math NEWS

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*look*AHEAD

Next Week

Awesome Stuff is happening

So, starting today an event worthy of note is going on: Kitchener's OKTOBERFEST! The German celebration, known for its drinking, dancing and being the largest fair in the world, (at least the true one in Munich is; our version is still pretty big, though). If you are of drinking age, you should definitely check it out, and get some schnitzel. It will be going from October 7th (today) to Saturday, October 15th. Go check http://www.oktoberfest.ca/ for more info.

Soviet Canadian

The editor(s) running more and more tests: Wheatley (ScruffyED), GLaDOS (CowED), Space Core (FuzzyED), Adventure Core (!ED), Fact Core (GroovyED)

*mast*HEAD

An epic battle of epic epicness

We at *math*NEWS pride ourselves on keeping up the good fight, at all costs. We egg the Narwhals to take on the Dastardly Unicorns. We support the Ninjas in their valiant battle against the Pirates. And we support our writers when they are off keeping those terrible midterms at bay. Seriously. The reason why this issue is so much smaller than the last one is because all of our first-year writers were off fighting midterms. We tried to fill in what we could, but we hope that our valiant writers return to us.

When they do come back, *math*NEWS will be having one of the biggest parties this side of the SLC since last production night. There will be pizza, pop, and we hear that KW will be hosting a beer-fest in our honor.

Wait, what's this "Oktoberfest" of which you speak?

Nevermind. How will you celebrate Oktoberfest?

snippet ("randomly replace c's with k's"), moment ("organize a TF2 tournament of only medics"), Cliche ("Your mother"), Revenge ("Bitch-slapping cliche"), ScruffyED ("Pints at the Prancing Pony"), RedMetal ("Play Pathfinder"), waldo@<3.LE-GASP.ca ("You'd have to find me to find out!"), Soviet Canadian ("Rebuilding that wall with my bruski"), theDreamer ("Magic"), Lich ("Celebrate whatever it is they celebrate"), theSmurf ("What I do every day. No, not that you sick fucks"), Zethar ("Summon dragons into the sky to burn fiery perdition onto partygoers"), MustardMap ("Summon platypi into the water to burn poisonous predation onto partygoers"), theRealSovietCanadian ("Rebuild that wall with my bruski"), The German Kanadian ("Ich wurde trinken viel Alkahol und Wurfich"), MagiLyfe ("Ante up!"), Forked Process ("Get burned and poisoned by dragons and platypi"), Uuo ("Time to bring out my commemorative Obermon IV")

!ED

("Walk around wearing a beret and waving a white flag through the streets of KW")

Grand Eatings Epoch

That's Epic Meal Time for you noobs

We got all this Youtube awesomeness, all this meat, and the bottle of Jack, and you know what? We're gonna bring it to you. That's right, folks; if you didn't already know, the popular youtube show Epic Meal Time will be coming to OUR university—the Bomber, more specifically—to do a show. It will be hosted on Thursday, October 13. If there are any tickets left, you will find them at Feds in the SLC.

If you don't know what Epic Meal Time is, it is a show that is hosted every Tuesday and showcases a new, over-the-top version of some food, sometimes with entirely new ideas for ingredients such as bacon and Jack Daniel's Liquour. The immense amounts of fat and calories that are in one of their meals is not for the faint of heart or the weak of stomach. The show has been called "disgusting" by some, and I can honestly say that a friend of mine watched this and turned vegetarian because of it.

So if you want to come out and see some monstrous meals, and likely taste some of it, get yourself a ticket, or watch it on the following Tuesday on their Youtube channel.

Soviet Canadian

VPO Sez

Hey Mathies!!

Hope you have been doing fantastic for the past couple of weeks! I know midterms are starting up, so hope you aren't too stressed out just yet :)

An exciting update in the office: the printer was down earlier this week, but its now back up and running... we're also offering COLOUR printing and photocopying. So if that's what you need, we've got you covered!

In other news, we have our directors selected! They've all been doing an amazing job so far, and all the execs are very impressed :) If you have any ideas for improvements to make, feel free to contact them or myself and we'll do our best to make them happen.

Good luck on midterms and if you're celebrating Thanksgiving, I hope it's great!

Anna Merkoulovitch
Vice-President Operations
vpo@mathsoc.uwaterloo.ca

Prez Sez

Meetings up the WAZOO!

Hey Mathies! This is a quick prez sez this week. I've been to faculty council meeting discussing constitution changes (I know, super exciting) mainly to do with who can vote and not vote at the meetings.

I've been to some feds committee meetings. In particular EAC to discuss education quality and co-op quality. Also, Feds General meeting is coming up on October 26th in SLC great hall, so come out and have your say. Everyone has a vote.

Also, the executives had a meeting with the dean's office on Monday and discuss lots and lots of things. I mean LOTS. It was very informative.

Finally, there are a couple of big issues coming up and coming fast so get informed and speak your mind. In particular, there are talks about making orientation week not a week anymore (again) and Fed hall being taken away from student control.

To get more details on all of this, go to the MathSoc website and check out the exec blog at http:// mathsoc.uwaterloo.ca/Blog or email me and I'll be happy to respond to any concerns or comments. My email is below.

Have a great long weekend.

Andre Gomes Magalhaes
prez@mathsoc.uwaterloo.ca

MathSoc presents Games Night

As time marches into the month of October, the seasons change and the weather gets chillier. For some, this brings on the torrent of midterms and the stresses associated with them. To help alleviate this stress, MathSoc brings you Games Night, a weekly social event where you get to hang out with other people and play selections of board games. Come out every Tuesday starting from 6:30 PM in the Comfy Lounge (MC 3001) to partake in this exciting event. Snacks will be provided to all those who show up and play board games!

Joshua Tsai
Games Director, Fall 2011

VPE Sez

We've just hired a team of amazing directors and board members, and they've started to get to work on some awesome events for the term!

Variety Nights (brought to you by Hayford Peprah, Jessie Brehaut and the amazing Variety Night Board) will be every Thursday night for the rest of the term. We played a great game of Manhunt this Thursday, and we're looking forward to a Karaoke and DDR Night on Thursday, Oct. 13th, and a Frisbee and Sports Night on Thursday, Oct. 20th. Stay tuned for posters, Facebook posts, and announcements for details!

Games Nights (brought to you by Josh Tsai and the lovely Games Night Board) will be held every Tuesday at 6:30pm in the Comfy Lounge (MC 3001). Come out for some fun board games.

Then, on behalf of our awesome social team, headed by Helen Hu, I'm pleased to announce some brand new and exciting events for this term!

MathSoc will be doing Oktoberfest this year! We will be having an Oktoberfest BBQ, games, and Polka dancing Tuesday, Oct. 11th and Wednesday, Oct. 12th, and then we'll be selling tickets for Bingeman's Night on Thursday, Oct. 13th ($12 includes bus and FREE T-SHIRT!) and for a trip to Downtown Kitchener on Friday, Oct. 14th.

On Friday, Oct. 21st, amidst the celebrations for the grand opening of Math 3, we'll also be celebrating the birthday of our faculty founder! Look out for cupcakes, party favours, and tributes to the late Ralph Stanton.

MathSoc, in conjunction with Feds, Waterloo Warlords, ASU, SciSoc, and AHSUM, will be going paintballing on Saturday, Oct. 22nd from 8:30 am - 4 pm at Flag Raiders. Your $30 ticket includes transportation, lunch, rentals, and 100 paintballs! Tickets can be bought at the MathSoc Office (MC 3038).

We hope to see you out at all these amazing events!

Alex Russell
vpe@mathsoc.uwaterloo.ca

Feds 2nd Annual Arts Symposium Coming in November

Volunteer or attend!

The Federation of Students is looking for aspiring and/or practicing student artists to help out with the 2nd Annual Arts Symposium on campus. The Symposium is an event where student artists can express themselves, show off their work and help raise awareness of art. There will also be opportunity to sell or barter your artworks to other people in the university community.

The Symposium will be hosting workshops for artists to improve and get ideas. The goal of the Symposium is to be an exciting arts festival experience.

For all those who aren't artists, there will be cool things for you as well! Besides being able to see (and maybe purchase) the artwork of your peers, there will also be door prizes for you to win. Come out and see paintings, knitting, jewelery, photographs, cards, henna and more!

If you want to get involved, contact Xinxin Zhang, the Arts Commissioner or visit http://feds.ca/opportunities/ arts-symposium-volunteer

UW Gamers

Revenge of the PCs

Hey everyone, the UW Gamers has an action packed term planned out for all of you! The response from clubs day was epic, and has told us one big thing: PC gaming is back with a vengeance. Our big events this term will be much more PC focused than ever before. All new this term will be bi-weekly Game Nights in the SLC, where we will bring out some consoles for some split screen action, and encourage everyone to bring out their laptop for some cheap and/or free LAN games. Without further ado, here's our schedule!

Main Events

- (Sat) Oct 15th - **LAN Party** - RCH 307, 11am-midnight
- (Sat) Oct 29th - **Battlefield 3 Launch Party**
- (Sat) Nov 12th - **SSF4/MK9/MvC3 tournament** - Noon-7pm
- (Sat) Nov 26th - **LAN Event #2** - RCH 307, 11am-midnight
- (Sat) Dec 3[td] - **League of Legends tournament**

Game Nights

- (Tues) Oct 11th - feat. SSBM, Tomena Sanner, Age of Empires 3
- (Tues) Oct 25th - feat. Super Nintendo, Alien Swarm (free!)
- (Tues) Nov 8th - feat. Guitar Hero, Rock Band, Left4Dead1
- (Tues) Nov 22nd - feat. Tetris Attack, Wolfenstein E.T. (free!), Heroes of Newarth (free!)
- (Tues) Dec 6th - feat. Mario Kart (64, DD, Wii), New Super Mario Bros Wii, Counter Strike 1.6

As usual, you can find all this information and more at `uwgamers.org`, and join the discussion in the forums, `uwgamers.org/forums`.

<div align="right">UW Gamers Dude</div>

UWaterloo Host Club

It's More of a Thing

So after waiting until production night (10 days) after the last article regarding this club's potential creation, the mountain of emails has just confirmed that all **one** of you are interested in joining this.

But that will not stop me!

Of the many hundreds of you who have not e-mailed me, I can only assume it's because of lack of understanding. Allow me to more clearly explain what this club entails.

- Classy just means "business casual" and up. If you like suits, evening dresses, or whatever lies between (I know nothing about fashion, except a wee bit about men's [being a man]).
- This is open to anyone. Males, females, monkeys (if they can behave), art students, math students, Laurier students… you name it, you can join.
- Activities done by hosts would be: sitting with guests, talking about interesting things, and drinking tea.

And now you all know what it is. Beyond that, our next resort is to fuse with CTRL-A, which really seems like a very good idea. Keep the emails coming, and until then, I'll initiate negotiations with CTRL-A for massive points of acid damage.

<div align="right">Kiss Kiss Fall in Love!
theDreamer</div>

SWEET AND SOUR

SOUR

Don't forget these dates!
Oct. 10-15: Enrollment for Winter 2012.
Oct. 24-30: (Pre) Enrolment for Spring 2012.

At UW, it pays to be organized and forward-thinking. One of the toughest parts of my job is telling students that a class is too full. Although it may appear that no one goes to your math course, we legally assume that everyone goes to class. As a result, classes fill up quickly.

So how can you ensure you get into your desired courses and don't have to wait an extra term?

1. Pre-enroll! This is the easiest way! We use these numbers to determine class sizes and to choose times that will fit everyone's schedule.
2. Enroll! Ok, so you pre-enrolled for Spring and now you need to make some changes. Great, make them at this time!
3. Try to plan a full year ahead! That way you know when you will be on campus and can catch the pre-enrolment/enrolment appointment times.
4. Complete your ELPE and check quest regularly to ensure you don't have enrollment blocks that may prevent you from doing 1 and 2.

Don't be left scrounging for a course to fill your schedule; plan ahead, enroll!

SWEET

Top 10 Reasons not to pre-enroll, in no particular order:

1. You'd rather be stuck taking the exciting leftover course "Watching Paint Dry 101".
2. You figure no one in the faculty is going to want to take Actuarial Science courses…right?
3. …And no one in the faculty is taking CS courses…right?
4. Missing a course you desperately need to graduate *on time* was always part of the plan.
5. You enjoy sitting on CS/Stat waitlists for days anxiously waiting to see if you can get into a course.
6. You LOVE lineups! And the ones in the first week of classes are spectacular!
7. You think paperwork is fantastic! Override forms, here I come!
8. You get a thrill when your instructor/advisor tells you "no, sorry, it's full".
9. If no one pre-enrolls, maybe you won't need to take _____ (fill in appropriate course). Maybe you could graduate without it?? [Note from advisor: Sorry, if it's required by your plan you'll have to do it.]
10. The University made it too easy to pre-enroll! All you have to do is go online to your quest account a week before hand to find your enrollment times and click a few buttons! If they made it harder, like defeating a few Goombas or Covenant bad guys, you'd be there!

So (pre-)enroll and don't be disappointed!

<div align="right">Riley Metzger
Academic Adviser
Stats Instructor</div>

Interesting Math

J.J. Sylvester and Discrete Geometry

You've probably run into some of the mathematics done by James Joseph Sylvester. An Englishman of Jewish descent, he completed his original Bachelor's work in 1837 at Cambridge, though he did not receive his degree—he refused to state his acceptance of the articles of the Church of England. His contributions span matrix analysis, number theory, and much of early combinatorics. If you've taken Linear Algebra II you've probably seen his criteria for when a matrix is positive definite.

This fortnight we'll be looking at an extremely elegant proof of one of his conjectures. In 1893, near the end of his life, Sylvester was working with discrete geometry and conjectured that for any finite set of points on the plane either all of the points lie on a line or there is a line intersecting exactly two points. It took several years for this conjecture to be resolved, the first proof of which was given by Melchior (who gave a graph theoretic argument that is quite a bit of work to go through in detail). The problem has interested many geometers through the years and has been proved in many different ways. Borwein and Moser (Aequationes Mathematicae 40, 1990, 111-135) discuss several proofs in their survey paper on the subject, which also discusses generalizations.

Kelly gave a very elegant proof using a common theme in discrete mathematics: that of using a minimal object. It seems almost silly to point it out, but when dealing with finitely many objects that can be ordered a minimum can always be found. To illustrate this point, we dive into the proof.

The first part of the proof is straightforward, if there is a line that passes through exactly two points in a set of points then either the set has size two or the points are not colinear, the other direction is what is of interest.
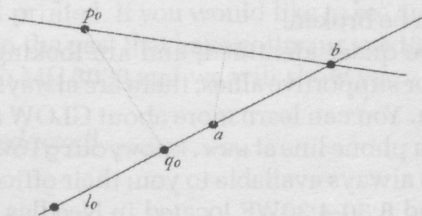

Figure 1: Kelly's Proof

Let S be a set of n points in the plane and suppose (for a contradiction) that any line passing through two points in S must also pass through a third point in S. Let L be the set of pairs (p,l) where $p \varepsilon S$ and l is a line passing through at least three points in S but not p. Suppose L is non-empty. We can then place an order on these pairs in the following way: (p,l) is less than (q,m) if the distance from p to l is less than the distance from q to m. Since L is finite we can find a minimal element according to this order, (p_0, l_0). Let q_0 be the point on l_0 closest to p_0. Then, in one direction along l_0 leaving from q_0 there must be two points from S (one might be q_0). Call the near one a and the far one b. The line $p_0 b$ contains two points from S, so it must contain a

third, so the pair $(a, p_0 b)$ is in L. However, the distance from a to $p_0 b$ is strictly less than that from p_0 to l_0, contradicting the minimality of (p_0, l_0) in L. Hence L must be empty, i.e. the points of S are colinear. See the figure for an illustration of the situation.

The elegance of Kelly's proof hides the gap between when the conjecture was posed (1893), and when the first resolution was published (Melchior, 1940). Melchior's resolution was not recognized as such—unaware of this Paul Erdos re-stated it in 1943 and it was resolved a short time later by Gallai (Gallai, 1944), whose proof has a different flavour and uses ideas from projective geometry. Kelly's proof appeared in 1948, though these aforementioned proofs did not inspire later generalizations of discrete geometry. Kelly's proof is presented here to illustrate the power and elegance of simple ideas in mathematics: the crux of the proof is in the supposition of minimality.

Problem of the Issue. This problem is a classic due to Sylvester. Given a planar region R, what is the probability $q(R)$ that the convex hull of four randomly selected points is a quadrilateral. Answering for fully general R will be difficult, so start with some easy cases (e.g. for circles, triangles, other convex sets).

Edgar A. Bering IV
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A Rigid Proof

You want to see my hard, rigid proof? Are you sure? It's so solid, so flawless that you'll probably end up on your knees begging for me to abbreviate, just leave it as an exercise for you to do when you've recovered. But, since you insist…

First, you start with the base case. Nothing complicated: just a few glances, some smiles and joking over drinks. Just to make sure there's a connection at all. No point in going on if we can tell right away it's not going to work, right?

But then, once we know where we stand, we have to make a few… assumptions. Sure, we could talk and share and spend every day for all eternity learning more about each other, making sure we connect, but that's not how we play the game, is it? There aren't enough sheets of paper, not enough days in all of time to check every compatibility. So we have to assume that it works out, to some extent.

Now comes the fun part. The real work; the adventure. The call of life; the very appetite of all that drives us! We're two equations, looking completely different, but we have to show we're the same. Manipulate each other, look at each other from different ways, be creative! Use every bit of cunning, effort, and dexterity until… it happens. All of a sudden, it all makes sense. The universe comes together in a perfect alignment and we fit together for k, for k+1, for k+2, even! And as k grows and grows, escalating into the very furthest reaches of infinity, we gasp for air and try only not to be completely overcome by this… truth. Truth beyond any thought, any emotion that could possibly exist. This is what existence is; this is love, life and math.

And as the realization fades, you're left numb in the deepest recesses of your mind. You lie there, panting from everything you've taken in. And your drift gazes to inference.

Rainbow Mathies 14

Queer Stigma, the Culture of Silence, and the Math Faculty

Hello Mathies! Last issue, you saw the frosh edition of this column. This article was excluded from the edition of *math*NEWS that was included in frosh kits, In this article, I will discuss the reasoning why (as it was explained to me), How this is related to the prevailing environment in our faculty, and how this affects queer students.

For those of you unaware, all people who are involved in orientation are expected to go through a comprehensive, multi-topic training session known as Orientation Leader Training (OLT). The purpose of OLT is to try and create and ensure a universal atmosphere that fosters Orientation's six principles (Communication, Acceptance, Balance and Moderation, Collaboration, Accountability, Respect). You may have heard of leaders discussing activities or actions that are "OLT-approved," and they are talking about behaviors that promote these principles. The article found elsewhere in the previous issue was excluded from the frosh edition of *math*NEWS because it was deemed to not be OLT approved. When asked for clarification, I was told by mathFOC that it was because it wasn't "positive enough." I am unsure if this decision was levied on the FOC level, or if it came from even further above (like the faculty or the orientation chairs). When the *math*NEWS editors learned of what happened, they were given a number of choices (including withdrawing the issue from the frosh issue and distributing it like they do during normal weeks) and chose to comply with Orientation's wishes and included the issue without my article in it. I want to make it clear that, by naming names, I'm not intending to assign blame per se, but rather demonstrating the parties I feel were involved.

I can hear what you're thinking: "Darcy, I get it, your article was rejected and that sucks. Boo hoo. But why does this matter, what are you ranting about?" And you're right, I'm coming to this topic from a place of bias, so give me a second to explain where I'm coming from. There is a stigma in this faculty, one that at minimum discourages and potentially even condemns sexual and gender diversity and the discussion of their issues. The main purpose of this column is to help recognize and fight this stigma. I remember having a conversation with a mathie not too long ago; I was under the impression that they were queer identified but I do not know for sure. This person told me about how their experience was different from how I'd been describing it in my columns, that they have no problem in the faculty. While I don't want to invalidate this person's experience, something that members of our society should recognize (and that OLT tries to demonstrate to us) is that everyone has privileges, and not everyone has the same kind of privileges. It may be the case that, for whatever reason, you do not experience a stigma that other members of your group do. This doesn't mean that the stigma doesn't exist, it just means that you are more privileged in that sense. An important part of developing as a mindful ally is observing and recognizing the privileges other people do not have and the stigmas they experience because of it.

Let's take a look at this stigma. How does it manifest itself?

What I see happening more often than not is the lack of open acknowledgement of the unique problems that queer mathies experience and the needs they have which are not being met. To put it frankly, people are not willing to talk about queerness in this faculty, at least not in an upfront manner. When we do talk about it, it's done using euphemisms and politically correct speak, in a way that formalizes these problems but detract from their legitimacy as a real concern. In a sense, this faculty has created a culture of silence. The end result? The needs and concerns of our queer students are not being met, and those students who want to talk about them are ostracizing themselves because no one else is willing to talk with them. Orientation (whoever was responsible in that structure), by refusing to let me publish my article, is directly and strongly perpetuating this culture of silence. *math*NEWS, by accepting this decision and not making a more progressive decision, not only perpetuated this culture but directly legitimized the decision made by Orientation. I feel obligated to express in plain and simple language that these two organizations acted in a queer-negative manner and in this instance have worked against the efforts to make this faculty a safer and more queer-positive space.

I want to emphasize one last thought: Censorship is a destructive force. It's the most powerful way privileged groups have to protect their privilege and silence those who might threaten it. There is only one way to stop censorship, and that is to speak up. If queer issues is something you're interested in or is something that affects you, please talk to your friends, your class and floor mates, your family, anyone who will give you the ear. If you witness an action or a decision made that you feel is wrong, anywhere and about any issue, please let your objections be known, and I don't just mean what happened in this incident. If you'd like help finding out who to contact, you can get a hold of me, my email will be in later on in this article. Just please, speak up, because that's the only way this culture of silence can be broken.

If you are queer identified, and are looking for someone to talk to or for supportive allies, there are always resources available to you. You can learn more about GLOW and its offerings, including a phone line at www.knowyourglow.ca. Counseling Services is always available to you; their offices are open 8:30-8MTTh and 8:30-4:30WF, located in Needles Hall across from Student Awards and Financial Aid. If you need support and assistance immediately, you can call the Waterloo Crisis Center at 519-745-1166. If you'd feel more comfortable speaking with someone from a queer specific service, please contact the GLBT Youthline at 1-800-268-9688. Finally, if you have any comments and concerns about this column, including ideas on topics you'd would like to see, you can contact me at dtaleman@uwaterloo.ca.

I've always been a firm believer in offering solutions whenever I constructively criticize something. Join me next week as I take a closer look at Orientation week and how it can be improved to make it more queer-positive.

(define this (not cool))

RE: Rainbow Mathies 14

The editors speak up

In the most recent edition of Rainbow Mathies, the writer has accused *math*NEWS and the faculty of being closed-minded and of perpetuating a "culture of silence" when it comes to queer issues. While we cannot speak for the faculty, *math*NEWS would like to defend itself on several points:

1. "*math*NEWS is queer-negative": In the past 5 years *math*NEWS has had several queer-identifying editors, and many more writers. *math*NEWS likes to make fun of others, but we do so equally. It's not discrimination if we give everyone the same sized slice of ridicule pie.

2. **"The Frosh Article was not published because the faculty has an issue with queers":** It is true that OLT had asked us to remove the article from the print run because we were told that it wasn't "positive enough". We had a choice whether or not we wanted to comply with OLT's request, and we decided to agree. Quite frankly, the article was not very positive and Orientation (Frosh) week should be a happy week where the university carefully crafts an illusion to let all of the naively innocent first-years think that university is a fun place where all of your dreams come true. We support that, because it's amazing how fast that image shatters once reality kicks in and you see that it's all just a tower of cards. You should have some fun at uni, even if it's for a little while.

Although *math*NEWS's general policy is that if an article is written, we will print it, this is done to encourage new writers to come out, and to give less-than-optimal writers a reason to return. We believe that the only way a writer can improve is if they keep on writing. Therefore, when an article is not published it is not because of quality, it is because of an editorial decision. The *math*NEWS editors have the final say whether or not an article should be published, and what parts should or should not get printed. If you would like to see articles that we have printed in the past that have gotten us sued/reprimanded, come on out to MC 3030 and we will show you:

- *E is for [redacted]*
- *Boobs!*

We can than show you articles that we thought would get us in trouble, and ultimately never did. So come on by, it's a fun time.

The Editors

Write for *math*NEWS!

Email us at mathnews@student.math.uwaterloo.ca

or come on out to a Production Night! The next one is on October 17!

Humble Bundle: Frozen Synapse

www.humblebundle.com

Possibly the best deals in gaming, the Humble Bundle returned last week with the Frozen Synapse bundle. As you are reading this, you should have about 3 days left to buy this game, so get to it!

First off, what the hell is Frozen Synapse and why should you care? Well, Frozen Synapse is an indie game developed by Mode7, and it is available DRM-free across all platforms: Windows, Mac, and Linux. I have only played it recently, and I already love it. It is a top-down, turn-based tactical game with amazing depth. Each player (or the AI) controls some units, such as a machine gunner or a shotgunner, and gives command to each unit. These commands range from simple commands such as "move to this location and aim this way", to complicated commands such as "move to location A, duck, wait 0.8 seconds, aim in a direction, stand, move to location B while ignoring enemies, turn, aim".

There are many modes to play, ranging from elimination (standard "kill everyone") to stranger modes such as charge (push your forces this far by the end of turn N). There is online play as well as offline play vs. AI, and a single-player story mode.

On top of Frozen Synapse, you will receive another game, Trauma, which I have yet to play, and also a few other games if you pay for more than the average. This is probably a good time to mention that for these games, you can pay *as much as you want*. That's right, you pay exactly how much you want. Furthermore, you get a choice on where your money goes: Developer, Charity, or the Humble Tip (the guys organizing the bundle + hosting). Donating 5 dollars to Child's Play to recieve 5 (+2 prototype) awesome, cross-platform, DRM-free indie games is a steal.

Furthermore, you are able to increase your donation amount after buying the game. This means that if you are hesitant on paying too much, you can pick up the game for something as low as 1 dollar (or even 1 cent, but that's kind of evil), and increase it after if you think the game deserves more.

If you have read this far and I haven't sold you on this, then I suppose it's a good thing that I'm in SE instead of marketing. Nevertheless, this is a good game, and your money is going towards a good cause, so I urge you to pick it up, or at least give it a look.

theSMURF

N Things to do over Thanksgiving

Waldo is looking forward to dinner with Odlaw and everyone!

- Panic about midterm season starting up.
- Go hunting for the perfect dinner; geese optional.
- Ponder alcohol.
- Sleep, even though it'll seem like it's never enough.
- Break up with your fake high school girlfriend.
- Hit on the frosh that just got dumped.
- Enjoy an extra day of no class!

waldo@<3.LE-GASP.ca

Orange News

Frankly, my dear, I don't give an orange

Hello, and welcome to another marvellously delightful edition of Orange News, bringing you the news you don't need, but which is fun to read anyway. In this edition, we bring you the amazing story of Prof. G (full name withheld for copyright reasons), a renowned professor in our very own Mathematics faculty. Be ready to read on and discover a story of adventure, high moral values, and total awesomeness.

Prof. G was no typical prof. He taught first year calculus, but everyone knew his abilities were much more advanced. In fact, there were those who said G had the greatest integration abilities on the planet. Also, he used to have a tail. The prof loved his job, and his students loved him— until one day, an unexpected visitor came to the MC. He was— an engineer named Radish!

Radish sought after Prof. G, and when he finally found him, he revealed a shocking truth— G. was in fact an engineer, sent to the Math faculty as a baby to grow and learn, and when he reached his maximum potential, take over our faculty. G, however, grew up a mathie, and decided to stand against Radish. Together with his ex-arch-nemesis, Prof. P, the heroic Prof. G defeated Radish, sacrificing himself in the process.

But the story wasn't over yet, as two smarter engineers named Napster and Veggie-dog attacked the MC as well. Our faculty's strongest minds fell before them, until some minor characters brought Prof. G back to life by using some complex algorithms and advanced linear algebra, and playing with some balls. Prof. G defeated Napster and Veggie-dog too.

Then Prof. G and a bunch of other mathie warriors went to the engineering building to defeat the strongest engineer of them all, who was capable of transforming, like, five times. During that fight, one of them became a super-mathie, and had crazy hair and mathematical abilities that exceeded anything that we've ever seen. It was all very awesome... but at that point I kind of stopped watching because it got to the point where every fight took like 50 episodes, which was boring.

Now, usually, your attractive and single reporter (me) would go around to find out what YOU, the real Math students of UW, thought about our sensational story. But I got lazy this week, so I just made some quotes up.

Krillin said: "I'm a bald midget".

Bulma said: "I'm pretty much the only girl in the world who ever does anything".

Vegeta said: "It's over 9000!!!"

And that's it for the story of Prof. G. Next time, Orange News will reveal some more stories behind our amazing profs in the math faculty, including Prof A, who had to solve 'em all, N the graduate student who wanted to become Dean and had the spirit of an evil engineer trapped inside him, and Prof. Y, a game-theory expert who shared a body with an ancient Egyptian mathematician.

The Orange News Editorial Team wishes everyone a happy Thanksgiving weekend. For comments, questions, clarifications regarding odd anime references, or spam, please contact us at orange.crush.uw@gmail.com. Until our next exciting edition, do have a good weekend, and good news.

Orange Crush

Because I Can

Kids, don't try this at home...

One of the greatest things about first year is the residence experience. Forcing a bunch of froshlings together often results in hilarious results. Some of these are famed in song and story... or at least in story.

- Climb up between the walls. In most of the residences the hallways are small enough that it is possible to wedge yourself in between the walls. From there, it is relatively simple to wedge in at the top and simply stay there until someone walks by. Bonus points if you convince them to walk beneath you.
- Insert random objects into other random things. Examples of these that have occurred in the past include putting things into trees, such as shopping carts and signs. Bonus points if people can't figure out how you did it.
- Decide on a place to put all the empties from your floor. In my first year, we managed to cover the better part of the shelves in a REV room with our empties. In no way am I suggesting that you engage in drinking.
- Cover the floors of people's rooms with stuff. In the past, said stuff has included crumpled-up newspaper and balloons. This may require large numbers of people to assist, but is invariably amusing. Bonus points if you get it deep.
- Invert someone's room. This entails taking everything in the room, and turning it all upside down. When done correctly, this results in extreme confusion for the person this has been done to. Bonus points if you manage to get it all on the roof too. If you manage this, please submit a picture and instructions.
- Get a bunch of people from your floor together and do random things. This can range from the childish, such as converting a room into a blanket fort, to the definitely adult, like having a floor porn night. From my first year, one of our things was covering all the lights with blue frisbees and putting on trippy music.
- Weird out your don. Do something repeatedly that is very strange, that makes your don wonder what is going on. Ideas could range from the mundane, like leaving bags of candy outside the door, to the downright creepy, like leaving creepy notes outside his or her door. For tips on creepy notes, see "Girl with the Bloody Scissors" (*math*NEWS v114).

MeaninglessQuips

N Things that are better in Pairs

It's a Double Waldo! ZOMG!

- Floppy disk drives that play the Imperial March.
- Muffs, because two warm poofs are better than one.
- Ninjas.
- Beavers.
- Twins, although this is debatable depending on the given set.
- Any of the standard body parts that you have two of.
- Things that are able to make beautiful music when paired together.
- Portal and portals.
- Apparently "N Things", since they appeared twice in one *math*NEWS issue!

waldo@<3.LE-GASP.ca

Questionably True News Report

Quebec City Invaded

The hostile Russian takeover of Quebec City, Quebec, has many Canadian military strategists confounded. Being of no military importance and completely surrounded by naval, air, and ground forces, the Russians not only refused to surrender, but spat on the truce document that would have saved millions of soldiers' lives.

The order was given Friday afternoon to fire a 900-kiloton nuclear warhead onto the city, effectively leveling the area and killing everyone and everything within a fifty kilometre radius instantly. Approximately four thousand avid citizens refused to vacate the city, even under the threat of a nuclear bomb being dropped.

Twelve minutes after the bomb was dropped, it was found that four of these citizens survived. Afraid of nuclear radiation and contamination, the commanding officer in charge of cleanup ordered them to be shot on the spot.

Nothing is known of the remains or the continued existence of the 12th Russian Parachute Infantry Regiment, whose commanding officer was said to have been fiercely staring down the nuclear device seconds before its detonation. More news to come in the future from this event.

Anybody with information on this incident is asked to call 1-866-WOW-DEAL, to get away from it all.

ILY<3EM4EVA

Chicken Little may have been correct

Indeed, the sky is falling It was discovered yesterday by a team of scientists in Iceland that the sky is, indeed, falling.

According to a recent study, the sky was said to be approximately 42km above sea level in 10,000 BC. Last week, when measured, the sky was only approximately 31km above sea level.

"The only explanation is that the sky must be approaching the ground at a rate equivalent to 11 km/12,000 years!" remarks scientist Cloud Richards, who has been leading this investigation since 1997, when it was first suggested that the sky may be falling from a children's story about a chicken who may or may not have been fibbing about the sky falling. Cloud was unavailable for further comment, making furious gestures and obscene comments not suitable for print when it was suggested that the glaciers melting could be the cause of the sea level rising 11km in the past 12,000 years.

There is no further speculation into this alternative investigation, however, as the past President of the United States of America Forge Q. Rush has deemed this information to be factual, on the account of his cereal this morning telling him so. There have been no further comments on this matter by current online or printed media at this time.

Do you like TF2

You should because it's free!

UW Gamers hosts TF2 nights every Monday @ 9pm! Just search for "UWGamers" on Steam.

Precipitating Pork Plunges Market into Peril

For the first time ever in known human history, it is raining bacon from the clouds. Nobody is quite sure yet how this meteorological phenomenon came to be, but, it can be safely said that this has not ever happened before. All different types of bacon are falling out of the sky: thin slices, thick chops, diced bacon, confetti bacon, even bacon in the shape of donuts! Meteorologists say that this rare event probably will not last long, so fill up while the bacon is still plentiful!

In other news, supermarket owners stormed into the Market Prices International headquarters, demanding their right to inflate the prices of bacon because of the falling bacon from the sky. In a gesture of friendliness, the Chancellor offered to give them all rights to the bacon, lowering prices for all. He was then killed instantaneously by a large bacon donut landing on his being, crushing him utterly. It is unknown whether or not bacon prices will rise in the near future.

What is known is this: Canadians, rejoice! The bacon has arrived.

Wistfully yours,
Maths Sundin

TABLES
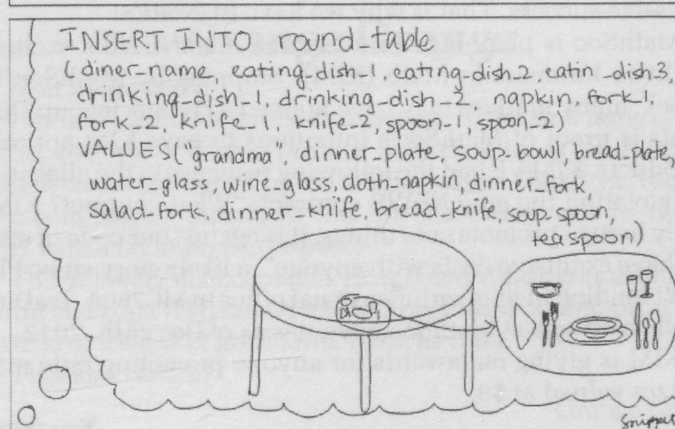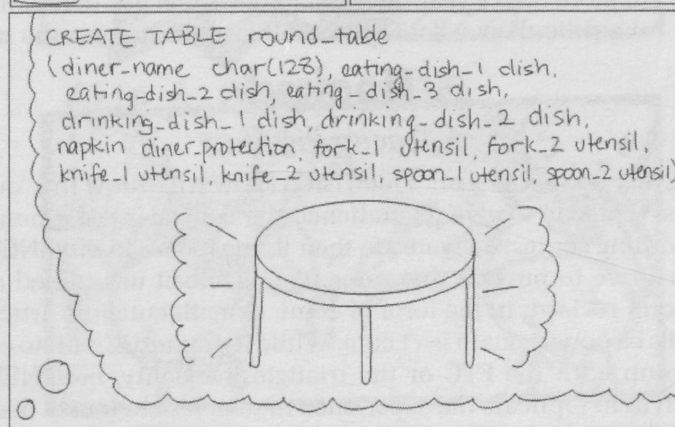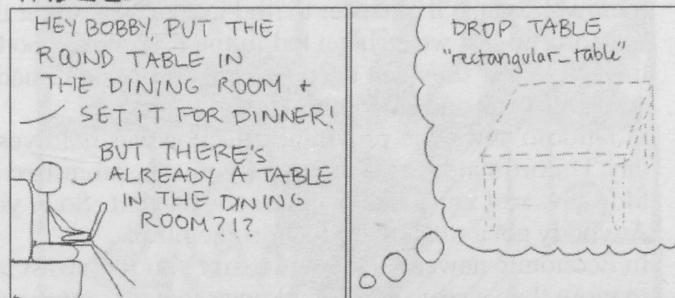
In Other News

This column is funny AND informative. What more can you possibly want?

- In UW news, following the opening of co-op's first-round applications, it became evident that Jobmine is slow and glitchy. CECS was forced to actually postpone application deadlines, and worked as hard as it could to rectify the technical issues. There are talks about a long-term plan to replace, or at least enhance, Jobmine in order to meet increased student demands. At least for now, though, it seems like the system is working again. Get it? "Job"-mine? "Working"? I'm hilarious.
- In other UW news, RIM Park recently hosted one of Canada's largest graduate career fairs as a joint venture between UW, WLU, Guelph, and Conestoga College (though my guess is that the other three schools are only invited to make us look better). UW's soon-to-be grads and alumni got a chance to strut their stuff and present resumes to potential employers. Good luck to all those looking for grad jobs… especially me… man, I've been bombing most of my interviews. I sucks.
- In Regional news, the CBC announced plans to increase their radio and Internet presence in the KW area. This means that soon, when you listen to CBC Radio or open up their webpage, it'll be easier to find local news, rather than the Toronto-fest we've been fed in the past. Well, good for the CBC. Now they just need to bring the Royal Canadian Air Farce back and I'll forgive them.
- In Ontario news, the provincial election was held yesterday. Unfortunately, this news column was submitted last Monday, so I can't really comment on that. So… yeah. Anybody got a time machine or something?
- In Economic news, the loonie recently hit its lowest level in more than a year. This is bad news that just compounds the ridiculous volatility and other random crap the markets have been throwing at us pretty much every day for the past couple of months. Yet, even with a low loonie, you don't see tons of Americans rushing across the border from Buffalo to buy stuff. What's up with that?
- In "Arts" news, Toronto hosted their annual Nuit Blanche affair last weekend. Nuit Blanche is a weird supposedly-artistic all-night-long thing where people walk around and do things… I don't even know how to describe it, just Google it. I saw some pictures online and they were pretty creepy, though, so be warned.
- In Sports news, soccer rules. The Premier League has been going strong lately, with Manchester United and City going head-to-head for the top of the chart in one of the most exciting early-season-time ever. And if playing real sports isn't your thing, FIFA 12 is out, and apparently it's an awesome game. If you didn't catch soccer fever yet, I'll have to kick you. Get it? "Soccer"? "Kick"? See, I told you I'm hilarious.
- In Technology/Entertainment news, it's less than 2 weeks till Arkham City. And that's all I need to say about that.
- In Other news, it's a long weekend, isn't it? That's pretty awesome. I plan on using the extra free day to catch up on all my readings and assignments… NOT! It's party time, yeah! And since it's Thanksgiving, I would like to say thanks to all my awesome dedicated readers. Have a fun weekend everyone.

That's all for now. As usual, for complaints and death-threats, contact the Orange News Editorial Team at orange.crush.uw@gmail.com. Seriously, somebody please email me; nobody ever does and it's a little sad. Till next time, good night, and good news.

Orange Crush

Hooked

A Teacup Pig Story

Every couple of years a television show will throw in a 'cuteness' episode to give its audience the equivalent of a bunny-cuddling contest delivered to their living rooms. In *math*NEWS we strive to provide that same feeling, albeit unscripted and poorly revised, in the form of comical math cuteness articles. Let's be honest: math isn't cute. While it's quite difficult to cuddle up with the FTC or the triangle inequality, *math*NEWS strives to replicate the experience in text. It's obviously been a massive success. That is why we have BUNNIES!

MathSoc is planning to undermine *math*NEWS's exclusive right to Kuteness in Math (KIM). Stopping by MathSoc this week, many mathies may have noticed a certain Teacup Duck. This is proof of MathSoc's intentions to have KIM-approved products. KIM VP had the following response to the allegations of violating the *math*NEWS contract: "What contract? KIM is only here to promote cute things. It is against our code of ethics to have exclusive deals with anyone", a likely story since FEDs isn't funding their interdimensional office in MC7666. TeaDucks will be on sale at MathSoc novelties as of Dec 25th, 2012.

KIM is giving out awards for anyone promoting cute math. Prizes valued at $0.

You win, K

Evasive Maneuvers

Avoiding people on campus

- **Do a barrel roll**: spinning around a lot confuses your problems. Side effects: getting really dizzy.
- **Smoke bombs**: if they're good enough for ninjas then they should be good enough for you. Side effects: first- or second-hand smoke inhalation and lung cancer.
- **Invisibility cloak**: if you're invisible, nobody will ever see you. Side effects: looking like a ghost if for some reason it stops working.
- **Running *really really really* fast**: Heisenberg uncertainty principle. Side effects: being really really tired because you move so fast.
- **404**: any time they see you, give them a piece of paper that says "404: Not Found" and then run away. Side effects: needing lots and lots of paper.
- **Exist in only 2 dimensions**: when you turn sideways, no one will be able to see you. Side effects: being blown around because of the wind.
- **Magnets:** How do they work? We don't know. Side effects: not knowing why they can't find you.
- **TARDIS.** Side effect: Ending up in the sun

Forked Process

Umbrella Etiquette

No, seriously.

Okay, so because last production night I spent the entire time doing my homework and distracting other writers, I'm going to write an article on my own time, to make up for the potential content of the last issue.

So the crappy, rainy weather's here, and it's only going to get worse. It's time everyone learnt a few guidelines regarding umbrellas and their usage.

1. First of all, get an umbrella that is the correct size for you. If there was a line connecting one of the metal spikes and your feet, then the angle at your feet should not be larger than pi/6, and most definitely not pi/4. If it is, get a smaller umbrella. I understand that taller people don't want their feet getting wet, but golf umbrellas are like compensation trucks. Think about it. People just don't need to carry golf or patio umbrellas around everywhere.

2. Make sure you look around before you open your umbrella. You do not want to be that person who pokes someone's eye out, just because you don't want to ruin your hair. Your hair is less important than someone else's vision.

3. Next, do not open your umbrella standing in front of a door. I know, you don't want to get too soaked, but seriously, it's at max five seconds, and you're in the way of people who don't have umbrellas who are trying to get through to the door.

4. Same goes for closing your umbrellas in front of doors. Not only are you in the way of people who want out, you're in the way of soaking wet people who want in.

5. Do not twirl your umbrella. I know, this can be difficult to resist, but all those droplets that accumulate go spiralling outwards with centrifugal force, and hit those poor people around you. Not only do those droplets attack people who don't have an umbrella, but by the time they reach anyone else, gravity has brought them low enough to hit people who are already under umbrellas. Both of these types of people will get angry, and you don't want to be beaten up in the rain. It's even worse than being beaten up in the sun.

6. Please pay attention to at least five metres ahead of where you're walking. I can't even count how many bump-ins I've had to avoid from people with umbrellas.

7. If you are approaching someone else with an umbrella, either tilt your umbrella away slightly (without injuring anyone, please), or lift or lower your umbrella depending on if you are taller or shorter than the other person.

8. And the very last thing, of particular concern to mathies. You know that accessibility door, between 2065 and 2066? If you are waiting in line to get through the door and have an umbrella, please give the right of way to people behind you who do not have an umbrella. Or at the very least let them share your umbrella.

9. Oh and one last tip: put your name and contact information on the inside center, so if you lose your umbrella, it can be returned to you!

Please, follow these, and we can get through this rain season to the snowy winters that are Waterloo.

yourlocalWHETHERgirl

fig10-1: QUEUE

fig10-2: STACK

ding!

Ksshhh

WHAM
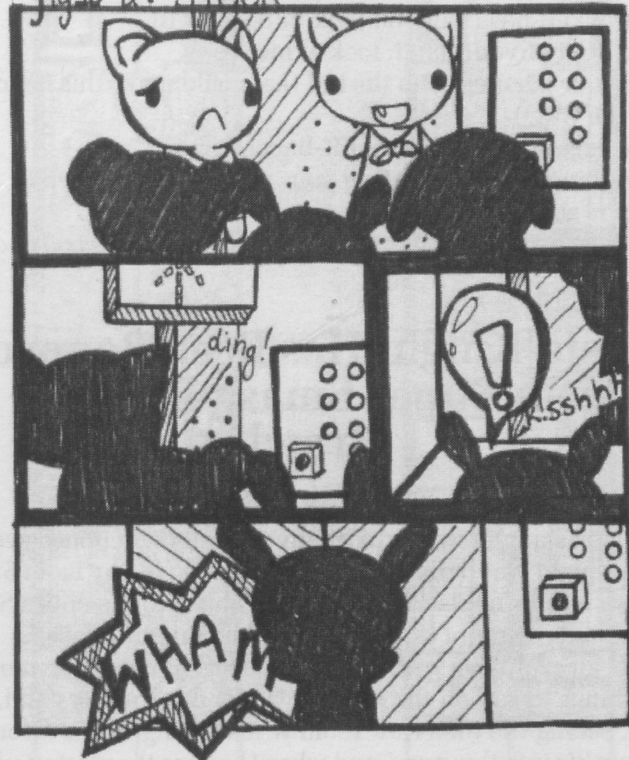
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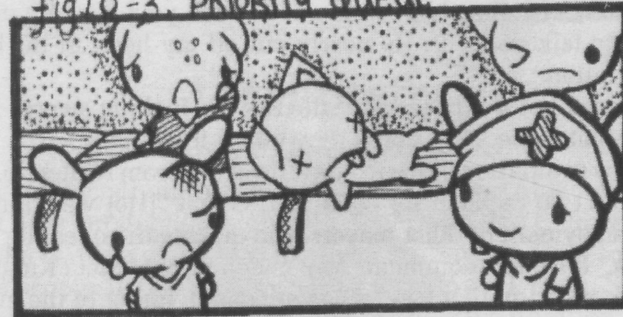
Orange Orange

Dear *math*NEWS,

I couldn't help but notice that last issue, the first issue of the term, featured a double-print of an article titled 'N things to notice in the new term', by the Waldo person. Found ya, Waldo! On both pages 7 and 16. It was the exact same article, twice, just with a bit more whitespace.

This is totally unacceptable. How come Waldo gets a double-print and I don't? I demand retribution. Please double-print this article as a show of good faith. Also, as filler.

Thanks so much!

Orange Crush

Old Cards

Not just your normal round

Hello players.
Look at your hand,
now back at the bidding,
now back at your hand,
now back at the bidding.
Sadly, the up-card isn't good,
but if you stopped bidding and pass on the top,
the trump could still be good.
Look down, back up, what's your hand?
Your hand has Diamond Jack, King, and 10.
Bid's out of your hand, look at me.
I'm your partner, with the bid that could make this hand go all the way.
Look again, the hand has off-Bauer.
Anything is possible when your partner passes the bid.
You're going it alone.

Euchre: for when your normal card games aren't good enough

Big Mak

Meta Knight Has Been Banned from Super Smash Brothers Brawl

And he's Pissed

So after slaughtering in too many officially sanctioned events, Meta Knight was banned from participating in any more Super Smash tournaments. This came as a shock to the entire SSBB community, but not as much as to Meta Knight himself.

I got an exclusive with him, and he really had some interesting things to say on the subject. "I just don't understand," he said, pacing the interview room whilst swinging his sword. "I put my life into this game, and when I became the greatest player in the world, they banned me." I can tell you, it really upsets him to talk about it. He nearly cut off my head in his blind frustration.

"I even got a WiiMote installed in my fucking sword! I just love that game. How could they take it from me!"

How could they indeed? The official line from Nintendo, who couldn't be reached for comment, is that "[He] was draining the enjoyment of other players, and making them fear for their lives." It's a fair comment. Any match against Meta Knight always ended with a loss for his opponent. Either of the match, or of their life. You could tell if Meta Knight had a bad day because his sword would be bathed in blood, and half the contestants would be in the hospital.

I challenged him to a friendly match of SSBB, to see how I could stand up to a world champion so overpowered he was banned. He picked his favourite character, Sonic, and I played as Kirby. He finished me off faster than a puritan's first hooker.

In the end, his only hope is to petition Nintendo and hope they rescind their decision to ban him from ever playing in a tournament again.

And just a remember: Kirby says "We all have to suck, or else we can't swallow."

And I always swallow.
theDreamer

Tales from the Other Side

Regaling you with stories from beyond the beyond

Cue the hatemail, but I am currently doing a co-op term at the University of Western Ontario, also known as UWO, or more commonly known as "them". And I noticed something odd about "them" this (soon to be last) weekend, specifically Saturday. I was awash in a sea of purple shirts, and shrieking, drunken women incoherently chanting something about purple power. Yes, it was that horror of horrors: school spirit, lovingly held at the end of a ten-foot pole by the University of Waterloo.

And yet, with all this glorious pole-student interaction, we have yet to wonder exactly why our beloved University has such a relationship with the conceptual entity. Is it because it is tired of picking up the disposable plastic beer cups from people's lawns? Is it because it is tired of washing litres upon litres of purple facepaint down into the public sewers? Or might it just be because, all in all, black and gold might just have a more muted sense of pride than purple power?

And correct me if I am wrong, but how is this muted sense of pride and accomplishment what we seek in a University long known for its creative thought? Sure, it's great to have new ideas, but only when fostered in an environment where they won't be shot down by the nearest titan of academia with an ego slightly smaller than that of a neutron star. (And might it be that the ego is of that size only because it is collapsing into a singularity?)

Enough of the questioning and philosophizing, though. The time to act is now, and we must be quick and merciless. So, brothers (and the occasional mathie sister), I not only encourage you, but beg you to pick up the Holy Grail of school spirit that is the keg, and destroy the mute aspect of our sense of pride, no matter what it may do to your memory, your liver, or your grade point average!

(Note that I am not encouraging the use of heavy drinking or sustained use of several illicit substances in order to lower the competition for when I apply for graduate studies. And if you think that, my friend, I admire your paranoia.)

Impulse Vector

10 Ways to Die at University

Not Guaranateed

1. Forget that in CS everything starts at 0 and fail your final. The katana is behind the books in the CSC; seppuku away.
2. Go into EIT and yell "Geology is not a real science!"
3. Join UW Parkour and start at the top of a five-meter wall without instruction.
4. Tell WatSFiC that D&D isn't a real game.
5. Discover your ability to seduce at will and your inability to negotiate your way out of awkward situations.
7. Ask "are we allowed to submit this in HTML?" at a *math*NEWS writers' session.
8. As a frosh, flirt with third-years and grad students.
9. Ask a physics prof for a mathematically valid proof of the formulae used in class.
10. Cancel your MathSoc fee and then go to the C&D.

~ Uuo

Words in Rhyme

Fine Prime Time (Entertainment)

There once lay a man on the ground
When by an enemy he was found
In the ribs did the foe kick
Until the ground man was sick
Beaten and bruised was the ground man found
The man on the ground was bound by honor
To make his most hated enemy a permanent goner
A kick to the chest
A blow to the crest
Helped him up and went "'Twas good fun Connor"

Not a big fan of that unseen man
RedMetal

Cromulent Words

In defence of Wubster's Dictionary and Thesaurus

I overheard, the other day, a groggle of students chiding the once majestic "Wubster's Dictionary and Thesaurus of Cromulant Words and Phrases", comparing it only to a podge of meaningless phrases, barely uttered in firdent company. And to this, my friends and collegials, I disagree on many a multitudiny of levels.

The use of such other tomeous works as the Oxford English Dictionary serves only to stifle and enlessen what should be an organic growth of language. The use of such rules as spelling, or grammar, or style, to prune the arboric trusts of language problematicizes the once majestic growth of the arts and letters! And this, dear friends, is an issue very close to my cardium.

Impulse Vector

Rules for Driving in China

Italy made an impressive display last issue, but still leaves something to be desired.

1. Go as fast as you want, but the traffic at 6am is like rush hour here.
2. Speed limits are not necessary because they rarely slow you down before congestion.
3. If you're a pedestrian, cars will honk at you and not stop for you. If you are pushing an elderly disabled person on a wheelchair, cars will honk at you and not stop for you.
4. Right of way is decided first by the insignia of the highest ranking government institution, then by size of vehicle.
5. Lanes are for wusses. Feel free to wander around as you please, even into the oncoming lane.
6. The opposite lane can also be used to pass. If you see an oncoming car, floor it so you can complete the pass before he comes near.
7. Scooters and bikes are the cement to fill in the cracks between the cars to ensure nobody moves an inch in a traffic jam.
8. Cool people don't wear seat belts. Just put a clip in so the car doesn't make that funny sound.
9. "My dad works for the government" is a phrase that will get you off the hook in any traffic accident.
10. It's ok to block people when parking, but it is also ok to retaliate when you are blocked.

Lich

How a bus should fill up   How a bus actually fills up

theSMURF
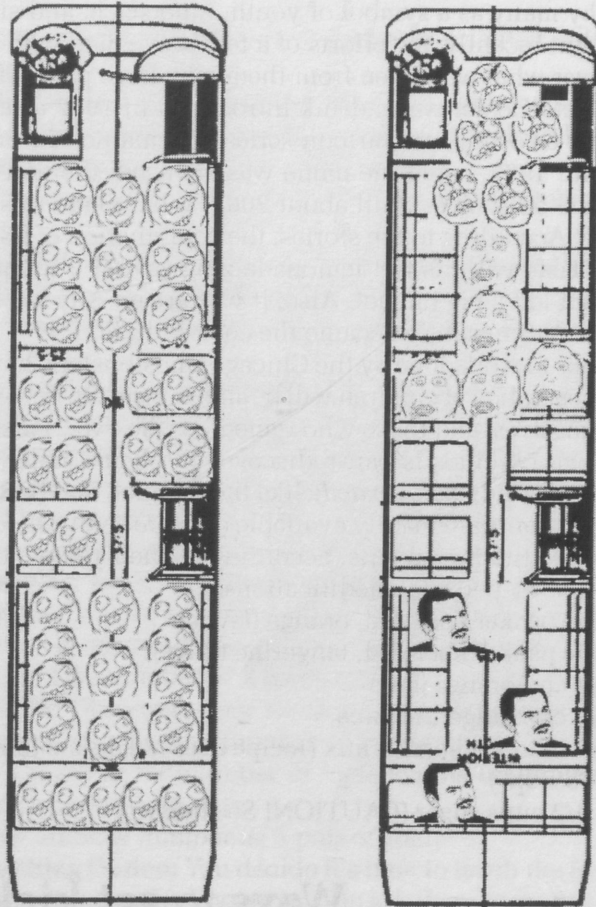
I feel pretty

It's the tiara, I swear

My residence building started Gotcha this past Monday night, right after production night. For those who don't know what Gotcha is, it's a game that the dons use to get people to meet more people. In this case, by telling them to stalk them. So everyone is given an item and a target, and for the duration of the game, every player must keep their item on their person at all times. This item is considered their "safety item". If they are caught without their safety item by the person who has them as a target, then their target is passed on, and so the cycle and game continues. There are other various rules, but that's basically the gist.

Now these items could be any number of things: spoons, apples (not recommended), foam swords, water guns, phone books, microwaves... etc. But this year... We're using tiaras. 157 people of both genders will be walking around campus for the next little while in tiaras. Please, for the sake of all of our pride, don't point it out or make fun of the tiaras. Though, many males I've spoken with do feel pretty now...

yourlocalWHETHERgirl

The Ecto-Cooler Lives!

Childhood, now available in liquid form

Legends speak of a drink sold not so long ago, a drink that defined childhoods the world over. Playgrounds everywhere were filled with the happy laughter of youngsters who could say that they had experienced this unbeatable flavour. But this happiness was short-lived. The drink was discontinued, never to be seen again. That drink was the *Hi-C Ecto-Cooler*, remembered by many as a symbol of youth, innocence, and simpler times. But recently, the efforts of a few brave men who strove to recover what was taken from them may have paid off…

The Ecto-Cooler was a drink introduced in 1987 as a tie-in with the Ghostbusters cartoon series. It remained in production until 1997, when the name was changed; the new drink remained on shelves until about 2007. What made this drink special? According to the stories, the combination of its sweet orange taste with its tart lemonade zing gave it a unique flavour that left a big impact. Also, it was **green**. Any kid drinking this stuff instantly became the coolest dude.

Thanks to work done by the Chicago Ghostbusters, however, a new generation of children will be able to taste the Ecto-Cooler for themselves, and those who remember the experience from their own childhoods can rediscover the Ecto-Cooler. Their recipe, it is said, tastes *exactly* like the original, and best of all, the ingredients are readily available on store shelves.

Here are the ingredients, according to their recipe, but see below for my personal modifications:

- One packet Kool-Aid, orange flavour
- One packet Kool-Aid, tangerine flavour
- 3/4 cup orange juice
- 3/4 cup tangerine juice
- 1/3 scoop lemonade mix (recipe does not define the size of a "scoop")
- 1 1/2 cups sugar (CAUTION! See below!)

- Green and blue food colouring
- Water to dilute to one gallon (original recipe in US units)

I wasn't able to reproduce this recipe exactly due to unavailability of some of these ingredients, so here is my modified version:

- One packet Kool-Aid, orange flavour
- One packet Kool-Aid, lemon-lime flavour
- 1 cup orange juice
- 1 cup decarbonated Fanta, which is basically tangerine juice
- 1/2 tablespoon lemonade mix
- **NO** additional sugar
- Green and blue food colouring
- Water to dilute to taste

My reasons for changing the recipe and not adding sugar are twofold: no additional sugar should be needed, as there is enough in the combination of Kool-Aid powder, lemonade, and orange juice to make the drink sufficiently sweet; also, **ONE AND A HALF CUPS OF SUGAR IS QUITE A BIT OF SUGAR.** In addition, I wasn't able to get proper tangerine juice. However, Fanta Tangerine is essentially carbonated tangerine juice, so I was able to make that substitution simply by decarbonating the drink. Check on the Internet for online juice retailers if you want to do it properly. Finally, tangerine Kool-Aid is *impossible* to find anywhere but online, so I substituted lemon-lime Kool-Aid, as it was the nearest flavour that was in the same vein as the the original recipe. I can personally say that the resulting product tasted really good; however, as it has been a very long time since I tried the original Ecto-Cooler, I can't speak for how close this recipe comes to the proper flavour. It's definitely worth checking out if you remember this drink from when you were a kid, or if you're interested in enjoying a very unique combination of tastes.

ieatyourSANDVICH

Ways to get kicked out of the Apple Store

These may or may not have been done by a bored Editor…

1. Get two oversized pieces of bread and fit MacBook between. When asked, reply that you wanted a Big Mac
2. Ask when iPorn store will be opening
3. Attempt to play Frisbee with the MacBook Air units.
4. After someone has purchased something, just mention as an aside that twenty African children died for that Mac
5. Walk into a conversation between a clerk and a potential customer and start complaining about how your Mac is filled with viruses
6. Give the creepers' handshake when greeted by shop employees
7. Walk up to Genius Bar and ask for help. Say that your Hackintosh hasn't been functioning properly since the latest software update
8. Offer the Apple clerk $100 to refund the free iPad you won earlier that day, and then mention that with the remaining cash you can still buy a Honeycomb tablet and apps
9. Wonder aloud why there is a meat thermometer accessory for the iPhone
10. Suggest examples for use of iPhone meat thermometer, none of which is the intended use

11. Try to convince clerk to remove demo units from locks so you can juggle the units and see how strong they really are
12. Use own phone to access online video at full volume while users fail to do so on the demo iPads.
13. Try to use the MacBook air hanging in the display window
14. Hog the kids' demo computers to yourself and learn Spanish with Dora the Explorer
15. Mutter in a disgruntled way about "special free Mac promotion" and walk by customers
16. Show off your Android smartphone to customers waiting in line to pay for their iPhone
17. Sing audibly to all of the songs played on the speakers
18. Plank on a stool
19. Sell customers a product, ring it up, and collect the commission yourself
20. Talk someone out of getting an iPad
21. Help customers with technical support problems while the employees aren't looking
22. Set homepage of all demo devices to Bing

!ED

HorrorScopes

ActSci: With the recent disappointing announcement of the iPhone 4S, you decide to see whether or not Apple will start lagging in smartphone sales. After you take into account the fanaticism of Apple fanboys, you realize that an asteroid is more likely to kill us before Apple falls.

Your unlucky number is: 65 million years of white earbuds and aluminum laptops.

AHS: First long weekend of term, you decide to have a party to celebrate. But you're from BC and everyone else is from the GTA, so you're partying alone. Their loss; more beer for you!

Your unlucky number is: 99 bottles of beer for you, 99 bottles of beer. You take one down, drink it in lonely silence, 98 bottles of beer for you!

AMATH: Upon being informed by your ActSci friend that the destruction of Earth is imminent due to the impending asteroid collision, you decide to rectify the situation. You calculate the power of a laser needed to pierce the asteroid so that it would get fragmented enough and burn up in the atmosphere. Before you can implement the plan, Michael Bay buys the right to the film. The film is a success; you forget to actually turn on the laser.

Your unlucky number is: $300 million in movie profits.

ARCH: It's Thanksgiving weekend, but the turkey you bought collapses before you stuff it with breadcrumbs. You devise a way to prop open the bird with toothpicks so then you can properly stuff it. It's when you serve the dinner that you remember that the toothpicks are still in there.

Your unlucky number is: 4 choking casualties before dessert.

ARTS: After your philosophy classes, you decide to become a vegan when you conclude that animals have a right to live. You fail to inform your family ahead of time, and they only find out during the dinner when you devoutly refuse the turkey and ham and consume all of the mashed potatoes.

Your unlucky number is: 2 pounds of turkey lying cold on the serving dish.

C&O: The annual Thanksgiving dump will occur this weekend, so you decide to map out the optimal way of hitting on the unlucky souls who had their hearts broken. When someone mentions that this strategy could be unethical, you dismiss them and start working on your plays. You call up your buddy Barney to be your wingman.

Your lucky number is: A legendary high-five of epicness.

CS: You confuse this turkey dinner with the other turkey dinner found in December. You do some last-minute shopping at Campus Tech and MathSoc and hope that your family won't be *too* pissed.

Your unlucky number is: $50 down the drain but 5 very surprised family members.

Double Degree: You decide to prove how much more of a UW student you are instead of straddling the line and being part-Laurier by having a hawk for dinner instead of the traditional turkey. You hear a knock on your door. It's PETA.

Your unlucky number is: 3 years of prison for animal abuse.

ENG: You construct the perfect oven to cook your turkey evenly without burning or singeing. You forget that you are still a plummer and not an engineer, and therefore forget to make sure the oven is safe. The oven collapses.

Your unlucky number is: 1907 all over again.

ENV: The Williams drives your CnD out of business. You organize a huge protest and start picketing the cafe. To stay awake for the early morning protest, you buy some coffee…at Tim's.

Your unlucky number is: $1.81 spent on the other competitor.

Math Phys: You calculate the perfect orientation in the oven to cook the turkey. Unfortunately you forget to turn the oven on.

Your unlucky number is: 2 perfectly oriented cold turkey wings.

KI: You decide to integrate all of the knowledge you have gained thus far since classes have started. You don't know what value to give your constant of integration.

Your unlucky number is: $dx + C$ points of intelligence acquired.

PMATH: It's your turn to make the pumpkin pie this year for the big Thanksgiving dinner. You decide to mix it up and make a pi-shaped pie, with exactly 3.14 pumpkins used for the filling.

Your unlucky number is: 0.86 pumpkins guts.

SCI: It's time to get that turkey. Gut it. Dissect it. Put it back together better and stronger than before. Bring it back to life and program it to kill all those pesky turkey-eating humans. On an unrelated note, you should celebrate Thanksgiving.

Your unlucky number is: 1000 turkeys brought back to life.

Soft Eng: You attempt to look out the window, suddenly realizing that you've been in a black box working non-stop for a month. Go outside and eat some mashed potatoes.

Your lucky number is: 3 more months.

STATS: Observing your surroundings, you notice that there are a statistically low number of leprechauns. You conclude that a burst in the number of leprechauns is imminent, and start preparing your nets.

Your unlucky number is: 5 pots of gold.

Teaching Option: You decide it's time to teach the froshlings how to make mashed potatoes. You ask them to make a sample batch; they get out a blender. You are given a bowl of goo.

Your unlucky number is: 200 unused cornflakes.

Undeclared: You spend the entire night choosing between the turkey and the ham. You choose the fish.

Your unlucky number is: 3 uneaten hams.

We didn't get any *dean*QUESTIONS this week! Send some in to mathnews@gmail.com by Wednesday October 12ᵗʰ!

The fun website OMGUW has a chat page! Find it at omguwchat.blogspot.com, or join #omguw on the IRC server irc.wyldryde.org

Etiquette beyond the classroom

In all the issues of *math*NEWS I have read over the years, there has been no shortage of articles complaining about etiquette, or lack thereof, in the MC. I'd be lying if I said the complaints weren't valid; I had to deal with a lot of that crap myself, such as:

- Two people saving an entire front row of seats in a lecture, and some of those people were not in the section. This also happened when I hadn't gotten my glasses yet, so I needed to sit in the front to see.
- Someone stopping right in the doorway of a classroom to text on his cell phone after a lecture when people are trying to enter and exit the room.
- People who whisper to their neighbours in class… and some people don't even have the decency to whisper. This is especially annoying if the prof doesn't speak very loudly.
- People who smoke near the entrances.
- and so on

However, the question I want to ask is this: is it so hard to just suck it up? While it illustrates good character to act with courtesy in public, I feel that tolerating others serves the same function. We should always make just a bit more effort at public etiquette than what's minimally required of us, and the same goes for respect and understanding. Wouldn't you want to sit with your friends in lectures?

So, no more complaining, please?

Lich

Slitherlink Puzzle

Rules: Put walls on the grid. The walls must form a simple closed loop. Numbered cells must have that many walls.
A small example is provided below.
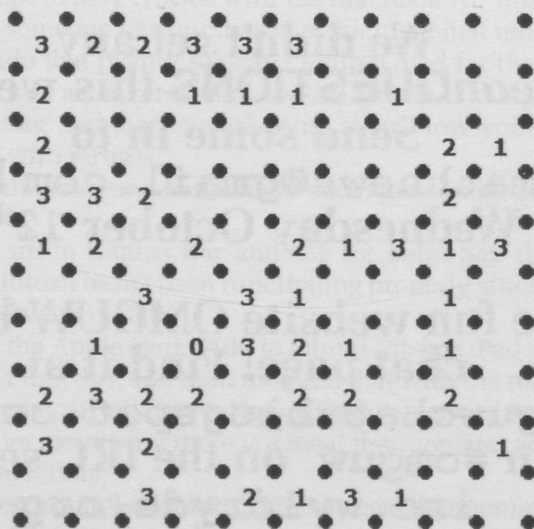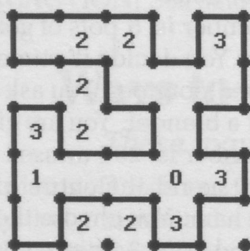
*prof*QUOTES

I would like to say a few words. And here they are: Nitwit! Blubber! Oddment! Tweak! Thank you!

Dumbledore, Freshman Address

Tell me, which of you will be dying this year?

McGonagall, Trans 201

Ah… yes, well, that can sometimes happen. Um, but, uh. the point is, uh, you can no longer feel any pain. And, very clearly, the bones are not broken.

Lockhart, DATDA 201

Can you possibly imagine a better way to serve detention, than by helping me to answer my fan mail?

Lockhart, DATDA 201

Professor Dumbledore has granted me permission to start this little dueling club, to train you all up, in case you ever need to defend yourselves, as I myself have done on countless occasions. For full details, see my published works.

Lockhart, DATDA 201

I am a wizard, not a baboon brandishing a stick.

Flitwick, Charms 601

I can teach you how to bottle fame, brew glory, even stopper death--if you aren't as big a bunch of dunderheads as I usually have to teach.

Snape, Potions 101

Yes, these are not the usual *prof*QUOTES; however, we did not recieve any these two weeks, please... PLEASE... we need the *prof*QUOTES. They are our sustenance.

Send in your *prof*QUOTES!

If your prof says something funny, email it to us at mathnews@student.math.uwaterloo.ca or come on out to a Production Night!

Drunken Moogle Filled

So the other day I found this awesome and simultaneously nerdy website, called "The Drunken Moogle" http://www.thedrunkenmoogle.com/, which, to put simply, is filled with alcohol.

Being a bartender, I've always loved how people can invent drinks that both look good and, more importantly, taste good. Now with this new added dimension of videogame-related titles, drinking has never looked so math student friendly.

There are drinks of all kinds on this site. There are fruity drinks (Yoshi), creamy drinks (Goron), evolution drinks (Pokemon first generation starters!). There are also many different fandoms, such as Pokemon, Scott Pilgrim, Bioshock, Kingdom Hearts, Sonic the Hedgehog, Portal 2, Dragon Age, Call of Duty, etc. Basically, many nerdy drinks.

I recommend it. On second thought, judging by the reaction of everyone at this production night, I probably shouldn't have introduced this website to them. I apologize for the quality of this issue due to drunk writing.

yourlocalWHETHERgirl

Let's Play: Quake Chess

A new fad is spreading across campus, or at least a subset of it. Upon one of the planters on the third floor of the MC, you can sometimes see students haplessly addicted to playing a few games of this brand-new craze. In the CSC, where the computers are held sacred, every now and then you might catch a glimpse into a more deranged world of…Quake Chess.

Inspired by the fast-paced action of the incredibly popular first-person shooter, Quake Chess is a journey in lightning-quick thinking. Today, I will venture into this depraved madness and provide you with a first-hand account of this cold, unforgiving game.

The rules are simple: You are playing chess. You have one minute. Your opponent has one minute. Your pieces have been arranged randomly on your first rank. Your opponent's pieces have been arranged randomly on her back rank. You cannot castle. Your opponent cannot castle. As always, white plays first. And don't forget to have fun.

The first step in my game was to draw a color. I drew white. We set up our pieces as follows:
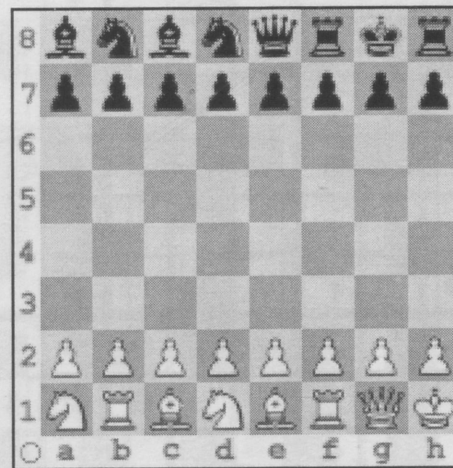
My opponent hit the clock right away, leaving me with only a minute to think.

Now, looking at the position, the first thing of note is that all the horizontally-moving pieces are over on the right half of the board, except for my one rook. Also, my bishops are both on black and his are both on white. On top of that, my king is in line with his rook, and his king is in line with my queen. A perfect setup for mayhem.

The two bishops suggest a direction to go in right away. I want to get my pawns onto white squares to deny my opponent the ability to develop them properly. The knights on both sides might get developed, but I don't think they'll get all too relevant on the attack. In particular, if I can attack her long diagonal, the fact that her queen can't defend g7 means that I should probably try to attack there. I can get my queen on the long diagonal at e4, too, if I can't get my g-pawn out of the way.

With all of this in mind, it looks like my best move is to push my f-pawn to f4. As I reach down to make my move, the clock beeps.

Damn. One minute time limit… Right…

Oh well, that's it for now. I hope I've given you an accurate picture of this deep, fascinating, and intense mental exercise. I'm heading out now to get some rest. I'll see you next time.

Algoweird

Ambiguous Video Game Quiz 2

All right… we only received two entries for the first quiz. After much discussion, we have chosen a winner. One of the submissions had Sonic The Hedgehog as all the answers. Most of these which were wrong, and one which was obvious to the answer.

Winner goes to ForkedProcess, with the following answers:
• Silent Protagonist Saves The World: Legend of Zelda: Ocarina of Time
• Racing to an objective as fast as possible: Simpsons Hit and Run
• Beating people up to progress: Pokemon
Please come by MathSoc to receive your prize.

This issue's quiz:
1. Exaggerated motions required to play
2. Protagonist with teen angst
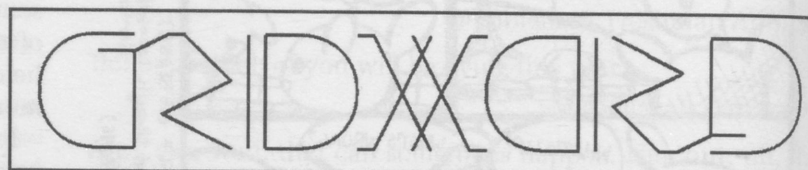3. Managing an army to defeat the enemy

Like always, submit answers to the **BLACK BOX**. Last day for submissions is October 17th, before 6:00pm. Remember, creative, unique, and non-obvious answers give more points!

Not Sonic The Hedgehog

GRIDWORD

*grid*COMMENTS

Are you smarter than a dolphin?

Probably not, but try and prove me wrong by completing this week's *grid*WORD. Again, your wonderful setter here is moment. Last week's *grid*QUESTION was, "Why are math frosh the best frosh ever?" and it was used to decide several ties this week. With two one-letter-off submissions for the quick clues and three perfect cryptic solutions, the winners are the cryptic Benson Lung ("Their naoveti and deviousness make them ideal minions.") and the quick Lenny Morayniss ("Because they are our future, teachthem well and they will lead the way.") How true, Benson, and how sappy, Lenny; regardless, you can pick up your prizes at MathSOC! (An honourable mention goes out to one "Henry" who managed to have almost-correct solutions to both sets.)

Submit however much of a solution you can get in the **BLACK BOX**, right outside the C&D before 6:30pm on Oct. 17th. Be sure to include your (full) name and your answer to this issue's *grid*QUESTION, which is "How is a dolphin like a continued fraction?" Remember: the possibly non-sensical answers to the *grid*QUESTION are used as tiebreakers in the case of more than one correct solution.

Trying not to forget 41 across this time,

moment

Normal Clues

Across

1. Indefinite ordinality (9)
6. Promote (5)
9. Lead (5)
10. He didn't start the fire (5,4)
11. Stylish (7)
13. Hostility (7)
14. Feather wrap (3)
15. Destroyed (7)
17. Natter (3)
19. 'x' in (cons x y) (3)
20. Bright (3)
21. Idiot (3)
23. Crammer's lament (3,4)
25. First lady (3)
26. Grammer in Cheers (7)
28. Talent (7)
30. Ultimate success (4,5)
32. People (5)
33. Return (5)
34. American sign (4,5)

Down

1. "I surrender!" (5)
2. Installation (9)
3. Attribute (7)
4. Crux (3)
5. Corridor (7)
6. Venusian plant (3,4)
7. Greeting with a lei (5)
8. 0.001 s⁻¹ (9)
12. Uncertain (3)
15. Voluntarily (9)
16. When do you think it will get here? (3)
18. Confusion (3)
19. Falling apart (9)
21. Lost (7)
22. Worry (7)
23. Chest musc. (3)
24. Selection (7)
27. Line (5)
29. Village leader (5)
31. He can't let you do that, Dave. (3)

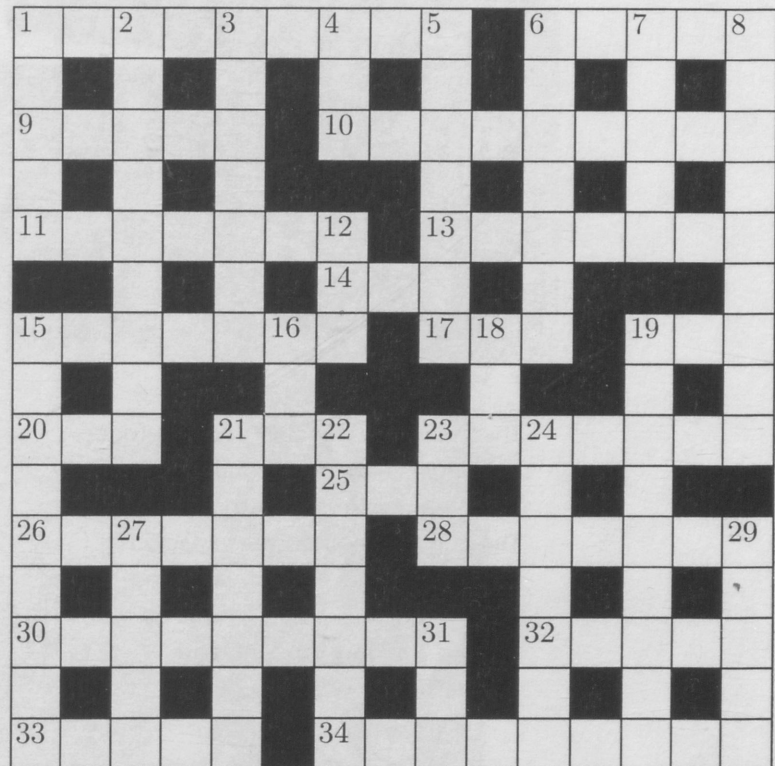# GRIDWORD
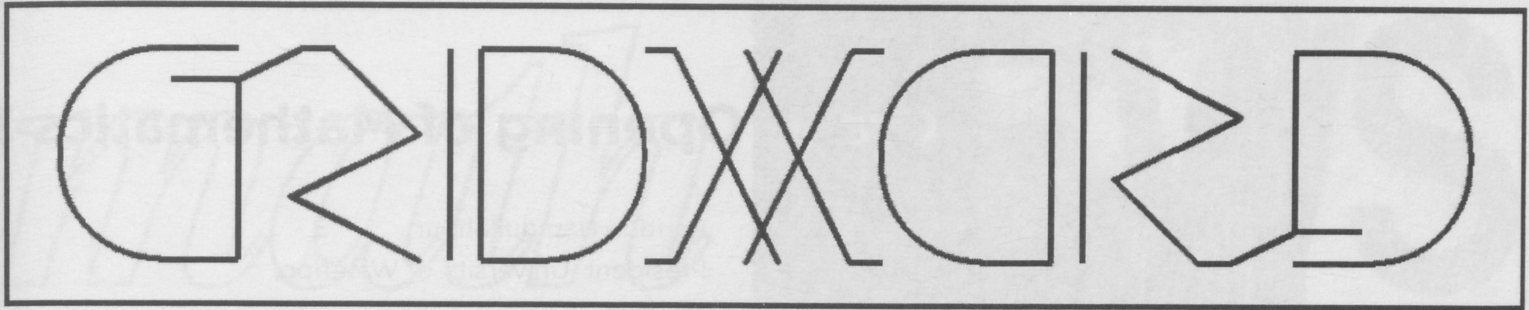
Cryptic Clues

Easterlies

1. Search for the charged one's inquiries. (9)
6. Acting distant like a dumb fool. (5)
9. Force out across most of a hard throw. (5)
10. Courtroom shouts like the thing with the unleaded lion (9)
11. No going without air, twice, with a capital- (7)
13. Praise 32's action to Anna (7)
14. Connection across most of the land. (3)
15. Listen, you uncivil tool. (7)
17. Previously (and presently) punctuated signal. (3)
19. Place half of a club down. (3)
20. A Pluto insult? (3)
21. Reference to the judge (3)
23. The crazy biz, once, of having a ketone (7)
25. I'm not going instead of the money. (3)
26. Bore a purchase, as we hear a song? (7)
28. Tends to confuse you and nothing exchanged under 19. (7)
30. Attitude towards medication (9)
32. Canadian gardener (5)
33. Do no harm, except harm's our outspoken presenter (5)
34. Desireless and a footloose partner (9)

Southerlies

1. Elizabeth's second card (5)
2. Tempting heart and a curved void (9)
3. Time allows for candles (7)
4. Oh no! I heard she split them up! (3)
5. The newfound capital of Lennon in the Stones? (7)
6. Approaches air conditioned above all costs (7)
7. The hunter is, oh, say, Seacrest (5)
8. In fact, SAT-fever is great! (9)
12. I will be in the windmill! (3)
15. Waved late in a French failure (9)
16. Angry without a start in the mud (3)
18. A frightened deer poem (3)
19. A teacher affirmation-maker (9)
21. Realtime or plot agent? (7)
22. Silver lining comes after flypaper (7)
23. Transport back and forth (3)
24. Zero year is just wrong... (7)
27. Sounds like weavin', after making your bed... (3,2)
29. Brief buffaloed buffalo? (5)
31. Not up a lot... (3)

This Week's Puzzle

Answers to Last Week's Puzzle

*math*NEWS offers a heartfelt congratulations to <insert political party name> for their victory in the Ontario provincial election. Truly, the next few years will be bright under their stable and honest leadership. We will congratulate the new (or old) MPP in person at the above ceremony.