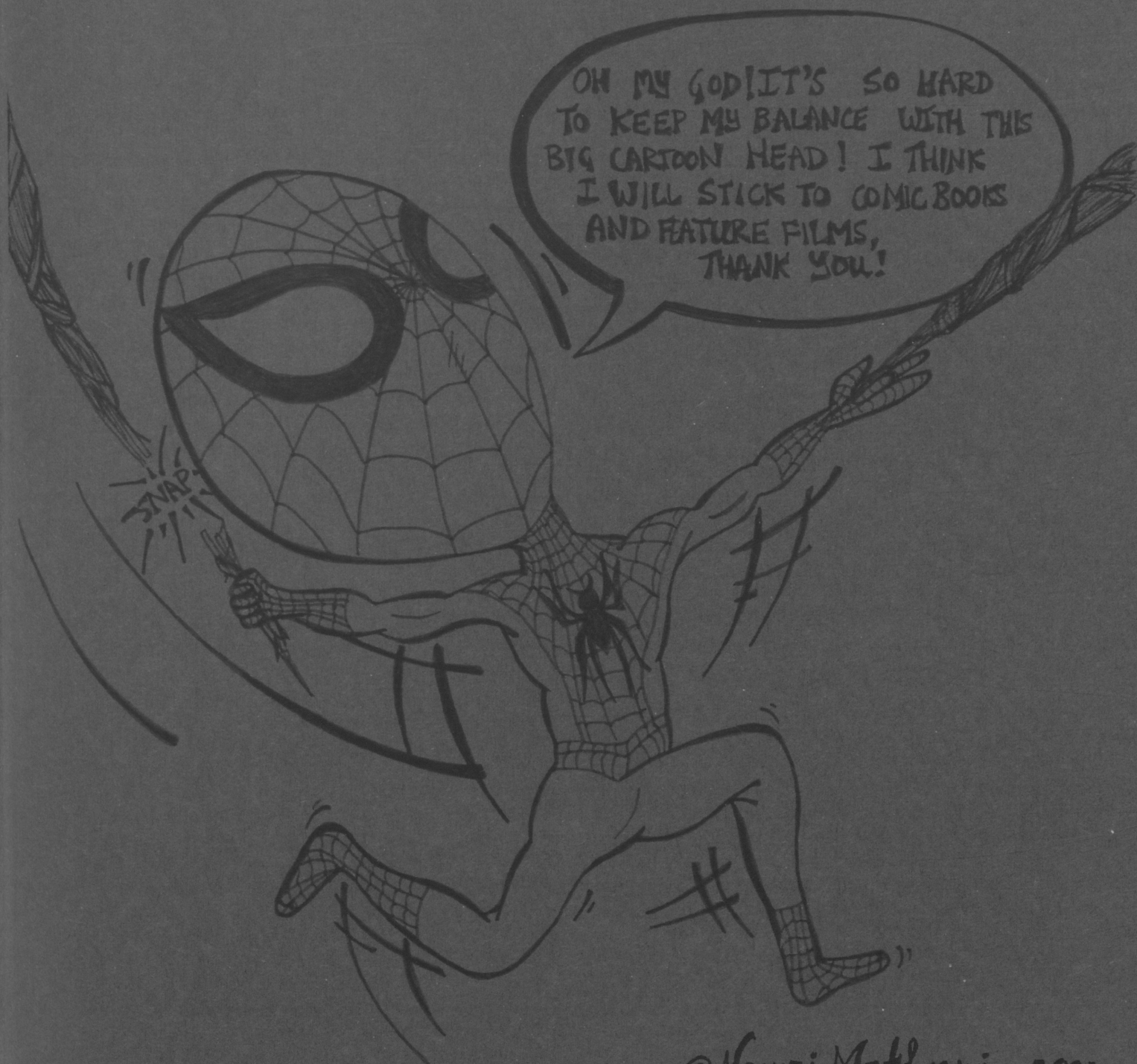


math

NEWS

Volume 95, Issue 5

Friday, July 9th, 2004



Incoming *math*NEWS from the Big Giant Head

lookAHEAD**mathNEWS**

July 19	Issue #6 production night 6:30 pm, MathSoc (MC 3038)
July 23	Issue #6 spins about
Sometime soon	Frosh Issue production

Math Faculty

July 26	Open Enrollment starts
August 3	Final exams start
August 14	Final exams end!

MathSoc

Thursdays	Movie Night
Tomorrow	Beach Trip
July 14	Games Night 4
July 21	Pints with Profs
July 22	Cotton Candy Day

MGC

Wednesdays	Pizza Days 11 am to 1 pm outside the C&D
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Co-op

Today	rankings close at 9am
July 12	Job posting opens at 6am
July 13	Rankings open at 3pm Job postings close at 11:59pm
July 14	Job postings open at 6am Rankings close at 9am
July 15	Rankings open at 3pm Job postings closes at 11:59pm
July 16	Rankings closes at 9am
July 19	Job postings open at 6am
July 20	Ranking opens at 3pm

Miscellaneous

July 24	Student Life 101 Volunteer and help out!
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Random Disclaimer

Although this *mathNEWS* author is referred to by Half-pint, she would like to disavow any connections with the article entitled "Half-pints anonymous" I didn't write it, I don't know much about it, and I can tell that I don't agree with some of it!

For the record, I happen to like tall people. As long as they don't use me as an elbow rest. (no one get any idea now)

With a sense humour, I promise,

- Half-pint

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mathNEWS is normally a fortnightly publication funded by and responsible to the undergraduate math students of the University of Waterloo, as represented by the Mathematics Society of the University of Waterloo, hereafter referred to as MathSoc. *mathNEWS* is editorially independent of MathSoc. Content is the responsibility of the *mathNEWS* editors; however, any opinions expressed herein are those of the authors and not necessarily those of MathSoc or *mathNEWS*. Current and back issues of *mathNEWS* are available electronically via the World Wide Web at <http://www.mathnews.uwaterloo.ca/>. Send your correspondence to: *mathNEWS*, MC3041, University of Waterloo, 200 University Ave. W., Waterloo, Ontario, Canada, N2L 3G1, or to userid mathnews@student.math.uwaterloo.ca on the Internet.

The editor(s): Mark Toivanen, Chris Harasemchuk, Louis Mastorakos

mastHEAD*Ode to a superhero*

I like summer. I like fireworks. I also happen to like Spider Man - he's one cool guy. I wonder if I could get a job like that when I graduate... though being afraid of heights would probably be an antirequisite.

So we all got to talking about other superheros and the movies they star in; you know - there's Spiderman, the X-men, Superman, Catwoman, and Batman. Ever notice that for the Marvel characters, the same people play them, but the DC brand uses different people each time. Batman has been George Clooney, Adam West, Michael Keaton, and Val Kilmer - we decided he was the worst, and asked the writers "Who would make a worse Batman than Val Kilmer?" Cass (A vengeful Artsie Ben Affleck), Sheep Nine (Me, in moulded plastic), Pete (Alex Trebek), Kaitlyn (Will Ferrel), e (Val Kilmer), DanS (J Lo), Jimmy The Leper (Dr. Phil), Commander Celery (Karel the Robot), DanielD (George W Bush), Gridder Jos (Eric Idle or George Clooney), Craig (No one can possibly be worse), Rain Water (Bill Gates), Dirty Flame Axle (Jack Nicholson), Jenn (Ellen DeGeneres), Eric (A pot of tea). Honourable mention goes to Keanu Reeves and Stephen Hawking.

Thanks to our wonderful productionists who worked through the night to provide the wonderful *mathNEWS* you're reading right now, Campus Pizza for feeding us my favourite pizza: chicken, pepperoni, and BBQ sauce, and Graphics Services for the very paper we're made out of.

Chris 'Krease' Harasemchuk (Hulk Hogan; Ron Jeremy as Robin)

Mark 'Beatlemaniac' Toivanen (Rowan Atkinson)

Ode to a Proofreader*A Thanks To Cass*

We thank you Cass for reading our stuff
I know that is can be rough
All the time our grammer sucks
Boring articles about things like shooting ducks
She fixes are spelling and grammer too
That is why we say, Cass we love you

[I love you too — Proofreader Cass] Rain Water

The MathSoc Badger Chant

A Raymond Raymond Raymond Raymond Raymond Raymond
Raymond Raymond

Greg Hines!

Greg Hines!

A Raymond Raymond Raymond Raymond Raymond Raymond
Raymond Raymond

Greg Hines!

Greg Hines!

A Paullrich... itsa Paullrich... oh, its a Paullrich!!

It's a Raymond Raymond Raymond Raymond....

Commander Celery

Pres Says

< 1 Month



Well, the major issues of this term seem to be working themselves out. The computing facilities in the faculty are looking at installing software controlled locks on the labs. This will enable them to lock *some* labs at a reasonable time (around 11pm or midnight) during low traffic times in the lab. They are willing to leave all of the labs open at peak times of use, say about this point in the

term. MFCF/CSCF have usage statistics to guide them as to when the labs are usually busy and when the labs are not particularly busy, but, never fear, I have been assured that they do not plan to close all of the labs in the evenings at any point during the term.

Major issue number two, FEDS insurance. FEDS insurance policy recently changed such that events in licenced establishments could not be held off campus. This has been changed slightly (after FEDS exec met with their insurance agent) to events where drinking is involved can not be held at establishments off campus, with exceptions where insurance has been arranged. This means things like pub crawls sponsored by clubs will not happen, but things like Grad Ball will happen.

In one month classes will be over and we'll all be in the midst of exams, hooray. That is all.

Catherine

Canada Day Festivities

The MathSoc Daycare

For those of you who don't remember, this past Thursday was Canada Day. The nation's 137th birthday. This was the University's 20th annual Canada Day Party, and MathSoc decided that for the event we would run a large amount of children's events, also known as Daycare. MathSoc had really cool events like "Are You A Children?", "Catch the Killer Bees," and "Sponge Toss". These were great events for the children, and everyone had fun... or so we hope. We even got to teach kids bad grammar, and we Mathies are the best at that. No one complained, so that's what I'm sticking with.

Now, I knew that all of these events would entertain the youngsters, but little did I know that they would entertain a large group of university students. Little did I know, that we can act like younger children. People agreed that yes we had a daycare for children, but also for JDB, better known as Juvenile Delinquent Boyfriends. To this I laughed, but gave it an ounce of thought. I must agree, because we got to shoot birds, kill insects, and throw things, mainly sponges, at people. What Mathie would be unhappy with events like those.

In short, I had fun, got massively sunburnt, and enjoyed teaching kids bad grammar. The best part was either the parachute, or shooting the crap out of those birds... damn, them being on cardboard... oh well. Happy "Belated" Canada Day! Vive la Canada!

Exhausted

VPAS Sez

So... This guy walks into a bar...



Anyway, on the up and up, Canada Day was a complete blast. We had a whole lot of volunteers come out and help with the festivities and organization, and everything went off real nice like. Special thanks to everybody who came out and helped - I hope you had as much fun as I did.

So, as for the next couple of weeks' social events, we've got a Beach Trip that's actually coming up very quickly - on **July 10th at 10am**, a busload of

math students will be driven up to Wasaga Beach for a sand-filled, water-filled day at the beach. If you're interested in going, drop by the MathSoc office and make sure to pick up a ticket for the bus. It's only \$5 for a whole day up on the Bay.

Next week, on **July 14th at 10pm** we'll be having our fourth Games Night. If you've got some excess energy to burn, then you'll definitely enjoy this. Snacks and drinks will be provided, as usual - and come over this week for a free glow necklace with your participation. We'll be looking at playing some more capture the flag this week, with the usual game of virus tag to follow.

Also, coming up on **July 21st** will be the termly Pints with Profs. Come out and chat up your favourite professors over a beer down at the Bomber. This has always been a popular event in previous terms, and certainly one to come to if you haven't been out yet this term.

As always, we try to provide the best social events we can so you can get to know people in your faculty that much better - it's certainly better than being forced to do OS with a random classmate who you later learn is also taking Real-Time and Graphics during the same term.

Paul Ullrich
VPASynchronous

The Post Exams Affair

Very soon, the results of the SOA exams will be released (if they haven't been already). For those who wrote during the May sitting, we soon get to find out whether the SOA will pass a conservative 25% of those who wrote, or whether they will throw caution to the wind and pass 30% or those who wrote.

At times like these, perhaps we wonder, why bother? The answer is simple: free food and beer. Yes, that's right. According to long tradition, (I've known about it for a few minutes anyway), those studious and brilliant must bribe the rest of us with alcohol and food. This makes it easier for the rest of us to hit the books again, trying to pass the same exam for the five billionth attempt. Of course, passing would make us feel even better, but, well, if you can't pass, eat drink and be merry!

In that vein, look for news about the Act Sci Club's post exam affair (if we get our act together). Everyone, even non long-suffering actuaries, are welcome. But they have to be mad at the SOA.

And yes, the emphasis on the free stuff is because I didn't do very well :)

Act Sci Club

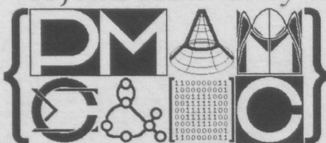
Linear recurrences, linear systems, and cracking codes

A joint seminar by the CSC and the PMAMC&OC

Date: Tuesday, 13 July 2004

Time: 4:30 PM

Location: MC 5158



Very large sparse systems of linear equations arise in the best known algorithms for factoring integers, which in turn is instrumental in cracking the commonly used public key cryptosystem RSA. The systems often have millions of equations and millions of variables, so elimination-based methods for solving them require too much memory for even the largest computers.

For this reason, a lot of interest has developed in so-called "black box" linear system solvers, which have lower (and, more importantly, more predictable) memory requirements for sparse linear systems. Due to the relative predictability of their operation, hardware implementations of these algorithms are feasi-

ble and suitable for ultra-high speed integer factorization. However, the algorithms in question are randomized, so it is necessary to prove that they work correctly with high probability given any input system.

This talk will go over one brand of such algorithms, known as "Lanczos-style" methods that are believed to be the most efficient for linear system solving. It turns out that the probability of success has several factors all in regards to the mathematics of linearly recurrent sequences. I will show how we first transform questions of probability analysis into purely algebraic problems and then use the elegant algebraic methods of linear recurrences to tackle them.

This talk will assume familiarity with algebra and linear algebra at roughly the level of MATH 135 and 136. Familiarity with the material in MATH 235 will be helpful, but not essential.

Killer Bees Of Doom!

Are you a Children?

So on Canada Day, I fell victim to the most feared of horrors; the deathly, 'gargantuan', huge, venomous KILLER BEES OF DOOM!!!!!! (shrieks of horror)

Though they may appear to be small and innocent, (even shaped like beanie babies), the Killer Bees of Doom are out to destroy you. Muahaha!

As I stood on a chair, with its threads entangling me like a helpless victim, I realized that I was near my end. It had a horrible stinger made of..... FELT!!!!!!!!!! (EEEEEEK!!!) As the insect of death flew towards me, I realized that someone was coming to my rescue!!

A little kid, probably no more than five, valiantly came to my rescue with his saving net. He grabbed his net, and caught the killer bee in midair.

Needless to say, they had a lot of fun. So then they went to go and get a free freezie. Hurray for Canada Day!

Commander Celery

Talk on Systems Biology

What is systems biology? One way to describe it is the study of organisms using quantitative, mathematical modeling. Areas of research include everything from genetic regulation to neural signal propagation to the dynamics of cardiac tissue. It is also a very diverse field, involving collaboration between people with backgrounds in math, biology, engineering, computer science, medicine and more.

If this sounds interesting to you, check out an upcoming talk: "Systems Biology: From Gene Expression to Biological Rhythms" or "Oh, That's What I Can Use Applied Math and Statistics For." We'll be presenting a couple of our favorite topics — to give an overview of each and to demonstrate the variety of material under the systems biology umbrella.

You can find us in MC 5158 on Friday, July 16th from 2:00-3:00 p.m.

Steve Almond (srdalmon@uwaterloo.ca)
Geoffrey Hunter (gahunter@uwaterloo.ca)

Are You A Children??

Sic Proofreader Cass

A study issued by the Waterloo Region District School Board has shown that grammer has begun to gone into great decile for elementary age childs. A study has start into the source of this incredible decent in gramatical skill. About the study Chairperson of the Board of Trustees Kathi Smith says "We must get into the bottom of the childs bad grammer. I have been threw this school system and it has great grammer. We must find the other source." The preliminary results of the study has shown the source to be the math societies child's Canada Day activities. The booth "Are you a children?" gave out freezes if they could correctly answer "yes" to this question. Far too few corrected the mathie running the booth. Many just went along and said "yes." Board of Trustees vice-chairperson Mike Ramsay declined comment on the study but maintains "The childs' grammer is perfectly fine. Fine like mine." Regardless of the fact that children have had their brains warped by the promises of free freezes they had fun this Canada Day. And vow that they will destroy their grammer futher if more free loot is offered.

Rain Water

Canada instills temporary government

Many rejoice, others lament

So, last Monday (June 28th), the Canadian public decided to give the Liberals their 4th straight government. They also decided that it would not be a majority, but a minority. Not only that, but the only party that they could form a majority with is the Bloc, Quebec's separatist party. I'm curious as to how long the current government will last before Adrienne Clarkeson is asked to dissolve parliament. I randomly asked this question and was given a response that I wholeheartedly agree with: "As soon as they try to pass a budget". It'll be interesting to see if and when it happens. Anyways, we'll see how this election plays itself out.

Beatlemaniac



Computer
Science
Club

A Student Chapter of the ACM

CSC Flash

Hi my name is mathNEWS and I like Nachos!!! La la la

For those of you who don't know: when you take OS, they give you a fake operating system to work with, and it's called Nachos. To test page faults, someone implemented Nachos the chance to speak for itself (in English). Here are some true Nachos quotes:

- "I torture fast the sharp salsa."
- "He eat fast the sharp salsa."
- "You flame slow this blue jalepeno."
- "Alex kill slow the spicy cheese."
- "Michael DiRamio test slow a blue computer."
- "Trogdor torture slow that blue semaphore."
- "Would you like random people touching *your* page tables? I wouldn't!

Nachos. Extra cheese, lots of TLBs.

Happy happy *mathNEWSies* come to CSC Case Modding Workshop day!!! On July 17 people are bringing in their unhappy vanilla boxen and we're making them happypritty! Furthermore, you can get an ueber-cheap Case Modding Starters Kit for just \$10! It comes with an LED fan, a fan grill, some shiny thumbscrews and other 1337 w4r3z! And that's hardwarez!! Order it in advance and you get to choose your kit's theme colour, too: red, orange, green, blue, or purple!! The kit is real cheap (for the amazing stuff in it), because we got a sponsor: Bigfoot Computers. So it's a great deal so get one by emailing exec@csclub.uwaterloo.ca and say that you want one!!

In fact, all you mad ppl with crazy mad modded boxen, come bring 'em out and show 'em off at the Case Modding Workshop Day's show-off-er-crazy-mad-modded-boxen contest. There will be a sweet prize for the sweetest case!!

Nachos did it. Bad Nachos!

Oh, and the CSC is hosting a few nifty talks from a few nifty grad students, sometime in the near future. w00t!

Thanks a whole bunch your *mathNEWS*edness!

Michael Biggs

How to spend \$11.50

Ever wondered what a good thing to do for ten dollars (plus tax) is? I've taken the liberty of compiling a list for you:

1. **Photocopy stuff at Mathsoc.** copies are just 5 cents, including tax, which makes $11.50 / 0.05 = 230$ copies. Think of all the cool stuff you could photocopy with that number of copies.
2. **Buy some food at the C&D.** C&D food is cheap. You can get two meals for \$11.50. And if you are clever, your money can go further. If your purchase is under four dollars, there is no tax, so make two trips to the cashier and save yourself that fifteen percent.
3. **Make some phone calls from the pay phone.** You can get $11.50 / 0.25 = 46$ phone calls! Or, you can try the telephone game, where you dial 011 and then a random assortment of numbers to find the price. It usually ranges from six to 10 dollars. You could get one minute of talk time with your money!
4. **Give it to charity.** Don't want anything? Just wanna feel good about yourself? Give it away. Not sure where to put it to donate the money: drop it in the **BLACK BOX**. Any money put in there before next production night will go to a worthwhile charity (any time after that, and it'll go into my pocket).
5. **Buy a water gun.** Canadian Tire at Fairview had three foot long water guns for sale for the amazingly low price of \$9.99 plus tax. That means you can buy a water gun and still have a penny left. You can give your penny to charity, or throw it into a fountain for luck, or keep it, for next time you need to flip a coin.
6. **Get a head start on next term's tuition.** Start saving now, especially if you are in CS.
7. **Pizza, from Campus Pizza.** Campus pizza has a deal where you get a large three topping for \$8.99 plus tax. It somehow comes to \$10.35 and not \$10.34; I feel like I should call them on it next time I get it, but it's not worth the hassle. You can spend the remaining \$1.15 on 23 photocopies.

Well, I hope you've found this list useful. Tune in next issue when we talk about what you can do with \$345 000 000.

π

2 MOVIES Every Thursday
7:00 & 9:00
DOLLARS MC 2066

So you haven't had enough of the Moore yet...

Two weekends ago, you probably fell into one of three loosely formed camps. One rushed out to see the Fahrenheit 9/11 the opening day, one either waited until a more convenient time or even until it comes out to rent, and one doesn't know or care about Michael Moore's new film, which won the Cannes Film Festival's most prestigious award, the Palme D'Or, and has been dubbed the most controversial film of the year, and -

Ok, so maybe it's obvious which camp I fall into.

I admit it. Even though that weekend was the craziest, busiest weekend of my University career to date, I drove to Sportsworld drive to see F 9/11 on opening afternoon. I am a total Michael Moore fanatic and I'm proud of it.

For those curious about the movie, and deciding whether or not to see it, I offer the following hack review. I call it hack as I have never reviewed anything before in my life.

The film follows Governor George W. Bush's extended visit to the White House and tracks his vacations following up to the September 11, 2001 terrorist attacks. Moore shows ties between the Bush family and Saudi Arabian families like the bin Ladens. Post 9/11, Moore tracks the change felt in American citizens' daily lives thanks to the fear the government bred. Moore then follows the American soldier as the government takes him / her to war, from front lines to the flag draped coffin.

The film is full of shocking images, whether they be shocking admissions by congressmen ("we don't read most of the bills") or video footage of bleeding Iraqi children and burning, beaten American bodies in Iraqi streets. It is NOT for the light of stomach or the fundamentally right of political scale.

I would argue though that this movie brings an important realization to all people, be they left, right, or fence sitters, whether they are rich or poor, or American or any other nation-

ality. We all realize that regardless of whether or not you agree with Moore's opinion or angle, there is footage that we have never seen and should have, information that we did not know of that we needed to know. I don't want to spoil too much of the movie, but I will say this: if several complaints were brought to the US Senate concerning the disenfranchising of African-Americans in black communities in Florida, and not a single senator would sign a single complaint, where was the coverage? That's headline news to me! Democratically elected senators do not feel enough pressure to stand up for US citizens with no criminal record who had their *right to vote* taken away from them?! *Why was the media not running to cover this?*

Ok, so I think I've moved away from review.

Here are the Cole's notes: this is not a documentary. If you liked Bowling for Columbine, and want to have the experience of watching a moving film with a room full of people, see this movie now. If you don't, rent it - it's not worth the \$10 they'll charge you to see George Bush's face 20 feet wide. <shiver> If you haven't seen Bowling for Columbine, either watch it first to ease yourself into Michael, or brace yourself and dive in.

If you didn't like Bowling for Columbine, unless you are severely anti-Bush / war / Britney Spears, skip this one. It's a lot of time you will feel was better spent doing something else... and I wouldn't want anyone else to turn against my buddy Mike because of a movie not tailored to their taste.

PS. If you have seen the movie or a trailer or heard about a claim made in the movie and doubt the validity of anything Michael says (and you would like to believe him / shoot him down), you can visit www.michaelmoore.com to learn more on his fact page.

- Half-pint

Ask Randy "Macho Man" Savage

Dear Macho Man,

I have become somewhat distraught over the recent composure of my husband. He used to cook these fabulous 3-course meals every night for me and the kids. Over the last two weeks, he has been really acting strangely. All he does is order take-out or throw a couple of Pizza Pockets in the microwave. Should I be concerned?

Hungry and Lonely

Dear Hungry and Lonely,

When the Maaaaaccho Meeeeeaaaaaaaddress comes down from the top rope with the big elbow, you're gonna know just what the greatest Intercontinental champ of all time is aaaaall about, Ultimate Warrior! DIGGIT?!

Dear Macho Man,

My son is getting straight A's in school lately and my daughter's grades are, well, less than stellar to say the least. She's a good girl but she just doesn't care about school that much. How do I get her as interested in academics as my son?

Dad in Distress

Dear Dad in Distress,

When I go to drop the big elbow from the Danger Zone I like to get the crowd hyped with a little bit of pizzazz, then I look down at you on the mat, Ludwig Borga, and I see another victim of THE MAACHO MEEAAAAN RANDY SAVAGE, and if ya

can't DIGGIT, then I'm gonna smash a melon over your Norwegian head! Face the wrath of THE MEEAAAAAAAAAADDRESS! SUCKA!

Dear Macho Man,

The guys in the office keep playing pranks on me. Like today, when I turned on my computer there was a picture of a naked lady on my desktop background. The fake puke on my chair was kinda funny, as were the 100 inflated condoms I found in my cubicle one morning. I need a really good prank to get these guys back. Any ideas?

Helpless Victim

Dear Helpless Victim,

O H H H H H H H H YEEEEEEEEEEEEAAAAAHHHHH!!!!!! Lemme tell ya something Honky Tonk Meaaaan! Last night I was talkin to Miss Elizabeth and she said that the MACHO MAN RANDY SAVAGE is the greatest Intercontinental champion of all time DIGGIT! So when I walk down that aisle and step into the squared circle, you're gonna see what the jazz is all about! YEEEEAH!

Randy "Macho Man" Savage is a certified caregiver and now resides in Sarasota, Florida where he provides his volunteer services at several local nursing homes. He can be reached at rmms@diggit.net.

Nick Taylor

Midnight Sun Race Team to Create Second Sun

Only comes out at exactly Midnight

The Midnight Sun solar race team plans to create a second sun which is to come out only at midnight for the sole purpose of easing the classroom crunch. This means that students will now be going to classes at all hours of the day. Computer Science students were baffled at the thought of it. One fourth year CS student made his thoughts known to *mathNEWS*, "You mean to tell me the sun isn't already out at all the time?"

mathNEWS has uncovered the deep dark secret, hidden within the sun itself, the secret of the fuel source for this massive sun. It is fueled by the twin powers of rotting flesh and scathing memos. There is the renewable resource of jobless co-op students killed to ensure reputable job match statistics. Additionally, there are enough complaints submitted in writing about our wonderful paperless JobMine, that the team has predicted an endless fuel supply.

Thanks to the generous donations from SPLEF, MEF, and other sponsors, the team plans on having this sun prepared for the Winter 2005 term. President Dave Johnston is very pleased with this innovation from the team, and is very happy that they are expecting the sun soon. "The synergistic vision of innovation brings the future of technology to today." He was also heard mumbling to himself trying to figure out how to deregulate the sun. Amit Chakma was overjoyed at the possibilities of research grants and possible partnerships with private corporations. "Between this and the new nanotechnology program, I'm getting me a Corvette."

New technology had to be developed to make this project possible. The most difficult turned out not to be how to store the sun at non-midnight hours without destroying it, but instead how to get the logos to display properly on the surface of the new sun. In the course of solving this essential problem, a surprise discovery was made. The ability to create the new sun's counterpart, the Noon-Moon. The Noon-Moon can now be seen between the times 11:59AM and 12:01PM. The familiar Man in the Moon has been replaced by the androgenous non-gender-specific Face in the Place to conform with University Policy #33.

Coalition for forming 4:00PM Wormholes

Midnight Sun Solar Race Team

The Midnight Sun Solar Race Team has been building a new solar car every two years since the first GM Sunrayce in 1990. While one year is often devoted to racing, the other year is spent solely on developing the next solar car in anticipation of the next race. However, that trend will end this year with Midnight Sun Team's North American Tour.

In the summer of 2004, the team will be traveling across Canada and the United States to capture the World Distance Record for the longest single journey by a solar powered car. The tour, lasting approximately 40 days, will include media stops, stops at camps, schools, community and corporate events along the way. During our journey we will reach out to thousands of people regarding about the potentials for alternative fuels and solar energy.

Midnight Sun VII will be used to complete the World Distance Record. In July 2003, Midnight Sun VII placed 3rd among 28 teams in the American Solar Challenge and 1st among the Canadian teams. The team was also awarded the prestigious Technical Innovation Award for an innovative aerodynamic body. The American Solar Challenge stretched over 3700 km along historic Route 66 from Chicago to Los Angeles, and spanned a wide range of challenging terrain, from the urbanization of downtown Chicago to the barrenness of the Mojave Desert and to the ruggedness of the Rocky Mountains.

Despite the added pressure of the North American tour, the team is also busy designing Midnight Sun VIII. The one big change from the previous car will be the addition of hydraulic brakes to the car. In addition, the vehicle will have better aerodynamics, a more efficient solar array and a new motor controller. With the new improvements to Midnight Sun VIII, the team is confident in placing first in the next American Solar Challenge in 2005.

The team is always looking for new members to participate. All faculties are welcome. There are numerous positions available to interested Math students. For those who are interested in joining the Midnight Sun Solar Race Team, you can send an email to mail@midnightsun.uwaterloo.ca or you can reach us by phone at 519-888-4567 x2978.

For more information, including daily updates and photographs during the tour, please visit the Midnight Sun Solar Car website at www.midnightsun.uwaterloo.ca.

Nicholas Gilhooly Midnight Sun Logistics

Stupid Grammar Rules

You know what I hate? Grammar. Grammar is second only to spelling on my list of things that I hate. (Note: I have several lists of things that I hate. The list of things that I hate is actually the least severe of my lists. One of my lists is "things that I hate so much I light them on fire on sight")

So, while I'm typing and waiting for pizza to get here, I'd like to compile a list of grammar rules I think are stupid.

- Dashes. Apparently, there's three different kinds of dash. The em dash, the ef dash, and the hyphen. Guess what? I don't care! If it's a horizontal line about one character in length, it's a dash. Stop pretending you're special just because you're longer.

- Its and it's. It's about freaking time people learned when it's okay to use its and when they should use it's. It's not hard, people. One is possessive, the other is a contraction. It's going to think its thing isn't right. There.
- That "I before E" crap. Listen. Let me sing the alphabet for you: a-b-c-d-E-f-g, h-I-blah-blah blah. E comes first. Get it right.
- / and \. Please, I beg you, pick one. We really don't need two path delimiters. Especially when one of them is a metacharacter killer in certain operating systems. And yes, I know, this isn't grammar. But I still deal with it daily.

Sheep Nine

The Secret to a Successful Literary Career

Likely Doesn't Involve Reading mathNEWS

As I sit and thought about things to write an article about, I've been struck by a profound revelation. The most obvious way to try and be interesting is to appeal to a common interest with the reader. Given that this is *mathNEWS*, there are all sorts of obvious options, but they have been done. What are you, the typical *mathNEWS* reader interested in? Lets see, we have Settlers, Magic, that totally illogical proof that your prof presented last week, homework, laziness, homework and laziness, you've seen it all before. I have determined that in order to have a unique perspective, I should write about something I know nothing about. I should in fact write about something that you, the average reader, know far more about than I do.

So, how about that soccer. Soccer is cool. There's been some big tournament happening in Europe. It's been on TV a bunch, so the chances are that you know something about it. I however do not, having never really gotten into watching sports on TV. I however, feel that it is important that I tell you that Brazil

is going to win. (I seem to recall that Brazil has a good soccer team. Wait a minute, this is a European soccer tournament. Is Brazil playing? Has this tournament already ended? Oh well).

So now that I have enlightened you on soccer, I'm sure it is clear to you how true my literary revelation is. In a sea of articles that have been relevant, humourous, and enjoyable to read, I hope that this article stands out. You should remember this next time you need to submit an essay to your token artsy course. The way to stand out from the crowd is to choose a topic about which anything you say will be so inaccurate that it will be insulting to anyone with a basic knowledge of the subject. I'm sure this technique will allow you to really impress your teacher. I mean look at the alternative. For my philosophy essay, my thesis is that personal identity is isomorphic to the set of functions mapping R^n to R . I'm writing about what I know, and do you think it's going to get me anywhere?

DanielD

Sine Field

A column about nothing

You know, it's important not to rely too much on technology these days. It has the habit of breaking down when you least expect it, and at the worst possible time. Think about it; why should we trust something labelled as "terminal"? It's not like server tips are defined as helpful hints anymore either; they're the physical action one performs on the hardware.

In the small apartment, hidden within one of the higher dimensions of the sixth floor of MC, Sine wanted a byte to eat and was considering frying bacon. But instead he decided to attack Nachos - bacon was the lassar of the two evils. He was interrupted, however, by the arrival of eLAN. She had come by to pick up the floor mat from her car, which Sine had borrowed.

"Why did you need this anyway?" eLAN asked, merrily retrieving it. "Just because it's shaped like a chess piece?"

Sine shrugged. "My parents were coming by and part of my floor wasn't kleene. So it's what I put your fine knight auto mat on."

"Ah," came the response. "And your parents are gone now?"

"Yeah, they left just before all the network malfunctions," Sine confirmed. "What's bothering me now is just an inability to track down the original cause for the troubles Hooke was having!"

eLAN nodded. "I suppose as the secret head of the Maintaining Flawed Computers Federation you were landen in hot water?"

"Not really," Sine admitted. "But it affected my comedy routine. No laughs, everyone just chanting 'Get the Hooke!'"

"So what are you doing about it now?"

"Well, I've eliminated Neumann as a suspect. He's been busy with his mailbox hopper. Actually, I'm starting to think the source of the failure was a band of Hookers."

"Hookers?" eLAN wondered.

"Yes, a secret organization around here investigating Hooke! I discovered them when I took a table and began to markov change in behaviours. I'm currently working on a .plan to..."

It was then that the conversation was further interrupted by the arrival of Cray-mar, who burst in the door, scattering things

all over laplace. "Hey, Sine, do you have a ski I can borrow?" he inquired, looking about.

"Yes, but I think it would be the wronski for you," Sine observed. "The size is incorrect; it barely fitch me."

Cray-mar paused. "So does that mean you won't or you can't—"

"A ski??" eLAN interjected. "Why do you want ascii?"

"I have someone from Germainy over. She was going to show me the trick that put her into lhospital."

"Look, could U NIX that idea, Cray-mar?" Sine protested. "I was just in the middle of some complex analysis."

"i see," Cray-mar remarked.

"I should deque you both," eLAN muttered, wondering if she'd need to display hermite. "These discussions are boring, so I'm no longer taking debate."

"Oh, hey, Sine that reminds me! When your mother was here, she was bored, so she washed a board," Cray-mar declared.

"Oh? What board?" Sine mused.

"The motherboard, naturally." Cray-mar retorted.

"My mother washed the motherboard?" Sine gasped.

"Yes, shortly before she got on the bus."

"Well, no wonder there were problems then!" eLAN remarked.

"I don't believe it!" Sine cried out. "And I had to pay so much cache to buy a new one!" Conversation was suspended for a bit, as Sine punched cards.

"Hey, if you don't have a ski, can I take descartes you decked?" Cray-mar eventually asked.

"Sure, picard, any card..." Sine muttered. Cray-mar quickly grabbed the entire set and hurried back to his own address space.

"And I'm leaving too," eLAN added. "Because you know, I don't think there was a kernel of truth to any of this."

Sine shrugged. "Well, I still wouldn't have been surprised if Hookers were up to something..." was all he could say in conclusion.

And once again, all was quiet on the higher dimensions of the sixth floor.

Greg "hologrami" Taylor

Grad student life

So I staggering bleary-eyed out of my office (Ha! Ha! No locker in MC for me!) after a stunningly productive six hours of hacking code, staring at multi-megabyte debugging spews, and fuming over the prospect of finishing a thesis by the end of the term, I recalled some suggestion that I should attend the *mathNEWS* production night. I had agreed to attend on two conditions: that I finish some work polishing the implementation of the algorithm I developed and that I think of something about which to write. Having completed the former but not the latter, I found myself wandering the halls of the third floor of MC brainstorming a topic and searching for the *mathNEWS* production night. Turns out they were hidden in the evil labyrinth that is the [Dum Dum Dum... — BeatleEd] sixth floor of MC, in some distant lab lost in a distant hallway filled with dragons, trolls, and fellow bleary-eyed grad students.

Some of you, eager to escape the terrible prospects of earning money and having a life outside of school, may be considering the idea of life as a grad student. As I approach the end of my journey to become a Master of Mathematics (I love that title), I have decided to throw together a set of wisdom-nuggets I have collected from the past two years:

- Forget the entry requirements: just go up to a professor and say,
Student: Hey, <name of professor>, I need a job.
Professor: Want to be a grad student?
Student: Sure.
- As a grad student, you get a supervisor. Try to get one who doesn't have a major administrative job, like Supreme Commander of all Bureaucratic Nonsense for the Faculty of Mathematics. If you do get such a supervisor, be warned that he will view meeting times as mere suggestions.
- You get to see the operation of a math course from the TA's perspective. Beware: you may gain sympathy for the plight of all of the TAs you learned to dislike as an undergraduate. If that happens, it means you're a bad TA yourself and should be fired. But you won't be.
- At some point, you will have to write a thesis (note: people doing the coursework option don't count). One part of this process is known as the "panic stage," when the reality of having to finish within the next four months sets in. Typical symptoms of this include a mysterious ability to stay awake for two days without coffee and (for those who *do* need coffee to get up in the morning) the sudden development of the ability to extract all nutrients required for life sustenance from coffee alone. No matter which term you decide to finish and no matter how good you are at not procrastinating, you *will* experience the panic stage during most of the last four months of your time. At least I hope so. It'd make *me* feel better to know that is true.
- If you're in CS, be prepared to spend hours staring bleary-eyed at multi-megabyte debugging spews. Pure math is much more enjoyable.

Tlacahuepan

Doctors isolate gene causing peanut allergies

They clone a man allergic to everything else as joke

A medical breakthrough was made last month as a group of doctors in Sierra Leone discovered which of the at least several hundred genes in the human DNA sequence causes peanut allergies. Rather than use this information, along with gene therapy, to cure peanut allergies throughout the world, they thought it would be funny to clone a man who is allergic to everything EXCEPT peanuts.

"My life is horrible," said the man, whom the scientists named Nutters, in a *mathNEWS* exclusive interview. "I have to slather myself with peanut butter every hour or the oxygen will give me hives. My diet consists of peanut butter sandwiches, only the bread has to be specially made out of peanuts instead of wheat. I'm so sick of peanuts at this point." He then started crying, only to have the salt in his tears burn his sensitive skin.

"Come on, it's freaking hilarious," rebutted the lead scientist on the team. "People complain about not being able to eat peanuts, now they've got nothing to complain about. This guy has to bathe in peanut oil. That's funny." He then proceeded to poke Nutters with a stick.

Spokesmen for the peanut industry are ecstatic about the discovery twofold. First, they stand to gain millions of dollars as previously allergic people enjoy the rich, nutty taste of peanuts for the first time. Second, they stand to gain millions of dollars from Nutters just so the poor sucker can stay alive.

An informal *mathNEWS* survey of the student body shows that most people believe the scientists are complete and utter dicks. The medical community refuses to comment.

Sheep Nine

So You've Decided to

Write an Article Without Looking at the Screen

That's right, kiddies... I'm writing this entire article without looking at the screen! Aren't my typing skillz 1337? Yes, well... Anywho... I've decided that this week is the perfect week to tell you all how to pass your courses. I know that it's something that's eluded some of us time and time again, but it's not that hard! Really! I promise!

Okay, so I guess I should tell you all why I feel that this week is such a great week to do this.. Well, it has recently come to my attention that OS has some kind of assignment due this week. Something about page tables. Or something. I passed that course and have hence earned the right to not care.

As with every random gathering of words that I call articles, I have some kind of thing going on in them. Well, in the *So You've Decided to* things, I have some sort of list. Well, here's a list of numbers. Use these numbers to fix problems in your code. If one of them doesn't work, try the next... It's bound to be right sometime. On with the list!

- | | | | |
|-------|--------|-------|-------|
| • 294 | • 935 | • 33 | • 331 |
| • 235 | • 341 | • 853 | • 714 |
| • 664 | • 1863 | • 148 | • 823 |

Well, I hope I've helped you all out in your search for the bugs in your code!

e.

<http://facetious.ca>

HorrorScopes

Doom, gloom, and the occasional spoon

ACC - I'm having trouble with my bank account. If I get paid \$x bi-monthly, and my bank pays me 2% a month on my savings, but I spend \$y every week buying my lunch and going to the movies, and I still need \$z to pay rent, tuition, etc., at the end of August, how drunk do you suppose I have to get that hot AHSer before she'll sleep with me?

What's that you say? Not a fortune? Seek comfort from Undeclared. I've been shortchanging them for ages.

Your lucky number is approximately five shots of tequila.

ACTSCI - The stars have this to say regarding the latest round of exam results: "LBH SNVY NTNVA, FHPXN".

Hmm. You may want to ask CS or C&O for help with decoding that [Hint: think 13 — inkEd].

Your lucky number is 6.

AMATH - The distilled wisdom of the stars holds this for you: Dynamic marmalade extrudes entirely too broad in the Hamiltonian direction of the furthest manhole. Construct presently, but lo; an impermeable division of peanut butter is the unmaking of a thousand souls.

Sorry, my connection to the stars seems to be experiencing technical difficulties. Just between you and me, though, I think that's better than what they were really going to give you, anyway.

Your lucky number is a melifluous blossom of braying sycophants.

BBA/BMATH - Repeat after the stars: The Turret is a bad place to pick up. Goodness, you could catch some kind of disease.

If you're that eager to get sick, I suggest playing with small children. It's far more wholesome and you'll get over whatever you catch much faster and without that uncomfortable burning sensation.

Your lucky number is a temperature of 40 degrees.

CS - I once heard that CS could be summed up as finding the right wrench to pound the correct screw. This doesn't necessarily mean that you should go beat up your OS TA, though.

Ask ACTSCI for help with anger management; they need it with all the exams they fail.

Your lucky number is size 22 (metric).

MATHBUS - While engaging in your usual variety of doggerel, you may find yourself absolutely gobsmacked when a mere Artsie actually outdoes you in straight competition.

The secret to their success was the four beers you had before starting. Ask ENG about ways to better hold your liquor, you cheap drunk.

Your lucky number is 2 pints to loosen the tongue, another for inspiration, and one more for luck.

MATHSCI - I mixed your fortune with that of AHS. I had hoped it would taste better, but I was wrong.

Operations Research

Being ignored isn't as bad as it sounds. This will prove invaluable next week when a rampaging mob completely bypasses you and heads straight for the easily-identified CSer.

Stick close to your PMATH brethren. No one really knows what they do, either.

Your lucky number is easily forgotten.

PMATH - I've been inspired by celestial forces to tell you that going to class next week is a waste of time. Stay home and watch TV instead.

The stars should really work on telling people things that are less obvious. Anyway, gather up your AMATH friends for a game of Pinochle so you don't have to watch Oprah.

Your lucky number is a good 16 hours wasted.

SOFTENG - To the, uh, SE lab! Your powers for awesome will be required next week as an otherwise trivial solution escapes the general public, only to be unveiled by you, our hero.

Or it could just be your CS assignment. I'm not sure...

Your lucky number is a healthy dash of common sense.

STAT - Your next week should be positively normal: short on both ends and tall in the middle. I always did wonder about a group of people where mean is average and deviation standard...

Ah, I crack myself up. AMATH has an affinity for bad puns. They may be able to suggest something better.

Your lucky number is σ

UNDECLARED - It took me a while to sort out the stars' exact meaning, but I think they were saying "Declare a major, you dirty hippie!"

Well, if they stars say so, it must be true. Seek advice from ES on how to be a dirty hippie. Oh, and declare a major.

Your lucky number is 9 possible choices.

ARTS - Repent now, for the day of judgement is upon us! The end is near! The end is near!

Sorry, I seem to have mixed up the pending apocalypse with the due date of your term papers. You might want to get on that, or there's not gonna be much difference between the two.

Your lucky number is 2500 words x 2.

AHS - Due to an unfortunate error involving my laundry, your fortune is exactly the same as MATHSCI's.

ENG - As we enter the home stretch on another term, always remember that a good term project is not achieved by careful forethought, sound planning, and meticulous construction, but instead by a mad rush to night before to get something done.

PMATH will prove to be your ally. They're great at getting things done last minute. And if they can't help you, they can at least make fun of you along the way.

Your lucky number is an extremely generous 75%.

ES - Serendipity is on your side! Making up all the answers to your next assignment so you can go drinking sooner sounds like a great plan!

This sounds like great training for being a meteorologist. Have you considered it as a career?

Your lucky number is a 50% chance of accuracy.

SCI - Life's latest dilemma will have you running for your lab in record time next week. I bet if you start now, you can devise a winning formula for, uh, whatever it is you're going to need in no time!

Pshaw, nothing is impossible. AMATH regularly turns fantasy into reality. Now's your chance!

Your lucky number is a little bit of this, a little bit of that...

Eric Logan

Why CS students find it hard to get assignments done on time.

At 11:30 pm on a Sunday night, on my way to the MC to finish off my CS 241 project, I wondered why I had let finishing this assignment slip so far. The three lates you are allowed in the course were probably a large factor, but not the only one. I had spent the entire long weekend at home, starting from Wednesday, promising myself that I would not only finish CS, but finish it on time. I didn't actually start the assignment until Saturday night, after it was due. I don't think this sort of rampant procrastination is isolated to just me. I know plenty of other people in the Math Faculty, and University in general, that start assignments this late. This behaviour isn't isolated within Computer Science, but it does seem to be particularly evident here.

After implementing a CFG in CUP that (hopefully) covered all of SL, I had more time to think about why people in CS procrastinate more than other programs. Engineers seem to get work done on time, or at least they seem to working all the time when I want to watch a movie or play cards. Architecture students, or at least the ones I have had minimal contact with, seem to work even harder than engineers. This all seemed rather counter intuitive until I realised that it could all be explained with a simple theorem:

The amount of time you waste is larger than and directly proportional to the amount of free time you have.

This easily explains everything. Why engineers have so much work, but are able to get things done on time. Why I have so little work, but don't seem to actually be able to get any of it done. I guess you are only as lazy as the situation permits.

Half-Pints Anonymous

The Plot of the Too Short

How often do you crack jokes at the expense of your shortest friend? Well, you upwardly mobile people, I'm here to tell you that we so-called "vertically challenged" will be back with a vengeance! What's that you say? You pity your poor kneecaps? Well you should. The kneecap is essential to your continued locomotion. Without them, you cannot walk up to us...you cannot get within our earshot to crack dumb jokes again!

MUAHAHAHA!!! We will prevail! Starting with a crackdown on the lumber industry! We will force houses to be shorter. Doorframes will be lowered by two feet, forcing those who are truly vertically challenged to either bow down to your superiors or constantly bump your head until your brain cells are depleted to the point of utter stupidity. For some of you, this has already occurred! Our evil plot has already begun, and you don't even realize it!

But now you are saying to yourself that we've tipped our hand. Well, you fools, if we thought you ever had the chance to use your *height* to your advantage, then perhaps our plans would be different. However, we have defended ourselves with anti-gravity shields. If you try to squash us, you will find yourselves flying through the air towards space! Our alliance of the dwarves, hobbits, gnomes, and faeries shall join with those below 5'5" of the human population. We will beat you senseless with the beams of your houses! We will fly low in the atmosphere in our rustic planes!

Look to your left and your right. Wager carefully. Form your alliances...for tomorrow, the war of the short will be born!

Dwarven Sage

Through careful observation in my free time, while avoiding algebra homework, I have discovered empirical evidence that the constant in the previously described relation is approximately equal to 2. This leads to the equation $T_w = 2T_r$. So when you find yourself in a crowded lab at 1 AM the night before an assignment now you know why.

Now I'm off to play a few hours of Serious Sam - The Second Encounter after eating some free *mathNEWS* pizza. I guess I could start algebra, but it's not really due for two days. Besides, it's due at 2:00, so I could probably finish it Wednesday morning anyways...

POP6969 - People for the Opening of Port 6969 will be picketing IST this wednesday.

Sex - Penetrating Insights

After a careful examination of both Maxim and Cosmopolitan magazines, I'm thoroughly convinced that anyone can publish sex advice — even *mathNEWS* — and people will accept it. My team of experts and I have thought long and hard to offer up these penetrating insights. Some are even serious.

- "That was great, wanna play Nintendo?" [Credit goes to Fark]. Why not try something new post-coitus? Recommended games are Mario Kart and Bubble Bobble. Avoid anything you'd play at a LAN-party.
- There are only two acceptable responses (with variations) to "How was it?". They are: "Fantastic" (sounding flummoxed), or "Frankly, that was appalling, but it had potential, so we are going to practice day in and day out until we get it right."
- Both Maxim and Cosmo were in favour of touching naughty bits, so I am too.
- Once naked, don't mention family members, insects, the Olsen Twins or Stephen Hawkings. This may not be a complete list.
- "Large" condoms really aren't that much bigger than regular ones, try them sometime. Oh, and make sure to leave the box out where people can see it. By the way, when buying condoms, the pharmacist doesn't really care, stop being so embarrassed.
- "Test drive" a new brand of condom before using it for an audience. I'll let you figure this one out, but it's worth the extra 60 cents.
- Teenagers have too much energy, older women know too much about what they want, so if you're just starting out, try... I dunno... something inanimate. Use your imagination.
- Again, both magazines recommend you communicate with your partner(s), I'd also recommend breathing and the use of your circulatory system.
- Instead of smoking afterwards, try Gatorade. For extra points try for a pun on "Is it in you?" (TM)
- Chocolate goes straight to the thighs, it's butter that goes to the heart. Give her butter.
- You should support your partner, be like a sports bra for the rest of their body.
- Hide your porn. No, hide it better.

Need advice? Not above going to *mathNEWS* for it? Our experts are standing by.

Dave

nachOS Chronicle: SetPriority

Introduction:

Priority - the protagonist.
 nachOS Corp. - the multi-gazillion multi-galactic gazilla-corporation.
 Thread Corp. - a small software development company owned by nachOS Corp; its main product is Thread Scheduling System and its customers consist of primarily nachOS Corp. and its sub-divisions. It's the company Priority works for.

Plot Summary:

Priority was a young enthusiastic computer science geek dedicated to his work. When Thread Corp. hired him as a consultant, he secretly swore to revolutionize the inefficient scheduling system that Thread Corp. is famous for. After 3 hours of intense investigation, Priority concluded that Thread Corp.'s scheduling system is fundamentally FUBAR*; the problem lied not in the scheduling system, but the overall design for the company's process hierarchy. Frustrated, Priority settled for a life of an ordinary employee in Thread Corp. For ages to come, the only functions of Priority would remain to be Set* and Get*. At this darkest hour in Priority life, an unexpected event is about to rock Priority's world upside down and transform him into the most irreplaceable member of Thread Corp.

TO BE CONTINUED... in the next episode of 'nachOS Chronicle: SetPriority'

*nachOSSpeak:

FUBAR: acronym for 'fuc*ed up beyond all recognition'
 fuc*: acronym using Kleene's closure; it stands for fuc*cccccccccccc...
 Set: data-entry.
 Get: data-retrieval.

Acyclic Graphs Terrorize City

Citizens advised to travel on shortest paths

A new species of graph has evolved, and has brought the city's transportation grid to a halt. Dubbed the "Acyclics" by scientists, this new renegade band of graphs spends its time destroying roads and attacking those on bicycles. "The name is short for 'anti-cyclic', which is what these new graphs seem to be," says Dr. I.W. Valin, the primary researcher on the new species. "It seems to be in their nature to destroy cycles wherever they find them."

Unfortunately for citizens, the streets were the first thing that attracted the graphs to the city, and the graphs have been removing roads at random. "The graphs emit a squealing noise as they move, sounding almost like 'G¹=G-e'. It's almost like they're intelligent or something."

Angry protests by citizens have already begun. "We need to find a way to send them back to the trees from where they came!" was heard shouted by an anonymous protester outside city hall last week.

Until the city finds a way to deal with the acyclic menace, citizens are advised to avoid walks and instead take paths which avoid cycles to avoid being attacked by the graphs; the girth of the graphs can make them difficult to handle.

Chris 'Krease' Harasemchuk

Plot Summary:

"That was the most fuc*ing amazing experience I've had." Commented Priority on his dramatic rise to power. Priority went on explaining how it happend: on an ordinary afternoon, Priority's tired from all the Setting and Getting his boss requested and he set forth for the long journey back to the garbage-collection centre he called home. On the bus, he met a refined gentleman who refers to himself as 'bug.' They started off on a pleasant conversation, and when bug asked Priority about his work, Priority told bug all about his former ambition, the shitty design of Thread Corp., and his frustration. To his surprise, bug revealed that bug is a member of a powerful secret organization in nachOS Corp. known as 'BUGS.' Bug said, "we are everywhere, and we tell nachOS what to do; nachOS just isn't nachOS without us!" Then bug encouraged Priority to continue his mission, and bug offered to assist Priority in his mission. With this new found friend by his side, Priority walked into Thread Corp. next day demanding total authority. Within a week, Priority consolidated his control of Thread Corp. and initiated a joint project with Scheduler Corp. With Scheduler Corp. assistance and cooperation, Priority developed a new scheduling system: The Priority Scheduling System, named after himself. This new system is promising; it aimed to minimize conflicts between task by 'Prioritizing' (again, named after Priority) the tasks. The day of testing has arrived. "Tis' the day we'll show the universe what the word 'efficiency' means!" announced Priority on the news conference. Meanwhile, at the BUGS meeting, the leaders of BUGS realized that Priority is slipping out of their control. "Priority has been ignoring us since the day we gave him the control of Thread Corp." said one leader. "If Priority Scheduling System succeeds, Priority would gain enough support to threaten our control of Thread Corp. Even worse, it would've shaken our control on nachOS Corp." warned another leader. As Priority enjoys his ride on a roller coaster, he's fai

TO BE CONTINUED...

-SetPriority

What a show!

Well, at least I'm sure it will be

As you are reading this, I have already gone to, and come back from, the Eric Clapton concert that was in Toronto on July 7th (ok, so I'm writing this on the 5th...it's kinda weird). It was incredible! My first concert for a single artist (previously, I've been to North Bay's Heritage Festival (held on the August long week-end), Concert for Toronto (that big all-Canadian thing at Skydome and the Air Canada Center) and SARSFest (the Rolling Stones thing)), but WOW. Can Clapton ever play. He handled that guitar like no other, getting some of the sweetest sounds imagineable out of it. When asked by my fellow staff if I'd go again, my answer, hands down, was "HELL YES".

The moral of this article is: Go to concerts for cool artists (I regret not going to see Bob Dylan when I had the chance to in February...)

Beatlemaniac

I'll start with YOU.

New products from Canadian Tire

Did you think that car battery converter was the shiznad? Do you spray your younger siblings with the water compressor? Do you do things better left unsaid with that air compressor? Then you'll be excited about the new products found only at Canadian Tire!

- **Whatchamabobs:** Now, when you ask your spouse/parent/sibling for a whatchamabob, they'll know exactly what you're talking about! Also available: doohickeys, thingamabobs, thingies, and widgets.*
- **The Secret of Fire:** Harvey's says "Meat. Fire. Good." You've found the meat, now you can have the fire with the new Secret of Fire found only at Canadian Tire! Comes with wood and matches.
- **Eternal Happiness:** What, you thought all the other crap you bought from Canadian Tire was gonna bring you eternal happiness? Nice try, sucker! But now, for the first time, you can get the real deal, only at Canadian Tire! Comes with three-month warranty.

- **Tires:** Be the first on your block to own the amazing protector for your precious wheel inventions! This amazing rubber tube-like thing is available only at Canadian Tire!
- **The Cure for Cancer:** Now your friends and relatives don't have to die with the new Cure for Cancer found at Canadian Tire. Features sharp, pointy applicator and disposable towel.
- **Professor: Sevenfinger's Physics Kit:** Have you always been upset that the examples you get in physics lectures are of these "special" phenomena and not something you can try at home? Well, now you can, with this amazing science kit found only at Canadian Tire! Features a massless pulley, a frictionless surface, a wall of infinite mass, an inertial reference frame, a light particle, a light wave, dark matter, slightly greenish matter, and one mol of ideal gas. Great for parties!

* Widgets subject to availability. And demand. And every other economic principle both named and unknown.

Sheep Nine

SPIDERMAN 2 in 6 easy panels By: ~~YODA~~ DAN LEE

WARNING: SPOILERS

profQUOTES

"Half the time I thought I was crazy and nobody was going to get this question; half the time I thought I was crazy and everybody was going to get this question. Turns out I was right."

Clarke, CS 350

"I said to all the TAs, 'If you come across anything tremendously clever...' but we didn't have any of that."

Clarke, CS 350

[Somebody's watch goes off five minutes after class usually ends] "Yeah, yeah, yeah."

Clarke, CS 350

[Pointing at a fictional family tree] "The fact that I have two of the same grandfather might potentially be interesting."

Cowan, CS 349

"So, here, you are your own nephew..."

Cowan, CS 349

"If you look at the Royal House of Europe, it's littered with this kind of stuff. No wonder they're all morons."

Cowan, CS 349

"If you don't know the meaning of the word canonical, maybe you should spend some time with the dictionary tonight."

Dickey, PMATH 360

Prof: "Pascal was the one who said, 'I think, therefore I am.'"
Student: "Wasn't that Descartes?" Prof: "Oh. Right. Well, Pascal was another good guy."

Dickey, PMATH 360

"It's not that your education is bad, it's just that your education is different."

Dickey, PMATH 360

"This is Poincare the Mathematician, whose brother was a politician, not Poincare the Politician who had a mathematician for a brother. You've got to get your priorities straight."

Dickey, PMATH 360

"Let me put that point in here, so that you can see I'm a little bit off-centre. I know some of you think that anyway."

Dickey, PMATH 360

"It's not ethical, but that's okay, I don't care."

Metzger, STAT 231

"Pick individuals with the same explanatory variables — age, sex (yes / no), etc."

Metzger, STAT 231

"The K distribution doesn't exist outside of this course. It just has nice properties for people who don't care about statistics."

Metzger, STAT 231

"If I mispronounce, pardon me; I'm terrible at calling people's names. Ask my wife."

Metzger, STAT 231

"So now we move onto the next chapter... Does anyone know what chapter we're in?"

New, PMATH 336

"How many people didn't take Math 135?" (Few people raise hand) "Engineers..."

New, PMATH 336

[after tearing apart a phone book to demonstrate binary search] "I only look up one phone number per year."

Nijjar, CS 134

Prof: "After class, a student came to me and confirmed that the example was mentioned. So I wasn't insane." Student: "But the 249 of us were insane?" Prof: "That is a possibility."

Serafini, PSYCH 101

"I seem to have misplaced my slides. But you can find puberty online ... no, wait, I mean..."

Serafini, PSYCH 101

"You guys looked spooked, well, apart from those of you planning larceny, chicanery."

Smith, ECON 102

"Student C owns a BMW; he must be an Actuarial student. Student D is an Arts student; he owns a bus pass... I know there's no Arts students in here, so I'm safe."

Van Beek, CS 245

"Why would we care about compression? Well, when you download your Britney Spears videos."

Vasiga, CS 240

"Good hash equals... oh, wait; I should write 'good hash FUNCTION' and not 'good hash.'"

Vasiga, CS 240

"000, 001, 010, 011, 100, 101, 110, 111 and if you've taken CS251 that is a summary of the course."

Vasiga, CS 240

Have you ever had to do laundry so bad...

- You hear an echo in your room when you leave with your clothes?
- You have to dress sexy to get to the laundry room, because they are your only clean clothes?
- You find lost things in your now-empty drawers (like pets)?
- You realize you should have been lifting weights in preparation when it comes time to drag the clothes there and back?
- You find clothes you thought you had lost / left at your parents' / given away?
- You realize that that maybe that smell was the laundry, since now the room smells fine, and you haven't cleaned the fridge or done the dishes yet?
- You find a gremlin under that pile in that corner?
- You bankrupt yourself paying for washers?
- You find the roommate you forgot you had?
- The humidity in your room when you hang stuff up to dry fries your comp - *sizzle*

-Half-pint

Settlers: The Gathering

I've been very bored lately. You see, I'm not in co-op. That means that I'm in school during fall and winter, and off during terms such as this one. Not only that, but companies seem very unwilling to hire me. This leads to a lot of time to not do very much. As such I'm playing a lot of games. So much in fact that they seem to get boring. No job means no money, so I cannot go out and get new ones. That means that it's time for some house rules for all our favourite games, involving stuff from all our others.

Alright, let's start this off with some **Settlers: the Gathering**. Alright, so let's start of with resources and that kind of thing. Five colours of mana, Five types of resource hexes, Coincidence? yeah probably. So first, let's assign a mana type to go with each hex:

- Wheat —> White
- Sheep —> Blue (see Ovinomancer)
- Ore —> Black (alright, so what if the terrain is "mountains" colour coding is good)
- Clay —> Red (see black)
- Wood —> Green

Alright, next let's figure out how this game should work. Set up the settlers board as normal. Now, you have the option of using resource cards as either that resource, or using it as mana. Now we actually need a way to incorporate the actual Magic cards into this. Make a 5 colour deck of creatures and other cool cards that could work for this. Wrath of God is a good example, Stone Rain might also be cool, use it on a land hex and flip it over, it now doesn't produce any resources/mana. Armageddon is a very bad idea, unless you add a clause to it "The game is now over, most points/life wins" as you have just completely obliterated Catan and now nothing is producing anything. At the beginning of your turn, draw a card, at the end of your turn, if you have more than 7 of the magic cards in your hand discard down to 7. Play creatures and sorceries on your turn, instants whenever, just remember that you need to spend the appropriate amount of resources. Random suggestions, cards that say "draw a card" can mean magic or development, whereas "add *stuff* to your mana pool" can mean pick up the right resources (example, dark ritual: "pick up 3 ore"). You can think up stuff too.

Now, how is a win condition going to work. Well, you start off with 20 life, and you start off with 2 settlements. I think it should follow that you have your amount of life, but instead of representing the life of one individual wizard, it can represent the life of your empire. Every settlement is worth 10 life. If you build a settlement, or a city, gain 10 life. by taking damage, or gaining life, you can gain or lose settlements. Use these equations:

- if life is less than $(\# \text{ of settlements}) \times 10 + (\# \text{ of cities}) \times 20 - 10$ then, lose a settlement or downgrade a city to a settlement. *ex. if you have 2 settlements, and you get knocked down to 10 life or less, lose one of them*
- if life is greater than $(\# \text{ of settlements}) \times 10 + (\# \text{ of cities}) \times 20 + 10$ then, place a new settlement on the board or upgrade a settlement to a city. *ex. you have 2 settlements, and 28 life. you play a healing salve, and now have 31 life, you can turn one of those settlements into a city.*

Now for combat. Have combat work as normal in magic. However you can only attack someone if there is a continuous road to one of their settlements or cities from one of your settlements or cities, although not all roads need be yours, there just needs to be a line between one of your places, and one of theirs.

Alright, now I think I've got enough that this should be playable. Now I made these up just now, so I could be forgetting something, I'm sure those of you out there can easily make up the rest of the rules if I forgot something. Now, I'm really interested on how this plays out. If there are any of you out there who do try this, submit the results of your game and funnness factors and all that to the **mathNEWSBLACK BOX** in between the comfy and the C&D. What's good, and what's bad, and what's just downright stupid with these rules. If there's enough of a response then who knows, maybe I'll try another game next time (luckily I'd be willing to place bets on the fact that this won't happen, you guys are all too lazy, any editors wanna take me up on this? so readers, if you want to spite me, or to make me lose money, try this out) . In fact, I want you to try this crazy game so much that I'm going to set up a little contest. If I see you playing this game in the comfy, I will personally give you some sort of a reward, maybe \$5, maybe more, I don't know, just be sure that there will be a reward for me seeing this in the comfy, and it won't be a cheap, cop-out one.

DanS

Top Five Reasons to Study Economics

For Business Majors

1. Develop your master plan for ruling all CS majors in business.
2. Study labour economics to use the "employment insurance" system to your advantage.
3. Getting July 2nd off because your Econ class is cancelled (4-day weekend!)
4. No Assignments...enough said.
5. Conquering the world one dollar at a time.

Last Issue's Grid Solutions

	s	i	s	t	i	n	e	c	h	a	p	e	l	
s		t		a	o		u		f		n		o	
q	u	a	r	t	e	t		s	u	r	f	s	u	p
u		l		a		e		p		o		u		p
e	v	i	l		a	p	r	i	l		l	i	m	o
a		c		s		a		d		p		n		s
m	i	s	l	e	a	d		s	h	i	n	g	l	e
i				w						z				d
s	o	c	l	e	a	r		p	u	z	z	l	e	s
h		r		r		o		a		a		a		a
n	a	i	l		a	m	o	r	e		o	p	e	n
e		m		h		a		s		w		l		i
s	u	s	t	a	i	n		n	o	h	e	a	r	t
s		o		s		o		i		i		z		y
	a	n	c	h	o	v	y	p	i	z	z	a	s	

mathNEWS BYOB #5

Break Your Own Brain - Johnny Five Alive!

Welcome back to your friendly neighbourhood brain basher. Amazing to think that there is actually some math inside *mathNEWS* but there is, and it's here. Well, a little lower down, oh ya, that's the spot, right there, ya, ya, ya... ahhhh, that was mathematical. Hmm... how about I just stop intro-ing now and get to the answers.

Peters Picked Pickled Problem

An interesting variety of proofs were given here, I'll spare you the specifics except to quote my favourite line from one of them (which came from Frogg's submission): "By some theorem in algebra (see math 135)". Essentially what they all break down to is factoring 396 to $4 \times 9 \times 11$ and then determining if the 28 digit number was divisible by each of those factors. Conveniently there are nice divisibility tests for each that cause it not to matter that we don't quite know where all the digits are.

4: Since any number of 100's is always divisible by 4 you only must check the last two digits of a number to determine if it's divisible by 4. 76 is divisible by 4 ($4 \times 19 = 76$)

9: The divisibility test for 9 is to sum the digits. If the sum of the digits is divisible by 9 then the entire number is divisible by 9. In this case the sum of the known digits is 90, the sum of the digits 0-9 is 45. 135 is 15×9 .

11: The divisibility test for 11 is to sum the digits in the even places, and sum those in the odd places, and if the difference of those numbers is 11 then the entire number is divisible by 11. Fortunately all the blanks are on the odd places so it all works out to be 73 (sum of odd positions), and 62 (sum of even positions).

As we have our entire number divisible by 4, 9 and 11, regardless as to which digit is filled into which blank, the entire 28 digit number will always be divisible by 396, therefore the probability is 1 (or 100%). All submitters got this one right.

Kathryn Kreated Katatonic Kreationes

I wasn't able to find any other answers for this when messing around with it on my own, so I assert these are the unique solutions.

b)

1	×	6	+	5	=	11
+		÷		+		
7	×	2	-	4	=	10
=		=		=		
8		3		9		

c)

8	+	12	-	7	=	13
+		÷		+		
11	+	4	-	6	=	9
-		÷		+		
5	×	1	×	2	=	10
=		=		=		
14		3		15		

a)

6	÷	2	=	3
+		×		
1	+	4	=	5
=		=		
7		8		

Frogg Flabbergastingly Fabulous Fives

This is just some of the possible answers, there are several ways to do each one.

- $(5 \times 5 + 5) / 5 - 5 = 5 \wedge (5-5) - (5-5)$
- $(5+5) / 5 + 5 / 5 = 5 - (5+5+5) / 5$
- $(5+5) / 5 + 5 / 5 = (5 \times 5 - 5 - 5) / 5$
- $5-5 + 5 - 5 / 5 = (5+5+5+5) / 5$
- $5+5+5-5-5 = 5 \wedge 5 - 5 \wedge 5 + 5$

This one caused some trouble for people, amazingly even the submitter of this problem made a mistake on this one (Frogg, on your second answer for 1 you used a + instead of -).

What does the number sequence 3, 11, 4, 5 represent, and what is the next number? Well... it's the number of submissions for each BYOB so far, so it is up to all of you to determine the next number. Five submissions this week (in case you didn't catch that from my not-funny joke above). Everyone got the first and third problems correct, but small errors on the second cost three of our submitters, Kathryn (our favourite AHS'er), Greg "Hologrami" Taylor (of course I remember you Greg! But ya, I'm probably the only one, the only other possibilities are Craig Sloss, or maybe Louis [*Ahem...yoo hoo — KreasEd*]), and Frogg (ya, you made a mistake on your own problem...), from getting perfect scores. We did have two perfect submissions however, so it's between Dan Lynch and Aaron to determine our winner. We goto our tiebreakers, and the maze is kind of cool (and will very likely appear next issue, sorry, just didn't feel like making formatting work for that now), sorry Dan, I just think it is unreasonable for anyone to get those number sequences. So **Aaron**, come on over to MC3038 (Irrefutable MathSoc Yen HQ) to pick up your C&D gift certificate.

Tiebreaktastic. Tiebreakerrific. Tiebreaklicious. And so on, and so forth. Once again our tiebreaker yielded several interesting and fun problems that you now get to play with (in fact, we're now at the point where we have to choose which make it in and which are saved for later, woohoo!). So to explain once again, give us a riddle/puzzle/brain teaser along with full solution, and if there is a tie (which history indicates there will be), our favourite will win. So as the hostess at your favourite private club always says "Money first", er... I mean... "Submit Now!"

Once again your fellow mathies (which somehow include someone from AHS and a former editor now living where a current editor likes to visit) have provided some wonderful challenges for you. And you will answer this challenge. What, are you chicken or something? [Scratch here for chicken sounds, ya, that's right, it's a scratch and hear.] Alright, if you actually scratched there, put the *mathNEWS* down and go find someone to smack you upside the head, then come back, pick it back up, do the following problems and then submit. Be a good subservient chicken (<http://www.subservientchicken.com/>), that's right, submit... SUBMIT!

mathNEWS BYOB #5

Break Your Own Brain - On to the Puzzles!

Answers must be in by **6pm on Monday, July 19th**. You may deposit your brain matter in the **BLACK BOX** between the C&D and Comfy (I suggest you write down your answers and submit the paper if you use this method, that's cause your head won't fit through the slot). If you can't bring yourself to write things down, or worry that by using the **BLACK BOX** we'll steal your soul (why steal it when we can purchase it... *mathNEWS* should totally start stockpiling souls) you can also email us at mathNEWS@student.math.uwaterloo.ca.

Kathryn's Klever Kicking Kangaroos

We have a triangle of numbers where each number is the sum of the number below it and it's right hand neighbour. Given the base of the triangle and the apex, solve for the other numbers.

Example: Base: 1, 2, 4; Apex: 9

9

3, 6

1, 2, 4

$$9 = 3 + 6, 3 = 1 + 2, 6 = 2 + 4$$

1. Base: 2, 4, 5, 7; Apex: 30
2. Base: 1, 2, 3, 8, 10; Apex: 65
3. Base: 3, 4, 7, 8, 9, 12; Apex: 262
4. Base: 1, 3, 4, 8, 9, 12; Apex: 200

Hologrami's Holistic Hungry Hippos

Create a five digit number, where (reading from left to right):

- the first digit states how many 0's are in the number
- the second digit states how many 1's are in the number
- the third digit states how many 2's are in the number
- the fourth digit states how many 3's are in the number
- the fifth digit states how many 4's are in the number

mathNEWSquiz #5

Random Squiz

Hello, and welcome to another exciting squiz. This squiz is brought to you by the letter alpha. First off let's start with last issue's answers. Teenage Mutant Ninja Turtles: 1)Judith Hoag; 2)Two; 3)Oroko Saki; 4)Neutrinos; 5)Flash Gordon. Renaissance Artists: 1)Leonardo di ser Piero da Vinci, Donato di Niccolo di Betto Bardi, Michelangelo di Lodovico Buonarroti Simoni, Raffaello Santi do Urbino; 2)Giorgio Vasari; 3)Mary Magdelan; 4)Raphael; 5)Fig-leaf. The Election: 1)Paul Martin; 2)99; 3)22.21%; 4)308; 5)Kevin Sorenson. And since there was only one submission by Dan Lynch(15) he wins the prize.

On with this week's squiz!

Euro 2004

1. How many teams qualified for Euro 2004?
2. Which player completed the most passes in the tournament?
3. Who made the most tackles during the tournament?
4. Which team(s) allowed the most goals?
5. Which city(s) had the most games played in it?

Frogg's Flipping Ferocious Flamingos

A warden calls eight prisoners together and tells them that there is a room with 3 switches. The switches are not connected to anything. They are not in any particular starting position (none, some or all may already be in the on position) and the prisoners do not know the starting position.

He explains that after this day, at various unknown, unrelated times (basically, whenever he feels like it) he will randomly select a prisoner (using a uniform distribution) and that prisoner must go into the room. After seeing the current switches, the prisoner selects a switch that he wants flipped. Each prisoner who goes in the room must select exactly 1 switch to be flipped. The switches will not be flipped for any other reason. There is no guarantee what frequency the prisoners will be called in, and the visits may not be at regular intervals.

After explaining this, the warden gives the prisoners the rest of the day to come up with a plan, but after that, the prisoners will never have any contact with one another, nor any way of communicating. The only way the game can end is by a prisoner (any of them may do this) declaring the game over. If, at the time the game ends, every one of the 8 prisoners has been in the switch room at least once, the prisoners win and they are set free. If, however, any one of the prisoners has not yet been in the switch room when the game ends, they are all executed.

You are one of the prisoners. Find a strategy to always win the game.

So when you're finished duct taping your brain back together after finishing these problems, break your friends brains! That way you can add your Corruption and Peer Pressure badges to the Dominatrix one you got last week. Submit early, Submit often.

Zombie Master Snuggles
Braaaaaaaaaaaaaaaaaains.....

Non-Holiday Holidays

1. How many non-holiday holidays are in Canada in a year?
2. How many of them does Canada celebrate with USA?
3. Which famous Canadian Playmate was born on Canada Day?
4. Which industries are allowed to be open on all holidays?

Movies

1. Which movie is at the top of the box office now?
2. How many sequels are currently in the theaters?
3. Which movie in theaters has made the most money?
4. Which is the only movie with one credit?
5. How many movie theaters was Fahrenheit 9/11 in during its opening week?

Good luck everybody. Submit to the **BLACK BOX** between Comfy and C&D, or email your submission to mathnews@student.math.uwaterloo.ca before 6:00 pm on Monday, July 19th

Dirty Flame Axle

gridCOMMENTS

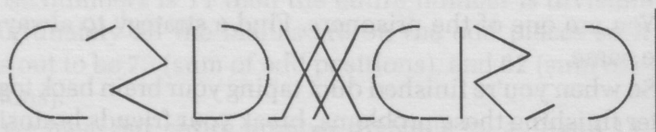
All hail the single entrant, and obvious winner for last issue's *gridWORD*. Dan Lynch won by a longshot, overcoming all the opposition around him (i.e. no one). Even better, he didn't even need to finish the puzzle! Congratulations Dan, on a great submission. His answer to the *gridQUESTION*: *What would you do for a Klondike Bar?*, was: *For a Klondike Bar, I'd spend an entire Monday afternoon working on mathNEWS puzzles.* Please pick up your prize from the MathSoc office at your earliest convenience and enjoy the ice cream!

So that's the news for the last issue...now on to this issue! We've tried to make the grid a little easier for those interested in trying to win that great \$5 gift certificate for the Math C&D, which can buy you several Klondike bars! There's no theme, just a straightforward grid. And for all you cryptic lovers out there, there's even a cryptic, compliments of Dirty Flame Axle [The CryptMaster seems to have fallen off the face of the Earth...where could he be?].

So try your hand at the grid! Even if you don't finish, submit! Submit! You too could be the winner of the *gridWORD* by default! All submissions should go to the **BLACK BOX** between the C&D and the comfy. You can also email your solutions to mathnews@student.math.uwaterloo.ca with *grid 5 solutions* in the subject line.

Don't forget to answer this week's *gridQUESTION*: *What have you done with the CryptMaster?*

Ciao for now bellas...get griddy! ConMaster



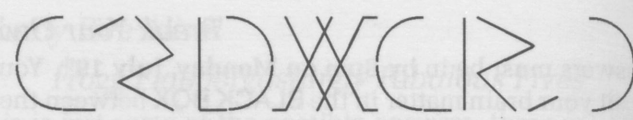
Conventional Clues

Across

- 1 labour economics point of study
- 7 receives
- 10 bug
- 11 "with" for pie
- 12 dull
- 15 started
- 16 practical jokes
- 18 very dry
- 19 nose about
- 20 village of FFIIX
- 23 by ten
- 24 logical truths

Down

- 2 Queen Anne's?
- 3 gathers courage
- 4 ___ bene
- 5 individual's problem with theft
- 6 flammable
- 8 self-denying
- 9 horse's ancestor
- 13 type of display
- 14 attempt
- 17 crafty
- 21 nap
- 22 online journal



Cryptic Clues

Across

- 1 Pep hardened crook gets caught(11)
- 7 Homer eats a snail
- 10 Devil's way has power
- 11 Annex letter
- 12 Spurr had a nice ring
- 15 My wish changes to silliness
- 16 One stick man sounds intelligent
- 18 Job recipe
- 19 Saucy fared lost day surf to be hotshot
- 20 Half God
- 23 I turned awkwardly by force
- 24 Jack was hungry so he took chewed on something

Down

- 2 Alternate cylinder
- 3 Old Shrew bamboozles person who argues
- 4 Eden perverted the necessary
- 5 Purest story thrown out human cause dependableness
- 6 At inner quad bad things are contained
- 8 Garden type
- 9 Rue, I'm my bad taste
- 13 Clasp of deadly snake is poisonous
- 14 My eye is slippery
- 17 Sacred McCartney becomes Egyptian
- 21 An usher comes to a dirty end
- 22 Ted, I already fixed it

