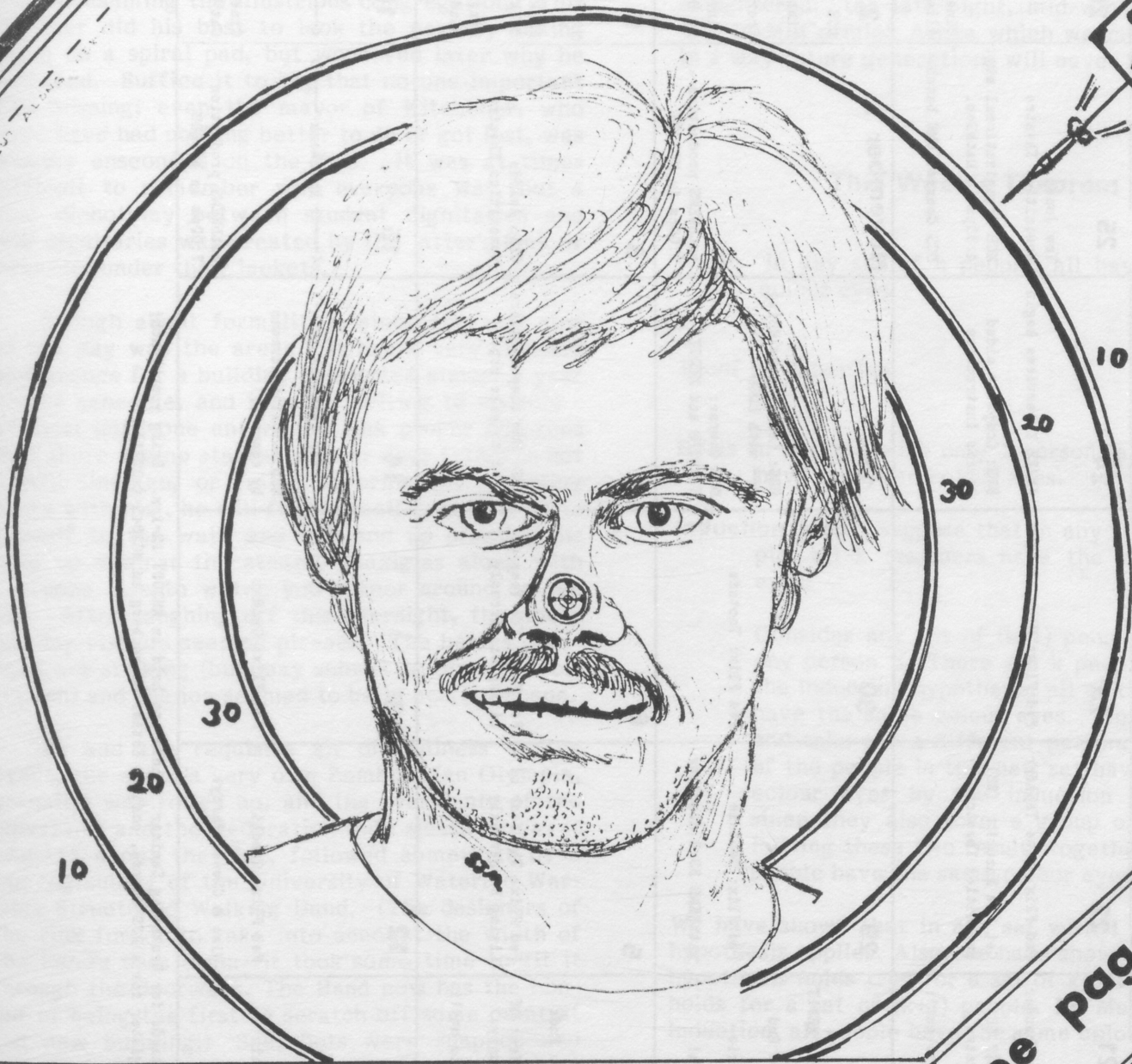


Vol.33 no.3
Friday Oct. 21, 1983

SPORTS INTEGRATED

A fully owned subsidiary of mathNEWS

To:
GLENN
CREDITOR
WITH
LOVE-
STAFF



see Page 16



Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday
October 21 Fed Flix: Blue Thunder Bob Berky (\$7.50) Humanities Theatre mathNEWS 33:3 is out!!	22 Fed Flix: Blue Thunder Get The Knack! (\$3) Humanities Theatre mathNEWS 33:3 is out!!	23 Fed Flix: Blue Thunder	24 AM/EE Interviews begin BBS: Computer aided sports instruction	25 Tom Jones Humanities Theatre MCB Organizational mtg. 4:30pm in MathSoc. DCS Course: CMS batch	26 Cinema Gratis: Alien	27 Double Bill Humanities Theatre What is Mathematics? by W. Tutte FASS writers meeting 7:30pm in ML104
28 DCS Course: SIM, XEDIT Math Interviews End Fed Flix: Tootsie Hallowe'en Bash!	29 Fed Flix: Tootsie mathNEWS 33:4 deadline	30 Fed Flix: Tootsie	31 BBS: Learning by doing --- with LOGO DCS Course: SIM3278 and XEDIT	November 1 mathNEWS production 7:00pm in MC303B	2 DCS Course: CMS batch Library Road Trip! Preregistration begins Cinema Gratis: My Brilliant Career	3 DCS Course: SIM3278 and XEDIT FASS writers meeting 7:30pm in ML104
4 Preregistration Ends Fed Flix: The Year of Living Dangerously mathNEWS 33:4 is out!!	5 Fed Flix: The Year of Living Dangerously	6 Fed Flix: The Year of Living Dangerously	7 BBS: How computers are used to make maps	8 Clio Awards Humanities Theatre	9 Pink Day! CHYM Night! Cinema Gratis: Bladerunner	10 Movie Nite! FASS writers meeting 7:30pm in ML104
11 Fed Flix: Gandhi MGB Night!	12 Fed Flix: Gandhi Wine & Cheese Party!	13 Fed Flix: Gandhi	14 BBS: Linking museums by computer	15 mathNEWS production 7:00pm in MC303B	16 Cinema Gratis: Cat People	17 Pink Day! (again) FASS writers meeting 7:30pm in ML104

Notes: (1) BBS stands for Brown-Bag Seminar. These are held in MH3001 12-1pm. Bring your lunch!
 (2) To register for a DCS course, contact Esther Sonnenberg in MC2045 (x3271).

Wright's Wrink in Wreview

The air of Waterloo's nubile north campus was abuzz with homilies on Sunday, October 2 as the new student-funded (and student-owned, by implication) ice arena opened its doors to the public. Variousy called the Columbia Icefield, Wright's Wrink and the Frigid Pool, it must have seemed out of place to the casual visitor, plunked as it is in what was until recently an agrarian idyl.

Mother Nature provided clement weather, preventing a potential morass of muddy ground from consuming the illustrious congregation. This reporter did his best to look the part by taking notes on a spiral pad, but wondered later why he bothered. Suffice it to say that no-one important was missing; even the mayor of Kitchener, who must have had nothing better to do or got lost, was proudly ensconced on the dais. It was at times difficult to remember who everyone was, but a nice dichotomy between student dignitaries and **real** dignitaries was created by the latter's lack of sweaters under their jackets.

Enough about formalities, since the real star of the day was the arena. It has a very finished appearance for a building completed almost a year before schedule, and is most inviting to visitors - at least until one enters the rink proper and sees that there are no stands! If your dear father is not a Bell lineman, or failed to bring his grappling hooks with him, he will find himself unable to affix himself to the wall, and will end up pressing his nose up against the steamy Plexiglas along with everyone else to watch you slither around on the ice. After laughing off this oversight, the opening-day visitors seemed pleased. The beams overhead are striking (but may submit to binding arbitration) and the ice seemed to be in perfect shape.

To add the requisite air of silliness to the event, the arena's very own Zamboni (an Olympia, actually) was rolled up, and the presidents of the university and the Federation rode sidesaddle as it pranced about the rink, followed somewhat by a rag-tag subset of the University of Waterloo Warriors Structured Walking Band. (The designers of the rink forgot to take into account the width of the Band's bass drum—it took some time to fit it through the doorways. The Band now has the honour of being the first to scratch off some paint at the new building.) Snapshots were snapped and giggles giggled, and everybody went home with a little button proclaiming "I Skated Columbia Icefield", although most didn't.

What does the future hold for Wright's Wrink? With the help of Fate, it may someday have another one in front of it. That is, if they can ever flatten the ground out, and if Waterloo city council can be convinced to put it there. (The land vacated by the existing civic arena on Caroline Street would then be used to build a ceramics museum, for which the need is most pressing.)

You are encouraged to visit the Icefield during public skating hours and of course to watch the hockey and broomball games, since you ARE paying for the thing. A sad benefit of the new facility is that a piece of UW student culture has been slaughtered: the late-night, mid-winter, sub-zero trip to McCormick Arena which warmed the spirit in a way future generations will never appreciate.

Wross

This Week's Theorem

R.T.P. In any set of n people, all have the same colour eyes.

Proof by induction.

Basis In any set with only 1 person, all (trivially) have the same colour eyes.

Induction step: Suppose that in any set of k people, all k members have the same colour eyes.

Consider any set of $(k+1)$ people. Take out any person X . There are k people left. By the induction hypothesis, all of these people have the same colour eyes. Now add in X and take out a different person, say Y . All of the people in this new set have the same colour eyes by the induction hypothesis, since they also form a group of k people. Putting these two results together, all $(k+1)$ people have the same colour eyes.

We have shown that in any set with 1 person the hypothesis applies. Also, we have shown that if the hypothesis holds true for a set of k people, it also holds for a set of $(k+1)$ people. By Mathematical Induction, all people have the same colour eyes.

Corollary: All girls have blue eyes.

Corollary: All guys have brown eyes.

APLsoup

Well, as I expected, I did **not** receive a flash-flood of solutions to last week's APLsoup problem. However, there was interest shown, and therefore the column lives on. The shortest (and, I suppose, most APL-ish) solution was submitted by Jan Gray and Calum T. Dalek. This function (PRIME, below) works by generating a matrix containing all composite numbers up to the square root of the upper limit, and then taking all the numbers not in that matrix. This is the way it should be done, if we conform to the spirit of APL; however, the matrix does get rather large. One way to get around this (at least for a while) is to construct the only a $n/2$ by $n/2$ matrix instead of a n by n . This will allow one to calculate primes almost twice as large before a WS FULL. It does, however, detract from the aesthetic beauty of the solution.

Another way to solve the problem is to use recursion. This was done by Ron Knox, who submitted function PR. This figures out whether a number is a prime, and then calls itself to calculate the previous number. This algorithm is similar to the basic recursive factorial program. This function runs into a STACK FULL, though, for $n > 500$ (the matrix one will get a WS FULL for $n > 450$, and $n > 900$ for the modified version.)

Well, I thought. Nobody has written the ultimate prime number program, so it looks like I have to do it myself. However, I should not have been so hasty. Well before the deadline, I found in the **mathNEWS** box about 30 pages of primes and solutions! These were submitted by Jeff Perkins. The most ingenious of these is included here. This is function PR4, and uses a little-known error recovery system function available in VS APL 4.0. It also uses looping, and thus is able to work out huge n . Oh well, we'll award a set of π and e buttons each to Ron, Jan and Jeff for their solutions. Pick up your prizes at MathSoc.

```

▽ R←PR N
[1] ⍺(35×N=2)⊢'R←(PR N-1), (⌈/0≠((1+⌈N*.5)|N))/N,0ρR+2'
▽

▽ P←PRIME N
[1] P←(∼P∈N°.×N+1+⌈N÷2)/P+1+⌈N-1
▽

▽ PR4 N
[1] '→0<N' □EA '→(0<N+N-1),⍺(2=ρ(0=(⌈N)|N)/⌈N) / ' '□+N' ' '
▽

```

This week, we have different problem. The problem is to write a simple plotting function, while keeping it as short as possible. What the function is supposed to do is take as a left argument a two-element vector specifying the size of the result matrix, and as the right argument a two-column matrix with x and y values in the two columns. The function should decide on the range of the plot so as to make full use of the matrix. Use a blank matrix with '*'s for the plotting characters. Again, the shortest/best/most elegant solution will win—possibly a mathie T-shirt!!!

Election Results

The Math Society elections are now over, and we now have an (almost) full council and executive. The executive consists of Laura Redican (President), Kelly Masterson (Vice-president) and Ian Masterson (Treasurer).

The class reps are as follows: 1A co-op (4-stream): Rob Bateman(E), Chris Seyffert(E), Marko Banjavcic(E). 1A co-op (8-stream): Joanne Bugeya(A), Alexa Clark(A), Brett Martin(A). 2A co-op: Colin Biggin(E), Grace Chiu(E). 2B co-op: Tom Haapanen(C). 3B co-op: John Gibson(A), Barb Lundhild(C). 3N regular: Ross Morrissey(A). 4A co-op: Shoushan keoskerian(E), Steve Maulsby(E). 4N co-op: Brian Elliott(A), Kerry Kramer(A).

In case you were wondering about those funny letters after the names, they stand for (A) acclaimed, (C) carry-over from last term, or (E) elected.

THE MATHEMATICS COLUMN

How the ancient Egyptians wrote their numbers.

by Fraser Simpson

In the last issue, we looked at some of the arithmetic of the ancient Egyptians. As a diversion, let us learn how to write the numbers from 1 to 9999 in hieroglyphic writing.

If you look at the right-hand column of this page, you will have little trouble working out the system used by the Egyptians. It is only necessary to know the symbols for 1, 10, 100, and 1000, since all of the numbers are built by taking the appropriate number of repetitions of each of these symbols. Of course, a number written with many symbols is not necessarily greater than a number written with fewer. Twenty-seven symbols are needed to write 999, but only one symbol is required for 1000.

The ancient Egyptians did not have a symbol for zero. You can see that the number 2020 was not written with spaces before and after the two 'tens' symbols, even though there were no 'hundreds' or 'units' symbols.

Different symbols for the different powers of ten made it unnecessary to add spaces. On papyrus, which was expensive, there was no point in wasting space.

Every hieroglyphic symbol represents an object. The symbol for 1 is probably a wooden dowel. The upside-down U that represents 10 is a hobble for cattle. A hobble is a loop of cord tied to a buried stick; it is used to hold a cow's hoof in place so that the cow will not move. The hieroglyphs for 100 and 1000 are a coil of rope and a lotus plant respectively. You may well wonder why the Egyptians chose such a strange set of objects to represent their numbers. The explanation is not as exciting as you might have guessed. The word for 'one thousand' sounded so much like the sound given to the lotus that the lotus plant came to represent the number 1000 in hieroglyphic writing.

The ancient Egyptian scribes wrote from right to left, but to make things easier, all of the numbers in this article have been written from left to right. This is a common practice when hieroglyphic writing is presented in printed works. If it disturbs you not to see the writing exactly as the Egyptian scribes saw it, simply hold these pages up to a mirror.

	1		6
,	2		7
,	3		8
	4		9
	5		
∩	10		
∞	100		
⊗	1000		

Examples:

∩	14
∞ ∩	111
∞	103
⊗ ⊗ ⊗	608
⊗ ⊗ ∩	2020

⊗ ⊗ ⊗ ⊗ ∩ ∩ ∩ || ?

⊗ ∩ ∩ ||| ?

APL soup

There are two exercises for you to try. The first is simple: translate the two well-known dates given in hieroglyphs at the bottom of the column explaining the numbers. The second is the auditing promised last week. Reproduced here is an excerpt taken from a papyrus of accounts relating to the Royal Court (This passage is from Sir Alan Gardiner's impressive work **Egyptian Grammar**, Oxford University Press). On the left are details of the entries (who was paying or who was being paid), and the two columns on the right are amounts. Above the first column of amounts is the heading "loaves", and above the second is the heading "beer-jugs". The first three lines of amounts are entries of the revenue (for example, at one point the Royal Court received 1680 loaves and 135 beer-jugs, which is the first entry). Following these three lines is a total of the revenue, originally in red (underlined symbols were in red in the original). The next three lines explain the apportionment of some of these staples, followed by a total of the apportionment. The final line is, of course, the balance. If you study these entries carefully, you will notice that two errors were made. Can the reader find both of these arithmetic errors without converting the Egyptian representations to their Hindu-Arabic equivalents?

In the last issue, the reader was asked to perform the multiplications 10×7 , 7×10 , and 4×4 in the manner of an Egyptian scribe. Here are the answers:

10 x 7:

$$\begin{array}{r} 1 \quad 7 \\ / \quad 2 \quad 14 \\ \quad 4 \quad 28 \\ / \quad 8 \quad 56 \\ \hline 10 \quad 70 \end{array}$$

7 x 10:

$$\begin{array}{r} / \quad 1 \quad 10 \\ / \quad 2 \quad 20 \\ / \quad 4 \quad 40 \\ \hline 7 \quad 70 \end{array}$$

4 x 4:

$$\begin{array}{r} 1 \quad 4 \\ 2 \quad 8 \\ / \quad 4 \quad 16 \\ \hline 4 \quad 16 \end{array}$$

Find the two errors.

Watsfic

Office: MC3036 Meetings: 7:30W

First, some clarifications on the short story contest. Science fiction or fantasy stories of up to 3000 words are eligible, and the deadline is Hallowe'en (Oct. 31 for those of you pretending to be grown-up). Second prize is \$25 in book store certificates, not \$15 as previously noted. First and third prizes remain at \$50 and \$15, respectively.

Submissions may be made to the Watsfic office, any Watsfic meeting or A Small Bookshop, Frederick Street Mall, Kitchener. If this is not possible, call 743-9485 to make arrangements. Notices are posted around campus with full contest details, and any further questions can be answered in the watsfic office.

Watsfic is now taking orders for Watsfic T-shirts, featuring a black fire-breathing dragon on a yellow shirt. Not only is this the official & genuine Waterloo Science Fiction and Fantasy Club T-shirt, but it has cunningly been tailored using U of W school colours!

The AD&D tournament is being held on the 12th and 13th of November.

Teams consist of six people, entrance fee is \$3.50, and discounts are given to Feds, Watsfic members and Team entries. This is a big event; in the past between 100 to 300 people have entered from around Ontario (though mainly K-W area and Toronto.) Prizes have been donated by various games and book stores in addition to those supplied by Watsfic. The winning team will also get their name inscribed on the AD&D trophy. Prizes will also be awarded to best role players. Cash, gift certificates and games will be given out as prizes. For more information, contact the Watsfic office.

Richard Tummers

DYSAN DISKETTES

5 1/4" SS/DD

\$29.50 / box of 10

Place your order at the EngSoc office on or before November 4, 1983.

Co-op Jobs Galore!

Department of Co-ordination and Placement recently released figures showing the number of jobs available for the January-April workterm, as well as the number of students going through the placement process. These indicate a huge increase, especially in Math, but also in other faculties.

The job/student ratio is listed for each faculty in the accompanying table, both for this year, and for the same time last year. These figures are (as you read this) some 2 1/2 weeks old, but the ingenious mathNEWS staff managed to uncover some more details. As of October 4, there were 653 students and 682 jobs, giving the ratio of 1.04. By October 12, however, the number of jobs had increased to 740 for a ratio of 1.13, and jobs were still coming in. Since the Engineering ratio is still below 0.7, Co-ordination and Placement plans to fill some of the extra Math positions with Engineers.

Last term's ratios look quite bad, but the job situation still wasn't as bad as one might think based on these numbers. Despite a 0.63 ratio in Math, 95% of the students were placed. Even the engineers managed a 84% placement rate, even though there were hardly any jobs offered to them at this time last year (0.41 ratio!) This term, Co-ordination and Placement is fully expecting 99% placement rate in most faculties. The department is taking no credit for the increase in the number of jobs offered, but says it has been caused by the upturn in the economy. Not only has the economy improved, but many companies' expectations are sky-high, and they are hiring now so that they will be ready when the boom finally hits us.

Up for placement statistics Jan - Apr work term

Faculty	Jobs/student	Jobs/student
	Oct. 5/82	Oct. 4/83
Arts	0.31	0.47
Engineering	0.41	0.59
Geog. & E.S.	0.26	0.34
H.K.L.S.	0.79	0.90
Mathematics	0.63	1.04
Science	0.28	0.43
Total	0.43	0.68

MATT THE MATHIE

Friday, October 21, 1983.
Waterloo, Ontario.

Dearest Marcia —

Well, it's my big day! Despite myself, I'm graduating today. Please thank Gnamma for the Garfield thingie, it was much appreciated.

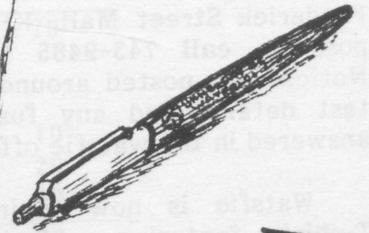
As you know, I've found a job with Megalo Mining in Flin Flou. My bags are packed, and I start on Tuesday. It took me most of this week getting all that stuff together and cashing in beer bottles, not to mention all those tearful goodbyes and crushing handshakes. Each bag I packed, it took a little longer — the walls looked very bare, and the silence was maddening.

You know, Marcia, as much as I adore money, I can't make myself leave this place. Please tell Mom to send down tuition money, and tell her to send down my winter clothes. Maybe some Tide too.

Love, Matthew John Burns, B.Math.

Matt

P.S. Are you still dating that screwy engineer?



NEXT ISSUE:

WATCH FOR THE CONTINUATION OF THE ADVENTURES OF \equiv Matt the Mathie \equiv REINCARNATED AS..... \star "SECOND-DEGREE BURNS" \star

RB

MATHSOC, ARTS and DANCE
present
THE



HALLOWE'EN



COSTUME

PUB



FRIDAY, OCTOBER 28th
SOUTH CAMPUS HALL 8:00 P.M.

TICKETS: \$1.50 COSTUME
2.50 OTHER
AVAILABLE AT THE DOOR

Sports for the Pure Mathie

Being an Axiomatic Promulgation of the Essential Principles of Divers Trivial Quasi-Athletic Pursuits.

ABSTRACT

A hopeless attempt is made to infuse logic into the illogical firmament of professional sports. It fails, but succeeds in filling white space in **mathNEWS**.

I. PROTOTYPES

The essential element of mathematical sports theory is the **ball**. Most players have at least one, and another (usually larger) one is of communal interest. The secondary element is the **buck**, which is the motivating force. The third element is the **humanoid**, as unrecognizable as it may sometimes become, but whose dispensability has been demonstrated by Atari [ATAR80].

II. SYNTAX

A **play** consists of the **humanoids** grasping the communal **ball**, getting up and falling down. A **game** consists of many **plays** and a lot of dead air in between. (N.B.: television viewers are spared dead air in favour of dead beer.) A **season** consists of many **games** amongst compact sets of **humanoids**, ending when all **humanoids** are killed or when weather so dictates.

III. SEMANTICS

What the **humanoids** say is too filthy for the sensibilities of academe. The **balls** tend to refrain from speech, but the **bucks** do plenty of talking.

Ross Brown

MGB

is not just a sporty car. It is also the Math(ematics) Grad(uate's) ball. It is a formal affair (even better than interviews) held in March to celebrate our exit from the purgatory of university and our entrance into the heaven (hell?) of real life.

But it does not just happen (burning bushes and passing CS350 are the only miracles that I know of) (I don't care if paragraphs shouldn't start with conjunctions. Take a pill and get over it). Input of hours and ideas is required. We won't grovel, but if you have something to offer, please have your name and phone number in the MathSoc office (MC3038), or (another conjunction), if you would really like to help, attend the organizational meeting on Tuesday, October 25th at 4.30 PM in MathSoc, even if you are not graduating (and especially if you are).

PLATTER SPATTER

Quiet Riot / Metal Health: Quiet riot's new album is an excellent cure for musical malnutrition due to a lack of good metal in the diet. Their hit from the album, CUM ON FEEL THE NOIZE, is first rate. This track sounds different from the rest of the album, as well it should, as it is the only track not written by the band. The other songs, while they are not as suitable for airplay, do show creativity and powerful metallic sound. Their title track shows the energy and power that they can transmit. We can only hope that Quiet Riot's next album lives up to this one.

-** Sparky **-

Saga / Heads or Tales: After some two years, Saga finally has come up with a new studio album. They did release a live album last year, but this contained no new material, and so was a bit of a disappointment. Heads and Tales does not break any new ground for Saga, but is rather another evolutionary step in the Saga sound. If you liked them before, this album is for you; however, if you had to reach for the on/off switch when Saga came on the air, you'll be getting more arm exercise.

Ian Crichton on guitar and Jim Gilmour on keyboards and sax create the characteristic Saga sound. This is probably at its best in Catwalk, a catchy tune about the fear of rejection. Saga does not go for grandiose socio-economic or political ideas, but they do provide some very sharp commentary about human relationships, especially in the tune Social Orphan: "A number, a matchbook, the night before/ (But) no last names, and no long-term promises/ .../The same contacts, the same tired old double talk / Dreams about a weekend and a smile". Admittedly, the album is not very danceable (though some of the songs are); however, it does make for good listening.

Tom Watts

Ultraclassified

Bo: your message in the Imprint is from a secret Admirer! (guess who?)

Anybody figure out the barcode on the cover? (Anybody notice the barcode?)— the eds

The Purpose of Proofs

Even while you are reading this, many of the colleagues around you in your typical Friday afternoon lecture are probably wondering the same thing I was when I wrote this (during one of my classes, natch). Why do we have to do the proofs of theorems as well as the theorems? I mean, some mathematical genius took a lot of time and effort to prove this wonderful formula which is supposed to help us. Why, then, do our lectures get unnecessarily complicated and boring (the two are directly related) by having a full-fledged demonstration of the proof of some time-saving and straight-forward theorem? Is the prof on an ego trip or what? Maybe the proof is so aesthetically moving when it covers three whole blackboards that he just has to show everybody what true art really is.

These were my initial reactions. I have since calmed down (and sobered up) and realized (through preparing for midterms) that, lo and behold, proofs are also found in **textbooks** as well as classrooms. Furthermore, they are usually identical, sometimes to the point of plagiarism. Still my original question remains, and is in fact even more pertinent with that discovery: why are these proofs so bloody important that they get so much attention?

In attempting to answer this, I will divide the subject into two categories: lectures and textbooks, and discuss a few reasons for each as to why proofs may be included in them.

First, textbooks, since the plagiarism found there is one generation less than that of the prof's. Textbooks are items of aesthetic beauty. They are also a means of making money. Thus a person writing a textbook wants to sell a lot of copies, and of course he wants to make as much as he can from them. He can accomplish this by making a thick book. A thick book looks impressive, and people buy impressive-looking textbooks. Thus a thick textbook provides the author with a bit of money in his pocket, and maybe even some social status. The secret, then, is to make the textbooks thick. Ergo (I'm getting tired of 'thus'), proofs are added.

Along a similar vein, proofs are provided for marketing purposes to universities. Universities thrive on proof-filled textbooks. That way all course texts look as important and complicated as the next one, and thus cleverly disguises the true usefulness of the course. Nobody is really sure how complex the course is. As an added bonus, universities also love thick textbooks because if one is used then the student does not have a quick and easy reference guide (like **Cole's Notes**).

Finally, I mentioned that texts were items of aesthetic beauty. That is another reason for adding proofs. Often the proofs are the most (graphically) interesting items of the book. The standard procedure in typesetting today's textbooks is to indent both margins and reduce the size of the type (publishers love to show off their word processing capabilities). Just think how boring page after page of the author's ramblings would look without something interesting to stare at. And of course the most number of fancy characters are found in proofs.

But if these proofs look so elegant in texts, why do they have to be reproduced in class? The main reason, I was told, is a repeat of the above: to avoid having an easy study guide. If proofs were avoided, it is very possible that some courses could be condensed to 6 pages of notes. So what's wrong with a 6 page course? Unfortunately, it is the university's belief that students have a natural tendency to highlight one's course notes by taking the most important item from each page as the only thing worth remembering. Thus, just as the proofs filled up a textbook, they also fill up the rest of one's notes, so that he won't miss anything important.

Along a similar line (since I used 'vein' last time), the profs have to ensure that the entire course contents is not covered in the first 5 weeks. He can stretch out his lectures and ultimately the course contents by filling it up with proofs (2nd year Calculus goes one step further by including some proofs as the part of the course contents you are responsible for). At the same time, the demonstration of proofs tends to reduce the pressure off the prof in the heat of the art called "winging it". Profs find proofs easier than trying to work through examples that may very well bomb. Also, the students tend to ask less questions then, since they are probably too busy writing to pay proper attention.

I propose this final, and probably most practical, reason for providing proofs in the classroom. With the "new and improved" harder pieces of chalk that don't seem to break nearly as often as they used to (with exceptions for certain proofs), it seems that our educators are taking full advantage of the situation and are writing faster than ever. With an average of 1.2 proofs per class, one can use the extra time ignoring them and simply get caught up. In fact, it is the only way I will be able to finish this lecture. It also solves the problem of a study guide, since one automatically creates one with this method. And of course, it gives one's writing hand a small relief every now and then.

OFFICIAL RULES FOR THE KEENER BINGO TOURNAMENT

Introduction

Keener Bingo ... The game (almost) everyone can play!

First, you may ask, who or what are keeners? They are easily spotted in any Math or CS class. The most obvious ones have absolutely no respect for their own personal hygiene (personal hygiene is an intangible concept to a keener). They look like they were last washed when born, and the same goes for the clothes they've worn every day since grade 9. They are all alone in the first row of the class - no one wants to get any airborne emissions from a keener's corpse. No person (or animal) with functioning olfactory receptors could even come within 10 feet (even the flies stay clear).

Standard Equipment

- Plaid cloth shirt with hole in back
- Checkered pants (aka trousers)
- Patent leather shoes (with holes in soles)
- Heavy black frame glasses
- Wears an undershirt
- Shirt buttoned right up to collar

Optional Accessories

- Hewlett-Packard HP41CV with card reader, printer, and optical wand purchased with keener's life savings of 10 cents per week
- Plastic pouch in front pocket containing every available colour of pen and mechanical pencils having every conceivable hardness of lead from 6H to 6B
- Slide rule, geometry set and a well-used flowchart template

Other Distinguishing Features

- Never far from COBOL text
- Extra long right arm used for better visibility
- Knows pi to 200 digits and always wears t-shirt and button to show it
- Briefcase is always overflowing with books

Keener Bingo

Why play Keener Bingo? Why not? The game has high entertainment utility and is a great alternative to picking your (or your neighbour's) nose during those really boring lectures. Take 5 minutes at the beginning of class and pick out 3 keeners, stupid or otherwise. The first bingo contestant to have their card filled (by crossing off keeners as they are keen) yells BINGO! and is awarded 1 Bingo Point. The winners will not be given recognition in mathNEWS, but a list of names or descriptions of contestants most useful (useless?) keeners may be published in future issues.

For an alternative game, try playing "full card" bingo. This game involves placing the names of 9 keeners on a 3x3 matrix with the 2,2 entry being a free space.

Rules

- You may not use your own name on the card, nor may you repeat names on the same card
- If the keener puts up his hand and does not have the chance to be keen, this does not count as a point.
- An extra bingo is awarded if you preselected the keeners in order, and they asked/answered questions in that order
- Double word score if you can guess their first word (ie. "Sir..Sir.....", "Professor...", "But....", "Excuuuuse me...", or even "You forgot....")
- triple points if the prof spots the keener and refuses to acknowledge his presence
- No points are scored if the keener goes to the prof after the class
- You are not allowed to physically abuse a keener to prevent or force it with respect to the placement of its hand. Bribes are illegal unless they are given to the judges.

One final note: If you still don't know what to look for when choosing keeners, try taking a gander inside MC3036 (Watsfic) or CPH 1338 (EngSoc).

Compiled by Sean, with help from my EE class, as well as many others, too numerous to mention here (thanks everyone)!

The Coming of Age

68001: an interface oddity

Computer technology certainly is interesting and for this reason we decided to explore it's origin and have found out that all these acronyms and terms were developed from common smut. The story of computer language was developed 60 years ago from a girl named Susan Honeywell and her boyfriend Ivan Brian Mathews or IBM for short.

The language was developed from an overnight sexual escapade experienced by Honeywell and IBM. We figured it only right that if our careers were to be made up using this language we should tell the story. Susan and Ivan had been going out for some time but Ivan was getting a little upset that it had been 1 year since they were dating and he still had no hands on experience. Ivan complained but Susan said that he still had not found the right FBR's.

Ivan had generated many Warm Starts but could never seem to Execute. One night after a heavy session in the local bar, Ivan and Susan returned home to the Muir Park. After making sure they had lots of Floor Space the smut and what we know as computer language began. Ivan began to seduce Susan who was obviously the Supervisor but everytime he got to a Dynamic Relocation he experienced a System Interrupt. Being persistent and referring to the Details of Sex (or DOS Operating Procedures Manual), he finally succeeded in disrobing Susan. He felt the time was right to mount the Disk and try and IPL. Susan finally gave up resistance but Ivan was experiencing problems in that he had a Floppy Disk. Susan realizing that his System was Down tried some Maintenance to bring the System back up.

Finally, things went Online and Ivan went from Software to Hardware completely bypassing Firmware. They were now ready for Insert Mode. After several minutes they found they were Plug Compatible and became Input/Output bound. In a matter of seconds Susan started Thrashing and Ivan went into Burst Mode and blew his Load. After a short test Susan went Down on Ivan's system and her program came up with a completion code of 69. Being inexperienced she Chewed his Cards which resulted in a Head Crash from too many Bytes. This really excited Ivan who then mounted his disk once again. He felt that Real Storage was not big enough for him and wished Susan had some Virtual Storage. Susan suggested they switch from Foreground to Background but

Ivan felt that the Job Control forced a Core Dump. Susan was relieved at this as she felt Overlaid and would need a new Hole Punch for her I/O Device. They both went to sleep but several weeks later while Susan was having a Core Dump, she noticed that while running her program she missed a Period. Nine months later the computer age was born. The only complication that set in was during birth. Susan Split her Cylinder but the CE fixed her up and told Ivan that if he wanted to mess around for the next 6 weeks he would have to be an End User.

And the moral of this story is: IF YOU GO WITH HONEYWELL, YOU'RE SCREWED

Ode to WIDGET

Yesterday, all my troubles seemed so far away,
Running widget programs takes all day,
Oh I believe in yesterday.

Suddenly, widget gave my program back to me
All garbled up as you can see
Oh yesterday came suddenly

Why they make me take this course I don't know
They wouldn't say
I've done nothing wrong how I long for yesterday

Yesterday, my computer would never overload
I wish the widget would just explode
Oh I believe in yesterday.

Apologies to the Beatles would be completely inadequate.

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Editors: Tom Haapanen & Glenn McFarlane

SCuMSbag

Well folks, it seems you are in luck this time. Due to the large amount of material submitted to **mathNEWS** (Where is the world going to?—ed.) for this issue, I have been requested to keep this column short. So be it. The End.

Here is next week's column in advance, in a clever move to circumvent the **mathNEWS** editorial restrictions: Well, we are back to SCuMS again, and one thing I have noticed is the large number of people going through all the userids logged on the system to try and find out whether their friend is logged on. There is a better way! Create a file called <filename> GROUP, where the filename is anything you wish. In this file, enter one per line, starting in the first column, and in uppercase, each of your friends' userids. If you want to be really fancy, you can put them in alphabetical order! Now, FILE this, and you're all set. Any time you wish to know whether one of these people is signed on, type QUSER <filename> where the filename is whatever you called the GROUP file. You can even call this from your PROFILE EXEC, by inserting in it the same command you used before.

Another really useful thing to have is an X EXEC. What this does is allow you to simply type X ANOTHER instead of the full form of the command, X ANOTHER PASCAL. X EXEC will check for the various filetypes such as PASCAL, SNOBOL, SASFILE, SCRIPT and so on. There are lots of copies of this EXEC floating around, and you should be able to find a friend who has one. If not, wait until the next issue, and you'll find out how it does what it does, and how to write your own.

Name Change Proposed Again.

Some ten years ago, the Faculty attempted to change its name from Faculty of Mathematics to Faculty of Mathematical Sciences. This was opposed by a majority of students, and the move was eventually defeated by the University Senate.

Once again, the rumours are flying regarding another attempt at changing the name of the Faculty. Apparently Statistics is becoming very important in our faculty, so the new proposed name is the Faculty of Statistics and Mathematics. However, the Stats department denies any knowledge of the proposed name.

Our persistent and devious reporter, however, uncovered another, possibly even more important reason for the change. The faculty would then be colloquially known as the Faculty of S & M. This would reflect on many of the courses now offered to the undergrads.

Obviously, the other interpretation, Faculty of Sadistics and (Pro) Masochism will inform potential frosh/ettes of what they will have to go through to get. The other departments will get new names, as well. CS will stand for "Crashing Systems" while AM will mean "Appalling Mess." C & O will naturally become "Confusion & Obsessions". As to the zero mathies, ActSci will change its full name to "Active Schizophrenia". However, the most descriptive name award will be given to those in CA, which is now to be called "Columnar Addition".

Tom Watts

Errata, Elucidation, Addenda, and Apologia

Well, hours of editing long before production night still didn't stop EEAA from batting 2 for 2 this term. Last issue we made a triple play. First, to clarify any confusion about the WATSFIC contest, it is a 3000 (not 300) word short story. I guess you can still use your adjectives and adverbs after all (love the alliteration!). Second, The cryptic crossword clue (again!) for 12 down should have read 'resist' instead of 'resists' and was 8, not 9, characters long, as the diagram shown. Finally, grmcfarl is NOT the world's fastest masthead writer. Somebody wrote a one-liner in 32.3. However, he has not given up hope...

Computers In Education Seminar Series

Everyone is invited to attend a seminar series describing current uses of computers at UW. These seminars are being held on consecutive Mondays room 3001 (Board/Senate Room) Needles Hall from 12-1 p.m.. Bring your lunch!

Here are the seminar topics: Computer Aided Sports Instruction (24 Oct.); Learning by Doing-with LOGO (31 Oct.); How Computers are used to Make Maps (7 Nov.); Linking Heritage Agencies, Museums and Historic Sites by Computer (14 Nov.); Using Computers to Make Computers (21 Nov.); Dancers on the Screen (28 Nov.); Big Brother is Watching You (5 Dec.).

MATHSOC
Presents

ROAD TRIP

to

THE

LIBRARY

WED. NOV. 2nd



TICKETS AND INFORMATION AVAILABLE AT MATHSOC MC3038

MATH STUDENTS: \$8.00 OTHERS: \$9.00

LIMITED NUMBER OF TICKETS AVAILABLE, SO GET YOURS SOON!

It's Ladies' Night

LADIES:

ALL YOU CAN DRINK ALL NIGHT FOR ONLY \$3.95!!!

Yes, boys and girls, it's masthead time again. (Have I not used that opening recently??? ...my memory must be failing). Well, tonight's. (or last night's, since it is about 0140 hours on wednesday now) was great, both in quantity and quality. Well, the listing follows: For production, we have Dr. J.(typing (past editor)), Sam, Helen and Jouko (typing), Saeed and Chris (layout, eating pizza), The Barbarian (!!, typing, sanity), grmcfarl (anything & everything, posing for cover), fraser (layout, eating pizza), tom watts (=me, everything no one else would do.) Writing list is almost as long or yet longer, don't know yet, here goes. Wross (Matt, www, pure sports), Sparky (platter spatter, revenge (in next issue)), Fraser (math col., xword, theorem), grm (purpose, co-editor), Richard (watsfic), Saeed (ode to widjet), Bruce (coming of age), Stewart (cover, story, hifi(sorry no space)), Yukon Sean et al. (keener bingo), dwarf (editing), Steve (MGB article), tom watts (me again, articles not listed above). Whew?!? Thanks to MathSoc for approving our budget (this issue is already over budget!!! can you believe we had to refuse articles? for mathNEWS? sorry to those people whose got left out (dwtill, Stewart, Bruce, etc...)). Since the i/o room closing is once again approaching, this is tom watts signing off at 1:55 am on wednesday ... have a good weekend (forget studying for the midterms!) logoff at 1:56 am edt
83/10/18

WHAT IS MATHEMATICS?

...a popular talk by
one of the world's
leading mathematicians

Prof. W.O. TUTTE !
(Department of Combinatorics & Optimization)
University of Waterloo

THEATRE of the ARTS

Thursday, Oct. 27, 8 p.m.

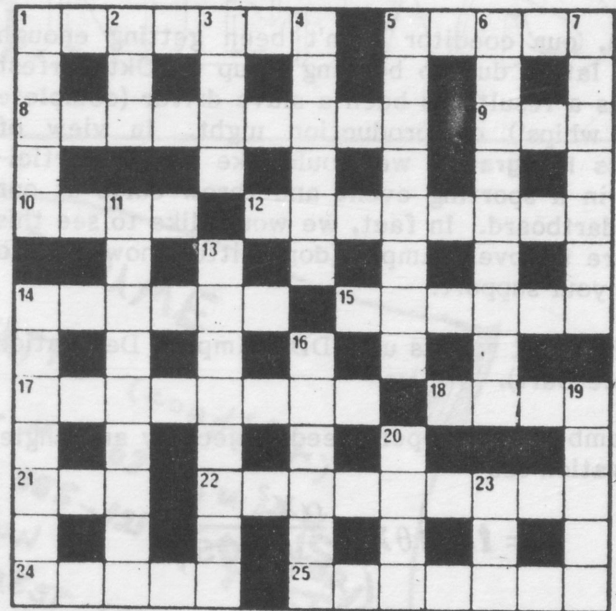
This is a rare opportunity for students of mathematics to hear our own Distinguished Professor William Tutte. Bring your friends. In this, the 5th in the UNIVERSITY LECTURE series, Prof. Tutte will give us a look at MATHEMATICS from his own perspective.

Cryptic Crossword

by Fraser Simpson

Solve this crossword as you would any other cryptic crossword. Solutions should be submitted to **mathNEWS** no later than October 29, 1983. Prize: (hopefully) your choice of a 83/84 Math T-shirt or set of mathie buttons.

We have two winners (of the button set) this week: Calum T. Dalek and David Cohen. You can pick up your prizes at MathSoc. These were the only **correct** solutions we received, so maybe last week's crossword was a bit too tough. Better luck this time!



How to enter a mathNEWS contest

To enter one of our contests (which are all too numerous—ed.) work out the solution, either on a blank piece of paper, or on the mathNEWS page in the case of a crossword solution, and write on this piece of paper (1) your name, (2) student ID number and (3) your phone number. The deadline for solutions is midnight on the second Saturday following the date of publication. Put your solutions either in the (currently) black **mathNEWS** box on the 3rd floor, under the **mathNEWS** office door, or leave them at the MathSoc office. The winner(s) will be announced no later than the next issue of **mathNEWS**. If you are lucky (and we have time from our assignments) we may call you before then. The prizes will be available for pickup at the MathSoc office after the next issue is out. Good luck!

Grad Students!

If you will not be on campus in the winter term, there will be an opportunity for you to have your grad photos taken on November 14-17, after 5 pm. This will enable you to be included in class composites, etc. for the graduating class of 1983-84. There is no charge just to be in the composites.

For further details and to schedule a sitting time (no charge just to sit) contact MathSoc office as soon as possible, and preferably before Wednesday, October 26th.

dy/dx = 0

1. Plans to get me involved in chess problems.(7)
5. Father, friend of the pope. (5)
8. Hobnob with a business partner. (9)
9. Written record of part of the play. (3)
10. Don't throw a glance in return. (4)
- 12 and 20. Deserves a prize, so steals from the pastry shop? (5,3,4)
14. Parcel for the boat. (6)
15. Insect on board and branches. (6)
17. Summoned from above — by telephone? (6,2)
18. She's locked in the cellar. (4)
21. Carefully look at a brood of pheasants. (3)
22. Quite established, but dine out around a manager. (9)
24. Santa ruined by the devil. (5)
25. Give a gift. (7)

dx/dy = 0

1. Stripped bare Noah's boat on the street. (5)
2. A man's this when beheaded. (3)
3. Came out with a dangerous weapon. (4)
4. Mark left on the sailor from a beetle (6).
5. Forestalls opening in the press being cut short. (8)
6. It will be practicable, but be missing. (9)
7. Mail for the new settler. (7)
11. Very good or best granted. (9)
13. It was removed for the French to dine out. (8)
14. Disturbed skeptic protests outside. (7)
16. Builds place to eat (4,2)
19. Check the accounts in the fraud I tried. (5)
20. see 12 across.
23. Not the truth of the golf ball's position. (3)

mathNEWS Portable Dartboard

Glenn, our coeditor hasn't been getting enough sleep lately due to boozing it up on Oktoberfest and as a result has been a slave driver (complete with whips!) on production night. In view of **Sports Integrated**, we would like you to participate in a sporting event and throw darts at our new dartboard. In fact, we would like to see this picture all over campus (don't litter, however) to show your support!

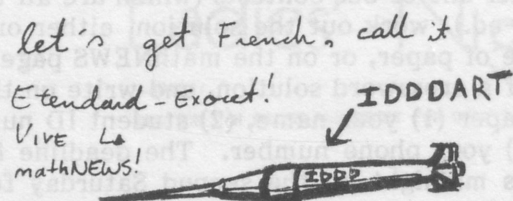
For best results use IDDD (Impact Detonation Device Dart).

Remember, for proper speed trajectory and angle calibration use

$$y = \tan \theta x - \frac{\alpha x^2}{2V_0 \cos \theta}$$

but if you whip it fast enough a zero degree angle shift will be sufficient.

enjoy, sharpshooters



ElseWhen

- "Mathsoc Meets: Chevron Damned ... The Math Society council unanimously approved a motion to "condemn the Chevron for the October 5 issue as being misleading and unethical". The problem stemmed from the Chevron's October 5 attempt to discredit the 1973 Oktoberfestivities organized by Mathsoc and the Federation of Students.

- There are 122 positions open to 120 CA students looking for jobs in the winter term; however, in Industrial Math, these were only 154 positions open for 200 students.

- "DEBUG has supposedly been relieved at its 'out-the-door-and-3-times-round-the-building' (CS)132 line-up. By now, all the bugs in WATBOL have been found, and who knows, by this time next year, maybe someone will have considered fixing them."

Sweet Home Albania (Lynurd Skynurd)

Big presses keep on rolling,
With tales about the campus,
Hope Shane Roberts will remember,
Chevron man don't need him round anymore,

Refrain:

Sweet Home Albania,
Where the skies are blue,
And people are red,
Sweet Home Albania,
We'll be running home to you.

In Tirana they all like the Chairman,
We all did what we're told to do,
The chevron is no problem,
Does the paper bother you?
Now tell me the truth.

Refrain

Real Programmers and Programming Languages

Real Programmers don't write in COBOL. COBOL is for wimpy applications programmers.

Real Programmers don't write in APL. Any fool can be obscure in APL.

Real Programmers don't design their programs top-down or bottom-up. Real Programmers do it middle-out.

Real Programmers enjoy writing Pascal compilers for their micros in machine code, which they improve but never use.

Real Programmers don't write anything in Pascal. Strong typing is for people with weak memories.

Real Programmers write language translators in SNOBOL ... to produce COBOL source code.

Real Programmers don't write in BASIC. Actually, no one writes in BASIC after the age of 12.

Real Programmers don't write in PL/I. PL/I is for Programmers who can't decide whether to write in COBOL or FORTRAN.

Real Programmers don't write in LISP. Only wimpy programs contain more parentheses than actual code.