Correspondence

DEAR EDITOR,

I suppose in these days of calculators, long division is no longer taught – no great loss, as it is a fiddly business! But, except with sophisticated calculators, algebraic long division, i.e. of polynomials, is still a useful skill. But Horner's method seems to have been forgotten: I should have set out the division [1, p. 466] thus:

$$
\begin{array}{r}
\left.\begin{array}{r|rrrr}
1 & 1 & -8 & 23 & -25 & 1 \\
4 & & 4 & -16 & 12 & \\
-4 & & & -4 & 16 & -12 \\
\hline
 & 1 & -4 & 3 & 3 & -11
\end{array}\right\}
\end{array}
\qquad
\begin{array}{l}
\text{four lines} \\[4pt]
\text{instead} \\[4pt]
\text{of eight!}
\end{array}
$$

where: (1) detached coefficients (which could have been used anyway) simplify matters considerably,

(2) changing the signs of all terms in the divisor, except the first, means that successive subtractions are replaced by single additions (which is the essence of the method),

(3) the upright stroke in the bottom line serves to separate the quotient from the remainder.

Reference

1. Charles Strickland-Constable, A simple method for finding tangents to polynomial graphs, *Math. Gaz.* **89** (November 2005) pp. 466-467.

Yours sincerely,

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DEAR EDITOR,

The review by S.C. Coutinho in the November 2005 *Gazette* of the book on Alan Turing, and in particular his mention of Turing's work on mathematical biology, coupled with Claire Irving's article in the same issue on knitting the real projective plane brought back memories for me. Shortly before his death, at a time when I was a research student at Manchester University, Turing announced that he would give a series of lectures to staff and postgraduates on mathematics in biology. Unfortunately, we heard only three or so of these, at which stage he had not progressed much further than D'Arcy Thompson. Attempts to find the notes I took have always failed. I fear they must have been destroyed, for at that time only a very few were aware of the significance of Turing and of his work.

I had not encountered Turing as an undergraduate, cannot recall his attending the staff research seminars and he was not frequently seen in the staff common room. Once, however, I did spot him sitting in the corner of the room knitting, using eight or so differently coloured needles and concentrating very hard. (It later appeared that he was taught to knit by Joan Clarke to whom he had been engaged for a while at Bletchley Park.) I sat by