Key Control Takes on a New Mandate

lookAHEAD

mastHEAD

Good Riddance!

Good riddance to bad rubbish. We don't need those CS nerds anyway. *math*NEWS is stronger without our weak links. We kept the good ones anyway. Aside from the small drop in our budget to take care of the loss, *math*NEWS is alive and kicking. You have to admit, our cover is so much better than the csNEWS one. I mean, who wants to see a bunch of CS 488 dweebs?

So we asked the *math*NEWS loyalists "What are you going to do now that we are free of the tedium of CS?": Diana (2B Act. Sci, "Integration!"), Adam (2B PM&CO, point and cough), Craig (do research in …uh…quantum computing), Lino (2B PM, The Putnam), Mohmed Omar (2B PM, I didn't care for them before, I don't care for them now), Katie (Arts, Me Katie, Me Artise, Me like Slossage), Chris TW (1B CS, Switch to PMATH!).

Props to the cats in Graphic Services.

Chris "Krease" Harasemchuk (Ian's mom)

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Prez Sez

Two Student Societies are better than one?

So the end of term is upon us. You what that means. That's right, I am behind on all my work. This means my president webspace thing is kind of not up to date. As things calm down this week and I finish my last OS assignment I will updating www.mathsoc.uwaterloo.ca/prez to turn into a end of term report for everyone to read and enjoy.

Now is a good time to reflect on all the stuff that will be finished by the end of the term. New furniture for the Comfy will be ordered and installed over the break thanks to the hard work of the comfy committee. A new shadow list has been created and should be active next term and in coming terms. Students' voices were heard on the issue of space. Once Engineering moves, there should be more office space available on the 3rd floor. Unfortunately new study/lounge space wasn't in the deal. Success in getting more study/lounge space will depend on gaining department and school support.

A new food in labs policy will be coming into effect. You will be able drink out of sealed containers in the labs without getting in trouble. MathSoc and the C&D will sell MFCF/CSCF-approved containers. You can use your own as long as you keep it sealed. Nothing has changed yet, but don't worry, you will know it when it does. Please do your best to keep the labs clean, there are garbage cans just outside the doors.

MEF chose to fund a data projector. It will be owned by MFCF and managed by MathSoc. It will be available for students to use. A set of speakers, DVD player, VCR, and stand to hold it all on is also being bought for student use. This will enable our movie nights to run more independently as well as help out students who have trouble paying $80 to rent a projector.

We are also helping out with all the other student societies this Saturday at Student Life 101. We will be BBQing for all the pre-frosh. We also put together a pamphlet to make sure people can find out just what the Society does as easily as possible.

It has been a quite a term. I have gotten ok marks, gotten a lot of stuff done, and I hope I have helped to make the Math Faculty a bit better for all students. Good luck on your exams, and may your marks be as high as they can be.

Albert O'Connor
President, MathSoc
Spring 2003

How We Ensured That There Are No Duplicate Articles in Both *math*NEWS and *cs*NEWS

A Service Brought to You By The Department of Redundancy Department

csNEWS/mathNEWS has ensured that there are no articles appearing in both issues by creating what is called the Department of Redundancy Department.

Their slogan is: "We remove and eliminate any and all useless and unnecessary superfluous redundancy and useless repetitiveness."

Retraction

To all UW students and staff,

In the last issue of *math*NEWS (July 11, 2003), the article titled 'Lyrics for The U of P Theme Song' on page 6 should not have been published. We, as many others did, found the article offensive and degrading, and would like to apologize to all UW students and staff.

As a result of this error, we have revised *math*NEWS' editorial process to hopefully prevent a similar slip from happening again, and have already removed the article from the *math*NEWS website. Once again, we offer our sincere apologies to all.

Please email any questions or concerns to mathnews@student.math.uwaterloo.ca, or drop them in the BLACK BOX between the Comfy and C&D. You can also email Shirley Thomson, Executive Assistant to the Dean of Mathematics at sjthomso@uwaterloo.ca.

Chris "Krease" Harasemchuk — *math*NEWS Editor
Louis Mastorakos — *math*NEWS Editor
Ian MacKinnon — *math*NEWS Production Manager

Arts Girl Provides For Amazing Counterexample

A famous mathematician who roamed the halls of the MC came up with the following mathematical conjecture:

Conjecture:

All arts students are leisurely students with no minds capable for mathematics.

The Ebony Mathematician has come up with a counterexample:

Consider the set S = {arts students with a math minor with math marks above 90}

Claim: S is non-empty.

Proof: My roommate is in the set S.

Now if all arts students are leisurely students with no minds capable for mathematics, then clearly, their marks in math courses would not be near 90. But there is an element in S, specifically my roommate, that contradicts this.

Therefore the conjecture does not hold.

So for all you sorry ass losers in math who think artsies aren't smart while you pick your nose and stink like fish and need to play a sport and remove yourself from a computer for once and think arts girls can't beat you at your own game, BOOYAH !!!!

The Ebony Mathematician

Conspiracy Theory of the Fortnight

*math*NEWS/*cs*NEWS production night was referred to as "*math*NEWS/*cs*NEWS joint production night" on posters. Yes, that is correct. It was called a *joint* production night. It is believed that whoever designed the poster tried to get potheads to misunderstand what production night was about to cause the needed boost in production night attendance to produce two issues. They'd come for "joint production" and they'd (definitely) stay for the free food.

I also believe that revealing this *math*NEWS/*cs*NEWS conspiracy will get me sacked. So don't expect any more such theories to appear in any future issues of *math*NEWS or *cs*NEWS. It's been nice serving you. Goodbye.

New Courses Offered in the Math Faculty After the MATH/CS split

Rumour has it that, as a result of the upcoming split between math and computer science, students in the new Faculty of Mathematics will no longer have to take CS courses. Speculation abounds as to what classes will be offered to replace the mandatory computer science courses that math students were previously forced to take. Anonymous sources have released the following course descriptions to *math*NEWS:

MATH 117 - INTRODUCTION TO THE MOUSE

An introduction to the theory and application of the computer mouse. Includes a survey of optical and trackball mouses, as well as one, two, and three button mouse theory.

Introduction to the Mouse will supersede Calculus for Engineers, which formerly had the course code MATH 117, because the Faculty of Engineering has determined that engineers no longer need calculus to do their jobs.

STAT 232 - ADVANCED TRUE AND FALSE

Evaluation in Advanced True and False is based upon a true and false exam of 1000 questions. Students bring their own random number generators and generate their answers. Performance in this course is generally better than in STAT 231.

MATH 106 - THE ETHICS OF MATHEMATICS

Students learn that plagiarism is wrong, it is not good to cheat on assignments, and it is even worse to cheat on exams. Different techniques of exam cheating will be analyzed, including "looking over your neighbour's shoulder," "smuggling in a cheat sheet," and "meeting your smart friend in the washroom and getting him to solve the question for you." The course will also cover the history of mathematical plagiarism, including an overview of mathematicians who achieved fame by stealing theorems from other people.

PMATH 478 - ADVANCED MATHEMATICAL JARGON

An overview of the language and symbols that render advanced mathematics unintelligible to the general public, as well as the application of this jargon to real-world situations. Topics include "making your friends think you are smart," "dressing up shabby ideas with elaborate language," and "boring conversation to make while on a date."

The Argyle Gnome and The Ebony Mathematician

Secondhand Stogies

Now Available in Two Flavours: Math and CS

Software Engineers Get Nothing for Once

It gives me great pleasure to announce that, to appease the ruthless editors of the ***NEWS** publications, I have split my "Secondhand Stogies" column into *math*NEWS and *cs*NEWS editions.

Because I am such an interesting person, I have decided that I must divide my article in an interesting fashion. Starting with this article, I am adhering to the following formula:

Let $p_0, p_1, \ldots p_{n-1}$ be the n paragraphs of my article. The paragraphs with even subscripts shall be placed in *cs*NEWS, and the odd-numbered paragraphs placed in *math*NEWS. To read the article, you must read paragraphs alternating between *cs*NEWS and *math*NEWS.

Aaron Klotz
Enjoy the new format!

CSCF MFCF War Precipitated

Move Your Accounts Abroad

MFCF announced today that it would be releasing its server logs to co-op employers this term. *[For those of you on co-op don't fear, we're joking here. — iEd]* The new initiative would see co-op employers gain access to login times and durations for all students in their employ. Of this new initiative, CECS is quoted as saying "Of course this is a good idea. For a start, it will give our employers valuable insight into what their co-op employees spend their time doing. Not to mention, it will give a much needed boost to the sales of RIM, who are our best friends. And it will give those whiny brats a kick up the backside. Who do they think they are? Earning more than we do... Whatever we say about just creating the opportunity, we *gave* them their jobs, and we can damn well take them aw..." At this point, the spokes-person was taken captive and sedated by CECS security staff.

Whether the initiative was inaugurated by MFCF or CECS is unclear however. Speculations from mathSOC strategic analysts have suggested that it was in fact MFCF's idea. "Really, it's as obvious as who shot Kennedy!" says Scott Jones, who spoke to us on condition of anonymity, (There's one born every day.) "MFCF is greatly weakened now that CSCF has been amputated from it. This is an ideal way of deterring overloading of the serv-ers by off-campus students." CSCF has not yet indicated whether or not it will follow MFCF's lead in disclosing its server logs. Some speculate that in an effort to win students over to a new and emerging platform, CSCF will in fact continue to maintain its logs' confidentiality. "CSCF, with its strong financing and new acronym is far better positioned to win a war of load attrition with its former MFCF masters" said Jones.

In fact, the current theory enjoying greatest popularity in the mouse-holes of power of the MC is that CSCF will attempt to steal the entirety of the Math userbase. It will then use this as a justification to take over the MFCF itself, ensuring CSCF hegomony throughout the faculty. "We need file-store space!" one senior CSCF admin was quoted declaiming, "and besides – CSCF *and* MFCF? That makes **no** sense."

In Washington, student pleas for a military intervention in the region fell on deaf ears. "The Waterloo math faculty's insistance on retaining Taylor in its curriculum despite Bush's repeated directions for all Taylors to leave everywhere or face invasion have not been ignored," said the successor to Ari Bald-has-never-looked-so-good Fleischer, whatever his name is. (True story! Someone posted "bald has never looked so good" on an Ari fansite...) Bush will therefore not be sending aid to the region until his libido has been restored following conquering another sandy country.

A large angry mob of the politically active co-op students gath-ered out of the CECS — er William Tatham* — building Thurs-day, before they both went to Williams for a cafe latte. Before they left, a short, stodgy grey-haired fellow came out and berated them for protesting. "You could have taken it up with the CAC" he muttered before stumbling off to Grad House. "Why bother?" absently retorted the shorter of the two protesters "they never meet anyways."

*Seriously, how many people get a sex building named after them?

cdtw

Ask the Comfy Lounge

Dear Comfy Lounge,

I'm encountering some tension with one of my roommates. He goes to bed very early, around 8:00 p.m. Very often I'm working late, and I arrive home after he's asleep. He's a light sleeper and my presence in the house regularly awakens him. To make things worse, the floors in our house are squeaky, so even just walking around is enough to wake him. I don't want my roommate to be pissed at me, but I need to work late in the evening. What should I do?

-Night Owl in Nantucket

Dear Night Owl,

When selecting your skills and abilities, be sure to include "Stealth" among them. With a skill value of 12, rolling 1d6 will give you a high probability of successfully sneaking around your house. Be sure to include the -2 modifier for your squeaky floors. Keep in mind that if you're a halfling, then you'll get an addi-tional +1 bonus to your Stealth rating.

Dear Comfy Lounge,

The other day I heard that the house I grew up in burnt down. No one was in it at the time, but that house had a lot of emotional value for me. I've been really depressed since that happened. What should I do?

-Depressed in Dayton

Dear Depressed,

This situation could have been easily prevented if you had stocked your deck with cards that are capable of countering the Fireball spell that was cast at your house. A Blue Elemental Blast would work, but it is not generally useful because it only targets red cards. Preferred options include the Counterspell or Power Sink cards that can target any colour of cards. If you use these, be sure to include islands in your deck so that you can tap them for the blue mana you'll need to cast these spells. Alternatively, if you are playing white, you could include some Red Ward cards and cast them on your house. By making these changes to your deck, you can prevent similar situations in the future.

Dear Comfy Lounge,

My husband is driving me crazy! There's never any food in the house because he eats it all and never buys more! He always takes on home improvement projects but never finishes them. Construction materials are strewn all about our house. There are two-by-fours in the living room and bricks in the bathroom! This is driving me crazy! Should I get a divorce?

-Insane in Ithaca

Dear Insane,

There are several options at your disposal. You could contact an opponent who has an excess of wheat, but a deficiency of wood and bricks, and propose a trade. You could also build a city near a port and convert the wood and bricks to wheat, al-though this may be less efficient than trading. Another option is to obtain the Monopoly card and call a monopoly on wheat. That will solve your food problems, but not the problem with the construction materials. You may want to consider building a bunch of roads and getting the "longest road" bonus points.

Eigenvector

Bush Advocates Replacing United Nations

League of Extraordinary Nations proposed

U.S. President George W. Bush announced yesterday his desire to abolish the United Nations in favour of a new international organization. His proposed alternative, an organization he referred to as the "League of Extraordinary Nations," was met with some apprehension.

"The time has come for nations of singular ability to join together to save the world," President Bush said at his press conference, faking a British accent. "Every so often there arises a need for an organization known as the League of Extraordinary Nations."

Historically, the last time a League of Nations was proposed was after the first World War, when then-President Woodrow Wilson championed the idea as a means of maintaining world peace. Wilson's attempts, however, were undermined by the United States' own reluctance to join the league.

Political analysts suspect, however, that the inspiration for Bush's proposal is not historical in nature (many doubt that Bush knows who Wilson was), but rather, that it has something to do with the fact that Bush saw the motion picture *The League of Extraordinary Gentlemen* last Friday.

Secretary of State Colin Powell was the first to discover the President's motivation. "I first became suspicious when he told me that he wanted Alan Quartermain to be the Secretary General of the new organization," he said. "How the hell am I supposed to get a fictional character in charge of an international organization?"

This is not the first time that President Bush has made policy decisions based on movies he has watched. "This is almost as bad as the time he saw *Attack of the Clones* and ordered me to go to Kamino to purchase a clone army for the war in Iraq," complained Secretary of Defence Donald Rumsfeld. "Almost as bad, but not quite."

White House officials pleaded with Hollywood producers to avoid topics such as war, espionage and threats to the planet, at least until Bush is out of office. "While any movie topic could potentially influence the President, we ask that you avoid these particular topics, which can trigger the most damaging policy changes," said White House spokesperson Ari Fleischer. "Things like teen comedies are still okay. If the President decides that he has to get laid by the end of the summer, then we can deal with that."

In light of the ability of movies to influence the impressionable President, a number of security measures have been taken. For example, no videocassettes or DVDs of *Air Force One* are permitted within a two kilometre radius of the White House, because of the potential damage that could be caused if the President were to see this movie. Furthermore, during all public appearances by the President, Secret Service agents sweep all nearby buildings to ensure they are free of any copies of *Air Force One* or other movies with a high presidential influence factor.

Eigenvector

*prof*QUOTES

"Everything's a point, everything's a line, and everything lies on everything. Sounds like an orgy."

Hoffman, PMATH 330

"My mind… is making mistakes."

Dickey, PMATH 360

"Did you want sheep lips with that?"

Hutter, CLAS 202

[overhead projector burns out]
"Damn special effects."

Hutter, CLAS 202

"I love pyrotechnics. In a big way. I should probably be in jail."

Hutter, CLAS 202

"Unless you're drinking, just ignore this."

Hutter, CLAS 202

"The sex part is over; now we're into the violence…"

Hutter, CLAS 202

"You can't make these things up, that's the sad part."

Hutter, CLAS 202

"Let's go to a sexed… second study."

Burris, PSYCH 101

"There's a clinical term for you: not giving a rat's ass."

Burris, PSYCH 101

"It's mainstream psychological science, but it has some of Dr. Phil's easy read through!"

Burris, PSYCH 101

"By the way, my mother is not the podium, it's only a prop."

Burris, PSYCH 101

"Little kids don't know anything… that it makes it so fun to trick them!"

Burris, PSYCH 101

"The insurance company comes to you at time 11 and says 'where's our premiums?' and you say 'piss off!'"

Hardy, ACTSC 232

"Career strategy is not posting a resume on some online Monster thing.

Smith, ECON 102

"I would like a presidental palace, that sounds cool."

Smith, ECON 102

"Money. Some of you will spend your lives trying to earn it. Some of you will spend your lives trying to steal it."

Smith, ECON 102

"Alan Greenspan is as old as God."

Smith, ECON 102

"You think that you can turn Canadian Tire money into a lawnmower."

Smith, ECON 102

The League of eCcentric Mathematicians

The following is a short play by Albert O'Connor and Craig Sloss. Its debut performance was on July 17, 2003, at the PMAMC&OC's Short Attention Span Math Seminars.

Act I

Scene I: In a library, with books on a table.

Enter INDETERMINATE (wearing a mask) with two EXTRAS. They start going through books and scratching stuff out with pens.

INDETERMINATE *(loudly and menacingly)*: Faster, faster! Erase all references to it!

EXTRA 1: Should I erase this Continuum Hypothesis?

INDETERMINATE: No, you fool! That's independent from it!

EXTRA 2: How about this "Zorn's Lemma?"

INDETERMINATE: Yes, destroy all that is equivalent to it!

(Newspapers are displayed with troubling headlines.)

Scene II: Chamber of the Royal Society.

M is already in the room, with no mask. Enter HILBERT

M *(snobby British style)*: Mister Hilbert, you have been recruited by Her Majesty's Royal Society to undertake a mission of vital importance to the Empire. We want you to lead a team of elite individuals.

HILBERT: You mean like some kind of League of Extraordinary Gentlemen?

M: More like a League of eCcentric Mathematicians. Let me introduce your team to you. First, we have Joseph Fourier.

Enter FOURIER

FOURIER: Greetings, monsieur.

M: Mister Fourier is well known for his research into *(makes quoting signs)* "transforms."

FOURIER: *(Holding up a graph of a Fourier-transformed signal)* Yes, although it is an evil I am reluctant to unleash upon the world.

M: Next, let me introduce the token female member of your team, Emmy Noether.

Enter NOETHER

NOETHER: Hello. Anyone up for a tacky romantic subplot?

M: Third, we have Pierre-Simon Laplace.

Enter LAPLACE

LAPLACE: *(Smoothly shifty)* Yes, I am certainly looking forward to working with this fine group of eccentric mathematicians — even those who believe that continuous functions can converge to discontinuous ones.

FOURIER *(turning sharply to LAPLACE)* Well, at least I wrote those papers myself.

M: Rounding out your team, we introduce some young blood: Evariste Galois.

Enter GALOIS

GALOIS: Hello.

M: Mister Galois is an expert in the use of duelling pistols. *(Throws him a pistol. Galois fumbles with it and drops it.)*

HILBERT: Very well. *(Stands at front of stage in a triumphant pose.)* We shall form the League of eCcentric Mathematicians!

M: As for your mission: *(Hilbert sits at the table, and M drops a dossier in front of him.)* A mysterious person known only as the "Indeterminate" has been leading attacks on libraries across Europe, attempting to remove all references to the Axiom of Choice. We believe that he is doing this in order to eliminate most of

what is known about mathematics, in order that he may secure research grants to reprove the results.

(General gasps of shock from the League)

NOETHER: But how shall we know that rings contain maximal ideals?

FOURIER: Or that vector spaces have bases?

HILBERT: Never mind that, what about maximal orthonormal sets? My entire Hilbert Space theory would fall apart! He MUST be bounded away from society!

M: We believe that he is next planning to attack the library at the University of Koenigsberg.

HILBERT: Good god! My hometown!

GALOIS: Hey, what about your dead son?

HILBERT: Well, maybe after ten minutes of character development you can replace him.

LAPLACE: Hey, Emmy, want to go have a drink before we go to the library? We can spend some time talking about your theorems?

NOETHER: I'm not much of a drinker, but maybe we could do some integration...

M: Anyways, getting back on track, go save the library.

Scene III: University of Koenigsberg Library. Table with books on it.

Enter INDETERMINATE and EXTRAS, one of whom has a pistol. They pick up books and prepare to erase them. Enter HILBERT, GALOIS, NOETHER, LAPLACE, FOURIER. GALOIS has a pistol in his belt.

HILBERT: We haven't met. I believe introductions are in order.

INDETERMINATE: Very well. I am the Indeterminate, and you are the League of eCcentric Mathematicians. Introductions accomplished.

FOURIER: Wait, how did you know who we were?

GALOIS: We're here to stop your mad plans! No one can deny the Axiom of Choice! Choice is a fundamental right of man! Vive la revolution! *(Runs up to the extra with a pistol, then struggles to remove the pistol from his belt. EXTRA shoots him. Galois grabs his shoulder and falls to the ground.)* Oww.... guns hurt....

HILBERT runs up to INDETERMINATE and starts to fight. During the course of their fighting, they are separated from the rest of the group. FOURIER fights one of the extras. NOETHER grabs some of the books and hands them to LAPLACE.

NOETHER: Here, take these to Africa, where they will be safe.

Exit LAPLACE with books. NOETHER fights the other EXTRA. FOURIER and NOETHER are triumpant over the EXTRAS. Meanwhile, fighting continues between HILBERT and INDETERMINATE, during the course of which INDETERMINATE's mask comes off, revealing that he is in fact M.

HILBERT: M! It's you!

M escapes, while deliberately dropping envelope, which HILBERT picks up. HILBERT regroups with NOETHER, FOURIER and GALOIS (who is still writhing in pain on the ground).

HILBERT: The indeterminate is M!

See the next page for the thrilling conclusion - you know you want to

The League of eCcentric Mathematicians
Act II

Scene I: Hilbert's place.
Enter HILBERT, GALOIS, FOURIER, NOETHER
HILBERT: Welcome to my space... er, I mean my house.
FOURIER: What are we going to do now? Are we still a league?
GALOIS: It doesn't matter that M betrayed us. *(Stands at the front of the stage in a triumpant pose)* We're still the League of eCcentric Mathematicians!
HILBERT: So how's that character development coming along?
GALOIS: Not too bad. *(Hugs HILBERT.)*
HILBERT: Anyway, M dropped this as he was escaping. *(Produces envelope, and opens it. The League gathers around it.)*
M *(Voiceover)*: Theorem: There exists an evil plan to get M and Laplace lots and lots of money and mathematical fame.
Proof: Eliminate the axiom of choice so that M can reprove all of mathematics. Form the League of eCcentric Mathematicians to give Laplace an opportunity to steal the theorems of Fourier, Noether and Galois, in order to prove them in his own name.
NOETHER: That bastard Lapalce! I can't believe I integrated with him!
GALOIS: *(Looking in the envelope)* Hey, wait, there's something else in here!
HILBERT: It's an epsilon!
NOETHER: I don't see anything
FOURIER: It's there; it's just so small! But it's greater than zero! I can use this to approximate the location of M and Laplace. *(Does some calculations.)* I've got it! They're in the Nile Delta!
HILBERT: Off to Egypt we go!
GALOIS: What luck that you were able to use that epsilon to find a delta!

Scene II: M's fortress in the Nile Delta
Enter HILBERT, NOETHER, GALOIS and FOURIER
HILBERT: Okay, now that we're in the Nile Delta, we should have a plan before we do anything. We have to capture M, capture Laplace and rescue the library books.
NOETHER: I have to go after Laplace in order to wrap up the romantic subplot... and obviously I have to go alone.
GALOIS: Clearly I have to go wherever Hilbert goes so that I can symbolically replace his dead son.
HILBERT: Well, clearly I'll be going after M, because I'm the main hero and he's the main villain. So I guess you're with me.
FOURIER: Merde. I guess that means I'm stuck going after the books.
HILBERT: Okay, let's go.

Scene III: Library in M's fortress.
EXTRAS are systematically going through books and erasing stuff.
Enter FOURIER
FOURIER: Stop that!
EXTRA 1: What are you going to do to stop us?
FOURIER: Something I swore I'd never do. I'll have to release the brooding evil within me. Lose your continuity as I transform you into a discrete object! *(Makes some kind of hand-waving motions at one of the extras, who screams and then disappears.)*
EXTRA 2: Oh my god! Fourier transformed him! *(Runs away)*
FOURIER grabs books and exits.

Scene IV: Laplace's Room. LAPLACE is sitting on a chair.
Enter NOETHER
LAPLACE: I see you couldn't resist me. Here for some more integration?
NOETHER: Hardly. I'm sticking to algebra from now on.
LAPLACE: *(Circling her in a seductive manner.)* Well, then what are you here for?
NOETHER: For this! *(Holds up papers.)* I've got your papers! Ones YOU actually wrote!
LAPLACE: No! Where did you find those? Give those to me!
NOETHER: Take this! *(Rips up one of the papers. LAPLACE flinches.)* And this!*(Rips another. LAPLACE convulses.)*
LAPLACE: Stop that! Ahhh! *(NOETHER continues to rip up papers until LAPLACE dies.)*

Scene V M's Room
M is standing in his room with two extras behind him.
M: Mister Hilbert... I thought you'd make it here. But you can't stop me. Only a mathematician of my calibre could have come up with a plan like this.
HILBERT: Wait a second... "M," as in "M-Test?" I know who you are! You're Professor Karl Weierstrass! The Napoleon of Mathematics!
WEIERSTRASS: Yes, you've figured it out. But there's nothing you'll be able to do about it!
M motions for the extras to attack, and they advance towards HILBERT and GALOIS.
HILBERT: Wait! Can you give two tetrahedra which cannot be decomposed into congruent tetrahedra directly or by adjoining congruent tetrahedra? *(EXTRAS go into pensive poses, and start muttering to themselves about possible solutions to the problem. While they are occupied, HILBERT and GALOIS kick their asses.)*
WEIERSTRASS: You'll never get out of here alive! *(Pulls a gun on HILBERT. GALOIS jumps in front of him and pulls his gun. GALOIS shoots at WEIERSTRASS, but nothing happens.)*
GALOIS: Crap! Forgot the ammo! *(WEIERSTRASS shoots GALOIS who falls to the ground, with HILBERT catching him.)*
HILBERT: You bastard! Does there exist a universal algorithm for solving Diophantine equations? *(WEIERTRASS starts thinking about it. Meanwhile, HILBERT takes GALOIS' gun, fills it with ammo, and shoots WEIERSTRASS.)*
WEIERSTRASS: Ugh...

Scene VI: Back in Hilbert's Space
Enter GALOIS (bandaged), HILBERT, NOETHER and FOURIER
HILBERT: Well, it looks like we were victorious.
GALOIS: Luckily, you only wounded Weierstrass.
NOETHER: Yes, he will make a good grad student for you.
Enter WEIERSTRASS
WEIERSTRASS: Professor Hilbert, I just got back from that conference you didn't want to go to.
HILBERT: Okay, go get me some coffee.
WEIERSTRASS: Yes, sir. *(Exits)*
HILBERT: The world is safe once more now that the Axiom of Choice has been secured.
FOURIER: But what of future problems in mathematics?
HILBERT: The... *(pauses, then goes to the front of the stage and poses heroically)* The League of eCcentric Mathematicians shall be there to solve them.

Subscriptions!

math*NEWS* the home game

No really, we have subscriptions. If you aren't going to be around campus to get issues of *math*NEWS, they why not have them delivered to you? You can take them to work and read them during meetings. Or you can read them during commutes.

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To subscribe, just drop by the *math*NEWS Office (MC 3041), drop it in our mail slot at MathSoc (MC 3038) or in the BLACK BOX, email mathnews@student.math.uwaterloo.ca or track an editor down and give him money.

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mNEd

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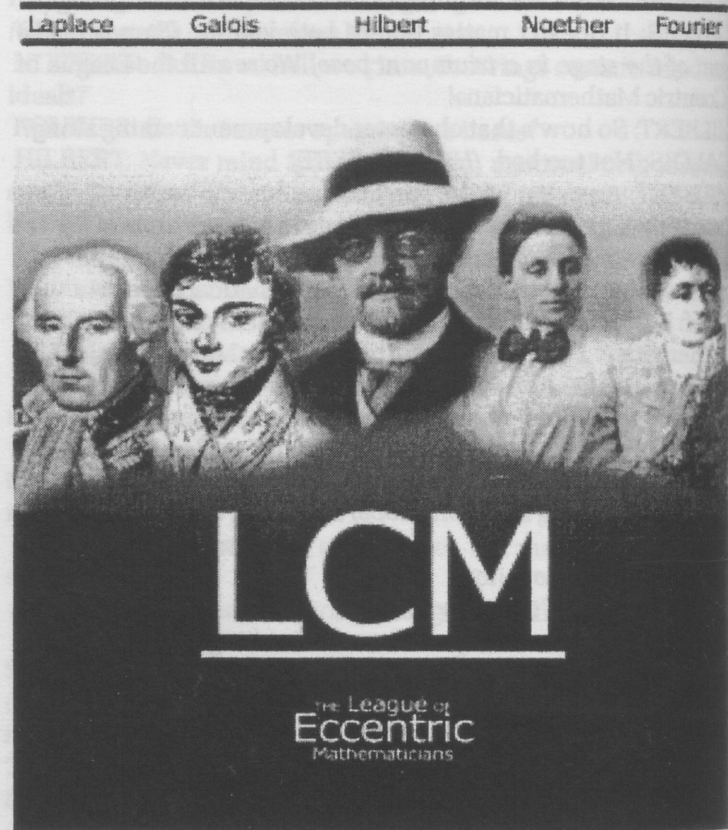
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Last Issue's Grid Solutions

Cryptic

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

Conventional

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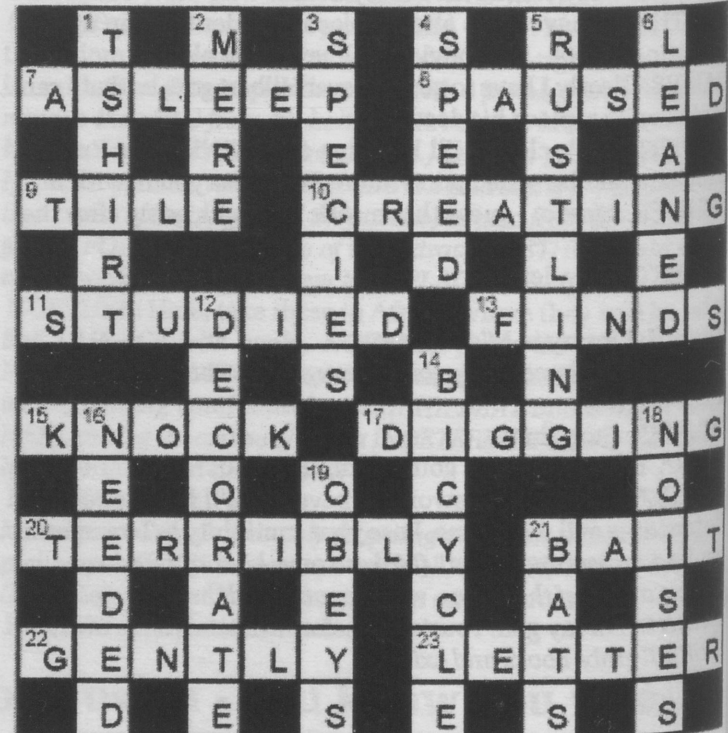
*math*NEWSquiz

Hello, everyone! Eric's been recruited by the new *cs*NEWS, so it's just me here this week. So, I guess that means there'll be no more *Cowboy Bebop* questions. What a shame.

Anyway, as for the answers to last week's squiz: **Lino Demasi**: 1. Vice President, Activities and Services 2. π 3. 2B 4. Pure Mathematics **Easy Four-Letter Words** 1. FIRE 2. FORE 3. FORT 4. PORT 5. POET **Easy Hometowns** 1. Hobart, Tasmania 2. Shawinigan, Quebec 3. Timmins, Ontario 4. Thunder Bay, Ontario **Easy Multiple Choice** First president: 2 (J. G. Hagey) Office of Simon the Troll: 4 (Under the Laurel Creek bridge — do a uwdir on "Simon the Troll.") Correct answer: 4 (None of the above) **Easy Song Lyrics** 1. *Let it Be* by The Beatles 2. *Sweet Surrender* by Sarah McLachlan 3. *Yellow* by Coldplay 4. *Call me, Call me* by Yoko Kanno

So, I guess the questions must have been really easy last week, because we got submissions almost immediately after the issue came out. Jos (a self-proclaimed "puzzle geek") got a score of 17, Theresa Kim (who valiantly submitted answers for the "Lino Demasi" category, even though it was a joke) got 18, and Mike Grivicic (who's in Science, but we'll forgive him for that) got 19. Mike, you can pick up your prize (a $5 Math C&D Gift Certificate) from the MathSoc office. I was surpised that long-standing champion Lino 'π' Demasi didn't submit at all. Oh, well.

Anyways, because we're now free from the yoke of computer science, we can bring you all math, all the time! So this week's squiz is all about mathematicians. Since this is the last issue of the term, the answers will be printed in this issue, look for them in *cs*NEWS. Unfortunately, that means there'll be no prize for submissions this time. But, it'll be fun anyway, so enjoy!

Theorem Names

1. This mathematician has both a "little" and a "last" theorem *math*NEWS although his "last theorem" wasn't proven until the 1990's.
2. Given any continuous function on a finite interval, there exists a sequence of polynomial functions that converges uniformly to it. Whose theorem is this?
3. What spacey mathematician has a theorem about fixed points of contractive maps?
4. What female mathematician has her name (along with Cauchy's) attached to a theorem that determines whether a partial differential equation has a unique solution?
5. This mathematician has an "implicit function theorem" named after him, which is useful for combinatorial problems, like counting plane-planted trees.

Math Faculty Server Names

1. A theorem giving an easy way to compute the norm of a sum of orthogonal vectors is named after this ancient mathematician.
2. This server is named after a mathematician who worked with power series for functions that may not have Taylor series expansions.
3. This mathematician provided an answer to Hilbert's first problem by demonstrating that the continuum hypothesis is consistent with the axioms of set theory.
4. This female mathematician, who wrote a comprehensive survey of the subject of calculus in the 18th century, never had a chance to write for *math*NEWS.

5. This former University of Waterloo professor is famous for breaking Nazi codes during the Second World War.

Mathematical Objects

1. A branch of mathematics dealing with solvability by radicals is named after this mathematician. It uses a special group named after him as well.
2. What mathematician has his name attached to the kind of integrals used by first year students?
3. A more powerful type of integral is named after this mathematician, who also has a translation-invariant measure named after him.
4. What mathematician has his name attached to a type of series expressing a periodic function as an infinite linear combination of sine and cosine functions?
5. A metric used in the theory of error-correcting codes is named after this mathematician.

Mathematical Lyrics

1. How much gold can you hold in an elephant's ear?
   When it's noon on the moon, then what time is it here?
   If you could count for a year, would you get to infinity,
   Or somewhere in that vicinity?

2. But one condition I must give:
   The epsilon must be positive
   A lonely life all the others live,
   In no theorem
   A delta for them.

3. Girl, algebra, trigonometry
   can never equal up to what you do to me
   so, let's integrate
   don't differentiate
   If you were in my class
   There's ain't no way I could pass

*math*NEWSquizMaster Craig

Another Limerick

A student, addicted to drugs,
Was oft' seen conversing with bugs.
He sat beneath trees
And held discourse with bees,
Then was beaten unconscious by thugs.

Greg Maloney

*cs*NEWSquiz Answers

Binary Arithmetic: 1. 0100 2. 1011 3. 1100 4. 0011 **Cowboy Bebop:** 1. Spike Spiegel, Jet Black, Faye Valentine, Edward Wong Hau Pepelu Tivrusky IV, Ein 2. It was a fishing boat 3. 77 and 8 (she would turn 9 on the 14th of August) 4. Tomato (it is built in an old tomato crate) 5. Yoko Kanno **Name that Programming Language:** 1. C 2. LISP 3. BASIC 4. Perl **Pot Pourri:** 1. 12cm 2. Scales (Libra) 3. 15Krpm

SquizMaster Eric

*grid*COMMENTS

Well, its the last issue of the term, and we have a tie for the biggest tie - in yet another 5-way tie, our Cryptic submissions all got perfect scores: SJU Crew, Stephan Lachowsky, Adam J. Beck, PMATH URA's, and Chris squared. Since we have the same number of people in a tie, I'll use the same tie-breaking measure as last issue - Stephan is closest to 'SSS', so he's the cryptic winner this time.

The conventional people made things easier for me - 4 submissions, all with different scores: Ryan + Jason (20/24), Jos (22/24), Sophie Lee (23/24), and Adam Weatherhead (24/24).

Adam and Stephan can pick up their prizes in the MathSoc Office (MC 3038).

Since this is the last issue of the term, I decided to make a special prize - you win not only this issue of *math*NEWS, but 6 more issues - that's right, a **fall subscription to *math*NEWS**. The top two submissions each for Cryptic and Conventional (four in total) that come in with a mailing address before **Monday, August 18th, at 6:30 pm** will receive a free fall subscription. Email solutions to to mathnews@student.math.uwaterloo.ca (no BLACK BOX since the email's timestamp will be used as a tie-breaker - the earlier, the better).

<div align="right">Krease</div>

Cryptic Clues

Across

1 Spray can hurt roe also (7)
5 Chapter dry? French can hide nothing (7)
9 Miss C— in gentle muddle (7)
10 Disregards pay dirt wrapped in broken sign (7)
11 So a halter comes undone, causing spring fever (5,4)
12 Custom-trimmed sausage (5)
13 Palace pal dances unaccompanied (1,8)
16 Put in poinsettia (5)
17 Saint John Thomas (5)
19 Bird dog swallowed bad lad (9)
22 Reunion? Mingle, or leave due to boredom (5)
23 Can uvular surgery be kind? (9)
26 Logically, one earlier one (1,6)
27 Plug monster operating system (7)
28 Can holy novel calm? (7)
29 Unorthodox present twitching (7)

Down

1 Forgetfulness is a means I adapt to (7)
2 Greg, alias HRH, concealed gear (7)
3 Navigate? Bull! (5)
4 "Take me to your metric capacity unit" (5)
5 Good guy mixes up a Stalin (5,4)
6 Mistress hides cub in cone (9)
7 Where to find asphalt making progress (7)
8 Most Snoopy got out of piano: siesta (7)
14 Tightfistedness from when arm is mangled in pony (9)
15 Sign reading "Ian, who keeps the books in order" (9)
17 Wrap she tossed in to soak (3-4)
18 Bit of twine (7)
20 Stirred all Tang dandy (7)
21 Mercurial erotica endlessly changes, oh, for right man's heart (7)
24 Report: use 3 of hearts for casual agreement (2-3)
25 Raced around tree (5)

Conventional Clues

Across

1 Totes (7)
5 Blooms (7)
9 Unpaid (7)
10 Proposed (7)
11 Calm (9)
12 Repetition (5)
13 Illuminated cylindrical death wish (9)
16 Fields (5)
17 Calls (5)
19 Helper (9)
22 Minimum size for a crowd (5)
23 Meeting (9)
26 Reading (7)
27 Meeting (7)
28 Lithe (7)
29 Map books (7)

Down

1 Old Coke (7)
2 Recital (7)
3 Paragon (5)
4 Wait on (5)
5 Paces (9)
6 Bureaucrats (9)
7 Sore listener (7)
8 Sorrow (7)
14 Esteemed (9)
15 Rover (9)
17 Qualities (7)
18 Amazing event (7)
20 Lashes out (7)
21 Shy boxy critters (7)
24 Chocolate (5)
25 Common (5)