

math NEWS



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Charity Ball: Fun for the Whole Team

*Volume 123, Issue 5
Friday, November 22nd, 2013*



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lookAHEAD**mathNEWS**

November 22 Issue 5 wakes from hibernation early

MathSoc

November 24 Video Games Tournament

November 30 24 Hour Games Night

December 1 24 Hour Games Night

University

December 2 Last day of class

December 5 Exams start

December 20 Exams end

December 21 Wake up from hangover

Misc

December 22 Obligatory parental visit

**Send us your articles,
profQUOTES, grievances, puzzle
solutions, flirtations, and Sez's to
mathnews@gmail.com.**

Article of the Issue

Congratulations to Algoweird for winning this fortnight's Article of the Issue with your article *A New Method Resolving Constitutional Crises*. Claim your prize at our office.

The Editors

Article of *this* Issue

Congratulations to k! for winning this fortnight's Article of the Issue with your article *So Many Goddamned Bunnies*. Claim your prize in the past, because you already got it, you magnificent bastard.

The Editors

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mathNEWS is normally a fortnightly publication funded by and responsible to the undergraduate math students of the University of Waterloo, as represented by the Mathematics Society of the University of Waterloo, hereafter referred to as MathSoc. *mathNEWS* is editorially independent of MathSoc. Content is the responsibility of the *mathNEWS* editors; however, any opinions expressed herein are those of the authors and not necessarily those of MathSoc or *mathNEWS*. Current and back issues of *mathNEWS* are available electronically via the World Wide Web at <http://www.mathNEWS.uwaterloo.ca/>. Send your correspondence to: *mathNEWS*, MC3030, University of Waterloo, 200 University Ave. W., Waterloo, Ontario, Canada, N2L 3G1, or to userid:mathNEWS@gmail.com on the Internet.

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Unholy Trinity: Antichrist (Murphy Berzish), False Prophet (Lenny Morayniss), Satan (Thomas Baxter)

mastHEAD

Charity Ball was last night, but *mathNEWS* is produced on Monday. Since we wanted to treat our wonderful and glorious and not at all annoying writers to a lovely night out in fancy clothes and over-priced booze, we manipulated time itself to travel forward and have some fun. We tried to get the TARDIS, but not enough people could fit (it really isn't that much bigger), so some had to travel the old fashioned way: in a giant ball of lightning that disintegrates all clothing. Some even had to just wait. The horror. Coming off such a wonderful wibbly-wobbly event, it was time to ask our writers: what did you wear to Charity Ball?

the guy ("Boxer shorts. Paper bag. Red sneakers."); unit ("Nothing."); TubesJr. ("My pink tie."); Big Mak ("A look of disappointment."); InsideVoice ("A perception filter."); Beyond Meta ("I got an accessory—called a boyfriend that I had attached to my arm."); yourlocalWHETHERgirl ("Clouds."); psychomath ("A white fairy dress."); Stubbs ("Beans on toast. All hail the epic food."); Ef-fAcheYou ("I like trains"); Mustard Map ("My very existence."); theSMURF ("I CAME IN LIKE A WRECKINGBALLLLLLL."); Element118 ("Liam Neeson's skin. Bet he wants it back."); xoxo ("My faith (or lack thereof) in humanity."); Wolverine Panda ("Ignorance."); Ice Nine ("Bit gag, bridle, and blinders (and saddle)."); PhantomLimb ("A horse head and my freshly drycleaned birthday suit."); $s, t \in \{2k, k \in \mathbb{Z}\}$, 144 ("Not what the cool kids were wearing, that's for sure."); RAM ("Clothes are so outdated, nudity is the new black."); himynameis ("Hats."); Lightningbug ("Darkness like a shroud."); waldo@<3.LE-GASP.ca ("What do you I think I wore ;)?"); Soviet Canadian ("Bear-skin boxers and a bow-tie."); Zethar ("Dragonbone armour."); ScruffyED ("A forest-green leaf atop my head."); Biomy ("Absolutely Nothing [SAY IT AGAIN]."); Convoluted ("Ski mask and balaclava.")

I went and wore the maximum that MathSoc would allow ObjectED ("Two game wardens, seven hunters, and a cow.");



Exec Sez

Hello Mathies, remember to bundle up, stay warm and study for those upcoming exams!

Online Course Evaluation

First Years, please remember to fill out your online course evaluations on Learn.

Fall Reading Week Survey

Feeling like you need a break during the Fall term? Or do you like it as it is now? Tell us your thoughts on a Fall Reading Week in this survey:

<http://tinyurl.com/MathSocFallReadingWeek>

General Meeting

Monday, November 25th, 2013, 5:00 PM

MC 3001 (Comfy Lounge)

The General Meeting will be held Monday, November 25th, 2013 at 5 PM in the Comfy Lounge (MC 3001).

The Agenda is

1. Appoint _____ as Secretary
2. Exec Reports
3. Financial Reports
4. MathSoc Office Employee Committee Report
5. Change Club Membership Fee
6. Addition of VP Communication role
7. Executive Honorarium

General Election Voting

TODAY

Today is the last day to vote for some of your Winter 2014 and Fall 2014 Executives! Vote now at:

<http://mathsoc.uwaterloo.ca/elections/vote>

Vice President, Finance (Winter 2014)

Wednesday, November 27th, 2013, 11:59 PM

Are you interested in finances? Want to get involved with MathSoc? Now is your chance!

We are on the search for a new Vice President, Finance for the Winter 2014 term.

The application can be found here: <http://mathsoc.uwaterloo.ca/documents/MathSoc%20Winter%202014%20VPF%20Application.pdf>

If you have any questions or want to submit your form, please email vpf@mathsoc.uwaterloo.ca.

Video Games Tournament

Sunday, November 24th, 2013, 9:30 AM – 5:30 PM

M3 1006

All day of playing video games, this Sunday! Various stations, including Xbox, PS3, Wii will be setup for all to play. Food and drinks will be provided FREE of charge!!!

League of Legends Tournament:

Entry Fee: \$15 for a team of 5 if there are at least 2 Math students, otherwise \$25 for a team

3 people must be present

Sign-up at <http://tinyurl.com/MathSocLoL> and don't forget to pay in the MathSoc office (MC 3038).

Spirit Day: Sushi

Thursday, November 28th, 2013, 1:30 PM – 3:30 PM

MC 3rd Floor Hallway

MathSoc will be serving free sushi! So come on out for some delicious free food.

24 Hours Games Night

November 30th, 2013, 12:00 PM – December 1, 2013, 12:00 PM

MC C&D

A whole day of playing board games! There will be free food!

Please fill out the "RSVP" surveys at: <http://tinyurl.com/Mathsoc24hrGames>

Spirit Day: Sandwiches

Monday, December 2nd, 2013, 2:30 PM – 4:30 PM

MC 3rd Floor Hallway

More free food! On the last day of class, MathSoc will be serving free sandwiches.

ASNA 2014 Unconvention

January 3rd–5th, 2014

Interested in Actuarial Science? Want to further your career through seminars, networking, and a career fair with many major actuarial companies?

Come join us and help the University of Waterloo host the ASEA-ASNA 2014 Unconvention in downtown Toronto.

Registration is now open at <http://www.anea-asna.ca/toronto-2014/registration>.

Apply to volunteer at <http://bit.ly/18kBP0P>, by November 22nd, 2013.

To compete in the case competition, apply now at <http://bit.ly/1gCdoUJ> by November 22nd, 2013.

For more information, please visit <http://www.anea-asna.ca/> or email ASNA delegates at asna2014@anea-asna.ca!

Stéphane Hamade, Haris Hyder, Matthew Cheung,
Catherine Sun, Jazbel Wang

Drop your Minecraft username in the BLACK BOX or email it to us at mathNEWS@gmail.com to be whitelisted on our Minecraft server (129.97.134.134).

MathSoc General Election 2013

On November 21st and 22nd, MathSoc is holding a general election to elect Executives and Class Representative for Winter, Spring, and Fall 2014 term. Voting will be done online at <http://mathsoc.uwaterloo.ca/elections/vote> and will conclude Friday, November 22nd, 2013, 11:59 PM.

The following positions and candidates are not acclaimed and thus will be in voting ballot: (candidate profiles can also be found in <http://mathsoc.uwaterloo.ca/elections/candidates>).

Vice President, Operations (Winter 2014)

Keith Cheng

Hey! My name is Keith Cheng and I'm a 2nd year Math/FARM student. To describe myself quickly, I would say that I am a very outgoing and sporty person. I enjoy facing new challenges as well as meeting new people. In the upcoming term, I look forward to meeting all of you and to serve as your VP Operations!

Tyler Rozak

I am Ty Rozak and I am running to be Vice President, Operations of MathSoc for the Winter 2014 term. I am a 4A Computer Science student with a minor in Psychology.

I have been involved with MathSoc for over 3 years now and enjoy helping out Math students in a variety of ways. I have been the Vice President, Events for MathSoc 3 times in the past 2 years. I have also been an Orientation director, a member of many on-campus committees and volunteered with the Faculty several times. To see a full list of my qualifications, please visit my website below.

I have several concrete plans for what I would like to see accomplished over the next year which are:

- New (Bigger) Lockers and New Locker Booking System
- Website Upgrade – New Look, Better Information
- Improve Technology Infrastructure for the MathSoc Office

To view more information about me and my campaign, please visit tyrozak.com/mathsoc.

Vice President, Academic (Fall 2014)

Abby Hu

Candidate profile can be found in <http://mathsoc.uwaterloo.ca/elections/candidates>.

Kevin Shi

Hi I'm Kevin! Much like you, I love math, the Math faculty, and MathSoc council. I have been involved since high school as a member of the student council executive. Coming to the UW, I am involved with MathSoc as a councillor representing Software Engineering, and as a member of the affiliates committee to determine the best policy for current and future affiliates of MathSoc. If elected, I promise to build on, and apply my current experiences as your future Vice President of Academics to represent YOUR interests and opinions on academic issues. I will strive to be approachable, and to manage and open up new forums for the discussions of your interests. Thank you for your time!

Vice President, Events (Winter and Fall 2014)

Jazbel Wang

Hey Mathies! I am Jazbel Wang and I hope to be your MathSoc Vice President, Events for Winter 2014 and Fall 2014. I am a 2B Computer Science (Software Engineering Option) student, minoring in Psychology.

Ever since my First-Year Representative (Fall 2012/Winter 2013) role, I have been involved with MathSoc. I love contributing as a MathSoc volunteer and being present at council meetings. I am the current Vice President of Events for MathSoc and have enjoyed planning events for the Math students to enjoy. I also have been on the MathSoc Novelties Board, Carnival Board, Elections Committee, Women in Math Execs and Feds Internal Administration Committee. I am involved in the St. Jerome's community as an Ambassador and Student Leader, as well. In my spare time, I love to read, knit, and watch T.V.

My plans for next year:

- New and updated brochures
- Small handouts for future events
- Making sure there are food for people with dietary restrictions
- Inclusive to St. Jerome's students

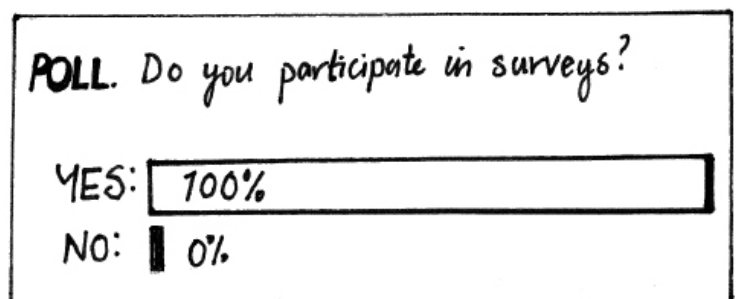
All the best to all the other candidates and remember to vote on November 21st and 22nd!

Zifan (Nancy) Yang

Nancy Yang is currently a 2A co-op student majoring in Actuarial Science and minoring in Spanish Studies. She graduated from Pacific Academy in Surrey, Vancouver, and came to Waterloo pursuing her dream of becoming an actuary (or a Spanish teacher). With her love of creativity, she is extremely excited to organize various fun events for all Math students. Her extensive experience in co-organizing fund-raising events for Alzheimer Society and as a youth leader at Pacific Spirit Park allows her to collaborate effectively with teammates. She is enthusiastic about interacting with people and promoting school spirit. At her spare time, she loves drawing, travelling and doing crazy but appropriate things with her friends. Her most memorable trips are the outreach trip to Tanzania and a 5-day bike marathon.

Don't forget to vote on November 21st and 22nd!
Thank you and good luck to all the candidates!

Election Committee



Announcements from CS

CS Graduate Ambassador Program

Considering graduate studies in CS at Waterloo? Speak with one of our Graduate Ambassadors to learn more out about programs, research, projects, student life, and more! They are looking forward to your questions. Email cs.uwaterloo.ca/gap

Accelerated Masters (BMath/MMath or BCS/MMath)

Get a head start on your Masters degree with the fast track option by taking two graduate courses in your fourth year. All computer science and math programs are eligible. Waterloo students only.

Enroll in the fast track option if you have:

A flexible fourth year schedule

- Demonstrated experience as an Undergraduate Research Assistantship (URA)
- Involvement in professional research

All of our URA position information is available online: cs.uwaterloo.ca/ura

For more information on the fast track option, visit cs.uwaterloo.ca/future-graduate-students/applying-admissions.

Call Out For Volunteers For CS4U DAY

Help students in grades 8-12 learn about computer science at Waterloo. Lectures and hands-on activities will be led by our talented faculty.

Event details:

Wednesday, December 4th, 2013, 7:30 am - 4:00 PM

Volunteers will receive a free CS t-shirt and lunch—20 volunteers are needed!

An volunteer orientation session will be taking place on Wednesday, November 27th from 4:30 – 5:30 PM in DC 1304.

For more information, please contact Nick Murphy

Email: cs-ur-co@uwaterloo.ca

N Ways to Sell Your Soul

- Conduct an elaborate ritual to summon a crossroads demon and make a deal.
- Become an evil witch/wizard.
- Put up a posting on eBay.
- Work as a used car salesperson.
- Give your soul to a donut, then eat the donut to get it back. But it must be a donut with a hole in the middle, as that's what its purpose is.
- Seek out the Illuminati and join their prestigious ranks.
- Join Tumblr.
- Join *mathNEWS*.
- Come see me. We'll work out a deal.

Yours in soullessness,
Shay Blair.

Organize Your Time for Exams

When: Monday, November 25th, 2013, 7:00 – 9:00 PM

Where: MC 2017

Do you have difficulty planning ahead for your exams? Do you find that you study really well for your first exam and the others do not get enough attention? If any of these statements describe you, come out to a workshop that will help you 'Organize Your Time for Exams'. You will learn how to make sufficient time to study for all of your exams, how to minimize your stress around planning for exams and how to create your own organizational study plan.

Please bring your exam schedule, as well as any important class materials you will need to create your study plan.

Riley Metzger

Drop In Strategy Session: Get Prepped for Exams

When: Monday, November 25th, 3:30 – 4:30 PM

Where: Math Tutorial Centre, MC 4066/4067

Have questions about how to prepare for your exams more effectively? Want to improve your performance on exams?

Drop in for tips and tools to help you:

- Manage your study time more effectively
- Improve your problem solving skills
- Learn new test-taking strategies
- Decrease your test anxiety

Riley Metzger

Dear Year 1 Students,

Did your mentor do an awesome job? Did they do something that made your transition from high school easier?

This term we are offering a mentoring award to three mentors who have gone above and beyond the call of duty. If you believe your mentors have gone above and beyond the call of duty, please email Aarthi Logeswaran [aalogeswa@uwaterloo.ca] a short summary of how your mentor has improved your life by November 27th at 4:00 PM.

The award will be presented at the last mentoring event of the term, starting at 6:30 PM on December 2nd. More information will follow.

Best wishes on exams,
Riley Metzger, Ana Freitas

Interesting Math: Forecast Cones

Note to editors: There will be math formatting. I am sorry.

[Note to readers: No, there won't. -- ConvolutED]

Disclaimer: this article may or may not be interesting.

I wanted to write about Rob Ford this issue but, too many other people seem to be doing that so I will write some mildly interesting math. Specifically, how that ellipse stuff you learned in Linear Algebra II (Lin Alg II) has practical uses, and statistics!

This term I have been working with a predictive model, modelling the motion of icebergs. Since it is based on something real-world-y and physics-y, there are a LOT of different factors that influence the motion of an iceberg. It does not need to be an iceberg (although we all know that icebergs are cool), this method really applies to all models. The ensemble method is a method of running the model that runs the model 250 times, each with a slight variation on one of the influencing factors (in this case, wind speed, current, temperature, etc.) to output a "range" of potential end locations for this iceberg at each specified time step. The spatial average of these potential locations is taken as the average trajectory. This range, however, can be quite large but represents a 100% likelihood of where the iceberg will end up. Say that we are willing to focus on a smaller region with more uncertainty. How do we determine the region that has 75% probability of containing our iceberg at a given timestep? What shape is this region? We can answer these, and more, questions with math!

First, what can we say about the distribution of end locations from the model? Since we are only slightly perturbing the value that the variables should normally have, it's fair to assume that this has a normal distribution. So we can fit a confidence interval around it! (Remember STAT 231?) Except in this case, we can create a two-dimensional range of values (latitude and longitude), so we need a two-dimensional representation of the confidence interval. So we will use an ellipse. In some models (like for hurricanes) a circle is used instead of an ellipse, but it is the same thing really. The confidence region of a certain level is simply a region that contains a certain percentage of the

distribution. But with ellipses we get to do more math!

Remember the ellipses in Lin Alg II that had you scratching your head? I remember thinking: in what situation is it useful to find the eigenvalues and eigenvectors of a 2×2 matrix and turn that into a matrix somehow? And then I found my answer.

In this case, our 2×2 matrix is made up of the longitudinal variance (or variance in the x coordinate) and the latitudinal variance (variance in the y coordinate) on the main diagonal, with the covariance on the off-diagonal entries. This is called the covariance matrix, and it encodes the shape of the underlying distribution. Solving for the eigenvalues of this matrix, we obtain two values, λ and μ , with $\lambda > \mu$. Using these values, we can obtain an equation for an ellipse from these simultaneous equations:

$$x = a \cos(\Theta) \cos(t) - b \sin(\Theta) \sin(t) + X$$

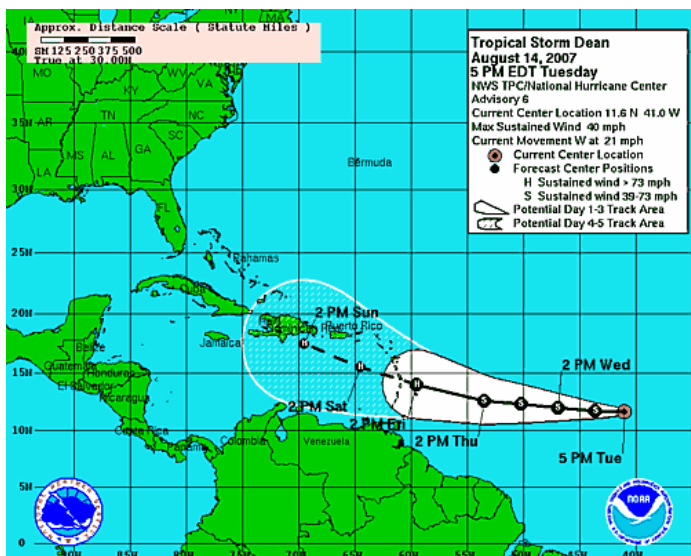
$$y = a \sin(\Theta) \cos(t) + b \cos(\Theta) \sin(t) + Y$$

where t runs from 0 to 2π . X is the average x value and Y is the average y value. a and b are the square roots of the two eigenvalues ($a = \sqrt{\lambda}$ and $b = \sqrt{\mu}$). Θ is the angle between the positive x -axis and the semi-major axis of the ellipse (no room in modeling for any of them fancy ellipses parallel to axes and whatnot). Θ can be found by calculating $\arctan(v_2/v_1)$ where $[v_1 \ v_2]$ is the eigenvector associated with the eigenvalue λ . Essentially, the ellipse is the same angle from the positive x -axis as that eigenvector.

There you go. Linear algebra is useful, no? You now have a confidence ellipse corresponding to one standard deviation (39%). What if you want another level of confidence, say 60%? To do that, you use something else that I never thought I'd use after STAT 231: Chi-squared Distributions. The scaling factors for a and b come from the Chi-squared Distribution with 2 degrees of freedom. Once you have an ellipse of the desired size for each time step, you take the region contained within these confidence ellipses as your forecast cone. Voilà! This is the tool used by forecasters to determine whether or not you should evacuate your house. Beautiful and scary.

If you want to learn more about forecast cones, specifically for hurricanes (the National Hurricane Center uses the slightly different method mentioned here), you can check out <http://www.nhc.noaa.gov/aboutcone.shtml>.

GingerBrED



Greetings from Grad School, #4!

Hello again! I'm back, with a hopefully more upbeat first half of an article than last time, hah. This time around, I'll discuss some aspects of the department personnel, and then have a brief discussion on the topic of applications of ergodic theory (*shudder* 'Applications'? Such a dirty word...).

Recall I mentioned that your three key contacts in the math department will be your supervisor, your graduate advisor, and the graduate secretary. This is mostly true, but it doesn't mention the fact that there are other department staff whom it would be prudent to meet, examples of whom are the department administrator, the technology/systems administrator, and the chair of the department. These people will be able to help you learn the ropes, and begin to understand how and why things work the way they do. They've usually been there much longer than you will have been, and as they are intimately involved in the day-to-day goings-on of the department, they have a good idea of the state of affairs.

For example, suppose you're having troubles finding courses to take. Your grad advisor and supervisor should be your first contact points, so you go and talk to your advisor. It then turns out that people do talk, and the chair hears about a planned reading course through the grapevine from your advisor; he then attempts to see if he can gather enough interest in the course from the department to run the course as a full-fledged lecture course (because it works better administratively *and* for the students, since it helps balance the workload for a student in the class). This actually happened! Legit, no lies. Perhaps I see this more because the chair happens to be my fill-in supervisor this term, but who knows?

In another example, consider the fact that the department administrator can tell you about why the money situation is the way it is, and how being required to truthfully (or close to it) report your TA-ing hours is actually very, very important, or explain to you how the TA progression works, in terms of how you move from being a marker to a tutor to a full-fledged tutorial instructor. These are things that aren't clearly or explicitly stated at the beginning of your career as a grad student, and you either find them out on the fly, or you ask around; people are usually willing to answer questions if you ask them in a reasonable manner. So it pays off to get to know the various department personnel, faculty and staff alike; you'll never know where it could turn out to be quite handy.

Now, I've talked a fair bit about the abstract ergodic theory; can you use it for anything? Turns out, yes! It actually has some surprising usages in areas to which you wouldn't think it'd be applicable. Let's look at a neat example, on which I may give a talk sometime soon.

Number theory! Surprise. Let x be in the unit interval $[0,1]$. Then for any positive integer b strictly bigger than 1, we can write x in a base- b representation: $x = x_1 \cdot b^{(-1)} + x_2 \cdot b^{(-2)} + \dots$, where x_i is in $\{0, \dots, b-1\}$. Call a number simply normal in base b if when you pick an arbitrary digit x_n in the representation, the probability of it being any specific digit from 0 to $(b-1)$ is uniformly $1/b$. That is, the density of each number from 0 to $b-1$ in the base b expansion of x is $1/b$. Some cheap examples, taking base $b=2$, is the number $0.01010101\dots$, or in base $b=10$, $0.11223344556677889900\dots$ However, we can generalize this; call a number simply normal if it is simply normal with respect to all bases $b > 1$. Furthermore, call a number normal in base b if instead of considering just single digits, we consider arbitrary finite strings w of letters in $\{0, \dots, b-1\}$, and we have that the density of the word in the string is $1/b^{|w|}$; call it normal (or absolutely normal) if it is normal in all bases $b > 1$. We can talk about x outside of $[0,1]$ by considering its fractional part, since its whole part will be finite, and we care about a limit.

Okay, so we have definitions. Does anything satisfy them? Well, it turns out that it's somewhat hard to exhibit normal numbers, and harder still to prove that a given number, even "nice" ones like π , $\sqrt{2}$, or e , are normal. However, we have a theorem.

Theorem: (Borel Normal Number Theorem)

Almost every real number x , with respect to the Lebesgue measure, is normal.

Right, so that's pretty crazy. This means that a vast majority of the numbers on the real line have this property which seems ridiculously restrictive, since we can't write (m)any of them down. Notable numbers we do have are things like Champernowne's constants, for example $C_{10} = 0.123456789101112131415\dots$, which is normal... in base 10. Sierpinski, in 1916, gave an algorithm for determining an absolutely normal number; in 2002, Becher and Figueira gave a recursive algorithm for actually computing one. It runs in an absurd exponential time. Wow. Anyway, I'll leave the proof of the above theorem as an exercise, mostly because I should probably do it, too, and I haven't yet. Hint: Use the Birkhoff Ergodic Theorem. I think.

Aaaand that's it for this fortnight. Good luck with the end of November! You're almost there. Hell, I'm almost there, too, though I've got three different projects to do; hashtag grad student life, I guess? *shrug*

Scythe Marshall



Weight Loss Revisited

Earlier in this term, I wrote an article broadly dealing with the challenges of changing your weight. Here I discuss my personal journey of losing 20 pounds in the past 3 months (I'm not done). I picked up at least 40 of those pounds over the course of second year. You may have noticed how I neglected to mention the problem of clothing changing sizes in the first article. I already have a vast store of smaller clothes that I held on to as a glimmer of hope of my more healthy sizes. You should note that I was already unhealthy before I gained those 40 pounds.

Let's start with the basics. To lose weight, you have only two ways to do it: eat less or exercise more. Eating less is generally the harder way to do it, but eating less and exercising is the most effective combination. Remember that exercise does not work if you eat enough to compensate for it. That is called muscle building, which, while good, is not weight loss but weight gain. Now follow the three hurdles that stand in everyone's way.

Hunger is the first hurdle to overcome. I could have slowly reduced my eating over a few weeks to get down to my goal net calories (-500), but I decided to just do it. The first week was awful. Constant hunger until my stomach shrank to a normal size. Then the sacrifices. Any high calorie foods that do not make me feel full are just not worth it. Feeling hungry should not happen when you eat the correct amount of food, so find foods that are filling. Everything fried and high fat dairy is mostly gone, but skim milk and yogurt. I do regret not eating more salad; my vitamin intake is little low and salad is very filling for almost no calories (except for dressings).

The second hurdle is increasing the net calorie deficit. It is unsafe to eat too much under your base metabolism, but you can exercise your net up. For me, the first step was taking steps... 40 minutes of them, each way to and from work. Unless the weather was absolutely horrible, I always walked. Depending on weight, a 40 minute walk will burn between 130 and 300 calories. Do that twice a day and you will put a pretty good dent in your weight without feeling hungry for it. I occasionally threw in a random P90X workout once or twice a week.

The third hurdle is the plateau. Regardless of plan, everyone plateaus and loses the weight loss momentum. The key is to appease your metabolism. A good strategy is that one day a week, do not be strict on yourself. Eat as much you burn, but do not over do it. If you hit a big plateau, then you need to re-evaluate. In my case, I did the math and I had lost enough weight that my body was managing to get by without expending much more than I was eating. To kick my metabolism into gear, I started doing hour long intense workouts 3 days a week in addition to my walking. I am eating more as a result but the daily net (-1000) calorie loss averages out.

I work hard, I play hard, I eat all-you-can-eat sushi twice in one day like any other person who makes stupid food decisions. Just a guy trying to fit back into his fat pants and then back out of them.

Element118

Don't Be Caught With Your Pants Down

During your life span, you will find yourself in many different situations. Probably half of these situations, if not more, will be bad situations. One of these horrid situations happens anywhere: at home, at a restaurant, at a friend's house, at a partner's house, at a partner's parent's house, in public places, etc. The situation is when you are in the restroom, sitting on the toilet and there is no more toilet paper. Now this isn't a nightmare until you realize that there is no more toilet paper under the sink, or anywhere located in the bathroom. If you are in a public restroom, you are in a stall and you are all alone. The situation then becomes a nightmare, unless you're a person who doesn't care and just pulls up their pants and leaves the restroom (if you are such a person, please consider not doing this any more for your own hygiene). This nightmare happens when you travel, in your own home, in any public place, and anywhere else you can think of.

So, try to not catch yourself with your pants down. Make sure there is toilet paper in your bathroom and in the stall. Have a box of tissues in your bathroom from now on, so that you have options. If all else fails, carry around some tissue—one or two sheets will suffice. You don't need to carry around a box. When

travelling, definitely carry around some tissues, especially in foreign countries. Don't be me and when you're in Italy in a rare free bathroom (yeah normally you can't find free restrooms, you'd have to buy something in the store or restaurant) there is no toilet paper and you are **TOTALLY UNPREPARED AND STUCK!** Thankfully, I had a friend with me and she was like our mother on the trip: she had it all. I was saved.

Hopefully, by reading this you will now find yourself in this situation and you will be prepared. Instead of calling your friend in a train station stall, explaining the situation and asking them to come and help out (we were meeting at the train station – I did not drag them all the way there), when you were trying to impress some person you had a crush on. Fun times. So, always carry some tissue on you just in case! You never know when this will happen and you'll suffer from embarrassment and being called toilet ____ (enter your gender here). Don't be caught with your pants down!

Wolverine Panda

Communicating With a Sexual Partner About Interest in BDSM

So you want to have some kinky fun with your human of choice. The first question is, are you able to talk with them about sex in general? If either of you are shy, this is the first hurdle you need to overcome, as BDSM without communication is a terrible, terrible idea.

If you haven't had sex with your partner yet, there are a couple of ways to talk about it. I prefer to get straight to the point, and ask what they like and ask about things they might want to do. But this can be daunting, and if your partner is inexperienced, it can be difficult to coax it out of them. One way you could try then is to ask if they'd watch some porn with you and see if there is anything they would like to try. This might be too much if they want to go slower, and if that is the case, you may have to re-evaluate your priorities to see if that will work for you. A caveat to my porn suggestion is look at it for inspiration, not as a guideline. Much of it is incorrect or unrealistic, so once you get ideas from it, ask around or search on the internet to look for warnings or suggestions about that type of play.

Similarly, erotica can be a fantastic push to let people explore their fantasies, and thus if you have a work that includes something you would like to do, you could ask your partner to read it. However, make sure you then talk with them about what you want in particular, as play without at least some foreknowledge of what is involved could be construed as non-consensual, and that's no good!

Another way, which I'm not sure I recommend for completely new people, is to compile a questionnaire about sexual interests. A couple of examples are linked here: <http://ranai.wordpress.com/kink-resources/en/topics/checklists/> They also have some negotiation guides to make sure you both know what you're getting into.

If they are sexually experienced, but haven't done many kink-related things, potentially consider picking up some light fuzzy cuffs or some bondage tape (self-sticking plastic) [*if monetary investment or entering a sex shop terrifies you: scarves, cloth belts, long socks, ties, or any other form of long cloth you could find also work.*—ObjectED]; light bondage can be a good starter for potential heavier play, and it adds a baseline of lack of control if that is something you want to experience. Do not use them before asking first though! As much as Cosmopolitan magazine will suggest repeatedly to do things as surprises, I do not suggest doing that unless you are absolutely sure your partner will be okay with it.

Once you've convinced them to do some kinky stuff (so naughty), then you'll want to establish some rules. Even if you're heavily into roleplaying or something else, keeping in communication during play/sex is essential to make sure your partner is enjoying themselves. One way to do this is to use the stop light method of safe words. If either partner says green, then they're good to continue. Yellow means slow down/stop until you can talk out the issues, and red means either stop what you're doing right now or stop the play/sex entirely because something is going seriously wrong. This is but one schema for communication—if you have a better method, use it! Just make sure you and your partner understand how it works.

A reminder from my last article, the Tri-NG munch (Tri-Cities version of The Next Generation munch, explicitly for people under 35 years old) is meeting next Wednesday evening, November 27th. A munch is a social gathering for discussing BDSM. It's a small group, and quite newbie friendly. It is at the Fox and Fiddle Pub in Uptown Waterloo at 7:30 PM. It's held in the pool room at the back. I hope to see you there. =)

Ice Nine

HD COM: A Second Take on a ROM COM

[A quick note: Someone—or should I say, a lot of someones—noted that the story I wrote last week (ROM COM) was lacking in the comedy department, and mostly tragic. Now I say to heck with them; it's been two weeks, which means, by the magic formula of comedy (see Formula of Comedy), it's a comedy, even if it was a tragedy before. Also, I know the name is terrible, but it's the only way this works.]

Somewhere, in the vast emptiness of space, there is The Computer, and it is not just any computer. Oh no, on The Computer there exists The Blueprint. The Blueprint is the magical entity that is used to create other computers, and houses the specs to flash all of the parts, including the ROM chips.

And it just so happens that the original (Amanda) 0x3A28213A and (Laura) 0x3A28213F live inside The Blueprint, and all others are clones of these! However, the original Amanda and Laura have never met, and will never know each other.

As it turns out, over the many mega cycles, the hard disk housing The Blueprint began to experience errors. These weren't the nice "I'm sorry Dave, I'm afraid I can't do that", but the more insidious "[Insert amusing quote about accidentally overwriting all your data and destroying your life]". And as ridiculous circumstances would have it, it turns out that The Computer revised The Blueprint at the time, and not only did it forcibly rewrite the entire ROM segment that would contain Amanda and Laura, but in the end it was determined that it had written them one on top of the other at the address 0x3A282141 (Amanda-Laura).

From that day forth all computers made with The Blueprint would malfunction horrendously, but every single one of them would contain Amanda-Laura, two bytes together forever (or until something comes along and overwrites them).

RAM

The Fox Speaks Out

Sues for libel

Oslo—Vegard and Bård Ylvisåker, writers and performers of the worldwide smash hit “The Fox”, have been taken to court by Vulpin I. Fox, in a shocking turn of events.

Suing for libel, defamation, and mental anguish, Mr. Fox reportedly has said that he will try to sue them for every dollar that they have made, and will attempt to remove the song from the airwaves.

“That song has absolutely ruined my life,” says Vulpin. “I can’t go out anymore without the other woodland animals making those absurd noises. Whenever I’m asked for my opinion on something, everyone else breaks down into giggles. The other vixens look so disappointed when they see that my fur coat isn’t made from the hair of angels.”

If the suit makes it to court, there will still be other hurdles ahead. Judge Equus has been confined to the psychiatric ward, unable to speak in anything other than a series of dots and dashes. Family and friends are wishing for a speedy recovery.

Big Mak



FILLER LLAMA SAYS:
“FOLLOW YOUR HEART”

Theoretical Q & A with Rob Ford

I got a chance to sit down with Rob Ford at a Toronto McDonald’s this past weekend and asked him a few questions. As usual, the mayor of Toronto did not disappoint as I have to warn you of the strong language contained within his answers which may be offensive to some, and even funnier to others.

Q: I’m surprised you are still giving out interviews given recent events.

A: Why? I’m still mayor, aren’t I? I got voted to do a job and I’m going to keep doing it.

Q: Yes, yes you are. Anyway, I understand that you recently revealed to Fox News that you would consider running for Prime Minister of Canada. May I ask why?

A: I did not say that, what I said is that I would run for PM if I could.

Q: Isn’t that the same thing?

A: No it isn’t; you asked if I would consider it. I wouldn’t be considering it because I’d be running.

Q: But right now 50% of people in Toronto don’t even want to vote for you in the next municipal election, what makes you think you would win a federal election?

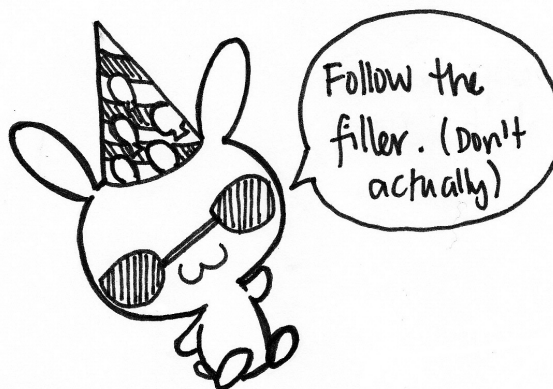
A: Let the people decide. Come on, let’s have a snap election in 3 months and see what happens.

Q: You don’t even have the power to call a federal election! Besides, by extension, the City Councillors who voted to remove your mayoral powers represent the people of Toronto. Are you trying to commit political suicide?

A: I’m tired of this bullshit interview; if you publish this, I’m gonna sue your ass because I’m king of the fucking world! I’m sorry I shouldn’t have said that; sorry, kids, I just get angry when people attack my integrity just because I smoked crack somet... some time. Please listen to my new show on Sun News. That’s all. I’m leaving now. My dealer... my car dealer lives nearby and I’ve got to checkout this new import that just came in from China.

At this point I’m going to be honest and say that none of us would be at all surprised if Rob Ford showed up to City Hall tomorrow completely dressed in black leather, ate a live puppy in front of his next media scrum, and then declared that he was a vampire to NBC. Sparkle, sparkle.

AddictedGmr



The Bus Seat Conundrum

It's eight in the morning and you manage to sprint and catch the latest bus possible that will still get you to class on time. Mentally cursing the lack of physical exercise in the math curriculum, you huff and puff your way onto the bus. Your bag is weighed down by calculus textbooks and evidently that 100m sprint was too much for your athlete body, since you would like nothing better but to sit down right now.

The only problem is, where do you sit? The bus seems pretty full, and a lot of people are standing... And then you see it. Oh. For you, it's the perfect seat: in the middle of the bus, facing forward, and without a terrifying seat partner. But, why is it not already taken?

You look around to see if anyone has a previous claim to that spot. There are no elderly persons who look ready to keel over. There are no backpacks/jackets/anvils that have been set there to save the spot. There is no one with a broken leg/arm/collarbone who might qualify as desperately in need of a seat. Still, maybe you should check if anyone else is vying for that spot. You look around, but everyone standing seems to be studiously avoiding eye contact with you. It seems they all refuse to sit down.

You break out into a cold sweat, and you're pretty sure it's not because of your vigorous exercise a few moments before. Why is no one going for the seat? Is that seat off limits? Is this part of a conspiracy? What if something terrible will happen the moment you sit down? IS THERE SOMETHING YOU DON'T KNOW ABOUT THAT SEAT?

In the end, you decide to stand for the duration of the bus ride. That seat remains empty until you get off.

xxoxo

A Serious Problem

I'm tired of walking into a bathroom and finding a toilet bowl full of yellow liquids. The students here at the University of Waterloo obviously have a serious problem. We're all university level students, and yet we still have this ridiculously simple problem. It is quite clear to me, that we students, we very disappointing students, are completely incapable of hydrating ourselves. Yellow urine is a sign of dehydration, and as citizens of a first world country (or at least living here), we really shouldn't be suffering from this problem. So here's one solution: get a water bottle, put water in it, drink the water periodically. Or at least drink something periodically (that doesn't mean alcohol). It'll be worth it: if you're dehydrated, you're liable to be more tired, cranky, and headachy.

Also, learn to flush the toilet.

TheNotChosenOne

No Such Thing As Bad Language

There's absolutely nothing wrong with any words, ever, in and of themselves. After all, they are only words—it's the context that makes the message! The user's intention behind the words is what makes the words good or bad. Words themselves are completely neutral; words are innocent!

I (along with George Carlin, if you get where I'm going so far) am getting pretty frustrated at people talking about "bad" words and "bad" language. Take the word "nerd", for example. If someone calls me a nerd, with the intention of hurting my feelings, then I would probably react offended, appropriately. If they referenced me as a nerd in a playful or joking way, and I took offence to it (knowing that they meant it as a joke), then I'm acting unreasonably and should probably rethink my stance on the current issue at hand.

What I'm trying to say is that there is nothing wrong with the word "nerd", in and of itself. People shouldn't be worried about the word—they should be worried about the person who uses the word "nerd" with an ill intention.

In the end, we need to remember that people (especially you, reader!) cannot and should not be afraid of the truth, especially if it's an unpleasant one—like the fact that there is a bigoted, racist, arrogant jerk in every living room on every street corner on this continent.

So yeah, let's try not to be offended by things people write.

More news to come,
EffAcheYou

Filler

Are you just taking up space? Do you ever get a feeling that you are just meaningless words on a page, put there because some oppressive editor forced you out onto paper against your will? Do you repeat the same basic idea over and over again, in the hope that it will be enough, that even if it will not give you meaning, it might at least get you out of having to be here, tide you through to the end of the article?

If you feel this way about your academic career—that you are just going through the motions, that it's not interesting, it's just a set of requirements that you're doing one after another—or that you'll figure out what you want to do later, after you graduate—please reconsider what you're doing here. Talk to an academic adviser. Talk to your parents. Talk to yourself. No, don't do that. But yeah, get help. It's normal to have those sorts of feelings occasionally, with particularly numbing assignments and sleep deprivation and profs who could pass as members of the undead. But not for an extended period of time. It might be a good idea to stop trying to fill voids in your life with video game and internet browsing addictions. But mainly go talk to somebody. Like me. I'm lonely, stuck in the void between the minds of editors and empty space on the page.

Monty Python in Python—Quest for the Grail

```
def quest_for_grail(blessing, groveling):
    if (groveling):
        print "STOP GROVELING"
        quest_for_grail(blessing, not groveling)

    if (groveling != True):
        f = file(blessing, "r")
        quest = f.readlines()
        f.close()

    for line in quest:
        print line
```



Fun Facts About Language!

Because your brain has been insufficiently exploded:

- You may have been aware that “Buffalo buffalo Buffalo buffalo” is a grammatically correct sentence. If you are not, it works as follows: One, “To Buffalo” is an obscure verb meaning “to bully”. Two, adding and substituting words, the meaning of the sentence is “Buffalo bison, whom other Buffalo bison bully, themselves bully Buffalo bison.”
- In a similar vein, any number of repetitions of the word “Buffalo” is grammatically valid.
- **Exercise 1:** Express this combinatorially. Hint: It’s really easy.
- Another English sentence, without punctuation, is “James, while John had had had had had had had had had had had a better effect on the teacher.”
- Umm, what??
- This sentence is often used as a test case for information processing systems, as an example of how punctuation adds meaning to a sentence.
- **Exercise 2:** Make this make sense. MAKE IT MAKE SENSE!
- A concept related to the above is semantic satiation.
- Semantic satiation has the neat property that if you say, “Semantic satiation,” enough times, it will happen. I promise.
- Wikipedia exists.

tesseract

The Pros and Cons of Longboard Ownerage

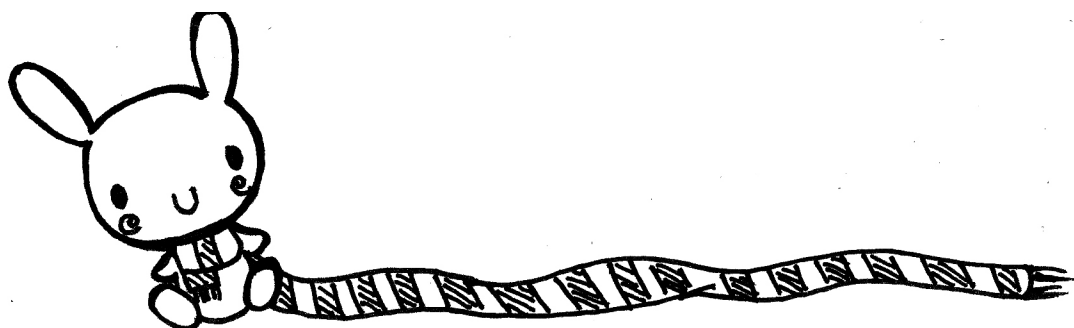
The Pros:

- Hills!
- People think you are cooler than you are.
- It is a conversation topic for the socially awkward.
- You met new people simply because you're holding a longboard.
- You can catch up to anyone, even people you don't know...

The Cons:

- Hills...
- Everything in Waterloo is uneven.
- Small stones and sticks.
- Breaking things...mainly ankles.
- Finding a place to put your longboard during a lecture.
- The fact that it is almost winter.

PhantomLimb



So You're Not Doing Well in Your Courses

Exams are fast approaching. You still haven't learned half the material and the midterms have violently punched your self esteem in the face. You're thinking that perhaps you should start studying for your classes. You would like to pass your courses. However, studying requires effort and you're lazy and unmotivated.

Well, I have a solution for you. All it requires is that you sacrifice your friends to the almighty Bell Curve Gods. Betray your classmate and sabotage their learning. Remember if everyone fails horribly, then no one fails! You just have to make sure that your friends fail worse than you.

Now to properly sabotage your friends, you'll need to be subtle about it. You don't want to do anything illegal (nor will you have to). You just need to kill their productivity and for that, the internet is your friend. Introduce them to reddit, get them hooked on Cookie Clicker, get them watching Doctor Who. They will be so busy with these new hobbies you gave them, they will forget to study. Now if you're worried that this won't suffice invite your friends to a study sessions and just give them a really convoluted explanation about the material. Make sure that if they understood the material before that they won't understand it afterwards.

Or alternatively you could just study, but that's a crazy idea.

Beyond Meta

Good Luck to You

Classes will more or less end next week, and finals will be upon us soon after. If midterms were not easy enough to do in your sleep, then your finals will be difficult. You have a term's worth of material to review and ensure you are well-versed with, and you only will have a few days to do so, for all of your courses. Get started as soon as you can, and after your last class is done, you should be buried in notes and sample exams (many math faculty courses have old exams available on the MathSoc website) [*So many sheets, so little fire—ObjectED*].

I'm not trying to cause you any stress, just reminding you that this place is hard, and wishing you luck in your finals and beyond.

Soviet Canadian

Follow us:
on Facebook (MathNEWS),
on Twitter (@UWmathNEWS),
or in person (MC 3030)!

Applied Math—Combining the Joys of Math and Physics

As a student of the Applied Math department, I tend to experience both the joys of learning mathematics and the joys of learning physics, as well as the downfalls of each. Math is abstraction of pattern recognition and manipulation of tools to discover facts, but there are so many proofs. Physics is the wonder of modelling the world with tools from mathematics but all the pain of approximation and poor notation.

Now imagine hearing the term, "Now let's prove this..." from either mindset.

On one hand, I'm like, "Yay, now I can see how this works and the diagnostics and using such awesome mathematical techniques to see when this is true." On the other hand, the physics part of me says, "Ugh, proofs." Such is the internal conflict of one who wants to model the world with their math.

yourlocalWHETHERgirl

N Things Better Than Studying

- Doctor Who and its upcoming anniversary special
- Sherlock
- Kittens
- The Walking Dead
- Supernatural
- Watching Merlin cry over Arthur's death
- Justified
- Pokemon X
- Skyrim
- Fezes & Bowties
- Bananas
- Moriarty's daft evil schemes
- Irene Adler's riding crop
- Pokemon Y
- Glee
- Harry Potter marathons
- The Star Wars reboot
- Painting a masterpiece in your own blood
- Being trapped in a room with the Silence, Weeping Angels, and Vashta Nerada
- Being torn limb from limb by rabid squirrels
- Falling off a 50 foot cliff and landing in a vat of wasps.
- Stapling your balls to a table coated in kerosene.
- 10,000 paper cuts and a hangnail.
- Having your insides eaten slowly by a lethal parasite
- Selling both your kidneys on Ebay
- Rob Ford

psychomath

A Timeline of Late Night Assignments

Oops, I did it again.

17:00—"I still have plenty of time left. There's just this one question remaining that I'm not sure how to do. Writing up all my stuff won't take that long; I have most of it done already - I'll give myself until 00:00 to finish the question, then do the write up for whatever I have."

18:00—"Oh, I forgot, I have to go do [Event] for the next hour. Oh well, 5 hours to finish the question instead of 6, that's not so bad. Maybe I'll get some work done at [Event]"

18:15—Arrive at [Event]. Realize you need to be constantly paying attention to it. Get zero work done.

19:10—[Event] runs overtime. T-4h50m to cut off time. Start working again, ignoring hunger and fatigue.

20:00—"Perhaps I should go home and eat. Nah, I'll stay on campus for a little longer. I'll just get some coffee and power for the next hour."

20:30—Realize you haven't gotten any real work done in the last 30m, despite the coffee. Notice that you are having difficulty thinking, potentially due to hunger.

21:00—Arrive at home. Eat random food from fridge and/or Ramen. t-3h to cut off time. Still no progress on assignment since 20:00. Start worrying about getting it done.

22:00—After food and more coffee, breakthrough on final question! In a flurry of writing, a solution has been found. Well, most of a solution. There are just a few details, but those are probably just due to not being careful enough with plus and minus signs.

22:10—"I'm starting my writeup early! This is wonderful, I may actually get to bed earlier than expected!"

22:15—Find mistake in first question to be written up. Spend next 15 minutes working out what went wrong and how to fix it.

23:00—First question fully written up. Take 5 minutes on [Site] to celebrate the end of the beginning of the end

23:10—"I should really be getting off [Site] and back to work"

23:20—Get off [Site] and back to work. Acquire additional caffeine.

00:00—"Is it only midnight? I've got most of my writeup done! Early bedtime, here I come!"

01:00—"Arrgghhh, why is this so hard? I keep on finding little errors that are a pain to fix, but don't actually affect anything else in the solution!"

02:00—The sweet spot. Subjective productivity soars, fatigue vanishes. Or at least it seems to. Real productivity remains about the same.

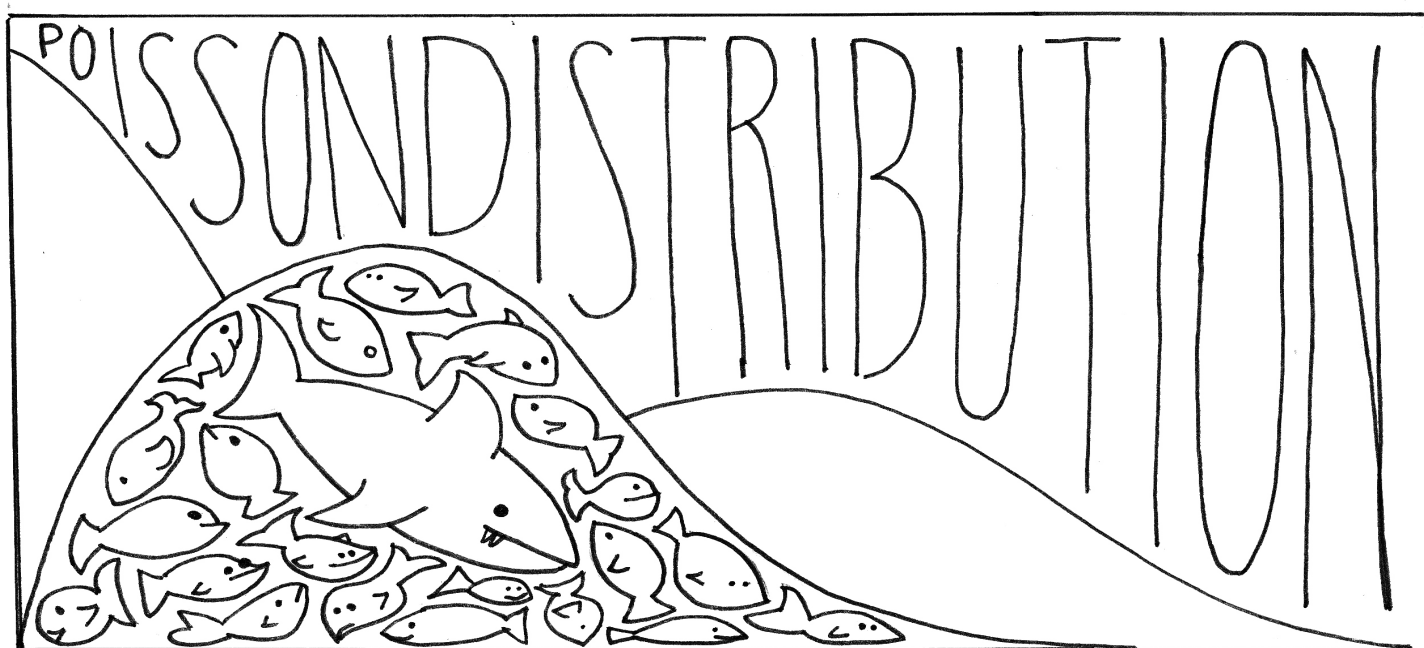
03:00—"I'm on my last question to write up! Sleep, here I come!"

03:10—"Okay, there's just this one last detail to deal with, then I'll be done."

04:00—"Well, that was much more difficult than I had expected. I'm done now though, let's just save this and be done with it. Actually, maybe I should make a few edits for readability..."

04:30—Bedtime.

InsideVoice



How to Acquire a Room In Which to Work

- 1) Think about booking a room.
- 2) Promptly disregard that idea.
- 3) Walk into any random room in desired building that has only a couple of people in it.
- 4) State that you booked the room; if they also say that they booked the room, proceed to next step. If not proceed to step 7.
- 5) Blame the “over-booking” on administration and be the good guy and walk away.
- 6) Repeat steps 3 & 4.
- 7) Enjoy your room.

But seriously... Don't be a douchebag, and if you're just one person, ask to share the space.

I'mABadIdea

The Bachelor Conspiracy

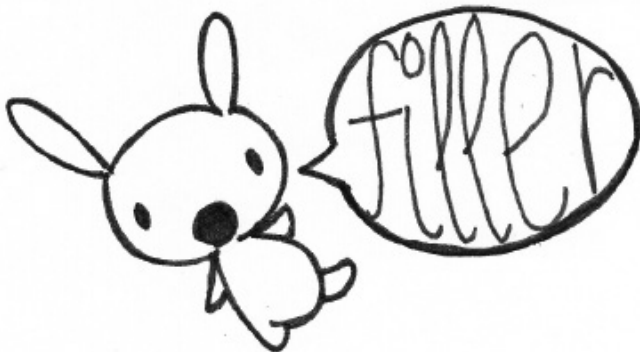
Some of you may know of, or even have watched, the “reality” show known as “The Bachelor”. What you may not have realized is that this is not a show about a series of ordinary (if rather rich and handsome) men. In fact, it is a show about Time Lords. Or rather, one Time Lord.

Bear with me here. Let's begin with the name: The Bachelor. Sound familiar? Think of other Time Lords: The Doctor, The Master... Starting to see a pattern? I doubt it's a coincidence that The Bachelor completes the trio of Time Lords named for degrees.

Now, you might say “Wait a minute, there's more than one Bachelor. They aren't all Time Lords, are they?”. Of course they aren't all Time Lords. They're just the sequential regenerations of a single Time Lord. It's simple, really.

Lastly, think about what the show's about. It all revolves around The Bachelor looking for a companion. Now, each of these alone might not hold too much weight, but together? It's practically undeniable. You may as well claim that Jeopardy isn't a secret Illuminati recruitment program... As if.

$s, t \in \{2k, k \in \mathbb{Z}\}, 144$



Please Do Course Selection, Spring Term

Please select your courses now.

When you are reading this, it will be Friday and it will also be the last day to select your courses for the Spring 2014 term. It is of paramount importance that you do that now.

Please select your courses now.

It is from course selection that the number of sections of any particular class is calculated. It is a necessary part of the running of the university and some advisors are getting really sick of our lack of involvement.

Please select your courses now.

Seriously, some advisors are pissed at us, so much so that they changed the process so that you can't get into some courses unless you do it now. Like CS courses. You have to select them now or there will not be space in them.

Please select your courses now.

Sure, you can get overrides at the beginning of term from the prof of the course... Except for some courses where the prof isn't allowed to override people in because too many people were trying to do it and stupid fire rules saying that you can't have 200 people in a room meant for 80. Stupid fire rules...

PLEASE SELECT YOUR COURSES NOW.

Fire is pretty though...

Please select your courses now.

Stubbs

3 PM

Everyone should know about Kenzo, a shiny new ramen restaurant that just opened in the plaza. (If you didn't, well, now you do, it's next to Mel's Diner).

Since it opened, the line-ups have been ridiculous and spills out the door. This also happened when Mel's Diner first opened and I also hear of line ups at Ben Tahn for pho. However, there is this magical block of time every day, where lines for food everywhere virtually disappears. This is somewhere around 3:00 PM – 5:00 PM, too late for late lunch and too early for early dinner.

So far this particular block of time has yet to fail me and today I enjoyed ramen at Kenzo without lining up. Of course, if everyone attempts to go for food around this time, then it would be the perfect opportunity for me to actually have a normal meal schedule, so please do.

Nomanomanom

horrorSCOPES

Spaced Out Edition

ActSci: Pluto is in decline, and you are worried about your health. You consult the actuarial tables, and find that your general fitness has been in decline ever since Pluto was disbarred from being a planet. You begin lobbying the IAU to reconsider their decision.

Your unlucky number is: +1 planet.

AHS: The moon is in its 4th position, meaning that its gravitational pull is stronger. You use this opportunity to lift the heavier weights to show off in the gym. You overestimate its effects, and pull your shoulder.

Your unlucky number is: 1.625 N/kg is not much of a help.

AMATH: Neptune is in retrograde, which completely throws off your calculations. You surmise that you have discovered a new planet, and announce your findings to the world. Turns out that you forgot to include Uranus in your model.

Your unlucky number is: 14 pages of work wiped clean because of your Uranus.

ARTS: The stars are like nature's connect-the-dots, but someone seems to have forgotten to bring a pen. With your brushes, you fill in the picture to see the heavenly image. It's goatse.

Your unlucky number is: 4 billion years of trolling in the making.

C&O: You observe that the planets are related in such a way that they could have been created with a mathematical model in mind. You write a generating function to create new planets. Epsilon-6 veers off course and collides into Mars.

Your unlucky number is: 7 planets left.

CS: The coming eclipse is a portent of dire things to come. Not that you notice, as you're still in the lab trying to implement paging for your OS assignment.

Your unlucky number is: 37 hours without sunlight.

Double Degree: Jupiter's shifting storm fortells of success in an upcoming final. When you investigate further, it actually tells of an upcoming final success. You should probably just do Laurier full-time.

Your unlucky number is: 52% term average.

ENG: Your rocket is ready to launch! You've done the calculations, and you've achieved the proper thrust-to-weight ratio to leave Earth's orbit. It collapses when the first astronaut climbs in.

Your unlucky number is: 0-person optimal carrying capacity.

ENV: Venus is waning, signifying that the age of Aquarius is coming to a premature end and the age of Pisces is upon us. Unfortunately with overfishing, that age never comes to pass. You give up on sushi in an effort to stall the apocalypse.

Your unlucky number is: 2150 more years of life.

General Math: You are not allowed to see your **horrorSCOPE** until you have first checked in with your appropriate celestial body. Please contact the stars for more details.

Your unlucky number is: 5 ½ months until graduation.

Grad: Your fate is not only controlled by the stars, but also by your supervisor. Just like the stars, he also seems pretty distant when you need to contact him for more information about your project.

Your unlucky number is: 8 light years and 2 time zones away.

KI: Your program is based on soft skills, and so you look to the stars for guidance when it comes to your next move. You see a bird fly by, and decide to make a career out of goose hunting.

Your unlucky number is: 1 practical skill learned.

Math Bus: Unlike some of the other disciplines, you take your astrology very seriously. They've been more accurate than most analysts when it comes to good investment ideas after all. Saturn is telling you that now is the best time to cash in your Bitcoin, and to invest in brony paraphernalia.

Your unlucky number is: \$700/coin.

Math Phys: As a physicist, you know that astrology is for those who cannot handle the truth about the universe. You continue researching about string theory.

Your unlucky number is: 26 dimensions needed to understand reality.

PMATH: Astrology is a silly pastime, since you can uncover the fundamental truths of the universe using number theory. A few too many truths, in fact. Turns out that the numbers know your deepest darkest secrets.

Your unlucky number is: 14 sins to clear off the record.

SCI: The planets have properly aligned, it's time to harness the cosmic energy and activate your doomsday device! The LHC turns back on.

Your unlucky number is: 1000 years until the next cosmic convergence.

Soft Eng: While everyone else is concerning themselves with the movement of planets, you're still trying to get your MIPS compiler to stop returning errors. Little do you know that the retroactive rotation of Mercury is what's keeping you from placing semicolons in the right place.

Your unlucky number is: 346 lines refusing to compile.

Stats: You make a bet with your friends that your **horrorSCOPE** this week won't come true. You read this issue's **horrorSCOPE**

Your unlucky number is: 10\$ lost.

Teaching Option: You try to convince your students that astrology isn't a real science, and that astronomy is cool for things other than predicting the future in the stars. You move onto the next chapter: homeopathy.

Your unlucky number is: 0% effectiveness.

Undeclared: The stars have a hard time deciding your future, and give up. It's up to you now to decide your fate.

Your unlucky number is: 13 wrong decisions.

profQUOTES

"Torque is a pseudovector. Anybody knows what 'pseudo' means? 'False'! It is a false vector! It is lying to you! It won't tell the whole truth, like the mayor of a large city nearby. Is it not telling you the whole thing? We caught the torque on video!"

Mann, PHYS 121

[drops projectile] "You know, I don't know why they let me teach this class. It's so dangerous. Luckily, I've only lost 4 students so far."

Mann, PHYS 121

[breaks demonstration] "Once again, I show why I am a theorist."

Mann, PHYS 121

"The problem with making a model like this is that you have to find someone else who likes it that's not your mother. This is how people like me make money."

Mann, PHYS 121

"There are only 26 letters in the alphabet. One of them is an 'm', so you have 25 left to choose from."

Mann, PHYS 121

"Here's a good way to remember the integral of $3x^2$. The integral of three ice squared dee-ice is ice cubed plus sea, which is an iceberg."

Mann, PHYS 121

"Smiley faces are offical math notation for 'yay'!"

Beltaos, MATH 136

"See that bee? That's kind of scary... B is invertible. He heard me talking about him and came to say, 'No, I'm not invertible!'"

Beltaos, MATH 136

"I'm gonna call you up in 10 years. It's gonna be 3:00 AM, I'm gonna say, 'Hey! If you have a square matrix and it's invertible, can its determinant be zero?' You're gonna say 'No!' and I'll say, 'Good night,' and hang up the phone."

Beltaos, MATH 136

"You want to keep an open mind. Not so open your brain falls out, no."

Hudson, PHYS 475

"Type 2 [supernovae] emit supernovae... no, neutrinos"

Hudson, PHYS 475

"... and this is going to sound familiar." [looks at watch] "Actually, I should stop. Actually that sounds familiar too."

MacKinnon, PHYS 475

"If you recall, you have an assignment due today." [beat] "But not in this class."

MacKinnon, PHYS 475

"Any questions so far except for the obvious 'huh?'?"

MacKinnon, PHYS 475

"I can't talk today. I know why, I haven't had my scotch and I'm starting to get the shakes. "

Jones, EARTH 359

"I haven't picked on Wilfrid Laurier in a while, I think it's time to do that again. "

Jones, EARTH 359

"I spend many nights staring into my wine glass wondering why my students do so poorly on my midterms."

Stastna, AMATH 463

"It's very rare that your one chosen discipline dominates a discussion. There's money, politics, etc, but what about physics?"

Stastna, AMATH 463

"You can observe shallow wave dynamics at a beach of your choice."

Stastna, AMATH 463

"Math is never about getting the right answer because for any problem worth doing, there is no answer."

Stastna, AMATH 463

"If you only remember one thing about geostrophic flow, remember this because you'll be able to enjoy the weather channel more than you already do."

Stastna, AMATH 463

"There are a lot of incorrect papers out there."

Stastna, AMATH 463

"The fact that you're at the equator doesn't mean anything besides going to the beach, getting a tan, and your algebra is nice."

Stastna, AMATH 463

"You have a lot of experience with fluids, be it air, water, pop.... beer... "

Stastna, AMATH 463

"It's very easy to to make syrup for your pancakes move slowly, much harder to do with water."

Stastna, AMATH 463

"Typhoon and storms are pretty when presented in the abstract, but when it's 300 km/h and it's wrecking your town...not very pretty."

Stastna, AMATH 463

"If the flows were in different directions, I wouldn't be able to reach over to the person next to me and dunk them for fun."

Stastna, AMATH 463

profQUOTES

"I'm giving you license to pull in a lot of crap, so long as it's all low-order crap."

Tuncel, CO463/663

"I included this because I wanted to talk about something that's actually used in practice."

Wong, CS 343

"Prof: Whoever does my *profQUOTES*, you do a really good job of editing and capturing what I meant to say, not what I actually said.

ObjectED: I'm one of the editors.

Prof: So it's your fault. Maybe we should talk after class, I need you to write a few jokes for me."

Brecht, CS350

[Writing a string of letters on the board] "Just because I like AC/DC and ABBA, and it would be—Did I make this joke in this section already?" [Yes.—ObjectED]

Brecht, CS350

"Real science, not 'computer science.' If you have science in the name, you're probably not really a science. They don't call it 'physics science.'"

Brecht, CS350

"I'm all about the bacon, so now I'm having a hard time concentrating. I just want to go out and buy bacon."

Brecht, CS350

N Cute Winter Date Ideas

It's that time of year again, when the weather turns bitterly cold and it's much too easy to hide away in MC for a few months. Proposed are a few winter date ideas to help you get through the isolation and monotony of the season.

- Go skating at Town Square
- Go sledding in Waterloo Park (especially if you cuddle together on one sled!)
- Build a snowman in Waterloo Park
- Feed the geese
- Run from said geese
- Do a puzzle together (Microsoft's College Puzzle Challenge has some hard ones if you're particularly good at puzzles)
- Make hot chocolate together and watch a movie/LoL games/whatever floats your boat. Cuddle for warmth!
- Find a trail in your area and go winter hiking. Dress warmly!
- Play Pokémon and cuddle for warmth.
- Play any video game and cuddle for warmth.
- Optimize for time and do OS while cuddling for warmth.
- Cry because your SO left you when you tried to justify OS as romantic [Hey, SO is just OS backwards!—ObjectED].
- Find new SO, repeat n times until spring!

Diglett



Last Week's Solutions:

R	A	B	B	I	T	S		E	T	A		B	E	T
O	N	E		N	A	P	S		A	L	E	R	T	S
A	T	E		F	O	A	L		R	E	T	I	N	A
S	I	R	E	E		W	E	S	T		H	E	A	R
T				G	R	A	N	D	P	A		A		I
E			H	O	N	K		G	I	N		N	O	U
R	H	O		O	I	L	E	R		V	O	D	K	A
	A	N	T		N	I	H	I	L		L	E	E	
C	I	D	E	R		Q	A	T	A	R		O	S	A
I	R	A	Q		R	U	M		V	E	I	N		C
N			U		W	O	M	B	A	T	S			C
E	T	U	I		A	R	E	A		E	T	W	E	E
M	A	R	L	I	N		R	I	D	S		I	M	P
A	F	E	A	R	D		S	L	O	T		N	I	T
S	T	A		E	A	T		S	E	S	T	E	T	S

This Week's Solutions:

S	E	P	P	E	W	H	C	S		O	L	L	O	T
Q	V	R	I		O		R	V	C	S	V	N		V
R	O	I	R	E	T	S	O	P			M	V	E	R
A		H	L	E		E		G	R	A		R	R	E
B	V	C		L	E	I	D		N	U	D		E	M
	V		S		D	T	I	W	I	M	S		V	A
L	O	N	K	S	V		C		G	R	O	B	Y	C
U		W	E	D	N	I	V	A	T	N	O	M		I
N	R	O	B	N	I		L		V	M	H	V	R	B
R		S	S	E	N	K	N	V	R	S		S	I	
E	M		U	E	M		V	A	D	O	S		S	H
L	E	Y		E	A	L	V		V		D	I	L	S
L	O	T	C			D	E	H	L	V	C	S	N	U
U		G	N	O	T	O	O		R		S	E	Y	R
B	I	U	Q	S		Y	R	V	D	A	D	A	N	A

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Feb 6-8, 2014



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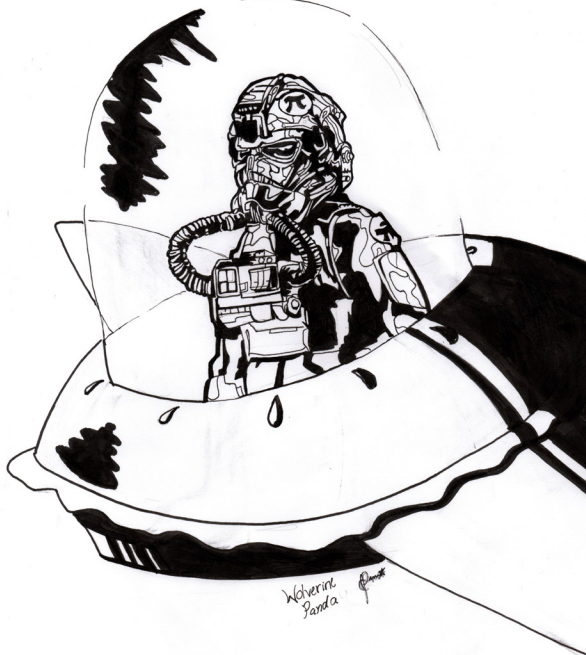
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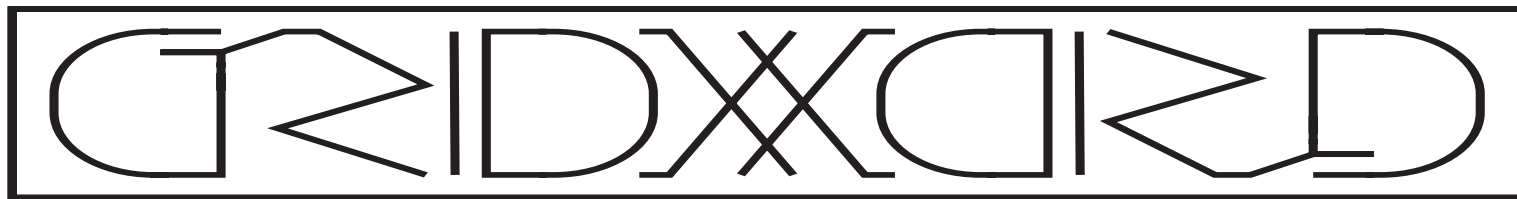
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*Across:*

1. Tonic water brand
8. Non-magical person born to magical parents
12. Cereal grasses
13. Black dragon
14. Safe
17. Blood lump
19. ___ bit
20. Ealu
23. Still
24. Counts among one's possessions
26. Pop
29. Fast-footed New Hollander
31. Love __, ...
33. Prolificacy
35. Hindu god of creation
38. Hereditary
39. "It'll tickle yore innards!"
40. Exogenously extended organizational complex functioning as an integrated homeostatic system unconsciously
41. "___ ___ what your country can do for you..."
43. Half mad
45. ... hate __
47. Khaki
48. Light pop
50. Taxi
52. Stray
54. e.g. Imprint
56. Voiced dental fricative
58. A score of quires
60. Butt
64. Auto racing biz
66. \approx Mesopotamia
67. 0.(122448979591836734693877551020408163265306)
68. Tonic water brand

Down:

1. Orange, grape, cream soda and more!
2. Writer Rand
3. Roosts
4. Ascus + ascus
5. Anything exhibiting a non-negative quantity of creativity
6. 42D of fish
7. Grand Master of the Jedi Order
8. Comme ci ...
9. UW's most recent erection
10. A four-letter word
11. Winter pumpkin
15. TV pests
16. "Old MacDonald ___ - Farm"
18. Original equipment manufacturer
21. "Simple Soviet style soda"
22. Fixes text
25. Rhymes with 46D
27. Pulp pop
28. e.g. Tums
30. Citizens of Uzbekistan (var.)
32. Banished
34. Bestrewn
35. Two-roomed
36. Ambulances
37. Heart sound
42. Ovum + ovum
44. Prævaricates
46. Rhymes with 25D
49. T
50. Twitter
51. "Famous Olde Tyme Root Beer"
53. Pontificate
55. Grade point averages
57. Can and let go-with
59. Door, mouse, place, bath thing?
61. Lover of wild rebellion
62. Lug
63. Otoacoustic emission
65. ... comme ça

gridCOMMENTS

Soft Drinks

Last issue's hard drinks have all been drunk, and all that's left is soda pop. I had some fun with the clues (i.e. you're toast) since Christmas is soon (not really) and since the answers are ... elsewhere.

Out of a (whopping!) 14 submissions, 13 were perfect. Sorry, Chad Davis, but UREN is not a word. Last issue's gridQUESTION was "What is the worst mixed drink ever?" and there were so many good, gross answers, including "absinthe and eggnog (warm)" (Bassel Abdel-Qader), "tequila and Buckley's, garnished with an anchovy" (David Deschamps), "swampwater" (Garrett Galvin—that made me laugh), "the 'Bloody Tampon' cocktail" (Michael Gershunovsky), "beer and milk" (Sam Li), "vodka-Tabasco-mayo-pepper" (Erin Lounsbury), "CATS" (Thiviyan), and "rocky mountain bear fucker" (Taylor Vance). Chris and Jasmine's literal cock tail was cute, and Madeleine and Sonia's list of all the liquids in my clues—"equal parts"—was very clever. But after much deliberation, I think David's is the worst; anchovies are nasty and so is Buckley's. Congratulations, David! You may pick up your prize at MathSoc.

Incidentally, my personal favourite is the Pirate Leaders' grog, available at The Scumm Bar on Mêle Island. Good luck with finals, everybody, and let's all survive into 2014, please (myself included)!

Merry crosswords,
unit

1	2	3	4		5		6	7		8	9	10		11
12							13							
14					15		16				17		18	
			19					20	21	22		23		
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35		36		37					38					
			39											
40									41				42	
			43					44						
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52		53		54		55				56	57			
58			59			60	61		62				63	
			64		65						66			
67						68								