



## "IF YOU COULD CHOOSE ANY ANIMAL TO WRITE YOUR EXAMS, WHICH ONE WOULD IT BE?"

I WOULDN'T CHOOSE A SLOTH, THAT'S A SIN WE'RE ALREADY GUILTY OF DURING FINALS SEASON.

We've finally made it. Can you believe it?

I write this **mastHEAD** on the last day of classes, totally not sobbing as I neglect three different assignments in order to get this issue out. Of course, it is my own fault that I didn't start on those assignments early enough, but c'mon! They were *hard*. Or at least *time-consuming*. They're similar enough, alright?

As this is officially the last issue of the term, you'll all need to wait a while before getting your next **mathNEWS** fix. There is some good news, though: we're putting together an issue for Math Orientation 2018!

This issue in question will mostly consist of content pulled from older issues of **mathNEWS**, but that's definitely not all it's limited to. If you have a great idea for something that nearly 1,500 math froshies ought to read, email [mathnews@gmail.com](mailto:mathnews@gmail.com) by Aug 5<sup>th</sup> to submit it. After all, there's no better chance for what you write to be seen by so many. *[Editor's note: This claim is unfounded but has been left for dramatic effect.]*

Anyways, the orientation issue means that the next issue will be coming out at the start of September, and you can read it then if you're morally corrupt enough to steal a first-year's orientation package! Or maybe there will be some copies left over, who knows. It's something to watch out for.

One more note of business is **mathNEWS**'s end-of-term event, as it is once again the end of the term. If you've contributed to **mathNEWS** this term in any sphere whatsoever, you are eligible to attend! If this applies to you and you received an email with a Doodle poll regarding dates, great! If you contributed but received no such email, please email [mathnews@gmail.com](mailto:mathnews@gmail.com) so that one of the editors can add you to the mailing list. We wouldn't want any of our beloved contributors unwillingly missing out on the fun, after all. **mathNEWS** is family, and you can't escape family.

That's it for this term, folks! Good luck on your finals, enjoy the last days of your co-ops, and see you again on the other side of the moon.

itorED  
Editor, **mathNEWS**

itorED  
Editor, **mathNEWS**

NEW & CONFUSED	A Canadian Goose. It would win.
ME	Wasps/hornets: easy to smuggle in, rousing major panic to cancel exam.
WALDO@<3.LE-GASP.CA	An octopus, because they'd make a daring escape for it. Also, they'd probably just do pretty darn well.
MATH235 REPEAT STUDENT	Dan Wolczuk.
SAMCO	A worm. They are smart creatures.
SOVIET CANADIAN	A Tyrannosaurus Rex.
ALSO ME	Not WASPs.
T WITHOUT THE A	A worm, because it'd look funny holding a pencil.
A WITHOUT THE T	Elephants, they never forget.
ITSH	Any that can hold pens.
PSYCHGIRL	A pig, pigs are actually very intelligent animals. Google it!
STAPLED	I don't trust anyone or anything to write my exams for me. Never forget the MATH138 Fall 2014 exam fraud.
YCLEPED	Anything but a cheetah.
SWINDLED	A dog, so it can just eat the exam paper.
ITORED	A snake. Then afterwards, I'd keep it as my own.

## ARTICLE OF THE ISSUE

This issue's article of the issue goes to [The problem with "I'm here, to talk".....](#) by Melancholy Morty.

Depression is not an easy topic to tackle, and this article effectively breaks down many assumptions and common mistakes that people make when interacting with friends who may have depression. The tips provided in this article on what you *can* do to help those friends are particularly important, and I suggest that everyone give it a read. You just might end up being able to help a friend.

Congratulations, Melancholy Morty. Come to the **mathNEWS** office to pick up your prize.

Death is inevitable. Enjoy **mathNEWS** while you can.

MICHELLE ZHU, **mathNEWS** EDITOR FOR SPRING 2018  
UNDER PROTEST BY ESTHER AHN, CLYDE BROWN, ANUJ OPAL, AND HEATHER STONEHOUSE

# mathASKS 137.6

FEATURING PROF. JEFF AVERY

## TNA: WHAT KIND OF LAPTOP DO YOU RECOMMEND FOR CS STUDENTS?

There's a lot of different options. Up-front, I think you need to think about what you intend to do with it. If you just want something that will let you do class assignments, surf the web etc. then any mid-priced laptop will work: look for something reliable with a good battery life. If you intend to use it for CS courses, you likely want slightly higher specs: consider a bump to a quad core processor, and max out the RAM. A big consideration is also which OS you want to run on it. For general use, Windows is perfectly fine, but as a developer you might want to run Linux or macOS (esp. if you want to do mobile development). Personally, I carry a MacBook Pro; I prefer Unix over Windows, and it gives me the ability to run Windows / macOS / Linux in virtual machines.

## ITSH: WHAT DO YOU CONSIDER THE LARGEST RISK IN TECHNOLOGY TODAY?

I think the largest risk we face around technology is the lack of security around private information and/or critical systems. Consider the loss of personal privacy and rise in fraud in recent years, or concerns about election tampering in the recent US election. This is just the tip of what we're facing.

## STEVE: WHAT IS THE BIGGEST MISCONCEPTION ABOUT COMPILERS?

That just because your code compiles, it's somehow correct. People lean too heavily on their compilers to find errors, instead of understanding what the code is actually doing.

## SAPPY STEVE: WHAT ARE SOME GOOD WATERLOO DATE IDEAS?

I'm a big movie buff, and I like the comfy seats in the new Landmark cinemas. There's also a lot of great live music around, but you need to scope out the smaller venues to find it. In the summertime, hit up festivals e.g. blues festival, jazz festival.

## PUNCHSPLODER: WHAT'S THE BEST KEPT SECRET IN BASH SCRIPTING?

You can debug bash scripts. Launch as `$bash -x script.sh`

## ROMANCE RICK: WHAT WERE YOUR BIGGEST LESSONS LEARNED FROM YOUR UNDERGRAD?

Time management is critical. You need to give yourself enough time to do what's required to keep up with your courses and the new material that you're learning. I firmly believe in slow-and-steady work through the term; keep up on your reading and assignments, and attend every lecture, and you will be much more successful in the long-run than just cramming for exams.

## YANG CHEN: WHAT DO YOU THINK ABOUT AI?

That's a big question. I work primarily in HCI, so I'm excited about what AI can bring to my field e.g. improved accessibility, and "smarter" interactive systems. I'd like to see more work on adaptive interfaces and systems, and AI has an important role to play there.

## MELISSA: DO YOU BELIEVE IN THE MOON?

Well, I have ample evidence that it exists, so yes.

## URKLE: U.I. WHICH VOWEL IS BETTER?

A. It's first.

## ME: HOW COULD WE USE SCENT AS A PATHWAY TO INTERACT BETWEEN USER AND COMPUTER?

Scent could work as a feedback mechanism. e.g. the smell of daisies when your code compiles, burnt toast when it segfaults. Hmm. There's a paper in that somewhere.

## ITORED: I'M ONE OF THE STUDENTS IN YOUR CS349 CLASS THIS TERM. CAN YOU NAME ANY OF MY IDENTIFYING FEATURES? (I REALIZE THIS IS A DIFFICULT QUESTION, SO I WON'T BE TOO SAD IF YOU CAN'T FIGURE OUT MY IDENTITY)

I suspect you're bipedal. If you're in math, you must also be articulate, clever and modest, just like the rest of us. Ahem.

*(Editor's Note: User Interfaces was a very enjoyable class, despite being the first class of the morning that I had to wake up for this term. Do take this course with Prof. Avery if you want to build applications.)*

## YCLEPED: RETURNING TO DO A PHD AFTER A LONG PERIOD IN INDUSTRY, WHAT SURPRISED YOU MOST ABOUT THE CHALLENGE?

Good question! Probably the lack of guidance and day-to-day accountability as a student. I was used to a pretty demanding environment, where deadlines were imposed (by customers, the organization, external needs etc), and lots of other people would suffer if you didn't get things done on-time. As a student, nobody will stand over you to make sure your work gets done, so you need to be really disciplined with yourself. I think that's why it can be really difficult as a student to schedule and get everything done on time.

## STAPLED: IF YOU WERE STRANDED ON A DESERTED ISLAND AND COULD BRING ONLY 3 THINGS, WHAT WOULD THEY BE AND WHY?

A jug of water, a GPS, and a boat. (Hmm. Helicopter, pilot and a million dollars? There's got to be a better want to answer this.)

## TBDED: WOULD YOU EAT A BUMBLEBEE?

Dead or alive?

## THE MYTH OF "FINDING YOUR PASSION"

When I was around 9 years old, I remember coming home from school after a track-and-field event, where I'd received second and third place ribbons. I was upset because I'd tried my hardest, but I hadn't actually *won* anything. My Mom pointed out the many things that I was good at—reading, math, puzzles—but that wasn't comforting. In my 9 year old mind, those things weren't important, and achieving second place in events where my friends excelled made me feel like a failure. I was upset because I was "good" at a lot of things, but I wasn't "great" any anything in particular.

In my 9 year old mind, I thought that everyone had some innate talent that was just waiting to burst-forth and develop. The trick was figuring out what you were *supposed to be doing*. My Dad was an amazing salesman and musician, my Mom was an incredible cook, my grandmother was creative with pottery and sewing; I expected that one day I would trip over something, and it would be the most amazing thing that I'd ever encountered, and that it would be easy because it was what I was somehow "meant to do". It never occurred to me that my parents had all worked hard to develop their abilities, and that it had taken them a lifetime of practice to become so proficient that their individual skills looked easy and effortless. I hadn't made that connection, and expected that the right things for me should somehow be easy, and that if it was hard, that I somehow wasn't supposed to be doing it.

I graduated high school, completed a couple of degrees at university and entered the work force with the same sense of unease. I had been pretty successful as a student, but I still hadn't found my *passion*, the thing that was supposed to drive and motivate me. I spent years developing a career, progressing through a series of jobs that I thought should have been satisfying, always looking for my niche but never quite finding it. In my mind, subconsciously, I held onto the belief that "difficult" meant "wrong for me", and that I should only be pursuing things that were easy, and approachable, and not-at-all challenging. Eventually I woke up and realized what I'd been doing, and learned to change my approach. Ironically, I became a lot more passionate when I learned to stop looking for a particular passion, and I became more successful when I stopped worrying about failure nearly so much.

The Atlantic published an article last week, entitled "'Find Your Passion' Is Awful Advice" [<https://www.theatlantic.com/science/archive/2018/07/find-your-passion-is-terrible-advice/564932/>], where they present some recent research that discussed the relationship between people's attitudes and their approaching to learning and engaging in new topics. Paul A. O'Keefe from Yale and his coauthors examined two distinct mindsets related to interests, which they characterize as the "fixed theory of interests", where you have some innate predisposition towards particular interests, or a "growth theory", which suggests that anyone can cultivate their interests over time. They ran a study to examine the relationship between a person's attitudes, and their willingness to engage with a novel idea. Initially, they had a group of students characterize themselves as "techie" or

"fuzzy" i.e. interested more in math and science or arts and humanities, respectively, and also fill out a survey where they indicated how much they believed a person's interests could change or develop over time, i.e. how much they ascribed to the "fixed theory of interests". Half of the students were exposed to the "fixed theory" idea, and half weren't biased in any way. Finally, they had these students read a challenging article that mis-matched their interests—an algorithm paper for the "fuzzy" students, and a philosophy paper for the "techies"—and questioned them on how interested and engaged they were with the content.

The results were that students were significantly less engaged with the paper that wasn't aligned with their interests (which you would expect). The interesting suggestion was that students who were exposed to the "fixed theory of interests" were even less interested in learning about the opposing interest. In other words, the suggestion that we someone have innate talents and interests biased people against engaging with ideas outside of their existing capabilities. People with this attitude may forgo novel learning opportunities, or fail to engage in topics that don't align with their previous interests.

What does this have to do with developing interests and passions in a topic? A fixed theory attitude discourages exploration and discovery. If you think that your interests are ingrained and predetermined, you're a lot less likely to be willing to explore crazy new ideas; you stagnate instead of exploring and developing interests. In my case, you assume that you can only really be successful at something that inspires you, is easy, and something that you're somehow meant to do. I definitely had that attitude, where I assumed that the "right" path was supposed to be easy.

In my case, my attitude changed after I tried some things that I'd always secretly wanted to do, but had avoided (i.e things that I had always thought were "difficult" and therefore "not for me"). I joined a local Aikido dojo with a friend, and spent 5 years training multiple times a week. As a kid, I'd convinced myself that I had no athletic talents ("it was difficult so clearly I wasn't meant to be an athlete"), but as an adult, I found myself training and loving it. I wasn't the most skilled person in the dojo, but I was learning new skills, making friends, and enjoying myself.

After that, I started to pursue things that I thought were interesting, regardless of how well I thought I might do with them. I picked up a guitar and nervously took lessons, until I could play a few songs. I'd always loved music, and had always wanted to learn an instrument, but had avoided it for years. I'll probably never be a *great* musician, but I'm enjoying it, and that's *good enough*. I started volunteer work, helping in the community, and accepting that even though I wasn't perfect, I had something to offer. Once I stopped caring about the *one thing* that I was *supposed* to be immediately good at, I discovered a *bunch of things* that I *wanted* to explore and skills that I wanted to develop. I'm less stressed, and far more passionate now than I've ever been.

So why am I telling you this? As a student, I think it's easy to assume that you have to be immediately brilliant at something to succeed. We're all surrounded by smart, hard-working people, and it's too easy to unfairly compare yourself to everyone else around you. It's too easy to convince yourself that because classes are difficult and assignments are really challenging that somehow it means that you're not supposed to be here. Nothing could be further from the truth.

Skills take time and work to develop, and it may take you *more* time and work than the person sitting next to you, and that's okay. Don't expect your passions to just show up, but actively pursue them: try out new things, explore new ideas, and allow yourself the opportunity to discover and grow into your interests.

Prof. Jeff Avery

## WHAT WE'VE LEARNED FROM PLAYING TOMB RAIDER...

*THE 2013 GAME WAS A FUN ENOUGH ESCAPE, BUT HOOOOOOOOO DO WE HAVE SOME COMMENTS...*

- \*gasp of awe\*
- [pause]
- \*slight gasp\*
- An archeologist's job is to set fire to EVERYTHING and disturb all the graves and burial sites.
- The "hidden" tombs of past important figures are surrounded by giant neon signs announcing their presence.
- You can upgrade your twig bow to some ornate hand-carved artifact just by adding a piece of string!
- When you ride on a zipline your body becomes paper, allowing you to die instantly from anything.
- Lara Croft either dies unceremoniously, flopping over, or dies in a brutal death-metal fashion with giant explosions of viscera with her mangled body twitching and spurting blood.
- Women are more durable than men. Despite the fact that none live on the island, the three that arrive make it through literal rivers of blood, fire, and death, while the men of the island are slaughtered en masse (forming said rivers of blood and death).
- The inhabitants of the island are all from a few families, since they share their looks so much.
- Despite a lack of farming, hunting, gathering, and only a small amount of fishing, a population in the thousands can be maintained on the island, in a giant scrap-city.
- FUCKING. WOLVES. ARE. EVERYWHERE.
- Wolves have at least some honour and will attack you one at a time.
- Deserted islands have BOUNTIFUL ammunition and weapons, enough to arm hundreds upon hundreds of madmen, who are very liberal with their use of bullets.
- Lara Croft kills animals neither for survival or sport, but just for the experience of it.
- The inhabitants of the island have built in a few years not only a city made from scrap, but repaired a half-century old conveyor system (which doesn't even make any practical sense) that is long and large enough to carry ships across an island, up, and down mountains.
- Lara Croft does not need sleep; she subsists entirely on bloodlust.
- If a person or container is set on fire, they instantly burst into flames, and in seconds crumble to ash & embers. However, a building or other object set on fire instantly bursts into flames and stays that way.
- An archeologist can find artifacts of a bygone age in convenient ornate redwood boxes scattered through the wilderness. It's just like finding Easter eggs already contained in fancy baskets!
- Is this the place we were looking for? Is this the person we were looking for? IT MUST BE BECAUSE OF THIS EVIDENCE [5 secs later] Is this the place we were looking for? Is this the person we came to find? Etc...
- The young assistant holds more respect and authority than the lead researcher in charge of the expedition and can persuade the crew to do her bidding on a whim.
- The crew of a research vessel (once they have a weapon) can outfight hordes of madmen armed with assault rifles and grenades.
- Never underestimate the power of plot convenience!

## profQUOTES 137.6

THIS IS SAD. :(

MATH 239: BRUCE RICHTER

“ But that’s just for those of you who care about technical details, which is probably none of you.

STAT 230: NAM-HWUI KIM

“ Yeah, screw you! Who's the boss now?  
[to a program, while closing it with Task Manager]

PSYCH 257: MEAGAN MACKENZIE

“ Internet is telling me to eat cake and exercise, but I just want cake.

“ [While talking about Narcissistic Personality] I really don't want to say Trump here.

## END OF TERM REPORT

WHAT DID MATHSOC DO THIS TERM??

- Started locker services a week early
- Expanded board games collection
- Expanded textbook library
- Midterm distress Week
- Final distress week
- Tau day
- Pool table reveal
- Party with profs
- 24h board games night
- Added mental health blog

WHAT IS MATHSOC DOING??

- Getting a major website overhaul
- Expanding exam bank
- Accepting debit and credit transactions soon (!!!)
- Advocating co-op work report changes (more details on the rest of this page)
- Advocating transparency between faculty and student
- Getting monitors for M3 study room
- Replacing 90 combo lockers with digital lockers

Samco Duong

## SO ABOUT THAT WORK TERM REPORT REFERENDUM...

*OH BOY, ANOTHER REFERENDUM!*

For those in co-op, you may know that your work term report mark appears as a percentage grade on your transcript. For those who did well on their work term report, this might be something to be proud of. However, for those who didn't do so well, that work term report mark may have a negative impact on future job searches.

Over the past year, **mathSOC** has expressed concerns with math work report grading to the Faculty of Math, and has proposed changing the grading basis. However, administrators within the Faculty have been claiming that math students prefer the numerical grading basis used for work term reports over a credit/no credit basis, despite offering no evidence to support these claims.

Therefore, **mathSOC** has decided to hold a referendum on this issue to not only raise awareness, but also seek a definitive student mandate. The exact wording of the referendum is as follows:

*Should the Mathematics Society (MathSoc) adopt the following position: “The Faculty of Mathematics should change the grading basis for Math work report courses (WKRPT 200M, WKRPT 300M, WKRPT 400M) from numerical to credit/no-credit.”*

The options are:

- **YES**, MathSoc should support a change in grading basis for Math work report courses from numerical to credit/no-credit.
- **NO**, MathSoc should NOT support a change in grading basis for Math work report courses from numerical to credit/no-credit.

**mathSOC** has received a platform for Vote Yes, but nothing from Vote No. The platform can be found below.

All math students (including CFM, SE and those not in co-op) are eligible to vote in this referendum. Vote now at <https://vote.feds.ca>; voting closes on Tuesday, July 31 at 11:59pm!

Alex Lee  
Math/Business Representative  
mathSOC Council

I basically only read the profQUOTES.

MOST PEOPLE WHO READ mathNEWS

# VOTE YES TO MATH WORK REPORT REFORMS

[HTTPS://WWW.WKRPT.CA/](https://www.wkrpt.ca/)

## OUR GOAL: FAIRNESS.

The current grading scheme for co-op work reports puts Math students at a disadvantage. This is your chance to speak up and tell the faculty that students demand change.

## THE STATUS QUO

A work report "course" appears on your transcript just like any other course. Each co-op student receives a percentage grade based primarily on a school-sanctioned evaluation.

**But WKRPT "courses" are not real courses, and should not be reported in the exact same way.**

## THE PROBLEM

**MATH STUDENTS ARE PUT AT A DISADVANTAGE RELATIVE TO APPLICANTS FROM OTHER SCHOOLS.**

FACT: Every other major university-level co-op program in Canada records the completion of work reports on a pass/fail basis.

Recording work reports on a numerical basis is the exception, not the norm. This creates an inconsistent playing field when Math students are competing with job applicants from other schools for the same jobs. Given that work report expectations are similar across schools, how is it fair for Math students to be burdened with extra, permanent data points on their profiles?

**EMPLOYERS ARE PRONE TO MISINTERPRETING PERCENTAGE GRADES FOR WORK REPORTS.**

FACT: Having percentage grades implies that there are 100 discrete levels of precision, and perfection exists.

The phrase "work report" is ambiguous. Without a thorough understanding of the requirements, someone reviewing a Math student's transcript might easily think that the numerical grade was assigned by a supervisor in recognition of a student's performance.

What's more, a "benchmarking" exercise is performed behind the scenes to assign percentage grades based on "levels." For example, calculated grades between 80% to 86% might uniformly be assigned a 83% to reflect the A-minus "level." How is this equitable to students who score at the extremities of these arbitrary buckets?

**IT IS IMPOSSIBLE FOR MARKERS TO EXPERTLY JUDGE EVERY POSSIBLE TECHNICAL SUBJECT.**

FACT: Every term, there are over 1,000 math students on work terms, each performing distinct duties.

The current one-size-fits-all approach, which requires students to write about any topic of their choice, means that the technical content at the heart of the report is largely inconsequential to the final grade. It is simply impossible for a marker to know every technical detail about every possible topic. As such, markers focus on trivial matters like the alignment of page numbers, and the indentation of paragraphs. Does an exercise in document formatting really lead to tangible learning outcomes for co-op students?

## THE REFERENDUM

The Mathematics Society — the official representative of Math students — is looking for student feedback on this matter, to justify a proposal to the Faculty. While there are fundamental problems with the work report requirements, a practical first step towards reform involves changing the reporting basis from numerical to credit/no-credit. Together, we can level the playing field for Math students, eliminate the issue of misinterpretations, and prevent misguided marking priorities from adversely affecting the profiles of Math students.

**We, the students, can show strength in numbers. Your vote counts.**

VoteYes

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## A POEM ABOUT FLOWERS

*As I was going through the park,*

*I saw a Rose and a Lily.*

*The Rose was beautiful,*

*The Lily was stunning,*

*And I didn't know which one to approach,*

*So I approached both.*

*And as I was trying to pick them up,*

*They called me a 2-timer and ditched me.*

*This is a story for you kids to remember,*

*Don't approach 2 girls at the same time in the same place that's stupid why would you ever do that and expect to score with any of them...*

# THE PROBLEM WITH "I'M HERE TO TALK"...

**TRIGGER WARNING: DEPRESSION TALK AND SUIC\*DE MENTION.**

Greetings **mathNEWS** readership! I am currently clinically depressed and having a rough time doing day-to-day tasks such as getting out of bed in the morning and trying to not fail any exams. Today is a slightly better day (hence why I am able to combine ASCII characters for **mathNEWS**), and I'd like to give a couple of quick tips to those who may notice their friends acting a bit funky. If I had good advice on what to do if you, yourself, are depressed (aside from not cancelling therapy appointments, taking your meds, generally trying to do things, doing things, eating fruits, waiting out the storm, and sleeping enough), I would be taking them and not in this position.

I do however have a lot to say about how I need to be treated when I am in a depressive episode. I'd like to share a bit of my advice to potentially help out someone else going through a similar situation. I'll be talking about what you can do to support a friend that you suspect might be having mental health troubles.

Below are a few signs that your friend might be depressed:

- They stop going to class..
- They stop leaving their room.
- They're usually a speedy texter but now take hours to reply to you.
- Their sleep schedule is out of whack.
- They have lost interest in their hobbies and are bailing on events that they used to be super excited for.
- They look like they have the flu but don't have a runny nose or a sore throat.
- When you go out they drink or smoke too much.
- They seem to be on edge and may give you short and sarcastic replies when you speak in person.
- You never see them eat or drink anymore.
- They are wearing the same clothes everyday and do not seem to be showering.
- They are crying...like a lot.

Now, of course each of these can be attributed to things other than depression, but given our demographic (university students in Canada) there is probably some sort of mental health issue at play.

Here are some things not to do and why:

- Ignore that they are acting weird. This may seem like the best thing to do because getting acknowledging negative changes in someone's demeanour can be super awkward. As a child of Rwandan immigrants, I am familiar with belonging to a culture that stigmatizes mental health troubles. However, ignoring an issue will rarely make it go away. Signs of depression are not as easy to spot as the signs of going into anaphylactic shock, but both can be life-altering and deadly. If you notice that your friend might be depressed, it is your

responsibility as a friend to attempt to help them since no one else might notice.

- Think to yourself, "a while ago I told them that I'm here if they ever need to talk" and assume that things must not be that bad since they're not reaching out. Unfortunately, one the pesky things about depression (at least in my experience) is that it will act like a parasite and do everything in it's power to make you a host organism that will nourish it and let it grow as it feeds off of you until there is nothing left. On a healthy day, it takes a lot of emotional energy to talk to friends about mental health. On depressed days, this feat is one comparable to getting an A+ on a MATH135 exam (not impossible, but quite difficult).
- Shame them for being lazy. If someone is already feeling really crappy, agreeing with the sad little voice in their head will not suddenly give them the energy required to escape the slimy demon of sadness.

Below are few things that you can do to help a friend that you suspect is depressed:

- Privately ask them how they have been doing lately. Hang out with them one-on-one and check in on all their spheres, notably their academic spheres, their romantic spheres (if applicable), their employment spheres, their family spheres, and their mental/emotional spheres. If they have just been busy and not in a deep sadness you should be able to deduce that after talking to them either on the phone or IRL. The key in this step is to be one-on-one (or with a group of close friends) and work your way up to the big depression question. If you ask them out of the blue, they might be caught off guard or offended, and give a misleading reply.
- Firmly offer to do housework with them such as cooking or cleaning. Ask them if you can come over at a specific time and date and be prepared to help them do a chore or let them take pictures of your notes from that class that they've missed.
- Buy them one of their favourite drinks and deliver it to them to let them know that you love them and care about them. Ask them what they've done today and what they plan to do tomorrow.
- Walk with them to Health Services or Needles Hall to book a counseling appointment. Alternatively give them the phone numbers of these service providers and ask them to text you after they have booked an appointment.



- If while on your quest to support your sad friend, you realize that things are escalating and you are in an uncomfortable situation, remember that you must always put on your own oxygen mask before helping someone else with theirs. If you are being triggered by being around this person, you can always contact campus mental health support and give them your friend's information. They will follow up with your friend to make sure that they're getting better and you won't have to compromise your own mental health. Also, if you suspect that your friend is suicidal, this issue is officially too big to deal with on your own. If your friend is at this point, there is very little that you can do to talk them off of the ledge. The best course of action is to call 911 to bring them to the mental health ward of the hospital where they will be forced to speak to a psychiatrist before leaving. This might seem scary but it is the best course of action, as the hospital has the resources to monitor them and keep your friend from hurting themselves or anyone else.

Most importantly, the best thing to do if you notice that one of your friends might be suffering is to talk to them about it. It is not your responsibility as a friend to cure someone, or to compromise your own mental health, but it is your responsibility as a friend to attempt to help them in the ways that you can. A phone call out of the blue to check up on them, inviting yourself over to their house to do laundry together, or being a bit pushy and getting them to study with you or join you on your trip to the gym just might be the push that they need to speed up their recovery.

I've obviously left a lot of things out and I'd like to expand on this topic further, but as someone who really could have used some help last week, I thought it was important to write this article. If you notice that something is off with your friend, do not be passive about it. Be active and make the effort to genuinely check up on them instead of ignoring their odd behaviour or wasting time worrying about if it would be too rude to say something to them.

Melancholy Morty

## THAT DATE ARTICLE FROM LAST WEEK PART 2

...welcome back to the pseudo-science love article pt. 2 where I disclose the results. If you don't know what this is about read last week's article. Romance Rick is in a funky schmood and does not want to rehash everything.

Let's start with the **badNEWS**... First of all, despite my best efforts, there was indeed a teen-movie/ A Midsummer Night's Dream style mix up in which some people left the date with more feelings towards someone else's date than their own. This result is the most saddening because in the allistic world, it is "too weird" to go ask out someone that has gone out on a weird group date with your friend. This mix-up was present in both parties of the rhombus pairing, rendering that union into a collapsed, one-dimensional flop. In **betterNEWS**, one half of the rhombus pairing is thriving in a serious relationship that they formed outside of the group date context. As a scientist, I am disappointed that they did not find love within the tomato sauce oasis of the world's largest East Side Mario's, but as a friend, I am happy that they are in a seemingly-nice relationship with someone who will willingly go to CIF with them. The other member of the rhombus approximation has had a very awakening post-date love-life experience after being courted by a past suitor. After having this past suitor in the back of their mind for a few terms, that pesky feeling of "what could have been" from first year can now rest easy knowing that "he ain't shit".

The octagonal approximation (author's note: I did email **mathNEWS** about the polygon correction and I have the receipts to prove it if this gets in the way of my graduate school applications!) was not quite round enough to roll down the hill of love, but their date yielded great insight into what each party was looking for in a romantic partner. After getting to know each other a bit better, their fundamental

incompatibility was more of a problem than their history as platonic friends.

The pentagonal approximation had a second date which was **fantasticNEWS!** However, after their early morning coffee date, one party felt like it went well while the other party decided that they firmly did not want to go on another date and made some remarks about their attire (notably, they made remarks about their date's "puffy vest that is not season appropriate").

Anyways, this date went worse than the last one in that it was more of a pain to set up and the outcomes were a little more bland. As of this moment, I will probably not be conducting another group date experiment for next term but I encourage any and all members of the **mathNEWS** readership to try this out within their friend groups and to report their findings in a future issue of **mathNEWS**.

It is with a heavy head that I abruptly end this followup article.

Romance Rick



# MUST-TRY FOOD PLACES IN KITCHENER-WATERLOO

I would like to thank Stephanie Meszaros from Her Campus Waterloo for her article about the Must-Try Restaurants in Waterloo which inspired me to write this. I believe she missed some lovely hidden gems that both cities have to offer. Growing up in the tri-city area for my entire life, I have tried most of the best of what it has to offer.

## KITCHENERRRRRRRRR

### THE YETI \$

This place is so hipster and cute, I love it. The Yeti offers delicious lunch sandwiches. My friend introduced me to this place back in high school. Whenever I go to the Yeti I always get the *Terry Pender*, which is a grilled cheese sandwich with maple butter and apple, though I'm sure if you order anything off of the menu it will be good. This gem is hidden next to the Kitchener's farmers' market—a bit far but a place I definitely think is worth trying. Drag your friends to the farmers' market for fresh meats and produce, then stop by the Yeti for lunch.

### KOREAN BBQ \$

This place is located near the farmers' market in the Hong Kong Fashion plaza near New City Supermarket. Although the decor of the place isn't the nicest, I do have to say this is the most legitimate Korean place in Kitchener and Waterloo. Don't judge this place by its looks, and I promise you won't be disappointed!

### SUSHI STAR \$\$

This all-you-can-eat sushi place may not give you those izakaya vibes, but don't be fooled by its looks. Come here for dinner and order the lamb skewers; you will not regret it. I love the variety this place offers and I'm weak to the deep fried ice cream, but previous **mathNEWS** editors have claimed the best dessert this place offers is the mango pudding!

## WATERLOO00000000

### KEN SUSHI \$\$

This is a sushi restaurant that is not all-you-can-eat (AYCE), and serves the best quality sushi you can get in the area. It is located next to Balzac's underneath Blair House. I suggest you get the specialty rolls, the Ken House Roll (it has gold flakes on it) and the MT. Fuji Roll. I literally watched the

restaurant haul in their fish in the morning when I arrived for lunch—that's how you know this place has quality ingredients. Take a seat at the bar or in a booth with some cool people. The staff is friendly and you can tell they have passion for what they do.

### BAO SANDWICH BAR \$

I've always had really cheap banh mi ranging from \$2-\$3, so the thought of paying anything more than that made me a bit confused... until I had Bao Sandwich Bar. This place really takes classic bar and banh mi to a different level. I personally go for the 5 spice pork but you can basically pick blindly off the menu and have a good snack or meal. This place is hidden behind a small building complex behind Laurier's Lazaridis School of Business.

### THE POKE BOX \$

This place was my first time trying poke, and I was blown away. I would not be surprised if this was the only poke place in the area. But who cares? It's really good! They have lots of vegetarian options and you can choose to mix and match your toppings! I suggest this place to anyone who is looking for a more healthy meal! The decor of the place is super cute and *AESTHETIC*.

### CAFE 22 \$

If you are looking for something a bit less casual, I would suggest visiting Cafe 22; this place is really cute and Instagram-worthy. This place mostly offers soups, salads, and sandwiches but also has some desserts. Come here for coffee, or sit down and have a nice lunch! Located in Uptown Waterloo, it is very easy to miss this place!

### BLOOM. @CONESTOGA COLLEGE \$-\$\$

If you want to go fine dining on a budget, visit Bloom at Conestoga College near University and Weber. Invite a few friends out for post exam/EOT celebrations and enjoy what the Conestoga College culinary program has to offer! Make a reservation and enjoy a three course dinner for \$22 or lunch for \$18. Trust me, you will not regret this.

Bone apple teeth!

*A cute angle*

**Want to write for mathNEWS? Come to a production night next term! New writers are always welcome.**

A mathNEWS EDITOR WHO NEEDS MORE FRIENDS

## WHICH IS THE MOST BADASS: PEDESTRIANS, CARS, OR CYCLISTS?

*I.E. WHICH BREAKS THE LAW MOST OFTEN?*

This summer I got to experience a fair share of Toronto as a driver, pedestrian, and cyclist. I have to say, none are good at getting around town without somehow breaking traffic laws on a regular basis. Let's be honest here, we all jaywalk an insane amount and at times it can be ridiculously sketchy.

I occasionally drive into the downtown core and witness firsthand how horrendous the other two parties are. Cyclists bitch 'cause we drive metal boxes, but do they follow their laws? Not really...

For example, how many cyclists would know that if a car is taking a right turn, legally the cyclist must pass on the left side of the car? I never had a cyclist follow that rule in the past four months of my downtown driving.

Now as a driver, I do realize that the streets of Toronto are honestly just not able to handle the traffic loads, considering the lanes have shrunk a lot to include bike lanes, and the constant flow of taxi drivers stopping traffic to drop off and pick up passengers do not help matters.

The worst offender must be people that enter intersections but cannot clear them, therefore causing gridlock for opposing traffic directions. Cars don't really save much time if they speed to every red light.

To conclude, this article was just rambling on to say each party is terrible. But if society could just chill and understand how traffic flow works, perhaps it wouldn't be chaos on the streets.

BMONEY

## N COMMENTS TA'S HAVE LEFT ON MY 2<sup>ND</sup> YEAR COURSES

In response to the article titled N COMMENTS TA'S HAVE LEFT ON MY FIRST YEAR ASSIGNMENT:

.

That's it.

psychGirl

## N (ACTUAL) COMMENTS TA'S HAVE LEFT ON MY 2<sup>ND</sup> YEAR COURSES

Jokes aside, when TA's leave comments on 200's courses, they can actually be useful... or are they?

- Explain more.
- Need more...
- But you said...
- This is generally fine if...
- You need to check...
- This doesn't quite work.
- Review Set Theory.
- What is your hypothesis?
- Derive it.
- See solutions.

**Note:** There are times when they leave a comment and deduct marks for something you didn't do. So always double check your solution with the actual solution. Or find someone who knows this course better than you.

psychGirl



Yang Chen

# THIRST

Yo yo yo, There are more important things than studying—taking care of your body. Due to the abnormal heat wave persisting in North America, heat stroke and dehydration have become a concerning issue. Quebec alone had over 33 deaths due to heat stroke. The conditions that can cause heat stroke are lack of air flow, direct sunlight, and dehydration. To prevent heat strokes one need to move themselves into area of shade that has fresh moving air. But more importantly drink a large amount of water to prevent dehydration. Not have enough water—thirst, methinks is a common problem in my daily life. It's more than just simple drinking, you need also make sure your electrolytes are balanced. Therefore drinking too much water in very short time can also be somewhat harmful. The better way is to drink a modest amount of water spread throughout the day.

There is a story about thirst I want to tell. Not too long ago, I went walking on a trail. I ate instant noddles beforehand, therefore I my sodium intake was high. I only carried one can of diet Pepsi because I was lazy and didn't want carry additional weight when I exercise. The point was to conserve energy (didn't want my life battery running out). My body retains water yet I was very thirsty half way through the trail. The weather sucked. It was around 28 degrees at midday. The sun was also pointing directly at me. With the humidity, I was sweating balls. I felt light headed. One thing I forget to tell you is that Pepsi has diuretic effect due to their shitty chemicals, probably caffeine. So now I was thirsty and needed to pee. Before you think I am going to pull off a Bear Grills, no. I am man of culture. I won't let myself became that degenerative just to survive. However, some patch of grass probably got some much needed hydration and fertilizer. I was out of the trail. it's about 30 minutes or 2 km to my house. My mouth was starting to be completely dry, I could feel my my tongue get very sticky and my saliva become thick, but my sweating stopped and I felt very very hot. As time passed, My tongue/lips cracked. My eyes became so dry it stung just to keep them open. Worst of all, my headache was getting to a point I become confused and disoriented. I know I become dangerously dehydrated with possible heat stroke. If I faint or ask for help that will made me look like some scrub who sucks at life. I have to hurry up get home while enduring this major discomfort. Luckily the weather becomes a bit of cloudy, wind starting to picking up and home wasn't too far, therefore I made it alive.

Some of you might ask why didn't I get a taxi or buy drinks from some store. I didn't bring my wallet. So, I finally reached my cold-ass home. But instead of getting water, I started League and drank bottles of pop and juice. One mistake I made was not realising I should've drank water slowly. I was disinclined to drink tap water because Waterloo water tastes like loo. That was terrible because all the addition sugar in the pop and juice will be bad to my body, since I drank so much in so short a time. My body was shocked possibly due to sudden changing in electrolytes and temperature. My headache got worse and I start to experience the runs.

Anyways, don't be like me. Be prepared when going out. Check the weather often. Drink water in a moderate manner. Even I wasn't that thirsty, I kind of realize that most of time my desire to eat snacks only about an hour after meal was not from being hungry but from thirst. The right thing to do was to drink a proper amount of water. Therefore, not only I would feel better, I would also consume much less calories. Therefore the answer to thirst is water. It's your body, you need it function properly if you want get an 80 in MATH 239, or if you want to go to Cali. You have to treat your body with kindness and care.

me

## NEW&CONFUSED FOR EDITOR

To you, the humble **mathNEWS** readership, I submit my application to be a **mathNEWS** editor.

WRITING SKILLS: I'll let ewe bee the judges of that won.

PAST EXPERIENCE: 1 term at **mathNEWS**. Some may say that's not enough experience, and they are probably right.

INDUSTRY KNOWLEDGE: What

TIME AVAILABILITY: So much free time. Soooooo much.

It may just be a pipe dream, but I'm eager to learn. It may take many terms to achieve my dream, but I look forward to seeing you all again as confusED soon.

New&Confused

You could be playing  
Sonic 3 & Knuckles right  
now, but instead, you're  
reading **mathNEWS**.

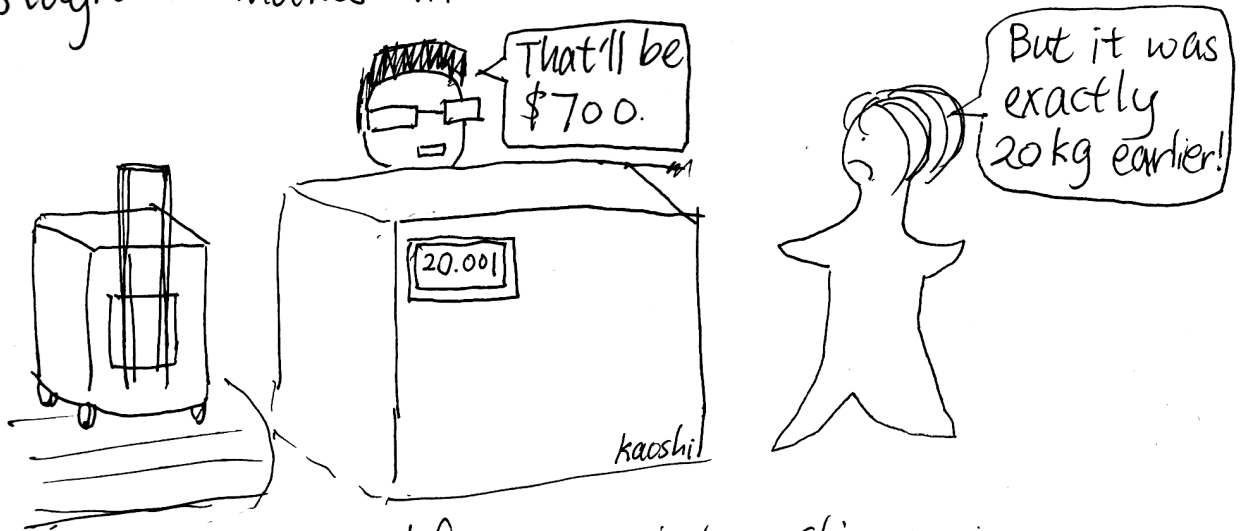
That's the best  
compliment I've gotten  
all week.

A **mathNEWS** EDITOR WHO REALLY  
LIKES SONIC 3 & KNUCKLES

How instagram makes life better:



How instagram makes life worse:



How instagram makes life more interesting:



# MATH ROCK ROCKS YOUR (MATH) SOCKS

What math rock is not: math rock is not (necessarily) music about math.

What math rock is: math rock is a rhythmically-complex genre of music with both odd and rapidly-changing time signatures, as well as dissonance and irregular breaks. Instead of just  $\frac{4}{4}$ , more exotic time signatures are used.

Math rock came out of the post-hardcore scene of the late 80s and early 90s and included elements of progressive rock and noise rock. What does this mean, anyway? The hardcore punk scene started to get experimental and introduce elements from other genres. Bands like Slint, Nomeansno (Canadian!), Shellac, and Drive Like Jehu combined heaviness with jazz noodling.

In the early 2000s, math rock became influential to the "twinkly" sound of second-generation emo (later referred to as Midwest emo, NOT the My Chemical Romance-type) with bands like This Town Needs Guns, American Football, and Tiny Moving Parts with the focus on emotional vocals in a genre that was previously often purely instrumental. This is also where math rock's distinctive style of guitar tapping came from.

Math rock terms to make you sound enlightened (and insufferably pretentious at parties):

- Kinsella-core (bands formed by Ohio brothers Tim and Mike Kinsella like American Football, Joan of Arc, and Cap'n Jazz)
- Mathcore (bands that take the odd rhythms of math and blend them with the screaming vocals and heavy guitars of metalcore; check out The Dillinger Escape Plan or BATS)
- Math pop (bands that take the complex rhythms of math rock and combine them with pop or indie rock vocal stylings to create very approachable, easy listening music such as Colour, Uchu Conbini, Minus the Bear, and Foals)
- Crescendocore (instrumental post-rock that relies on crescendos and other loudness dynamics for fake emotional resonance; lots of movie soundtracks fall into this category)

Other important bands: Hella, Don Caballero, And So I Watch You From Afar, toe, Lite, Piglet, Polvo, Tera Melos. If you enjoyed the examples mentioned here, check out more! Fecking Bahamas is a great website that looks at math rock internationally and has some great articles on the history of the genre.

c6h6

## N WAYS TO COPE WITH EXAMS

~~1. Cry.~~ **No, you're better than this.**

1. Calmly review your notes and look for any gaps that need to be filled. If it helps, try going through your notes with your friends to make sure you all understand the content.
2. Look through your textbook for relevant problems (if you have one) and talk to your instructor for any recommended problems. Even if you don't know the answer/method immediately, repeating similar questions will help you to build confidence. Look at solutions if you are lost if you need them early on, but try to become comfortable enough by the end of your studying that you only need them to check your work.
3. Understand and accept your grade for the term work. Whether your grade is good or not, you probably can't change it now. Focus on your exam and use your grade to figure out how comfortable you are with the material.
4. Ask for help if you need it. Friends, TAs, instructors—anyone you trust to know what you need. Study groups are helpful, but keep in mind that you have to write the exam alone (probably).
5. SLEEP
6. SERIOUSLY THOUGH, DON'T CRAM THE NIGHT BEFORE. YOU SHOULD BE RESTED FOR YOUR EXAM.
7. Don't dwell on an exam once you finish. Devote your attention to the next exam.
8. Cry (but only when you finish)

GOOD LUCK EVERYONE!!!!

**Ceci n'est pas filler.**

A SURREALIST blackBOX



tna

## OVERHEARD AT mathNEWS

- Tag of the laser variety...OH! Tag of the balls of paint variety
- Games of the board variety, games of the drunk variety
- Partying of the party variety
- Axe throwing! wait...axe climbing! Axe climbing?
- We can always do our own warehouse fire outside of EOT...and off campus
- You can't eat people in the C and D!
- We have an Orientation issue for the Orientation people who are small and students. Stupid?  
STUDENTS NOT STUPID.
- There's **mathNEWS** propoganda in this issue right?
- The whole POINT of this issue is for **mathNEWS** propoganda
- I feel as though university refunds are irrelevant for a housing article
- Really loud snoring
- An analysis of Jayden Smith tweets
- A debate on warm sushi

The biggest brother

## N THINGS DAN WOLCZUK HAS EMAILED ME

- A link to his Learning How to Learn Seminar series

Math235 Repeat Student

## N THINGS I'M GOING TO DO WHEN I FINISH FINALS

- cry
- google every question on the exam to see if I got it right
- cry when I realize I got them all wrong
- sleep for three days
- recalculate the grade I need on my final to pass the course
- realize I need 112% to pass
- eat something other than instant ramen and plaza food
- throw out linear algebra course notes (sorry Dan Wolczuk)
- re-recalculate grade I need on the final to pass
- watch an entire show on Netflix in two days
- try to forget the painful sleepless nights spent in the basement of dc
- ??????

t without the a

## ISSN 0705-0410

UW'S BASTION OF ERUDITE THOUGHT SINCE 1973

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# A NEW CHAMPION EMERGES!

Joseph had a good run but his streak is officially over. Congrats on the 3-peat wins!

Last issue's **gridWORD** question, which followed from the theme, was "What's the real essence of mathematics?" We had some quality responses: "The axiom of choice", the hilarious but ultimately duty-shirking "Determining the real essence of mathematics is left as an exercise for the reader", and finally, the winning entry: "The better question is: What is the imaginary essence of mathematics?"

I realize the winning entry is equally duty-shirking, as it answers the question with another question, but hey this ain't a democracy. I made my choice and I stand by it. And frankly, both questions are worthwhile. I mean, how else are we going to determine the complex essence of mathematics? (I feel like Georg Cantor is rolling over in his grave and it's all my fault.)

Mel D. is the winner of a \$5 gift card for the C&D. Come by the **mathNEWS** office MC3030 and pick it up at your convenience.

This week's puzzle is a bit harder than usual. There is no prize because it's the last issue of the term, but feel free to submit anyway; I'll be back as **gridMASTER** next term, and I'll give a shout out in the first Fall term issue to anyone who submits a perfect solution. The theme is critical to solving this week's puzzle. And the theme is "MINUS 1". Themed clues are marked with an asterisk (\*).

Happy puzzling!

yclepED

## ACROSS

- 1. Ocean \_\_\_\_\_
- 6. Beck song
- 10. \*Breakfast meat
- 14. Andrew \_\_\_\_\_ Webber
- 15. Old-timey word for prison
- 16. Queen's Seven Seas of \_\_\_\_\_
- 17. Birth canal
- 18. Growth Rate Standard Deviation (abbr.)
- 19. Alternative to lagers
- 20. \*Disney movie featuring Madam Mim
- 23. Certain cells
- 24. Irish gardening tool
- 25. Trailer with multiple deck heights
- 29. Affirmative action abbreviation
- 30. 2.2 lbs.
- 31. Food for an unborn chick
- 32. \*It flies overhead
- 33. Opposite of Superego
- 35. Game simulators you don't have to pay for
- 36. \*Christmasey breakfast pastry
- 39. Perennial flowers
- 41. \*Fourteen pounds
- 42. \*Heart hit
- 44. Sheen catchphrase
- 45. You can count on \_\_\_\_\_
- 47. APA alternative
- 48. La salle de \_\_\_\_\_
- 49. \*German vocal group heard at Christmas
- 50. Wee test
- 51. \*1986 Tom Cruise film
- 54. \*Game of \_\_\_\_\_
- 57. Aang's mount
- 58. "Are you friend \_\_\_\_\_?" (2 wds.)
- 59. Barely cooked
- 60. Leather, to Lise
- 61. Bob Dylan's "\_\_\_\_\_ Day Women"
- 62. How you might order Timbits (abbr.)
- 63. Federal taxes
- 64. When the ball drops

## DOWN

- 1. What many get "64-down"
- 2. Play in the mud
- 3. Post-Baroque decor style
- 4. Australia's most famous rock
- 5. "You do you, dawg!", in texts
- 6. Christmas drink
- 7. "Let's get this \_\_\_\_\_ started!"
- 8. \_\_\_\_\_ Hashanah
- 9. Famous movie dog, minus a "Y"
- 10. Kind of sausage
- 11. League featuring the Toronto Marlies
- 12. William Carlos Williams sprayed it on the hollyhocks
- 13. Opposite of no
- 21. Variety
- 22. They offer student discounts Tues-Thurs

- 26. Fraternity president, for example
- 27. Goodyear, to Ford, for example
- 28. "You're Not Smashing"
- 31. Floral \_\_\_\_\_ (abbr.)
- 33. \*Fancy dinnerware
- 34. It could be cheese or fruit
- 35. Moroccan city
- 36. Wrestler John
- 37. Lives per cat
- 38. Grovel
- 39. Big accounting firm
- 40. Be sick
- 42. Post-divorce expense
- 43. Amblyopia
- 45. Shiny balloons
- 46. Maudlin music genre
- 47. It can be fruit or chocolate
- 49. Highly suggestive fitness device
- 50. Sacred text of Islam
- 52. Computer "brains"
- 53. Ferry for cars (slang)
- 54. \_\_\_\_\_-la-la
- 55. Owns
- 56. Short Line, B&O and Reading

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				



# haltingPROBLEM

## THE END IS NIGH!

Dearest masyu**LOVERS**,

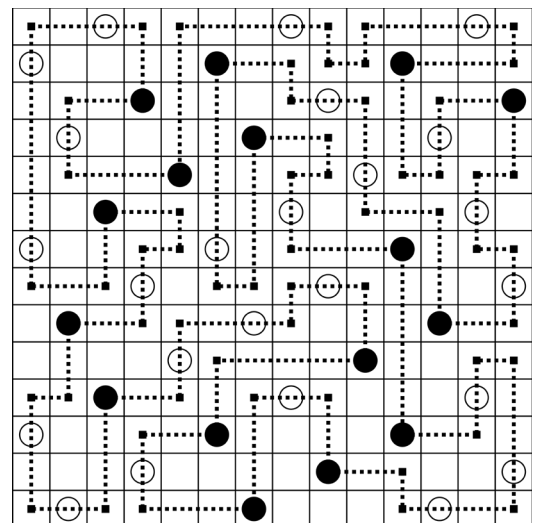
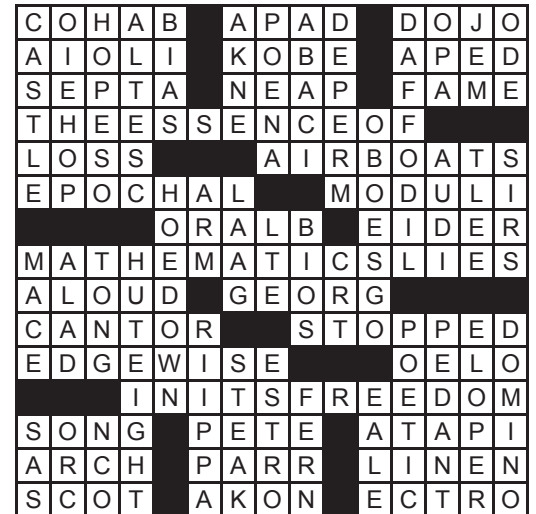
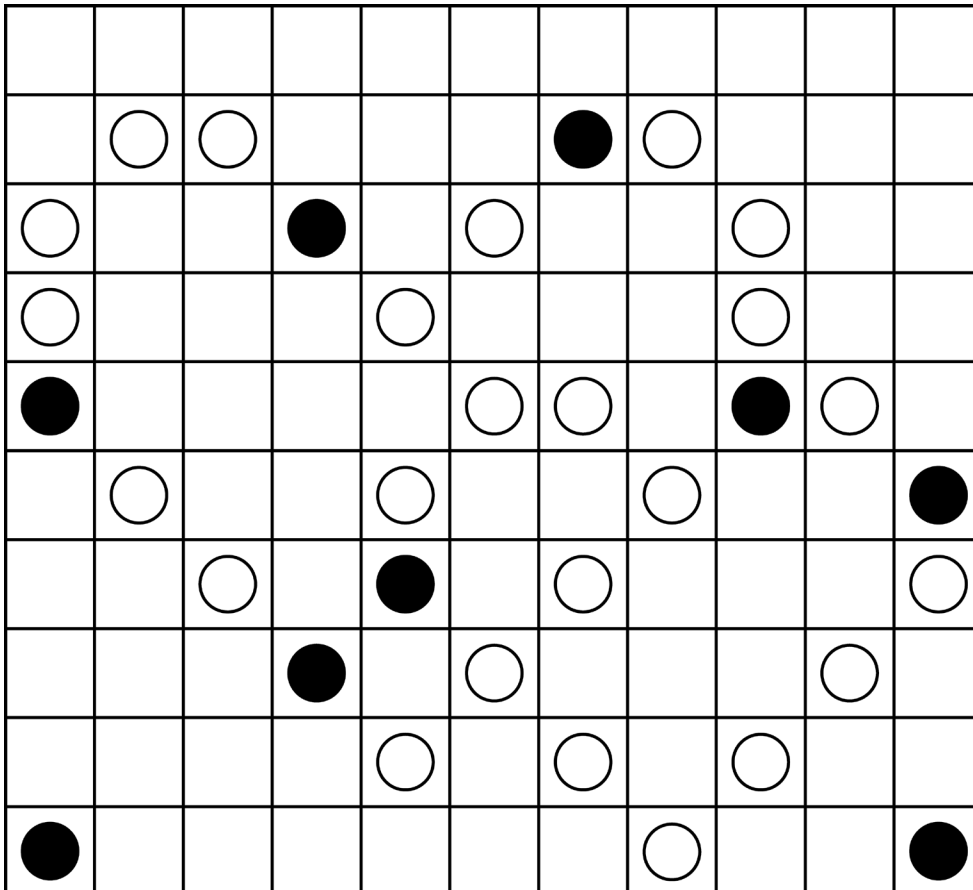
I'm sad to say that our time is coming to a close sooner than I'd like. This will mark the last issue of **mathNEWS** that I, your dearest **puzzleMASTER**, will be contributing to. Woe! What cruel mistress, Fate! In all seriousness, I've had a lot of fun putting these puzzles together. I've heard that at least a few of you out there are solving these things, and that really lifts my heart! So if you've got a craving for more Masyu, there's tons of resources online!

To represent for all the good times this term I've had **masyuMAKING**, and you've had **masyuSOLVING**, this week's Masyu is a heart, for you all! Actually, two. Technicalities. And speaking of technicalities, the rules!

The goal of a Masyu puzzle is to draw a single, unbroken loop from box to box, which never crosses over itself. Squares with black circles indicate corners, and the loop must make a turn in the square, AND in each of the squares where the loop extends from the black circle, it may not make a turn. Squares with white circles indicate straights, and the loop may not make a turn in the square with the white circle. Furthermore, the loop must turn in one, or both, of the squares where the loop extends from the white circle.

**goodLUCK**, and **fareWELL!**

the **puzzleMASTER**



# LAST WEEK'S SOLUTIONS ►

# lookAHEAD

SUN JULY 29

MON JULY 30

TUE JULY 31

WED AUG 1

THU AUG 2

FRI AUG 3

SAT AUG 4

Online course exam day

SUN AUG 5

MON AUG 6

TUE AUG 7

WED AUG 8

THU AUG 9

FRI AUG 10

SAT AUG 11

Civic Holiday (University Holiday)

Last day of Spring 2018 exams

# THIS WEEK'S

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

# SOLUTIONS

**SAD IT'S OVER?  
SUBSCRIBE TODAY!**

YOUR NAME

[Blank box for name]

MAILING ADDRESS

F W S 20 YY F W S 20 YY F W S 20 YY

TERMS

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- 🇺🇸 United States 10.00\$ per term, 25\$ per year
- 🌐 Overseas 15.00\$ per term, 35\$ per year