ASSOCIATION FOR WOMEN IN MATHEMATICS
NEWSLETTER

Volume 6, Number 6   Sept.-Oct. 1976

> DUES DUE. Dues were Due on October 1, for everybody (we've
> gone over to a uniform billing time). November 15 is the
> deadline by which we must have your dues. If you're not paid
> up by then, you'll be dropped from the membership roles and
> Newsletter mailing list.

REPORT FROM THE PRESIDENT

It was really good to see so many AWM members at the Joint Mathematics Meetings in Toronto at
the end of August. My impression was that the percentage of women attending and actively par-
ticipating in this meeting was larger than ever. The AWM table again served as an excellent
meeting place for members and friends and I would like to thank everyone who staffed the table
so well.

AWM Open Executive Committee Meeting: expanding the Executive Committee

Our open Executive Committee Meeting was held on Wednesday, August 25 from 5:30 to 6:30 p.m.
About 30 people attended. Our discussion centered mainly on expanding the Executive Committee
to further represent the interests of our members and to increase the scope of AWM activities.
It was decided that a particular area would be represented if sufficient interest was expressed
by our membership and if there were people willing to take initiative and an active role in
representing this area. So, if you feel that some area should be represented and if you wish
to make a nomination, please fill out the form at the end of the Newsletter. Self-nominations
are encouraged. Everyone who accepts a nomination will be asked to write a statement supporting
their candidacy. Elections will be held in the spring.

AWM Panel: history of women in mathematics

The AWM panel, "History of Women in Mathematics", was held on Thursday, August 26, noon - 1:30
p.m. About 300 people attended, making this one of the best attended sessions at the Meetings
in Toronto. Our intent was to gain some insight and perspective both about the lives of women
mathematicians in history and about their mathematics and its influence. So our speakers dis-
cussed both these areas. I was both deeply moved and exhiliarated by the presentations, and
was only sorry that we had not made arrangements to film or videotape the session. What came
through clearly was the incredible perseverance and accomplishments of these women under tre-
mendous odds. What struck me even more was the extreme richness of their personalities and
their lives. And even more, I was struck by the fact that we are now at a point in time that
we find it possible to look at ourselves and our history both honestly and wholly, and this
is part of our strength. Had the talks been given even several years ago, I think we would
have felt compelled to play down personalities and controversies, minimize failures and mis-
takes, and report only successes and accolades.

The response to the panel was extremely enthusiastic indeed, and we plan to pursue this area
further in future panels. I would like to thank the panelists, Professors Lida K. Barrett,
Mary W. Gray, Linda Keen, Emiliana Noether, and Martha K. Smith, for their excellent presenta-
tions. Their talks will be published in this and future Newsletters.

AWM Volume: history of women in mathematics

Although there have been some publications in recent years on the history of women in mathe-
matics, the literature here is still quite meager. Along with our interest in presenting
panels that explore this area in more depth, we are interested in gathering material and pub-
lishing a substantive volume. Professor Emiliana Noether (Department of History, University
of Connecticut, Storrs, CT 06268) and Teri Perl (525 Lincoln Avenue, Palo Alto, CA 94301) will
coordinate efforts here. Uta Merzbach (Curator, Smithsonian Institute, and Chair of the CBMS

Advisory Committee on History) will consult with us on this project.

AWM Reader

The AWM newsletter is now in its sixth year of publication. The newsletter has served to chronicle the recent history of women in mathematics, and many interesting articles have appeared. Our plan to collect these articles and publish an AWM reader is now also underway. The idea will be to compile articles from past newsletters, collect relevant material that has been published elsewhere, and also solicit new material. These articles would then be grouped into natural sections. An introduction to each section would be written. Teri Perl has agreed to supervise this project. If you would like to suggest or to submit articles or have other ideas, please contact her (address above).

AWM local and regional meetings

I would like to remind AWM members that any member can organize a local or regional meeting. This can often be done easily in conjunction with other local mathematical meetings. If you are interested in organizing such a meeting, the Wellesley office can provide the names and addresses of AWM members in your area.

AWM correspondence committee

If you have not received replies to your letters to the AWM or to me, it may be because our correspondence has mushroomed. An excellent suggestion made at the open executive committee meeting was that a Correspondence Committee be formed. This committee would consist of members who would be willing to answer correspondence in various topic areas. If you're interested in being on such a committee, please let us know (see last page of Newsletter).

AWM Dues, Contributing Members, and Institutional Members

AWM dues are due October 1. For $15 or more, you can now become a Contributing Member. I also urge every AWM member to encourage their institutions to become Institutional Members. This would not only help the AWM financially, but would also help spread the word about the AWM and our newsletter more widely.

AMS: recommendations for affirmative action procedures and rules for CAFTES

Two related topics, namely recommendations for affirmative action procedures and rules for CAFTES were before the American Mathematical Society in Toronto. Since these topics relate to areas of great interest of the AWM, I wrote to Professor Lipman Bers, President of the AMS, expressing some of our concerns (this letter is reprinted in part later in this newsletter).

I spoke at the AMS Council meeting with regard to the Recommendations of the Ad Hoc Committee on Affirmative Action Procedures. The thrust of my remarks was that any procedure endorsed by the AMS should inspire good faith efforts by mathematics departments rather than encourage more papering of the files. The recommendations are now back at the Ad Hoc Committee and Professor Bers asked that individuals with suggestions write directly to the committee (chair: Professor Murray Gerstenhaber, Dept. of Mathematics, University of Pennsylvania, Philadelphia, PA 19174).

Mary Gray and I also attended an afternoon session of the Committee to Write Rules for CAFTES. CAFTES, the committee on academic freedom, tenure, and employment security, is the principal place where individual mathematicians can get help and advice on specific grievances. The Committee to Write Rules for CAFTES is charged with clarifying CAFTES' role and powers. Some members would like these curtailed considerably. It is our feeling that the existence of an AMS committee such as CAFTES with effective investigatory and advisory power, and potential to recommend censure, is crucial in maintaining the professional health and integrity of the

mathematical community. While no definitive rules were established at the meeting, it was clearly important that the committee hear the concerns and suggestions of interested persons. I urge you to write the committee (chair: Prof. Charles Rickart, Dept. of Mathematics, Yale University, New Haven, CT 06520).

CBMS Council Meeting

The council of the Conference Board of the Mathematical Sciences met on Friday, August 27 from 2:30 p.m. to midnight (with a break for supper). I attended as the AWM representative. The council voted to form two committees concerned with women and minorities. With regard to mathematics as a "critical filter" in the job market, one committee will conduct a survey to see what the various mathematical associations are doing in terms of supporting educational programs for women and minorities. The other committee will be charged with assessing the effects of affirmative action on women and minorities in the mathematical community in general, and then making suggestions and recommendations for possible future action.

The council also voted to support the report of the AMS Committee on Science Policy recommending the funding of Post-Graduate Research Institutes. These PRI's would be floating institutes located at institutions of higher learning or research institutes for a specified period of time. The intent of the institutes would be to provide an environment for intellectual stimulation and growth for new Ph.D's in a period of non-growth of mathematics departments.

Other topics discussed by the Council included the Declaration of Human Rights and the AAAS Congressional Science Fellow Program. Individual mathematicians are urged to sign "An Affirmation of Freedom of Inquiry and Expression" circulated by the National Academy of Sciences. (This will be published in the NOTICES of the AMS. Also see Science, 192, 767-769, 21 May, 1976.)

The Congressional Science Fellow Program, sponsored by the American Association for the Advancement of Science, selects post-doctoral level to mid-career scientists and engineers to spend one year on the staff of individual congresspeople or congressional committees. Clearly this is advantageous to the scientific community. The AAAS sponsors four Fellows; about six more are supported by affiliate societies. At the present time no mathematical society supports any Fellows. The CBMS will look into ways of sponsoring a congressional Fellow from the mathematical community.

Modules in Applied Mathematics

During the end of July, I attended the first part of a four-week MAA-NSF applied mathematics workshop at Cornell University under the direction of Professor William Lucas. The aim of the workshop was to produce self-contained modules in applied mathematics that could be used as supplementary material in standard undergraduate mathematics courses. Almost 40 people from various areas of the mathematical sciences, sciences, and social sciences, participated in this endeavor and some 60 modules were written. Some titles are: population growth models; modelling coalition values; efficiency of energy use in obtaining food; a model for an epidemic of a contagious disease; power indices in political science; DNA, RNA and random mating. For more details about the modules and their availability write: Prof. William Lucas, 334 Upson Hall, Cornell University, Ithaca, NY 14853.

AAAS Election: endorsement of the AWM executive committee

Dr. Julia Robinson is a candidate for the single position of Member-at-Large of the Mathematics Section of the American Association for the Advancement of Science. She was recently (the first woman) elected to the Mathematics Section of the National Academy of Sciences. The AWM executive committee endorses Dr. Robinson's candidacy and urges all AAAS members to vote for her. We also endorse Gail Young and Maxine Rockoff for Nominating Committee of the AAAS.

AMS Elections: endorsement of the AWM executive committee

The AWM executive committee endorses the following candidates for AMS office:

for Vice President—John Tate; for Council—Earl Berkson, Richard Griego, Linda Rothschild, Martha K. Smith; for Nominating Committee—Sheldon Axler, Vivienne Mayes, Jean Taylor

and urges all AWM members to vote for them. Further in this issue are responses of AMS candidates to a questionnairre we sent them.

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AMS ELECTIONS: CANDIDATES' ANSWERS TO QUESTIONS

by Judy Roitman

This year, as last, the AWM and the Mathematics Action Group jointly sent a questionnaire to candidates for vice president, council member, and nominating committee of the American Mathematical Society.

The questions are:

1. Do you think the role of CAFTES should be strengthened, weakened or kept the same? (CAFTES is the committee handling individual complaints about tenure and reappointment with respect to discrimination and procedural matters.)

2. Should the AMS take a firm position on practices such as hiring younger faculty to teach more courses for less money; or greatly increasing the number of temporary positions at an institution?

3. What should the AMS do about the unemployment problem?

4. Do you think it's important to represent all segments of the mathematical community – e.g. women, minorities, untenured – in elected positions?

5. Should the AMS concern itself with other social and political issues? Under what circumstances?

The candidates are:

For vice president: William Browder, John Tate

For council: Earl Berkson, Theodore Gamelin, Richard Griego, Karl Hofmann, Raymond Johnson, Robert Langlands, Henry McKean, Jr., Linda Rothschild, Martha K. Smith, W.T. Tutte

For nominating committee: Sheldon Axler, Hyman Bass, F. Reese Harvey, Irving Kaplansky, Vivienne Mayes, Seymour Parter, Jean Taylor, J. Ernest Wilkins, Jr.

Replies of the candidates who answered follow. Elsewhere in the newsletter we list the candidates supported by the AWM executive committee. It should be noted that not answering the questionnaire is not necessarily significant, since the candidates had only about 10 days in which to answer, and the combination of time of year, long vacations, and going on leave make it probable that several candidates simply didn't receive it.

Sheldon Axler.

1. CAFTES should be strengthened so that it can adequately deal with cases of discrimination. There should be strong mechanisms for ensuring that hiring and tenure decisions are based only upon professionally related criteria and not upon extraneous factors such as life style, political beliefs, age, sex, race, etc.

2. As the financial situation of colleges and universities worsens, they will be increasingly tempted to hire young faculty in temporary positions with high teaching loads and low salaries. I feel that this practice is an unfair exploitation of the job market which collectively the universities have at least partially created. Many of those accepting such jobs will not be able to find another academic position when their one or two years is over, whereas the schools will have no trouble maintaining a constant turnover of what is to them cheap labor. The AMS should take a very strong position against the increase in the number of exploitive temporary positions.

3. The AMS should press the government to devote the money it is now wasting on military spending to genuine needs such as education. Unfortunately, such lobbying by the AMS will probably have little effect upon the government; the unemployment problem for mathematicians and others is likely to persist for several years. The AMS can make sure that every potential mathematics graduate student understands the prospects for future employment. We can also push harder to protest the increases in teaching load and class size and the corresponding decline in educational quality.

4. I think it's important that all segments of the mathematical community (including women, minorities, untenured faculty, and graduate students) be represented in elected and appointed positions in the AMS. One of the reasons I'm a candidate for the nominating committee is to give representation to other than tenured faculty.

5. I believe that it is appropriate for the AMS to take stands on social and political issues which affect us as mathematicians.

Earl Berkson.

1. The role of CAFTES should be strengthened. Federal, state, and institutional enforcement of equal opportunity regulations has been totally unreliable, and all too often has only produced a cruel and expensive ordeal for the individual complainant. Those who engage in unjust employment practices of any sort can rely on institutional funds (which often come from public funds) to foot the legal costs for any contests of their decisions; they also continue to enjoy comfortable employment. The situation of their victims is exactly the opposite. I believe the mathematics profession must put its own house in order. Unfair employment practices are unworthy of and cheapen our profession, thereby jeopardizing every mathematician's future.

2. Yes. I believe the AMS should take a strong stand against any and all exploitative labor practices in the mathematics profession, including those mentioned in question #2. We are currently witnessing the creation of a migrant labor class in mathematics. Any form of artificial citizenship in the profession is a constant threat to traditional bulwarks of scholarship such as academic freedom and tenure.

3. For a start the AMS should strongly advocate the restoration of tenure track for new positions, and should discourage the practice of substituting temporary positions for tenure track positions. I am far from persuaded that there is an oversupply of academic personnel in general or of mathematicians. A glance at the proliferation of university administrative jobs and the duplication of administrative functions shows that sizable funds which should go into teaching jobs are being wasted. In a larger sense, the question of what constitutes an oversupply of academic personnel is intimately bound up with one's perceptions of appropriate goals for society and appropriate priorities for public spending. I believe the AMS should make a determined effort to document and disseminate the case for higher faculty/student ratios. Ultimately the employment problems in mathematics cannot be separated from the overall depression in higher education. A remedy must be sought through united efforts on the part of the academic profession. I would like to see the AMS promote closer ties with other professional organizations in order to seek ways and means to bring about effective action on behalf of higher education.

4. Yes. In this connection it is important for a person representing any segment of the mathematical community to recognize that the problems encountered by the individual segments are interrelated. For instance it is counterproductive to regard the problems of the unemployed as being separate from the exploitation of women.

5. Yes. The AMS should take an interest in social and political issues which affect the well-being of the mathematics profession. Precedents readily come to mind such as the establishment of Math. Reviews to counter the nazification of Zentralblatt, and the decision of the Kalamazoo AMS meeting to go on record as opposed to UNESCO's expulsion of Israel. As indicated in my answer to question #3, I believe the AMS should be concerned with the importance of mathematics and of higher education in any structuring of society's priorities and spending.

William Browder.

Statement: The main function of the AMS is a scholarly one (journals, meetings, etc.); other functions are peripheral. The AMS should try to influence government science policy, at all levels. It should favor increasing fellowships (pre- and post-doctoral), and an equitable share of research money for mathematics. The AMS should exert its influence in cases of political harassment of mathematicians, particularly where their physical well-being is in danger. It should press for improving the research level of faculties in universities and colleges where research ability has not been a significant criterion for employment in the past.

2. & 3. The financial problems of the academic world are serious, and the AMS cannot remedy

them. It should advocate good conditions for research and teaching, and standards of hiring and promotion which improve the quality of faculties, temporary and permanent.

4. I think it important and useful to have diverse representation on the policy making bodies of the AMS, to have broad input of opinion and experience. However, the basic scholarly function of the society requires a high level of mathematical accomplishment in the overall membership of such bodies, more than any other qualification.

Richard Griego.

1. Strengthened.

2. Yes. I'm against these practices.

3. Several things: reassess the nature of mathematical training; aid in establishment of interdisciplinary programs; point out uses of math in non-traditional areas; lobby; etc.

4. Yes (I am Chicano myself).

5. I think we should be political and socially aware, but we can't and shouldn't respond to every issue that comes by. If the issue is important enough, then I could see the AMS taking a stand.

Karl Hofmann.

1. I do not precisely know the scope of CAFTES, even though I had many conversation on this committee and its work with Paul S. Mostert (ed. note: at one time CAFTES was known informally as the Mostert committee, after its chairman). As a matter of principle, I feel that complaints about tenure, academic freedom, reappointment, procedures should primarily be handled by organizations equipped and funded for such problems, notably the American Association of University Professors. The Society Committee should be concerned with such cases which very specifically pertain to the mathematics profession. I question the feasibility of spending the Society's resources and the time and energy of committee members on cases which under no circumstances are taken on by the AAUP; one can rather safely assume that such cases are of little if any merit.

2. As regards the practices of institutions in hiring junior faculty the Society should be entitled to form a position as to what is educationally feasible and beneficial to mathematicians. Also, if the Society enters a discussion on these matters and arrives at a position, then its opinion could be expressed in Society organs such as the Notices.

One should note, however, that employment problems such as are mentioned in section 2 of the questionnaire concern the entire academic community and are not specific to mathematics. The Society can contribute to solutions of the problem; it will in all likelyhood not be able to solve it singlehandedly just by professing a position, firm or otherwise. University administrations will take note of such proclamations to a degree, but it is doubtful that in all instances they will consider them compelling.

3. The AMS should continue to alleviate the unemployment problem by maintaining and further developing the flux of information between employer (the mathematics departments) and jobseeker through the organs of the Society (Employment Information for Mathematicians, Mathematics employment register). The Society could develop a data bank on mathematicians seeking employment; I have noticed that, through several years in a row, department chairmen called up very late in the summer seeking to fill positions they had and I was unable to recommend candidates at such a late time in the year. Possibly many unemployed mathematicians could find (at least temporary) jobs if department chairmen could go to a data bank which is kept up to date and find information on available candidates. The Society should pursue any imaginative idea which could in any way help the profession in this problem.

4. It is important that the Society represent all mathematicians in their membership. As mathematicians. I cannot see that any group of mathematicians could claim special representations because of sex, race, language background etc. All members have to be equally supported by the activities of the Society. (I am not so sure that I can define minority in regards to Society activities. Example: are Society members who visit the U.S. for a year or so a minority in the Society? Are all Japanese mathematicians who are members of the Society and who live and work in the U.S. a minority? Am I perhaps myself a minority member if I define the concept accordingly?)

5. No. I can conceive of exceptional circumstances in which the Society might try to help a mathematician who has come into distress through political circumstances; I have voted for resolutions presented to the Society in this line. However, the American Mathematical Society is not an organization concerned with political or social issues per se. As regards science policies on a national basis one begins to wonder whether the AMS should have a lobby in Wash-

ington as some other professional organizations appear to have. I would favor seeking a voice in this regard through organizations like the AAAS (American Association for the Advancement of Science) where there is considerable expertise in these matter.

Statement: The Society is a union of scholars dedicated to mathematics a scientific, educational and cultural endeavor. The Society's political and social concerns pertain to mathematics as a science and a profession. The Society should carefully cultivate its publications as a platform for its members and other mathematicians. I don't favor the current refereeing practice for the Proceedings, but I can live with it; I commend efforts to maintain and raise standards in Society journals, but I think the Transaction editors have somewhat eagerly overshot this goal and that the Council should reassess current policies in this principal organ of the Society.

Raymond Johnson.

1. I don't feel that I have enough information on how it has functioned in the past to say. In general, I believe that this committee should be aggressive in pursuing complaints that it receives.

2. Yes, it should oppose such practices.

3. I have no new ideas. Such things as encouraging the reduction of teaching loads, particularly where they now total 12 to 15 hours, should be encouraged, but budget stringencies make the probability of this unlikely.

4. Yes.

5. The primary function of the AMS is the promotion and encouragement of mathematics. When social and political issues begin to affect this function, the society must take positions and do whatever is necessary to promote mathematics.

Vivienne Mayes.

1. I believe the members of the present CAFTES committee are interested in handling individual complaints in a fair and equitable manner. However, they would be more effective if they could receive more power from the council.

2. My answer to this question depends on the financial position of the college in question. Unless the financial position of the college is truly precarious, the AMS should take a firm position on younger faculty members receiving the same consideration and teaching load as the tenure members of the faculty. Younger faculty members also need time for research and opportunity for intellectual growth.

3. This question cannot be given any simple answer. I think the AMS should certainly attempt to find a solution, and then promote it.

4. I think it is important to have all segments of the mathematical community represented in elected positions because the AMS is the most effective lobby in both the governmental and academic communities for all mathematicians.

5. Yes it should, so long as these issues affect the welfare of mathematicians.

Seymour V. Parter.

1. Quite clearly the AMS has a responsibility to assert - and loudly - that mathematicians be evaluated, hired, tenured, etc. strictly on the basis of professional competence. Therefore, it is desirable, if not essential, that the AMS maintain an active committee such as CAFTES.

While I have not been actively involved in these problems and cannot claim intimate knowledge, I have the impression that there are few complaints about the present committee. Therefore, I believe the role of CAFTES should be kept as it is now.

2. The entire question of how Universities and Colleges respond to the present economic squeeze is extremely complicated. Given the diversity of institutions, it is not easy to suggest simple, uniform solutions. Nevertheless, it is desirable that the AMS affirm and publicize the necessity for maintaining professional standards of employment and compensation.

3. Ah, how I wish I had an answer for this question!!

4. No member of the mathematical community should be denied either membership or elected office by virture of their sex, race, or tenure status. Having made that obvious comment, one is forced to grapple with the deeper aspects of this question. Is there not a contradiction in efforts to "represent all segments...." in "elected" positions in a professional society?

On the other hand, in our rapidly changing times it is necessary to (a) fairly represent all views and (b) make available to the society leadership the views and problems of segments of the community which are facing new and difficult problems than the mathematicians of previous eras.

Thus, it is desirable that the AMS encourage a broad base of candidates for elected office.

5. There is no doubt that individual members of the AMS feel strongly about a variety of significant social and political issues. At the same time, there is no doubt - (at least on many of the issues) - that there is no consensus of opinion and agreement, e.g., the Middle East and Abortion.

Thus, while I would not rule out "forever and ever" that the AMS concern itself with social and political issues, I find it impossible to suggest which issues are now of such immediate concern as to warrant such activity.

Linda Preiss Rothschild.

1. I think it is premature to judge this committee's performance.

2. While the AMS has no real power in the internal policies of a university I do think it should condemn practices it feels are bad for mathematics or education. However, I do not disapprove of temporary positions per se, having held several myself.

3. Unemployment is a very difficult problem. It is inevitable that many mathematicians will have to seek non-academic employment. Since most mathematicians have no idea about how to find such a job, the AMS should attempt to obtain and disseminate information about this.

4. It would be impossible for the Council to represent all segments of the mathematical population, but representation of groups such as young mathematicians is certainly desirable.

5. In general I feel that the AMS should avoid concerning itself with political issues which do not directly affect mathematicians. Examples of issues which do concern mathematicians: cases involving foreign mathematicians refused U.S. visas because of political beliefs or affiliations, mathematicians in the USSR held involuntarily in mental institutions.

Martha K. Smith.

1. I am not sufficiently familiar with its role to be able to comment intelligently.

2. Yes, insofar as it can effectively do so.

3. Any direct attempts (e.g. the fellowship fund, being institutional sponsor of grant applicants) the AMS can make toward solving the unemployment problem are necessarily small - the Society is not a very powerful institution in any sense. However, these small steps as well as indirect measures (documenting the employment situation, promoting discussion of the problem and possible solutions, publicizing the value of mathematics to society, exploring non-traditional types of employment, etc.) should be continued and increased, since their combined effect is hopefully non-negligible, especially in acting as a flea in the ear of other more powerful institutions.

4. Yes; equally in non-elected positions.

5. Yes, insofar as they affect the practice of mathematics and the professional lives of mathematicians (and a lot do).

John Tate.

1. The problem is, how can CAFTES be most effective? I am too ignorant to know. At the very least it can be a useful source of information for people who want to fight cases.

2. If a firm position means a resolution condemning such practices, that's O.K., but probably not of much use. I think the main thing the AMS can do is to publicize such things.

3. The basic problem is much bigger than the AMS but the AMS can help by publicizing available jobs, perhaps unearthing some non-standard jobs in industry, etc., and in the long run by publishing the facts of the situation and reasoned predictions of future demand. If such facts and predictions are heeded by planners in government and the profession, such extreme disasters as we are now experiencing might be avoided in the future.

4. I would hope that people be elected primarily on the basis of their competence and their interest in the office. When it seems a toss-up on that basis, then I vote for the candidate who is female or from a minority group.

5. The AMS should not concern itself with issues other than those affecting mathematicians as mathematicians.

Jean Taylor.

1. Having not attended the Toronto meeting, I do not know what the proposals concerning limiting CAFTES are. I am predisposed against weakening it, unless I'm given mighty good reasons for it. On the other hand, for full-blown legal fights, surely the AAUP and EOC have much more by way of resources and expertise, so I cannot see strengthening CAFTES to the point of attempting to engage in such fights.

2. In this generality, I do not think so. There are things to be said for increasing the number of temporary positions: the smaller the proportion of tenured faculty in an institution

is, the more opportunity there is for new blood and - at the better research centers - the more
chance for younger people to be able to spend at least a few years in a mathematically stimu-
lating environment and to develop more fully. In fact, I rather thought that the trend was
toward having a higher proportion of tenured positions. As for more teaching for less money,
at face value it sounds terrible - but I'd like to hear both sides before condemning it.

3. The main thing the AMS should do about the unemployment problem is to continue to
publicize it widely so that students thinking of graduate school in mathematics realize what
they are getting themselves in for. This might have the result of driving some very fine poten-
tial mathematicians to other fields, but one can hope that the very best and most interested
students will persevere nonetheless. As for those now unemployed, I'm afraid they will either
have to prove some earth-shaking results or redirect their careers - though being untenured
myself, I can certainly empathize. As for increasing the range of non-academic employment of
mathematicians, this should be strongly supported - the vitality of mathematics surely requires
a continuing input of new problems and new areas for applications. But this kind of trail-
blazing probably requires the very best the profession has to offer, and so does not seem like
a solution to the unemployment problem.

4. Sure. (I'm tempted to add male, white, and tenured to this list - they are after all
the majority - but I suspect they are not in danger of becoming unrepresented!)

5. I'm ambivalent. I basically regard the AMS as a professional society devoted to the
furthering of mathematics. Much as I want to use it to advance the social and political ends I
desire, this conception persistently gets in the way. As a result, I tend to vote first one way
and then the other at the AMS business meetings. I guess the important thing is whether I believe
the issues are really directly related to mathematics.

The AWM executive committee endorses the following candidates for AMS office:

   Vice President: John Tate
   Council: Earl Berkson, Richard Griego, Linda Rothschild, Martha K. Smith
   Nominating Committee: Sheldon Axler, Vivienne Mayes, Jean Taylor

and for AAAS the following candidates are endorsed:

   Nominating Committee: Gail Young, Maxine Rockhoff
   Member-at-large: Julia Robinson

EXTRACTS FROM A LETTER TO THE AMS PRESIDENT ABOUT CAFTES
                                              by Lenore Blum

     "Many cases of discrimination, both at the individual and at the procedural level in
mathematical institutions, come to the attention of the AWM. We attempt to investigate these
cases, offer counsel, and recommend ways of rectifying the situations. However, our resources
are extremely limited and so we often refer such cases to CAFTES, the primary place where
individual mathematicians can seek advice and help with respect to specific grievances. Hence,
we believe it is crucial that the scope and effectiveness of CAFTES be maintained, and even
strengthened, e.g. by giving CAFTES representation on the Council. Indeed, the existence of
an AMS committee such as CAFTES, with effective investigatory, advisory, and censure potential,
demonstrates official endorsement and commitment by the AMS to high ethical professional stan-
dards and encourages mathematics departments to meet these standards.

     Obviously, CAFTES should, whenever feasible, work in conjunction with other organizations,
such as the AAUP, that also investigates cases of discrimination, etc. But the suggestion
that CAFTES' powers be limited because of the existence of such outside agencies denies the
AMS' role and responsibility with respect to maintaining the health and integrity of the mathe-
matical community.

     The argument that CAFTES can be effective only if it is empowered to carry out costly
litigation is specious. For example, as we all know, publicity and formal censure (even the
possibility of censure) by a prestigious and respected organization can be a powerful and
extremely effective way of putting pressure on institutions and influencing positive change.
Hence, in this regard, we believe that the ability of CAFTES to recommend censure based on its

findings is one of its most important powers. Indeed, without censure, the role of this committee will be seriously limited.

As another example, because of its position (and hence prestige) as an official AMS committee and because of professional associations, CAFTES can, and often does, get legal advice without charge. And clearly, information gathered by CAFTES can be useful in demonstrating worthiness of support by other sources for possible future litigation.

As to affirmative action, I have seen the recommendations of the Ad Hoc Committee on Affirmative Action Procedures and I would like to record some observations and suggestions. On the one hand, while we have seen some increase in the numbers of women in first jobs in university mathematics departments, we have seen little or no improvement in the (relative) status of women with regard to second jobs, promotion and tenure. We suspect that the situation is similar with regard to minorities. (See enclosed article, "What's Really Happening with Affirmative Action?" from the CBMS Newsletter). On the other hand, it is also clear that many mathematics departments are genuinely concerned about this issue and are looking to the Society for guidance and assistance. Hence, affirmative action procedures adopted by the Society can greatly influence actions taken by these departments.

And so, it is crucial that such procedures, and their public support by the officers of the Society, inspire good faith efforts. (As a recent example of the Society providing such inspiration, I am reminded of the motion passed by the Council last January and publicly endorsed by you in the June Notices, that urges research-oriented departments to offer mathematicians who are without access to research facilities opportunities to remain associated with the research community). One way of doing this would be to append, to whatever set of procedures the Society adopts, a collection of guidelines and suggestions. For example, a big hindrance to effective affirmative action today is the practice by departments of narrowly specifying available positions. The Society should encourage departments to consider their needs in different areas over a period of several years, rather than just the coming year, and then solicit applicants from all these areas. This would increase the availability pool and add considerable flexibility to the affirmative action process.

Another crucial feature of an effective affirmative action program will be a reasonable monitoring system. We would suggest that the committee that is charged with collecting and publishing data on new Ph.D.'s and available mathematicians also be charged with gathering and publishing data on departments about the current make-up of their faculties and new hires. This committee would then be able to alert departments that appear not to be complying with the procedures and refer serious cases to CAFTES.

Because of the AWM's concern and involvement in these areas, we would like to be represented when the Council discusses the recommendations of the Ad Hoc Committee on affirmative Action Procedures. We would also like to send a representative to the meeting of the Committee to Write Rules for CAFTES."

* *

The following is the first in a series of articles publishing the talks on notable women mathematicians from the summer meeting in Toronto. Next issue will see two articles on Emmy Noether. We inaugurate here the practice of giving brief biographies of the authors of these articles, and to rectify past practice mention that Kathryn Jacobs, the author of last issue's article on Christine Ladd Franklin, is the archivist at Johns Hopkins University; and that Dana Angluin, author of last winter's article on Lady Lovelace, was at the time a graduate student in electrical engineering and computer science at Berkeley, and is now at the University of Leeds.

SOPHIE GERMAIN, A BICENTENNIAL APPRECIATION

by Mary Gray

(Ed. note: Mary Gray is a professor of mathematics and statistics at American University in Washington, DC, and is also a vice-president of the AMS. She has taught at the University of California at Berkeley, and at California State University, Hayward; was a physicist at the National Bureau of Standards; and was the first president of the AWM)

By now most of us have had more than enought of bicentennial commenorations. However, I

want to talk about a different bicentennial, the bicentennial of Sophie Germain, mathematician and philosopher.

The poignant story which brought Germain to my attention was in a 1879 edition of her life and works, intended as a centennial remembrance. Her biographer, Hippolyte Stupuy, tells of going to the Père Lachaise cemetery and finding, near the well-frequented graves of Auguste Comte and of a popular actress, that of Sophie Germain, the simple tombstone crumbling and in ruins, but a chestnut flourishing, perhaps indicating a higher power's making up for human neglect. A later edition in 1896 reports that the tombstone was restored, but I spent most of one wet and cold January afternoon on my knees amongst decaying leaves and moss-covered crumbling gravestones unable to locate it. Perhaps a bicentennial appreciation can lead to another restoration.

Other results of the centennial edition of her life and works were the naming of a school for girls, with the Paris City Council specially commissioning a bust of Germain for it, and a street for her. Also, a plaque was placed on the house at 13 rue de Savoie, in which she died on 27 June 1831. This can still be seen.

Marie-Sophie Germain was born 1 April 1776 in a house on the rue St. Denis in Paris. Her father, Ambroise-Francois, was, as his father before him, a goldsmith, a prosperous member of the bourgeoisie, whom he was elected to represent in the Etats-Generaux in 1789. It is assumed that the Germain home was a meeting place for those interested in liberal reforms and that the young Sophie must have heard exciting political and philosophical discussions swirling around her.

M. Germain's career in what became the Constitutional Assembly was not particularly distinguished. There is a record of only two speeches by him, 8 October 1790 and 5 May 1791. His concerns were those of a merchant; he complained against banks and speculators. After the Constitution his name disappears from the Assembly records, the radical trend apparently passing him by. Notwithstanding his earlier railings, he seems later to have become a director of a bank and adroitly to have survived the shifting trends of French politics to die at the age of 95 in 1821. Apparently the family continued to be sufficiently prosperous that Sophie could devote herself to research and writing without worrying about means of support.

Of Sophie's mother we know little other than her name, Marie-Madeleine Gruguelin, the coincidence in first names perhaps accounting for the daughter's use of "Sophie."

Retreating from the turmoil of the Parisian streets of the Reign of Terror to her father's library, Sophie resolved to find a serious occupation for herself.

In spite of the barbs of Molière's La Femme Savanta, there was in France something of a tradition of women of a certain class devoting themselves to serious pursuits--after all, there had to be targets for the satire. In fact there is probably more scope and less encumbrance even today in France than elsewhere for women to follow intellectual pursuits. We need only compare the concentration of women mathematicians at the University of Paris with the situation at leading American universities.

The conversion of Sophie occurred as she read in Montucla's l'Histoire des Mathematiques the story of the death of Archimedes at the siege of Syracuse; she determined to be a geometer.

Her biographer terms this a heroic decision--for what use could a woman make of geometry? Her family were apparently not too thrilled, for they took away her fire, her light and her clothes to force her from her books to the needed sleep. Sophie, however, waited until everyone was asleep and, wrapping herself in her covers, studied by the light of contraband candles.

Studying by herself presented severe difficulties--other than courting pneumonia and eyestrain; for example, in order to read Newton and Euler she had to teach herself Latin. Moreover, she had no benefit of discussions or explanations from a teacher. Her interests were not confined to mathematics; she explored "all the domain of knowledge" and the early work in psychology remained a particular interest of hers throughout her life.

This was an exciting period in French mathematics, with the great developments soon to come. Instrumental in this flowering was the establishment of the École central des travaux publics, later to become the École polytechnique. In the heat of the revolution the French Academy of Sciences had been abolished, but later such excesses were regretted and a moving speech on 28 September 1794 by the chemist Fourcroy on the importance of science and of public education led to the founding of the École. Among the first professors were Lagrange, Monge, Fourcroy, and Berthollet.

What an opportunity for an 18-year old eager for knowledge! But alas, women were not

allowed at the lectures of the École polytechnique. However, one of the innovations in this
new scheme of education was to make lecture notes available to all who asked, so Germain was
able to obtain these, in particular the analysis lectures of Lagrange. Another innovation was
the practice of having students submit written observations, which Sophie did under the name
of M. LeBlanc.

This was the beginning of extensive communication, written and direct, with many of the
well-known scholars of her day, in particular Gauss, Legendre, Lagrange, Poisson and Fourier.

There is the oft-repeated tale of her concern for the safety of Gauss. After the Dis-
quitiones arithmeticae appeared in 1801 Sophie had started to correspond, as M. LeBlanc, an
"enthusiastic amateur." In 1806 the French occupied Brunswick where Gauss was living. Remem-
bering the fate of Archimedes which had so moved her earlier, she feared for Gauss' life. She
sent a message to a family friend, General Pernety, chief of the artillery. He in turn sent a
messenger to Gauss to learn whether he was safe and to express Mlle Germain's concern. The
messenger did so and invited Gauss to dine with the French governor. It seems, however, that
in her anxiety Sophie had forgotten that she was known to him only as LeBlanc so he replied
that he knew no Mlle Germain, nor any general, and anyway he would rather do mathematics.
Eventually the situation was explained and her anonymity removed.

In this grand epoch of mathematics rigor was not a prime consideration. Great advances
were made, the detailed justifications for which took many years to develop. Freedoms were
taken which undoubtedly had Bishop Berkeley turning in his grave. The governing philosophy
was that of d'Alembert, whose advice to mathematicians was "go ahead and faith will come to you."

In her work on elasticity Sophie was an ardent disciple of this method which, especially
as she had no real formal training in the basics of integration, the calculus of variations,
etc., led to certain difficulties.

Pythagoras and Aristotle had some notion of the physics of the propagation of sound, but
like so much ancient knowledge this was lost until the time of Bacon and Galileo.

Newton did some early work on vibrating strings and Taylor solved a special case of the
problem. Building on the work of Daniel Bernoulli, d'Alembert, in 1747, solved the problem of
the equation for a vibrating string. Then many mathematicians worked on the problem for a
vibrating surface.

The success of theories for thin rods, founded on special hypotheses, gave rise to hopes
that a theory might be developed in the same way for plates and shells so that the modes of
vibration of a bell might be deduced from its form and the manner in which it is supported.
In 1766 Euler was first to attack the problem. He proposed to regard a bell as divided into
thin annuli, each of which behaves as a curved bar. This method leaves out of account the
change of curvature in sections through the axis of the bell. In his work of 1789 Jakob
Bernoulli (the younger) assumed the shell to consist of a double sheet of curved bars, the bars
in one sheet being at right angles to those in the other. Reducing the shell to a plane plate,
he found an equation of vibration which we now know to be incorrect.

Chladni had done some experimental work on surfaces in Germany. What he did was to sprinkle
sand on a sheet and transfer the nodal figures formed during vibration to a wet sheet of paper.
Attempts were made to discover a theoretical basis for the experimental results. In 1808
Chladni came to Paris and repeated his experiments. By some accounts, one of his demonstrations
was before Napoleon, who was fascinated and persuaded the Institute to offer a special prize for

"giving the mathematical theory of elastic surfaces and comparing it to experi-
mental results."

In spite of being advised by Lagrange of the great difficulties of the problem, Sophie
studied the phenomenon and on 21 September 1811 sent in anonymously a memoir to the prize
competion. She probably consulted with Legendre in preparing the paper. He, Laplace, Lagrange,
Lacroix and Malus were appointed as a commission to examine the submissions. They pointed out
the inexactitude of her equation, which did point the way, however, for Lagrange to come up
with an equation which is correct under special assumptions. No prize was awarded.

Another competition on the same question was announced and on 23 September 1813 Sophie
sent a second anonymous memoir, this time receiving honorable mention in spite of an error in
the calculus of variations involved.

A third competition was announced, to which Sophie submitted a memoir in her own name,
after consulting with Poisson. This time she won the prize in spite of the fact that the

equation was not rigorously demonstrated, and that fact that the agreement with experiment was not too close because of her employment of an incorrect equation of Euler. Germain's equation was

$$N^2[\frac{\partial^4 z}{\partial x^4} + 2\frac{\partial^4 z}{\partial x^2 \partial y^2} + \frac{\partial^4 z}{\partial y^4}] + \frac{\partial^2 z}{\partial t^2} = 0$$

(N^2 a constant).

A journal of the time relates the public disappointment when Germain did not appear at the award ceremony on 8 January 1816; she preferred to work without such public recognition. However, from being denied admission to the École polytechnique lectures she had achieved the recognition of a letter from Fourier, secretary of the Academy, saying that a central seat would be reserved for her at its meetings.

After the prize memoir, she continued to work on this problem to improve her demonstration of the equation. In 1821 she sent the Academy a memoir:

Recherches sur la théorie des surfaces elastique which was published in 1824 at the instigation of Fourier and Legendre. A later memoir (1826) provided further improvements. She also did some work on cylinders and annuli, suffering again from deficiencies in the calculus of variations.

In her work Germain used the concept of mean curvature of a surface in 3-space: if k_1, k_2 are the maximum and minimum values of the normal curvature, then $\frac{k_1 + k_2}{2}$ is the mean curvature. This is not as useful a concept of Gaussian curvature: $k_1 k_2$, with which she seemed not to have been familiar although she should have been from her correspondence with Gauss.

In Crelle's Journal (volume 7) for 1831 appears her "Memoire sur la courbure des surfaces."

As we all know, many mathematicians have occupied themselves with trying to prove Fermat's Last Theorem. Germain was not immune to its fascination. In her first letter to Gauss, 21 November 1804, she reports her solution for n = p-1, where p is a prime of the form 8k + 7.

In the supplement to the second edition of Legendre's Theorie des Nombres, Sophie Germain is credited with the proof of Fermat's Last Theorem for n an odd prime less than 100. This result follows from the theorem:

If there exists an odd prime p such that
$$\xi^n + \eta^n + \zeta^n \equiv 0 \pmod{p}$$
has no set of integral solutions ξ, η, ζ, each not divisible by p, and such that n is not the residue of the nth power of any integer modulo p, then
$$x^n + y^n + z^n = 0$$
has no integral solutions each prime to n, for which she had a simple but ingenious proof.

The result was reproved by E. Wendt in 1894 and used by Dickson in 1908 to prove Fermat's Last Theorem for n an odd prime less than 1700.

In 1910 E. Dubouis defined a "sophien" of a prime n to be a prime Θ, necessarily of the form kn + 1, for which $x^n = y^n + 1 \pmod{\Theta}$ is impossible in integers prime to θ.

Another work of Germain in number theory, a note about finding y and z in
$$4(\frac{x^p - 1}{x - 1}) = Y^2 \pm pz^2$$
appeared in Crelle's Journal in 1831.

This paper and the paper in the same volume on curvature were composed under most trying conditions. In 1829 Sophie learned that she had cancer and in July of 1830 she finished her work on the Crelle's Journal papers to the sounds of the cannons of another revolution.

She also published in Annales de Physique et de Chemi an examination of principles which lead to the discovery of the laws of equilibrium and movement of elastic solids.

However, her biographer says that Germain's real recognition was as a philosopher for her posthumously published l'Etat des sciences et des lettres aux différentes époques de leur culture. This relected the optimism of the period. While the school of Descartes believed that laws governed the inorganic world, the new philosophy believed that the living world also has its governing principles which could be discovered and used to calculate events.

Clairent, Euler, d'Alembert, Bernoulli, Lagrange and Laplace had presided at the last of the great period of celestial discoveries and systemization; Cavendish, Priestly, Lavoisier, Berthollet had discovered the composition of earth, air and water; Jussieu, Linne, Buffon, Goethe and others developed botanical classifications, so there was optimism about similar progress in the study of human behavior.

Germain observed that science results from the classification of observed facts, the abstraction and concomittant simplification from these, and finally the idealization into a system as Leibniz had done for mathematics, Laplace in astronomy, and Jussieu in biology. She hoped to do the same in what we now know as psychology and in particular sociology.

Her philosophy is a precursor of Comte's positivism and was highly praised by him. One might even read into her discussion of non-stable systems an early inkling of catastrophe theory.

* *

SPEAKERS BUREAU
by Alice Schafer

At the mathematics meetings in Toronto several of you asked to be included in the speakers bureau and many of you asked to have the speakers bureau list mailed to you. It seems appropriate to update the listings at this time and, if there is space in the next issue of the newslatter, to have the list of speakers published there. We are always ready to mail the speakers bureau list to those who request it.

So this is the time for those already listed in the bureau to update topics on which they are willing to speak and audiences for whom their talks are appropriate. We invite members not currently registered with the bureau to do so; send topics and audiences for whom suitable. If you have restrictions on distances from your home base you are willing to travel as a speaker, please include that information.

AWM's executive committee is presenting a proposal to various foundations and industries requesting support for the speakers bureau, to provide some support for a director of the bureau and funds to be used for travel by the speakers. We hope we shall soon have funds for these purposes.

Join the speakers bureau!

* *

ANOTHER PROGRAM FOR WOMEN

The Purdue University Department of Freshman Engineering has been offering for the past several years a variety of programs to entice math talented high school students to study engineering in college. These programs include:

1) Publication of a Quarterly Newsletter, "The Feminengineer," which is sent to all high school counsellors in Indiana and describes activities of and programs for women engineering students at Purdue.

2) An annual 3-day Career Conference for high school students called "Focus on Women in Engineering. The Ford Motor Company provides a grant to support the conference. Conference activities include a panel discussion by Purdue engineering students on topics of interest to prospective Purdue engineering students— such as dorm, sorority and co-op housing, class loads, etc. talks by practicing women engineers, and a lecture on the co-op program. A banquet attended by the students, their engineering student hostesses and members of the engineering faculty, highlights the program.

There is also a special program for women engineering freshmen at Purdue. The Department of Freshman Engineering sponsors a one credit hour seminar on Women in Engineering. The format of the class includes presentations to the students by professional women engineers who discuss their jobs and life styles. A very similar seminar for freshmen women enrolled in the School of Science is sponsored by that school. In this seminar the speakers are women scientists who practice in a variety of disciplines including, of course, mathematics.

For further information on the Freshman Engineering programs, write to Ms. Christine Smith, Department of Freshman Engineering, and for further information on the special programs for women in the School of Science, write to Ms. Lynn H. Brown, School of Science Administration, both at Purdue University, West Lafayette, IN 47907. Further information on the Purdue programs can be found in the article, "How Colleges Try to Attract More Women Students," by Conna S. Frobreich, in the IEEE Transactions on Education, vol. E-18, No. 1, February, 1975,

pages 41-46.   Violet B. Haas
                      Associate Professor
                      Purdue University
                      West Lafayette, IN 47907
* *

Dear AWM:

Radcliffe College is sponsoring a supplement to <u>Notable American Women</u>, a reference work
that has been widely acclaimed since its publication in 1971 by Harvard University Press. The
first three volumes, edited by Edward T. James, Janet Wilson James, and Paul S. Boyer, contained
over 1300 articles about women who died between 1607 and 1950. To fill a gap noted by scholars
and general readers alike, the supplement will include approximately 400 articles on women who
have died since 1951. Work on the project will begin during the summer of 1976 and is expected
to be completed in three years.

Notable American Women is a work of collective scholarship. The signed articles are only
the most visible evidence of the often unsung efforts of many individuals. The editors invite
the readers of the <u>Association for Women in Mathematics Newsletter</u> to suggest the names of
mathematicians who ought to be included. The date of death and a standard or obituary reference
(where available) should be listed for each candidate for inclusion. A brief statement sug-
gesting why the individual is important would also be helpful, as would xeroxed materials on
the candidates.   Barbara Sicherman, Editor
                         <u>Notable American Women</u>
                         Radcliffe College
                         3 James Street
                         Cambridge, MA 02138
* *
OF POSSIBLE INTEREST

Congratulations to Lauri Kanerva, one of the top ranking students in the U.S. Mathematical
Olympiad.

<u>Hypatia's Sisters: biographies of women scientists past and present</u> was developed by the
Women and Science class at the University of Washington in the summer of 1975. It is available
for $2 from Feminists Northwest, 5038 Nicklas Place N.E., Seattle, Washington 98105.

A recent study by Neal Gross and Anne Trask (<u>The Sex Factor and the Management of Schools</u>)
concludes that women elementary school principals are more effective than men in that job. One
explanation given is that women spent more years in the classroom before becoming administrators
than men - in fact, 1/3 of the male principals had no elementary teaching experience at all,
while only 3% of the women jumped immediately into the principal's job.

The White House Fellowhip Program - open to women in any field - is soliciting applications.
Write to the President's Commission on White House Fellowships, Washington, D.C. 20415. The
deadline for application requests is November 1.

The Radcliffe Institute Fellowship Program has a deadline for application or nomination of
November 1, except   for Boston-area non-tenured women faculty, who have a deadline of December
15. Address: Radcliffe Institute Fellowship Program, 3 James Street, Cambridge, Mass. 02138.
Current Radcliffe Fellows include Deborah Rebhuhn of Vassar College (development of a classifi-
cation scheme for sets attainable in positive time) and Sonja McKinlay of Boston University
(analysis of observational data: the robustness of mathematical models in the presence of bias).

A National Women's Studies convention will be held from January 13-16 in San Francisco,
hosted by the women's studies program at San Jose State University. It will include programs
on women's education. For information contact Sybil Weir, Women's Studies, San Jose State
University, San Jose, California 05192

The second Conference on Undergraduate Mathematics will be held on April 15 and 16 at
the University of Santa Clara, Santa Clara, California. The conference is sponsored by the
Journal of Undergraduate Mathematics, and papers will be presented by students as well as
professional mathematicians. Student papers should be submitted before December 1, 1976.

A luncheon to honor Lee Lorch will be held on January 29 in St. Louis, during the

AMS meetings. Best known politically for his activities on behalf of black mathematicians, Lee's human decency has made him a valuable ally of women as well. Further details will be in the next newsletter.

J.R.

* *

AWM PANEL

at California Council of Teachers of Mathematics, Southern Section (affiliated with NCTM)
  10:00 a.m., November 6
  Anaheim Convention Center
  Room 11-12

Topic: how and why we should encourage female students
        to broaden their math backgrounds

Co-ordinator: Ruth Afflack, Cal State, Long Beach
Participants: Sue Montgomery, USC
               Susan Cohen, Westchester High School
               Janet Williams, U. C., Irvine
               Susan Bienkowski, math teacher.

NOTICE OF NORTHEAST MEETING

  AWM meeting
  during AMS regional meeting
        Oct. 30, 12:15 p.m.
        Physics Lecture Hall (PB 36)
             of Material Sciences Comples
        University of Connecticut
        Storrs, CT

  Moderator: Dr. Stephanie Troyer
  Speaker: Dr. Emiliana Noether
                   on "Emmy Noether, 20th Century Mathematician and Woman"

  (Dr. Noether is interested in talking to more poeple who
   have had contact with Emmy Noether or with one of her students.)

Dues were due on October 1. The deadline by which
we must have your checks is November 15.

JOB REGISTER: we mail out all job announcements that will eventually appear in the Newsletter by first class mail by the page as we receive them. In order to receive these listings, please send several stamped self-addressed envelopes to:

               AWM Job Register
               c/o Department of Mathematics
               Wellesley College
               Wellesley, MA 02181

* *

All routine correspondence - dues, ads, inquiries, etc. - as well as any correspondence which is unsure of its appropriate recipient - should be sent to the following address:

               AWM
               c/o Department of Mathematics
               Wellesley College
               Wellesley, MA 02181

JOBS

The vacancies listed below appear in alphabetical order in an alphabetical listing of states. EO/AA means Equal Opportunity, Affirmative Action Employer.

<u>University of California, Santa Barbara</u> Openings are anticipated beginning Fall 1977, in Numerical Analysis. A Ph.D. degree and excellence in teaching and research are required. Salary and rank depend upon qualifications. Candidates should send vita and have at least four letters of reference about their teaching and research sent to "Search Committee," Department of Mathematics, University of California, Santa Barbara, CA 93106, by 1-15-77. EO/AA
<u>University of California, Santa Barbara</u> Openings in Statistics are anticipated beginning Fall 1977. A Ph.D. degree is required along with indications of a strong research career (appropriate to the level of appointment) and, in addition, an interest and ability in the area of teaching. Experience in consulting and working with applications of Statistics is desirable but not required. Salary and rank depend upon qualifications. Candidates should send vita and have four letters of reference about their research and teaching ability sent to "Statistics Committee," Department of Mathematics, University of California, Santa Barbara, 93106, no later than Jan. 15, 1977. EO/AA.
<u>University of California, Santa Barbara</u> we anticipate one-year postdoctoral lectureships with the possibility of renewal for a second year beginning Fall 1977. Salary would be about $13,500 for the academic year. Candidates should send vita and have four letters of reference sent to: "Lecturer Committee," Department of Mathematics, University of California, Santa Barbara, 93106, no later than Feb. 15, 1977. Candidates should provide information about their teaching ability. EO/AA.
<u>University of California, Santa Barbara</u>, openings are anticipated beginning Fall 1977, in Programming Languages, Operating Systems, and other areas of Computer Science. A Ph.D. degree and excellence in teaching and research are required. Salary and rank depend upon qualifications. Candidates should send vita and have at least four letters of reference about their teaching and research sent to John Doner, Computer Science Search Committee, University of California, Santa Barbara, CA 93106, by Jan. 15, 1977. EO/AA.
<u>Pitzer College</u>, of the Claremont Colleges, invites application for Dean of Faculty. Small liberal arts college emphasizing social and behavioral sciences. Applicants: academic stature, teaching experience, research accomplishemnts, administrative skills, capable of providing leadership. Available, July 1, 1977. Applications through November 1, 1976 to: Lucian C. Marquis, Chairman, Dean's Search Committee, Pitzer College, Claremont, CA 91711. EO/AA.
<u>San Francisco State U.</u>, Assistant Professor, with Ph.D. in mathematics, and teaching experience at elementary or secondary level. Teaching load 12 hr/wk. Tenure track position starting Feb. or Sept. 1977. Apply to Dr. J. T. Smith, Chairman, Mathematics Dept., San Francisco State University, 1600 Holloway, San Francisco, CA 94132. EO/AA.
<u>University of Illinois, Urbana-Champaign</u>, Dept. of Mech. and Ind. Eng., Asst. Prof. in Ind. Eng. in general areas of operations research, applied statistics, production management and human factors. Ph.D. required and should be committed to teaching at all levels as well as conducting sponsored research. Salary commensurate with educational training and experience. Deadline for applications is 1-1-77. Send biography and names of references to: Chairman: Industrial Engineering Faculty Search Committee, Department of Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign, Urbana, IL 61801. AA/EO.
<u>Western Illinois University</u>, Department of Mathematics, Chairperson. Applicants should have a distinguished record of scholarship and teaching at university level and preferably a demonstrated administrative ability. Inquiries w/resume should be sent to Dr. James R. Calhoun, Chairperson Search Committee, Department of Mathematics, Western Illinois University, Macomb, IL 61455. Deadline 12-1-76. AA/EO.
<u>University of Missouri-Rolla</u>, Dept. of Computer Science, Faculty Position open. Ph.D. Comp. Sci. w/emphasis area of Operating Systems & Programming Systems and Languages preferred. Ph.D. in other sciences or eng. fields w/exp. in teaching and research in Operating Systems & Programming Systems and Languages may be acceptable. Start 1-9-76. Contact Dr. John W. Hamblen, Chairman, Computer Science Dept., University of Missouri-Rolla, Rolla, MO 65401. EO/AA.

Columbia University, Assistant Professor, Div. of Mathematical Methods in Engineering & Operations Research, (Civil Engineering). To teach undergraduate & graduate courses in Operations Research and Engineering Mathematics. Apply with resume by March 1, 1977 to Professor Morton Klein, Chairman, Div. of Mathematical Methods in Engineering and Operations Research, School of Engineering and Applied Science, Columbia University, New York, NY 10027. EO/AA.

Columbia University, School of Engineering and Applied Science, Div. of Mathematical Methods and Operations Research. 2 positions: 1 Adjunct Asst and 1 Adjunct Assist or Assoc Professor. 1) numerical methods 2) mathematical programming. Requirements: Doctorate in Applied Math. or Operations Res., teaching and/or engineering exp. Start 1-1-76. Deadline 11-1-76. Contact Prof. Morton Klein, 310A Mudd Building, Columbia Univ., New York, NY 10027. EO/AA.

Oregon State University, Dept. Math., asst. professors. Sept. 77. Ph.D. required. Recent graduates preferred. 6-8 class hrs/wk. One position pure math. - active research interests any area. One position applied math. - broad background in modern applied math. Possibility of other positions. Deadline 11-1-76. Contact: Dr. J. R. Brown, Chairman, Dept. of Mathematics, Oregon State University, Corvallis, OR 97331. AA.

Oregon State University Assistant Director, Research and Instructional Computing. Released time for teaching or research can be arranged. Submit comprehensive resume, three letters of reference, to Thomas L. Yates, Director, Computer Center, Oregon State University, Corvallis, OR 97331. AA/EO Deadline 10-15-76.

Additional areas to be represented on executive board:

Nominees for these positons:

Statement for newsletter if nominee:
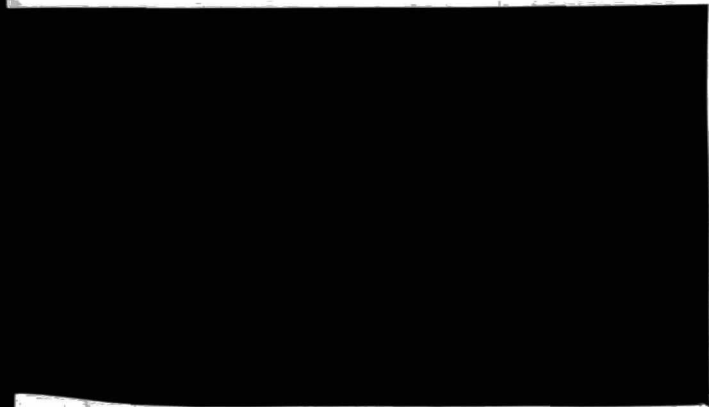
Volunteer for Correspondence Committee:

Name _____

Address _____

_____

ASSOCIATION FOR WOMEN IN MATHEMATICS
MEMBERSHIP APPLICATION

Name and
Address _____

        _____

        _____

        _____

Institutional affiliation, if any _____

Position _____

Make checks
   payable to ASSOCIATION FOR WOMEN IN MATHEMATICS

and mail to Association for Women in Mathematics
            c/o Department of Mathematics
            Wellesley College
            Wellesley, MA 02181

The AWM membership year is October 1 to October 1. Dues received in July, Aug., or September will be credited to the following year. Dues may be pre-paid at the current rate for up to 2 years.

Dues for October 1, 1976 to October 1, 1977:

_____ Individual, $8

_____ Family, $10 (one newsletter subscription)

_____ Retired, student or unemployed $3

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