

mastHEAD

End of term already? Well, get me a beer ...

Howdy, all. Cowboy talkin' at ya.

Well, it's 10:30 and all's well in the hallowed halls of MC. Pretty light night here at production central. Folks don't seem to be too worried about upcoming exams...yet. Seems people have a lot of differing views on the new *Star Trek* flick. Personally, I didn't think it was too bad. A few good performances... good special effects... full frontal nudity... oh wait! Sorry, thinking about a different movie. My mistake.

Anyways, here we are at the last issue for the term. Hard to believe this term's comin' to an end. Gasp! Gotta start thinking about Christmas presents. And those pesky written tests... uh, what do they call those... oh yeah! Exams. Well, here's the list of the faithful bunch who helped out tonight, along with their term, program, and what they plan to do instead of... uh, those pesky written thingys... right! Exams...

John Swan (3N Stat/ActSci, Learning Greek (after all, it's all basically the same thing!)), Ian Milligan (3N General, Doing anything similar to the mango sorbet dance, but with more jumping — oink, oink!), Stuart Pollock (4C AM/CS, Not much... I only have one!), Darren Rigby (?N General, Practicing my levitation exercises.), Warren Hagey (3A CS/Teaching, Finishing up assignments.), Mike Hammond (1A Master's CS, Augmenting my belly-button lint collection.), Mike Thorsley (3A AM/PHYS, Something.) and Richard Bilson (2A CS, Planning my future career as an insurance salesman.).

Of course, can't forget the wonderful people at Domino's who fed us during Production Night all term long, as well as Marion and the great folks at Graphic Services for printing up the issues.

Well, good luck on all your finals, Merry Christmas, Happy New Year, and for all those coming back in January, see ya in 97!

Matt "So-Krates" Walsh (2B PMath/C&O, Zzzzzzzzzzz...), Brian "Calculus Cowboy" Fox (4N AM, Pondering existence over one or two ice-cold 50s.)

Distinguished Teacher Awards

To nominate your outstanding professor, demonstrator, or teaching assistant for the Distinguished Teacher Award, contact TRACE, MC 4055, x3132. Further information is available at http://www.adm.uwaterloo.ca/infotrac.

ISSN 0705-0410

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

Not the first, but perhaps the last?: Brian "Calculus Cowboy" Fox, Matt "So-Krates" Walsh

lookAHEAD

| mathNOOZ | There are a series of the seri | | | |
|----------------|--|--|--|--|
| November 29 | Issue $#5$ hits the stands | | | |
| Math Faculty | | | | |
| December 3 | Lectures End | | | |
| December 4-5 | Take it easy, relax for a bit | | | |
| | Then get studying! | | | |
| December 5 | ELPE, PAC @ 7pm | | | |
| Decmeber 6 | Exams start | | | |
| December 7 | 57 th Putnam | | | |
| | 9:30am-6pm, MC 4059 | | | |
| December 20 | Exams end | | | |
| Decmeber 21 | Go home | | | |
| January 6 | Winter 1997 Term | | | |
| | Registration & Lectures begin | | | |
| CS Assignments | Watch That Load! | | | |
| December 2 | CS 351 Project 5 Due Midnight | | | |
| December 3 | CS 340 Project 5 Due Midnight | | | |
| December 3 | CS 488 Project 5c Due 4:30pm | | | |
| | Load forecast to be high | | | |
| Miscellaneous | | | | |
| December 6 | Hanukkah | | | |
| December 25 | Christmas | | | |
| December 26 | Boxing Day | | | |
| | (Only \$69.95 on pay-per-view!) | | | |
| December 27 | First day for returning crappy gifts | | | |
| January 1 | New Year's Day | | | |

Your contribution at work!

Wowzers! The term is almost over! The Mathematics Endowment Fund had another great term. This term marked the 2^{nd} full year of the Fund's existence. The Fund principal has surpassed \$250,000 and is growing strongly. Our participation rate this term is approximately 78%. Our Fund is earning a return on investment of 10%, which we can spend.

This term, we had 7 proposals for funding projects. Unfortunately, we were not able to fund all of the projects. Of the seven proposals, we are funding 3 projects:

- partial funding for a project to upgrade to the NFS Server in the Math Undergrad Environment
- partial funding for improvements to MATH 136 MATLAB Assignments
- partial funding for the purchase of a LCD Display Projector to display computer video in courses and general use

The \$10 π contributions (the Voluntary Student Contribution Fee you pay each term) made these projects and many more in future possible.

The Director for the Winter Term will be Etienne Phaneuf. Congratulations and many thanks go out to Lori Cook who will be the Director in the Spring Term. Well... That's it for me.

Good luck on your exams...

Sumon Acharjee MEF Director Fall '96

Wonderful Website of the Week

When you're sitting in your room, tired of studying and wondering what else you could be doing, that's the perfect time to work on your homepage. Now, I've already told you how to create your homepage and put simple text in, so now it's time for the next big step — tags.

Tags are pretty simple, really. They just provide a way to describe the text in the document. For instance, if you want some text in *italics*, just put <I> tags around it (<I>This text will appear in italics.</I>). Notice the ending tag has a '/' in it. You can do a similar thing for **bold** text using the tag. There are many tags to experiment with, and the best thing to do is just that and see how different tags affect the text (it's also very useful to look at the HTML for other pages, using View Source, to get an idea of what other people do).

One of the really interesting tags is the <A> tag. It allows you to create links to other files. Let's say that you have your main page (index.html) and you want to make a link from that to another page that you've created (otherpage.html) in the same directory. Just add the line Selecting this link will take me to the other page. into your index.html file at an appropriate place. Now, when you load up index.html in a web browser, you should see 'Selecting this link will take me to the other page.' as a link, and selecting it will in fact take you to otherpage.html.

You can also create links to other sites (for example, http://www.101.com/). To do this, put the full address in the HREF section of the <A> tag. In this case, This link will take you to the 101 Dalmatians site.. There are also all kinds of neat things that you can do with images, but I don't have the time or space to tell you about that here.

Anyway, here's my suggestion of a site to visit this week:

Who is Carmine Granucci? http://zeus.newhaven.edu/carmine/index.html

This is the personal homepage of a guy whose claim to fame is that he was once a Final Jeopardy answer (find out how on his page). He seems to have a very large ego (he's got his own fan club), but also a nicely laid out page with includes information about his 1978 Chevy Nova. Have fun!

> Warren "The Milkman" Hagey Webmaster Extraordinaire

Course Announcement

Winter 1997 - Independent Studies 301A

A project course, in which teams of students work with faculty to design new learning activities using interactive multimedia.

There will be a meeting for interested students in early December, and for interested faculty on December 10^{th} at 4pm.

Details and on-line application forms:

http://watserv1.uwaterloo.ca/~tcarey/is301a.html

Mathletics Refunds

Mathletics Refunds are available in the MathSoc office Monday, Dec 2nd 3:30-5:30pm and Tuesday, Dec 3rd 12:00-4:00pm. If these times are not convenient, contact kghare@undergrad.math A.S.A.P. If you are unsure if you qualify for a Mathletics refund, contact your team captain or myself (kghare) for clarification.

Now How Our MathSoc Teams Did

Unfortunately I only received one report, but it is definitely something to be proud of, so I thought I would pass it on:

Tamarack RoughRiders (MathSoc Flag Football Team)

Tamarack finished the regular season 4–1, tied for 1^{st} place in the division but seeded 4^{th} due to point differential. In the playoffs, we ousted the #5 seed in the darkness of a 5:30 game by a 28–0 score.

Following, we were pitted agains the #1 Hawks. No matter: we disposed of them 21-6.

In the finals, the RoughRiders were looking for revenge against the Optometry Buckeyes, the only team to have defeated them. Tamarack, however, could not compensate for a rough start and fell by a score of 28-20.

Overall, we finished the season 6-2, 2nd place overall. Way to go, guys!

Kevin Hare



96

IC

re

The View from the Other Side

And oh, man, what a view!

It's that time again!

Wakko: To make fun of Imprint?

Dot: To plagiarize Warner Brothers cartoons?

Well, yeah. So I guess I'd better segue directly into today's topic, which is just in time for

Finals

"Now how on Earth do finals differ for grads than that from undergrads?" wonders Average Reader. "And why is Hammer plagiarizing 'Post-Teen Angst' now? Does he really think doing that is funny, or is it just a bad reaction to the medication?"

Uh, I think I'll skip the second part of the question, and answer the first. And the answer is, "It depends."

What it depends on is the course. The general rule of thumb is that 600-level courses have a final, and 700-level courses don't.

There are exceptions, of course. Certain 600-level courses aren't cross-listed as 400-level courses, and so don't necessarily have to have a final. Certain 700-level courses will have finals. (The latter is completely up to the professor's discretion; I've been told that 700-level courses are sometimes more like teachins than courses.)

Grad students usually have fewer finals, as well. In CS, the thesis option requires a total of four courses to be taken. Thus the number of finals a grad student has to write in this category is not only *not* five per term, it's not even five *total*! (Your department may vary. Check your local listings.)

Before you go lynching random grad students for this perceived advantage, though, it does get balanced out. By teaching assistanceships.

On Thursday, December 12th, I will be proctoring the CS 246 final. ("Oh, poor baby," mocks Average Reader. "You have to stand around and *watch* while I pour my soul out onto a piece of paper that will determine my existence at this university!")

(Oh, shut up, Average Reader. Go mock Brian's articles, why don't you!)

On Friday, December 13th, I will be *marking* the CS 246 final. All day.

Let's think about that, shall we? Your average student will be taking five courses, and will have a three-hour exam for each. Total: 15 hours.

I will be writing exams for two courses, and spending a full day (say eight hours) marking an exam. Total: 14 hours. But that full day is a *full* day. I'd *much* rather spend time on three different finals on three days than eight hours of trying to figure out what the hell the person was *thinking* when they wrote what they did. (And figure it out I must; their mark depends on it.)

("Oh, waaaah," jeers Average Reader.)

Well, maybe it isn't *worse* than writing five finals. But I think it certainly compares! And it doesn't take into account any work that I'd have to do for my research assistanceship. Or my thesis.

So the upshot of all this is that, as an undergrad, you can work really hard and study really long, and maybe, just maybe, you can get into a graduate program...where you work really hard...and study really long...and...

If any of you want to transfer to Arts now, I'll understand.

Mike "GradHammer" Hammond



CSC Flash

Well, well. It appears that this is the last mathNOOZ of the term, and hence the last Flash of the term. I know because I can see that you are getting ready for the end of term bash at the Bomber tonight... as is everyone else at this university.

Now, on to the news.

First off, I would like to announce the arrival of the Be Box. What an amazing system it is, and what a fine addition to the CSC it has made. Be sure to stop by and see this fascinating system sometime before the end of the term; just so you can tell your friends that YOU experienced the raw power of the Be Box (It's super ultra funky deluxe COOL!).

Next, onto the little contest mentioned in the last Flash. Most of the mail I received from you regarding what the C.S.C. acronym REALLY stands for REALLY SUCKED! However, there were many good CSC quotes, and here are my favourite 10 (in no particular order):

Top Ten CSC Quotes

[Actually, the CSC Quotes also REALLY SUCKED! Thus, using our tremendous editorial privileges, we decided not to subject the rest of you to them. Thank us later. Small bills, please. – SoKratesEd and CalcBoyEd.]

As for the free lunch I promised, well, seeing as some of these are priceless and I'm having trouble deciding, I'll give whoever comes to me first about the prize the free lunch (and they say there's no such thing). Oh, by the way, I know who you all are, so everyone else who thinks they can take me for all I'm worth can GO TO HELL! DO NOT PASS GO! DO NOT COLLECT \$200!

Thanks to all who submitted, and I'll store some of the rest of your results in a little box so I can dig them up later should I need them.

Well, enough of that. As for next term, remember that disk quota is for sale, and we have a winter term special of 10 megs for \$13, or you can stick with the regular \$2 a meg for the term if you so desire. Remember, CSC memberships are still for sale (have you renewed YOUR membership today?) So, in conclusion for this term, I would like to tell you to FINISH the term QUICK, PASS your finals, and get the Hell out of here, already! Come on, there IS life after class, you know!

Remember, "Criminal Lawyer" is a redundancy.

Calum T. Dalek

Things Hammer Wonders About

If it's so difficult to stay awake in a seminar, how much harder would it be if it it were a full nar?

Vol. 72 No. 5 mathNOOZ 2.875

profQUOTES

"... just by that greatest-lower-bound-nonsense..."

Siegel, MATH 147

"The nice thing about a pulley is that it's round."

Liu, PHYS 121

"I ran out of chalk at the end of my lecture so for the last bit I just licked my finger and wrote on the blackboard...luckily I've taken a chalk-ingestion course."

Talvila, AM 351

"Sometimes I feel we are not speaking the same language or are not in the same space, you know."

Shah, STAT 230

"What the hell am I doing?!?"

Jackson, MATH 235

"The Fundamental Theorem of Algebra is not really a theorem in algebra, and it's not considered all that fundamental any more."

Lawrence, MATH 145

"It has a corollary, like all good theorems do."

Lawrence, MATH 145

(Looks at clock) "I'm about to turn into a pumpkin."

Younger, C&O 230

"I have a weakness for curves."

Wainwright, MATH 137

"We'll have to use calculus to do this proof, but that's okay, because calculus is a subset of algebra."

Dickey, MATH 135

"You all should know that algebra is just a subset of calculus."

Lu, MATH 237

"There are not too many integers between 1 and 2."

Lawrence, MATH 145

"... using the Fundamental Theorem that you haven't seen..."

Lawrence, MATH 145

"You have to wave the magic wand of mathematical induction, and the proof will work."

Lawrence, MATH 145

"This weekend I was thinking about math..."

Wainwright, MATH 137

"Wait a stupid second, what has gone wrong in my brain??!!"

Wainwright, MATH 137

"We're all 18, that means we can look down any axis we want."

Best, MATH 138

"Then something happens to this poor triangle, it gets bent."

Best, MATH 138

"If they say you can deduct it, take the damn deduction!" Laiken, ACC 461

"What do I look like... Vanna White all of a sudden?"

Laiken, ACC 461

Eckel, ACC 392

Best, MATH 138

"...left-handed doughnut franchise."

"Answers do not exist."

"So I'm not really here."

Jackson, C&O 330

"There should be a special section in hell for scientific sinners where they'll calculate correct estimates of the Navier-Stokes equations for all eternity."

Tenti, AM 463

profQUOTES Addendum

November 11, 1996

Editor of Math News, MC 3041 UW Campus

Dear Editor:

In the 1996/11/08 issue of **Math News** I have been misquoted twice. The second misquotation is harmless, but the first one (regarding STAT 231) is vulgar and offensive. As a matter of fact, I never uttered those words.

What you did amounts to libel, and I demand that you publish this letter in the next issue of Math News. Moreover, I warn you not to attribute to me any future quotations unless you have previously checked with me that they are accurate.

> G. Tenti Dr. G. Tenti Applied Mathematics

CC: Dr. F.O. Goodman, Chair, Dept. of Applied Mathematics. Dr. M.E. Thompson, Chair, Dept. of Statistics and Actuarial Science.

Please make sure your profQUOTES submissions are as accurate as possible. We will be checking the accuracy on the more "controversial" quotes from now on.

se

y

e, h

T

st

d

I

of

se

at

X

he

ell

XC

A Lynch Mob to be Reckoned With

(or "You just asked her out?")

My last article in mathNOOZ explained, and railed against, the phenomena in the math faculty where every woman either has a boyfriend or is in that small one day turn around time between boyfriends. It seems only fitting that I should now bring to your attention the other half of this mess, the men. After all, it does take two to tango, even if there's a lineup off to the side of the dance floor of men waiting to cut in.

Being a particularly UNobservant person, I've still managed to notice the mob-like behaviour of men in the math faculty. This behaviour arises whenever word gets out that a woman is wandering the halls of the math faculty and yet (gasp!) doesn't have a boyfriend. By the time this news has spread, there are at least two guys attempting to win her favour. Ok, so two isn't a lot in an isolated circumstance, but this is math, where infinities are dealt with. It's amusing in a way that I can ask a woman who has been single for an appropriate amount of time how many guys she has paying her undue amounts of attention and almost always get a list in answer.

This is annoying and, frankly, embarrassing. It seems that there is this idea out there that being in a relationship is this state of nirvana that has to be attained at all costs. After all, I rarely see a man pass up an opportunity to become involved with somebody, even if not one day earlier they were mocking that same person. I almost never hear anybody wander the halls espousing the benefits of being single. Men don't even seem to take the time to think about it. If they're not currently attached, their single all-consuming thought is how to rectify that situation. I wouldn't even be surprised if the men of math think about who they're going to go out with next while they're currently coupled. It seems that sex isn't what men think about all the time, it's girlfriends, and who's up next. Just recently I heard of a situation where it took all of four hours for the man to get together with a new woman after breaking up with the old. This same woman who had been simply a friend before those four hours. That's not even enough time to come up for air between public displays of affection in the comfy lounge.

Another undesirable and rather obvious side effect of this single track thought process is that women turn into things to be had. The act of getting together with someone, the state of being coupled, becomes more important than with whom you are coupled. Women become the equivalent of stocks in the hands of edgy brokers, where the trade is more important then possession, the profit margin more important then the type of stock. How this trader mentality arose I can't figure out, but I'm surprised it has lasted so long, and I'm surprised that the women are so lax to let it pass without comment. But then again, maybe they should be.

You see, with men considering women as no more then a good short term investment, women will of course reciprocate the attitude. Trying to find that right guy? Well hey, why leave it up to chance when you can try 'em all and find out for yourself. Women are stocks? Hey, men are just cars — give 'em a test drive before you bring out the checkbook. But you see, nobody seems to care that this is happening, since people are either caught up in the thick of it, or they simply wash their hands of everything and associate relationships in the Math faculty with jumping off the CN tower and landing on a bike with no seat. Those few people who actually do try and have a meaningful relationship eventually get shot down in the cross-fire of stock traders test-driving cars.

The solution? It would seem that rather then taking relationships "more seriously", it would be nice if men just slowed down a bit. If they took some time to realize that perhaps being single is not that bad, to realize the absurdity (or at least the hilarity) of the situation when three guys are attempting to woo the same woman.

Before I end, I should clear up a few details from this and my past two articles. Note that in this article, I tried not to associate myself with any of the described behaviours. This way, you can slag me in as many different ways as you want. As well, it's obvious from comments I've heard over the past few weeks that these articles apply to the *majority* of mathies I've observed. Majority, as we all know, means fifty percent plus one. It does not mean every single one of you has either a hotline to your broker or a personal forest behind your house. Finally, since I don't think the label of "bitter" deserves an entire article, I shall explain it in one sentence. In every circumstance I have encountered so far where people have been labelled bitter (including mine), the person in question has simply been vocally opinionated. Bitter is not listed as a synonym under opinionated in my thesaurus.

> Max "I feel like eating a potato right now" Stevens Food Services Slipup

If you live in Village, then are you aware how easy it is to have your eating habits tracked? I mean all of it... When you eat, how much you eat, how much you've spent. Everything. Anyone with your student number can find out all of that.

I've recently heard about a case where exactly that happened. A first-year student of my acquaintance was recently chewed out by her mother for skipping classes. Said parent knew that her daughter hadn't been in class, because she'd called up Food Services and asked them for information about her daughter's meal timetable. All she needed to give them was the student's ID number, and to tell them that she was this student's mother. Out came all the invasion of privacy that one could want.

This is intolerable. First of all, we're supposed to be *adults*. That a department of the university would give out that information to a nervous or suspicious parent who won't let go — even though their offspring may be five hundred kilometers away — is just incredible.

On a darker note, *anyone* could have called up and requested that information. (It's been tried.) Thank you, Food Services, for making some stalker's life that much easier.

Three words, guys: right to privacy. Yes, the Food Services computers tabulate all of this information automatically, and it needn't be used harmfully; for example, compiling statistics for some form of market research. But no one should be able to find out those specifics about anyone.

Today's Top Story

19 Feet Broken in Pole Vault (A Fictional Story for a Real Headline)

WICHITA, KS. - (AP) Last week an astounding 19 athletes seriously injured one of their feet at the Annual Tri-County Track and Field Competition, held this year at Wichita Collegiate Institute. Due to budget cuts, a proper crash-mat was unavailable for the pole vault competition which forced meet organizer, physical education teacher Gary Milotte, to use some old-fashioned ingenuity. "We decided that with all of the farms nearby we could use a pile of hay as a crash-mat. My brother-in-law owns a farm and was able to supply us with enough hay free of charge." Mr. Milotte said laughing. "It was unfortunate that we didn't have the foresight to unbundle the hay before 19 students got injured." Tim Lanton, Wichita's best pole vaulting athlete, described landing on the tightly bound bales of hay as "landing on concrete that had glass sticking up from it" and that the sound of his ankle breaking was like "1000 marbles being hurled onto the floor." The only student entered in the event who escaped serious injury was Frank Kilvington, who failed on his three attempts to clear the initial height of 3 feet. Despite a few cuts and bruises, Kilvington will be able to compete in next week's State Championships in Topeka. "It feels strange to be going to Topeka but I'm going to try to do my best. I just wish I had been able to go because of my talent, rather than being the only person healthy." said Kilvington modestly. Kilvington will definitely be challenged in Topeka as the initial height for the pole vault is 5 feet, which is a height he has never cleared. The State Championships are being held at Topeka University next Thursday from 10 am to 4 pm.

The Misery Ends The solution to the Lateral Thinking Puzzle

This was the first unsuccessful contest I've run with math-NEWS. I received 36 e-mail messages from various people, containing questions and guesses. I even attracted the attention of one web surfer from Texas. But no one solved the puzzle, and since this is the last issue of the term, the contest is over.

The intended solution was as follows: A thief broke into the Globe Freezer Company in Colorado and grabbed a sack of something without looking inside it first. When the cops caught him, they informed him that he had just stolen 1800 beef rectums. The thief was worried about the rough treatment he might receive in prison for such a crime, and wanted to be busted for the "cooler" offense of manslaughter. This is a true story, folks. I found out about this fun fact in the book *The 176 Stupidest Things Ever Done* by Ross and Kathryn Petras.

While no one answered the puzzle correctly, I did receive one very good guess. Chris Doherty had this idea: "In the process of attempting to steal the Crown Jewels of England, the thief accidentally killed a security guard. Since attempting to steal the Crown Jewels is a capital offense, he naturally tries to cop to the 'lesser' plea of manslaughter." This is the best answer I got so I'm awarding him the prize. Congratulations.

Thanks to Fabio Esposito, Dawn Ojanpera, Andy Kim, Jose Rodriguez-Lavado, Kelly N. Dyer, Josh Shepherd, June Quah, Rob Todd, Mike Hammond, Shafiq Sharif, Tanya Thorvardson, Paul Sheen, Chris Doherty, Renata Butkovic and Jay F. Cox for participating in the contest.

If anyone is interested, there is a forum for this kind of puzzle on the web. The address is http://www.books.com/scripts and it's the lateral thinking forum.

Gridby

- Wichita Eagle Beacon (6/21/81)

n le r)

e

n

Graham "Cronkite" Rogers

The Philosopher's Stoned

The Bridge Virus

Anyone reading this who has spent any time in the Comfy Lounge this term (and yes, I do mean pretty much *any* time at all) will probably have noticed the preponderance of a single activity nearly to the point of a monopoly. (And no, I'm not referring to that act which so annoys my colleague whose words have recently graced these pages... While there is a lot of *that*, it is hardly the prime occupation of the average lounger.) I'm talking about bridge games.

That's right. Bridge. The card game with the talking in code and half the cards visible to every player during the actual play of the hand. The one which always seems to result in long, drawn-out postmortems which have been known to last for days. The one that (God help me) has been played for twenty-four hours straight on one memorable occasion. That game. It's everywhere this term, and the die-hard loungers such as myself are wondering why there's been such a surge in popularity.

At last, we've determined it.

I don't know how familiar you are with "memetics"; the concept is basically one of a gene pool for ideas and the like. A single concept (such as ice cream, for example) exists in our collective experience and individual consciousnesses as a *meme*, a sort of unit of thought. There can also be more complicated meme complexes (such as chocolate ice cream, ice cream sundae, Dairy Queen, and the like) which combine smaller memes; and some of these (such as Haagen-Dazs... mmm...) can even take on the characteristics of viruses, infecting their "host" (the person having the idea) with the purpose of propagation. It is my belief that BRIDGE is the most pernicious such meme yet encountered in the relative captivity of the MC.

One reason for this is the sneaking sort of way that the meme complex BRIDGE invades brain functions. Most such entities, you see, tend to take control of the speech mechanisms and not much else, except perhaps to shut down the centres of logical thought and imagination. BRIDGE is nothing like that; it has a much more sophisticated line of attack.

It starts by seizing a lazy sort of control over a lot of involuntary and subconscious movements. These are generally not noticeable unless one is actively looking for them; a typical such symptom is a heightened tendency to drift towards the Lounge when one is at loose ends, without even thinking about it. There are also definite withdrawal symptoms when one is separated from a pack of cards for any significant amount of time.

Once it has crawled it's way into a cozy corner of one's subconscious, it then proceeds to work on higher brain functions, *continued on page 2.984375*

2.984375 mathNOOZ Friday, Nov. 29, 1996

continued from page 2.96875

such as logic. Please note that this is a *vital* characteristic of the virus; newly infected loungers often do not apply logic to bridge because BRIDGE hasn't made it that far in it's invasion of their brains. This explains, for example, how a newbie player could (for example) raise their partner to game holding (say) a two-point hand.

After logical reasoning, memory and speech centres are next on the list of invasion targets. It is in this stage that people infected by BRIDGE are at their most communicable. Such folks will go on at great lengths on such subjects as why a specific play or bid was correct, and are more than happy to play to an audience. In this way, casual passers-by often get their first major hit of BRIDGE, which has been known to be debilitating.

At this point the bridge player is a lost cause. Far too many of their waking hours are spent with BRIDGE using their brains for contemplation, and this causes permanent changes in thought patterns. For example, previous to infection the basic plurality of humanity was two; all of a sudden, a group of people less than four can become inconceivable, and victims will begin to panic if stuck in a group of three, desperately calling out for company in their misery.

It is only a matter of time before BRIDGE gains true sentience, and then the Lounge is lost. Until then, however...

Matt "So-Krates" Walsh

Now Playing

Here are my last movie reviews of the term.

Ransom

A rich man's son gets kidnapped, but after a failed attempt to pay the ransom, the father instead decides to offer the money as a reward for turning in the kidnapper. Mel Gibson stars as the father and shows some excellent emotions at times, while not so good at others. The mother is played by Rene Russo, who is a favourite of mine, but doesn't give that great of a performance in this movie. Overall, the movie was quite predictable, although an interesting concept. The movie projector breaking down for a couple minutes toward the end of the film probably didn't help, but even ignoring that, you might as well wait for *Ransom* to come out on video.

**

Star Trek: First Contact

Even those who aren't Star Trek fans would appreciate the special effects in *First Contact*, although some of the subtle references may not be understood. There's exciting action from start to finish, as the Borg travel back in time in an attempt to assimilate the human race by preventing it from making its first warp journey and establishing contact with other intelligent species. A highlight of the movie was the humour and the interactions among the characters. Definitely worth seeing.

* * **

Warren "The Movie Milkman" Hagey

mathNOOZ would like to thank everyone for wearing pants.

The 12 Weeks Of CS

program The_12_Weeks_of_CS

```
uses CS134
var
```

i,j: integer;

```
type
```

Verse: string[42];

{Purpose: Stress release before the post-exam /
 holiday cheer}

{Pre: Knowledge of 'The Twelve Days of Christmas'}
{Post: Off key, tuneless song that scares new CS
 students out of their holes. If the student
 see their prof's shadow, return 3 weeks of
 exams, else return 3 months of unwashed laundry}

begin

end.

ArrayTable:

| ALLAY. | LADIE. |
|--------|---|
| i | Verse |
| 1 | a <sub-string> in a parse tree</sub-string> |
| 2 | Ordered Lists, and |
| 3 | Dummy Nodes |
| 4 | Recursive calls |
| 5 | ADTs |
| 6 | Proofs inducting |
| 7 | Simulations |
| 8 | Obscure Grammars |
| 9 | Dangling Pointers |
| 10 | Stacks-a-Popping |
| 11 | Lists-a-linking |
| 12 | O-notations |
| | |

Minisoft[™] Matchups

If you think the male-female ratio here in Math is bad, be glad that you don't work at MinisoftTM. The ratio there is 100-1, and even that is a bit deceiving. You see, most of the women at MinisoftTMwork in building 8, which, as coincidence would have it, is the building that Bill Gotes works in. That means that for everyone else there the ratio is really more like 1000-1.

Not that it makes a whole lot of difference anyway. It's not like there's time for a relationship while you're there (gotta code, gotta test, gotta debug). Of course, here at Waterloo, you may not have much free time either, but at least you've got better odds.

Is Coffee Good for a Headache?

Thoughts on the University

Argh, don't you hate it when you feel too lousy to get anything worthwhile done, but not bad enough to stay in bed without being bored out of your skull? My brain is expanding and my skull is not...ugh, this means that even vb programming is quite a task. Ouch.

I'm grumbling today about a few things at the University that seem unusual. First off, does it seem weird to anyone but me that you must have an official paper to change registration? That everything must be written? I wanted to drop a physics course (that phys minor just isn't happening I guess) and STAT 230 (Does anyone like that course?) and take C&O 331 and FR 300A (I might do a master's at UQAM, and don't want to lose my skill in the language) instead. I have approval from an advisor (all it took was a chat with a French professor over the phone and telling a math professor I passed MATH 245 and C&O 230 already) but I must have either my original pre-registration form or my tentative schedule. According to the schedule for Winter '97, I can only fit three of my five original courses together anyways, and the courses I would like have many open spaces and fit with the remaining courses. Why is there no way to print out a schedule and then hand it in?

My other gripe has to do with co-op. Now, my job is great, and I'm learning a lot, but I have contempt for a few of the advisors. Before I started this job, I had to search for an advisor to give me the correct address and phone number for my position (Mississauga is not in Alberta. My placement form thought it was.)

The coordinator came to visit me a while ago, and she came on the wrong day. She was lucky I was in at the moment. She didn't have any of the forms (evaluation, math work term, etc.) She asked me if I could tell her what the company did. I tried, and wondered why she could not read the rather well worded posting I had applied for. I wondered if that was not her job. I was trying to explain some quite specialized software to her, but I gave up at the blank look on her face when I mentioned the word "database". OK, we have an engineering/math advisor who does not know anything about computers. Fine; I showed her some neat maps and told her that the pictures were generated by perl scripts when we entered a query on the form, not stored somewhere. The look on her face told me that a discussion about raster graphics vs. vector graphics was out of the question.

Now, we are at a university known for expertise in computer science. Why don't we share this expertise with the administration? Why not change the scheduling software to allow printouts of schedules anywhere? It is so much easier that way...I'm not even asking for a change in the guts of the system. How about requiring that anyone in co-op advising students in math, engineering or whatever else has placements involving a lot of computers to take advantage of one of the staff courses on computers? Ignorance is not great, but hey, it's easily curable. All we need is to get some momentum...

Carolyn "Useful Work? Not likely today" MacLeod

Yes, we are on the Web. If you're ever wandering the Web, drop in on mathNOOZ at http://www.undergrad.math.uwaterloo.ca/~mathnews

Subscriptions!

You'll miss us, you really will

Off for a work-term? Worried about *math*NEWS deprivation syndrome?

Here's how you can combat the problem:

Subscribe to *math*NEWS and have a personal hard copy of every issue mailed to you!

Right to your door! By a certified employee of your government! What could be better?

Here's how our brilliant scheme works:

| and the second of the | Canada | US | Overseas |
|-----------------------|--------|------|----------|
| One term | \$5 | \$10 | \$20 |
| One year * | \$10 | \$20 | \$40 |

This is the cost of 6 (per term) exciting issues of *math*NEWS. All prices are in in Canadian funds.

* The "one year" indicates 3 terms that are not necessarily consecutive. That is, if you're at U(W) for the Winter '97 term and off on a work term for the Fall 96 and Spring 97 terms, then you could get a year subscription for Fall 1996, Spring 1997 and Winter 1998. You could pick up the Winter 1997 and Fall 1997 issues in person!

If that doesn't make sense, come by the mathNEWS office to subscribe some time and we'll explain it to you! If you're a bit far off, then send us e-mail to mathnews@undergrad.math.uwaterloo.ca.

Subscription forms (along with cash or cheque made out to mathNEWS) can be dropped off at the mathNEWS office whenever one of us is around or slipped under the door when we're not. If you are mailing us a subscription form, please send it to the address listed in the ISSN along with your cheque. (F = September to December; W = January to April; S = May to August).

Your friendly mathNEWS editors Matt "So-Krates" Walsh Brian "Calculus Cowboy" Fox

| mathNEWS Subscription Form |
|---|
| Name: |
| Address to Which to Mail Issues: |
| Warner D'e hads diving a good Marke II hand a r |
| EVE contained the We taked about for |
| list, itsicy and, too , its tabs you could get a list of available and |
| Terms Desired: |
| 1. F W S 19 2. F W S 19 3. F W S 19 |
| Canada: \$5/term, \$10/year U.S.: \$10/term, \$20/year Overseas: \$20/term, \$40/year |

y

n

d

15

ot

e,

2.9960938 mathNOOZ Friday, Nov. 29, 1996

Post-Teen Angst: I Am Not Grandpa!

Dangle That Worm

-- 0r--

"Nipples? No thanks, I already have two...

Now, dear Average Reader, before you start scrounging for kindling and constructing your effigy of me, let me say that I do remember my promise of last issue: no more dangly-bits.

My nipples do not dangle; the "worm" in question refers to a *different* metaphor. Satisfied?

"We'll see," grumbles the still-wary Average Reader.

The worm that *is* being dangled is information. Information that is very plump and juicy. Mmmmmm... Look at the information... So pink and fleshy... So tasty that you want to swallow it down whole...

This is the point that the Average Reader will notice — dum dum duuuum! — the hook. (Cos there's *always* a hook.) Yup. The worm sits there writhing and wiggling away, but every once and a while you'll spy a flash of barbed metal. Should you bite anyway? Aye, now there's the rub.

The biting of said worm and the swallowing of said hook should only occur when the angler is an inelegant fisher-person, and you see the hook, know what it's about, and can deal with its repercussions or you've got a seasoned veteran who's got that hook so well hidden that you don't realise you've swallowed it until your head's been cut off and your guts are splattered all over the angler's hip-waders.

"Yet again, you have confused me using rambling illogic couched in metaphor. But I'm not sure I want to know what you really mean..." says the baffled Average Reader.

I see that you need my help. (A snort is issued by Average Reader.) Therefore, it is time for yet another tale from my virtually endless repertoire of semi-imagined happenings.

"Great, I'm sure this will clear everything up..."

One fine evening, I go out for kawphy with an old friend. (For convenience, we will call this friend EVIL.) I was curious as to why EVIL had brought a fishing pole and tackle box, but decided it was a "fashion" thing.

Converse, converse, converse. Kawphy, kawphy, kawphy. Then...

"So," says EVIL, "I was talking with (sigh) yesterday."

Note: $\langle sigh \rangle$ is a mutual... acquaintance... of EVIL's and mine. The name has been oh-so-cleverly altered to protect the innocent. (Me.)

"Really," says I. Something pops into my peripheral vision. Wossat? It's kinda squirmy n' stuff. Maybe I'll have me a little swim over there and see what it is.

EVIL continues. "Yup. We talked about you."

"You don't say," says I. Is that a worm I see? Uh-huh. Nice, fat, juicy one, too. Betcha you could get a lot of swimming done after eating a worm like that. (Lotsa protein for building strong fins and keeping that nice amide coating on the ol' scales.)

And now, EVIL's coup de grace: "Yup. And we talked about the relationship."

"That's most intriguing," says I. RED ALERT! All hands to battle stations! Cap'n, we've spied the hook! Hard over, helm! DIVE! DIVE! Awoooooga! Awoooooga!

But waitaminute... Worm... looks... so... tasty... ! But... can't... bite... ! Wouldn't... be... proper... ! EVIL grins. EVIL knows how tasty the worm is. EVIL knows that she needn't be delicate with it — all she needs is a nibble and *WHAM*! I'm in the frying pan basting in butter and dill.

Mustering every last bit of self-control, I finally squeak out between my clenched teeth, "Isn't that nice. More kawphy?"

Now do you understand? Knowing full well that you'll be filleted the moment after you sink your teeth in sometimes isn't enough. That was a luscious, voluptuous worm, dear Average Reader. I can still see that worm. That worm haunts me to this very day. I may be hiding in the weeds at the other end of the pond, but I know that EVIL is still waiting. With her worm. And her hook.

But I haven't bitten yet. Aren't I a good boy?

Ian "Oinkoinkoink! Complex" Milligan



Coming soon... to a smoky arena near you!

A full evening of awesome applied math and wrestling action!

C'mon out and watch world class applied mathematicians beat the crap out of each other (and world class physicists, too!) in the ring to determine mathematical superiority. Marvel as opponents try to outwit each other with their muscular and differential prowess. We guarantee top-notch sporting and educational entertainment. Fun for the whole family!

Get your tickets today!

Vol. 72 No. 5 mathNOOZ 2.9980469



al

te

le

mathNEWSquiz #4 Answers

Hi folks! We didn't get many submissions for our super-sized squiz! We were really amazed, actually, at how few answers we received. Whatever. Here are the long-awaited answers to the last squiz: 1) Des Chiffres et Des Lettres; 2) The surrender of Lee's Army of Northern Virginia, marking the end of the US Civil War; 3) Lester B. Pearson; 4) Pearl Jam - Even Flow; 5) Keith Milligan, my third cousin once-removed 6) House of Commons, Peace Tower; 7) The Confederation Bridge; 8) Harriet the Spy 9) HFRO, RSR, PG, CotK, CPD, SumF, WR, DoH, ExecO: 9 total; 10) Windsor; 11) 25; 12) Hudson's Bay Company; 13) Floating point operations; 14) Roy Plunkett; 15) Lou Gherig's Disease, or Amyotrophic Lateral Sclerosis; 16) Cabbage; 17) Canada (Britain) and the US; 18) Black with white stripes; 19) Stan Rogers - Garnet's Homemade Beer; 20) South Africa; 21) Sackville, NB; 22) In the wind; 23) 1905; 24) Ferdinand Magellan's; 25) USS Missouri; 26) Beachville, Ontario; 27) Self-serve gas stations; 28) R-E-D spells red and out goes you!; 29) The Rolling Stones - Ruby Tuesday; 30) Juno; 31) Atlantic Ocean; 32) Billy Joel; 33) "Dexter's Labratory", 18.00 Wednesdays, 11.00 Saturdays on YTV!; 34) John McCrae; 35) Eliza Schneider; 36) 1413-1422; 37) Major General Louis Mackenzie; 38) Eraserhead; 39) Spirit of the West - The Crawl; 40) November 22rd, 1963; 41) Terpsichore, Euterpe, and Polyhymnia are acceptable; 42) Southern-most point of Mainland Canada; 43) Spanish Civil War; 44) Schwarzschild; 45) Sleepers; 46) Measure of temperature; 47) Jason, Mark, Tiny, Ke-op, Princess; 48) The moon; 49) Five: tetrahedron, hexahedron (cube), octohedron,

dodecahedron, icosahedron; 50) So they don't fall in the manholes. They're easier to transport that way, too!; 51) 4; 52) 1215; 53) Christopher Pike and Robert April are acceptable; 54) Lone Star; 55) Karl Freidrich Gauss constructed a 17-gon, something the Greeks didn't know how to do; 56) lava; 57) Mary Pickford; 58) Monday, April 9th, 1917. (Easter Monday); 59) REM - Losing My Religion; 60) 24; 61) Millikan, who was finding the charge of an electron. Kudos to those who found the error!; 62) Sarah McLachlan - Ice; 63) British, Spanish, French; 64) Fargo; 65) Red Rider, Lunatic Fringe; 66) Dogs; 67) Spain; 68) (The Artist Formerly Known As) Prince - Diamonds and Pearls; 69) Phrenology; 70) Sylvester Stallone, Sharon Stone; 71) Simon Fraser University Pipe Band; 72) British North America Act.

I owe an apology to Rob Roy Duncan McGregor and Esther Ella Small, who jointly received a score of 15 on the last squiz. Sorry, folks!

Many people noted that there are errors and ambiguities in the questions. For each ambiguity (or error), a bonus point was awarded. So, here are the people who submitted, with their scores (+ bonus) in parentheses: Eric Joanis (19); Riemann Sums (27); Mala Krishnan (29); Mike Talarowski & Matthew Garnier (34); Pokey & Taz (36); Jason Smulevich (47 + 1); Ian "The Word Guy" Facey (48); Eric Fung (57 + 1); Philly Phanatic (60 + 4); and the winners of the biiiiiiiiig prize package are ... Ethan Hall-Beyer and Neil DeBoni (66)! You can pick up the prize package at the MathSoc office!

Stuart "Jean-Guy!" Pollock

gridCOMMENTS

Greetings, Gridders!

That last issue brought in a rather large number of entries for the Gridword.

The Cryptic received some fifteen entries. The majority of them were from various figures in history, including Aline and Jacques Chrétien, The Queen of Sheba and her Consort, Louis XVI and Marie Antoinette, Napoleon and Josephine, and Sailor Moon and Tuxedo Mask. I think it is a major archaeological find that all these famous leaders of history have exactly the same handwriting. Someone could write a paper. Eleven papers.

A cute idea, folks. That's not really fair, however. I counted all those submissions as one submission, which means we are down to four. They were from The Icons of History above, Pokey & Taz, Chris Wooff, and Ian Facey. Pokey & Taz had an error in their submission, so we have three perfect submissions. The winner by random draw is The Icons of History. Sorry, folks, only one prize.

For the Unconventional, I got four submissions and they were from Ian Facey, Chris Wooff, Pokey & Taz, and Prince Charles & Princess Diana (who, as amazing as it may sound, are different people from Napoleon and Josephine and Co.). The submissions from those last two entrants were incomplete; the first two were correct. The winner here is Chris Wooff. Congratulations.

The gridQUESTION last issue was incorporated into the grid itself. I put four possible answers into the grid and had you figure out what it was. The answers were "a DALMATIAN on a FIRE TRUCK," "a SILENT MOVIE in a DARKROOM," "SKUNKS in TOMATO SAUCE," and "a FOOTBALL REFEREE with a NOSE-BLEED." The Cryptic grid also had the pieces to construct "a PENGUIN in RASPBERRY JELLY" and the more traditional "NEWSPAPER." The question was, of course, "What's black and white and re(a)d all over?" The answers I got were: A nun in a ditch. Conrad (Black) and Vanna (White) in Communist Russia.

The grid on the back page was a puzzle I was going to use during Math Week for the Game. Since we didn't actually *have* a Game this term (we hardly had a Math Week), I didn't see any reason to let it go to waste. It is just a regular crossword. However, those helpful little tags like (abbr.) and (2 wds.) are all missing. You'll find the solution in this issue.

And so ends another term for me. I hope you enjoyed the puzzles I presented. I hope to confuse you all winter long. Until then...

Gridby

More mathies get their "nooz" from mathNOOZ than from any other source.

With apologies to ABC Nooz.

A Question of Faith

I had a strange set of experiences last week, and, being the kind soul I am, I would like to share them with you. Before I start, I am not writing a parody of anyone's views, I really did have these conversations with a young man I know only as "Eric".

It was shortly after the end of work, say 5:30 or so, and I was switching buses at South Common Mall (in Mississauga). I was in no hurry, I had an hour to get to a daycare where I was to deal with about twenty "Sparks" (small pink Girl Guides) for a while. My main concern was how to get through the meeting without destroying my one blazer and my best dress pants, while still doing my share of the work. I had quite a while to wait for my bus, and didn't feel like a half-hour walk.

A young man was waiting for the bus with me, and he came up to me, made his excuses, and handed me a religious tract to read. He asked me to read it and to think about it, I guess the usual requests. I said I'd read it later, and asked him to tell me who he was speaking for, and why I should listen. This is about my most polite response when anyone tells me what I should believe, and I think they are fair questions.

Then the conversation began. The young man asked my name, and I gave it. He introduced himself as Eric. He told me that the Bible (which he held a copy of) is a history of the world. He told me that all men are sinners, and we can be forgiven by God through Jesus, but we are unworthy nonetheless.

I asked if there was any reason I should believe this rather than, oh, say, that the Earth was created yesterday, including me. He showed me a verse in John. I asked if all non-Christians went to Hell. He said yes, and showed me a verse in Luke. I asked what happened if one never heard of Christianity. He told me several things, but ended with, well, you go to Hell.

He told me about the strange facts that Roman Catholics are not Christians, and that the Jewish faith was the true faith before, but not now. I asked if anyone could go to heaven if they became a Christian in this narrow sense; he said yes. I asked if that included a mass murderer converted the day of his death; he said yes.

We talked some more, about gentle King David, about whether the "letters" sections of the Bible are the word of God, and so on. If I want salvation in his church, I must believe that the Earth is about 6,000 years old, that all the Bible is literally true and uncorrupted by time and translation, that things do not evolve, that no person can be good, and that there should be no laws but those in the Bible. I asked if I should give Caesar what is Caesar's, and he said that Caesar isn't around any more. I must renounce science, since that would be a God before the true God. I asked if it was a sin to want to see the intricacies of God's creation so to admire it more. He avoided that question.

For each of these requests, I was shown a passage in the Bible. I told him I was quite familiar with the book, but didn't think that I saw everything in it the same way he did. He asked me not to interpret the book, but to take it literally in all cases. I bit my tongue and did not ask for his definition of the word parable.

After the bus came, we parted ways, and I did read the tract carefully. It was excerpts of the New Testament, one of which I read out in Church about five years ago.

The next day, I ran into him again. He gave me a different tract, and asked if I'd thought about it. I told him I had, and would continue to. We talked a while again. I think he thought that I was a promising convert.

Well, I read the tracts, and if I were to believe the word of this young man, I don't know that I would subscribe to this brand of Christianity. I hold my freedom to try and understand the workings of the world quite dear. I would be an apostle who went to God by way of his head, and not of his heart. I'm never sure if that makes me an admirer of Peter or of Paul.

Well, I'm sure I'll run into that young man again, giving out tracts at the bus stop. I'll have to tell him that I will take my chances and think that faith in God does not make it improper to view the world with wonder, and try to imagine the thoughts of those who wrote down the stories in the Bible. Why did God give me this ability to think, to marvel at the world, if not for some purpose?

Carolyn "Yes, I think about odd things" MacLeod

mathNOOZquiz

Always challenging with no aftertaste

Song Lyrics Name the song and the artist

- Don't bring me down, no I'll tell you once more, before I get on the floor Don't bring me down
- 2. Oh oh oh oh, just hangin' tough Oh oh oh oh oh, just hangin' tough
- 3. My bologna has a first name, it's H-O-M-E-R My bologna has a second name, it's H-O-M-E-R
- The Bills make me wanna shout Let's go, Buffalo! (Let's go, Buffalo!)

General Questions

- 1. Why do they call them "speed bumps" when they cause you to slow down?
- 2. Why hasn't Arena Football skyrocketed in popularity?
- 3. Do people actually pay money to watch golf?
- 4. Does anyone really care about who's the lead vocalist for Van Halen?

What do they have in common?

- 1. Downtown Oshawa, Downtown Kitchener, landfill
- 2. Julius Caesar, Napoleon, Ottawa Rough Riders
- Jimmy Hoffa, Amelia Earhart, December 11th in Feds Student Handbook
- 4. Drinks Labatt 50, dances disco, Bomber every Friday

Brian "Squiz for a Day" Fox

Things Hammer Wonders About

Are any more of these ever going to be printed?

[No. - CalcBoyEd.]

3 mathNOOZ Friday, Nov. 29, 1996





Grid Clues

Across

- 1. Half-opened
- 5. "So there," mathematically
- 8. Spoken
- 12. Coke or Pepsi
- 13. Purpose
- 14. Die
- 15. Class of birds
- 16. Newsgroup beginning
- 17. From afar: Pref.
- 18. Writer?
- 20. End of a writer?
- 22. Slot machine feature
- 23. Jail
- 24. Monstro et al.
- 27. Fin
- 31. Yes, Pierre
- 32. Hawaiian dish
- 33. Proved otherwise
- 37. Magic persona
- 40. Selective gate?
- 41. Most people use it on their beds
- 42. Expression
- 45. Halo
- 49. Uncouth
- 50. Take a chance?
- 52. Middle East area
- 53. On
- 54. Floral arrangement?
- 55. Ladies hit
- 56. Irritant
- 57. Seasonal worker?
- 58. Sloth and others

- 1. Stat
- 2. Roman god
- 3. Capital of Yemen
- 4. Alfalfa or Buckwheat
- 5. Scruples
- 6. Subj. for many immigrants

Down

- 7. Notice
- 8. Gas ingredient
- 9. Regrets
- 10. Competent
- 11. Sordid look
- 19. Annoy
- 21. Cheery noise?
- 24. Palindromic interjection
- 25. Colour
- 26. Broadcast
- 28. U.S. Govt.'s Greenpeace
- 29. Neither partner
- 30. Screwed
- 34. Save
- 35. Japanese theatre
- 36. Tweeter's department
- 37. SF question
- 38. Promissory note
- 39. Homes (in)
- 42. Dross
- 43. Stringed instrument
- 44. Vows
- 46. Science magazine
- 47. Madonna song
- 48. One puzzle asks for five of them in a row
- 51. Type of fish