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ABSTRACT OF PAPER

Title of Paper: _Integrating the computer into the collegiate Mathematics curriculum_

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Time _____ minutes.

Member of Mathematical Association
of America: Yes ☒   No ☐

ABSTRACT

The abstract should be in the form of a brief and concise statement of the main results or points of view of the paper, without demonstrations and with a minimum of formulae. It should not exceed 100 words and should be compressed if possible into a single paragraph. It should be written in the third person. The abstract should be typewritten and in a form suitable for immediate publication in the MONTHLY.

Computers in the Collegiate Mathematics Curriculum

Computers should be used in the mathematics curriculum for at least

three major reasons:

1. It is the responsibility of the liberal arts educator to help the student discover all of the forces of the past and present which will influence his future life. The technological revolution, central to which is the computer, is clearly one such force.

2. Computer use improves student understanding, by providing motivation; by allowing students to work on real problems with realistic numbers; by allowing students to see the algorithmic side of mathematics instead of the existential; by encouraging the student to generalize; and by avoiding busywork details.

3. Students are afforded greater flexibility upon graduation.

It is maintained that curriculum innovations in the use of computers must be done by active faculty members, perhaps with the impetus of released time.

Among the proposals made was one of establishing a first semester Freshman Mathematics course, supplanting the normal first course on Problems and Concepts of Mathematics. Computer programming would be learned in this course, and immediately applied to a broad range of mathematical areas.

Specific suggestions as to what topics in the mathematics curriculum which are computer amiable are made.