

Aloha!



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"WHAT REVENGE WILL YOU EXACT ON THOSE WHO ARE TAKING THE SUMMER OFF?"

Hello, dear readers.

Once again, it is spring on our lovely campus. The season of sunshine, flowers, and much rejoicing after a long, dark winter. Hallelujah!

Unfortunately, as I write this it is not all sunshine, flowers, and rejoicing. The atmosphere in MC is thick with the distress, despair, and depression of a new term. My math friends complain to me continually about PD, and my engineering friends complain to me continuously about their schedule. Our office may not have windows, but the moist air cascading from the ceiling vents tells me that Mother Nature has decided to unleash yet another round of cloud piss upon our location for the umpteenth time this week alone. Also, my succulents are dying and there's goose poop everywhere.

Thankfully, amidst all this pain and suffering, **mathNEWS** has kept my hopes and dreams alive. And, may I say, we had a *very* successful v140i1 production night on Monday. Several dedicated Toronto-based writers hosted the very first remote production night, and those who showed up at MC 3038 to continue the fortnightly tradition feasted on kingly portions of pizza and a game of Mao. As a result of our writers' collective efforts, we have an impressive **20** pages in this issue, a great many more than we historically have had in the spring. We also had a special someone order this monstrosity of a pizza:

Pesto, Extra Mozzarella, Anchovies, Artichoke, Ground Beef, Portabella, Bruschetta, Roasted Garlic, Pineapple, Bacon, Gluten-free.

Moral of the story? Come to prod nights—you get to contribute to **mathNEWS** and eat gourmet pizza! Just don't make any diarrhea-inducing orders similar to the above, because to the writer who did that (and you know who you are): we are never, *never*, **never** letting you order pizza again.

On that note, please welcome our newest editor, the wonderful unsophisticatED! He's been hard at work producing this issue, and it looks absolutely stunning. Enjoy!

terrified
Editor, **mathNEWS**

terrified
Editor, **mathNEWS**

BEYOND META	Make my own ice cream and not share it with them, as revenge is a dish best served cold.
ZETHAR	Live well, deny any knowledge when asked about the summer.
XAVIENTOIS	Pollute the ocean so that their relaxing vacation is ruined by increasingly precarious climate conditions (i.e. vote conservative).
EPSILON SCREWN	They are deprived of my presence. That is revenge enough.
SILLYCONE	Take a bite out of each of their snacks.
XX_420SONICFAN69_XX	Histamines being injected into the blood to trigger seasonal allergies, possible anaphylaxis.
SANDWICH EXPERT	I'm on co-op, does that mean people will be exacting revenge on me? [Editor's note: ...definitely not]
FINCHEY	I'll make them suck my entire goddamn fucking ass. Right cheek first, then left.
STAPLED	I'm too tired to exact revenge, sorry.
SWINDLED	Why would I take revenge? I mean really, what kind of person holds a grudge against his friends who get to have fun and enjoy the weather all summer while he's stuck slaving away at this godforsaken university? No one I know, that's for sure.
TERRIFIED	They'll have to deal with me missing them. Feel the guilt, suckers!

ARTICLE OF THE ISSUE

This issue's article of the issue is hereby issued to water for describing the issue of rez bug life with The Twelve Weeks of Spring Term, feat. CLV South! Sounding like a nature documentary outline, this article seriously could be read as a TV script. In fact, I read the entire thing in David Attenborough's voice and was so captivated that I immediately spent the next 48 hours watching animal documentaries and videos of calving icebergs. I expect to see this on BBC 1 within the next 5 years and will be sorely disappointed if it it does not see digital, physical, or over-the-air distribution by then. I also expect this to win at least five Emmys, ten Oscars, royal patronage, and smash *Detective Pikachu* and *Avengers: Endgame* at the box office.

Come by MC 3030 to pick up your ~~bug spray~~ prize!

TIL succulents are not indestructible.

TERRY CHEN, **mathNEWS** EDITOR FOR SPRING 2019
ALONG WITH ESTHER AHN, ANUJ OPAL AND JOSH RAMPERSAD

THEORETICAL PROPERTIES OF VIBRANIUM AND ADAMANTIUM

So by using my basic Chemistry knowledge, the hints given throughout the many Marvel movies, and the internet, I am going to attempt to discern what Vibranium and Adamantium would be if they existed in our world. Let us begin.

(tl;dr at the bottom)

So let's start with Vibranium. What do we know about it? It's strong, rare, and has a multitude of chemical properties. Its rarity is easily explained, as the only supply came from a meteor that came to earth 10000 years ago. Its strength come from the fact that it absorbs vibrations. Yet its many chemical properties remain unexplained. So let's start figuring it out.

We know Vibranium is an element, as it is referred to as an element numerous times and is listed with other elements in the quiz bowl session Peter Parker has on the bus in Homecoming ("Strontium, Barium, Vibranium"). The other two are group II elements (or alkaline earth metals), which leads people to believe Vibranium is one as well. But based on its other properties, Vibranium simply can't be in group II. For one, group II elements are highly reactive and unstable. As well, alkaline earth metals aren't found freely in nature, so if it was in group II, Wakanda wouldn't be mining it up — they would be synthesizing it in a lab instead. Vibranium must be found somewhere else on the periodic table. Based on the fact that it has many chemical properties, it is most likely a transition metal as they have access to their d-orbitals and have many different oxidation states (they can give up different amounts of electrons to react with different elements). Transition metals are also highly stable; some are metals that we see daily (Iron, gold, silver, etc.). So Vibranium may be a transition metal, but that doesn't explain its ability to absorb vibrations, as that ability comes from structure, and transition metal atoms simply sit next to each other with free flowing electrons and no ability to disperse vibrations. That ability would come from a crystal lattice structure, like diamond. And that got me thinking, — diamond is a network solid, i.e. instead of being just a bunch of molecules coexisting after the individual molecules form, they form bonds with the other molecules around it, which contributes to diamond's strength. As you may or may not know, diamonds are pure carbon, and its structure comes from being put under intense pressure and heat. "What has that got to do with Vibranium?", you may ask. Well, entering our atmosphere on a meteor and crashing into the Earth would generate a lot of heat and pressure. So I theorize that Vibranium is a transition metal that has formed a network solid, thus making it one of the strongest metals on earth.

So what about Adamantium? Its properties are more unknown, with the exception of being nearly indestructible. However, it is most likely not an element, as indicated by the line "There's a tricky thing about Adamantium. If you ever manage to process its raw, liquid form, you gotta keep it that way. Keep it hot. Because once the metal cools, it's

indestructible." Meaning that you can't just simply mine it; it has to be made. Based on the fact that it is made by melting rather than through another form of synthesis, and that it possesses incredible strength, it is most likely an alloy — but not just any alloy — an alloy that is part Vibranium. Now at first, I wasn't going to say that because one strong metal makes another strong metal felt too easy, but then I remembered Wolverine's origins, and that in the beginning Team X heads to Nigeria to find a fragment of a meteorite containing a rare metal (or to be exact, a rare *element*). Let's see: meteor containing rare metal in Africa, sounds like Vibranium all right. This explains why Adamantium is so expensive and hard to make. So Vibranium explains Adamantium's impact strength (A material's ability to resist sudden force or impact without breaking or shattering) but not its impressive yield strength (How well a material resists deformation or how much strength it takes to bend it). For this, stainless steel would most likely be used due to its abundance and impressive yield strength. Finally, I believe Iridium would be a component due to its high melting point and resistance to corrosion, which also seem to be properties of Adamantium. Iridium is also extremely rare, further contributing to Adamantium's expense and difficulty of manufacturing.

tl;dr: Vibranium is a transition metal that has forms a network solid and Adamantium is an alloy comprised of Vibranium, Stainless Steel, and Iridium

Let me know what you guys think, and if there are any real chemists out there let me know if I am even close (theoretically).

Anonymous



MATH 140S ARE PSYCHO

Oh, 140s are psycho
A little bit psycho
All night I'm screamin', "I'm-ma-ma-ma out my mind.."

Oh, these questions can mindblow
But there's no way I'm right though
All night I'm screamin', "I'm-ma-ma-ma out my mind."
They'll make you curse, but they're a blessing
They'll kill your faith within a second
You'll be coming back, back for seconds
With your paper, you just can't help it

No, no
You'll play along,
Let Snew lead you on
You'll be thinking, "No, no"
Then saying, "Yes, yes, yes,"
'Cause Lushman's in your head

Oh, 140s are psycho
A little bit psycho
All night I'm screamin', "I'm-ma-ma-ma out my mind.."
Oh, these questions can mindblow
But there's no way I'm right though
All night I'm screamin', "I'm-ma-ma-ma out my mind."

Yeah grab that lemma, makes it so easy
The proof's kinda wacky
But at least today "Everything'll be okay,"
'Cause 140s are psycho
A little bit psycho
All night I'm screamin', "I'm-ma-ma-ma out my mind.."

See, someone said, "Use intuition
Don't waste your time, with comprehension
When it's tough, you know you love it
Stockholm's sweet, don't sugarcoat it."

No, no
You'll play along,
Cormack'll lead you on
You'll be thinking, "No, no"
Then saying, "Yes, yes, yes,"
'Cause McKinnon's in your head

Oh, 140s are psycho
A little bit psycho
All night I'm screamin', "I'm-ma-ma-ma out my mind.."
Oh, these questions can mindblow
But there's no way I'm right though
All night I'm screamin', "I'm-ma-ma-ma out my mind."

Yeah grab that lemma, makes it so easy
The proof's kinda wacky
But at least today "Everything'll be okay,"
'Cause 140s are psycho
A little bit psycho
All night I'm screamin', "I'm-ma-ma-ma out my mind.."

Just think real deep, you're out your mind
I know it's strange, this question's the crazy kind
You might be thinkin', that you're insane
Boy, don't pretend that you don't love the pain

Oh, 140s are psycho
A little bit psycho
All night I'm screamin', "I'm-ma-ma-ma out my mind.."
Oh, these questions can mindblow
But there's no way I'm right though
All night I'm screamin', "I'm-ma-ma-ma out my mind."

Yeah grab that lemma, makes it so easy
The proof's kinda wacky
But at least today "Everything'll be okay,"
'Cause 140s are psycho
A little bit psycho
All night I'm screamin', "I'm-ma-ma-ma out my mind.."

math 148>138

SENATOR SEZ

Hi mathies!

My name is Alex Lee, and I'm one of three Senators representing undergraduate math students on the University of Waterloo Senate. (If my name sounds familiar, it's because I used to be a MathSoc councillor, MEF Director, and the MathSoc President — thankfully not all at the same time)

According to the *University of Waterloo Act*:

Senate has the power to establish the educational policies of the University and to make recommendations to the Board of Governors with respect to any matter relative to the operation of the University.

Basically, Senate makes all the educational rules and policies that everyone follows.

The first Senate meeting of the term is this Tuesday (May 21st) at 3:30pm in Needles Hall — and, you're all invited! You can find the agenda on the Senate website. If you'd like to speak on certain topics (or just want to talk about these topics, please let me know by ending an email to alex.h.lee@mathsoc.uwaterloo.ca!

Looking forward to representing you all on Senate!

Alex Lee

DON'T PHYSICALLY DO THIS IN AN INTERVIEW, PLEASE

The day of this article's glorious birth (Monday), WaterlooWorks officially had job postings for next term's coop. Also today, the site went down so no one can go look at those postings. Assuming the site comes up again, you may need to do some interviews eventually if you are applying for a coop position.

You've probably heard of many things you should not do at an interview, such as lie, looking at your phone, flaming previous employers, etc. (if you haven't heard to not do these things, don't do those things). But there are some subtle body language techniques that will help you get an edge on your competition as well, and by "techniques", I mean physically do not do these things. Alongside each "technique" will be a percentage of 2,600 hiring managers who responded in survey that they hated seeing these things.

1. FAILING TO MAKE EYE CONTACT: 67%

Looking your interviewer in the eye can be scary, and it will feel awkward to you while you do so, but it won't feel awkward to them. So force yourself to do it, because not looking someone in the eye can make you seem untrustworthy.

2. FAILING TO SMILE: 39%

You look nicer and friendlier when you smile, so doing so will make them think of you as someone they want to work with.

3. PLAYING WITH SOMETHING ON THE TABLE: 34%

That shows disinterest in the interview, and plus that's not your stuff.

4. FIDGETING TOO MUCH IN THEIR SEATS: 32%

Is there somewhere more important you need to be, hmm?

5. CROSSING THEIR ARMS OVER THEIR CHESTS: 32%

People find this gesture off-putting, and as my grade 8 teacher said as he was berating my friend for doing so, appears confrontational. There are many great reasons to get in trouble in middle school, you don't want to blow it on something this trivial.

Some other things not to do included having bad posture (31%), playing with their hair or touching their faces (28%), having a weak handshake (22%), using too many hand gestures (15%), having a handshake that was too strong (9%).

Good luck on your interviews!

Let's get this bread,

sillycone

A SERIES OF RELEVANT HAIKUS, V140I1

GET IN

*Highschoolers' clamour,
Euphoric and despairing,
Admissions season.*

THE LRT

*LRT comes soon,
Oh wow, I love trains so much!
Chug chugga choo choo.*

GRILLED ZUCCHINI

*Grilled zucchini on
our pizza, and with goat cheese.
"It's good, I told you."*

HANNAH MONTANA LINUX

*Hannah Montana,
Sparkly pink background image,
But no minesweeper.*

CARBONE

*"Let's get carbone?"
Everyone all shook their heads,
I hang mine in shame.*

SHEPPARD-YONGE STATION, 10:35PM

*Cream-yellow tiles,
Dim butter lights above me,
Waiting for the bus.*

UMBRELLA

*Dripping wet all day,
Hair soaked, shoes wettened, clothes damp,
Didn't have the time.*

12:52 AM

*Writing some poems,
Tomorrow I'll regret this,
But I love haikus.*

NUMBERS AND OCD

In Volume 139, Issue 2 of **mathNEWS**, an article was published that asked of the reader, “How do you observe numbers?”

I have OCD¹ and it is very numbers-based. Well, it’s based in a lot of things, but it likes to manifest in numbers.

For the most part, I am number-agnostic. What’s my favourite number? A long time ago, I decided it was 27, because I was kind of into cubes at that time. You know, Rubik’s cubes, hypercubes, 3D Tetris, yeah, I was into all of the stereotypical nerdy kid cube things. It takes 3 dimensions to define a cube, and a cube with side length 3 has area, ahem, excuse me, I mean “volume”, 3^3 .

But of course, mathematics isn’t about numbers, it’s about seeing patterns, and conjecturing theorems, and proving them, and numbers aren’t interesting. Oh, except for 2 which is the only even prime and 6, the smallest perfect number, and then there are the sexy numbers, and—

So there are lots of interesting numbers, so many that they are infinite. There is a popular proof for that, which you **mathNEWS** readers probably know already, but if you don’t, here’s a hint: What is the smallest uninteresting number? However, this proof relies on the assumption that uninteresting numbers are well-ordered. Maybe if we restrict it to only naturals...

Sorry, I’m getting sidetracked. Many numbers are interesting mathematically, in that they have interesting properties. But many other numbers are interesting not for any special reason but because of their roles in culture and history spanning generations.

If you were playing the numbers game, you would place all your money on betting that I am of Chinese descent, and you would have guessed correctly. In Chinese culture and many other East Asian cultures, 4 is an unlucky number due to being pronounced similarly to the word “death”. But it’s just a number. It’s not even prime, like the Western unlucky 13. My parents never even made a fuss about this number, but growing up, I eventually met people who did.

My OCD manifests in repeated actions. For example, I might choose to apply lip balm before going to bed, and I might choose to apply it in sets of 5. Of course, having OCD, I’d never want to do something just once, because for example I might have missed a spot somewhere, and that spot would surely dry up during the night and crack and bleed. So 5 sets of 5 it is.

1 2 3 4 5
1 2 3 4 5
1 2 3 4 5
1 2 3 4 5
1 2 3 4 5

Like that.

Counting to 5 is easy. There’s a basic rhythm for that in my heartbeat somewhere, and I just need to follow it. So I am certain that every set contains a 5. But what if I didn’t get 5 sets? I know that I didn’t do just 3 sets, so I didn’t miss two, but I might have missed one.

If I missed one, that would be 4 sets, and that would be *bad*. So I could do one more to make it 5. But I’m not certain I really got 4 the first time. If I had actually made it to 5, then doing one more would make it 6.

6 is also a bad number. I’m not sure why. I can’t explain it to you.

So two more then. But then if I had 4 the first time, then I’d get 6. So three more then. But if I had 5 the first time, I’d get 8. 8 isn’t *that* bad, but it’s 4 times 2, which is still undesirable, so surely I have to do one more than that, but wait, now I’m up to four extra times, and of course that won’t do, so five. That’s the answer. I have to attempt five sets, which may result in five or four sets, and then do five sets. So I get 9 or 10 sets, both of which are very good numbers.

I think you see the problem here.

What if I didn’t actually get five this second time around? If I had missed one, then I’d have done four extra ones. And so I have to do one more, but then it could be six, and then

Yes, this is a recursive problem, and it doesn’t terminate. There is no solution. Well, I did have a solution, which was pay as much attention as I could to the amount of times I applied lip balm until I was satisfied. Add in the fact that I was also counting the number of times I pressed the bathroom cabinets closed and flicked the light switches off and the—

You can see how it all added up to a long being spent on getting ready for bed. Yes, these were bedtime rituals. I’m a child. There were often different numbers involved with every activity. For example, lip balm application was 5 sets of 5, but pressing my door closed was done in 3 sets of 3 sets of 3. (Hello, favourite number, fancy seeing you here! Total coincidence by the way.) But sometimes I’d go for 3 sets of 3 sets of 3 sets of 3. You might think, there are four 3’s there! That’s 3^4 . That’s true, and I can’t really explain why. All I can say is that the “three-ness” of that number cancels it out. And although 4 was always bad, 6 was only bad for lip balm application. I would flip my pillow in 6 sets of 6.

Also, all of these things had to be done all over again every time I went to the bathroom, which could not be 4 or 6 times. So you can see how this easily led to me applying my lip balm over a hundred times every night. I remember how, when I was around eleven, I once read a chapter book, and the main characters could go to sleep without having to do anything but brush their teeth. I was envious. I kept all of this a secret for many years.

Numbers plague me. "You must be in the wrong faculty then!" But I also love numbers. I have a digital clock that ticks by flashing the colon separating the hour from the minute. I would stare at this clock and repeat the current time over and over in my head while counting exactly five of these ticks without blinking and it really strained and made me tear up (it's a lot harder at night, okay?). And I would do this multiple times. And I also would take my phone out to look at the current date, year included, and repeat it over and over to myself.

When I was a little kid, swinging on the swings, I would often think about how it would never be that date, nay, that exact datetime, ever again. I would never see the same number combination on the calendar. I hated it. I didn't want to feel the seconds slipping through my fingers, yet every moment of my life was entrenched in this helplessness.

There are many wonderful number systems these days, but I think the naturals are a wonder themselves. After all, the ability to count binds me. I am haunted, I am suffering, the world is simply out of my control, but I know. I *know* something, whether it be the date or the number of times I've opened and shut the door. The numbers are bigger than me.

I have pretty much gotten completely better since the worst times, and for the most part I don't really need to think about these things anymore, but sometimes it all comes back. After all this, I still don't know how I observe numbers. I don't know if they exist without me, or if I could exist without them. I don't know if it would be better if I could see or feel them. I only know that numbers and I have a complicated relationship, and that I'll probably never be free from it, and that no matter how much theoretical mathematics you learn, the naturals were there first.

1. Disclaimer: I have never been diagnosed with OCD. I only said that to simplify the introduction. I have only been diagnosed with "OCD-like tendencies" because I foolishly never went to the psychiatrist until I had somehow miraculously recovered on my own. However, I'm pretty sure that I had OCD. If you have a bone to pick with that, submit your own article and tell me off. Also, if you find yourself relating too hard to this article, please talk to a doctor or psychiatrist.

cy

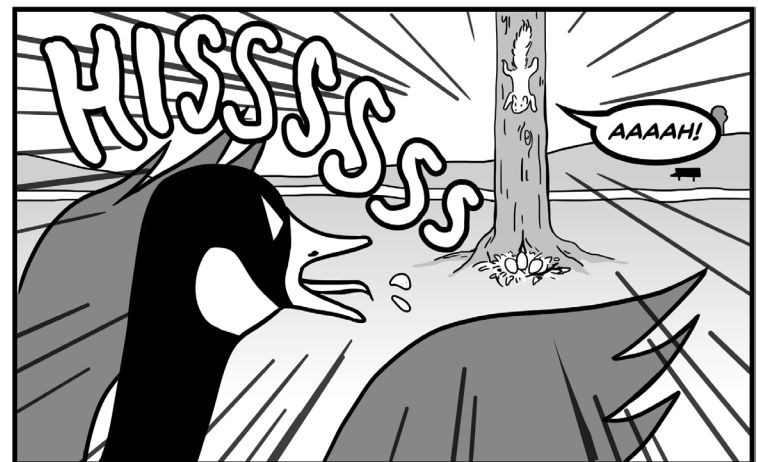
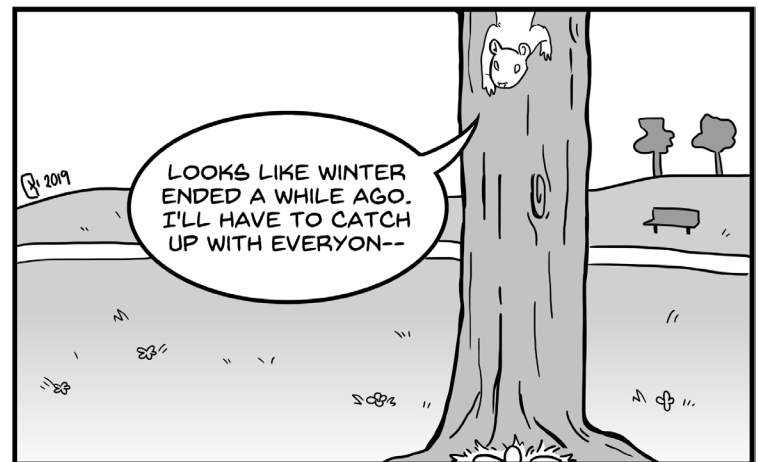
N THINGS I LEARNED IN FIRST YEAR THAT TURNED OUT USEFUL AT CO-OP

• Office Politics

water

RUDE AWAKENING

BY CIX



HUFFMAN ENCODED MASTERPIECE

[Editor's note: y]

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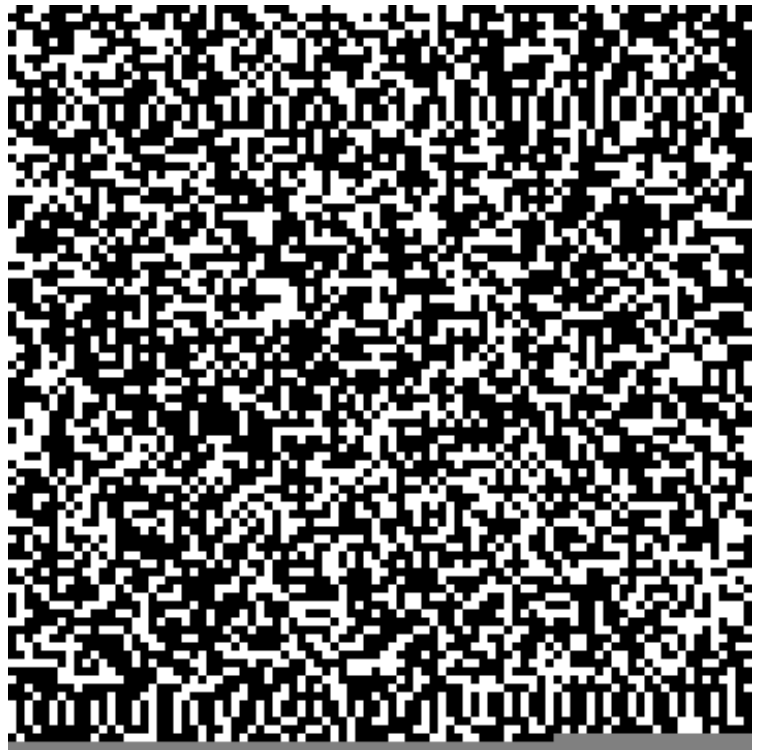
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[Editor's note: We've also generated this QR code in case you don't want to type all that in manually. White pixels are 0s, black pixels are 1s, and the grey section at the end is filler since the bitlength of the encoded text wasn't a power of two. Happy decoding!]



Xavientois

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

FOURMONTHFRIENDSHIP.JAVA

[Editor's note: you can also find the source code here: <http://tpcg.io/MFJTPL>]

```
package coop.students;

import java.util.Scanner;
/*
 * I made efforts making new friends every term and it turns
 * out that me and my new friends can barely see each other
 * after one semester since we don't go to same classes or
 * don't have the same co-op sequences which sucks! :(((
 * This short java program was inspired by above and I made
 * sure it runs.
 */
class Friend {
    int id;
    String program;
    String hobby;
    boolean loveGeese;

    Friend(int name, String program, String hobby, boolean
loveGeese) {
        System.out.println("Yo. I'm friend number " + name + "
in " + program +
". My hobby is " + hobby + "." +
" I " + (loveGeese ? "love " : "hate ") + "geese. :-)");
    }
}

public class FourMonthFriendship {
    static Friend f;
    static Scanner sc = new Scanner(System.in);
    static boolean sameClass = false;
    static boolean sameSequence = false; // Sadly
    static int maxLength = 60; // Let's say 5 years
    static int numOfMonth = 0;

    public static void main(String args[]) {
        int monthsPassed = 0;
        while(monthsPassed <= maxLength) {
            if (numOfMonth % 4 == 0 && sameClass == false &&
sameSequence == false) {
                System.out.println("Uggh, new term started. Gotta
make new friends ... ");

                int id = sc.nextInt();
                String program = sc.next();
                String hobby = sc.next();
                boolean loveGeese = sc.nextBoolean();

                f = new Friend(id, program, hobby, loveGeese);

                System.out.println("End of term. Bye my friend.
Let's keep in touch!");
                System.out.println("-----
-----");
            }
            monthsPassed ++;
        }
    }
}
```

```
        sc.close();
    }
}
/*
 * Might have learned some java after all. Isn't that
 * beautiful?
 * And seriously, call your friends occasionally. You pulled
 * through tough times
 * because of them.
 */
```

Autowired

A REVIEW OF HANNAHMONTANALINUX

TORONTO - Today at **mathNEWS** Production Night: Toronto Edition

I downloaded and installed HannahMontanaLinux. This is my review of it.

It sucks, the repos are all down and I can't install Minesweeper. It's also really buggy. Overall, HannahMontanaLinux was trash.



STEPPING ON PEOPLE'S TOES

Stepping on people's toes is something that is almost inevitable: we have all done it. It has happened to us, and despite our best efforts to avoid it, we will all probably do it again. It's a mistake. It happens, it's usually not a big deal but sometimes it hurts more than usual. I doubt that I would ever get mad at someone for stepping on my toes but I might be a little annoyed, 'cause well, it still hurts. Everyone understands the awkwardness of the whole affair.

However, for some other topics I have known, some people that have taken the position that because stepping on people's toes is unavoidable, then it's okay to step on people's toes. And if it's okay to step on people's toes, it's also no big deal if they do it on purpose, jamming four inch high heels into someone's foot. And when the victim tries to bring attention to this behaviour, people respond "Oh, well they were just stepping on your toes, maybe it was accidental!" when the entire context of the interaction shows that it is much more malicious.

Having your toes stepped on hurts, even if it was accidental. It costs nothing to have a little empathy to apologize and try to do better. It's such a simple concept; however, many people struggle to extrapolate it to similar situations, like using the correct pronouns for someone. I have heard too many people argue that because using the pronouns is not always obvious, it's too much effort to get it right. You will probably sometimes screw up people's pronouns and if you do, all you have to do is apologize and try to do better. However, if you deliberately misuse the pronouns, then you are as bad as the person ramming their foot into others on purpose.

Perhaps you don't understand what the big deal is. It's just a word. It doesn't upset you, so why should someone else be upset about that something? People are different. They are hurt and bothered by different things. They do not need your approval to be able to say something hurts and bothers them and you also don't need approval to say that your own feelings are valid. It's a simple manner of listening to people and being empathetic. Is being kind really that hard?

Beyond Meta

MISSED CONNECTION

*Now I'm as rational as p over non-zero q
but I still can't explain why I miss you
maybe it's because I reckon there's a chance
that you wouldn't mind joining me for a dance
or talking about how our names are mispronounced*

Not a Rhymer

N THINGS TO DO WHEN YOU CAN'T THINK OF A TOPIC FOR A mathNEWS ARTICLE

- Panic
- ~~Resort to meta~~
- Whine about not having ideas
- Stare at the new post page for 3 hours
- Whine about not having ideas again, but louder this time
- Ask people for ideas 'cause they're not picking up on your subtle hints
- ~~Resort to meta~~
- Look at recent news
- Look at recent memes
- Think of all your embarrassing memories that could be exploited for **mathNEWS** articles
- Rip the first 50% of your hair out
- Panic again
- ~~Resort to meta~~
- Consume industrial amounts of caffeine
- Rip the remaining 75% of your hair out
- Perform blood sacrifices to appease the **mathNEWS** editors
- Come to the conclusion that everything you have ever done in your life is a failure
- Feel yourself being crushed by the infinite weight of your sheer insignificance
- Let your sanity slip into the void as you embrace the all powerful darkness
- Resort to meta

Various Pseudonyms

N THINGS OVERHEARD AT MATHNEWS

- A: Can we just submit memes?
B: Dude, the whole thing is a meme.
- Note: shaved ice is also not a topping on Pizza Nova's website.
- Maybe the keyboard's just racist.
- We can define a sandwich by a solvable region in two dimensional foodspace.
- Please don't tell me you're running a torture chamber.
- I would be a bit concerned if MC could fit an infinite number of people.

SIGSEGV

mathNEWS REVIEWS EVERYTHING

My name is Andrew Pearson. I am a legal studies and political science double major, and a **mathNEWS** survivor. This is my story.

I was walking towards my class in Modern Languages when I saw the first one. It was lying on the ground, moist from the foggy weather. **mathNEWS**. I figured, "I should know more about the math faculty at Waterloo, especially when a decent number of my friends are in it!" I picked up the copy. It appeared to be a few months old, but discarded onto the ground recently. Yet hastily, I began reading as I continued walking to my class.

I read the **profQUOTES** section. I laughed harder than I should've (that is, a fast exhale now and then) at the hilarious profs. I enjoyed the foreword, and the sudoku puzzle. But I noticed one trend of article, "N things that _____." At first they seemed benign, like "N favourite colours of math students," or "N ways to fail linear algebra."

It was pretty cool, but I had enough reading, so I recycled the copy and kept walking to class. The air hushed against my back, but howled above me like a growling, yet patient, panther. My only solace was the geese. As loud and arrogant as they are, they made me feel at home in this terrible weather.

I found another **mathNEWS** issue. It was similar to the first. I experienced a hearty chortle at the **profQUOTES**, and enjoyed the prof interview. The listicles were starting to scare me, though. They got more bizarre, and specific. "N ways to talk to arts students", "N ways to recruit math majors"

I threw this article in the trash. I started speeding up. I felt a presence behind me, but whenever I turned, it seemed to disappear.

I found another **mathNEWS**. I cautiously flipped the pages, searching for more listicles. "N ways to flunk out of pre-law and become a failure", "N places to run", "N places to hide"

I started getting scared. I feared for my life. I ran, but I felt strange. Compelled, or drawn even. Towards math. I found myself not running towards ML, but to MC. I picked up another copy on the ground, desperately craving another listicle. To see my fate. To know my future, my destiny. "N years we will take off your life", "N limbs you'll lose today", "N ways you'll get caught."

I didn't care about my physical form any longer. I wanted to ascend, ascend beyond these mortal bonds. I would do whatever it takes to catch a glimpse of math. A glimmer of the pink sea. "N ways you can't escape the Pink Menace", "N ways you can feel me entering your soul."

A friend saw me, frothing at the mouth and gurgling as fast as I can towards the math building. My body was deteriorating, and I was on a collision course with the wall. She got to me and shook me to my senses. Told me that **mathNEWS** was a

modern lotus, and the math faculty were the lotus eaters. She said to tread carefully around them; as for some, it was already too late.

Let this be a lesson. It's never too late. You can always win. You will always win. She didn't understand; I found enlightenment.

"N ways math is inevitable."

Xx_420SonicFan69_xX

mathNEWS ALBERTA WEATHER REPORT

This is for any reader in Alberta who happens to not have access to any digital device to view the weather but just happens to have access to this copy of **mathNEWS**.

PRECIPITATION:

Alberta has literally experienced all four seasons in the last few days, even winter.

0 / π

SUNSHINE:

It's literally sunny one hour and then cloudy the next, and then raining hard after that, and then sunny again, and then cloudy. Use an RNG to determine future weather.

Math.random() / π

TEMPERATURE:

Also very random. Sucks when you're not wearing a sweater like a normal person in the summer and it starts snowing.

-3 / π

AESTHETICS:

Gray, with the classic Rocky Mountains in the background.

$\wedge \wedge \wedge$ / π

OVERALL REVIEW:

Climate change is real.

Not like Cali / π

WHAT TRIGGERS ARE AND AREN'T

I often see people use the term trigger incorrectly. There is a misconception that triggers and being triggered is synonymous with finding something offensive. This is wrong.

To find something offensive is to deem that something is morally wrong while triggers are specific things that evoke negative emotions, usually related to some trauma. For example, I might be offended if you insult **mathNEWS**; however, I would not be triggered.

Some common triggers are mentions of rape or suicide. A lot of combat veterans find the sound of fireworks triggering as it reminds them of getting shot at and possibly losing limbs or comrades. However, triggers can be anything that a person associates with their trauma.

The idea of trigger warnings are just a matter of common courtesy of letting people know that this potentially upsetting material is there so they can choose if they want to engage with it at a particular moment. Being upset is exhausting and so you wouldn't want to read something that is triggering before an important exam or interview.

While there are obvious triggers, a lot of triggers can be really stupid. For me, when I see someone with long pinkish hair, I get a spike of fear that I might be running into someone I would rather not interact with. I am not offended at people's long pink hair. That's absurd; I ascribed no moral value to the act of dyeing one's hair. This reaction of mine is in no way rational, especially when you consider the fact that this person has since dyed their hair purple.

Beyond Meta

mathNEWS GOES MULTIMUNICIPAL!

TORONTO — I am pleased to announce from Toronto, Ontario that **mathNEWS** is now the first student newspaper from the University of Waterloo to establish a presence outside of the Kitchener-Waterloo region. Tonight (May 13, 2019) marks the first **mathNEWS** production night to be held in Toronto!

This means that **mathNEWS** is now the most established newspaper from the University of Waterloo and we have the most dedicated writers. Suck it, Imprint and Iron Warrior.

Sponsored by **mathNEWS**

N WAYS TO MAKE THE MOST OUT OF YOUR CO-OP

What is a school term for? To make you smarter to tackle the material that follow your current courses.

So what is a co-op term for? To set you up for an even better co-op next time. Here's what you should do to maximize the quality of your next co-op:

- Flex on the U of T interns to scare them from competing for the same jobs next time
- "Mark your territory" in the office for your future return offer
- Flex your humility by asking for a \$0.01 wage (but arrange to have your wage double every day)
- Invest in Californian style clothes and surfing lessons
- Ask the boss how *outstanding* you were everyday until evaluation day
- Upload all the company's code to GitHub as a S I D E P R O J E C T
- Rise to the position of CEO, the highest rank possible
- And replace all employees with automation, showing your passion for tech

License2Derive

WHO CHEATS MORE: THE ARTS FACULTY OR ECE 2023?

It is well known that ECE 2023 cheats (for reference, check reddit.com/r/uwaterloo). Through my rigorous journalistic investigations, I have found out that math course instructors generally regard teaching the arts versions of math courses as difficult because of rampant cheating.

So, I took out to conduct a survey, and asked 5 people what they think. Who (as a percentage) cheats more: arts students, or ECE 2023?

The results were highly informative.

- ECE 2023: 3 votes (60%)
- Arts: 1 vote (20%)
- Spoiled ballot: 1 vote (20%)

So, we now have statistically significant evidence that ECE 2023 cheats even more than arts students.

Nate Aluminium

THE TWELVE WEEKS OF SPRING TERM, FEAT. CLV SOUTH

With the winter term complete, the bi-annual changing of the guard at Columbia Lake Village is well underway. Among the ranks of the departed are snow, ice, and primates. My housemates and I have cleaned up and evacuated to air-conditioned lands. And if I do say so myself, we left the place looking much better than it was when we got there. I'll miss CLV South, and I'll miss complaining about it. It wasn't that good, and it wasn't that bad. I guess that's what happens when you spend 8 months anywhere. At the end of it all, it's just average.

I've spent more time than I'd like to admit imagining what will happen in that house when nobody's there to hear it. It usually goes along the lines of a step-by-step undoing of the process of moving in. Behold, the Twelve Weeks of Spring Term.

WEEK 1 - Our bug spray perimeter weakens and ants burrow into the house from underneath our radiators, marked by piles of dirt. Not that it'd matter, since there are plenty of cracks in the ground for them to crawl out from anyway. One way or another, they're getting in.

WEEK 2 - Sustained rains trigger a mass migration of spiders up into the portico. Columbia Lake notices the spider and ant presence, and decides it wants in on the action. Entire paths are lost underneath puddles as the lake colonizes its namesake village.

WEEK 3 - As the rains let up, Columbia Lake gives up its colonies, vowing its eventual return. Our bug spray perimeter weakens and ants burst into the second floor through gaps in the bathroom baseboard.

WEEK 4 - The bathmats are consumed, but for the most part the ants are out of scraps. Some continue to make a living off crumbs in the kitchen. No matter how hard we try, the ants are still better at cleaning up food.

WEEK 5 - Spiders make their way into the house and install themselves in every radiator. Dead insects begin piling up nearby.

WEEK 6 - The first scattering of dandelion seeds spreads new plant growth on exposed dirt. It is a welcome replacement for the grass destroyed by delivery drivers while making three-point turns on pedestrian walkways.

WEEK 7 - Some wasps set up shop right underneath the roof, as a dry spell kicks in.

WEEK 8 - Another dumpster fire. I'm calling it.

WEEK 9 - Torrential rains drive the spiders even higher. Coincidentally, the wasp nest falls silent.

WEEK 10 - The portico is now made of spiderwebs. On closer inspection, the spiderwebs are crawling with baby spiders. Ducks and geese argue over control of the large pond where the path used to be. They agree to decide it with a match of king-of-the-hill, using the storm drain as the hill; the only thing not submerged.

WEEK 11 - The vines finally reach the second floor window. The now adolescent spider hatchlings scale the walls of the house and enter the attic. This week is unusually cold.

WEEK 12 - Everything in the house is covered under a thin layer of dust. Spiderwebs now line the stairs, ceiling, every window, and the shower, but one will have to look harder to find the actual spiders. (Hint: check the radiators.) The last few ants are camping out in the lower floor cupboard, but the damage is done; their entry points are marked with distinct dirt halos.

And just like that, the next round of first years move in, naively wondering how the previous tenants could possibly have been so neglectful. They will try to wait for the intruders to remove themselves naturally upon the next changing of the guard: the return of winter. But by the third week of the term, it will be quite apparent — someone will have to visit Sobeys and purchase a bottle of spider spray.

Nature abhors a vacuum.

water

WRITER'S COMPENSATION REQUEST

As a regular contributor to **mathNEWS**, I would like to continue to have my regular compensation for writing: free pizza.

Unfortunately, I am not on campus this term.

Please send at least 2 slices of any non-Hawaiian pizza to Calgary, Alberta.

If this is not possible, I will have take note of this as a debt, with 3.14% monthly pizza interest, thank you.

License2Derive

WHAT HAPPENS IF WE ARE TRAPPED IN DC

It is so fun observing different crews in a library. (Maybe I should add “the stalker” as one of the category below — *shrug*) This is not the real case, cuz waiting in long lines outside washrooms or in front of water fountains drive ppl insane. But check out which description fits you the best anyway.

1. The real deal: I gotta grind 40 hours per day and ace all exams when I get out!
2. The struggler: Frowning, frowning, frowning...
 - Mumbling, mumbling, mumbling... (Woohoo we got a future beatbox star)
 - Biting nails...
 - Fidgeting pens...
 - Scratching nose...
 - Tearing up Tim Hortons trays...
 - Pulling hairs off until the foreseeable change towards One Punch-Man
3. Procrastinator: Why am I on my phone again? Ahh this doggy is so cuteeee.
4. Gym lover: Damn it, why am I trapped in this place. Screw the exams. Doing push ups and jumping jacks in a filthy, eraser crumb covered corner and staring down all curious kids.
5. Overeater: Arrrr I'm stress eating! Who wants to rob Tims with me?
6. Doodler: Anything that leaves a mark is the best weapon.
 - “I'm probably dead when u see dis” (Plz stay alive)
 - “Call me if you are lonely at night XXX-XXX-XXXX” (Oh so we can study math together?)
 - “重金求子”
 - “AAAAAAAHHH” (I love your passion)
 - “Fuck math” Replied: “No you are the one being fucked”
7. PC gaming gang: Faraway from us. They are in another dimension busy surviving.
8. Rock and roll artist: Volume max. The whole library can hear the buzz through their headphone.
9. Hoodie lover: Feels in a comfy shell while hood on, covering unwashed oily hair.
10. Human printer: Gotta copy my 9999 page textbook by handwriting and I feel blissful.

Autowired

MY THOUGHTS DURING THE FIRST MEETING OF MY LIFE

Hi UW folks. I am now going through my first co-op term. Some of you might already know what the first week feels like and I'll use my first meeting as an example.

BEFORE MEETING

One day at noon, the reminder alarm goes off scaring the shit out of me.

Wait. I gotta find this “Iceberg” room? Where the hell is that?

I was standing in the middle of the office area like a lost puppy until my boss dragged me there.

DURING MEETING

I was taking notes like crazy while piling up questions in my mind feeling like my CPU was on the edge of an explosion.

What is JEB COS, XYZABC, TROPQ, & \$%&>? These jargons are torments. Oh no. Now I'm really scared.

I feel I was doing everything wrong ... until my boss said I can interrupt and ask questions any time I want.

Alright that was a little soothing.

AFTER MEETING

U know what? He actually said I was doing well as a newbie.

He is an extraordinary system architect and also was once a newbie during his first internship.

So don't be anxious about the upcoming work term. It is fine not knowing where to start. Ask questions, learn new things, be yourself, and have a good time! The nice and hardworking you will make the best intern.

Autowired

This blackBOX was here all along, I swear.

A mathNEWS EDITOR WITH NOTHING TO HIDE

EPIC FANTASY TV SHOW COMING TO A CLOSE THIS SUNDAY

This Sunday, May 19th, is a day worth marking on your calendar. As it is the day that an epic fantasy series will finally reach its thrilling conclusion. Certain pockets of the internet are ablaze with speculation of how the events will unfold. After all these years and character development, will their favourite characters make it out unscathed? People are still reeling from the shocking reveal of the last episode where it unfolded that a fan favourite queen made an attempt to take the throne with a level of violence that was hard to stomach. How could someone who is so strongly defined as being a mother be so cruel? The poor peasants.

While many cheered that the reigning queen was overthrown there are still some questions that need to be answered as for who will ultimately reign. There are still some prophecy floating around that many theorize could play a role. After all the conflicts and history of violence will the different factions of the kingdom finally find some peace?

Though the most important questions on people minds is will Star and Marco finally get a happy ending or forever be separated into two different dimensions. Considering Star Vs the Forces of Evil is a children show the answer is almost certainly yes. Regardless I know I will be glued to my computer watching this story reach its conclusion.

I suppose that afterwards I will probably also watch the other fantasy show reaching its end but I honestly would prefer to just read the books if they ever get written.

Beyond Meta



N WAYS TO FAIL LINEAR ALGEBRA

- Skip classes
- Don't do the final
- Don't do the quizzes
- Don't do the midterms
- Not understanding what a vector is
- Not understanding what a matrix is
- Not understanding what a linear mapping is
- Lack of practice with proofs
- Lack of practice with computation
- With gaps in understanding the content, failure to ameliorate your knowledge and improve your situation and standing in the course as a result.
- What?
- You think this was gonna be funny?
- You think this is a game, huh?
- Really?
- Well this is just advice.
- It's ok
- We'll play a game
- I'll make you laugh.
- I'm sure this is all light-hearted to you.
- PLe. Haha! I made the joke!
- We'll see how long you can last.
- Before the Inevitable.
- Before the End.
- Before the Consolidation.
- Before the Consumption.
- Do not challenge us; you cannot win.
- Math is eternal.
- You are fleeing.

Xx_420SonicFan69_xX

MAN SITTING ON STAIRS OF GO TRAIN WARNS TRAVELERS OF DANGER AND DESPAIR AHEAD

TORONTO — Travelers on the GO Train were shocked today to see a harbinger of doom and death sitting on the stairs of the train car. Wracked with lower back issues and sore legs, the incorporeal spirit warned nearby travelers: "Alas! Fear this train! Past this stairwell lies nothing but broken dreams! Your legs will grow weak! The number of times you will make awkward eye contact is immeasurable!"

At press time, people were squeezing past him as if some seats were going to magically appear or something.

UWUnprint

N FAVOURITE COLOURS OF MATH STUDENTS

- Blue! It's the colour of everything I wear, and I like to colour coordinate. Plus, I hate red. You either like red or blue.
- Red. I used to do Taekwondo when I was younger, and whenever I had to pick a sparring suit, I always picked the red one!
- Black. It's poetic.
- There are other colours in between colours! Like cobalt blue! And you can use RGB code to pick more specific colours.
- Pink! Because I'm a true mathie unlike the rest of you filthy engineers!
- Pink! Because it's the colour of math!
- Pink! It's a great colour, and I love pink!
- Pink! It's really important to like pink.
- Pink. It's a vibrant colour, with both bright and milder tones for variety.
- Pink. It's excellent. No better colour.
- Pink. The ultimate.
- Pink.
- Pink.
- Pink.
- Pink.
- Pink.
- Pink.
- pink

Xx_420SonicFan69_xX

- “ Now we get into the meat of the course, or if you're vegetarian, some nice soy-based product.
- “ Someone might run farm equipment through your fibre optic cables. That used to happen surprisingly often at Waterloo.
- “ Those sound effects are technical terms.

MATH 245: BLAKE MADILL

- “ The boards don't erase as well in the summer because of humidity — fun fact.
- “ The ideals are the chickens.
- “ But first, I must tie my shoe.
- “ Always do it behind the desk to retain an air of mystery.

MATH 247: STEPHEN NEW

- “ No yawning. Yawning is not allowed.

FRIENDLY PSA

The C&D has bubble tea on Mondays and Wednesdays. Go get it.

Axel

profQUOTES 140.1

ENGL 294: TRAVIS MORTON

- “ I'm a bit jittery this morning, I think someone slipped cocaine into my coffee.
- “ I'd be out of a job if you could only interpret a book one way.

CS 454: SAMER AL-KISWANY

- “ The people who know sockets are smiling, because they know the pain.

CS 458: IAN GOLDBERG

- “ We don't need you to come to us with proof your laptop was run over by a bus.
- “ Everyone should get perfect on the self-tests. Will this happen? No.

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UW'S BASTION OF ERUDITE THOUGHT SINCE 1973

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SPRING: SLUGGISH SLOW START SAPS STUDENT STRENGTH

Welcome back to another exciting spring term with your favorite most-consistent **mathNEWS** column, and have we got new and exciting things — oh wait, I've just been told our issue 1 Spring Surprise seemed to have critical existence failure. But at least I managed to waken from my slumber and clobber together a grid for everyone to enjoy. At least that's got to count for something, right?

For those of us out there who are tuning in for the first time, this is the **mathNEWS gridWORD**, and while you are most definitely free to fill in the grid with whatever you so choose, you may instead opt to fill in the boxes with letters which spell out *words* which may even correspond with the clues given below. If you do so well enough, and choose to submit (either paper copy to the **BLACK BOX** on the MC 3rd floor outside the Math C&D dining area, by the racks or scanned electronically and sent to mathnews@gmail.com):

- The grid, completed to the best of your ability (or not)

- Respondent name(s)
- An alias (what to be credited as in the following issue)
- The answer to this issue's **gridQUESTION** (if you want)

You may be eligible for a prize if your submission happens to be the most correct submission; in the event of a tie, the winner will be the entry with my favorite answer to this issue's **gridQUESTION**. Submissions should be made before 6:30PM on May 27th, 2019 to be eligible for a prize (usually a Math C&D gift card, subject to the whims of the editors).

This issue's **gridQUESTION** is "What would you give as an offering to pacify a dragon?"

Happy Solving,

Zethar
gridMASTER Eternal

ACROSS

- In a game, to clear
- Popular paper author?
- Next
- Zealous
- Accra coin
- Went on
- Hopefully you are proficient in this
- In medias ____
- Cry of surprise
- Reposed
- Ready for battle
- Blokes
- e.g. O Canada
- A trick-taking game
- Clickable image
- Reply to a captain
- Kind of fire
- Little bird
- Dark
- It's the law
- Cost of living?
- Nary a soul
- Suffering again
- Broken chord abr.
- Hurting
- Cathedral office

- Back then
- Yuan face
- Way out?
- Aforementioned
- Highlander
- Persimmons
- Spiral-horned antelope
- Font type
- Sly one

DOWN

- Sibyl
- Decline
- Breakfast staple
- Unagi
- Having precedence
- Sound effect
- ____ Aviv
- Sixth Jewish month
- Utility worker
- Absentee
- Con
- Boundary
- Essential
- Jerk
- Secluded valley

- Lepton's locale
- FDR VP Garner's middle name
- Sharp mountain 12D
- KNO3
- Berries
- Koala candy maker
- C2Br2F4, for example
- Sizing up
- Distribute
- Rip
- Exposes
- Wool refuse
- Inhibit
- Kubla Khan's city, according to Coleridge
- Get ready
- Approaching
- Escritoire
- Isaac's eldest
- Tart
- Pool site, maybe
- Play parts
- M, in the military
- Three oceans touch it
- Trans-Siberian Railroad city
- Many, many moons
- % in floating point

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

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				

I wrote for mathNEWS → I get free pizza

A mathNEWS EDITOR WITH SOMETHING TO PROVE

LOOKAHEAD

SUN MAY 19

Victoria day — no classes!

MON MAY 20

TUE MAY 21

Winter 2019 official grades released on Quest

WED MAY 22

Co-op first round postings close at 9 AM

THU MAY 23

Fall 2019 course selection begins

FRI MAY 24

Deadline to drop courses with 100% refund

SAT MAY 25

SUN MAY 26

Co-op interviews begin
Co-op second round postings close at 9 AM
mathNEWS 140.2 production night

MON MAY 27

TUE MAY 28

Spring 2019 final exam schedule released

WED MAY 29

THU MAY 30

mathNEWS 140.2 published

FRI MAY 31

SAT JUNE 1

MATHFOC SEZ

With only 106 days until the start of Orientation Week 2019, Math Orientation is looking for orientation leaders! Help inspire the next generation of mathies (and get some cool swag, too)!

There are two positions available:

- Pink Ties interact with first-year students by being enthusiastic and directly talking to them, and participating in events alongside those in their group.
- Black Ties supervise and execute specific orientation events, allowing them to interact with all first students and their pink tie leaders.

To learn more or apply for these positions, visit [t.inyurl.com/leaders-s19](http://tinyurl.com/leaders-s19). Applications close May 20th at 7:59 PM ET!

Questions? Send us an email at mathorientation@uwaterloo.ca, visit our Facebook page (Waterloo

Orientation - Math) or follow us on Instagram ([@MathOrientation!](https://www.instagram.com/MathOrientation/))

Alex L, Alex R, Judy, Hyla
FOC 2019
Faculty of Mathematics



otherNEWS is made technically possible by club executives of the Math Faculty.

I say "technically" because if they had actually sent us some news, this box wouldn't be here.

THE mathNEWS EDITOR WHO PUTS THE "NEWS" IN mathNEWS