(vi) $x^2 + 2x + 5 = 0$

has no solutions but

$$x^2 + 2x + 5 \equiv 0 \pmod{y^2 + 1}$$

has the solution

$$x = -1 \pm 2y; \quad \text{e.g.} \quad \text{if } x = -1 + 2y \text{ then}$$

$$x^2 + 2x + 5 = 4(y^2 + 1) \equiv 0 \pmod{y^2 + 1}$$

(vii) $y^2 + 1 \equiv 0 \pmod{y^2 + 1}$. Hence $y^2 \equiv -1 \pmod{y^2 + 1}$.

Thus the results of complex algebra can be obtained by treating complex numbers as real expressions but replacing y^2 by -1.

(viii) Mathematicians use i instead of y and engineers use j. Congruences to the modulus $i^2 + 1$ are usually written as though they were equations and the modulus is omitted. For example, the "equation" $(x - 1)(x^2 + 2x + 5) = 0$ is said to have one real root or three complex roots.

T. J. RANDALL

Dept. of Physics and Mathematics,
John Dalton College of Technology,
Chester Street, Manchester 1.

CORRESPONDENCE

To the Editor, *The Mathematical Gazette.*

DEAR SIR,

In their article "Vectors: a special case?" (M.G. May 1966), Mr. Mansfield and Mr. Bruckheimer make a curious statement about the use of the word "median" in statistics. They say, "In any totally ordered set of 2n + 1 elements, we can define the median as the n + 1 th element." This is misleading: it is not the n + 1 th element itself which is "the median," but the value associated with this element of the variate with respect to which the set is ordered. The row of Gazettes to which they refer is ordered with respect to date, and it is the date of the middle volume, not that volume itself, which is the median of the set. The semi-interquartile range does exist; assuming that the 'run' is unbroken, it is approximately equal to one quarter of the time which elapsed between the first and last dates of publication.

Yours faithfully,
JOYCE LINFOOT

Dept. of Education,
The University,
Cambridge.