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A1466
A6524
A6526
A918

Dear Neil:

One trouble with waiting so long to answer your letters is that I have that much more to write when I finally get down to the job.

About 3 AM many month ago, I was wakeful for no particular reason, and to while away the time I dreamed up a sequence to represent a decimal fraction by means of reciprocals of integers. So I calculated the values for pi and found that they were your Seq. 1935. (The reciprocals of the terms add up to the decimal part of pi.) I added one more term to what you had, and estimated the next one. The corresponding sequences for π^{-1} , e and e^{-1} are not in your book, so here they are:

- π -3: 8, 61, 5020, 128541455, 162924332716605980, 2.878...x10³⁴ (Seq 1935) A1466
- π^{-1} : 4, 15, 609, 845029, 1010073215739, 1.300...x10²⁴ new A6524
- e-2: 2, 5, 55, 9999, 3620211523, 25838201785967533906, 3.408...x10³⁹ A6525
- e⁻¹; 3, 29, 15786, 513429610, 339840390654894740, 3.835...x10³⁵. A6526

Recently I called Fred Gruenberger's attention to the paper on iterated square roots, $\sqrt{a_1 + \sqrt{a_2 + \dots}}$, in AMM 42 (1935), about page 419. He was excited and mystified and asked me to make some calculations. I pointed out that any number can be represented by an infinite number of different sequences $a_1 a_2 \dots$ under the radicals. Some of those generating π , 2, and the integers 1 to 10 are included with this letter.

Elinor Potter asked me to mention to you that Seq. 625 ^{A918} also gives the number of different buzzer calls that can be made with dots and dashes:

2	. - -	total 2	
4	.. -- .- -. .	total 6	
8	using 3 dots and/or dashes	total 14	etc.

The analogous sequence $\Sigma 3^k$ does not appear in your book. I wouldn't like to have to respond to buzzer calls using short and long dashes and dots.

I've been busy accumulating additional constants, with perhaps 12000 on hand now. This should increase by a couple thousand as the result of a new undertaking: I'm converting most of the sequences in Sloane to decimal numbers on the assumption that the sequences represent the partial quotients of continued fractions. Who is to say that Seq. 42, for example, may not have significance as a continued fraction? A sample is enclosed. It is tedious to enter the numbers, but the Wang does everything else, including comparing two independent entries of the

skip

1.37125 08223 84353 78386 56318 48092 36851 54778 67375

Continued fraction - N.J.A. Sloane Seq. 42

1 2 1 2 ...



...and deciding how many digits to print. This number will
...values errors (and probably not). When I can get the
daughter, Anne, to do some of it. It will be a good idea
with my current files. Something unexpected may turn up. Do you have any
suggestions for or about this project? I have some papers you
could have for a daughter without a child's calculator. Edward's part
to be as fully as your book because only the answers matter is needed to
identify the constants. The other constants could be omitted. I am
certain all sentences that contain a name. Most of the sentences are
good for 400. When and if I publish a new table of constants, I hope to
have time to 300. Most of my time is dedicated to 450, with an occasional
rounding error listed a century.

Since some of the sentences have a question I in front, a tabulation
by any, 10 or 100 of (4-1) would not account this problem, where N is
the number indicated directly on the sentence. Similarly, some sentences
really begin in 1, 2, ... and there can be a number of 1-10.

...in this in
...of Martin O
...1966
...two of these app
...for you, but the
...and I
...1966

2 pages
Robinson
A 1466
cc

...in your letter
...contains function
...1972. You are in
...and I have no
...calculations I can
...programs, especially
...my equivalent to
...events, I've called
...occasions as to be
...and slightly larger
...quotations that are
...they check as far

...Have you brought
...any further supplements? Have any errors in
...responses been found?

I had some other responses for you that were made early this year,
but I've misplaced them. (I do this with nearly everything I own). When
you if they are found, I'll send them along.

We have another computer science student at UC and got married last
month. I can't remember when or what her name is. Bob Miller.

In July, Lois, Jim and I spent 2 weeks in Florida and some nearby
states. We went mainly to see the director of the movie "The
...up with the Russian 2000. It's not a good situation, even
...away.

...enjoying it

...strangely