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Bill Sands &
Tommy Kucera

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June 10, 1975.

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Dear Dr. Sloane:

Your book "A Handbook of Integer Sequences" is to us quite intriguing and comprehensive. However we have found one interesting sequence which has not been included, and would like to bring it to your attention.

$a(n) =$ the maximum number of distinct values obtainable by summing a fixed set of n ordinal numbers in all possible ways.

The terms $a(1)$ to $a(20)$ are:

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new!

$1, 2, 5, 13, 33, 81, 193, 449, 33^2, 33 \cdot 81, 81^2, 81 \cdot 193, 193^2,$
$33^2 \cdot 81, 33 \cdot 81^2, 81^3, 81^2 \cdot 193, 81 \cdot 193^2, 193^3, 33 \cdot 81^3$ A5348

and for $n \geq 21$,

$$a(n) = 81 a(n-5).$$

References are:

W. Sierpinski, Cardinal & Ordinal Numbers (2nd edition, revised) page 275.

P. Erdos, Some Remarks on Set Theory, Proc. Amer. Math. Soc. 1 (1950), pp. 127 - 141.

Wakulicz, Sur la Somme d'un Nombre Fini de Nombres Ordinaux, Fund. Math. 36 (1949), pp. 254 - 266.

" Correction du Travail "Sur la ...", Fund. Math. 38 (1951), p. 239.

We also would like to see sequences dealing with the number of lattices, modular lattices, and distributive lattices on n elements; unfortunately we have no references to offer you.

If you have prepared a list of revisions we would both greatly appreciate receiving a copy of it. Thank you for your attention.

Best regards,

Bill Sands

Tommy Kucera