

mathNEWS

Volume 42 Number 3

Friday, October 10, 1986



LookAhead

Co-Oops Only
Oct 16 Interviews begin
Oct 23 Interviews begin (AM/Eng)
Fed Flicks \$1 Feds, \$3 others
Oct 10-12 (No Movies - Thanksgiving)
Oct 17-19 The Jewel Of The Nile
Oct 24-26 Hannah And Her Sisters
Cinema Gratis 9:30 in the CC—it's free!
Oct 15 What's Up Doc (Short : The In-laws)
Oct 22 Macbeth (Short : The Dove)
UW Arts Centre
Call 885-4280 for more info and tickets
Oct 9-11 Macbeth
Oct 20 Lili Marleen (International Film)
Oct 21-23 Technology And Work (STV Film)
Oct 22 CLIO Awards
Oct 24 Judith Marcuse (Repetory Dance Company)
Oct 28 Prospects For A.I. (Hagey Lecture)
Oct 29 Without Us! (Hagey Lecture)
Other Events
Oct 16-17 Oktoberfest at Bingeman Park
mathNEWS
Oct 20 Issue #4 submission deadline.
Oct 20 Next production night
Oct 24 Next mathNEWS comes out

Math Column

Next week, some of you will be heading to that festival of drinking and dancing called Oktoberfest. However, by the end of the evening, you and a friend might be hoarse from trying to talk over the loud music and tired from dancing (or stumbling) all evening. Thus, you are sitting there just staring at your friend across the huge pile of beer bottles that have built up in front of you. Here is something that you both can do to pass the time without straining whatever mental faculties you have left too much.

Put all those bottles into one pile. You and your friend take turns removing either one or two bottles, as you choose, with the one who takes the last bottle winning.

The secret to win is to always have a multiple of 3 bottles at the end of your turn. Thus, if your opponent removes one bottle, then you remove two, and if he/she removes two, then you remove one. Thus, at the end of each round, there are three fewer bottles than before. This continues until you finally take the last bottle or two, thus winning. Happy playing.

The Termal Schizo

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Editor: Paul D. Obeda

Prezz Sezz

Just a quick notice: It's MathSoc Student Council's general meeting time again. What, you may ask, is that? Well, it's your chance to have your opinion count (a vote) in a council meeting. Anyone who has contributed their \$5 fee to the Math Society is eligible to vote. Any student not in Math is welcome to attend and can put forth his or her comments regarding the issues. Time is 4:30 Wednesday October 15; place is MC 2065. If you can't make it then come to the Mathsoc office at MC 3038, pick up a proxy form and fill it out. This will allow someone to vote for you.

We will be discussing the financial situation, ratifying several bylaws (bet you didn't know we have bylaws that govern the Math Society's conduct), and just letting you know what's going on. If you have any questions concerning fees of some sort, we will try to explain the current situation regarding them.

So come out and be heard (or counted). Notices will be posted with an agenda. Refreshments will be served to those who actively participate (i.e. stick around). Hope to see you there!

Wilma

A Note From the Editor

Well, another issue, and another paragraph starting with 'well'. It has only been a week since our last issue, so this week is a little bit shorter. Get your articles in asap for our spoof: VAGUE magazine.

This issue seemed to come together reasonably well. The Imagen co-operated, and everyone who showed up was very helpful.

There was a little feedback that came in this week. Thank-you. Keep writing, everyone, but remember to keep things reasonable and within the bounds of acceptability.

Sorry about the faintness of some of the articles last week—Graphic Services did as great a job as possible. The problem was with the Imagen last week not serving enough toner, but it seems to be much better this week.

Thanks to all the profs, and the students for the Quotes. (By the way, profs, if you'd like to send me some Student Boners, I'll do what I can with them. Try, of course, to keep them of universal appeal and interest, if such is possible.)

Thanks are extended to (in much the same random order as they appeared last week—I'm just copying, mostly) Rob Harnden, Dan Kermod, dan schnabel, Cary Timar, Frank Letniowski, W.Jim Jordan, Tom Ivey, Camille Goudeseune, Dave Mooney, Wilma van der Veen, Barb Palmer, Brett Martin, John Omielan, Fred Walter, Ken Shirriff, Steve Rapaport, Andrew Tron, the Wizard of Id, C. Sneer, Nancy, the mathNEWSquizzmaster, and Comrade Fermat. Of course, there are others whom I am probably still forgetting. I thank them, too.

Happy Birthday to anyone with birthdays falling on or near today.

Do those mathNEWSquizzes! They're really not so bad at all. And a complete solution set is not necessarily required—even a few answers may well be sufficient to gain you fame and prizes.

Would whoever took the copies of the first two issues of the term down from the mathNEWS bulletin board (just outside MC 3036) please return them to us? You can slide them under the door, or deposit them in the BLACK BOX. They're posted for everyone to read, and we don't have many copies left of either of the first two issues.

Have a Happy Thanksgiving, and a safe Oktoberfest.

Paul D. Obeda

Upcoming MathSoc Events

MATH GENERAL MEETING

Oct. 15 at 4:30 in rm. 2065 with free nourishment. This general meeting is open to all Math students, so come on out!

UNIVERSITY NIGHT OKTOBERFEST AT BINGEMAN PARK

Oct. 16,17. Friday is sold out. \$6 tickets are still available for Thursday. Busses leave on Thurs. at 6:00, 6:30, 7:00 and 9:00 (for those writing a midterm) from the Math loading dock. Friday busses are leaving at 7:00.

HALLOWE'EN PUB AT THE BOMBSHELTER

Oct. 31. Stay tuned for more info. This one should be great fun. Proceeds are going to Unicef.

WINE + CHEESE

Nov. 8 at South Campus Hall. The fabulous tradition lives on. Watch for ticket sales later in October or early November.

ROADTRIP TO BUFFALO BILLS vs. MIAMI DOLPHINS

Nov. 16. Tickets are now available in MathSoc for \$25 (\$27 for non-Mathies). The bus leaves at 9:00 a.m. so as to catch the "tailgate party" in Buffalo. Bring your birth certificate, passport or other valid declaration of citizenship to show at the border.

END OF TERM PUB

December 1.

QUEBEC WINTER CARNIVAL

Sometime in February.

As well, we have plans for other unscheduled events such as the Math Car Rally and a road trip to Illusions in Oshawa.

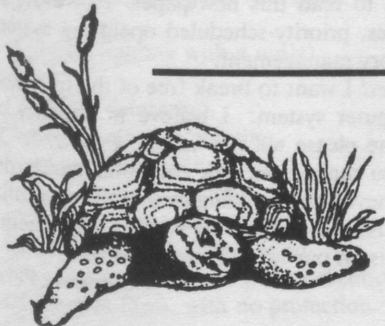
For more information on these or any events check with MathSoc, MC3038. Keep watching bulletin boards and posted banners.

The Feds

Upcoming Fed Events include Graham Chapman (Monty Python) on Sunday October 19, 8:00 PM at the Humanities Theatre for \$10, and Otis Day and the Nights (Animal House) on Friday October 24 at Fed Hall for \$10. Anyone interested in taking the Fed Bus to Toronto should buy tickets by the Wednesday of that week or else they may not get one.

The Feds meet once a month on Sundays. You can find the time and place of any meeting from the Fed Office in CC 135. Your Math Fed Reps for this term are Brett Martin, Tim MacNeil, S.Furr and D.Lyon. You can get a hold of us by leaving a message on the Fed Board in MathSoc or in our mail slots in the Fed Office.

Brett Martin



Are you a Turtle?

Co-op Interviews Next Week

Puttin' on my Top Hat,

Tyin' on my white tie,

Brushin' off my tails!

Employer interviews begin Thursday, October 16 (that's next week) for Math co-op students this term. They will continue until Wednesday, November 5. Please check the schedules posted on the first floor bulletin boards in Needles Hall. Also, please remember to initial your name should it appear on any Last Minute Information Schedules.

All co-op students are invited to attend the meetings of the Co-op Student Advisory Council (the 'SAC'). The next meeting is Tuesday, October 14 at 4:30 P.M. in Needles Hall, room 1029. Minutes from the previous meeting and an agenda for the upcoming meeting are posted on the S.A.C. bulletin board in Needles Hall.

Center of Gravity

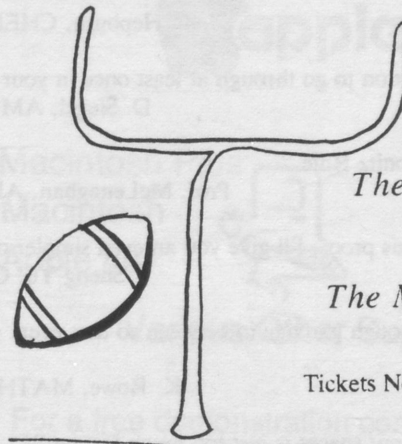
Row, Row, Row Reduce

by Weird Jim Jordankovič

Row, row, row reduce—
Solutions to be found.
Gauss-Jordan, Gauss-Jordan,
But variables abound.

Parameterise;
Try to get it right.
Throw in s's, throw in t's,
And stay up all night.

Finally got it done!
Matrices so nifty!
Never to row reduce again 'til
C&O 350.



The Buffalo Bills

take on

The Miami Dolphins

November 16
Tickets Now Available at MathSoc

\$25 Math

\$27 Others

Prof Quotes

Since we started running professor quotes in mathNEWS they have grown in popularity to the point that some people think one newspaper cannot supply the demand. These people present a carbon copy, so to speak, of the quotes section in mathNEWS in another campus newspaper, whose identity will remain undisclosed. Well, on to this week's collection.

"A long time ago I learned that when you touch two live wires together you get shocked."

J.W. Graham, CS 180

"When I first started teaching Engineering here, they told me to give the engineers a very hard assignment during the first week of classes. Just to shock them, to set the tone for the rest of the term. 'Better yet,' I asked, 'Why don't I just kill a couple?'"

F. Safayeni, MSCI 311

"Are you familiar with the following notation: $x \lllll y$, to mean a hell of a lot less than?"

Prof. Bennet, STAT 230

"If I was giving a math lecture I might write this as $10^{-5} \lll 10^{-2}$ and the majority of you would not be surprised."

John Hepburn, CHEM 123

"The fact that I use an upside-down 'A' proves I'm a sexy mathematician."

P. Hoffman, MATH 134A

"Now this gets into combinatorics which is another awful subject."

K. Rowe, MATH 234B

"I'm not showing you anything that will be of any use."

P. Schellenberg, C&O 350

"Everything has one of three values, true, false and meaningless."

K. Rowe, MATH 234B

"The details we are learning are known as useless knowledge."

J.W. Graham, CS 180

"My life has been full of useless knowledge."

J.W. Graham, CS 180

"These are just mindless chemicals in solution. Ions don't have minds of their own."

John Hepburn, CHEM 123

"It's an important calculation to go through at least once in your life."

D. Siegel, AM 481A

"I've invented a new Leibnitz Rule."

Prof. McLenaghan, AM 362

"If you can understand this proof, I'll give you an even simpler one."

Sheng Yu, CS 360

"Now, we want to put enough garbage in between so that every step is viable."

K. Rowe, MATH 234B

"Remembering where to put spaces is just too much for me."

J.W. Graham, CS 180

"But I don't like all those cotton-picking minuses!"

J. Froese, MATH 230A

"The computer carries a little table around in its guts."

J.W. Graham, CS 180

"Sometimes you have to suck it down the line. Hands up if you've ever had to do that."

J.W. Graham, CS 180

Oktoberfest Tickets

Oktoberfest tickets for Thursday, October 16 at Bingeman Park. University Night are still available in the MathSoc office for \$6. Ticket price includes free beer mug, shuttle bus, and admission. As is traditional, any proceeds from *this* event shall go to the Math Grad Committee. In addition to the Math Grad Ball, the committee is also responsible for the Yearbook, Grad Photos, Convocation Weekend, and the Class Gift.

ChevMath

A paper defending the basic integrals

of the Mathies

Imperialist running-dog computer systems. Capitalist-fascist printer queues. Bourgeois applications programs. Elitist-monopolistic operating systems. These scourges of the people's computer system must be gotten rid of, obliterated, destroyed, wiped off the face of the earth. We the oppressed technoproles must join in revolution to overthrow the imperialistic running-dog computer systems and their bourgeois applications programs. I therefore urge you to break free from the oppressive chains that bond you and join the ChevMath, to revolutionise the computer world.

The ChevMath is the masthead of the revolutionary computing movement. It defends the basic integrals of the mathies. It is from this starting point that all articles promoting printer queues, priority-scheduled operating systems, computer accounting, memory management or imperialist running-dog computer systems are banned. We carry no advertising, for we refuse to let you be duped by the blood-sucking fascist-imperialist warmongering running-dog computer companies that are just *itching* to seduce you.

We at the ChevMath believe that all people were created equally, and that all computers should live in harmony. Therefore, we hold as inalienable our belief that all computers should be 100% compatible. To this end we are developing our own standards. I would like to talk about these standards, but there are running-dog spies of the fascist-imperialist-pig monolithic computer companies behind every door. They have even been known to read this newspaper. However, this standard has no printer queues, priority-scheduled operating systems, computer accounting or memory management.

I can year you saying "Yes! I want to break free of the imperialist enslavement that is my computer system. I believe in equality and compatibility for all. Someone please tell me *how do I do it?*". Just join the ChevMath. There you can see our new computer standards at work. Read back issues of ChevMath, the vanguard of the revolutionary computing. Join in discussions of the best way to implement liberation computing. History is on our side. You should be.

Comrade Fermat

Spelling Reform

In a letter to *The Economist* in *Readers Digest* (ages ago), M.J. Shields, of Jarrow, England, points out that George Bernard Shaw, among others, urged spelling reform, suggesting that one letter be altered or deleted each year, thus giving the populace time to absorb the change ...

"For example, in Year 1 that useless letter 'c' would be dropped to be replaced either by 'k' or 's', and likewise 'x' would no longer be part of the alphabet. The only case in which 'c' would be retained would be the 'ch' formation, which will be dealt with later. Year 2 might reform 'w' spelling, so that 'which' and 'one' would take the same konsonant, while Year 3 might well abolish 'y' replacing it with 'i' and Year 4 might fix the 'g-j' anomaly worse and for all.

"Generally, then, the improvement would continue year by year with Year 5 doing away with useless double konsonants, and Years 6-12 or so modifying vowels and the remaining voiced and unvoiced konsonants. By Year 15 or so, it would finally be possible to meik ius ov thi ridantant letez 'c', 'y', and 'x'—bai now jast a memori in the maindz ov ould doderez—tu niplais 'ch', 'sh', and 'th' rispektivli.

"Fainali, xen, aaftee sam 20 iers ov orxogrefkl riform, wi wud hev a lojki, kohirnt speling in ius xrewawt xe Ingliy-spiking werld ..."

lorz feixfuli,
M.J. Yilz

ElseWhen

mathNEWS ten years ago

AIA INFILTRATES chevron—The chevron has been shut down because it was being infiltrated by the AIA [Anti-Imperialist Alliance]... The AIA is quite the organization. They claim to represent most of the student body, yet refuse to release any figures on their membership... Not satisfied with telling the people their views and then letting the people decide for themselves about accepting them, they use subversion and even violence to try and make the masses believe their particular philosophies... Perhaps the AIA should rename itself to the "Anti-Imperialist-When-We're-Not-The-Ones-In-Full-Control Alliance."

SOMETHING'S MISSING—In the past MathSoc has held an intersociety week with Arts and ESS in late October or early November. Supposedly there will be one again this year, but no one seems to know anything about it. It should have been planned by now, but few people know much about it...

TAUTOLOGY—Seen on the blackboard in MC 3018: "No P.M. this morning."

SO WHAT ELSE IS NEW?—The Computroller for the Diva disk system is in New Jersey being repaired. There were some problems clearing customs in the United States before the repair work started. So don't expect to see Unix up until next week sometime...

Excerpted from mathNEWS, Volume 12, Number 4, October 15, 1976.

There Must Be A Ninja

(words: C. Sneer; music: Eurythmics; harmonica: Stevie Wonder)
--from the forthcoming LIFE'S A BITCH lp, *And Then You Die*

No one on earth could feel so fine,
Broken bones and feeble moans are mine.
There must be a ninja
Stabbing at my heart.
I walk into an empty room,
Shadows lunge at me from within the gloom.
It's an army full of ninja,
And they're shooting me with darts.

(Must be fighting with a ninja)

No one on earth could feel like this,
I moan and I groan without any bliss.
There must be a ninja
Striking at my heart.
Just when I hope that I'm alone,
My fingers scrabble for some throwing stones.
It's a multitude of ninja
And they're hitting me with darts.

(Must be fighting with a ninja)

I feel like defecating,
Watching ninja celebrating.
I feel my soul deactivating,
All my senses relocating.
I hope it's only a deception
Of ancient ninjitsu conception.
They're leaving me the worst collection
Of kung fu films, with no protection.

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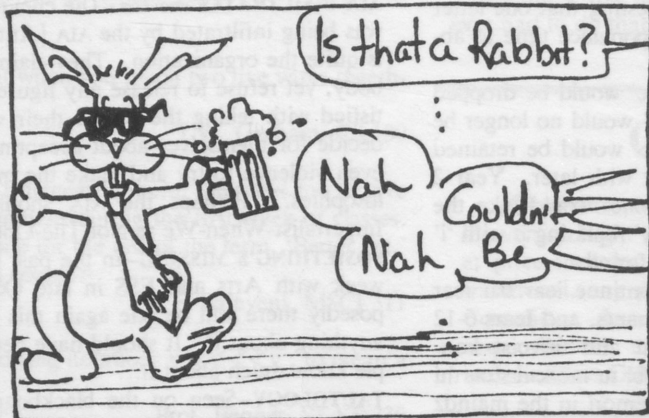
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Introducing "Fred the Math Bunny" in Fred's Guide to Oktoberfesting!!

1 Oktoberfest provides an excellent social atmosphere. Here, Fred enjoys... (i.e. parties his brains out)



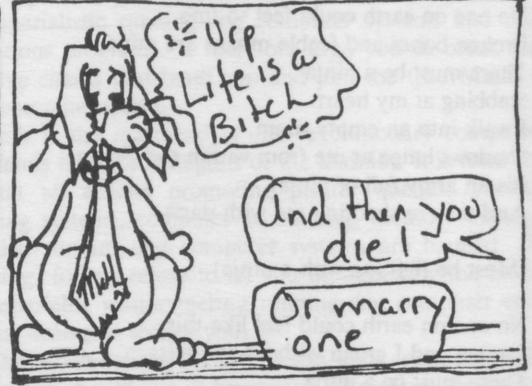
2 Oktoberfest promotes healthy school competition. Here, Fred is a victim of circumstances..



3 Oktoberfest can be a very spiritual experience. Here, Fred partakes of spirits...



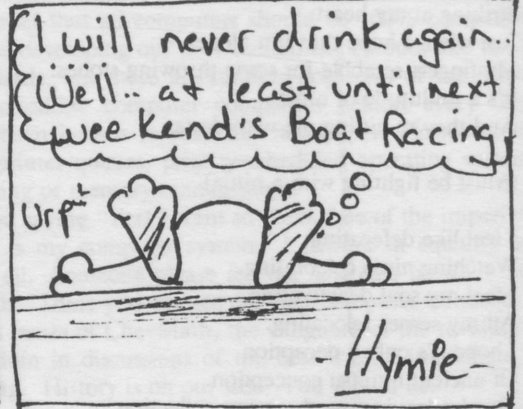
4 Oktoberfest provides a whole new range of experiences. Here, Fred feels worse than he ever has in his whole life...



5 Oktoberfest can have religious qualities. Here, Fred worships the Porcelain altar....



6 Oktoberfest can have a good influence on students. Here, Fred makes a positive moral decision....



Excerpts from

Doctor Heartbreak's Book Of Love

LOVE IS NEVER HAVING TO SAY YOU'RE SORRY

The word has so many overtones. It hides resentment, fear, anger and longing, all under an iron mask of self-mortifying reserve. (Aren't Canadians the most reserved people of the world? For how typically Canadian it is to say, "Sorry!" and move one's feet when someone tramps on them!) When you say it to someone you love, it's a bad sign; you are hiding things.

On the other side of the coin is trust. We would all like to have someone we can trust absolutely, from whom we need not, cannot hide our feelings, and from whom we need not fear recrimination, judgement or sarcasm; then we could stop worrying and get on with the main business of life, which is being happy. If, however, you have to say you are sorry, you do not, cannot trust the person you love. Then is it really love after all?

LOVE IS A STRANGER IN AN OPEN CAR ...

In more pessimistic moods I liken discussion of love to reading a travel brochure for a land you can't afford to visit, just as I liken discussing sex to reading the operator's manual for a Lear jet when you don't have a pilot's licence. Yet there is an undeniable exoticism, an element of adventure to the whole subject. The landscape of another person's mind is stranger than we imagine and sometimes stranger than we can imagine. We have no idea what dangers and delights are waiting down any given path.

It's rather like clothing. Naked people are uninteresting because the element of the unknown has been discarded. (This is why nudist camps, stripped bare of naturist philosophy, are less exciting than they seem. "You're naked - so now what?") Before we can make a discovery we need an unknown. Before we can trust someone we need to fear them.

THERE WERE BELLS ALL AROUND BUT I NEVER HEARD THEM RINGING NO, I NEVER HEARD THEM AT ALL, TILL THERE WAS YOU

Everyone remembers the first time, when it wasn't just fascination or a bad crush or just plain honest lust. It was the time that you thought would last forever, no matter how unforgivably short it really was. You had observed couples, maybe even gone out with or lived with them, but you were still skeptical about the whole idea. "Is it just having someone to do things with or having someone to sleep with or what?" Then it happens to you - it's so hard to believe that you keep pinching yourself - and then you know that it can and does work, and neither you nor anyone else on this earth ever has to be alone again.

Announcing ...

Math Society General Meeting

4:30, Wednesday, October 15, 1986

MC 2065

Voice your concerns!

Nourishments for those who attend

Warriors Reach Double Digits

Last Friday the UW Warriors Band travelled to Varsity Stadium to watch their beloved football Warriors take on the *u(t)* Blues. The Band was surprised (pleasantly) at the outcome of the game as the Warriors scored three touchdowns and racked up over 300 yards of offence against Toronto, while allowing fewer than 30 points to be scored against them.

The Warriors got into a hole early as the Toronto quarterback completed a short pass to a receiver who then ran for a touchdown in the first minute of the game. On the ensuing kickoff the Blues scored another point to take an 8-0 lead. The Blues added another touchdown before the Warriors got on the scoreboard with one of their own in the second quarter (I've forgotten how it was scored in the midst of all the excitement). The two-point convert attempt failed, and the Warriors trailed 15-6. The Blues scored another touchdown toward the end of the half, making the score 22-6.

Waterloo controlled the second half. They had marched to inside the Toronto 10 and decided to try for a touchdown on third down. The pass went incomplete in the end zone, and Toronto took over. On next play the defensive line sacked the Blues quarterback, forcing a fumble at the Toronto 1. Two plays later the Warriors were in for a touchdown.

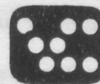
On the Blues' next sequence the defence lapsed a bit and could not tackle the receiver before he hit the Waterloo goal line. This touchdown effectively put the game out of reach; however, the Warriors did not give up and responded with another touchdown in the fourth quarter on a pass and run play. The convert again failed, and the score stood at 29-19 for Toronto.

Waterloo's 19 points and over 300 yards was their best offensive performance in two years (since their 25-24 win over Toronto in 1984). Their 29 points allowed was their best defensive performance in the same period. Coach Bob McKillop told his charges after the game, "Better, but not good enough." The Band was satisfied with the performance and was hoping for better things last night against Guelph. This was a game that, except for two major defensive lapses, could have easily gone into Waterloo's empty win column.

Now that the football team has discovered that it can pass reasonably well, and that the defence is learning how to shut down explosive offences, they should learn how to place-kick and make the field goal a viable scoring play. The flashes of brilliance that they showed against the Blues should not be hidden again.

Next Saturday the Warriors take on York at the North York Centennial Stadium (I think) in beautiful Downsview. York was winless until last Saturday, when they defeated the previously unbeaten Guelph Gryphons. This could be a close, interesting game. Sorry, folks, I still can't offer you a point spread, much as I'd like to. Call this one as you see it.

dwarf



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THE CONTINUOUS ADVENTURES OF
WATMAN

When we last left our harangued heroes, they were under the impression that the Mad Statter still controlled their Superhero ID cards. For this reason they were preparing to aid the University of Watham football team to win the afternoon's game so that the Mad Statter would win his bet at billion-to-one odds to pay for the Institute for Criminal Research cost overruns.

The faithful Alfred caught up with the desperate duo in the watcave where Watman was busy thumping the watcomputer and Duck was flying a remote control magnetic football around the cave.

"Sir and young sir! You need not be troubled about the Mad Statter for a while. He has had his Arch-Villain ID revoked."

"Wholly identity transformation, Watman! He was really hoisted by his own petard!"

"What about our own ID cards, Alfred?"

"They have been collected by the UW found and lost where, I have been assured, they will be processed and mailed back to you...eventually. In the meantime..."

Alfred then produced two official 'It's in the mail' cards and presented them to the relieved Superheroes.

"Wholly chain-mail, Watman!"

"That's right, Duck, just the link that we've been missing."

Later on that day, Watman and Duck were out strolling, looking for signs of criminal activity.

"You mustn't forget Duck," Watman was saying, "to lose with grace is an unalienable human right. If the Mad Statter had succeeded in his..."

"Turkeys!"

At that moment, as some astute pedestrian had cried out, thousands of potential thanksgiving roasts manifested themselves in the immediate vicinity. Havoc struck Watham City as the turkeys started squawking at old folk and pecking the legs of small defenceless children.

"Wholly gang of gobblers, Watman! Who would do such a thing!"

"There is only one master criminal mind that would plan something like this, Duck."

At this point, Watman and Duck noticed, somewhat belatedly, that some evil doer had just handcuffed their ankles to rings cemented into the concrete slab upon which they were standing.

"The Gobbler!"

"That's right, Dazzlingly Dumb Duo! The University of Watham has neglected establishing a Faculty of Agriculture for too long. So with you two twits terminally taken out of the picture, Nothing can stand in the way of my turning the Bill Davis Computer building into a turkey farm right under the construction worker's noses."

The Gobbler proceeded to smear a repulsive gelatinous substance all over the terrific twicesome.

"Wholly slithering cream of turkey mumbo jumbo gumbo, Watman!"

"That's right, Duck," iterated the Gobbler, "and when the already congealing goo sets, it will form an impenetrable shell. You two will make a marvelous pair of statues, gobble, gobble, gobble..."

With that, the Gobbler and his entourage of feathered fiends, were gone.

Oh, gosh! With our heroes covered in cream of turkey mumbo jumbo gumbo, and the Gobbler about to wreak havoc at the University of Watham, the situation looks dire, indeed. Will the Gobbler make a mocking monument out of the masked men of math? Will the Bill Davis Computer Research Center become a turkey farm? Will the University of Watham ever have a Faculty of Agriculture? Stay tuned next issue, same Wat-time, same Wat-channel!

Na-na-na-na na-na-na-na na-na-na-na na-na-na-na WATMAN!

The Chuckler

Mathematical Puzzles

- Solutions to last week's puzzles

$$\begin{array}{r} \text{i)} \quad \begin{array}{r} A B C \\ D E F \\ \hline C D D 8 \\ 3 B D B \\ 1 D B 8 \\ \hline 1 E E D D 8 \end{array} \end{array}$$

$$\begin{array}{r} \text{ii)} \quad \begin{array}{r} A B C \\ D E F \\ \hline D E F F \\ A B C \\ E 0 7 D \\ \hline E E F 7 0 F \end{array} \end{array}$$

i)

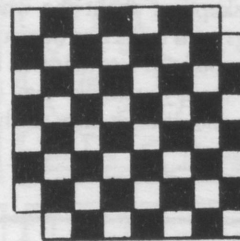
- Since $B + D = D$, $B = 0$
 - Since $D + D + 8 = D + \text{Carry}$, $D = 2$
 - Since $2 \times ABC = 1208$, $ABC = 604$ (i.e. $A=6$, $C=4$)
 - Since $F \times 604 = 4228$, $F = 7$
 - Since $E \times 604 = 3020$, $E = 5$
- Complete solution is $A=6$, $B=0$, $C=4$, $D=2$, $E=5$, $F=7$.

ii)

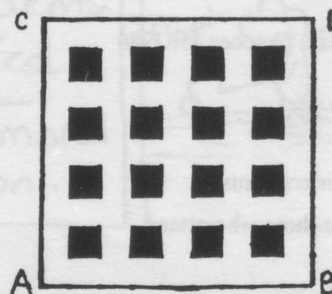
- Since $E \times ABC = ABC$, $E = 1$
 - Since $F + C = 10$ ($0 + \text{carry } 1$), and $F \times C = F + \text{a carry}$, then $F = 4$, $C = 6$
 - Now, $B = 8$ or 3 .
If $B = 8$ then $F \times 8 + (\text{carry} = 2) = 34$
and $F \times A + (\text{carry} = 3) = D1$,
giving $A = 3$ and $D = 1$.
But, D cannot be 1 since E is 1 .
Therefore, B is not 8 .
 - If $B = 3$ then $F \times 3 + (\text{carry} = 2) = 14$
and $F \times A + (\text{carry} = 1) = D1$,
giving $A = 5$ and $D = 2$.
- Complete solution is $A = 5$, $B = 3$, $C = 6$, $D = 2$, $E = 1$, $F = 4$.

- This week's puzzle:

(A) Given a chessboard with 64 squares, it is possible to cover all 64 squares with 32 dominoes (assuming that each domino covers 2 squares exactly). Now suppose that two diagonally-opposite corner squares are removed from the chessboard (see diagram). Is it possible to cover the remaining 62 squares with 31 dominoes? Can you prove your answer?



(B) The following diagram shows a grid layout of 16 city blocks. A person travelling from point A to point D can take several different routes. With the stipulation that moves can be made only upward and to the right, how many different routes are there from A to D?



-the Wizard of Id

Good morning math-cadets. Did the attendance in your sections drop off this morning? Did you remember to submit all those assignments for the cadets that took off early for the long weekend? Very good. Just don't forget to mention the surprise twenty percent quiz when you see those cadets next Wednesday. (You might also wish to take legible notes (for a change) containing "guaranteed midterm question types" that may be sold at a premium to all the little truants.) And now, presuming that your classes' game of "Keener Bingo" has simply reverted to a tag-team "Bell-the-Frosh", take a long sip from your cup of life-giving elixir (one coffee, black, six sugar) and devote your attention to

mathNEWSquiz #8

1. Name the members of the Benny Goodman quartet.
2. What was the first name of Mr. Scott of the Federation starship "Enterprise"?
3. Which novel, by the author of the Father Brown detective stories, involves seven members of the "Central Anarchist Council" named for the days of the week?
4. Who was the last active member of the original New York Islanders?
5. Which great entertainer used to say, "Now cut that out!"?
6. Which Burt Bacharach-Hal David composition won the 1969 Oscar for best song?
7. Where does the 37 foot-high "Green Monster" dwell?
8. As a child, which future Canadian Prime Minister sold then Prime Minister Sir Wilfrid Laurier a morning newspaper on July 29, 1910, at Saskatoon, Saskatchewan?
9. Who played archvillain "Louie the Lilac" on the Batman television series?
10. Which British politician did Winston Churchill describe as "a sheep in sheep's clothing"?

Quiz solutions may be submitted on or before October 19, 1986, in the BLACK BOX on the third floor outside the C+D Lounge. Consideration will be given to all solutions, and a fortunate prize winner will be announced along with the solutions to mathNEWSquiz #8, plus a brand new mathNEWSquiz, in the next issue of (your friend) mathNEWS.

Remember, when in doubt, tell the T.A. to bug the prof. And if he/she doesn't get the hint you can always produce the solutions to mathNEWSquiz #7: "Lurch" ("Yoou rangg?") is the butler on "The Addams Family"; "Bright Eyes"; the "Carpathia" was first on the scene to escort survivors of the "Titanic" to NYC; C.D. Howe; Ferrari; 1958; "The Times of London"; Ron LeFlore (97) and Rodney Scott (63) set the two-man stolen base record for the Montreal Expos in 1980; this question was to have read, "Once upon a midnight dreary, while I pondered weak and weary . . ." is the first line of which poem? (before the printer caught up with it) and the answer is "The Raven" by Edgar Allen Poe and; "Don Messer's Jubilee" (ask your Grandma).

You've got nine full days for this mathNEWSquiz, so good luck and tune in next time for more mathNEWSquiz.

the mathNEWSquizmaster

Soup of the Week

Cream of Turkey

The Bane of Mathematics

As any math prof will tell you, all of mathematics rests on set theory. Group theory, ring theory, field theory, category theory, topology, these are all based on sets with certain properties. Number theory depends on numbers, defined in terms of set theory. Calculus, linear algebra, real and complex analysis are all built up from number theory. Only certain areas of geometry and logic appear to be free from the influence of set theory.

Let me at this point briefly describe the foundations of set theory. The critical concepts in set theory are those of elements, unions, intersections, subsets, and, most importantly, **the null set!** I would like to call special attention to this. There is an article of faith among mathematicians: "Hear, O mathies, there exists one empty set, and the empty set is unique".

This brings us to the question of danger. How can we protect the null set? What if some dumb engineer did something to it?

We certainly don't need to worry about it being stolen, because we only need its existence. Painting it green would have no effect since we don't care what colour the empty set is. If they put something into it, though, it would no longer be empty. If the empty set wasn't empty, what could we do? There is no other empty set to replace it. All of mathematics would collapse in a crash making "Black Thursday" seem minor. Not only would math have trouble but so would all the studies based on math. All of engineering would crumble, bridges break, towers topple, computers crash, and engines expire. Even economics would plummet into chaos.

We must all always guard against this terrible possibility. We must all be prepared to clean the empty set if anyone corrupts it. We must hire vacuum cleaners *trained* to clean the empty set! (But buy gold, just in case.)

His Nullness, The Right
Vacuous Cary T., Q.E.D.

Aleph Null Bottles

To the tune of

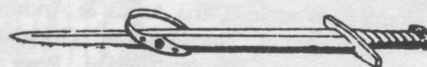
'One hundred bottles of beer on the wall'



Aleph null bottles of beer on the wall,
Aleph null bottles of beer.
You take one down and pass it around,
you get aleph null bottles of beer on the wall.



continue ad nauseum



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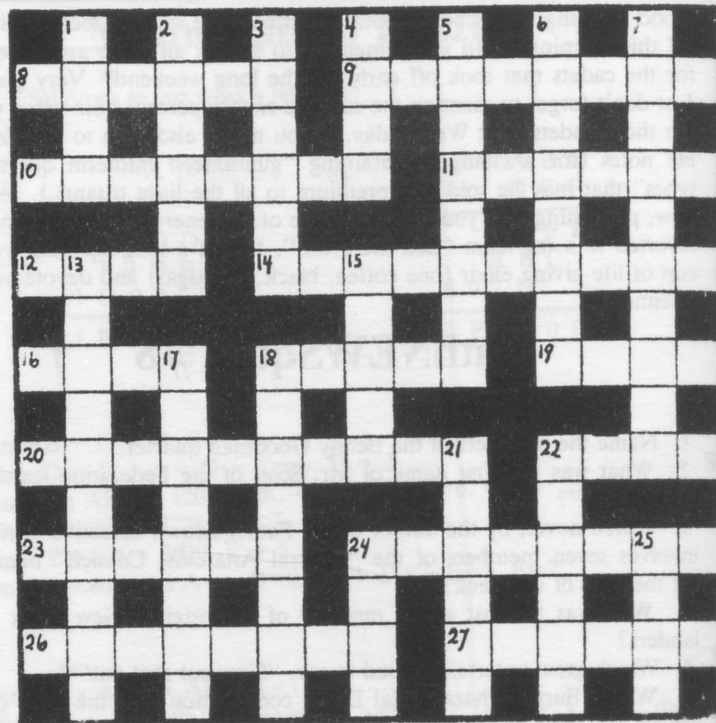
Cryptic

Across

- 8. Black weight of spring (6)
- 9. Ron meant to decorate (8)
- 10. American light perception chaos (8)
- 11. Example—high notes with current mother spider's product (3.3)
- 12. Out of control to be all right? (4)
- 14. Mould a brain part that can be overbearing (10)
- 16. Measure a small company title hard (4)
- 18. Morning with the loveless S. African was yellow (5)
- 19. Left energy nevertheless a long cylinder (4)
- 20. Icicle-like is the least tacit arrangement (10)
- 22. Dogs back pace (4)
- 23. Tungsten rim of many jammed in tight (6)
- 24. Same handle to make sane (8)
- 26. Exploit of a computer key and a pillow with energy (8)
- 27. ... splits Dorothy's ... for the fruit (6)

Down

- 1. A tramp may have nothing in an American cable company (4)
- 2. No luck may open (6)
- 3. Exist split for sake (6)
- 4. Alone as behold (4)
- 5. Conclude I have no right to be lowly (8)
- 6. A letter I allot to the departed citizen (8)
- 7. In before the cold. I take French wheat as certain (10)
- 13. The moon arranged an article to be made initially Christian (10)
- 15. A Jew reads a drab Bible (5)
- 17. Real-life picture of a numberless water diary and Aries (8)
- 18. A Rustic curve takes a year to help up an indefinite number (8)
- 21. Direct minty way of hatred (6)
- 22. Seeds have style head and tail unchanged (6)
- 24. Not one letter at Christmas! (4)
- 25. Set way for a toy (4)



GridKnockouts

Ding ding ding—greetings to round three of GridWord for Fall '86. I was pleased with the response from last week's zupple. After only one weekend, 21.5 solutions were received—16 cryptic, 5 conventional and 1 * questionable (= 0.5). It seems name-calling works with you guys to provoke a response. How about feather-brained wing-nuts for this week? All right: You feather-brained wing-nuts still haven't matched the *average* submission rate of 22.2 in the summer (you know, that time of year when there is only about a *third* of the people that there are now). Submit solutions by Monday October 20, 1986 via the BLACK BOX on the third floor of MC. Remember that incomplete solutions and comments are also welcome.

This week's winners are: cryptic **G.J. Fievoli** and conventional **Ten Popp** (you won fairly this week). They were chosen by the maximum three dimensional sphere flop principle. They may pick up their prizes from the MathSoc office, MC3038. Other correct solutions appeared from: P. Waddle, Chris Annis & Andrew Lang, John N. Henry & the Bigot Family, The Chuckler, Graydon Hazenberg, Matt Harding, Bill McCuaig, Randy Richard, Peter Found, Dani Roloson, Paul McKone & Roy Wood & Sandy Metzger, Brad Debroni, Garth Vladam (?), Junior & Kevin, Larry Knerr, Bruce Sutherland & Alison Burnham, and Jeff Clark. Linda Johnston left her phone number (and one incorrect clue). A coded solution (AKA message) was left by The Bobsy Twins.

Note that the cryptic winner this week got only four answers in the first issue but didn't give up. Other comments: 'These GridWords are the best thing since sliced bread and twist-offs. Great stuff!', 'Easier than usual Frank', 'A lot more fun since Darryl stopped bugging me for answers', 'Where? In the back of a Ford Mustang en route to Toronto', 'Gives me something to do between asking stupid questions', 'Awesome puzzle, Dude!', 'left us speechless'. Response to the Twins: 'wasting their time? They can win prizes like you did last issue. Viel Gluck! (I wanted the umlaut to show this time)

fletniowski

Conventional

Across

- 8. SMOKED FISH
- 9. FOREIGNER
- 10. INCORRECT DESIGNATION
- 11. MAKE
- 12. CHEESE
- 14. DETERIORATE
- 16. THE EAST
- 19. WHINY CRY
- 19. QUIETEN
- 20. BOARD GAME
- 22. SURROUNDING ESSENCE
- 23. CLIMBED
- 24. GUARD
- 26. WINDS
- 27. HOLIDAY

Down

- 1. ISLANDS
- 2. BATHROOM TOOL
- 3. SET UP
- 4. CERTAIN RUSSIAN
- 5. TERRITORIAL DIVISION
- 6. ESSENTIAL
- 7. NON-DRINKER
- 13. FACT-FINDER
- 15. SHINE
- 17. BATTERY TYPE
- 18. VERY RECENT (hyph.)
- 21. EGG-NOG FLAVOURING
- 22. SURPRISED
- 24. CLEANSE
- 25. SO BE IT

Who
How
Comment

