

New Computer Science Requirements Deferred Math Faculty Council Meets

In today's meeting, after much discussion, the Math Faculty Council voted to defer the revised Computer Science Honours Degree requirements until further information was provided at next month's meeting. As well, council unanimously voted to reverse a stand made last May that set up compulsory first-year course labs, and left the decision up to the individual course co-ordinators. In an attempt to give students in the summer a chance to have exams spread out better, council recommended that the exam period this spring be extended from 7 days to 10 days.

Notice of motion was given to council regarding the new Faculty degree requirements to be voted on next month. The requirements allow people to "throw out" some marks in the calculation of their averages, raise required math averages, and place a course-attempt, rather than time, limit on how long a person is allowed to complete a degree. They are generally good except for two factors. One is the drastic reduction of the drop period from 8 to 4 weeks; the other is the restrictions by average on the number of courses a person can take in a term. These are two aspects of the Curriculum Committee Report which Mathsoc opposed. As well, many students have written complaining about these two aspects of the report.

According to Curriculum Committee member Peter Brillinger, this is not enough. Perhaps Faculty Council will not relent until 500 new students come lining up on the fifth floor in the corridor near the south end of the building? That may be too drastic: confrontation politics doesn't usually work on this campus. But there are other means: you might try a petition to the Dean, or letters to such faculty members as Drs. Fryer, Ponzo, Kalbfleisch, Lawson, Mullin, and Staal...

Dr. Fryer Explains B.Math. Changes

In an attempt to clarify some points about the proposed new faculty requirements, Dr. K. D. Fryer had an interview with mathNEWS last Friday, and the following is the result.

Why the change in the requirements? The change was proposed mostly for the benefit of students who, for one reason or another, have had a bad term. This is often the case in first year, when students are not prepared for the University environment, or may enroll in Honours when they should really be in General (this is VERY common). It may also be due to emotional or other problems, or just a couple of bad courses.

Now, such people might be forced into a program beneath their capabilities, or required to withdraw from the faculty. The new system allows you to not count a certain number of courses in your final average, thereby preventing a few bad marks (remember DM's, IM's, etc. count as 0) from hopelessly crippling your average. According to Dr. Fryer, this should have little or no effect on other students, as hopeless cases are too far gone already, and normal students will not lose anything. The only ones it might affect adversely are those borderline cases who just barely scrape through ALL their courses.

On changing the drop period to four weeks, Dr. Fryer stated that he believes a longer period is no longer as necessary, since the occasional failure is no longer as disastrous an event as it once was, so students do not have to worry about dropping courses as much.

Any comments, criticisms, or thoughts on the subject that you might have are welcomed by both the Faculty and Mathsoc (and mathNEWS, of course), so feel free to express your opinion. The possibility of an open forum was mentioned, if enough interest is expressed.

FRIDAY, JANUARY 23, 1976

ISSUE A.2

math NEWS

N-jineers Have More!

Did you know that n-jineers have more? Not brains, but study facilities provided. In The Building here, students are provided with two study rooms for their exclusive use (the two rooms at the back of the 3rd floor). On the other hand, a majority of upper year n-jineers have not only rooms provided in which to study, but also individual study desks, all free!

Thinking that this was a case for the PACER (President's Advisory Committee on Equal Rights) people, mathNEWS approached the Dean of Math for comment on this disparity. It was suggested by mathNEWS that this difference may be caused by the inherent difference in mental capabilities, and that much as retarded children need special learning tools, so do n-jineers. In his reply, the Dean stated that it would seem apparent that Math students were being discriminated against in this area. He stated that on many occasions he has approached the Executive Committee (a group responsible for room allocation), and has never been able to get more study space allocated. Dean Forbes suggests that if you're interested in more space allocation for study

continued on page 2

Federation Presidential Elections

The Federation Presidential election takes place next Wednesday, January 28, and the polls will be open from 9:30 a.m. to 4:30 p.m. You must show your ID card to vote. Mathies will vote in the third-floor foyer outside the lounge. Graduate students are eligible to vote for President. mathNEWS has summaries of the candidates' platforms on page 3 of this issue.

The National Union of Students membership/fee referendum will occur at the same time and place, but only undergraduates may vote in this one.

...and Students' Council Nominations

Nominations for the positions of representatives to Students' Council for the academic year 1976-77 opened yesterday, and close on Thursday, January 29, at 4:30 p.m.

Nomination forms are available from Pelca Petz in the Federation office, CC 235; they must be returned to that office by close of nominations ... i.e. 4:30 next Thursday.

JJ Long FED REP ort

You have no doubt heard about the recent decision of the CRTC to cut Radio Waterloo off Grand River Cable. Station co-ordinator Dave Assmann says that the station is applying for an interim AM carrier license so that it can continue on Cable until the summer. By that time he hopes the station, in collaboration with WLU and Conestoga, will have a low power FM station on the air and cable license. This license could cost up to \$15,000.

Despite my past objections to spending large amounts of money for Radio Waterloo, I believe we must now back their present efforts to the fullest. Yes, even if it means spending \$10,000 and hiring 2 or 3 full-time persons at RW. In light of the present emergency, the Federation should ensure that Radio Waterloo will be available across this campus and the community, be that over the air, on cable, or direct hook-up to student lounges. Failing this, we may as well pack it up and sell the assets of our investment in the station.

In one of his last acts in office, Board of Entertainment chairperson Art Ram has complained about problems in booking the PAC for large concerts. His point about not being able to find open dates to book acts is well-taken, but do we still want large concerts in the gym? Are we only holding them because they were successful five years ago? Should we move towards more dances, pubs, coffee houses and small concerts instead? This is your choice. Make it known to your reps on the Board of Entertainment and Federation council.

If these groups do decide to go with large concerts, then and only then we should go all out to get the gym to hold them. Of course we cannot kick out the Warrior basketball team for a concert, but there are other events over which a concert should have priority. The new Fed president and Board of Entertainment chairperson should talk with Carl Totzke and Dr. Matthews regarding the changing of the policy about holding concerts in the gym if it is the Federation's wish to hold them there.

N-jineers... continued from page 1

areas, then send some feedback to mathNEWS. Something may get done if the Executive Committee thinks enough people are interested. Some suggestions have already been made that the Data Processing department be moved somewhere else to make room, or that study space be made available in C2.

COMMENT!!

mathletics

The winner of the Doubles Badminton Tourney was Vui Lau.

The Math Hacks' first broomball game is scheduled for January 23 at 2:05 p.m. at Moses Springer arena. Everyone is to meet in the Mathsoc office at 1:30 if they are in need of a ride.

Due to lack of interest (i.e. not enough signatures on the lists) there will not be any 5-a-side ball hockey or rec hockey teams.

Co-ed inertube waterpolo and indoor soccer will be starting soon. Look for announcements on the Mathletics bulletin board.

We of the problems section on behalf of ourselves and others would like to take this opportunity to extend a somewhat belated but sincere thank you to Dr. Klamkin and also to Mr. Stephen Locke for their much appreciated efforts with regards to the Putnam Competition. Regardless of the outcome those involved were grateful for the time and work these two knowledgeable gentlemen put into teaching the competitors some very interesting mathematics.

We only have 1 problem this week due to a lack of contributions and space. This one comes from A. Many Fold. Also solutions to the last set of problems are presented. Send your solutions and problems to mathnews on the honeywell or drop them in the mail-box outside the third floor lounge. And now, onto this week's problems.

Q25. Evaluate: $I = \int_0^1 (1-x^2)^{\frac{1}{2}} \cos(ax) \cosh(a\sqrt{1-x^2}) dx$.

Q22. Would you believe that the question is a red herring?

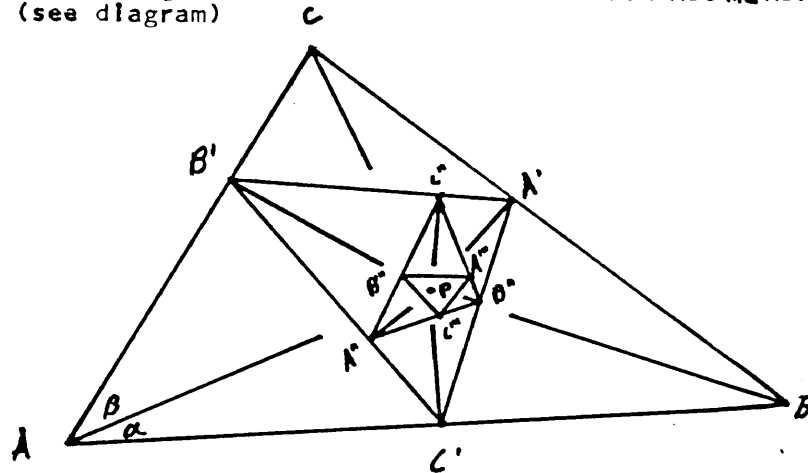
In fact $1 = A = \frac{\sqrt{2+\sqrt{2}} + \sqrt{2-\sqrt{2}}}{2}$
 since $A^2 = \frac{(2+\sqrt{2}) + (2-\sqrt{2}) + 3\sqrt{2+\sqrt{2}} \cdot \sqrt{2-\sqrt{2}}}{4} = \frac{4 + 3\sqrt{2-\sqrt{2}} \cdot \sqrt{2+\sqrt{2}}}{4} = \frac{4 + 3A}{4}$

Thus $A^2 + 3A - 4 = (A-1)(A^2 + A + 4) = 0$

Since $A^2 + A + 4 = 0$ has no real roots and A is real we must have $A=1$. Then since $f(x) = \sin(\pi x) \cos(\pi x)$ is an odd function (i.e. $f(-x) = -f(x)$) we have $\int_{-1}^1 \sin(\pi x) \cos(\pi x) dx = \int_{-1}^1 \sin(\pi x) \cos(\pi x) dx = 0$.

Solutions submitted by: A. Many Fold and Peter Laenger

Q23. We had an arbitrary triangle $\triangle ABC$ and a point P inside it from which we dropped perpendiculars to the sides to get $\triangle A'B'C'$ and did this two more times to get $\triangle A''B''C''$. We want to show that $\triangle ABC \parallel \triangle A''B''C''$. (see diagram)



Since $\angle BAC' + \angle BPC' = 180^\circ$, P lies on the circumcircle of $\triangle A'B'C'$. Similarly, P lies on the circumcircles of $\triangle A'B'C'$, $\triangle A'B'C'$, $\triangle A'B'C'$ and $\triangle A'B'C'$.

Hence, $\alpha = \angle CAP = \angle CBP' = \angle ABP = \angle ACP = \angle BCP = \angle BAP$ and $\beta = \angle PAB' = \angle PCB' = \angle PCA'' = \angle PBA'' = \angle PBC'' = \angle PAC''$.

So, $\angle CAB = \angle CAB''$. Similarly, $\angle ABC = \angle ABC''$.

$\therefore \triangle ABC \parallel \triangle A''B''C''$.
 Solution by A. Many Fold.

Q24. We want to factor $x^{2n} - a^{2n}$ into n real factors. The roots of $x^{2n} - a^{2n} = 0$ are $x = a \text{ cis}(2k\pi/2n)$ so we can factor $x^{2n} - a^{2n}$ into the 2n complex factors

$$x^{2n} - a^{2n} = \prod_{k=0}^{2n-1} (x - a \cos \frac{2k\pi}{2n} - i a \sin \frac{2k\pi}{2n}) = \prod_{k=0}^{n-1} (x^2 - 2ax \cos \frac{2k\pi}{2n} + a^2)$$

Similarly $x^{2n} + a^{2n} = 0$ has the roots $x = a \text{ cis}((2k+1)\pi/2n)$ so $x^{2n} + a^{2n} = \prod_{k=0}^{n-1} (x^2 - 2ax \cos \frac{(2k+1)\pi}{2n} + a^2)$

Solution submitted by A. Many Fold.

Presidential Candidates' Platforms

The candidates for Federation President have taken us up on our invitation to submit descriptions of themselves and their platforms. We decided not to limit them to 100 words, but Phil Fernandez' submission was almost 500 words long, and was a printed sheet rather than specially written, so we have cut it by about half. mathNEWS' deletions are indicated by "...".

Bruce Rorrison

The primary role of the Federation President is to encourage adequate communication between the individual student and the Federation, to ensure his interests are top priority.

With the students in mind, I feel there are certain issues in this campaign of which we, as students, should be aware. One is the question of approachability and amount of feedback in regards to our own student council.

Publication of the council's activities before and after meetings, and more accessible meeting places, would go a long way to correct the situation.

Since we are on this campus for a number of years, entertainment plays a vital role in a student's life. Societies have an important role to play on campus, for they offer a variety of events attuned to the interests of a local area. Because of this, added financial support and encouragement should be promoted by the Federation.

Support for the International student should be continued, to allow for greater exchange of cultures on the campus.

I feel my past experience in both the Federation and Societies could be the means for attaining better co-ordination between the two, and better communication with individual students on campus.

With this in mind I would ask for your support on January 28.

Shane Roberts

My name is Shane Roberts and at present I am the education co-ordinator for the Federation of Students. I also served as an interim president for four months in 1973.

The office of President presents many challenges to the person who will fill the position. He (unfortunately no women are in the running at this time) must bring in many more students than have been involved before, a lot of solid experience, and ideas.

The president has to be a man with ideas so that he can take the initiative. Here I will lay out a few things that I think the Federation can do (you should also read my statement in the Chevron, which provides more proposals).

Many more students need to be involved in the Federation to assure that it is strong enough to be effective, closer to the rest of the campus, and has a sufficient number of people to represent students' views.

From my work as a member of the executive of the Ontario Federation of Students for three years, I am sure that we will face continuing threats to the quality of our education. Put there are some measures we can take on our own to improve the learning environment on campus. For example, the Federation could buy additional study carrels, book lockers, establish anti-calendars in the rest of the departments that don't have them (this would help math students taking non-math electives). We can also take steps to make sure that there is a reasonable grade appeal procedure everywhere on campus.

On some other academic topics, the Federation should work for keeping the drop and add periods long enough that students can plan their academic program as they see their own best interests. Restrictions on the number of courses a student may take also interfere with us planning our education.

The international students among us are faced with some particular problems that are too often ignored. Some of these could be dealt with if the International Student Office had a full-time advisor instead of only a half-time resource person. Also language clinics should be set up to help them, especially for Teaching Assistants who have to be able to verbally communicate in their role.

But we don't want to forget good times. An on-going coffee house, pub dances in the South Campus Hall, film festivals and more concerts can give some spark to Uniwat.

Phil Fernandez

This is the most important election yet at the University of Waterloo. My investigations have shown me that many students are dissatisfied, angry and upset.

What are the students concerned about? I have found the major concern to be the education cutbacks... Many students are concerned that they will not be able to afford to come back to school for another year. They are anxious about finding jobs, being able to afford a decent place to live and about the quality of their education...

A recently released Ontario government report, "the Report of the Special Program Review" (Henderson Report), promises nothing but renewed assault on the universities and students. The report suggests increasing the loan portion given as student aid while decreasing the grant portion. It also suggests astronomical tuition increases on the order of 65% or a massive reduction of full-time teaching staff.

Student services have also been drastically reduced... Other manifestations of the cutbacks are increased class sizes, fewer facilities and reduction in laboratory equipment, especially in science, engineering, and mathematics.

...within the Faculty of Arts there will be a reduction in the Spring and Summer school program. Already one whole department (HRACS) has been threatened with extinction...

What... has the present federation done to defend the students against these attacks by the Ontario government?

...not many students even know anything about the Federation of Students!

...the current Federation is detached from the student body. It is a small elitist clique... The Federation has admitted several times in the Chevron their own failure to lead...

The students... are demanding a Federation that is not bureaucratic and is in constant contact with them.

I, Phil Fernandez, pledge to build the Federation of Students into a strong democratic fighting organization and to involve the students at the University of Waterloo in the process... With a new Federation which represents your interests we will win.

Phil Fernandez is a third year Arts student at the University. He is presently the President of the International Student Association. He was a founding member of the Renison Academic Assembly, a fighting student organization of Renison College students.

Computing Centre Courses for Winter 1976

The Computing Centre's program of non-fee, non-credit courses proceeds into another week, and another six courses... to enroll, send your name, departmental address, and a list of courses you'd like to attend to Dianne Hart, User Services, Computing Centre, MC 2008. For further information contact Clive Knowles, extension 3524, MC 2002.

MARKEAM Seminar

Faculty members who give multiple-choice exams in their courses will be interested in learning about MARKEAM, for marking multiple-choice exams.

MARKEAM allows students to indicate their answers on an "Optical Mark Recognition" (OMR) card. These cards are then processed using the MARKEAM program, and statistics are produced which are of value to the instructor in determining the usefulness of each question in testing a student's knowledge and assessing the performance of the students, individually and in sections. There are also many other options available with MARKEAM.

DATE: January 26
TIME: 2:30 to 3:30 p.m.
INSTRUCTOR: Sally Riggs

Mark Processing Seminar

This seminar will deal with computer programs available for maintaining files of students' marks and producing simple statistics. The main emphasis will be on a new system, MARKPROC, which is an interactive mark processing system available under CMS. A master file of students' marks can be created and maintained interactively. Calculations can be performed on these marks and simple listings produced.

This seminar consists of one session in which an overview of various student mark processing systems will be presented followed by a demonstration of MARKPROC.

DATE: January 28
TIME: 2:30 to 4:00 p.m.
INSTRUCTOR: Carol Vogt

Introduction to OS/WYLBUR

This course introduces and discusses the OS/WYLBUR text editor system. WYLBUR is a means of entering, altering, and saving programs, text, or data, submitting BATCH programs, and examining output from BATCH programs at a computer terminal. Initial discussion will centre on signing on, entering lines of data, altering and editing them, saving the data, and signing off.

The first part of this course is meant for those with little or no computing experience. The latter part of the course will discuss, in more detail, aspects of Remote Job Entry (RJE), Remote Job Output (RJO), and WYLBUR EXEC files. This will be of more interest to those with experience in OS file management, OS JCL, and a programming language.

DATES: January 27, 29
February 3, 5
TIME: 10:30 to 11:30 a.m.
INSTRUCTOR: Randy Melen

Introduction to SPSS

SPSS (Statistical Package for the Social Sciences) is a programming language designed to assist the social scientist in performing many types of statistical analyses on his or her data. The statistical processes available in SPSS include: 1-way to n-way data descriptions, correlations, regression, factor analysis, analysis of variance, discriminant analysis, Guttman scaling, t-test, and reliability.

The course will cover data entry, data manipulation, and elementary analysis. Exercises to be run on the computer will be given as an aid to learning the language.

PREREQUISITE: None
DATES: January 27, 29
February 3, 5
TIME: 12:30 to 1:30 p.m.
INSTRUCTOR: Gord Fazil

Introduction to SPEAKEASY Graphics

Producing plots or graphs which are suitable for publishing may be accomplished quickly and painlessly by using SPEAKEASY under CMS. It is an interactive, easy-to-learn language that was developed at the Argonne National Laboratory.

This seminar will deal with the graphics capabilities of SPEAKEASY. It is not necessary to know SPEAKEASY in order to use these features. By default, using only two commands in SPEAKEASY, a Y versus X graph is drawn with labeled axes. There are many options available to enhance the graph; scaling can be controlled, the length of the axes can be changed, grids drawn, titles set and multiple graphs may be produced. After only one session you should be aware of how the graphics capabilities in SPEAKEASY can be best used to your advantage.

DATE: January 29
TIME: 2:30 to 4:00 p.m.
INSTRUCTOR: Sandy Hemphill

Plotting Overview

There are many different ways in which you may use the computer in order to graphically depict your data.

This seminar is intended to give the person with no computing experience an overview of the various computer plotting packages, equipment, and techniques which are available. It is not intended to describe in detail the methods of using each system, but rather it will cover advantages and disadvantages of each, and refer the potential graphics user to further documentation and/or additional courses.

The areas covered in this seminar will include: printer plotting using SIMPLOTTER and APL; using Calcomp Functional Software or plotting subroutines to plot on the Varian Plotter; plotting on the Calcomp Plotter using SPEAKEASY, SIMPLOTTER, and Calcomp software; and plotting on the Tektronix using SPEAKEASY.

Problems which often arise in plotting, such as setting the origin, determination of scaling factors, and labeling will also be covered.

DATE: January 27
TIME: 2:30 to 4:00 p.m.
INSTRUCTOR: Sandy Hemphill

The man who would be

BURLOAF

Universities have recently become concerned with the apparent lack of ability that high school graduates have shown in using the English language. A TV talk show recently asked Thomas Wells, the Ontario Minister of Education, to defend the methods being used in Ontario high schools to teach English. It seemed appropriate that in the third sentence of his dissertation, there was a grammatical error.

Last week the fire alarms were buzzing in The Building. This time, however, there was a difference. There was a real fire burning! A fire on the fifth floor was burning enough to fill the area outside the math lounge with smoke and curious people. I don't know what the cause of the blaze was, or if the cause has even been determined. One person I know has come up with the theory that there is a person on the loose who has a mind like that of a psychotic killer. There have been a number of acts of vandalism lately around The Building, all apparently unrelated, all with no obvious target.

North Dakota teacher Michael Herbert Dengler put in a request to have his name changed to 1069. The judge said "No". The teacher said he wanted his legal name changed because, he said, 1069 "best describes the relationship I have with myself."

His lawyer explained that the one represented his own view of nature, the zero, his relationship with time in movement through the universe, six, his relationship with the universe and nine, his relationship to essence.

So I guess, for now, the most you can get away with is dashes and quotes in your name.

People who do lots of WUSFs on the Honeyswell have probably noticed that the Federation of Students have gotten a userid, "fed.of.studs". I'm surprised the Federation isn't upset with the possible sexist connotation that that userid has.

What did the speaker mean when he said: "I think there should be more space between the pig and and and and and whistle."?

This week's INTEGER_OF_THE_WEEK is 23. See the Answer Burloaf column. I'm always pleased to find out about nifty mathematical things, particularly number theoretic ones, so if you have any interesting integers of your own, feel free to mail them to me, along with the properties that make the numbers interesting.

While a lot of mathematics can be dull (to me, anyway), there are a lot of mathematical entities that have a unique kind of beauty. This beauty is a beauty that cannot be appreciated by mathematically ignorant people (in other words, it's a case of beauty being in the eye of the beholder), a beauty that can be more appealing than physical beauty (with the odd exception).

Ask not what your country can do for you, but what you can do for **TNE**

ANSWER BURLOAF

Dear Burloaf:

Why didn't anyone proofread your column? 36 is the sum of the three triangular numbers 15,15,6; the four triangular numbers 10,10,10,6; the five triangular numbers 10,10,10,3,3; the six t.n. 6,6,6,6,6,6; seven through 12 can be generated by replacing one or more sixes with threes; 13 can be one six, nine threes, and three ones; 14 is 11 threes and three ones; etc. Sorry, I guess I got carried away (if it wasn't for the mistake in the column, I wouldn't even have considered any of the above).

O C Leibman

Dear O:

Thanks for pointing out the mistake.

It is a fact that any non-negative integer can be expressed as the sum of at most three triangular numbers. Although any whole number can be expressed as the sum of three triangular numbers (we include 0 as the 0th triangular number), not all numbers can be written as the sum of two t.n.'s. For instance, $5 = 1+1+3$, but cannot be expressed as the sum of just two t.n.'s. Now 36, on the other hand, can not only be expressed as the sum of two t.n.'s, but also as the sum of one t.n., namely 36.

I don't know a proof of the statement that any whole number can be broken into three t.n.'s; perhaps this is a good question for the problems section. Given this, however, an inductive proof that any whole number can be written as the sum of N t.n.'s, where N is greater than or equal to three, is easy to produce.

There is also the similar problem, prove that any whole number can be written as the sum of at most four square numbers.

Dear Burloaf:

INTEGER_OF_THE_WEEK: 23.

So you think you're getting old? You're still young, for you should graduate by age 23, and element 23, Vanadium, is, after all, named after Vanadis, the Norse goddess of beauty and youth. Astronomers know that the earth's axis is tilted 23 degrees, and biologists can tell you there are 23 pairs of chromosomes in your body, while statisticians would approximate Canada's population at 23 million.

But do Mathies know that the 23rd Fibonacci number starting at 0, namely 17711, is divisible by the 23rd prime, 89, while the 23rd Fibonacci number, starting from 1, is divisible by 23? Probably not! Oh well, 23 is still a fitting INTEGER_OF_THE_WEEK, for isn't today January 23, 1976 ($1+9+7+6 = 23$)?

Rob Tibshirani

Dear Rob:

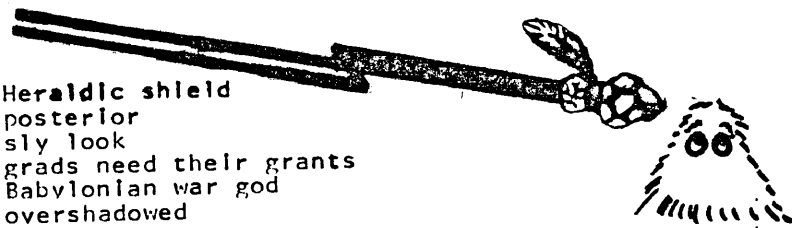
These features are enough to qualify 23 as an INTEGER_OF_THE_WEEK, so it is this week's number. To add to your list of features of the INTEGER_OF_THE_WEEK, we have these additional two properties:

$23 = 3**3 - 2**2$ ("**" is exponentiation).

23 is the $(3**2)$ th prime number.

- 1a - Heraldic shield
- 1l - posterior
- 2a - sly look
- 2h - grads need their grants
- 2l - Babylonian war god
- 3a - overshadowed
- 3j - grief, mourn
- 4a - Canadian Telephone Exchange
- 4f - type of graph
- 4k - popular game using pebbles
- 4n - like, similar
- 5a - weakens
- 5g - OED, WYLBUR
- 6a - king, queen
- 6k - noise
- 7a - not out
- 7d - tense, tight
- 7l - pencil hardness
- 7l - Gorean ruler
- 8a - blind together
- 8h - halts
- 9a - variable names
- 9m - type of liquor
- 10e - married in secret
- 10l - with 9m makes a Fizz
- 11a - give right of way
- 11l - God of the Sea
- 12c - Sun god
- 12f - consumed
- 12j - grown to maturity
- 13a - god or goddess
- 13j - jars
- 13n - Silicon
- 14a - not any
- 14f - solid precipitation
- 14k - inert gas
- 15a - Inflamed
- 15g - tracts of land

- a1 - computers need it
- a13 - genes
- b1 - divided
- b13 - length of time
- c1 - salad component
- c8 - measuring
- d1 - ESPer Celler
- d5 - consumed
- d11 - in the future
- e5 - biased
- f1 - price
- f7 - short for use
- g3 - raise
- g9 - King's ransom
- h1 - finished
- h8 - imbibe in small quantities
- h12 - Greek god of love
- l1 - introducing an alternative
- l4 - legal drinking age
- l13 - Northwest Territories
- j1 - computer company
- j7 - political boundaries
- k3 - selfs
- k8 - post script
- k11 - 3.1415926535
- k14 - located by
- l1 - exact proofs
- l10 - Granatelli goo
- l14 - regarding
- m1 - make a mistake
- m5 - C & D sandwich
- m9 - bonding material
- m14 - they print mathNEWS
- n1 - pie are squared
- n6 - country
- n13 - thus
- o1 - large mice
- o6 - after I'A
- o9 - requiring



~
 GIRDWORD ~

This Week's GLIMPSE

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
A	T	R	A	D	E	R	F	I	B	D	U	C	T	
B	R	U	N	O	P	F	I	D	E	A	P	R	O	
C	I	T	T	U	T	E	L	E	A	D	S	A	P	
D	M	E	B	S	F	L	A	G	S	T	O	N	E	
E	C	R	T	P	M	A	L	L	P	I	N	K		
F	W	E	A	L	T	H	F	E	T	L	Y	A		
G	E	D	S	E	L	B	I	B	U	S				
H	N	E	S	T	R	E	A	T	A	J	A	R		
I	S	F	A	N	D	A	N	O	D	E				
J	P	L	O	T	E	D	B	U	C	K	E	D		
K	O	U	R	S	I	N	S	Y	E	T	E	N		
L	U	N	C	L	O	T	H	E	D	B	U	D	L	
M	N	A	A	P	R	I	L	B	O	A	B	E		
N	C	C	M	D	A	N	A	E	A	R	W	I	G	
O	E	Y	E	D	P	E	N	T	R	Y	S	T	S	

Bruce Jolliffe won the grid toss this week twice in a row. At this point, someone noticed that his entry was not correct. He was disqualified and a new toss selected

-->> Owen Leibman <<--
 as mostly likely to succeed in getting a T-shirt by coming out to a mathNEWS meeting (Tuesday at x such that 1900 <= x <= 0800 Wednesday). Bruce's miserable failure left only THREE correct submissions out of 19. At 15.789474 %, this becomes one of the least successful gridwords of at least the past few weeks or so. Our C(arelessly)C(blivious)-editor, Mark (we all know what it)S(tands for!!) Brader, has accepted the blame for the mixing of horizontal and vertical clues, on the condition that blame for the lightness of the diagram go to some fragment of his overworked imagination by the improbable name of Boff (he doesn't really exist, does he??).

Something calling itself jwbmacaulay submitted an incomplete entry marked with a curious mixture of Latin and German which could not be deciphered by our staff. An n-jineer who was looking for the South Campus Hall happened along and we promised to tell him(it?) where to look if he/it would translate the remarks. Although none of us is fluent in pidgin Neanderthal, the gist of things was that we should use it to blow our collective nose.

Tom Weber entered two solutions, both of which were wrong but for different reasons. By far the neatest entry came from David Taylor, who informs us that his Mm is congruent to his Mn.

Somewhere on this page is this week's grid and some transformation or subset of the clues to be used to fill it in. mathNEWS makes no guarantee in whole or in part regarding any relationship between the grid and clues as they may have been re(produced) here. All complaints should be addressed to MC 2067.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															

id _____

 ego _____

 alter-ego _____

 super-ego _____

created by H.P. Russo
 drawn by D.W. Gillett

FLASH

The government may someday soon have you pay tuition per course.

FLASH

mathNEWS has been sporting some fancy typography lately, and this article is a further example. The capability is provided by a Photon 737 ECONOSETTER® located in MC 3063. The typesetter was purchased by faculty members in Computer Science as a tool for the production of quality documents (in appearance) and as a vehicle for research into photocomposition, an interesting application of computers. The Photon has a Microdata 1600 computer inside it to control the flash gun, the paper advance, the carriage motor, and the lens changer. Our Photon is driven by codes generated by the Honeywell Timesharing system; so there is lots of computing involved in this typesetter.

Documents are formatted by a TSS program, PHOTON/PROFF. PROFF creates a file which contains the control codes for the typesetter, specifying the character, lens position, carriage movement, formatting style, etc. This file can either be punched on paper tape, or fed into the Photon via our "home-built" interface which connects the typesetter to a TSS terminal. The typesetter flashes characters onto photographic paper, which is then removed from the machine, developed and dried, then cut and pasted to form pages (come see mathNEWS at work!). The typesetter has 4 character fonts, and 4 lens sizes, viz:

roman, italics, boldface, and μαθηματικς (mathematics)

10 point, 14 point, 18 point sizes.

The 6 point size is not shown because it would be too small when reduced by mathNEWS. The math character font is used to typeset formulae and equations, for example:

$$\sum x_i \quad \int \sin \omega t dt \quad \sqrt{x}$$

There are several software projects associated with the typesetter, for example:

- * Mathematics equation setter (the above examples were coded by hand! The software will involve the use of the YACC compiler-compiler, the B language, PROFF, and the Photon typesetter codes)
- * Proof-copy generator for a graphics device, e.g. the Varian or Tektronix terminal, for producing debugging runs
- * Interactive layout and composition system
- * Formatting algorithms for footnotes, figures, tables, and headings

Want some easy dough(nuts)?

This year, Anticalendar will be giving away 25¢ vouchers good at C&D, to anyone surveying a class, at the rate of one per class surveyed.

The University of Waterloo Student Chapter of the Association for Computing Machinery

The Computer Science Club held its organizational meeting last Tuesday, January 20. At this meeting, the executive for this term was elected and the CSC's next meeting was announced.

The CSC executive had a little meeting on Monday night, at which time it was decided the signs announcing the meeting should really be put up sometime. They finally were, 10 hours before the meeting.

The new executive for the winter term of 1976 consists of John Abbott, David Buckingham, Joe Lifshitz, and Peter Raynham. These people will decide who assumes what positions (i.e., President, Vice-President, Secretary, and Treasurer) at the first meeting of the executive.

Memberships were handed out at the meeting. New members may sign up anytime by going to the CSC office (MC 3037, across the hall from Mathsoc) when it is open. A set of hours should soon be posted on the door. Application forms for the ACM, should you wish to join that organization, are also available at the CSC office.

The CSC hopes to have a field trip to U of T, to see what they are doing with computer graphics, organized soon.

A talk has been scheduled for next week. This represents your CSC breaking with tradition and actually doing something. The CSC will be presenting a lecture by Walter Banks from CCNG (Computer Communications Networks Group - an organization which is a joint venture of Math and Engineering) where he will discuss building minicomputers at home. The lecture will be held next week on Thursday night at 7:00 P.M. The room will be announced. Everyone is invited to attend this talk.

The CSC, as usual, will be operating its library of computer manuals.

Hopefully future meetings will get better advance publicity so that everyone gets a chance to attend.

BACKFEED:

Dear mathNEWS:

An incident in a Math 329B class last Tuesday, January 20, 1975, brings up the question of classroom discipline:

Should a professor resort to physical violence to maintain a class "conducive to learning"?

Granted, a compulsory Math 329B may not be the most interesting and exciting course, especially for CS students. However, students should at least have some courtesy for a prof doing the best with a bad lot.

Yet there is no excuse for chalk-throwing at a university, even at juveniles. The fact that innocent bystanders were hit points to the futility of the measure.

I am sure that the university has other ways of dealing with this "problem".

May I suggest that offenders be warned at least once; if this fails, they should be asked (coerced, bribed, etc) to leave the classroom...

The Saint

classifiable

AD

We are interested in meeting a girl who would like to spend this summer in Europe (June to August). If interested call Marg at 834-5822.

Math - Arts - ESS Week

Feb 2 - 7, 1976

MONDAY

12 noon Tug-o-War in Arts Quad
7 pm Duplicate Bridge Tourney MC 3rd Floor Lounge

TUESDAY

12 noon Spelling Bee HH 280
8 pm Wine and Cheese MC 5136
\$0.50 Math Arts ESS, \$0.75 others

WEDNESDAY

12:30 pm Slide Rule Contest MC 3rd Floor Lounge
Pub at the C.C. Pub
Math Arts ESS FREE, \$0.74 others

THURSDAY

12 noon Toboggan Races in Conrad Grebel
8 pm Games Night:
Hockey, Bridge, Darts, Euchre, Cribbage, etc.
MC 5136 (cash BAR)

FRIDAY

11:30 am All Day BROOMBALL TOURNEY
at St. Clements Arena, \$5.00 entry fee,
MAJOR PRIZES

SATURDAY

CONVERGENCE 1976 SEMI-FORMAL

with "FULL HOUSE"

at the CONCORDIA CLUB

\$10.00 Math Arts ESS, \$12.00 others
PRIZES FOR ALL EVENTS

REGISTER at SOCIETY OFFICES

Burloaf vincit omnia

In the last issue of the fall term, mathNEWS ran an opinion poll, in which we listed twelve features that had appeared at least somewhat regularly that term, to wit:

Burloaf, Feedback, the Gridword, J.J. Long, the Masthead, Athletics, Mythletics, the Sir Risto Report, Some Uneasy Problems, the Day Stocker, Unclassified Ads, and Women in Math.

Readers were asked to score each feature from 0 to 10, and some opinion questions were added on the bottom.

60 questionnaires were returned with at least most of the numbers filled in. There was no clear consensus on the other part of the questionnaire; the past features This Week's Theorem and Half Dunley were requested a few times.

The numerical responses were rounded to the nearest integer and forced into the range 0 to 10 when necessary, then tabulated on Computing Centre ADL as shown below. Each line shows, for one feature, the average of the respondents' scores, then the number of respondents scoring it 10, then 9, ..., then 0; and the last column is the number of non-responses.

FEATURE	AVG	10	9	8	7	6	5	4	3	2	1	0 ??
BURLOAF.	8.54	29	19	7	4	3	4	0	2	0	0	1 0
FEEDBACK	6.97	10	10	12	10	11	5	3	0	4	0	2 2
MASTHEAD	6.94	13	11	8	9	9	5	4	2	4	0	2 2
SIRRISTO	6.41	8	6	14	5	4	7	1	4	1	1	5 13
UNCL. ADS	6.40	8	11	5	11	7	12	2	6	5	1	0 1
DAYSTOCK	6.02	9	3	7	11	3	10	6	4	3	1	3 9
GRIDWORD	5.43	15	3	8	3	4	6	6	8	5	1	10 0
MYTHLETX	5.21	5	4	11	7	6	7	4	10	2	5	6 2
J. J. LONG	4.84	3	5	6	3	8	15	9	5	3	5	6 1
MATHVOMM	4.58	2	7	5	11	5	3	3	7	8	4	10 4
MATHLETX	4.45	4	3	6	6	7	10	2	11	6	5	9 0
PROBLEMS	3.34	4	5	1	2	3	7	5	5	6	10	17 4

It is 9:10, and masthead ten point two is being typed on a 2743 on local

TSS down for Preventive Maintenance as usual. mathNEWS is the only weekly paper on campus with an all-volunteer staff; it is financed by Mathsoc but opinions expressed in it are solely the responsibility of us workers; the printing is done by Graphic Services, who will shortly produce 1200 copies of these 3 pages... tonight/this morning, we were:

ALBIDDLE (typing error, and in fact, Threar) and Patty Hearst's other other alias CRAWAN ASHBY... who abandoned us... MATTHEW SMITH and DANNY MORRISON, who left us with only one more problem than we had when they started... for a while the glory of DJP shone round us (see page 7)... RACHHITE didn't sign the list, but did contribute when asked... JULIEN didn't sign the list either, but was prolific as usual... then there was PETE (P) (D) DAYNHAN, when he wasn't leading the CSC into organization... and RANDALL 'edit' McDUGALL who even before DJ had to get a ride home... but he returned for the finale... and OH yes DUCILLETT was around almost all night and sometimes helpful too... I guess that just leaves me, your co-editor MARK this middle initial business IS getting SILLY PRADEF... To Owen, it took you long enough, didn't it? The other correct entries were from Day Butterworth and Doug Taylor... Gee, I missed someone, so I'll mention him twice to make up for that... C DRYDEN signs his name illegibly, but nevertheless C DRYDEN supplied Math/Arts/ESS Week data (above) and helped but the Herry on page 1 again...

Now that I really have finished, how can I fill the page in the 2 minutes remaining before my 9:30 math 479A class? You know, that's the Model Railways and Slot Cars course... uses the Nova and various peripherals in MC 3063/3061/3021/3020... see "The Fall of 1975" in issue ten point zero (A.0)... To Dennis, your letter sounds - though you never read A.0 ... and what do you mean "considering..." ? ...what is that tribble on page 6 looking at? It isn't the sneary; it's off to one side of that. Oh well, no time for further rambling as 9:30 is

BRIDGE TOURNAMENT

Beginner to Expert

Beginns Sunday January 25

See Athletics Bulletin Board
or MFIL HENDDY 576-G29C
for more details

THE FIRES

There were actually THREE fires in the math building recently, the first 2 were minor, but the latest caused several thousand \$ damage to unused computer paper mainly and the grad mail slots (Appl.Math mostly). All were near the CS offices. There have been a few other fires around campus, but so far no charges have been laid.