DEAR EDITOR,

I was interested to read note **65.2**, 'Is goal scoring a Poisson process?' by D. J. Colwell and J. R. Gillett in the March 1981 issue of the Gazette. For some years now, when presenting the Poisson distribution to students at the University of Glasgow, I have pointed out that Scotland's goal scoring record against England in soccer internationals is distinctly Poisson, as the following table shows ($\mu = \frac{4}{3}$).

Goals	0	1	2	3	4	5	6	7
Observed	18	32	27	12	3	3	1	1
Expected	18	31	25	14	6	2	1	0

(Expected figures are given as the nearest whole number.)

England's performance, on the other hand, leaves something to be desired, 1 having been scored too often, and 3 not enough.

Yours sincerely,

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Editor's note: there will be more on this, too, in next March's edition.

Divergence rules O.K.?

DEAR EDITOR,

J. P. Coleman gives a paradox connected with asymptotic series in the *Gazette* (no. 429, October 1980), but only hints at how to resolve it.

I am not at present aware of any real-life divergent series that I cannot sum to any practical accuracy by appropriate convergence speeding techniques. Hence I find divergent series with known sources every bit as useful as convergent series and I would not like to see people put off by unsolved paradoxes.

In the case of Coleman's integral, the asymptotic series

$$K(m) \sim (-1)^m \left[-\frac{2\pi}{m^2(1+\pi^2)^2} - \frac{6(4\pi - 4\pi^3)}{m^4(1+\pi^2)^4} - \frac{120(6\pi - 20\pi^3 + 6\pi^5)}{m^6(1+\pi^2)^6} - \dots \right]$$

(where m is an integer) applies to the integral

$$\int_\pi^\infty \frac{\cos mt}{t^2+1}\,dt \quad \text{and not to the integral} \quad \int_0^\pi \frac{\cos mt}{t^2+1}\,dt.$$

The so-called error term is then

$$\int_0^\infty \frac{\cos mt}{t^2+1}\,dt = \frac{\pi}{2}e^{-m} = 0{\cdot}000071314043 \text{ when } m = 10.$$

This is the difference between the two numbers quoted.

Yours sincerely,

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