

lookAHEAD**mathNEWS**

February 3	Issue 2 of Volume 133 is released
February 13	Production Night for Issue 3

MathSoc

Feb 9	Board Games Day
Feb 16	Board Games Day/Games With Profs

University

Feb 3	Distinguished Teacher Awards Noms close
Feb 6	Last day to start Winter 2017 work term
Feb 7	FEDs Election: Pancakes and Politics
Feb 8	FEDs Election: Candidates Debate
Feb 8	Final exam schedule released
Feb 8	FEDs Election: Cotton-Candidates
Feb 10	Hagey Hall Hub Grand Opening
Feb 13	FEDs Election Campaign period ends
Feb 13	FEDs Election Voting Period begins
Feb 15	FEDs Election Voting Period ends
Feb 16	FEDs Election results announced

Misc

Feb 3	Drag Me to the Bomber
Feb 3	Public Lecture: Making Math Visible
Feb 4	Create a Vacuum Day
Feb 4	Eat Ice Cream for Breakfast Day
Feb 8	Noon Hour Concert: Full House Brass
Feb 8	Velocity: Set Up Your Business Like a Boss
Feb 9	A Conversation with Charlie Angus
Feb 10	Fusion Conference
Feb 11	Make a Friend Day
Feb 13	Moving Together Public Lecture
Feb 13	WISE Public Lecture
Feb 13	Clean Out Your Computer Day
Feb 14	3 Minute Thesis Math Faculty Heat
Feb 14	Valentine's Day
Feb 15	Cheap Day Candy Day

ISSN 0705—0410*Founded 1973*

mathNEWS is normally a fortnightly publication funded by and responsible to the undergraduate math students of the University of Waterloo, as represented by the Mathematics Society of the University of Waterloo, hereafter referred to as MathSoc. *mathNEWS* is editorially independent of MathSoc. Content is the responsibility of the *mathNEWS* editors; however, any opinions expressed herein are those of the authors and not necessarily those of MathSoc or *mathNEWS*. Current and back issues of *mathNEWS* are available electronically via the World Wide Web at <http://www.mathnews.uwaterloo.ca/>. Send your correspondence to: *mathNEWS*, MC3030, University of Waterloo, 200 University Ave. W., Waterloo, Ontario, Canada, N2L 3G1, or to userid mathnews@gmail.com on the Internet.

This work is licensed under the Creative Commons Attribution-NonCommercial-No Derivative Works 2.5 Canada License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/2.5/ca/> or send a letter to Creative Commons, 559 Nathan Abbott Way, Stanford, California 94305, USA. Terms may be renegotiated by contacting the editor(s).

George Lambrou
Angela Le
Heather Stonehouse

mastHEAD

Hi, *mathNEWS* reading audience!

Gosh, this is exciting, isn't it? I've never written a *mastHEAD* before. I — I don't hardly know what to say! I guess I'd like to thank Shay Blair, for dragging me to *mathNEWS* all those terms ago, and bunnyED, for showing me the ropes, and, of course, mr. goose. We must never forget to thank mr. goose.

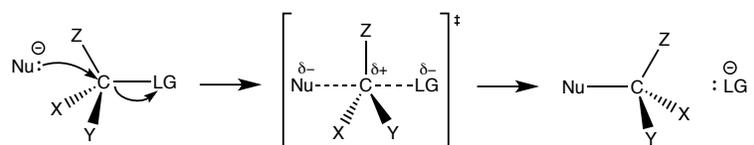
Did you know that *mathNEWS* is 44 this year? 44 whole years! Why, that's more than 38! Incidentally, 38 happens to be the number of years that Imprint has existed. 38 also seems to be the number of years Iron Warrior has existed (as far as I can glean from their numbering system), which cements *mathNEWS*'s place as oldest publication on campus!

Luckily, oldest doesn't necessarily mean wisest. We are proud, here at *mathNEWS*, to also claim for ourselves the titles of 'silliest publication', 'publication with the most articles about Magic: The Gathering', 'publication most likely to print an incorrect proof on purpose', and 'publication most likely to publish an inappropriate article about geese'. (If any of the other campus publications want to contest us on any of these grounds, representatives are free to submit letters in person or via our email!)

But, anyways, as we've all seen of late, having something generally succeed 44 times in a row doesn't necessarily mean that the 45th time will go well. Just in case this is the final year of *mathNEWS*, in case we are all about to crash and burn, we have brought you this week's *mastHEAD* question to help us describe our hopefully evitable bitter end:

"What alternative euphemism would you use for 'going south'?"

me("United State [sic] of America"); AC("Cali && Bust"); Beyond Meta("Gasoline Train Wreck"); Diminutive Rex("Overthrowing the Presbyterian Church."); A.nonymous("Having a disturbing tanned orange tinge to your meticulously planned crystal clear outline for the future."); Zethar("According to the Oxford English Dictionary, 'head (to go) South' is defined as '[...] lower in value, [...]; in or into a worse condition or position.' For that definition, I would probably say something like 'pestered by quasits'. However, I feel like the intended question is asking what is a better euphemism for shit hitting the fan, of which I propose 'bother a kytherion'."); Scythe Marshall("Travelling along imaginary magnetic field lines away from Santa's Workshop."); Shay Blair("Fun where the sun don't shine."); aPlayerofGames("Takin' the Trump Trip."); Soviet Canadian("An unintentional Tango."); waldo@<3. LE-GASP.ca("Aisstant Moments." [Editor's Note: *what?*]); $\pi\rho$ ("A backside attack." [Editor's Note: $\pi\rho$ sent in a diagram as well, featured below.]); George Lambrou("My degree.");



toBeDetermined("mathNEWS publishable.")

FASS Sez

On Saturday, February 4th (that's tomorrow, if you're reading this on Friday), come watch the FASS Super Variety Show for free! Laugh, groan, and laugh some more at the antics of the traditional FASS skit! And after that, stay for the incredible lineup of talented acts who have come together to share our stage. There will be a few scenes and musical numbers in the FASS musical theatre style of recent tradition, and a large number of other performances from UW-centric groups and clubs such as The AcaBellas, the Juggling Club, and the Drag Club.

It's one night only, so make your plans now. The show will take place in the Humanities Theatre on Saturday, February 4 at 7pm, and **ADMISSION IS FREE!**

WatSFic Sez

WatSFic just wants to remind you of all our upcoming events, including but not limited to...

Board Games Day! Come out every other Saturday to play board games with us in the Math C&D. The next one is on the 4th — that is, tomorrow!

WatSFic Short Story Contest! Do you like writing? Do you like PRIZES?!?!?!?! This term's short story contest deadline is midnight on 25 March. The word limit is 7500 words, prizes are a Chapters gift cards and the endless prestige.

Our DnD Tournament, #SPIDERFIGHT, will be held this April 1. If you would like to book a spot for a team of 5, email watsfic@gmail.com. If you want help finding a team, go to our Facebook event page!

Humans vs. Zombies will be happening this term from March 6 - 10. The theme will be Ancient Rome!

Hope to see you!

Heather Stonehouse
WatSFic President

Article of the Issue

This issue's Article of the Issue is "Loo's Top Loo? The Results May (Septic) Shock You". AC, come by the *mathNEWS* office some time, or email us at mathNEWS@gmail.com. Maybe someday we'll figure out how prizes work, and give you one.

The Editors

Games Sez

Hey Mathies!

In case you missed the message last time, MathSoc Games Nights have started running again for the term! Come play the board games in our collection on Thursdays in the C&D from 18:30 until midnight, or whenever you want to leave!

This term, we're partnering with Women in Math to host joint events! Every few weeks, WiM will be joining us, and our Games Night with Profs event will also be held together with them.

Speaking of Games with Profs, the date for the event is February 16, the Thursday right before reading week! Make sure to invite your profs to play games together!

Your Games Director,
a crafty player

N Reasons to Write for *mathNEWS*

- It's a great résumé-builder, because it sounds really impressive to employers that you were published in a math publication
- You can write almost anything, and it will still get published
- Some examples of the high-brow articles we have published
 - 10 Reasons I Should Have a Toaster
 - Pineapples: The Fruit that Eats You!
 - N Things in Common Between Donald Trump and Canada Geese
- You get free pizza for writing for us
- You get to come be friends with us on Production Nights ♥
- Access to a new pool of memes
- If you write for us the issue will be thicker and thus a more effective coaster
- Since the fall of cheese club we're officially the cheesiest club left on campus
- You might win Article of the Issue and then you'll get a stylish gift card
- It's a passable equivalent to a social life
- Once your article's published, you can bask in feelings of accomplishment for a few minutes, until you realize that we're just so desperate for content at this point that, again, we'll publish almost anything
- That reminds me, we're desperate for content.

The Editors

**Follow us on Twitter (@UWmathNEWS),
on Facebook (look up *mathNEWS*), or in person (MC 3030)!
(Please don't actually follow us in person - that's kinda weird.)
If you want to be our friend, you can come right up and talk to us!
We love all sorts of friendship here at *mathNEWS*.**

Why You Should Join the Conservative Party

I personally believe that right now all Canadians regardless of political leanings should join the conservative party.

And the reason you should join is because the conservative party is currently having a leadership race. The new leader of the party will be decided in May. For a simple fee of 15\$ you can have your say in who will be the leader of the Conservative Party.

This matters, as 60% of all the leaders of the Conservative Party have become Prime Minister¹. Furthermore, only about 2% of Canadians are a member of any political party. Less than 2% of Canadians vote on the individuals who has at least 60% chance at being Prime Minister.

So, this applies to you — even if you don't think the conservative party represents you. I personally believe that if a person has the chance to be in charge of your country, you should have a say in who that person is. This is especially true if you consider that the Canadian government is currently looking at voter reform, which will most likely result in a with some sort proportional representation. Under such a system, regardless of the result of the next election, whoever leads the Conservative party will have a large amount of sway in Parliament.

So, if you want to have a say in the leadership race, you need to purchase a membership from the following website for 15\$: <https://donate.conservative.ca/membership>
The deadline for becoming a member for the race is March 28th.



The leadership convention will be happening this May 26 - 27th in Toronto. You can also vote by mail-in ballot. Additionally, by being a member of the Conservative party you also get to vote on party policy.

Nothing would please me more than for, in the next political election, we would get to pick between a multitude of reasonable candidates. Citizen participation isn't limited to election day. In fact, some of the most important decisions are decided long before. I invite you to join me in ensuring that next election we can choose between candidates that best represents the interests of all Canadians.

Sophie Twardus

1. To do this calculation I just did a simple calculation (# of conservative PM) ÷ (# of leaders of the conservative party). I excluded interim leaders in my count. Another important thing to note is that for the period of time the conservative party was split which decreased the count. In comparison 77% of leaders of the Liberal Party have been PM.

A Coding Challenge!

In keeping with the a *mathNEWS* motto saying lore alt-fact: The Best Source For All Some Negligible Insufficient Questionable Amounts of your Interview Prep, here's a particularly interesting coding question that is going around a [CDESY] {1-3}E class, ostensibly from an actual Big4 interview. (An entire hour, spent on this question!):

There is a type of character sequence called a pan-alphabetic sequence.

Essentially, given an alphabet (eg "abc"), an pan-alphabetic sequence will contain all the characters of the alphabet in order (eg "bacabac").

For example, given the alphabet "182", "12812" is a valid pan-alphabetic sequence, as is "11112222228888881111122222".

Your task is to create an algorithm that, given an alphabet and a sequence, will return the start and end indices of the shortest sequence.

Test cases/comments/clarifications at:
http://bit.ly/uwmnews_coding1

Next issue: What I think is the optimal answer!



A.nonymous

Chiac est le Best

Pour those qui ne know pas, Chiac est un dialect d'anglais and français qui est parlé primarily en Nova Scotia. C'est un combination d'anglais et français qui utilise mostly la grammaire français et le vocabulary anglais.

C'est plus easy pour un person de parle si they speak English primarily, et ils ont appris le français dans school. That's parce qu'ils probably ont un facility avec le grammaire français, mais leur vocabulary est much smaller en français than English.

Quand tu speak Chiac à un francophone, ils look at you comme tu es an idiot. Actually, quand tu parles Chiac à un anglophone, ils regarde you même like tu es un idiot.

Le avantage plus grande de Chiac est que c'est plus fun à write in. Pour quelqu'un qui learn un deuxième language, you know que c'est difficult à express oneself. Mais when one peut utiliser les plus easy parts de both les languages, tu peux parle plus fast!

Aussi, quand tu speak Chiac around people qui parlent only anglais, ils peuvent comprehend seulement half of what tu parle, et c'est très annoying!

Et si tu know me, tu know que j'aime being annoying si at all possible.

Diminutive Rex

(More) Trolley Problem Variations

1. Buridan's Asshole Operator: A trolley is heading for five people on a track. You are next to a switch that can be moved left or right to divert the track to a different track, each containing one other person. Your indecision as to which track to switch to results in five people being killed.
2. Sophie's Trolley: A trolley is heading for one of two tracks, each with one person on it who is dear to you. If you don't make a decision quickly, the trolley will drift onto both tracks, killing both of them. Which track do you steer it towards?
3. Medicare Trolley: A trolley is heading for a track with five people on it. You can pay \$20,000 to divert the trolley onto another track, but in five minutes it will loop around and kill them anyway. Do you divert it?

Q. Coatl

Hole in the Fourth Wall Continues to Widen

The fourth wall, the sacrosanct barrier that protects us from the truth that we are nothing more than pawns in some supreme beings twisted tale, has been broken. At first we tried to ignore this crack in the fabric reality the same way one tries to ignore the spider webs of cracks that decorate your phone that you are too cheap and lazy to repair. You sort of get used to these blemishes and go about your life.

However, these ruptures have grown to uncomfortable levels. With fiction infiltrating reality, telling the difference between the two has become increasingly difficult. Can we please, pretty please, fix the fourth wall? I just want my news to be real and my satire to be separate. The current state of the world has gone so beyond meta that even I can't handle it.

Beyond Meta

I Know Him

Donald Trump?
I know him
That can't be
He's that little guy from on TV
All those years ago
What was it, 2005?
That damn fool, I hope they eat him alive
Oceans rise, empires fall
After Obama his hands'll look very small
On capitol hill
Watch him run
He might tear the country into pieces
At least watching might be fun
da ya da da da da da da da
"President Donald Trump"
Good luck!

King Elizabeth

The Quirky Coach

Make your internet presence work in your favour!

Before you start building your professional network, it's important to clean up your internet presence. If you've been posting to Facebook, Twitter or other social media sites and your entries are public, potential employers and future networking contacts can see this information. Make sure that what you've posted reflects the professional image that you want to portray.

Your online presence will be searched by potential employers. This has become a normal part of what companies do to gain information about the suitability of job applicants. Google yourself to see what comes up and delete anything that doesn't reflect well on you. You may have thought it funny to post a picture of you drunk at a party or doing something stupid with your friends, but your potential employers are looking for responsible candidates that will reflect well on the company.

Be careful about posting support for groups that are sensitive issues in society. For example, if you support the tobacco growers or abortion, you may wish to keep this information to yourself. You may feel strongly about these groups (either for or against), but your future employer or future manager may not share your view and that may limit your career opportunities or career advancement.

Debbie Smith
UW Alumna

Distinguished (.*) Awards (Are Still A Thing)

If you know a professor that you feel deserves to be recognized, you should nominate them for a Distinguished Teacher Award, to help appreciate the good profs for the work they do! The form can be found at <http://uwaterloo.ca/centre-for-teaching-excellence/awards/dta>.



If you know of a TA or other student teacher whose work you want recognized, you should nominate them for the Amit and Meena Chakma Awards for Exceptional Teaching by a Student. This will make them feel great and also help out their resume! The form can be found at <http://uwaterloo.ca/centre-for-teaching-excellence/chakma>.



Our QR codes remain cancelled because everyone told us they were silly. Fine! Whatever. We didn't need your approval anyway. We're perfectly secure in our design capabilities and in no way need outside validation or constant compliments. That's okay. We'll be fine. We'll just go hang out with all of our friends who constantly tell us how great and awesome we are all the time. So there.

The Editors

A Review of the Soylent Bar

I recently had the opportunity to eat a "Soylent Bar".

As the Soylent website helpfully informs you, Soylent Bar is "One small snack for mankind, one giant leap for your afternoon productivity." This little phrase is more ridiculous than an entire issue of *Imprint!* This intro alone qualifies it for a *mathNEWS* article, but I will also review it here:

- It is sweet. I don't know if it was too sweet, or just the wrong kind of sweet, I just know that I didn't particularly like it. I might be betraying the spirit of the 2015 Orientation dance, but this time I feel like I don't necessarily need a little sweetness in my life.
- It is chewy. Maybe this bar was completely wasted on me, a known granola bar unenthusiast in general, but I didn't particularly like that. I personally like Soylent (the drink) because it is similar to my favourite food, whipped (or un-whipped) cream. The Soylent Bar seems to be trying to be relatively non-creamlake, which seems like a bad idea to me.
- My afternoon productivity didn't go to the moon today. In fact, I feel more like my productivity O-rings disintegrated at some point, or maybe like my productivity cabin burned down during a productivity launch rehearsal test. Whatever it was, I didn't do any assignments today and started writing this article after all the pizza was gone.
- As it turns out, Soylent Bar purchases and shipments are halted because some people had gastrointestinal issues (and orders have been refunded). This is a pro, since now Soylent Bars have turned into FREEE FOOOOOOD! But this is of course also a con, because "gastrointestinal issues" sound scary.

dank

Congress: The Gathering

WASHINGTON — After signing an executive order earlier this week that states for every new regulation, two old regulations must be discarded, Donald Trump has announced that he intends to take more regulation inspiration from the effects of Magic cards.

Just today Trump announced a new order that, when signed, will ensure that after every military regulation played, a 2/2 tank will enter the battlefield. It is theorised that this will be resolved during the combat phase, although it is unclear how it will interact with End Hostilities, which several countries are known to often play.

Trump has been openly planning to run a wall deck against Mexico. However, intelligence suggests that Mexico is also aware of this plan, and has been seen nervously googling where to buy Siege Dragon.

Pundits speculate that the real crown jewel in Trump's Magic strategy will be Platinum Angel. A die-hard vintage player, the appeal of a card which makes it impossible to lose and impossible for his opponents to win is clear for the commander-in-chief. However, if Trump were to be removed from office for any reason, this strategy may fall apart as Vice President Pence reportedly only plays standard format.

Trump has also hinted that his next supreme court appointee will be Jace the Mind Sculptor. Said Trump, "He has good exiles. The greatest exiles. This is gonna be huge."

Diminutive Rex

'Loo's Top Loo? The Results May (Septic) Shock You

Doing your business is serious business. Unfortunately, UW doesn't have a traditional business department, or we'd all have the perfect place in which to do our business. In loo of that, we have to make do with what we have — inspiring me to set out in search of the number one spot to take a number two.

It's no secret that QNC, as one of the newest and quietest buildings, comes with state-of-the-art facilities. As a result, I've often found its washroom to be as disruptive as it is innovative — everybody knows it's the best, and the amount of traffic it receives as a result lowers its Bathroom Score (BS) by 20%.

Honourable mention goes to DC, for having readily accessible restrooms for those without senses of smell. For a marginally better experience, go to the nearby library instead.

For a consistently quiet experience, head to one of the many washrooms in the engineering buildings — the students there often don't have time in their schedules to use them.

Finally, my top pick has to be in the older Science buildings. As a first-year student, something about the cramped stalls and echoing walls reminds me so much of the simpler life in high school. With a sort-of central location and much less foot traffic than QNC, it's almost as great as going home and not thinking about this washroom business at all.

Owning Legacy Game Consoles

This year, the average first year student was born in 1998. I don't say this to make the rest of us feel old; I say this to put this article into context. In particular, the average first year student's first non-portable game console, if they played video games as a young child, was probably something like a GameCube or a PS2 or an Xbox (no one really owned a Dreamcast, let's be honest). If they started a bit later, their first console was probably a Wii, a PS3 or an Xbox 360.

Why do I bring this up? Well, for one, none of those consoles are 20 years old yet, and for two, that was the first generation of home consoles that was solely disc-based. These two points drive the remainder of the article. The context is useful to both the young'uns who might not have experience with older game consoles, and to those who simply need a refresher.

Console Aging: Like almost all old things, older consoles become fragile; unlike some old things, they also become finicky and fussy, unless they've been kept in pristine condition and only lightly used. No matter what console you own, the technology wears as the years go by, and things that once upon a time read perfectly well the first time no longer do. If it takes ten or more tries to get your console to recognize the game that it's trying to play, it's probably more than a little old.

Some of this is general wear on both the games and the console itself: sometimes the optical readers fail, sometimes the connections don't connect. Some of this is cumulative abuse, carried forward from the days when we thought that to make a cartridge play, we had to slam it into the console, or blow on it to clear away the "harmful" dust. Sadly, that abuse is to be regretted later on in life. My N64 collection is a great variety of both classic and obscure titles, but when you wonder each time you go to play a game if this is the time it's not going to work, it can feel like a waste; like you're just delaying the inevitable.

The main thing to do, in order to keep your console working for as long as possible, is just to be careful with it, and with the games. Be gentle, but firm if necessary. Probably best to avoid making deals with non-human entities to keep your console running longer, too.

Disc vs. Cartridge: Speaking of cartridges, owning an older console (that is to say, something as old as or older than the N64 but not an original PlayStation) comes with what might be a surprise for some current games: there are almost no load times. Cartridges load basically instantaneously, and quietly, too; no worrying whirring. Moreover, most cartridges are pretty sturdy; this certainly helps with the longevity of the games.

The one real downside to cartridges is that you can't tell by inspection that the game won't read, unlike with discs. Maybe things will rattle around inside, but you can't obviously find the stand-ins for scratches, if there are any. Aside from that, though, they'll last longer; the fact that there are so many people who still play their NES games is a testament to the durability (and quality!) of the games.

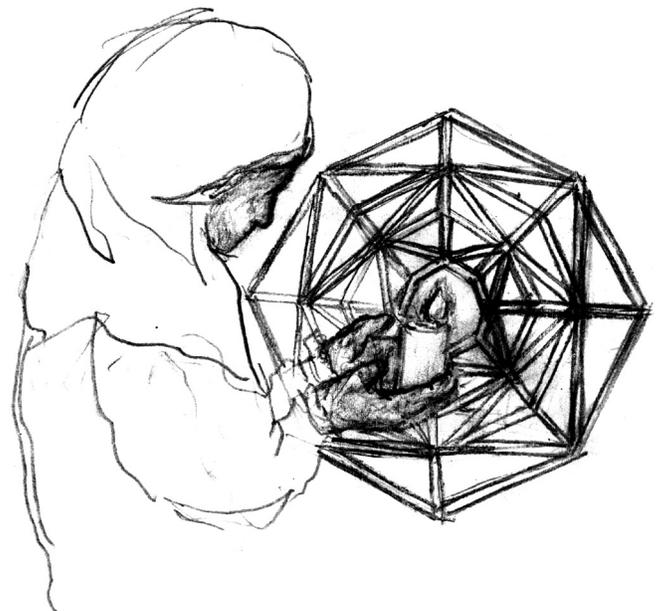
Discs also store more easily (in pouches, anyways; many crystal cases shatter quickly and other game cases can be terrible for holding your discs captive), and take up less space; a large game collection can be non-trivial to move. For many, though, it's an acceptable cost.

Why Not Modernize? By now you might be asking why I'm waxing poetic about games that are incredibly old. For many of us, the answer is that these games have nostalgic value; for certain games, the answer is that they're still good games, compared to today's standards. Playing old games on the original hardware can take you back to better times, which for many of us amounts to "before we had as many responsibilities and before we didn't have time to play as much". Getting into the new games can be more stressful than going back to the comfort of the old ones.

But why not just use emulators, like the Wii Virtual Console? You can get the games legally, and play them on new hardware that's still supported. The answer is that it is quite literally not the same. Ever look at an N64 controller? The three-pronged chimera of gaming controllers allowed for multiple control schemes, and isn't done justice by the Wii "Classic Controller", or even by the GameCube controller. Nevermind using an N64 emulator to play games on your computer, and hooking up a DualShock or an Xbox controller via USB; it just doesn't work, more often than not. For the purposes of speedrunning, emulating games also changes things; lag is variable between games, emulation can be imprecise, and some glitches/etc only work in certain versions.

Hence, some of us will continue to play old games; we'll do this as long as we can, until our consoles bite the dust. When that day comes, we'll be sad, but at least we can take solace in the fact that we had this time at all. And we'll laugh at the next generation of gamers, who will have already lost many games to the vagaries of backwards compatibility and arbitrary elimination of cloud storage. My, how times are a-changing...

Scythe Marshall



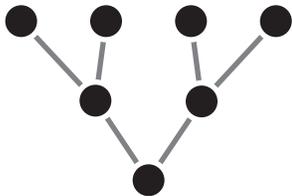
Artwork submitted by arabesque

On Tree Orientation

Ever noticed how the canonical way to draw trees is with the root on top, with the branches and leaves projecting downward? I've always thought that's strange — and not because that's not how the real-world namesake of the tree usually appears.

Although, yeah, that part is weird too.

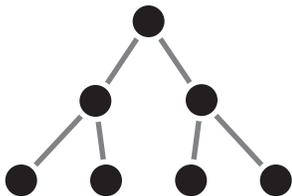
No, it's because the root-on-top convention is harsh and cold, where the root-on-bottom convention is warm, cuddly, and makes you feel loved when you draw it. Furthermore, we all need a little bit of extra love. Just look at this cute little guy:



Isn't it adorable? Makes you want to give it a big hug! The upward-facing branches are soft and cute. The precious little thing just wants to be friends, and is offering you the love and attention your paren-

Ahem.

Now compare that to this wet blanket. Literally, it looks like a wet blanket. Come on, Steve, lighten up! Oh wait, you can't, because you're a tree with the root drawn at the top. Jerk.



All of Steve's leaves are hidden underneath his root, because he doesn't trust you. In fact, he, and all trees with the root on the top, are actively trying to hide something from you. That proof you can't figure out in your CS or CO class? The tree has the answer, but if it's drawn with the root on top, it will try to hide it from you. Try drawing the root on the bottom instead, and the answer will be revealed to you by a happy, happy tree.

Octopodes

N Reasons *Star War The Third Gathers: The Backstroke of the West Is Better Than Revenge of the Sith*

- It is a glorious engrish sub of Revenge of the Sith after the proper subtitles were translated first into Chinese and then badly back to English by a mysterious Chinese pirate
- The dialog during the fight on Mustafar is surprisingly more coherent than the original version
- You get to watch "two squares fight the vehemence"
- Character names are 500% cooler: Space General (Grevious), Ratio Tile (Obi-wan), and Allah Gold (Anakin)
- The romance between Padme and Anakin actually makes more sense
- Allah Gold struggles to reconcile his conflicting loyalties to The D and the Presbyterian Church
- Hopeless Situation Warrior is a way more badass title than Jedi Knight
- It is genuinely the most hilarious film I have seen in my life

aPlayerofGames

FEDs Election

The FEDs Election is coming up! You should vote if you want to have a say in who gets a whole bunch of your money. 60% of Americans voted in the recent election and I know here in Canada we like to maintain our strategic supply of smugness that we're better than them - so hopefully we can get at least 6% turnout for the FEDs election.

Also they have free cotton candy at one point so even if you refuse to participate in the democratic process, you should get in on that.

Last Week's gridSOLUTIONS

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

**Apparently, we have Twitter!
Follow us for even *more* barely
passable mediocrity at
@UWmathNEWS!**

Thoughts on Snowden's Talk

When we talk about protecting rights and freedoms, we're not talking about protecting our rights to do nice things. As Edward Snowden said in his talk earlier this month, "If you're defending rights, you're never going to be defending what's popular because what's popular doesn't need defending."

I may disagree with certain (in fact, in today's political climate, many) people's opinions, but I affirm their ability to publically express them, because we can't only support freedom of speech only for ideas that we like.

It's easy to see why this is the case; for every terrible idea that you want to silence, there's probably someone who thinks that your ideas are equally terrible and shouldn't be spread.

Besides, if you really want to get rid of an idea, silencing it is not going to kill it. That does nothing to stop the people who already believe in it, and who are now more motivated to spread it than they were before. To kill a bad idea, you have to fight against it, to tear it out by its roots and show exactly why it is wrong. Then, too, while you're fighting it, you might realise it wasn't quite as wrong as you initially thought.

After all, haven't the big societal changes come from ideas that were, at first, unpopular with the people who held power? In Snowden's words: "When freedom comes, when rights expand, in every case it's a challenge against the powers of the day."

This should especially resonate here at Waterloo, where we talk about disruptive innovation so often it's become a meme. We are the people trying out new ideas that might seem stupid and ill-conceived at first in an effort to change the world.

In the words of Snowden, "When you're silencing [people who make change], you're saying 'We've gone far enough. The story of human progress can end here, because I'm comfortable.'" We need to protect uncomfortable ideas, because they might be the most important ideas we have.

A Concerned Citizen

**Send us your articles,
profQUOTES, Sezzes,
gridSOLUTIONS, pictures of
bears, proof of the existence of
numbers greater than 7, lists
of your favourite types of bees,
banana-based art projects,
and all other valuable artistry
underneath our door in MC3030
or to mathnews@gmail.com. We
would love to publish them!**

elseWHEN: Dr. Slug's Guide to Social Acceptance

Originally published 30 years ago, in v43i2.

Hi! My name is Dr. Slug and, believe me, this is no coincidence. Having majored in the capricious field of Social Acceptance, it is my responsibility (as a slug) to inform you of the omnipresent fears that encompass your everyday life. This is particularly true of the species Mathie (thincalot slepalot) and never so acutely as in the case of the academic hyperborean gastropod (askus heartbreak).

This week, we will discuss what you do when the raspberry jam from a jelly doughnut spews down the front of your Mickey Mouse sweatshirt. Of course, there are ways to avoid this crucifying social embarrassment. For example, you could buy a lemon filled doughnut. However, eat enough of these, and you'll look like Ronald Regan getting an enema. Once in awhile, you have to have a raspberry filled doughnut. But, let's say on this day of woe you're not wearing a Mickey Mouse sweatshirt but a Skinny Puppy t-shirt. It suffices to say, a red grebo dripping from a puppy skull could be an improvement, whereas a Mickey Mouse waving a lentiginous "hello everybody" with raspberry good clinging to his nose is (and here's the big word) SOCIALLY UNACCEPTABLE.

Ah, poor misfit of society that you are! You're standing there like a P.I.B. at a funeral and you know, you just know, there is no way to cleanse Mickey of the crimson curse. Scared? You should be! Your friends mock you, relatives disown you, and even the neighbour's cat would rather choke on catnip than be seen using your leg for a scratching post. It won't be long before the whole of society deems that you are unfit to play in the reindeer games. Even the Kent Hotel would slam its doors in your abbreviated face.

As I see it, (and as a stomach footed Ph.D. I should know), you have one of two choices. You could run to the nearest euphemism, flushing Mickey and his sociopathological slime to kingdom-come. Then pray that no one saw you in transit. More recommended is that you fall to one knee looking obliquely to a corner of the ceiling with your arms pointing at strange angles. With any luck, you will be mistaken for a Tempo Cigarette commercial.

Of course, the advice given above applies to Mathies. If you're an engineer, give it up. You didn't stand a chance to begin with.

"Fozz" Sutherland

N "Alternative Facts"

- The LRT is a well-planned project that is going to be done on time and under budget
- Geese are cute and cuddly
- Hawaiian pizza is terrible
- The Imprint crossword is better than the *mathNEWS* one
- Mei/Junkrat is Overwatch canon
- I'm going to pass all my classes this term
- *mathNEWS* is real news

profQUOTES

[Looking at a commutative diagram] "This sort of resembles a cave drawing from 10000 years ago. Maybe 10000 years from now people will look at this and wonder what it is. But probably not, 'cause I'm gonna erase it."

Bell, PMATH 446

"After all these years, I still enjoy it: I love using the contrapositive!"

Bell, PMATH 446

"Suppose not! I'm writing 'suppose not' with an exclamation mark because I'm angry for not nesting 'suppose not's'."

Bell, PMATH 446

"When you prove something, a lot of it is just wishful thinking. But then you impose your wishful thinking on the problem."

Bell, PMATH 446

"When you speak French, and they reply in English, that's so defeating!"

Madill, PMATH 348

"Civilization is breaking down. I don't watch the news any more, I'm just an ostrich and stick my head in the sand."

Madill, PMATH 348

"Every woman online gets called a bitch, and it's like aww, honey, you've gotta do better than bitch if you want to offend me."

Romkey, SDS 131R

"No one likes a debate more than I do."

Romkey, SDS 131R

"Come to Waterloo, smoke your face off."

Romkey, SDS 131R

"We don't do politics in German class for a very good reason. it doesn't work out."

Schmenk, GER 101

"Sell stuff to yourself in German. You might get multiple personality disorder at the end of the term, but you'll be able to speak German."

Schmenk, GER 101

"I popped a bunch of tylenol before coming here, hopefully I can make it through today."

Voelker, CS 116

"Racket is terrible, Racket wishes it could be Python."

Bruni, CS 116

"We're not doing Scheme, we're doing a real programming language."

Buhr, CS 343

"I decided to go crazy and bump up $\mu C++$'s default coroutine stack size from 64k to 256k."

Buhr, CS 343

"Watch this carefully. My fingers are going to leave my hand."

Buhr, CS 343

"I'm tired of doing these little cycling dances with myself."

Buhr, CS 343

"On your assignment, you have to build an n-dimensional array that models the entire universe."

Buhr, CS 343

"You've all had this happen. You wake up and open one eye (only one, because the other is stuck shut), look up and say 'this is not my roof.'"

Buhr, CS 343

"This is the kind of control flow that you can show to your parents and make them say 'Wow, maybe we should give you more money!'"

Buhr, CS 343

"There are coroutines on the planet. They're not just something I've made up to torture you."

Buhr, CS 343

"How would you like it if someone threw an exception at you and unwound your stack?"

Buhr, CS 343

"It doesn't do what you think it does. Well, I don't know what you're thinking, so it doesn't do what I think you think it does."

Lushman, CS 442

"It's a good exercise to do just in case you'll be asked to do it in a time-constrained context."

Lushman, CS 442

"Why did we just waste a week of our lives talking about something that's doomed to fail?"

Lushman, CS 442

profQUOTES

"The Nobel Prize is the Turing Award for science and literature."
Lushman, CS 442

[Does calculation on board] "So what do you get? Actually, I don't know what you get. That's an exercise for you to do."
Epp, PHYS 175

"Whatever, it's cool."
Epp, PHYS 175

"I'm a complete moron, apparently."
Epp, PHYS 175

"The most common password in Germany is '123456'. If you're taking this course, you should know better and make that '12345678'."
Kerschbaum, CS 458

"We have to train our children to compute hashes in their heads."
Kerschbaum, CS 458

"What's going to keep you awake? Coffee? Alcohol? Alcohol in coffee?"
Kerschbaum, CS 458

N Arbitrary and True Facts That Can Be Used as *mathNEWS* Filler

- It's after 9pm on Wednesday and *mathNEWS* layout *still* isn't done (at the time of this writing);
- Seasons are actually the transitions between equinoxes and solstices, instead of being periods centred around each astronomical event — that is, on a hemispheric scale, Winter and Spring always get warmer over time, and Summer and Autumn always get colder;
- HMV Canada is in receivership, and (as of press time) is closing all stores across Canada before April 30th of this year;
- Pokémon celebrated its 20th birthday last year;
- You should donate to your local food bank if you can, because someone somewhere could use the help;
- My favourite food is my mother's Pasta Carbonara;
- I think while Team Rocket's goals were a little bit small in scale when compared to later Teams, they're still up there for coolest Pokémon Crime Syndicate;
- An opinion on its own cannot be a fact, but that someone *holds* a particular opinion *can*;
- We have a special guest author writing for *mathNEWS* next issue;
- *mathNEWS* has been around for longer than Imprint (Question: are they *imPRINT* now? They seem to have borrowed parts of our branding over the last eight months.);
- This list is finally long enough to fill the empty space in this column.

George Lambrou

Personality Quiz 2K17

1. When you finish an assignment, you...

- Share your joy on Facebook with your friends.
- Code it in Python.
- Watch anime.
- Pull it.

2. When you get stuck on an assignment question that you can't understand, you...

- Tell the professor they made the assignment too easy.
- Use the Riemann Zeta Function and transfinite induction, work until 4:00 am so they work.
- Say "ganbattemasu" to yourself.
- Twist it.

3. For your midterms, you...

- Write the exam in Needles Hall, so that no-one writes it with you.
- Do the exam in Python.
- Review for your Japanese midterm.
- Spin it.

4. For your C++ class project, you...

- Create a startup to build AI games.
- Build the project in Python first, then translate the code to C++.
- Write a visual novel full of cute anime girls.
- Flick it.

5. In class, you...

- Browse Facebook.
- Watch Frozen.
- Watch Boku.
- Bop it.

Q: If most of your answers above were...

- You are a meme.
- You really like Python, and are well known by your professors because of it.
- Wwwwwwwwwwwwwwwwwww!
- You are a Bop-It@.

Author Throwaway 34

***mathNEWS* hosts Production Nights every other Monday at 6:30, after meeting at MathSoc.**

Legends say that those who offer their articles at these events are either blessed with free pizza, or condemned to Editorship.



gridCLUES

Across

1. Surmounting
5. Algarvian capital
9. Sends
14. Our Lord, the Flayed One
16. Gold standard
17. How is this clue written?
19. Bishop's jurisdiction
20. Fire preceder?
21. Bard's bother
22. Superuser
24. What Trump was in 2004
29. Boric acid target
30. Digging, so to speak
31. I, to Claudius
32. Wipe clean
35. Fishing, perhaps
36. Beam
37. Honestly, 2016 felt like this.
40. Arabic, copal, spruce, etc.
41. Ariel is this type of spirit
42. Venom dispensers
43. H_η
44. The same
45. Ozone hazard abbr.
46. Roman coin
48. City on the Aire
51. Calypso offshoot
52. Layer
53. It can be shocking
55. Data in XML, JSON, for example
61. Poplar variety
62. Japanese Thanatos
63. Strike
64. Craggy outcroppings
65. History chapters

Down

1. Central line
2. Skin problem
3. Chose
4. Micturate
5. Hungary money
6. Energy source
7. Coffee order: Abbr.
8. Wood sorrel
9. Skedaddle; scam
10. Something that might logically follow 37A
11. Wrath
12. Region
13. Dorm room, perhaps
15. Neophyte
18. Gong
23. They're rigged
24. Make less offensive?
25. Hostile bunch
26. Hopefully, 2020 isn't this.

27. Biological entropy
28. Servers
32. Spurred
33. Pokémon trails
34. If you're being visited by 62A, you might be losing this.
35. It may be bid
36. This note shows ornaments
38. Arc measure
39. Turkish title
44. Vexing
45. Wipes
47. Pallid
49. Prohibit
50. 1965 King arrest site
52. Next in line?
54. Island rings
55. Gullet
56. Old English character
57. Tax prep. expert
58. D.C. setting
59. Pi follower
60. See 65A

gridCOMMENTS

Greetings. It is I, Zethar, asked to stand in for the *gridWORD* again, as ConvolutED appeared to have gone into hiding from the apocalyptic farce playing — available at every news source — ad nauseum. Honestly, I really can't blame him; if hiding away withdrawn from the world is a viable option, I would have considered it, but well, it's sort of hard to hide when your draconic profile is a few meters in a city of suburban sprawl. Whatever, humans are a bit ephemeral in the grand scheme of things anyway.

Last issue's grid received a grand total of one submission, from Messrs. Francis & Theo. Thankfully, since I didn't write last issue's grid (they had told me they got it covered, then panicked later when they discovered things were to the contrary), I don't have to check the solution for correctness, since I don't have them. Either way, their answer to last issue's *gridQUESTION* "What pointless major should UW start offering?" was "switch to undeclared", probably as a nod to the xkcd comic with the same idea.

As the disaster is around the corner, it's good to take solace

This Week's Grid:

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		

from the fact that it probably isn't your fault (you may have ε blame assigned to you if you have voting privileges in the US). In times of calamity historically people have taken refuge in the realm of religion and fantasize as to life after death, a paradise of some sort. With that in mind, this issue's *gridQUESTION* is "What is your ideal paradise?"

Please submit your *gridWORD* solution as well as your *gridQUESTION* answer either electronically to math-news@gmail.com or physically at MC 3030 by 6:30PM on Monday, February 13th. The most correct solution may be awarded by the editors, and in the event of a tie, it goes to my favourite answer to the *gridQUESTION*. May the best prevail.

Zethar

Submit your grids and *profQUOTE* submissions to the **BLACK BOX** (outside the Comfy Lounge) or mathnews@gmail.com.

PS: Yes, I understand that there is at least one clue which which isn't technically accurate, but this is a crossword, not a trivia test or the technicality club.