

Correspondence

Speeding up mathematics

DEAR SIR,

May I ask your indulgence to place the following advertisement before readers?

“WHY NOT JOIN THE NAT SOC?

It won't cost you anything. All you have to do is to use nis, soc and nat to represent the functions inverse to sin, cos and tan, thereby saving time and increasing euphony. Likewise you can make use of nish, soch (pronounced shock), nath, gol, nl (pronounced nol), and even such things as cesoch (pronounced sea-shock) if you wish.”

And, sir, talking of saving time, is there any hope of the Mathematical Association and the Association for Science Education organising a race in which a mathematician says “metres per second” as many times as possible while a scientist says “metre second to the minus one” 100 times?

Yours faithfully,

ALAN BARTON

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Reviews

Notes on mathematics for children, by members of the Association for Teachers of Mathematics. Pp xvi, 233. £7.50 hard covers, £2.95 paperback. 1977. SBN 0 521 20970 6/29015 5 (Cambridge University Press)

An erstwhile headmaster of mine (himself a classicist) used to enjoy baiting mathematicians with opening gambits like “I always think of 5 as a blue number. What colour would you say 8 is?” Of course, numbers acquire much more vivid personalities for those using them regularly, but no two people have exactly the same experience; Hardy was poorly acquainted with 1729 until quite late in life, we are told.

The ATM recipe for the classroom, as is well known, includes a large dose of learning by creative activity, the teacher choosing a starting point and giving a nudge when the children's invention flags. Instead of merely tackling questions in the textbook, employing a prescribed set of techniques they have been taught, children are encouraged to think up their own problems and work towards solutions by methods of their own devising. This should lead to a feel for mathematics and a rounded view of numbers and mathematical processes. In one of the best passages in this book (p. 91), the development of fluency in a new skill through practice is contrasted with the acquisition of understanding through diffuse attention over a long period.

The authors have backed their view that mathematics teaching should be loosely structured, by writing a book that is hardly structured at all. This is indeed a collection of “notes”, supposedly linked by the notion of *transformation* which is defined (non-geometrically) in an all-embracing way. You are invited to “read the book in any way you like: dip into it, read a chapter straight through, or work your way from back to front”. There are dozens of stimulating ideas, and the book (in the paperback edition) should be at the bedside not only of those concerned with primary school children but even those teachers in secondary schools who like to ‘stick to the textbook’ and ‘get through the syllabus’. Constant exposure to the authors' way of thinking should help us all, for “the most important preparation a teacher can undertake is to prepare herself”.