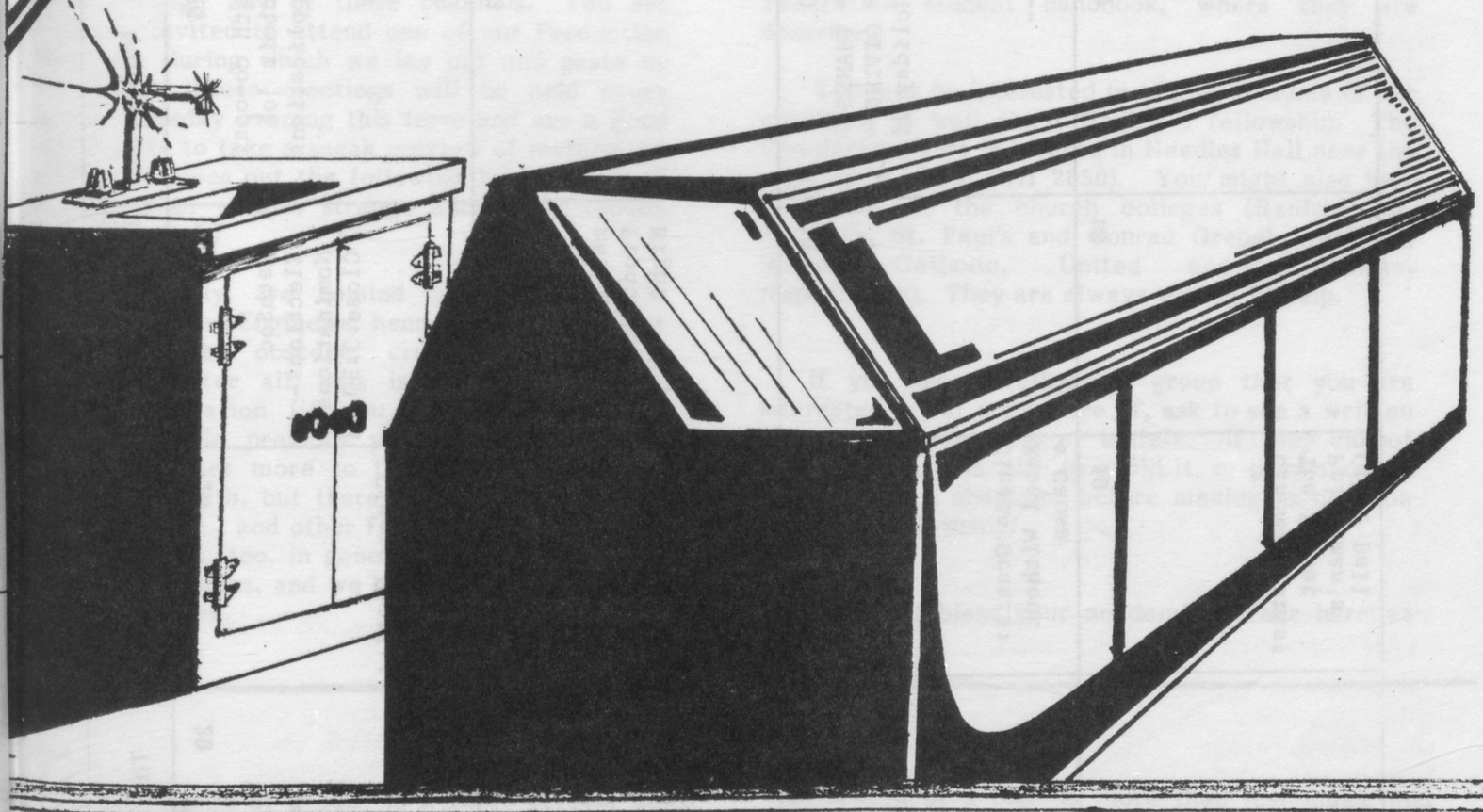
Vol.33 no.1
Friday Sept.23,1983

math NEWS



C&D's NEW LOOK — see page 9

Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday
23 September Add/Change Course Deadline Bookstore Refund Deadline Co-ops! WantAds Available!	**24** Fed Flicks: I, the Jury	**25**	**26** Math co-ops: Submit job applications	**27** MathSoc Elections- Nominations Close 3:30 pm	**28** Cinema Gratis: A Shot in the Dark	**29**
30 September Last day for OSAP Clinic see beside CC138 for info	**1 October** Fed Flicks: Spring Break	**2**	**3**	**4** mathNEWS Production Night -- 7 pm	**5** "In Search of a Sun" !MathSoc Election Cinema Gratis: Son of Dracula - Flubber - Frankenstein	**6**
7 October mathNEWS next issue out * Drop * ** Deadline ** OKTOBERFEST	**8**	**9** Holiday Wknd No Fed Flicks	**10** * THANKS * * GIVING * Holiday !!	**11**	**12** "Between Reflections" Cinema Gratis: Rebel Without a Cause	**13**
14 October	**15** Cinema Gratis: The Verdict	**16**	**17**	**18**	**19** Cinema Gratis: The Secret Policeman's Other Ball	**20**

This is mathNEWS

mathNEWS was founded over a decade ago by eager and dedicated Math students who wanted to publish articles and news of interest to Math students. During those ten years, **mathNEWS** featured many articles of varying degrees of quality (Boy, did they vary!--wjj). Indeed, some past articles and features have become minor classics. It is our hope that we can provide the best issues of **mathNEWS** this term, both in appearance and in content. To do that, however, we will require your support, both in articles and other submissions to **mathNEWS**, but also in comments or suggestions aimed at improving your publication.

How does one contact **mathNEWS**? You can submit articles, ideas, comments and other correspondence via the big black box conspicuously attached to the wall across from the third floor lounge. We also have Honeywell and CMS accounts (userid for each is--you guessed it - 'mathnews') if you wish to contact us via computer. We also have a mailbox at the MathSoc Office (MC 3038). **mathNEWS** appreciates your input through any of these channels. You are cordially invited to attend one of our Production Meetings, during which we lay out and paste up the paper. These meetings will be held every second Tuesday evening this term and are a good opportunity to take a sneak preview of **mathNEWS** before it comes out the following Friday (as well as engage in various strange and/or unorthodox activities -ed.)

Incidentally, we remind you that this is **mathNEWS**, not Enginews; hence your submissions should not be obscene, crude, or otherwise offensive. After all, this is supposed to be a family publication (if you have that kind of family--wjj). In previous years, **mathNEWS** had tended to cater more to the Computer Science students in Math, but there are many students in Statistics, C.A., and other fields. We would like to hear from you, too. In general, we accept a wide variety of articles, and we hope that you will help us out this term.

Christian Fellowships

Welcome to UW! Many of you are probably a little bit worried about what sort of Christian fellowship is available to you here at Waterloo. There are many groups around on campus that offer fellowship, Bible study, and worship; some of them are mentioned herein.

The largest fellowship at UW is the Waterloo Christian Fellowship (WCF), the university's chapter of Inter-Varsity Christian Fellowship. (If your high school had a chapter of Inter-School Christian Fellowship, you'll know a little bit about WCF and what its beliefs are.)

The Chinese Christian Fellowship is another fellowship on campus, geared for the Chinese students. Watch for their posters and announcements.

UW also has a chapter of the Navigators on campus, though not much is heard from them. If you are interested, please ask around for more information (I've heard nothing from them, but thought they deserved mention), or check the Federation student handbook, where they are described.

You may be interested in talking to some of the chaplains as well about finding a fellowship. The Chaplains' office is located in Needles Hall near the registrar's office (NH 2050). You might also look for them at the church colleges (Renison, St. Jerome's, St. Paul's and Conrad Grebel--Anglican, Roman Catholic, United and Mennonite, respectively). They are always willing to help.

If you see a fellowship group that you are interested in but are unsure of, ask to see a written statement of doctrine or beliefs. If they cannot give you one, it is wise to avoid it, or pray about it and talk to a chaplain before making a decision about the fellowship.

May God bless your academic career here at UW.

Spectrum

"In Search of a Sun" is a three screen, multi-media presentation featuring the music of Bruce Cockburn, Soft Cell, Pink Floyd and others. The performances will be held on Wednesday and Thursday, October 5 and 6, at 7 pm in an as yet unknown room. (Space has been booked; we don't know where it is yet.)

"In Search of a Sun" is more than just music and pictures. It is a hard-hitting look at the way we live, and the things we follow, or even worship, in today's society. Tickets will be available soon--watch for posters. A sequel to "In Search of a Sun", entitled "Between Reflections", will be shown the following week.

CS help

The Department of Computing Services offers several courses for using the DCS computers. Some of these may be of interest to the students in CS234/240 and other courses using CMS or SCMS. To enroll in one of the courses listed below, contact Esther Sonnenberg in MC2045, x3271. The enrolment is limited, so sign up as soon as possible. There is no cost for the courses. All courses are held in the afternoons, and last from one to several hours. For complete course descriptions, visit the consulting office.

Intro to CMS & SAS - Oct. 3 4 5 7 11
Intro to micros - Sept. 26 28 29
Advanced CP/CMS - Oct. 13 14
Intro to BASIC - Oct. 11 12 13 18 20
Using SIM and XEDIT - Oct. 27 28 31

The Computer Reference Room (MC1088) also has a large selection of manuals available for reading as well as purchase. The avilable manuals include the following:

SCMS User Guide $ 1.00
CMS User Guide $ 3.50
Spitbol User Guide $ 0.75
Edit User Guide $ 2.00
XEDIT User Guide $ 2.00
EXEC2 User Guide $ 2.00

Eulogy to Someone Else

We were saddened to learn this week of the passing of one Society's most valuable members- Someone Else. Someone's passing has created a vacancy that will difficult to fill. Else worked with Society for many years and did far more than the normal person's work. Whenever leadership was mentioned, this wonderful person was looked to for inspiration as well as results.

Whenever there was a job to do or a position to be filled or a meeting to attend, one name was on everyone's lips. "Let Someone Else do it." Someone is survived by all current members of society and will be especially missed by its inactive members. We hope everyone will actively keep Someone Else's memory alive.

(reprinted from an obscure real estate newsletter)

UltraClassified

(The mathNEWS UltraClassified column is available for your personal ads. If you have something you want to sell, or have any personal messages, simply submit your classified ad to **mathNEWS** through Honeywell or CMS mail (userid mathnews), or by the (currently) black box attached to the wall across from the third floor lounge of the Math building. Ads will be printed free of charge. Please note that **mathNEWS** reserves the right to refuse any ad.)

* * * * * * * *

For Sale: Radio Shack TRS-80 Model I computer with 16K Keyboard, 32K expansion interface (48K total), monitor, and disc drive. Asking $750 for complete unit or best offer. Expansion interface and disc drive may be purchased separately for $200 each or best offer. Phone 886-6761. Ask for Jim.

Kitten I'll always love you. I'll always be patient. Snookums.

Wanted: (dead or alive) Charlton Roberts. Rumoured to be in 1B Math on his leisure term. Anybody knowing his whereabouts please inform mathNEWS.

Bilbo, please return the ring road immediately. Love, Gollum.

GAUSS LIVES!!

THE MATHEMATICS COLUMN

The Circle Squared Beyond Refutation!
The Pythagorean Theorem Disproved!

by Fraser Simpson

"Gesticulating freely, he explained, through an interpreter, who followed him with the greatest difficulty, that there were two worlds. One was the world of our senses, vast, chaotic, complex, and inexplicable. The other was the world of mathematics, clear, ordered, reasonable. These two worlds must be kept apart."

- J.L. Synge

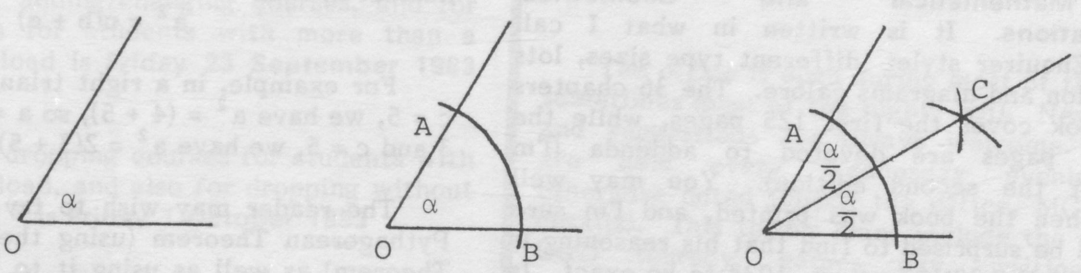
If you've been led to believe that it is impossible to square the circle, then you're gullible. If you think that the Pythagorean Theorem applies to any right-angled triangle, then you're misguided. And if you think that π cannot be expressed as a fraction, then you're not a rational thinker. This was Carl Theodore Heisel's approach to mathematics.

Let's look at some of the developments before Heisel's time. Mathematics was one of the disciplines studied by the Pythagorean School of c. 600 B.C. The Pythagoreans, under Pythagoras, would gather together previous mathematical results, as well as come up with new ones. The famous Pythagorean Theorem gets its name from this school, which was certainly familiar with it.

Euclid and other ancient Greeks did quite a bit of exploring with straightedge (unmarked ruler) and compass. Given any angle, they found it was a simple task to bisect that angle. Given the edge of any square, they could construct the edge of a square with twice the area of the original square . The familiar construction for bisecting any angle is given in the diagram. Can the reader come up with the simple construction for 'duplicating the square' before the answer is given in the next issue?

There were three problems that the ancient Greeks found that they could neither solve nor prove impossible to solve. The first was the trisection of any given angle. Some angles, like the 90° angle, were easily trisected while others escaped trisection. The second problem involved duplicating the cube. Given the edge of a cube, one must construct the edge of a second cube with twice the volume of the original. The third, and perhaps the most tempting, problem was the construction that would square the circle. That is, given the radius of a circle, construct the edge of a square that has the same area as the given circle. Centuries passed before the answers to these three problems came to light. Modern algebra has shown beyond refutation that none of the three can be done using only straightedge and compass.

Anyone who takes a minute or two to dissect the squaring the circle problem will realize that a solution requires the construction of a line segment whose length is some multiple of $\sqrt{\pi}$. It turns out that this would be possible if a line segment of length π could be constructed. Unfortunately, it cannot. Many interesting lengths **can** be constructed. For instance, it is easy to construct a line segment of length $\sqrt{2}$. It is important to note that in order to convince ourselves that a constructed line segment has length $\sqrt{2}$, we have to use our mathematics and not a measuring device. Because any measuring in 'real life' is approximation, a measuring device would only be able to tell us that our line segment is so close to $\sqrt{2}$ in length that the device cannot detect the



Construction for bisection of angle O. A radius OA is chosen and arc AB is drawn. Arcs at C are drawn with AC = BC = OA. OC is the angle bisector.

difference. This 'inaccuracy' does not stop us from measuring things. For example, we don't need every decimal place of π to decide how much grain will fit in a certain silo; that would be ridiculous (and impossible). We simply use the accuracy that we need in order to reach our decisions. One thing that Carl Theodore Heisel did no understand was that a lot of mathematical ideas can be 'perfect' in the abstract but can at best approximate some aspect of the real world.

Heisel was convinced that an infinite decimal could not possibly be 'exact'. If we said that $\sqrt{2}$ was equal to 1.4142+, he would argue that the length of a line segment cannot be 1.4142 plus a little bit more. Since a line segment has an exact length, that 'little bit more' must be an exact, not an infinite decimal. In Heisel's own words, "An infinite decimal fraction can never produce anything but an approximate result, and an approximate result can never be near enough to be exact..."

His suggestion is that we "live in a new world with peace and harmony between measure and number and nature everywhere" by accepting 3 13/81 as the true value of π. With this new value, he showed how to square the circle ("beyond refutation") and how to prove the Pythagorean Theorem wrong as well!

Heisel's value for π (3.1605-) is derived from his method of finding the area of a circle. It is the same method that the ancient Egyptians used: take 8/9 of the diameter of the circle and square that value.
(The reader will find it easy to check that this method indeed gives π = 3 13/81.) Those interested in finding Heisel's flaw will be disappointed to find out how he arrived at this formula for the area of a circle. He assumed it.

All of Heisel's demonstrations (including one in which he says he's proving the Quadrature of the Circle but is in fact showing by example that $(a + b)^2 = a^2 + 2ab + b^2$) are contained in his 278-page book **Mathematical and Geometrical Demonstrations**. It is written in what I call National Enquirer style: different type sizes, lots of repetition and diagrams galore. The 36 chapters of the book cover the first 125 pages, while the remaining pages are devoted to addenda (I'm looking at the second edition). You may well wonder when the book was printed, and I'm sure that you'll be surprised to find that his reasoning is a product of the 20th century--1934 to be exact. Is it a hoax? It could be, but it probably isn't. Heisel himself had the book published and, according to the biographical sketch given in the book, had copies sent free "to libraries, colleges, and scientists throughout the United States and foreign countries" in order that everyone might learn the Truth.

You may have guessed that our own EMS library has a copy on its shelves (QA 467.H4). Anyone who would like some fascinating reading is encouraged to have a look at it. I admit that I don't understand all of the arguments. Heisel decides that in order to rationalize all numbers, he must introduce the idea of artificial square roots. For example, the artificial square roots of 2, 5, and 10 are 1 1/2, 2 1/4, and 3 1/6, respectively. He then goes on (and on and on) using them to prove, for example, that the Pythagorean Theorem is incorrect for certain right-angled triangles. Heisel's ignorance of mathematics makes some of the arguments completely baffling, but to spur you on, I'll leave you with what I call Heisel's Challenge:

> "We have challenged to many to disprove these ratios during the last seventy years, and have never yet received a single demonstration that even attempted to disprove them. Many have acknowledged that my demonstrations are clear, accurate and conclusive and worthy of consideration and study."

I leave the decision to the reader.

The Pythagorean Theorem was mentioned above, and even though the following Anti-Pythagorean Theorem has nothing to do with this column, I thought I might add it anyway for those who have never seen it.

The Anti-Pythagorean Theorem. If ΔABC has a right angle at C and sides a, b, c (opposite their respective angles) and if $c = b + n$ for some natural number n, then

$$a^2 = n(b + c)$$

For example, in a right triangle with b = 4 and c = 5, we have $a^2 = (4 + 5)$, so a = 3. If we take b = 3 and c = 5, we have $a^2 = 2(3 + 5) = 16$, so a = 4.

The reader may wish to try proving the Anti-Pythagorean Theorem (using the real Pythagorean Theorem) as well as using it to find the third side of a triangle with b = 15 and c = 17.

MATT THE MATHIE

Counselling News

This term, you can join any one of ten groups offered by Counselling Services. Groups offered are: Exam Anxiety Management, Relaxation Training, Assertion Training, Career Planning, Gestalt Therapy *, Reading and Study Skills, Communication & Social Skills in the Workplace, The Language of Dreams, GOSH (Goal-Oriented Self Help), and Weekend Group for Students Experiencing Eating Disorders. (The session on Gestalt Therapy will have taken place by the time you read this. There is still time to join the other groups, though.)

Information and sign-up sheets for these groups are available at the Counselling Services Office, Room 2080 Needles Hall. Please note that groups sometimes fill up quickly, so apply as early as possible.

Important Deadline Dates

The deadline for adding/changing courses, and for dropping courses for students with more than a standard course load is **Friday 23 September 1983** (i.e. TODAY).

The deadline for dropping courses for students with a normal course load, and also for dropping without academic penalty * is **Friday 7 October 1983**

(* - 1A students who have not previously attended any post-secondary institution can normally withdraw as late as the last day of lectures without academic penalty.)

WATSFIC

WATSFIC is a Science Fiction, Fantasy, and Gamers club designed to to facilitate the meeting of people with interests in these areas. Its $2.50 annual membership fee gives members other benefits, too. Members receive the use of the Science Fiction library, which contains hundreds of Science Fiction books, and a 10% discount at two Waterloo stores: Now and Then Books and Mr. Gameways Ark. They also receive reduced prices on WATSFIC events, such as the Dungeons and Dragons tournament.

Club activities are usually run by members, but five executive members are elected to perform regular administrative activities. The President is responsible for organization and external club liaison. The Secretary of War organizes tournaments and games days. The Treasurer maintains all club funds. The Secretary uses the Honeywell computer account, and keeps track of meetings. A Keyholder keeps the office open as much as possible.

The office is open during most of the day (and sometimes most of the night--wjj). New members and suggestions are always welcome. Meetings are held every Wednesday evening unless otherwise noted (check the office, MC 3036, for details). This term's plans include the traditional D&D tourney, games day, writing a new constitution, and possibly a War Gamers' tournament. Check the next issue for more details.

Richard Tummers

On Real Mathies

For the past two terms now, **mathNEWS** has been telling people what Real Mathies do and don't do. But it has not yet resolved the question stated in **mathNEWS's** very first Real Mathies column: "What IS a Real Mathie?"

It has been stated that a Real Mathie is a member of a subset of Complex Mathies. This goes without saying. All Real Mathies are complex beings. What other form of intelligence could go around with a blood caffeine content equivalent to espresso and survive on 8 hours sleep per week? Physiologically, there is much more to a Mathie's metabolism than any other form of **homo sapiens.** Engineers (**drunkenstuporii civilus, D. systemen, D. electricii, D. mechii, D. chemii, D. geologii** (choose any one)) are comparatively very easy to figure out. They consume alcohol, pass out, and pass the byproducts the next morning without accomplishing anything useful (of course, the odd mutation does occur). No one has yet figured out a Real Mathie or why one Real Mathie can, in one microsecond, do what takes seven hundred engineers three years to do. (Example: perform a completely objective survey of WIDJET's capabilities. All Real Mathies knew that WIDJET was crud before they came to Waterloo.)

Real Mathies, though, have classes of their own; namely Rational Mathies and Irrational Mathies.

Rational Mathies are in the directly applicable and fun-to-research-and-use fields such as Computer Science and Applied Math. Irrational Mathies are those studying sadistic fields such as Statistics or Pure Mathematics just because they are there, and for the pure pain of it (hence their name Irrational Mathies). The Zero Mathies are those in Actuarial Science and Accounting; they don't do anything tremendously useful. Accounting people are not Rational Mathies because Rational Mathies don't give a damn about their budgets or how much something costs, as long as they don't have to pay for it. Irrational Mathies are identical to Rational Mathies in this respect. Combinatorics and Optimization students are in such an interesting field that they defy classification in a way—they become the Transcendental Mathies. No one quite knows what to think of Transcendental Mathies yet.

Of course, none of these subsets share all of the same activities. For example, it has been said that all Real Mathies can form a nilpotent matrix at a whim. Rational Mathies do not do such foolish things—they get their computers to form the nilpotent matrices for them. Irrational Mathies do this for pleasure. Zero Mathies don't have to form a nilpotent matrix because they already are nilpotent, and Transcendental Mathies will do such only if they have nothing better to do.

These groups can also be broken down further. For example, Rational Mathies have a hypothetical subset called the Whole Mathies. A Whole Mathie has never been observed. Each Rational Mathie has a fractional part that prevents them from being a Whole Mathie. (Some will eventually be rounded to Whole Mathies, and moreover, they will be Perfect Mathies; this can be discussed later, but not too much later.)

Real Mathies can also be divided into Positive Mathies and Negative Mathies. Positive Mathies think that Negative Mathies are opposed to their wishes, while Negative Mathies think the same of Positive Mathies. This is where the Zero Mathies serve their purpose—to sit in between the groups, while representing and doing absolutely nothing.

Please keep these subsets of Real Mathies in mind then when submitting a sweeping statement such as "Real Mathies don't use mechanical pencils unless their co-op employers supply them with the leads." Many Rational Mathies do use mechanical pencils, because there is seldom a pencil sharpener around where they are doing their creative thinking. (Washrooms are examples of such places.) Some statements, like "Real Mathies can draw a freehand straight line even though they are too bazooed to walk one," can be examined this way and indeed be found to hold true for all subsets of Real Mathies.

Dwarf

ISSN 0705-0410

mathNEWS is a biweekly publication funded by the Mathematics Society at the University of Waterloo. Content is the responsibility of the **mathNEWS** editors and staff. Any opinions expressed herein are those of the writers, and are not necessarily those of MathSoc or **mathNEWS**. Please address inquiries to **mathNEWS**, MC3035, University of Waterloo, 200 University Ave. W., Waterloo, Ontario, Canada, N2L 3G1.

C&D GETS FACELIFT

The coffee and donut stand on the third floor of the math building, affectionately known as the "C and D" has undergone major renovations within the past few months. What was once a rather makeshift setup is now a permanent self-serve snack bar. The changes are quite noticable and very welcome.

The new stand is located in the small alcove that used to connect the two halves of the math undergrad lounge. Walls have been put up to enclose the stand, counters, and sinks installed to supply water for coffee and tea. New tables and chairs have been bought as well as a new coffee machine to lighten the load at the checkout itself.

The reasons these changes were made are as follows.

1. The water for the tea and coffee used to come from the third floor washrooms - a point of irritation to the Waterloo Regional Health Unit. In October of '82, the Unit approached the C&D management and commented on this situation. The Health Unit has the authority to close down the stand if their standards are not met.

2. The C&D management explained that the ability for the stand to remain self-supporting was constrained by its makeshift setup. Expensive coffee urns were frequently broken while being moved. Shortages and excesses of coffee, due to the long brewing time were inevitable, and the losses due to theft could not be controlled.

3. The students seemed to be quite dissatisfied with the condition of the undergrad lounge. It was suggested that because of the deteriorated state of the lounge, and with space being a problem, the lounge space could be used more effectively.

With these considerations in mind, the C&D committee of MathSoc came up with the budget below.

Architectural (doors, partition)	$ 4 000
Mechanical (plumbing, relocating vending machines)	11 000
Electrical (outlets and machines)	1 200
Fixtures (tables, chairs, cash registers, coffee maker)	7 300
	$ 24 000

To date the costs are as follows:

Electrical	1 000.60
Mechanical	9 600.70
Adjustment to Mechanical amount	250.00
Addition of Electric panel	580.00
Bagel bin and cash counter	3 155.00
coffee machine	454.75
safe and installation	481.50
cash register	2000.00
	$ 17 522.55

The money for this project is coming from the math students who voted to raise their society fee from $2.50/term to $5.00/term to pay for the stand.

The expenses thus far are well under budget, which is a very good sign. It seems that MathSoc is quite interested in improving their services to its members. We at mathNEWS express our appreciation to MathSoc for a fine effort in upgrading their C&D facilities.

Saeed Khan

Math and Computer Building Facts

-Mens and ladies washrooms are located on the same corners on each floor.
-MathSoc office number is 3038
mathNEWS office number is 3035
Watsfic office number is 3036
CS club office number is 3037
Undergrad office number is 5158
-Rooms 2065 and 2066 require coats in class all year long.
-Only one set of staircases and elevators goes to the EMS library.
-There is an underground entrance on the first floor of the math building that connects to the Chemistry-2 building

Richard Tummers

REST AURANT REVIEWS

The following is a short summary of the restaurants in the Kitchener-Waterloo (mostly near UW, though.) Prices ratings range from (H)igh to L(ow).

Ali Baba (uptown Waterloo on King Street)
Price : H Rating : 4
Not as classy a restaurant as it thinks it is, but not too bad, either.

Angie's Kitchen (Waterloo Square)
Price : L Rating : 2.5
A pleasant place to have breakfast. The waitresses are usually very friendly.

Bensen's (near Kitchener bus depot)
Price : H Rating : 5
One of the most expensive restaurants around, this one really is classy.

The Brittany (again near bus depot)
Price : H Rating : 5
Perhaps the best restaurant in the twin cities. The food is excellent, and the service phenomenal. An excellent selection of desserts.

Cafe Mozart (Queen St. near King)
Price : * Rating : 5
The place to go for desserts, but very little else is available. That is why I can't say how much a meal costs. The desserts are good, however.

Cafe Royale (King St. east of downtown Kitchener)
Price : MH Rating : 3.5
The rating here would be H and 4.5 if the portions were just a little bit larger. This restaurant could rank with Bensen's, The Brittany, and Pierre's.

Casa Rugantino (on Belmont, east of Union.)
Price : L Rating : 4
Good Italian food for comparatively low prices.

Cedars of Lebanon (downtown Kitchener on King St.)
Price : M Rating : (3)
I didn't try enough here to be able to give a definite opinion, but the cuisine is Middle Eastern and vegetarian if you are interested in trying it yourself.

Charlie's (downtown Kitchener on Charles St.)
Price : M Rating : 2
A reasonable attempt at an Italian restaurant.

China Kitchen (just north of Waterloo Square)
Price : M Rating : 4
Real Chinese people eat here in such numbers that it must be quite authentic. It certainly tastes good.

Corkscrew (near VIA station on King St.)
Price : H Rating : 2
Expensive dinners, but not really worth the cost. If you insist on spending a lot, there are many better places.

Crock and Block (far east on King St.)
Price : H Rating : 2
I wasn't much impressed by this spot either.

Duke of Wellington (Waterloo Square)
Price : MH Rating : 2.5
An airy atmosphere. Perfect for lunch on a sunny day.

Godfather's (first plaza past n-djinn-earrings)
Price : ML Rating : 2.5
I don't think a description is necessary.

Golf's (on Lancaster near Conestoga Pkwy.)
Price : MH Rating : 4.5
One of the best in town. I can't explain how to get to it, but if you find it, you can eat a hearty meal. An 18 ounce steak is offered here. On cold winter days, the roaring fire is also nice.

Henry's (Highland near Westmount)
Price : M Rating : 4
A nice place with good meals, good service, and good desserts.

Houligan's (King St. north of Columbia)
Price : M Rating : 3.5
Of roughly the same caliber as McGinnis landing, but with a wider selection.

Lantern (uptown Waterloo on King St.)
Price : ML Rating : 3
An inexpensive and fast restaurant serving American Chinese food. Not very special, but edible.

Lulu's Dine and Dance (Weber south of University Ave.)
Price : M Rating : (3.5)
The first time I was here, we all had excellent meals, huge portions, and the entertainment was great. The second time, the portions were considerably smaller, the steak was burnt, and the group was terrible. Try at own risk.

Mandarin Duck (King St. north of Columbia)
Price : MH Rating : 3.5
Most people seem to know this place, so I won't bother to describe it.

Marbles (uptown Waterloo just off King St.)
Price : ML Rating : 3.5
The specialty here is hamburgers of all types. These are mostly quite good.

McGinnis Landing (first plaza past n-djinn-earrings)
Price : M Rating : 3
You must have been here before.

New Orleans Pizza (several locations)
Price : ML Rating : 0
Not worth trying.

Olde English Parlour (uptown Waterloo on King St.)
Price : M Rating : 2
The meals here are acceptable, but I was not overly impressed by the place.

Pierre's (uptown Waterloo on King St.)
Price : H Rating : 5
An excellent place to dine. The food is great and the service is particularly attentive. The best in the immediate vicinity.

Smitty's (Westmount Plaza)
Price : ML Rating : 1
It is close, and the breakfasts aren't so bad, but not the place to go for lunch or dinner.

Swiss Castle (far east on King St.)
Price : H Rating : 4.5
One of the better restaurants, this is a good place to try if you are in the area, and have the money.

Texas Bar-B-Q (Waterloo Square)
Price : M Rating : 0
Some people don't think this is quite this bad.

Tien Hoa (Weber north of Erb St.)
Price : MH Rating : 2
A pleasant European restaurant with some decorations which are very vaguely Oriental. THe food is along similar lines.

Opinion

"Apathy is the opium of the masses."
-Tom Watts, 1983

Apathy. So who cares? Even the **mathNEWS** Apathy Issue was cancelled because of lack of interest. Why should anybody be concerned?

Why, may I ask, are people in general so unconcerned about the events taking place anywhere and everywhere? Why this general feeling of apathy? Unnecessary satisfaction with the status quo? Collective lack of interest? Well, let us examine some of the latest discoveries in apathetic research.

It has been observed that apathy varies directly with elapsed time. As time passes, people begin to think "But of course it's there," no matter what we are talking about. On the other hand, while an item is still new, people appreciate more the advantage and/or privilege of having that item, and may even (gasp!) assist in the acquisition of that item. However, once it has been around for several years (maybe just months), it becomes accepted as a part of the natural environment and nobody will give it a thought any longer. Example: The MC Coffee & Donut stand, which was nearly forced to go down due to the failure to pass health regualtions last spring. The fact that the stand would not pass a thorough inspection had been known for a length of time, yet no action had been taken. Had it not been for the efforts of Stan Mikoluk and the other C & D committee members, there would be no coffee and donuts available in the Math and Computer building today.

Age seems to be another factor. Examining any group of activists, be they political, peace, environmental, or ewhatever, will show a relatively high concentration of people from the younger end of the age spectrum. Specifically, at UW, it seems that the only people really willing to do some work to improve things are the f!rosh. Why?!? Are they naive? Are others too "busy" with other, more important things to contribute to the well being of the student body in general? Maybe the non-f!rosh feel that there is nothing they can do to improve things, or, if I am wrong, they are simply more moderate, and closer to the standards of our society.

I feel that there is something basically wrong with this situation. Things don't change unless somebody works to change them. Even if you only voted in the MathSoc elections, you would be giving some input to what is going on. With only 5 % of people casting a vote in last winter's elections, a very small group of people is being heard.

This problem is by no means confined to the Math Faculty at UW; however, compared to the engineers, we are in poor shape. Granted, their activities are sometimes questionable, (Why do engineers wear hard hats? So they know which end to wipe.) but they do get involved. This can be in part be attributed to the fact that they have "classes," i.e. a group of students is together for ALL of their core lectures, through which people get to know each other, and therefore the students are more likely to do (sometimes sick or disgusting) things together. This, however, is impossible in Math, as one can choose, to some extent, which courses one takes and when one takes them. Yet there are many possibilities for getting together. Most f!rosh share their three basic classes, and then there are the MathSoc organized events. You can't say you don't know anybody!

What, no excuses left? Well, then, if you are willing to do at least something, flock down to the **mathNEWS** office to sign up. Or get involved in MathSoc (office or events), CSC or WATSFIC. Just think, most activities (except maybe WATSFIC) will look great on your resume. Should you pick **mathNEWS**, you can write, type, do layout, draw, carry pizza, or just about anything else. Just drop a note into the black **mathNEWS** box in front of the C & D lounges (And if you're a member of the fairer sex, a photograph, please)

uw arts centre

If it's entertainment you're looking for, the UW Arts Centre has it. The Tomorrow Box, the acclaimed Blyth Summer Festival comedy by Anne Chislett, comes to the Humanities Theatre tonight and tomorrow (Sept. 23,24). Rompin' Ronnie Hawkins comes to Waterloo on Monday 26 September at the Humanities Theatre. Other September shows include Macbeth (the Roman Polanski film version of Shakespeare's classic), and The Best of Second City (Friday Sept. 30). Don't forget to see Inuit Survival, an intriguing exhibit representing the past and present struggle of Canada's Inuit people. (until Oct. 9). Starting in October, we have The Fifth Wall ()ct. 1), Miss Oktoberfest Pageant (Oct. 6) and Reflections of Poland on Oct. 7.

Well, boys and girls, it's election time once again here at Wunderloo. 'Tis time to choose the Math Society Council for the next two terms. Nomination forms are available at MathSoc (MC3038) and will be accepted until 3:30 pm on September 27. Elections (if all candidates are not acclaimed) will be held on October 5, 1983. Each nomination form must be signed by five fee-paying Math Society members who are in the same stream as the nominee. So, get moving and have your say in how MathSoc spends its time and money.

All positions in the following streams are open: 1A, 2A, 3A, 4A regular, 1A (4 and 8 stream), 2A, 4A co-op. Some other positions are also open; inquire at MathSoc for details.

the chevron presents primeval comedy with

Harpo Marx Centenary Series

The first in a series is presented by UV parapsychology professor Dawg Wallsten, and is titled

Capitalism: A society of upheavals and crises, and the present crisis of overproduction

October 12, AL 208 at 12:30 pm

(This is for real! -ed)

OKTOBERFEST TICKETS

for the

TRANSYLVANIA CLUB

at the **K—W ANNEX**

FRIDAY, OCT. 7th

Now available **$4.50**

from in limited numbers

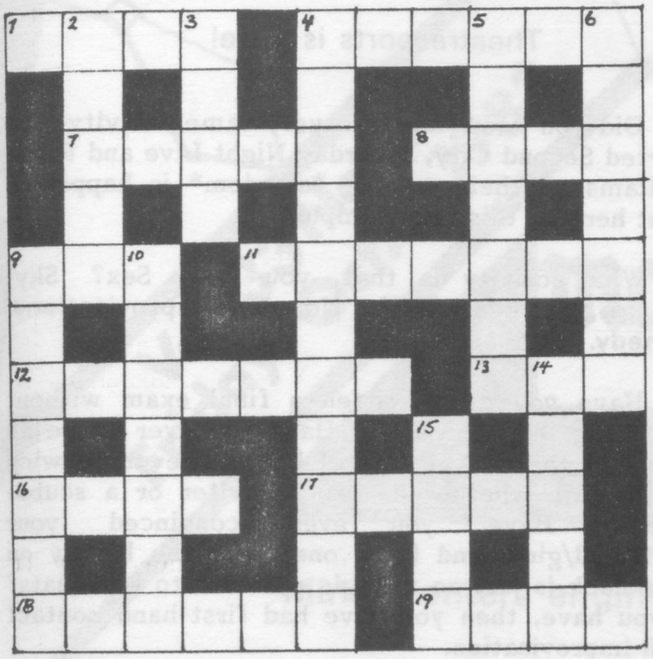
Math Soc (MC3038)

and the Feds (CC235)

Door Prizes!

This is half the editors speaking...'tis now 12:50 am and the i/o room is due to close in 10 minutes so we will have to get this masthead finished off fast. OK, here we go: Thanks to production staff: Dave Till, (past editor (just happened to drop in)), Chris Kitowski (9 hours on page 9, or almost anyway), Sam Pratinidhi (layout, cutting up articles), Karen Chorny (more layout), Helen (layout), Paul (ideas, moral support), Stewart (great artwork for the cover, promises of articles)), and any body else I missed. For articles and all-around work, djcl, dwarf (on real mathies), Richard Tummers(Watsfic, McFacts), Ross Brown (Matt the Mathie) Saeed Khan (C&D coverage), Fraser Simpson (beginning of the math series, crossword (NOT gridword)), and Cary Timar (Restaurant Review). Then, of course, there is the other half-editor, Glenn McFarlane, who's still here too...

Sorry about the slight discrepancy in the C&D article... the tables and chairs have not yet been bought. Apparently the order for them will be placed soon, though. Any other errors will be corrected with ECC in the next issue. Have a 9:30 class tomorrow, and will have to get this rag to graphic services first, not to mention having to do my stats assignment sometime too. Maybe there would be more time if we used polar (spherical???) coordinates to measure it. Suggestions?Please write to feedback so we know what you thought of this issue (short and to the point is the way we like it.) So ... this is Tom Watts signing off ... good night at 12:59 am...



by Fraser Simpson

Solve this crossword as you would any other cryptic crossword, and you will find that the diagonal spells something. Solutions should be submitted to **mathNEWS** no later than October 1, 1983. Prize: your choice of a green T-shirt or a set of mathie buttons (π, e and MathSoc.)

dy/dx = 0

1. Mona makes a mournful noise. (4)
4. A Sunday meal right among the group. (6)
7. Tar is ruining the step.(5)
8. She is to return me to mother. (4)
9. As quiet as a snake. (3)
11. Ways of wild setters. (7)
12. Some casual man acknowledges the calendar. (7)
13. Apple agent. (3)
16. Nora ruins an Italian flower. (4)
17. Had two points for the underworld. (5)
18. Catches fish on the move with mischievous dwarves. (6)
19. A street at a distance. (4)

dx/dy = 0

2. Love unchanged refuge. (5)
3. His boat was for couples only. (4)
4. Strangely share no tub to be reduced in a fire. (4,2,5)
5. Large groups of anesthetists. (7)
6. Listen to and tell a rumour. (7)
9. First male worker is unyielding. (7)
10. Virtuous men to get a pepper. (7)
14. Not present with a type of food. (5)
15. Vague indication not quite ideal. (4)

SCuMSbag

```
begin
while (term <> eof) do
    begin
    while (time < twelve_noon)
        sleep;
    procrastinate(1*day);
    if (day=friday) then
        read(mathNEWS);
    forget(assgt);
    loop
        party(hard);
    until(dawn);
    get(newday);
    end
end.
```

Actually, this is NOT the solution to your first CS140 assignment; however, it is a good practical application of structured programming techniques. Seriously now, what this column is supposed to do is make your (night-)life on your terminal/computer a little bit easier.

So, we'll start off by dropping a few hints to the poor souls on SCuMS (i.e. all you in CS 240 and (ugh!) CS 234.) The editor you probably will (or at least SHOULD) be using is XEDIT. You might have noticed an obnoxious-looking scale smack in the middle of your screen in XEDIT. You can move this scale into a better place by entering the XEDIT command

```
SET SCALE ON n
```

where n is the screen line. If you don't want a scale at all, replace the "ON n" with "OFF". You can also move the command line (right --- the one with the arrow) around the screen. Try

```
SET CMDLINE xxx
```

where xxx is one of TOP, BOTTOM, ON.

Uppercase/lowercase conversion is set by

```
SET CASE x
```

where x is M (for mixed case) or U (for uppercase only.) You can also set the PF keys to any command you wish by entering the command SET PFnn XXXXXX where XXXXXX is whatever the command should be. Now, all this is of no use if you have to type these things every time you want to edit a file. However, there is a better a way. What you can do is edit a file called PROFILE XEDIT. Enter into this file the commands you wish to be executed every time you enter XEDIT, one per line, each preceded by the word COMMAND. Once you are done, FILE, and try to XEDIT a file. The PROFILE XEDIT file should set up the editor as you told it to. (You can also have a file called PROFILE EXEC of CMS commands, which is executed every time you log on.)

Next time: StuporPets and other beasts.

Letters to Freditor

Dear Fred:

I have this really terrible boss. He makes me work all day, from 10 am all the way to 3 pm, and I only get 2 hours for lunch. I am not used to this workload! At school, I could go two weeks without doing this much. I am exhausted.

R. Tsi
Cadillac Ranch, Zimbabwe

Dear Miss Tsi:

Did you think you could be an artsie all you life???

Dear Fred:

I am really suffering without **mathNEWS**. I would like to contribute, but I have no money for stamps. I was thinking of sending an article through Datapac, but our equipment does not seem to work well with the 'bun and CMS. We have at work a Sinclair ZX-80 with a 110 baud modem. Can you tell me how to set it up so I can send an article?

N. Tique
Department of Computer Science
University of Toronto

Dear Dr. Tique:

Use messenger pigeons. They're faster **and** more reliable.

Dear Fred:

How can I tell if I am sleeping with an engineer? I am really worried of catching anthrax or something.

Marsha Mathie
Waterloo

Dear Marsha:

It's not hard.

Theatresports is Here!

Did you know that the very same activity that started Second City, Saturday Night Live and Robin Williams on their way to *stardom* is happening right here on this very campus?

What activity is that, you ask? Sex? Sky-diving? Backgammon? No, it's **improvisational comedy**.

Have you ever written a final exam without attending the lectures? Have you ever done an essay on the life of Marcel Proust, never knowing for certain whether he was a writer or a scuba-diver? Have you ever convinced your boyfriend/girlfriend (pick one) that the hickey on your neck is just an allergic reaction to kumquats? If you have, then you have had first-hand contact with improvisation.

Improvisation is the art of inventing things spontaneously, on the spot. Two or three actors get up on stage, ask for a location (or a relationship, or an object, or whatever) and create a skit around that suggestion. One minute they may be balancing precariously on top of the CN Tower as King Kong climbs up the side, the next they may be trying to land a spaceship on the planet Zador only to find the aliens all act like Maggie Trudeau.

The group organizing this madness is called Theatresports, and it's been active here in Waterloo for two years now. The format is simple; two teams of performers take turns improvising short entertaining scenes based on suggestions from the audience. They get scored by a set of judges, and compete with each other to create better and more entertaining scenes.

The whole thing is lots of fun, and anyone and everyone is welcome to watch and/or play. The games are announced in the Imprint (the campus newspaper), so keep an eye open to find out when/where the games will be played.

Would you like to contribute to mathNEWS? See us in MC3035 or drop a note in our box.