Scan A6548
etc

V. Meally

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fq4

Some omitted sequences 6548- M1

(Sequence 67A would fit into the book immediately after 67. Where 1 is not a proper term but only a marker, it is written thus [1])

Sequence

67A. [1], 2, 1, 5, 2, 1, 1, 1, 1, 2, 12, 8, 2, 1, 4, 6556 new
Class of the mantissa of reciprocals of primes in denary scale

67B 1, 2, 1, 5, 6, 4, 6, 18, 20, 6, 51, 42 ... new
Number of distinct perfect difference sets for $k = p^r + 1$
(the expression is $\frac{\phi(r)}{6r}$)

146A 1, 2, 2, 12, 147, ... (Species is generated from a set [of Type Seq 15] ~~by adjugacy~~)
Species of Latin squares for orders 3, 4, 5, 6, 7 ...

179A 1, 2, 3, 4, 5, 6, 7, 22, 37, 52 ... [15n+7] - - Omit . new
Weighing with at most 2 weights, both pans used, of integer weights (to 15n+14)

211A [1], 2, 3, 4, 7, 8, 16, 31, 127, 256, ...
Numbers n such that n and n+1 have one prime divisor each

2·8A ? 208? [1], 2, 3, 4, 6, 9, 14, 22, 35, ..
Theoretical minimum of distinct prime factors in multiperfects of classes 2 ... 9 ... Ref PO2, vol I p 26 $\left[2 \cdot \frac{3}{2} \cdot \frac{5}{4} \cdots \frac{p_n}{p_n - 1} > N \right]$

209A [1], 2, 3, 4, 6, 11, 19, 41
Empirical minimum so far found for ditto

225A [1], 2, 3, 5, 6, 7, 11, 13, 14, 17, 19, 21, 22, 29, 31, 33, 37, 38 ..
have close
Values of D for simple quadratic fields $k(\sqrt{D})$, [Euclidean fields included]

~~246~~5A. = 245·5 [1], 2, 3, 5, 7, 11, 19, 29, 47, 71, 127, 191
Smallest value of n requiring a chain of length $l(n)$ in computation of x^n. Ref KNI vol 2 p 416

A 1, 2, 3, 5, 9, 15, 26, 44, 78, 136, 246, 432
Number of values of n requiring a chain of length $l(n)$. Ref KNI·2·417

325A 1, 2, 3, 7, 23, 41, 109, 191, 271, 2791, 11971, 31771, 190321 ..
Numbers for which series 246 are least pos prime primitive roots

342A = 342·5 1, 2, 3, 11, 27, 37, 41, 73, 77, ..
$n!+1$ is prime for these values of n

369A [1], 2, 4, 6, 8 ... 6592
$10^{2n} - 10^n + 1$ is prime for these values of n More terms? Ref?

385A 1, 2, 4, 6, 16, 12, 64, 24, 36, ..
Inverse of Series 86 (ie. $d(n)$)

426A [1], 2, 4, 8, 16, 30, 84 ... Lucas (have 1/2 this)
n spheres yield $(n/3)(n^2 - 3n + 8)$ regions of space

446A 1, 2, 4, 9, 11, 23, 37, 49, 67, 101 ...
Mersenne numbers which are the product of 2 primes

470A 1, 2, 4, 10, 28, ...
Permutation families on chequerboard lattice
See A. Sainte-Laguë: "Avec des nombres et des lignes" (Paris, 1946) p 143 for the 28 lessons when n=7

Some omitted sequences – continued

M2

Sequence

507A [1], 2, 5, 6, 14, 21, 26, 345, 6596
$\frac{1}{5}(2^{2n+1} - 2^{n+1} + 1)$ is prime for these values of n. [$n = 1$ or 2 mod 4, necessarily]

517A 1, 2, 5, 8, 14, 20, ...
Maximum number of circular triads. (Ranking theory)

521A 1, 2, 5, 9, 10, 11, 16, 17, 19, ...
Impossible values of $\sigma(n)$. Cf sequence 916

522A 1, 2, 5, 9, 14, 78, 81, 141, 189, ..
$2^{2n+1} + 2^{n+1} + 1$ is prime for these values of n. [$n = 1$ or 2, mod 4]

606A [1], 2, 5, 52, 88, 96, 120, 124, 146, 162, 188, 206, 210, ... 6563
Impossible values of $s(n)$. Cf sequence 915A below and sequence 884

731A [1], 2, 8, 32, . La Classe aux Nombres
$n.3^n + 1$ is prime for these values of n. [n is even]

780A [1], 2, 10, 40, 46, 86
$n.3^n - 1$ is prime for these values of n. [n even]

830A 1, 2, 16, 2048
The food chain code Martin Gardner

834A 1, 2, 18, 342480, ...
Number of reduced Euler squares orders 3, 4, 5, 7, ...

834B 1, 2, 19, 23 . . .
$\frac{1}{9}(10^n - 1)$ is prime

858A [1] 2, 33, 242, 40311, ... $A(N)$ is lowest integer such that 2, 3, 4, ... n consecutive integers have the same number of divisors

861A [1], 2, 37, 401, 577, Shanks MTAC
Lowest value of D having odd class numbers $h =$ 1, 3, 5.. for real quadratics

863A 1, 2, 46, 406, 718, 950,
As series 863 but for least prime solutions. MTAC 24–447–70

915A 1, 3, 4, 6, 7, 8, 9, 10 ...
Possible values of $s(n)$. Cf sequence 606A above which is to be preferred.

916A [1] 2, 3, 4, 6, 7, 12, 14, 30, 32, 33, 38, 94, ...
$\underline{n} - 1$ is prime

6597

928A [1], 3, 4, 8, 44. . .
$\frac{1}{5}(2^{2n+1} + 2^{n+1} + 1)$ is prime for these values of n. $n = 0$ or 3 mod 4

956A [1], 3, 5, 7, 13, 23, 47, ...
Theoretic lowest possible final factor for classes of multiperfects 2 to 7

959A [1], 3, 5, 7, 17, 61, 1093
Empiric ditto.

1003A 1, 3, 6, 11, 17, 25, 34, 44, 55, 72
Golomb linear difference sets, total length a minimum

1068A 1, 3, 7, 19, 25, 51, 109, 153, 213, 289, 1121. . .
As series 1068 but for least prime solutions

1347A $A_r = \{$ smallest n for which $s(n) \geq r \}$

1, 4, 9, 6, 6, 8, ..

M3

Some omitted sequences

Sequence

[illegible]3 A — 1, 3, 9, 14, 30, 60, 90 ·· [30n] ....
Weighings with at most 3 weights, all different, both pans used, of integer weights (to 30n+6) ...

1128 A — 1, 3, 9, 27, 50, 96, 192 ··· [96n] ....
Weighings with at most 4 weights, all different, both pans used of integer weights (to 96n+15)

1156A — 1, 3, 11, 13, 31, 37, 41, 43, 53, 67, 71, 73, 79, ·· 6559
Short period primes in the denary scale

1255 A — [1], 3, 23, 36, 39, 56, 75, 83, 119, 120, 176, 183, 228 ···
$2^{2n+1} - 2^{n+1} + 1$ is prime for these values of n. [n = 0 or 3 mod 4 necessarily]

1287A — [1] 2, 3, 251, 9843019, 121174811
N+2 consec primes in A.P. commence with these numbers.

1347 A — 1, 4, 9, 6, 8, 10, 15, 14 ··
Inverse of s (series 884)

1379 A — [1], 4, 11, 24, 45 ··· $\frac{1}{3}(n^3+2n)$ .... McMahon.
Equilateral triangles with colored sectors, n colors available

1414A — [1], 4, 14, 194, ··
Lucas-Lehmer numbers. $u_{n+1} = u_n^2 - 2$

1463 A — [1], 4, 25, 168, 1229, 9592, ...
Number of primes < 10^n too special

1530A — [1], 5, 6, 7, 13, 14, 15, 21, 22, 23, 29, 30, 31, 34, 37, 38, 39 ....
Congruent numbers. Values of A for which $xy(x^2-y^2) = Az^2$ has integral solutions.

1530 B — [1], 5, 6, 10, 13, 14, 15, 17, 21, 22, ··
Non-simple quadratic fields $k(\sqrt{-D})$

1555A — 1, 5, 11, 14, 47, 26, 71, 41, [Inverse Function for sequence 13]
Cohn, 2nd course — Imaginary quadratic forms. Least determinant having class number n

1572 A — 1, 5, 13, 35, 49, ··
Interior intersections of diagonals of a regular n-gon

1632A — 1, 5, 29, 23669, 1508789, 5025869, 9636461
As 1632 but for least prime solutions

1662 A — [1], 5, 53, 157, 173, 211, ··
Primes which are average of their neighbours

1663A — 1, 5, 53, 173, 293, 2477
As 1663 but for least prime solutions

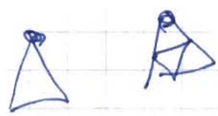
** 1683B — [1], 6, 7, 9, 12, 13, 15, 17, 19, 20, 22, 26, 28, 30, 31, ··· Dickson ?? new
Dudeney Lucas — $x^3+y^3 = Az^3$ has integral solutions for these values of A

1693 A — [1], 6, 9, 19, 20, ···
Cubes of these numbers are sums of 3 different cubes.

** 1683A — [1] 3, 6, 7, 7, 23, 62 ··· ${}^{A(N)}C_N$ has all factors > N. A(N) > N+1
(e.g. ${}^{62}C_6$)

Poled = rooted

Brown



Some omitted sequences - continued

M4

Sequence

1699A [1], 2, 6, 12, 24, 40, 72, 126, 240, 272
Maximum number of equal spheres, in 2, 3, ... dimensions, to touch a sphere, assuming their centres are points of a lattice

1712A 1, 6, 19, 44, ... $\frac{2n^3+n}{3}$ ...
Poled octahedral numbers   Dickson II Ch 1

1712B [1], 6, 20, 28, 70, 88, 104, 272, 304, 368, 464, 496, 550, 572, ...
Dickson   Even primitive non-deficient numbers (i.e. those not multiples of smaller ones). All their multiples are abundant

1728A 1, 6, 24, 70, 165 ... $\frac{n}{4}(n+1)(n^2-n+2)$
MacMahon   Squares with coloured sectors, n colours available. McMahon

1796A [1], 6, 120, 27720, 122522400, 130429015516800, ...
Lowest numbers for which $\frac{\sigma(n)}{n}$ attains (or exceeds) 2, 3, 4 ...

1796B [1], 6, 120, 30240, 14182439040, $(2^{15}.3^5.5^2.7^2.11.13.17.19.31.43.257)$ ...
Poulet   Lowest multiperfect of class (perfect) 2, 3, 4, 5, 6, ...

1796C [1], 6, 120, 30240, 796928461056000 ...
Multiperfects with lowest final factor. Classes 2, 3, 4, 5 ...

1808A 1, 6, 1344, 906545760, ...
BAUDOT   Baudot or Gray Code   M Gardner

1827A 1, 7, 19, 37, 61, 91 ... $(3n^2-3n+1)$
Centred hexagonal numbers

1888A 1, 7, 127, 463 ...
Least prime solutions (as 1888)

1908A 1, 8, 35, 110, 287, 632, ...   6600
Number of triangles of a regular n-gon with all diagonals drawn in.

2000A [1], 10, 15, 26, 30, 34, 35, 39, 42, 51, 55, 58, 65, 66, 70 ...
Non-simple quadratic fields $k(\sqrt{D})$. Values of D   [cf Seq 225A]

2067A 1, 12, 48, 124 ... $\frac{n}{2}(5n^2-5n+2)$ ...   6564
Poled icosahedral numbers

2097A 1, 13, 55, 147, ...
Centred cuboctahedral numbers. $\frac{10n^3-15n^2+11n-3}{3}$

2113A [1], 14, 22, 23, 31, 38, 43, 46, 47, 53, 59, 61, ...
Simple non-Euclidean fields $k(\sqrt{D})$

2113B 1, 14, 26 ... 86, 90 ...   [Converse of Seq 370]
Impossible values of reduced totient (or indicator)

2113C 1, 14, 26 ... 86, 94, ...   [Converse of Seq 371]
Impossible values of totient

2116A [1], 14, 130, ... $\frac{n}{6}(n+1)(n^4-n^3+n^2+2)$ 6565
Regular hexagons with coloured sectors, n colours available

2120A [1] 2, 14, 206, 957, 1334, 1364, 1634, 2685, 2974, 4364, ...
$\sigma(n) = \sigma(n+1)$ e.g. $\sigma(14)=\sigma(15)$
1, 2, 14

Sequence

2195A. 1, 19, 43, 67, 163, 222643, ...
As 2195 but for least prime solutions

2203A 1, 20, 84, 220 . . $\frac{n}{2}(3n-1)(3n-2)$ . . .   6566
Pointed dodecahedral numbers

2222A [1], 22, 1001, 2882, 15251, 720027, . .
Palindromic pentagonals

2223A 1, 23, 29, 31, 37
Relating to Series 1088. Values of p

2226A 1, 23, 71, 311, 479, 1559, 5711, 10559, 18191, 31391, 366791, .
Negative primes with large least non-residues [MTAC 24·436·70] = Seq 1843

2243A [1], 24, 840, 3360, . . .
Least common difference. 3 Squares in A.P. in 1, 2, 3, . . . ways

2278A [1], 33, 93, 141, . .
Numbers for which $d(n) = d(n+1) = d(n+2)$

2281A 1, 35, 140, . . .
Series 2243A divided by 24

2302A [1], 48, 960, . . .   [Orders 4, 5 . . . .]
Total number of diagonal Latin Squares. (Main diagonals)

2325A [1] 72, 6912, $(342480 (\lfloor 7)^2 \lfloor 6)$,
Total number of Euler squares of orders 3, 4, 5, 6 . . . .

2327A [1], 84, 120, 720, . . .
Perimeters of lowest sets of n equiperimetric pythagorean triangles

2329A [1], 91, 121, 561, 671, 703, 949, . [Carmichael numbers excluded]
Smallest values of n for which $3^n \equiv 3 \bmod n$, n not a multiple of 3

2347A 1, 141, ...
$n.2^n+1$ is prime. [$n = 0, 1, 2$ or $3 \bmod 6$ necessarily.]

2350A [1], 210, 840, 341880
Areas of lowest set of n equiareal pythagorean triangles

2350B [1] 210, 13123110, . .
Ditto for primitive pythagorean triangles

2352A [1], 242,   6601
Numbers for which $d(n) = d(n+1) = d(n+2) = d(n+3)$

2353A [1], 264, 129976320, $[2^{17}.3^{11}.5^2.711.40787]$, - - .
Eulerian cycles on complete pentagon, heptagon, nonagon,

2368A [1], 561, 1105, 1729, 2465, 2821, 6601, 8911, 10585, . . .
Carmichael numbers

2368B 1, 631, 5531, . . .
Primes with largest least non 7-ic residues [cf RS 5]

2372A [1], 858, 7140, 158730, . . .
Beiler Lowest semiperimeters of set of n primitive equiperimetric pythagorean triangles.

Some omitted sequences (continued)

Seq

23728 [1], 945, 1575, 2205, 3465, 4095, 5355, 5775, 5985, 6435, 6825, 7245, 7425
Lucas
Ore
Odd primitive non-deficient numbers. Cf Sequence 1712B

Supplement to above

273A [1], 2, 3, 5, 11, 23, 29, 41, 53, 89, 113, 131, 173, ... A5384
Primes p for which 2p+1 is also a prime

462A [1], 2, 4, 10, 12, 26, 34, 48, 60, 88, 152, ... *
Values of l (period length) for which $\frac{l^2}{N}$ is a monotone increasing function where l is the period length of $\sqrt{N}$ as a continued fraction

776A [1], 2, 10, 24, 44, 70, ... $n(2n-1)$
Number of valid moods of an n-term Aristotelian syllogism ‡(C.A. Meredith: Dominican Studies Vol 6 p42, 1953, who also gives expressions for the total number of figures and the number of figures with valid moods)

1082A [1], 3, 7, 43, 46, 211, 331, 631, 919, 1726, 4846 ... *
Values of N for which l^2/N is a monotone increasing function of 462A

1308A [1], 4, 5, 8, 9, 12 ......
Possible number of players (v) in ~~fast~~ [i.e. $[\frac{v}{4}]$ games are played simultaneously] and equitable bridge tournaments. [They are equitable as each player has every other player once as partner and twice as opponent]

1535A [1], 5, 7, 11, 23, 47, 59, 83, 107, 167, 179, 227, 263, 347, 359, 383, 467, 479, 503, 563, 587, ...
Primes for which $\frac{p-1}{2}$ is also a prime

1529A [1] 5, 8, 15, 77, 125, 714,
$A(n) = A(n+1)$ in Sequence 168

* MTAC in 1960's

‡ Lists of "Priest"
Elem book ~~Modal~~ Logic