ZOMBIES ATTACK CAMPUS!
QUANTUM-NANO TECH BUILDING COVER-UP!
LAZARIDIS IN ON "IT"!

Photography by Chris Miller

9 770705 041004

*look*AHEAD

*math*NEWS

June 27	Issue #3 defies gravity
July 7	Production Night #4, 6:30 PM
	Meat at the Math Soc Office… brains…
July 11	On the 4th Issue, there will be light

Math Soc

Wednesdays	Games night!
Thursdays	Movies night!
July 1	Canada Day Celebration!
	Volunteer and get free swag!

Math Faculty

June 27	Last day to get a WD in a course!
June 28	Autofail period for classes begin
July 19	Student Life 101
July 30	Classes end
	Just fucking end already!

CECS

see www.cecs.uwaterloo.ca/students/dates@08.php for details
and http://www.cecs.uwaterloo.ca/student/sessions.php

June 27	Student petition to change name to BUTTCECS No
appropriate acronym	available

Feds

see feds.ca/events for details

Miscellaneous

June 29	The next time I visit your mother
June 30	School closed, time to get drunk
July 1	Canada Day, school closed
July 2	Classes not cancelled, tough shit, muffin

Sometimes if you listen very carefully at night, you can hear ninjas. My mother once told me that if you were to ever catch a ninja that they would be forced to grant one wish for you before slitting your throat. I used to dream about catching one so that I could wish that they would never slit my throat. I would set bear traps outside of my door at night and several parents later still no ninja. Then, on Christmas Eve I heard the sound of a trap going off and a loud scream. It was the scream of a man whose testicles were being shaved with a weed whacker. I rushed down to see if I caught a ninja. Sadly, it was only Santa Claus. The fat fucktard obviously didn't check his list twice or else he would have known that there were death traps all over my house. I may not have caught a ninja, but I had access to children's toys produced in a sweatshop from the North Pole. Which had better financial implications anyway.

Kegare: Michaelangelo Finistauri

*mast*HEAD

Just when I thought I was finished with this shit, I realized that I still had to write the fucking *mast*HEAD and instead of just putting it off, I kicked a cat down a flight of stairs and got down to business. Now, I'm sure you probably aren't reading this because, really, who reads *math*NEWS let alone the fucking *mast*HEAD, but that's probably not a good enough excuse for me to swear this much. However, I strongly doubt that many of you know what it's like to have the over night janitors leave and say "It's late" to you. Also, I swear, if I ever get into another online argument where someone doesn't understand that debates over music preference seldom include any facts worth stating then I'll probably start an internet business slaying trolls while spouting an endless supply of one-liners, especially "your mother" jokes.

I suppose there are things I should be thankful for, like a nigh limitless supply of oxygen, but I can imagine that's more a direct result of it not getting to people's brains over anything else. Really, this all couldn't have happened without such a wonderful production staff. I've never seen people take my insults with such stride before, and I'm still not sure if it's endearing or if they're just using me for the free pizza that most of our readership will never get. So, for putting up with my bullshit, my glorious production staff got a level up and I asked them "Level Up! You gained the skill…", where the skill is whatever they desired. The results: dongsOfWar "Skill gaining", InsideR "Of better dating advide than the Permanently Single Guy could ever provide", *math*EYE "The future is coming! THE FUTURE IS COMING!", Brucey Pi "Division by zero… bitches", DaFink "Polygamy", Nadz "Of proper spelling! You have, on the other hand been forever banned from making comments on YouTube videos", Niner "Fire Control", MJB "Animal Husbandry", snippet "Eating wings at Morty's… I wish!", The Producers "A pair of hirelings", Megaton Panga "Of picking up girls! … No, I don't…" James Simpson "Of growing objects that look like parabola's on my partner"; penguin "Of Zerg Rush!!!!"

Were the multiple exclamation marks really necessary? We'll never know. As always, we need to thank Graphics for their selfless act of ridding the world of baby seals with their mighty clubs. I also want to thank the dentist for having his way with me while I was both conscious and unconscious, the Golden Butterfly for granting me the power of the persona even if mine is a donkey with no face and two asses. Further thanks to Mother Earth and Father Sky for always being there, smothering us between their infinite… infinity.

Michaelangelo 'AngelED' Finistauri "The healing rays of the sun… in my pants."

Super Smash Brothers Brawl Tournament

Hardcore rules, doubles

UW Gamers is bringing you our 8th termly Super Smash Bros tournament. This will be our first Brawl tournament. Due to popular demand, it will be a doubles tournament. For competitive play, we will be using hardcore rules, including no-items, disabled stages, and best 2 of 3 sets with double elimination.

It will be **July 9th**, at **6pm**, in the **Great Hall of the SLC**. To keep up to date, watch our website, www.uwgamers.org.

UW Gamers Dude

Students Offering Support

Not quite ready to write your exam? Students Offering Support is here to help! Students Offering Support is a new Feds Club on campus. We recruit some of the brightest students at Waterloo to run Exam-AIDs: midterm and final review sessions that go over the course material from a student's point of view.

You'll get a refresher of all the important course material, strategies specifically designed for the types of problems you could be asked on the exam, and even a take home package of review notes and practice questions with step by step solutions.

At these review sessions, you'll also notice us asking for donations. That's because the second thing we do is partner with a charity each year to run an annual volunteer trip with the money collected in Exam-AIDs. Every penny of your donation will go towards a sustainable development project in poor countries around the world. Past examples include building a school and teacher's house in Belize (including a computer lab with some donated laptops), and helping to construct a farm for orphans in Honduras that teaches them the agricultural skills they need to survive and support themselves in the future! Our upcoming Exam-Aid session will be taking place on July 2nd, 2008 from 6-8 pm in MC 4060 for MATH 239. For more information about our club and other courses we'll be offering this term, please visit `www.waterloosos.com`. Thank you,

Maria Christina Greco
Students Offering Support
VP, University Operations

Senate says
Meetings are fun...

Hey *math*NEWS readers! I thought I would write an update for all of you from the Senate just to keep everyone in the loop. First off, hi, I'm Chris, the Undergraduate Math Senator. The University of Waterloo Senate is the highest, academic decision making body within the University. It makes a lot of decisions that effect all students including degree requirements, new programs, and getting updates from University Administration. It's composed of various faculty, staff, graduate students, an undergraduate student from each faculty, and two at-large undergraduates. The most relevant thing to math undergrads I can think of is that UW is making some changes to residences. They are planning to creating more living-learning communities and in Fall 2008 there will be approximately 500 students living in 4 communities. They will be Accounting & Finance, Arts & Business, Environment, and Health Studies. They also plan on introducing several new IP-based services to remove cable TV (replaced with IPTV) and phone lines (replaced with dual mode wifi/cellular phones). They are also launching VeloCity, a special residence set aside for students who want to work on the future of mobile communications. Senate also made a bunch of other decisions effecting other faculties. AHS students now need to complete PD2 and Engineering students now only have 2 attempts to complete the ELPE before having to complete an English course with the added requirement that they must go to the writing clinic if they fail the ELPE. Other topics of discussion over the past 2 meetings were the construction of the Quantum-Nano Centre, construction of EV, a bunch of new research institutes, and the approval of a Global Experience Certificate.

Brucey Pi

PMAMC&O Club Corner
Brought to you this week by Real Restaurant, home of the Stone-Weierstrauss Bowl.

Greetings! I hope your midterms went well. For those of you that still have midterms left, best of luck with those. The PMC has a couple of exciting events coming up:

- **Unveiling Math Seminars**: The Enigma machine was an encryption/decryption machine used most famously by Nazi Germany during World War II. The Allied project, codenamed ULTRA, to break and take advantage of the Enigma code was only declassified in the 1970s. It is often said that the war was shortened two years because of this project. Professor John Lawrence will be giving a talk on how the Enigma machine works. He has a real live Enigma machine in working order! You might need some group theory knowledge to understand the talk fully but if you don't, come anyways! You'll get to see a real live Enigma machine and possibly get some free food! **Date: Tuesday, July 8th from 3:00-4:30pm. Location: TBA.**
- **SASMS**: The Summer 2008 Pure Math Club Short Attention Span Math Seminars are coming up!. All talks will be 25 minutes, and everyone is welcome to give a talk. It's a great opportunity to gain valuable presentation experience in a friendly environment and all typed talk notes will be published online in the "SASMS Conference Proceedings". For more information or to sign up, visit `http://www.student.math.uwaterloo.ca/~k2dixon`. **Date: Tuesday, July 2nd, 4:00-10:30pm. Location: MC5158.**

Sarah[2], PMC Co-Presidents

CSC Flash

Very few Mathsoc members realize many of the services that the CSC provide. A membership with the club entitles you to 2 GB of storage quota, our small computing environment and the ability to vote at term elections for new executives. All of these benefits can be yours for $2. In addition, we provide Mathsoc members with cheap pop ($0.50 per can), cheap cholocate bars ($1 per bar), and free Ubuntu CDs. The CSC is found at MC3036, and we are generally open during the night–time hours — perfect for most Mathies and CSers.

Calum T Dalek

CKMS has plans!
Plans we aren't paying for!

Last week when Imprint (of all people) held the cross campus media forum, there was one group there that I didn't really expect to see. CKMS was there playing their radio station with a piggy bank looking for donations. So we asked them a few questions about their future as we were curious since they lost all hopes of steady funding. We asked them what their plans were now that they had no money. They are going to try to increase their membership, hopefully to something in the double digits. We also took a look at their piggy bank, it had some funds in it too! They have plans to keep themselves on campus and they still want to serve students. I guess in short, we can all live knowing that CKMS will not die. We will still have a Campus Radio station that we can call our own, only now we won't have to pay for it!

That guy who still hasn't listened to CKMS

MGC Sez…

Wait… what the hell!?

MGC can't *sez* anything… that's because there **isn't** an MGC Chair! Some people probably won't care who (or what) an MGC chair is (or does)… To those of you, I hope you are not in fourth year, because if you are and you don't give a shit about MGC, then you deserved to be bludgeoned with a 2x4 (or a lead pipe).

As a fourth year student who actually gives a damn about the university (which all of you should if you overlook the thousands of dollars they suck from you), you'll quickly realize "Holy shit! This is going to be my last two terms here if I haven't screwed things up in life and am now forced to serve out a couple more 4X terms drinking and partying my life away."

So… why should you care about MGC? Let's see… Do you want a memorable grad ball instead of standing in a hole in the ground with shitty music and hobos? Or how about a yearbook that actually is a yearbook and not just a couple of *prof*QUOTES and *math*NEWS articles with a leather cover?

Did you answer yes to both these questions? Good! Volunteer for MGC. Make your last year something you would actually want to remember and go out with a bang not a dull thud. *[Here's some math that you should understand: most of you have friends, get your graduating friends involved and help divide the work. As the number of people increases, the amount of expected work per unit decreases! — AngelED]*

If you aren't taking 20 courses this term (or graphics and real time concurrently), participate in MGC. Drag your friends into it. The more the merrier! Meet new people that potentially take the same courses as you… Network, cheat from them… I'm sure the people you are copying answers from right now are sick and tired of letting you mooch off them anyways, time to tap into some new resources and what better way than to participate in a committee… If ActSci Club can do it, I'm sure you can too!

Personally, I don't care if MGC sinks of floats… After all, it's **YOUR** year. Not mine. The onus is on **you** to get your shit together and do something about your year. Just remember that if you realize that your picture isn't in a yearbook, or that your grad ball is in complete shambles that you guys are the ones to blame for it. Don't go around pointing fingers at other people. Hell, don't you even **dare** find the Math Soc president and bitch and whine that "Oh, my grad photos aren't in the yearbook" or "This isn't my picture next to my name. It's a picture of a bunch of dogs playing poker!" or "I'm a girl, that's a guy!" (true story) and "Why the hell does this grad ball suck so much?" or "What happened to grad ball?" (which may or may not have happened, but I'm pretty sure that you guys will start thinking that if you don't get your act together real soon) You guys are the grads of 2009. It's your responsibility to do something about it. Not the president of Math Soc. Grow up and stop waiting for someone else to take charge. Or you can just let MGC fall to pieces. Either way, I'll get a kick watching the committee implode. So, if you don't want to see Grad Ball die, then talk to the Math Soc president and get involved!

xyzzy

Letter from the editor — Alright. Let's get something straight here. I have received numerous complaints about the quality of *math*NEWS and Math Soc and even heard the brunt of MGC complaints, but when it comes down to actually making them work the way they are "supposed to", where the fuck are you? If you want something so badly, like the quality of yore in your ball, then get off your fucking, lazy asses and put some effort in. Graduating is one step off from getting out into the real world and if you aren't prepared to put yourself out there to get what you want, then you should invest in surgery to have your mouth sewn shut so that people who actually make a difference don't have to listen to you.

— AngelED, fizzbitch!

Math Jokes

Here is a collection of various math related jokes, hopefully they aren't as horrible as the ones your professor mentions to pass the time :

1. Why do some vector spaces have trouble travelling abroad? When they are asked for their point of origin, they could not provide one!
2. What do you call tree that has caught on fire? A log of base fire!
3. What do you call the sum of a complex function? A sum of a bitch!
4. What is the area of an Apple? Apple pi!
5. How do Mathies describe the Russian Revolution? A revloution about the axis.
6. Why do drug addicts go into Computer Science? They hear that the can learn about LSD sort!

James Simpson

It's only filler until somebody loses an eye.
Then it's a felony.

Interesting Math
Vulgar (*gasp*) Fractions

Ok, I lied. This article isn't about vulgar fractions, but it's related to them; I just chose that title because I found it humourous that fractions could be "vulgar". In reality, most of you already know about vulgar fractions - a vulgar fraction is simply a rational number expressed as an integer divided by a positive integer, so basically what you normally see when encountering fractions. Unit fractions are vulgar fractions with a numerator of 1. An Egyptian fraction, what the article is *really* about, are the sum of distinct unit fractions. As an example, notice $2/3 = 1/2 + 1/6$. Another possible expansion is $2/3 = 1/3 + 1/6 + 1/9 + 1/18$. Egyptian fractions; although, somewhat outdated and largely replaced by vulgar fractions and simple decimal notation, are still interesting from a number theory perspective, and a number of properties come out upon some quick analysis, but we can only look at a fraction of these in this short article.

For a prime p, you can immediately see that $2/p = 2/(p+1) + 2/[p(p+1)]$ just by evaluating the right hand side. Notice as p is prime, it is either 2, in which case we have the trivial Egyptian fraction $1/1$, or it is greater than 2 and hence odd, so that $p+1$ is even and so $2/(p+1)$ and $2/[p(p+1)]$ are both unit fractions upon simplifying by the factor of 2. Applied to our earlier example, we can see how it works: $2/3 = 2/4 + 2/12 = 1/2 + 1/6$. Another simple property, again immediate if you just work out the expression on the right, is $2/p = 1/p + 1/(2p) + 1/(3p) + 1/(6p)$. Again, applied to our example above we get exactly as I claimed: $2/3 = 1/3 + 1/6 + 1/9 + 1/18$.

For composite denominators, the matter becomes more difficult. Suppose the denominator is factored as ab, and consider $n/(ab)$. We will restrict to the case where $a + b$ is a multiple of n. Define $c = (a + b)/n$. Then $n/(ab) = 1/(ac) + 1/(bc)$. As an example, notice $3/35 = 1/20 + 1/28$. Another nifty identity occurs when the denominator is 1 less than some multiple of the numerator. We can use the identity $a/(ab - 1) = 1/b + 1/[b(ab - 1)]$. For example, $8/11 = 6/11 + 2/11$, and notice each numerator divides one greater than the denominator. Using our nice formula, $8/11 = 1/2 + 1/22 + 1/6 + 1/66$. There are scores more identities one can develop, have some fun with these fractions and see what you come up with.

There are rare cases where our numerous identities do not work; in which case one could employ the so-called Greedy algorithm. As some of you may know, in this algorithm we take the largest available pieces out until we exhaust the number (but it is not immediately clear that such an algorithm termi-nates, try proving it to yourself). More explicitly, we repeatedly take the unit fraction with the smallest denominator that is no larger than the remaining fraction to be expanded. Even more explicitly, letting $\{a\}$ denote the ceiling of a, since I don't have a real ceiling symbol, then we simply repeatedly replace a/b by $1/\{y/x\}$ - y (mod x)/(y{y/x}). As an example, $17/29 = 1/2 + 1/12 + 1/348$.

However, this algorithm is not without flaws. It can somtimes produce extremely ugly expansions: as an example, consider $5/121$. Using the greedy algorithm, we get (deep breath now) $5/121 = 1/25 + 1/757 + 1/763309 + 1/873960180913 + 1/1527612795642093418846225$. Yeah, it's bad. But by inspection (i.e., someone smarter than me came up with this) $5/121 = 1/33 + 1/121 + 1/363$, and I think that's much cleaner.

So this leads to a natural question: can we find expansions where we bound the size of the denominators in the expansion? Clearly for $5/121$, asking a bound of $10\,\hat{}\,26$ we can use the Greedy algorithm, but our clever deconstruction shows we can have a bound of 400, say. Maybe we want to bound the number of terms, or have the unit fractions of a specific form. Try to prove the following: given a fraction a/b, we can find an Egyptian fraction representation in which the maximum denominator is bounded by $O(b\log^2(b)/\log(\log(b)))$. Additionally, there is a representation with at most $O(\sqrt{\log(b)})$ terms. Or do one better, and find even tigher bounds for these quantities.

I end the main article with 2 of my favorite problems for Egyptian fractions. First, does a representation for $4/n$ exist in the form of $1/a + 1/b + 1/c$ for any n? Secondly, what is the computational complexity of finding the Egyptian fraction representation of fewest terms? Have fun with those, and please let me know if you've made any progress.

Vince's problem of the issue: Yes, they're back, after a whole term of being on hiatus. I'll ask a simple one first; this one is quite nice and easy to work out, so I encourage you to try it out. We all know (or should know) the product rule for differentiation: $(fg)' = f'g + fg'$. However some people mistakenly assume the product rule goes like $(fg)' = f'g'$. Suppose $f = e^x2$. Find an interval *(a,b)* and a function g such that the "wrong" product rule actually holds. After that, use it as an example when "proving" $(fg)' = f'g'$ to your friends and family to mess with them. (No I'm kidding, math is serious stuff. We should only ever prea — I mean, *teach* math correctly).

Vince Chan

It was a dark and stormy night

Very dark and stormy. Okay, not so dark, but foreboding and only stormy in so much as the torrential downpour splashed off the rain-slick walkways of campus. A distant clock struck 6:30, and then my watch turned.

Suddenly, it was ten o'clock. Monday, at that; I must've blacked out, or stepped into a wormhole, or something, as I had missed the free pizza. Frantically, I pawed at the hour hands, desperate to regain my lost time; the glass plate shattered in my fervour, and then my watch turned again. This time, it went backwards…

Finally, it was 6:30 again. I looked at my broken watch and cursed silently; I was going to need a new one for next time.

Niner

Get your CD, baby!
At CDBaby

Now, I understand that advertising in *math*NEWS is generally frowned upon, but this is just an honourable mention more than anything else. Although, I enjoy listening to some of the more mainstream music, I do also enjoy indie music, which is generally naccessible unless you know someone in the band. That is, until `http://cdbaby.com` existed. Or at least I found out about it recently. Anyway, the CDs are inexpensive, the shipping is cheap and you get access to a lot of independent artists. The best part of all is that the artists actually get about $6.00 for each CD you purchase, which is usually 50% of the price so check it out! Especially if you like independent artists.

The Hee Ho

Horrorscopes

It's like looking at Britney Spears with glasses on

ACC

Strawberry fields appear to stretch on forever and you will have more than enough time to explore the fields. It's not like your courses take any real effort.

Your lucky number is 1,000,000 strawberry bushes.

ACTSCI

With all the hedge fund managers and traders being arrested for their so called "conspiracy" you will appreciate this week for the fact that none of these problems can be traced back to you. Enjoy yourself, it's a beautiful day.

Your lucky number is 400 scapegoats blamed for your mistakes.

AMATH

You are a maniac and you like it. No one will be able to stop your rampage this week as you eliminate as many engineers as you can take down before you fall.

Your lucky number is 1 glorious death in battle.

BBA/BMATH

Love is in the air. It is blooming all around you. However, it passes over and ignores you. Who knows maybe it's racist or something.

Your lucky number is 3 friends who found their significant others.

CM

Your backlashes due to a previous horrorscope have broken a poor writer to tears. ARE YOU HAPPY NOW!!! ARE YOU!!!

Your lucky number is 7 nights I cried myself to sleep.

C&O

You finally got the job of your dreams. A travelling salesman. Now if you could just solve N vs NP all you won't spend your next four months trying to figure out how to visit 5000 without retracing your steps.

Your lucky number is the number of solutions to the problem above.

CS

The train goes around the loop. Just not the loop you want to go. Simply said — you are out of the loop and it will take quite a while to get back into the loop.

Your lucky number is 3 sleepless nights in the train room.

MATH/BUS

All this rain has probably left your travel soaking wet. The only gratification is that you think you look good in a wet t-shirt. It's fun to dream, isn't it?

Your lucky number is 5 shirts you refuse to dry.

MATHEMATICAL SCIENCES

Did you hear the news? Mathematical Sciences is not dying! Just kidding you are so getting wiped out.

Your lucky number is 2 shattered rays of hope.

OR

It's a piece of cake to bake a pretty cake. However, there are hundreds of ingredients all with weird names that you have never heard before (mathies don't cook… unless you read the MathCooks!) Now is the time that we taste… or rather test your your luck.

Your lucky number is 8 bottles of weird red stuff.

PMATH

Your classes just haven't been doing it for you. You find yourself bored and tired in class. At least you can write funny words on your calcular to keep yourself occupied for a few minutes.

Your lucky number is 5318008.

SE

Merge your tie and hard hat and create your own faculty. Now is a great time for change, and you should be the one to implement.

Your lucky number is 1 tie with a hard hat attached.

STAT

If people's death over time can be modeled with a Poisson Distribution and your alcohol consumption is a normal distribution, how long until you end up killing yourself?

Your unlucky number is 7 days.

UNDECLARED

Nobody likes you. Just pick something and join the accepted circles of acceptance. Do it… just do it.

Your potential, lucky number is 100 new friends.

AHS

Listen carefully to the sound of your body. It will be trying to tell you important things when you hear a rupturing noise from your abdomen. Be at peace with the internal bleeding.

Your lucky number is 2809 deciBals of screaming.

ARTS

Congratulations, you graduated with highest honours from your school, but you still chose to do nothing with your life. Remember to look up the words that you plan on using beforehand. It'll make you seem less dumb. A bit.

Your lucky number is 30 posts of trolling.

ENG

Startlingly you will realize that the Nanos will be after your jobs. Isn't the competition great? Murder is suddenly going to reveal itself as an option.

Your lucky number is 2 hidden weapons.

ES

Go out there and hug your tree. But watch out for the rabid, unending masses of zombies coming to feast on you.

Your lucky number is -1 BRAAAAAIIIIINNNNNSSSS.

SCI

Get a good start to your weekend by sleeping with a senator. I can list off a few that want to add science to their list of faculties done.

Your lucky number is one unforgettable night.

DaFink

Szabo's Underdog Movies of the Biweek

Featuring terse reviews.

If you want me to vouch for your movie then drop me a line. I love to see new underdog films.

Code 46 (biopunk)

It's genuinely deep, but perhaps a little existential. There is some nudity. I watched this with a friend and it made for decent discussion afterwards. Requires full attention.

Kopps (comedy)

It's in Swedish (I suggest subtitles, never dub). It's a silly comedy, somewhere between Naked Gun and Super Troopers; I refuse to mention Police Academy. Requires full attention.

Szabo <tyler.szabo@gmail.com>

*prof*QUOTES

In math you deal with giants, like Liebniz and Newton. In physics you just deal with your teacher, who, you know, is smarmy and has bad breath.

Leung, MATH138

Here's another pressure example: if you fill up a… phone booth with, say, jelly beans… That's pressure. I've proved it.

Leung, MATH138

Consider the half-asteroid. Sorta like R2D2. Half-assed droid.

Leung, MATH138

Today will be a fairly short lecture, for various reasons. I have to give you back your midterms, and I fell asleep in my office.

Leung, MATH138

They buy cheap chalk. Either that or I'm really strong, but I don't know about that.

Steiner, STAT 332

There are lots of things in life that are done wrong because they're easy, and this is one of them.

Wood, ACTSC 371

But eventually, we run out of idiots.

Wood, ACTSC 371

You are X times more likely to suffer eye damage than to win the lottery. Remember — I'm making this stuff up.

Paci, SPCOM 223

Student: You have a hole in the back of your shirt.
 Prof: I don't know how to react to that!

Michailovich, MATH 213

[after being corrected] It's because of the shirt.

Michailovich, MATH 213

[while differentiating tertiary links and cycles] I have a relationship with my car, my wife has a relationship with my car, I have a relationship with my wife, but me and my wife don't share a special relationship with my car.

Davis, CS 246

If you shower for 5 minutes less, you'll use less water.

Trimarchi, ECON 101

It's the third time [Quest has] sent me a message with a list of people that dropped the course overnight. And then it also sent me a message saying everyone in the class re-enrolled.

Cowan, CS 251

That's the kind of stuff you'd find useful if you want to write bullshit on Question 2.

Cowan, CS 251

I wrote the exam over the weekend, and since I couldn't remember the future, namely today, I've only put on material up to Friday's class.

Cowan, CS 251

Prof: (after explaining something for 20 minutes) So this kind of… sucks.
 Student: Then we shouldn't use that language.
 Prof: I agree. But the real world isn't so nice.

Lhoták, CS 241

As of last class, I did away with the torture device known as the microphone.

Till, ACTSC 232

On Wednesday's class we will finish this hard example… On Tuesday night I will get drunk.

Bergeron, CS 437/Stat 340

I'm kind of an asshole, so that might just be me.

Selby, CS 350

I didn't talk THAT much shit for 10 minutes for you to not know.

Selby, CS 350

[Referring to the wood-framed blackboards in PHYS 145] They should take these blackboards to the Antiques Roadshow. They'd just love them there. I wouldn't want to take them myself, I'm afraid they'd want me too!

Cunningham, CO 350

The Socratic method is a good way of giving a lecture without preparing anything… just keep asking questions.

Watrous, CS 360

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).*

The Hee Ho's Half-Assed Music Review

Nomah's Land by Métisse

Some of the best music is hard to find, which is a great way of describing French artist Métisse, a hubsand and wife team who make music that is both soothing and interesting. The team make mostly a blend of Celtic, African and electronic music. The mixture of Sully's (the husband) electronic skills and Aïda's (the wife) amazing voice created the perfect sound for their style.

Nomah's Land is available for sale, readily available online at `www.cdbaby.com` and is the duo's second album. It is impossible to find a physical copy of their first album, titled My

Fault. The title track of Nomah's Land is a simply amazing composition and was rightly featured on the MGM's Dead Like Me. Métisse's music has been frequently featured in various televisions shows such as ER, and even in beer commercials. Also, go one YouTube and look for the song "The Rain is Falling" and prepare to have a music-induced orgasm. Definitely something worth checking out, the couple will undoubtedly continue to make beautiful and inspiring music in the years to come!

The Hee Ho

MathCooks!

Simply entertaining!

Our university lives generally ensure that we will not have a lot of time to entertain guests. Whether it be friends coming over for the game or actually hosting a dinner party, we're always looking for quicker and easier entertaining ideas. For example, consider the simple cake: Easy to make out of the box, but it's always so boring. Here are a few ideas that can help you jazz up the cake to wow your friends and family (if they think you can't actually cook). Note here I specify vanilla flavor mix because you can tinker with the flavoring much more easily than rich flavours of chocolate.

The idea is simple: start with a bland vanilla cake, and infuse it with any flavour you want by adding a package of jello/pudding mix. Simple exotic flavours for practically nothing! You can even make it more exotic by adding nuts or other dried fruit bits.

You will need:
- A box of cake mix, preferably vanilla
- Eggs, milk, water as specified on the cake mix box
- A small package of jello mix, your choice on flavour
- A canister of icing
- Random nuts/dried fruits

Start by doing what the cake mix wants you to do. When stirring the batter, mix in the package of jello mix. In the meantime, set the oven to 350 degrees and toast the nuts on a single layer for 10 minutes. This brings out the oils in the nuts to enrich the flavour. Peanuts, walnuts, pecans, cashew are all fairly common choices in nuts. When done, crush the nuts by throwing them in a ziplock bag and whamming it with a rolling pin or any other method you can think of. At the same time, heat the oven up to the suggested preheat temperature on the back of the box.

Grease your pan. Once the batter is mixed, pour it into your pan, I suggest the round pan if you are entertaining guests because they look nicer when done. Once the batter is settled nicely in the pan, sprinkle your mixed nuts over the batter. Since the nuts will tend to settle to the bottom of the pan, it's best to sprinkle them right before you put the pan in the oven so the bottom will have a chance to set before the nuts reach it. Once ready, bake the cake in the oven as directed at the back of the box. Make sure to check it slightly before the directions suggest, as it differs by oven. Remove it as soon as a toothpick stuck in the center of the cake comes out clean.

Optional jazziness:

Now that we have our cake, here are some ideas to make the cake look nicer. Icing will always help, but another thing that can help is a flat top on the cake! (Ask anyone!) Let the cake cool, and then remove it from the pan. Gently slice the cake in half sideways with a knife, and place the two full circlular cakes on different plates. Generouslly spread icing on the round top dome that you just sliced off and flip it over on the bottom half, with the domey top facing downwards. (If you're confused, the order would be bottom of top piece - dome top of top piece - top of bottom piece - bottom of bottom piece). This trick will keep the cake flat on both top and bottom. From there, ice the rest of the cake with your trusty spatula and you are done!

I hope my modest ideas will have given you a spark when you are entertaining guests next time, it truly does make others marvel at your skills (even if you don't have much, but they don't have to know that!) Have a good time!

Host Chef Panda

NecroCooks!

Today, zombie delicacies!

Zombies are truly a majestic species, with a culture steeped in tradition dating back as far as the beginning of time. The proud cultures have their own very unique cuisine, which mostly focuses on one central ingredient that is then cooked in various sauces.

The secret to good zombie cuisine? Human brains! Of course, zombies will also eat brains of other animals, but to truly experience the best, you need to find fresh human brains. Here's a sample recipe that Italian zombies love that you should take a shot at:
- 2 brains (preferably human, but lamb or calves will suffice)
- An onion
- 1 bay leaf
- 1 pinch of thyme and some peppercorns

Soak the brains in cold water for 2 hours, then gently peel the thin outer skin off. Soak again for 3 hours. Place brain in a large pot and cover with cold water. Add the onion, bay leaf, thyme and peppercorns and bring to boil. Simmer for 20 minutes. Then it's time for part 2.
- 2 whole poached thymus glands (or pancreas): human preferable
- 100g flour
- 2 tbsp olive oil
- 50g butter (unsalted)
- 24 sage leaves
- juice of 2 lemons
- some salted capers, salt and pepper to taste

Take the brain out of the liquid. Cut the thymus gland in half. Slice each of the half lengthways to make roughly 6 even slices (or just slice into discs). Lightly dust with the flour. Heat the oil and half the butter in a frying pan, add the brains and thymus and fry until golden brown on one side. Sprinkle the sage and capers and flip over. add remaining butter and keep frying until it becomes browned as well. Season with lemon juice, salt, pepper and serve. Enjoy!

Zombified Chef Panda

A LOOK INSIDE A MATH'S MIND...
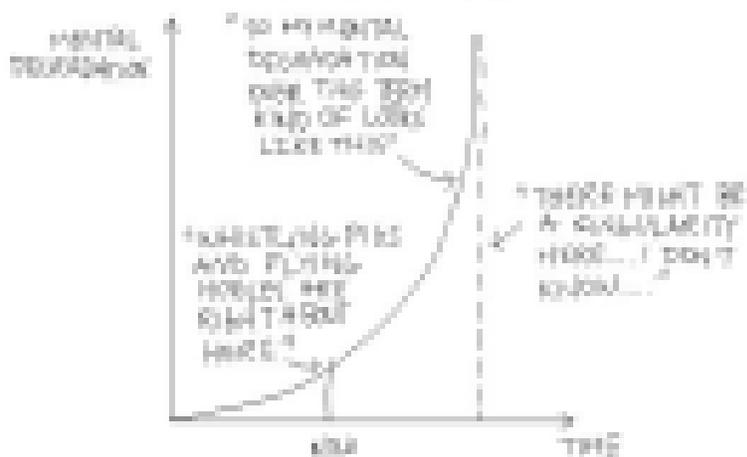
— MATTDAS, C5 3G0

Rufus Conductor dies, Monday June 22nd, 2008

Jack-of-All Trades did everything, offended everyone.

Rufus Conductor, a well known train conductor, time traveller, hitchhiker, grandfather, detective, taxi driver, Cardinal, and dirty old man, died on Monday June 22nd of heart failure. Rufus had a long career of over 40 years, plying his trade across the country and across the centuries.

Born on May 12th 2637, in San Dimas, California, Rufus became a school teacher at San Dimas High School. After an encounter with would-be dictator Chuck DeNomolos, and thwarting his semi-successful plan to kill future world peace bringers, Bill S. Preston Esq. and Ted "Theodore" Logan, Rufus, tired of saving the future of mankind, decided to leave his job and settle in the 1970s.

He quickly gained noteriety by swearing to everyone he met. His source of income was unknown, but it is believed that he would yell one of seven words at his targets so loudly and violently that they would empty their pockets of all their money in an attempt to buy back their virginal ears. At times, he was known to yell phrases as profane as "Shit, cocksucker, that fucking cunt's motherfucking tits made me piss myself."

In the 1980's, he moved off the streets and began to find odd jobs, with brief stints as a New York taxi driver, and as a detective. He almost worked his way to riches with a young Derek Zoolander while working as a Janitor at a brokerage firm.

He ultimately found his niche in life with a job as a 6 inch tall conductor at a train station in Shining Time, MA. He got the job after his predecessor left the position due to finding fame and fortune in a british pop group, The Rutles. Mr. Conductor was never seen to be performing his duties while at work, but his constant drug-induced tales of living, breathing locomotives kept his superiours and clients entertained enough that he was kept on the job.

Rufus left this job when he recieved an edict for a higher calling. God had spoken to him, and so he became a Cardinal in the Catholic church. He was the primary instigator of the highly successful "Buddy Christ" marketing campaign. His diocese was hit with scandal in 1999 when a bloddy macassacre occurred at his church's rededication ceremony. The church survived with only a small dent in its reputation when it was discovered that miraculously no one was killed, but Rufus lost his job in the scandal.

The next few years he spent in a period of self-discovery, becoming a hitchhiker, and an avid follower of "the rules of the road". He was said to have passed on this wisdom to international superstars Bob and Jay, famed lobbyists whose efforts resulted in the legalization of marijuana in over 125 countries.

In his final years, he moved in with his son and granddaughter, teaching her in the ways of fast-talking, erudite conversation. His last appearance in public was in his granddaughter's elementary school play, The Demon Barber of Fleet Street.

He is survived by his son, Ben Affleck, and Affleck's daughter with Jennifer Lopez.

MJB

Bug of the Fortnight

Vista Edition

It has been quite a while since I have written a Bug of the Fortnight, and, for that matter, for *math*NEWS. In any event the following are two bugs, one of which appeared as a solution to a CS assignment in an un-named course:

Snippet 1 :
```
void foo()
{
  // Create a new node, and allocate the space for it.
  Node pNode = *new Node();
  // more code for the solution as posted
  // by the instructor ...
}
```

Snippet 2 :
```
void transform(Buffer *pbyData)
{
  int iSize = sizeof(pbyData);

  for(int i = 0 ; i < iSize;i++)
  {
  // Invert bits
    if (pbyData[i] = 0)
      pbyData[i] = 1;
    else
      pbyData[i] = 0;
    if (pbyData[i-1] != pbyData[i])
      i—;
  }
    ofstream OutFile("image.jpg");
  OutFile << &**pbyData;
  OutFile.close();
}
```

James Simpson

University of Waterloo website got Punk:D
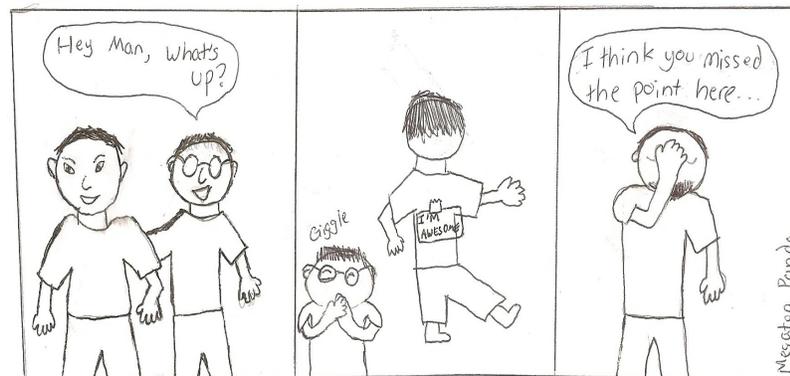
*math*HELP

You've got questions? I've got answers!

Dear InsideR – My *[calculus - exact course removed for anonymity]* prof absolutely sucks. He teaches word-for-word from the text, and often doesn't even get that right! I literally lose the will to live when I'm in his class, but I can't skip or I'll fall behind. Save me, InsideR!

Cornered in Calculus

Dear Cornered – If this course had multiple sections, I would tell you to drop into another prof's lecture and listen there. But it doesn't, so you need to decide if the material is something you can learn on your own. If he's going word-for-word from the text, you <u>may</u> be able to get away with reading on your own, but you never know what else he plans to cover. You will have to decide if you can learn without him or not.

InsideR

Dear InsideR – I've noticed in past terms that you've had this thing against The Single Guy. Obviously he must have had good advice, since he found a girl. Have <u>you</u> ever tried his advice, and why are you bashing it?

TSG Fan

Dear Fan – I have tried his dating advice. And let's just say that, after doing so, The Permanently Single Guy came into existance. Now, if you're asking for dating advice, just be yourself, and you will eventually find the one for you *[And her air nozzle — AngelED]*.

InsideR

Dear InsideR – MOO!

A Cow

Dear Cow – I thought I ate you last week. Or maybe that was your brother. Either way, you would look good on my barbecue. Good day.

InsideR

mathNEWS_InsideR@hotmail.com

Mike Lazaridis buys Ontario

Switzerland seen as next potential takeover target

After months of speculation, Mike Lazaridis, trillionaire founder of RIM, followed through on his acquisition of the Ontario Provinicial Government. After his purchase, he announced that it would be renamed "The Mike and Ophelia Lazaridis Ontario Provincial Government". Now he also plans to order legislation to create a tax haven at the corner of Philip and Columbia streets in Waterloo Ontario.

When asked about his recent spate of acquisitions, he responded, "Well, after becoming the Chancellor of that second rate university, I realized that I liked having my name on things without any effort on my part. Now that I own the Perimeter Institute, the Quantam-Nano Research Center, the Nashville Predators, the City of Waterloo, and now the Province of Ontario, I'm thinking that I need to share this blessing with others. Like my dog, Scruffy. How does '*The Scruffy Swiss Confederation*' sound to you?"

MJB

ElseWhen

25 Years Ago in math*NEWS*

Two weeks ago, you will recall that AlfredEd begged for more articles. He got less. Today, we look at this four-page issue of *math*NEWS, also known as Volume 31 or 32 (they couldn't decide), Issue 3, first published July 8, 1983.

InsideR

The CHEVmath Club... answers the question "What if *math*NEWS went communist?" It would look something like this:

Also in the news, MathSoc has proposed to rob the Mathies of twice what they currently do. As usual, if you request that they return to you your own money, they will mark up your CIA-made ID card, but thenceforth they will refuse you many of your proper rights as Math students.

I have never been more thankful for the communists not invading us that I was after reading that.

In Other News:

- The MathSoc Zany Wine and Cheese is in three weeks. Tickets in MathSoc.
- REAL PROGRAMMERS DON'T USE LOWER CASE! CAPS LOCK FTW!
- The Transylvania Club is selling Oktoberfest Tickets through MathSoc and the Feds.
- Food Services is the place to go if "you ever wanted to see an infected zit under a microscope". Ew.
- And Dan S. is mentioned in the *mast*HEAD. Wait… he's been around that long?

The problem with the extremely powerful pogo stick

Suppose you are at the origin on the number line and you have an extremely powerful pogo stick. You want to make a series of N visits to the positive/negative sides of the number line that are specified to you beforehand. Once you leave the origin, you cannot visit it again, also you cannot change the order in which you visit the sides. To make things even worse, your pogostick is defective: it can only jump one of N distinct distances, and for safety reasons, after it jumps a given distance, it cannot do so ever again.

The following is an example: suppose you want to make 3 visits, in the order of positive, positive, negative and your pogo stick can only jump distances of 1,2,3. Then one solution would be to jump 2 to the right, 1 to the left and 3 to the left.

Now here comes the problem: is there a situation where you cannot make the jumps? Once you get past that, find some sufficient and necessary condition on the sides/lengths such that a sequence of jumps exist.

To take things one step further, provide an algorithm such that given a visit sequence and lengths that satisfies the condition you came up with, find how to make the jumps. Finally, you can try to find the most efficient algorithm to do so. If you make any decent progress, feel free to email me at peng_richard@hotmail.com.

penguin

Umbrella

To the tune of Umbrella by Rihanna

(Zombie)
 Argh-argh. (Itchy tasty)
 Argh-argh. (Good flesh gone bad)
 Argh-argh. (Take bites... infection)
 Argh-argh.

(Chris Redfield)
 Bravo Team is gone.
 Start the game, we find a plane in the woods
 With the corpse of Kevin Dooley.
 When the dogs come we gone, Joseph's supper.
 Brad fly with our copter.
 And T-Virus spreader, you know me.
 In preparation, for zombie invasion. Stacked clips for the final boss.
 Hey, Chris is back with Master of Unlocking,
 Jill Valentine, where you at?

(Jill Valentine)
 You get their bite
 And you won't be feeling right
 May need a healing herb
 But you'll drop to the curb.
 Baby cause in the dark
 You can't see zombie hoards
 And that's when you hear them there
 With you I'll always fight because

Chorus
 When the game starts, we'll start together
 But then we'll split up moments later
 Said I'll go find a way out
 Took a gun, and I'll force my way through a route
 Now that there's zombies more than ever
 Find some weapons in a shelter
 We can now take down Umbrella
 We can now take down Umbrella-ella-ella-brains-brains-brains
 Takin' down Umbrella-ella-ella-brains-brains-brain (x3)

These magazines, gun clips in every scene
 They're in my inventory, where they come from's a mystery
 And when the bad guy shows up
 You'll be thinking "What the fuck"
 If his brain's at large, who the hell put him in charge? Because
Chorus

You can run into their arms
 It's okay, they'll do you harm
 Just smoke some weed
 It will restore your HP and more
 So go on and let the bullets pour
 Zombies will drop to the floor because!

They're biting, ooh baby—they're biting
 Baby, need ink to save, need ink to save (Repeat until infection consumes you)

Imprint and the Bore draw first blood

The Hee Ho mortally wounded

On the day of June 16th the Imprint celebrated its 30th birthday; although, the paper is suspected to be older due to its semblance of low-grade, orphanage toilet paper. The event was celebrated with cake and the presence of other student media organizations were there to join in the festivities. CKMS was there as well.

The *math*NEWS editor sent corespondent and expendable grunt the Hee Ho to boast its obvious superiority complex. What was awaiting him was something fierce and unexpected. Upon his arrival, the Hee Ho had begun interviewing the other student–run newspapers, which was business as usual. The Hee Ho began by interviewing a urine-stained mark on the wall, assuming that it was a representative from the *darkdoesntmatter*, science's attempt at publishing doggerel and rants. He found the urine-stain more interesting.

At the end of his interviews the Hee Ho proceeded to consume some cake that was available for the masses. The cake itself was a monstrosity with an issue of the *Imprint* as a key ingredient, next to puppy chow. This was obviously an act to make the *Imprint*'s content more edible to the student body, a feat easily recreated by dipping it in hydrogen peroxide and wrapping it in a freshly slaughtered zombie cow's liver. Instead of receiving a slice of what would questionably be called food, the Hee Ho was assaulted by the editor–in–chief of the *Imprint* and what can only be described as an unidentifiable arts student with a sign reading "The Bore".

Students watched in apathy as the assailants did not relent. In his death throes the Hee Ho lamented how little time he had to sleep with various people's mothers. Long after the Hee Ho's life was brutally beaten out of him, the attack continued. The only thing that stopped the assault was the onset of rain, as if the heavens were crying out for the loss of *math*NEWS's most useless lackey. Tears of joy, that is.

Now, with the Hee Ho's body nowhere to be found, possibly on the sixth floor of the MC, the *math*NEWS staff is considering declaring war on the *Imprint*. The already unstable relationship between the two publications is in jeopardy and; although, no one actually cares about the loss of the Hee Ho, the events serve as a flimsy pretext for revenge.
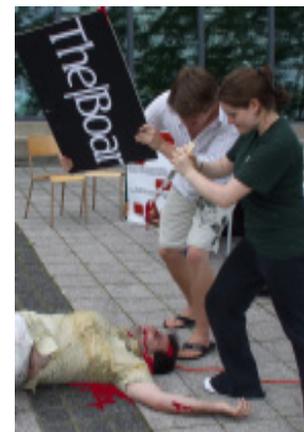
AngelED

Place the following 10 squares on the 10 circles so that the overlapping numbers match up.
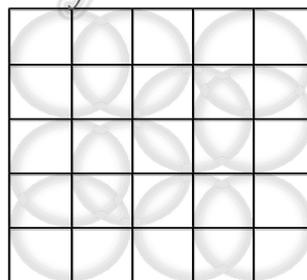
Puzzle Panic

Maggie Clark is our vaunted school newspaper's (the *Imprint*, in case you were wondering. No one vaunts *math*NEWS, and what's an *Iron Warrior*?) Editor-in-Chief. As the holder of such a lofty position at the institution which produces such magnificent expidenture of carbon, one might think that she had learned something about the most important part of a serious production. Surely, sometime during her rise in the ranks from a steely-eyed, hard-hitting journalist would Maggie Clark have understood not to neglect that most integral part of her production.

By now, some of you are thinking "But what, oh wonderous and handsome imparter of wisdom? To which section of *Imprint* do you refer? Could it be the editorials? The human interest? The news columns? The comics? How green is my campus?" The answer, my friends, is none of these. Instead, the most vital aspect, which has sadly declined recently is, of course, the crossword puzzle. This puzzle is the only reason 99% of each new edition of *Imprint* is picked up. (The other 1% probably ends up on the floor of a rabbit cage somewhere). How many hours have you spent in class working on the crossword? How many of you enjoy the satisfaction of completing a challenge? How many jump to their feet and do a victory dance after each word is completed? Clearly, the answer is all of us.

So what's wrong with the crossword? What's the point of this awfully alliterative article? The point is, several editions ago, I noticed that the crossword is now credited to Maggie Clark, our beloved EIC. At about the same time, I noticed several subtle disimprovements in the quality of the crossword. For example, the simple etiquette of making plural answers clear in the clue, or even specifying the number of words in an answer, is only occasionally observed. Although, discarding these practices could be an acceptable way of making the puzzle more challenging, the fact that she is inconsistent with it is exceedingly annoying and serves no purpose. As slightly less arguable points, several clues are often either pointlessly trivial (e.g. "one who eases" = "easer"), misspelled ("neolithic tone tool"), or just plain wrong ("anti" is a prefix).

So Maggie, unless you want to lose the readers who only do the puzzles (i.e. all of them), please put just a little more effort into constructing and editing our beloved crossword puzzle (and the Sudoku could be just a little bit easier too), or get someone who can do it right. In the interim, for my faithful readers, I have prepared a puzzle for *math*NEWS. I guarantee it is at least as fun and challenging as Maggie Clark's.

Sudoku ARandomStringOfCharacters

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

Draw your own fucking bold lines

The Rage returns

So, I was minding my own business, walking back from class, when I stumbled across what I thought was the worst poster in history. No, worst is too nice. It was the most pathetic poster in all the histories of all the universes that have, will, and won't have ever existed.

"Ignorance is bliss", you say? Obviously, the morons who created this abomination of a poster thought so: nowhere on its black and red surface is there any hint of intelligence. Only when reading its fine print with a magnifying glass (as one should know their enemies) did I discover what the advertisement was for: a charity responsible for distributing items to children in Africa to save their lives. Really, is it that hard to stick that somewhere readable? And at least name yourself? No wonder nobody seems to pay attention to your message: they can't even read it. *[Has anybody noticed the signs that say "A child killer larger than AIDs?" First of all, the 's' is part of the acronym so it deserves a capital. Secondly, I'm pretty sure most things that could kill a child are larger than AIDS. Like a lawnmower. — AngelED]*

And then it got worse, despite the fact that I did not think it was possible. Another monstrosity of a waste of paper stood on the walls of the MC a week ago yesterday.

Yes, Gabe, you have a nose. And if you don't stop fawning over it like a giddy little school girl, I will come over and forcibly remove it with a rusty table saw. I don't care about your little kegger, or your grade-school mentality for Internet memes that belong there, not here. Why don't you go back to Keats Way, where there are not one but two elementary schools within walking distance that might be willing to enroll you in kindergarten again. Maybe you'll finally pass, but at least they take you out of my life.

The Rage
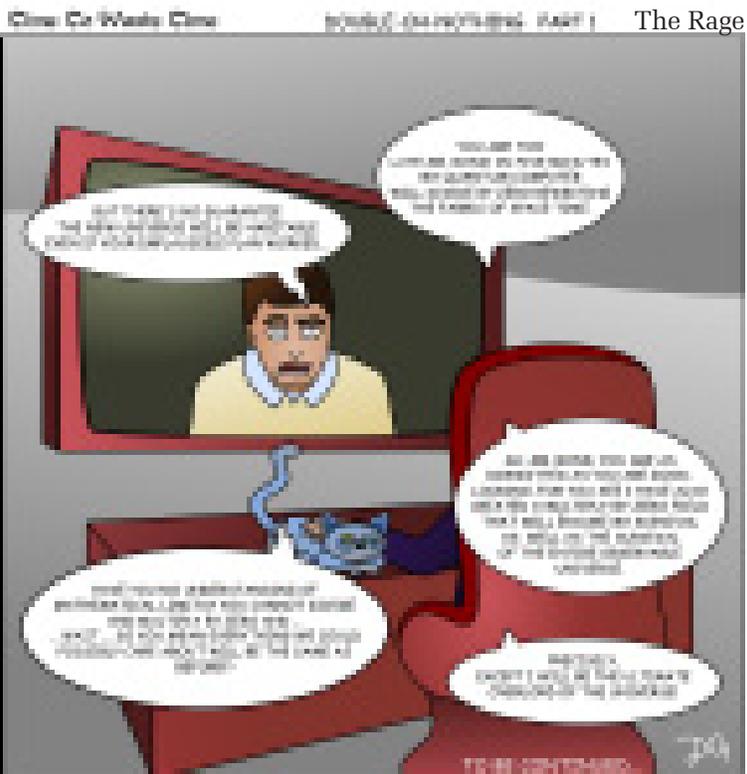
So I was doing homework and got 0/0 as an answer to a question. All of a sudden, a giant roll of thunder sounded outside, rattling my window. Conclusion: thunder and lightning are caused by math gods that get angry when you divide by zero.