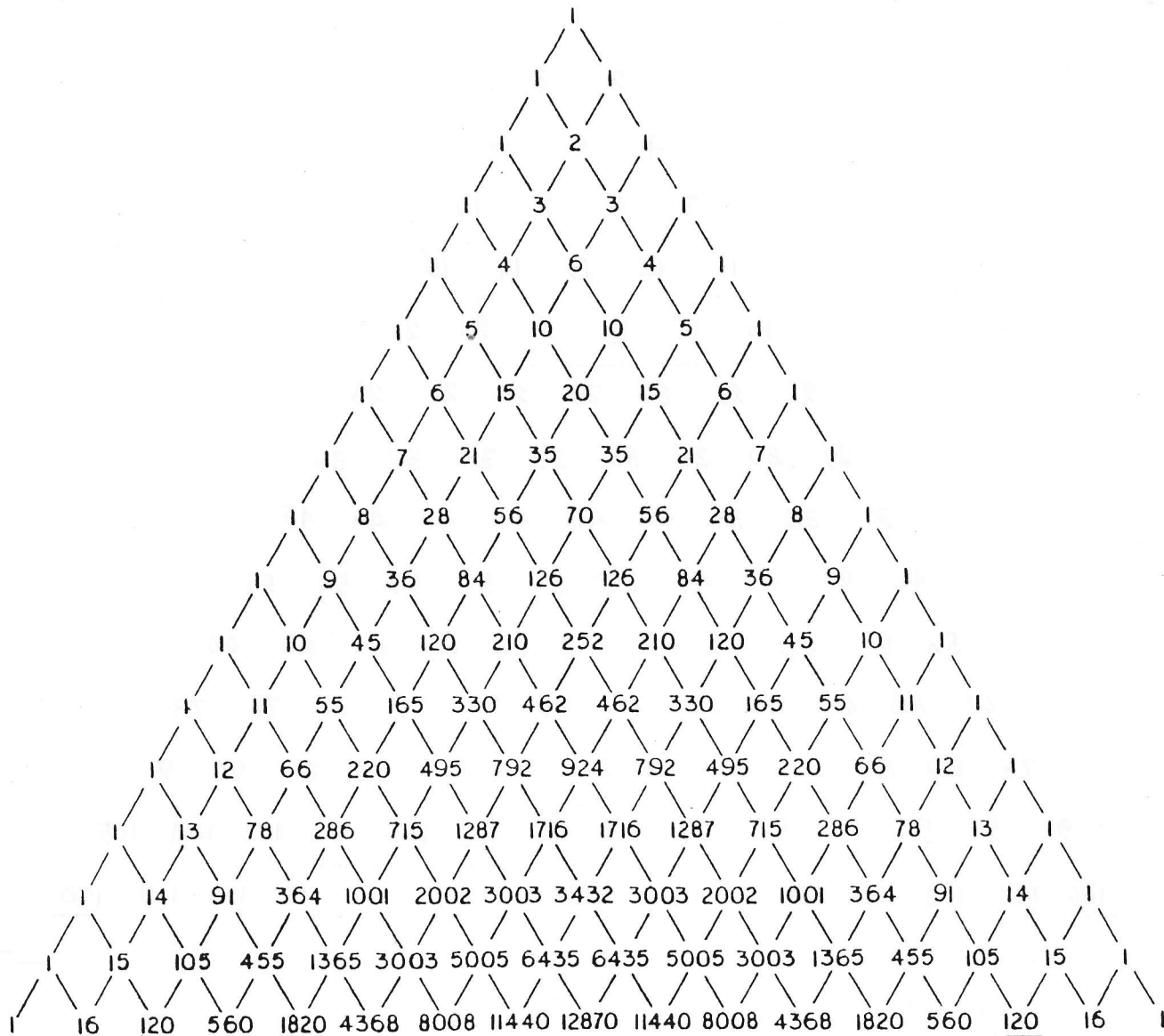


Pascal's Triangle (Meru Prastāna)

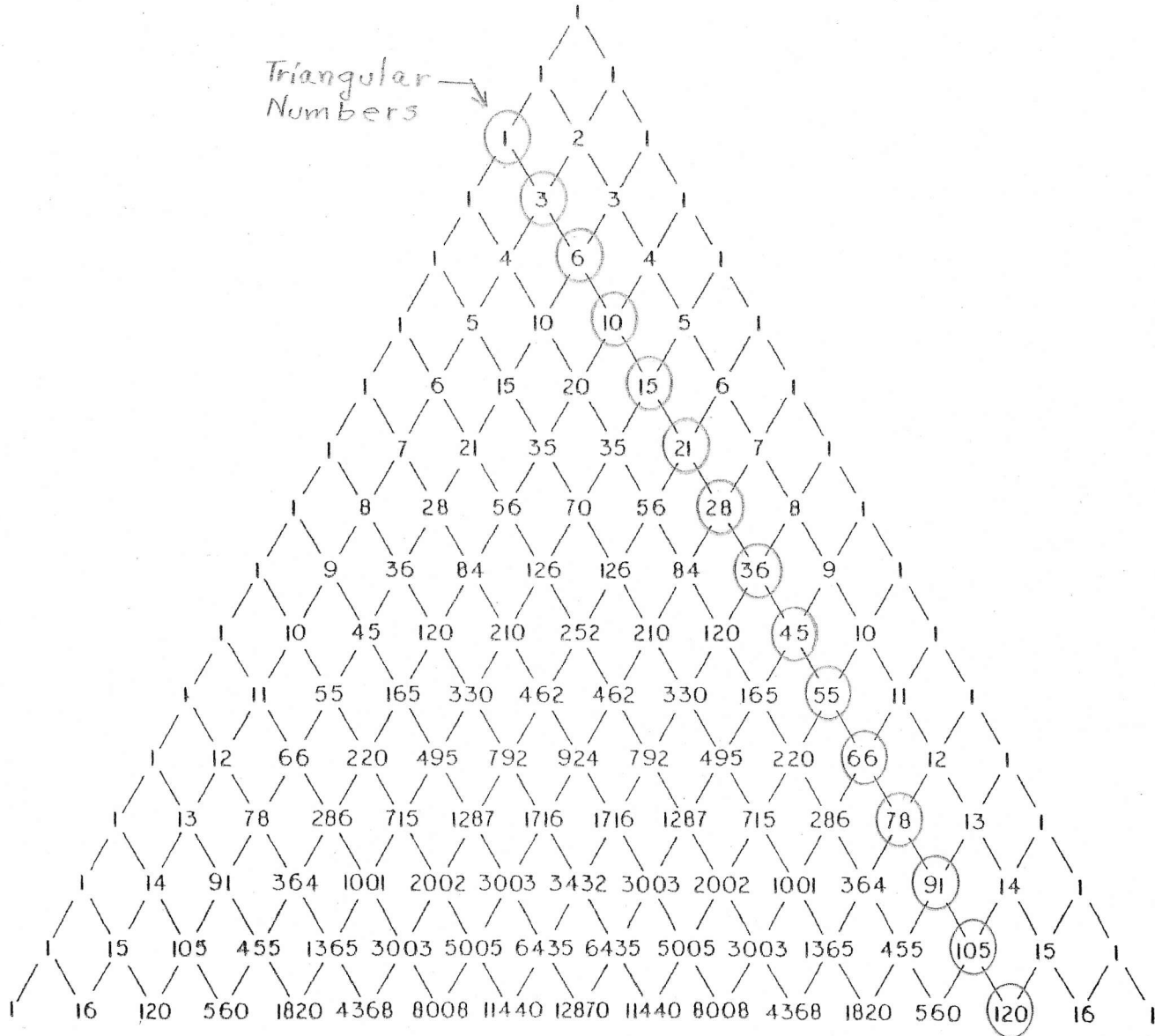
© by Erv Wilson 2005



Triangular numb
St. 14575

The Triangle, showing triangular numbers to 120
 ref. 120 Jade Pebbles

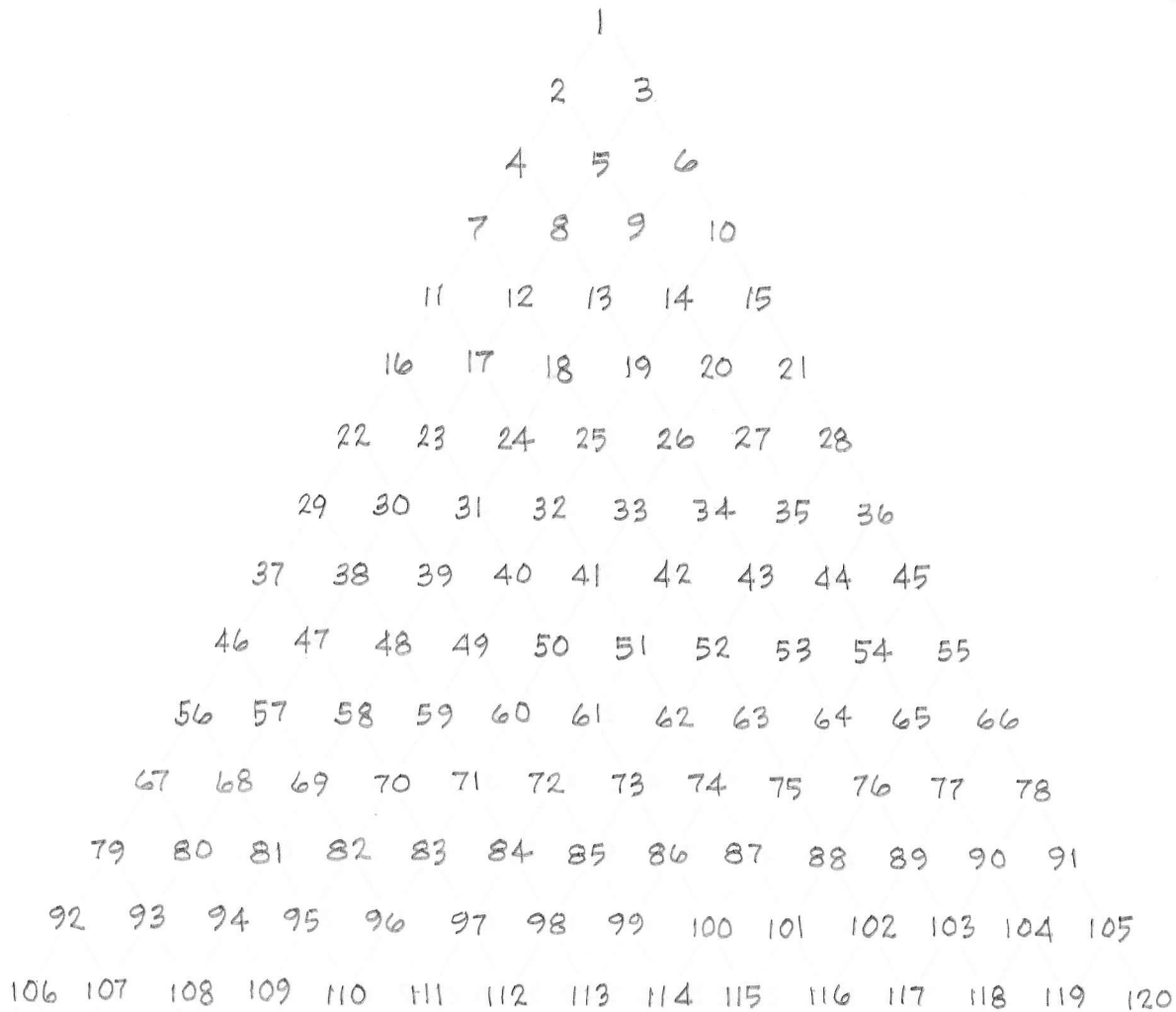
©2004 by Ervin M. Wilson



21 Aug 04, EW

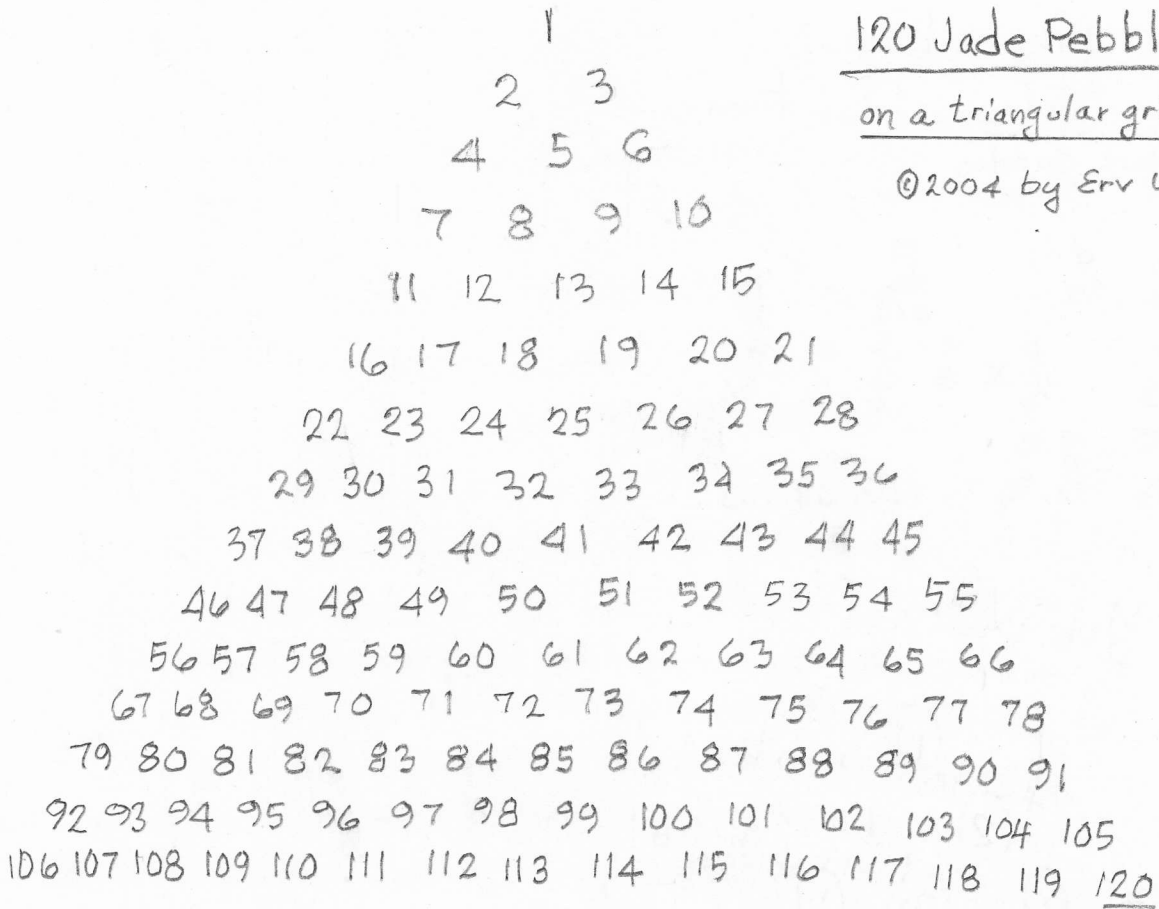
120 Jade Pebbles

©2005 by Erv Wilson



Triangular number

Sloane M253



120 Jade Pebbles,
on a triangular grid

©2004 by Erv Wilson

Triangular numbers $n(n+1)/2$
Sloane M2535

Ref. New Finds Put Maya Culture Back a Few Centuries, by Thomas H. Maugh II
Los Angeles Times, May 5, 2004

120 Jade Pebbles

8 May 04 EW

1.		0.
3.	2 — ○ ○ — 2	1.
6.	1 — . ○ . — 3	2.
10.	2 — . ○ ○ . — 5	3.
15.	2 — . ○ . ○ . — 7	4.
21.	4 — . ○ ○ ○ ○ . — 11	5. —
28.	2 — . ○ . . . ○ . — 13	6.
36.	6 — . ○ ○ ○ ○ ○ ○ . — 19	7. —
45.	4 — . ○ . ○ . ○ . ○ . — 23	8.
55.	6 — . ○ ○ . ○ ○ . ○ ○ . — 29	9.
66.	4 — . ○ . ○ . . . ○ . ○ . — 33	10.
78.	10 — . ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ . — 43	11. —
91.	4 — . ○ . . . ○ . ○ . . . ○ . — 47	12.
105.	12 — . ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ . — 59	13. —
120.	6 — . ○ . ○ . ○ . . . ○ . ○ . ○ . — 65	14.
136.	1 2 2 3 4 3 4 3 7 1 7 3 4 3 4 1 3 2 2 1 1 1	
153.		

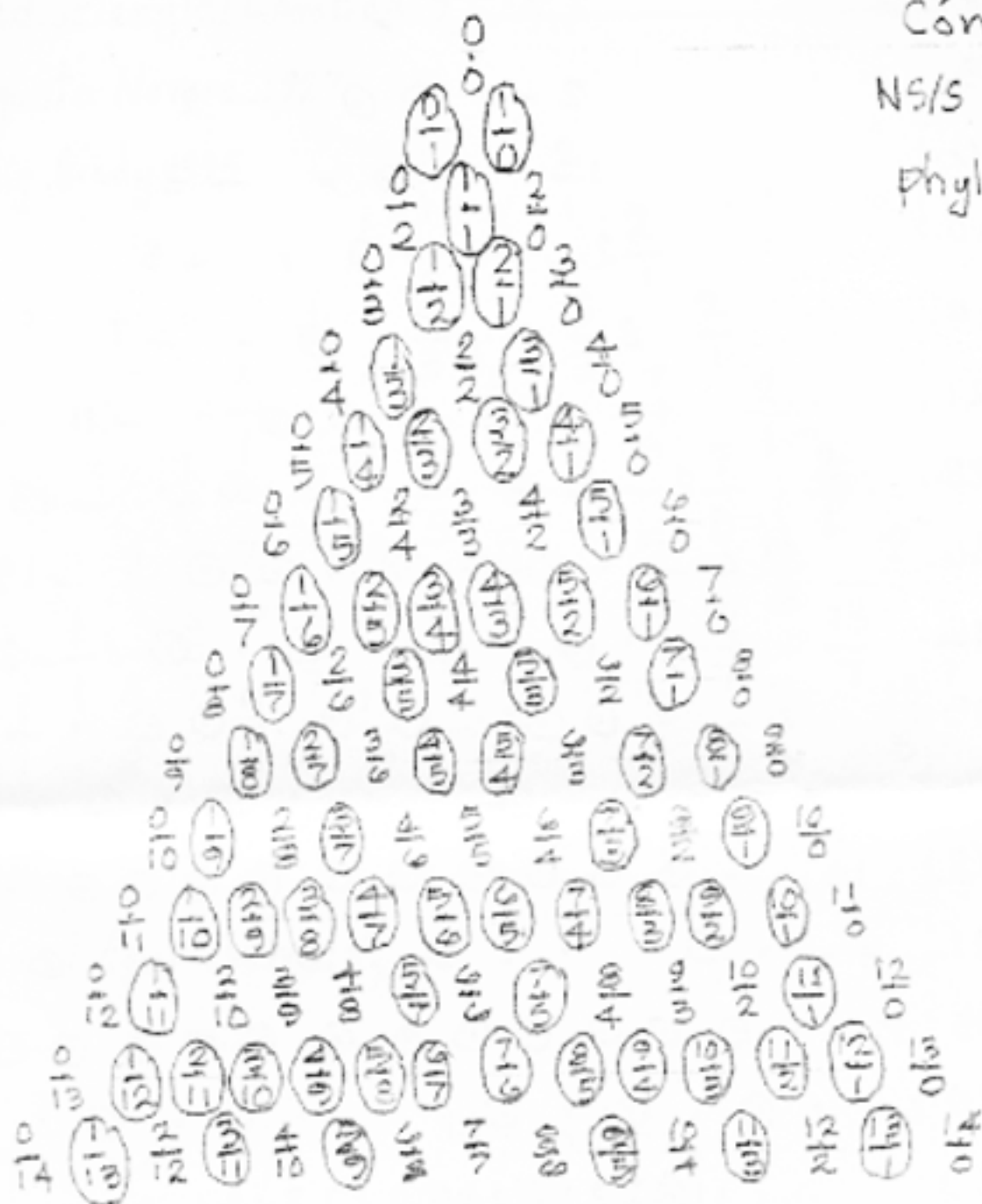
also: $1 \times 2 \times 3 \times 4 \times 5 = 120$, $5!$

$$3 \times 120 = 360$$

Ref: "New Finds Put Maya Culture Back a Few Centuries"
by Thomas H. Maugh II, Los Angeles Times May 5, 2004

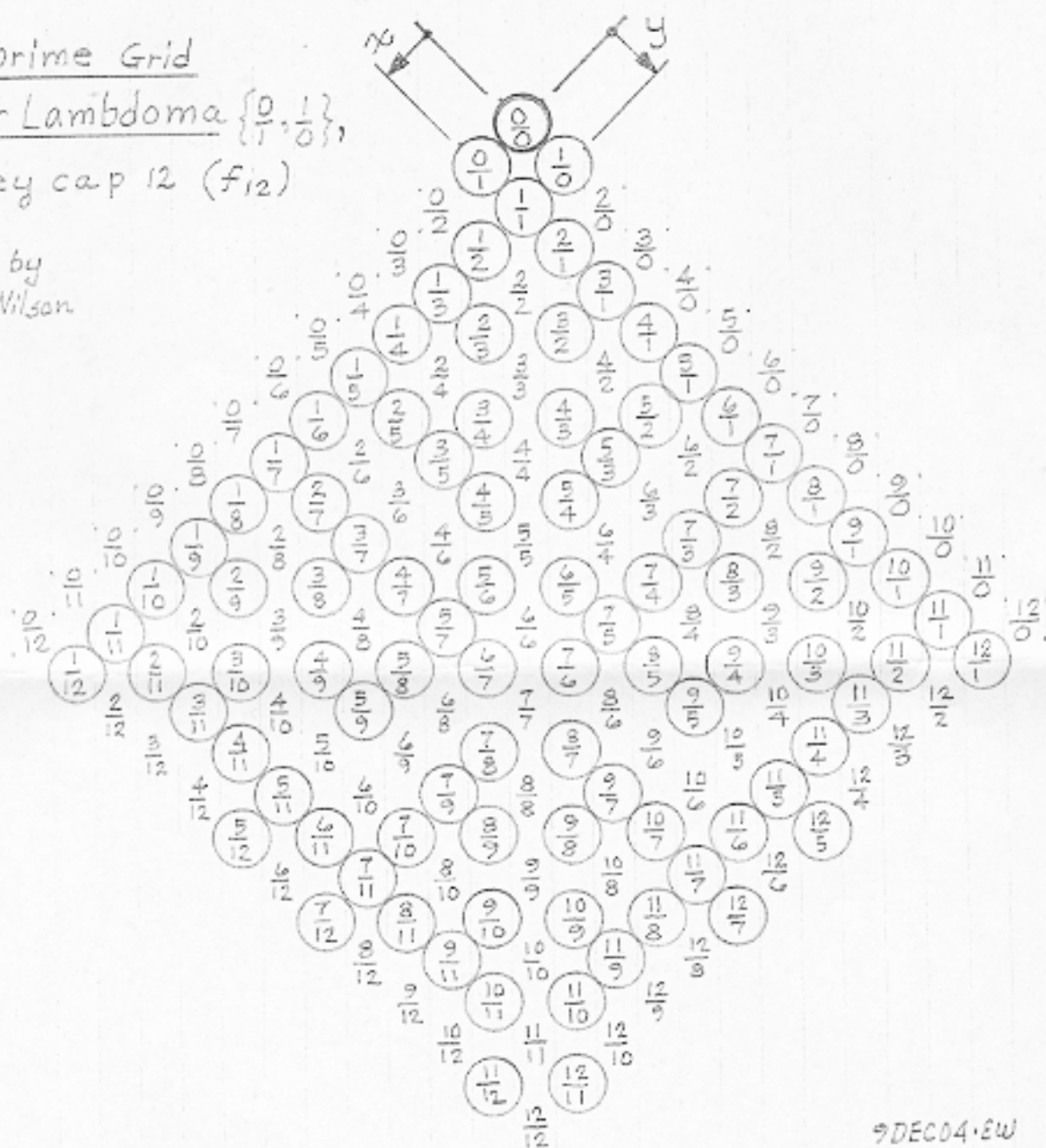
What if Jade-green Corn

Cónico
NS/S Shoe-peg
phyllotaxis



Co-prime Grid
Over Lambdaoma $\left\{\frac{0}{1}, \frac{1}{0}\right\}$,
 farey cap 12 (f_{12})

© 2004 by
 Ervin M. Wilson



9DEC04·EW

- Sistema Natural base del Natural Aproximado, por Augusto Novaro, 1927
 Genesis of a Music, by Harry Partch, 1949
 The Farey Series of Order 1025, E. H. Neville, 1950
 A Brief History of the Lambdaoma, by Barbara Hero, 1995, in Xenharmonikon 16
 So-Called Farey Series, extended $\frac{9}{1}$ to $\frac{1}{0}$, by Ervin M. Wilson 1996
 Diagonal Co-prime Grid over Mount Meru, by Erv Wilson 2004

The Combination Product Sets 2-out-of-n / Triangular Nos.

© by Ervin McDonald Wilson 2005 work in progress.

The triangular series thru 120, if taken as CPS will cover 8 octaves. Very practical

Combinations	ere	CPS	
2 out of 2	1	Monany	1x1
2 out of 3	3	Triany	1x3
2 out of 4	6	Hexany	2x3
2 out of 5	10	Dekany	2x5
2 out of 6	15	etc.	3x5
2 out of 7	21	↓	3x7
2 out of 8	28		4x7
2 out of 9	36		4x9
2 out of 10	45		5x9
2 out of 11	55		5x11
2 out of 12	66		6x11
2 out of 13	78		6x13
2 out of 14	91		7x13
2 out of 15	105		7x15
2 out of 16	<u>120</u>		8x15

Combinations
Triangulars

Straightforward
Jade green pebbles, El Cival could have done this, easy.
Sloane M2535 and so forth, etc.
Triangular numbers $n(n+1)/2$

17	136	8x17
18	153	9x17
19	171	9x19
20	190	10x19
21	210	10x21
22	231	11x21
23	253	11x23
24	276	12x23
25	300	12x25

10 Jun 05 • EW

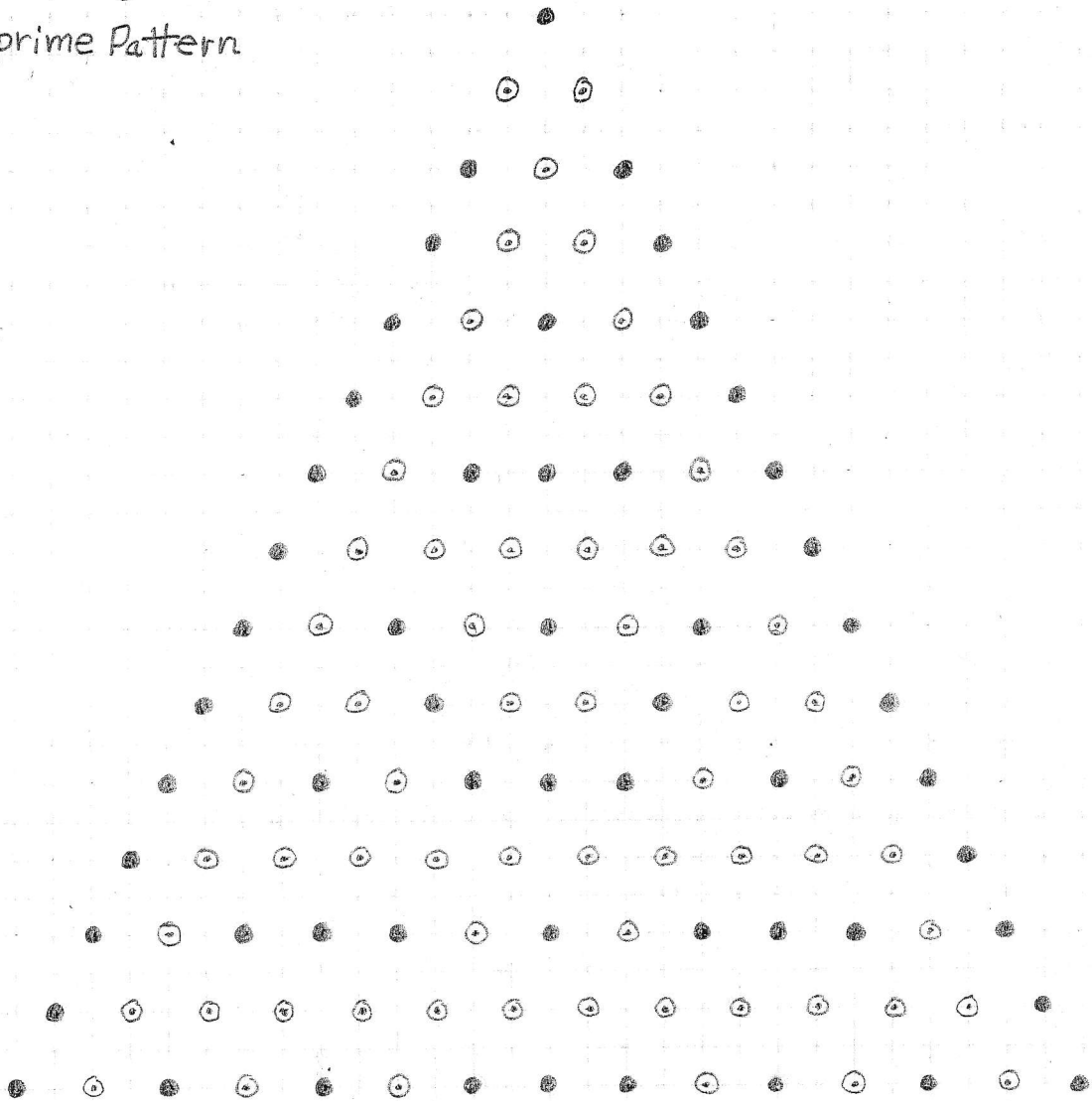
120 Jade Pebbles

sheet 1 of 5

©2004 by Ervin M. Wilson
work in progress -

①

⊙ = Coprime Pattern



$1+2+3+4+5+6+7+8+9+10+11+12+13+14+15 = \underline{120}$ jade pebble triangular-pattern.

ref. "New Finds Put Maya Culture Back a Few Centuries", by Thomas H. Maugh II
in Los Angeles Times p. A14, May 5, 2004

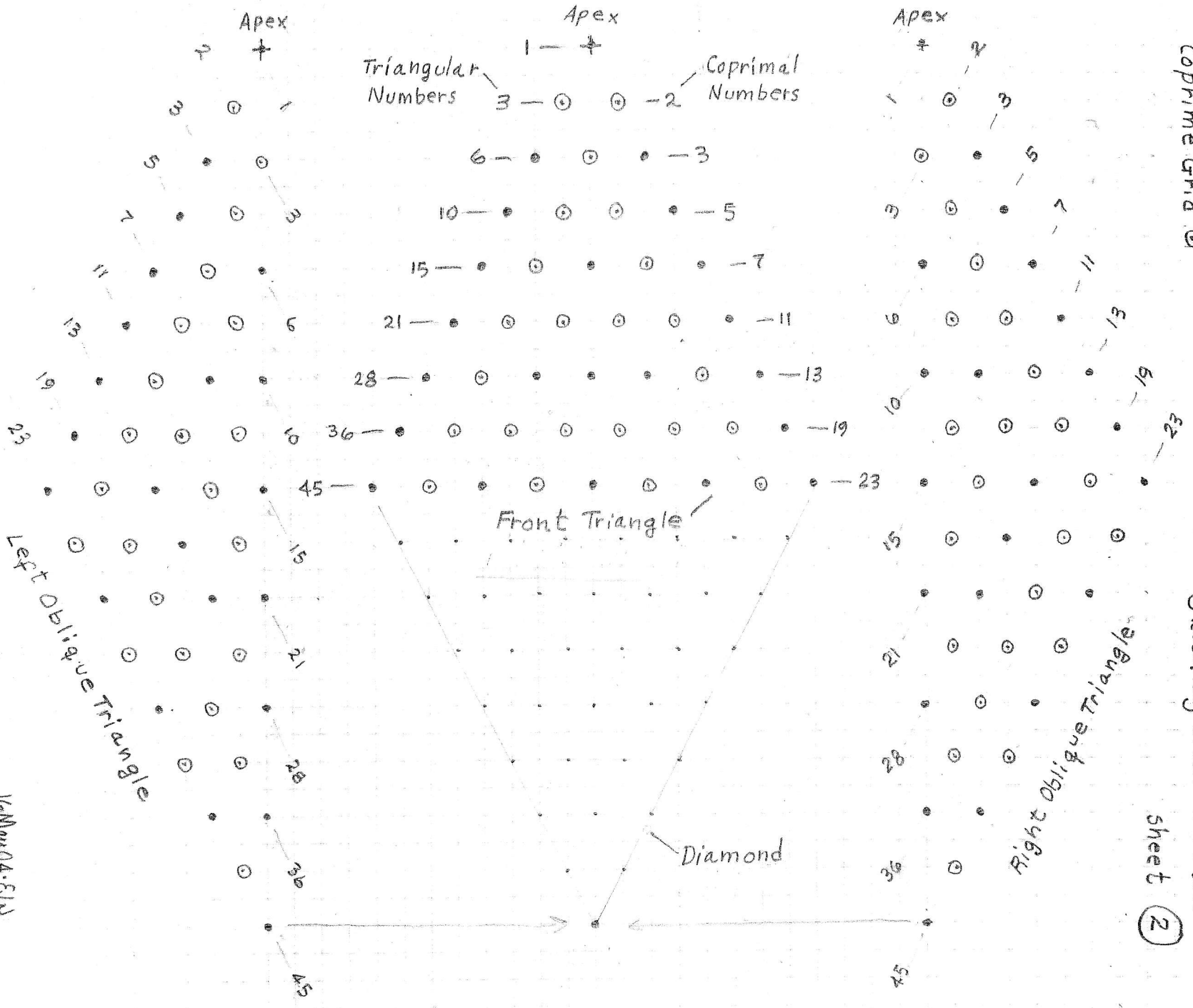
"Nuevo Sistema de la Musica", 1927 and 1951, by Augusto Novaro

How three Triangles occupy the Diamond Field

Coprime Grid ①

© 2004 by Ervin M. Wilson

Sheet ②



16 May 04. E.M.W.

sh (3)

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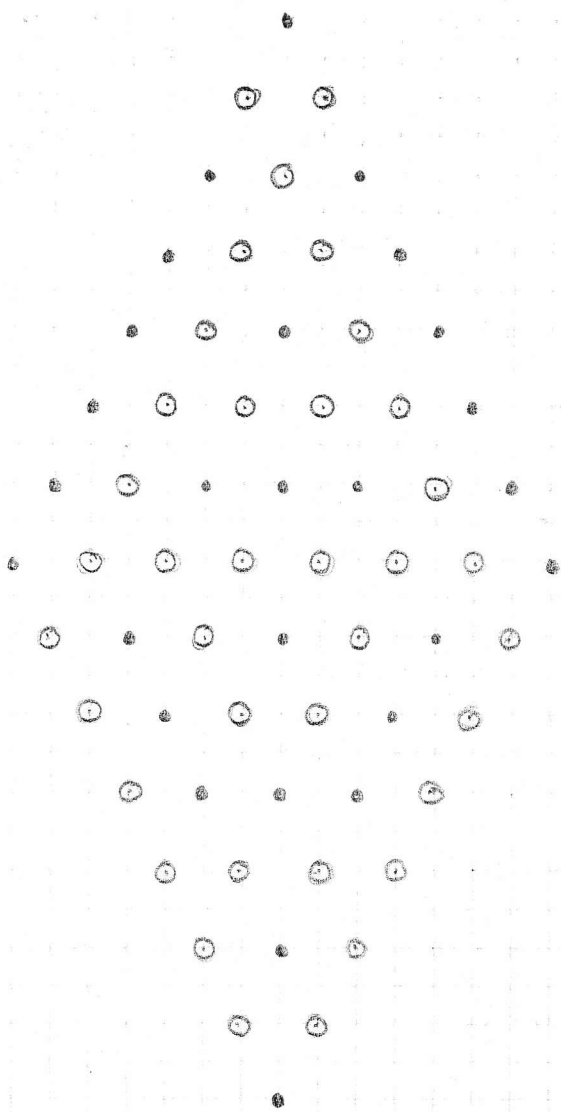
○ ○

○ ○

21/36

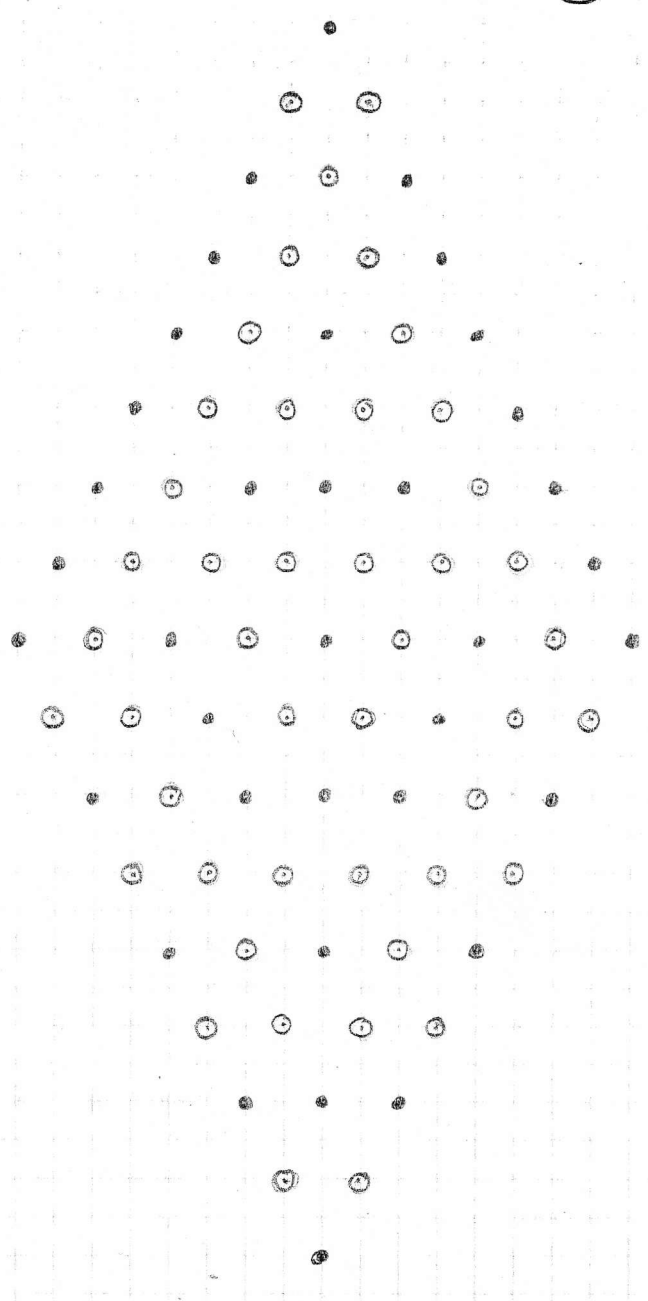
○ ○

25/49



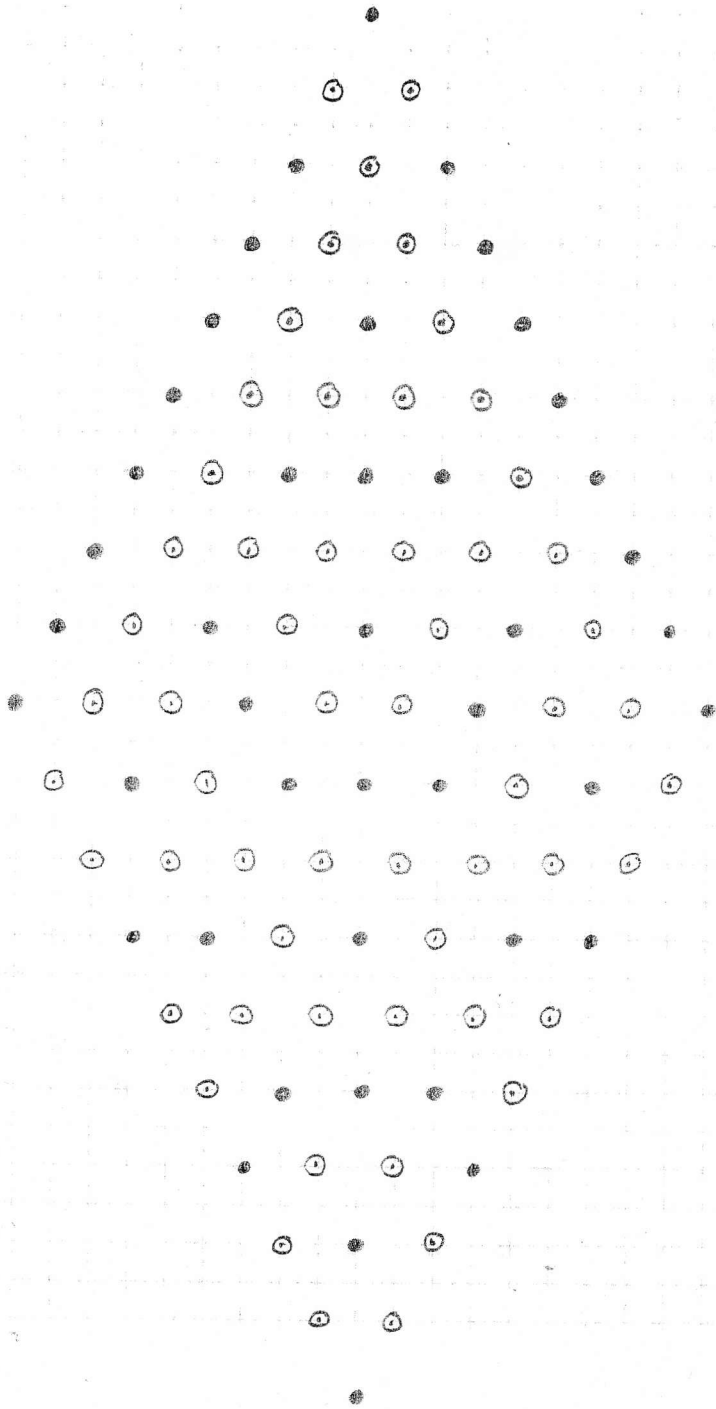
$\frac{37}{64}$

Simple accretion process
pixels



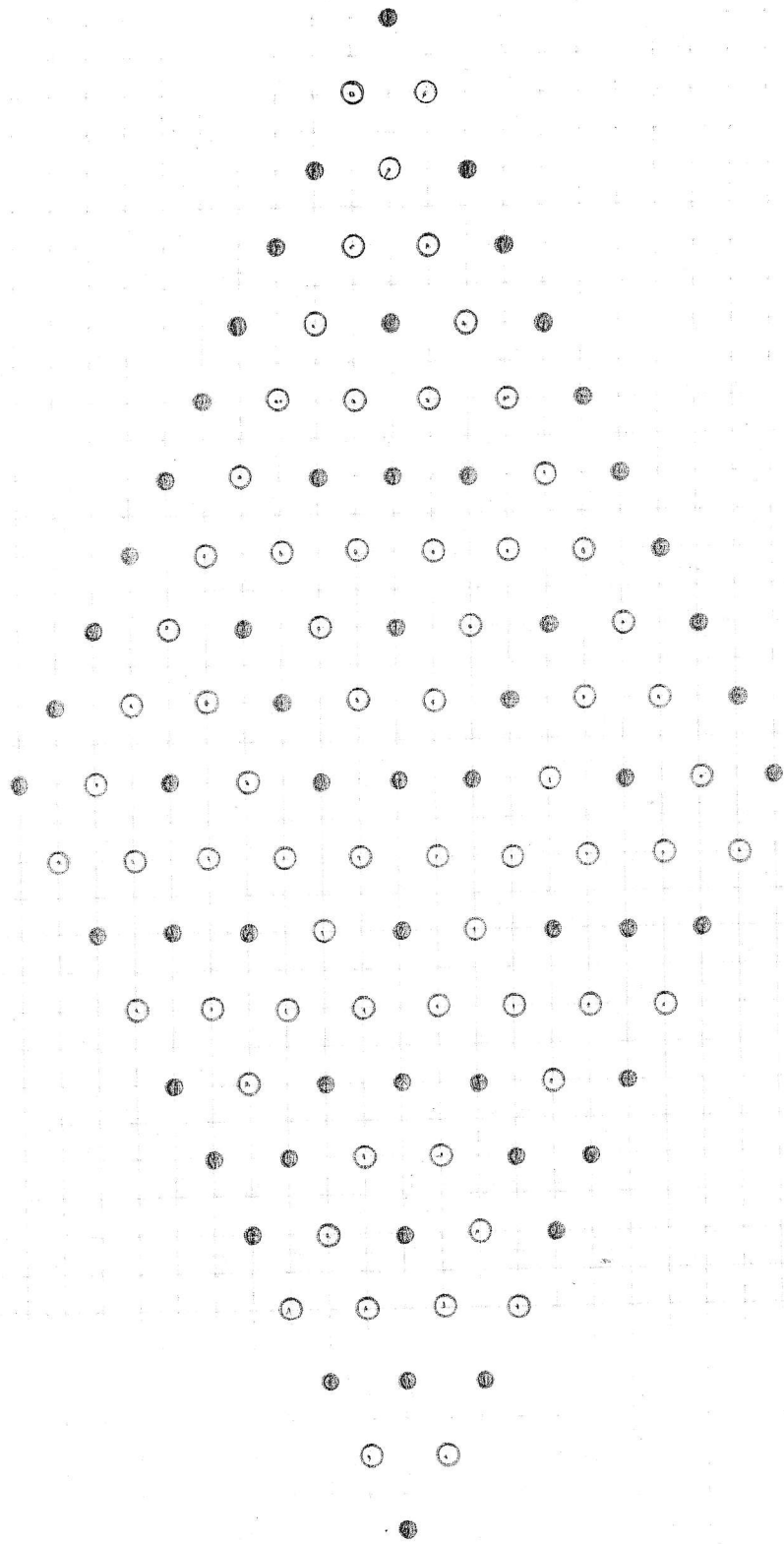
$\frac{45}{81}$

5



$\frac{43}{100}$

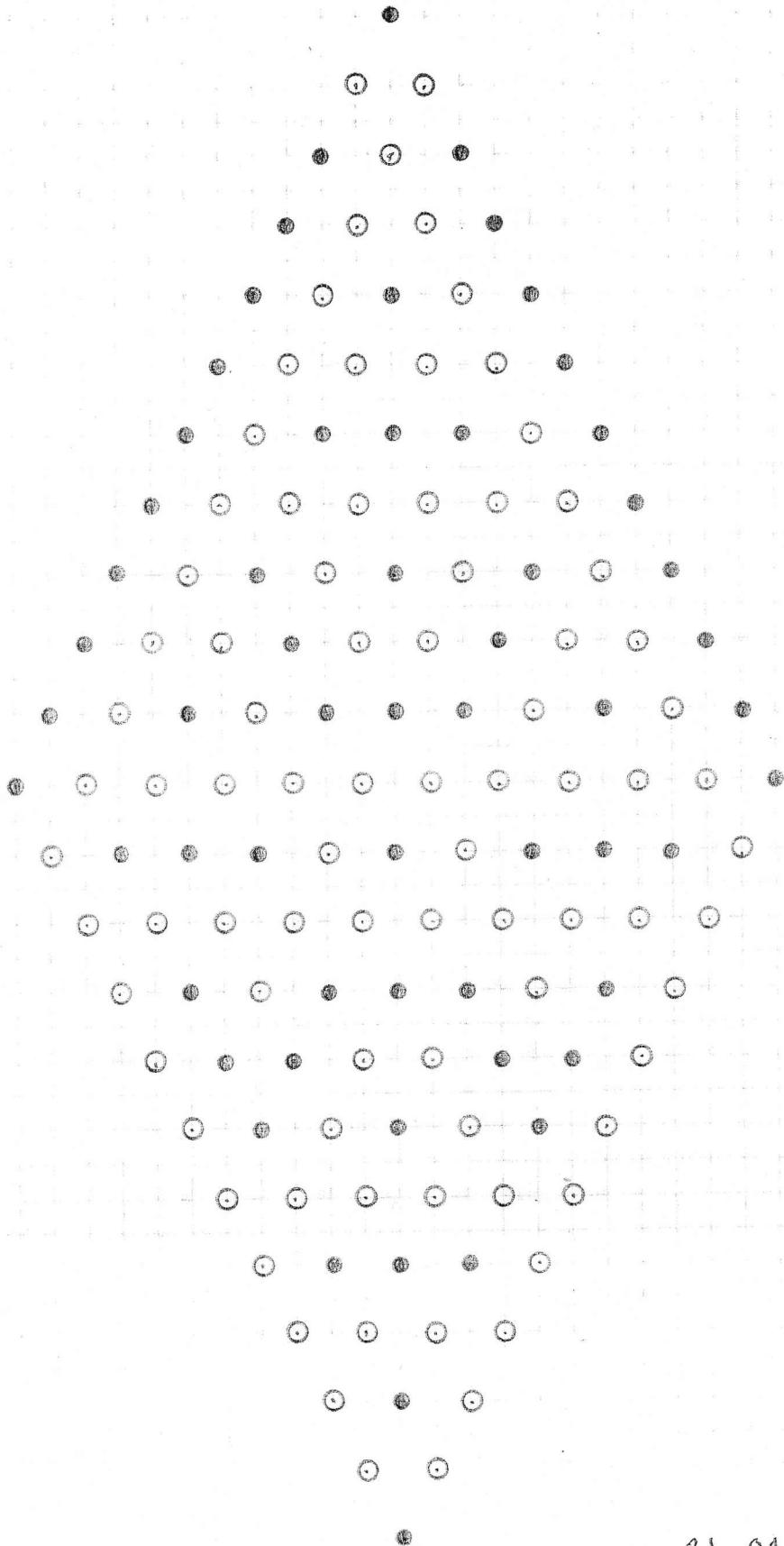
6



65
121

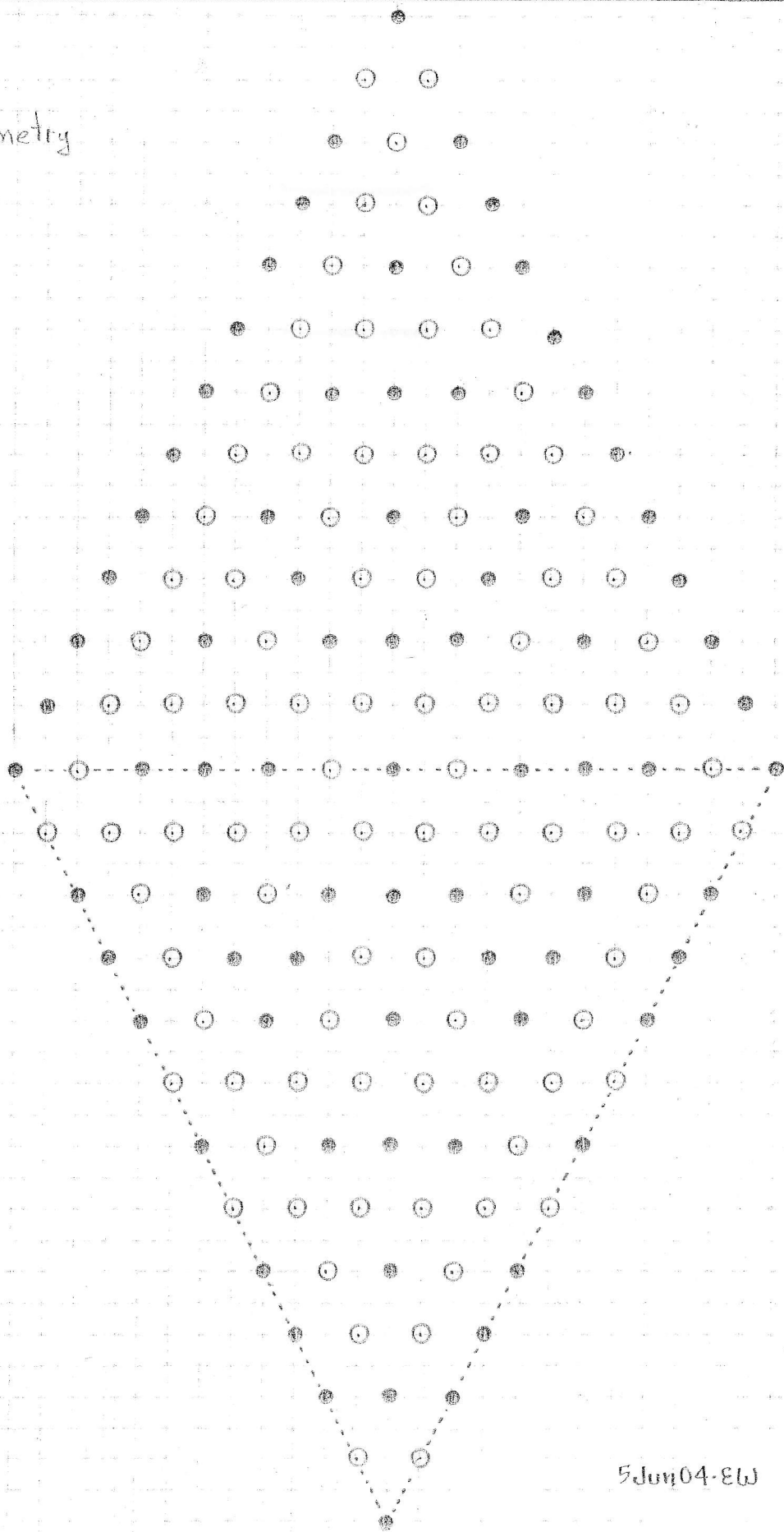
3 Jun 04. EW

7



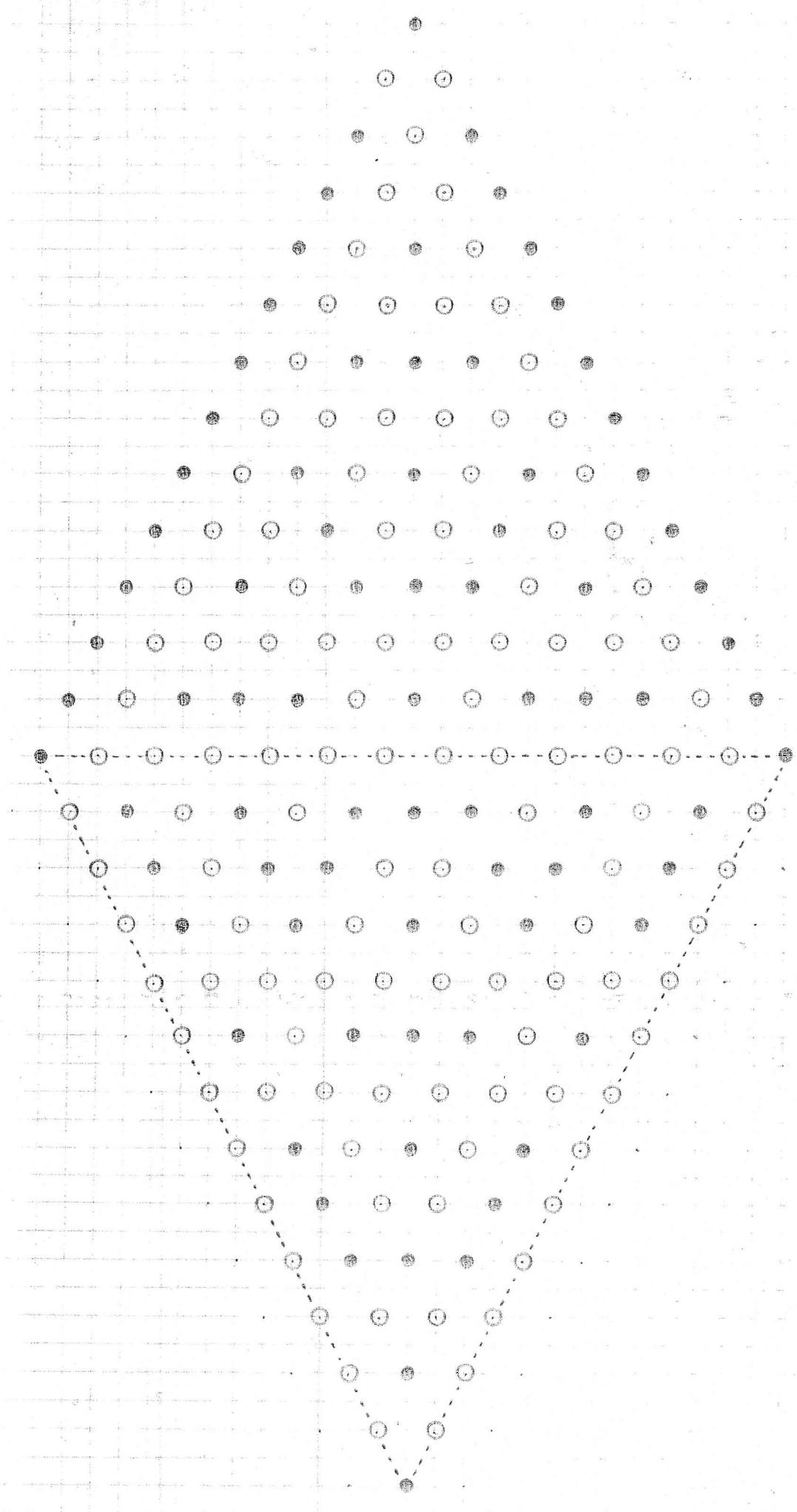
3Jun04.EW

Tri-axial symmetry



5 Jun 04 - EW

9

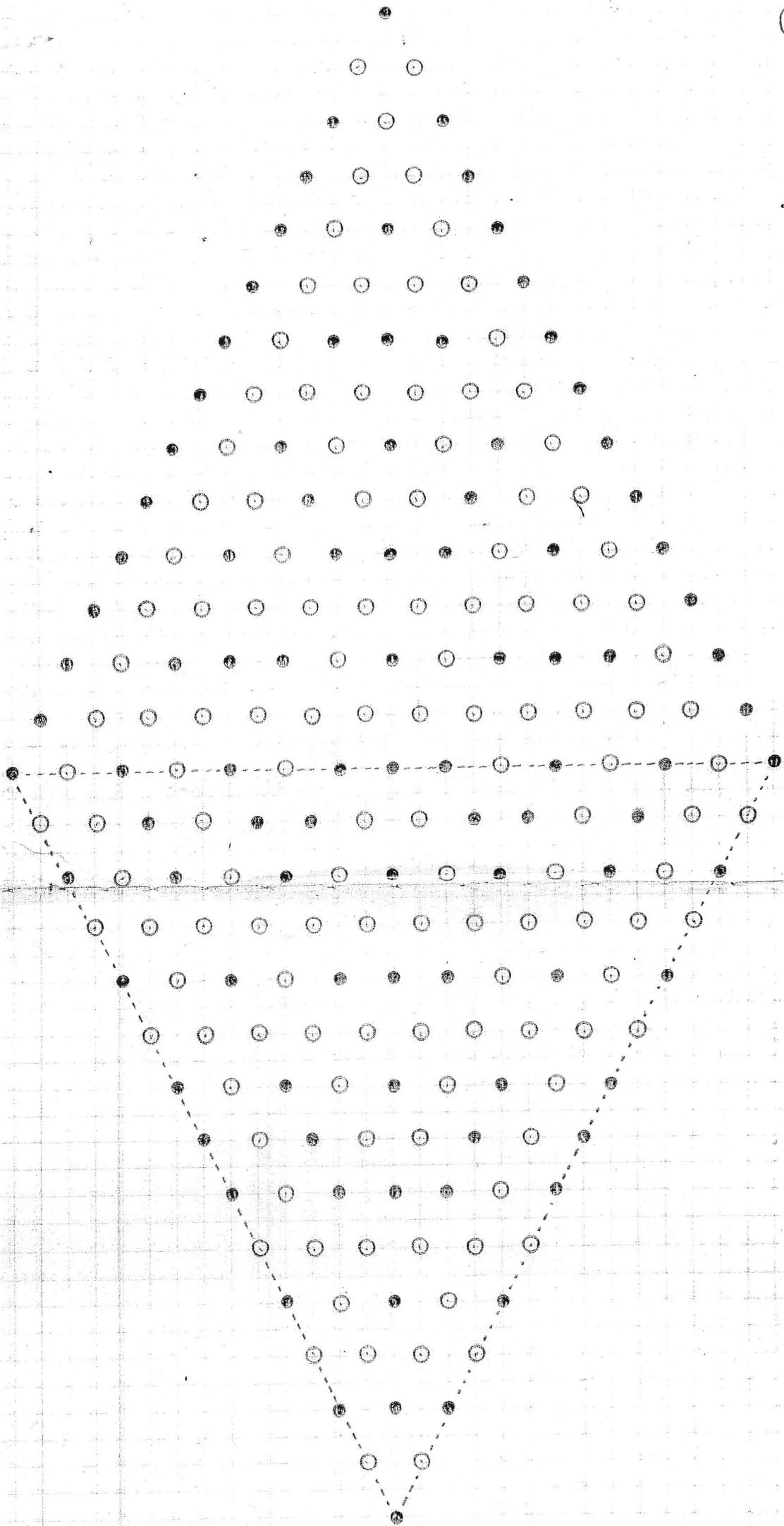


59

117
196

6 Jun 04 - EW

10



TJun04.ELW

129
225

"The Triangular Numbers and Factors"

© 2006 by Ervin M. Wilson, work in progress

1.

Factor	Pebble count	Factor	Pebble count	Factor	Pebble count
0.1	0	18.37	666	36.73	2,628
1.1	1	19.37	703	37.73	2,701
1.3	3	19.39	741	37.75	2,775
2.3	6	20.39	780	38.75	2,850
2.5	10	20.41	820	38.77	2,926
3.5	15	21.41	861	39.77	3,003
3.7	21	21.43	903	39.79	3,081
4.7	28	22.43	946	40.79	3,160
4.9	36	22.45	990	40.81	3,240
5.9	45	23.45	1,035	41.81	3,321
5.11	55	23.47	1,081	41.83	3,403
6.11	66	24.47	1,128	42.83	3,486
6.13	78	24.49	1,176	42.85	3,570
7.13	91	25.49	1,225	43.85	3,655
7.15	105	25.51	1,275	43.87	3,741
8.15	120	26.51	1,326	44.87	3,828
8.17	136	26.53	1,378	44.89	3,916
9.17	153	27.53	1,431	45.89	4,005
9.19	171	27.55	1,485	45.91	4,095
10.19	190	28.55	1,540	46.91	4,186
10.21	210	28.57	1,596	46.93	4,278
11.21	231	29.57	1,653	47.93	4,371
11.23	253	29.59	1,711	47.95	4,465
12.23	276	30.59	1,770	48.95	4,560
12.25	300	30.61	1,830	48.97	4,656
13.25	325	31.61	1,891	49.97	4,753
13.27	351	31.63	1,953	49.99	4,851
14.27	378	32.63	2,016	50.99	4,950
14.29	406	32.65	2,080	50.101	5,050
15.29	435	33.65	2,145	51.101	5,151
15.31	465	33.67	2,211	51.103	5,253
16.31	496	34.67	2,278	52.103	5,356
16.33	528	34.69	2,346	52.105	5,460
17.33	561	35.69	2,415	53.105	5,565
17.35	595	35.71	2,485	53.107	5,671
18.35	630	36.71	2,556	54.107	5,778

↑ Ref M2535, Encyclopedia of Integer Sequences, Sloane

3 JUN 06 EW

108.217	23,436
109.217 ²¹⁷	23,653
109.219 ²¹⁸	23,871
110.219 ²¹⁹	24,090
110.221 ²²⁰	24,310
111.221 ²²¹	24,531
111.223 ²²²	24,753
112.223 ²²³	24,976
112.225 ²²⁴	25,200
113.225 ²²⁵	25,425
113.227 ²²⁶	25,651
114.227 ²²⁷	25,878
114.229 ²²⁸	26,106
115.229 ²²⁹	26,335
115.231 ²³⁰	26,565
116.231 ²³¹	26,796
116.233 ²³²	27,028
117.233 ²³³	27,261
117.235 ²³⁴	27,495
118.235 ²³⁵	27,730
118.237 ²³⁶	27,966
119.237 ²³⁷	28,203
119.239 ²³⁸	28,441
120.239 ²³⁹	28,680
120.241 ²⁴⁰	28,920
121.241 ²⁴¹	29,161
121.243 ²⁴²	29,403
122.243 ²⁴³	29,646
122.245 ²⁴⁴	29,890
123.245 ²⁴⁵	30,135
123.247 ²⁴⁶	30,381
124.247 ²⁴⁷	30,628
124.249 ²⁴⁸	30,876
125.249 ²⁴⁹	31,125
125.251 ²⁵⁰	31,375
126.251 ²⁵¹	31,626
	252

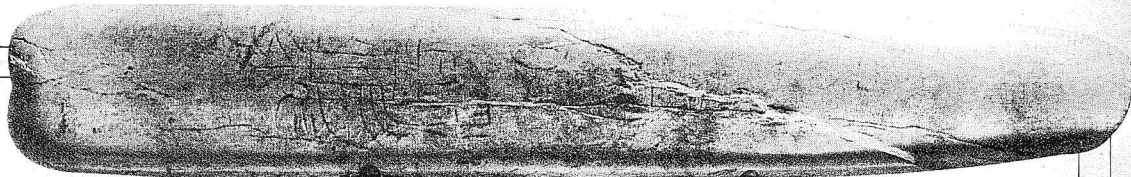
126.253	31,878
127.253 ²⁵³	32,131
127.255 ²⁵⁴	32,385
128.255 ²⁵⁵	32,640
128.257 ²⁵⁶	32,896
129.257 ²⁵⁷	33,153
129.259 ²⁵⁸	33,411
130.259 ²⁵⁹	33,670
130.261 ²⁶⁰	33,930
131.261 ²⁶¹	34,191
131.263 ²⁶²	34,453
132.263 ²⁶³	34,716
132.265 ²⁶⁴	34,980
133.265 ²⁶⁵	35,245
133.267 ²⁶⁶	35,511
134.267 ²⁶⁷	35,778
134.269 ²⁶⁸	36,046
135.269 ²⁶⁹	36,315
135.271 ²⁷⁰	36,585
136.271 ²⁷¹	36,856
136.273 ²⁷²	37,128
137.273 ²⁷³	37,401
137.275 ²⁷⁴	37,675
138.275 ²⁷⁵	37,950
138.277 ²⁷⁶	38,226
139.277 ²⁷⁷	38,503
139.279 ²⁷⁸	38,781
140.279 ²⁷⁹	39,060
140.281 ²⁸⁰	39,340
141.281 ²⁸¹	39,621
141.283 ²⁸²	39,903
142.283 ²⁸³	40,186
142.285 ²⁸⁴	40,470
143.285 ²⁸⁵	40,755
143.287 ²⁸⁶	41,041
144.287 ²⁸⁷	41,328
	288

144.289	41,616
145.289 ²⁸⁹	41,905
145.291 ²⁹⁰	42,195
146.291 ²⁹¹	42,486
146.293 ²⁹²	42,778
147.293 ²⁹³	43,071
147.295 ²⁹⁴	43,365
148.295 ²⁹⁵	43,660
148.297 ²⁹⁶	43,956
149.297 ²⁹⁷	44,253
149.299 ²⁹⁸	44,551
150.299 ²⁹⁹	44,850
150.301 ³⁰⁰	45,150
151.301 ³⁰¹	45,451
151.303 ³⁰²	45,753
152.303 ³⁰³	46,056
152.305 ³⁰⁴	46,360
153.305 ³⁰⁵	46,665
153.307 ³⁰⁶	46,971
154.307 ³⁰⁷	47,278
154.309 ³⁰⁸	47,586
155.309 ³⁰⁹	47,895
155.311 ³¹⁰	48,205
156.311 ³¹¹	48,516
156.313 ³¹²	48,828
157.313 ³¹³	49,141
157.315 ³¹⁴	49,455
158.315 ³¹⁵	49,770
158.317 ³¹⁶	50,086
159.317 ³¹⁷	50,403
159.319 ³¹⁸	50,721
160.319 ³¹⁹	51,040
160.321 ³²⁰	51,360
161.321 ³²¹	51,681
161.323 ³²²	52,003
162.323 ³²³	52,326
	324

<u>Factor</u>	<u>Pebble Count</u>	<u>Factor</u>	<u>Pebble Count</u>	<u>Factor</u>	<u>pebble Count</u>
54.109	5,886 ₁₀₉	72.145	10,440 ₁₄₅	90.181	16,290 ₁₈₁
55.109	5,995 ₁₁₀	73.145	10,585 ₁₄₆	91.181	16,471 ₁₈₂
55.111	6,105 ₁₁₁	73.147	10,731 ₁₄₇	91.183	16,653 ₁₈₃
56.111	6,216 ₁₁₂	74.147	10,878 ₁₄₈	92.183	16,836 ₁₈₄
56.113	6,328 ₁₁₃	74.149	11,026 ₁₄₉	92.185	17,020 ₁₈₅
57.113	6,441 ₁₁₄	75.149	11,175 ₁₅₀	93.185	17,205 ₁₈₆
57.115	6,555 ₁₁₅	75.151	11,325 ₁₅₁	93.187	17,391 ₁₈₇
58.115	6,670 ₁₁₆	76.151	11,476 ₁₅₂	94.187	17,578 ₁₈₈
58.117	6,786 ₁₁₇	76.153	11,628 ₁₅₃	94.189	17,766 ₁₈₉
59.117	6,903 ₁₁₈	77.153	11,781 ₁₅₄	95.189	17,955 ₁₉₀
59.119	7,021 ₁₁₉	77.155	11,935 ₁₅₅	95.191	18,145 ₁₉₁
60.119	7,140 ₁₂₀	78.155	12,090 ₁₅₆	96.191	18,336 ₁₉₂
60.121	7,260 ₁₂₁	78.157	12,246 ₁₅₇	96.193	18,528 ₁₉₃
61.121	7,381 ₁₂₂	79.157	12,403 ₁₅₈	97.193	18,721 ₁₉₄
61.123	7,503 ₁₂₃	79.159	12,561 ₁₅₉	97.195	18,915 ₁₉₅
62.123	7,626 ₁₂₄	80.159	12,720 ₁₆₀	98.195	19,110 ₁₉₆
62.125	7,750 ₁₂₅	80.161	12,880 ₁₆₁	98.197	19,306 ₁₉₇
63.125	7,875 ₁₂₆	81.161	13,041 ₁₆₂	99.197	19,503 ₁₉₈
63.127	8,001 ₁₂₇	81.163	13,203 ₁₆₃	99.199	19,701 ₁₉₉
64.127	8,128 ₁₂₈	82.163	13,366 ₁₆₄	100.199	19,900 ₂₀₀
64.129	8,256 ₁₂₉	82.165	13,530 ₁₆₅	100.201	20,100 ₂₀₁
65.129	8,385 ₁₃₀	83.165	13,695 ₁₆₆	101.201	20,301 ₂₀₂
65.131	8,515 ₁₃₁	83.167	13,861 ₁₆₇	101.203	20,503 ₂₀₃
66.131	8,646 ₁₃₂	84.167	14,028 ₁₆₈	102.203	20,706 ₂₀₄
66.133	8,778 ₁₃₃	84.169	14,196 ₁₆₉	102.205	20,910 ₂₀₅
67.133	8,911 ₁₃₄	85.169	14,365 ₁₇₀	103.205	21,115 ₂₀₆
67.135	9,045 ₁₃₅	85.171	14,535 ₁₇₁	103.207	21,321 ₂₀₇
68.135	9,180 ₁₃₆	86.171	14,706 ₁₇₂	104.207	21,528 ₂₀₈
68.137	9,316 ₁₃₇	86.173	14,878 ₁₇₃	104.209	21,736 ₂₀₉
69.137	9,453 ₁₃₈	87.173	15,051 ₁₇₄	105.209	21,945 ₂₁₀
69.139	9,591 ₁₃₉	87.175	15,225 ₁₇₅	105.211	22,155 ₂₁₁
70.139	9,730 ₁₄₀	88.175	15,400 ₁₇₆	106.211	22,366 ₂₁₂
70.141	9,870 ₁₄₁	88.177	15,576 ₁₇₇	106.213	22,578 ₂₁₃
71.141	10,011 ₁₄₂	89.177	15,753 ₁₇₈	107.213	22,791 ₂₁₄
71.143	10,153 ₁₄₃	89.179	15,931 ₁₇₉	107.215	23,005 ₂₁₅
72.143	10,296 ₁₄₄	90.179	16,110 ₁₈₀	108.215	23,220 ₂₁₆

<u>Factor</u>	<u>Pebble Count</u>	<u>Factor</u>	<u>Pebble Count</u>	<u>Factor</u>	<u>Pebble Count</u>
108·217	23436 ₂₁₇	126·253	31,878 ₂₅₃	144·289	41,616 ₂₈₉
109·217	23,653 ₂₁₈	127·253	32,131 ₂₅₄	145·289	41,905 ₂₉₆
109·219	23,871 ₂₁₉	127·255	32,385 ₂₅₅	145·291	42,195 ₂₉₁
110·219	24,090 ₂₂₀	128·255	32,640 ₂₅₆	146·291	42,496 ₂₉₂
110·221	24,310 ₂₂₁	128·257	32,896 ₂₅₇	146·293	42,778 ₂₉₃
111·221	24,531 ₂₂₂	129·257	33,153 ₂₅₈	147·293	43,071 ₂₉₄
111·223	24,753 ₂₂₃	129·259	33,411 ₂₅₉	147·295	43,365 ₂₉₅
112·223	24,976 ₂₂₄	130·259	33,670 ₂₆₀	148·295	43,660 ₂₉₆
112·225	25,200 ₂₂₅	130·261	33,930 ₂₆₁	148·297	43,956 ₂₉₇
113·225	25,425 ₂₂₆	131·261	34,191 ₂₆₂	149·297	44,253 ₂₉₈
113·227	25,651 ₂₂₇	131·263	34,453 ₂₆₃	149·299	44,551 ₂₉₉
114·227	25,878 ₂₂₈	132·263	34,716 ₂₆₄	150·299	44,850 ₃₀₀
114·229	26,106 ₂₂₉	132·265	34,980 ₂₆₅	150·301	45,150 ₃₀₁
115·229	26,335 ₂₃₀	133·265	35,245 ₂₆₆	151·301	45,451 ₃₀₂
115·231	26,565 ₂₃₁	133·267	35,511 ₂₆₇	151·303	45,753 ₃₀₃
116·231	26,796 ₂₃₂	134·267	35,778 ₂₆₈	152·303	46,056 ₃₀₄
116·233	27,028 ₂₃₃	134·269	36,046 ₂₆₉	152·305	46,360 ₃₀₅
117·233	27,261 ₂₃₄	135·269	36,315 ₂₇₀	153·305	46,665 ₃₀₆
117·235	27,495 ₂₃₅	135·271	36,585 ₂₇₁	153·307	46,971 ₃₀₇
118·235	27,730 ₂₃₆	136·271	36,856 ₂₇₂	154·307	47,278 ₃₀₈
118·237	27,966 ₂₃₇	136·273	37,128 ₂₇₃	154·309	47,586 ₃₀₉
119·237	28,203 ₂₃₈	137·273	37,401 ₂₇₄	155·309	47,895 ₃₁₀
119·239	28,441 ₂₃₉	137·275	37,675 ₂₇₅	155·311	48,205 ₃₁₁
120·239	28,680 ₂₄₀	138·275	37,950 ₂₇₆	156·311	48,516 ₃₁₂
120·241	28,920 ₂₄₁	138·277	38,226 ₂₇₇	156·313	48,828 ₃₁₃
121·241	29,161 ₂₄₂	139·277	38,503 ₂₇₈	157·313	49,141 ₃₁₄
121·243	29,403 ₂₄₃	139·279	38,781 ₂₇₉	157·315	49,455 ₃₁₅
122·243	29,646 ₂₄₄	140·279	39,060 ₂₈₀	158·315	49,770 ₃₁₆
122·245	29,890 ₂₄₅	140·281	39,340 ₂₈₁	158·317	50,086 ₃₁₇
123·245	30,135 ₂₄₆	141·281	39,621 ₂₈₂	159·317	50,403 ₃₁₈
123·247	30,381 ₂₄₇	141·283	39,903 ₂₈₃	159·319	50,721 ₃₁₉
124·247	30,628 ₂₄₈	142·283	40,186 ₂₈₄	160·319	51,040 ₃₂₀
124·249	30,876 ₂₄₉	142·285	40,470 ₂₈₅	160·321	51,360 ₃₂₁
125·249	31,125 ₂₅₀	143·285	40,755 ₂₈₆	161·321	51,681 ₃₂₂
125·251	31,375 ₂₅₁	143·287	41,041 ₂₈₇	161·323	52,003 ₃₂₃
126·251	31,626 ₂₅₂	144·287	41,328 ₂₈₈	162·323	52,326 ₃₂₄

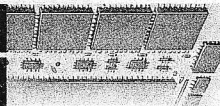
<u>Factor</u>	<u>Pebble Count</u>	<u>Factor</u>	<u>Pebble Count</u>	<u>Factor</u>	<u>Pebble Count</u>
162.325	52,650	180.361	64,980	198.397	78,606
163.325	52,975	181.361	65,341	199.397	79,003
163.327	53,301	181.363	65,703	199.399	79,401
164.327	53,628	182.363	66,066	200.399	79,800
164.329	53,956	182.365	66,430	200.401	80,200
165.329	54,285	183.365	66,795	201.401	80,601
165.331	54,615	183.367	67,161	201.403	81,003
166.331	54,946	184.367	67,528	202.403	81,406
166.333	55,278	184.369	67,896	202.405	81,810
167.333	55,611	185.369	68,265	203.405	82,215
167.335	55,945	185.371	68,635	203.407	82,621
168.335	56,280	186.371	69,006	204.407	83,028
168.337	56,616	186.373	69,378	204.409	83,436
169.337	56,953	187.373	69,751	205.409	83,845
169.339	57,291	187.375	70,125	205.411	84,255
170.339	57,630	188.375	70,500	206.411	84,666
170.341	57,970	188.377	70,876	206.413	85,078
171.341	58,311	189.377	71,253	207.413	85,491
171.343	58,653	189.379	71,631	207.415	85,905
172.343	58,996	190.379	72,010	208.415	86,320
172.345	59,340	190.381	72,390	208.417	86,736
173.345	59,685	191.381	72,771	209.417	87,153
173.347	60,031	191.383	73,153	209.419	87,571
174.347	60,378	192.383	73,536	210.419	87,990
174.349	60,726	192.385	73,920	210.421	88,410
175.349	61,075	193.385	74,305	211.421	88,831
175.351	61,425	193.387	74,691	211.423	89,253
176.351	61,776	194.387	75,078	212.423	89,676
176.353	62,128	194.389	75,466	212.425	90,100
177.353	62,481	195.389	75,855	213.425	90,525
177.355	62,835	195.391	76,245	213.427	90,951
178.355	63,190	196.391	76,636	214.427	91,378
178.357	63,546	196.393	77,028	214.429	91,806
179.357	63,903	197.393	77,421	215.429	92,235
179.359	64,261	197.395	77,815	215.431	92,665
180.359	64,620	198.395	78,210	216.431	93,096

RD

Chinatown, 1000 B.C. Three thousand years before the egg roll joined America's fast-food menu, a group of Chinese immigrants may have sailed to the New World and transformed the local culture. Mike Xu, a linguist at Texas Christian University, says he has the proof in their own handwriting. > Xu has spent years analyzing jade, stone, and pottery relics from the Olmec, an ancient people that inhabited the American Southwest and Central America 3,000 years ago. He was struck by how closely the symbols on the artifacts resembled Chinese inscriptions from the Shang dynasty in China. "There are hundreds of these symbols that occur again and again, throughout the entire Olmec territory," Xu says. The Shang writings date from 1600 to 1100 B.C. Traces of the Olmec civilization abruptly appear during this span, around 1200 to 1100 B.C. > Olmec and Shang artistic styles look much alike, and the two cultures followed related religious practices. For instance, both used cinnabar, a red pigment, to decorate ceremonial objects, and both put jade beads in the mouths of the dead to ward off evil. "The similarities are just too striking to be a coincidence," he says. —*Jocelyn Selim*



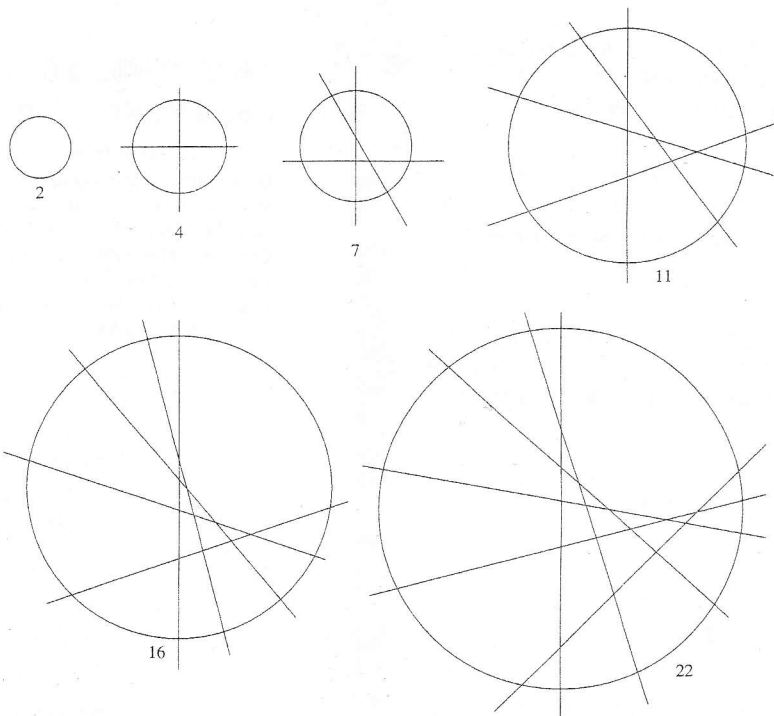
Olmec carvings feature marks, like the double-peaked symbol for "grave" (left), resembling old Chinese characters.

**MILLENNIUM
WATCH**

PREDICTION: "By the turn of the century, the Smart House could be almost commonplace," said Ken Geremiah, of the Smart House Limited Partnership. The Smart House was a model home equipped with sophisticated electronics, including centralized control of all switches and lights.

Figure M1041. SLICING A PANCAKE.

M1041 gives the maximal number of pieces that can be obtained by slicing a pancake n cuts. The n -th term is $a_n = \frac{1}{2}n(n+1) + 1$, the triangular numbers (M2535) plus 1.



The number of n -sided polygons in the n -th diagram gives M2937, which is dually number of n points in general position that can be chosen from among the intersection points of n lines in general position in the plane. Comtet [C1 274] calls such sets of points **clo**. M1100 gives the maximal number of pieces that can be obtained with n slices of a cake, M1594 is the corresponding sequence for a doughnut ([GA61] has a nice illustration of the term in M1594).

M1042 1, 2, 4, 7, 11, 16, 22, 30, 42, 61, 91, 137, 205, 303, 443, 644, 936, 1365, 1999, 2936, 4316, 6340, 9300, 13625, 19949, 29209, 42785, 62701, 91917, 134758, 19754
 Twopins positions. Ref FQ 16 85 78. GU81. [6,2; A5689]

M1043 1, 2, 4, 7, 11, 16, 23, 31, 41, 53, 67, 83, 102, 123, 147, 174, 204, 237, 274, 314, 358, 406, 458, 514, 575, 640, 710, 785, 865, 950, 1041, 1137, 1239, 1347, 1461, 158
 Expansion of $1 / (1-x)^2(1-x^2)(1-x^3)$. Ref CAY 2 278. JACS 53 3084 31. AMS 26
 55. [0,2; A0601, N0392]

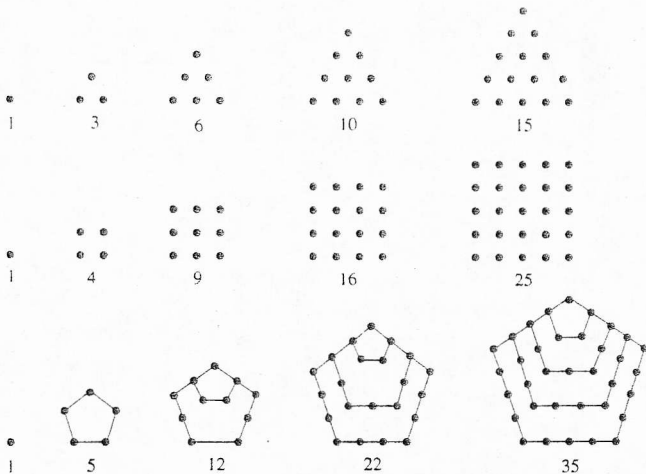
M2535 1, 3, 6, 10, 15, 21, 28, 36, 45, 55, 66, 78, 91, 105, 120, 136, 153, 171, 190, 210,

231, 253, 276, 300, 325, 351, 378, 406, 435, 465, 496, 528, 561, 595, 630, 666, 703, 741
 Triangular numbers $n(n+1)/2$. See Fig M2535. Ref D1 2 1. RS3. B1 189. AS1 828. [1.2; A0217, N1002]

$$\text{G.f.: } (1 - x)^{-3}.$$

Figure M2535. POLYGONAL NUMBERS.

The **polygonal** numbers have the form $P(r, s) = \frac{1}{2}r(rs - s + 2)$ [B1 189]. The figures show M2535: the **triangular** numbers $P(r, 1) = \frac{1}{2}r(r + 1)$; M3356: the **square** numbers $P(r, 2) = r^2$; and M3818: the **pentagonal** numbers $P(r, 3) = \frac{1}{2}r(3r - 1)$. Many similar sequences are in the table, including **hexagonal** (M4108), **heptagonal** (M4358), **octagonal** (M4493), etc., and **hex** (M4362), **star** (M4893) and **star-hex** (M5265) numbers.



Yale Journal of Music Theory - Kraehenbuehl and Schmidt

- 1 2 †
- 2 2 †
- 3 1
- 4 1 †
- 5 3
- 7 2
- 9 4

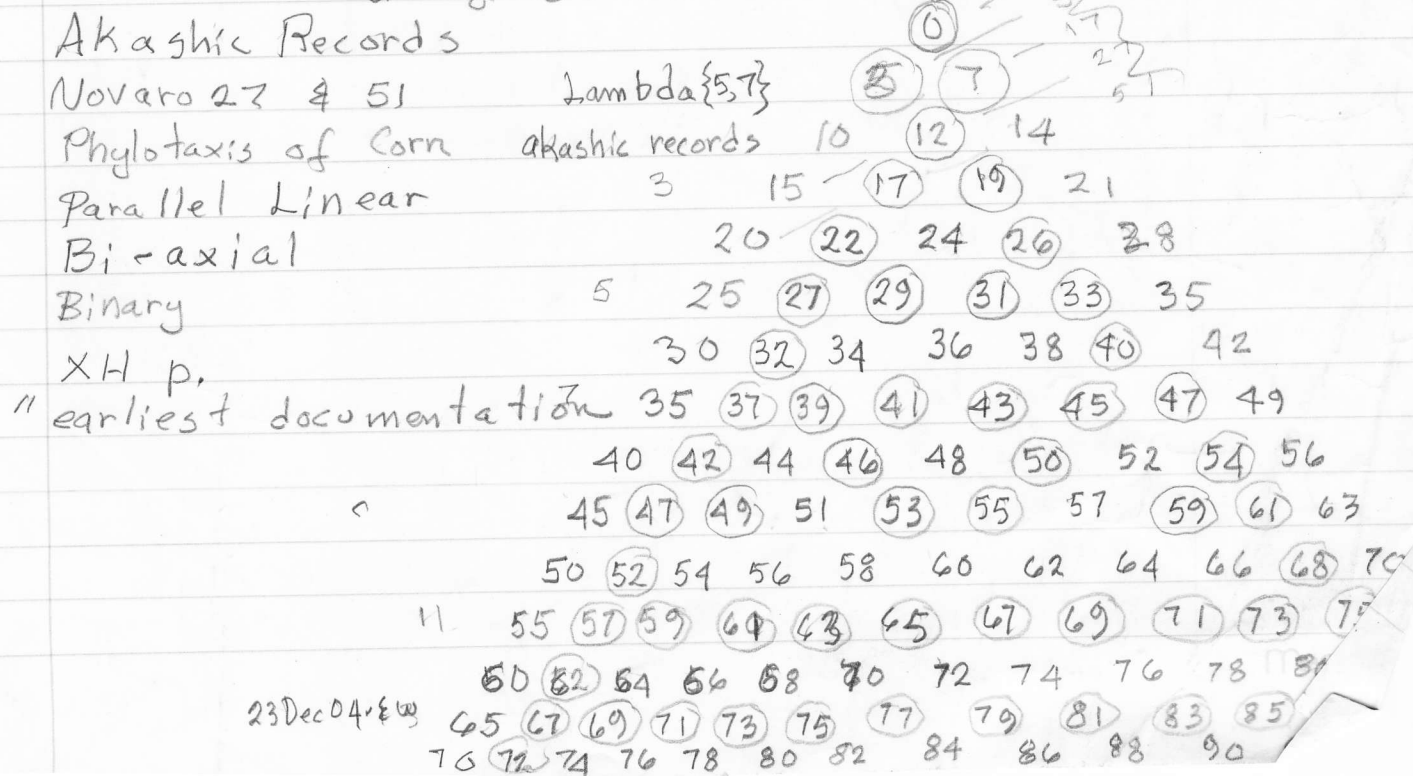
But go to Vico Brun

The numbers 1 thru 120 ^{auspicious} The harmonic series sequence
 Placing pebbles as shown, by number, gives an ^{array} series of nested
 triangles; 1, 3, 6, 10, ~~15~~ etc; and so forth endlessly, but pass
~~the~~ In view of the context ~~these~~ this is ~~an~~ ^{the} holy the first
 4 lay 10 pebbles ^{are} ~~form~~ the holy tetracties, ~~whis~~ this ^{we} may
~~be~~ extende as far as necessary landing on 120
 The layers are the integer numbers 1 thru 120 (n)

rank of 90 keys 810 9x12 108

To George Secor

120 Jade Pebble



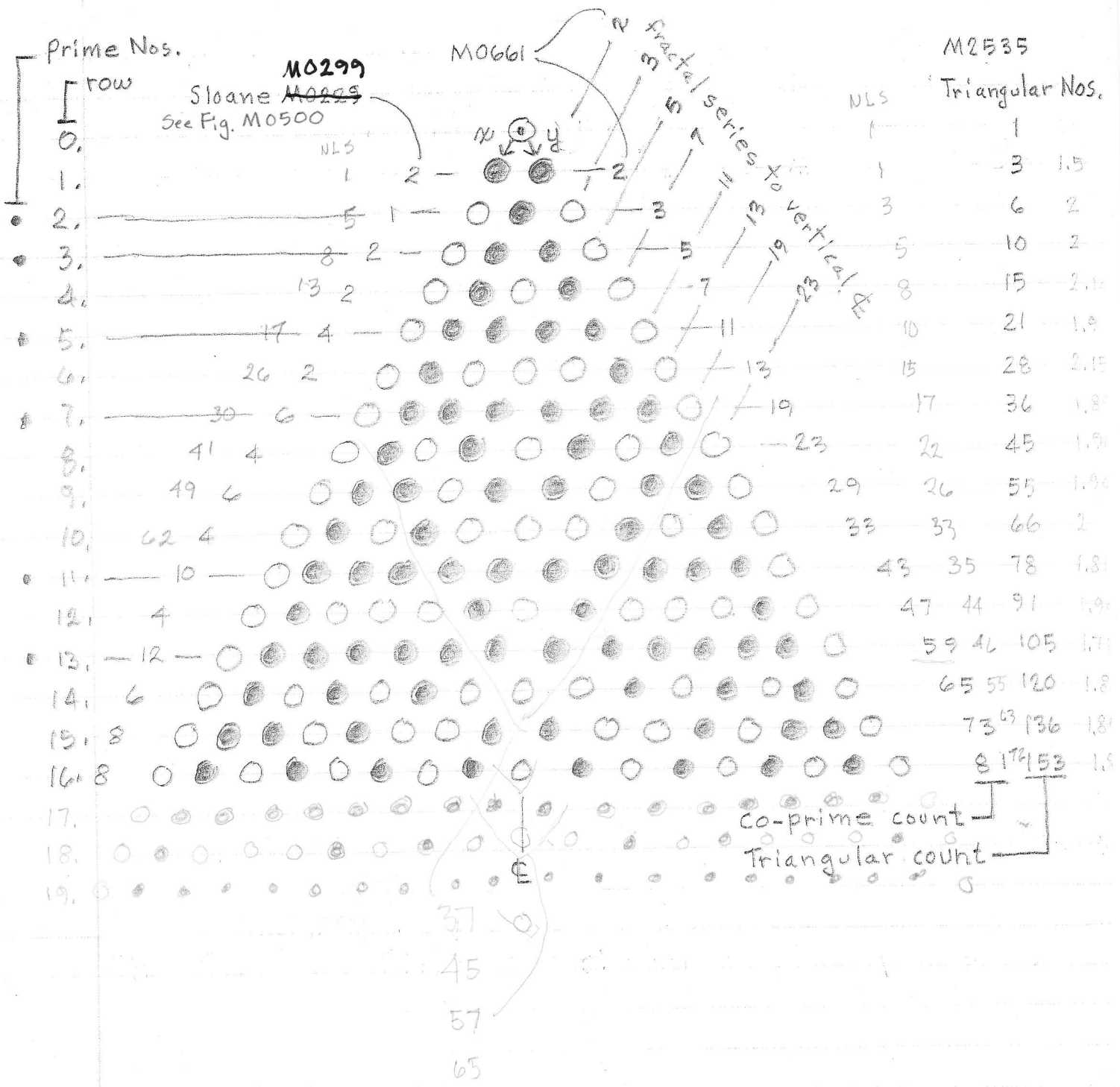
23 Dec 04 r & ew

Co-prime Grid, on a Triangular Array of 153 Pebbles

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① of 10 pages

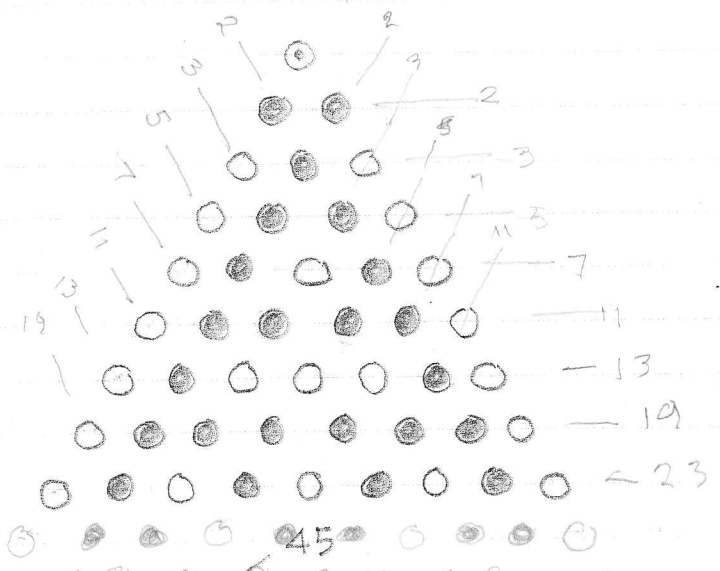
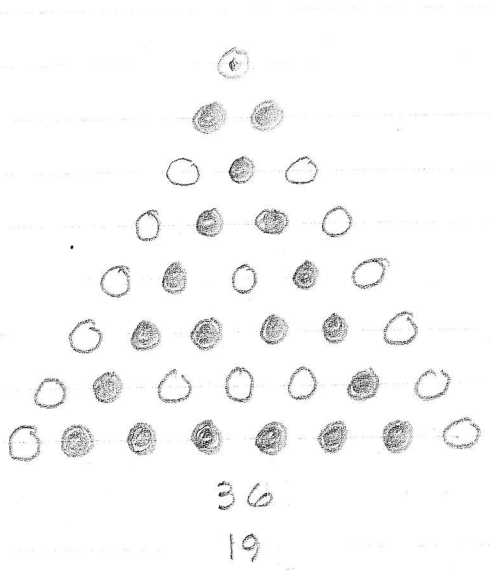
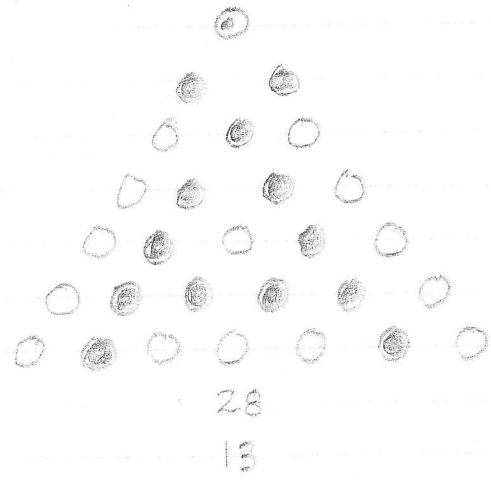
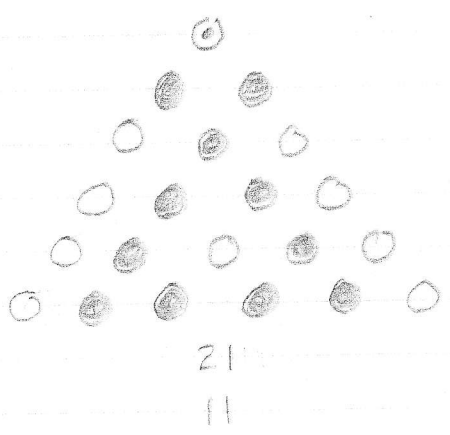
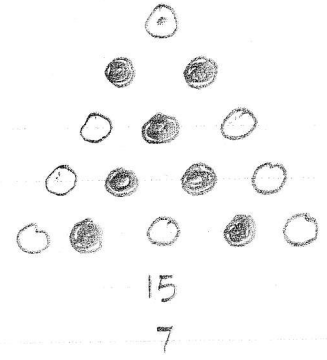
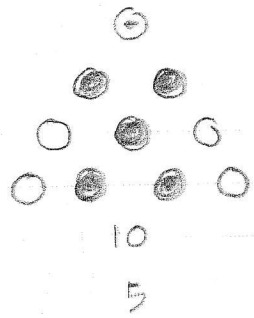
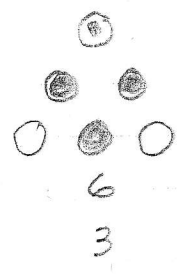
Ervin's Copy



$$6 - \frac{61}{57} = \frac{4}{4}$$

②

①
1



M2535, Triangular number
 M0661, Co-prime number

© 31 Mar 2004. EW

$\{0|1|0\}$ coprime grid encircled

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LAMDA



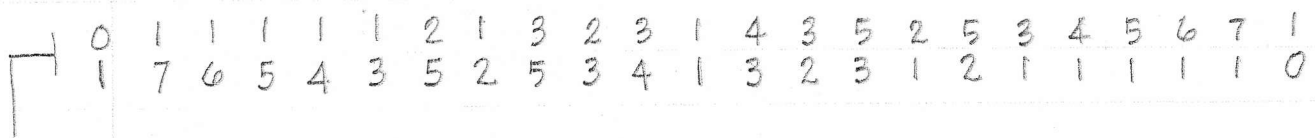
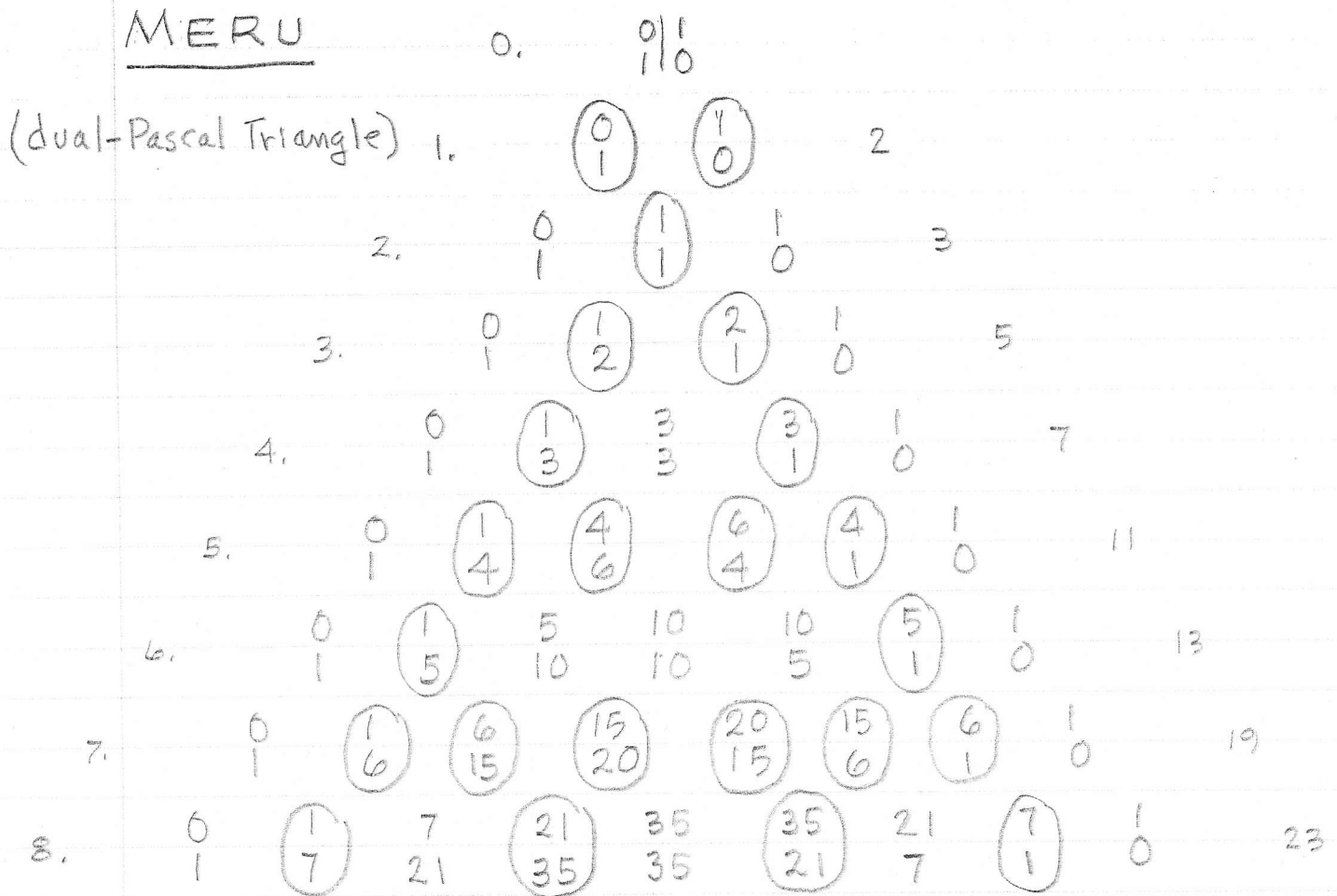
0 1 1 1 1 1 2 1 3 2 3 1 4 3 5 2 5 3 4 5 6 7 1
 1 7 6 5 4 3 5 2 5 3 4 1 3 2 3 1 2 1 1 1 1 0

© 1 Apr 2004, EW

The Meru / Lambda Equivalence

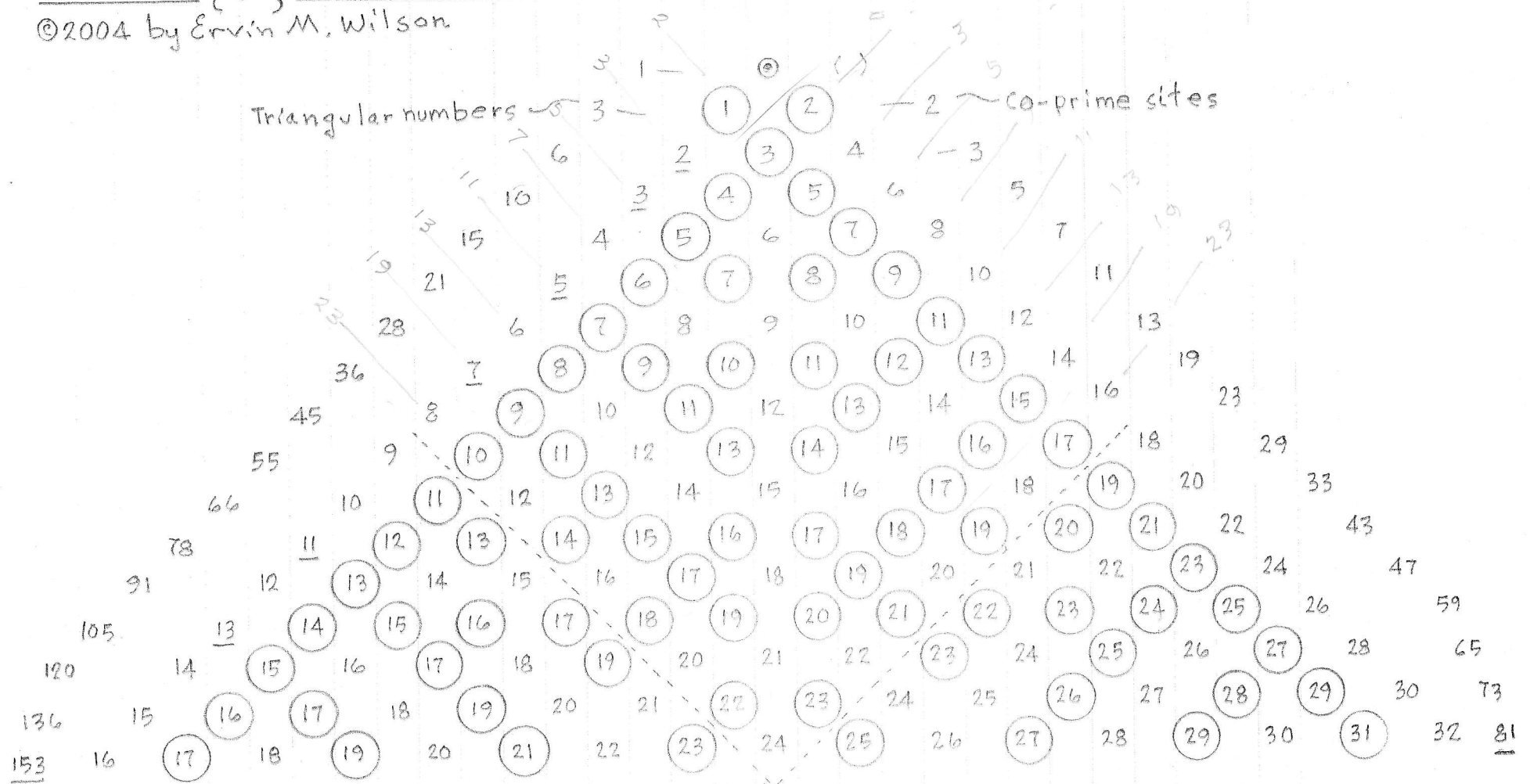
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MERU



Lambda {1,2} , with Co-prime Grid

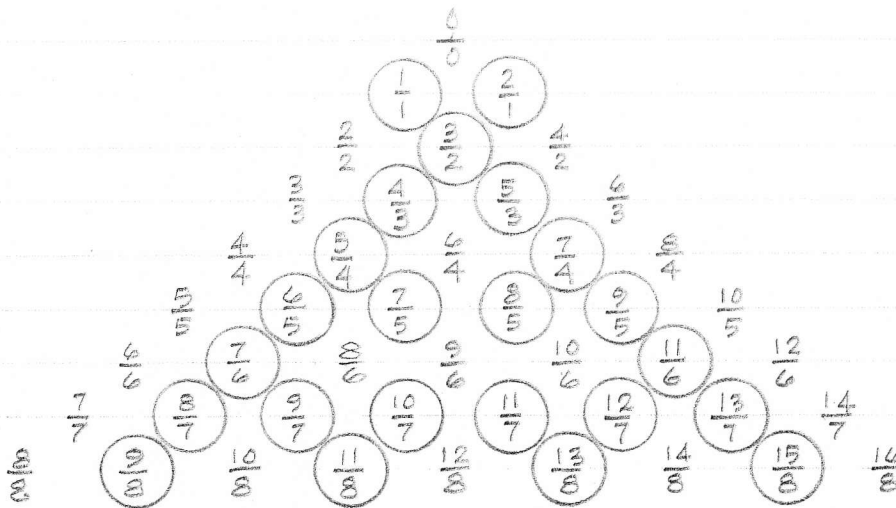
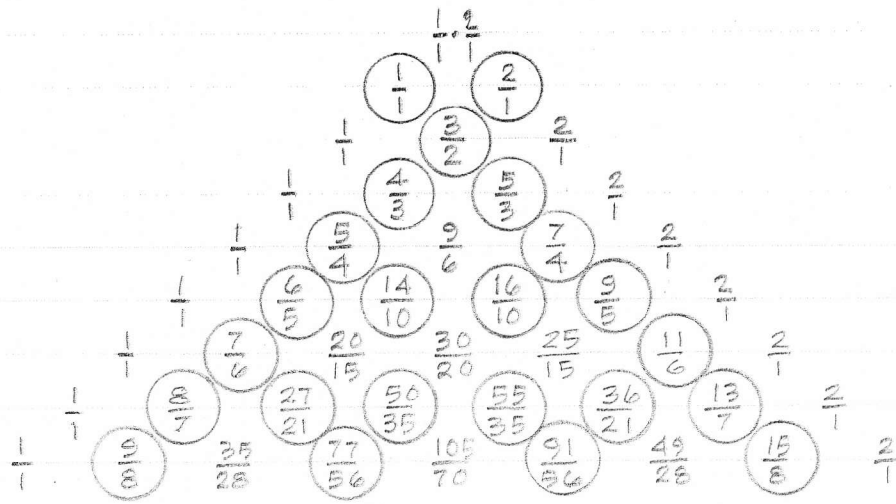
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(lower boundaries of imbedded lambda domain)
31 numbers, 45 co-prime sites.

 45

6



Ratio	epimare	Pitch
1/1	9/8	264
2/1	64/48	297
3/2	49/35	301.714285
4/3	36/24	308
5/4	29/35	310.8
6/5	36/27	330
7/6	28/32	339.428571
8/7	33/55	352
9/8	56/49	363
10/9	50/20	369.6
11/10	21/21	377.142857
12/11	22/55	396
13/12	56/64	414.857142
14/13	65/39	422.4
15/14	40/35	429
16/15	36/48	440
17/16	49/35	452.571428
18/17	36/54	462
19/18	55/77	475.2
20/19	78/104	484
21/20	105/15	490.285714
22/21	16/15	495
23/22		528

Nested Genera from Lambda $\{\frac{0}{1}, \frac{1}{0}\}$

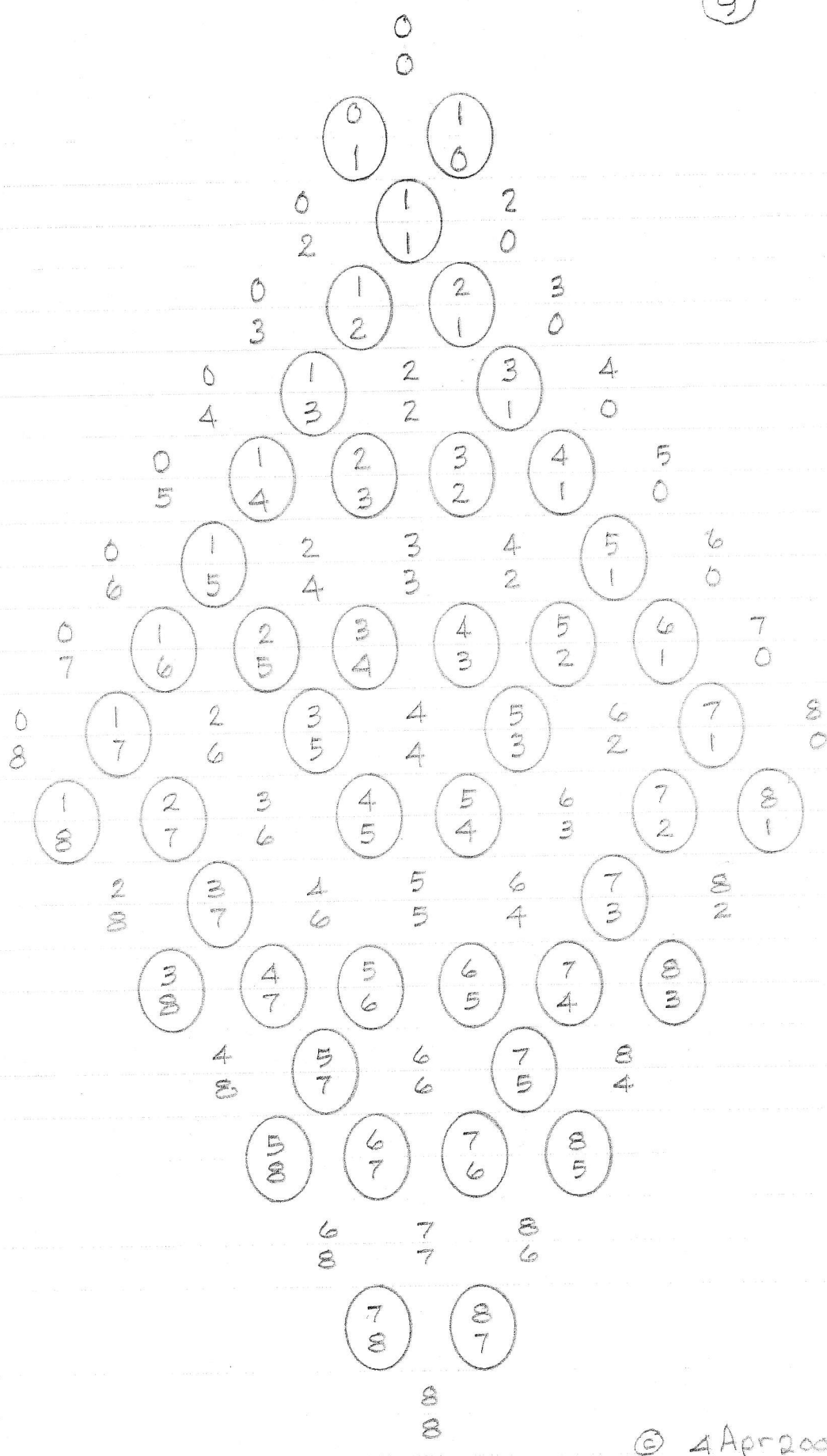
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(3)

0.																			$\frac{0}{0}$		
1.	$\frac{0}{1}$																			$\frac{1}{0}$	<u>2</u>
2.	$\frac{0}{1}$																			$\frac{1}{0}$	<u>3</u>
3.	$\frac{0}{1}$																			$\frac{1}{0}$	<u>5</u>
4.	$\frac{0}{1}$																			$\frac{1}{0}$	<u>7</u>
5.	$\frac{0}{1}$																			$\frac{1}{0}$	<u>11</u>
6.	$\frac{0}{1}$																			$\frac{1}{0}$	<u>13</u>
7.	$\frac{0}{1}$																			$\frac{1}{0}$	<u>19</u>
8.	$\frac{0}{1}$																			$\frac{1}{0}$	<u>23</u>

<u>Pitches</u>	0	56.571428	66	79.2	99	132	158.4	198	237.6	264	297	396	528	594	660	792	990	1,188	1,584	1,980	2,376	2,772	∞
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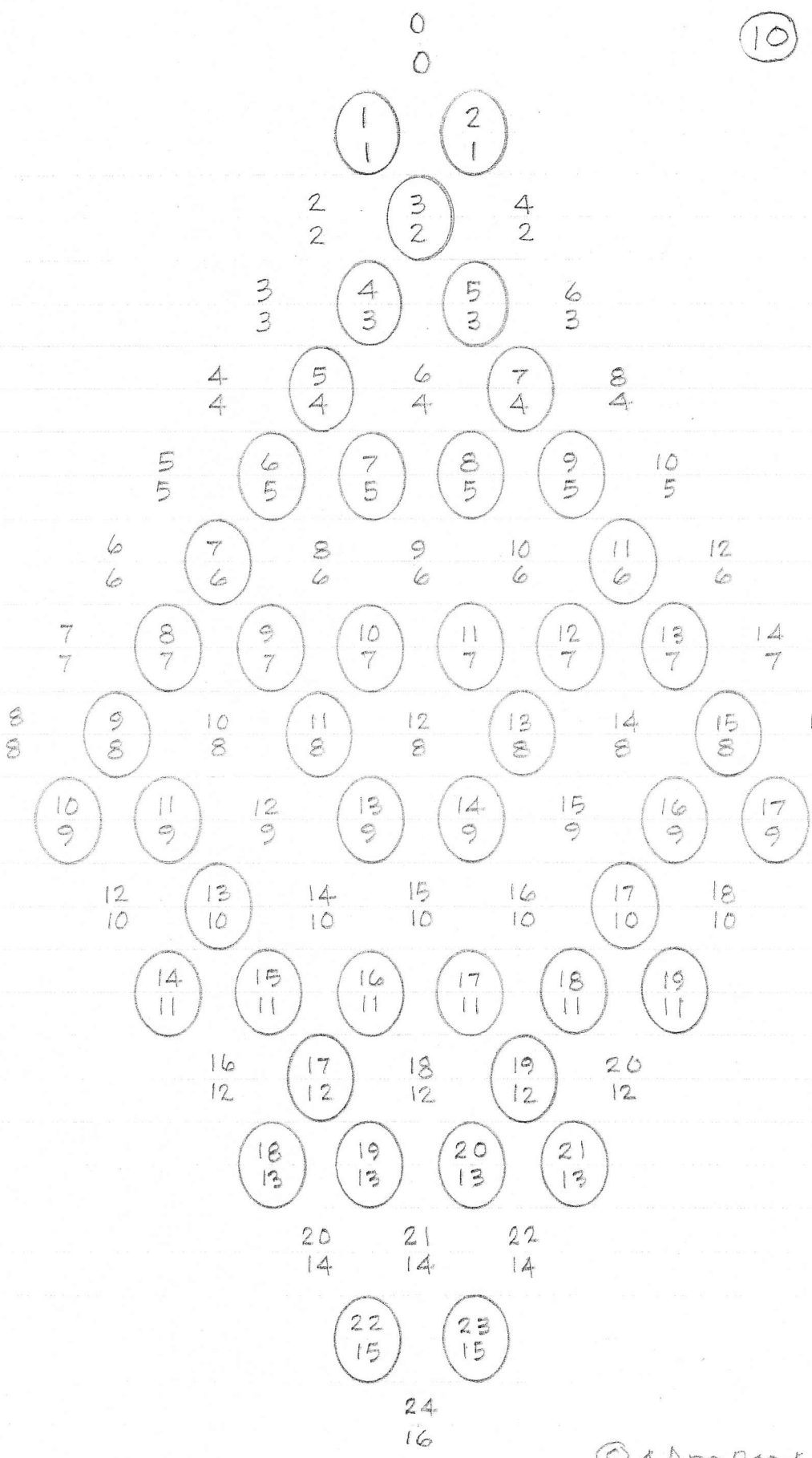
- 0.
- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.
- 16.



Count	Pitches
1 0	8
8 1	3,168
7 1	2,772
6 1	2,376
5 1	1,980
4 1	1,584
7 2	1,386
8 3	1,188
8 3	1,056
5 2	990
7 3	924
7 2	792
7 4	693
5 3	660
8 5	633.6
3 2	594
7 5	554.4
4 3	528
5 4	495
6 5	475.2
7 6	462
8 7	452.571...
7 1	396
7 8	346.5
6 7	339.428...
5 6	330
4 5	316.8
3 4	297
5 7	282.857...
2 3	264
5 8	247.5
3 5	237.6
4 7	226.285
1 2	198
3 7	169.714
2 5	158.4
3 8	148.5
1 3	132
2 7	113.142...
1 4	99
1 5	79.2
1 6	66
1 7	56.571...
1 8	49.5
0 1	0

10

• 2 1 528



• 2 1 528
 • 13 15 17
 • 6 7 8 9
 • 9 11 13 15 17
 • 16 19 21 23 25 27 29 31

• 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

• 396
 • 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

• 264
 • 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

7 tone-count in scale (ref M0661)

11 count

13 count

$$\frac{5}{2}$$

$$\frac{27}{15}$$

$$\frac{22}{13}$$

$$\frac{22}{13}$$

$$\frac{17}{11}$$

$$\frac{17}{11}$$

$$\frac{12}{9}$$

$$\frac{12}{9}$$

$$\frac{38}{32}$$

$$\frac{38}{32}$$

$$\frac{7}{7}$$

$$\frac{7}{7}$$

$$\frac{16}{32} \frac{38}{38}$$

$$\frac{16}{32} \frac{38}{38}$$

$$\frac{9}{12}$$

$$\frac{9}{12}$$

$$\frac{2}{5}$$

$$(5 \times 1) - (2 \times 17) = 21$$

$$\frac{11}{17}$$

$$\frac{11}{17}$$

$$\frac{11}{17}$$

$$\frac{13}{22}$$

$$\frac{13}{22}$$

$$\frac{2}{5}$$

$$\frac{15}{27}$$

$$\frac{13}{22}$$

$$\frac{15}{27}$$

$$\frac{13}{22}$$

based on a suggestion by Jim French

"French's Triangle" (opposite spirals by Jim Baum)

bc - ad = 21 (some hand reduction required)

by Ben Wilson Oct 8, 2002, Oct 3, 2005
work in progress

$$\frac{2}{5}$$

read

$$\frac{17}{32}$$

$$\frac{15}{27}$$

$$\frac{13}{22}$$

$$\frac{11}{17}$$

$$\frac{60}{87}$$

$$\frac{9}{12}$$

$$\frac{32}{38}$$

$$\frac{115}{130}$$

$$\frac{7}{7}$$

$$\frac{38}{32}$$

$$\frac{12}{9}$$

$$\frac{17}{11}$$

$$\frac{22}{13}$$

$$\frac{27}{15}$$

$$\frac{5}{2}$$

$$\frac{11}{17}$$

$$\frac{13}{22}$$

$$\frac{15}{27}$$

$$\frac{17}{32}$$

