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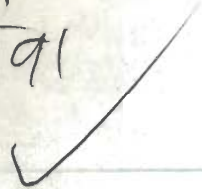
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Bob Hinman

letter to NJAS

5 pages

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Aug 22  
1980

Dear Neil

The Second Supplement - "Aug Supp 1" is in order. It doesn't include the 20 or so entries that had no numbers of the actual sequence in them - they are at the end of Augsupp. Here's a list of page #'s from Math. of Comp.

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271, 288-9, 294, 302-13, 333, 497-7, 576-7, 603, 618, 629-33, 647, 656, 834, 845, 853, 856-7, 1135-6, 1140, 1143, 1148-9

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412, 424-5, 531-4, 549-55, 649, 686, 712, 722-4, 818, 828-34,  
837-9.

In the meantime, I thought of a few sequences.

1, 2, 4, 5, 8, 10, 16, 20, 25, 32, 40, 50, 64, 80, 100, 125, 128, 160, 200,  
250, 256, 320, 400, 500, 512, 625, 640, 800, 1000, 1024, 1250, 1280,  
1600, 2000, 2048, 2500, 2560, 3125, 3200, 4000, 4096, 5000,  
are the numbers whose reciprocals are terminating  
decimals

There is a pattern to the sequence of numbers which are the  
atomic numbers of the noble gases. Theoretically, you could  
extend this indefinitely

1, 2, 10, 18, 36, 54, 86, 118, 168, 218, 290, 362, 460, 558, 686, 814, 976,  
1148, 1348, 1548, 1790, 2032, 2320, 2608, 2946, 3284, 3676,  
4068, 4518, 4968, 5480, 5992, 6570, 7148, 7796, 8444

is what you get. The differences between terms goes  
86, 18, 18, 32, 32, 50, 50, 72, 72, etc. the differences of  
the differences increasing by 4. It all has to do with orbitals.

✓ a1

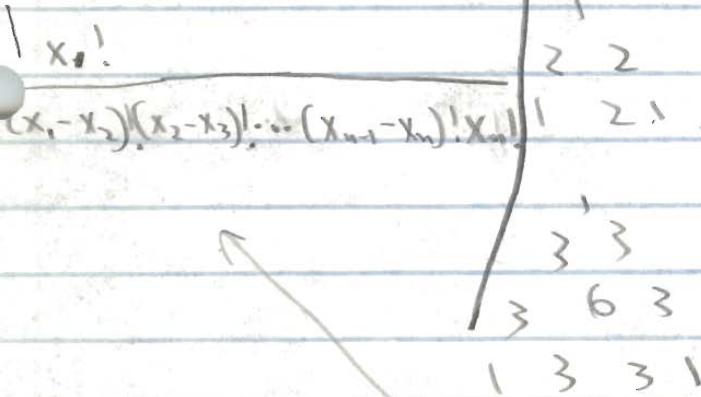
"Pascals tetrahedron" has the formula

$$\frac{n!}{(n-r)!(r-x)!x!}$$

for the  $(x+1)$ th term in the  $(r+1)$ th row of the  $(n+1)$ th "layer" (or triangle).

the first few layers are

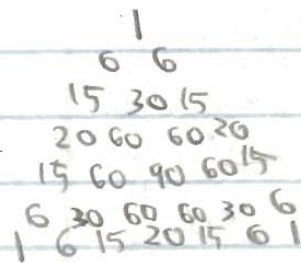
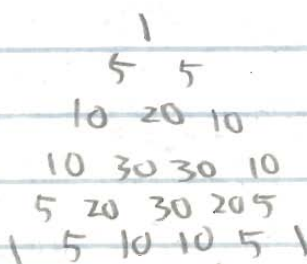
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The terms in the center go  $\frac{(3n)!}{(n!)^3}$   
 1, 6, 90, 1680, etc.

In the formula above,  $n, r, x$  are first 3, 2, 1, then 6, 4, 2, then 9, 6, 3, etc.

If somebody had nothing else to do, he could generalize to Pascals  $n$ th-dimensional object



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2182

The odd abundant numbers might be nice, but I couldn't find a list of them. the first is 945

The numbers

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1, 2, 4, 6, 12, 24, 36, 48, 60, 120, 180, 336, 360, 720, 840, 1260, 1680, 2520, 5040, 7560

set successive records for most factors/divisors

Observe the powers of 5

1

5

ones column repeats

5

25

tens

"

"

2

125

hundreds

"

"

16

625

thousands

"

"

3580

3125

15625

78125

390625

etc.

you get a sequence

No

1, 5, 2, 16, 3580, 17956240, 3978175584236200,

19840377476181556439582242163600

Each ~~the~~ term is twice as long as the one before. Why?  
I don't know

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One last interesting sequence might be the numbers that aren't in the book.

the only terms less than 600 are 417, 517, 537, (couldn't find any more (in the right order))

There's a pile of my stuff next to the garbage. You can throw any of it out, as far as I'm concerned.

I haven't been paid for my last 5 weeks.

here are hours

	M	T	W	Th	F	
Week # 1	$6\frac{1}{2}$	$6\frac{1}{2}$	$6\frac{1}{2}$	6	6	$31\frac{1}{2}$
2	6	$4\frac{1}{2}$	none	none	$4\frac{1}{2}$	15
3	6	5	$4\frac{1}{2}$	5	none	$20\frac{1}{2}$
4	5	7	$6\frac{1}{2}$	6	6	$30\frac{1}{2}$
5	$6\frac{1}{2}$	5	$5\frac{1}{2}$	6	7	30

total  $127\frac{1}{2}$

My phone number at home is 464-9203, if you have questions.

My MIT extension is 6491 (dormline). Call in the morning. I'm often out during afternoons and evenings. It's been very enjoyable working for you. If you or anybody you know needs somebody for January or next summer, I'll still be living here in New Providence.

Sincerely,

Bob Henman