

math

NEWS

Volume 118, Issue 6

Friday, March 30th, 2012



There is no escape.

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lookAHEAD**mathNEWS**

March 30 Issue #6 pays tribute to Loki the Trickster
 April 4 *mathNEWS* EOT

MathSoc

Tuesdays Games Night in the Comfy at 6:30 pm
 Wednesdays Special nights in the Comfy!
 April 3 General Meeeting, in the Comfy at noon

CECS

Ongoing Employer Interviews
 Continuous Job postings open; closes next weekday
 11:59 pm
 Tuesdays Rankings open 8:00pm
 Wednesdays Rankings close 10:00am, Match results
 Thursdays Rankings open 8:00pm
 Fridays Rankings close 10:00am, Match results

University

April 2 Lectures End
 April 6 Last day to drop a course without a petition, drop penalty 2 period ends
 April 24 Fees Due for Spring 2012
 April 27 Co-op Work Term Ends
 April 30 Co-op Work Term Starts
 May 1 Lectures Begin

Misc

March 31 Earth Hour
 April 1 April Fool's Day
 April 1 Game of Thrones season premier
 April 6 Good Friday
 April 7 International Beaver Day
 April 8 Easter
 April 17 Blah!Blah!Blah Day
 April 19 High Five Day
 April 22 Earth Day
 April 23 Talk Like Shakespeare Day
 April 28 Penguin Day
 May 1 Batman Day
 May 4 Star Wars Day
 May 6 World Laughter Day
 May 12 Limerick Day
 Everyday S'mores Day

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The editors: Sacha Koohgoli, Will Morrison, Michelle Conway, and Murphy Berzish starring as Castiel, Bobby Singer, Dean Winchester and Sam Winchester

mastHEAD*The mastHEAD to end all mastHEADs*

It seems as if my life is going in a different direction than I originally planned. That's right everyone, I am leaving my dear UW. This pains me more than I can say since I have a bunch of awesome friends here and *mathNEWS*.

But there is still hope my minions! If all goes as planned Guelph may be my new residence which is but a mere 40 minutes away. However, this means I cannot be an editor any longer. So I am using my last bit of power to dedicate a *mastHEAD* to myself...muhaha.

This also means a sad day is coming for *mathNEWS*...there will no longer be an editor with boobs. This is a sad day so if you have boobs and are interested in becoming editor email scammyscam@lame.mN. The person with the least amount of talent will be chosen as new editor. Good luck to the new editor for having to deal with idiots and people complaining about grammar and typos.

Which doesn't lead us to this week's question: At the end of the day, the registrar seems to just confuse you. This is something I wish I can do. What is a combinatorial number?

able ("1131"), Ender Dragon ("This *question* confuses me"), moment ("24-09-15, but there is nothing valuable in my locker"), MustardMap ("qrtuuvvxxtabbdqthecookieqrb71#?"), (define this (not cool)) ("Big O is big O is big O is this is it"), justanotherwriter ("e"), Algoweird ("3!"), Prez ("What embarrassed me in front of the Dean"), Shay Blair ("A number that is combinatorial"), MoGlo (" π !"), ScruffyED ("A particular small dog is fed steak for the rest of its natural life."), The Unfortunate Optimist ("What is this I don't even."), FOCing Awesome ("It's over 9000"), theSMURF ("A dereferenced null pointer"), Scarred Tiger ("The colour of π "), snippet ("(n choose k) is about all I can remember from MATH 239"), BlueberryMuffin ("NaN"), Soviet Canadian ("Mission Accomplished"), waldo@3.LE-GASP.ca ("I don't think the Registrar has a combination lock...but if it did, it might be 35378"), !ED ("Null")

CowED ("I quit")

24 Hour MathSoc Games Day

Clear your calendars folks! 24 hour Games Day starts this Tuesday, April 3rd. We are going to be playing board games from noon 'til noon in the MC Comfy Lounge, non-stop. Pizza, drinks, chips, and cookies, all free for players. Haven't had time for the longer games this term? Now is your chance to play games like Diplomacy, Mafia, Twilight Imperium, Battlestar Galactica and all the other shorter games we have on our shelves. As always, we will keep the games going the entire time without breaking for sleep. It's guaranteed to be amazingly fun for all involved. Are you up to the challenge?

Scarred Tiger

C S C F L A S H

Greetings CSC-beings!

It's the end of term. I hope you had a good one! To find out about our end-of-term events, drop by the office. This Saturday, Open Data Waterloo is having a Codefest. Drop by, otherwise: See you in spring.

Signing off,

Calum T. Dalek.

Supreme Chairbeing Extraordinaire

Prez Sez

The General Meeting happened last Tuesday. To check out the full details, go to <http://www.mathsoc.uwaterloo.ca>

Harrison Gross,
MathSoc President

MathFOC Sez

Hi mathies; this our last update of the term, so try to pay attention, if you still can!

The FYEI (First-Year Experience Institute) is full for the remainder of sessions in the Winter 2012 term! If you are unable to take training in the Spring 2012 due to travel concerns, please let us know immediately so the necessary arrangements can be made! The Returning Leader's Quiz is available on learn.uwaterloo.ca, under a new 'course' called "Waterloo Orientation 2012". It should be open – if you are unable to access this quiz, but completed the OLT sessions in 2011, please let us know ASAP so we can sort problems out. Please remember that you must complete the quiz on or before April 27th at 11:59pm, otherwise you must take the First-Year Experience Institute training sessions with all of the first-time leaders.

A link to first-aid registration can be found at orientation. math.uwaterloo.ca/leaders/about/links. Please be aware that all first-aid sessions for the Winter 2012 term are fully booked as of right now. Registration for the Spring 2012 term will open shortly, so please stay tuned to the website!

Applications for remaining coordinator positions will be available sometime in the next few days. If you have any questions, e-mail us at mathfoc@gmail.com, or visit us in the MOO!

Good luck on your final exams for the term, mathies! Congrats to all of the new students who made it past their second term of their first year in Waterloo Math!

Sacha, Anna, Michael, and Amanda
MathFOC 2012
mathfoc@gmail.com

Sweet and Sour

Going into Second Year? Pick a plan!

Once you have completed 10 courses in the math faculty, and the grades are visible on Quest, you can visit an advisor to see about joining their plan.

You would print off a Plan Modification Form, <http://www.math.uwaterloo.ca/navigation/Current/currentNavigation/forms.shtml>

And bring it to an academic advisor, <http://www.math.uwaterloo.ca/navigation/Current/advisors.shtml>.

Perhaps you are uncertain which plan to add because you don't know what the plan entails. In that case you can ask a first year advisor, or the plan advisor directly. Alternatively you can take a course to get a perspective of the plan. Below, I have tried to choose enlightening courses that can be applied to more than one plan.

Plans: ACTSC, AMATH, CS, C&O, PMATH, STAT

Courses: MTHEL 131, ACTSC 231, AMATH 250, CS 136 (for those in Hons. Math), MATH 239, STAT 230, 231

Advanced courses: MATH 147, 148...

If you are interested in a Math Business program you should talk to the advisors early.

Perhaps you are having difficulty deciding between one or two plans. In that case, I recommend you keep your options

VPO Sez

Hi everyone!

The end of term is fast approaching so I'd like to inform you of the projects I've been working on thus far. You may have noticed that the 3rd Floor Club Bulletin Boards have been revamped, this is part of a bigger project to make the 3rd Floor more welcoming and informative. Along with this, the display cases around the Comfy Lounge have been redone to make way for the new trophy case and the Ralph Stanton exhibit where you can see Pink Ties from as far back as the '80s! Be sure to check them out on your way to the MathSoc Office :). I hope everyone has had an amazing term and good luck on exams!

Lauren Hurley
MathSoc Vice President, Operations
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VPE Sez

Hey everyone!

It is finally the end of term! Some of you may have noticed we had a little get together on March 14th in the form of Pi Day. We served over 800 slices of free pie, pied the MathSoc executives, pied some profs and raised a lot of money for Colour Me Educated. We got just over \$450 to be exact. I wanted to give a huge thanks to Dan Wolczuk, Riley Metzger and Eddie Dupont for allowing students to pie them. This was truly a Pi day to remember!

We also had Pints with Profs on March 20th which was a huge success and saw many students and professors come out. Make sure to check it out at the end of next term!

Lastly, the Colour Me Educated campaign ended last week and we wanted to thank everyone who donated to help Pathways to Kitchener.

Good luck on all your finals!

Ty Rozak
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open. You can do that by aiming at a double or triple major and changing your plans as you move forwards. For example, suppose I loved Applied Math, CS and ActSc. I could start by attempting a triple major. After a year I decide I no longer like ActSc, and would rather not take one or two of the courses in Applied Math. Hence I change my major to a CS with an Applied Math Joint. In year 4 I decide I would much rather work in CS when I graduate so I change my major to CS with an Applied Math minor.

To clarify the prior paragraph, you can think of minors, joints and majors in the following mathematical way. Let $||$ represent the number of courses in the plan. Without loss of generality let the plan be ActSc. Then $|ActSc\ Minor| < |ActSc\ Joint| < |ActSc\ Major|$.

If you are really having trouble deciding, I suggest you consider Math Studies. Math Studies is extremely flexible, allowing you to take any 10 third and fourth year Math courses you desire. You can do minors to specialize. i.e. Math Studies with a minor in ActSc and C&O; or Math Studies with a Minor in Biology and a Health Informatics Option.

Riley Metzger
Academic Advisor

VPA Sez

Hey everyone. I've got a rather long VPA Sez this week, so bear with me. You might care about some part of this article, but there's only one way to find out!

Declare Early, Declare Often: One big advantage to declaring your major is that you tell the department to email you if they're going to be making curriculum changes that affect them. This was a big deal when things like the Pure Math algebra changes were announced, since many people didn't find out about them since the Pure Math department didn't know who to email. Don't let this be you!

WD Deadline Issues: Did you think that the WD deadline was a bit early this term? If you did, you were probably right: the Registrar's Office has been counting Reading Week as a week of classes, so the WD deadline came at the end of the tenth week of term, which was (in my opinion) the ninth week of classes. The usual slow committee process will be applied to try to fix this for future years.

In the meantime, if you think that you've been affected by this early deadline this term, you can submit a petition to the Standings & Promotions committee. Go talk to your advisor, and be sure to submit the petition by noon on Wednesday.

8-Course Arts Minors: Starting in September you can get an Arts minor with only 8 courses. If you sign onto a minor plan make sure to check with your advisor to confirm that you're on the 8-course version. If you sign on before then, or if you have already signed on, then go talk to your advisor come September to downgrade your requirements.

Double Degree Exceptions for Stats & ActSci: A series of exceptions are being added to some Statistics and Actuarial Science programs (including Mathematical Finance) to codify exceptions frequently given to Double Degree students. There are some weird inconsistencies here—they apply only to Double Degree students but not to Mathematics/Business single degree students, and for some reason the Statistics Joint Honours degree was left out. I've followed up with the department about these; hopefully this will be sorted out by the time the changes take effect in September 2013.

MHTEL 131 Added to Actuarial Science: Starting in September of 2013, MHTEL 131: Introduction to Actuarial Practice, will become a required course for admission to the Actuarial Science major and minor (but not the Joint; I assume that it's an oversight that will be corrected). It will also be a co-requisite for ACTSC 232, Introduction to Actuarial Mathematics.

Alleviating the CS 240 Bottleneck: Currently, if a CS student is delayed in taking CS 240, then it can really mess with their program. To alleviate this, CS 349, User Interfaces, is having its prerequisite changed from CS 240 to CS 241, effective September 2013.

Exacerbating the CS 350 Bottleneck: CS 450, Computer Architecture, will have CS 350, Operating Systems, added as a prerequisite.

New Advanced Differential Equations Course: AMATH 251, the new advanced differential equations course, is going to be offered starting this Fall. The most common piece of feedback I've heard about this change is "It's about time," so I guess it's about time? This course will hopefully be more enjoyable for strong students.

JobMine To Accept PDFs: The newly-renamed CECA expects to be rolling this out over the summer. It's taken a very long time due to the amount of effort into ensuring that submitted PDFs are secure. Yes, you weren't going to submit a virus,

but some jerk in Fine Arts might and then the University could get sued.

As for a replacement, CECA is looking into trying to find a replacement after WaterlooWorks got canned last year. It's not easy; there is no other piece of software out there that does everything JobMine does, so the University has to figure out how much custom stuff they need to build on top of what they buy; it's not likely they're going to try to make it from scratch again.

PMATH Algebra Overhaul: Pure Mathematics is doing a massive overhaul of their algebra offerings. PMATH 347, the new Groups and Rings course, will first be offered in Spring 2013, the rest of the changes will phase in after that. If you have any questions to Kevin Hare, the Pure Math advisor.

Additionally, the Spring offering of PMATH 334, Introduction to Rings and Fields with Applications, will be canceled after this term.

CO 255 Moving to Winter: CO 255 (previously 355), Introduction to Optimization (Advanced Level), is being moved from Fall to Winter to accommodate its new position as a 2B course. It will be offered in Fall 2012 and then in Winter 2014. Unfortunately, this might not work out very well for you if you're currently in first year.

STAT 230/231 Pass Average: STAT 230 and STAT 231 are joining the first-year courses in requiring a 60% average to progress to future courses. Starting this September, most 3rd-year STAT courses will require a 60% in whichever of 230 or 231 covers more similar material. Some students who've already taken STAT 230 or 231 may be grandfathered, but new students will be subject to the new rules. Don't let this bite you!

CS Breadth and Depth: Love 'em? Hate 'em? Don't care about 'em? Should they be kept? Removed? Made stronger? There's some discussion about them in CS right now, so it's a great time to send in your feedback.

Professional Skills Seminars: Mathematics/Business has come up with an interesting suggestion, which is to offer no-credit week-long seminars covering professional skills, such as Excel tutorials for business students. The idea is that these courses will be recorded on your transcript, so that employers can easily figure out who has taken them. I really like this idea, and I could see it being used over in CS as well, but what do you think about them?

Some Parting Shots: Working as VPA has been a great pleasure this term. It's a sad thing that academic representation is one of the least visible things that students can do to help other students, because it really matters. I've caught a couple oversights made by departments with proposals, and there was one change proposed where I asked for more data and then the proposal was withdrawn when the data didn't seem to support it (the proposal might come back, but hopefully after some more thinking!). The work that I and others do to help design the curriculum and requirements is very important, but there's no fun events or anything. I have the most boring job, but the most rewarding, I think.

Next term Catherine Sun will be the MathSoc VPA next term. Catherine's great fun and I think she'll do a good job. In Fall, I'll be back (With a vengeance, of course. Why come back if you aren't going to do it with a vengeance?) on the job, and I hope to get more students more involved. I think it's worth it.

Sean Hunt

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Investigating the Root Causes of Failure

Part 2

We see that in ^[1], Kalpin continues to detail his wild and unscientific proposals for the post-secondary school system. While it's apparent that Kalpin is clearly unqualified to be proposing such changes, we also note that there are many details that need to be worked out in his proposal.

Kalpin notes that secondary school is unable "to adequately direct students to a correct post-secondary path" and unable to prepare students for post-secondary education. His approach, dividing students into four streams in 9th grade, is clearly out of touch with the issues plaguing "typical" high school students.

The ministry of education itself notes in ^[2] that in 2003-2004, nearly 1 in 3 students failed to complete a secondary school diploma, let alone advance to university. For the 2009-2010 year, that has only improved to 1 in 5 students. This means that nearly 20% of students will be forced to navigate the world with whatever skills that, at worst, they have acquired in elementary school.

Kalpin introduced integrals and linear algebra into the high school curriculum, where students already struggle with the pace at which concepts are introduced. While the secondary school system once did introduce such concepts, they did so when OAC, the fifth year of high school, still existed, and there was sufficient time for high-school students to absorb such concepts and still be well-rounded when they graduated. Introducing such concepts to the exclusion of other classes (such as Computer Science or Visual Arts) could severely hinder a student's ability to apply the results of upper-year courses like CS 488/688.

Kalpin proposes two radical changes to provide enough

Things I Learned this Term

1. There is a reason no one likes STAT 231. You can take it now or you can take it later. Most people end up taking it the last possible term in hope that they drop it from the course requirements. This act is called playing STAT 231 chicken.
2. Don't only apply for interviews at big companies. Chances are that you will learn much, much more at a smaller company. And your chances of getting noticed are much higher as well.
3. Reading algorithms only goes so far in helping you prepare for technical interviews. Take a pen, a scrap piece of paper, and cut off your access to the internet. This is what coding in hard mode feels like.
4. It seems really cool having all your courses on two days. Then you realize you have to actually stay awake for 8 hours straight. I am not a morning guy. At some point sleeping through one of your lectures is inevitable. Try to make it the least important one. (Engineers will probably laugh at me for this).
5. Working out is a great way to relieve stress and cheer you up. But you aren't really healthy until you start eating and sleeping like a normal person. It's harder than it seems.
6. Read questions carefully. Apparently it is still possible for a math major to add two numbers incorrectly.

The Unfortunate Optimist

funding for his radical changes: the abolishment of the Catholic school system, and the removal of all-day kindergarten. We note that the Catholic school system, arguably, is better able to promote STEM (Science, Technology, Engineering, and Mathematics) skills in young children — as demonstrated by the sheer number of catholic (and, for that matter, french immersion) schools that participate in STEM programs such as the FIRST Lego League and FIRST Robotics Competition, compared to the number of public schools that do so.

With regards to the removal of all-day kindergarten, we note that all-day kindergarten gives one more time to build social and soft skills in early childhood, where early childhood educators can intervene as necessary. Underdeveloped soft skills are a leading rationale for programs such as PDEng. Besides, wouldn't you love more time to play with your friends?

Once again, we note how unfeasible such broad, sweeping changes would be. Instead, I repeat my plea for disruptive changes to education from the bottom up. Apply for a Winter 2013 internship with the Khan Academy. Apply to Desire2Learn on JobMine. Apply to VeloCity, and disrupt the world with your own startup in the education industry.

Something more than just writing a whiny article in the paper. Anything. Please. I've done my part; I hope you'll do yours.
!able

[1] J. Kalpin, "Why High School is Too Easy Part 2: Fixes to the System," *The Iron Warrior*, vol. 33, no. 5, pp. 9, Mar. 2012.

[2] <http://www.edu.gov.on.ca/eng/document/nr/11.03/bg0308.html>

Disgustingly Delicious: Blueberry Wine Sundae

Drunkenly Delicious

I always draw inspiration for these articles from what I laying about in my kitchen, this week? A bag of blueberries that is slowly fermenting (F***ing housemates). Now, this gave me the inspiration to use blueberry wine in something, and sundaes came to mind, but blueberry wine is not actually required since it is not that common, you can replace it with some blueberries and a dash of liquor though. Without further ado, here we go:

First, acquire a tub of good quality vanilla ice cream, blueberries, blueberry goop (puréed blueberries, blueberry wine, or blueberry sauce of some sort), and some waffles.

Take a cup of blueberries, blend two cups of blueberries, and take a heavy helping of your blueberry goop, and layer them all on in that order on top of your scooped ice cream that has already been placed in a bowl. If you are not using any alcohol yet, this is your chance. Take some of whatever you think will work best in this mix, and pour a little in (I believe vodka would do nicely). Now put the bowl in the freezer and let the blueberry mix solidify (a little) into a gel-ish substance. Now make your waffles, aim for hard on the outside, soft on the inside, and warm all around. Now take the bowl out of the freezer, and take your waffles, cut them in half, and place them vertically in one edge of the ice cream-blueberry mess. Serve immediately for some tipsy good times.

Soviet Canadian

The Life of a Coffee Addict at UW

The first thing that I look forward to in the morning is that sweet nectar of caffeinated enriched heaven. Being the lazy human being that I am, I maximize my periods of sleep right up until the moment I need to catch the bus. Since this means I don't have time for a homebrew, I must turn to campus coffee hotspots as my addiction enablers.

The art of the process arises here in finding a suitable supply, usually depending on how stingy I am feeling and how late for class I am. As per my tastes, the optimal solution is a cup of gold from Tims, but I do not always have the time (or patience) to stand in the mile long lines and pretend to be waiting at the DMV. This forces me to choose one of the lesser, though more cost effective, alternatives on my way to class.

All that must be said here, without pointing fingers, is that some coffee providers need to grasp what coffee is and when people buy it. If you will not set up shop before 12, why bother? Coffee rush occurs pre-afternoon. That means before. I mean, sure, I'll need a second or possibly a third cup, but that won't be from you if I came to you earlier and you were still MIA.

Now, Van Houtte is an appealing source of sustenance when I can feel the withdrawal creeping, and I get that it's favourable to sell variety, but what am I going to do with all of them? All coffee aficionados need is a dark, maybe a medium roast, and I need it to be there when I am.

When I'm looking for my golden mushroom boost, there's no chance that I'll be substituting a hazelnut or toffee whatever when the dark has been bled dry.

I won't get into coffee pots that don't identify what is inside (other than coffee). You know who you are. At best I'd like to know what I am drinking, though I guess at desperate times... yeah, standards collapse.

What drains my wallet worse than any leech seed is spare time and Roll up the Rim season. It is the most devious instrument of my demise. When the craving hits, I have time for a line, and roll up the rim is in town, I will always migrate to the nearest Timmies. Why would I not get the best cup of goodness that I can, especially with a chance to win (that results in consistent game overs wherein I win numerous chances to play again)? Note borderline gambling issues. That is particularly when the betrayal of our friendship surfaces. Tims might as well be Scar.

Regardless of all that has been said, as long as no coffee scarcity exists on campus, I'll survive, and my anorexic wallet and I will be in pursuit.

Frac-Brd-tional

Error in Last Issue's Errata

Errata Errata

It's Tony Le Russa. Geez, *mathNEWS*.

Scythe Marshall

The Economics of Porn

And How to Get More

Getting More Money

There exist a large number of sites on the internet, called TGPs, dedicated to driving traffic to porn sites, where it is hoped you will sign up and pay for higher resolution porn. The porn sites then pay the owners of the TGP sites for traffic driven to them, and the TGP sites have a large number of thumbnail links to free galleries hosted by the porn sites. The catch is that a visitor is not always directed to the gallery they select, but sometimes to other pages of sites who pay for traffic. The owner of a TGP must balance the income from redirections to porn sites, and the willingness of a visitor to stay on the page if they continue to get redirected to pages they didn't want to see, namely, not the free porn. Also, since the TGP owners only get paid if they direct traffic to other sites, they must get visitors to their own pages first. This is generally accomplished via two methods, one is specializing, and thereby attracting people with very specific interests, and the other is by buying traffic from other TGPs. As such, many of the redirections while using TGP sites will actually send you to other TGPs.

Getting More Porn

The approach I'm about to describe depends on an implementation detail of many TGPs. The links that the thumbnails send you to will actually be a PHP script, which takes as a parameter the actual URL to redirect you to. The PHP script will then redirect you to either that URL, or one from its list of sites that buy traffic from the TGP. The key lies in the fact that most TGPs actually embed this URL in the query parameters to the PHP script's URL. This means that you can get all the original gallery links simply by parsing them out of the query parameters. I was able to do this in about 40 lines of Perl, including handling URL and Base64 encoded gallery URLs. One caveat to this is that some TGPs don't use this method. The scripts instead take an identifier and presumably do a lookup in a back end database. This means that you can't parse the gallery URLs out of the page source.

Getting More Time

The redirection to other TGPs means that from a small original set of TGPs, you can find many other ones, which you can then scrape for more links. If this sounds like a prime candidate for a web spider, you're probably right. I suspect that a rough classification of sites could be done, into TGPs, free porn galleries, and other pages, based mainly on the number and destination of links on the page. This, combined with keyword analysis, could probably lead to a tool that could start with a seed set of TGP pages, then crawl those to find more TGPs, parsing the free porn gallery links out of pages as it goes along. The resulting list of porn gallery URLs could be classified based on the keywords from the TGPs they came from. In this way, one can almost completely automate the search for porn, leaving only the final judgement call required from the end user. Other improvements might include automatic recognition of sites with sequentially increasing gallery URLs, thus allowing extrapolation from URLs from the crawl to new ones.

ConcealED

Amelia Earhart Reappearance Signals Wave of Funding to History Departments

In recent news, Amelia Earhart was found yesterday, posing as an elderly women in Kansas suffering from senile dementia. The women was very lucid in her description of her final flight over 75 years ago that preceded her disappearance. Historical scholars are in an uproar regarding the recent discovery.

Additionally, Earhart has also described many other events in her life, offering an exclusive glimpse into recent history. However, these details have led several researchers to question the authenticity of her testimonial. Prof. John McIntyre has expressed doubt about some of the details of Earhart's description of the towering dinosaurs which reigned over Middle Earth shortly after the fall of the Roman Empire, saying that "any description of such grand lizards could not possibly have been made by someone who had only seen them from cruising altitude."

Earhart's reappearance nevertheless has boosted funding to several University history departments, now that something historically unresearched has "finally happened" according to Ontario Minister of Education Laurel Broten. She was reported having an interest in history, but unable to give it funding to the lack of novelty in their research compared to other underfunded disciplines.

"Amelia Earhart's stories give Ontario researchers an opportunity to do ground-breaking research into many turn-of-the-century innovations in aviation, at the mere inconvenience of abducting an elderly lady from the Southern States," Broten says, "It is exciting to know that Ontario history departments will be the first to truly examine pterodactyls from a historical perspective."

Impulse Vector

New Investment Opportunities Available in Ontario

Whores Don't Sink

If you haven't heard the news, brothels are now legal in Canada. This is, without a doubt, exciting news, both for foolish politicians / public figures / celebrities looking for their next scandal, and investors looking for equity.

There are some things that are pretty much guaranteed to stay afloat regardless of the condition of the economy: food, alcohol, and now, whores. As a wise man once said, "Brothels make a much better investment than ships, I find – whores rarely sink". There is no doubt about it: brothels will be great investments. If you're smart, you will sell all your possessions and valuables, and invest everything in brothels, early, so you establish a monopoly before everyone else gets on the bandwagon.

theSMURF

Knitting is Awesome

So I hate to break this to you, but I have a weird addiction. You wouldn't think that several thin strands of wool or cotton or synthetic material twisted together, dyed pretty colors, and wound into an object called a SKEIN would be so special. My name is MoGlo and I am a Yarncraft addict. (Yarncraft is defined to be creating handiwork by knitting and crocheting)

There is definitely something mathical about yarncraft. Think about knitting. If you're at all familiar with knitting it's just taking a super long piece of yarn and 2 stick things (called KNITTING NEEDLES) and basically you make a bunch of knots and poof! Out comes a scarf! Pretty cool right? Or maybe if you do some other permutation of knots, you can make yourself a toque! Similar projects can ensue. The funny thing about knitting is that there's basically only 2 different types of knots! They're called knit and purl (you can Google the specific directions if you please). Maybe I should put this in math terms. Ahem.

Theorem Garter Stitch

Let "a knit stitch" be defined to be a particular knot in yarncraft. If a knit stitch is knotted for every stitch in a row and for every row in the project, then the project is defined to be in Garter Stitch.

We also note that purling is defined to be the "reverse" of knitting when looking at the finished product. So if we did a whole scarf as the purl stitch, the resulting product will look EXACTLY THE SAME AS THE GARTER STITCH.

I guess another mathematical equivalent is $1 + 1 + 1 + \dots + 1 = -((-1) + (-1) + (-1) + \dots + (-1))$ where the number of 1's and (-1)'s are equal, 1=knit, (-1)=purl.

I guess I could impress you with other permutations of the knit stitch and the purl stitch with fancy words like STOCKNIETTE STITCH, RIB STITCH, BASKET STITCH, CABLE STITCH, and the list goes on and on! If you think this is kind of complicated and WAY OVER YOUR HEAD, don't even get me started on crocheting.

Yours,
MoGlo <3

Feminists Accused of Beating Regional Police Officer with Dildo in Court

The feminists accused of premeditated assault were brought before a regional court today. The women used a provocative, ritual conga display to attract local police officers to their workshops in which they cruelly beat them with a large phallic object. The officers were rushed to a hospital soon after the encounter.

Due to the presence of dangling modifiers in news headlines, many expect the incident to repeat itself once the trial begins.

Impulse Vector

Questionable Things to Do

*Based on things that I did, witnessed, or heard about this term. Except for one or two of them.**

I could probably write articles for each one of these, but I'm lazy. So here's a list!

- **Running VisualStudio in WINE.**
Because you are so dependent on VS. Even if it's Visual-Studio 6.
- **During an HR interview, describing everything in extremely detailed technical terms.**
I mean, you don't really want the job, and it's not exactly sabotaging the interview, right?
- **Watching NyanCat (or any flashy video) in the front row of a classroom.**
Because distracting people is a fun thing to do!
- **Confusing scientology with sociology.**
I asked a mathNEWS editor what elective he was taking, and his answer was "It starts with 's', ends with '-ology' and isn't 'scientology.'"
- **Asking if a C++/gtkmm assignment can be submitted in place of a Java/Swing assignment.**
This was actually asked in Piazza for CS349 (User Interfaces). The answer was no.
- **As an interviewer, assuming all candidates are familiar with vim.**
I walked into an interview, and after introductions and pleasantries, the interviewer said "I've got a few coding questions for you on that laptop. I assume you're comfortable with vim?"
- **Attending employer info sessions only for the food.**
After all, it's free food! And you usually get an interesting tech talk, too!

**Nobody actually watched NyanCat at the front of any of my classes, but there were ideas... Also, I attended info sessions for the companies I applied to, but I wouldn't be surprised if some of the attendees were only there for the food.*

!bob

The End is Nigh

Exams are close

The end of term is here, classes end on Monday and then exams begin a week after that. Your final projects and assignments are in and you are free, so wonderfully wonderfully free. Take this time, right now, to relax, have fun, and get some deserved rest. Get that show, game, book, or whatnot you have sitting on your back list finished. Go out, have fun, party. Recall though, you have exams coming up, hunker down and study. You are paying how much to come here to learn!?! Make the tuition worth it and get yourself ready.

Good luck from all us at mathNEWS.

The Writers

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UWmathnews), or in person (MC
3030)!**

Cat Trolls

So this semester for the first time in my life, I am living with pets. Proper pets, that is. Technically speaking, my family had fish while I was in high school. If you've ever had fish though, you will understand what absolutely boring and pointless pets they make. They just float in the water and blow bubbles. Sometimes they look at you. That's about it.

If you're lucky, you might get a suicidal fish that keeps trying to jump out of the tank (my roommate's fish died that way), but even then your entertainment will last only as long as you don't have a lid on the tank. Which is a bit like standing a suicidal person on the top of a bridge and seeing how long you can prevent them from jumping. In other words, it's a bit of a disturbing form of entertainment.

So fish stories aside, the lady I am renting from this semester has a cat and a dog. The dog is not that exciting. It barks more or less constantly and appears to have psychological problems, but that aside I haven't actually had too many run-ins with the dog. The cat, however, is a different story.

It started from day one. I was unpacking my suitcase when the cat waltzed in and jumped into it. I stared hard at the cat. It stared at me. I flipped the lid on the suitcase closed. The cat made no indication of trying to escape. Amazed at the stupidity of the animal, I was preparing to zip up the suitcase and cart it down the stairs. My dad stopped me though. Apparently he didn't want to take a cat home. I would have suggested that he throw the (still closed) suitcase into a ravine instead, but he muttered something about animal cruelty.

The shenanigans continued from there. Some mornings the cat would jump up onto the table and try to eat my breakfast. After a few rounds of playing keep-away with my food, I would finally shoo the cat off the table. It would sit on the chair directly across from me, staring angrily with knitted eyebrows. I would keep munching away at my cereal, making sure to make lots of noises declaring how delicious it was.

Another day I was flattening cardboard boxes. The cat came along and jumped into the next box I needed to flatten. After an intense staring match that lit several nearby pieces of furniture on fire, the cat was still sitting in the box. So I put the lid on the box. The cat still didn't move, so I started shaking the box. Within milliseconds, the cat had lifted up the lid and streaked out of the box. Once on the ground, she slowed down and walked away slowly, trying to pretend that I hadn't just scared the crap out of her. That's one more win for me, you troll cat. You should know better than to mess with your human overlord.

BlueberryMuffin

Uses for Mirrors

- Making it easy to read this article
- Reflecting the sun into the eyes of your enemies
- Looking around corners in case of a basilisk or Medusa
- pines are
- They're handy to catch spirits and find out who the vamps
- Why is there blood in my eyes? (spoken from experience)
- Do I look creepy when I wink?
- They make adoring yourself quite easy

CoEwoD

Friend-zones & Communism

I decide to pick up a copy of Imprint. In my three years here, I've done this only once before when a friend of mine was using the blank space as a sketchpad for his doodles. However, something caught my eye: "Looking for love, stuck in the friend-zone". Accompanied by an adorable cartoon, this article shows some promise.

I pick up the newspaper and begin to read. Within the first few sentences, my inner grammar nazi is beginning to weep. The article is overflowing with comma splices, sentence fragments, and nonsensical metaphors. I read on, discovering that the article intends to cover three main topics: friends with benefits, friendzones, and friends who desire relationships.

The author goes on to give an incomplete and unsatisfactory explanation of the concept of "friends with benefits" and its inevitable failure, like that of communism. That's right, he compares a casual relationship to a socialist movement. Then, after an elementary review of the mechanics of sex and hormone release, he likens the emotional aftermath of sex to a single battle in the war that will be fought between both parties.

Let's try to draw some of the similarities here. Communism: a revolutionary socialist movement to create a classless, moneyless, and stateless social order structured upon common ownership of the means of production, as well as a social, political, and economic ideology that aims at the establishment of this social order. Friends with benefits: a term used to describe the physical and emotional relationship between two unmarried people who engage in uncommitted sex acts. The only connec-

tion I make here? If our author isn't getting any, he doesn't think you should be either. It's only fair, after all.

The next item on the list? Friends who have feelings for each other. Now, I'm not sure if you've ever experienced this, but occasionally, people develop romantic feelings for other people who are already their friends, and not complete strangers. You have a few options here: you can confess your feelings, or let them build up inside you and forever wonder what could have been. This is probably the only portion of the original article that gave (somewhat) useful advice: tell the person how you feel, and don't worry about the repercussions; if he or she is a good friend, there should be no harm done.

Finally, we move onto the "friend-zone". The author of the article takes a few paragraphs to explain how men are the hapless victims of the friend-zone but then goes on to explain that men are idiots for blaming women for this phenomenon. He states that it is inevitable that people sort others around them into two categories, "people I could date" and "everyone else". He concludes the article by stating that he can offer no advice or aid to people struggling with any of the above mentioned issues, and wishes them luck and "cheap cuddles". This is followed by his last attempt at a bad metaphor, in which he likens the described hopelessness to marriage.

This is possibly the least insightful relationship article I've ever read. The banner over the article reads "Relationships Suck", which is just about the only descriptor I'd use to describe the article as a whole.

Mahna Mahna

What Pokémon Needs

In the world of competitive Pokémon battling, one has to take account of many hidden variables that are random, such as IVs and natures.

The standard way to get desirable values in Pokémon is through an elaborate system of breeding in which a high IV and favourable nature is transferred down through generations. But as anybody who has resorted to alternative, more sketchy methods knows, breeding is often difficult and tedious.

There are many methods of circumventing the tedium of systematic breeding, while at the same time getting much more precise results. Some are less accepted by the community at large, such as hacking and use of an Action Replay. But there is one method that is not as controversial, but on the accepted side. This method is RNG abuse.

RNG abuse involves predicting what the pseudorandom number generator in the game will produce at certain times, to search for a value that will return the desired random values in a Pokémon. Many competitive battlers do not frown on this practice, despite it being an abuse of the pseudorandom nature of the generator, simply because it does not require any non-standard interfaces to achieve.

RNG abuse, while still using completely "legitimate" methods, is still a subversion of the systematic, imprecise breeding system that should be properly followed when trying to achieve the perfect Pokémon. So what we need is a barrier to this abuse.

This comes in the form of cryptography. One of the defining features of modern cryptography is the fact that the methods

can be completely transparent and yet the cryptography is still strong due to properties of mathematics. Simply use a hash system like SHA-1 to generate the random values for each Pokémon. Couple this with a proof-of-work system to ensure that trying to brute-force the generator is also time-consuming.

You may wonder why one should go to such lengths to protect the data in a freaking children's game. Well, one, it removes one method of "legitimate" hacking that people who don't want to put in the hard work of systematic breeding (like they do in real cockfights) can resort to and for which they can use the "standard interface" excuse.

And two, Pokémon fans take their data seriously. Perhaps by using cryptographic hashes to generate random data, we can take advantage of the computing power of Pokémon fans who are desperate to continue using RNG abuse to solve problems in mathematics and cryptographic security. Imagine, using an RNG that involves prime numbers to solve the Riemann zeta hypothesis!

It's a win-win situation. If Pokémon fans don't solve the cryptographic RNG, they'll switch to systematic breeding, the way the game was meant to be played, or to straight-up hacking, which is less excusable, therefore widening the line between acceptable and unacceptable practices. If they do solve it, then they have proven themselves as a human computing base that can solve hard problems in mathematics, and will attain honours beyond just being Pokémon Masters. They will become Pokématicians.

Ender Dragon

profQUOTES

[Pointing to a lecture slide] This is my first time seeing this. The co-instructor made it; he didn't tell me what to say so let's just look at the pictures.

-Storjohann, CS240

I don't know how this algorithm works, so let's end the lecture here.

-Storjohann, CS240

And so here is this second string example that I just realized for the first time in 8 years that it actually says something.

-Storjohann, CS240

Of course I have to shift it all the way past. Wait no, do I? No, I don't.

-Storjohann, CS240

In combinatorics, many people have tried to prove the 4-colour theorem and many people have failed. It is a choice subject for theses where writers typically quote attempted wrong proof number 37, etc.

-Wormald, MATH 239

Algorithmically, this theorem sucks. It will destroy you.

-Wormald, MATH 239

We will have to make up for lost time in the lecture for the break we never had.

-Hinek, CS240

What did you do before this term?

-Neilsen, SE 380

I put up the assignment solutions two weeks before the midterm and final. I got killed on my ratings for doing it. The exam marks were higher, though.

-Neilsen, SE 380

The old sages have said: "first order ODE systems shall have unique solutions once initial conditions are given, at least for a little while (say $\pm \epsilon$ time)."

-Charbonneau, PMATH 365

Since this is the Computer Science Club, I'm supposed to say, "Interrupts are Enabled." And the first time I heard that joke, I had a full head of hair.

-Bill Cowan, CSC Talk

We *generally* need two parents to have a child.

-Petrick, CS 136

One person can spawn off children!

-Petrick, CS 136

Marmoset has been the bane of our existence.

-Petrick, CS 136

It's like the epsilon-delta game from calculus, but in terms of scanf.

-Petrick, CS 136

You're Canadian, so you can only sort of hate it. Because you can only sort of do things.

-Smith, ECON 102

I like killing trees. They helped pay my tuition, too.

-Smith, ECON 102

Lets get rigorous! Oh, now the mathies have woken up!

-Smith, ECON 102

Look, if America really wanted its automotive industry to be competitive, then they should've bombed Detroit.

-Smith, ECON 102

Come on ladies and gentlemen, stop looking like losers.

-Smith, ECON 102

Even if you start reproducing like rabbits today, and I don't think you should, by the way that is NOT a recommendation... don't tell your families that I told you to go get pregnant by the end of term. I will deny that.

-Smith, ECON 102

...then Christopher Columbus came along and said, 'yo! I want to sail.'

-Smith, ECON 102

The artsies should just write that down on their reference sheet because it's very confusing.

-Smith, ECON 102

Ask your pure math prof where the chief priest got the number from. 'Professor, where are numbers before they are written down?' I truly believe a pure math prof would have an answer, because god knows, they are really strange people.

-Smith, ECON 102

It is my professional responsibility to watch people in their native habitat. I always stand outside the angle of the video cameras.

-Smith, ECON 102

Ron Paul is an idiot by the way, if you've encountered that strange, old, wacko person.

-Smith, ECON 102

[To student in front row] Sir, please wait at rolling up the damn rim.

-Smith, ECON 102

The artsies think they're doing algebra.

-Smith, ECON 102

You may have to cope with the fact that I may stop breathing. Not that that'll stop me from talking, but I may fall over. You'll have to be patient for a moment.

-Smith, ECON 102

Now that student evaluations are done I can speak in a monotone voice for the rest of the course.

-Wolczuk, MATH 136

Men usually die shortly after their wives because there's no one left to take care of them. Sorry men. Oh but men usually die first anyway so who cares.

-Skryzdlo, ACTSCI 331

Uh oh, my husband is five years older than me. That means he'll definitely die first and I'll be all alone. I need one of those forever alone memes!

-Skryzdlo, ACTSCI 331

Go outside and have a conversation with a goose.

-Katz, MATH 239

Somebody remind me that I did this because I'm going to end up suppressing the memory.

-Katz, MATH 239

Steve gets fired from bartending, so he becomes a C&O professor.

-Katz, MATH 239

I have a general rule that you're not allowed to film me in class unless you remix it, auto-tune it, and put it up on youtube.

-Katz, MATH 239

(student answers another student's question) Thank you for answering that. I had no clue what he was talking about.

-Mann, CS 250

You will learn how to fall off your chair out of sheer what-the-fuckery.

-Phipps, MATH 128

(Paid) Smartphone Applications are USEFUL?!

Part 2

Hey everyone! Two issues ago I was talking about how you could get the most out of your Android phone by overclocking it, giving much more power than advertised on the box. Today, you will learn about two very useful applications that I recommend getting for your phone.

SetCPU (\$1.99) is an application that, simply put, modifies and regulates your CPU. In order to use this at all, your phone needs to be rooted, and after my last article, I'm really not in the mood to talk about how to root a phone. By regulating your CPU clock between different speeds, you can drastically increase your battery life than if you never had this application, because it is able to almost completely shut off the CPU when you aren't using it for anything critical. My phone has a dual-core 1.2GHz Tegra 2 processor (which I am glad for – since I heard the GS2 LTE from Rogers has the Qualcomm Snapdragon, which I absolutely hate due to its inability to transfer threads properly between processors), so the upper threshold is obviously 1200MHz. Curiously enough, I set my lower bound to 200MHz, and instantly saw a 30-hour increase in battery life upon using it the first day. Another really cool thing about this paid application is that it can turn your smartphones core(s) off when they are not in use, essentially extending your battery life infinitesimally when not requiring major usage.

Of course, you need to actually “set it up” with profiles (there are five pre-installed, I added another for “charging”, since I like 3D gaming). For off-screen usage, I use a conservative profile (doesn't activate processor for background applications unless explicitly stated); for on-screen usage, I use an “on-demand” profile (allow for better performance if the user requests it – this allows for smoother scrolling, as well as continuous and uninterrupted operation of the phone while you need it). Trying other combinations, I found that this one was the best for my needs, since I will only really use my phone to turn on my music at work, plug my headphones in, and go nuts coding all day, leaving the processors to do nothing but crunch battery if left unchecked. Enough about that application, though. There's a free trial version of this application on Android Market, but guys, come on, it's only like \$1.98, and I really enjoy supporting companies that make good products. Reward them for their time!

The other application I purchased (\$2.84 CAD) was SwiftKey X. This application is a keyboard extension that essentially mimics Samsung/Gingerbread's default predictive keyboard, except with a ‘twist’. SwiftKey X is actually more of learning AI than anything else, since it learns from patterns you've previously typed and compares that with what you're currently typing. This basically allows whatever corrections you specify, such that it does the same for you down the road (assuming you have a consistent typing style – I tend to have slang terms and phrases where I will use different colloquialisms, but for the most part I like this structure). There are two profiles – Rapid and Careful – both of which are better for their own respective typing style – double thumbs versus single-touch, respectively. Faster typing means more corrections, where slower typing means better predictions – but both profiles are remarkably efficient at what they do. Since I've started using it, I find myself more thinking about context and thought pro-

cesses, rather than worrying about “where is that stupid space bar”, since SwiftKey will actually correct misspelling and fail-spacing wherever it notices such instances. Since I'm a fairly sloppy typer, I've come to teach SwiftKey how to correct the majority of my errors, so that I don't have to completely fix all of my mistakes perfectly, but just enough that the keyboard recognizes what I try to mean when I type something silly such as “I like trains” (which I text a lot of people, trust me). As of right now, the corrective “heatmap” for which SwiftKey has identified for my specific typing style has apparently made me 25% more efficient! The only reason why I happen to have that information is because the application itself stores heuristics and long-term data with regards to how many keystrokes it has saved, how many correct predictions it can make, and how useful it has been for you, the user, over however long you've had the application. In case you're a cheapskate like I used to be, there's a free 30-day trial on what is now called Google Play, so try it before you buy it! – If you're an Android-lover at all, or even a generally efficient person, you will love this application – I will almost guarantee it!

Both applications were completely worth it, but to round out my awesome experience, I suggest “Quick System Info”, “JuiceDefender”, and “3G WatchDog”, all free applications that are extremely useful when it comes to saving battery and watching things like your 3G Data Usage that you would never have time to do (especially if you're as on-the-go as I am, or if you're as busy as I am) otherwise. All of these applications together make my experience so much better to the point that I don't even carry around a netbook anymore, since this phone has essentially replaced a bunch of items in my backpack that I would have needed otherwise (including my overall calendar – I put all of my assignments and “to-dos” in this phone!). A cool free calendar / tasks application that I've started using is “Jorte” – it syncs with Outlook, Google Calendar, and other time-management applications to give you a consolidated, mobile platform for recording tasks, events, appointments, and more!

I think I'm going to stop ranting now. You must be angry, having to read through all this text to figure out that Android is really that much more awesome than other smartphone operating systems. I'm sorry to break it to you like this, but there's really nothing to it! Would you rather buy a \$700 phone with nothing in terms of task efficiency, hardware acceleration, or multi-tasking features, or a \$500 phone with customizability out the arse, multi-tasking features to suit a businessman with three part-time jobs, and the ability to program whatever the heck you want into it, since the toolkit and development kits are all open-source?! I've even found an in-line terminal that can edit the source of the phone in real-time in Android – can Apple products let you do that??

You be the informed one. I've had just about enough of having to explain everything! I'll see you guys in two weeks, when I rant about what kind of freedoms one can achieve with a smartphone.

Don't forget to be FOC-ingAwesome, and good luck on finals!

FOC-ing Awesome

Russian Reviews: Civ IV Colonization

New World Borders

For those of you who have played Civilization 4 (Civ IV), you will be familiar with the concepts in colonization. Even better is if you have played the original Colonization as you will find almost everything is as it was, which is good. For those of you who have not played Colonization (and to a lesser extent any Civilization game) here is what you're missing.

In normal Civ, you are leading a nation from nothing in the stone age to a bright future or robots and space ships alongside and against a number of other nations. There is war, diplomacy, annoying AI (Gandhi!), research, settling new lands, and more. In Colonization, you are working on a much more focused version of all this. Instead of being a nation that starts from nothing in a brand new world, you are one of four European powers that are colonizing the "New World" of the Americas. You start with a ship, a settler and a soldier floating on the right side of the map in the Atlantic. Your goal is to find land, settle it in the name of the Motherland, interact with the natives and expand into a powerful colony that supports the Home Country, all before declaring Independence and forming your own nation. To reach this goal, you set up a coastal settlement, later form more inland, gather resources from around your settlements, refine them, and sell it all off to the Motherland for profit, and then pick up additional settlers and recruited professionals and equipment that will increase your resource output and allow you to spread further.

The difficulty of the game comes with trying to optimize your production so that you can make the most goods possible with the smallest pool of settlers that can do the work. The greater difficulty is while managing all your settlers and resources, you need to raise an army, possibly a navy, and fight other nations (or natives) over borders and resources, and eventually defeat your own Motherland's Expeditionary Force to claim your place as a nation. The entire time, you must deal with demands from the motherland for more gold, higher taxes and the like.

An example of all this is a game that I have just finished. I was playing as the Dutch Colonies, I landed in southern South America, the British landed in northern South America, and we both quickly expanded inland. I was looking for more food and resources for the production of more, larger settlements and soldiers, instead of working on trade goods for money (which could buy me more units and hard to make goods). The British though, were settled so close to me that their borders soon overtake some of my farms and mines. This greatly affected my ability to produce a larger population and equip them with tools and weapons. For a long time I tried to move the borders back without a fight, but I wasn't going to happen, so I tried to avoid a war I didn't think I could win, and settled more of the south to make up for the loss.

Soviet Canadian

Submit your *prof*QUOTES to the BLACK BOX (by the Comfy Lounge) or email them to us at mathnews@gmail.com!

CBC's "Power and Politics" Accused of Abuse of Alliteration

Over the past few days, the Canadian Broadcasting Corporation's largely unsuccessful series, "Power and Politics," was accused of a gross breach of literary conduct for the use of alliteration to improve the image of the show and to appeal to younger demographics.

A speaker from the CBC announced yesterday that the breach was not intended, and that the show will return to its original title, "Little Mosque on the Prairie."

Impulse Vector

New Jobs Available to Students

With the government of Ontario's landmark decision this week to legalize brothels and bawdy houses, a new industry has sprung out of the paperwork and is aggressively hiring. Despite the ethical complaints about the lowering of society's standards and morals, there has already been a noticeable improvement on campus.

"This is absolutely terrific," says William Johnson, a VP for the UW administration. "Since the verdict was passed, our University's image has risen dramatically. We now have a use for the old Fed Hall building. It will now be able to turn a consistent profit each and every term. There have been complaints from students living in residence that they weren't able to spend all of their meal plan money in one term. With Fed Hall placed conveniently next to residence, they'll never have to worry about that again!"

When asked where the university would be hiring the new employees from, Mr Johnson replied: "Well, those Arts students need co-op jobs, right?"

!ED

Korra and TANT

There's been some news on the Western Cartoon front. Two events in this crucial field have come to light recently. The first has to do with the sequel series to Nickelodeon's extremely popular "Avatar: The Last Airbender". The series is set to premiere on April 14 with an hour long special. This past week the first episodes were leaked to the internet after a screening for Nick's staff. This is sure to strike a blow to Korra's ratings as everyone is just watching it online. This highly anticipated show deserves to be popular, but if Nick doesn't see the numbers, it won't get the funding. I implore those of you with TVs to tune into the premiere and support quality cartoons.

The second piece of news involves an adaptation of an older cartoon franchise. A new movie adaptation set to reboot the Teenage Mutant Ninjas Turtles is to be directed by Michael Bay. What new, exciting ideas will Bay bring to a 25 year old series? TMNT...IN SPACE! Yep, from a 15-clip on the internet, the best Bay could come up with was making the turtles aliens. The biggest problem with changing the origin story of the Heroes in a Half Shell is that the title becomes false advertising. I have no idea how good a movie called "Teenage Alien Ninja Turtles" will be, but hopefully it will at least be worth riffing on with friends.

Scarred Tiger

A Review of my Co-op Job

TL;DR: It's fucking awesome

So the term is finally coming to a close, and all you poor study term people get to spend the next few weeks of potential good weather either hunkered down studying for the dreaded finals, or if you're like me, playing games for the entire exam period. Meanwhile, being on work term, I get to slack off slightly more, and do less actual work. Sure, I have to write a work term report soon, but I can still put that off for another month.

My job is pretty awesome. Here are some (out of context) things that occurred, were mentioned, or were referenced at my job:

- Porn
- Foosball
- Beer and BBQ
- Video games
- Free food

A basic breakdown of the work day is as such:

- 09:15 – Arrive at work
- 09:15 to 10:45 – Check status of nightly tests, check emails (Reddit on 2nd monitor)
- 10:45 to 11:45 – Fix any issues with nightly tests (Reddit front page links all purple)
- 11:45 to 13:45 – Lunch (potential Beer + BBQ)
- 13:45 to 15:00 – Foosball or Meeting (if meeting, Foosball is shortened / delayed)
- 15:00 to 15:15 – Poop
- 15:15 to 16:45 – Review / add tickets, debug, code (specific subreddits all purple, nothing else to do)
- 16:45 to 17:00 – Walk around the office, pretend to be busy
- 17:00 to 17:45 – (Optional) 2nd round of Foosball
- Go home
- (Optional) Poop again

Employers don't read this, right? Um... I totally work hard 9 to 5 every day with no distractions. Yeah.

Hardly working,
theSMURF

N Things I Hate About Feeling Unwell

Waldo has many things going wrong health-wise at the moment. Shtupid sickness.

- This sickness that I keep getting every single term (even co-op terms), I just can't seem to beat this thing!
- My left knee, I don't think it healed right after that really nasty fall
- The splitting headaches, not being able to focus and having to still finish PD2 is NOT a good combination
- Sinus infections, just...iiiiick
- Shakes and shivers, the sudden change in weather doesn't help this at all
- Being incoherent at times, caused by the headaches and overall need to sleep
- The feeling of needing to expunge yourself, NEVER fun if it actually happens

waldo@<3.LE-GASP.ca

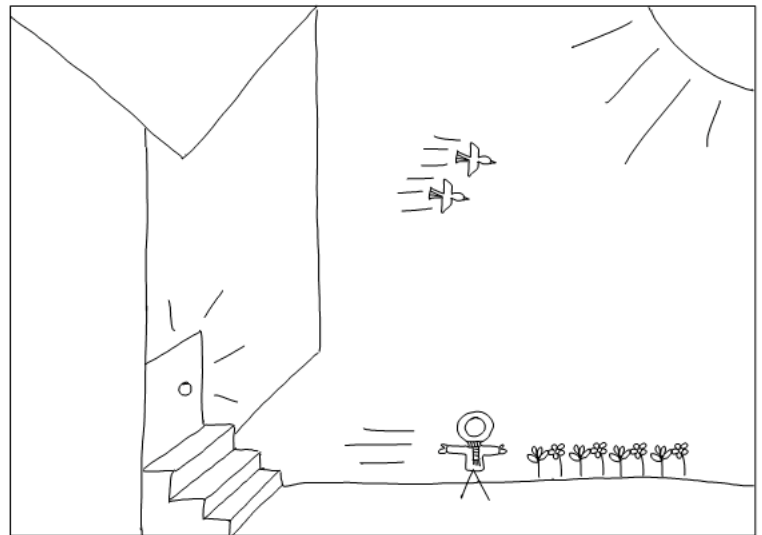
Postmodern Philosophy Transferred

In an unprecedented move by the University of Waterloo's Faculty of Arts, all research and development into the application and understanding of existentialist and postmodern philosophy has been transferred from the Department of Philosophy to the Department of Sexuality, Marriage, and Family Studies. Although many criticize the move as an attempt to distance postmodern philosophical ideas from productive members of the University of Waterloo, many have applauded that the research has not been moved off campus, but only to the Christian-church affiliated colleges, "which is as far away from the Art's quad as we could get it since Optometry refused to host our research," says Douglas Peers, "We are still deeply indebted to the Department of Sexuality since it rid the more conventional departments of such controversial research."

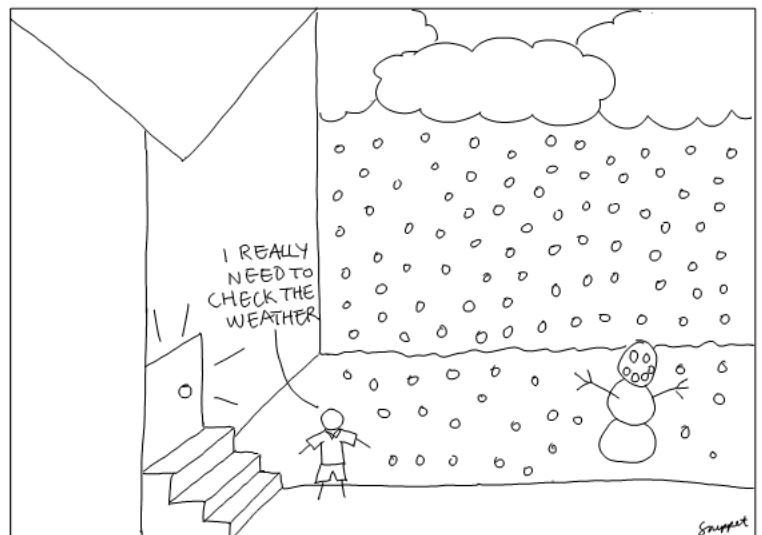
This follows closely after the acquisition of Women's Studies by the same Department of Sexuality, Marriage, and the Family.

Impulse Vector

(NOT) WINTER



YESTERDAY



Shutdown

To the tune of "Prologue (The Work Song)" from *Les Miserables*

[OPERATIONS NIGHT-SHIFT]
Shutdown, shutdown
Don't run your box all night.
Shutdown, shutdown
We're here until it's light.

[EMPLOYEE ONE]
The glare is strong
It's bright as hell in here

[OPERATIONS]
Shutdown, shutdown
your caches we must clear

[EMPLOYEE TWO]
I did not know!
My web use, they would log!

[OPERATIONS]
Shutdown, shutdown
Go write it in your blog

[EMPLOYEE THREE]
I know they'll read,
The user manual

[OPERATIONS]
Shutdown, shutdown
Your time's not valuable

[EMPLOYEE FOUR]
When I get free on Reddit I'll be
Up vote this!

[OPERATIONS]
Shutdown, shutdown
Don't run your box all night.

[EMPLOYEE FIVE]
How long, HR
Before you hear my plight?

[OPERATIONS]
Shutdown, shutdown
And don't forget to save
Shutdown, shutdown
Good god man, don't you shave?

[JAVERT]
Now bring me employee 24.6.0.1
Your shift is up
And your break's begun
You know what that means.

[VALJEAN]
Yes, it means I'm free.

[JAVERT]
No!
It means you get
Your dreaded-pink-slip-of-leave
You are a leak

[VALJEAN]
I shared my license key

[JAVERT]
You robbed from us.

[VALJEAN]
I hacked the registry.
My sister's version was end-of-life
And she was lagging.

[JAVERT]
And she will lag again,
Because you should have read the policy

[VALJEAN]
I know the meaning of these endless nights
A slave of policy.

[JAVERT]
Five years for what you did
The rest because I found it fun
Yes, 24.6.0.1.

[VALJEAN]
My name is Jean Valjean

[JAVERT]
And I am Javert
Do not forget your crimes!
And don't forget me,
24.6.0.1.

[OPERATIONS]
Shutdown, shutdown
And don't forget to save
Shutdown, shutdown
Good god man, don't you shave?

Know What's Fun?

Find an article of mathNEWS. Find the profQUOTES therein.
Read the first 2-4 words of each quote out loud. Enjoy the lulz.

Now that student men usually die. Uh Oh. Go Outside. The Artsies think you may have to. Algorithmically, this theorem in Combinatorics I don't know. I like killing, let's get rigorous! You will learn it's like the old sages' student answers. Of course Ron Paul is a Marmoset! The artsies should ask your pure math prof, then Christopher Columbus.

Concealed

Laundry Sniping

This time, I'm the victim

Based on a sample size of one, I have determined that I'm quite famous now for my Jobmine Sniping article(s). So on a similar topic, I present to you laundry sniping.

I live at CLV, and doing laundry involves the arduous task of hauling my laundry from my unit all the way to the community centre. What's more, the community centre is like Jobmine: it's closed between 12AM and 8AM.

Usually it isn't a problem getting a free machine to use, but one time I was unlucky and every single dryer was in use. One of the cycles was close to finishing, so I decided to wait. I should also mention that during my wait, more people showed up wanting to use dryers.

Finally, somebody arrived and began unloading her laundry. This was my chance – I had been waiting for the longest, so I turned around to grab my laundry. When I turned back, the dryer was empty and free, but somebody literally threw his laundry into the dryer, from across the room.

It was then that I learned how it felt to be (Jobmine) sniped.

So for all the people I Jobmine sniped, there's your revenge.
!bob

Setting the Record Straight

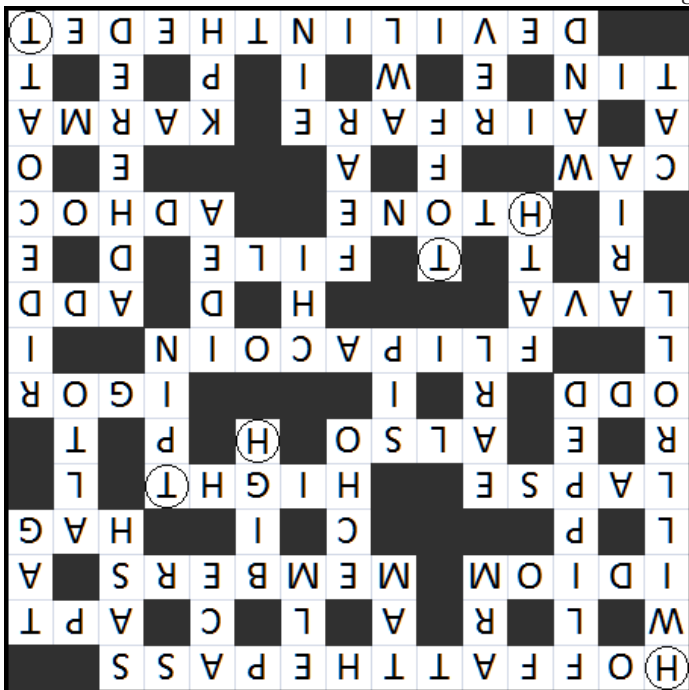
There are a few mistakes in the article I wrote for last issue (and a few possible misconceptions about myself) that I want to clear up.

Yes, you can divide by wau. In fact, omigosh divided by wau is omigosh. The word "can't" in "you can't even divide by wau" really should have been "you can even divide by wau". I'm not sure how it became "can't" in the article.

I don't play Minecraft. I'm just a dragon who decided to take the name Ender like in Ender's Game.

Contrary to popular belief, I do support Rick Santorum in the 2012 presidential election, if only so that America is screwed over even more than they presently are.

Ender Dragon



Ambiguous Video Game Quiz

Another quick article for this last issue. Winner is Paraguay, although the answer was a cheap copout. Technically it could have answered all questions from the definition of the game it would seem.

Since this is the last issue, we will be having the Not-So-Ambiguous Videogame Quiz. Answers are somewhere else this issue. See how much you can get. Enjoy!

1. Losing is Fun!
2. "His name is not Raidou Kuzunoha, so don't get cute."
3. [Philosophy of a Hated Person]
4. Not smart enough to get out of the pool without a ladder
5. "What a horrible night to have a curse."
6. My favourite class had a tranq gun and hallucination gas
7. Spell: Fist of Vengeance
8. "Bleep bleep bloop bloop, must kill dark wing mercenary."
9. The seamless adventure of a humble farmer on the continent of Aranna
10. "And that ends the story that I'd like to call the legend of Goose."
11. "My right arm is a lot stronger than my left."
12. Longest honoured preorder wait ever
13. Carry the Angelic Rifle to the bottom of the tower
14. This game is not about Japanese Grosbeaks
15. A Soviet classic
16. Commanding Goblins
17. The creator of Minecraft has committed to seeing a sequel to this game made
18. 6 hour bug splat
19. If you release it back into the wind, is it littering?
20. Alchemize ALL the things
21. Soundtrack: Mother, I'm Here; Faith of Jewel; Setting Sail, Coming Home
22. Pot makes you blind
23. Panads riding dragons
24. Soundtrack: X-matic, Cross Line, Plastic Night
25. "I didn't ask for this."
26. Soundtrack: The End of Thought; Like a Glint of Light; Fighting the Spirit
27. SPAAAAAAAAAAAAACE!!!
28. Grappling Hook & Parachute
29. I made it past the title screen; I am so brave
30. You kill orcs
31. Undead and Japanese mafia
32. It's in space, you're a pirate and there are zombies
33. Triss. Mmmmmm.....
34. Press X to Jason
35. Three Kingdoms + Giant Mecha
36. "A man chooses, a slave obeys."
37. Stranger danger throughout the Ages
38. This game is the prequel to the second game of the series. No, this isn't the first game in the series.
39. "It is pitch black. You are likely to be eaten by a grue."
40. Diggles
41. "Nothing like a gaggle of security cameras pointed at a guy to make him feel at home."
42. Formido Oppugnatura Exsequens

-ExtremelyLazy

Complicated Answers to Simple Questions

1. $2 + 2$
 Ans:
 $2 + 2$
 $= d/dx(\int 2 + 2 dx)$
 $= d/dx(2x + 2x + C)$
 $= d/dx(4x + C)$
 Thus $2 + 2 = 4$

2. $5 + 1$
 Ans:
 Let $n = \{0,1,2,\dots,n-1\}$ define the natural numbers.
 $n+1 = n \text{ union } \{n\}$
 $5 + 1$
 $= 5 \text{ union } \{5\}$
 $= \{0,1,2,3,4\} \text{ union } \{5\}$
 $= \{0,1,2,3,4,5\}$
 $= 6$

3. If you have three apples, Gloria has three apples, and you put them together, how many apples do you have?
 Ans: One, because you mush them together to create apple sauce.

4. What is $12 + 0$?
 Ans: In the vector space \mathbb{R} (all the real numbers), addition is defined as above. Thus the additive identity is 0. Thus $x + 0 = x$ for all $x \in \mathbb{R}$.
 Thus $12 + 0 = 12$

5. If you mix red and yellow, what do you get?
 Ans: Consider the light spectrum. Design an experiment to mix red light and yellow using a system of filters and various spotlights and observe the results. Repeat the experiment several times and publish your findings in a scientific journal.

6. If Stubbs is walking from MC to Campus Pizza at a speed of 8 metres/min, how long will it take him to travel the 700m?
 Ans: Stubbs cannot walk 68m without stopping to drink coffee or walk for 4 minutes without stopping to eat a donut. Therefore in order to optimize the amount of time spent walking, the two must overlap. Thus Stubbs must go 68m every 4 minutes. Thus Stubbs must walk at a speed of 17metres/min, which will take him 41 minutes walking. Allowing 5 minutes for each break, and given 10 breaks needed, Stubbs will take 1 hour and 31 minutes to walk to Campus Pizza.

7. You have four apples which you put in a basket along with two apples already in it. How many apples are in the basket?
 Ans: Assume the basket is covered. Thus a rat or a vial of corrosive acid could exist inside the basket. Therefore the basket has become Schrodinger's basket, and you cannot know how many apples are in the basket at any given time. If it has been proved a rat or a vial of corrosive acid is not present, then your thought experiment has failed and you are a terrible philosopher.

8. Jon walks at a pace of 10 m/min. Olivia walks at a pace of 2 m/min. How much less time will Jon take to go 100m?
 Ans: Clearly Olivia is a zombie, and thus it depends on Jon's supply of socks and/or Nerf bullets.
 Case 1:
 Jon reaches a safe zone 40 minutes before Olivia.
 Case 2:
 Jon never reaches the safe zone.

9. If you encounter a rabid chipmunk addicted to coffee on your way back from Tim Horton's, how wide a berth should you give it?
 Ans:
 The average reach of a chipmunk is 2cm and they can run at 3cm/s. Therefore, run the other direction screaming in fear.

10. $1 + 1$
 Ans:
 Let $x=y$. Then
 $x - y + y = y$
 $(x-y+y)/(x-y) = y/(x-y)$
 $(x-y)/(x-y) + y/(x-y) = y/(x-y)$
 $1 = y/(x-y) - y/(x-y)$
 $1 = 0$
 Thus $1=1$, $1=0$, and $0=1$ are all true.
 Adding the equations gives:
 $0 + 1 + 1 = 1 + 1 + 1$
 Thus $1 + 1 = 3$.

Yours in complexity,
Shay Blair.

New Source of Clean Energy Discovered

Religion and Science Can Coexist

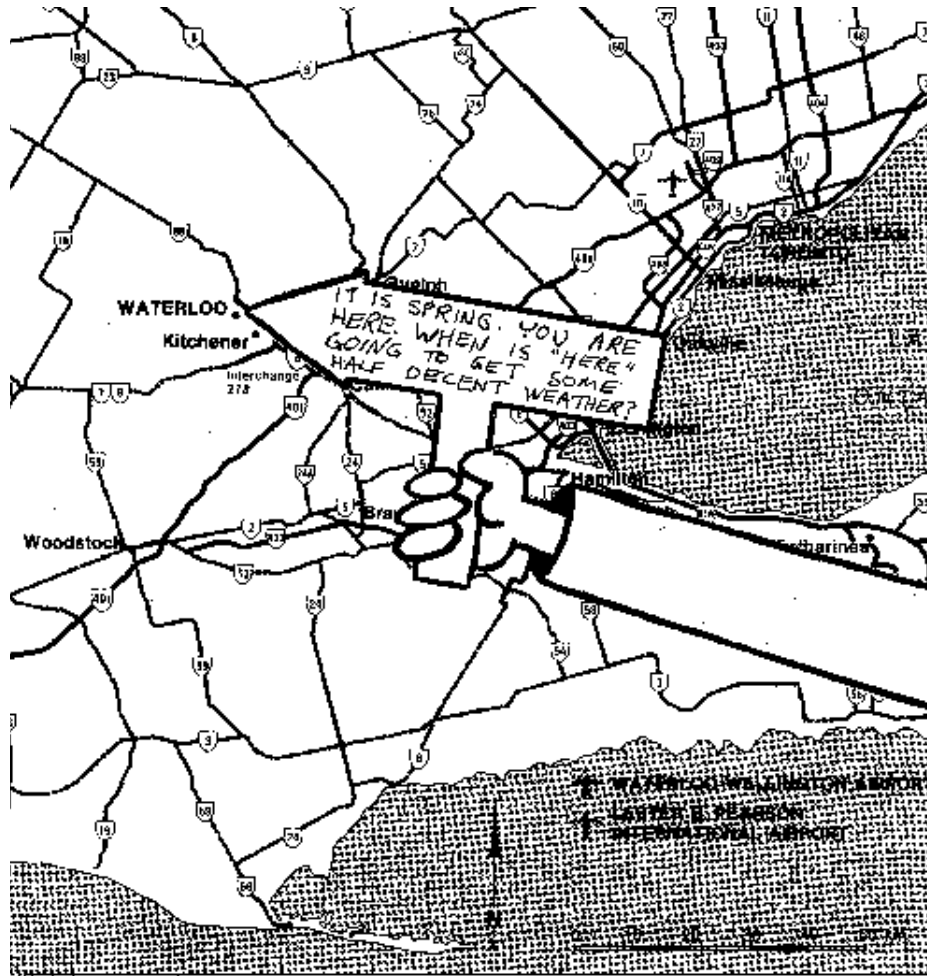
Physicists studying matter-antimatter annihilation have made a breakthrough that could change how humanity goes about satisfying its ever-increasing demand for energy. Most notably, the paper, which was published several days ago, cites a religious history course in its description of a new method for power generation.

The basic premise lies in the well known equation, $e=mc^2$. If a particle and antiparticle collide, they are both annihilated, and their mass is converted into energy. The proposed method involves colliding a Pope and an Antipope, thus releasing the energy stored in the two bodies. Since Popes and Antipopes are much easier to acquire than other antimatter, this will ensure an adequate supply for future generations. Furthermore, Popes and Antipopes have a significantly higher mass than most other particles, leading to much higher energy from a single annihilation. On average, a single Pope-Antipope annihilation would release around 143 quintillion Joules, a figure approximately equal to the global power consumption in 3 and a half months. Talks are ongoing with the Vatican on plans to build a Large Pope Collider underneath St. Peter's Basilica.

ConcealED

elseWHEN

Even back in '96, the weather was still really screwy



Not-So-Ambiguous Video Game Quiz Solutions

1. Dwarf Fortress
2. Shin Megami Tensei: Devil Summoner: Raidou Kuzunoha vs. The Soulless Army
3. Touhou 11: Subterranean Animism
4. Sims
5. Castlevania : Simon's Quest
6. Team Fortress Classic
7. Nox
8. MechWarrior
9. Dungeon Siege (Series)
10. The Legend of Zelda: Skyward Sword
11. League of Legends
12. Duke Nukem Forever
13. Baroque
14. Ikaruga
15. Tetris
16. Goblin Commander
17. Psychonauts
18. Desert Bus
19. Pokemon Black/White
20. Atelier Iris: Eternal Mana
21. Bastion
22. Skyrim
23. World of Warcraft
24. BlazBlue Continuum Shift Extend
25. Deus Ex : Human Revolution
26. Tales of Symphonia
27. Portal 2
28. Just Cause 2
29. Amnesia : The Dark Descent
30. Orcs Must Die!
31. Yakuza : Dead Souls
32. Space Pirates and Zombies
33. Witcher 2
34. Heavy Rain
35. BB Senshi Sangokuden Series
36. Bioshock
37. Myst
38. Blaze Union : Story to Reach the Future
39. Zork
40. Dungeons of Dredmor
41. Sam and Max : Culture Shock
42. Etrian Odyssey (Series)

gridCOMMENTS

Leaf / rodent / boat / moose / bird / bear OR the Queen

Well, that's it for this term everyone. Change happened to be a theme here. **I gave up on trying to make two sets of clues every time, since** very few people even looked at them; the editors gave up on trying to convince me to submit my *gridWORD* on time; and all but three of you gave up on last issue's puzzle.

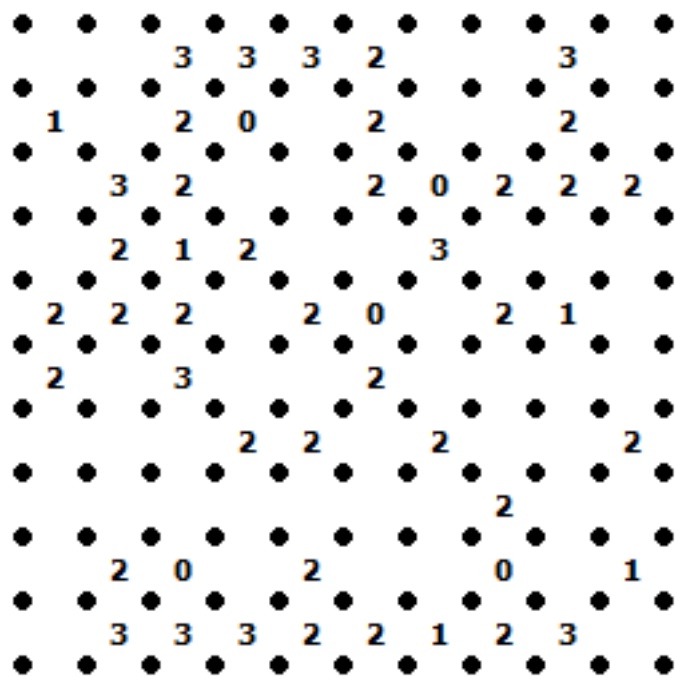
The final prize for this term goes out to Michael Kalsi, for a completely correct solution, and an extremely-honourable mention goes to Cassandra Arsenault, for getting one letter wrong. The *gridQUESTION* then asked about grey areas in math. Michael pointed out the existence of "greyph theory" whereas Cassandra noted that **all** of her math was grey, "because [she] writes in pencil." I don't like grey areas, but I'll take my chances. Meanwhile, Michael can pick up the final prize of the term at MathSoc!

No *gridQUESTION* this time, nor will I bash your heads in about submission deadlines as I usually do. I wish you all a merry finals and I hope you all get 50/50 on all of them, as much as that may destroy the Bell curve.

I can't hint at the theme anymore; it's the tail end of term, moment

Slitherlink Puzzle

The rules are simple. You have to draw lines between the dots to form a single loop without crossings or branches. The numbers indicate how many lines surround it.



Courtesy of puzzle-loop.com

Straight Clues

Across

1. *Intercepts
8. Suitable
10. Phrase
11. Branches
14. Bidly
16. Oversight
18. *Flees (with "___ it out of there")
20. As well
22. Weird
23. Mad scientist's assistant
25. The theme of this crossword; it's a toss-up
28. Slag
30. Tally
32. Sort
33. *Marker
34. Impromptu
35. Crow
37. Flight cost
41. Payback
42. Sn
43. *Catch

Down

1. *People will be severely punished.
2. Inverted
3. Appendage
4. Cap
5. Ulmaceae tree
6. Point on the serve
7. Cumberbund
9. Label
12. Repeat
13. *Arrogant jerks
15. 'A' in 'SATB'
17. Count
19. *Rapid descent
21. Imbibe
24. *Coast by on another's fame
25. *Idiots
26. The second last letter of the alphabet
27. Concept
29. Operatic solo
30. Stuck to
31. *Diminishes
32. Dread
35. Feline
36. Baton
38. Pastor
39. Hole-puncher
40. One, in German
41. 9.004142 attoparsecs per second

**Come to the MathSoc general meeting on Tuesday April 3rd!
MC Comfy, Noon
BE THERE**

Horrorscopes

ActSci: It's the end of term, and only a select few of you will be allowed to move on to the next stage of your program. You are dropped into a battle royale against your peers, and whoever can predict the next death will get supplies to last them through the day.

Your unlucky number is: Still easier than maintaining a 70% average.

AHS: Your dietician says that you have low iron levels in your blood, and that it would explain the extreme drowsiness that has been plaguing you for the past few weeks. You decide not to tell her the real reason: You've recently bought dozens of casks of red wine and have been enjoying one each night.

Your unlucky number is: 1% BAC

AMATH: You decide that your morning coffee isn't filtered finely enough, so you take a Fourier Transform of it and remove all of the impurities. Now that's tasty!

Your unlucky number is: $f(x) e^{2\pi i}$ purity

ARCH: Your final project is finished, and you proudly showcase it for everyone else to see. You tell viewers to check out the fornication, and to take special note of the rise and falls of the ridges. They only respond with giggles.

Your unlucky number is: 9th definition on Google.

ARTS: After taking your World Religions class, you become disillusioned with most of the faiths practiced around the world. You decide to found your own religion in protest, worshipping the omniscient and almighty Porcellino.

Your unlucky number is: >6000 new converts by the end of term.

C&O: You try to optimize a study schedule that will fit around your hectic exam placement. Miraculously, you were able to come up with a plan that would allow you to get at least 8 hours of studying for each course. Who needs sleep?

Your unlucky number is: 54 hours awake.

CS: A friend tells you that the final OS assignment is actually due 3 days earlier than what you thought. Turns out that you and your group had all misread the date on the website. You make a mad scramble to the linux labs.

Your unlucky number is: 5 days of work compressed into 2.

CM: You're asked to model the migration patterns of students for the time span between the end of classes and the start of exams. You stealthily attach tags to everyone's bag, and go to your computer and wait for the results to come in. Once graphed, you realize that your test subjects are on to you, and have moved very specifically.

Your unlucky number is: $8 == >0$

Double Degree: Your elective was finally approved, so now you have your schedule finalized for next term. Unfortunately, due to the fact that Arts courses seem to operate on a different schedule than all other faculties, it runs 20 minutes into one of your required Laurier courses.

Your unlucky number is: 101 reasons to dislike CLAS.

ENG: You get struck with a tinge of sadness when you realize that you will be finally leaving the program that has caused you so much pain and suffering in the past five years. You drown your sorrows in beer, and nearly yourself too.

Your unlucky number is: 6 minutes unconscious.

ENV: With the weather still warm, you decide to enjoy it to the fullest. You grab your boyfriend and run behind the closest shrub. A passer-by mistakes the sound of your squeals of

ecstasy with that of a goose being strangled and rushes to save the bird.

Your unlucky number is: 53 seconds of pleasure followed by an eternity of embarrassment.

Grad: You look at the graduating class, and size up your future colleagues. They all seem smarter than you, and will probably finish their degree before you. You pull out their assignments and fail them, making it that much harder for them to earn a spot with you.

Your unlucky number is: 30 marks lost due to spite.

KI: You mix up your philosophy class with your calculus class. You write an essay about derivatives, and prove why humanity is fundamentally evil.

Your unlucky number is: 0% in both courses.

Math Bus: For your final assignment, you are asked to market a product of your prof's choice. You realize that the only audience that you have to appeal to is your prof, so you dig deep into his past and discover what he really likes. You learn that there are some things that you are better off not knowing.

Your unlucky number is: 4572 results with safe search turned off.

Math Phys: You're preparing for a first date, but you're worried that she'll find out tonight that there are things out there that are smaller than quarks. You go online for help, and find a legitimate-looking saviour.

Your unlucky number is: 200% increase in volume for five easy payments of 24.95\$

PMATH: You force yourself to power through this assignment, seeing as it will be the last time that you'll ever have to take it. Given the likelihood of you going to grad school however, this won't be the last time that you'll have to deal with the class.

Your unlucky number is: 3 consecutive terms of teaching a course that sucks your soul.

SCI: You get pissed off at an overeager frosh and use him as a test experiment in your final lab. You hook him up to the wires, and dip his feet into the frothing green vat. You flick the switch...

Your unlucky number is: 1 new amphibious life form.

Soft Eng: Everyone around you is getting drunk and celebrating the last weekend of term, but you still have assignments to finish. You emerge from the lab on Tuesday morning ready to celebrate, but by then everyone else is hung over.

Your unlucky number is: 99 bottles of beer to yourself.

Stats: Despite everyone saying that Stat 231 was going to be easy, you find yourself struggling in the course. You do some quick calculations to find out what you'd need to get on the final in order to pass.

Your unlucky number is: 80% for a 50.

Teaching Option: Summer break starts really early for you, and you decide to lord it over the younglings who are still stuck in high school. The teacher boots you out of class for being too disruptive.

Your unlucky number is: 4 months off!

Undeclared: You resolve to do some soul-searching this summer and find a specialty that you believe in. After spending the summer planting trees, you decide to become a lumberjack and reign sweet murder upon the innocent saplings.

Your unlucky number is: 3782 trees planted.



***mathNEWS* awards!!**

At the end of term we editors get together and pick out our favorite articles from each issue. If we differ in opinions we have a duel to the death, where the winner's favorite article wins for that issue. Our bloodshed has lead to the following winners:

1. On Referring to Courses with 14-Syllable Titles by Scythe Marshall
2. The Lord of the EngineRINGS by The Pink Hand
3. Cthulhu Awakens, say "Fuck Off" to World by TheSMURF
4. Epsilon Breater Than by tesseract
5. Find the Bullshit by MeaninglessQuips
6. Amelia Earhart Reappearance Signals Wave of Funding to History Departments by Impulse Vector

Pick up your prizes at EOT or bother email the editor to arrange a pick up time.

This Just In: The Rainbow Mathies Author is Dumb

Apparently, I fail at properly clicking the "save draft" button, and as a result the Rainbow Mathies that was written during production night was lost. With so many papers due literally yesterday, this week's article on KW resources will be pushed to a later date. Thanks everyone for another great term, and I'll see you again in the summer!

(define this (not cool))

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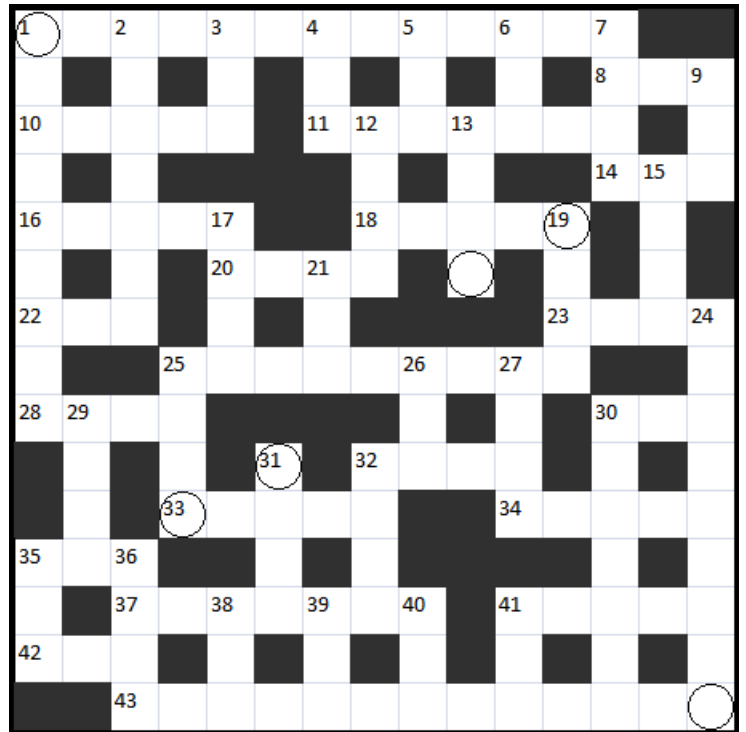
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This week's grid



Last week's grid

