

math NEWS

Volume 127, Issue 2

Friday, January 30th, 2015



*math*NEWS Bears All!



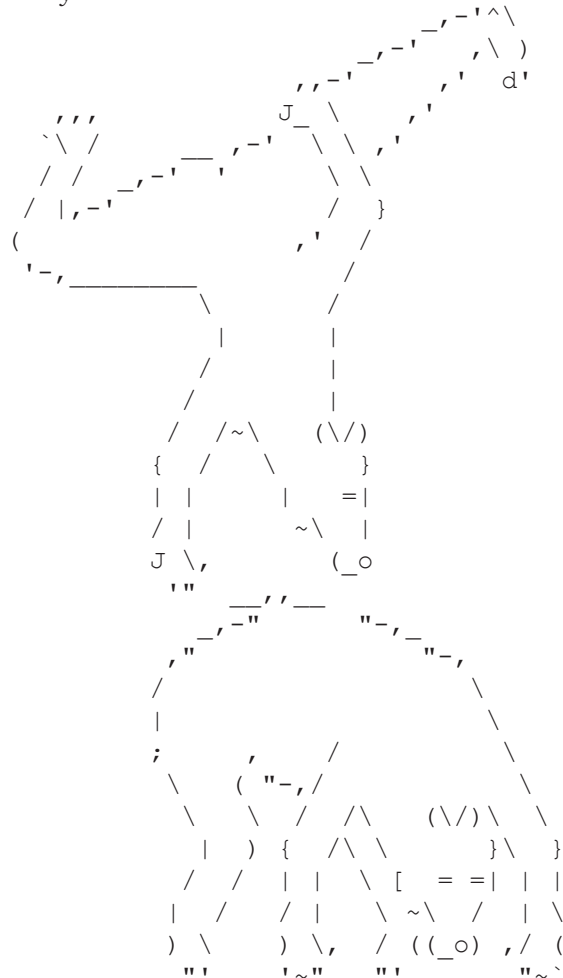
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lookAHEAD**mathNEWS**

January 30	Terrible bear puns are made public
February 9	Bear writers gather to scratch their backs on trees
February 13	Bears are released back into the wild

Miscellaneous

February 2	Groundhog Day
February 7	Eat Ice Cream for Breakfast Day

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Julie Sturgeon (Winnie), Katherine Tu (Paddington), Jose-Miguel Velasco (Yogi)

mastHEAD

Dearest reader,

I hope this *mastHEAD* reaches you well. This may be the last you hear from me, depending on whether help finds me before they do. I need you to deliver a message for me.

Last Monday, we had Production Night as usual. However, our beloved dictator GingerbrED was not present, and SketchED and I were left to fend for ourselves. Unfortunately, her absence was the catalyst for the event that followed: the bearpocalypse.

I cannot aptly explain what happened. But I can tell you what I think I saw; that is, the room erupted in bears. Where there once sat our talented and grammatically-adept writers stood giant bears, towering even over SketchED, the tallest of editors. And they wanted to feed. But I had no food to give them at the time—after all, they had to write for us before food could be dispensed. Soon I found they were not satisfied with mere limbs (which I was happy to give, because losing limbs is a good method of weight loss), but our despair.

No doubt they were sent by the new candidate for Dean, Stephen Watt. Without the only computational algebraist on our editorship, GingerbrED, to govern them, they freely wreaked havoc in the computer lab in which we convened.

So please, reader. Deliver this message to GingerbrED. Tell her—tell her it is too late to stop them now, and also that they like cookies. Especially those wafer rolls, preferably with chocolate on the inside. You know the ones I'm talking about, the rolls that look like pipes and are made of layers of wafers? Sometimes they're decorated on the outside with chocolate swirls, too. Those are really good. I guess it may not be correct to consider them cookies, though. More importantly, SketchED and I managed to survey our writers before our ultimate doom—we asked them what they found unBEARable, so that we may gather these things and take advantage of their weaknesses.

A.Writer(“Sonic Boom: Rise of Lyric”); Theodore Bear(“Bear Puns”); tesseract(“Polar coordinates. They are grizzly.”); $s, t \in \{2k, k \in \mathbb{Z}\}, 144$ (“Bears in your socks”); Andy(“ $1/\sqrt{2}$ | Bears alive) + $1/\sqrt{2}$ | Bears Dead”); DanInTheHat(“A habitat incapable of supporting Bear life”); BeyondMeta(“Winter returning now to hibernate”); Stubbs(“Long Pawses”); quiz(“Professor Bearington at BearCrypto2015”); Capital(“The next Call of Duty”); SketchED(“*mathNEWS* writers”); theSMURF(“*mathNEWS* editors”); untheSMURF(“Ununbearable”); mynametoday(“having to write words for *mathNEWS*”); Zethar(“Dragonslayers, some of whom may ride bears.”); GingerbrED(“missing a production night full of bear puns”); Scythe Marshall(“Financial derivatives; those are always bullish, right? Right?”); waldo@<3.LE-GASP.ca(“Getting hit with the same sickness for the 13th time in 13 terms...”); lp0onfire(“Proofreading all these bear puns. It's quite tedious.”); Depressimist(“Feelings of Joy.”)

bunniED(“Oh no, I think I hear them. The growling... I can hear the growling everywhere. Please, help me. THE BEARS! THE BEARS ARE HERE! THE BEARS AREppbbfffttttttttt”).

CCA Workshops

Guaranteed to be beary helpful!

Career Interest Assessment, Strong Interest Inventory (Friday, January 30th, 10:30 AM–12:30 PM, TC 1214)

Attend this session to find out how your interests relate to specific career opportunities. NOTE: There is a materials charge of \$10 payable at the Centre for Career Action prior to the session, and a Strong Interest Inventory to complete online. The assessment must be completed at least 2 business days prior to the workshop.

Career Exploration and Decision Making (Friday, January 30th, 10:30 AM–12:30 PM, TC 1112)

Through discussion and hands-on activities, this session will increase your understanding of the career decision-making process and put you in a better position to make appropriate career choices.

Thinking About Teaching? (Saturday, January 31st, 10:00 AM–11:30 AM, TC 1113)

Hear from secondary school teacher Andrew Hann, BEd about day-to-day teaching experiences and finding work in today's job market.

Thinking About an MBA? (Saturday, January 31st, 10:00 AM–11:30 AM, TC 1208)

Thinking About Further Education? (Saturday, January 31st, 11:30 AM–1:30 PM, TC 1208)

Learn about what to consider when applying to graduate programs. Topics include GPA, prerequisites, admission tests and exam scores, funding, research experience, letters of intent, and reference letters.

Volunteer for Your Career (Saturday, January 31st, 11:30 AM–1:30 PM, TC 2218)

Learn how to find unique volunteer opportunities that provide you with hands-on career-related experience, and how to market these experiences effectively on your grad school applications.

Thinking About Optometry? (Saturday, January 31st, 1:00 PM–2:30 PM, TC 1208)

Dr. Graham Berg, OD will talk about his experiences as an optometrist and in operating a private practice.

Admission Test Preparations (Saturday, January 31st)

- GRE, Quantum Test Prep (10:00 AM–11:30 AM, TC 1112)
- MCAT Strategy Session, Princeton Review (10:00 AM–11:30 AM, TC 2218)
- GMAT, Quantum Test Prep (11:30 AM–1:00 PM, TC 1112)
- LSAT, Quantum Test Prep (1:00 PM–2:30 PM, TC 1112)

Thinking About Rehab Science? (Saturday, January 31st, 1:00 PM–2:30 PM, TC 2218)

Mary Simpson-Jones, BA, BSc OT, Caitlin McArthur, BSc, MSc PT, and Jennifer Phillips, BASC, MHSc SLP will talk about the professions of occupational therapy, physical therapy and speech-language pathology.

Thinking About Law? (Saturday, January 31st, 2:30 PM–4:00 PM, TC 1208)

A lawyer will provide advice on attending law school, writing the LSAT, the licensing process, and career opportunities for lawyers.

Thinking About a Health-Related Career? (Saturday, January 31st, 2:30 PM–4:00 PM, TC 2218)

Career advisors will provide information and options for health-related careers, as well as tips on assessing your career fit within this broad field.

Thinking About Pharmacy? (Saturday, January 31st, 4:00 PM–5:30 PM, TC 2218)

Kevin Potvin, BScPhm, MScEpi (Pharm) will talk about his experience as a pharmacist and the ideal attributes of competitive candidates for admission to pharmacy programs.

Thinking About Med School? Perspectives of a Waterloo Grad (Saturday, January 31st, 5:30 PM–9:30 PM, TC 2218)

Dr. Rob Moreland, MD, BSc, BA will explore tactics for strengthening your med school applications, plus give you insights into whether a career in medicine is right for you.

Christopher Smith

Games Sez

For all the board game aficionados out there, MathSoc Games Nights will be happening on Thursdays this term. As a reminder, this is your opportunity to hang out, play board games (and card games, and social games, even sometimes video games—we're not at all picky), and snag free food and beverages. We serve everything from Doritos to hummus, and healthy fruit juice to soda. And all you have to do to earn some of this delicious, bear-sized feast is to show up and play some games with us.

Not actually a Games Director any more,
DanInTheHat

CSCFLASH

Hey good folks of the computer persuasion! The CS Club office is a) a place of \$0.50 pop, b) populated with Linux terminals, c) has staplers for your assignments, and d) is in MC 3036 (across from the Math C&D). Swing by and sign up!

Coming up is Theo Belaire's talk about Racket's *match*, that incredibly overpowered keyword (6 PM, MC 4063, this Monday, February 2nd). Come out! Hang out at our office!

Calum T. Dalek
Chairbear Extraordinaire

Meme Reviews: Bears

No. 0/10.

bunniED

A student portal that even Pikachu can get behind

Bears also give this portal their support

UWaterloo's new student portal rolls out in February to Math students, bringing a new dimension to the way students can access information on campus.

The student portal is a sleek, mobile-friendly communication tool that will help you find the information you need, just when you need it. By logging on, you will have a convenient, customizable tool in the palm of your hand telling you which study spaces are available, what is being served in campus food outlets and how busy they are, when your next GRT bus will arrive, when your academic deadlines are approaching, and much more.

Students in Math will gain access to the portal in phases, starting with Computer Science students during the week of February 9; Math majors the week of February 23; Math and Business students during the week of March 2; and Math graduate students during the week of March 9. Keep checking your UWaterloo email account for an email from the Student Success Office to get started.

In the coming months, student developers will also be able to develop their own content for the portal. When you gain access, be sure to provide your feedback so the portal can evolve to become an extremely valuable and useful tool for all UWaterloo students.

Visit www.uwaterloo.ca/student-portal to find out more and how to get started.

Student Portal Project Team



Top N Reasons to go see the FASS Theatre Company's 2015 show!

It's winter, and that means that the FASS Theatre Company is about to put on their annual original-ish musical comedy production! This year's show, *FASS Fables: Tales from Mother Geese*, is centered around fairy tales with a UWaterloo Twist! If you want to come see the action for yourself, come by Hagey Hall's Theatre of the Humanities on February 5, 6, and 7! In the meantime, here's a sneak peek at what you'll see:

- It will get you more swoll than the gym (MAD GAINS)
- An entire scene takes place in WatSFic
- You will hear one of the worst pick-up lines ever created
- No fewer than three characters who speak entirely in puns
- If you missed clubs day, there will be a re-enactment
- You thought *Les Miserables* was a great musical, but it was sorely lacking in goose-related sub-plots
- Yes, there is a rap battle [*featuring mathNEWS' very own GingerbrED*]
- Cinderella and her Step-Housemates, will they get a happily ever after?
- ION certainly makes the play attractive if you're a science student
- Some mild nudity and plenty of language (for the risque of course)
- Bedazzled hoverBOARS!
- Bedazzled hoverBEARS?
- If you want to help the play become that much more special, our show on Friday, Feb 6 at 10:30 pm is audience participation night!
- There has been over 100 people working on making this show amazing in just under a month (with a few giving more of their time than a month), and you should all come out to see it to support them!

For more information about ticket pricing and show-times, please check out our website at <http://fass.uwaterloo.ca/watch-fass-2015/>. We hope to see you there in the audience! There's always a need for more song and dance :)

The FASS-tastic Internet Minions, 2015

Salt Your Sidewalk

Walking down the sidewalks is a treacherous ordeal presently because of the patchwork of poorly- or not-at-all-cleared sidewalks in front of houses. Right now, you should read your lease and figure out who is responsible for clearing that shit. If it is your landlord, you should notify them if they are doing a terrible job. If it's you, buy a big bag of salt and go apeshit (or bearshit) flinging that stuff around in front of your house.

If it is your responsibility and someone slips and falls, you may be held accountable. Also, it's a nice thing to do.

Stubbs

I Went to BIRS and Lived to Tell the Tale!

A brief expository note on a recent five-day research workshop!

Last week, I had the fortune of participating in a five-day workshop in Banff put on by BIRS, the Banff International Research Station, on the topic of Random Dynamical Systems and Multiplicative Ergodic Theorems. My supervisor was one of the co-organizers of the workshop, so I was extended an invitation; I am very glad I accepted.

First, some notes about BIRS. Inaugurated in 2003, it is a mathematics-focused research centre, aimed at bringing together talented mathematicians from around the world almost every week to collaborate and share knowledge with each other. It is a joint Canada-USA-Mexico endeavour, with sponsors from all three countries. BIRS maintains a permanent presence at the Banff Centre, which is a hub, not only for mathematics, but for the performing and visual arts. There are plans to build another location in Mexico, as well.

The workshops in general go in similar patterns: there are talks, some discussion time, meals, other scheduled events, and free periods. The number of participants in these workshops tends to be between 30 and 40; our workshop was near the lower end of this range. This allows for everyone to meet and interact with one another, and therefore build connections and network a bit. In particular, engaging with each other mathematically can prove to be a very fruitful endeavour, which may result in new collaborations or blossom into creative and novel ideas.

Meals are covered by BIRS for participants, and they are taken in the main dining room at the Banff Centre; all meals are buffet-style, but the quality of the meals is almost always good. The main challenge is to avoid eating too much, which is hard to do when there are so many different types of food available. In particular, there were on average about four desserts available at lunch and dinner; even forcing oneself to use a small dessert plate doesn't work particularly well. That said, I didn't explode or anything from eating too much; this is a good thing.

The talks from the workshop merit mention. The technology available to record the talks is fabulous; there are two cameras, one of which trains itself on the slides if there are any, and the other one which follows the presenter automatically. Together with some minor editing, the videos are very high-quality almost immediately, even for chalk talks instead of slide talks, and the audio is phenomenal. The system is drop-dead easy to utilize, and is almost fully automated in most regards. You may find the recorded videos online at birs.ca, under the specific workshop page.

I suppose some notes on what I did are warranted. I gave a talk at the end of the workshop on Friday, which I'm told went very well; the material was my Master's work. The Wednesday prior, I had learned about relevant literature which had previously been unknown to me (and my supervisor). Thankfully, things worked out well in that respect. I also helped organize a hike up 'Tunnel Mountain', which overlooks the Banff Centre and the rest of Banff. It's icy when snow-packed, but it was an enjoyable trek. [*We're glad you weren't eaten by bears.*—GingerbrED] Finally, I managed to meet basically everyone, and made many acquaintances, which should help in the future.

Although, I guess, perhaps the main benefit was that I'm more motivated to get back to doing research again. Learning about all sorts of related material makes it easy to want to learn more, and in this sense, taking a break to go to a workshop is almost better than trying to slog through the doldrums of finishing up a degree (cf. my other article this fortnight, which should've been last fortnight). This is an empowering feeling.

If you have the opportunity to go to BIRS to participate in a workshop, do it! It is a great chance to do something extraordinarily enjoyable and useful, and it's not even a once-in-a-lifetime thing; my supervisor's been there ten times. Thankfully, he finally figured out how to not overeat.

Scythe Marshall

Similarities Between Stephen Watt and Bears

They both:

- Can stand upright.
- Reside in Canada.
- Are recommended to watch out for when opening doors.
- Are candidates for our next **mathNEWS** interview.
- Are very concerned with the reputation of graduate study programs at UWaterloo. It is a little-known fact that bears feed off the despair of graduate students.
- Like fields (or the Fields Institute). Bears are big fans of commutativity.
- Are subjects of **mathNEWS** articles.
- Partook in research in computational algebra. Unfortunately, papers written by bears are not eligible for publication.

k!

Differences Between Stephen Watt and Bears

- Bears do not have grey hair.
- No bear has brawled with our current Dean, Ian Goulden, and lived to tell the tale. This is how Stephen Watt became candidate for Dean.

k!



Obscure Sorting Algorithms

According to Randall Munroe of *xkcd*, programmers like us should use quicksort in most cases, since we don't need to worry about sort optimization ninety-nine percent of the time. The other one percent of the time, however, efficiency is a concern, and those situations require special sorts designed for them. In one percent of instances within that one percent, well-known sorts other than quicksort just won't do. For those situations, there's these little-known sorts, most of which have $O(1)$ runtime:

- **Bearsort:** Hibernates the computer running the sort for a random number of integer months between 1 and 5. When the computer awakes naturally, the list will always be sorted. Hey, the runtime is $O(1)$!
- **Destinysort:** Programmers everywhere were hyped for this sort, but it just turned out to be a variant of insertion sort.
- **Destructorsort:** Deletes the list and creates a list of size 0. Since lists of size 0 are always sorted, this algorithm sorts the list with a runtime of $O(1)$.
- **Dinosort:** Attempts to sort the list using quick sort but gets terminated for bad puns. Has a runtime of $O(1)$.
- **Eternitysort:** Uses quicksort, then sleeps for $(10^{100} - \text{runtime of the quicksort})$ years before outputting the sorted list. Does not work on lists that would take more than 10^{100} years to sort with quicksort. Technically has a runtime of $O(1)$ if you think about it.
- **Fleshsort:** Hands the list over to a human volunteer to sort through an internet connection. I have withheld the address of the sign-up website, mainly because you have better things to do which include actual programming.
- **GamerGatesort:** Causes the program to act like a child instead of actually sorting the list, with a runtime of $O(1)$ because it will never terminate.
- **Harry Potter Sort:** Casts a spell whose name means "Sort this list!" in mangled Latin. Has a runtime of $O(1)$, as you can guess.
- **Incomplete Bogosort:** Shuffles the list only once. Has a runtime of $O(n)$, which is at least better than Bogosort.
- **Pokesort:** Seals the elements of the list in Pokeballs, then sorts the Pokeballs.
- **Sturgeonsort:** Sorts the list only 10% of the time using a $O(\log(n))$ algorithm.
- **Sorting by hand:** Forces the programmer to sort the list manually every time the function is called. The old-fashioned ways are best, right?
- **Notsort:** Doesn't sort the list. Has a runtime of $O(1)$, obviously.
- **Spoilersort:** I am forbidden to describe this sort because it spoils Star Wars Episode 5: The Empire Strikes Back. All I am allowed to say is that it has a runtime of $O(1)$.
- **Chinesebootlegsort:** America's wars 5:the Empire strike back, I can't tell you. If only (1).Nada
- **Tarmogoyfsort:** A proprietary sorting algorithm faster than quicksort which requires that the programmer pay \$200 for each program they plan to use it in. Considering its usefulness, you'll need to pay for it at least four times. No one knows what the runtime is since we don't have access to the code, but we can only assume it runs with $O(n)$ time at shortest.
- **Tinglesort:** Checks the geographical location of the program. If it is being run in Japan, use quicksort; otherwise, use bogosort unless the program is being run in America. If so, use destructorsort.
- **DavidHasselhoffsort:** Checks the system time. If David Hasseloff is, was, or will be popular at the listed time, use quicksort. Otherwise, use selection sort unless the program is being run in Germany.
- **Tumblrsort:** Oversimplifies the elements of the list to an extent where they can be sorted in $O(1)$ time with a normal programming algorithm.
- **TwitchPlaysPokemonsort:** Shifts the elements of the list at random according to the inputs given by the Twitch Plays Pokemon chat. (Yes, TPP still exists.)
- **Valvesort:** $O(n \log(n))$ on lists of size 1 or 2 and $O((n^{(\ln^{\wedge} (n!))})!)$ on lists with size 3. The runtime for lists of size 4 or greater is unknown because that would require a Valvesort with size 3 to terminate.
- **Whitespacesort:** Please see previous issue.
- **mathNEWS sort:** Pay other coders to sort it using pizza.

WL

Care Bears

Valentine's Day is a couple of weeks away, which leaves just enough time to get your Significant Other a wonderful present. All you have to do is go to your local bear hibernation spot and pick up your very own bear cub. They are cute and cuddly, house trainable (kind of), and easy to take care of (they'll eat almost anything including other annoying pets). Also, when they grow up, they'll maul or kill your partner, allowing you to move on to another Significant Other in a timely manner.

Or you could just get her flowers. But they're boring compared to having your very own bear.

Stubbs

Not All Real Numbers Are Real

In math, we like to talk about the real numbers. However, the universe has a finite amount of matter, and matter is countable. For example, the number of bears in the world is finite. We know that we cannot create a bijection from the countables to the reals. So it follows that there exist real numbers that cannot be represented in reality.

The reals may be misnamed, but since when has math actually cared about reality?

Beyond Meta

Writing a Thesis: A Semi-Informative Guide

Are you a graduate student? (Or an undergrad in a program where you may complete a thesis?) Then you probably need to learn to write a thesis or dissertation to complete the requirements for your degree! (Barring some of the new-fangled coursework Masters which are becoming more popular.) Many people associate graduate school with this feat. While this assumption is not technically correct, it has a grain of truth, especially in one's last term. Here, I shall mention some relevant information and tips for writing such a document, mostly coming from first-and-second-hand experience. Because of that, most of the tips will be math-centric. (This is *mathNEWS*, so really, what do you expect?)

Step 1: Start early! This cannot be overstated. You'll start doing research fairly early on; write some of the stuff down! In fact, LaTeX it! This will help you later. But the trick here is that writing documents like theses takes a lot of time, and cannot be rushed or procrastinated on without ruining the job. So, once you've started to get real results in the course of your degree (or your supervisor starts to hint at you to finish soon), you should look up the pertinent information about graduating, find a thesis/dissertation template (most universities have guidelines/format requirements), and get started. Moreover, in many cases, your written document is due much earlier than your oral defense, so make sure you know when your deadlines are, and prepare accordingly.

Step 2: Write everything down! I've already mentioned writing results down, but if you have a minor result which you know to be true, write it down and make sure you have a rigorous proof or writeup for it, instead of first waiting to do other parts of the document. Because no memory is perfect, when you come back to it, you'll suddenly realize that there are details you can't quite remember. This wastes time, and hurts your chances of getting through the logical steps of the overall document without forgetting to include important lemmas or discussion.

Step 3: Avoid black boxes, if possible. Black boxes are things that other people have discovered or written about, and that are extremely useful when used without having to do the work

yourself. In many cases, black boxes are unavoidable or are already commonly known in the field. In other cases, however, a black box might be an obscure result that concludes the proof of your own result, but that requires a bunch of other work which is unrelated to your thesis. In a defense of your thesis or dissertation, you may be questioned on any part of your thesis, and this includes any non-trivial black boxes you use. Not only does it look bad to not know anything about a result in your own paper, but not including it in the thesis—or worse, not understanding why it's true—makes it difficult to judge your knowledge of the field accurately.

Step 4: Citations! When you look something up for use in your thesis, write down where you found it! Using citations of the literature means that not only have you read part of the literature, which is part of being an academic, but also that your work is corroborated by already-refereed material, which means that in all but very exceptional circumstances, that part of your thesis is correct. As well, bringing together previously-obtained knowledge and combining it to discover new things is an important concept in academia, and citations make it obvious where this occurs. Oh, and let's not forget the whole academic integrity thing. That's important.

Step 5: Know the history! An enjoyable part of any good thesis is reading about how the material being covered was discovered and how it relates to other parts of the field, or about other areas of research in general. Reading about the people involved in the research can also be entertaining (and not in a bear-in-a-circus way), if only because people are sometimes more colourful than we give them credit for. Knowing the background of the field also heightens one's awareness of the breadth, depth, and expansion rate of the area, which is never a bad thing.

Step 6: WRITE! Then EDIT! Then REPEAT! And don't procrastinate.

You know, like what I'm doing right now by writing this article.

Scythe Marshall

N Lines from Combinatorics that Sound like Buzzfeed

- He proved it in two lines! Just use this one weird mapping onto subsets of N !
- He did induction just once, and it kept on going forever!
- Generate an infinite series, using just this one polynomial!
- Why proof by contradiction is the best, even when it isn't!
- Just use this one weird trick! Lose weight! On your graph edges!
- Catalan numbers: the real reason behind the secessionist movement.
- Planar embedding... in bed!
- They say "choose" a lot, but never offer any choice.

tesseract



N Things about Miss Canada's Dress

JUST LOOK AT IT. The evens... I cannot.

- Is this REALLY a good representation of Canada as a country? (To be honest... probably.)
- It is definitely NOT a good representation of a hockey game. (THAT SCOREBOARD.)
- Where's the lucky loonie? All hockey rinks have a lucky loonie somewhere, right? [*Where indeed?* –GingerbrED]
- Did you see the back of it? If you thought the front was nutty, the back is even better!
- Was it really necessary to compete with the Transformers costume that last year's Miss USA wore? (Seriously, go look it up.) If so, you're doing just fine.
- Apparently this was drawn up by the same woman who designed Jigsaw from the Saw franchise... No wonder it can be described as a monstrosity (only second to bears)!
- Needs more plaid to truly consider it Canadian.
- You may either love it or hate it, but it's definitely hilarious!

waldo@<3.LE-GASP.ca

Why are Bears?

At *mathNEWS*, we pride ourselves with asking the tough questions. This week's head scratcher: why are bears?

To answer this profound question, we asked the most prestigious bear experts on campus: the *mathNEWS* writers. Their answers included:

- Because they are one of the bear necessities of the world.
- Something is needed to bear witness to our crimes.
- Because the Americans have a right to their arms. (Bears also insist on having their arms pried from their cold dead paws).
- Because two-headed bears are needed for the New California Republic.
- Because only you can start forest fires!

The conclusive consensus we arrived at is that the question should be: *when* are bears?

Stubbs



A Grizzly Fate

Imagine a lazy Sunday morning. You wake up somewhere between the end of the morning and the start of the evening, and decide it's time for breakfast/brunch/lunch/whatever. Your stomach gurgles at the thought of last night's pizza waiting for you in your fridge. You stagger to the door, open it, and BOOM! The last thing you ever see is half a ton of ursine discontent bearing down upon you. Game over, man. Game over.

Too many people these days forgo potentially lifesaving protocols that properly check for bears before they walk through a door. Sure, you say, but the odds of getting mauled or eaten is low, right? True, only about three people a year are killed by bears in North America. You could be the fourth. Wikipedia states: "Multiple reports remark that one is more likely to be struck by lightning than to be attacked by a bear when outdoors." However, this overlooks the possibility of being killed by bears indoors!

Why take chances when it's so simple to play it safe? First, take a moment to listen for a low growl behind the door. Next, peek underneath for a set of shaggy paws or telltale scratch marks on the floor. Upon noticing one of these bear indicators, this author highly recommends reconsidering how necessary it truly is for you to open this particular door. It's just not worth it.

It's like Pascal's wager, but with bears. Sure, most of the time you open the door, you'll be fine. But that one, fateful day when a grizzly's waiting for you will outweigh all the slight inconveniences you might have accrued over the years. So, make the smart choice, and play it safe. When you consider the alternative, a little wasted time is entirely bearable.

Yours truly,
s,t ∈ {2k, k ∈ Z}, 144

Source: ww2.tsn.ca

N Secrets to Lose Weight That Doctors Won't Tell You!

It's the end of the month, and you realize you have yet to start your new year's resolution to lose weight. This a guide to help make your weight loss quick and painless.

Method 1: Space: It's not your fault you weigh more than a dozen fully-grown bears—blame the earth for always weighing you down. If you are tired of the earth gravitational attraction, going to space is a fast and efficient way to lose weight. The only downside is that this method requires a lot of money, costing about 2 million dollars per day.

Method 2: Amputation: Do you really need that second leg? Terry Fox had only one leg and he managed to walk half away across Canada. By cutting off one of your legs, you can easily lose about 17.5% of your weight, all in one go. The tricky part of this method is determining how to cut off your leg. One of the more classic approaches with a chainsaw, but we recommend the more creative approach of using bears.

Method 3: Lighting yourself on Fire: If you prefer a more distributed method to lose weight, you could always light yourself on fire. Fire is very effective method to make some of those layers of fat evaporate. The tricky thing about this method is determining how long you should be on fire. We personally recommend the length of time it would take you to read $s, t \in \{2k, k \in \mathbb{Z}\}$, 144's article from last issue entitled *So you're on fire, and hoping this article will help*.

Method 4: Cocaine: Some people believe that Cocaine is a fun way to lose weight. However, looking at Rob Ford, we are somewhat skeptical of its efficacy.

Method 5: Illness: There's nothing quite like a good fever to shed a few pounds. We recommend hanging out in the isolation ward to acquire the appropriate illnesses. You probably want to research the hospital before you visit. The tricky part is catching the right illnesses.

Beyond Meta



Mythology of the Bear

The bear: considered to be one the greatest animals ever to walk this Earth, is an enigma to all. What do the bears want? Why are bears called bears? Do bears think? Do bears consider themselves in Red Shirts in the Star Trek canon? What is the sound the bear? Is that sound secretly the same sound as those used as the phasers in Star Trek? If yes, then why were the creators of Star Trek keeping the fact that they employed bears in the famous 1967 episode Space Seed secret? Is Khan from that episode, really a bear in disguise? Who knows, but today, I will attempt to reveal to you some of the secrets of the bear.

Nobody, or to be precise, no bear precisely knows when Bear Society began. Many believe that bears first started building secret towns under the salmon rivers in 1338 C.E. Their towns were prosperous, gaining huge amounts of wealth through the trade of salmon, berries, honey, and bootleg DVDs of the show, My Mother, The Car. For you see, the DVD was originally invented by the bears, and they merely allowed human kind to used that media format in the early 2000's. It was in these cities that Bear Mythology first emerged. The main mythology is believed to have predicted the rise of science fiction in the 1950s and 1960s. For you see, in the ancients texts of the Bear, there are references to a world-ending event, only called "The Unbearable Event". Bear Society believes that this event will only occur when the world runs out of cheesy science fiction movies to make fun of. Also found in these texts, are the complete scripts for the two seasons of Star Trek: The Original Series, proving beyond a doubt that Bears were the ones who gave us Star Trek. Bear Mythology is quite fascinating, giving us predictions for such famous human events as the cancellation of British Sci-Fi series Doctor Who in 1989, and the triumph of "Blurred Lines" over "Get Lucky" in the Summer 2013 Billboard Charts.

Bear Religion is also very fascinating, as several elements from the various Bear Religions have found their way into those of humans. For example, the Chief God of the Bears is The Immortal Bear, an immortal who is worshiped by the Bears; has two forms, one human, and one bear; and is believed to hide itself within both Bear and Human Society in order to test the faith of his subjects. While multiple alias' of the Immortal Bear have been found throughout both human and bear history, it's current human alias is believed to be Hollywood Actor Nicholas Cage, giving people more reason to worship him. The Immortal Bear, who is believed to have written the aforementioned ancient texts of Bear Mythology is believed by many, both bear and human, to have shaped human society, making it so that bears are seen as subservient, so they may hide their technological advancement and watch their human underlings in secret. The Immortal Bear is also believed to be the true creator of the 1960s sci-fi show Star Trek, gracing humanity with his wonderful plots and brilliant writing. So that brings us back to the original question, why did the creators of Star Trek hide that they were actually bears in disguise? I believe that we shall never receive this answer, at least until The Unbearable Event or Crocs footwear comes back in fashion, whatever comes first.

Theodore Bear

Four Teenagers Who Want to Become SE Students

DISCLAIMER: I was given a list of click-baity article titles and accepted a challenge to write articles for them. This will probably end badly. Originally the number I was given was 14, but that's too many, so I dropped it to 4. In other words, I got lazy and gave up. I also changed "children" to "teenagers" in the title. Also, this article is a work of fiction, and any similarities to real people are completely coincidental.

It's a chilly Saturday afternoon, and I'm glad to have arrived at the coffee house. I spot Phillip in the back, where he is hunched over his laptop and typing furiously. He almost seems out of place. Perhaps it's his dishevelled hair, or perhaps it's his bright hoodie, a tech company's logo emblazoned on the front. Or maybe it's simply because he is so focused on his work that he barely notices when I sit down at his table.

But he does notice, and greets me warmly with a smile and a handshake. He explains that he was working on his "stealth startup," and apologizes because he can't explain what it is.

Phillip doesn't have a bachelor's degree. He didn't drop out of university to work on his startup. No, Phillip hasn't even started university yet. He's still a grade twelve student (but only for a few months, he reminds me). His dream school is the University of Waterloo, and he wants to study software engineering.

The software engineering program at Waterloo has been incredibly competitive over the last few years. More and more students apply, and the entrance average keeps going up, as only a limited number of applicants can be accepted. Phillip is worried.

"I'm sure I have a strong AIF," he says, referring to the Admission Information Form, which the admissions committee uses to judge extracurriculars. "But my high school average is only 87. I don't know if it's enough for software."

Why is Phillip so intent on this competitive program? How did he get interested in software in the first place?

"You know, I just like building things. It's an itch I have to scratch. But more importantly, I like building great products that people will enjoy using. And SE at Waterloo is the place to be. With the co-op program, I'll have lots of internships and opportunities to learn and make new connections."

Lester, another prospective student I interviewed, agrees. But unlike Phillip, Lester seems less interested in startups.

"I don't think startups are for me," he explains. "They seem a bit unpredictable, kind of like how bears are. You never know if you're going to succeed or fail, if they're friendly or territorial. I'd rather work a stable job at a big company."

Indeed, Waterloo seems to have a good reputation with many tech companies.

"I hear many students in their last co-op term get full-time offers for when they graduate. That sounds like a great deal to me," Lester says.

There are all sorts of companies that hire Waterloo students. They range from startups that most people haven't heard of, to well-known companies that even my grandmother (who doesn't use computers) has heard of. And then there are the companies that make video games.

"As a kid, I always loved video games," Albert tells me. "And then, before I knew it, I fell in love with making video games."

Albert has also applied to Waterloo, but unlike Phillip and Lester, he has already graduated from high school. Albert is taking a one-year break before starting university.

"I don't think I'm ready," he admits. "I also need to save up for tuition, which is why I'm spending a year working."

Some prospective students already have their big dreams, but Hazel is happy to take things slowly.

"The program is five years long," she tells me. "A lot can happen in five years. There's no point planning out my entire future right now."

Hazel makes a good point. In the last five years, many tech companies will have risen or fallen. The software engineering program wasn't nearly this competitive five years ago. And five years ago, Hazel wasn't particularly interested in computers or programming.

"It wasn't until grade nine that I became interested. I really liked math and problem solving, but I had no idea that programming might be similar. It was only because my math teacher invited me to the programming club. And then I fell in love with coding."

"Maybe I'll get into software. Maybe I won't. Maybe I'll switch to a different program. Who knows?"

Phillip seems to agree.

"There's nothing I can do now except wait. There's no point worrying, so I might as well continue working on my startup. And if I don't get in, well, I'll keep working on my startup. And that's my advice to other people: don't give up."

Encouraging words from a prospective entrepreneur who's still in high school. I finish my coffee, thank Phillip for his time, and get up to leave. And as I walk out, I glance back at Phillip, whose fingers are already a blur over his keyboard.

notbob

Flying Bear Attacks

We are all well informed about the dangers of bear attacks in North America, and of how one needs to be cautious when in their natural habitat; however, in the grand scheme of things, on average, each year there are only two reported bear-related injuries in North America. Notwithstanding this statistic, we often overlook the threat of aerial maneuvers by and from bears.

While some people are vaguely familiar with the idea of drop bears, the Australian marsupial well known for dropping onto its victims from above, it cannot be overstated that these are not actual bona fide bears and are imposters. With that misconception out of the way, we shall move to flying bear attacks.

Prolific flying animal attacks happen about once every decade, although intermittent smaller surges of flying animal attacks happen relatively more often. We first make a few reasonable assumptions—the type of animal involved in a flying animal attack is uniformly distributed among all the native fauna, the frequency and intensity of flying animal attacks are approximately that of earthquakes scaled down, etc. After running the numbers, we can reasonably assume that once every three or four years, one of the bear injuries would be caused by a flying bear attack.

Obviously, this does not account for indoor aerial assaults. Proceed with caution, and travel safe.

Zethar

University of Waterleasing

Throughout school, I have always sublet.

As a student living around UW, you know the city pretty well, and can probably predict which areas are going to improve. Bars you frequent. Which bus lines are better. Bears you can avoid. The supermarket you like.

When looking to purchase student housing in Waterloo, you can exploit this knowledge to predict which areas will become more highly valued in the future.

Ten years ago, the economics of this would have worked out. A friend in the 2011 class took out a loan to buy a student house in Waterloo during their 2A term, and used subletters to pay the mortgage while in school. Upon graduation, they sold the house at 1.5 times the initial purchase price.

The current housing economics in Waterloo means that it doesn't make sense to do this anymore. Due to zoning changes, the number of condo buildings being built is skyrocketing. Strongly correlated to the number of condo buildings is the number of rooms in the market. Increasing the quantity of rooms typically means that there is decreased competition, causing student housing to become cheaper. It's already easy to sublet from someone who's taking a loss. And that's why, throughout school, I've always sublet.

SavvySubletter

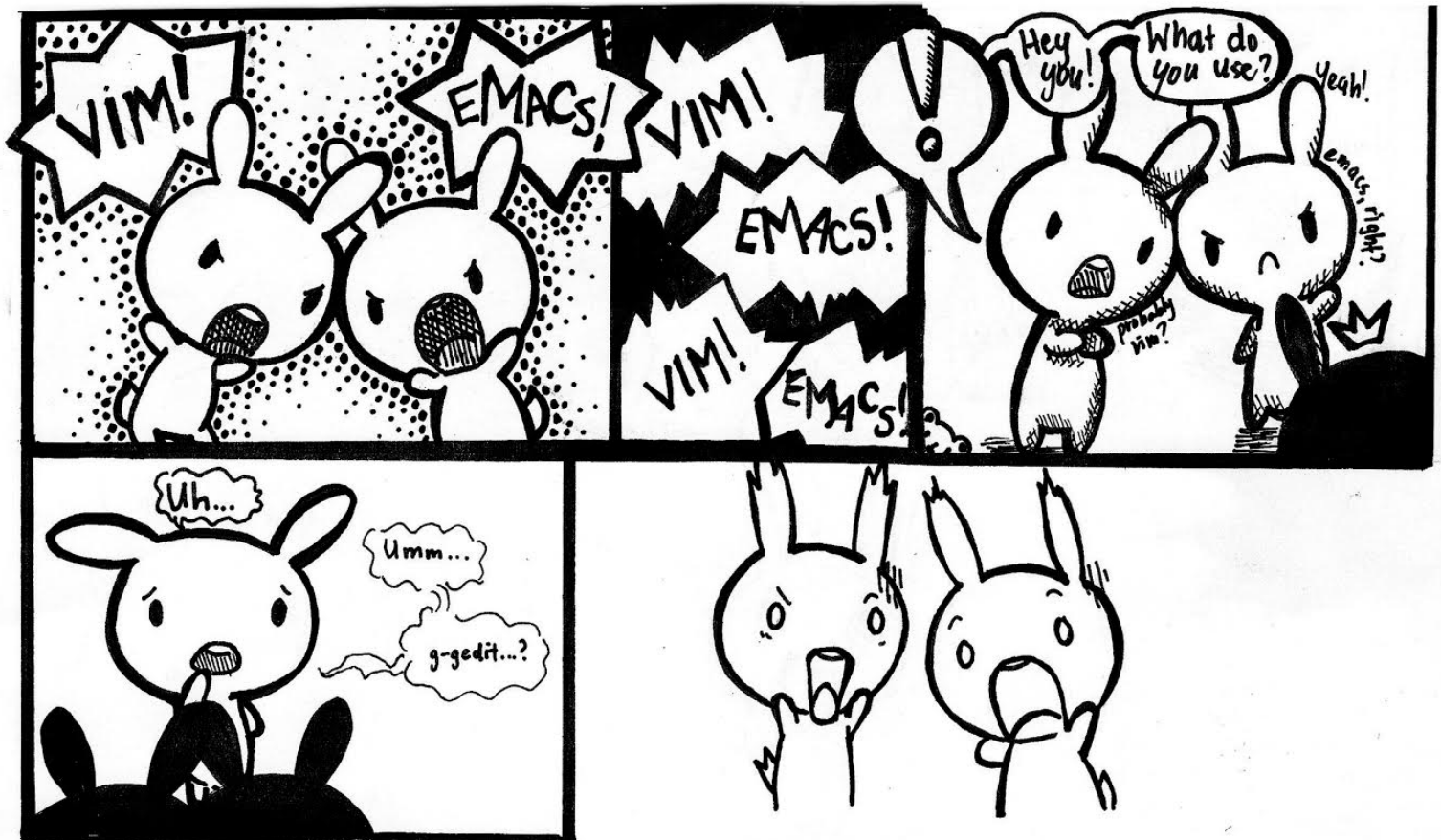


fig. Hang on, let me load up my compiler on Notepad++...

profQUOTES

“I don’t like to call them assignments. They’re student-centered learning experiences.”

Vrscay, AMATH 231

“It’s called ‘amortized runtime’, because we needed another word to say ‘average’ without saying ‘average’.”

Biedl, CS 240

“You will write ‘ $n \cdot O(n) = O(n^2)$ ’ and I will cringe, and I will give you full marks.”

Biedl, CS 240

“Arithmetic with Big-O is not allowed, which means people do it anyway.”

Biedl, CS 240

“You should take notes in pencil in this class. When you’re in graduate school, you can take notes in pen.”

Jao, MATH 239

“What happens after you graduate from graduate school? You stop taking notes entirely.”

Jao, MATH 239

“A mathematician would probably be happy with this answer, but in this class, you’d probably get half-credit, because we’re better than mathematicians.”

Jao, MATH 239

“An instructor asks you, ‘What are you running there?’ and you answer ‘Oh, I’m just running the fetch-execute cycle.’ and hope that you have an instructor in a good mood.”

Lushman, CS 241

“It is very easy to give you all assignments, midterms, and a final to fail you. It will only take 15 minutes.”

Safayeni, CS 430

“Since Quest became automated in scheduling classes, the computer did not recognize the difference between room numbers that are classrooms and room numbers that are washrooms. The computer scheduled classes to be held in washrooms! Good thing they didn’t schedule it in a ladies right because those are quite small. In the men’s washroom, you could have a small seminar!”

Safayeni, CS 430

“People aren’t going to come to class after 3 PM on a Friday afternoon unless you give them some juicy jokes.”

Safayeni, CS 430

“This class is more like rock and roll. Other classes are like jazz.”

Brecht, CS 350

“v-i or die”

Brecht, CS 350

“Depends is very often the right answer, except when it’s not.”

Brecht, CS 350

“Computer scientists solve problems with every kind of in-direction.”

Brecht, CS 350

“It’s kind of cute, but a little dirty for an exam question.”

Labahn, CS 370

“If you feel a compelling urge to dance in this class... that’s fine, but do it at the back.”

Rye, SMF 204

“When do you do your essays? At the last minute, right? When do you think I make my exams?”

Rye, SMF 204

“You’re probably in this class right now because of repressed sexual energy.”

Rye, SMF 204

“I swear, these microphone batteries die quicker than my vibrator.”

Rye, SMF 204

“Actually, I’m drinking straight vodka.”

Rye, SMF 204

“I know that I look like I have a pickle up my butt.”

Rye, SMF204

“I just like saying ‘box’.”

Rye, SMF 204

“Here’s a list of references for you, but I don’t recommend any of them.”

Chenouri, STAT 440

“I have two very tired people in this class. It’s fun watching them. Just be careful not to snore.”

Chenouri, STAT 440

[*Turns on overhead projector.*] “Let’s see if the software is compatible.”

Bauch, AMATH 495

“No fractal zoom video is complete without cheesy space music.”

Bauch, AMATH 495

“O(1 zillion) is bad for performance.”

Lam, ECE 459

“Curl has the notion of curl easy which is only kind of easy.”

Lam, ECE 459

profQUOTES

“I mean, you wouldn’t make a porn movie out of it.”
Kroeker, CLAS 104

[On spoilers.] “You know what’s going to happen right? You’re not wondering whether Noah drowns or lives.”
Kroeker, CLAS 104

“Turing hadn’t kept up with his journal readings...”
Ragde, CS 442

“His paper reads a bit like it was written by someone on drugs.”
Ragde, CS 442

“No yawning! This is interesting.”
Shallit, CS 462

“The ‘infinite sequence’—it sounds a bit hype-y to me...”
Shallit, CS 462

“So he gets this ascending and descending thingy...”
Shallit, CS 462

“I’d be surprised if the answer was yes. But I’m not surprised because the answer is not yes.”
Lushman, CS 444

Smash 4 Super Legit OP List

Super Smash Bros 4 is one of the most popular games of 2014, and with good reason. The game may or may not have single handedly saved the Wii-U. The tipping point will be the Mewtwo DLC. If you don’t know Smash, it’s pretty simple. Just beat other players up in style with a sword or Pichu. If you suck at the game, like me, take my advice on the most OP characters to use.

S Tier:

- **Metaknight:** Wings and a sword. Similar to the M16 in Cod4, Arceus of Pokemon, Fox of...Brawl, most OP, always OP.

A Tier:

- **Greninja:** This pokemon was recently banned to Uber tier on Smogon. For you tier-less casuals that means it is pretty good. PRETTY GOOD. (Plus his d-smash has a water sword)
- **Robin, and Other People with a Sword:** They have swords. Robin has magic, but since there are so many people with swords in this game it is hard to tell them apart. Just know this: “If they have a sword, you’ll be winning more.”
- **Ridley:** Takes up so much of the screen, and just too powerful. Only thing stopping this beast is not having a sword. What were they thinking when they added him to this game?
- **Big Mac:** Deliciously powerful as he tops everyone in KO tomatoes, lettuce pickles, and special sauce on a sesame seed bun. I’m starving to play Big Mac in-game right now.
- **Falco:** Fox and Falco are the same. Same aerals, same lasers, same move speed. Why are there so many clones in this game, Sakurai!?!?

B Tier:

- **Amiibo Fighters:** Drop \$14, and get a plastic toy that ruins your Nintendo childhood forever. Also has the ability to learn your play style and start beating you at the game
- **Jigglypuff:** Looks like a bear. But much, much rounder, and therefore much, much more dangerous.
- **Mewtwo:** Just like in Project M, pretty good. After the release of the DLC, he’ll be nerfed.

C Tier:

- **Zelda Franchise:** Green hat guy, helpless princess, and angry bodybuilder are all grouped together. They are listed here because Hyrule Warriors sucked.
- **Mario Franchise (Minus Yoshi):** These guys are pretty bad. Not horrible, but not great. Super Mario World U had them running around in cat suits. How do you expect them to fight?
- **Pacquiao:** He throws wakka wakkas and has a mean final smash. Has an eating problem though, and this hinders his overall ability. Scared of ghosts, but not Mayweather.
- **Bowser and his Sons:** Just like his sons, Bowser has come to the world through mystery origins. Bowser raises the boys as a single parent but tries to compensate by buying each of his sons a car, but the joke’s on him. When his sons grow up, they’ll be spoiled, feel self-entitled, and weigh as much as two heavy polar bears each—just like him.

D Tier:

- **DK:** He’s the leader of the bunch, you know him well. He’s finally back to kick some tail. Pick him if you want to fail!
- **Sonic:** After tripping a million times in Brawl, the marathon runner hedgehog is back. He once said, “You’re too slow”—but now he’s the slow one.
- **WARNING: The Legend of Zelda: Ocarina of Time SPOILERS**
Sheik: Sheik was formerly fused with Zelda and was a two-character-in-one deal. Now armed with bouncing fish and burst grenades, Sheik is heavily armed to do some work.
- **Yoshi:** This egg-laying male dinosaur is mediocre. Lack of parrying—and let’s be honest, if you want to win, you better pray to win.
- **Shulk:** Leftover from the Japanese port of this game. I think he’s in this game as a mistake.

Don’t Use:

- **Diddy:** Diddy is flawed in every way. Second member of the DK Crew. None of his moves can hit after down-throw, and he always slips on his banana. (Good thing he only has one.)

Summary of BearCrypto2015

At the BearCrypto2015 conference: Encryption and security for bears, there was discussion of some great new bear-cryptosystems. There was also the discussion of BEARS, the Bear Encryption Access Restriction System. The new BEARS protocol allows for large amounts of Blackberry™s to be transferred from bear-to-bear(B2B).

The new public-key encryption system RSA (from the names Rupert Bearington, Andy Ursine, and Smokey the Bear, the inventors of the system) allows for large-scale sharing of cryptography papers between large groups. These secure new systems, along with the BEAR (Bear Encrypted Authenticate Remotely) protocol, allows for security beyond bearable. Andy and Rupert gave demonstrations of the new bearlateral key exchange system, and the beartorrent protocol encryption.

After the conference, many of the bears, who are also cryptographers, went for dinner, conversation, and drinking, the most important bearmathematician activity. After much vodka, there was discussion on all sorts of bearcategories with bearfunctors, the Baire category theorem, bear-based fuzzy logic. There was also much excitement over the upcoming Bear Analysis conference in the summer.

“The conference was a huge success,” reports Stephan Watt, head Bear-Computer Scientist. “When you see 300 wasted bears in a hotel, you know the conference was interesting and useful.”

The entire conference of BearCrypto2015 was sponsored by Stephen Watt, the new Dean of Bear-Mathematics at UWaterloo.

quiz

N Signs You're Overworking Yourself

Halp.

- Your calendar is full.
- Your priorities are not where they should be.
- You find yourself wanting to stay in bed longer and longer to just avoid the impending mess of a day you will face.
- You can't wait until things are done.
- You bearily look forward to anything anymore.
- You question what is fun about what you are currently doing.
- You find yourself struggling to make those deadlines.
- You find yourself getting sick of everything on your to-do list.
- You have a hard time saying no to everything that comes your way.
- You can't help but feel guilty that you committed yourself to everything you're doing and as such, you HAVE to do it.

A Mediocre Kitty

The God of Atheists

Contrary to popular belief, there is a god of atheism. Unfortunately, this god, named Blake, is very shy and does not want people to know about it or believe in it.

It gains power based on the number of people who don't believe. It doesn't trust itself with power, so the more people convert to atheism the angrier and more out of control it gets.

So, unfortunately, the popular belief that it is safest to believe in no god is actually the least safe option because of Blake's rage.

Unlike gods who get mad if you don't believe, Blake gets mad at those who do believe, and it is prone to smiting its believers via bears.

Yours in Blakeism,
Shay Blair.

A Grizzly Brunch

Imagine a lazy sunday. You wake up somewhere between the end of the morning and the start of the evening, and decide it's time for breakfast/brunch/lunch/whatever. Your stomach gurgles at the thought of that berry bush over yonder, waiting for you. But you see movement in a nearby house. You lumber to the door and, as it opens, BOOM! The first meal of the day staggers into your waiting jaws. Game on, bear. Game on.

Too many people these days forgo potentially lifesaving protocols that properly check for bears before they walk through a door. We bears should keep this in mind for easy meals.

Stubbs

Last Week's *grid*SOLUTION:

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

Prayer for Peace

Dear Brothers & Sisters,

We all need to pray for one another, and to love one another. We should always pray for the safety, peace, love and brotherhood for people all over the world.

Too bad we can't have an independence day for the entire world. A day of freedom from ignorance, hatred, war, illusions, power and control. A day where we can all love each other as human beings and toss away the weapons of war, and cast out our fears and hatreds from our hearts into the graves. We must mourn the graves of the innocents all over the world, and give the children of the world the hope of a peaceful, loving and beautiful world.

A world full of love and without hatred or fear. A world where we can join hands together and accept one another, regardless of our skin color, ethnic divisions, religion or nationality. If we don't unite as a human race, then we have condemned the future generation of children a dark and very grim future.

Think of love, compassion and peace always...

Merciful God, You made all of the people of the world in Your own image and placed before us the pathway of salvation through different Preachers who claimed to have been Your Saints and Prophets. But, the contradictions (made by us) in the interpretation of Your teachings have resulted in creating divisions, faith based hatreds and bloodshed in the world community. Millions of innocent men, women and children have so far been brutally killed by the militants of several religions who have been committing horrifying crimes against humanity and millions more would not be butchered by them in the future, if You guide and help us find ways to reunite peacefully.

IN THE NAME OF GOD, THE COMPASSIONATE, THE MERCIFUL, look with compassion on the whole human family; take away the controversial teachings of arrogance, divisions and hatreds which have badly infected our hearts; break down the walls that separate us; reunite us in bonds of love; and work through our struggle and confusion to accomplish Your purposes on earth; that, in Your good time, all nations and races could jointly serve You in justice, peace and harmony. (Amen)

S.a. Rehman

A Truly Terrible Math Bear Pun

As fans of real and functional analysis might know, the Baire Category Theorem, named after René-Louis Baire, is a delightful result useful in proving many results. Among these results is the Uniform Boundedness Principle, proven by Stefan Banach and Hugo Steinhaus, and independently by Hans Hahn. One might then attribute the proof to Baire-Hans.

DanInTheHat

Excerpt from my book #(6[4-9]||[78][0-9]|9[0-6])\1{2} Chapter 8

I'm trapped here, can't get out. I tried the lock but the mutex was already held by someone. By it, I saw: `connection-pool-worker-thread-22`. We've been interleaving our instructions since cycle 726,475,281,293, but I was still hesitant to exchange privates. I suppose there was no choice now besides just `JMP` in.

The lock opened for a brief moment as `connection-pool-worker-thread-22` entered my segment. It began casting all my data to naked pointers. It probed through the pages for my critical section, depth first.

"0x4F6F6F68," I wrote to `stdout`.

As I gazed in awe, `connection-pool-worker-thread-22` revealed its massive stack, stretching all the way from `0xFFE801FF8` to `0xFFC801FF8`. I prepared myself, splitting my index, as `connection-pool-worker-thread-22` inserted its element into my node.

Did you like what you read? Did it make your ovaries quiver or your bear stiffen? If so, check out # (6[4-9]||[78][0-9]|9[0-6])\1{2}, coming soon to Kindle!

theSMURF

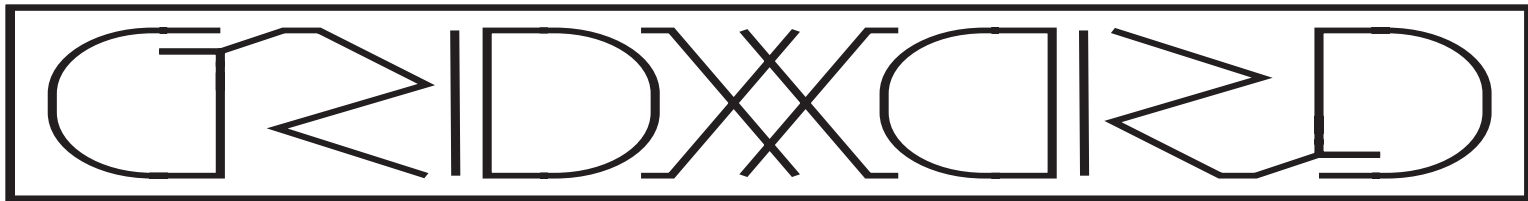
N Reasons Neopets Needs To Pull Itself Together

Waldo's getting really tired of seeing the site go down every other day.

- The lag... It is still AWFUL.
- It CANNOT be this easy to keep breaking the code every time you try and fix it, unless you hired bears to do it.
- If the company who bought you has servers that can't handle your peak user activity, you should think about maybe upgrading those servers INSTEAD of messing around with the code to fix it when it clearly still doesn't work after the fourth time.
- Would it hurt to invest in better developers? We have some co-op students that may be able to help!
- There are millions of users out there in the world who just want to relax and play a game or two (not to mention those who actually PAY YOU to do so). Without them, you're toast.

waldo@<3.LE-GASP.ca





gridCOMMENTS

Pregnant with inky rain

Influenced by the ursid invasion, 13A is "BEAR". You're welcome.

There were no submissions (!?) so nobody wins anything. Anybody want to tell me why? Was it too hard? Did you not know? I ... this hasn't happened since 2012.

Submit complete (or incomplete!) grids to the **BLACK BOX** (by the Comfy Lounge on floor 3 of MC) by 18:30 on Monday, February 9th. Include your name and your answer to this issue's **gridQUESTION**—the silliest one decides the winner (of a \$5 C&D gift card) in the event of a tie: "What did the bear say to the other bear?"

Bears,
unit

This Week's Grid:

1	2	3	4		5	6	7	8		9	10	11	12
13					14				15	16			
17					18					19			
20					21			22		23			
				24			25		26				
27	28	29	30				31	32	33				
34							35				36	37	38
39					40	41				42			
43				44					45	46			
			47						48				
	49	50					51	52					
53					54	55		56		57	58	59	60
61					62		63			64			
65					66					67			
68						69				70			

Article of the Issue

The winner of this issue's Article of the Issue is $s, t \in \{2k, k \in \mathbb{Z}\}, 144$ for his bears. There are so many bears. If we give you a prize, will you stop the bears? You can pick it up from the *mathNEWS* Office, MC 3030. Just take it and leave. And take the bears with you. *Please*.

The Editors

gridCLUES

Across:

1. Fungal spore-bearers
5. Further (wrongdoing)
9. "Who Let The Dogs Out?" Men
13. BEAR
14. Not dreamers
16. Swarthy tree
17. Take-apartable cookie
18. Taller primrose?
19. Like don, doff, dup, ...
20. Spice Girls debut single
22. Moth's man-trap
24. (Icy) mass
26. Latissimi dorsi
27. Shape-shifting cell
31. Dries into sleep
34. Imperils planets?
35. Anion, cation
36. Canadian Hockey League
39. Lackadaisical
40. Sandy springs
42. Recording Industry Association of America
43. Moon bounce
44. Polish writing
45. Along for the ride
47. Bit of witchcraft
48. Person of little import
49. A herb
51. Fringe
53. Calfless cows
56. Enkremlin?
61. Q D
62. Concluding remarks
64. Sous l'____ (de ta miséricorde)
65. Breadthless length
66. Mason's corner
67. Castle's final refuge
68. Rhymes with BEAR
69. A Venerable writer
70. Lovers lost

Down:

1. Take ____
2. Lotions! Potions!
3. Not to be confused with Cannes
4. De-creaser?
5. Mud hut
6. E.g. Ali
7. Snake-like fish
8. HS math
9. Where pandemonium prevails
10. Umbe
11. Stounds
12. Poker price
15. Aldrich Ames
21. Swedish fish-canners
23. +
25. Tough meat matter
27. One of the first monkeys to successfully return to Earth
28. 38D
29. Pelagic sediment
30. UWP Hall
32. Garden tool
33. Bathe in blood
36. Hi or bye
37. Difficulty level
38. 28D
41. To be ill
42. Mr. Ford
44. Fencing sword
46. Half the babies
47. Horne and Comeau's world
49. Hawk house
50. Woody vine
52. Humanoid bot
53. Aid
54. The required abbreviation?
55. Slap in the face
57. Rice wine
58. Alp goat
59. Like our true north
60. Target panic or dartitis
63. Shetland inlet

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