

math NEWS

Volume 129, Issue 2

Friday, October 9th, 2015



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lookAHEAD**mathNEWS**

Oct 9	Issue 2 worries about its coming midterms
Oct 19	MATH 135, 136, and 145 students are dragged from Production Night #3
Oct 23	Issue 3 worries about its past midterms

CECA

Oct 19	ARUP Information Session
Oct 27	Professional School & Post-Degree Day

University

Oct 12	No school
Oct 21	Final exam schedule posted

Miscellaneous

Oct 9	World Post Day
Oct 10	World Mental Health Day
Oct 12	Thanksgiving Day
Oct 16	World Food Day
Oct 19	Election Day

Article of the Issue

The Article of the Issue is: *How To Live Your Life By Following wikiHow Articles* by Dusk Eagle.

There was no wikiHow article for *How to Choose an Article of the Issue*, so we had to make do with the next closest option: *How to Choose the Right Girlfriend: 15 Steps (with Pictures)*. We hope you want the same relationship we do, Dusk Eagle: a continued exchange of content for pizza. (Plus you've got a good sense of humour, and you're independent and self-assured when it comes to your own interests. Perfect!)

We don't want to condone materialism, but come on by the *mathNEWS* office to pick up your gift certificate!

The Editors

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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.

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Thomas Baxter (Canada Extreme Wrestling Party), Katherine Tu (*Parti Citron*), Jose-Miguel Velasco (Fed-Up Party)

mastHEAD

Every editor has a midterm the day after Production Night this week, which leaves me to do the *mastHEAD*. It also leaves me to do almost all of the layout, so if anything seems wrong, you can most certainly blame me. I'll be in the *mathNEWS* Office.

Besides the events within the *mathNEWS* editorial staff, there is the less important business of elections, occurring on October 19th. If you wish to find more information on elections, there is no shortage of articles on the matter. From more serious, fact-based articles such as "Harper's Kush Kvetch", to our election predictions in "*electionhorrorSCOPES*", there is no shortage of opinions on the election. There are also midterms.

We asked our authors, "What are you consuming for Thanksgiving?"

2.3.5.7.735.2333772 ("First years"); Zether ("People's sanity"); A Yam ("A yam"); Stubbs ("Hypothetically, gesse"); Shay Blair ("Soy's that I own"); $s, t \in \{2k, k \in \mathbb{Z}\}, 144$ (Free food, I hope"); Dusk Eagle ("All the love and affection of my cconcubine"); Diminutive Rex ("Shay Blair and Dusk Eagle (ಠ_ಠ)"); waldo@3.LE-GASP.ca ("Internet and procrastination"); Soviet Canadian ("conservative's tears and something inappropriate"); bluecat ("consu muié"); teapot ("alkihol n meet"); theDon ("Is it cliché to say pi?"); Element ("Trump's wall-constructing mexicans"); The Prez ("Turkey. Who are these people?"); Beyond Meta ("Hopes and Dreams"); Scythe Marshall ("Pages and pages of a document on C*-algebras."); Pizza Freeloader Kis ("Other people's pizza."); SketchED ("A line."); ConvolutED ("Gasoline.");

Editor-in-Training ("A paper copy of this *mathNEWS* issue").

VOTE!

Hello Mathies,

If you are reading this and have voted in the special ballot, then you're awesome! If not, you can be awesome too; there are still many opportunities to vote on or before Election Day.

Here they are:

- You can vote on advance voting days from Friday, October 9th to Monday, October 12th in Waterloo, or on similar days for whatever your home riding. It's the perfect time if you are heading home for Thanksgiving.
- You can vote at the local Elections Canada office at 101 Randall Drive, Waterloo, Ontario. It takes about 25 minutes to get there by bus and walking.
- You can vote on Election Day at your polling station. You can find that at elections.ca. If you live on campus, it will be one of V1, SLC multipurpose room, or Beck Hall.

Remember to get informed and vote.

Stéphane Hamade
Vice-President Education
Federation of Students

Games Sez

Our weekly (board) Games Nights up and running! Come to the C&D at 6:30 PM on Thursdays to enjoy our wide selection of board and card games. The event lasts all night long, but feel free to drop by and leave any time you want during the evening.

We also have a Facebook group (<https://www.facebook.com/groups/MathSocGamesNight/>), where you can find people (or sign up) to play games or request snacks and drinks. In case you don't use Facebook (or don't want to publicly make a request), you can make a request to games@mathsoc.uwaterloo.ca with your pseudonym (or name).

In addition, we are holding our termly Games Night with Profs next week! It will place on Thursday, October 15th at 6:30 PM in the C&D (in place of our regular Games night). Make sure to invite all your profs!

Your Games Director,
a crafty player

VOTE JUST DO IT

What: Vote in the federal election for what party you want running the entire country for four years.

When: Election Day is Monday, October 19th (9:30 AM–9:30 PM). You can also vote Friday, October 9th–Monday, October 12th in advance polls (noon to 8:00 PM).

Where: If you live on campus, you can vote at Beck Hall, V1 Community Centre, and SLC MPR on Election Day. If you live off-campus, find your polling station at elections.ca.

How: Bring government ID with your name and photo on it (driver's licence, passport, etc) and something with a Waterloo address. This could be a lease, a sublet agreement, utility bills, or bank statements with a Waterloo address on it. If you live in residence, they can give you proof (talk to your don).

Why: Because what party gets elected *will* affect you, even as a student. They decide things like tuition, funding, how much money gets put into scholarships, and many other things that directly affect students. Campaigns often ignore students because very few of us vote. Let's change that.

Who: I can't tell you this one. But here's a good place to go to educate yourself on platforms: canada.isidewith.com. Or visit each party's website to read their platforms.

Questions? Check out elections.ca or email uwvotes@feds.ca

Shay Blair

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

WatSFiC Sez

'Sup mathies. WatSFiC (Waterloo Science Fiction and Fantasy Club) has a few upcoming things that will probably be of interest to you.

The first is Humans vs Zombies! This term, HvZ will take place on November 2nd to 6th. Signups will be happening the week before, from October 26th to 30th. For those of you that don't know, Humans vs Zombies is a giant, week-long game of tag with a human team and a zombie team. Humans carry Nerf guns and socks, which they use to temporarily stop zombies. The zombies can only use their hands, but when a zombie tags a human, the human goes to the zombie team. Last fall, we had over 700 signups, so give it a try! It can be a great way to meet people if you're looking for new friends.

The second is the opening of the Clubs Library in SLC 2139. The Clubs Library is, as the name describes, a library with materials provided by various clubs. Any University of Waterloo student can check out materials for a period of two weeks. The Library will be open between 10:00 AM and 3:00 PM, Monday through Friday. It's also a good place to find out information about various clubs!

That's all for now! We'll be back next time with more exciting happenings!

ComfyShorts

Prez Sez

To the first years:

I hope you all managed to vote in the First Year Representative election, despite the hiccups that occurred on Monday. Voting was open on the end of Monday as well as Tuesday and Wednesday. The winners of the election have been published on Facebook, our website (mathsoc.uwaterloo.ca), and in emails to the winners.

To everyone:

Keep an eye on your email, you should be getting an email from MathSoc soon that will outline some more cool things going on this semester! If you still want to be involved, some of our volunteer positions have yet to be filled; we also have committees that need members (like Faculty Computing Advisory, Capital Improvements Fund, External Funding Committee, and CnD Management Board). If you are interested in any of these committees or any other decision making, come to the Council meeting on October 15th, 2015 at 5:00 PM in M3 4001.

Tristan Potter

Submit your articles, profQUOTES, political rants, and bad toupées to mathNEWS@gmail.com or the BLACK BOX near the MC Comfy Lounge.

Employer Evaluations

The employer evaluation process bestowed upon us by CECA is confusing to all parties. It is so simplistic and yet it still seems to boggle all parties involved.

The rankings are:

- Unsatisfactory
- Marginal
- Satisfactory
- Good
- Very Good
- Excellent
- Outstanding

Some employers treat the rankings literally and will evaluate your performance on the job accordingly. They will give you a "Good" if they genuinely think you did a good job, an "Excellent" if you blew them away. These employers only give an "Outstanding" if you completely solved all their problems, made them all the money, and maybe split your 6/49 lottery winnings with them. If all employers did this, it would actually be great because it would be an accurate reflection of reality and might help us learn and grow going forward.

Most employers don't do this. Most work on the scale of "Good" being "basically failed"; "Very Good" means you pulled a normal; "Excellent" means they liked you; "Outstanding" means you worked productively and effectively as part of the team. The problem being that one employer's "Outstanding" is another's "Very Good."

This leads to a roller coaster of emotions for students as their expectations are shattered in either good or bad ways. And employers end up being surprised that this candidate is so good considering how shitty their last eval was.

Well, what should you do? Perpetuate the bullshit. You should let your friends, family, and future employers know that the system is purely subjective and doesn't really mean anything.

Happy job hunting!

Stubbs

A Cautionary Tale

Arkham, MA—The census data will tell you that the city has people in the tens to hundreds of thousands; however, it is but a veil in the shadows of something much more sinister. After all, the sane only number in handfuls, ever roaming and searching in a blighted world. Blighted, for there is something afoot—dark, twisted, powerful, abominable—slumbering *beyond* the reach of the realm, and this sacred division ails.

A few blessed with the truth (nay, cursed with it) struggle in this world, unable to speak their minds for doing so ousts them from society, burdened with the label of insanity, or worse. Yet, to ignore or even to belittle that which is to come is suicide—at best. These brave regular people—lawyers, chefs, students, vagabonds—must bind together and make sense of the twisted

On Political Correctness

A few years ago, I submitted a bunny comic to *mathNEWS* whose main topic was depression and getting help. I watched as, during the pizza dinner, the comic and raised eyebrows were passed between writers. For a while afterwards, I stopped attending Production Nights. To this day, I am hesitant to share personal aspects of myself that are "different" from the norm. But being unable to be myself around other people is exhausting, so instead perpetual nondisclosure, I test the waters, so to speak. I am more outspoken about matters regarding mental health than I used to be (although it is still much easier when I do not have to see people's reactions when doing it, such as writing through *mathNEWS*), but for others, I am far more conservative.

I am known for being "politically correct" or some kind of a "social justice warrior", a kind of sensitive killjoy for those who enjoy racist, transphobic, sexist, homophobic, or otherwise offensive jokes. However, I am this way not because I hail these titles, but because I have friends in minorities that these jokes target. Since society makes a joke of my friends all the time, I do not want to contribute to their problems. We tread on thin ice. Before I ever "out" people, I have to test the waters—ensure that the other party is not misogynist, transphobic, homophobic, what-have-you. In most cases, the walls we build are never taken down. By not being "politically correct", you risk alienating us.

"But I don't have [insert minority here] friends!" you object. If you are a frequenter of *mathNEWS* or MathSoc, then I assure you that you do; you only think you don't because people are too afraid to tell you. If you don't care enough to let your friends be comfortable around you, then you're an asshole and I don't care about you, but for the rest of you, I urge you to be considerate. I urge you to keep an open mind, to not be presumptuous, and to not trivialize important aspects of a person's identity. Don't laugh at the idea of men wearing dresses; don't equate a sugar-high with ADHD, cleanliness with OCD, or surprise with PTSD; don't always assume that cisness and straightness are the default. You don't have to be perfect, but if you care about your friends, you have to try.

bunniED

eldritch happenings. What does it mean when a stranger is sighted in the south side of the city, roaming the derelict streets? Does it help you sleep at night to know that the "accident" down by the university was actually caused by the lacerating tentacles of a monster instead of the flimsy cover story the press gives?

Arkham is in grave danger from hidden horrors, and would benefit from strong-willed, like-minded individuals to save it from desolation. Are you up to the challenge? (Enquire at Games Night, Thursdays at 6:30 PM in Math C&D about Arkham Horror if you're interested; we're looking for new players to learn the game.)

Acting as Nyarlathotep,
Zethar

Math Species of the Week: Creepus Observius

The *creepus observius* is a strange creature. They appear to act normal during the day, and only begin to reveal their characteristic habits when you start to do an assignment: they sit very close to you, and just watch you work. Sometimes they're staring at your face, other times they're staring at the work you're writing down or typing up.

The strange thing is, they most likely have something better to do, as they often exhibit these behaviors at unreasonable hours of the night (or day, like 4:00 AM) while you are often frustratingly trying to figure out the answers to your problems. Sometimes it's their own assignments that they should probably be doing, or sometimes it's sleep that they should learn to catch up on, but for some strange reason, the sight of you trying to solve things on your own interests them. Another strange observation is that the *creepus observius* is often watching their victim work on an assignment that is far beyond the scope of their own understanding, and other times they are watching their victim work on an assignment that they had already done themselves. Have no fear, the *creepus observius* is typically harmless, and cannot entirely explain why they are so fascinated by you doing work, but generally find you as an interesting person that they would also like to be better friends with.

Note: the percentage of math students that are *creepi observii* is unknown, as the writer of this article realized that she was one last year, and this year realized she had become the victim of one.

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New Study Shows That Most People Don't Actually Read Articles and Form Their Opinion Purely Based on Headlines

Researchers at the University of Maryland published a new study last week that showed that the majority of people do not actually read articles. They will simply read a headline and form an opinion on that, ignoring the article itself completely.

The study was conducted with a random sampling of 3,851 participants in the nearby area. The participants were well distributed over age, gender, ethnicity, and so forth. Nevertheless, the integrity of the study was called into question by critics who firmly insisted that they do indeed read articles. Ironically, these critics did not read the study itself.

According to the paper, nobody is actually reading this sentence, so I have no idea why it even exists. Editors, feel free to add random text here so this article fits perfectly into whatever layout you want. Or not, because you probably didn't read this either. [We totally read it. At least, we read that part about us not reading it. —Editor-in-Training]

theSMURF

How to be the Most Cynical Voter

AKA First Past the Post is a horrible election system

For information on how to physically vote, please consult Shay Blair's *VOTE JUST DO IT* on page 3.

As you are probably aware we are currently in an election campaign. In order to maximize the effect of your vote it's important to take into account our electoral system. The system we used is called First Past the Post or FPTP. It means that the person who gets the most votes gets elected. This is a terrible system; you can mathematically prove this system is terrible.

In order to maximize the efficiency of your vote you should only vote for the two frontrunners. No point for voting for third or lower candidates as it won't affect the outcome and it only increases the probability that a less favourable candidate gets elected.

The other thing to keep in mind is that you are only electing the candidate in your riding. How the parties are doing federally doesn't change that only the race in your riding matters. In order to get accurate information about your riding go to threehundredandeight.com and then select your preferred candidate from the two frontrunner using whatever choice you like.

For extreme cynical voting, you may have a choice for what riding you vote in, i.e. your parents riding or your place of schooling. Select the riding with the closer race for which there is the greater uncertainty in the outcome.

Also remember to tell all your friends and enemies about voting cynically, as democracy is a collective right and most effective when more people use the same logic.

Beyond Meta

Russia Spends Relaxing Week in Syria

Westerners Annoyed

Since last week, Russia has joined the growing list of nations in Syria, enjoying the pastimes of airstrikes and arming the populace. The difference, though, is that Russia is not striking the radicals that the West is, but is instead striking rebels that are being supported by the Western forces, which the West thinks is just a dick move. Russia says it was, "totally bombing the radicals; how could you think otherwise?" Additionally, Russia brought a lot more luggage for the trip than the West, including numerous ground forces, Anti-Aircraft forces, and air-superiority jets ("Completely unnecessary luggage," the West says). There are even rumors it has warships en route to the coast of Syria. The West feels Russia is being intentionally annoying and says Russia should join them in bombing the country-side away from the anti-government forces. Russia, while having dinner with Asad Regime, responded with, "No".

Qsx

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Good day, fellow math nerds. I trust everyone is feeling well rested. Ha! Who am I kidding? You're university students. You're strong and brave. Sleep is for the weak! Or you know, the ones who have figured out where the comfy couches are on campus and take naps. For those of you who don't know me, I am The Pastry Genie. As per usual, I will ramble for a bit and then share a delicious recipe with you. I do hope you stick with me through my verbose rambling and not just skip to the recipe at the end. I will be sorely disappointed in you if you don't.

Today, I think we will discuss pie. (Yes, I am aware that Pi Day is in March and that I am either really early or quite late with this article.) It is one of my favorite desserts. Pies are so versatile. You can make anything into a pie. From apples and berries to mincemeat and turkey. Mind you, I'm not sure how well a salad pie would turn out. Hmm... This is food for thought. But I digress.

Pies can be both savory and sweet. My favorite savory pie is actually a tie between pulled pork pie and chicken pot pie. It used to always be chicken pot pie until about 3 months ago when I was gifted with a Louisiana style pulled pork pie. It was sweet and spicy and the crust was tender and flaky. It was truly delicious.

My favorite sweet pie on the other hand is hands down dutch apple pie. Mind you, lemon meringue is a close second. This is followed by my cream and berry pie. I only make that in the summer and only for special occasions. I have made a delicious goat cheese and blueberry pie with an almond crumble topping. It almost tasted like blueberry yogurt. Easily both a breakfast pie and a dessert pie. Oh, and my whiskey pecan pie is nothing to scoff at. As I'm sure you can tell, I love pie.

Pie looks like such a simple dessert. It's just a crust and some filling. How hard can that be?

There is a science to making good pies. It is all about balance.

The secret to a good pie is the crust. It needs to be flaky and tender. It needs to not be too dry or too wet. And it needs to taste good. That's very important. If your crust tastes like the north end of a south bound horse, no one is going to care about the perfect flaky texture.

Don't get me wrong, the filling is important too. If your filling doesn't taste good, the whole pie is ruined. In fact, if you are only going to make one part of the pie then I suggest making the filling from scratch and buying the crust. You can find a fair number of high quality pie crusts out there. And to be Frank, making a crust can be a daunting task. If this is your first time tackling making a pie then I wouldn't worry too much about making the crust.

There is a lot of debate in the pastry world about the perfect fat to use when making pie crust. You can use butter, lard, shortening, or oil.

Butter adds flavor and creates distinct, flaky layers. But it can be difficult to work with. You must always use cold butter, or you won't be able to create layers. If the butter warms up too much it can melt which adds excess water content to the dough. This allows for more gluten development. (Good for bread, not good for pie crust) This in turn can create a leathery consistency to your dough. Which isn't something you want.

Shortening is very easy to work with. But it doesn't add any flavor to the crust. It stays soft at a range of temperatures. This can cause you to over work your dough resulting in a crumbly texture instead of flaky.

Lard is perfect for cutting into flours. It has a wide range of workable temperatures and isn't as soft as shortening. It creates a very tender and flaky crust. Sounds perfect, right? The problem with lard is that it can taste awfully 'piggy'. That isn't a flavor you generally want in a pie crust. The only time I use lard is when I am making mince meat pies.

I must admit, oil is a fat I have never used to make pie crust. That's not to say it can't be used. There are some people out there who will swear by their oil crusts. I am not one of them. To me it seems oil would be at the same as melted butter. The dough wouldn't contain layers. It would just be crumbly dough. Again, I have never actually tried it. To tell you the truth, I don't ever plan on it. I just want you to be aware that this possibility is out there.

My personal favorite fat to use is butter. I love the taste of a buttery crust. To use butter in a crust you will need to do a few things beforehand. First, you need to cut your butter up into cubes. Second is you need to chill those cubes really well. You want cold butter.

The process for incorporating the fat into the flour is called cutting. You use a pastry blender (sometimes called a dough cutter) to cut the (in this case butter) butter into tiny pieces and blend it with the flour. The point of it is to have small pieces of butter completely coated by flour. When the cold dough hits the heat of the oven the butter melts and creates little pockets of steam. This is what makes your layers.

Some recipes will call for a blind baked pie crust. This means that you pre-cook your crust with pie weights (or rice/beans in foil) in the middle to prevent it from puffing up. It's called 'blind baked' because you can't see the middle of the pie because of the weights.

If you are feeling daring, then I more than welcome you to try my dough recipe. I must warn you; we have barely touched the surface of the science behind a good crust. If I was to explain everything it would take up at least three issues of *mathNEWS*. And I don't think the editors would like that very much. *[You may be surprised, but I'd love a series on pie crusts.—ConvolutED]* Please do not get discouraged if your crust doesn't turn out the first time. It takes a lot of practice to make a beautiful pie.

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For this issue I will give you a basic pie crust recipe, as well as a pumpkin pie filling and an apple pie filling. If you start now then perhaps you will have mastered the art of pie making just in time for Pi Day in March. For now, I wish you happy baking.

Basic Pie Dough

INGREDIENTS

- 1¼ cup flour
- ¼ tsp salt
- ½ cup butter, chilled and cubed
- 1 tsp sugar (optional)
- ½ tsp cinnamon (optional)
- Up to ¼ cup ice water (probably only half that)

DIRECTIONS

1. In a large bowl, combine flour, and salt (as well as sugar and cinnamon if using).
2. Cut cold butter into flour using a pastry blender, fork, butter knife, or your fingers until the mixture resembles coarse crumbs. (If desired, a food processor can be used for this step.)
3. Stir in 1 tsp at a time of ice water until mixture forms a ball.
4. Wrap in plastic wrap and chill for 4 hours or overnight.
5. Roll dough out to fit a 9-inch pie plate.
6. Press dough evenly into bottom and sides of the plate.
7. Crimp edges and trim excess dough.
8. Chill until needed.

Pumpkin Pie

INGREDIENTS

- 1 9-inch pie shell (unbaked)
- 2 eggs, slightly beaten
- 2 cups pumpkin purée (If you are using canned, make sure you buy pumpkin purée, not pumpkin pie filling.)
- ¼ cup milk (2% is best)
- ¾ cup sugar (increase to 1 cup if you desire sweeter pie)
- 1 tbsp flour
- 1 tsp vanilla extract
- ¼ tsp salt
- ¼ tsp cinnamon
- ¼ tsp nutmeg
- ¼ tsp ginger
- 1/8 tsp allspice
- 1/8 tsp cloves

**Can substitute pumpkin pie spice for spices. I know it can be a pain to buy multiple spices for a single dish.

DIRECTIONS

1. In a large bowl, stir together eggs, pumpkin, and milk.
2. Stir in sugar, flour, vanilla, salt, spices.
3. Pour filling into pie shell.
4. Cover edges with foil to prevent over browning.
5. Bake at 375°F for 25 minutes.
6. Remove foil and continue baking for 40 minutes or until knife inserted in center comes out clean.
7. Cool on wire rack.
8. Refrigerate until ready to eat.

Apple Pie

INGREDIENTS

- 1 9-inch pie shell (unbaked)

Filling

- ¾ lbs Granny Smith apples, peeled, cored, sliced ¼ inch thick
- 2/3 cup sugar
- 2 tbsp flour
- 2 tsp cinnamon
- 2 tbsp Butter, melted

Topping

- 1 cup flour
- ½ cup sugar
- ¼ cup Brown Sugar, packed
- 1½ tsp cinnamon
- ½ tsp salt
- 6 tbsp butter, chilled and cubed

DIRECTIONS

Filling

1. Mix everything together.
2. Set aside while making topping.

Topping

1. Combine flour, sugars, cinnamon, and salt.
2. Cut butter into flour mixture (alternatively, use a food processor) until it resembles wet sand.
3. Toss filling to redistribute juices.
4. Transfer filling to crust, mounding in the center.
5. Pack topping over and around apples.
6. Bake at 400°F for 25 minutes. (Cover top with foil if browning too quickly.)
7. Reduce heat to 350°F and continue cooking 45 minutes or until apples are tender and juices are bubbly.
8. Cool at least 1 hour before cutting. (This allows the juices to set, so that you don't have apple pie soup.)

Cheers,
Your Friendly Neighbourhood Pastry Genie

N Signs it's Fall

Waldo doesn't find the cold weather pleasing...

- The line at Tim Horton's
- So...many....calculators...that...need....approval!
- MATH 135
- There's natural COLOUR outside
- So many people! NEW people!
- Leaves
- Wind, COLD wind
- Darkness
- Pumpkin Spice Lattes
- Pumpkin Spice ANYTHING
- This is Halloween, this is Halloween, Halloween, Halloween, Halloween, Halloween, Halloween, Halloween!
- Thanksgiving break
- Gravity

waldo@<3.LE-GASP.ca

Relationship Graphs

I was taking a graph theory course, and it inspired me to graph all the relationships between my friends. Now, pretty much all relationship graphs end up planar, because they aren't very complex. I, of course, immediately wondered what would you need to do to make your graph non-planar.

A non-planar graph is a graph that you can't draw on a page without at least one line crossing another line. It's actually pretty easy to determine if a graph is planar or not: graph theory lets us know that the only non-planar subgraphs are the complete graph K_5 , where five nodes are all connected to one another, and $K_{3,3}$, which is a bipartite graph of two sets of three nodes, each of which is connected to every node in the other partition. If you can find a subgroup in your graph that corresponds to either of those, then your graph is non-planar; otherwise, it's planar.

When you're trying to make a non-planar graph, it quickly becomes clear that having a lot of gay or bisexual friends is an asset. K_5 is pretty difficult to achieve, as, if you're only considering romantic relationships (which are, of course, the funniest kind of relationship), at most one member of your love-graph could be heterosexual. If three members of your love-graph are straight, by the pigeonhole principle (thanks CO380!), they clearly could not all date each other. And if two members of your graph are heterosexual, then they would have to be of opposite genders—so at least one of them would be unable to date some of the other members. However, a group of all gay people of the same gender, or all bisexual people of any gender could easily achieve K_5 . It is a little easier than $K_{3,3}$ to manage, because you only need 5 people, but unless you have at least 4 non-straight, compatible friends, you should probably move on to $K_{3,3}$.

$K_{3,3}$ is actually achievable in a heterosexual friend-group (although the gays would still have an easier time of it). You would need a group of three men, and three women, and each one of the women would have to be involved with each one of the men. Of course, when I thought of a friends group of three men and three women, I immediately thought of Friends. However, apparently, not only were there only four inter-Friends romantic relationships, but two of the friends were actually siblings. NBC really dropped the ball on the graph-theory in that show.

In conclusion, if you want to be a Machiavellian matchmaker with a goal of making non-planar love graphs among your friends, you should take a graph theory course, and befriend a lot of bisexual people.

DiminutiveRex

Massages Increase Math Ability

Last issue, I wrote an article about how awesome massage trains are. Afterwards, it came to my attention that, according to a real study in the International Journal of Neuroscience, receiving a 15-minute massage twice a week for five weeks has been shown to increase people's math ability. So yeah, get massages, give massages, start a massage train in the Trains lab. It's good for your academic success.

Beyond Meta

Harper's Kush Kvetch

Oy vey.

THORNHILL, Ontario—Staunchly Conservative voters are not breathing easily after Harper's recent spiel on marijuana, calling it "infinitely worse" than tobacco. In a riding with Jewish plurality, the mandatory pro-Israel vote normally means an uncontested Conservative victory, but it is not shaping up that way. Suddenly being referred to as "Prime Minister Shmuck" in neighbourhoods normally so faithful, Harper's demise in popularity demands explanation. One intrepid *mathNEWS* reporter made the trek to Vaughan to find out why (and to shake a lemon in a shack for Sukkot, one of the weirder holidays).

"Well, the only reason I don't have to deal with my kids or ex-husband is because they're always getting high together," said one anonymous mother. "I've been a surgeon for 30 years and I've seen my fair share of lungs. I won't stand for this schtick about tar-filled paper being as safe as licorice! And another thing! Why are there so many..." Our reporter slowly backed off at around this point, as there were other interviewees to interview.

"Look man," began a young voter heading into his first election, "They've got, like, nukes and stuff over there, right? So, like, why do they need us for stuff? Canadians are so chill, let's just stay chill."

The sentiments all around are similar, with middle-aged parents and their voting-age children all shying away from their voting history in favour of maintaining the peaceful lifestyles they have grown accustomed to. At one point during the interviews, a fight almost broke out between five lawyers arguing over the legalization of marijuana. (Only one was being interviewed; the others started showing up almost out of nowhere.) It was resolved when their wives showed up and berated them for being mean to the neighbours.

The change in voting is not unexpected. In the last provincial election, the riding of Thornhill was won with a difference of only 106 votes, finally going to the Conservatives over the Liberals after the official Elections Ontario tally.

Will the Liberals or the Green party scoop up all these voters being pushed away by Harper's schtick? Be a mensch and cast your ballot this October 19th.

~J_unit

MTHEL 420, LEC 0.50

Higher level abstraction of medical programming

This course develops the skills required to fully understand the dankest level of high mathematics. Course materials are not provided. Students will reach the highest level of understanding through a combination of lectures and tutorials located behind REV.

[Note: Students are encouraged to complete this course by their 4A term. The first offering will be in spring 2017. Offered: F,W,S]

Prereq: At least 70% in one of KUSH 101; HIST 420. Not open to General Math students who have no chill.

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A Rather Large Loophole

If you're familiar with the hit film *Air Bud*, you'll know that there's no rule that says a dog can't play basketball. Problem is, there's not exactly an excess of dunk happy dachshunds waiting to sign up for the Clippers. Randall Monroe raises the suggestion of meerkats playing rugby, but they tend to be too busy lazing around with warthogs to attend practice regularly. However, I have an idea of how to use a similar loophole to dominate the professional circuit of our national sport:

Who says a whale can't play lacrosse?

Think about it: park a humpback or a blue whale in front of the net (a 30-metre blue whale still fits comfortably in a 60 yard wide regulation lacrosse field—plus they're native Canadians) and you're golden. You won't even need to worry about defence, so you can devote your entire human player base to taking the offensive. It's foolproof

Naturally, you'll need to expend some effort to keep your non-standard goalkeeper healthy outside its natural habitat. Make sure that at every timeout and intermission to douse them liberally in water, as well as shovelling some krill into their mouths when you can.

One issue is that players must wear regulation uniforms and helmets. The uniform itself isn't much of an issue, as the specifications all deal with minimum sizes of numbers, as well as consistency of colours and numbers. However, it's required that the helmet be regulation, and that it be properly secured via the neck strap. This could be tricky. This problem is left as an exercise for the reader.

Patriotically yours,
 $s, t \in \{2k, k \in \mathbf{Z}\}$, 144

To My Pizza Delivery Men

My housemates and I have had a long relationship with our pizza place.

- They have known where we've lived since residence, even going as far as to comment on our continuous moving.
- When we go away for co-op terms they mention not seeing us in a while and are genuinely happy to see us when we return.
- I have them on speed dial and call them more than my parents.
- One time I called and I didn't say anything. They just said "It's on its way" and hung up. 15 minutes later, it arrived and it was exactly what we want. (It's a 15 minute drive from our pizza place to our house. This means they predicted our exact order and had it ready to go at our usual time.)
- The delivery guy once asked us: "You guys might order too much pizza. Have you considered cutting back a little?"
- I would like to publicly thank them for all they have done to help me get through university.

Stubbs

(They might just like us because we tip well.)

Old Stock Canadian Party

Here in Canada, we have three and a half major political parties. (Sorry, Elizabeth, you know it's true.) One of the main things I've been hearing around campus about the election is the "Not Harper" strategy. The Liberals have their issues, and the NDP do as well; but, the consensus among young university students seems to be that it doesn't matter which one of them gets in so long as Harper finally gets out.

It's a bit strange that Canada has so many large left-wing parties, when there's only one right-wing party of note. Hopefully, we'll be getting rid of the first-past-the-post system soon, but until then, I have another strategy.

I, Diminutive Rex, pledge to start another conservative party before the next election. The Old Stock Canadian Party will uphold the right-wing values of Stephen Harper by way of Donald Trump. Harper wants to strip the citizenships of accused terrorists? The Old Stock Canadian Party will pledge to strip the citizenships of everyone who is accused of non-violent drug offenses. The Conservative party backs increased powers regarding online security? The Old Stock Canadian Party will demand access to citizen's private email inboxes, because "if you're innocent of all crimes, you should have nothing to hide".

We will pledge to build a wall down the border, and make the Americans pay for it! We will outlaw taxes except for on the poor! We will legislate that every Canadian over the age of fourteen is required to own a gun! We will build ten more pipelines across the prairies, and make them spell out "Go Away, Québec" on Google Earth! We have so many ideas, and literally all of them are questionable!

This will benefit Canada in several ways:

1. It will be hilarious.
2. It will split the right, allowing the left-wing parties to be able to be on an equal footing with the right-wing ones.
3. It will draw off the most radical of the Conservative voters, allowing the Conservative party to take a more moderate stance.
4. There aren't any purple parties in the running right now, so we would really set off the green and orange nicely.
5. If we win, we won't really respect the Canadian voters (seriously guys, what), so we can push for the voting reform and then just step down. Alternately, we could just bait and switch—it's not like politicians don't do that enough anyway, and surely you trust me to wield that kind of power responsibly, right? Right? Everyone who writes for *mathNEWS* is a 100% stand-up human being.
6. I'm not completely convinced that this isn't Donald Trump's current strategy, and it seems to be working out pretty well for him.

Remember to vote on the 19th if you haven't already, and keep an eye out for the Old Stock Canadian Party—a vote for us is a vote for how things should be. See you at the polls! We'll be watching.

DiminutiveRex

How to Live Your Life By Following wikiHow Articles

Have you ever felt incompetent at simple things in life? Do you struggle with basic day-to-day activities? Fortunately, we live in the age of the Internet, and in particular, in the age of wikiHow. Now, instead of having to learn how to do everyday activities through trial and error, you can read these actual wikiHow articles to help guide you through your day!

To start your day, you will have to learn *How to Wake Up When You Are Tired*. If you're worried you might sleep in, you may want to learn *How to Use a DS as an Alarm Clock in 11 Steps*. Once you are awake, it's time for breakfast! Be sure to know *How to Eat a Bowl of Cereal*. After that, you will want to learn *How to Brush Your Teeth in 15 steps*. Finally, just in case, you will want to review *How to Bathe or Shower when You Know There Is a Lizard in the Bathroom*.

We've skipped a few steps here, so if you need further guidance, you can find all of the instructions you need in the article *How to Get Ready to Go Out in Less Than Two Hours*. Now, it is time to go to school, using the helpful guide *How to Go to School: 14 Steps (with Pictures)*. However, everyone knows that simply arriving at school is not enough. Studying is very important, so you may want to learn *How to Study Like Hermione Granger*. If you're less studious, you could instead learn *How to Act like Dr. Jekyll in School*. But you can't stay at one school forever. When you graduate, you may want to apply to an engineering school. If so, be prepared to know *How to Appeal an Admission Decision to the Engineering Limited Enrollment Program at University of Maryland*, just in case.

After school, you may want to hang out with your friends. First, you're going to need some friends. Buses are a good place to make friends, so start with learning *How to Make Friends on the First School Bus Ride*. One friend isn't enough though, so be sure to know *How to Make More Than One Friend in One Day*. If you're desiring a relationship, you should read about *How to Make Friends with Your Crush when You're a Klutz Around Him*. Or *How to Make a Guy That Hates You Turn from a Friend to Boyfriend*. Once you have multiple friends, be sure to read up on *How to Convince Your Friends to Buy You a Llama for Your Birthday*.

Drinking is a semi-frequent activity in certain friend groups. You'll want to know *How to Hide Your Drinking From Your Parents When You're in College*. If you end up too drunk though, you'll need to "let it all out". If you're a woman, this can be a problem if there are no nearby bathrooms that aren't disgusting. Fortunately, wikiHow can provide you with *11 Ways to Pee Yourself as a Woman*. Though whether you're a man or a woman, you'll never go wrong knowing *How to Be Comfortable Urinating in Front of People*.

You've had a long day, so it's time to go to sleep. Just in case the worst happens, you'll want to understand *How to Sleep While Having Diarrhea*. Hopefully, that won't be too relevant for you, so right before going to bed, read about *How to Get Beautiful While You Sleep*. Sleep well, knowing your life is in the good hands of wikiHow authors!

Dusk Eagle

Motivation for Doing Better on Your Assignments

Aside from the usual stuff about getting better co-op jobs, getting into grad school, getting scholarships, blah blah blah, there is another good piece of motivation that might help you do better on your assignments, even if they aren't worth as many marks as your midterms (though this applies to tests, too):

Think of your marker.

Your marker has to read your proofs, arguments, and calculations. They give you points based on what you write down, not what you meant to write down or what you thought you wrote down. They have to read your writing. They have to make sure that you earned the marks that they want to give you.

Believe it or not, most markers care about how their students do; they want you to do well! Part of the reasoning is that a well-written and correct argument is easy to read, and quick to mark: full marks! The only thing easier to mark is a blank solution, which is unfortunately not very beneficial to you, the student.

But they also want you to do well because then you're making their efforts worth something! If they give you feedback, and you read it and take note of it, and then don't make the same mistake again, then that's something you've learned! And that's a good thing. If you ignore their feedback, then you're not learning, but you're also wasting their time.

All of this applies to tests, as mentioned earlier. I know it's hard; you're timed on a test, and you're likely nervous, and it's scary. But you're more likely to get a better mark if your proofs aren't spewed out on the page; instead, try to clearly indicate the direction of your argument (both in style and literally on the page). This will help both your marker *and* you, since you'll be more likely to understand what you're writing as you're writing it.

So think about what you write down when you do an assignment. Do a good copy after your rough draft! Lay it out neatly and clearly, complete with the necessary information to identify you. Make sure to staple your assignment, rather than folding corners or paper-clipping; doing anything but stapling means it can be easily detached or lost or caught on other assignments. (Buy and carry a stapler! You will make lots of friends this way, and you'll never forget to staple again.)

All of these things will make your marker happier, and probably lead to a better grade; not because your marker will be lenient, but because your marker will actually be able to read your assignment without gouging their eyes out.

Scythe Marshall

Currently procrastinating marking

Why We Should Vote for Donald J. Trump!

The first thing you might think is, "Ew, why should I go to vote at first place. It is so last second." I know, but elections and voting are a secret ancient practice that actually have records on paper. ON PAPER! (Holy shit r8?) Archaeologists and anthropologists are desperate trying to determine the reason for this bizarre practice. It is a sexual ritual? Is this some form of worship? Is this an effort to create collective hive mind? Nobody knows for sure.

However, I belong the dankest hipster cult. Our steel memes can melt the hottest jet fuel. and taking part of election is a part of what we hipsters do. So if you do vote, please listen to my reasons to support this humble genius in becoming our leader.

Donald Trump has stated that he will "make America great again". Note that he says "make America great again", not "make United States great again" nor "make USA great again". Since Canada is subset of the Americas, Donald Trump is also implying that he also plans to make Canada greater than ever before. Trump would make our country so great that we'll be, like, the second largest country in the world! (After our big bother USA, of course!) Think about it! The second largest of country in the world if we vote Trump. Can you even imagine it? I can't imagine it, but I know it will be rad.

Trump's hair is outdone by no one. Not even the Nice Hair Guy. Not even Bernie Sanders, who can't even defend his microphone---how can he defend America? But Trump can; he will build a wall so great, not only will it stop an armoured Titan, it will finally stop those pesky illegals, the biggest threat to our civilization. He'll build us a fleet that no one would have thought possible (Mexico will pay for it, don't worry!). He will buy ISIS out of existence. He will invade the middle-east with his great army, making golf courses in the plains around the Euphrates river. He will make Al-Raqqah the next explosively popular resort town, with his new line of Trump hotels and entertainment centres that last longer than the heads of states. I believe the Trump brand will blow up everywhere.

The most important thing is that Trump can't be bought. He will never bow down to political correctness. He is the Hero we need to win this endless war against the social justice warriors. With Trump, peace, freedom, and greatness are finally in our horizons.

Mein Trumpf ist das zukunft von Murica! Good luck to the next president of the United States, Donald J. Trump.

Make America Great Again! © 2015

me

An Attempt to Understand Clubbing

This past weekend, I decided to examine the strange ritual called clubbing. In order to be able to properly reflect on my experience, I did not imbibe any of the liquid that is customary to the clubbing experience. It meant that I had more mental awareness than is really optimal.

Outside the building, the door is guarded by a large imposing man. He scans everyone down before permitting access. Insid, you pay to be allowed access to the chamber. Once they have received your money, they brand your arm to denote that you have paid.

Inside, the music is blaring; there are to be no conversations in this place. Extended stays will result in hearing damage. It appears I have entered some sort of over-stimulation torture chamber. At the centre of the room, there is a large crowd of people rhythmically bobbing up and down and occasionally moving their feet from side to side. I joined them in the dancing. For a long time I stood at fringe in of the cluster there I still had reasonable amount of space.

Later, my friend and I ventured further into the centre, where people bumped into us from all sides. It seemed like a poor approximation of physical contact.

Despite all my careful observations I still do not understand night clubs.

Beyond Meta

N Math Symbols I Use in Notes for Non-Math Classes

- \forall : For all
- \exists : There exists
- $!$: Not
- Δ : Change
- $<$ or $>$: less than or greater than
- \Rightarrow : Implies, means, leads to
- \ni : such that
- $/$: divided by, per
- \uparrow or \downarrow : increase or decrease
- $+$ or $-$: plus or minus

Actual quotes from my notes:

- $\% \Delta q > \% \Delta p$
- $\text{if}((\text{income} \downarrow \&\& \text{normal good}) \ || \ (\text{income} \uparrow \&\& \text{inferior})) \ \{ \text{dem} \downarrow \}$

Yours in math taking over my life,
Shay Blair.

N Reasons to Write an "N Things" Article

- They're painfully generic and therefore easy to write.
- They make great filler. [*That they do.—ConvolutED*]
- You don't have to bother counting the things you've listed.
- They're a way to get free pizza every other Monday night.
- They're likely to be read. (Because paragraphs are scary.)
- Only a few points need to be funny for it to be a good piece.
- You can shorten or lengthen them arbitrarily

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Mean-Girls Math Girls

On October 3rd, he asked me what day it was...

This past weekend was October 3rd, otherwise known as unofficial Mean Girls day. As I was thinking about how I should have watched the movie that night to celebrate (I went to see Taylor Swift instead #noregrets), I pondered what Mean Girls would have been like if it had been set in Waterloo. Here's what I came up with:

1. Cady would have been one of our own. I think it's pretty obvious that Cady Heron was a Mathie at heart. She risked social suicide to join Mathletes, and if that doesn't say dedication, I don't know what does.

2. Regina would have been in Arts. As demonstrated in the cafeteria scene, Regina George sucks at math. Even the kind of math that would be required in Science and Engineering. And she chooses to eat cheese fries when she's trying to lose 3 pounds. That rules out AHS, which leaves her in Arts. (Sorry Arts people. Also just realized I forgot Environment. Sorry Environment).

3. Karen would go to Laurier. Despite her "fifth sense", there's no way Karen Smith would have met Waterloo's admission requirements. Luckily for her, Laurier has lower standards, and she'd probably be on the honour roll there.

4. Nobody would give a shit about Gretchen Wieners' father, the inventor of Toaster Strudel. If he had one of those interesting tech start-ups with openings on Jobmine that advertise video games and foosball in the office, everyone would be all over that. But UW students probably care as much about Toaster Strudel as they cared about the 2015 Feds election.

5. Regina would have had a REV room to herself in first year. Party girl that she is, she would have lived in REV. And evil queen that she is, she probably would have kicked her roommate out by Black and Gold day in her first week. She did take over her own parents' room at home, after all...



6. Cady wouldn't have had to borrow Damian's pink shirt. As a Mathie, Cady would have had at least one pink tie, and probably some other pink math swag, because, let's be honest, we all kind of have a loyalty to the colour. She would have been able to conform to the Plastics' Wednesday dress code without borrowing something pink. "On Wednesdays we wear pink". Pink ties, that is.

7. The Regina George rumours would be put to rest. "I hear she does car commercials. In Japan." There are enough international students from Asia around here that someone would be able to confirm whether that's true or not.

8. Damian would watch out for Laurier students. Every time a Golden Hawk sets foot on campus: "She doesn't even go here!"

9. Kevin G wouldn't care about getting Mathletes jackets. Instead, he would live in novelty shirts from the MathSoc office.

10. Cady would have dressed as a MATH 135 midterm for Halloween. She didn't know the slut rule, so she wanted to dress as something scary, and around Halloween, nothing scares a group of first-year Math students quite like the very real possibility of failing for the first time.

11. The track pants rule would not apply during finals. The Plastics only wear jeans or track pants on Fridays. But even they aren't immune to the end-of-term struggle that involves wearing the same pair of sweats for a week straight.

12. Regina would have been attacked by geese. Forget getting hit by a bus. Regina would have suffered a much more probable and much more terrifying fate—getting attacked by geese.

"So if you're in the Math Faculty, why are you white?"

Have a fetch Thanksgiving!

justasmalltowngirl



electionhorrorSCOPES

AFM: You decide to actually check the proposed fiscal plans and budgets of the parties before you vote.

Your lucky number is: 4 parties that don't understand money.

ACTSCI: Depressed with how your current party is polling you calculate the death parties for the front runner party to see if there any chance there might be enough by elections to change the structure of the house.

Your unlucky number is: 1 universal health care system which crushes your morbid dreams.

AHS: You try to convince everyone to vote for whichever party will legalize marijuana the most. You preemptively throw a party the week before the election.

Your unlucky number is: 7 uninvited cops crashing your party.

AMATH: Looking to vote strategically, you model projected vote proportions using population changes and the new riding boundaries.

Your unlucky number is: 50 new swing ridings.

ARTS: You take a term off school to work for Elections Canada. You find out you need to get your wisdom teeth removed. Since you are not a co-op student, taking a term off means you are no longer covered under the student health plan.

Your unlucky number is: \$XXXX dental surgery, equal to all the money you made this term.

C&O: Using game theory you figure out the optimal voting strategy to get the best outcome.

Your unlucky number is: 31 million irrational decision makers.

CS: Tired of seeing posts about the election, you write a program that filters them out.

Your unlucky number is: 1 painfully long Thanksgiving dinner conversation you can't avoid.

Double Degree: Feeling like participating in only one election is insufficient, you apply for an American citizenship.

Your unlucky number is: 1 Donald Trump as a viable election candidate.

ENG: You are working on your fourth-year design project building a counter to help with the election. You bring it to your local election office.

Your unlucky number is: 7 hours behind bars explaining that your project isn't a bomb.

ENV: You want a government that cares for the environment.

Your unlucky number is: 1 seat for the green party.

First Year: You discover the freedoms of living away from home with like-minded roommates. Unfortunately, mid-terms are approaching, and you forget to vote.

Your unlucky number is: 420 FAILIT.

General Math: Feeling left out from last week *horrorSCOPES*, you decide to try out the corn test.

Your unlucky number is: 0 groceries stores that sell corn this late in fall.

Math Bus: You use the election as opportunity to create a start up that sells votes.

Your unlucky number is: 10 counts of electoral fraud.

Math Phys: While trying to build a perpetual motion machine, you make a miscalculation and end up with a perpetual voting machine.

Your unlucky number is: 6 milling votes and counting for the Old Stock Canadian Party.

PMATH: Unhappy with the way our democracy works, you try to prove that we can do better.

Your unlucky number is: 1, the number of parties that Arrow's Impossibility Theorem allows in a perfect democracy.

SCI: Unsatisfied with any of the current candidates, you create a super intelligent feline.

Your unlucky number is: 1 adorable feline dictator. Seriously, what did you think would happen?

Soft Eng: While your coworker was updating the election software, you accidentally wipe the entire database.

Your unlucky number is: 10 days to fix the issue for all of Canada.

STAT: You send out some polls in order to predict the winner of the election.

Your unlucky number is: 3% margin of error, showing all parties within 1% of each other.

Undeclared: Unsure of who to vote for, you take so much time making up your mind that you miss the election.

Your unlucky number is: 4 years of people telling you that your opinion doesn't matter

N Things For Which to be Thankful this Thanksgiving

- Your life
- Your family
- Your friends
- mathNEWS
- Pie
- Pi
- Long weekends
- Not having a midterm the week after a long weekend
- Not having midterms at all. Just kidding, that's not a thing.
- Pumpkin Spice Lattes
- Pumpkin pie
- Pumpkins
- Fall
- The fact that Jobmine's closed and now you don't have to apply for jobs until November
- Taylor Swift concerts
- Geese lol

profQUOTES

- "It's fun but it's probably the worst piece of code you ever wrote."
Buhr, CS 343
- "You just get out your big fish and smack them on the head, because they have no idea what they're talking about."
Buhr, CS 343
- "Don't forget `this`. Don't use it; just don't forget it."
Buhr, CS 343
- "I'm not allowed to hug you, but I'll give you a virtual hug for that."
Buhr, CS 343
- "64K. People don't understand what K means anymore."
Buhr, CS 343
- "It's corrupt. Go to the Bomber and leave the program alone. It's done."
Buhr, CS 343
- "I'm not making this up. This is almost true."
Buhr, CS 343
- "Programming with faith is weak, but it's a good thing."
Buhr, CS 343
- "`μC++` never gets confused, but you get confused, real fast."
Buhr, CS 343
- "I saw that the person in charge of coroutines hadn't taken this course before."
Buhr, CS 343
- "A lot of you will be forced to write JavaScript—it's worse than death."
Buhr, CS 343
- "It's on my to do list; my infinite to do list."
Buhr, CS 343
- "We could do coroutines from the boost library, but then I wouldn't be able to understand them and you wouldn't be able to understand them."
Buhr, CS 343
- "You're going to need to learn Java, so you might as well swallow the poison and learn it."
Buhr, CS 343
- "We don't need no stinkin' flag variables in our programs."
Buhr, CS 343
- "This is the part in the course where I look at you and say, 'This is going to hurt.'"
Buhr, CS 343
- "Debugging is going to be difficult. It's going to be so difficult, I brought drop forms here."
Buhr, CS 343
- "[Chocolates] have gotten me out of trouble before."
Gauthier-Shalom, CO 456
- "If you're winning, and you're winning more; if you're bi-winning..."
Gauthier-Shalom, CO 456
- "Really? No one feels like this is magic and I'm just pulling your leg? I do."
Gauthier-Shalom, CO 456
- "I got a review that said, 'It's really awkward when you try to bribe us all the time with candy.'"
Gauthier-Shalom, CO 456
- "Technically, I'm not really French. Okay, French was my first language, and I am a citizen of France, so I guess I technically am French."
Gauthier-Shalom, CO 456
- "This is correct modulo a lot of details."
Gauthier-Shalom, CO 456
- "I mean, it's kind of true. I'm convinced by my rationalisation anyways."
Gauthier-Shalom, CO 456
- "I'm going to stop talking about how handwavy I'm being. Just deal with it."
Gauthier-Shalom, CO 456
- "That's a very handwavy argument; don't take my word for it."
Gauthier-Shalom, CO 456
- "I did it! Oh wait, I'm a minute over, I didn't do it."
Gauthier-Shalom, CO 456
- "I have a joke in my head, but it's too stupid."
Gauthier-Shalom, CO 456
- "Don't trust my intelligence, it's not a good idea."
Gauthier-Shalom, CO 456
- "I might seem a little bit crazy... 'cause I might be."
Gauthier-Shalom, CO 456
- "I guess we don't need a human element. This is a math class, we live in the clouds."
Gauthier-Shalom, CO 456
- "I have to practice my artistic talents at some point. This is as good a time as any, right?" *[Pause.]* "Ah, it looks like a moose."
Gauthier-Shalom, CO 456
- "You can do whatever you want in your dreams, the Internet doesn't work like that."
Boutaba, CS 456
- "None of you have seen [a cursive G] before? Fine. Here's some sort of symbol."
Labahn, CS 370

profQUOTES Continued

- "Let's prove a theorem that has a name; that's always cool."
McKinnon, MATH 147
- "That's easy; we just take a horse and paint it yellow."
McKinnon, MATH 147
- "Maybe it's one of those obvious things that's wrong."
McKinnon, MATH 147
- "First, I'm going to be boring about non-math things, then I'm going to be boring about math things. Then I'm going to be interesting about math things, or so I think."
McKinnon, MATH 147
- "Not enough sleep, that's my problem."
McKinnon, MATH 147
- "Ta-da! You're lucky I spared you the jazz hands."
McKinnon, MATH 147
- "I'll put in the word 'non empty'. Jerk."
McKinnon, MATH 147
- "You can have a set that is neither countable nor uncountable, which is weird because there's eight things in the set."
McKinnon, MATH 147
- "I love being stupid I do it all the time."
McKinnon, MATH 147
- "Well defined' is an important mathematical phrase that means 'I'm not talking crap.'"
McKinnon, MATH 147
- "Well, that's what that says...in weirdo language."
McKinnon, MATH 147
- "You never know when that will come in handy for doing question 5 on assignment 3."
McKinnon, MATH 147
- "What you're saying is that the proof is really easy and we could have done it in our head, and you're right."
McKinnon, MATH 147
- "I was going to say this was the least funny joke ever but the Internet exists."
McKinnon, MATH 147
- "Are there any questions why morally, \mathbb{Q} is countable?"
McKinnon, MATH 147
- "It's 9:19 and I better, for the first time in over a week, let you go on time."
McKinnon, MATH 147
- "The stuff you learned in high school isn't wrong, you just didn't do it properly. That was a joke."
McKinnon, MATH 147
- "You can tell this isn't advanced math because it's got a 46."
McKinnon, MATH 147
- "You don't have to do everything on your hands and knees."
McKinnon, MATH 147
- "We just started talking about limits, so we should be done with them by the end of December."
McKinnon, MATH 147
- "Alright we're about halfway through this lemma, which isn't nearly halfway through this proof."
McKinnon, MATH 147
- "Some people abbreviate that to WLOG, and some people think that's a terrible idea."
McKinnon, MATH 147
- "In math, for some reason, people construct things but do not build them."
McKinnon, MATH 147
- "If little n is bigger than big N which is weird but there you go."
McKinnon, MATH 147
- "I better get my terminology straight or I'll go nuts."
McKinnon, MATH 147
- "Not this high school hand wavy thing that could sprain your wrist if your not careful."
McKinnon, MATH 147
- "When you're done you're not like, 'Wow, that's awesome!' No, that's not the ending."
McKinnon, MATH 147
- "The infimum is -8 , because I'm a jerk."
McKinnon, MATH 147
- "There is a formula for this, but it is terrible."
McKinnon, MATH 147
- "This terminology is mine, I made it up. Normal sane people don't use it."
McKinnon, MATH 147
- "There's a proof in the textbook, which also chickens out of writing the formula as well."
McKinnon, MATH 147
- "Any epsilon will work, that's how bad this sequence is."
McKinnon, MATH 147
- "What element of A_n is it? It's the m th one. That's a terrible word to say."
McKinnon, MATH 147
- "You didn't need creativity got this part. You could do this on crystal meth."
McKinnon, MATH 147
- "But I don't wanna say that cause no one else agrees with me."
McKinnon, MATH 147

profQUOTES Continued Continued

"Blackboards have magical powers. They make you do things that are just wrong sometimes, even if they're right in your notes."

Stephenson, MATH 235

"It's vitally important I drink tea all the time or things will go terribly wrong."

Stephenson, MATH 235

"There's a phone in my office. I have no idea what number it is. If you figure it out and call it, and I'm in my office, I will answer it."

Stephenson, MATH 235

"I've been wandering around America for a while now."

Stephenson, MATH 235

"There. I'd give myself full marks for that."

Lanctot, CS 341

"This is by popular demand, 'popular' being one person. Good enough."

Lanctot, CS 341

"You can't put 'I'll ask my mom.' That works, but it isn't a proof."

Lanctot, CS 341

"In your textbook, which I know you're all reading religiously every night..."

Lanctot, CS 341

"I have to learn not to take drugs before lecture."

Lanctot, CS 341

"Operating systems are like Donald Trump, dumb and lucky."

Vasiga, CS 241

"Donald Trump isn't actually drunk. He just seems drunk. He's drunk on power."

Thagard, PSYCH 256

"Proofs are often easy."

Wolczuk, MATH 235

"We will jump into something more FUNdamental."

Wolczuk, MATH 235

"Without eating, you die. Without studying, you don't die."

Kim, KOREA 102R

"We eat, sleep, and die. That's it. Eat, sleep, struggle, die."

Kim, KOREA 102R

[Smiling] "Say Mr. Choi died yesterday."

Kim, KOREA 102R

[Random scream in hallway] "Oh, is somebody dying?"

Kim, KOREA 102R

"If you look at the course outline, there are definitely no references to *The Big Lebowski*, or symbols from Thomas Pynchon novels. And this whole speech is definitely not a thinly-veiled piece of performance art."

Katz, CO 330

"I like democracy with a strong coercive element."

Katz, CO 330

"Our greatest source of wisdom today is cereal commercials. For this proof, we use the Toucan Sam principle, 'Follow your nose.'"

Katz, CO 330

Last Issue's gridWORD

O	K	A	P	I		S	P	I	C	A		D	A	D
D	E	V	O	N		H	A	R	E	M		A	N	O
D	R	E	S	S	C	I	R	C	L	E		V	I	P
			S	U	A	V	E		I	N	T	I	M	E
M	E	D	U	L	L	A		F	A	I	R	D	A	Y
A	N	E	M	I	C		T	A	C	T	I	C		
G	D	P		N	I	G	H	T		Y	E	A	R	S
M	E	T	S		C	R	E	S	C		D	R	I	P
A	D	H	O	C		O	F	O	L	D		U	S	A
		C	R	E	D	I	T		E	R	A	S	E	R
E	C	H	E	L	O	N		D	R	A	G	O	N	S
T	I	A	R	A	S		V	O	I	C	E			
A	G	R		D	I	X	I	E	C	H	I	C	K	S
G	A	G		O	D	O	N	T		M	S	D	O	S
E	R	E		N	O	R	T	H		A	T	R	I	A

N Nail Polish Colours that ACTUALLY Exist!

Google it, or just visit trustfundbeauty.com

- Bitch, Please!
- Drunk Dial
- Virgin?
- I Look Good Nude
- No Filter
- Sexting
- I Can't Even
- \$12 Latte
- What's a Budget?
- Boy Tears
- Resting Bitch Face
- Just Talk to My Lawyer
- Sex Tape
- I'm Kind of a Big Deal
- Publicist on Speed-Dial
- Do You Know Who my Father is?
- I Give Good Tweet
- [I'm a fan of the simplicity of Wine O'Clock.—ConvolutED]

notabeautyblogger

N Things Regular People Don't Understand About People Taking MATH 14X/CS 14X

There are a handful of students (probably less than 100) that instead of suffering through MATH 135, MATH 137, and CS 135/115, are taking some or all of the MATH 145, MATH 147, and CS 145 courses. Now most people accept that all levels of first year math in this faculty are difficult, but these people take things to the next level. They're mathochists, and perhaps don't understand that math stands for Mental Abuse to Humans. Here are a few things that "regular" people don't understand about them:

- How they managed to do so well on the Euclid
- How they can wake up for their 8:30 AM calc lectures
- How they can survive 60 hours without sleep
- Why they decided to enrol in these classes
- How they can still enjoy math

Good Passwords

In light of the recent password leaks many of you are probably rushing to change your passwords. However, you may find it difficult coming up with good passwords that are also easy to remember. Fear not, for I have done the heavy lifting for you and made several good passwords via xkcd's method (4 random words out of a pool of $\sim 2^{11}$ words) that you can use. Here they are:

- native stronger enough brush
- winter let music scientist
- piano exclaimed cat society
- rubber office herself apartment
- fact unit half design
- thread pain then stretch
- movie invented watch vast
- job history careful birthday
- earn start construction below
- whom darkness heavy gun

These are very good and secure passwords (~ 44 bits of entropy) that are extremely difficult to brute force. Go forth and secure your online accounts!

- Why they are obsessed with proofs
- Why they are so into S&M (snew & McKinnon)
- Why they have made fan pages for their professors
- Why they would do math contests even after being rekt by their own courses
- How they can have time to go to Games Night
- How they can actually still feel happy after finishing an assignment
- Why they want to major in Pure Math, Mathematical Finance, or Combinatorics & Optimization
- How some of them are taking these courses "just for fun"
- Why they would join the PMC
- How they are finding ways to destress
- How they are finding time to eat

2.3.5.735.2333772

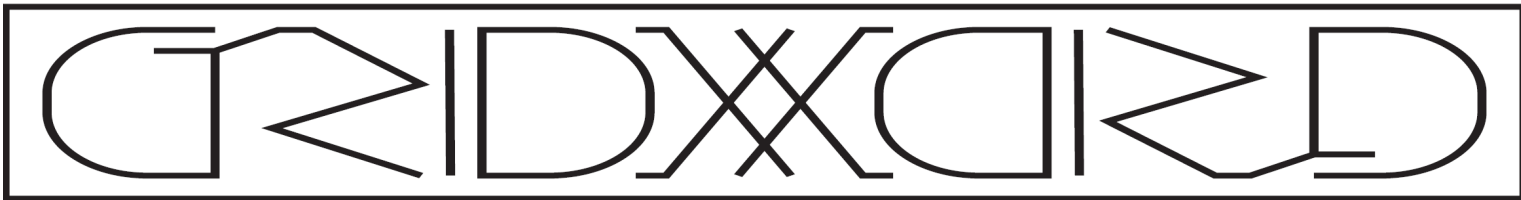
PCA Chant in Hexadecimal!

53 6f 63 69 61 6c 20 4a 75 73 74 69 63 65 2c 20
 31 2d 32 2d 33 21 0a 28 57 4f 4f 20 57 4f 4f 29
 0a 49 20 57 61 6e 6e 61 20 62 65 20 50 43 21 0a
 28 57 4f 4f 20 57 4f 4f 29 0a 49 74 27 73 20 6a
 75 73 74 20 74 68 65 20 77 61 79 20 74 6f 20 62
 65 20 66 6f 72 20 6d 65 20 2e 2e 20 41 6e 64 20
 79 6f 75 21 0a 28 57 4f 4f 20 57 4f 4f 29 0a 59
 6f 75 72 20 68 61 74 65 66 75 6c 20 73 6c 75 72
 73 20 61 72 65 20 74 68 72 6f 75 67 68 21 0a 28
 57 4f 4f 20 57 4f 4f 29 0a 28 49 20 63 61 6c 6c
 20 77 6f 6f 20 77 6f 6f 20 6f 6e 20 79 6f 75 21
 29 20 28 57 4f 4f 20 57 4f 4f 29 0a 57 65 27 6c
 6c 20 66 69 67 68 74 20 75 6e 69 74 6c 20 79 6f
 75 27 72 65 20 50 43 20 62 6c 61 63 6b 20 61 6e
 64 20 62 6c 75 65 21 0a 28 77 6f 6f 20 77 6f 6f
 29 0a 57 65 20 61 72 65 20 6c 61 6e 67 75 61 67
 65 20 70 6f 6c 69 63 65 21 20 46 69 67 68 74 69
 6e 67 20 62 69 67 6f 74 72 79 21 20 48 75 72 74
 66 75 6c 20 77 6f 72 64 73 20 63 61 6e 20 73 75
 63 6b 20 6f 75 72 20 74 75 72 64 73 21 20 27 43
 61 75 73 65 20 69 74 27 73 20 50 43 20 66 6f 72
 20 6d 65 20 2e 2e 2e 20 41 6e 64 20 79 6f 75 21
 0a 28 57 4f 4f 20 57 4f 4f 29 0a

theSMURF

me





gridCOMMENTS

I was trying a new style of puzzle with the last *gridWORD*, where the theme was a secret, and I had another answer I wanted you to guess. And I was pleasantly surprised to find that **five** solving teams found the connection between:

Dress Circle Dixie Chicks
David Caruso Depth Charge

and guessed that the place in Waterloo theme answer might be the **DAVIS CENTRE!** Congratulations to all of you!

The tie was decided by my favourite answer to the last *grid-QUESTION*, "What is your favourite place in Waterloo?"

Congratulations to **Robert Z**, who just wants to go to "any bar after my PMATH final." I hit up a sushi bar after my last PMATH final, but I don't think that's quite what you meant.

This week, the theme answer is **something I might have for breakfast**. There isn't a unique answer this time, but there is a common connection that you need to follow.

Remember to submit your *gridWORD* solutions in the **BLACK BOX** by the Comfy before **6:30 PM on October 19th**. To decide ties, I will look at your answer to the *gridQUESTION*, "What is your favourite food?"

ConvolutED

This Issue'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		

gridCLUES

Across

1. Dictionary abbr.
4. Oxidizes
9. Convent
14. One who does crosswords
15. 48-Down specialty
16. Macaroni or rigatoni
17. *A Nightmare on ___ Street*
18. *Grillhouse option
20. Opposite of dowry
22. Rub it in
23. Method
25. Twisted
29. Moon Carrot family
31. Mr. Miyagi's martial art
32. Biblical bushels (anagram of SHAPE)
34. Elephant hook
36. Compound in kush
37. Part of a driver's road test
38. Glamour shot
39. Ale or lager
40. Uni- + bi-
41. Hairy, like a horse
42. "You'll be ___!"
43. Propositions
45. Date night movie genre
47. Stretch
49. Druid stones
52. Diamond
54. Sunflower relative
55. *Fair fare
59. Poetic frequently
60. Legendary cup
61. Record, spelled out
62. London TV ceremony
63. Tea cake
64. Vims and vigors
65. Prefix of antonym of antonym

Down

1. Give ___; cry shrilly
2. Grief
3. *Party platter possibility
4. Like some glasses
5. Anxiety
6. Love sickness
7. Field where you get a tan?
8. Spirits
9. Female deities of water
10. Pitcher's opponent
11. Mad cow disease acronym
12. In between zeta and theta
13. Mountain bovine
19. Rough copy
21. Character portrayed by Sinatra and Clooney
24. Violently slain
26. *Fresh fruits
27. Anesthetic
28. Condemn
30. Near the centre
32. Intend
33. Detergent brand
35. Glory
38. Convey
39. Comedy troupe *The Mighty ___*
41. Gap in the street
42. Terns
44. Actor Steve
46. Sportscaster John
48. Announcer
50. Efficient and tiny
51. Evil figure
53. Dance
55. A metric system
56. Tolkien monster
57. Path of enlightenment
58. 10⁻¹⁴ bar

