

math

NEWS

Volume 128, Issue 6

Friday, July 24th, 2015

FIG. 1: THE CURRENT LOGO



HAVE YOU EVER NOTICED
THAT MATHSOC'S LOGO LETTERS ARE UNALIGNED?



FIG. 2: THE FONT UNTOUCHED

THESE LETTERS ARE EVEN!!!! 2"

THIS LETTERING HAS BEEN USED SINCE 2003...

le siiiiiigghhh You done goofed former MathSoc President Mike Jepson....or was it VPAS Raymond Lai?



lookAHEAD**mathNEWS**

| | |
|---------|--|
| July 24 | Issue 6 is distributed |
| Aug 3 | ConvolutED gets confused; sits alone for three hours in MC before ordering a pizza |

University

| | |
|---------------|---|
| July 28 | Lectures end |
| July 29–Aug 3 | Pre-examination study days |
| Aug 4 | On-campus examinations begin |
| Aug 7,8 | Online class examination days |
| Aug 15 | On-campus examinations end |
| Sep 18 | Standings and official grades available |

MathSoc

| | |
|---------|------------------|
| July 28 | Party with Profs |
|---------|------------------|

Article of the Issue

For the final issue of the term, there was only one option to choose for Article of the Issue. We would like to thank **Stephen Watt** for his excellent analysis of bear-based plots. Come down to the *mathNEWS* office to receive your prize, Stephen!

The Editors

Messages from CS Recruitment

Considering graduate studies at Waterloo? Speak with a Graduate Ambassador to find out about research groups, projects and more! <https://cs.uwaterloo.ca/future-graduate-students/graduate-ambassador-program>

Calling all female computer scientists! Learn about our BigCSters mentorship program at Waterloo! <https://cs.uwaterloo.ca/~wics>

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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 14, 2014, Thomas Baxter claimed that this ISSN was "bland" and "lacks humour", hence implying that it should be changed. 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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Th^oma^s B^axte^r, A^my Li, Eliza^{bet}h Li^u, Julie St^urg^eoⁿ, Kath^{er}-
iⁿe Tu

mastHEAD

Like sand through the hourglass, so are the days of this term. And the sand is where some of us would prefer to be; a nice sunny beach with no finals in sight. Unfortunately, finals approach nonetheless, and all our crying and begging for mercy will do nothing to slow their arrival. (Actually, given some of the profs, it might be egging them on.)

But it is important for us at *mathNEWS* for normal people to concentrate on the more enjoyable aspects of life, like the impending arrival of summer vacation! Oh, that most wonderful of vacations where you can do nothing for weeks and weeks...or, in our case, for week and week, since we only get two weeks off.

It must be some sort of slow inoculation to the workplace; some long-since-graduated students have returned to tell the tale of "The Workplace", which may not offer summer vacation at all!

We asked our authors, "How will you spend your 'summer'?"

Scythe Marshall ("Wait, you guys didn't have a full four months off like I do, during which I visited Ontario for 15 days and otherwise just hung out and tried to enjoy myself (but failed anyways because of course?"); Mizz Prezzie Dee ("Changing how off centre the words MathSoc logo are (dammit waldo@<3.LE-GASP.ca!)"); Token ("As a grad student, I object to this question as I get no time off."); Pastry Genie ("Planning world domination! Bwahahaha (one dessert at a time)"); darshwanda ("MathSocking. It. Never. Ends."); DictatED ("Keeping on being depressed 8D"); (define this (not_a_student)) ("I'm not a student, so the same as the previous two weeks?"); TotallyLegitDeveloper ("Deep programmer hibernation."); TubesJr. ("Knit ALL the things!"); Wibbled ("Going home to Pennsylvania beforehand— I'm already ahead of the game."); Sioui ("Working!"); himynameis ("Peg City yo."); BeyondMeta ("Breaking the fourth wall"); ConvolutED ("Repairing the fourth wall."); Theodore Bear ("Playing video games."); waldo@<3.LE-GASP.ca ("In Europe... at the Butlin's slot machines."); Shay Blair ("Scandalous things 24/7"); Desk Eagle ("Hanging out with a scandalousless group of people"); Zethar ("Happily existing"); SovietCanadian ("Worrying about all things school-related");

GingerbrED ("Sorting out my life. Yay graduating!").

Prez Sez

My, what a term it has been.

We had a fun welcome week, a controversial calculator policy change, a questionable chalk day (\$1 for a maximum of two pieces of jumbo chalk, one jumbo freezie, one Call Me Maybe shirt, and a pair of sunglasses), crazy novelty sales, a fantastic beach day, and (hopefully, I won't know until after this is submitted) an interesting General Meeting.

I hope you all had a great term, and I hope that my presidency was decent, and good luck on all your exams.

Mizz Prezzie Dee

Summer Festivals Abound

It's the season for summer street festivals, and if you missed last weekend's Uptown Jazz Festival, Open Streets Uptown, or the Kitchener Craft Beer and BBQ Ribs Festival, fear not, for the fun and food continues next weekend.

This Saturday features the self-described "Epic" Waterloo Region Food Truck Fare, featuring famous food trucks from around the region, as well as many local craft beer brewers. The festival can be found at 30 Regina St. from 3–9 PM. More information can be found at www.wrfoodtruckfare.ca.

If music is more your scene, the Uptown BIA is hosting Thursday Nights Uptown featuring live music from local musicians at several Uptown locations every Thursday evening from 5–8 PM until September. Check out the full schedule here: <http://uptownwaterloobia.com/thursday-nights-uptown/>.

For a more visual art experience, check out Waterloo's hottest art exhibition, Art on the Terrace. Located in the Waterloo Town Square, artists will be exhibiting their work every Friday from 11 AM–7 PM until the end of August.

As usual, the Uptown Waterloo Farmers Market has made a return. Every Thursday from 3–7 PM until October, you can find local art, local food, and a whole pile of fun in the Uptown Waterloo Square. Whether you're just looking for fresh veggies, or something more, there's something for everyone. More information can be found at: <http://www.waterloofarm-market.ca/>.

Also look forward to CrazeFest on August 8th and 9th at Waterloo City Hall (100 Regina Street)! Events include a Soap Box Derby, Food Truck Wars, and a 5K Fun Run. More information can be found at: <http://crazefest.ca/>. A Sports Bike and Car Show will also be held on 100 Regina Street. More information at: <http://sportsbikecarshow.com/>.

The 27th annual Sun Life Financial Waterloo Busker Carnival August 27th–30th. Every year, buskers from far and wide descend on Uptown to ply their trade with amazing feats. Includes a midway, food vendors, and a carnival atmosphere; there's something for everyone. You can find out more about including parking and transit options it at: <http://waterloobuskers.com/>.

As well, two more Open Streets Festivals are planned for August 16th and September 20th. For the uninformed, Open Streets is a car-free day hosted in Uptown Waterloo; King St. will be closed outside of the Uptown Square and the festival will be taking over the street. More information here: <http://www.openstreetsutw.ca/>.

There's always something happening in Waterloo.

dribbleston

**Check the *look*AHEAD
for more cool events!**

Construction Continues

ION Construction continues in full swing this summer. The northern section of King St. is now being prepared for construction, so the 7 and 200 iXpress detours are extended, with the iXpress continuing to Bridgeport St. and Erb St, and the 7 continuing up Park St. to William St. See detailed detour information here: http://www.grt.ca/en/routesSchedules/resources/200__7_Detour_-_July_20_UPDATE.pdf

In addition, in the coming weeks (or possibly already), ION construction will close University Ave. at the railway tracks. As a result, buses will detour up Phillip St. and Westmount Rd. to avoid the construction. This may also affect Laurel Trail users who should detour through parking lot A or through UWP.

Finally, for those interested, construction is ongoing in Waterloo Park, where the old wooden railway trestle is being replaced with a wider, modern concrete structure. Work on this structure, as well as on the track crossing Caroline and Uptown Square has been ongoing this week. The new fountain in Waterloo Park lake is in fact a series of pumps which are diverting the water flow around the site of the new bridge. The Laurel Trail through Waterloo Park remains open, but may see intermittent closures.

As always, up-to-date information on construction and closures can be found at www.rideion.ca

dribbleston

Regarding Top N Feds Conspiracies #6

We are outraged about the slanderous article printed in the previous *mathNEWS*. We currently, and forever, will be infuriated by this poorly-veiled hate speech. All pizzas have been created equally—and Hawaiian pizzas are no exception; in fact, they are the superior pizza. We willingly pay our Feds' fee every term, simply in honour of their master creation. We stand in solidarity among the Feds employees who have brought this glorious food to existence—and we call to arms our fellow pineapple and ham/bacon enthusiasts to rise above this blatant discrimination.

Fun fact: bromelain enzymes in pineapple break down proteins on your tongue as you eat it, a unique ability among fruits, and allowing for a truly exceptional food-consumption experience. The tangy taste of pineapple on the palate mixing with the delightful tastes of cheese and bacon is a sensation that cannot be under-appreciated. The synergy of these pizza toppings has truly improved the quality of life of humanity itself. For example, the same year Hawaiian pizza was invented (1962), the first laser was bounced off the moon. This great feat would not have been possible without Hawaiian pizza, as it provided the motivation for the laser to return to Earth, which is the only planet in our solar system containing Hawaiian pizza.

We ask for a public apology from Theodore Bear for spreading this malicious gossip. If Mr. Bear does not comply... expect repercussions.

e!, aambivalnt, pokeder

A Dose of Real Life: Confronting Grief and Death

The previous article of this series (back in v124i3) focused on the nature of mental health as a window to understanding one's self in response to hardship. Unfortunately, there is one hardship that everyone will encounter in their lifetime in one form or another: the end of life. While there has been much debate over what exactly occurs after death, the focus of this article will be viewed through this kitty's eyes on what exactly in life is left behind.

The Luxuries of Death

Just as one may fantasize about the milestones in one's life, one can even fantasize about the end. Often, these scenarios include everything that is important: family, close friends, pets... maybe even a favourite thing. This kind of scenario is not afforded to those whose lives end in a dramatic fashion. Their loved ones will never have the opportunity to exchange last words or give advice, and they will often be left with many unanswered questions. While those loved ones who have that opportunity are indeed lucky, they can often come in undesired circumstances. Illness and extensive deterioration of one's health may help with the idea of passing, but the extensive suffering one likely has to endure can be just as devastating to one's self and those around them. Ultimately, one never can predict how one will pass in general in this lifetime. One can never truly plan emotionally and mentally for one's death or the death of a loved one.

The Logistical Nightmare of Death

For those that are not afforded the luxuries of emotionally preparing for death, and even those who may feel prepared, the logistics of the aftermath are even more cumbersome to endure. The next few paragraphs will only cover a fraction of what has to be decided after a death, but they are all things worth addressing.

When one dies, the body is usually taken into the care of a funeral home or a morgue to be prepared for burial and final farewells. Funerals in general are complicated, as there can be a lot of things to decide on the fly. Would they have wanted these flowers and this casket? Where are they going to be buried? Did they want to be cremated? Who will give a eulogy? Who will come say goodbye? The most important question though is how will all of it be paid for? The cost of a funeral in Canada nowadays is at least \$10,000, not including at least \$5,000 that's necessary for a traditional burial. If a person has life insurance, many policies will cover some of these costs upon death, but how will the remaining balances be settled. The resolution of debt and the sorting of finances is by FAR the most complicated hurdle to sort through after a passing.

Any outstanding debt (including the funeral and burial costs), must be settled after a death. Any business or service provider that the person associated with must be informed of the passing. This can include phone bills, mortgages, magazine subscriptions, and even student loans. Everything MUST be paid by the person's assets (known as their estate). Only once outstanding debt has been paid can the remaining assets be distributed accordingly. If the deceased had a will, it is then 'probated' by a lawyer. Each asset (bank accounts, properties, etc.) that was held in the deceased's name alone is frozen, a portion of said assets

are then given to the government in the form of death taxes, a different portion is then given to the lawyer to pay for their services, and FINALLY the remaining assets are distributed by an estate manager (known as the executor) to those who were named explicitly in the will. If a will does not exist, larger portions of assets are given to the government, other official agencies may need to be called in to take care of the estate, and most every remaining asset is simply given to the next of kin. The common phrase of life's unavoidable circumstances (i.e. death and taxes) are especially present here. Things can get more complicated if the deceased has multiple properties, bank accounts and debts to settle. Overall things go much smoother when one writes down their wishes and has a will set up.

Even with a will, there can be many stumbling blocks in the process of probate. If those expecting to receive a portion of the deceased's estate really need it to pay bills, the assets cannot be distributed to them until the probating of the will is complete. Only bank accounts that are joint, and property with survivor rights are able to be accessed by others when one of the account or property holders is deceased. Any new bills issued in the deceased's name should be stopped or transferred to someone else to attend to, or else they will fall under debts to be paid by the estate. If those who are important to you stand to benefit from your assets, the only way they'd be able to get it all is if you gave it to them yourself ahead of the end of your time. For more information about wills and estate planning, please visit <http://www.seniors.gc.ca/eng/working/fptf/willandfuneral.shtml>.

Logistics overall are tricky in Canada. The easiest part for this kitty was handling the funeral as everything had been paid for and every desired detail was recorded in writing. All that was left was to do was ensure that it was done. Despite there being a will, sorting the rest of the estate still hasn't been easy. You are constantly wondering whether or not you're forgetting something important that can come back and bite you. Picking up the logistical pieces after a passing can be far more stress-inducing than the emotional turmoil, but it is made all the worse with it.

An "Easy" Way Out?

By now there likely is a thought that may have entered your mind about assuring you have what you want in your final moments, and securing the logistics of it: planning your own death. In general, I feel it is a good thing to plan for your death. Everyone should have a will and I definitely encourage planning your own funeral (and even paying for it) if you're comfortable. Arranging your assets can still be tricky, but the one thing I am cautious about death is that one should not plan to actually bring about it themselves.

Often one's mental state can bring them to a place where an action as swift as the termination of one's life seems like the best thing to do to end the challenge of living. Ending one's life in such a manner, however, is usually undertaking a permanent solution to a temporary problem. It is utterly not worth it. In life, there are many temporary problems that compound themselves onto one another with seemingly no straightforward solution. While one solution may seem like ending the opportunity for

any new problems to arise, as well as take care of the current problems, our feelings change as we grow older from experience. In life, there are always many more new problems to solve, including that of dealing with grief. The terminating feelings can pass, and the horrendous problems we faced can often seem trivial in the aftermath. In cases of those experiencing illness with a poor prognosis however, their problems can truly be permanent. The most powerful notions to combat them are hope and love. Both (especially love) can fuel them to live. I'm here to say that there ARE solutions aside from ending one's life, even when facing the worst of hardships. Sadness is powerful, but it can be balanced with love.

In the case of grief, it may even be the case that one considers ending their life to be with their loved one. This feeling is often entrenched in sadness and a deep yearning. It is normal to miss those who have passed, but would they truly wish to be with you when you still have your life to live? They loved their life, and they took their time to pass. That does not always mean one should follow in their footsteps. The person who lived, loved you as you lived. It is them that will now enjoy your life through you and through the pieces you hold of them. Where would those pieces go without you?

The Personal Torment of Grief

As much as logistics are important to deal with in a passing, these strange grief-induced feelings must be dealt with as well. This kitty in particular has been devastated. The turmoil I've had to endure (that I will CONTINUE to endure), will never be straightforward to deal with.

I want to first acknowledge the theory that there are 5 stages of grief that one cycles through: denial, anger, bargaining, depression, and acceptance. While this theory has been the standard go-to for many when handling the notion that is grief, I personally find this theory to be utterly false in describing my own experience. I would instead suggest my own imagery and entitle it "The Waves of Grief" as follows...

Imagine you are on a beach with the vast ocean ahead of you. The ocean is intimidating, but you are able to get near it. Slowly but surely, you are able to go from dipping your toes into the water, to even splashing around a bit. You enjoy the water. Sometimes it's choppy, but often it's calm. It's not so bad is it? It's even kind of fun. Suddenly, a giant tsunami engulfs you. You struggle as the wave begins to pull you out into the ocean and under. You feel you could drown at any moment. Just as suddenly, you are released by the wave and are back on shore. This time as you look out at the water, you are afraid. You are afraid you will be pulled back under and drown. The water before you, and the wave of the tsunami...is YOUR grief. It can hit at any moment and cripple you. Your thoughts are consumed with intense sadness, longing and desperation. You are NEVER going to be able to see them again. YOU are left behind. YOU are the one left to pick up their pieces, and your own. You are left with happy memories, pictures, and mementos of a time that seems not THAT long ago. As much as you are happy to hold on to them, you so desperately wish that this wasn't the first day of

many in the rest of your life without them.

And yet...

You begin to find these bits and pieces on the shore of the beach. With them, you build a boat. You know the wave will come again. You don't know when, but you try to prepare. You may be able to whether it if you build a strong enough boat. When you meet the next wave head on, it may come crashing down again. The cycle continues as you build your boat to try and fight the wave. Your determination is strong. Your fear gives you the will to fight, but every time you try to fight the wave, you crash. Your key will come to you, as you will learn to ride the wave and not fight the force you cannot control.

I personally have had many crashing waves come down as I try to paddle through my feelings of grief. I'm no longer mourning my loss; I'm merely missing them. I consider myself so lucky to have had the time I had with the person who passed, and their love, but I am still consumed in the fear of truly losing them. I don't ever want to forget them or feel as though I have let their legacy down. I still am suffering, but I will continue to build my boat and become stronger...in time.

The person I lost in my life was incredibly important to me, and I would be lying if I said I wasn't struggling to continue on without them. If you are struggling with your loss, please know that there are resources out there to help you. Feel free to visit UWaterloo's Health Services and Counselling Services for more information or visit the resource website at <http://uwaterloo.ca/counselling-services/resources>. Know that grief is experienced differently for many people, so it may take a while to reach stability. Despite my struggles, I feel fairly stable and do not think you should be sorry for me for my loss and do not say sorry to me. I'm not sorry that this person lived, for they still gave so much love to me in their life. I will continue to balance my life with their love.

Love you, big cat. Keep exploring.

A Mediocre Kitty

BikeMaps.org

Ever encounter a road hazard while on your bike? A collision or a close call with a car or pedestrian? Ever had a bike stolen? The University of Victoria wants to hear about it.

Dr. Trisalyn and her team are building a crowd-sourced map of bike accidents, hazards, and thefts to improve available data on cycling accidents and also to help inform public policy makers and improve awareness. If you have any encounters, you can easily report them on BikeMaps.org, or try the mobile app which can be found on the Play Store for Android, as well as in the App Store for iOS. Or if you're interested in the data, just go scope out the bicycle accident heat maps.

dribbleston

Goodbye *mathNEWS*!

Fo reals this time

I have been having the major graduating feels lately. This term is my very last at the University of Waterloo, and I am writing this article from my very last Production Night as a *mathNEWS* editor. I transferred here in 2011 in second year. I found out about *mathNEWS* because a former editor put an issue of *CosMATHpolitan* in my frosh kit (CorruptED has taken the credit for this). I became a *mathNEWS* editor in 2012, taking over for !ED. I tried to retire once, but it was super ineffective (see v124i6). Actually, I'm sort of glad that didn't work.

I would like to say that I have thoroughly enjoyed being a *mathNEWS* editor. As an editor, I have been on the cover of *mathNEWS* thrice (v118i5, v121i6, v128i1) and the back cover once (yep, that's me in v128i4 picking my nose). We have created new and exciting pizza flavours, like The First Date (mushrooms, garlic and onions), Porkzilla (all 7 of the available pork products united on one pizza), and MegaCheese (all the kinds of cheese, doubled. Oh yeah). I have been partially responsible for an issue dedicated to bears, and another issue that was #distractinglysexy. I've launched a wolf cannon on the now defunct *mathNEWS* Minecraft server. I have used the Nerf arsenal from the *mathNEWS* office as an NPC in the very first cross-campus game of Humans vs Zombies. It will be a sad day when I must remove my Nerf mace from the *mathNEWS* office. I risked my life to move a double-stacked filing cabinet so that Plant Ops wouldn't kick us out of the office. I have written articles on comically large dildos and Americans threatening to move to Canada.

But now, I get to perform the ancient rite that all retiring *mathNEWS* editors get to perform:

Fuck this, I quit.

GingerbrED

[Throughout my time at UWaterloo, GingerbrED has been an inspiration for me, and has likely been to many others. She has been an excellent dictator and bear-repellent, and although we cannot bear to see her go, we are honoured to have served under her.—bunniED]

Monty Python in Python: Silly Walks

```
import random

def sillyWalk():
    sillySteps = ['high step', 'lunge',
                  'pas de bourrée', '360 spin',
                  'skip']

    while True:
        random.shuffle(sillySteps)
        print sillySteps

sillyWalk()
```

TubesJr.

So You're Going to Japan With Minimal Japanese Knowledge...

So you've won a round-trip to Japan but you don't know any Japanese. Here's a handy guide to help you survive this endeavor without hopefully too much hardship.

- Japanese has a lot of loanwords from English. For example, the washroom is "toire" (pronounced toy-ee-ray /toire/), and beer is "biiru" (pronounced bee-rue /bi:ru/). Do beware of false friends though—for example, "gasu" is natural gas while gas (petrol) is "gasorin".
- Can't read the menus? That's alright, most restaurants have a plastic model of the dish in a display case outside the restaurant and you can order by taking a picture and showing the waiter(ess) and holding up a number of fingers.
- Can't figure out how to use a traditional toilet? Look for a handicap stall or a convenience store—they usually have western toilets.
- Before going to Japan, take a look at getting a rail pass. They allow you to go on a lot of portions of the train for an unlimited amount of rides for the duration of the pass. They are generally only available for foreigners so it is usually a thing that you should get beforehand.
- Japan is a cash society. Bring cash wherever you go. Most places will also wait to see if you are going to fish out exact change so you don't have to get fistful of small change at the end of the day.
- As a reminder, tipping is an insult. Don't do it.
- Eating etiquette: if you look like a foreigner, you will probably be excused, but in general, slurp your soup, don't stick chopsticks in rice, and look around and do what other people do.
- Hot springs: you are expected to shower before soaking (there will be showering facilities before the springs), and the towel provided is used to cover your genitals.
- If you are looking for something specific, like in Akihabara, go to each of the establishments since even though they are the same store, they should have different stock since they stock different things at different locations. A photo of what you want would also be useful.

Zethar



Love is a Disease

love is a disease
 more powerful than ATP SYNTHASE!!
 anaerobic splendor of photosynthesized emotions
 he is the transfer of energy
 sexual heat rendering me a viscous material at mere eye contact
 our complementary hormone action
 superconducting with the mildest touch
 passionate assimilation
 but we are parasitic beings
 toxicant—a chemical substance producing adverse affects
 pointless like splitting variance with red-rosed X-chaisma
 undefined asymptote orthogonal to society
 $F = m * a$
 I'm left with cardiac arrhythmia
 take the Fourier transform of my broken heart
 your fake feelings leaving bilirubin, yellow on my legs
 oxygen deficient, stuck in the ventricular diastole stage
 but time limit for my love does not exist where the limit for yours
 reaches zero
 and now I'm a corrupted file
 left with a crashing sensation
 triggering myocardial infarction
 endocarditis inflaming the inner layer of my being
 infected with an onslaught of Bartonella naselae
 simply because of mistake #5: trusting the client
 L'Hopital's rule does not apply to us
 an undeclared variable with an error message coming too late
 infinite loops: not supported
 I've already crashed
 I can't be approximated by your Taylor series
 I'm already infected
 my love grows in tumours
 I'm already diseased
 left with treatments trying to fix permanent damage
 because sometimes diseases don't have symptoms until it is
 too late.

e^t and aambivalnt

Gravity Found to Provide Ample Sleeping Accomodation in Comfy

Providing what many have reported to be an "unprecedented innovation" and a solution to the inexplicable removal of sleeping space in the Comfy Lounge, local student Joe King has discovered a new use for one of the fundamental forces of the universe. "It just dawned on me one day as I felt the inevitable draw to the floor after my 8:30 lecture," King admits. By laying himself at an exact 90 degree angle from the walls and at a relative altitude to the floor of 0, he is able to rest his body with complete assurance thanks to the natural pull of the Earth. "This is why Waterloo is such a well-respected school; this type of thinking is both bold and original!" a bystander was heard exclaiming. "Just imagine how many more could rest here if there weren't any of these chairs in the way!"

Sioui

Vanilla Coke

The Drink; The Sales; The Conspiracy

The Drink: Vanilla Coke, formally known as Coca-Cola Vanilla, is a spinoff variant of Coca-Cola, released in 2002 in North America. As one might expect, it is Coke with vanilla flavouring. Some people enjoy the smooth texture and the different taste, whereas other people don't see what's so special about it.

Personally, I loved it the moment I first tried it (... at age 11, or whatever). The combination of vanilla and Coke was irresistible, and it felt sweeter than the normal stuff, and had less of an acidic kick; for a kid, those were reasonable things.

It turns out^(citation needed, probably) that Vanilla Coke has its roots in soda fountain culture, where so-called 'soda jerks' would add a shot of vanilla syrup to Coke drinks. At least, one might imagine that this was a thing a long time ago. In particular, it has to be a legitimate syrup, and not just vanilla extract; more on this later.

The Sales: Vanilla Coke sold reasonably well when it debuted, but the strong showing would not last. In 2004, it sold a third as much as it did in 2002: a sure-fire death knell for the beverage. It was discontinued in North America and the United Kingdom in 2005, to be cast aside in favour of the better-selling Black Cherry Vanilla Coke (and Diet version). In some places it never disappeared, strangely enough. Maybe people there actually liked it?

In 2007, for whatever reason, Vanilla Coke made its triumphant return to the US. In 2013, it also returned to the UK, due somewhat in part to the Coca-Cola 'Freestyle' machine, which is apparently a high-tech dispensing unit designed to allow for many combinations of flavours and mixtures of Coca-Cola products; 'vanilla' was a very common choice, it seems.

(This Freestyle machine would explain all of the Coca-Cola advertisements I get on Facebook, now that I think about it.)

The Conspiracy: Observe that Vanilla Coke still has not returned to Canada, in canned or bottled form. It exists in the limited number of Freestyle machines installed in Canada, mostly in the GTA, but not anywhere else. One can also find it imported, from either the US or from the UK; it is certainly mildly strange to be looking a UK-imports section in a grocery store and see, of all things, Vanilla Coke sitting there.

When will we see Vanilla Coke back in stores? Who knows. Probably never; it probably just doesn't sell enough. Which is annoying, to say the least. It's like my Balsamic and Basil Triscuits. Apparently, I have very non-mainstream tastes. Does that make me a hipster? Oh well.

(Psst, Farah's has some! US import, with stuck-on French labels.)

Scythe Marshall

P.S. Almost all of my articles are about food. I'm so sorry.

RE: (Regarding Top N Feds Conspiracies, #6)

*AKA Why Hawaiian Pizza is an Abomination That Must be Purged From This Earth
So That We Can Cleanse Its Evil From Humanity*

Ladies and Gentlemen, this is Theodore Bear, once again talking about Hawaiian Pizza. In front of me is a response to my article from last week, *Top N Feds Conspiracies*, regarding Item #6, Hawaiian Pizza [You, dear reader, can find it printed on Page 3.—*ConvolutED*]. This "response" claims that my revelations regarding Hawaiian Pizza were "poorly-veiled hate speech" and that they are "outraged" by my remarks. I, in turn, am offended by these comments. My words weren't "poorly-veiled hate speech". I ask you, the readers, what on earth was "poorly veiled" about it? There is nothing wrong with hating on things that are a detriment to society, things that have hurt hundreds of thousands of people by just existing, such as Hawaiian Pizza, Laurier, and the Star Wars prequels. As the great philosopher Harry S. Plinkett once said, paraphrased by me, "The Star Wars prequels were so bad that they even harmed starving African children in Cambodia." A similar truth applies to Hawaiian Pizza. Let's go into an analysis on why this article response is not only completely wrong, but also incredibly hypocritical.

- **Some pizzas are more equal than others.:** The response starts by stating, "All pizzas have been created equally" before going on to say that "[Hawaiian Pizzas] are the superior pizza." As you can see, there is a clear contradiction here. It is incredibly hypocritical to say that all pizzas are created equal, then say that Hawaiian Pizza is better than all other pizzas. This argument is very similar to the famous line from George Orwell's *Animal Farm*, "All animals are equal, but some animals are more equal than others." Let me ask you readers, have we forgotten that book's ultimate message?—that farm animals should be killed and eaten before they rise up and kill us all, and if the animals do rebel, the pigs will be the ones to lead them. Hawaiian pizza ignores this message by piling on more vegetables than necessary, thereby taking away precious space that could be covered with more meat, and unlike the greatest pizza ever, Porkzilla with Barbeque Base, only has 2 pork toppings and not the 7 pork toppings of Porkzilla. This enables the deaths of the most amount of pigs possible per pizza, saving humanity one slice at a time, unlike Hawaiian, which further condemns humanity one slice at a time.
- **Lies about Bromelain:** The article then goes on to talk about the bromelain and its properties. They say that bromelain allows for the unique "taste", if you can describe the bile-infused tang of your coming vomit as a "taste", which you can. However, I must bring your attention to the fact that bromelain is an enzyme. A very famous example of an enzyme is DNA Helicase. If DNA Helicase did not unravel DNA, we would never get mutations in our DNA, and thus, we would never get cancer. Therefore, bromelain causes cancer. Q.E.D.
- **You FRAUDS!!!:** They then hilariously go on to say that Hawaiian Pizza "is a sensation that cannot be under-appreciated." This statement is more true than they could ever imagine. Much like someone who couldn't care less, Hawaiian Pizza cannot be under-appreciated because no

one appreciates it, and for good reason. There is nothing with less worth than Hawaiian Pizza, thus it is impossible to give it less worth than it has, a worth of negative infinity, and not the kind that loops back into positive values. Therefore, according to their own words, Hawaiian Pizza is literally the WORST THING EVER.

- **1962:** The response then uses the fact that Hawaiian Pizza led to the first laser coming back to Earth after being bounced off the moon. However, they act as though this is a good thing. As we all know, and as the original Star Wars trilogy have proven, lasers are destructive, and like the one shot by the Death Star, they can destroy planets. Hawaiian Pizza, by bringing the laser back to Earth, was not trying to enrich humanity, but was trying to destroy it and the Earth we live on. Also, in 1962, a total of 178 nuclear tests were conducted by countries, and as we all know, 178 is the exact caloric count of any single slice of Hawaiian Pizza (they are much like the Borg in that they are all the same, and attempt to assimilate anything different). This proves Hawaiian Pizza, after its laser plan to destroy humanity failed, supported nuclear warfare in order to attempt to finish us once again. Remember everybody, by eating Hawaiian Pizza, you are supporting nuclear warfare, and the destruction of all we hold dear. You support snuffing out all life on Earth in nuclear destruction. Think on that, and maybe you'll reconsider your fanatical devotion to something so monstrous and evil as Hawaiian Pizza.

So, e⁴, aambivalnt, and pokeded, you will not receive a public apology, nor any apology at all, for I do not need to apologize for telling the truth. Hawaiian Pizza, like everything bad in society, deserves to be picked apart, and in Hawaiian Pizza's case, thrown in the trash after having all of its toppings picked off and thrown in a different trash, where it belongs. I find it ironic that you claim to be fighting against my "harassment" and "hate speech", yet threaten me with "repercussions" should I not comply with your demands. You seek to mislead people, while I seek to guide them towards truth. You seek to keep people in the dark, while I attempt to enlighten them. You aren't fooling anyone with your hypocritical views, nor with your thinly-veiled threats, and frankly, I've lived through repercussions worse than anything you could ever imagine.

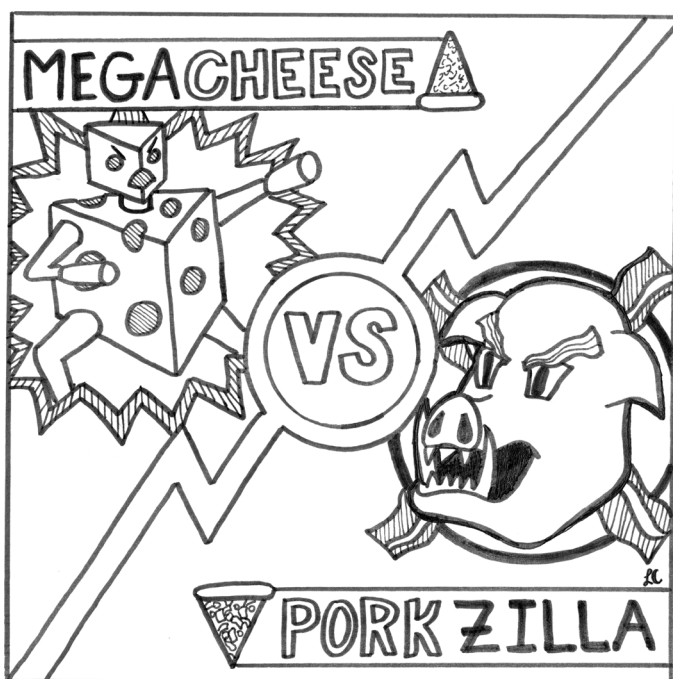
I, Theodore "Teddy" Bear, survived the tremors that shook UWaterloo after Imprint was kicked out. I, Theodore Bear, have trekked through thunder, lightning, and rain, subsisting on a diet of only salmon, in order to get to my destination (it was pretty good salmon, actually). I, Theodore Bear, have gone camping in Northern Québec... and survived to tell the tale. I, Theodore Bear, have read *Half-Life: Fullife Consequences* aloud, and have done the same for its three sequels. I, Theodore Bear, will not bow down to your threats, will not issue any apology, and I will continue to expose Hawaiian Pizza for the abomination it is.

Idle Optimizations: Marble Slab Ice Cream

The *mathNEWS* editors may disagree [*We do.*—*GingerbrED*], but really, what else can you expect from those under the evil curse of Hawaiian Pizza, enthraling a subset of humanity around the world. They are the ones who welcome their new pizza overlords, but we should not follow them. We should seek to free them from this spell, much like how Gandalf freed King Theoden from the taint of Saruman.

The moment Hawaiian Pizza is expunged from this planet is the moment we truly move forward as a species. It is the moment we put all our meaningless conflicts behind us, and join together as one, ready to face greater threats. It is the moment we should strive for, ladies and gentle peoples, and its the moment that I, Theodore Bear, am attempting to lead you towards. Good day to you all.

Theodore Bear



N Reasons You Shouldn't Take Possibly-Expired Anxiety Meds

- Blacking out
- Dizziness
- Throwing up
- Sweating and fever
- Losing sensation in fingers and tongue
- Feeling like you're going to die
- right now
- why
- HELP
- Don't do it.
- Oh god.
- FOR THE LOVE OF GOD DON'T DO IT.

psychomath

I was at Marble Slab on the weekend, and, like all good mathies, my mind wandered towards optimization problems. Problems like optimizing ice cream purchased from Marble Slab along various dimensions. This will be purely theoretical, since I can't find the prices of the cones on the Marble Slab site (for shame). Also, we're mainly talking about purchasing only one of the cones (small, medium, large) you get over the counter.

Let's start by leaving out the mixins. In this scenario, we have an upper bound on the volume purchased in one order of ice cream. The first thought is that you should definitely go for a cone over a bowl; the cone is extra-crunchy waffle-cone goodness for no extra cost (unless you eat the bowl, but then you're just weird). If you aren't concerned about cost, then get the one with chocolate on the outside. If we assume that the largest size is the best bang for the buck (an assumption that consistently holds in grocery stores within the same brand), then the largest is the cheapest. There's our upper bound: large waffle cone with chocolate on the outside. If we are concerned about price, then drop the chocolate waffle cone; the pitiful extra amount is probably not worth the cost.

Now let's talk mixins. Marble Slab also offers unlimited mixins for no extra cost, which any mathie knows is a bad business decision. Let's assume each mixin offers a different constant value. Start by getting the smallest size that offers unlimited mixins. Now ask for n mixins. Then take the limit as n goes to infinity. We get infinite value for the cost of a small! Don't forget the waffle cone!

However, infinite mixins probably doesn't taste very good, nor would it fit in your cone. Also, the clerk would probably stop you after a certain mixin threshold. Also also, do we choose mixins with or without replacement? But these constraints are outside of the scope of this paper and, as such, are left as an exercise to the reader.

TotallyLegitDeveloper

Thing Focused Computer Telling

Thing Focused Computer Telling is one of the ways people tell computers how to do things. If you want to have a job telling computers how to do things, you will probably need to learn how to do Thing Focused Computer Telling. It is a way of writing computer words that tell the computer to do things in what we call classes. These classes can store bits or blocks of words to tell the computer what to do that can be called by other classes.

You can also make classes that are made from other classes but have more things. If you do it right sometimes you can make the computer pretend that the new class is actually the kind of class that it was made from as long as you only use the parts that are the same as the old one. In the end, Thing Focused Computer telling is a very good way of making your computer do stuff.

aPlayerOfGames

Found in the Suggestion Box

Message 1:

To whomever finds this letter,

Beware. There is something coming. We have found a way to transport this back, using what we believe is an old letter box. Heed my warning—in a few short years something terrible will come to Earth: Reavers. We thought them fiction, a myth.

Run.

Trust nothing else that comes through!

Message 2:

Please ignore; everything is fine.

Message 3:

Put more suggestions in the suggestion box.

Message 4:

Have more food options for vegans

Message 5:

NO MORE WOBBLING TABLES

NO. MORE.

please

Message 6:

- Can we have more Chinese food?

- Can we have quieter environment?

darshwanda

numberNEWS: Big Picture, Made Simple

numberNEWS is a funny paper for the number school part of the college. It writes about many different things, very few of these things about numbers or news. It also is not always funny. You can group blocks of words into several different classes. These are some of the most used:

1. The numbered lines (this here is one such thing)
2. The How To
3. The actual news
4. Number-idea focused
5. Talks about its own self
6. Explaining something in a weird way (this block of words is one such thing)

Whether this paper is good is often in doubt. What is not in doubt is that many people read *numberNEWS* and it brings a smile to many of their faces. In fact, you are reading *numberNEWS* right now.

Goes Past That Which Talks About Its Own Self

Math C&D Mysteries

"Milk & Cream is not free to drink." So says the sign in front of the milk and cream in the Math C&D, placed there only a couple months ago. If that sign had always been there, I wouldn't have questioned it, but with it being added only recently I'm forced to conclude somebody was actually getting their daily dose of dairy from these dispensers.

The new signage is not the only peculiar thing within the C&D. Closer to the entrance an unlabelled wooden box is mounted against one of the support pillars. This wooden box has sat there undisturbed for many years. Last semester the C&D underwent a significant renovation, with permanent tables erected right up against this pillar, yet the mysterious box remained.

One day early this semester, I took notice of this box and took a look inside it. In it was a single piece of paper, and on that paper a single line was written: "Put a sign on the suggestion box." An apt idea. Taking the initiative, I tore out a sheet of paper from one of my notebooks, wrote "Suggestion Box" on it, and attached it to the box. Weeks passed, and I went and checked the box once more. Again, there was only a single suggestion inside. It said, "Put more suggestions in the suggestion box."

I've been thinking about how to best make use of this box. We could have our own secret Yik Yak for math students, or our own physical `alt.anonymous.messages` complete with signed PGP communication. This box has been neglected and unloved for too long, so next time you're in the C&D give it some love and drop a message in it.

Dusk Eagle

P.S. Shay Blair was with me through these adventures, and she is mad that I didn't mention her in this story

A Simple Showing of a Thing That is True About Numbers

I'll show you that there is no end to the number of numbers which can be made by taking one times the number, but not made by any other number times any other number. I will do so using only the top ten hundred words.

Say there is an end to the number of such numbers. Call the set of these numbers S . Then think about the number made by taking every number in S times every other number in S , then add one. Call this number P . P is past the end of those numbers, so must not be one of those numbers. So there must be some number Q that times another number makes P , where the other number is not one and not P . Also, Q must be such that it is one of those numbers that is two numbers times each other where none of those numbers is one. But Q can not be in S , because if it was then Q times some number would be $P - (P-1) = 1$, which can not be. So Q must also be a number that should have been in S . This goes against us saying that S was the set of all such numbers. So there must be no end to such numbers.

Night Flying Animal

You Should Play

Love Letter

Hello mathies, and welcome to *You Should Play*, where I feature a fun, easy-to-learn board game, conveniently available for you to try from MathSoc. (For those of you not in the know, that means if you haven't requested a MathSoc refund, you can bring your WatCard to the MathSoc office and check it out.) Today, we'll be looking at *Love Letter*, designed by Seiji Kanai.

Love Letter is a 2–4 player game which lasts ~20 minutes, and is played with only 16 cards. Players take on the role of suitors to the lovely Princess Annette, enlisting guards, barons, and the whole royal coterie to help deliver their wooing words.

Gameplay is simple. Players start with one card in their hand. On your turn, draw a card and discard a card, executing the effects printed on the discarded card. You can win in one of two ways: either be the last person standing (some cards will eliminate players), or have the highest value card (large number in the corner) when there are no cards left to draw. Win enough of these rounds, and the princess's heart is yours! Of course, if you're anything like my group of friends, you'll soon lose track of the points; playing round after round as an insurmountable postal tide floods the palace, drowning the poor Princess in a deluge of her courtiers' correspondence...

If princes and princesses aren't your thing, *Love Letter* comes in a variety of other themes, including Batman, Lord of the Rings, Munchkin (eugh...), and, inexplicably, Santa. Yes, MathSoc owns the Santa version. It's called *Letters to Santa*. No, I do not know why this was purchased instead of the *clearly* superior Batman version. In any case, the rules are identical; it's simply the art that changes.

Finally, if you want free food or other humans beings to play awesome board games with, come stop by our Games Night events. Our weekly meetup is every Thursday at 18:30 in the MC C&D, and we're having our end-of-term 24 hour event from August 1st to August 2nd, noon-noon (also in the C&D). Drop in/out as you can, and celebrate the end of lectures with a flurry of dice rolling, card drawing, and princess charming. See you there!

Happy Courting,
D6

N Reasons I Don't Like MathSoc Novelties

- Stupid...annoying...tedious...INVENTORY.....UURGHLLL
- Why did this company go out of business?! They made such great stuff that we can't get anymore!
- This isn't what I ordered!
- This wasn't in the budget!
- So...many...|abs| shirts.....WHYYYYY?!?!!

The MathSoc Novelties Director

How to Convince a Stranger That You Know Them

Has this ever happened to you? You're strolling along, minding your own business, when you see someone you want to talk to! But oh, no! You don't know who they are and they don't seem like they'd talk to a stranger. What can you do?

Well, with these simple instructions, you too can pretend that you know someone! In just n easy steps, you can go from strange, unknown platypus to (seemingly) friendly, known panda.

Step 1: Greet them! Say "Hello!" Be really enthusiastic, like you fully expect them to recognize you. Pretend you're greeting a friend you haven't seen in awhile.

Step 2: If they question you, look vaguely hurt. Not too hurt, since you're not trying to pretend you're best friends. Say, "Don't you remember? We had a couple classes together!"

Step 3: Listen closely; they will hopefully start suggesting courses you may have taken together.

Step 4: Agree with whatever course seems most plausible. Try to pick one you actually know something about or have taken, so you can talk about it. Otherwise, pick something you can fake knowledge of, like CS 452.

Step 5a: If they look much less confused and maybe a little guilty, you have managed to trick them into thinking they know you and feeling guilty for not recognizing you. You can strike up a conversation about anything. You have now solved your problem.

Step 5b: If they say, "Ha! I caught you; I was never in that course," murder them and hide their body using techniques found in *mathNEWS*. You have now solved your problem.

Step 5c: If they say "Oh, of course, I remember you now, You're..." and then say a name that isn't yours, agree with them. Change your name and your whole identity to match the mistake. You are who they think you are, and they know you. You have now solved your problem.

Yours in lying,
Shay Blair

N Reasons I Love MathSoc Novelties

- The Math puns (they can be SUPER hilarious)
- ZOMG! That's my work on a shirt! How cool is that?
- ZOMG! That's my t-shirt design being worn by someone! TOO cool.
- Did I hear there's a sale going on? That ends on July 24th? I'm SO getting stuff.

The MathSoc Novelties Director

Overheard at *mathNEWS*:
"Is it unethical to consume *synthetic* human meat?"

Trifling Around with Pastry Genie

Good day fellow math nerds. I want to talk to you today about something that has been weighing on my mind. A few moons ago two of my friends went and got themselves lost in the desert. As they were wandering trying to find some water, they came across three tents. Upon entering the first they inquire after some water. The old man in the tent told them that they only sell trifle. So my friends moved on to the second tent. In the second tent they were once again told that they only sold trifle. Starting to sense a theme they went with heavy hearts to the third tent, where they were once again told that they only sold trifle. Feeling downtrodden and depressed, they started to walk away. One of them turned to the other and said “That was a trifle bazaar”. Ba-Dum-Ch! Didn’t see that coming, did you?

In case you haven’t figured it out from my greeting, I am The Pastry Genie, and I am here to help you with your baking needs. Based off my little anecdote you should know that this week we will be talking about trifle. Trifle is a chilled British layered dessert that is served in a glass dish with straight sides. It contains custard, and some form of cake or lady fingers soaked in alcohol or fruit juice, sliced fruit, and is often topped with whipped cream. The Americanized version of trifle contains the cake and fruit suspended in a jelly. Personally I think that’s really weird. So we are just going to pretend that that doesn’t exist. Trifle was used as a way to use up leftover cake. So when the cake got a little stale they would soak it in juice or fortified wine and layer it. So while you can go the traditional route and use stale cake I much prefer it with fresh made pound cake.

As I’m sure many of you noticed I have only told you about fruit trifle. You’re probably wondering if you can make chocolate trifle because chocolate makes everything better. Chocolate milk is better than regular milk. Chocolate covered pretzels are better than plain pretzels. Chocolate covered bacon is better than regular bacon. Mmmmm.... Bacon..... But the point I was trying to make is that yes, it is possible to make a chocolate trifle. I am afraid that this article won’t be long enough to accommodate both fruit based trifle and chocolate based trifle. But I will quickly tell you the layers of a chocolate trifle so that if you wish to make one you still can. You’ll just have to find your own recipes. A chocolate trifle consists of layers of chocolate cake, chocolate pudding, and whipped cream. Still delicious in its own right but it is not fruit trifle.

If you are going to attempt to make a trifle you need to have the proper dish. The point of a trifle besides eating it is to allow your guests to be impressed by your layering skills. Therefore the dish that you serve it in should be glass. And to help showcase your layers it should also have straight sides. A tradition trifle dish is usually on a pedestal to raise the whole thing up so that it is the center of attention.

When I make trifle I like to use lemon pound cake soaked in rum mixed with strawberry juice, strawberries and blueberries, vanilla orange custard, and slightly sweetened whipped cream. And since that’s what I like to make and I’m the one writing this article that is the kind I am going to teach you to make. If you are ready, we will begin.

Lemon Pound Cake

INGREDIENTS

- 1 lbs butter, soft
- 3 cups sugar
- 6 eggs
- 4 cups flour
- $\frac{3}{4}$ cup milk
- 1 tsp vanilla extract
- 2 lemons zested

DIRECTIONS

1. Preheat oven to 300 degrees F. Cream the butter and sugar together with an electric mixer until light and fluffy. About 5 minutes.
2. Add eggs one at a time until incorporated. Scrape the sides of the bowl with a plastic spatula.
3. Add the lemon zest and vanilla extract. And mix until fully incorporated.
4. Alternately add the flour and milk until all incorporated. Make sure there aren’t any flour lumps.
5. Pour the batter into a 10 inch tube pan. Bake for 1 hour and 40 minutes or until a pick comes out clean. Cool for 15 minutes and then invert onto a cooling rack to cool completely.

Orange Vanilla Custard

INGREDIENTS

- 2 oranges
- 2 cups milk (2% is best)
- 1 cup 18% cream
- $\frac{3}{4}$ cup sugar
- 1 tbsp vanilla extract
- 4 eggs
- 3 egg yolks

DIRECTIONS

1. Zest the oranges into a pot with the milk and cream. Bring to a simmer. Cover the pot and let it sit for 30 minutes.
2. Once the 30 minutes are up, put the cream back on the heat and bring it back to a simmer.
3. Put the eggs and yolks into a bowl and quickly whisk in the sugar. Once the sugar and egg mixture is combined temper (remember? We learned about tempering in the last issue. It’s where you take hot cream and slowly pour it into eggs while whisking constantly until the eggs are hot.) the cream into the eggs. Once the egg mixture is warm transfer it back to the pot and stir the mixture over medium heat until it thickens.
4. Transfer the custard to a heat proof bowl and stir in the vanilla extract. Press plastic wrap directly to the surface of the custard to prevent a nasty skin from forming. Cool.

Whipped Cream (or just use Cool Whip *shudder*)

INGREDIENTS

- 2 cups 35% cream
- 2 tbsp sugar (or as much or little as you want)
- 1 tsp vanilla

DIRECTIONS

1. Whip the cream to soft peaks. Slowly add the sugar while whipping until stiff peaks. Fold in the vanilla extract.

World of Warships

World of Big Slow Targets

ASSEMBLING THE TRIFLE

1. Take your pound cake and cut it into nice 1 by 1 by 1 inch cubes. Soak those cubes lightly in $\frac{1}{2}$ cup strawberry juice mixed with $\frac{1}{4}$ cup of light rum. Let it 10 minutes.
2. Put a $\frac{1}{3}$ of custard on the bottom of a trifle dish. Add $\frac{1}{4}$ cup of blueberries and $\frac{1}{2}$ cup sliced and hulled strawberries. Add $\frac{1}{2}$ the cake cubes. Add another $\frac{1}{3}$ of the custard on top of the cake. Add $\frac{1}{4}$ cup blueberries and $\frac{1}{2}$ cup sliced strawberries. Add the rest of the cake. Add the rest of the custard on top of the cake. Top with the whipped cream. Garnish with $\frac{1}{4}$ cup blueberries and $\frac{1}{2}$ cup sliced strawberries. Chill for 2 hours to allow all the flavours to combine. Enjoy with friends or by yourself.

I hope you enjoyed this article. It took three tries [*Almost four. —GingerbrED*] and three different laptops to write it. Sadly, this is the last issue of the term. Hopefully I will see you again. Until then, happy baking!

Your friendly neighbourhood Pastry Genie

New Music Roundup

Don't Say No (Cheat Codes feat. Dresses)

Dresses is an indie pop duo from Portland and Cheat Codes is an electro pop trio from LA. *Don't Say No* sounds exactly like what you think it would.

Look Outside (Nat & Alex Wolff)

Look Outside is from the soundtrack to *Paper Towns*, which is a movie I had not heard about until today. This song makes the list because I think that as we head towards finals, we should keep in mind the refrain in the chorus: "It's not so bad. It's alright."

This Isn't The End (Owl City)

Owl City released his fifth album, *Mobile Orchestra*, last week. It's bad. Just though you all should know.

Stockholm (Atlas Genius)

Stockholm is the lead off Atlas Genius' new album, *Inanimate Objects*, coming out August 28th. I'm excited.

Seventeen (Sjowgren)

Sjowgren has a HAIM-style girl power rock vibe (though I should note that I couldn't find much information about Sjowgren online, so I don't know if they actually are a girl rock band), and *Seventeen* is a solid track with the right amount of low-fi to make it perfect to listen to outdoors on a summer afternoon. Listen to the harmonies in the pre-chorus. They're exquisite.

These tracks and others from past issues can be found on the Spotify playlist titled *mathNEWS*.

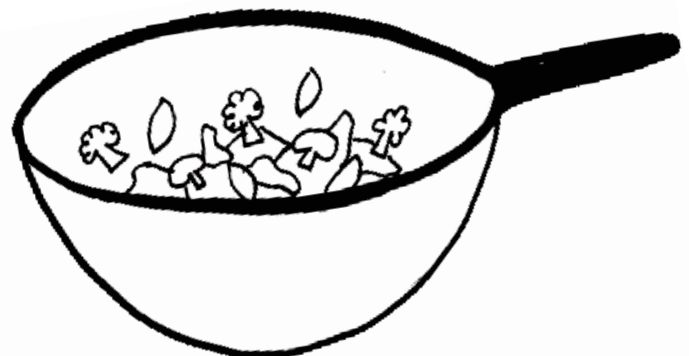
[flustered]

For any of you who liked World of Tanks but wanted some naval action, or who want to play online in Battlestations despite no more players, WoWS might be for you. WoWS is a arcade-y third-person naval warfare game with teams of 12 per side fighting on large maps lined with islands. Please note that WoWS is in open beta. Jumping in, you will find no tutorial, and you will head into battle with only some hope and assumptions about naval warfare. Your first few battles will go well enough, thanks to being restricted to co-op AI battles (with AI decent enough to win a number of games against the players), and you should learn enough to survive in the PvP battles that follow.

At this point, everyone I know who has played was enjoying themselves in their Cruisers (CC) and Destroyers (DD), but then they met Battleships (BB) and Aircraft Carriers (CV). These seem OP when everyone first meets them, since BBs out-range all other ship guns, and (in low tiers) no one has the anti-aircraft (AA) weapons to protect themselves from CVs. Once you grind your way up towards your own though, you find that a CC out-damages either when it gets up close, and a sneaky DD can destroy either with a single torpedo salvo, although a CV generally sits far in the back of the map, and can affect things without exposing itself. In short, BBs are nice, but CVs will be the bane of your existence until the mid-tiers (5+) when you finally receive some decent AA weapons.

So, the balance between ship types is wonky at lower tiers, and additionally the balance within tiers is wonky (the tier 3 CV St. Louis is insanely powerful), but it's just an arcade game with ships in it, and the game is supposed to be in open beta, so one can hope that things will be fixed/re-balanced in time. If you are interested in jumping into WoWS, head over to worldofwarships.com and note that EU (and other) accounts do not work on the NA client/servers and vice versa (if you don't have an NA account and don't want to make one, use .eu to get EU version, etc).

Soviet Canadian



RANDOM WOK

Overheard at *mathNEWS* (RE: retirement of GingerbrED):
"I already tried to retire once; it wasn't very effective."

Encounter with a Laurier Student

As I was walking the university plaza, I chanced upon a couple of students lounging around, chilling, sipping bubble tea. One of whom I recognized, the other, a friend of hers, was also a Laurier student, as it turned out.

I began with the ritual upbraiding of Laurier as an institution whose only claim to academics consisted of tenuous business education. I scoffed at the credentials of Laurier students claiming math, science, or engineering backgrounds or degrees. Nonetheless the student remained cool and composed. I mocked the pretensions of artsies being churned out of Laurier as an insult to Faulkner, Picasso, and Bach.

She smiled and stated that Laurier students aren't affected by such comments, that Laurier students don't compare themselves to Waterloo or any other place. I retorted that was so because Laurier is an academic backwater, whose only claim on Waterloo is that the latter is a younger institution. Bemused, she responded that Laurier students don't feel the need to compare themselves because they knew how good they had it. Uh huh!

She elaborated that Laurier students pride themselves on a strong community and campus life, on a well-rounded education; whereas Waterloo students work themselves to the bone with technically-oriented classes to achieve elusive career success. Furthermore she indicated that unlike at Waterloo, Laurier students don't see themselves in competition with each other as much as in collaboration with each other. She claimed Waterloo students are book smart, but not street smart. I admitted to her that we do work crazy hours with courses and projects, but that it was worth it, and that our difficult courses prepare us for what's next.

In turn she objected that Waterloo courses are harder than at Laurier. In fact she said she was taking a second year chemistry course at Laurier while a friend of hers was taking the equivalent course at Waterloo, and when looking at their assignments and labs her friend apparently remarked how much harder the Laurier material was!

She further made the claim that Waterloo students constantly comparing and putting down students at Laurier and other

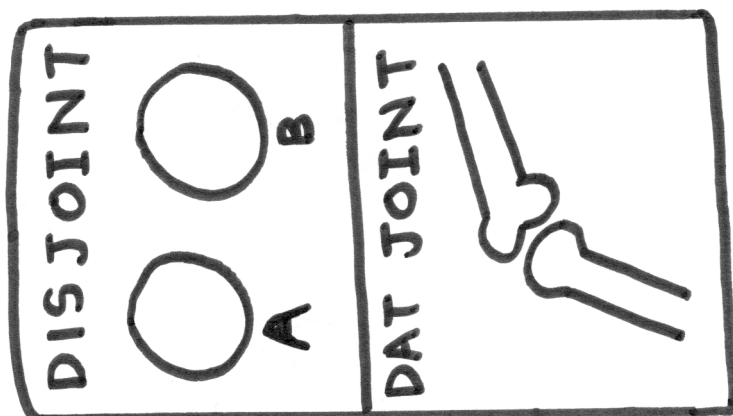
nearby schools is an instance of projection. That we feel the compulsion to do so due to low self esteem, and a feeling - deep down inside - that we're lesser than other well known schools. I did acknowledge that she was onto something and that we shouldn't have to compare ourselves with others all the time. But I proudly mentioned to her that Waterloo is better in math and engineering than other schools in Canada, and we have a strong entrepreneurial streak that is unmatched.

She scoffed at my protestations, claiming that Toronto is by far number one in all disciplines, and mentioned that we have startup incubators because we "need it" as compared to other schools, where students don't require tricycle wheels to start something. I suggested that it was ludicrous that one place can be better in everything, that each university has strengths in certain areas, and that she should get to know startup life more, that founders need all the help they can get.

Furthermore I indicated that when looking up, Waterloo students don't typically compare themselves to schools in Canada. We tend to look at the Valley, and compare ourselves to places like Stanford and MIT with a bit of an inferiority complex. However this is when things turned bizarre! She started laughing at this and said I was fantasizing in saying we're better than these schools. I told her we weren't, that we reckon we're inferior to these schools. She was incredulous and laughed even more. She repeated I was daydreaming in thinking we were better. I told her I never said that, in fact I said the opposite. Her friend explained to her that I said inferior, meaning less than. I heartily laughed at this, as I came to realize that basic word meanings eluded her!

I called her out on the irony of her claiming she supposedly knew her "stuff" as a Laurier student when she didn't even know rudimentary English, which is an artsie subject after all. I laughed even more! She tried to regain her mojo and claimed that she was momentarily confused about the word, but she "of course" knew what it meant. I wasn't buying it and called shenanigans! With fresh "proof" now that Laurier students are inadequate I kept taunting her. Having lost face she got up and claimed she had to be somewhere and walked away.

QED



N Signs You Should Buy a New Backpack

- It has holes on the bottom that keep on getting bigger
- You just spent half an hour blow drying your course notes
- It emits black particulate that gets all over your stuff
- The cost of a new backpack is less than the cost of dealing with the back pain caused by your current backpack
- It has blood stains on it
- It has a teen pop star's face on it
- It has a teen pop star's face inside of it
- You don't own a backpack


Beyond Meta

N Reasons Room-Hunting Sucks

- I need to move in during August. Two out of every three rooms are available in September.
- Despite having continuously lived in Waterloo since 2009, landlords still insist on a guarantor. My parents have never been willing to be guarantors. What are those of us who have been putting ourselves through school supposed to do?
- Landlords expect students to have an income but they don't accept "I am self-employed." How many young professionals are conventionally employed nowadays? Haven't landlords seen cgpgrey's "Humans Need Not Apply" on Youtube?
- If I do find an acceptable room that will accept my credentials and are willing to offer me the space, they are usually holding the room for a potential tenant that visited previously and that potential tenant always says yes.
- Landlords who are willing to have a long and thorough conversation through email but fail to respond when I request a time to see the space.
- Landlords who insist on a phone call but don't answer their phones or respond to their voicemails.
- Photos taken with weird lenses which means I obviously don't trust your listing now. How am I supposed to figure out how big the rooms actually are?
- Is it really that strange that a student might require a minimal amount of storage? I like books and Magic cards—so sue me!

(define this (not securely_housed))

N Things Wrong with the MathSoc Logo

- The letters are not aligned properly causing the whole thing to look like a 
- The kerning (space between the letters) is so inconsistent!
- The black outline is uneven around the letters
- Some lowercase letters are larger than others (I'm looking at YOU "c")
- Some parts of the letters look bluntly cut off as opposed to some of the more rounded edges
- IT'S BEEN LIKE THIS FOR 12 YEARS AND THIS IS THE FIRST TIME ANYONE'S NOTICED?! GAH... This is JUST like the FedEx arrow but WORSE!
- The "o" is a SQUARE
- Some enclosed black outlined parts are filled in with black, but others are not... WHY?!
- Mike Jepson and/or Raymond Lai's design choices (I blame the times: design in the early 2000's wasn't as smooth and simple as it is today.)

waldo@<3.LE-GASP.ca

One of the Scariest Things Ever

You are driving along a road (technically a highway, a place according to the BC Motor Vehicle Act, which is just any road that isn't an industrial road that you, as a member of the general public, are allowed to drive on), and you need to brake.

You press down on the brake pedal, with the intention of braking and slowing the vehicle down.

Nothing happens immediately.

Panic.

You press harder, until the brakes actually engage. This takes until you've almost pressed the pedal to the floor.

The brakes engage.

You exclaim, "... What the fuck is wrong with my brakes?"

Oh my fucking god."

Your passenger is not impressed.

This is, unfortunately, a true story.

Scythe Marshall

P.S. Turns out it was maybe the brakes overheating, and thus being more useless because they have a smaller coefficient of friction. Everyone's okay, though, including the car. I think.

Campus Invasion

So many... so tiny...

It was a normal Monday morning on Waterloo campus and sleep-deprived students were headed into their classes when suddenly, they were attacked. There were hordes of them. Marching together, they formed a mob of hungry, agile, spirited attackers—surrounding all of MC's entrances, gathering on the fields, wielding weapons of destruction. While they played and laughed and enjoyed the weather, students tried to evade these weapons and power-walked through the army into the safety of MC. The lucky few who made it were momentarily safe, until the swarms decided to enter MC for nourishment and the use of its precious facilities. The students sat there while the invaders came in—watching, judging, and feeding on their misery. The summer camp kids were disrupting the fragile ecosystem of campus life as they enjoyed their summer and flaunted their freedom to the rest of us. Enough is enough—we must take back what's rightfully ours!...Or put our heads down, and take solace in knowledge that they too will have to go back to school come September.

A Resentful G-UNIT

Overheard at mathNEWS:

"Never bury bodies at home; that's how you get caught!"

"I thought you were going to say that's how you get ants."

Interview with the (New) Dean

In honour of his inauguration as Dean of Mathematics, Overlord of Nerds, *mathNEWS* took the opportunity to ask Stephen Watt some difficult questions, the answers to which students have long and eagerly awaited for at least one entire, seemingly never-ending day. We asked our new Dean:

- How was your weekend?
- Are you a bear?

This is his response:

Finally, someone is asking the important questions. MathNEWS is a beacon of light in a journalistic wasteland!

In answer to your difficult questions:

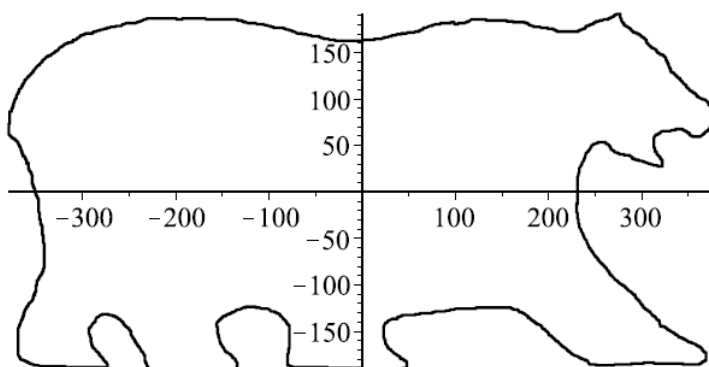
1. *My weekend was bearable, spent mostly on move-related house fix-ups. You never know how many thumbs you have until you try hammering in awkward places.*

2. *As a descendent of many forebears, I must be a bear. René Descartes was on the right track, working towards “I think,*

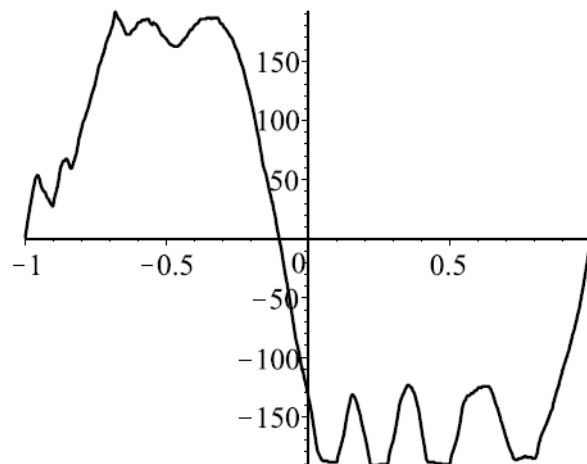
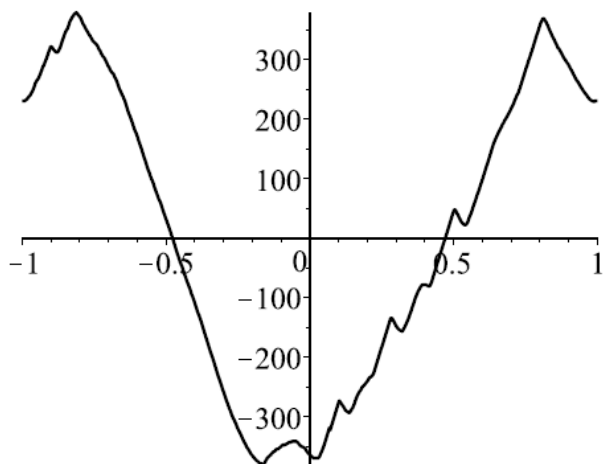
therefore I bear.” But those would be Cartesian bears, $B(x, y)$. As a Canadian, I support polar bears, $B(r, \theta)$. The attached Maple worksheet computes polar bears using truncated Chebyshev series. If those bears aren't hairy enough, you can use a Fourier basis.

We have included Watt's bearalysis below:

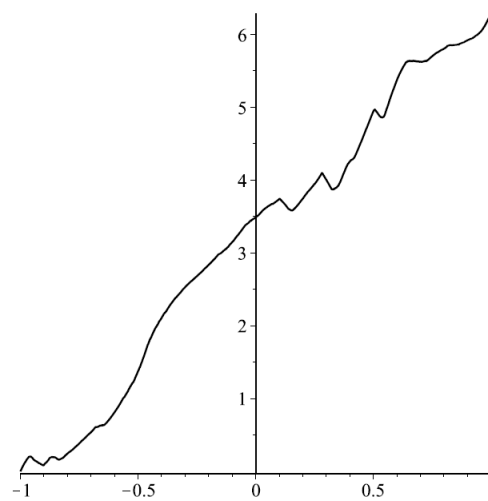
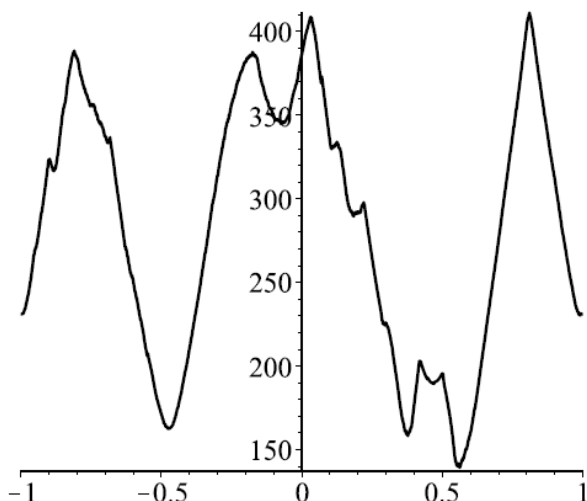
Approximately a bear



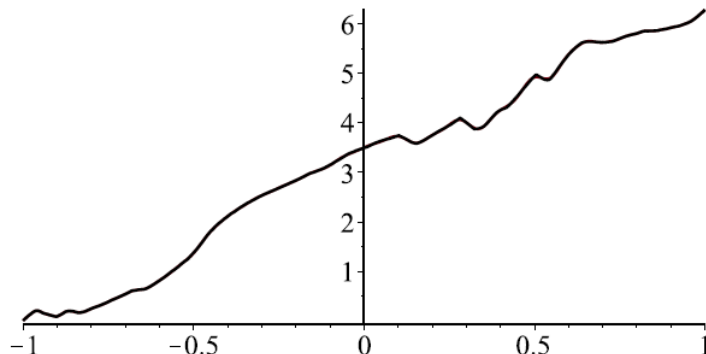
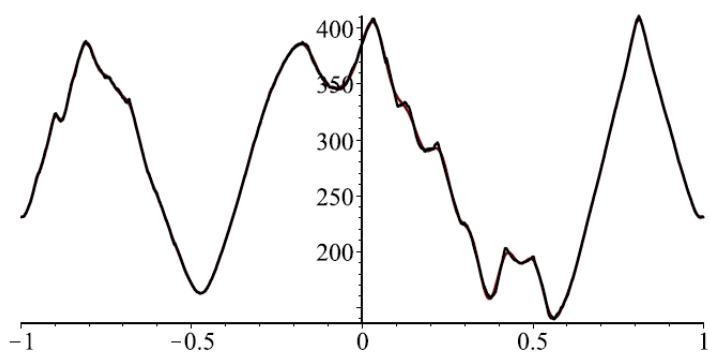
Parametrize the coordinates into x and y



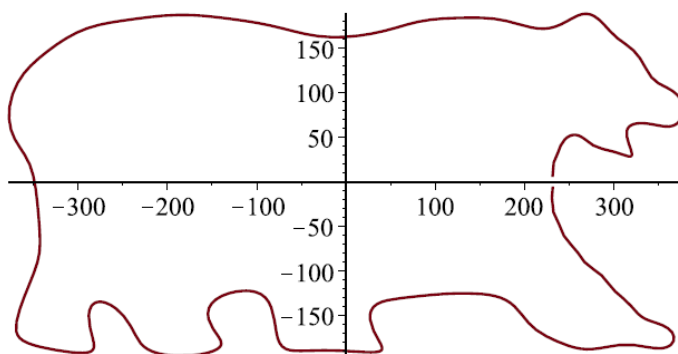
Parametrize as r and θ



Smooth out the functions



Voilà! A polar bear!



Last Issue's Grid

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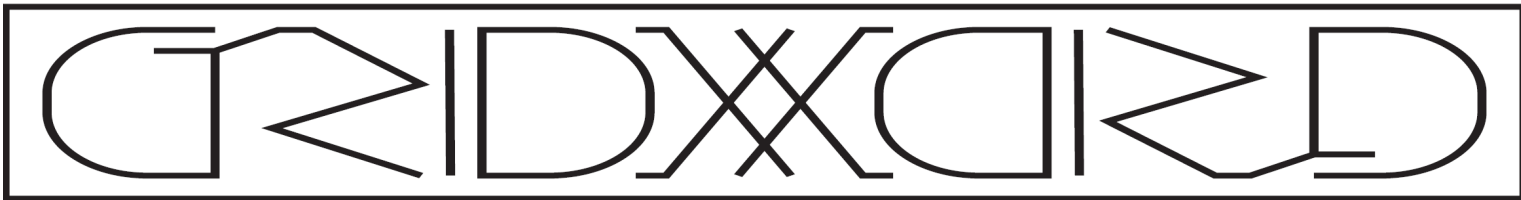
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Overheard at mathNEWS:

"I'm a big girl; I got this!"

"No, you're not. That's why you're using a chair to write on the board."



gridCOMMENTS

Hello for the final time this term, everyone! Last issue's *gridWORD* was extremely mean; I can assure you that the theme here is much more obvious. Not that it makes the puzzle any nicer.

The previous *gridQUESTION* was "How would you describe yourself?" Honourable mentions go to:

"http://goo.gl/M4qowR"—Matt Thomason

"A weapon of maths instruction. (I'm a tutor.)"—/ &

But the final *gridWORD* winner of the term is:

"Through interpretive dance."—Sean Clarke

There is no need to submit your *gridWORD* solutions in the **BLACK BOX** by the Comfy before **6:30 PM on August 3rd**, because there won't be a prize this time. I'll check it anyway, though, and I will pour out a glass in solidarity with the people who had nothing better to do than solve *gridWORD*.

In honour of the End, and imbalanced designs, please enjoy the final *gridWORD* of the Spring 2015 term.

ConvolutED

Subscriptions!

Away from campus? Why not get a copy of *mathNEWS* delivered to your door by mail about every two weeks? Of course, nothing in life is free. But all you've got to do is give us some money for postage (and your address). Just have a look at the rates:

| | Canada | US | Overseas |
|------------|--------|------|----------|
| One term | \$7.50 | \$10 | \$15 |
| One year * | \$20 | \$25 | \$35 |

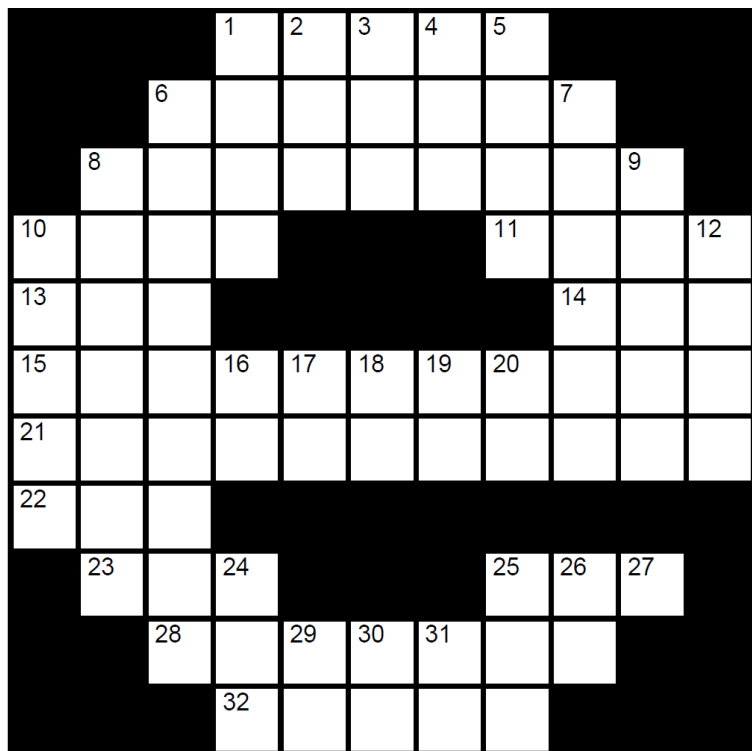
All prices are in in Canadian funds.
* The "one year" indicates 3 terms that are not necessarily consecutive. That is, if you're at U(W) for the Fall 2013 term and off on a work term for the Winter '01 and Fall '01 terms, then you could get a year subscription for Winter 2001, Fall 2001 and Spring 2002. (Since you can pick up the Spring 2001 and Winter 2002 issues in person!)

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Name and Address: _____

Terms: _____ Cost: _____ Payment Method: _____

This Issue's Grid:



gridCLUES

Across

- John who makes tractors
- Reverence
- Resident of The V1 Woodlot
- Residence on a resident of The V1 Woodlot
- John who diagrams sets
- Opposite of 'hiver'
- "Get in the robot, Shinji."
- 0.3
- Slurpee store
- It ended in 1806: Abbr.
- People who deal with situations
- Ratio used in radiation safety measurement
- Mindless followers
- Abbreviated by the removal of its vowels

Down

- Insect repellent
- Computer key
- N.T. book
- Emer. e.g.
- What 23-Across drives
- Keepers
- Degrassi and Buffy, e.g.
- Precedes "or be square"
- H (not H)
- Windows terminal command
- Boston Bruins broadcaster
- Cummings' initials
- One length of a dash
- て
- Superman's family name
- Between helium and argon
- Café alternative
- Form of data compression
- Exist
- exp(1)
- One length of a dash
- Video series on video games
- Dodgeball class