

Correspondence

DEAR EDITOR,

I have a puzzle in the theory of numbers which may be of interest to your readers.

Consider the function $2^n + 1$ where n is a positive integer. If we construct a table of the prime factors of $2^n + 1$ and the primes which occur for the first time we get the table below.

n	$2^n + 1$	Prime factors of $2^n + 1$	Prime number list
1	3	3	3
2	5	5	5
3	9	3^2	
4	17	17	17
5	33	11 and 3	11
6	65	13 and 5	13

The puzzle is to prove that all the primes in the prime number list are of the form $nx + 1$ where n is the exponent and x is a whole number.

Yours sincerely,

JOHN E. PARKES

68 Stanton Road, Meir, Stoke-on-Trent, Staffordshire ST3 6DF

DEAR EDITOR,

In the article Stanislaw Ulam 1909-1984 published in the March 1999 *Gazette*, the following errors should be noted.

p.10, second paragraph, line 8 'Ukrainians' should be Ukrainians.

p.12, second paragraph, lines 4,5. The bracketed section should begin [i.e., $F(A - B) = F(A) - F(B)$ but not completely ...]

p. 22, third paragraph, line 2. The word 'not' should be inserted before the word 'measurable'.

Yours sincerely,

GRAHAM T. Q. HOARE

3 Russett Hill, Chalfont St Peter SL9 8JY

DEAR EDITOR,

There is an error on p. 143, line -3 of the March 2001 *Gazette*. The 1979 IMO was not held in Exeter, but in Westfield College, University of London and Keble College, Oxford, with the preliminary jury work in Churchill Hall, University of Bristol.

Yours sincerely,

JOHN HERSEE

76 Pembroke Road, Bristol BS8 3EG