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mastHEAD

"WHAT DO YOU THINK OF PIZZA NOVA'S 'CARBONE' CRUST PIZZA?"

CHARCOAL: EXCELLENT FOR BOTH VISUAL ART AND PIZZA DOUGH APPARENTLY

Here at **mathNEWS**, we're huge fans of memes. Usually that means just writing meme reports about the newest and spiciest memes (shout out to Theodore Bear and Vice Mitt). This issue I fear we've created a new meme of our own: the carbone pizza crust.

The carbone crust is quite simply pizza dough infused with "active charcoal." It was originally proposed at a production night in Fall of 2017 as an interesting new twist to pizza that **mathNEWS** could try. Ultimately, it wasn't ordered, due to Pizza Nova only offering it for a specific size, and since frankly few people at production night really wanted charcoal in their mouths, much less their digestive tracts. And so, the carbone crust was forgotten for some time.

Then suddenly, during the production night for this very issue, it saw a rebirth. Proposed once more and finally accepted by the masses, **mathNEWS** finally braved the fabled carbone crust, with many a muttering of only living once. We sampled it, wrote down our prosaic thoughts on it, and even got an editor to call up Pizza Nova to confirm that it's pronounced car-bone-ay, not car-bone. Truly a legend in the making.

I suppose some veteran **mathNEWS** readers might be wondering who's talking. Hi there! I'm swindlED, the unnamed editor-in-training from last issue, if anyone remembers that. I felt it was my civic duty to start helping out after writing for **mathNEWS** for so long, so here we are. I'd tell you all my old pen name, but I'm afraid you simply don't deserve to know.

Jokes aside, not that they're ever aside in this paper, I hope to serve all of you **mathNEWS** readers well, both in my first official issue as editor, and in all the issues to come. I solemnly pledge to give my utmost care and passion into this glorious and storied paper, and if I screw anything up the other editors are to take the blame for not training me properly.

I'm pretty sure they said I could do that. If not, I'm re-writing history to say that they did. `git rebase` works on reality, right?

swindlED
Editor-Anew, **mathNEWS**

Vice Mitt	Not worth the extra cost, but it adds a visual appeal. Neat tho.
G-unit	Solid.
"melissa"	I hate it as much as I hate you.
The Eurobeat-'Em-Up	I feel like it's **supposed** to taste burnt. Not sure if I'm a fan.
the Depressimist	Much like my life, it seems both pointless and disappointing.
Teemo	It's only good if it has pineapple with it.
Yaboi	Vegan cheez lul.
[Arabic the editors could not understand]	The vegan cheese melts into a ball of sticks to the weird parts of your mouth. The charcoal was burnt, but not very burnt. Overall, I've had worse things.
who even remembers	Y'all remember the industrial revolution? yeahhh…
waldo@<3.LE-GASP.ca	The crust itself is sweeter…but the pizza itself is fine!
Theodore Bear	It's exactly the same as regular crust, but it's black!
Zethar	Welcome to a health food fad from 2015! (Honestly though, the vegan cheese is a bit vile.)
Prof. Barbara Csima	I am not familiar enough with Pizza Nova's past and present offerings to be able to comment. If you were to bring a slice by my office, I could try it and let you know. Actually, I just looked it up on the internet. It looks burnt. I don't think I want it.
swindlED	Tastes like my grandfather's ashes.
George Lambrou	*Not like school credit for* **mathNEWS**, *that's for* ***damn sure.***

ARTICLE OF THE ISSUE

This week's Article of the Issue is "Six Weeks to Go", since honestly, I don't even have interviews and that's still exactly how I feel right now.

So ε-Unit (and Drowning in Cocoa, since you won last issue), drop by the **mathNEWS** Office in MC 3030 some time within the next six weeks to claim your prize(s).

George Lambrou
Editor, **mathNEWS**

Carbone and chardonnay is basically my ideal dinner.

ANUJ OPAL, mathNEWS EDITOR FOR WINTER 2018
ALONG WITH GEORGE LAMBROU, ANGELA LE, ZISHEN QU

mathASKS 136.2

FEATURING PROF. BARBARA CSIMA

BOBBY BING WATCHER: WHAT ARE YOUR FAVOURITE SHOWS ON NETFLIX?

We got six months of free Netflix in Nov 2016. I watched the Gilmore Girls year-in-the-life, and started The Crown. I was not making sufficient progress to justify actually paying for Netflix when the six months ended. I guess I'll never know what became of Queen Elizabeth II…

SIMON Y. HUANG: HOW CAN I SELL OUT WITH A PMATH DEGREE?

Finance. I had friends from grad school sell out after their PhD. They are no longer close friends, but I hear they have retired in style.

THE EUROBEAT-EM-UP: WHAT'S THE MOST INTERESTING THEOREM YOU'VE STUDIED, PROVEN, OR DISPROVEN?

I really enjoyed Hirscheldt's proof that for every complete decidable theory T such that all the types of T are computable and every non-computable set D, there is a D-decidable prime model of T. It is very short and elegant, done via trees, called "Computable Trees, Prime Models, and Relative Decidability".

ME: DO YOU LEAN TOWARDS P = NP OR P ≠ NP AND WHY?

P ≠ NP, because Ross Willard said so.

VICE MITT: EMACS OR VIM?

WinEdt

QUIZED: WHAT IS THE LEAST COMPLEX STRUCTURE THAT YOU'VE STUDIED?

The natural numbers as a linear order. It is just interesting enough to be a good first example to check ideas out on.

GEORGE LAMBROU: IF THERE IS ALREADY A WAY TO PUT GRADES FOR COURSES ON A STUDENT'S TRANSCRIPT, IS RECEIVING SCHOOL CREDIT FOR mathNEWS A TURING REDUCIBLE PROBLEM?

Hmmm… I'm not sure if I understand your question. It seems like a single finite instance, so it is computable. No credit. Well, no math credit. Did you try the other faculties?

Being a mathematician requires imagination.

PROF. BARBARA CSIMA

THE MIDLIFE CRISIS OF A PURE MATHEMATICIAN

profTHOUGHTS *136.2*

I write this as I watch ten eager graduate students write their Algebra Comprehensive Examination. I should be happy – ten students who feel they have the chops for completing a PhD in Pure Mathematics, contributing their own unique ideas to better understand the beauty of mathematics. But I'm a bit sad. I was told there would be nine students, so this means I have one more exam to grade than I had thought. Maybe I'll be lucky and some of the exams will be blank, but it doesn't look like it. As I look at the sea (well, OK, pond) of anxious faces, I also wonder… why pure math?

Whenever I go out into the real world and tell people that I'm a math professor, they say things like "oh, I'm not good with numbers" or "oh, so you're a teacher". Nobody seems to realize that being a mathematician requires imagination — it is creativity constrained by truth. My son's grade one teacher recently pointed me towards Lockhart's Lament, an essay about the failings of K-12 mathematics instruction in the United States through the removal of creativity and the emphasis of memorizing and executing algorithms. I agree with Lockhart that true mathematics is an art. But then the question is: why did I become an artist? Here I am in a very enviable position. My job is to think about things that I think are interesting, chat with others about it, maybe eventually write it down. I can share my love of mathematics with excellent students. I have job security, a good salary, flexible hours, lots of vacation (should I choose to take it). But if I prove a beautiful theorem, how many people will even understand it? Should I perhaps have used my talents for something more useful?

As a math professor, every so often, I must request funding to further my research. Whenever this happens, I must sell my mathematics as having the broadest appeal, with all manner of possible applications. I always find this amusing, as the "applications" of logic are to other areas of math. We're not curing cancer, not building the self-driving cars, so what difference does it make if it is "applied" or not? Is the government right? Should we only be researching things that might be useful within the next decade? What cheers me up during this downward spiral of thoughts is that I am a Computability Theorist. It's really easy to explain the basics of computability theory these days, because everyone has a reasonably good understanding of computers and algorithms. But computability theory started before modern computers. So maybe it isn't a complete waste of time to think about difficult problems and how they tie together, even though it's not clear that they might ever be useful.

I have recently taken on the role of Math faculty HeForShe advocate. To be honest, gender equality is not something I worried much about in my youth. Growing up with supportive parents in a progressive community, it did not occur to me that I couldn't do whatever I set my mind to. In school, they made it sound like gender inequality and racism were bad

things that happened in the distant past, but now we live in the enlightened world where all is fair and wonderful. It took me a long time to realize that it wasn't the case, and I didn't personally feel any down side to being female until I had my kids. I love my kids. I didn't love having my kids. I didn't/don't love the pressure (from both society and government incentives) to stay home with my babies, conflicting with the pressure not to let down my collaborators and students to whom I had made commitments and who weren't part of the decision to have the kids. Can there be gender equality when the women must bear the children? Should I be helping to further research into the growth of embryos outside the mommy? Should I be lobbying the government for universal childcare programs?

I console myself with the thought that (even if I had the aptitude) I certainly would not have the time to help build and make available the self-driving cars *and* work on making pregnancy optional ***and*** sort out our society's child care issues. So I may as well do math. I'm good at it. And I can take solace in the fact that I am helping shape the minds of the next generation. Hopefully they will make the world into the wonderful place my grade-school teachers told me about.

Want to know more? If you were hoping to learn about Logic or Computability Theory, sorry! I had a 900 word limit. [Editor's Note: My bad, it was supposed to be 1,800 words, but I ended up giving the other editors the wrong number, which they gave to you.] Try PMATH 330, 432, 433 or check out the graduate topics courses — I'll probably teach one on Computability Theory in the Fall. For the other topics I've touched upon, I had wanted to include hyperlinks, but when I mentioned the idea to the friendly **mathNEWS** Editor, he had a frightened/tired look in his eyes. So I trust you are all capable of using your favourite search engine to find out more!

Prof. Barbara Csima

SIX MORE WEEKS TO GO

February 2nd, it feels like any other day, and to some degree it is, but today…it seems that little gremlin woke up, turned around and it's official…at least six more weeks to go! Here we are again. It feels like it's been going on for ages, yet we're just getting started. Over and over again people are subject to this hell. We all know what we signed up for when we got here. Although it makes for great small talk — you shake off your boots and begrudgingly pull off your jacket covered in snow and sigh and begin your complaints — it never really gets better. Sure, there are highs and lows, some times you make it out alive, get through it just in time for class, only to head back out right after. As much of a break as last week felt, we getting back to it full swing. Here we go… six more weeks of interviews.

ε-UNIT

N THINGS OVERHEARD AT mathNEWS

- You don't have to come to Production Night, you're doing MondoDB.
- Okay, who's writing Brian's epitaph?
- Why is Chile not shaped like a chili?
- Colombian drug cartels are too… normal.
- So *that's* why the water in Peterborough tastes like raccoon pee!
- Did you just quote the Black Eyed Peas at me?
- [On the phone with Pizza Nova] Gimme, Gimme, Gimme! Oh, hi, sorry — we're talking about ABBA here. Could we order 6 pizzas for pickup, please?
- …because ***fuck*** feta cheese.
- What's America? Is that nearby?
- Have you considered that maybe you're wrong?

swindlED

ON "THICC"-NESS IN N DIMENSIONS

The majority of human beings are of genus 5 or 6 in Euclidean 3-space, possibly higher, depending on whether one has bodily piercings or, perhaps, some sort of deformity. We must ask ourselves, as all mathematicians must, "can we generalize this?" A "thicc" shape in N dimensions would be of the same genus, containing a considerable amount of n-dimensional volume. According to Google, the volume of the average human body is about 70 litres or about $0.07m^3$, which we will bump to 0.072 to account for "thicc"-ness. This will be our standard for establishing N-dimensional "thicc"-ness. Hence, an object of genus 6 with volume 0.072^N * (the unit for N-volume) can be considered N-dimensionally "thicc." Topologists, don't @ me.

Beyoncé

Here at mathNEWS, we're not afraid to ask your toughest questions.

Of course, that doesn't stop us from posing your idiotic ones too.

THE mathASKS AMBASSADOR

GLOBAL GAME JAM 2018

This past weekend I had the pleasure of attending the global game jam happening in Halifax. This is an event happening all around the world where people try to complete a game in 48 hours or in our case 46 hours.

The event started with a 20 minute video presentation that is worth watching simply for the extreme cringe factor. I remain convinced that the sole purpose of this video is to encourage bonding between the other participants through the shared trauma that is this video.

After experiencing the video we finally found out the theme for this year: Transmission.

I somehow managed to convince a bunch of strangers to work on my terrible interpretation of the theme. Trans Mission Impossible.

A game with interesting writing, beautiful music and logos and the sort of quality game play you would expect from a 48 hour game jam. Really really terrible.

The event gave me some strong **mathNEWS** production night nostalgia feels. A bunch of nerds crowded in a space desperately trying to produce content on a deadline that keep getting sidetracked by debates like what is a sandwich.

Also like **mathNEWS** we did get pizza but the pizza staples out here in Halifax are not the same as KW.

- Time: a Hawaian Pizza with Tomatoes
- Barbecue Chicken: Barbecue base with barbecue chicken and onions and green pepper,
- The Donair: which consists of donair, tomatoes and onions.

The event was a great chance to network and meet interesting people. While there I found myself in the unusual situation of having two crushes on participants. What can I say I have thing for smart guys, with a good sense of humour that are motivated to pursue their own projects. I decided to approach my crushes at the end of the event and asked them out. I got rejected twice.

I felt like the whole experience was a lot like the game jam. Despite a lot of initiative the results didn't turn out like I would hope but it was a great learning experience.

Beyond Meta

P.S. If you are not familiar with what's a donair it's like a gyro but with a sweeter sauce. It's a really BIG DEAL here in Nova Scotia. To the point that if you are ever in Halifax and want a free meal just befriend a local mention you have never had donair and they will immediately buy you one in order to right this travesty.

profQUOTES 136.2

ARTS 190: NICOLE BOLIDEAU

“ **Professor**: As an example of this sound pattern you're asking about, everyone say the word "ó'ta"
Class: ó'ta
Professor; I just taught you the kanien'kéha word for shit

CS 246: NOMAIR NAEEM

“ Users will never run your program the way you intended.

“ By advice, I mean if you don't do this, you will lose marks.

CS 343: PETER BUHR

“ And your machine turns into a boat anchor.

“ They all have nice names — "CPU caught fire", "end of file", nice things like that.

“ It auto-magically goes to all the right places.

“ I think you all know how to create another human being.

“ In the Maluba programming language, we have Schmielblik paradigm.

CS 450: ANDREW MORTON

“ Apologies, I don't know where my brain is.

“ I figured after 20 years of teaching, I should get a chalk holder.

CS 458: URS HENGARTNER

“ The Morris worm was very virulent and infected almost all of the internet. Waterloo was not affected. Our security measure was that we were not connected to the internet at the time.

“ What happened to the author, Mr. Morris? He was convicted and now he's a professor at MIT, but don't take this as career advice.

PMATH 464: JERRY WANG

“ There is an easy direction and an *easier* direction.

STAT 341: REZA RAMEZAN

“ We hope the function is a nice function, it's not a jackass.

“ What does brain weight zero mean, well that means Donald Trump, but what else does it mean?

elseWHEN: WHEN A MATH STUDENT'S TUITION COST LESS-ISH...

Below you will find the official tuition statement of a domestic/Canadian first year Honours Math student who lived in the Village 1 residence for the term of Fall 2010. There will likely be many gasps in amazement and envy as you compare your own tuition statements from the past and compare exactly what's changed over the past N years. Some things have seemingly not changed (like the Mathematics Society fee), while others have changed significantly (like tuition and other miscellaneous fees). The change in tuition will likely be more dramatic and different for an international student, but this is meant to be an informative reflection (especially with the recent debate about the CECA Co-op Fee) of just how things have changed for one kind of student on campus.

University of Waterloo

UNIVERSITY OF WATERLOO
STUDENT FEE BILL

Term: Fall 2010
Date: 24-AUG-2010

Charges:

V1 Room	3,085.00
Undergrad Full time Tuition	2,615.00
Residence Meal Plan	2,024.00
Co-op Fee	609.00
FedofStdnts-Administered Fees	226.84
Student Services Fee	126.00
Orientation Fee	101.00
Federation of Students Fee	38.95
MATH Endowment Fund	31.42
Work Report Marking Fee	14.00
Student Co-ordinated Plan	13.80
MATH Student Society	12.50
WPIRG	4.75
Imprint	3.30
CanCopy Fee	1.65
Total Charges	8,907.21

FIGURE 1. *University of Waterloo Statement from Fall 2010 (Modified to fit this space, and remove personal information; no data pertinent to fees paid was altered or omitted in any way.)*

$.get("off_my_lawn.exe");

N REASONS TO STUDY MATH AT UWATERLOO

- The only Faculty of Math in North America.
- Great coop program and $$.
- Biggest college subreddit.
- My friend Michael, who won a bronze medal at the IPhO and entered University of Waterloo with a national scholarship some years ago, received three Pure Math Department Silver Award and several other departmental scholarship in both pure math and applied math, had a 99% cumulative average with NSERC undergraduate research awards 4 years in a row in different disciplines such as fluid mechanics, quantum information theory, functional analysis and number theory, attended conferences for the last two years presenting his original research results, finished top 150 in Putnam competition and top prize in Canadian Association of Physicists University Prize Exam and enjoyed playing chess and various instruments in his spare time, is also studying math here.

C

IF "MATH ROCK" HAD ANYTHING TO DO WITH MATH OR ROCKS

For those of you who haven't heard of what the kids call, "math rock," it's a genre characterized by dissonant chords and odd time signatures. It doesn't exactly sound all that mathematical on the surface, which is why it seemed fun to re-imagine some of Rock 'n Roll's greatest hits with more mathematical (and/or geological) titles. Consider:

- i-ron Man, by Black Sabbath
- Run to the Canadian Shield, By Iron Maiden
- Pour Some n-gons on Me, by Def Leppard
- Rock and Roll All Gneiss, by Kiss
- Pierre D. Fermat, by Chuck Berry
- Welcome to the Numbers, by Guns N' Roses
- Basalt O'Riley, by the Who
- Enter Riemann, by Metallica
- Purple Slate, by Jimi Hendrix, and finally,
- Squeeze Theorem to Heaven, by Led Zeppelin

Have fun coming up with your own terrible titles such as these for all kinds of attention at parties!

Chon

GLOBAL DIASPORAS

Yaboi back at it again, here to talk about the growing worldwide trend of Diasporas… through RUNESCAPE! A quick google defines Diasporas as "the dispersion of the Jews beyond Israel.", but the term has expanded to include refugees, immigrants and the cultural trans-nationalism of many different races and cultures.

Assume you only play Runescape in the in-game town of Lumbridge. You've played in Lumbridge all your in-game life, your friends only play in Lumbridge, and your parents have been playing in Lumbridge before you were born. One day, whether there be a huge drop-party in another town or maybe there are just a bunch of players overcrowding your screen, you decide to leave Lumbridge for another town, let's say Varrock.

In Varrock everyone dresses differently, instead of bronze armour they wear steel armour, everyone talks differently, mentioning unheard of things like "the grand exchange" and "the wilderness" and you are not welcome. You are constantly harassed, called a "noob" and you wish to return to Lumbridge. For many reasons you do not, yet you still wear your Lumbridge cape and still practice your Lumbridge traditions. Eventually you notice other new arrivals, also wearing Lumbridge capes, behaving in Lumbridge ways. All of you form a Lumbridge community in Varrock and soon Lumbridge-Varrock becomes a staple in the Varrock community as the two towns mix cultures to create a whole new cultural phenomenon.

Also you open up a chain of Lumbridge fast-food restaurants which is a hit with Varrock locals and even though your children resist you force your traditions upon them, because knowing your kids are ostracized from their local peer groups gets you off.

Basically the movement of people around the world has lead to the emergence of a global community where immigrants bring their cultures into other countries resulting in a mixture of social aspects that blurs and blends the lines of race and nationality.

Prifddinas #1, Yaboi out.

Yaboi

One line,
Two lines, and... there!

Column filled!

A mathNEWS CORNER-CUTTER

SURPRISING THINGS I'VE DISCOVERED ON CAMPUS

- You can telnet into uPrint printers
- While uPrint usually forces double sided printing, you can insert PCL commands into plaintext files to single-side print your documents
- The cheapest coffee to purchase is at the science coffee shop.
- The most expensive place to buy an Arizona is in Dana Porter library.
- The monitors displaying advertisements and event news in the SLC are connected to computers running Windows 8.1.
- Dana Porter has historical print records of The Chevron and Imprint dating back over 40 years.

Vice Mitt

N THINGS TO DO INSTEAD OF TEXTING YOUR EX

- Clip your fingernails.
- File your fingernails into little daggers and chase your roommates around.
- File down your knife nails.
- Bake something.
- Call your ex.
- Try retail therapy.
- Try actual therapy. (Don't worry, the Needles Hall waiting list is so long that you probably won't *ever* get to see a real professional before you graduate, so bathe in the self-satisfaction of seeking out help and knowing that you'll never have to actually go through with it and work out your messy emotions!)
- Sign the CECA petition and vent in the optional comments section.
- Start calling yourself a vegetarian. (You don't actually have to follow through on this either, don't worry.)
- Find yourself?
- Get over it?
- Get a hobby?
- Study.
- Shower.
- Sleep.
- Watch Community beyond season 4, and realize that it is actually good even though everyone told you that it would suck.

melissa

INVESTIGATIVE JOURNALISM: IS SWISS CHALET RESPONSIBLE FOR THE BLACK ICE ON CAMPUS?

Greetings all. It's once again time to engage our tHrusters and travel into the unknown, with the smell of a hot investigative journalism scoop to guide our way in the dark. This issuE, we have a human interest story on our hands.

Yurguld Sigmundsun, 8, is the University of Waterloo's youngest student. The Norwegian math prodigy, a Chess Grandmaster at the young age of six, recently came to study at our prodigious university. However, tragedy quickLy struck. As Yurguld was walking across the pathway near V1, he slipped on black ice, and Yurguld fucking died.

Other students have since exPressed concerns about the black ice that covers our pathways, includIng an editor of **mathNEWS**. The brave journalists here took it upon ourselves to investigate the reason wHy our pathways were covered with black ice as Yurguld was walking along, and in doing so, we hAve discoVered a vast conspiracy.

As it is winter, one would expEct black ice to be common. But Yurguld was from Norway, a country that lies north of Waterloo. It should be expected that someone like Yurguld should be accustomed to black ice. So why wasn't he?

Maybe it's because black ice doesn't actually exist outside of Canada.

Yes. Our investigations managed to discover that black ice is not naturally occurring. We have spent hours in the lab trying to create black ice in natural conditions, and didn't succeed even once, with all our availaBle resources. However, we were able to create it using some very specific, and vEry unusual, conditions. We simulated the jetstream in our science lab, and even then, when ice froze, it was easily visible. However, once somEone put Axe spray-on deodorant into the air that comprised the jetstream, black ice could be created.

Now, the jetstream is a wind curreNt that roughly mirrors the Canada-U.S. border. However, did this come naturally, or did some other force at work? A previously unKnown force?

Everybody in Canada should be familiar with Swiss Chalet and theIr famous rotisserie chicken. Some may even enjoy this chicken, which is admitteDly is pretty good for the price they charge for it. But there is a hidden, darker reason they have rotisserie machiNes in every restaurant. The machines have a second purpose, which is to shift the upper air currents above each restaurant. Their combined force is what created the jetstreAm and directed it into Canada.

But why would they do this? The truth that the U.S. is a toxic, irradiated wasteland, and surPrisingly, it's been that way since the 1980s. When Axe body sPray was first launched in America back in 1983, the chemical reaction between it and American skin caused large amounts of poisonous fumEs to be released in the upper atmosphere. The Reagan aDministration, unsure of how to deal with this environmental crisiS, turned to the only people they could trust: Swiss Chalet. The solution was to direct all the noxiOus fumes from America into Canada.

The Axe body spray, coMbined with the jetstream, is the reason we have black ice in Canada. Poor Yurguld didn't realize this horrible truth, that his country's nEighbours, the Swiss, were responsible for creating a new, previously unseen, type of ice. Ice that could not be easily seen, and ice that ended up being the cause of his death.

mathNEWS calls on the student bOdy to stand up for your fellow student, and confroNt Swiss Chalet about their participation in secret government expEriments. Who knows how far thiS goes? Maybe the FBI is involved? Maybe the CIA? Maybe the BBC? Maybe B.B. King? And Doris Day? And perhaps evEn Matt Busby?

All we kNow is that a grave injustice has been committed against our home and native land. And those that are responsible still have a franchise in Waterloo. It is time that we boycotteD Swiss Chalet, like we do Tim Hortons because they're sHit to their employees, and give their sweet, dElicious, succulent rotisserie chicken. We must resist the urge to eat their fall-off-the-bone ribs, and that really nice sauce they give with every meal. And the Lindor chocoLates they have around Christmas time.

Yes, we must reject all that. For Yurguld. Someone who made us asPire to greater things.

May he rest in peace.

Theodore Bear

UWATERLOO'S ONE SCANTRON MACHINE IS OVERWORKED AND NEEDS HELP

YES, YOU READ THAT CORRECTLY: UWATERLOO ONLY HAS ONE SCANTRON MACHINE FOR ITS 30,000-ISH STUDENTS.

If you've ever had a multiple choice exam on this campus, you may have experienced long wait times in receiving those marked exams back. If you've read the title (and subtitle) of this article, you may now have realized *why* this is the case: the University of Waterloo only has ***one*** Scantron machine and ***hoooooo*** boy can it be overworked during exam season.

For those who are unaware, Scantron is the name of the company that manufactures and creates specially trademarked software and scanners to help make marking straight-forward multiple choice tests easier and "quicker". An answer key is inputted into a special scanning machine, the filled out tests are inputted, the machine gets started, and the marking begins. Stored in a secret and secure location on campus, UWaterloo's Scantron machine itself is often working hard to mark many a midterm throughout the term. While it undoubtedly has saved the university thousands of dollars by not having to hire physical people to mark those multiple choice tests like it needed to in the past, the machine is not without its faults.

First and foremost, the machine ***still*** requires a physical person to monitor it for hours to ensure any exams that get jammed are dealt with promptly. This happens quite frequently as the machine could be trying to mark thousands of exams at one time.

Second, as UWaterloo's final exam period (and for portions of midterm season) entails many exams being written around the same time, the machine ends up receiving them in one giant pile that is not well staggered. As a result, many exams can fall to the bottom of a pile and not be marked until all the thousands of ***other*** exams are marked.

In this writer's opinion, having a second machine would help alleviate some of the burdens that a heavy exam season can unload, and help speed up the grade release in many courses. Despite the times where the machine ***is*** able to mark exams in a prompt manner (usually indicating minimal jams and minimal exams to mark), UWaterloo's student population may very well exceed the capacity of the machine we have in the near future. Acquiring another Scantron machine will likely be in UWaterloo's best interest to meet the growing demand, and meet whatever growth the next development plans require, and that way, the one person monitoring the machine will (likely) not be alone.

If UWaterloo can afford to construct more buildings, they can probably afford another Scantron machine to make things more efficient in your educational operations.

Drowning in Cocoa

HOW TO PICK A GREAT PASSWORD

Tonight, I encountered great difficulties accessing my **mathNEWS** Wordpress account.

It has been approximately 5 months since my last article (in the communist Pokemon issue that doesn't really need to be brought up anymore to be honest…jinkies…yikes-a-polooza).

Anyways, I went through the very common routine of trying out every single password I've had since primary school. An ex-coworker of mine builds his passwords in the following way:

password = "name of website" + "license plate",

where "license plate" is the license plate of one of 4 cars he drove as a young adult.

I scoffed at his formula, but I now respect it and might build myself a similar password builder instead of current methods.

MELISSA

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UW'S BASTION OF ERUDITE THOUGHT SINCE 1973

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SUBMIT YOUR GRIDS!

gridCOMMENT *136.2*

It had come to my attention that I had neglected to specify, in the last issue, what "the deadline" was and I thus was subject to much shame in my inability to inform people adequately. In my defense, it was quite difficult to do that in a reasonable manner when I had decided to write every sentence as a panagram to reflect the fact that last issue's grid also was panagrammic.

Thus, I had only received one submission this issue, submitted at the last second and only partially filled. The "PMC Daydream Team" didn't understand the last issue's **gridQUESTION**, "What key ritual shall be done with a vase of junipers during the spring equinox for amazing effect?" (a nonsensical question that is panagrammic) and stated as such. Nevertheless, show up to badger the Editors for your prize.

Thus, this issue I shall try and properly state out the boilerplate in more clear language:

- There is a grid every regular issue. For all such issues in a term except for the last, a prize will be awarded to the solution given to us before the deadline that is the most correct.
- To submit a solution, one must either place a paper copy of your solution in the **mathNEWS BLACK BOX**, found outside the C&D cafeteria in the hallway on the 3rd floor of the MC or scan the solution and submit it electronically to mathnews@gmail.com.
- If a solution is to be eligible for a prize, a name should be provided so that the identity of the prize-winner can be affirmed. Optionally, the solution may specify a pen-name which the winner is to be announced in this column.
- The deadline for this issue's **gridWORD** is 1800hrs on February 12, 2018.
- In the event of a tie for most correct solution, the tie shall be broken by my favourite answer to this issue's **gridQUESTION**, which is "Quick, I fucked up something big; how should I avoid getting in trouble?"

It would certainly be more preferable when I come two Mondays hence to be greeted by a suffusion of submissions vying for the prize instead of having to physically bother the grid-solving regulars for any submission whatsoever.

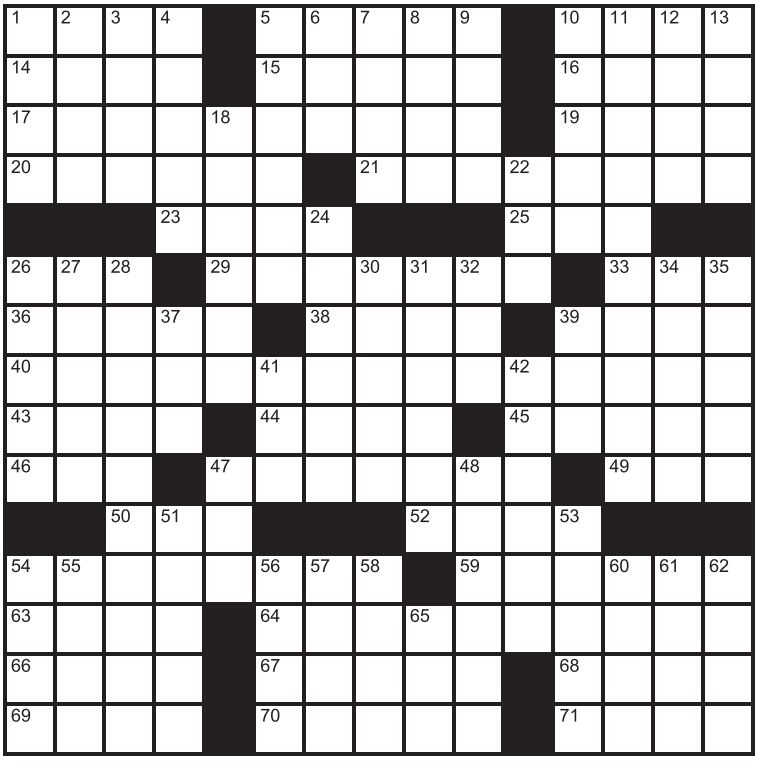
Happy solving,
ZETHAR

ACROSS

1. Mousse ingredient, for short
5. Medicinal root
10. Long
14. Knowledge
15. Sacred images (variation)
16. C type
17. Musical necessities
19. A 2006 Pixar film
20. Show-offs
21. A modern necessity
23. A feature where the expected value differs from the estimated paramater
25. n00b scapegoat
26. Statute
29. To make look small
33. Polish off
36. Radium discoverer
38. Loathsome
39. Kind of 31D
40. Taught by Minerva
43. p/q
44. Tree origin
45. Medicinal plant
46. Kvass ingredient
47. Magnet?
49. Solidify
50. SALT signer
52. Reddish-brown gem
54. Shrink
59. Spanish dish
63. Java is in it
64. Gallant
66. Schedule
67. Dravidian language
68. Faerûn god of thieves
69. Edge
70. Valve platform
71. Kitchen pests

DOWN

1. Horse noise
2. Travelling worker
3. Eyes, poetically
4. Star
5. A tool used for cutting arbitrary curves
6. Alias
7. Lesotho money
8. Any day now
9. Head-turner
10. African capital
11. Of fey birth
12. Prof of MATH 148 this term
13. Formerly, formerly
18. Xiphoid plants
22. Antiquity
24. Redeemer
26. Thespian
27. Like cottage cheese
28. Guild
30. Proofs have this
31. High winds
32. Always, in verse
34. Answer
35. Harmonious
37. Advantages
39. Took a course?
41. Back
42. Type of projection or plane
47. Pitch
48. Flamethrower fuel
51. Utter
53. Skin layer
54. Alternative to plastic
55. Norse capital
56. Follower of John
57. Talk
58. Proctor's call
60. Student aid
61. Craving
62. Quizzes
65. Canadian passenger rail service



haltingPROBLEM

I WISH I DIDN'T ALWAYS GET HUNGRY WATCHING BOB'S BURGERS...

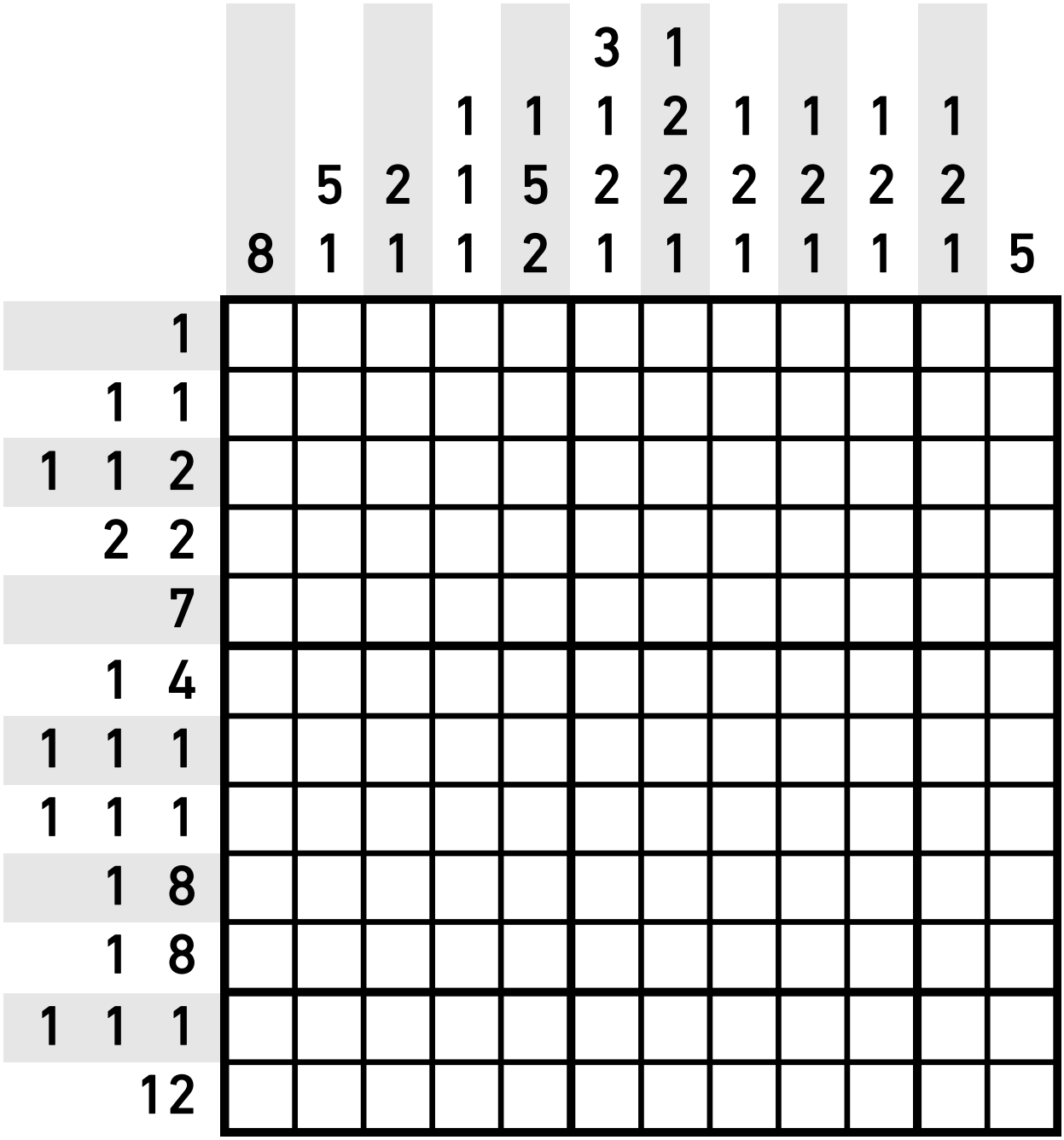
Good news, everyone! I've made a new nonogram for this week's **haltingPROBLEM**! Now, I know what you're thinking: "Wait, *George* did the **haltingPROBLEM** again? Wasn't the last time he did that a colossal disaster?"

Well I did, and you'd be right. Which is why *this time*, **I didn't fuck up**. That's right, ladies and gentlemen: unlike the last one I made, *this* puzzle has **a unique solution**. As in, if you wanted, you could plug these numbers into an online nonogram solver, and it'll give you the solution — *and I know that works **because I tried that myself***.

And meanwhile, for the forseeable future, when I *do* make a nonogram for the **haltingPROBLEM**, I'm gonna stick to 15 × 15 grids and smaller, until I'm good at making uniquely solvable puzzles at that size. So really, ***everyone** wins*!

(Y'know, because you get puzzles that don't suck, and I get learning.)

George Lambrou
Editor, **mathNEWS**



lookAHEAD

SUN FEB 4	MON FEB 5	TUE FEB 6	WED FEB 7	THU FEB 8	FRI FEB 9	SAT FEB 10
			P4E Job Fair at Rim Park			

SUN FEB 11	MON FEB 12	TUE FEB 13	WED FEB 14	THU FEB 15	FRI FEB 16	SAT FEB 17
	mathNEWS 136.3 Production Night	Pancake Tuesday (No really, look it up.) Bring the **mathNEWS** Editors Pancakes Day (***Seriously***, *look it up!*)	Valentine's Day ♥ Ash Wednesday		**mathNEWS** 136.3 Released Chinese New Year	

STARTERHACKS

StarterHacks 2018 is looking for first time hackers! Hacker applications are up at starterhacks.ca Come and join 500 of your peers on March 3 - 4 for a weekend of coding, designing, and pitching!

StarterHacks is a unique hackathon that focuses on introducing new hackers from the development, business, and design fields to the world of hackathons! We harbor a culture of creativity and collaboration, and emphasize the importance of all three fields in the whole process. Check out starterhacks.ca!

the starterhacks team

$$B[u,u] + G\|u\|^2_{L^2(\Omega)} \geq C\|u\|^2_{H^k(\Omega)}$$

gridSOLUTION 136.1

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

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

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

THE mathNEWS EDITOR WHO PUTS THE "NEWS" IN mathNEWS