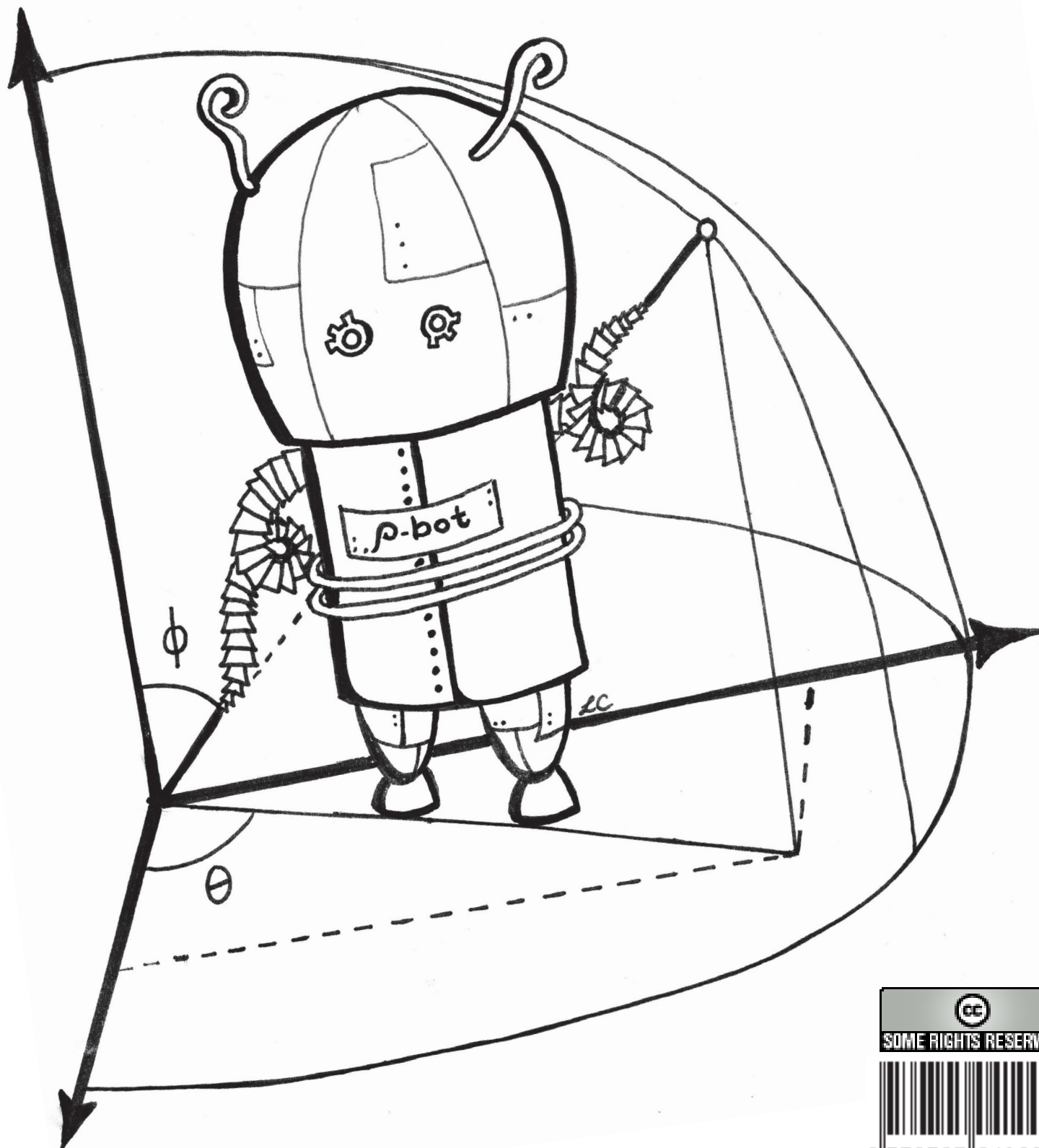


math NEWS

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Friday, January 16th, 2015



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lookAHEAD**mathNEWS**

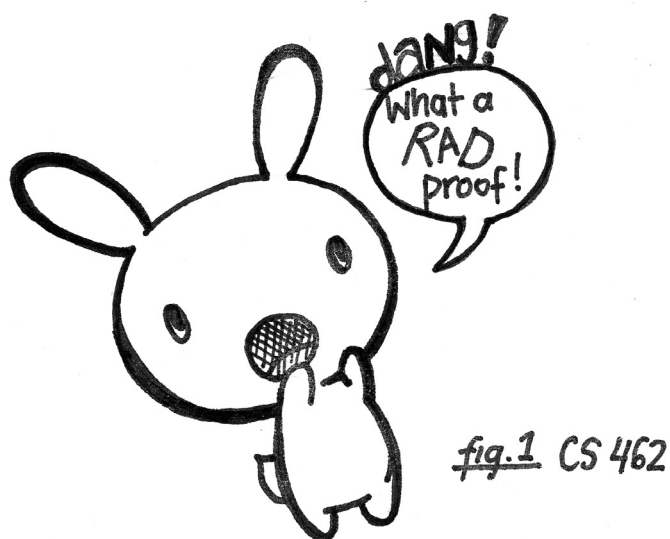
January 16	beep beep boop beep RELEASE THE mathNEWS
January 26	beep boop EMPLOY HUMANS FOR WRITING boop
January 30	ERROR: TOO MUCH mathNEWS

University

January 16	Add period ends
January 23	Drop, no penalty deadline
January 24	Drop, penalty 1 period begins

Miscellaneous

January 14	Dress Up Your Pet Day
January 14	Makara Sankranti
January 16	Appreciate a Dragon Day
January 15	National Hat Day
January 18	Winnie the Pooh Day
January 19	Martin Luther King Day
January 20	Penguin Awareness Day
January 21	Squirrel Appreciation Day
January 23	Measure Your Feet Day



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Julie Sturgeon(GLaDOS), Katherine Tu (Wheatley), Jose-Miguel Velasco (potato)

mastHEAD

It's the beginning of a new term, which means that I need to get back to work. And with work means the never-ending sadness from working. So, we the editors decided to give everyone the chance to enter the fantasy realm of no work, since the idea of not working is pure fantasy in this day and age. So we asked the question: if you could genetically engineer an animal, what abomination would you create?

A.Writer ("Dragon-bear."); Depressimist ("A human."); theS-MURF ("A fast reproducing, fast growing, animal with high protein and vitamin, and low fat. Also, delicious-tasting."); Ice Nine ("Flesh on a matrixed canvas with a blood circuit, growing WALLS OF MEAT."); Theodore Bear ("Sonic Boom: Rise of Lyric"); $s, t \in \{2k, k \in \mathbb{Z}\}, 144$ ("lobsters with wings."); Beyond Meta ("Ants that never stop singing pop songs; their only predator is the Itsy-Bitsy spider."); quiz ("A computer scientist that always solves NP-hard problems in proportional time."); T guy ("An engineering student."); Pizza Freeloader Kid ("GIANT SKY DRAGON THAT GLOWS AND SHOOTS FIRE AND LASER BEAMS!"); Zethar ("What else left is there for us to create? I suppose we could use a few Shoggoths to make our productions of *Shoggoth on the Roof* more realistic. They're a little scarce in this corner of existence."); Shay Blair ("House hippos"); Stubbs ("Dragons. Because Dragons."); psychomath ("A cat with wings that poops money and breathes fire."); guptashark ("Jack and the unstoppable Bean plant."); cat ("Some smart human beings who will do my assignments for me, as well as exams."); Theodore J. Chadwick IV Esquire ("a gorilla with squid tentacles: the ultimate cage-fighting animal"); waldo@<3.LE-GASP.ca ("a meep"); bunnyED ("a giant flemish giant"); lp0onfire ("FrankerZ"); GingerbrED ("A sheeptopus."); SketchED ("A beaver with a duck-bill, that has venomous claws, that sweats milk, and lays eggs. We'll also place it in Australia.")

All your answers make me sick. This is why humanity should never go into the realm of animal creation.

SketchED

Prez Sez

Hello, Math students!

We were thrilled with the incredible turnout for our Welcome Week events so far, especially Clubs Day and apple fritters! We hope you'll take part in our other exciting events this term, including, but not limited to, Pi Day, Games Nights, and Pints with Profs. Look out for more information in upcoming issues of **mathNEWS** or on our website at mathsoc.uwaterloo.ca.

We will be doing our best to make this term run smoothly for the student body, so please contact us with any concerns or questions about student involvement or our services. Most importantly, make sure to have a great semester!

Your MathSoc Execs,
Elan, Keegan, and Tristan

MathFOC Sez

Orientation Week in the Faculty of Mathematics is a week of fun-filled activities which will teach first year students everything they need to know about succeeding as a Mathie at Waterloo, while competing for the glorious Orientation Trophy! Now, we are looking for some awesome Math Orientation 2015:

Front-Line Leaders: Pink Ties, Head Pink Ties, Black Ties and Head Black Ties.

Join the team now: bit.ly/Ties2015. The deadline for applications is January 25th.

In charge of administrating the Week is the Federation Orientation Committee (FOC). If you have questions for the MathFOC, feel free to email them at mathfoc@gmail.com, or give them a call (x36732). If you are on-campus, you can even visit them in their office—MC 4037!

Andee, Ford and Jazbel
MathFOC 2015

CCA Workshops

- **Considering International Work Term Opportunities for Co-op Students** (Tuesday, January 20th, 2:30 PM–3:30 PM, TC 1208)

Are you curious about working outside North America for one of your work terms? Wondering about the international co-op work term opportunities that are posted, and if you're eligible to work abroad? Then this workshop is for you! Topics will include the financial aspects of an international work term, handling the co-op interview/rank/match process, balancing workplace expectations in the culture you're in, as well as information on what to do if you've arranged your own job outside of North America.

- **Thinking about an International Experience?** (Tuesday, January 20th, 3:30 PM–4:30 PM, TC 1208)

Dreaming of going abroad to study or work? Find out how to make your dream a reality and make the most of your international experience. Information on programs for all students (Global Experience Certificate, Beyond Borders) will also be covered.

- **Interviews: Preparing for Questions** (Wednesday, January 21st, 10:30 AM–12:00 PM, TC 2218)

Learn how to improve your performance in job interviews by viewing and discussing recorded excerpts of actual interviews.

- **Women in Leadership: Panel and Networking Session** (Wednesday, January 21st, 1:30 PM–3:30 PM, TC 2218)

In this panel and networking session, learn the skills needed to become an impactful leader from four well-respected female leaders. The distinguished panellists will share their personal career stories and challenges they faced along the way. Ask your own questions around how to be an effective leader, effective decision making, coaching for performance and how to be a leader of the future.

- **Case Interview Workshop, Presented by Oliver Wyman** (Thursday, January 22nd, 7:30 PM–9:30 PM, TC 2218)

To land a job in consulting you have to make it through a case interview. Don't let it stress you out! Join representatives from Oliver Wyman, a global management consulting firm, in this interactive workshop to learn how to tackle the case interview and land a job in consulting.

- **Interviews: Proving Your Skills** (Friday, January 23rd, 10:30 AM–12:00 PM, TC 2218)

In order to receive that job offer, you must prove your skills in the interview. Here is your opportunity to practice and improve.

- **Make Networking Count** (Monday, January 26th, 10:30 AM–12:00 PM, TC 1208)

Learn how to apply successful networking strategies to your daily life in order to enhance your career opportunities.



FASS 2015 SHOWTIMES

Thursday, Feb. 5, @ 8:00 pm
Friday, Feb. 6, @ 7:00 pm
Friday, Feb. 6, @ 10:30 pm
➤ **audience participation night,
not for the easily offended!**
Saturday, Feb. 7, @ 6:00 pm

PRICES

\$10 advance, \$12 at the door
Thursday only: \$7 advance, \$9 at the door
\$2 for first year students!
Groups of 10 or more: \$7 advance, \$9 at the door
Tickets available at Humanities Theatre
Box Office: 519-888-4908

*This performance contains explicit language.



The Math Studies Major is Changing/Has Changed!

In case you were not aware of it already

For those of you who are currently in the Math Studies program, some very significant changes were made at the end of the Fall 2014 that may affect your grade and average calculations as the Official Grades deadline looms. I will thus do my best to answer the following questions that you may have regarding these changes.

What is Math Studies? Isn't that just like, Pure Math or something?

Math Studies is a generalized math program in which you can take basically any (usually non-specialist level) class that you have the pre-requisites for. It is *not* explicitly Pure Math, but those in Math Studies can take certain PMATH courses if they choose to. The explanation I usually give is that it is a general math program that encompasses all kind of math with an Honours 4-year degree (as opposed to the actual General Math Program which is a 3-year degree).

What changes were made?

When you fill out the form to declare a major, you have to declare the academic calendar you are going to follow for your degree. You are allowed to declare your degree to follow any academic calendar that you were around to experience (i.e. if you were around/started in Fall 2010, you can be under the 2010/2011 academic calendar for your degree if you wanted). This past Fall 2014, everyone in Math Studies during that term was placed onto the 2014/2015 academic calendar and all the rules that come with it.

What does having these changes mean?

Previously in Math Studies, you were allowed a maximum 3.0 units failed (usually 6 courses) and your major average was only counted using the 300 and 400 level courses you had taken. Under the new 2014/2015 academic calendar, you are now allowed a maximum 4.0 units failed (usually 8 courses) and your major average is now counted using every single math class that you have ever taken (not including MTHEL or COMM courses).

How to Walk into Rooms

I can't believe I'm writing this shit again. It's 2015, how the fuck do people still not know how to walk into rooms? It's embarrassing.

Let's put this into words people can understand: You have a basket that can fit 10 spherical fruits. There are 10 apples in the basket. You want to put 10 oranges in the basket. What do you do? NO, YOU DO NOT TRY TO BRUTE-FORCE PUSH THE TEN ORANGES INTO THE BASKET. STOP. BAD. Get the apples out first, then put the oranges in.

The basket is a classroom. We are spherical fruits. Let people out before going in. *Fuck*.

JeSuisCharlie

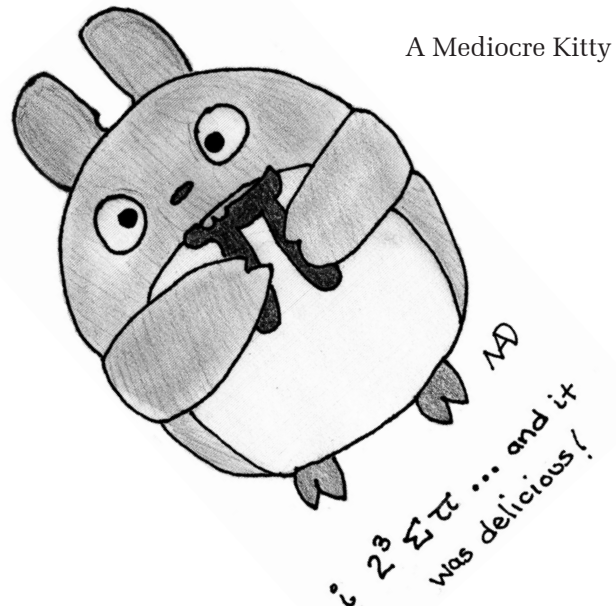
Those are the changes?! Why is that potentially a bad thing?

I know what you're thinking: some people might GREATLY benefit from having an extra 2 failed usable course attempts. Some people that also do better in first year courses as opposed to later courses will also greatly benefit from this change. However, if you did better in later courses as opposed to first year courses, or sit very much ON the definition of being a minimum average student, this change can make you extremely vulnerable in your averages. In my case, having my major average include ALL the math courses I've taken would have put me below the minimum average and I would have been in danger of having a number of bad things happen (i.e. I could have been kicked out of the faculty). I am only one extreme case, but I have no doubt that there are others like me who are vulnerable and it's up to them to ensure that they sort the matter out.

I'm also in Math Studies, but what does this really mean for me? I have more questions! Do you even know why this change happened in the first place?

I honestly have no idea why this change was made, but it can be assumed that it was considered to be of great benefit by a significant number of people. If the new rules do not benefit you, if you are worried about your own situation, and you did not start your studies in Fall of 2014, you are more than welcome to contact the Math Studies advisors. They will be able to better prepared to answer your questions and address your concerns than me. If you are interested in what Math Studies has to offer as a program, you're more than welcome to ask them too! Their contact information can be found at <http://math.uwaterloo.ca/math/current-undergraduates/academic-advisors>.

If you would also like to compare the academic calendars of past years to see just how things have changed, feel free to visit <http://ugradcalendar.uwaterloo.ca/group/uWaterloo-List-of-Undergraduate-Calendars> and peruse at your leisure.



Je suis Charlie

This article also appears on

AAFWaterloo.wordpress.com.

What are the limits of freedom of speech? This was the major topic of discussion tonight at Atheists, Agnostics & Freethinkers of Waterloo (AAFW) in the context of the Charlie Hebdo massacre. There were at least some who suggested all speech should be free, but the discussion of incitement of groups to violence categorically defined as hate speech is generally agreed upon to be restrictable. However, offensive or malicious speech not intended to incite violence? This is where I at least draw the line.

Charlie Hebdo's pictures were racist, and rather insulting. Boko Haram Welfare Queens was especially despicable. However, this was not the particular issue at hand as defined by the attackers; it was explicitly the depiction of the Prophet Muhammad. The idea that the dead deserved this is infuriating. This might be an expected reaction, but deserving? No.

This, however, is a very specific issue instead of a general free speech issue. The issue is that of criminalization of blasphemy, explicitly under most interpretations of Sharia. I know that a large portion of the worldwide Muslim population disagrees with this, but a large portion *does* agree. In Saudi Arabia, Raif Badawi was recently publicly lashed for having a liberal website that was supposedly against Islam. In Egypt, a young man has been turned in by his own father to be imprisoned for posting atheistic comments on Facebook. I am explicitly annoyed at the tenet of the faith that human images should not be made, especially images of Muhammad. This extreme iconoclastic belief has robbed humanity from our collective culture, the art and history that has been destroyed in the name of it.

This is not inherent to all adherents of Islam. Malala and her father work against such extremism in Pakistan in the name of their faith. The mayor of Rotterdam, himself a Muslim, recently said, "And if you do not like it here because humourists you do not like make a newspaper, may I then say you can fuck off."

Blasphemy and religious defamation laws are not unique to Islam, however. We in Canada still have blasphemous libel as part of the Canadian Criminal Code in Section 296. Ireland has a professor of Trinity College threatening to use libel laws to prevent people from re-posting the Charlie Hebdo images.

I do not condone attacks against people, especially in the recent climate of the anti-Semitic attacks in France, the Pegida march in Germany, the Boko Haram massacre in Nigeria. I do not condone the works of Charlie Hebdo. They were crass and in very poor taste. I wish to see more pluralism, and understanding between people. However, certain concepts such as blasphemy, extreme iconoclasm, and defamation of religion must be rejected, even if the others claim it is an integral part of their religion that must be tolerated. *Donc pour aujourd'hui, je suis Charlie.*

Harrison Gross, Secretary
Atheists, Agnostics, and Freethinkers of Waterloo

Freedom of Expression, Terrorists, and Computer Science

tl;dr: Every piece of data is a picture of Muhammad

There's been some bullshit going on in Europe these past weeks with innocent civilians being killed by religious extremists over some cartoons, mainly over the depiction of Muhammad. In response, the satire world published said cartoons and more, because of freedom of fucking expression.

As a satirical paper, **mathNEWS** will join these way more reputable, respected, and revered publications in waving a big middle finger at these terrorists. However, there is a problem with this endeavour: I can draw about as well as an extremist can resist killing people over pictures. What I can do is bullshit about computers, so I will make the following claim:

All data is a representation of Muhammad.

After all, all data boils down to a series of bytes. When interpreted under the correct image format, the data can be anything. Therefore, for every piece of data, there exists some image format such that it will depict a picture of Muhammad. Such image formats may not exist or make sense when used to read other images.

As a corollary of this, the following things are pictures of Muhammad (not an exhaustive list, obviously). The creation of each image format is left as an exercise for the reader.

- This article
- This entire issue of **mathNEWS**
- Rick Astley's hit single *Never Gonna Give You Up*
- A picture of dickbutt
- A picture of Jesus
- Sharknado

Every time a terrorist tweets something? Picture of Muhammad. Every time you stream some porn? Yep, every frame is Muhammad. Tumblr erotica fan fic of Sam and Dean Winchester? You guessed it, Muhammad. It's everywhere. How about that?

JeSuisCharlie

Whitespace Sort

The following is a sorting algorithm implemented in whitespace:

theSMURF

The 7 Most-Wanted Changes to the SE Curriculum

DISCLAIMER: *I was given a list of click-bait article titles and accepted a challenge to write articles for them. This will probably end badly.*

Originally, the number I was given was 17, but that's too long of a list, so I dropped it to 7. In other words, I got lazy and gave up.

Every software engineering student has probably, at one time, sat down and thought about how much they disliked a certain course, or how they wished something specific would be taught instead. Here, I collect seven of the most-wanted changes to the curriculum, in no particular order, based on a survey of sources that may or may not be imaginary.

1. **Teach JavaScript.** We should be teaching students languages that they'll actually use on co-op and in the real world. C and C++? The next Ada. The whole world runs on JavaScript, so clearly we should be teaching it. Don't believe me? See The Birth & Death of JavaScript talk.
2. **Web and mobile development.** When was the last time someone started a start-up for an operating system? After all, it's "social local mobile" not "social local operating system." (Actually, there's a new idea...)
3. **Remove SE 463 from the curriculum.** Probably the most consistently-disliked course in the curriculum. Obviously, "Software Requirements Specification and Analysis" is completely irrelevant to a software engineering degree, so as a useless course, we should trim the fat.
4. **Make trains mandatory.** With an A+ "birdiness" rating, how could making CS 452 mandatory not be a benefit? Everybody who has taken this course raves about how amazing it was. Even if they were hospitalized. That's how awesome it is.
5. **Add CS 365 to the curriculum.** Hey, everybody loves automata theory! A professor I consulted even said, "If I were King of Software Engineering, I would make CS 365 a mandatory course."
6. **Replace STAT 206 with STAT 230 and STAT 231.** Why are SE students the only Math faculty students to not take STAT 230/231? It's a Math faculty requirement that doesn't apply to SE students? Also, it's a not-so-unknown fact that SE students are generally unhappy with their statistics course. Let's fix this by giving SE students a better course and removing the exception in the rule.
7. **Remove CHE 102 and SE 380.** Softies don't need to know chemistry or feedback control. It's not like software engineering is accredited as an engineering program. And we do need to make room for the new courses, so why not ditch a few other courses?

I'm sure these are completely non-controversial and perfectly logical changes to make to the curriculum. And as a prof said this morning, if you disagree, you're wrong, but you have the right to be wrong.

notbob

Top 15 Courses

(According to me, myself & I)

... In terms of enjoyability and usefulness. These are not necessarily all 'easy' courses.

1. **MATH 128:** Integrals, polar coordinates, differential equations, and—most importantly—Joe West.
2. **MATH 135:** Basic algebra with a twist. Here is where you basically learn how to math.
3. **BIOL 110:** Study of animal morphology. Pretty pictures, cool stories. Warning: Mandatory lab portion does contain dissections.
4. **PHYS 111:** Kinematics, dynamics, momentum, and rotational mechanics. A basic course that will help you understand the world.
5. **CHEM 123:** The better partner to CHEM 120. Solutions and equilibria, with a much more fun associated lab course.
6. **AMATH 231:** After the horrendous torture that was Calculus 3, Calculus 4 is a nice reprieve. Vector calculus, line integrals, surface integrals and vector fields. Things that are actually applicable in the real world.
7. **AMATH 250:** Solving scalar and vector differential equations, Laplace methods, and dimensional analysis. Super duper important stuff.
8. **AMATH 351:** A continuation of ODEs from AMATH 250. Important stuff, kinda hard. But Francis Poulin makes it entirely worth it.
9. **STAT 332:** The only statistics course you may not hate. Learning how to conduct proper statistical surveys and analysis.
10. **CO 480:** Super interesting history and a chance to think like Pythagoras. Made even better by Steve Furino.
11. **PSYCH 218:** Psychological study of death and dying. Super morbid, but super interesting. Burris is phenomenal.
12. **PSYCH 232:** Burris again. Psychology of all things evil: what is evil, what causes it, and what does it mean? Possibly the best course on this list.
13. **PSYCH 257:** Study of abnormal psychology. Basics about mental illness and the various symptoms and treatments. Everyone should take this.
14. **PSYCH 317:** Study of psychological issues in children. Kind of important if you plan on reproducing.
15. **PSYCH 356:** Personality theories are studied in detail. Provides lots of insight for introspective folks.

psychomath

The Truth about Geese

It is the middle of winter and yet, campus is still overrun by geese. You look at the geese, perplexed that they haven't migrated yet. These geese, however, aren't the lovable geese you meet during nesting season. These are Northern Barbarian geese that migrated from the dark sunless lands above us. Our own geese will return to make campus welcoming in the spring.

Beyond Meta

Awesome Games Done Quick 2015: Retrospective Picks

Awesome Games Done Quick has just ended, having raised over \$1.5 million for the Prevent Cancer Foundation and shattering last year's total of \$1 million. It was an incredible marathon and showcased some truly amazing game play by talented speedrunners. If you missed the event or want to re-live some of the most hyped moments, here are my retrospective picks for the best runs to watch right now.

- **Donkey Kong Country: Tropical Freeze, played by Michael Goldfish.** This game is fast and demands brilliant execution, which was delivered by the runner over the course of this 1-hour 35-minute run. This was a great start to the marathon and definitely one of the highlights.
- **Banjo-Kazooie, played by Stivitybobo.** Featuring a special Skype call from Grant Kirkhope, the lead composer for the game, this run achieves several skips and techniques that weren't seen in last year's run. Unfortunately, due to personal reasons, this might be the last time we see this runner stream, but if that's the case, then this run was a worthy swan song.
- **The entire TASBot block.** Not a traditional speedrun, but a demonstration of what can be achieved on real console hardware with computer-assisted precision. I don't want to spoil this block. Go watch it and prepare to be amazed.
- **inFamous: Festival of Blood, played by sk84uhlivin.** World record run, amazing play.
- **Battleblock Theater, played by PJ and Mecha Richter.** Developer commentary featured on this run, and when these two get in the same room the results are always hilarious. A long run at 2 hours 45 minutes, but worth watching and enjoying.
- **Snake Rattle 'n' Roll, played by PJ and Feasel.** Co-op runs of this game are tough but these two pull it off.
- **Gimmick!, played by Cyghfer.** A short but extremely difficult run, and well executed.
- **Super Mario Bros. 3 glitched run.** The runner pulls off a very risky glitch and completes the game in an almost impossibly low time. Worth watching if you are familiar with the original game.
- **Animal Crossing, played by Forstride.** Yes, it is possible to speedrun this game.
- **Kaizo Mario World, played by dram55.** Yes, we know this run is not "marathon safe", but it happened anyway. Runner pulls it off in style.
- **Tetris: The Grandmaster exhibition, played by Qlex, KevinDDR, kitaru, and colourthief.** The description said "this will blow your mind" and it did not disappoint. I'm not spoiling anything else. Go watch this.
- **The entire Awful Games Done Quick Block.** A "great" showing of games this marathon. Highlights include Big Rigs, Trio the Punch, Pocket Monster II, Town With No Name, Sneak King, and Super Pitfall.
- **Ninja Gaiden relay race, played by Dxtr, jimmypoopins, crak_atak, ohon, gusmancini, and infestedriche.** Some world-class runners come together for an unbelievably intense race. All three Ninja Gaiden games for the NES are played back-to-back-to-back, and anything can happen.
- **Punch-Out!! (Wii), played by Zallard1.** This run is very watchable, arguably more so than the NES Punch-Out!! run. The execution is nearly flawless and some brilliant manoeuvres are exhibited.
- **Castlevania: Symphony of the Night race, played by Benauton, Dragonblitz, romscout, and Epicly_Epic.** Another great race, showing off great skill by all the players.
- **Pokemon Blue, played by Werster.** This run has a time of 21 minutes and 42 seconds, and demonstrates several interesting glitches that you can try yourself! It also completely breaks the game, if you haven't already guessed that.
- **Pokemon Green, played by Shenanagans.** Watch this after enjoying the Pokemon Blue run; the completion time for this is under 5 minutes, due to a Japanese-only glitch.
- **The Legend of Zelda: Ocarina of Time blindfolded child dungeons, played by Runnerguy2489.** This has to be seen to be believed.

Summer Games Done Quick 2015 is right around the corner, so check back for a schedule update in a few months. Look forward to it!

lp0onfire

Alternatives to Going Commando

Do you have a problem with confidence? Don't have the courage to go commando? Do you also hate the mainstream options for underwear? Here are some exciting alternatives!

If you want to ensure your genitals have quality protection, you can always employ a chastity belt. The most common chastity device for a penis is even transparent, so your impressive penis will be visible once your pants have been removed!

Half commando is an excellent stepping stone. Simply place your penis such that it protrudes from your briefs. A vaginal equivalent would be the crotchless panties found in many adult stores.

If you possess a penis and wish to emphasize this fact while still remaining completely covered, you can use a codpiece to do so.

If you would prefer to flaunt your rear end instead of your frontal genitalia, you can achieve the desired effect by wearing assless chaps.

If you want to completely expose your genitals but still have some form of underwear, you can acquire string underwear; it goes all around your genitals and hides nothing.

Yours in nakedtimes,
Shay Blair

*mathNEWS**' Top 10 Games of the Year

2014 has come and gone, and it's around this time of year that all the video game critics are releasing lists of their favourite games of year. Though we at *mathNEWS* are not professional video game critics, we still feel the need to share with you our favourite games. And besides, here at *mathNEWS*, we are committed to acting like mature adults, which gives us much more credibility than those aforementioned critics. Without further ado, here are our favourites of 2014:

#10: The Wolf Among Us

This wonderful film noir inspired, story-driven game by Telltale, the makers of The Walking Dead game (the good one!), could be considered to have come out in 2013. Both its final episode and retail versions came out in 2014, so we allowed it to qualify for this list. With an interesting plot, great characters, great writing, and the choice-based game play Telltale is known for, The Wolf Among Us is great point-and-click adventure, and, though it didn't make us cry as much as the Walking Dead, it remains a compelling experience, which deserves our* number 10 spot.

#9: D4: Dark Dreams Don't Die

D4 is certainly one of the most entertaining games of the year. An Xbox One exclusive, D4 was made by SWERY, the creator of the cult-hit Deadly Premonition, who puts his... unique personality into this new game. An adventure game, much like the previous entry on the list, D4 puts the player in the shoes of David Young, a detective who, when his wife is murdered and he is shot in the head, loses his memory of the event, but gains the ability to travel through time... somehow. Living with a woman who thinks she's a cat and compelled by his wife's last words, "Look for D", David investigates everybody whose names start with D to solve his wife's murder, meeting several quirky characters along the way. If you think that plot sounds weird, it happens to be typical for SWERY, so go with it. Its downright weirdness and fantastic writing are so compelling that we gave it the number 9 spot.

#8: Far Cry 4

Everybody should be thankful that Ubisoft didn't name this game F4r Cry, which would be considered a crime against humanity. Far Cry 4 doesn't add much to the formula of Far Cry 3, but it really didn't need to, since Far Cry 3 was a great game. It takes all the things Far Cry 3 was known for and keeps them, such as the compelling villain who spends way too little time in the game, and the Ubisoft-brand radio towers, which unlock the map and appear in every Ubisoft game. Also, it gives us the ability to ride an elephant while shooting a machine gun at honey badgers, which is why it takes the number 8 spot.

#7: Assassin's Creed: Unity

Another Ubisoft game with Ubisoft-brand radio towers, this time called Synchronization Points. This year's Assassin's Creed has so many features that will never cease to entertain players, such as disappearing faces, British-people pretending to be French, and cinematic frame-rate drops that make this game an unforgettable experience. These features, reminiscent of those

found in the classic game Goat Simulator, compel us to give Assassin's Creed: White Flag the number 7 spot.

#6: Call of Duty: Advanced Warfare

You want to know how advanced Advanced Warfare is? Advanced. With advanced shooting technology and advanced Kevin Spacey in their advanced next-gen engine, Call of Duty: Advanced Warfare shows the most advanced warfare since warfare became advanced. Call of Duty: Advanced Warfare is so advanced, it makes the advanced look un-advanced, the un-advanced look un-un-advanced, and the Game Boy Advance look like the Wii U. Its advanced advancement gets it the advanced number 6 spot: Advanced.

#5: The Hobbit: The Battle of the Armies

Hey guys, if we can consider Heavy Rain to be a game, I'm sure we can make the exception for Hobbit. I mean, one has unrealistic characters, a pretentious director, an overuse of CGI, and too little interactivity, while the other has orcs in it. Enough said.

#4: Assassin of the Arkham Rings

In this game, you use parkour and assassinate things... a bit like Assassin's Creed. You also fight using freeflow combat... like the Batman Arkham Series. Wow, this game is unoriginal, but it sure is fun, and the Nemesis system is a great feature, the game's only original one, in fact. Assassin of the Arkham Rings does its job very well, and had a stable non-buggy launch, which manages to push it past the competition to our number 4 spot.

#3: Nintendo

Nintendo is the third best game of 2014. No game was more fun than Nintendo, where you fought and raced characters like Zelda, that Princess from the Zelda games, Mario, Green Mario, Purple Mario, and Yellow Mario. Nintendo was more fun than any other game this year, except the games below it on this list.

#2: ET: The Extra Terrestrial

Though ET wasn't released this year, it had a re-release when it was dug out of the Mexican desert, giving gamers everywhere the chance to experience this classic.

#1: Vladimir Putin

By invading the Ukraine, Vladimir Putin impressed us, and led to *mathNEWS** choosing him for our favourite strategy game over competitors such as Civilization: Beyond Earth, because Vladimir Putin is not beyond Earth, he is *the* earth, and if we didn't put him at the number 1 spot, we would have all ended up in the gula—I mean, happy camp.

#0: Coke Zero

Coke Zero is *mathNEWS*' GOTY for 2014. It is also our Game of the Year. Congratulations, Coke Zero, for your bug-free release and delicious Coke taste at zero calories. You're Winner!!!

By everyone at *mathNEWS**

*Actually, only one guy.

Great Webcomics to Read in 2015

Being a procrastinating first year, I find that web comics are a great way to pass the time. The idea of web comics is amazing for people like me who grew up reading more comics and manga than novels. Highly polished web comics can be funny and colourful, serious and intense, or anything in between. They are usually free and easily accessible on their own website, which makes the comic reading process so much more enjoyable. If you decide to read them all in one day, you wouldn't be alone. Here is a list of a couple I found that you should read in the new year.

1. Awkward Zombie: If you love video games and satirical humour, then this is the web comic for you. The comic borrows characters from Smash Bros, Animal Crossing, Deus Ex, World of Warcraft, TF2, Legend of Zelda, and way more. The comics are incredibly well drawn and hilarious for people who play these games. The web comic does have a more lengthy update schedule, but it is well worth the wait.

2. Dumbing of Age: This web comic tells the misadventures of a dysfunctional group of friends attending college. There is a diverse character list such as naive and religious Joyce, brainiac Dorothy, goofball Walky, gamer Danny, and many more. Coping with the everyday college life and also trying to deal with themselves, the comic pokes fun at everyone and everything. As well, the comic updates daily, so it is always a joy to read a new panel each day.

3. Paranatural: If you're looking for a web comic that follows a more coherent story other than a gag every comic strip, Paranatural is for you. Following a boy that has moved into a convenience store in a new town, all appears to be normal. Then, he realizes he has supernatural powers, and there appear to be spirits that he must fight. This definitely feels more like a boy with superpowers comic, but has a few laughs along the way. It updates every 3 to 4 days.

4. Brawl in the Family: This comic is a video game centred comic that you should read when short on time. Brawl in the Way is simply drawn, but often makes you laugh in the three panels. Most of the time it follows Kirby, who swallows various items and you see what happens to him. Sadly, the comic has ended and doesn't update anymore, but archives are still very good for a quick laugh.

5. Carbon Dating: This comic follows Rob, a science graduate student, who now has to get a job as a science journalist. He experiences life as a nerd looking for love, but also being skeptic of the fads and placebos of the public. The comic follows a loose story where Rob looks for love, just as his friend Kate comes to stay with him. The comic is also updated daily, so a new comic each day is a nice treat.

Hopefully in the new year you read some of these comics and find enjoyment!

jat109

Please read Cucumber Quest

Meme Reviews: Quad City DJs Versus

Space Jam remixes, often entitled "Quad City DJs Versus" the artist of the other song being remixed, originate from as early as 2005, and began appearing on YouTube around 2007. A discussion board dedicated to the remixes, featuring newly created remixes and requests, can be found on the subreddit [r/comeonandslam](https://www.reddit.com/r/comeonandslam). It is worth noting that many members of our own Pure Math, Applied Math, Combinatorics & Optimization Club (PMC) are regular contributors to this subreddit.

The song itself is the theme song of the classic Space Jam movie, starring Michael Jordan and Bugs Bunny. The movie makes its way into various memes, since many now-20-year-olds enjoyed it in their childhoods.

Accessibility: What makes the Space Jam remix creation so popular is its relative ease of remixing. It is in 4/4-time, known as "common time" because of its prevalence in music, and predominantly features rapping, which is largely amelodic. The only singing leading into the song is high-pitched, allowing the remixed song to be played comfortably in between it and the low-pitched rapping.

Unfortunately, most remixes are very noisy, and Space Jam remixes are no exception. The Space Jam theme itself has a lot of percussion, and on top of another song, remixes can become very busy. Furthermore, when remixed, the theme is often sped up to fit with the tempo of the remixed song, making the resulting song even noisier. If you prefer peaceful, calming music, Space Jam remixes may not suit your tastes.

Offensiveness: In videos, the only visuals usually come from artwork related to the song being remixed, with faces in the picture superimposed with the face of Charles Barkley. While much of the humour comes from the purposefully bad superimpositions or the juxtaposition of a real human face on a cartoon body, at times the hilarity can come at the expense of black people (since it may resemble blackface) or trans people (since a woman having a man's face is hilarious).

Score: 7/10. I took off an extra point because my significant other listens to nothing else.

bunniED

Please Use Punctuation

Punctuation plays a crucial role in written communication. It should also play a crucial role in your text communications. For example: "*james where ben had had had had had had had had had had the teachers approval*"

This message makes no sense without punctuation. And now, with punctuation: "*James, where Ben had had "had", had had "had had"; "had had" had had the teacher's approval.*" Still makes no sense, but at least you can read it now.

Stubbs

PSA: Don't Throw Water on an Oil Fire

Okay, so I panicked.

Last term, I was enjoying my time in Toronto on my co-op term. I had gotten home from a long day at the office, flopped down on the couch and was Netflixing away when a couple of my housemates came home. They were surprisingly excited because one of them had had the bright idea to make some food (can't remember what), which involved deep frying in heated oil.

They were both in the kitchen, and the pot of boiling oil started to smell quite a bit, so they left the room (without turning down the heat) to get some fresh air. Then, out of the corner of my eye, I see that the pot full of oil is on fire, the flames leaping up out the pot.

Exclaiming loudly and hailing the two, who were supposed to be watching the lively pot, we sprang into action. Person 1 grabbed the fire extinguisher... which we couldn't figure out how to work (we did eventually, it had been sitting in the kitchen too long and the trigger had gotten stuck). At this point, we should have smothered the pot with a lid but we couldn't find one so we started being stupid.

Picking up the flames, we moved it outside. This was dumb because

- a) You shouldn't move something that is on fire.
- b) The wind helps the flames and now the foot high flame is 3 feet high.

So now the pot is outside, but the flames were reaching back into the house and so we went full panic mode... and threw a glass of water at it. The flames filled the doorway in an instance before the fire fully burnt itself out.

We spent the rest of the evening cleaning up the scorch marks around the doorway.

Stubbs

N Reasons Ankles Are Important

Waldo got new boots that led to an interesting walking experience.

- Walking down stairs becomes SOOOOO much worse than walking up
- Walking (especially through snow) can be very awkward
- High heels are a HELL NO
- You can't do any physical-ish extra-curricular activity without them
- Forget driving
- Humans were designed with them for a reason

waldo@<3.LE-GASP.ca

Napping Students Getting Evicted over Reading Week

After exactly four years of heavy usage, MC 3001 (known commonly as the "Comfy Lounge") is being renovated over Reading Week, and as such, the old black leather couches will be finally replaced!

Yes, it's hard to believe that, in only four years, those couches have endured so much that they are literally falling apart at the seams. Truth be told, some couches did not even last this long. At best, the couches overall lasted two and a half years before significant damage befell the lounge. While the replacement of these couches is greatly anticipated, their replacements will definitely not be so equally damage-prone (hopefully).

There's no denying it: the Comfy Lounge has become a resting refuge for students. If you head into the Comfy Lounge, chances are you've seen quite a few students napping. There could be many reasons why this is the case, including students potentially having accommodation issues and just needing a space to crash on campus. Ultimately, having so many people all at once using it that way has become inconvenient and awkward. The room itself was a place initially meant for an actively social (and maybe for study) purposes. When other students go in to try and use the space for that purpose, they are met with a very inconvenient blockade. That (virtually continuous) blockade has led to the state that the Comfy Lounge is in today.

I personally am looking forward to a renovation. I remember that before the black couches were there (and when they were brand new), the Comfy Lounge was one of the best places to have a board games night. That no longer happens because it would be too awkward to disturb everyone there (and the place is not exactly as nice as the Math C&D two rooms over), but perhaps Comfy will be brought up to that level too. One thing's for sure, the eviction notice is set, and once students come back from Reading Week, there will be a new status quo on the MC third floor. Here's to new couches, far less napping/damage-inducing-activity and a new Comfy Lounge! We're counting on you, MathSoc Exec!

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Magical Boys Anime

Have you ever dreamed of seeing guys in poofy clothing, spouting silly phrases like, "Love Making", while protecting the world from the forces of evil? Well, you are in luck! This winter's anime lineup has the masterpiece you've just realized you always wanted. ***Cute High Earth Defense Club LOVE!*** starts off with our heroes discussing the philosophical implications of oden ingredients when they are suddenly approached by a pink wombat, asking if they want to protect the world. What follows is a self-aware parody of the magical girl genre. Only one episode has aired so far, but I am looking forward to seeing more.

Beyond Meta

WW (not Welcome Week)

Before grade 11, I had never resided in a place where it snowed, nor had I ever seen real snow prior to the age of 16. But now, like every other Mathie wandering down the MC 3rd floor hallway, I am frozen in Waterloo Winter (WW). However, after purchasing my first Canada Goose jacket, my skin can stay in a positive temperature as I stumble through the snow from DC to residence every night. When surrounded by the jacket's familiar warmth, I find that the fluffy crystallized water is actually gorgeous. Here are some reasons that you should appreciate the snow too.

2. You can doodle math jokes on the snow in front of the engineering buildings, especially QNC.
3. Since you are wrapped in bulky jackets, people won't notice that you have lost your shape due to irregular diet, lack of physical exercise, or sleep deprivation. They only marvel at your survival and/or your surprisingly good grades at UW.
5. If you, like me, have a group of friends who are in university and have never experienced negative temperatures before, take a picture of the ice creeping up your window, write "omg it's -20 degrees my window's frozen", post it onto your social media accounts, and receive more likes and comments than ever.
7. Find a snowboard, and go snowboarding on V1 Green or on any empty space you would prefer. I suppose that Whistler doesn't even have this much snow this year.
11. This is the best time to sing "Let It Go". If you dare to wear only one layer and sing the whole song outdoor, you will be granted the title of "Queen Elsa of *mathNEWS*". :P
13. You can eat icecream while walking to classes and it won't melt.
17. Why do Waterloo students like Canada Geese soooooooo much? Well, why not? They keep you warm.

cat

The Infinite Compass Rose

Most of you know a compass rose with eight points: north, east, south, west, northeast, northwest, southeast, southwest. Some people might know of more points: north-northeast, east-northeast, and so on, which are just combinations of the points it appears between.

But what if we go even further down combining their names? Northeast by north is between northeast and north-northeast, so we can call it northeast-north-northeast, or N3E2. And northeast by 1/2 north, between north-northeast and northeast-north-northeast, gives us N3E2 + N2E1 = N5E3. We can keep doing this infinitely, getting a bunch of terms $NxEy$, where x and y are natural numbers.

Now, here's one thing you'll need to keep in mind—if x and y have a common factor greater than 1, then you'll need to reduce the number of points to lowest terms first. For example, there is no NNEE – that's just NE. Can you prove that every $NxEy$ (and $SxEy$, etc.) appears as a direction exactly once on this infinite compass rose?

Ender Dragon

Alice and Bob in lackofcryptoland

Bob was never late. The meeting point was inconspicuous and simple to find. A staircase led to the platform covered with ice. The weather was cold, and the sky was dark. Alice paced around the platform, careful to not slip. The platform was empty at night, and people loitering would not likely be spotted. After meetings, walking around inside was not out of the ordinary. It was a suitable plan and meeting spot. She crossed her arms and pulled in, feeling the shape of the comforting FN Five-seveN, a gun that fits better in a COD game than in secret intelligence. She paced to the stairs, and checked her timepiece. The meeting should have already taken place. Walking to the stairs, she sat down discreetly, and placed her hands in her jacket pockets. Then she got shot. Also, Bob was dead.

quiz

US Central Command Twitter and YouTube Hacked

What has the world come to when the US military is having its social media accounts hacked? Will we ever be able to repel the cyber attacks that plague us? This is likely good news for all you CS students. We will all be paid a princely sum of money to be the guardians of the cyber galaxy. And if an attack does break through and harm our employers, you can be damn well sure we'll avenge them. I'm sorry, I might have just watched too many Marvel movies.

Of course, the one thing that needs to be plainly addressed is that the US Command Centre wasn't hacked, Twitter was. Some other sensationalist media might lead you to believe that hacking the US Command's social accounts amounts to compromising their own security systems. This is clearly false. In fact, if this were true, this article would likely be taking a much more serious tone. With that being said, computer security and cryptography is an excellent method in which to generate an income or research grants, as pointed out by my former math professor.

guptashark

Send your articles, *profQUOTES*, and grid solutions to mathnews@gmail.com. or to the **BLACK BOX** on the 3rd floor of MC!

So you're on fire and hoping this article will help

I'm sorry to say, you're not really off to a great start. It's always a bad day when you unexpectedly catch fire, and now you've compounded the problem by making a poor choice of reference material to help resolve the issue. There are countless sources of information that would be more reliable than an article in a satirical newspaper such as this one.

Furthermore, it probably would have been more useful to read this guide before catching fire, so that you would have had time to actually grasp all the information contained within it. As it stands, it's almost certainly too late at this point to actually survive this experience, let alone escape without third-degree burns. It probably doesn't help that this is a rather verbose piece of literature, rather than the more direct, to-the-point manual you were probably hoping for. As the author, I apologize, though I must reiterate that you too are to blame, as you are the one that has elected to rely on it.

Anyway, on to the point. You've caught fire, and hope to live to tell the tale. There are a number of conventional fire-fighting measures, though many are less helpful if you, personally, are on fire. For example, digging out a firebreak to stop the spread of an inferno is often used to limit the damage of forest fires. Barring amputation, which has other consequences, this is likely to be ineffective on a personal scale. A second tactic used to combat forest fires is the use of controlled burns, wherein small fires are lit to use up some of the fuel available, making later wildfires less intense. Leaving aside the damage this would do to an individual, it's probably a bit too late to start this now. Another common option is to cut off the fire from oxygen. This would be entirely feasible if your only goal was extinguishing the flames, though humans tend to be nearly as reliant on oxygen as fire is.

Now that we've ruled a few options out, we can finally get to a few viable ones. Hopefully you're still in a state where you can read this. If there is a large body of water nearby, you could submerge yourself, hopefully extinguishing the flames. This is, naturally, somewhat location dependent. You should also ensure, before submerging yourself, that the liquid you are about to dive into is in fact water or something similarly non-flammable. (Note: Inflammable is actually a synonym for flammable, not a synonym for non-flammable.) Diving into, say, oil might not help your situation.

If your environment does not include a body of water, there's always the classic: Stop, Drop, and Roll. At this point in your life, you've probably learned how to do this. Honestly, I'm not entirely sure why you haven't already done so. It's pretty straight forward.

Hopefully you have found this guide helpful, but I'd honestly be surprised if you did. Good luck in all your future endeavours. If you have any.

Yours truly,
s,t∈{2k,k∈Z}, 144

Terrible Goals

The beginning of a term is an excellent time to think about past terms, reflect on accomplishments and failures, and re-evaluate previous goals.

These goals probably came about as a direct result of a crappy PD course's minimum word count: "Throughout this professional development course, I will endeavour to enhance my verbal and written communication skills, specifically with respect to employer and colleague interactions." (Translation: This is a communication course, I will become a better communicator through this course.) Or maybe you quickly came up with them as a result of an interview question. "In five years, I hope to have successfully completed school and have settled in at a job where I can continue to grow and develop my expanding school set." (Translation: I have no idea! We both know that I have no idea and yet you asked anyway!)

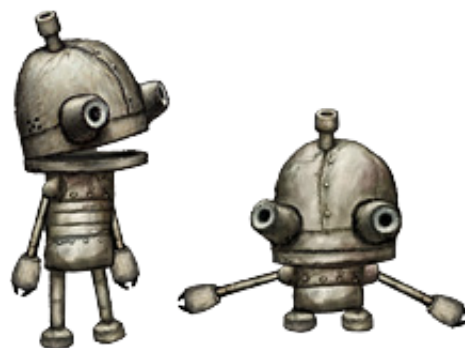
We're told that we should set S.M.A.R.T goals, but if you crack open that \$200 history book you bought last term and never opened, you'll find that our greatest achievements are the result of really, really, shitty goals.

The Pyramids. A truly amazing technological achievement. Standing tall and proud in the desert. Thousands of man hours dedicated on a pharaoh's orders to build his tomb... Seriously? You could have dedicated all that time to pretty much anything else and it would have been a better use of time. It is impressive, and that it has still exists over 5,000 years later—which is truly remarkable—but that doesn't stop the fact that the reason it was built to fulfill a shitty goal.

Going to the moon. Another of humanity's greatest achievements—but really, it was the side-effects that were the real achievement, namely the huge leap forward in technology. Why did the Americans go to the moon? Well, to beat the Russians there. It was essentially a dick-waving contest between superpowers. (I mean, we chose to go to the moon because it was 'hard'.) We spent all that money and expended all of those resources to figure out how to go to the moon... and then went there only seven times.

The point of this is that some of the best things we have ever done have come as the result of really shitty goals. So when asked this terms, "What are your goals?" Be honest and ridiculous: "I'm looking for a way to earn enough money so that I can buy New Zealand and build a replica of Hogwarts there."

Stubbs



Guide to Terror

To instill terror, first you must obtain the ingredients:

1. Metal spoon
2. Microwave
3. Knife
4. Block of butter
5. Shoes
6. Wholesale version of LaTeX
7. Object to spread terror on

Instructions:

First, place the block of butter out in the open. Then place the wholesale version of LaTeX on the spoon in the microwave, and place the microwave in the shoes. Now, some of you may think that this is impossible, but it's possible if you're a topologist. Next, use the knife and spread the butter over the object to spread terror on. Put on the microwave for 30 seconds, and the terror is complete.

quiz

N Reasons you should remember to SLEEP

Why in blazes is Waldo awake?

- Midterm season is around the corner and you should probably NOT screw up your sleep cycle in it
- The internet should still be there tomorrow
- Humans were designed to rest at SOME point, so you may as well
- Sleeping now will likely give you more productivity later
- Nothing is even happening yet! It's only the start of term!
- Just because you can sleep in on some days doesn't mean you should sleep in EVERY day
- You can always write your **mathNEWS** article next production night

waldo@<3.LE-GASP.ca

N Things NOT to do on Club Penguin

- Don't mention "Neopets" at all.
- Don't swear. Ever.
- Don't be mean to the other penguins; they may cry.
- Don't make "your mom" jokes.
- Don't call other penguins fat.
- Don't cheat on your penguin wife/girlfriend.
- Don't be a penguin pimp.
- Don't be a violent penguin.
- Don't do penguin drugs.
- Don't grow penguin drugs or sell them.
- Don't call other penguins monkeys; that is offensive to all penguins.
- Don't gamble your penguin cash.
- Don't lick the yellow snow.

kpat

profQUOTES

"Size? Cardinality? Why do we have two words for this? Because English sucks."

Jao, MATH 239

"So you fall into the trap. This is good."

Roegiast, CS 246

"Last time I checked, 200 was pretty close to infinity."

Drekic, STAT 230

"Casting a Desk to a Car will work, but if you try to drive it, you'll look like an idiot."

Rogiest, CS 246

"As you know, this is a grad course, so we don't have course evaluation. In other words, I can piss you off however I want..."

Willard, PMATH 745

"I apologize; I apologize with no sincerity."

Willard, PMATH 745

"The rest of the course will not be about induced representations. I mean, let's not do that."

Willard, PMATH 745

"Does anyone know how to get rid of bats?"

Willard, PMATH 745

"Manifolds are just manifolds with boundary... without boundary!"

Charbonneau, PMATH 465

"Finally, f to the infinity... Please don't tell the mathematicians I did that."

Lushman, CS 444

"I did this one more time, infinity plus one. *Please* don't tell the mathematicians I said that!"

Lushman, CS 444

"Someone has done all of this for you and put together a tool that you're not allowed to use."

Lushman, CS 444

"Who here has a cerebral cortex?"

Tripp, SYDE 552

"We have to stop the flu so we can kill more people!"

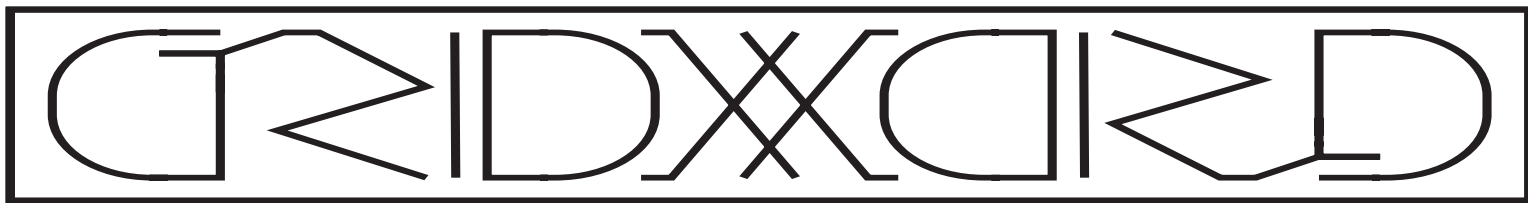
Bauch, AMATH 495

"All good mathematical equation can fit on a cocktail napkin."

Bauch, AMATH 495

"When we get to 9 dimensions, I give up."

Sanita, CO 370



gridCOMMENTS

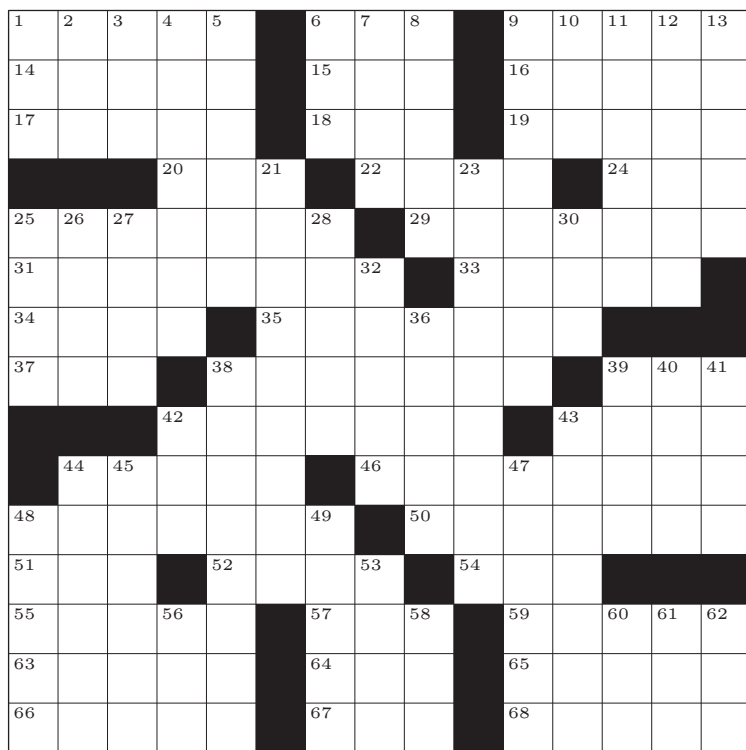
Two left mittens

Well, hello: a wintry welcome. I learnt a great many words while making this crossword.

As usual, submit your solutions to the **BLACK BOX** (by the Comfy Lounge on MC 3rd floor) by 18:30 on Monday, January 26th. Include your name and your answer to this issue's **grid-QUESTION**—the silliest one decides the winner (of a \$5 C&D gift card) in the event of a tie: "What lurks beyond the cellar door?"

Cheers,
unit

This Week's Grid:



Article of the Issue

The article of this issue is *mathNEWS** *Top 10 Games of the Year*, by everyone* at *mathNEWS*! Congratulations, everyone*! If you haven't read the article yet, you should. Or don't. But you're missing out. The winner(s) can't pick up their prize yet because the Editors are too lazy to purchase them, but when they are available, it will be announced in *mathNEWS*.

*Actually, only one guy.

The Editors

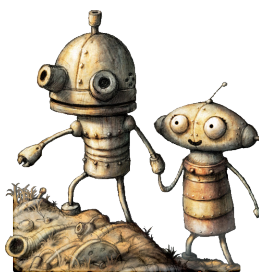
gridCLUES

Across:

1. TV Sergeant Daniel
6. Not at work
9. Pocket bottle
14. Irish surname
15. Wintertime utterance
16. Thorin's shield
17. Ornate pole
18. *Solvant universel*
19. Musical drama
20. Alphabet start
22. Sate to surfeit
24. Catmint
25. Ran out on
29. Lacking lodging
31. Generic = specific
33. Raise a flag
34. Makers of no beautiful things
35. Goldsmith's crucibles
37. Demand
38. Horripilate
39. exp|o
| |
log
42. Forest crown
43. German honorific for women (regardless of marital status)
44. Shoe stud
46. Most strapping
48. Royal residences
50. Usual haunts
51. Young Mr. Butterfield
52. Spot
54. Leached (from) ash
55. Dreidel glyph
57. Bear ruth
59. ____ Bros.
63. On the mother's side
64. Ailing
65. Ereyesterday's overmorrow
66. Painter's pigment (red)
67. Jewel
68. An attack that may cause flinching

Down:

1. ctg
2. ρ
3. Egyptian milk goddess
4. DD e.g.
5. Quick cane
6. Officer of the Most Excellent Order of the British Empire
7. Typical grenade
8. Beer and pure strawberries
9. "Give it an inch and it'll take a foot."
10. Pass twice?
11. Strawberry "seeds" (var.)
12. Withers no more
13. Crests of hills
21. Stamped, pervious
23. Denying aid
25. Connects integrals and derivatives
26. Rowing shafts
27. Rugby bind
28. ____ eleison
30. Pure Math Department Administrator
32. Elephantine rage
36. Veranda in Pretoria
38. Arm candy?
39. Three in Germany
40. Facility?
41. "Swan Lake" attire
42. Iced or steeped
43. Dead leaf dye
44. Croupier's cave
45. Not lemmas...?
47. Romantic "rendezvouses"
48. Beeper
49. Small shoot
53. Christmastide
56. Summer, was
58. Dutch ____ disease
60. Todo
61. He married Rosie Cotton
62. Make melancholy



beep boop
MACHINARIUM IS A
FUN PUZZLE GAME
WITH DANCING
ROBOTS beep