Dear Neil,

Happy Birthday! I am sure you are looking forward to it.

Between letters I try to accumulate odds and ends of sequences which may be of interest to you, but I don't find many. A few items:

1) \[ \int_0^\infty \frac{dx}{(x^2+1/4)^n} = K_n \frac{\pi}{2} \]

\( K_n \) is given by Seq. 643.


3) Daughter Anne asked me if I could extend 2, 4, 6, 6, 10, 9, 14, 10, 12, 15, 22, 15, 26, 21, 20, ... I couldn't, so she told me that the nth term is the sum of n and the largest prime number in n. Perhaps the first term should be 1, not 2.

4) Sequence A1385 is 1, 4, 11, 31, ... and is related to harmonic series. The corresponding sequence 1, 3, 10, 30, ... (terms smaller by 1 unit) is not in your book. See Boas and Wrench, Am. Math. Mo. 78 864-870 (1971).

Last year I bought another computer (an Apple II) and I am in the process of programming it for computations similar to the work I do on my Wang, but much faster. It will work up to about 600S (I'll seldom need that) and will operate directly in machine language. I've had to learn from scratch, and I still have a lot of work ahead of me. For instance, I haven't decided how best to find the logarithm or exponential, divide one number by another, etc. Someday it should be done. In the meantime the Wang keeps going like a faithful workhorse.

Best regards,

P.S. Bell numbers can be obtained from \( B(n) = e^{-1} \sum_{k=0}^{\infty} \frac{k^n}{k!} \) \( n = 1, 2, 3, \ldots \)

A related sequence is obtained from \( S(n) = e^{\sum_{k=1}^{\infty} (-1)^{k+1} k^2 \frac{k^n}{k!}} \)

1, 0, -1, -1, 2, 9, 9, -50, -247, -413, 2150, 17731, 50533, -110176, ...
One 

1861 8 19

Abraham

Gather

Robertson

Sear

Seal to

AGS 30