals are optional, at seven they're a suggestion. At nine figures laws are optional, at ten they're a suggestion.

The six figures is the general consensus on “when it is ok for an engineer to break their morals.” The others are somewhat ballpark, based loosely on lobbying numbers and general observation that rich people can get away with anything.

The thing with the market is that it is worth so much (>>10 figures), it behaves in a way that is often contradictory with what is “nice.” Market manipulation, Ponzi schemes, “massaging the numbers,” one would expect these strategies to be a bad idea in the long run. And yet, if you stand to earn \$10 million in a single shady play, why should you worry about the potential reputational damage? With that money, you can basically pay the news to repair your image.

As a researcher/engineer, what this means is: **advertising often pays more than having good stuff (at least in the short term).** We like to believe our ideas are the most important part of a business' product, but having a good product doesn't pay—customers do. There is plenty of great research and open-source projects out there that need and absolutely deserve more funding, but the market doesn't care. Instead, it pays the companies that essentially function as a wrapper for said projects, because they “advertise themselves properly.” Given that the US is currently trending towards defunding research, this is unfortunately likely to get worse.

So welcome to a world where **the semblance of progress pays more than the progress itself.** To me, the market is built on a bubble—it grows on speculation, and grows far faster than its fundamentals. Ever find it strange that the more that companies spend on AI, the *more their stocks go up*? Normally, cost overruns are not a good sign, but if you can qualify it as an “investment,” then it can be framed as a good thing. Tech is notorious for doing this, but AI has taken it to new levels.

To showcase how absurd the market is, notice how the price of a stock is a somewhat made-up concept. Sure, it's supposed to be based upon the value of a company, but often a stock's price can get inflated due to an expectation that “whatever the price is, it will go up 50% year upon year, as it always has.” Take Nvidia for example. How much would you pay for a share of NVDA? It kind of doesn't matter if we expect its stock price to double every year. As such, tech stocks often have absurd price-to-earnings ratios, as investors continue to use this “pyramid scheme” mindset.

As an aside, we more-or-less know what the game-theoretic best strategy is: index funds. We've all heard the stats that “active traders consistently underperform the S&P 500.” But if we are to take a look at hedge funds and high-frequency-trading firms, we know that only doing index funds misses out on a ton of potential profit. Since everyone is playing inefficiently, you stand to gain more from performing a bit of

speculation of your own, which can explain why some stocks can get wild swings in a single day.

So how do we do better? It's important to understand that **the world needs people that do the good work.** Research, innovation, logistics, pain-points, “the details”... there are a lot of real problems out there that are meaningful and need to be solved. The market doesn't always reward “good work” the way it should, but unless being rich and disillusioned is what you strive for, money should never be your sole metric of success. Instead, think of accomplishments you want to attain. Perhaps there are some leaders you are inspired by and wish to become like, or some open-source projects that you would love to be a part of. Work on important things, work on yourself, and the opportunities will come in droves.

If you're passionate enough, you can essentially create your own market. There are a lot of people in this world with more money than you will ever need but don't know what to do with it, and will give you resources and money to do cool things on their behalf. Did you know that UW offers free GPU compute for you to develop cool things with? Same thing with a lot of other resources. So go out there, and make your own luck.

SaltOverflow

I LOVE PIZZA

hi it's 11 pm and i spent the mathNEWS session uploading and publishing cosmetics so i can generate revenue for my catalog system and justify its continued development except the uploading UI is unmaintained and i paid the upload fee three different times with small tweaks trying to get it right and published and finally put it on-sale except it's still kinda scuffed but i'll fix it later uhhh yeah gn 😊😊

i9d23i9dif

SAW ENGPLAY ON SATURDAY

it was good (i didnt know engineers possessed creativity). however, idea: mathplay. onwards and upwards, everybody

gaya

math**NEWS**

AUTHOR'S NOTES: MC/DC BRIDGE X MC/M3 BRIDGE EROTICA

GLAD MY BRIDGE EROTICA TERM IS OVER BUT LET'S OVERANALYZE MY FEELINGS AND THESE PIECES (SPOILERS BEWARE)

"Why did you write bridge erotica?" you may ask.

I'd likely say it was a joke that went too far, and that does have some merit, considering I usually commit to the bit too much,¹ and this is all quite the joke to me. Like an erotica based on inanimate bridges is funny. Erotica in a student publication is also funny, so naturally an erotica on our cherished bridges in **mathNEWS** would be funny too, right? Written out sex can also be hilarious, especially if it's a bizarre ship that you can't reasonably root for so you're just observing them fucking and it's odd but interesting???² Writing good smut is also funny for me specifically since this is not really my domain, so overall this is a very intriguing, funny experience that I couldn't refuse.

I think another part of it is how I want to meet people's expectations, so if you expected erotica, MLM or more anthropomorphism in my previous fanfic, I'll write it to satisfy you. Sure, you might have mentioned it offhandedly, but I can't tell how serious you're being and I likely unconsciously seek acceptance. I mean, a lot of my actions are guided by what others want, so the least I could do is give you what you want, right? This probably also explains why I take jokes too far, but that's something to discuss more with my non-existent therapist, I guess.

There's probably other reasons too, but I think a big motivator was fleshing out the plot in my mind, as I just couldn't let go of the idea I created. I mean, the absurdity of bridges fucking on the stairs to heaven is really funny. I also did write a oneshot of them fucking in the MC washrooms,^{3,4} which is just as hilarious to me, especially since how much of a turn off that place is.

I can't tell you if it was completely worth it either. Sure, I made AOTI (thank you editor overlords ♠), I learned a lot about myself and erotica writing in general, but me spending multiple months writing and searching up foreplay on the bus, perfecting words but never enough, was that really worth it?

And don't get me started on my own self-perception. I never thought that I'd write anthropomorphic bridge smut when I came to Waterloo, when I came to my first prod night. Heck, I never thought I'd write smut for other people to read. Before this, all I wrote was some really shitty smut in my Notes app, so to have some people know you for writing erotica is unusual to say the least. It really begs the questions of who am I? Is my work a part of me? Am I just a freak?

Sometimes, I believe that's true. Sometimes, that's what I think other people think too, that I'm a freak. A weirdo. A creep. A dirty, vile person. A sexual deviant who writes smut for her school's club publication. A fetishizer who gets off

on bridge porn. A person who gets horny on the bus writing about sex. A sick pervert imagining humanized tunnels getting pegged. A disgusting human writing erotica around her coworkers, and so on and so on. As much as these aren't true, the thoughts don't stop.

And those thoughts manifest into other beliefs. Oftentimes, I believe the editors hate me for writing this, for being an nuisance to work with, for defiling **mathNEWS**.⁵ Other times, I think about how other **mathNEWS** writers are probably horrified by my work. Or at least the majority of students picking up a fresh edition are disgusted by me. Maybe my friends are disgusted by me too. Their compliments could all be lies to appease me and instead they just tolerate me because it's the easier thing to do. If employers knew about this, what would they think? And if my family knew? Would they look at me the same way again? They would think I'm a freak. Everyone thinks I'm a freak. It must be because I am a freak.

And the cycle continues in my shitty, corrupted mind. What can I say, I'm good at beating myself up.

At the same time, I'm also proud of myself.

Writing smut, or generally expressive, metaphorical content in general is not my usual style, so being able to write a tolerable sensual piece is impressive to me. I also really emphasized making it realistic, focusing on communication, consent, female sexuality and mutual pleasure, yet also keeping the passion apparent. I wanted to subvert common elements in erotica like power dynamics, fantastical details and the focus on penetration, because I feel like the trope has been written and redone so many times. I also did research on some of the physical details and the techniques MC/M3 and MC/DC used, so then you could actually imagine what was happening and feel it with them. I believe sex should be presented realistically, and obviously bridges fucking isn't very realistic and fantasies are important, but we should also see sex outside of a fantasy, because it is a everyday thing. And it is overall a lovely and wonderful thing too, which I highlighted when describing their sensations in that moment, but it is not an utopia. After all, nothing is utopian, so why should we show sex like that?⁶

From this experience, I've grown in a lot of ways and regressed in others. It's sparked my creativity, I'm sometimes more confident in who I am and feel more empowered, but I still try to please others over myself⁷ and you can see it's giving me a crisis or two, but hey, growth's not linear. And arguably, bridge erotica is pointing me in the right direction.

As for what's next, I'm not sure. I don't want my **mathNEWS** experience to be defined by bridge erotica, and erotica is hard to approve given **mathNEWS**'s informal sexual content policy

(that only really needed to be considered since me), but it's hard to go back to my former works before F24. I will p go back to non-sexual fanfics or some other creative writing pieces, but like the bridges, it's up in the air.

Dollar Store Person

1. as examples, i now have a bottle of whiskey and occasionally make old fashioned after joking about old fashioned and i made a tinder account after... i don't even know why but i also downloaded grindr
2. examples included napoleon x squealer from animal farm (yes the book), anything from the canadian university universe (like uoft x ubc), and justin trudeau x andrew scheer
3. original oneshot here (https://archiveofourown.org/works/67983116?view_adult=true)

4. oneshot with bridge euphemisms here (<https://archiveofourown.org/works/67983576>)
5. this is part of why I haven't picked up my f24 anthology or aoti prize too whoops
6. okay well not really true but it's more like a pure utopia for everyone is not real because it's subjective, however the common idea of utopia does exist, but is it really an utopia? anyway this is not philosophy class but maybe wait until i write an article on this
7. again not completely true, like i've been prioritizing my comfort and joy more during this stressful term, but i also did try to pretend i liked someone when i didn't bc honestly idk long story maybe another article idea

anyway, thank you for reading my work this term, i truly appreciate it <3 + good luck on finals everyone!!!

THE jtvNEWS UPDATE

IT'S NOT GOING WELL

[IN THE NEWSROOM]

Joch: Welcome back to **jtvNEWS**, I'm your host Jochemist with our co-host Josephine, and today's top story: Jo's mental health is in the garbage! Let's go to our reporter live on the scene—Jonah Johnson!

Jonah: Well folks, I'm here on the scene at Jo's apartment somewhere in the KW area, in her bedroom, and what you'll see right here is Jo, as we can see, is sobbing on her bed with her headphones on as always. The current cause is unknown, and Jo is not open to interviews at this point in time, unfortunately.

Josephine: That's unfortunate, Jonah. Can we get an idea of what songs she is listening to?

Jonah: Yeah, of course. It appears to be a fair amount of Twenty One Pilots at this time, specifically *Addict With A Pen* and *Friend, Please*, though earlier reports confirm she was listening to *No Surprises* by Radiohead which, as our viewers know, indicates that she is at a Potential Lowest Point, or as we say, a PLoP. Furthermore, reports indicate that she was feeling 'worthless and passively suicidal' from what they gathered from a groupchat containing her closest friends.

Joch: This is news to us as this is the first non-trauma or relationship related breakdown she's had in over a year, which is incredible progress on her end.

Josephine: Indeed, Joch; Jo's been having a relatively good year, some would even say 2024 was her year and that positivity had a massive roll over into this year, especially with her going to the gym and eating regularly in the past month. And though she is not open to interviews at this time, Jonah, can you pass

along an encouraging word to any viewers that may be doing well on the outside but not inside?

Jonah: I can utilize the words of Jo when she was trying to help a random Reddit stranger with their own mental health: "There is no healthy quick fix [to poor mental health]. But if you can't find a reason to live, that's okay. Live anyway. You'll make one along the way. As long as you don't harden your heart and reject the small joys of life, you'll be okay. But you have to let go of the mindset that there is nothing good and you'll never get better. The reality is that some things are good, and some days are better than others. Live for those better days, and distract yourself from the bad days if it keeps you alive."

Joch: Wise words from Jo, and we can only hope she lives by them. Thank you Jonah.

Jonah: No problem. Back to you in the studio.

[OUT OF THE NEWSROOM]

Jo: Y'know what could fix me? A large cheque, a good egg sandwich, and people not actively bullying the young swan for not being a basic duckling. And the thing is that I will always be the ugly duckling in whatever pond I flock to. This world makes swans shrink themselves into duck sized molds to make every duck stop feeling inadequate. Have y'all tried just accepting the duck life? (such a good game series on coolmath-games ngl). Because SOME OF US want to throw ourselves in the OVEN because of how ducks are treating us DESPITE us trying so hard to be ducks. You can either make me into a duck, or ridicule me for being a swan, but not both. You don't get that. Anyways, I gotta fly now. Peace.

Joduckist

SLOWING TIME

The subjective perception of time is changing as we age. For most people, the time flows faster as we get older. One explanation is that each year represents a smaller percentage of our experience in a lifespan. Five-year-old me would probably think the fifth year attributed more than 20% of my life. On the other hand, routinary, ordinary activities are difficult to keep track of. For example, you may not remember what you did at a lecture or at your work a month ago. However, when looking back at important events, people can remember them in detail. Did the midterm go well in a course that was a term ago? Do you remember what you had for dinner during your holiday abroad last year?

I have been playing *Death Stranding 2* since its release. I like the series for its deep symbolism and how it portrays what is happening in reality. The setting is post-apocalyptic. You are a porter who travels around the world and delivers cargo from place to place. The preppers, who are isolated individuals living in remote shelters, rely on porters like you to live. Porters helped preppers connect to the Chiral Network, so that people can communicate with each other again freely. When the first *Death Stranding* game was released, Covid happened. During Covid, everyone lived in isolation just like preppers. The time fled by so quickly that I can only rely on diaries and photos to remember the details during that span of time. I was glad that the internet played its role during that period. I kept in touch with my friends online and also got to know many cool people around the world. Concepts like the Metaverse took centre stage. Physical activities and travel may have been limited but were still very common. I learned to play ultimate frisbee during that time. For location-based games like *Ingress* and *Pokémon Go*, they increased the range that you can perform actions. The players got to meet in person in a safe way.

Slowing down time objectively could be difficult, as one cannot get close to the speed of light easily. Only slowing down time subjectively is viable. The benefit is that, it makes you feel that life is fulfilling and worthy. I value my life, and the same goes to yours. Based on my research and experience, here I present N ways to live in a porter's style:

- Write **mathNEWS**
- Travel to new places. Ride on trains
- Write diary or take photos daily. Posting them on social media is also encouraged

- Find a co-op job in a remote city so that you can have an excuse to travel and take pictures and then post them on social media
- Choose a course from another faculty
- Have an ongoing long-term project, e.g. learn a new language, learn a new musical instrument, or make a game
- Help others. Volunteering feels good
- If you like doomscrolling, try doomscrolling together and send people likes. Or try becoming a content creator

eralogos

SHITTY CRYPTOGRAPHY: SOLUTION

Below is the decoded version of the article from before, with some extra formatting for better readability. The decoded message also gives away how the code works, so if you want to try your hand at decoding that article first, hold off on reading the text below for a bit. Good luck!



This article is written in a code I came up with in middle school, where the ciphertext is generated by tracing the characters in your message on any part of a QWERTY keyboard. In the variant of the code used to write this article, I also placed spaces between each encrypted word to give readers a better chance of decoding it. If you have managed to decode this message on your own, congratulations! As a reward, here's a fun YouTube video (I'm gonna write as unambiguously as possible now to avoid fucking up the link): <https://youtube.com/watch?v=IG2JF0P4GFA>

the government's only spy

SAVING SARAH MCLACHLAN

There once was a lamp from Cochrane
Who changed the future of Sarah McLachlan
It shone upon the stair
Causing her to stare
Her dark fate no longer a-topplin'

sticks

**Reminder to Editor:
increment the InDesign
crashes counter.**

A mathNEWS EDITOR CRASHING OUT

REVIEW OF VESSIS

Like many of you I'm sure, a few years ago I got ads on social media for a new type of shoes called Vessis. They claimed the shoes were both waterproof and slip-on, which sounded too good to be true. In general, I would say it was.

I bought my first pair of Vessis around Christmastime 2022. They were pretty cool when I got them, and they are indeed slip-on. Initially, they were also waterproof. They became not-waterproof pretty quickly, like, in the first few months. If I stood in a puddle, water would leak in at the seam where the sole meets the part that goes over your foot.

Perhaps my expectations were too high, but I thought they would be waterproof for longer. Also, maybe I am crazy, but I expect my shoes to last a couple of years at least. My Vessis got a pretty significant hole in the heel starting at around the one year mark. I continued to wear them because they were fine anytime the ground wasn't wet, but if the ground was wet, my feet were wet.

I retired my first pair of Vessis going into the fall term last year, so less than two years of use. I bought another pair with the plan that if these ones also fail to meet my expectations, I will not buy Vessis again.

The new shoes also failed to be waterproof for more than a few months. I am still wearing them, we are approaching a year together. I think they're doing better than my old pair, but it's hard to tell.

I think Vessi had a good idea, but I hope they can improve their design. Unfortunately, the only cobbler I know is the peach kind, so I can't provide any suggestions. If they made a shoe that was actually waterproof and stayed that way for two or more years, I would buy their shoes for the rest of my life. They're a bit expensive for me at over a hundred dollars, but I am very cheap, so some other people may be fine with that. I would be happy to pay that price though if the shoes didn't break so fast.

Another problem I have with Vessis is that something about the way they are built causes me to get like a horizontal line shaped callous on the back of my heels, where the fabric joins the sole. I think this is probably not healthy for my feet in the long term so it's a small concern.

All in all, I think I will buy a new pair of shoes next time I need shoes. Vessis did not live up to my expectations, although I can't say they are a total scam. Also, I am pretty sure they sold my email address to advertisers because I got a small influx of spam right after placing my first order.

I suppose the conclusion is what you wish to make of this information. For me, they aren't a good enough deal to be worth the quality of shoe, but I like things that are either really cheap or not cheap but very good. Vessis are in the middle for me, but may not be for you. The slip-on aspect is really nice and I will have a hard time parting with it. I

may have to try out those Skechers slip-on shoes which are a comparable price I think.

Anyway, this article is pretty low effort. I am just writing it while waiting for my turn on my collaboration article with *Coda*.

Yamnuska

SAUSAGE, BROCCOLI AND GNOCCHI RECIPE

SO LONG AND THANKS FOR ALL THE PIZZA

I haven't been the most consistent or dedicated **mathNEWS** writer in the world, but this publication means a lot to me. Thank you for all the memories, articles, pizza, and EOTs. It's been a blast!

SAUSAGE AND GNOCCHI

- 700 g pre-packaged gnocchi
- 1 large broccoli crown, about 3 cups of florets
- 1 ½ tsp minced garlic (about 2 large cloves, I used garlic from a jar)
- 3 tbsp olive oil
- salt & pepper
- 1 lb sausage of your choice
- ½ cup parmesan

1. Preheat oven to 425 degrees Fahrenheit.
2. Line a large baking sheet with aluminum foil.
3. Wash broccoli well and cut into one-inch chunks.
4. In a large mixing bowl, mix together gnocchi, broccoli, garlic, oil, and salt and pepper (I used ½ tsp each of salt and pepper, but season to your liking).
5. Place gnocchi and broccoli mixture in an even layer on the baking sheet.
6. Add pieces of sausage on top. Using your fingers, squeeze the sausage out of its casing. Try to make your pieces of sausage roughly the same size as your gnocchi.
7. Place baking sheet in oven for 20–25 minutes, until sausage is crispy and brown on top.
8. Toss everything (preferably in a bowl) with parmesan cheese and serve warm.

Feeds four people.

Inspired by NYT Cooking.

yummyPi

gridWORD 158.6 CLUES — EASY MODE

[Editor's Note: Hey **gridWORD** fans. The following are clues for this issue's **gridWORD**. As you may have been able to guess, some of these are a little obscure, so spaghettiiinhalers has helpfully provided an alternate set of clues which can be used if you're stuck, or if you want to know what some of these acronyms mean. We've flipped the clues so that if you're flipping through the issue you won't accidentally spoil yourself. Hope you enjoy, and godspeed.]

18. 4 to {8, 12, 64} (Greatest Common Denominator)
20. Assembly categorization (Second-Generation Programming Language)
22. Microsoft Office programming language (Visual Basic for Applications)
23. Used for communication with the computer (Command Language)
24. Aforementioned digit (Previous Number)
25. Networking hardware allowing data flow between discrete networks (Peripheral Gateway)
26. BT in Morse Code (Line Feed)
27. Computational model inspired by biological structures (Neural Network)
28. Computer identification label (Common Name)
29. Home office device (Personal Computer)
30. Upkeep of customer expectations (Quality Assurance)
32. 0xA0000-0xFFFF for IBM (Upper Memory Block)
34. Lunatics might use Vim instead of this (Integrated Development Environment)
36. Bitwise operation circuit (Arithmetic and Logical Unit)
38. Electrical component used to build reconfigurable digital circuits (Programmable Logic Device)
39. David Chertov's subject of interest (Computer Science)
40. Production of software in short cycles (Continuous Delivery)
41. Someone who works in 3D-Down (Quality Analyst)
42. Receive data from a remote system (Download)
43. Correct result in a binary test (True Negative)
44. n^{th} root of the product of n numbers (Geometric Mean)
45. Pioneering memory card format (CompactFlash)
46. Describes the various frequencies present in an input function (Fourier Transform)
48. Duo to your Quest account (Multi-Factor Authentication)
50. Kenneth E. Iverson's project that won him the Turing Award (A Programming Language)
52. Default back-end of GCC (GNU Assembler)
53. Group of distance-preserving transformations of a Euclidean space of dimension n that preserve a fixed point and contains the identity element (Special Orthogonal Group)
54. Topic covered in CS348 (Databases)
55. Optical data storage format (Compact Disc)
56. It contains a finite number of elements (Galois Field)
57. Method of proof in which the two steps involve $n = 0$ and $n = k + 1$ (Mathematical Induction)
58. 300 kHz - 3 MHz (Medium Frequency)
59. One particular definite integral of the ratio between an exponential function and its argument (Exponential Integral)
60. Incorrect result in a binary test (False Negative)
62. Network rules for delivering audio and video over IP networks (Real-Time Transport Protocol)
64. Tesseract task (Optical Character Recognition)
66. Speedy version of 46-Down (Fast Fourier Transform)
68. The limit of $f(x) = 1/x$ as $x \rightarrow 0$ (Does Not Exist)

26. Statement guaranteeing stable long-term results for the averages of random events (Law of Large Numbers)
28. Database theory postulation named after Eric Brewer (Consistency Availability Partition Tolerance)
31. Identifies a device addressed by the SCSI protocol (Logical Unit Number)
33. Bitmap image format correctly pronounced with a "j"-sound (Graphics Interchange Format)
35. % in a computing system (Not a Number)
37. Design and systems of an RISC processor developed by the STI alliance (Cell Processor Architecture)
39. Operational mode in which each block of plaintext is XORed with the previous ciphertext block prior to encryption (Cipher Block Chaining)
41. End of a definitive proof (Quod Erat Demonstrandum)
43. Fan club for a typesetting program popular for mathematical formulae (TeX Users Group)
45. Gives $P(X < x)$ (Cumulative Distribution Function)
47. Allows certain hardware subsystems to access main system memory independently of the CPU (Direct Memory Access)
49. It interconnects computers in a limited area (Local Area Network)
51. Alternative specification of the probability distribution of a real-valued random variable (Moment-Generating Function)
54. ADC antithesis (Digital-to-Analog Converter)
56. Nonlinear statistical method, despite its name (Generalized Linear Model)
58. Measure of the quality of an estimator (Mean Squared Error)
61. Middleware concept promoting interoperability of distributed systems (Object Request Broker)
63. Number of values in a statistic that can vary (Degrees of Freedom)
65. Logical connective expressive of a biconditional relationship (If and Only If)
67. Unicode web address (Internationalized Domain Name)
69. Computer's brain (Central Processing Unit)
70. `mathews_waterloo.ca`, for one (Uniform Resource Locator)
71. It allows encoding of formulae about the future of paths (Linear Temporal Logic)
72. Phrase found at the end of a geometrical construction (Quod Erat Faciendum)
2. Part of an equation closer to the non-dominant side for most (Left-Hand Side)
4. Mathematical model defined by its semantics (Abstract Data Type)
6. Cryptosystem approach that allows smaller keys to provide equivalent security (Elliptic-Curve Cryptography)
8. Supports the single responsibility principle when providing operations (Data Access Object)
9. 30-300 kHz (Low Frequency)
10. Data sequence encoding temporal information (Timestamp)
11. Denoted by "r" in C (Carriage Return)
12. Power to which 2 must be raised to obtain n (Binary Logarithm)
13. Common unit for memory size (Gigabyte)
14. Language commonly used to program for webpage behaviour (JavaScript)
15. Emulation of a computer system (Virtual Machine)
16. Early practical method of secure generation of a symmetric cryptographic key over a public channel (Diffie-Hellman)

ACROSS

1 . Implies that statistical methods that work for normal distributions can also apply to other types of distributions (Central Limit Theorem)

3 . Adverb describing the convergence of the probability over a sequence of sets to 1 (Asymptotically Almost Surely)

5 . Improvement of website traffic (Search Engine Optimization)

7 . Its port number is 389 (Fedora Directory Server)

9 . Describes collections of objects within mathematics (Language of Set Theory)

11 . Model of time in which the future is not determined (Computation Tree Logic)

13 . Discontinued free compiler capable of compiling files with bytecode into machine code (GNU Compiler for Java)

15 . Multimedia distribution system (Video On Demand)

17 . Sets colours and style of characters (Select Graphic Rendition)

19 . SaaS activity commonly advertised on LinkedIn (Business-to-Business)

21 . Supervised learning models ideal for classification and outlier detection (Support Vector Machines)

24 . Digital Equipment Corporation minicomputer (Programmed Data Processor)

DISC GOLF IS UNDERRATED

By my estimation, over half of all students at this university don't know that we have a full disc golf course on campus. And by my estimation, nearly every student at this university doesn't realize what a chill time it is to go disc golfing.

It taps into the primal needs of our species. You grab a few brightly-coloured smooth rocks, wander out under the sun into a beautiful clearing, and throw your fancy rocks really far into metal boxes. You can bring your buddies, or not. You can listen to tunes, or not. You can even care about whether you're good at putting your rocks in the boxes, or not.

It's the perfect game. Go try it out.

no pun indented

MATH ENDOWMENT FUND RECRUITMENT

Calling all Mathematics undergraduate students!


Ever wondered where your MEF fee goes? Here's your chance to not just find out, but to decide. We're hiring a new Executive Director for Fall 2025, and recruiting Board of Directors members, and we want you on the team.

Executive Director

Take on a leading role in one of UW's most impactful student-run funds. Earn up to \$2,700 in personal scholarship funding for your contributions and lead the allocation of \$100,000+ in student funding each term. Build high-level skills in leadership, budgeting, communication, and decision-making by working directly with student leaders, staff, and faculty, and make a real difference students can see.

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Be the voice of the student body and help shape how MEF supports the math community by voting on major funding decisions and joining Funding Council proceedings. Propose new events, improve policies, and champion initiatives that matter most to students

 Email us at mefcom@uwaterloo.ca Apply now. Shape your community. Due July 28th, 2025, midnight.

Application Links:

Board of Directors Applications:
<https://tinyurl.com/mvvwyn3p>

Executive Director Applications:
<https://tinyurl.com/395wvr fk>

Math Endowment Fund

Do you love mathNEWS? Do you want to get more involved with your favourite publication? Would you like to spend more time in MC? We're seeking new Editors for Fall 2025. If you're interested, send an email to mathnews@gmail.com. It's fun! We pinky promise!

THE mathNEWS RECRUITMENT OFFICE

ACRONYM ACROPOLIS

gridCOMMENT 158.6

yo. this is the last **gridWORD** of my 4th term as **gridMASTER**. isn't that crazy? time really flies. to recap (although avid **gridWORD**ers should know this by now), instead of running an older **gridWORD** for the final issue of **mathNEWS**, i like to defile it with something ridiculous, and this **gridWORD** may be the worst one yet. what can i say, i've really outdone myself this time. last year, the final issue came out on my birthday, so i made that the theme. i can't do that this year, but you should still wish me a happy birthday.

for this **gridWORD**, i wanted to celebrate my reign of terror and my weapon of choice: the acronym. thus, i have made a **gridWORD** entirely composed of acronyms (math/computer-themed, of course; this is **mathNEWS** after all). you'll see that there are two sets of clues: one of them is a standard set, and the other one has all the expansions for the acronyms [*Editor's Note: on the previous page*], so you can learn something new. please excuse any mistakes i might have made, as most of this i stole off of wikipedia. i, like most people, am not intimately familiar with 100+ technical acronyms.

last time, i asked you all: what is a notably very difficult skill/

profession you have zero experience in that you think you could easily excel in? and you all said:

- *coard bames glub*: engineering, probably
- *pac_gym_playlist*: I think a difficult profession I have zero experience in that I would easily excel in is being a philosopher. "I think therefore I am" NO SHIT lmao

i might have to agree with coard bames club a little more on this one, to be honest. engineering is extremely easy. please pick up your prize at mc 3030!! *pac_gym_playlist*, thank you for using this **gridWORD** as intended. hopefully you will find this one even more confusing than the last.

there will be no **gridQUESTION** for this issue, seeing as it is the last one, so i will see you all again in the fall!!! also, i never got a crown card in pokemon tcg pocket, but i did get an immersive giratina and 3 shiny beedrills :p

kind regards gurt,

spaghettiiinhalers

ACROSS

1. Implies that statistical methods that work for normal distributions can also apply to other types of distributions
3. Adverb describing the convergence of the probability over a sequence of sets to 1
5. Improvement of website traffic
7. Its port number is 389
9. Describes collections of objects within mathematics
11. Model of time in which the future is not determined
13. Discontinued free compiler capable of compiling files with bytecode into machine code
15. Multimedia distribution system
17. Sets colours and style of characters
19. SaaS activity commonly advertised on LinkedIn
21. Supervised learning models ideal for classification and outlier detection
24. Digital Equipment Corporation minicomputer
26. Statement guaranteeing stable long-term results for the averages of random events
28. Database theory postulation named after Eric Brewer
31. Identifies a device addressed by the SCSI protocol
33. Bitmap image format correctly pronounced with a "j-" sound
35. % in a computing system
37. Design and systems of an RISC processor developed by the STI alliance
39. Operational mode in which each block of plaintext is XORed with the previous ciphertext block prior to encryption
41. End of a definitive proof
43. Fan club for a typesetting program popular for mathematical formulae

45. Gives $P(X < x)$
47. Allows certain hardware subsystems to access main system memory independently of the CPU
49. It interconnects computers in a limited area
51. Alternative specification of the probability distribution of a real-valued random variable
54. ADC antithesis
56. Nonlinear statistical method, despite its name
58. Measure of the quality of an estimator
61. Middleware concept promoting interoperability of distributed systems
63. Number of values in a statistic that can vary
65. Logical connective expressive of a biconditional relationship
67. Unicode web address
69. Computer's brain
70. mathnews.uwaterloo.ca, for one
71. It allows encoding of formulae about the future of paths
72. Phrase found at the end of a geometrical construction

DOWN

2. Part of an equation closer to the non-dominant side for most
4. Mathematical model defined by its semantics
6. Cryptosystem approach that allows smaller keys to provide equivalent security
8. Supports the single responsibility principle when providing operations
9. 30-300 kHz
10. Data sequence encoding temporal information
11. Denoted by "\r" in C
12. Power to which 2 must be raised to obtain n
13. Common unit for memory size

14. Language commonly used to program for webpage behaviour
15. Emulation of a computer system
16. Early practical method of secure generation of a symmetric cryptographic key over a public channel
18. 4 to {8, 12, 64}
20. Assembly categorization
22. Microsoft Office programming language
23. Used for communication with the computer
24. Aforementioned digit
25. Networking hardware allowing data flow between discrete networks
26. BT in Morse Code
27. Computational model inspired by biological structures
28. Computer identification label
29. Home office device
30. Upkeep of customer expectations
32. $0 \times A0000 - 0 \times FFFFF$ for IBM
34. Lunatics might use Vim instead of this
36. Bitwise operation circuit
38. Electrical component used to build reconfigurable digital circuits
39. David Cheriton's subject of interest
40. Production of software in short cycles
41. Someone who works in 30-Down
42. Receive data from a remote system
43. Correct result in a binary test
44. n^{th} root of the product of n numbers
45. Pioneering memory card format
46. Describes the various frequencies present in an input function
48. Duo to your Quest account
50. Kenneth E. Iverson's project that won him the Turing Award
52. Default back-end of GCC
53. Group of distance-preserving transformations of a Euclidean space of dimension n

1	2			3	4			5	6			7	8	
9		10		11		12		13		14		15		16
		17	18			19	20			21	22			
23		24		25		26		27		28		29		30
31	32			33	34			35	36			37	38	
39		40		41		42		43		44		45		46
		47	48			49	50			51	52			
53		54		55		56		57		58		59		60
61	62			63	64			65	66			67	68	
69				70				71				72		

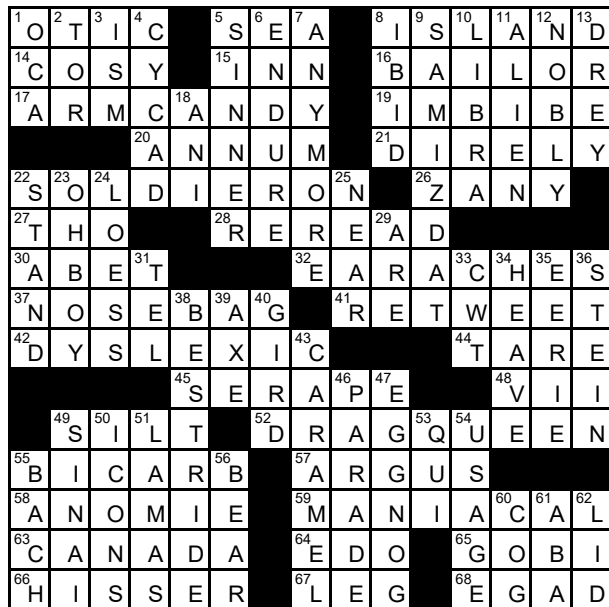
- 54. Topic covered in CS348
- 55. Optical data storage format
- 56. It contains a finite number of elements
- 57. Method of proof in which the two steps involve $n = 0$ and $n = k + 1$
- 58. 300 kHz - 3 MHz
- 59. One particular definite integral of the ratio between an exponential function and its argument
- 60. Incorrect result in a binary test
- 62. Network rules for delivering audio and video over IP networks
- 64. Tesseract task
- 66. Speedy version of 46-Down
- 68. The limit of $f(x) = 1/x$ as $x \rightarrow 8$

Ever wonder if actual people write the mastHEAD answers? Come to a prod night to find out!

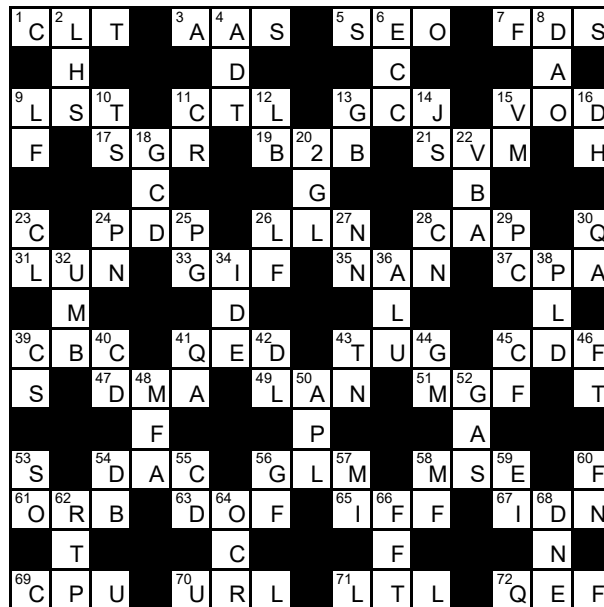
A TOTALLY REAL mathNEWS EDITOR

SUN JUL 27	MON JUL 28	TUE JUL 29	WED JUL 30	THU JUL 31	FRI AUG 1	SAT AUG 2
	Make up day for June 30 National Waterpark Day	Make up day for July 2	Classes end	GMTK Game Jam begins	Drop with WF ends Day before the day before the day before New Brunswick Day International Clown Week begins	Day before the day before British Columbia Day
SUN AUG 3	MON AUG 4	TUE AUG 5	WED AUG 6	THU AUG 7	FRI AUG 8	SAT AUG 9
GMTK Game Jam ends Day before Natal Day	Civic Holiday	Final exams begin Day after Saskatchewan Day Work Like A Dog Day	befuddled's CS 480 exam Day after the day after Terry Fox Day	befuddled's CS 456 exam Day after the day after the day after Heritage Day International Clown Week ends		befuddled's CS 370 exam

LAST ISSUE'S gridSOLUTION



THIS ISSUE'S gridSOLUTION



I AM AN ACADEMIC WEAPON

I am an exam executioner, an assignment assassin ready to burn the pages that are trying to burn me.

I am an academic weapon.

Senioritis trembles at the thought of my stoic resolve. My twenty-seven skipped lectures and four major assignments won't even hear me coming. One week from now, there will be nothing left of the shambles I left behind these fortnights of academic abdication.

I am an academic weapon.

no pun indented