

Notices

of the American Mathematical Society

EDITOR: Hugo Rossi

ASSOCIATE EDITORS:

Robert M. Fossum, Susan Friedlander (*Forum Editor*), Steven Krantz, Susan Landau, Andy Magid, Mary Beth Ruskai, Alan Tucker

CONTRIBUTING EDITOR: Keith Devlin

MANAGING EDITOR: Sandra Frost

SENIOR WRITER: Allyn Jackson

PRODUCTION ASSISTANTS:

Muriel Toupin, Anne-Marie Epp

PRODUCTION:

Lori Nero, Donna Salter, Deborah Smith, Peter Sykes, Maxine Wolfson

ADVERTISING SALES: Anne Newcomb

SUBSCRIPTION INFORMATION: Subscription prices for Volume 44 (1997) are \$286 list; \$229 institutional member; \$172 individual member. (The subscription price for members is included in the annual dues.) A late charge of 10% of the subscription price will be imposed upon orders received from nonmembers after January 1 of the subscription year. Add for postage: Surface delivery outside the United States and India—\$15; in India—\$36; expedited delivery to destinations in North America—\$35; elsewhere—\$70. Subscriptions and orders for AMS publications should be addressed to the American Mathematical Society, P.O. Box 5904, Boston, MA 02206-5904. All orders must be prepaid.

ADVERTISING: *Notices* publishes situations wanted and classified advertising, and display advertising for publishers and academic or scientific organizations.

SUBMISSIONS: The *Notices* Editorial Board encourages submission of articles on mathematics, the profession, and mathematics education, as well as shorter articles or reviews, and Letters to the Editor. Written material can be sent directly to the editors or to the Providence office.

NOTICES ON e-MATH: Most of this publication is now available electronically through e-MATH on the World Wide Web. e-MATH is the Society's resource for delivering electronic products and services to mathematicians. To access the *Notices* on e-MATH, use the URL:

<http://e-math.ams.org/>
(or <http://www.ams.org/>)

(For those with VT100-type terminals or for those without WWW browsing software, connect to e-MATH via Telnet (`telnet e-math.ams.org`; login and password `e-math`) and use the Lynx option from the main menu.)

[*Notices of the American Mathematical Society* is published monthly except bimonthly in June/July by the American Mathematical Society at 201 Charles Street, Providence, RI 02904-2213. Periodicals postage paid at Providence, RI and additional mailing offices. POSTMASTER: Send address change notices to *Notices of the American Mathematical Society*, P.O. Box 6248, Providence, RI 02940-6248.] Publication here of the Society's street address, and the other information in brackets above, is a technical requirement of the U.S. Postal Service. All correspondence should be mailed to the Post Office box, not the street address. Tel: 401-455-4000. e-mail: ams@math.ams.org.

© Copyright 1997 by the
American Mathematical Society.
All rights reserved.

Printed in the United States of America.
The paper used in this journal is acid-free and
falls within the guidelines established
to ensure permanence and durability.

The State of the Union and Mathematics

In his State of the Union message delivered on February 4, 1997, President Clinton stated:

"... my No. 1 priority as president for the next four years is to insure that Americans have the best education in the world."

In order to achieve this, he proposed spending 51 billion dollars next year as "an unprecedented commitment to these goals." He then proposed a "Call to Action for American Education" based on ten principles.

In my roles as mathematician, educator, father of school children, taxpayer, and social commentator I applaud the president for setting education so high on his priority list. I seriously question the efficacy of many of his principles.

The first stated principle is a call for a "national crusade for education standards." The mathematics community was among the first to propose standards, as reflected in the National Council for Teachers of Mathematics (NCTM) standards promulgated in 1989. These standards have been adopted by many schools, including the one which my sons attend. Those who have read the many opinions in these *Notices* will note the various reactions these standards have elicited within the mathematical community. My own experience is that the schools, and in particular textbook writers and teachers, are not able to implement these standards because they do not have the mathematical maturity required to understand the reasons for inclusion of many of the recommendations, they do not know how to communicate them to students, and they do not know what roles the various standards play in the "big picture" of mathematics and the world.

The NCTM standards call for mention of non-Euclidean geometry in high school mathematics. How many high school geometry textbooks mention this subject? How many teachers include this in their curriculum? Why is it included at all? My point is not to question whether the inclusion is justified, but rather to illustrate the difficulty in implementing standards within the current context of pre-K-12 mathematics education. Equally difficult is how one changes undergraduate education in our many colleges and universities so that future teachers will be able to teach "up to the standards" that are being proposed. Just this one example suggests a "sea change" in how we educate future teachers. There are many more that come to mind.

President Clinton's second principle calls for getting the best teachers by budgeting funds to enable 100,000 more teachers to attain certification as master teachers. This principle is to be applauded, especially in view of the criticism leveled in the paragraphs above.

President Clinton's eighth principle proposes "HOPE" scholarships, two years of a \$1,500 tax credit for college tuition, and a tax deduction of up to \$10,000 a year for all tuition after high school. Pundits have already questioned how these credits will affect grades, noting that in places where tax credits are tied to grades, grade inflation has already taken place. I question how this principle jibes with those principles that recommend improved standards, which imply, in my mind, stricter standards for passing courses and increased demands on the performance of students, especially those who plan to become teachers.

Finally, the president proposes connecting every classroom to the Internet by the year 2000. I believe the costs involved are not justified by a corresponding improvement in the quality of education. The time wasted in the classroom by students waiting for a Web connection to a site that will not yield quality information would be better spent reading today's textbooks, poor as they are. What is really needed is released time for the teachers, who can search the Web at their leisure, download the information desired, and then present it to the students in an orderly manner.

In conclusion, I believe that the 51 billion dollars could be better spent than in most of the programs President Clinton proposes.

—Robert Fossum

Editor's Note: The views expressed in editorials are those of the author alone and should not be construed as the opinion or policy of the editorial board or of the American Mathematical Society.