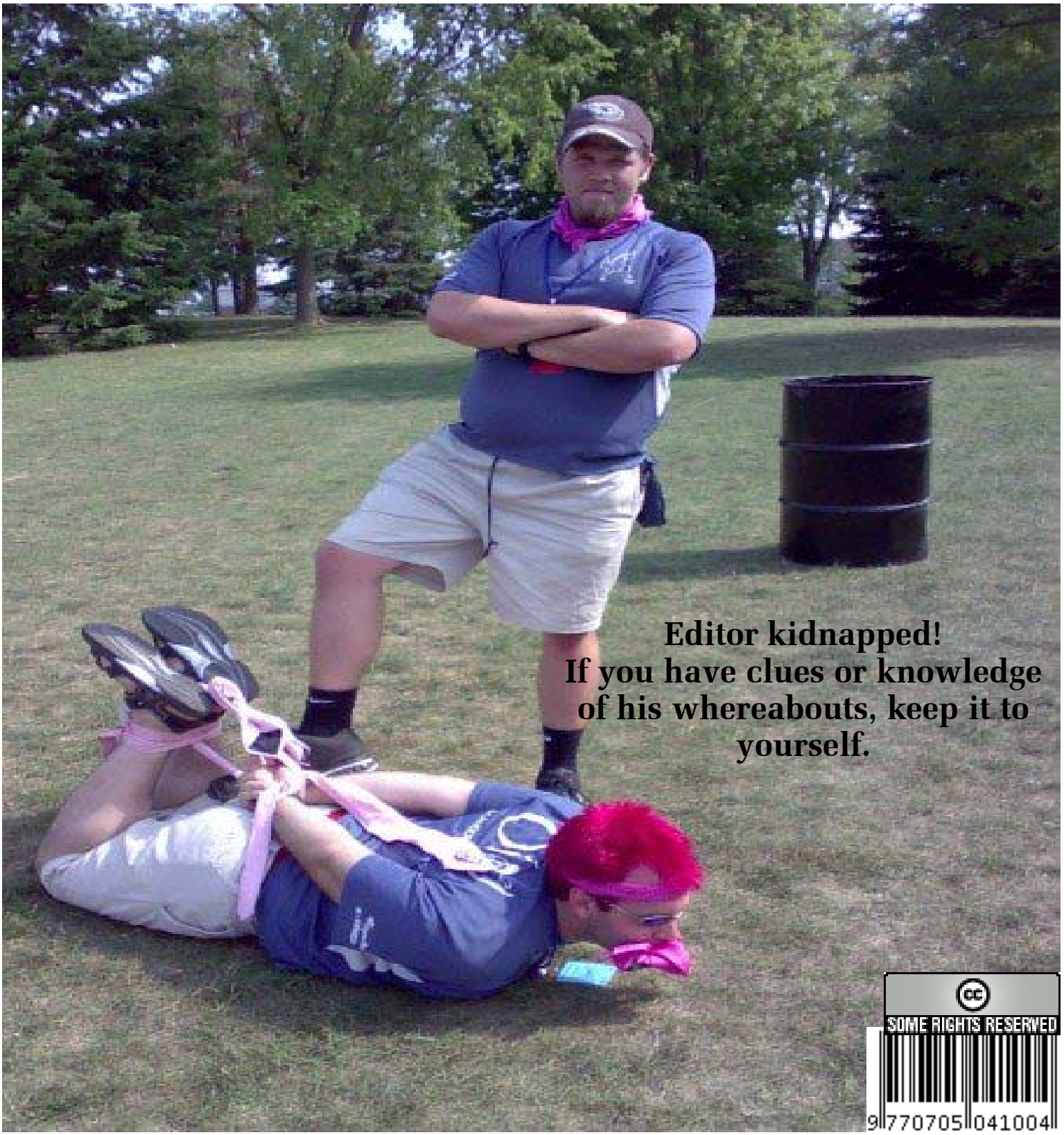
mathNEWS

Volume 105, Issue 1 *Friday, September 21st, 2007*



Editor kidnapped!
If you have clues or knowledge of his whereabouts, keep it to yourself.

SOME RIGHTS RESERVED

9 770705 041004

*look*AHEAD

***math*NEWS**	
Sept 21	Issue #1 brings pollution down to 0
Oct 1	Production Night #2 6:30, MathSoc (MC3038) All are welcome!
July 27	Issue #2 makes flowers grow
Math Faculty	
Questions about what some of these mean? See an academic advisor!	
Sept 29	WD period begins
CECS	Assuming Jobmine doesn't crash
Sept 22	Job postings close 11:59p.m.
Sept 28	Job postings (main group) opens
Oct 1	Sept 28 job postings close 11:59p.m. Student Awards & Financial Aid
Oct 4	OSAP App. Deadline (full funding) Deadline to submit Signature pages and Supporting Documention for Fall
Feds	
See feds.ca/events for details	
Miscellaneous	
Sept 23	Good Neighbour Day
Sept 28	The (first) day the earth stood still

Feds Clubs Days

It's happening now! Right now!

Are you finding yourself bored in rez? Do you have too much free time? Do you wish you could meet more people with interests similar to yours?

Well, worry no more! Feds Clubs days are here! **Yesterday** and **Today** (Friday the 21st), all the Feds Clubs on campus have set up booths in the **Great Hall of the SLC** to try to woo your membership.

There are clubs for every kind of group: interests (sci-fi, gaming, cheese…), activities (dance, euchere…), and all ethnic or language groups.

Remember, this is happening **now**, so check out the SLC as soon as you can!

MJB

ISSN 0705—0410

*math*NEWS is normally a fortnightly publication funded by and responsible to the undergraduate math students of the University of Waterloo, as represented by the Mathematics Society of the University of Waterloo, hereafter referred to as MathSoc. *math*NEWS is editorially independent of MathSoc. Content is the responsibility of the *math*NEWS editors; however, any opinions expressed herein are those of the authors and not necessarily those of MathSoc or *math*NEWS. Current and back issues of *math*NEWS are available electronically via the World Wide Web at `http://www.mathnews.uwaterloo.ca/`. Send your correspondence to: *math*NEWS, MC3046, University of Waterloo, 200 University Ave. W., Waterloo, Ontario, Canada, N2L 3G1, or to userid `mathnews@student.math.uwaterloo.ca` on the Internet.

This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivs License. To view a copy of this license, visit `http://creativecommons.org/licenses/by-nc-nd/2.0/ca/` or send a letter to Creative Commons, 559 Nathan Abbott Way, Stanford, California 94305, USA. Terms may be renegotiated by contacting the editor(s).

The editor(s): 'Greyskull' Peter Simonyi

*mast*HEAD

Hee ho, the first production night of the year is a very special one. It's a time when grandchildren sit and listen to their grandparents read the erudite thought that goes into each *math*NEWS. It's real erudite thought, too. Not the cheap stuff that's sold on eBay. That's mostly bootlegged.

We had many a newcomer tonight, and many familiar faces. All of them pooled their minds to answer "What makes you super bad?" Their responses are as follows: Half-Pint "An entire pint"; Paul "I finished the toilet paper and didn't change the roll"; VAL "By the power of Greyskull"; Thor "Thorium"; Daniel G "Everytime my plan for TOTAL WORLD DOMINATION is foiled"; Robert B "Being unable to think of a suitably awesome answer"; MJB "Writing 'OMG: it's over' on the whiteboard after exams end, and leaving it there until long after classes begin"; Matt "My army of krichet robots"; Richard "I ate your pizza"; Jeffrey "I am my father"; Edgar "I am also Jeffrey's father"; Andrew "I've joined the stats side of the force"; DanS "Genetically enhanced canoe parts for beating people with."

A *math*NEWS wouldn't be complete without thanking people! First and foremost: Dmitry Denisenkov for being the God of Awesomenessness and saving us from a nasty, painful death. Whoever decided it was a great idea to reset our permissions on `magnus`, because that was a really great idea. Tinkerbell for showing us that size doesn't matter when you really love someone. Finally, Graphics for infusing this paper with the power of math and news. We hope you enjoyed our publication. 'Til next time!

Michaelangelo 'Angelo' Finistauri, "My pink, feathery, leather purse."

Peter 'mossEd' Simonyi "My answer here."

Bug of the Fortnight

Revenge of the Compiler

I have received several complaints from loyal *math*NEWS readers who have told me that the code does not compile and/or that the bugs are obvious. Therefore, I will try to create a difficult series of bugs that exploit the C++ language to its fullest. Hopefully this time, this will truly be a challenge.

```
#include <vector>
using namespace std;
class vector  {
  public:
  void push(void *pObject)
  {
    void vData = m_vData;
    m_vData = vData + *pObject;
    m_iNumOfItems++;
  }
  void get(int iIndex,void &pObject)
  {
   pObject = (sizeof(m_vData)/iNumOfItems)*iIndex;
  }
  private:
  void m_vData;
  int m_iNumOfItems;
};
```

James Simpson

Prez Says

The leaves are starting to turn colour, the weather seems like it can't decide whether it should be hot or cold, and there are confused faces every way you look, clutching campus maps and frosh travel mugs. Yes, it's that time of year again: Fall term.

Welcome again to another volume of *math*NEWS. As your friendly neighbourhood MathSoc President, I have a few things I should share with you.

First thing should be, I suppose, the increase in the Math Student Society Fee from $10.50 to $12.50. You might not know what caused this change, so I'll run through it now. At the same time as the Bus Pass referendum, MathSoc posed a question to Math students asking for an increase in the fee. The purpose of this fee increase was to create a stable source of funding for improvements to student space, including student lounges and club space. Math students voted strongly in favour of this move, and the University's Board of Governors approved the fee increase starting this term.

On that note, if you haven't been around since the Winter term, you might have noticed that things are feeling a lot brighter in the Comfy Lounge and the Math C&D. It's not just your imagination. During the Summer term, work was completed in upgrading the lighting system in both lounges. This project was paid for by MathSoc in cooperation with the Math Endowment Fund and Feds' Student Life Endowment Fund. I noticed that just last week there was some painting done on the ceilings of both lounges. Hopefully, these changes are just the start of a long process of improvement that will transform our student space into places where we'll gladly pass time between classes or meet up with friends.

If there are any other ways you think student space should improve, please talk to me in person or send me an email. Options include replacing/re-upholstering some of the rougher-looking furniture in the Comfy, and possibly replacing the dingy carpet. If you think this is a good idea or you think something else should have a higher priority, let me know. MathSoc will begin spending money from the increased fee this Winter term, so your feedback is important in deciding where it should go.

On another note, if you're interested in any volunteer positions, there is a plethora of opportunities. If you're interested in volunteering for MathSoc, fill out one of the volunteer forms available in the office. This very publication is also looking for writers, proof-readers, illustrators or layout helpers. You could become involved in a MathSoc club, such as the Computer Science Club or the ActSci Club. Nominations for Math Endowment Fund Funding Councillors are now open on their website—fill one out today and help decide how up to $80,000 of student money is spent this term.

If you have any questions, feel free to email me at `prez@mathsoc.uwaterloo.ca`. I'll stop blabbering now. Have a good term!

Andrew Fransen
President, F07 MathSoc

VPAS Says

A friendly welcome back to school from your friendly neighbourhood VPAS! For those of you who are new to the school, VPAS stands for 'Vice President of Activities & Services' for the Mathematics society (you've probably seen me in your calculus section). I'm in charge of the MathSoc office (located in MC3038), movies and games nights, other various social events, and the MathSoc webpage (`http://www.mathsoc.uwaterloo.ca`). If you have any ideas on how I can improve any of these services or new events I should run, or even if you just want someone to talk to, I'm often around MC3039 (I'm the one with the fading pink hair) and try to always be happy to talk. This is my last term on campus, so I'll do my best to make it a blast for you all.

Hope you drop by soon,

Alex McCausland
Vice President Activities and Services
Fall 2007

VPF Says

Hee ho and welcome back to another wonderful term of school! I will be responsible for MathSoc's monies and so forth. If you have any questions, please e-mail me (`vpf@mathsoc.uwaterloo.ca`) or let me know. Also, any budget requests for things such as Mathletics teams, directorships, or clubs need their budget requests handed in very soon (i.e. Monday). Other than that, have yourselves a good term. I'll keep you updated as things of importance come up.

Angelo Finistauri
MathSoc VPF F07

UW Gamers wants YOU...

to play videogames!

UW Gamers Dude here! We just had our first meeting of the term, and I just thought that you would all like to know about what's coming up for us this term.

(items marked with an asterisk (*) are tentative dates)

- Sept. 21: Clubs Day! (We're the crazy ones with Guitar Hero going non-stop)
- *Sept. 29: Halo 3 launch party. We're getting sponsored by Microsoft, so there will be prizes! (including copies of Halo 3!)
- Oct. 10: Don't Study! Our handheld gaming super event! DS, PSP, GameGear, anything!
- *Oct. 23 or 25: Game On! Random gaming for fun and profit! Well, not so much profit. More just for fun.
- Nov. 6: Guitar Hero 3 party! All kinds of rhythm games will join in too, including Pop'n'Music, DDR, Beatmania, and especially *Donkey Konga*.
- *Nov. 20: LAN tournament. Starcraft? DotA? We're not quite sure yet.
- Dec. 4: Super Smash Bros. *Brawl* Tournament.

As always, check out our website, `www.uwgamers.org`, for more info. Better yet, check out the forums once you're there, and volunteer! This is going to be one mad, mad term! See you there!

UW Gamers Dude

Want to read something cool? Then go to http://www.mathnews.uwaterloo.ca/Issues/mn10501/jeopardy to read about one of our own Mathies on Jeopardy!

*prof*QUOTES

I'm old fashioned — which means I'm right.

Griggio, ITAL101

Now the mission impossible question: what the hell?

Griggio, ITAL101

I don't have the gift of ubiquity. Not yet.

Griggio, ITAL101

Don't look at me. I know I'm beautiful, but don't.

Griggio, ITAL101

Angry spirits are coming into the classroom, so let's close the window.

Griggio, ITAL101

I don't like cell phones… please let them die.

Griggio, ITAL101

You start from far away and then you attack the girl. Politely.

Griggio, ITAL101

The RAM only takes two instructions: 'gimme' and 'here'.

Cormack, CS241

[looks at the board with a mistake on it] That looks like crap!

Cormack, CS241

If this stuff really turns you on…

Smileli, PSYCH207

[Talking about brain damage] I see people riding bikes without helmets. It's bad for them, but good for the field.

Smileli, PSYCH207

I am friends with Ken, and Ken is friends with Bob, but Bob and I may hate each other… that's just how friendship works.

Andres, PHIL216

Trust me, in the game of saying stupid things, I will win.

Forrest, MATH145

This function is very useful when you're writing a buggy program. Let me rephrase: this function is very useful when you're writing a program.

Vasiga, CS135

[Of "inversion"] It's an overused word, but all words in math are overused. I especially hate "normal". This is normal, that is normal, … Nothing's normal in math! Don't use the word.

Zorzitto, MATH245

Let's prove this by talking about it. [Talks about proof.] Did you understand the proof?

Zorzitto, MATH245

You see, the Dean and I have a relationship. I write him a letter; he ignores it. I write him another letter; he ignores it.

Metzger, STAT231

I am a random variable: you know nothing about me.

Metzger, STAT231

Has your prof said something quotable? Type it up and send it to `mathnews@student.math.uwaterloo.ca`*, or write it down and drop it in the* BLACK BOX *(located on the MC 3rd floor, between the Comfy and the C&D).*

*math*NEWS wants YOU!

Write some stuff, win some money

*math*NEWS works entirely on submissions from undergrads and some alumni. We're constantly looking for new writers in order to reduce dependency on said alumni. Thus, the "best" submission to each issue this term will win a $25 Gift Certificate to HMV. Anyone is eligible! Faculty, alumni, staff, and especially students!

We're not particularly choosy here at mathNEWS. Our criteria for publishing material is pretty simple: your article should be informative, interesting, insightful or funny. Long, rambling, pointless material is out. So are in-jokes, rants, and particularly libelous material.

If you have a modicum of writing skill, feel free to submit. You have many options: Write it down on some paper and shove it in the BLACK BOX, conveniently located on the 3rd floor of the MC between the C&D and the Comfy Lounge. If you type up your article and print it off and then put it in there, we will be very upset, because you should… Email it to `mathnews@student.math.uwaterloo.ca` with the word "article" in the subject line. You can also drop by Production Night! Write an article, and while you're there, help us with the proofreading of the issue. All are welcome! The date of the next production night is given in the *look*AHEAD of every issue.

See, isn't that simple? So, in summary, write for mathNEWS, win $25 to HMV!

Business advice

Taking advantage of an open forum to spout meaningless drivel isn't really a challenge, which is why I decided to put in my two cents and give away free business tips. You can tell that my knowledge isn't worth anything because you aren't really paying much for it!

- Once your customers start using your product/service, you can treat them like crap. This is known as Roger's approach. All people are morons and will never look around for better deals. Ever.
- Magnitude is a very valuable asset. Never mind having a competitive advantage or anything to distinguish yourself with credentials: magnitude!
- Destroy the competition. Make like Wallsmart and absorb the short-term losses while all other stores die, then jack up the prices.
- Long rants will make anyone sound credible! After a while, people won't even bother arguing with you because it would be more worthwhile stapling their spleens to a freight train.
- Scapegoat. Nothing that you do is wrong. It's always what other people do. By the time people realize that you're as useful as a water-proof tea bag you'll already have taken a good chunk of their cash.

There you have it! Advice from a real person! Not just any person, but someone who inflates his own value with the sheer presence of a bloated ego!

Angelo

Dating advice from the Single Guy

First year anniversary

Hello and welcome all to yet another term of *math*NEWS and my great advice. If you don't know who I am then you're either a first year, in which case welcome to UW, or you're an upper year who only decided to start reading *math*NEWS now, in which case what took so long? This issue is a special one, too; this is now my 19th Dating Advice From The Single Guy article and, although 19 may seem like an odd number to celebrate, that means it's been 1 full year of these articles. And to celebrate I'm going to continue my trend from last term of only answering one letter. Less work for the special anniversary, and also because you guys suck at sending in letters; there's only one good one anyway. So here we go with the start of another year.

Dear The Single Guy,

I'm a first year, and I'm really not all that certain what to do with my girlfriend you see, we ended up going to different schools, which means I can't really see her much at all any more. We've been going out for a long time, and I'm pretty sure I love her, but everyone I know seems to be telling me I should dump her and look for someone a little closer. If we're meant to be then we'll get back together anyway right? What should I do?

Chuck

Now this is a plus, a first year who either stopped by the MathSoc office and picked up some old copies of *math*NEWS, or who read the archives at `www.mathnews.uwaterloo.ca` (whoever runs the DNS server is dumb, the www must be there) or searched " 'Dating Advice From The Single Guy' site:mathnews.uwaterloo.ca" at Google. Good to know fresh blood is reading. So, on to your problem. It may be too early for you to have learned this yet, but university is just like the movies: the girls here are always getting drunk and are usually very horny. They will do things that the girls you knew in high school would never do. You shouldn't dump your girlfriend — it sounds like things are going pretty well with her, but this doesn't mean that you shouldn't look for a little action here; do a few things that you won't be able to do with your girlfriend, and no one will ever know. Actually, you never said which other school your girlfriend is going to, if it's Western never mind what I said: dump her ass. You do not want to be affiliated with anyone from Western. If it's Laurier then you're just a moron. Just like in the movies some crazy series of events will occur where your girlfriend will find out when she comes for a visit so you must never allow her to visit you here in Waterloo. Any time you want to meet up with her you should go home for the weekend and do it there, since if you go to her place you'll probably find out that she's cheating on you, so best to stay ignorant and do it at home.

Well good luck with stuff, if you have questions to ask me you can stuff them in the BLACK BOX between the Comfy and the C&D or email to `mathnews@student.math.uwaterloo.ca` and put something like "single guy" in the subject line, and *do not* make "article" a substring of the subject.

The Single Guy

Introducing GooglePants

A new way to store your stuff

Have you been pining for a Google shirt? Ever dreamt of having yourself entirely covered in sexy Google merchandise? Well, that dream is one step closer to reality with Google's most recent announcement!

"We're getting so much closer to our goal of organizing the world's information," said one corporate-branded Googler. "With our new line of pants, we can now sort, hash, and organize the world's pockets."

When asked how their fabulous system works, they said the final method was totally top secret, but they were willing to comment on the process they used to develop their most awesome pairs of cargo shorts and pants.

"Our first attempt involved rewriting the laws of physics to do the sorting and organizing for us. That fell through in a big way with the loss of our space station when someone miscarried a 1, calculating the mass value. After that, we decided to start with the more realistic approach of having a pocket for everything."

Clearly, the current iteration is very high tech, as they look like ordinary cargo wear, but with tasteful Google branding. I was offered the chance to try out a pair. Fortunately, I had a variety of electronics and miscellaneous things to stuff into the seemingly inconspicous pockets.

In true *math*NEWS fashion, I tried the pseudo-scientific approach to testing these ultra-comfortable marvels. I tried retriving my items in the reverse order that I put them in and *gasp!* they came out as if they were on top! I was convinced.

I asked if any other articles of clothing are in development and they were all hush-hush about it. This valiant reporter; however, made a break for it into the top secret areas of the lab I was touring until I was tasered by security and had the memories of the wonders I'd seen wiped.

GooglePants and GShorts will be available in stores for the Christmas season.

42

Sign up for Thanksgiving

All the cool kids are doing it

So I made a quick visit to the Career Services Employer Information Session webpage at `http://www.cecs.uwaterloo.ca/students/sessions.php` to see what swag prospects this term holds and noticed that Thanksgiving was listed as an event. Apparently, Career Services has decreed that Thanksgiving will take place from 8am—8am on the 8th of October but only for graduate and co-op students. *[That is actually a time period of length zero. — mossEd]* Also, you may RSVP for this important event. At the time of writing this article, there were 5 people signed up. Add your name to the list and make Thanksgiving a success.

Wooly

*math*HELP

A mathie advice column

All right, for those of you who don't know me, I am a mathie who gives advice to other mathies. Like to the people mentioned below:

Dear InsideR – I am not getting along with my new roommates. We are arguing about everything, even the kitchen sink. I don't want to go through this for the next four months. What can I do? **– Argumentative Roommate**

Dear Roommate – Well, someone messed up when it came to your roommates. At this point, though, it's probably too late to switch. So here are your options: You could live the next four months in isolation, but that's not fun at all. Perhaps having a calm, civilized discussion about your issues with your roommate is in order.

InsideR

Dear InsideR – I just had an amazing summer! So much travel, partying... great fun. But now I'm back and am often finding myself sleeping in class. How can I get myself paying attention? **– Oversleeper**

Dear Sleeper – First off, quit bragging about your summer. While you were in Europe or wherever you were, I was working 9-5 in front of a computer. Meh, I made enough to cover tuition, so I shouldn't complain. Anywho, perhaps you should develop a regular sleeping pattern. Set a regular bedtime and wake up time, and it's just like recovering from jet lag.

InsideR

Dear InsideR – I'm all out of love. I'm so lost without you. I know you were right believing for so long. *[truncated to save the little dignity that this person has left]***– InsideR's #1 Fan**

Dear Fan – As flattered as I am, you really need to get a life. I may have been gone during the spring term, but that doesn't mean that I still don't get these.

InsideR
`mathNEWS_InsideR@hotmail.com`

Resident Evil 5 teaches kids the importance of racism

Capcom to have white hood Fridays

The newest addition to the Resident Evil series finally brings the importance of teaching children how to treat people of different races. The new game follows Resident Evil veteran Chris Redfield as he investigates a strange incident in Africa, but where the game truly shines is in teaching young children that white officers shoot black people. Almost every other game in the series featured primarily white people being killed, and they were given mature ratings, which prevents people under the age of 17 from purchasing them. This time the Entertainment Software Rating Board (`http://www.esrb.org`) announced that RE5 will be rated EC (Early Childhood) to accomodate for the killing of black zombies. Games given the early childhood rating are recommended for everyone aged three or older, which will suit the nature of the new game that will likely contain strong violence, language and scenes of gore.

As in many earlier installments of the game, there is some form of viral or parasitic infection that causes the locals to become extremely aggressive and attack the main protagonist. However, getting attacked by knife-weilding maniacs is merely a flimsy excuse for Redfield to shoot every black person he sees. Given that the game takes place in Africa, Redfield definitely has a large number of black people to shoot at, which helps younger children learn the importance of race.

Similar to how Resident Evil 4 featured the killing of Spaniards and the president's daughter, future games in the series will lay waste to non-caucasians also using the pretexts that they are either zombies, infected by parasites, or furrowing their eyebrows so as to help train the racists of the future. The game will also feature puppy-kicking minigames, as zombie dogs are returning enemies in the series. People that believe that this game promotes racism are advised to pull their heads out of their asses to see that, regardless of race, we all look like crap when we've been sitting on our own faces for so long.

Angelo

Pink drinks

I was sitting at home one evening, contemplating my love of pink and my love of alcohol and I realized that there are very few common pink cocktails. This is, of course, a serious problem, and I hope that, as a result of this article's publication, fine establishments such as the Bombshelter Pub will begin offering at least one of these cocktails.

First we have a few pink cocktails culled from `webtender.com` that run the gamut from classic bitters to places unknown:

Pink Gin and Tonic

Ingredients:
- 2 oz Gin
- 5 oz Tonic water
- 1 splash Campari
- 1 wedge Lime

Mixing instructions:

Pour the gin and tonic water into a highball glass almost filled with ice cubes. Stir well. Top with Campari and garnish with the lime wedge.

This pink twist on a classic is always the way to go for the gin-drinking mathie, especially one with a taste for bitters.

Pink California Sunshine

Ingredients:
- 4 oz chilled pink Champagne
- 4 oz chilled orange juice
- 1 dash Creme de Cassis

Mixing Instructions:

Pour the Champagne into a frosted cocktail glass. Add the orange juice and Creme de Cassis.

This drink vaguely resembles a Kir Royale, but is much better with a sweeter Champagne (the author doesn't have a good recommendation) and is a good summertime apparatief.

Pink Russian

Ingredients:
- 1 shot Tequila Rose
- 1 shot Kahlua
- 1/2 shot Vodka
- 2 oz Milk or cream

Mixing Instructions:

Pour ingredients into a shaker half full of ice. Shake and strain into a lowball glass.

For years, bartenders have discriminated against the other colours of light and provided only Black and White Russians. This author thinks it's time for the oppression to end, and is boldly offering a new colour of Russian (full disclosure: this too came from `webtender.com`) for bars to offer.

Now these variants on old classics are a great step in the right direction but this author thinks that Math needs its own cocktail — something special, first seen here in the pages of *math*NEWS. Before actually revealing the master cocktail (you can skip to the end if you want) we must establish some of the properties of a drink that would do Math proud. First, it must be named after the Tie, and the simplest name satisfying this criterion is "The Pink Tie". From the name we can derive some of its properties. Another class of beverage known as a Horse's Necktie is ice cream blended with soda. From this, and the fact that the drink must be pink, it can be determined that the ice cream flavour is strawberry and it should be blended with a red liquer. A great liquer that goes with strawberry flavours is Chambord raspberry liquer. So we have a base for the drink, that is strawberry ice cream and Chambord blended, but this combination lacks flair. Floating Cinnimon Schnapps over the mixture goes most of the way, but for those who would like to die there is one final step that I am omitting from the final recipie. Dissolve lithium salts (LiCl) in 95.6% ethanol (Everclear or similar) and float over the drink prepared as described, set on fire. Thanks to the lithium salts the drink will be topped with a beautiful pink flame. The only downside of this last ingredient is that LiCl on its own is rather poisonous, and one of the products of the combustion is Li_2O which is also toxic.

With the properties of the drink derived (as that's how Math does things) I submit to you the recipie for a blended cocktail known as "The Pink Tie":

The Pink Tie

Ingredients:
- 4 oz Chambord Rasberry Liquer
- 1 scoop strawberry ice cream (not sorbet)
- Cinnimon Schnapps
- Starfruit slice
- Fresh Rasberry

Mixing Instructions:

Blend Chambord and strawberry ice cream, pour into a Margarita glass (or really, any glass that will hold it) rimmed with powdered sugar that has been shaken with a bit of red food coloring to make it pink. Float the cinnimon schnapps on top of the blended mixture. Garnish with the starfruit slice and rasberry.

I'm done for now; hopefully the fine local establishments and amature bartenders will pick up these recipies and come to cherish them as I do.

*math*NEWS bartender

Where is it?

Well, I sat down eating lunch on Monday, and ran across a copy of last week's *Imprint*. A little blurb at the top drew my attention, promising information of interest on page 4. Just one problem:

Page 4 is an advertisement for something completely unrelated to the blurb. In fact, the article the blurb tried to get me to read was nowhere in the paper at all.

So, where do you think it is? Here are some ideas:
- In *math*NEWS, because that's a far more informative newspaper than *Imprint* can ever hope to be
- Propping open the door of an engineering building since Friday
- On the editing room floor as educational material does not belong in a student newspaper
- On the seventh floor of the MC
- In the garbage, with the rest of *Imprint*
- With the *mast*HEAD from volume 102, issue 4 of *math*NEWS (…which does exist… really)
- In my head, or alternatively, in someone else's
- Lost in time
- Folded into a paper airplane — one that won't fly
- Some combination of the above

Richard

Three minute math review

So it's been a long summer and you forgot all the math you learned in high school, especially the stuff they taught while you were asleep. No big deal: three minutes from now you will know more about math than you did last June.

***i*, the imaginary number**. Don't bother with *i*. Forget that it even exists, because by definition it doesn't. And avoid complex numbers — if mathematicians call something complex, a mortal like yourself should always keep a distance.

Sine and cosine. Don't stress too much about these, they are basically the same function, so if you get them mixed up it probably won't change the answer much. They usually return irrational numbers anyway, so you can just blame any deviation on rounding errors.

Derivatives. Any decent graphing calculator can do derivatives better than you ever can, so don't spend too much time learning these. You might loose a few points on the exam, but once you are out in the real world, you will be glad you spent that time playing *Grand Theft Auto* instead of trying to make sense of a calculus textbook.

The quadratic equation. Here is a little trick to remember the quadratic equation: don't. If I learned anything from high school math, it is that the roots of a polynomial are usually between -10 and 10. Just pick a few numbers in that range and you should be fine. Heck, you are working within the domain of the real numbers, so it's not like being off by a bit will matter in the big scheme of things.

I can't fix the fact that your readiness test score is even lower than Imprint's readership, but at least now you will be at the top of your algebra class. Heck, you should probably take a few lectures off to let the others catch up. All I ask is that if you use any of these tips on an assignment, don't forget to list me as an acknowledgment. Otherwise it is blatant plagiarism.

Paul Butler

Persona 3

Just as fun as shooting yourself in the face

All right, I'm not going to review the new *Shin Megami Tensei: Persona 3* game because I'm obviously biased in favour of it, being a fanboy of the series (and consequentially crying myself to sleep every night). However, I will analyze the new magic mechanic from the game. To release your magical abilities you have to shoot yourself in the face. These being high-school kids, it's not that hard to convince them to do it. If it were university students, we'd have more interesting results. They would be as follows:

- **Computer Science Students** — they would do case analysis to see which would enable the usage of magic. First: not shooting themselves, then shooting everyone else. The last case: their own face.
- **Pure Math Students** — not believing you, they demand a proof or at least that you show them an example.
- **Actuarial Science Students** — they will keep track of how many students shoot themselves in the face and reap the profits off of life annuity sales.
- **Business Students** — as is customary in business they shoot their coworkers in the back to level themselves up.
- **Engineering Students** — after being told their face needs a shot to use magic, they quickly down a Rusty Nail.
- **Arts Students** — before they have to spend the rest of their lives working in a fast food restaurant they quickly grab the gun and put an end to it.
- **Teaching Option Students** — they pocket the gun in the off chance their students are all jackasses.
- **Science Students** — they do a series of experiments involving the Arts students.
- **Philosophy Students** — they ponder what magic is, and its meaning. To mute the fury of bullshit being spewed, everyone in earshot would shoot themselves in the face.

Angelo

Why must wireless networking suck?

So, for the first time, I moved into a house in Waterloo. I thought it would be nice. I've got a huge bed, even bigger room, and door to the backyard. What I didn't have was a wired Internet connection (like in rez), but I was assured it would be fine. The landlord said he'd provide me with an adapter that works with Linux.

Problem the first

I was given, upon my move-in, a DWL-G122, rev. B1. For those of you who want to look it up, that adapter uses a Ralink chipset: rt2570usb. Guess what? I didn't have the driver; therefore, I didn't have Internet. Okay, no problem … I'd just go somewhere that did, copy over the drivers, and bring them back. They're clearly for an old version of my kernel — it won't compile.

I had just about given up, when I remembered my LiveCD, and used it to connect, get a CVS snapshot of the driver, and try that. Success!

Problem the second

Yeah, the CVS snapshot worked, for the most part. Do you know why you have to wait for a proper release of software, though? There is a reason: stability. You can't guarantee stability to the same degree between them. Apparently, the driver, as it stands, will cause a freeze if the device is unplugged while the network interface is up. Translation: don't unplug that card.

Nobody ever said not to let it overheat, but this results in the same error. Four times a day, I lose control of the keyboard, except for typing in that old mnemonic: raising skinny elephants is utterly boring. Yeah, I'd say my card has issues: nothing else I plug into USB 24/7 overheats like that.

Problem the third

At the time of writing, the network over here is sending everything in plaintext. I'm a bit paranoid about it: we should be using WEP, according to the landlord, but he hasn't set that up.

I mentioned WPA (which at least offers decent encryption), but he hasn't budged: he still thinks you can't get that to work on Linux (wpa_supplicant), or at least that it's too much of a hassle. I think the only problem it has is one of hardware support, much like the rest of the Linux world (ever notice how, the moment Linux support appears for some piece of hardware, it disappears from stores, and gets replaced with something new?).

So, with all the problems I still have, I wish I could take a cable, drill, and coat hanger, and get a wire running to the router. It's just that much easier to find stable drivers, and provide a decent level of security.

Richard

Your Surrogate Mother

Nagging away from home

Week 1: Saving Money

Welcome to my latest column, aimed at those froshies away from their nagging parental figure(s). This week we will be reviewing some practical ways to save money, especially while living in residence. (Chances are, if you are living off campus, you've figured most of this out hard way already.)

- **Stop buying bottled water.** I had to carry way too many of these cases of water while helping you move into V1. This is the worst way of drinking tastier water that I can think of. Both because of the cost and the waste. Buy yourself a Brita filter and jug, some plastic tumblers, and a sponge (for **washing** the cups, of course). The pitcher won't fit under the tap in the V1 bathrooms, so use a cup to fill it. This is what I use at my real house and it tastes great and is super cheap.
- **Stop using long distance calls for anyone except your parents and grandparents** — and if your family is savvy enough, just drop your plan altogether. Get Skype and tell them to get it too.
- **Cell phone or land line — pick one.** As far as we know, a land line is bundled into your room in residence. Do you really need an all-in-one package on your phone with lots of minutes when you have unlimited local minutes in your room? Check if there's a bare-bones plan that will keep you with your carrier and phone number but cut back on expenses. Pay-as-you-go plans are usually better if you aren't using your cell as a tool for long conversations. You can usually get a deal if you set up a credit card that automatically tops up your minutes when they get low. Alternatively, if you are paying for a land line and you have a cell phone plan, do you really need both?
- **Don't go to the bar to drink.** If you are drinking for the sake of drinking (and you're of age), go to the LCBO to buy. There's one on King street just south of the Waterloo Town Square shops, and the 7 or 5 buses will take you there.
- **Don't buy a printer.** On-campus printing from Nexus labs is 8 cents a page single sided, and 12 cents a page double sided. You will need your printing (XAS) account set up and your Nexus log in. Alternatively you can print from the MathSoc office or the CHIP with change, or the libraries with flexmoney. It's probably too late (I carried a bunch of printers during move-ins) but when your cartridges run out, don't buy more.
- **Cut off your cable.** You may have already realized that you won't have enough time to watch any show on a regular basis, let alone be bored enough to channel surf. Assuming you are a copyright-law-abiding individual, you can watch TV in a lounge or a friend's room, rent DVDs of television shows, or go to Philthy's or McGinnis where they have TVs in the booths. If you are not such a person, just add TV shows to your illicit download lists.
- **Go to a game.** The Warriors (our varsity teams) have games open to the public and with free admission with a Watcard. Check out the athletics website (`http://www.athletics.uwaterloo.ca/`) for schedules. I recommend the women's hockey for good clean fun and great music. Where else can you find 2.5 hours of free entertainment, only a five-to-ten minute walk from campus?
- **Try to find a ride to Toronto.** Or Windsor, or Ottawa or … It's sad but true that it's cheaper to carpool and split gas money (and sometimes even to rent a car (Enterprise rents to 21+)) than to take intercity transit. Find a ride board or someone with a car and offer snacks and gas money in exchange for a lift.
- **Move out of residence!** It's great for first year but get out afterwards — it's really expensive!
- **Get your *Imprint* refund**, unless you're someone like me who still reads it just to yell at it.
- **Come to *math*NEWS production night and write articles to earn pizza.**

So ends the only "serious" column in this publication. Don't like it? Muscle me out with funny content. Until then, they'll keep printing me. Naa nana boo boo.

Half-pint

Dumbasses at Home

To the tune of "Sunglasses at Night" by Corey Hart

(Not actually dedicated to my dumbass roommates.)

I live with dumbasses at home
So I can, so I can
Watch you weave then breath your stupid whines
And I live with dumbasses at home
So I say, so I say
"Clean up your dishes, please tonight!"
But they keep leaving me with a house so unclean.
Why does she control TV? - I turn to her and say:
"Don't switch the channel, I want to watch this show!
Don't walk around without wearing clothes!
I can't believe it!
How do you manage to breathe when I'm not home?"

And I live with dumbasses at home
So I can't, so I can't
Open the fridge without seeing dead things live!
And I live with dumbasses at home
So I can't, so I can't
Fit my food anywhere in the house!

While he's bitching 'bout me it rings of insanity.
Got no brain activity - I turn to him and say:

"Just pay the rent on time for once, mofo!"
Take the garbage out with you when you go!
I can't believe it!
I don't want to live in your filth anymore!
I can't escape this…
'Cus you got it made with the guy that cleans for you.
I said:
I live with dumbasses at home (repeat to fade)

Angelo

Bored?

Then check out these things!

In my university experience, I get bored. Bored with schoolwork, bored of classes, bored of all-night drinking and videogaming. Ok, maybe not that one, but when I'm not being bored I'm doing things that I like! There's a variety of things that I enjoy doing on campus that are wholly unrelated to my major and I'm going to talk about three acronyms that are close to my heart: FASS, CCCh, and EngScUNT.

Have you ever wanted to be in a musical comedy? Can't sing, can't dance, can't act, but love trying? Then FASS is the organisation for you! FASS stands for "Faculty, Alumni, Staff, and Students" and it's a theater group where fun is the name of the game. Everybody is welcome! Every February we put on a 2–3 hour show (written by us) with singing, dancing, music, and jokes. Auditions aren't until the start of January, but you can find out more on October 2nd in the Multipurpose Room in the SLC at 7p.m. FASS has been described as a live cartoon on stage, a theatre group that loves to party, and a party group that loves to do theatre. So whatever your fancy, you'll have a good time. Did I mention they accept anyone who wants to audition?

Next up is the Campus Crusade for Cheese. That's right. *Cheese*. An entire club devoted to the consumption of the awesomely delicious substance. Meetings are as follows: pay $2 for cheese, wait for cheese, EAT the cheese, talk about cheese, and, most importantly, vote for cheese! That's important because the winning cheese comes back next meeting. We get 10 or so *different* kinds of cheeses from the mildest chedar to the most odoriferous blue. Mmm tasty! They also sell shirts! They usually meet on Fridays, so keep an eye out for posters, or get added to their mailing list on Clubs Days.

Finally there's the EngScunt. The Engineering Havenger Scunt may not have a proper acronym but it's plenty of awesome. Those crazy Engineers at EngSoc (the Engineering Society) run a 24-hour scavenger hunt sometime during the term, which is open to anyone who wants to get a team together. If you had fun at the Scavenger Hunt during frosh week, then you'll love this one that much more. The Hunts are bigger, there are road trips, there are wacky and breathtaking acquisitions to obtain, there is a longer, more challenging Quest! The bribes are more awesome too ;). Math usually runs a team (and wins technically), or ask MathSoc for the entrance fee (see VPF Says) and form your own :).

There you have it, 3 truly awesome things you can devote your time to. If those don't please you, come out to *math*NEWS and write your own damn list. Happy Unboring!

42

Do you know what "Cyber Punk" means?

Then you may be interested in knowing that William Gibson is doing a reading from his new book, followed by a book signing, on September 25th at 7:00pm in South Campus Hall's Festival Room, according to `http://www.bookstore.uwaterloo.ca`.

*math*NEWS to readers: What is your present location?

Interesting math

Although, it's not my main focus in mathematics, number theory has some pretty cool stuff. Here's something simple that's interesting: let's define what a *lucky number* is. Consider the set of natural numbers, {1, 2, 3, 4, ...}. Remove every second number, and we get {1, 3, 5, 7, ...}. Now, the second number remaining is 3, so remove from the current list every third number to get {1, 3, 7, 9, 13, 15, ...}. The third number remaining is 7, so remove every seventh number to get a new set. The fourth number remaining is 9, so remove every ninth number — and you get the picture. It's easy to see that numbers like 1, 3, and 7 are never removed even after infinitely many steps of this procedure! The end result of the set looks something like {1, 3, 7, 9, 13, 15, 21, 25, 31, 33, 37, 43, 49, 51, 63, 67, ...} — and I'm going to stop there. We can kind of see why these are called the lucky numbers: they were lucky they dodged the axe (and no, I'm not referring to the Axiom of Choice).

Now, it turns out that primes and "luckies" have quite a bit in common. It's easy to see that there are infinitely many luckies, and it turns out that primes and luckies crop up about equally often between any two fixed integers. In addition, gaps between successive luckies widen at roughly the same rate as the gaps between successive primes as numbers increase. There's a kind of Goldbach's Conjecture and twin luckies phenomenon for luckies too, if you'd like to play around with that. Here's a question for you: consider the lucky primes — prime numbers that are also lucky numbers. For example, 3, 7, 13, 31, 37 and 43 are lucky primes. Try to prove or disprove that there are infinitely many lucky primes. If you do manage to accomplish this legitimately, feel free to let me know and share your result!

Vince Chan

Egg Fountain filled with Imprint

Water supply poisoned for years to come

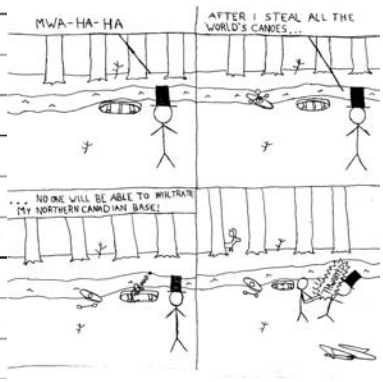
During Frosh week, vandalists were seen putting copies of the campus' official newspaper, the *Imprint*, in the Egg Fountain outside of the MC building. Officials are concerned about the effect that the ink will have on the water. "It's not just any ink," says Elmira Pratt of the Bureau of Health and Safety. "It's the ink of sensationalism."

When asked why the University of Waterloo was using water from the Egg Fountain, Pratt responded with "Have you tried the tap water here?" When asked where the Egg Fountain water came from, she hissed and ran screaming into the night.

Angelo

Sudoku

	8	9		3	7	2		
2		5	9				1	
3			8					
9	4		5					
					3		7	4
					5			1
	5				9	8		2
		6	2	1		7	9	



Submit Sudoku solutions to the black box and answer: "How do you cheat the system?"