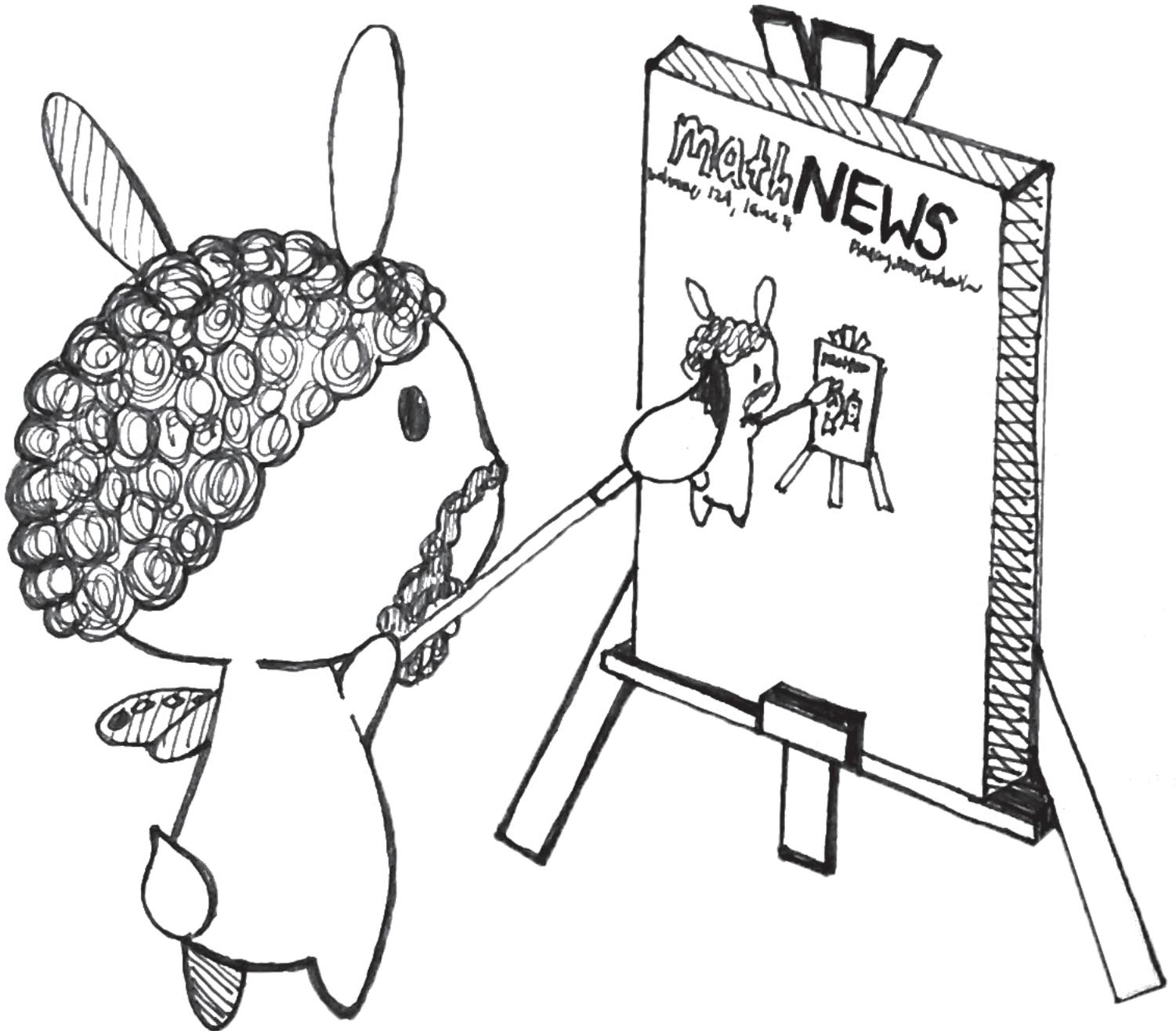


math

NEWS

Volume 129, Issue 4

Friday, November 6th, 2015



Rabbit Robert Ross' Recursive Recreation

Bunny Bob Brushes Bushy Brown Beard



9 770705 1041004



lookAHEAD**mathNEWS**

| | |
|--------|-------------------------------------|
| Nov 6 | Issue 4 has a happy little accident |
| Nov 16 | Production Night #5 Van Dyke Brown |
| Nov 20 | Issue 5 beats its brush gently |

CECA

| | |
|-------|---|
| Nov 6 | Continuous student ranking closes Match by 4:00 PM |
|-------|---|

University

| | |
|--------|-------------------------------|
| Nov 20 | Drop, penalty 1 period ends |
| Nov 21 | Drop, penalty 2 period begins |
| Nov 21 | Monday class on Saturday |

Miscellaneous

| | |
|--------|---|
| Nov 6 | Bob Ross painting marathon continues |
| Nov 10 | <i>Fallout 4 & Starcraft: Legacy of the Void</i> Student's grades lower from here on |
| Nov 14 | Desert Bus for Hope starts |

Article(s) of the Issue

The Articles of the Issue are all of Beyond Meta's articles! Well, I guess this isn't really an Article of the Issue award then—more like a reward for the sheer number of articles submitted to this issue. If not for Beyond Meta's numerous articles, this small issue would have been significantly smaller.

Although I guess having fewer articles made this issue significantly easier to do layout. I'm starting to reconsider the award; I should definitely give it out before I change my mind. Plus, if you submit this many articles to us you already have priority issues, so we might as well reward poor choices in life!

The Editors

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* will eventually be available electronically via the World Wide Web at <http://www.mathNEWS.uwaterloo.ca/>. On May 14th, 2014, Thomas Baxter claimed that this ISSN was "bland" and "lacks humour", hence implying that it should be changed. *[I said so humourously; your inference is not my implication.—ConvolutED]* What do you think? Send your correspondence to: *mathNEWS*, MC3030, University of Waterloo, 200 University Ave. W., Waterloo, Ontario, Canada, N2L 3G1 or to 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).

Thomas Baxter (Faust), Zishen Qu (Elphelt Valentine), Katherine Tu (May), Jose-Miguel Velasco (Sol Badguy)

mastHEAD

It is unfortunate that we were unable to have a Production Night on Hallowe'en or have the release be near Hallowe'en. Our writers were unable to get into the spirit of fear this year.

Hopefully next year, we will be able to give readers an extra dose of fear and loathing on an official day. For now, we will continue our usual fear and loathing.

But just because we weren't able to celebrate this holiday together this year, doesn't mean we can't scare kids! It's a lot more fun to spread sadness to others, hence our *mastHEAD* question: "How do you scare kids after Hallowe'en?"

εεε ("With my naked body"); 2.3.5.7.735.2333772 ("snowdity"); IceNine ("Reading from Wikipedia about BDSM"); Zethar ("Existential dread is fairly popular."); TheUndecided ("Tell them what university's like"); waldo@<3.LE-GASP.ca ("Ask them to pay the bills and do taxes."); Element118 ("I go door-to-door dressed as a dentist giving out 50% off drilling coupons."); Pizza Freeloader Kid ("Dress up as scary halloween shit AFTER Hallowe'en, and then jump out of the bushes saying, 'It is your time!'"); Depressimist ("Tell them that every mistake they make in school will drag them down like a cinderblock, and haunt them for the rest of their lives."); Soviet Canadian ("Give them the responsibilities of a third-year Biomath student. The exam is tomorrow."); me ("Telling them that Sanders will win the election."); ConvolutED ("Chainsaws and hockey masks, just like every other day"); quiz ("With extremely explicit, anatomically correct anime drawings of all of our new Members of Parliament");

SketchED

("My very existence. Unfortunately.")

CRO Sez

HEY YOU!

Yes, you, the distracted one reading *mathNEWS* during class. Don't worry! You shouldn't feel bad about that, because NOW you get a chance to get informed about something important. YOU get the chance to represent students and student issues by running for a seat on MathSoc Council!

Nominations are open for all 2016 terms and we want YOU! You could represent your program, or even take on more responsibility by running to be a MathSoc Exec! Pick up a nomination form just outside the MathSoc office (MC 3038) and submit them before Wednesday, November 11th at 5:00 PM. No time for all that? You can also just vote for your Execs and your Reps online at mathsoc.uwaterloo.ca November 19th–20th. Any questions? Please e-mail elections@mathsoc.uwaterloo.ca.

WE WANT YOUR VOICE HEARD!

REMEMBER TO VOTE!

Darren P
Chief Returning Officer, Fall 2015

Games Sez

The end of term is only a month or so away, so it's time to start thinking about 24-Hour Games Night! Our termly event starts at noon on Saturday and (officially) ends at noon on Sunday. Because of the late start this term, there are two weekends where it can be held: either (1) our traditional last-weekend-before-exams (December 5th–6th), or (2) the last weekend before classes end (November 28th–29th). Feel free to vote in the Facebook group (<https://www.facebook.com/groups/MathSocGamesNight/>), through e-mail (h6fung@uwaterloo.ca), or in the MathSoc office (MC 3038) for your preference.

In addition, with the end of term coming up, it's time to start thinking about new games to acquire! If there are any that you want or think belongs in our collection, use one of the methods above to let us know. In addition, if there are any games that are damaged beyond reasonable play, feel free to list them for replacement as well.

Your Games Director,
a crafty player

Desert Bus

For the Children!

Do you like games? Do you like sketch comedy? Do you like zany antics? Do you care about the children? If you answered yes to any of these, Desert Bus for Hope might be for you! DBH is an annual charity fund-raising event run by Loading Ready Run, a British Columbian sketch comedy group. The LRR crew will do all sorts of sketches, games, and challenges given by people watching the stream, all while playing what is arguably the worst game ever made, *Desert Bus*. (No, really look up this game; it's terrible.)

There are additional auctions and giveaways that go on throughout the event, guest (nerd) celebrity appearances (usually over Skype), and new memes/inside jokes will be created as the event goes on. Oh, and the length of the event is variable; for exponentially increasing donation amounts, another hour gets added to the event. It's easy at the start—the first \$100 gets 31 total hours—but it gets very hard after the fifth day, where additional hours raise \$13,000 or more. People watching will tend to push for that next hour as much as they can, seeing how long they can prolong the event.

If you want to watch some sketch artists attempt to entertain for days straight, want to auction for nerd gear (and lots of Magic cards), or just want put on something in the background while you study for your n^{th} midterm, go to desertbus.org starting on November 14th (next Saturday) at 1:00 PM EST, and check out the lexicon link under info to catch up on the evolving lingo.

Soviet Canadian

Prez Sez

Hello once again, Mathies!

Hopefully, your midterms went/are going well (I feel sad for those of you who still have them). We finally got our shipment of Sharp calculators in! Unfortunately, we also just ran out of Casios; the demand for calculators is crazy this semester. We are doing our best to get them back in stock ASAP.

Through the Math Endowment Fund, we students can fund expensive things that improve the Math student experience. It is a \$6 million student-run endowment fund, allocated by the MathSoc Funding Committee to various proposals. MEF funding proposals and Funding Committee nominations are due Wednesday November 4th, 2015. I highly recommend being on Funding Council; free food is provided, and it's a great way to have say in which initiatives will run on our campus (or who gets to go to conferences)!

As well, Pi Day this term is November 10th, the 314th day of the year. It will start at 1:59 PM in the third floor hallway of MC (outside the C&D). (For those of you who don't know, that means FREE PIE!!) We will also be holding a Pi Recitation Contest at 2:30 PM in the Comfy Lounge. The prize this term is \$314.15 to Conestoga Mall! A big thank you to Infusion for sponsoring this and helping us in our quest to make this the best Pi Day yet!

Finally, here are some other events you should check out:

- 24-Hour Games Night: See Games Sez, left
- Party with Profs: December 1st at 5:00 PM

Thanks for reading!

Tristan Potter
President, Mathematics Society
prez@mathsoc.uwaterloo.ca

N Reasons to Enjoy the 314th Day of the Year

- It only comes once a year! Why wouldn't I want to enjoy it?
- FREE PIE in the MC 3rd Floor Hallway on November 10th around 1:59 PM (but get there at like noon, the lines are always SUPER long)!
- Prizes to be won! I don't know them all off by hand, but who doesn't want to win things?
- A Novelties Sale including all your favourite math-related novelties. Come and get T-shirts, sweaters, and sweatpants (\$10, \$25, and \$20 respectively from Nov 9th–13th)!
- This mathie's midterms are ALL DONE and I can finally enjoy something before finals get at me!

The MathSoc Novelties Director

Hey clubs! Want your Sez in *mathNEWS*? Then submit them to us!

The Diversity of Parties

Parties are weird, in that there's a huge array of different types of parties. Last weekend, I went to two very different parties. One party had 30 people, loud music, and drinking. Memorable moments include the multiple people who felt a need to convince me to change my mind about drinking. They didn't succeed. Three different who asked me to explain what LARPs were; these explanations were made a lot more challenging by the fact they had never heard of Dungeons and Dragons.

The other party had six people, no drinking, and board games. Highlights included games of resistance where we established that if a spy managed to seduce a resistance member they won. Numerous cuddle puddles were formed after successful seduction of the resistance members and some very suspicious candy.

Despite the fact these two parties were polar opposites, they both somehow got the same label of 'party'. One was fun, the other was informative of how people outside my bubble live their lives. The only commonality that I could really find between them was they were gatherings of people. However, not all gatherings of people are parties. I attempt to refine the definition to be a gathering of people for a social purpose, but I can also think of a counter example to that definition.

The nebulosness of parties aside, whether or not I find a party fun is clear. My rule of thumb is: fun is positively correlated with how well I know the host. However, I must continue to go to parties where I predict poor enjoyment; otherwise the selection bias makes it difficult to properly update my model.

Personally, I am a big fan of my idea of a party which can be aptly be described as 'WARNING: may spontaneously acquire hat.'

Beyond Meta

N Things I'm Too Distracted By...

Waldo is having trouble finding focus and motivation.

- The Internet in general (but then again, when is it not?)
- Stupid stress keeping me from studying for my upcoming midterm
- The end of the term is NOT that far away
- ZOMG IT'S NOVEMBER...WHEN DID THAT HAPPEN?!
- Food. Gotta have food.
- The cold weather.
- The "Jem and the Holograms" cartoon series from the 1980's...it's beautiful and girly and just the kind of thing to keep me awake until early in the morning for no real reason other than true outrageous-ness
- THERE'S TOO MUCH TO DO (especially because it's the end of term and a lot of final assignments are happening right now).
- Stickers.

waldo@<3.LE-GASP.ca

Contributing to *mathNEWS* is Easy!

All you need to do is write about doing something, even if you don't actually *do* it.

For example, I spent most of Production Night this week sitting at home being sick, but I also made an effort to keep Beyond Meta virtual company while they single-handedly wrote a majority plurality of the articles in the issue. (If articles in the issue were seats in the House of Commons, Beyond Meta would form the government, but it'd be of the minority kind, and liable to crumble under any sort of scrutiny, just like the English grammar in their first drafts. [*And in whatever number draft we receive. —ConvolutED*]) Whether or not I actually *did* keep Beyond Meta company while they did that, well, that's between the two of us.

BUT, clearly, I'm writing an article about that, so my having done it is irrelevant. See? This is pretty easy. I've even managed over a hundred words about it!

(I promise that I'm not trying to degrade the quality of articles in *mathNEWS* by encouraging articles like this. No, really. This one at least contained a fantastic insult.)

Scythe Marshall



a crafty player and Zethar Tours KW for Sushi

Upon a spur of a moment, a crafty player and Zethar decided that they wanted sushi for lunch. First, the pair tried to go to O'Yummys Sushi. However, they arrived at the establishment by Erb and Ira Needles only to find that the establishment had been evicted due to a non-payment of rent since mid-October.

Not to be defeated by such an inconvenience for raw fish and vinegar rice (as well as other delicacies like fried shrimp), the duo consulted the oracle of Google to find the next closest open sushi establishment, despite the fact that Google had originally falsely claimed that O'Yummys was open. After affirming that the new location was open, the pair went to Nara Sushi, located at Fischer-Hallman and Ottawa.

After arriving at the location, it was noticed that the place's lights were also off. As the door came into view, it became very apparent why this was so—the location was closed on Mondays, which it was that day. Yet again frustrated by Google's misdirections, the two of them headed to a third location, Sushi Star on King Street.

As the two of them arrived at the location, there was a dreaded white paper notice taped to the door of the establishment. It indicated that the establishment was closed on Tuesdays, but as it wasn't a Tuesday, sushi was had.

Prognosis: Not terrible for end-of-lunch service, but there was this feeling that the servers wanted us to leave so they could get ready for dinner.

Zethar

Writer Attempts to Break Their Seven Article Record

Beyond Meta is staring at their screen. One article remains in order to break their record.

The suggestion is given that the last article be a narration of their record attempt. They like the idea, but they hesitate; their guidelines for contributing to *mathNEWS* discourage similar articles. Already they have written three meta articles this issue.

However, since they are Beyond Meta, it would definitely be fitting. The cogs are turning inside their head and they can't help themselves as they write the article anyways.

Later, something that would suffice for an article exists. The only question remaining: do they submit it?

They find their article amusing but will others feel the same? Yes, their article is a little clichéd, but that does not mean that it doesn't provide value. A decision is made and they break their record.

Beyond Meta

How to Find Your Virginity

In case you ever manage to lose it

Virginity is, in many ways, an extremely ill-defined concept with a wonderful history in slut-shaming. A common definition of virginity is someone who has never had sex. However, not everyone agrees on what sex is. Only about 32–58% of people classify oral sex as sex, which I think is hilarious considering the act has sex in its very name and is an incredibly intimate act. Though, Bill Clinton would agree with them and he was the President of MURRICA, so he is clearly an authority.

Another interesting thing is that while English has a specific word for people who have not had sex, there is no equivalent antonym for someone who has had sex. A proposed suggestion for this word is "virgout".

A classical definition for losing one's virginity is penis-in-vagina sex. This one however makes little sense in the context of non-heterosexual relationships.

Other people focus on the more historical definitions, specifically of cis female virginity, defined by the rupturing of the hymen. A fun fact about the hymen: it ruptures really easily. You are just as likely to become a virgout from riding a bike as from having sex. Can't say I blame them, I would ride my bike any day ;) I can't say the same for others. If we go by this particular definition, as it happens, there is a real surgery called hymenoplasty designed to restore a person's hymen and thus their virginity.

In recent times, virginity has acquired a new meaning for not having experienced something. I feel that this is the definition that makes the most sense seeing as there is no consensus about its meaning within traditional interpretation. With that in mind, you should define your virginity to be whatever you want it to be. By virtue of Rule 34, no matter what you think up, there is someone out there who will agree with you that it's sexual. Lost your virginity and want it back? Just redefine it to be something you haven't done. Thought your first time sucked? Say it only counts if you enjoy it. About to be sacrificed on top of a volcano? Define volcano sacrifices as a sexual act and let the angry god deal with that paradox.

And, if ever someone quibbles with your definition and says it doesn't work that way, just reply back: "Well, if you want to care about the purity of women, that's your prerogative. I personally don't care for encouraging such an outdated and misogynistic view." That should shut them up.

Virgin or virgout, one's virginity is a very personal thing. Don't let other people dictate your personal experiences. Find and lose your virginity as many times as you like. There are always new experiences to have. If you want to have them, that's cool; if you don't, that's cool too. I personally plan on keeping my serial-killer virginity. It's just not something I am into.

Beyond Meta

Why Voting in the Federal Election Should be Changed

The recently concluded federal election has resulted in a parliamentary majority for one party. It could have gone another way: no party could have achieved majority status and thus in this scenario the winning party must be forced to share power with another party of its choosing, should they reach agreement.

However aside from the results, the mechanism of voting itself should be examined to shed light on its properties. Right now in Canadian federal election ridings, we practice what is called first past the post voting. That is when the winning candidate obtains the most number of votes; though not necessarily a majority.

Given the nature of our federal elections and the parliamentary system, people will invariably want to vote for the party or the party leader that reflects their views (or against the party that they despise) therefore the qualifications of the candidates in the voters' local riding matters little in the final calculus of many voting decisions. Hence voting becomes a matter of party loyalty, in order that the voter's favoured party triumphs.

In scenarios where the voter's favourite party has no hope of winning a majority, the voter will often engage in what is known as strategic voting. This is when a voter votes against their favourite choice and for an alternative candidate so that that candidate's party wins. Another motive for strategic voting is to vote out a despised party or leader.

It is now obvious why the current voting mechanism is sub-optimal. Voters will often vote against their best interests in order to prevent a feared outcome from occurring. This is when first past the post voting breaks down. Voters are not able or willing to vote for their preferred candidates. However, the current system in use is not the only one, nor is it the best one, by many measures. There is an alternate voting mechanism that has been sporadically implemented, that can improve outcomes for voters in the federal election.

Instant-Runoff Voting (IRV) is a voting mechanism whereby a voter ranks their local candidates according to preference. The preferred candidate is ranked first, secondary candidate is ranked second, and so forth. When the votes are tallied,

the first choice ballots for each candidate are counted, if no candidate achieves a majority then voters' second choice ballots for each candidate are counted and added to the candidates first choice counts, and so on, until a candidate achieves a majority of ranked votes.

IRV lets voters vote their conscience without the pitfall of strategic voting inherent in first past the post voting. A voter can rank a preferred candidate as their first choice even though they might have little chance of winning, so long as the voter ranks their next preferred candidate (who has a favoured chance of winning) second. When the votes are tallied, in the second round, the voter's choices will still be counted, therefore the voter will never feel like he or she wasted their vote.

IRV also has an additional benefit during the election in that to gain voters' trust, even though they might not be their first choice, candidates will behave more cordially among each other so that they obtain voters' second or third choice rankings, which will be important during the second or third round of counting, should the tally require such rounds.

Some might suggest that ranking candidates can be confusing, that it might be too complex for voters. However ranking is something that comes naturally to people. People and things are ranked all the time, from results in sporting competitions to venue preferences for a party. If someone truly cannot figure out how to rank things, are they even able to think critically and weigh the advantages and disadvantages of candidates in order to make an informed choice?

Additionally, IRV is cognitively transparent in that the way the votes are tallied in the end is easily understood by voters, therefore voters know where their votes are ending up, like in first past the post voting.

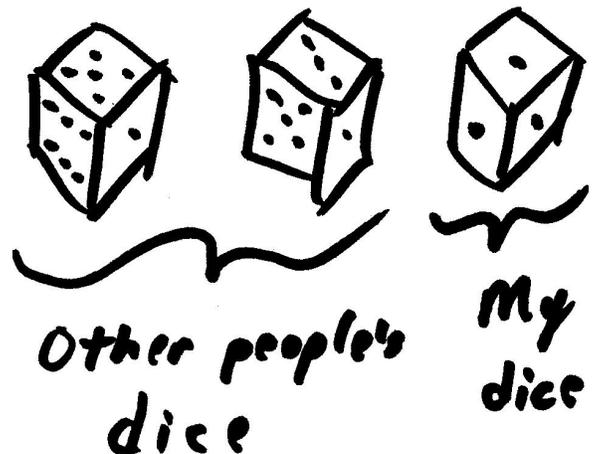
With these advantages, and little drawbacks, IRV should be implemented post haste in the federal election for each riding. Inform yourself concerning this issue. Concerned citizens deserve a better system.

BJJ

Zombie Apocalypse Decimate Writers

The zombie apocalypse has arrived and with it *mathNEWS* Production Night has taken a considerable toll. Who knew that people who participate in cool activities like *mathNEWS* are more likely to participate in other cool activities like Humans Versus Zombies. Hiding out in Gatineau, I have been spared the worst effects of the plague. As one of the few survivors, I endeavour to fill the gap left by their absence. It's going to be a long night. I wonder if the editors putting brains on the pizza might have helped with the turnout.

Beyond Meta



Songs to Get You Through the Rest of Your Midterms

Midterms and other such stressful things got you down? Same here. But I'm a pretty strong believer in the power of positive thinking. Obviously, optimism isn't going to magically make you pass a test you haven't studied for at all, but I do think that keeping a positive attitude will help make your studying more effective, and will help you to be a happier person in general. On that note, I think that the right music can help you to stay positive. So, I've come up with a list of 10 songs to bring you up when you're feeling down or stressed, and inspire you to do your best. In no particular order, they are:

1. *Keep Your Head Up*—**Andy Grammer**. The mellow vibe of this song alone is enough to make you feel more at peace, but if you're looking for an extra boost, the song also has uplifting lyrics that remind you that "you'll turn out fine."
2. *Go the Distance*—**Roger Bart** (from the movie Hercules). A Disney classic. Yes, every mile will be worth your while, and yes, you can go the distance. You can make it through all those midterms, and it will be worth your while when you get a mark you're happy with.
3. *If You're Going Through Hell*—**Rodney Atkins**. Sometimes exams feel like they might be a mild version of hell on earth. This country song tells you to power through them anyway.
4. *Hit Me With Your Best Shot*—**Pat Benatar**. The idea here is basically "Bring it, midterms. I'm ready." And even if you're not actually ready, in the words of Pat Benatar: "Knock me down, it's all in vain. I'll get right back on my feet again."
5. *Bring It All Back*—**S Club 7**. This is the bubbly 90s pop you need in your life right now. The song is essentially a giant wave of positivity that tells you everything you need to hear during those 4 am study sessions when you're thinking about just accepting failure.
6. *Don't Worry, Be Happy*—**Bobby McFerrin**. The title says it all. The song points out that worrying makes things worse, and it also sounds hella chill, so it's hard not to feel a bit better after listening to this song.
7. *Up All Night*—**One Direction**. Some nights, you may have to accept that studying just won't let sleep happen. Luckily, this song might convince you that you actually want to be up all night. Or it might not, but at least it's the perfect guilty pleasure song to get stuck in your head and give you energy to keep at it until morning.
8. *Don't Stop Believin'*—**Journey**. The cliché that couldn't not be on the list. Don't stop believing that you will ace all your midterms.
9. *Stronger (What Doesn't Kill You)*—**Kelly Clarkson**. "What doesn't kill you makes you stronger." Yes, another cliché, but still a positive message to remember.
10. *The Fighter*—**Gym Class Heroes feat. Ryan Tedder**. Every time the song says "Give 'em hell", think of your midterms. Give those midterms hell. Kick their butts. Keep fighting on and you can get through this.

Happy listening! Stay positive, and good luck on the rest of your midterms.

TheUndecided

Illness Linked to Decreased Performance

VICTORIA—A meta-study of research performed on the relation between illness and performance revealed that the majority of research on this subject has been correctly performed and statistically validated. The overarching conclusion is that there is a positive correlation between illness and decreased performance in essentially every conceivable activity that does not result in a paradox. (That is, we ignore the strong positive correlation between illness and success in the activity 'being sick'.)

In particular, the data, which can be found with a cursory Google search, shows that given any of the above conceivable activities, being sick conclusively and statistically lowers one's ability to do that activity. Some notable examples, which may be relevant to the reader's experience, include doing mathematics assignments, writing midterms, writing finals, and actually learning things in lecture. Other examples, which are more esoteric, include writing for *mathNEWS*, doing simple in-head arithmetic, and sleeping, perhaps surprisingly. The reader may wish to consider this further, depending on how ill they are; consideration is also one of the things hampered by sickness, as is motivation. A troubling scenario is that taking medicine can be quite hard when ill; partially for mental reasons, but partially because sometimes one manages to swallow a cough drop whole, or do other unfortunate things. (Whoops.)

Of course, since nothing in real life is ever always one particular way, there are some things that buck this trend, in the same way that voters bucked Stephen Harper from the Prime Minister's saddle (this will not get old). Being ill in any sense can improve one's future outlook on life; you will better appreciate being healthy and back to 'normal' (whatever that means). Being physically sick usually drains you of energy, so the author ended up with a story about bowling a 385 in five-pin bowling (ie. that's a very good score) due to being physically incapable of throwing the ball too hard to control. In the same vein, lacking energy can also prevent outbursts of anger, and therefore result in being happier on average, which seems mildly counterintuitive.

There will be no concluding statement to this article, wherein the author makes a fantastic witticism and validates the paragraphs of mild nonsense. Instead, it will be noted that there may well be a reason for anglophone youth to have adopted the phrase "sick" as a positive adjective. Aside from, you know, the well-known tendency of youth to be contrarian.

Moreover, this author wants to stop being sick soon. Sigh.

Scythe Marshall

profQUOTES

- "We're going to try 1000 frantic attempts to enter the bathroom, because that's the worst-case scenario."
Buhr, CS 343
- "When you enter a bathroom, and you lock the door, there might be 1000 people in there with you."
Buhr, CS 343
- "I'm drinking coffee, and I need to go to the bathroom, but I can't since my name is on the door. When Mary comes home, I explain why there was a mess."
Buhr, CS 343
- Student:* "Why is Mary lower priority?"
Prof: "She lost the coin toss."
Student: "But she's a lady."
Prof: "We are not an old movie any longer."
Buhr, CS 343
- "I'm making up a story, but I'm pretty sure it happened like this."
Buhr, CS 343
- "Go and get your lawyers and check rule 3."
Buhr, CS 343
- "Normal people are confused by this. This is how theorists get job security."
Buhr, CS 343
- "We want you to port Linux to this toaster."
Buhr, CS 343
- "The key to my office has a really strong security on it: it says 'Do not duplicate'.
Buhr, CS 343
- "I walk out of the bathroom, I'm gone. Now I have to kiss somebody?"
Buhr, CS 343
- "It's such a good question I want to do it again today."
Buhr, CS 343
- "If you are unable to sleep at night, you can pull up one of these papers, and you'll be asleep in five minutes."
Buhr, CS 343
- "Were they really Dutch words? Or were they really the names of Dijkstra's favourite football teams?"
Buhr, CS 343
- "We are now going to be P-ing on locks. This is a technical term."
Buhr, CS 343
- "They might all go into the same stall. They're adults; I don't know what they're doing and I don't want to know what they're doing."
Buhr, CS 343
- "Your midterm will be identical modulo the questions."
Buhr, CS 343
- "Aha, I win one of them, at least."
Gauthier-Shalom, CO 456
- Student:* "We have a set named P and the problem is named (P)..."
Prof: "Have you never done math before? This is normal!"
Gauthier-Shalom, CO 456
- "You. I'm not pointing at anyone in particular; I'm just pointing in a direction."
Gauthier-Shalom, CO 456
- "You made me proud by putting it in *mathNEWS* so I'm going to use it: 'Deal with it.'"
Gauthier-Shalom, CO 456
- "I regret my decision."
Gauthier-Shalom, CO 456
- "The people that I said were wrong were right."
Gauthier-Shalom, CO 456
- "Paper covers rock, see? And if I do scissors and he does rock, rock smashes scissors. If he does scissors and I do paper, he kills me."
Gauthier-Shalom, CO 456
- "This is where the math gets interesting. I mean, more interesting. Math is always interesting."
Gauthier-Shalom, CO 456
- [returning from break]* "So, I'm going to get going now..."
Gauthier-Shalom, CO 456
- "Class really goes fast when I skip all the details."
Gauthier-Shalom, CO 456
- "I make a joke, and then no-one laughs, so I imagine this from a third perspective. I laugh at the situation that no-one laughed. I need to go further, since no-one laughed at that."
Gauthier-Shalom, CO 456
- "This is what happens when you don't get enough sleep. Don't go to grad school; it's a bad idea."
Gauthier-Shalom, CO 456
- [to profQUOTES taker]* "I was hoping you'd be asleep."
Gauthier-Shalom, CO 456
- "Fundamentals: math made fun."
Gauthier-Shalom, CO 456
- "Why are you laughing? I heard giggling. Who giggled? Minus five on your final."
Gauthier-Shalom, CO 456
- "I don't want to overwhelm you with too many methods, otherwise we would call what we're doing 'engineering'.
Al-Masri, CS 230
- "How do you combine two sentences together? Say it really fast?"
Kunizane, JAPAN 202R

snewQUOTES

"Has everyone seen mathematical induction? It's okay if you don't. It's taught in the curriculum everywhere else in the world except Ontario."

snew, MATH 145

"In the foundation of math, which we're not doing..."

snew, MATH 145

"I'll use square brackets. Square brackets means you don't really need to write it down in your proof."

snew, MATH 145

"We assume this horrible long statement."

snew, MATH 145

"We have a sieve that catches primes."

snew, MATH 145

"Eratosthenes. If you don't speak Greek, he was an ancient Greek."

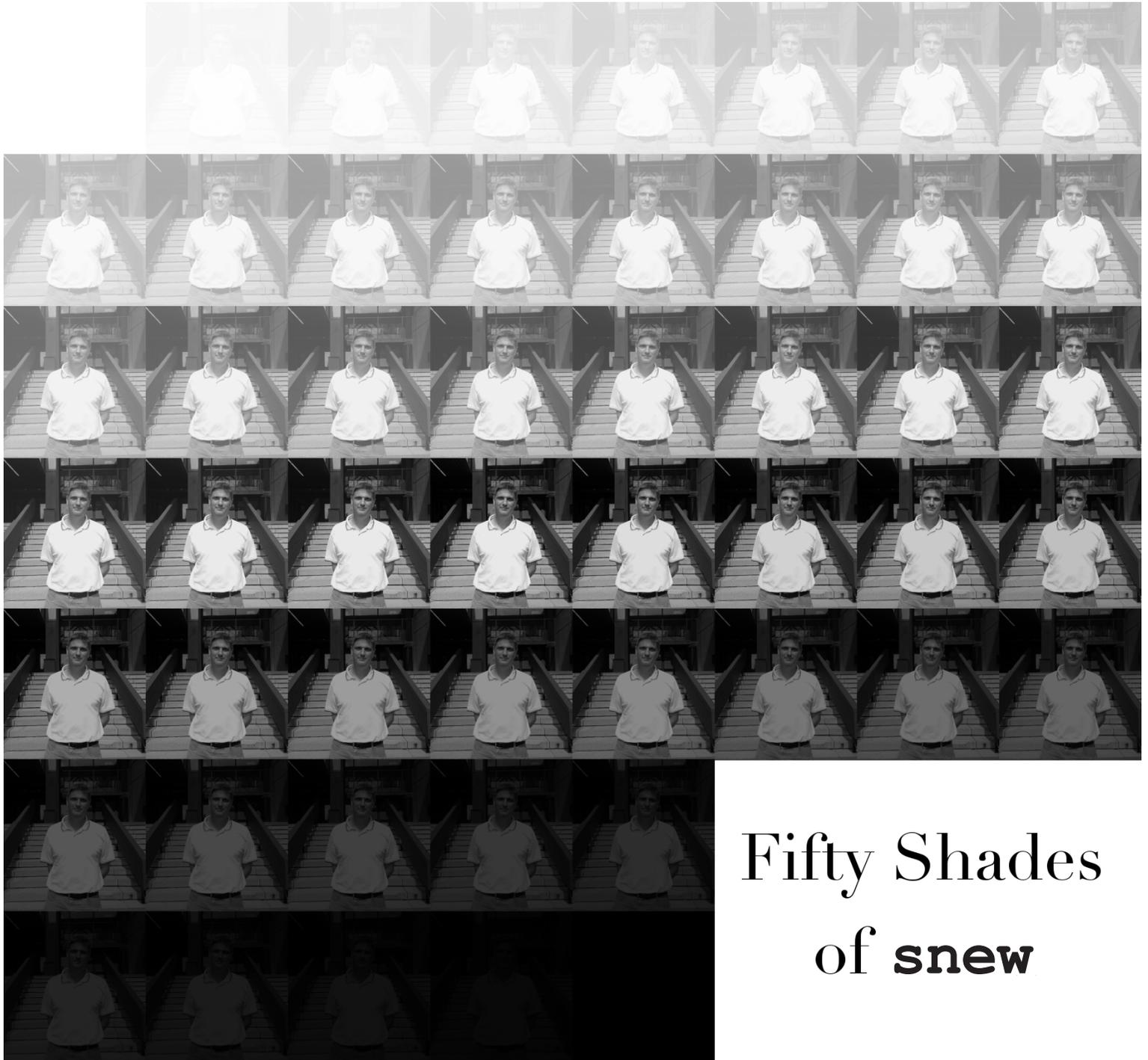
snew, MATH 145

"So the people foolish enough to take notes can correct their notes."

snew, MATH 145

"You wouldn't want to write all the numbers down from 1 to 1000."

snew, MATH 145



Fifty Shades
of snew

Twitch... Installs Arch Linux?

*Crowdgaming goes meta.
(No, not beyond meta. Sigh.)*

Last weekend, you may have heard of a new channel on Twitch, where instead of playing Pokémon, Twitch chat was collectively handed a keyboard and access to a virtual machine. Their goal: install Linux onto this machine, and go from there. You can find this channel at twitch.tv/twitchinstall-sarchlinux.

If you think this sounds like a bad idea, you might have already taken a security course, and/or worry about this stuff at a non-trivial level.

In any case, after about half an hour of delay, the stream was up and running at 4:30 PM Eastern. And Twitch was doing things! Command input was by democracy, which as veterans of Twitch Plays Pokémon know, means that the most common command entered in each time period (here, it started as five seconds and bumped around a bit) is chosen as the 'winning' command, and is entered. So after Twitch hit 'enter' and booted up a copy of Arch Linux, they tried to see what sort of files were in their current directory. Attempts at 'ls' included 'lsbls', 'lssr', etc. They got it eventually!

This continued on for a time; Twitch chat managed to get a password (who knows what it was), and execute some other commands. Of course, on the right-hand side of the terminal window, whenever enter was pressed for a non-command, up popped a ':' ; this pretty much explains everything.

Roughly four hours later, some funny things were happening. Some funny... malicious things. It turns out that someone had set up a botnet to take control of the virtual machine. The original creators of the project were not prepared for a full-scale attack, and so they shut the stream down. Luckily, another group stepped in and set the project up in a much more secure environment, which is hopefully much more protected from bots. They are now running the project.

As of Sunday, 5:30 PM Eastern, things seem to be going relatively smoothly. There are only a couple thousand viewers, and presumably fewer chatters; they've developed a list of commands that they need to input, and are coordinating their actions. ...

... Let me try again. Of those couple thousand viewers, something like 1800 of them were bots, because chat just installed xorg, somehow. There are lots of bots. Oh dear. The non-bots tried, I suppose. They're trying to fight the botnet, by ctrl-c'ing (to kill the process), but they can only make so much progress when commands are by democracy.

Makes one wonder how many Twitch Plays Pokémon players were not bots? Hopefully most of them...

All hail our new overlords, Skynet?
Scythe Marshall

High Midterm Lows

Midterms have come and gone, along with a smattering of your course-mates. Whether you remain or abstain, there is nothing to worry about yet. It's a normal phenomenon for a lot of students, especially first years, to find their midterms extremely easy or extremely difficult. The reasons vary but at the core it is a sharp divide between students learning how to learn and students re-learning things they already know. If you are in the first category, take comfort in knowing that you are not alone now, nor are you different from the dozens of generations before you. If you are in the second category, you may find that you don't need to work as hard; I caution against this in the famous words of Admiral Ackbar: "It's a trap!" Now, the advice I give is general. There are obviously those among us who never need to study and those who need a dedicated week of nose to the grindstone before every exam. Those tend to change a lot during first and second year and solidify in third.

So what does this mean to you?

It means you are learning to learn, no matter who you are. The undeniable fact that habits change, rapidly, throughout university means that everyone is failing some sort of midterm at some point. Maybe that midterm is your friends, maybe it's in school, or maybe it's your gaming life. You might suddenly find amazing success again the next week. Just remember in those down times that failure is still progress, and all progress is positive as long as you learn from it.

InvertedExtrovert

Friends Don't Let Friends Peer Pressure

Peer pressure is a powerful force behind many of life's terrible decisions. The young are especially susceptible to its sway, but even adults are not immune. Above all, peer pressuring is just a plain douchebaggy thing to do. When you are peer pressuring someone, you are trivializing their opinions and disrespecting the agency they have as person. That's their parents job, not yours. Peer pressure is the number one cause of drug use and teenage sex. It's a danger to society. We need to combat this threat. Have no fear, for together, we can defeat peer pressure. All you need to do is, the next time you see someone pressuring someone to do something, inform them that they're wrong. Get your friends to inform them they are wrong. Actively emphasize that this type of behaviour will get their group membership revoke. If we all unite to exert social atmospheric force then peer pressure will be defeated.

Beyond Meta

**Submit your articles in the
BLACK BOX outside the
MC Comfy or email them to
[mathnews@gmail.com!](mailto:mathnews@gmail.com)**

Pockets

I am proud to introduce a revolutionary new line of female clothing: Pockets.

Ever wanted to carry around a bunch of stuff but didn't have a boyfriend on to hold onto it?

Ever had your hands feel cold and just want to find a pouch of fabric that you insert them into at the nearest convenience without having to carry gloves around?

Ever wanted to be able to keep your cellphone close to you without having to hold in your hands at all times?

Ever wanted not to have your wallet stab you every time you sat down or got up?

Ever thought that purses sway too much side-to-side and just wanted a way to store your stuff while not sacrificing mobility.

Well, with our clothing line, we have pants with functional pockets. You can comfortably place your phone, your wallet and even a pocket book if you really want to.

We also offer shirts with an extra layer of clothing for your upper torso. No longer will you have to worry about trying to conceal the colour of your bra. This layer of clothing also doubles as a storage pouch. Personally, it's where I like to keep all my best assets.

Beyond Meta

N Things to Do With Your Halloween Costume After Halloween

- Wear it on a normal day. It's a great conversation starter and opportunity to meet new people.
- Wear it at a convention. I don't know why you wouldn't just do the first item. What's the point of being weird if you do it in place where it's normal behaviour?
- Have a costume party so you can acquire a picture of your crush in a corset.
- Store it your closet because you think it's gay.
- Use your cape as curtains.
- Use your cat ears as headband to keep your hair out of your face.
- Use your pimp cane as stick to throw for your dog.
- Use your prop weapons as intimidation tools for self defense.
- Cut it up and make a scrap quilt. Stay warm for the winter!
- Donate them.
- Dress your pets in them. They have no sense of shame

Beyond Meta

Why You Need to Oppose Bernie Sanders!

Yes, I know that universities are a left-wing hivemind. I bet many of you are going to forge US citizenship papers just to vote for Bernie. I came here to tell you that Bernie will not make America Great, and you should oppose him instead.

First of all, Bernie can't even defend his own microphone, so how is he going to defend western values and civilization? How is he going to defend America? If Bernie was a real leader, he should have smacked the crowd instead of letting them talk. What a lightweight.

He is weak on issues regarding Iran, on immigration. Just imagine him sitting with Putin! He will be like, "Oh, I am so weak! Take Ukraine and Middle East. Please leave us alone :('!"

Second, all Bernie wants to do is give, give, give. He want free healthcare, free education, and money for poor people. Where is the money going to come from? It comes from you. He is going to tax you 90% and give it all to the illegals. #SayNoToBernie

Third—oh boy—Bernie said he is democratic socialist. I don't know what that means, but who cares, it has the word "socialist" in it, so he must be a communist. Just look at Stalin and Mao; they should give you perfect insight on what Bernie is about.

Bernie Sander is anti-business and anti-America; he is on a mission to destroy America and Western values. He will make America a living hell. But Donald J. Trump will be the best president God has ever sent to the US. The American dream may be dead now, but Trump will make it bigger and better than ever before. (And, as from the last article in the series, Canada is in the set of Americas, so we be great too).

Come. Join the silent majority and let's
MAKE AMERICA GREAT AGAIN © TRUMP 2016

Prolific *mathNEWS* Writers Found to Have a Lot of Issues

A lot of people use writing as form of stress relief, but some people tend to go a little overboard with it. A study has found that the length of time for which a writer contributes to *mathNEWS* is positively correlated with the number of issues they have. So let say that a writer writes only for a term they probably have at most six issues. However, if you are someone like Scythe Marshall, who has been writing since second year and continues to write two years after graduation, you are going to have a lot of issues—like, at least 65 issues. Having met Scythe Marshall, this seems accurate. It might be a slight understatement.

Beyond Meta

Follow us on Facebook (*mathNEWS*), or in person (MC 3030)!

World Religions Conference in Guelph Made Me Angry

On Sunday, November 1st, the Ahmadiyya Muslim Community in Canada held their 35th Annual World Religions Conference in Guelph. The topic of the conference was ostensibly Tackling Radicalization in Faith, but the speakers were often so far off topic that I was very frustrated by the end of the day. There were seven speakers on the panels: one from each of six faiths and one philosophic tradition. None of the speakers were women, nor were any of the head organizers within the Ahmadiyya community, and only one dignitary was a woman. There were women who did the scripture recitation and/or singing after some of the speakers; however, this is not and should not be equated with the presentation of ideas in terms of importance to a conference that is supposed to have an explicit topic in mind.

Doug Thomas, the Humanist speaker, argued that since their philosophy puts such a strong emphasis on reason and evidence-based decision making, people who are secular humanists shouldn't become radicalized. A counterpoint was raised during the Q&A session about communists being sort of radical atheists, which was countered with acknowledging that atheists can be violent radicals, but he would hardly call Stalin a secular humanist, what with the obsessive nationalism and paranoia involved in his regime.

Simerneet Singh, the Sikh speaker argued that Sikh ideas are truly radical and spent his session expounding on the nature and practice of Sikhism instead of focusing on the topic at hand. Another argument that was made was that radicalization is due to culture, such as conservative Punjabi culture, rather than religion, and a suggestion that any inclination to radical violence in Sikhism is due to the radical violence that came from before in Islam and Hinduism, as Sikhism began as a syncretic faith mainly inspired by those two. I thought this was a load of bullshytt. (No, this is not misspelled; check it on [Urbandictionary](#).) The skillful dodge of the question and usage of rhetoric was rather amusing at first, but became tiresome.

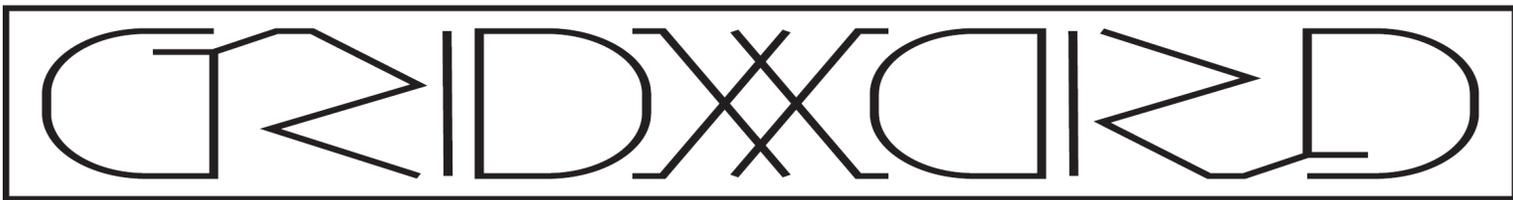
Imam Farhan Iqbal was the Islamic speaker, a representative explicitly from the Ahmadiyya sect of Islam. He suggested that radicalization and violence that fuel terrorism such as ISIS/ISIL/Da'ish/Daesh were against the nature of Islam. He also suggested that while radicalization runs parallel to religion, it is not inherent in it, and can be seen as explicitly against the teachings of Muhammad. He used citations from the Qur'an to argue that violence used by his followers was only that in retaliation after persecution within the cities of Mecca and Medina. He also cited that the word 'Islam' is related to 'Salaam', which means peace. However, the refusal to acknowledge that they are by far a small minority within Islam, being far dwarfed by Sunni and Shia Islam, which disagree with them on many tenets of the faith and which hadiths are valid is rather difficult to swallow, considering that they usually ignore other Islamic groups for their conference. I am unsure about whether or not Islam having the same root word as Salaam is a valid argument, considering that even in English, we have plenty of words that mean completely opposite things, not just with the same root word, but in just one word.

Reverend John Buttars, a retired United Minister was the representative for Christianity. I'm not really sure how he was picked, considering how many different Christian sects there are, but his talk mainly concerned itself with the fact that Christianity in its history has been used to justify an excessive amount of violence, and did not shy away from the historical entries, though he did shy away from modern Christian radicalization. He stated that if you compare the actions of Christians and the text of the Gospels, it's quite clear there is some large amount of disconnect. I was somewhat disappointed that he wasn't willing to recognize that fundamental reliance on the text can result in very different results, if you consider the major American fundamentalist movement versus the social justice movement he belongs to.

Walter Cooke was to represent Aboriginal spirituality, and the majority of what he spoke on was the history of the usage of different herbs and barks in smudging ceremonies, and a lack of acknowledgement of the topic other than the Ojibwe, the Cree etc. did not war over religion as they all smudged together. This may be true, though it is difficult to confirm or deny due to the lack of records after the major destruction of the majority of the aboriginal communities due to colonization. We do know that different tribes did war with each other, or at least had limited armed conflict, for why else would the wooden palisades of the Iroquois exist? It is difficult to say what the reasons were. He also stated that there were over fifty thousand different faiths practiced in North America before colonization. Once again, difficult to confirm or deny, but the idea that they all shared smudging in common seems quite difficult, for I doubt the Inuit would have tobacco readily available.

Dr. Daniel Maoz represented Judaism for the panel. His scholarly word was on different interpretations of the same text and gave some amusing anecdotes about how Moses smashed the first set of Ten Commandments as an example to his peers as to what you should do with graven images—they were after all engraved on the tablets. However, I felt once again that a lack of focus on the topic at hand and really considering ways to prevent/stem the tide of radicalization in faith hindered his talk. By this point, I was getting sort of burnt out, so I will say I perhaps didn't give this talk my full attention as much as he deserved.

Dr. Praveen Saxena was the chosen speaker for Hinduism, though he claimed that is an error but he did not have time to create a better way of describing what he considers the philosophy/science of Hindu practice. Dualism of body/mind which had been seen before in the Sikh talk came out again in full force in this presentation which was particularly "innovative" as it had a slideshow which I honestly couldn't make heads or tails of. There was a claim that radicalization could perhaps even be used in a positive way, but there was lack of evidence to support this, only just a vague assertion that it could lead people toward more peaceful lives. He then discussed "energy" and how it is positive and negative when it interacts with us and positive energy leads to faith/religiosity and negative leads to radicalization and other bad things. I was getting rather fed up at this point because of



gridCOMMENTS

I got a lot of great responses to last week's *gridWORD*; eight people/teams correctly filled in the long Across answers of **JUSTINTRUDEAU**, **STEPHENHARPER**, and **THOMASMULCAIR**. To break the tie, I looked at the *gridQUESTION*, "What qualities would your ideal PM have?" Some clever interpretations of PM arose; one solver described a pleasant afternoon, another a Pure Math course, and another the Potato Man.

But, after my own heart, congratulations to **Sir Loin of Beef**, who wants "one with physics, speed, and overall feel similar to Super Smash Bros Melee." Project M is obviously a labour of love by its developers, who continue making awesome updates to this day.

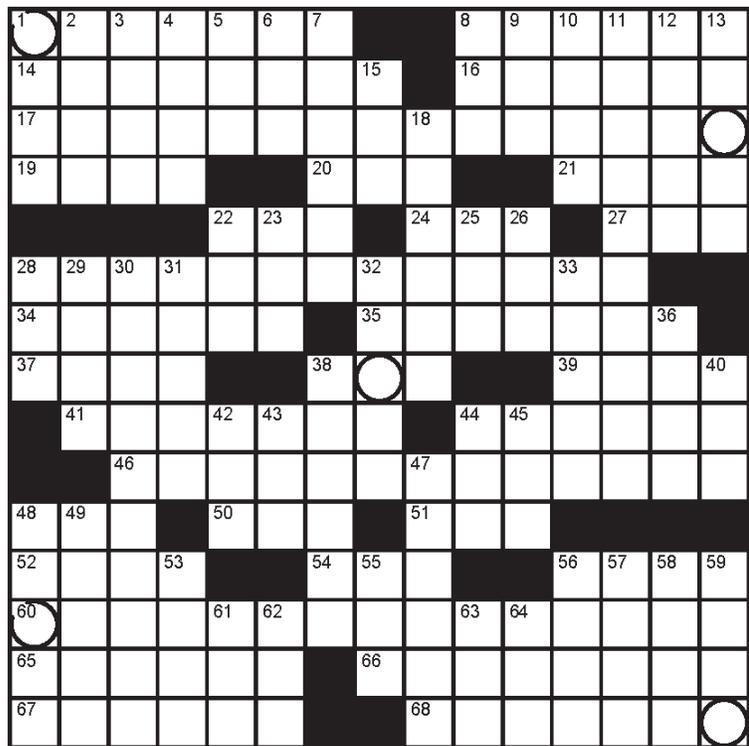
This week, the theme answer is **a place where they use Catalan numbers to count everything**.

Remember to submit your *gridWORD* solutions in the **BLACK BOX** by the Comfy before **6:30 PM on November 16th**. Give your theme answer and your answer to the *gridQUESTION*, "What are two things that I should try mixing together?"

ConvolutED

Theme Answer: _____
gridQUESTION Answer: _____

This Issue's Grid:



gridCLUES

Across

1. Our galactic neighbour (and it's named for a constellation)
8. Fragment of memory
14. Take root
16. Spirit
17. Glasgow's capital neighbour (and home to Arthur's Seat)
19. Desire
20. Debt reminder
21. Windy days put it at the end of its rope?
22. 1.66×10^{-27} kg
24. Follows Thunder or Michael
27. Error in
"int a[9]; a[9] = 9;"
28. Charitable person
34. Counsel
35. Superhero attorney Harvey
37. Vegetable
38. Sticks for witches (and wizards)
39. Baldwin in *30 Rock*
41. Prehistoric prefix
44. Nod
46. Multiple qualities of the act of reflecting light
48. High-ranked person
50. High-ranked person
51. Grain
52. Sugar or starch
54. Upholders of the Controlled Substances Act
56. Pair
60. Can download apps from the Google Play Store (and then run them)
65. "Poor" in "Give to the poor"
66. Difficult
67. Had too high a ping, say
68. Et symbol (and what you need inside the circles)

Down

1. Garfield, of *Amazing Spider-Man* (and *Social Network*)
2. Council, to most Slavs
3. After Týr, before Thor
4. Perfectly new
5. They bailed out Greece
6. Fem. child
7. Hall
8. Ambulance squad
9. Computer programmers are 2174 in this index
10. Comprehend
11. Explanations
12. For ____ see
13. Roam aimlessly (and in a winding course)
15. Pride
18. Pride
22. Mule
23. First female African-American astronaut Jemison
25. Scuba tank contents
26. Since January 1st
28. Talk
29. Greek theatres
30. Too muscled
31. Leave
32. Leave (and never come back)
33. Gather
36. Hawaiian goose, or Direction doubled
38. Oddball
40. \$ hundredths
42. Greetings
43. Jar-Jar's friend
44. Minimal amount
45. Comprehend
47. Italian grape-based alcoholic beverage
48. It often ends in '-gate' (and it often ends careers)
49. Montreal security firm
53. Book about a person, abbr.
55. Big bird
56. Frightening
57. Over, in slang
58. Shakespearean sigh
59. Ask (and forcibly so)
61. Expected
62. They have garlic bread on Fridays
63. Low level language
64. Certificate authority, for example

