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Dr. N.J.A. Sloane,
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10 April 1978

Dear Dr. Sloane,

In a recent study of rotationally averaging three-dimensional tensors (D.L. Andrews and T. Thirunamachandran 1977, J.Chem.Phys. 67, 5026), I have come across a number sequence which does not seem to be included in your most useful 'Handbook of Integer Sequences'. This is the sequence representing the number Q_n of linearly independent isotropic tensors of rank n; a general expression for Q_n is given in equation (13) of the paper (please find enclosed reprint). As you will note, the upper limit p on the summation in this expression takes the value n/2 for even n, and (n-1)/2 for odd n. The full Q_n sequence

$$(1) \quad 1, 3, 6, 15, 36, 91, 232, 603,....$$

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as given in Table I could therefore be split into two sequences, one for odd n (1,6,36,232,....), and one for even n (1,3,15,91,....), but still the sequences seem to be missing from the Handbook. These sequences have also appeared, together with others relating to tensors of different dimensionality, in a paper by G.F. Smith, Tensor 19, 79 (1968), though Smith gave no formulae for calculating these sequences.

In view of your remarks concerning future editions, or supplements to your book, I wondered if the sequences I have mentioned may be worth including, since they seem to be fairly basic, and may be expected to show up in other contexts. In conclusion, may I congratulate you on the concept of your Handbook, which I myself found very valuable in the course of writing the paper I enclose.

Yours sincerely,

David L. Andrews

David L. Andrews (Dr.)