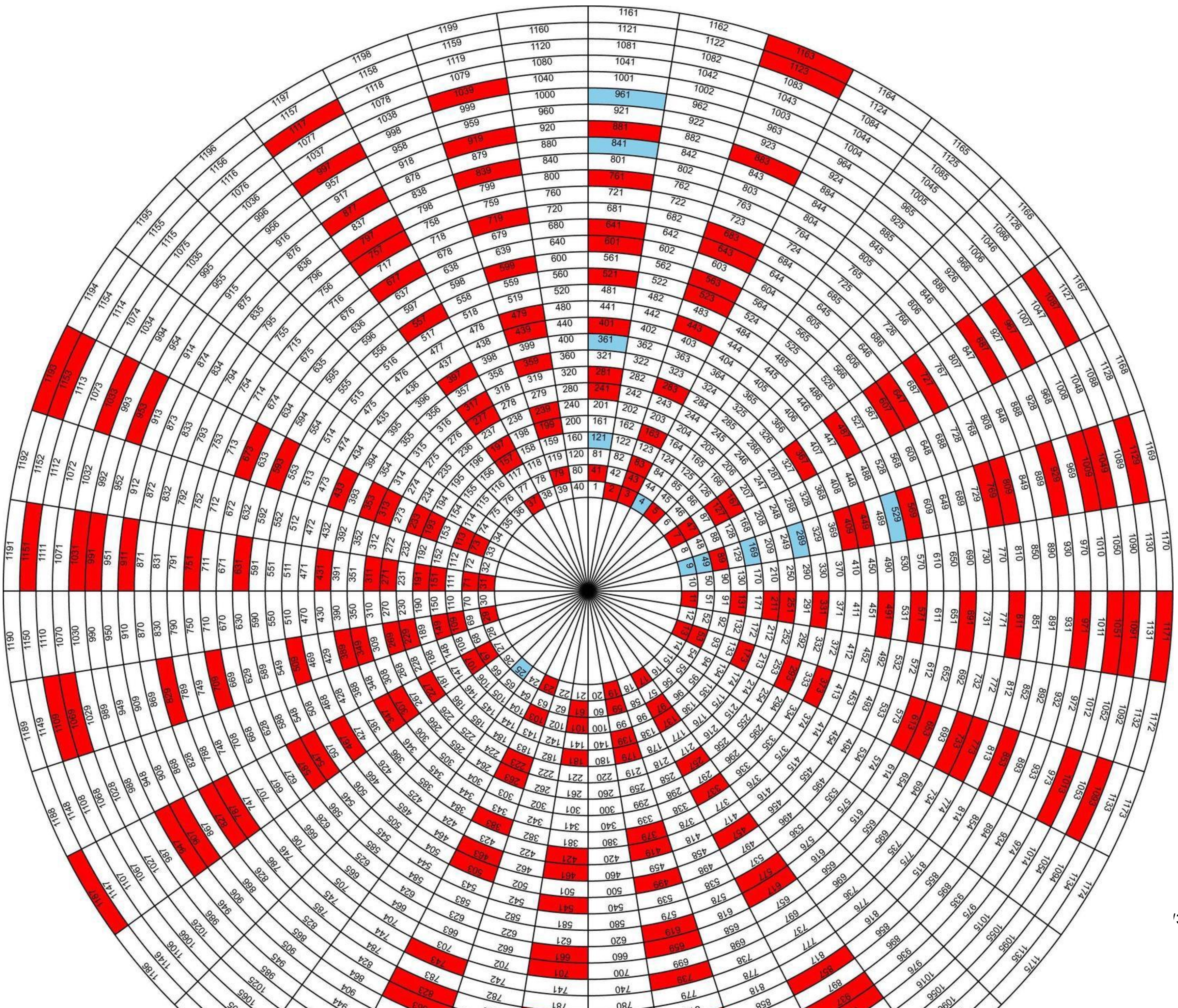
Diary

Wednesday, January 17, 2018

Picture from the Internet



The picture above does not reveal anything fantastic, but it is interesting anyway. What it shows are the lines of multiples. For example:
131=40 degrees x (4 rows -1) + 11, where 11 is the smallest prime number of the column.
571=40 degrees x (15 rows -1) + 11, where 11 is the smallest prime number. of the column.
The circle is like an equation to find the relation of prime numbers to the smallest entity.
The fact that an equation is working to relate rows with columns is interesting. That mean that there are primary prime numbers and secondary prime numbers.

The fact that the prime numbers are located in certain columns and some only is the consequence of the number taken for the degrees. In 40 degrees, you have columns of 2, 4, 5, 6, 8, 10, 12, 14, 15, 16, 18, 20, 22, 24, 25, 26, 28, 30, 32, 34, 35, 36, 38 and 40. What's very interesting are the columns of 3 and 9. Nine is not a prime number, but it is 3x3. In the same column, we find 89, 409, 449, 569, 769, 809, 929, 1009, 1049 and 1129. The column of 9 and 1 are the two only columns to contain square values of prime numbers, so we know we have a geometry to build a logic between the primary prime numbers, their square value and the equation where SPN=40 *(x-1)+ PPN where SPN is a secondary prime number and PPN is a primary prime number. What we need to find, is the logic behind the x value to find the logic of a geometry.

What we see also is that some columns have primary prime numbers on the second row. This is the case for the columns starting with 41, 89, 61, 67, 73, and 79. All those numbers are contained into 80 degrees except for 89 which is 80+9. After 89, there is the number 90 what might say that there is a kind of cycle going from one to 89 in one row and starting the second row with number 90 or at least a number multiple of 40 between 89 and 97. It could be 92 or 96 only. 92 is 23 times 4 and 96 is 24 times 4. I would probably start to draw the table with 96 degrees and see what I have got there.

I drawn the table with Blender but number 131 falls on the second row without any primary prime number while on the circle above it was on the column of 11. I have done the same with 92 degrees, and 101 falls on the second raw. In both cases, there is no regularity in the columns what means that the multiples of 40 work better, that is 2, 4, 5, 8, 10, 20. The following table shows the primes on 10 degrees.

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

If we try the equation, 31 = 10 degrees x the number of rows until 11 + 11, the prime number just above.
41 = 10 degrees * 1 row + 31
61 = 10 degrees * 2 rows + 41
71 = 10 degrees * 1 row + 61

The equation works with the 3rd column, the 7th and the 9th column. We have a constant relation between the numbers that relate to a geometry.

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

On the table above, we have 7 = 5 degrees * 1 row + the prime number above (2)
7= 1*5 +2
11 = 2*5 + 1
13 = 2*5 + 3
17 = 2*5 + 7
19 = primary in this structure
23 = 2*5 + 13
29 = 2*5 + 19
31 = 4*5 + 11
37 = 4*5 + 17
41 = 2*5 + 31
43 = 4*5 + 23
47 = 2*5 + 37
53 = 2*5 + 43
59 = 6*5 + 29
61 = 4*5 + 41
67 = 4*5 + 47
71 = 2*5 + 61
73 = 4*5 + 53
79 = 4*5 + 59
83 = 2*5 + 73
89 = 2*5 + 79
97 = 6*5 + 67

Here again, we fin a structure that determines a geometry. In this geometry, the prime numbers are related to each other.

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
101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160

In the two tables above, we see that there is not one rule to relate one prime number to the other and in the last table, it's even difficult to find a rule that would obey any logic. We see that the rules appliess to relate 9 to 29 in a structure of 20 degrees while 19 is related to 4 in a structure of 5 degrees.

23 = 20*1 + 3
29 = 20*1 + 9
31 = 20*1 + 11
37 = 20*1 + 17
41 = 2*20 + 1
43 = 1*20 + 23
47 = 20*2 + 7
53 = 20*2 +13
59 = 20*2 + 19
61 = 20*1 + 41
67 = 20*1 + 47
71 = 20*2 + 31
73 = 20*1 + 53
79 = 20*1 + 59
83 = 20*2 + 43
89 = 20*3 + 29
97 = 20*3 + 37
101 = 20*2 + 61
103 = 20*1 +83
107 = 20*2 + 67
109 = 20*1 + 89
113 = 20*2 +73
127 = 20*1 + 107
131 = 20*3 + 71
137 = 20*2 + 97
139 = 20*3 + 79
149 = 20*2 + 109

151 = 20*1 + 131
157 = 20*1 + 137

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

11 = 8*1 + 3
13 = 8*1 + 5
17 = 8*2 + 1
19 = 8*1 + 11
23 = 8*2 + 7
29 = 8*2 + 13
31 = 8*1 +23
37 = 8*1 + 29
41 = 8*3 + 17
43 = 8*3 + 19
47 = 8*2 + 31
53 = 8*2 + 37
59 = 8*2 + 43
61 = 8*1 + 53
67 = 8*1 + 59
71 = 8*3 + 47
73 = 8*4 + 41
79 = 8*1 + 71

Here again, there is not one rule for the full table, but we see that every odd number may obey a rule that relate the prime numbers to each other while every even number is not related to the primes numbers also if the structure has been built with an even number, 8.

If we reduce the numbers to only 4 degrees, we have the following table.

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

5 = 4*1 + 1
7 = 4*1 + 3
13 = 4*2 + 5
17 = 4*1 +13
19 = 4*2 + 11
23 = 4*1 + 19
29 = 4*3 + 17
31 = 4*2 + 23
37 = 4*2 + 29

41 = 4*1 + 37
43 = 4 * 3 + 31
47 = 4*1 + 43
53 = 4*3 + 41
59 = 4*3 + 47
61 = 4*2 + 53
67 = 4*2 + 59
71 = 4*1 + 67
73 = 4*3 + 61
79 = 4*2 + 71
83 = 4*1 + 79
89 = 4*4 + 73
97 = 4*2 + 89

We could have reduced the table to only 2 columns and follow the same logic as above.

What we see, is that the number of degrees define the multiple of a variable that increases slightly. The comparison of the different tables will help to find the logic behind those similar properties.
If I structure a progression between the numbers on the last table of 4 degrees, I can highlight the following progression:

5 = 4*1 + 1
7 = 4*1 + 3
13 = 4*2 + 5
17 = 4*1 +13
19 = 4*2 + 11
23 = 4*1 + 19
29 = 4*3 + 17
31 = 4*2 + 23
37 = 4*2 + 29
41 = 4*1 + 37
43 = 4 * 3 + 31
47 = 4*1 + 43
53 = 4*3 + 41
59 = 4*3 + 47
61 = 4*2 + 53
67 = 4*2 + 59
71 = 4*1 + 67
73 = 4*3 + 61
79 = 4*2 + 71
83 = 4*1 + 79

89 = 4*4 + 73
97 = 4*2 + 89

4*1 + 1 = 5
4*2 + 5 = 13
4*1 + 13 = 17
4*3 + 17 = 29
4*2 + 29 = 37
4*1 + 37 = 41
4*3 + 41 = 53
4*2 + 53 = 61
4*3 + 61 = 73
4*4 + 73 = 89
4*2 + 89 = 97

From 1 to 100, we have a slow progression in the structure of 4 degrees, while in a structure of 5 degrees, we can see that the progression goes faster:

5*1 + 2 = 7
5*2 + 7 = 17
5*4 + 17 = 37
5*2 + 37 = 47
5*4 + 47 = 67
5*6 + 67 = 97

All those results show the property of the tables and the relation between rows and columns, but not only. Rows and columns express the regularity of a structure in which we can encompass geometric figures and those geometries start to speak when we compare the results. For example, we know that 17 = 4*1 + 13 but we know also that 17 = 5*2 + 7. If we triangulate those two equations, we can start to express a language that will relate to other geometries. This is the beginning of a journey to find the route of a discovery.

8*1 +3 = 11
8*1 + 11 = 19
8*3 + 19 = 43
8*1 + 43 = 59
8*1 + 59 = 67

What I see with those comparisons is that with three geometries, the square, the pentagon and the octagon, I can build a structure for all the prime numbers. Among those geometries, the octagon is two squares with an angle of 45°. I must now determine how many geometries I need to find all the prime numbers with a simple equation. I must find the logic behind the progression of 1, 2, 3, 4, 5, 6…

We know for sure that there is a constant proportionality between the numbers. Between 4 and 5, there is one unit 1, between 5 and 8, there are 3 units one which length is 3 times the length of 1. If I translate the equations above into a circle of which Pi=22/7, then the equations become:
=> (1/7)*4*(1) + (1/7)
=> (1/7)*4*(2) + [(1/7)*4*(1) + (7/4)]
=> (1/7)*4*(1) + [(1/7)*4*(2) + [(1/7)*4*(1) + (7/4)]]
=> (1/7)*4*(3) + [[(1/7)*4*(2) + [(1/7)*4*(1) + (7/4)]]
=> (1/7)*4*(2) + [(1/7)*4*(3) + [[(1/7)*4*(2) + [(1/7)*4*(1) + (7/4)]]]
=> (1/7)*4*(1) + {(1/7)*4*(2) + [(1/7)*4*(3) + [[(1/7)*4*(2) + [(1/7)*4*(1) + (7/4)]]]}
etc....
If I interpose the two other lines of progress, I have:
=> (1/7)*4*(1) + (1/7) = 5
=> (1/7)*5*(1) + (1/7*2) = 7 = 1 radius of the circle
=> (1/7)*8*(1) + (1/7*3) = 11 = 1 quarter of a circle
=> (1/7)*4*(2) + [(1/7)*4*(1) + (7/4)] = 13
=> (1/7)*4*(2) + [(1/7)*4*(1) + (7/4)] = 13

=> (1/7)*4*(1) + [(1/7)*4*(2) + [(1/7)*4*(1) + (7/4)]] = 17
or (1/7)*5*(2) + [(1/7)*5*(1) + (1/7*2)] = 17
Here I have two ways to obtain 17, what shows that two different geometries match at some point.

=> (1/7)*8*(1) + [(1/7)*8*(1) + (1/7*3)] = 19
=> (1/7)*4*(3) + [[(1/7)*4*(2) + [(1/7)*4*(1) + (7/4)]] = 29

=> (1/7)*4*(2) + [(1/7)*4*(3) + [[(1/7)*4*(2) + [(1/7)*4*(1) + (7/4)]]] = 37
=> (1/7)*5*(4) + {(1/7)*5*(2) + [(1/7)*5*(1) + (1/7*2)]} = 37

=> (1/7)*4*(1) + {(1/7)*4*(2) + [(1/7)*4*(3) + [[(1/7)*4*(2) + [(1/7)*4*(1) + (7/4)]]]} = 41

If we consider the equation as one core (in red) and one progression (in blue), we have a cycle with the circle that we can translate in other geometries such the triangle and the square. What's important here is to find a relation between the prime numbers with the other numbers.
When I use a circle with Pi=22/7, I use it as a calculator that will express different geometries. The circle can be a finite line, or an infinite line and the radius can have different values for the unit that I can use to build other geometries.

The hazard is to try to relate this series into a geometry we already know such squares and triangles in a kind of "Fibonacci suite". At the beginning, it is important to understand the regularities into a construction what the circle can tell. While the equation expands, I can relate large secondary prime numbers to small primary prime numbers and extract from it what is a unit or what is a mechanic of vectors.

I have been talking of "speed" of the progression earlier. What we see here is that different speeds can meet at precise time anyway such 17 and 37.
When we will expand the equations to larger numbers, then we will see the frequency of those sequences.

	A	B	C	D	E	
1	4*1 + 1 = 5					(1/
2	5*1 + 2 = 7					(1/
3	8*1 +3 = 11					(1/
4	4*2 + 5 = 13	(1/7)*4*(2)	(1/7)*4*(2)	(1/7)*(=13-5)	"+"	(1/
5	4*1 + 13 = 17	(1/7)*4*(1) + (1/7)*4*(2)	(1/7)*4*(3)	(1/7)*(=17-5)	"+"	(1/
6	5*2 + 7 = 17	(1/7)*5*(2)	(1/7)*5*(2)	(1/7)*(=17-7)	"+"	(1/
7	8*1 + 11 = 19	(1/7)*8*(1)	(1/7)*8*(1)	(1/7)*(=19-11)	"+"	(1/
8	4*3 + 17 = 29	(1/7)*4*(3) + (1/7)*4*(1) + (1/7)*4*(2)	(1/7)*4*(6)	(1/7)*(=29-5)	"+"	(1/
9	4*2 + 29 = 37	(1/7)*4*(2) + (1/7)*4*(3) + (1/7)*4*(1) + (1/7)*4*(2)	(1/7)*4*(8)	(1/7)*(=37-5)	"+"	(1/
10	5*4 + 17 = 37	(1/7)*5*(4) + (1/7)*5*(2)	(1/7)*5*(6)	(1/7)*(=37-7)	"+"	(1/
11	4*1 + 37 = 41	(1/7)*4*(1) + (1/7)*4*(2) + (1/7)*4*(3) + (1/7)*4*(1) + (1/7)*4*(2)	(1/7)*4*(9)	(1/7)*(=41-5)	"+"	(1/
12	8*3 + 19 = 43	(1/7)*8*(3) + (1/7)*8*(1)	(1/7)*8*(4)	(1/7)*(=43-11)	"+"	(1/
13	5*2 + 37 = 47	(1/7)*5*(2) + (1/7)*5*(4) + (1/7)*5*(2)	(1/7)*5*(8)	(1/7)*(=47-7)	"+"	(1/
14	4*3 + 41 = 53	(1/7)*4*(3) + (1/7)*4*(1) + (1/7)*4*(2) + (1/7)*4*(3) + (1/7)*4*(1) + (1/7)*4*(2)	(1/7)*4*(12)	(1/7)*(=53-5)	"+"	(1/
15	8*2 + 43 = 59	(1/7)*8*(2) + (1/7)*8*(3) + (1/7)*8*(1)	(1/7)*8*(6)	(1/7)*(=59-11)	"+"	(1/
16	4*2 + 53 = 61	(1/7)*4*(2) + (1/7)*4*(3) + (1/7)*4*(1) + (1/7)*4*(2) + (1/7)*4*(3) + (1/7)*4*(1) + (1/7)*4*(2)	(1/7)*4*(14)	(1/7)*(=61-5)	"+"	(1/
17	5*4 + 47 = 67	(1/7)*5*(4) + (1/7)*5*(2) + (1/7)*5*(4) + (1/7)*5*(2)	(1/7)*5*(12)	(1/7)*(=67-7)	"+"	(1/
18	8*1 + 59 = 67	(1/7)*8*(1) + (1/7)*8*(2) + (1/7)*8*(3) + (1/7)*8*(1)	(1/7)*8*(7)	(1/7)*(=67-11)	"+"	(1/
19	4*3 + 61 = 73	(1/7)*4*(3) + (1/7)*4*(2) + (1/7)*4*(3) + (1/7)*4*(1) + (1/7)*4*(2) + (1/7)*4*(3) + (1/7)*4*(1) + (1/7)*4*(2)	(1/7)*4*(17)	(1/7)*(=73-5)	"+"	(1/
20	4*4 + 73 = 89	(1/7)*4*(4) + (1/7)*4*(3) + (1/7)*4*(2) + (1/7)*4*(3) + (1/7)*4*(1) + (1/7)*4*(2) + (1/7)*4*(3) + (1/7)*4*(1) + (1/7)*4*(2)	(1/7)*4*(21)	(1/7)*(=89-5)	"+"	(1/
21	4*2 + 89 = 97	(1/7)*4*(2) + (1/7)*4*(4) + (1/7)*4*(3) + (1/7)*4*(2) + (1/7)*4*(3) + (1/7)*4*(1) + (1/7)*4*(2) + (1/7)*4*(3) + (1/7)*4*(1) + (1/7)*4*(2)	(1/7)*4*(23)	(1/7)*(=97-5)	"+"	(1/
22	5*6 + 67 = 97	(1/7)*5*(6) + (1/7)*5*(4) + (1/7)*5*(2) + (1/7)*5*(4) + (1/7)*5*(2)	(1/7)*5*(18)	(1/7)*(=97-7)	"+"	(1/
23						

When we expand from 1 to 100, we see that some numbers that end with 7 will have two different structures. We see also that there are 3 geometries to build the structure with 4, 5 and 8 but since 8 is a multiple of 4, we can reduce those two geometries to only one. As a consequence, I would draw a circle of 440 degrees, which is a multiple of 4, 8 and 5 and see what happen inside when I meet the numbers such 17, 37, 67 and 97. What we can see on those numbers is that the front number is a multiple of 3 and the end is 7. There might be a reason behind. What I see also is that number 67 is related to the elements of the circle. We will see if there is any reason for that. We see also that 5, 7 and 11 are units that can be abstracted to find the guidance of smaller structured geometries. Those geometries are structures with 4, 5 and 8. Number 5 is related to a structure of 4. Number 7 is related to a structure of 5. Number 11 is related to a structure of 8. All other prime numbers are related to those 3 primary structures, which in fact are only two primary geometries that the drawing might show is one, multiple of both. Since it is difficult to analyze one geometry, the dissection in 2 and 3 parts will help to go inside the drawing and understand the relation between the numbers.

<u>January 23, 2018</u>

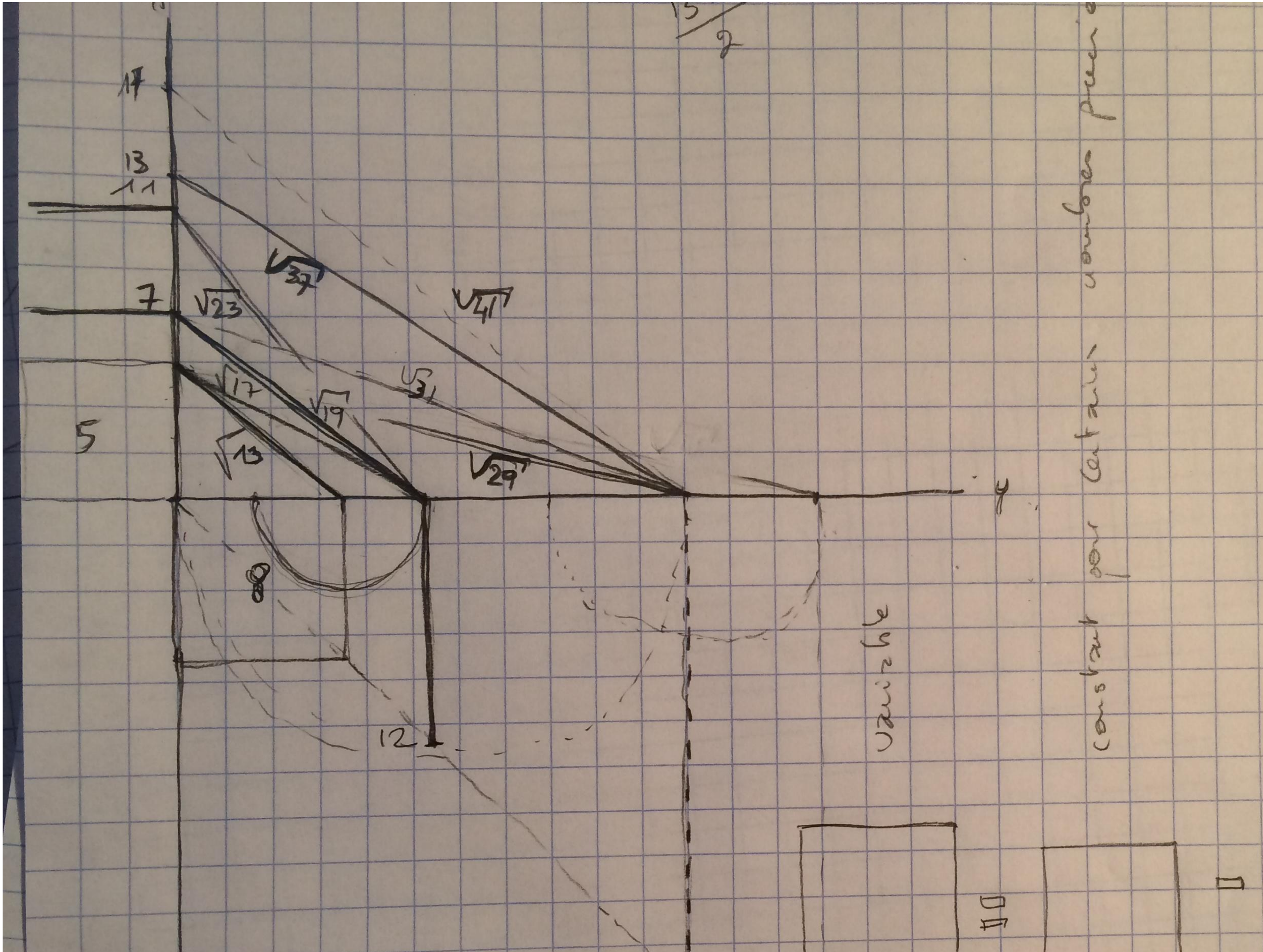
I made a quick drawing of the square root of 5, which is the diagonal of a rectangle of 1 by 2. The square built on this square root is number 5. I use this square number to add any other number that will reach a prime number on the hypotenuse. What is interesting is that I can draw The square root of 13 with a square of 5 and a square of 8. Then I take half of 8, add it to 8 and I get 12. On the square of 12, I can build the square roots of 17, 19 and 23 with the squares of 5, 7 and 11. Then I multiply 12 by two and get a square root of 24 on which the number 24 is built. With this square and the squares of 5, 7, 13 and 17, I can build the square roots of 29, 31, 37 and 41. When we examine the excel file, the root of 5 gives us numbers that grow accordingly to a geometry. It's 8, 12, 24, 48, 68, 84, 104, 108, 144, 168, 188, 224, 228, 264, 288, 308, 344, 348, 368, 384, 404, 428, 444, 504, 564, 588, 608, 648, 668, 704, 728, 764, 768, 804, 848, 924, 948, etc.…

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1											H-5	H-7	H-11		L/4	L/5	L/8	
2	2	3	4	5			1											
3	7	8	9	10			2											
4	12	13	14	15			3											
5	17	18	19	20			5											
6	22	23	24	25			7											
7	27	28	29	30			11											
8	32	33	34	35		1.857143	13	8	5		8	6	2		2	1.6	1	
9	37	38	39	40		2.428571	17	12 and 10	5 and 7		12	10	6		3	2.4	1.5	
10	42	43	44	45		2.714286	19	12 and 8	7 and 11		14	12	8		3.5	2.8	1.75	
11	47	48	49	50		3.285714	23	16 and 12	7 and 11		18	16	12		4.5	3.6	2.25	
12	52	53	54	55		4.142857	29	24	5		24	22	18		6	4.8	3	
13	57	58	59	60		4.428571	31	24 and 20	7 and 11		26	24	20		6.5	5.2	3.25	
14	62	63	64	65		5.285714	37	32 and 30	5 and 7		32	30	26		8	6.4	4	
15	67	68	69	70		5.857143	41	36 and 30	5 and 11		36	34	30		9	7.2	4.5	
16	72	73	74	75		6.142857	43	36 and 32	7 and 11		38	36	32		9.5	7.6	4.75	
17	77	78	79	80		6.714286	47	40 and 36	7 and 11		42	40	36		10.5	8.4	5.25	
18	82	83	84	85		7.571429	53	48	5		48	46	42		12	9.6	6	
19	87	88	89	90		8.428571	59	52 and 48	7 and 11		54	52	48		13.5	10.8	6.75	
20	92	93	94	95		8.714286	61	56 and 50	5 and 11		56	54	50		14	11.2	7	
21	97	98	99	100		9.571429	67	60 and 56	7 and 11		62	60	56		15.5	12.4	7.75	
22	102	103	104	105		10.14286	71	66 and 60	7 and 11		66	64	60		16.5	13.2	8.25	
23	107	108	109	110		10.42857	73	68	5		68	66	62		17	13.6	8.5	
24	112	113	114	115		11.28571	79	72 and 68	7 and 11		74	72	68		18.5	14.8	9.25	
25	117	118	119	120		11.85714	83	76 and 72	7 and 11		78	76	72		19.5	15.6	9.75	
26	122	123	124	125		12.71429	89	84	5		84	82	78		21	16.8	10.5	
27	127	128	129	130		13.85714	97	92 and 90	5 and 7		92	90	86		23	18.4	11.5	
28	132	133	134	135		14.42857	101	96 and 90	5 and 11		96	94	90		24	19.2	12	
29	137	138	139	140		14.71429	103	96 and 92	7 and 11		98	96	92		24.5	19.6	12.25	
30	142	143	144	145		15.28571	107	100 and 96	7 and 11		102	100	96		25.5	20.4	12.75	
31	147	148	149	150		15.57143	109	104	5		104	102	98		26	20.8	13	
32	152	153	154	155		16.14286	113	108	5		108	106	102		27	21.6	13.5	
33	157	158	159	160		18.14286	127	120 and 116	7 and 11		122	120	116		30.5	24.4	15.25	
34	162	163	164	165		18.71429	131	126 and 120	7 and 11		126	124	120		31.5	25.2	15.75	
35	167	168	169	170		19.57143	137	132 and 130	5 and 7		132	130	126		33	26.4	16.5	
36	172	173	174	175		19.85714	139	132 and 128	7 and 11		134	132	128		33.5	26.8	16.75	
37	177	178	179	180		21.28571	149	144	5		144	142	138		36	28.8	18	
38	182	183	184	185		21.57143	151	146 and 140	7 and 11		146	144	140		36.5	29.2	18.25	

Column G is the prime numbers multiplied by 1/7. This is the value of the unit on the circle with 22/7 as a calculator.

Column L, M and N, I subtract 5, 7 and 11 to the prime numbers in order to see which one gives whole numbers on a structure of 4, 5 and 8.
In Column P, Q and R, I divide the result of column L by 4, 5 and 8. In columns T, U and V I divide the results of M by 4, 5 and 8. In column X, Y and Z, I divide the results of column N by 4, 5 and 8. The whole numbers that I find in the result tell me which prime number is structured on the number 5, 7 and 11.

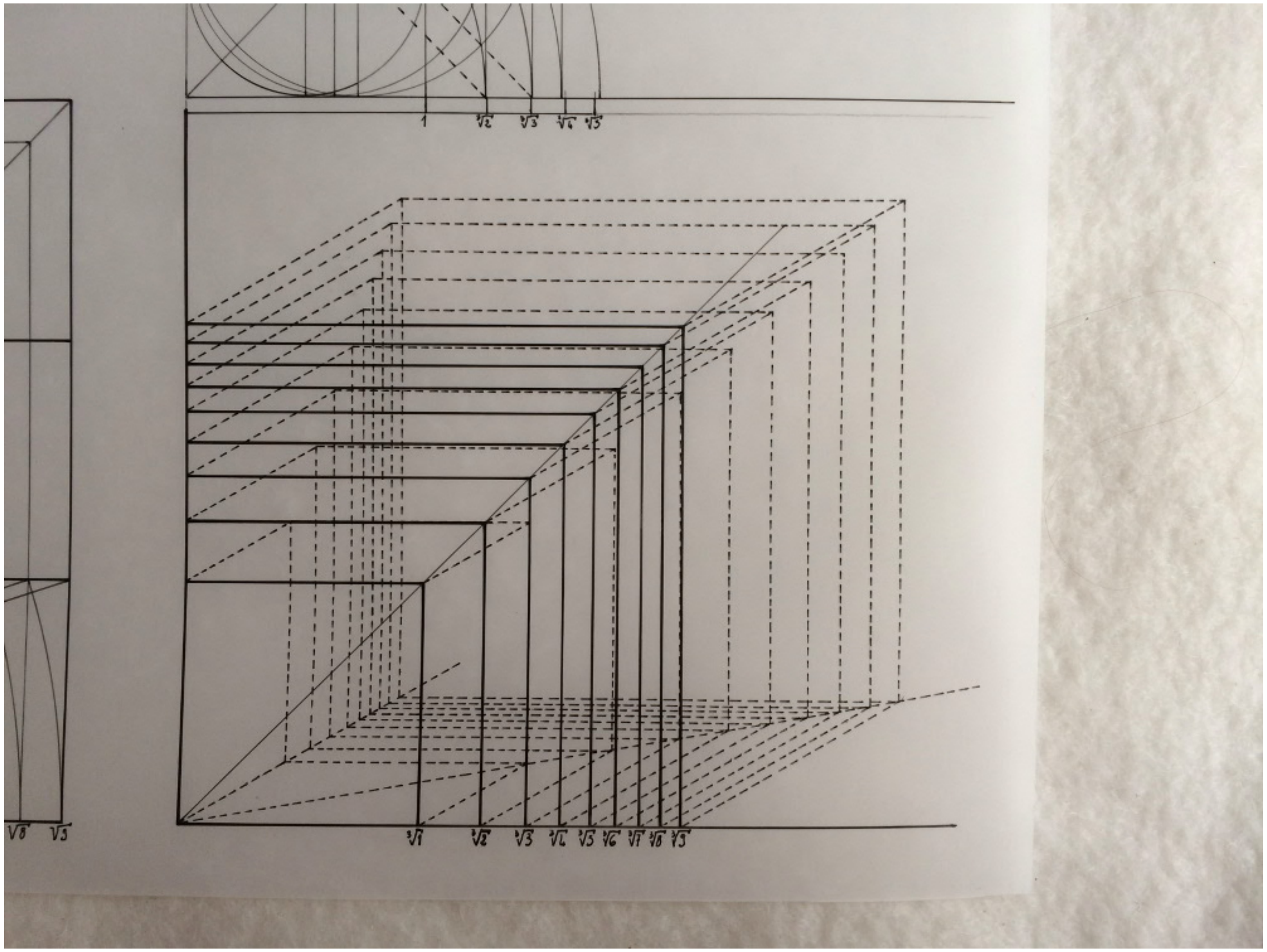
Each time a number falls on 5, then the square at the basis of the triangle grows in a proportion to the last one, and the triangle built on this square with the square root of the other prime numbers gives the following prime numbers on the hypotenuse.

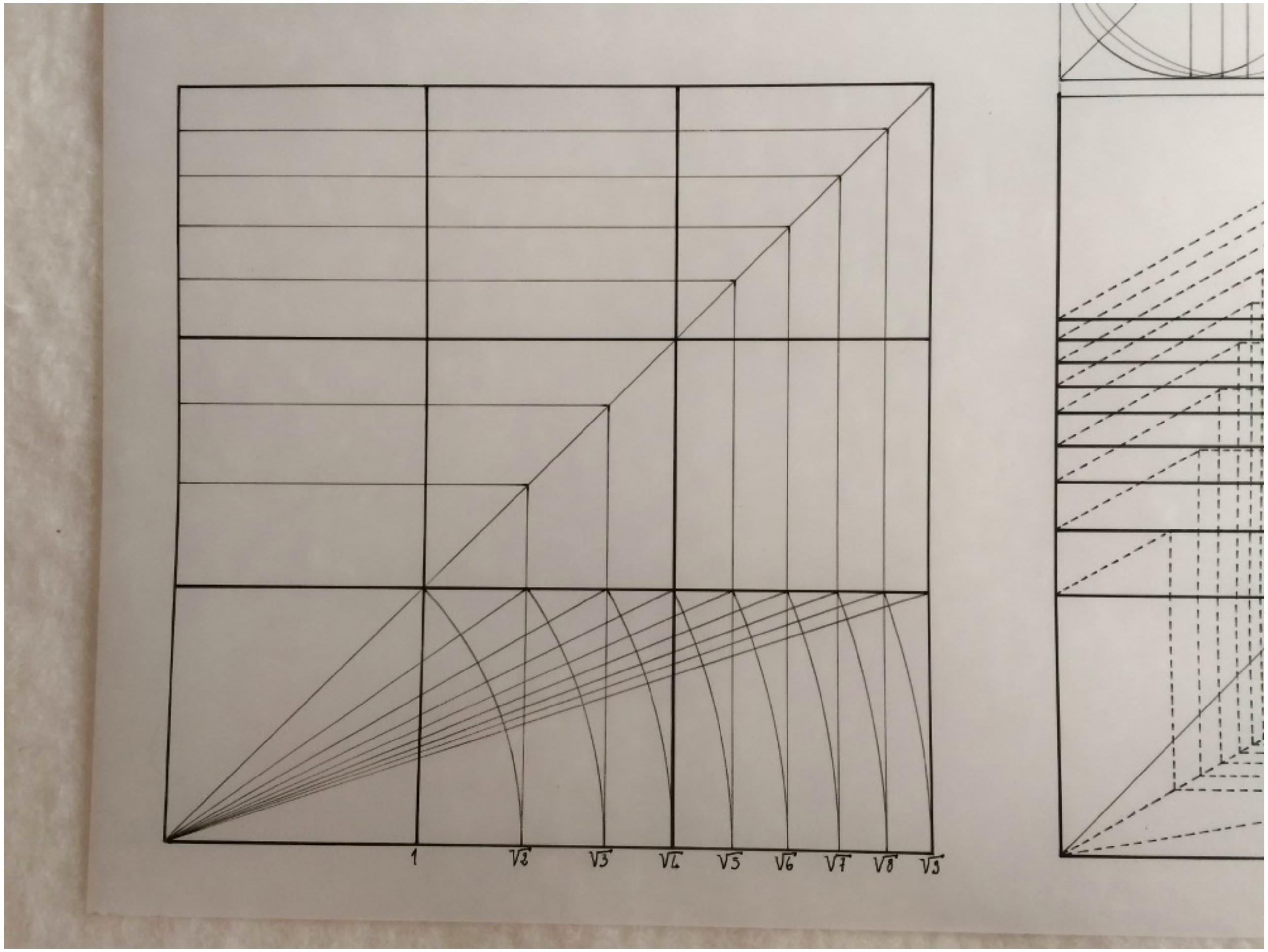

17
13
11
7
5
$\sqrt{37}$
$\sqrt{41}$
$\sqrt{23}$
$\sqrt{17}$
$\sqrt{19}$
$\sqrt{31}$
$\sqrt{13}$
$\sqrt{29}$
8
12
y
variable
constant pour certains nombres

The square roots are related to the square root of all other numbers in a geometry drawn on the diagonals.

AC	AD	AE	AF	AG	AH	AI
8			2.82843	2.23607	3.60555	13
12		4	3.4641	2.23607	4.12311	17
24		12	4.89898	2.23607	5.38516	29
48		24	6.9282	2.23607	7.28011	53
68		20	8.24621	2.23607	8.544	73
84		16	9.16515	2.23607	9.43398	89
104		20	10.198	2.23607	10.4403	109
108		4	10.3923	2.23607	10.6301	113
144		36	12	2.23607	12.2066	149
168		24	12.9615	2.23607	13.1529	173
188		20	13.7113	2.23607	13.8924	193
224		36	14.9666	2.23607	15.1327	229
228		4	15.0997	2.23607	15.2643	233
264		36	16.2481	2.23607	16.4012	269
288		24	16.9706	2.23607	17.1172	293
308		20	17.5499	2.23607	17.6918	313
344		36	18.5472	2.23607	18.6815	349
348		4	18.6548	2.23607	18.7883	353
368		20	19.1833	2.23607	19.3132	373
384		16	19.5959	2.23607	19.7231	389
404		20	20.0998	2.23607	20.2237	409
428		24	20.6882	2.23607	20.8087	433
444		16	21.0713	2.23607	21.1896	449
504		60	22.4499	2.23607	22.561	509
564		60	23.7487	2.23607	23.8537	569
588		24	24.2487	2.23607	24.3516	593
608		20	24.6577	2.23607	24.7588	613
648		40	25.4558	2.23607	25.5539	653
668		20	25.8457	2.23607	25.9422	673
704		36	26.533	2.23607	26.6271	709
728		24	26.9815	2.23607	27.074	733
764		36	27.6405	2.23607	27.7308	769
786		22	28.0357	2.23607	28.1247	791
804		18	28.3549	2.23607	28.4429	809
848		44	29.1204	2.23607	29.2062	853
924		76	30.3974	2.23607	30.4795	929
948		24	30.7896	2.23607	30.8707	953

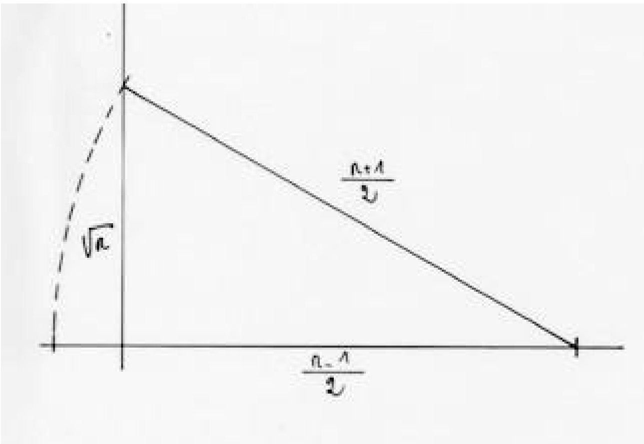
Column AC is shows the prime numbers that are only structures with number 5.
Column AE is the second line minus the previous line to know what is the proportion between them.
Column AF is the square root of all numbers on AC.
Column AG is the square root of 5 on which we can build the square that values number 5.
Column AH is AF x AG. This is the hypothenus of a serie of triangles of which the square root are prime numbers.
AI is squared AH.





January 24, 2018

On the sketch I made yesterday, I have built the squares that represent the primary prime numbers on the Y axes. I have built on the X axis all the squares that represent (n-1)/2 on the following drawing. The purpose is to be able to draw on the hypotenuse the numbers that equal prime numbers. The squares of the X axis have been calculated on the excel sheet "Structure 5".



When I subtract the square that represent a prime number to another square that represent a prime number, I have even numbers. This is because all the prime numbers are odd numbers. One odd number minus another odd number equal an even number. The even numbers that I had found were 8, 12 24, 48, 68, 84, 104, 108, 144, 168, 188, 224, 228, 264, 288, 308, 344, 348, 368, 384, 404, 428, 444, 504, 564, 588, 608, 648, 668, 704, 728, 764, 786, 804, 848, 924, 948. This is for all the primes from 1 to 1000. Some of those numbers are multiples with 2, some are multiples with 4 and some are multiples of 8. The smaller this number is, the more it is difficult to draw it, so I have simplified the structure and decided to work only with numbers that would finish by 8. Those numbers that finish by 8 always fall on primary prime numbers, and though, I can make a rule out of their frequency.

AO	AP	AQ	AR	AS	AT
axe x	axe y	axe x	axe y	hypotenuse	squared hypotenuse
8	5	2.82843	2.23607	3.605551275	13
12	5	3.4641	2.23607	4.123105626	17
12	7	3.4641	2.64575	4.358898944	19
12	11	3.4641	3.31662	4.795831523	23
24	5	4.89898	2.23607	5.385164807	29
24	7	4.89898	2.64575	5.567764363	31
24	13	4.89898	3.60555	6.08276253	37
24	17	4.89898	4.12311	6.403124237	41
24	19	4.89898	4.3589	6.557438524	43
24	23	4.89898	4.79583	6.8556546	47
48	5	6.9282	2.23607	7.280109889	53
48	11	6.9282	3.31662	7.681145748	59
48	13	6.9282	3.60555	7.810249676	61
48	19	6.9282	4.3589	8.185352772	67
48	23	6.9282	4.79583	8.426149773	71
68	5	8.24621	2.23607	8.544003745	73
68	11	8.24621	3.31662	8.888194417	79
68	15	8.24621	3.87298	9.110433579	83
68	21	8.24621	4.58258	9.433981132	89
68	29	8.24621	5.38516	9.848857802	97
84	17	9.16515	4.12311	10.04987562	101
84	19	9.16515	4.3589	10.14889157	103
84	23	9.16515	4.79583	10.34408043	107
84	29	9.16515	5.38516	10.63014581	113
84	43	9.16515	6.55744	11.26942767	127
84	47	9.16515	6.85565	11.44552314	131
84	53	9.16515	7.28011	11.70469991	137
104	35	10.198	5.91608	11.78982612	139
104	45	10.198	6.7082	12.20655562	149
104	47	10.198	6.85565	12.28820573	151
104	53	10.198	7.28011	12.52996409	157
104	59	10.198	7.68115	12.76714533	163
104	63	10.198	7.93725	12.92284798	167
104	69	10.198	8.30662	13.15294644	173
104	75	10.198	8.66025	13.37908816	179
104	77	10.198	8.77496	13.45362405	181
104	87	10.198	9.32738	13.82027496	191

In the following table, I have simplified the structure and I am working only with the numbers that finish by 8 on the X axis. I have chosen number 8 because is was the smallest unit that make number 13.
When I have one square that values 5 that I add to a square that values 8, I have the square that values 13.
On the Y axis, if I have a square that values 9, and on the x axes a square that values 8, the hypotenuse is 17. I can build all the prime numbers with this rule. Now, the question is, what is the rule about the numbers on the x and the y axis?

On the X axis, I have decided to work only with numbers that increase of 20 from 8, what makes 28, 48, 68, 88, etc...
When I have a square of 8 that I add to a square of 5, I have 5 + 8 = 13. When I increase the numbers that finish by 8, in fact, I don't increase the size of the square on the X axis, but the size of the square on the Y axis, and 20 = 4 squares of 5. Every 20 that I add to 8 are in fact multiples of 5.
28 + 5 = 33 but 8 + 25 = 33 too.
48 + 5 = 53 but 8 + 40 = 53 too.
I use the square root of 5 to scale a calculator every 4 squares of 5.

On the following table, each time I have the number 1, it is in fact the first digits before 8 + 1.
28 + 1 = 29 and 8 + 21 = 29
88 + 1 = 89 and 8 + 81 = 89
108 + 1 = 109 and 8 + 101 = 109
148 + 1 = 149 and 8 + 141 = 149
228 + 1 = 229 and 8 + 221 = 229

20 = 5 x 4
80 = 5 x 16 = 5 x (4x4)
100 = 5 x 25 = 5 x (5x5)
140 = 5 x 28 = 5 x (7x4)
220 = 5 x 44 = 5 (11x4)
260 = 5 x 52
340 = 5 x 68
380 = 5 x 76
400 = 5 x 80
440 = 5 x 88
500 = 5 x 100
560 = 5 x 112
700 = 5 x 140 etc.…

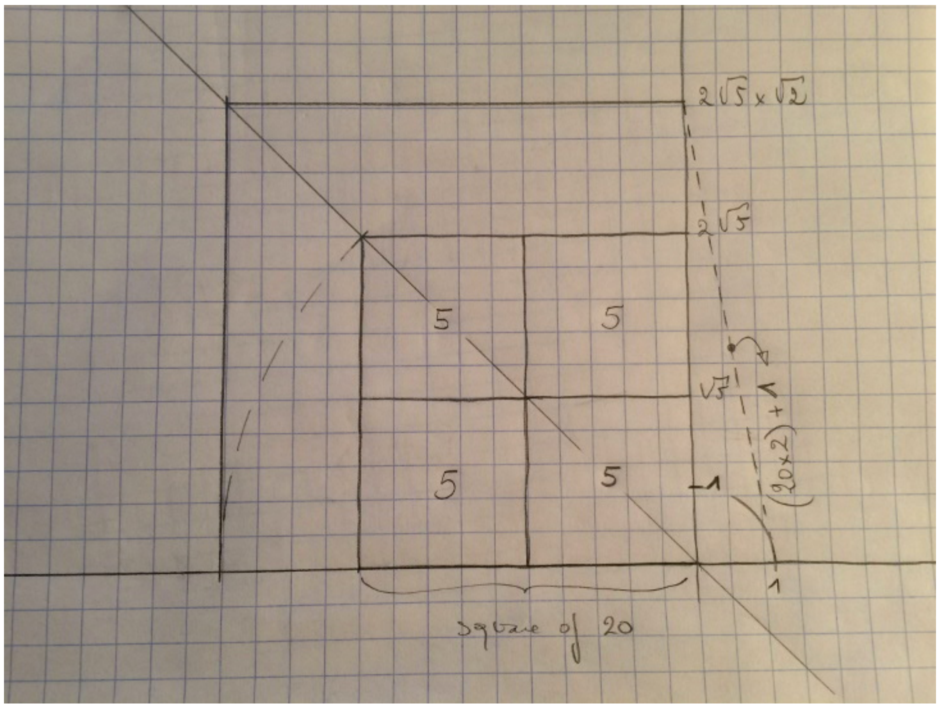
		axe x	axe y	axe x	axe y	hypotenu	squared	hypotenuse
	1	8	5	2.8284	2.2361	3.6056	13	13
		8	9	2.8284	3	4.1231	17	17
		8	11	2.8284	3.3166	4.3589	19	19
		8	15	2.8284	3.873	4.7958	23	23
7	3.5	28	1	5.2915	1	5.3852	29	29
		28	3	5.2915	1.7321	5.5678	31	31
		28	9	5.2915	3	6.0828	37	37
		28	13	5.2915	3.6056	6.4031	41	41
		28	15	5.2915	3.873	6.5574	43	43
		28	19	5.2915	4.3589	6.8557	47	47
	6	48	5	6.9282	2.2361	7.2801	53	53
		48	11	6.9282	3.3166	7.6811	59	59
		48	13	6.9282	3.6056	7.8102	61	61
		48	19	6.9282	4.3589	8.1854	67	67
17	8.5	68	3	8.2462	1.7321	8.4261	71	71
		68	5	8.2462	2.2361	8.544	73	73
		68	11	8.2462	3.3166	8.8882	79	79
		68	15	8.2462	3.873	9.1104	83	83
		88	1	9.3808	1	9.434	89	89
		88	9	9.3808	3	9.8489	97	97
		88	13	9.3808	3.6056	10.05	101	101
		88	15	9.3808	3.873	10.149	103	103
		88	19	9.3808	4.3589	10.344	107	107
27	13.5	108	1	10.392	1	10.44	109	109
		108	5	10.392	2.2361	10.63	113	113
		108	19	10.392	4.3589	11.269	127	127
	16	128	3	11.314	1.7321	11.446	131	131
		128	9	11.314	3	11.705	137	137
		128	11	11.314	3.3166	11.79	139	139
37	18.5	148	1	12.166	1	12.207	149	149
		148	3	12.166	1.7321	12.288	151	151
		148	29	12.166	5.3852	13.304	177	157
		148	15	12.166	3.873	12.767	163	163
		148	19	12.166	4.3589	12.923	167	167
	21	168	5	12.961	2.2361	13.153	173	173
		168	11	12.961	3.3166	13.379	179	179
		168	13	12.961	3.6056	13.454	181	181
		188	3	13.711	1.7321	13.82	191	191
47	23.5	188	5	13.711	2.2361	13.892	193	193
		188	9	13.711	3	14.036	197	197
		188	11	13.711	3.3166	14.107	199	199
	26	208	3	14.422	1.7321	14.526	211	211
		208	15	14.422	3.873	14.933	223	223
		208	19	14.422	4.3589	15.067	227	227
57	28.5	228	1	15.1	1	15.133	229	229
		228	5	15.1	2.2361	15.264	233	233
		228	11	15.1	3.3166	15.46	239	239
		228	13	15.1	3.6056	15.524	241	241
	31	248	3	15.748	1.7321	15.843	251	251
		228	29	15.1	5.3852	16.031	257	257

		228	11	15.1	3.3166	15.46	239	239
		228	13	15.1	3.6056	15.524	241	241
	31	248	3	15.748	1.7321	15.843	251	251
		228	29	15.1	5.3852	16.031	257	257
		228	35	15.1	5.9161	16.217	263	263
67	33.5	268	1	16.371	1	16.401	269	269
		268	3	16.371	1.7321	16.462	271	271
		268	9	16.371	3	16.643	277	277
		268	13	16.371	3.6056	16.763	281	281
		268	15	16.371	3.873	16.823	283	283
	36	288	5	16.971	2.2361	17.117	293	293
		288	19	16.971	4.3589	17.521	307	307
77	38.5	308	3	17.55	1.7321	17.635	311	311
		308	5	17.55	2.2361	17.692	313	313
		308	9	17.55	3	17.804	317	317
	41	328	3	18.111	1.7321	18.193	331	331
		308	29	17.55	5.3852	18.358	337	337
		308	39	17.55	6.245	18.628	347	347
87	43.5	348	1	18.655	1	18.682	349	349
		348	5	18.655	2.2361	18.788	353	353
		348	11	18.655	3.3166	18.947	359	359
		348	19	18.655	4.3589	19.157	367	367
	46	368	5	19.183	2.2361	19.313	373	373
		368	11	19.183	3.3166	19.468	379	379
		368	15	19.183	3.873	19.57	383	383
97	48.5	388	1	19.698	1	19.723	389	389
		388	9	19.698	3	19.925	397	397
		388	13	19.698	3.6056	20.025	401	401
	51	408	1	20.199	1	20.224	409	409
		408	11	20.199	3.3166	20.469	419	419
		408	13	20.199	3.6056	20.518	421	421
		408	23	20.199	4.7958	20.761	431	431
107	53.5	428	5	20.688	2.2361	20.809	433	433
		428	11	20.688	3.3166	20.952	439	439
		428	15	20.688	3.873	21.048	443	443
	56	448	1	21.166	1	21.19	449	449
		448	9	21.166	3	21.378	457	457
		448	13	21.166	3.6056	21.471	461	461
		448	15	21.166	3.873	21.517	463	463
		448	19	21.166	4.3589	21.61	467	467
117	58.5	468	11	21.633	3.3166	21.886	479	479
		468	19	21.633	4.3589	22.068	487	487
	61	488	3	22.091	1.7321	22.159	491	491
	62.25	498	1	22.316	1	22.338	499	499
		498	5	22.316	2.2361	22.428	503	503
127	63.5	508	1	22.539	1	22.561	509	509
		508	13	22.539	3.6056	22.825	521	521
		508	15	22.539	3.873	22.869	523	523
	66	528	13	22.978	3.6056	23.259	541	541
		528	19	22.978	4.3589	23.388	547	547
137	68.5	548	9	23.409	3	23.601	557	557
		548	15	23.409	3.873	23.728	563	563
		568	1	23.833	1	23.854	569	569
		568	3	23.833	1.7321	23.896	571	571
	71	568	9	23.833	3	24.021	577	577

		548	15	23.409	3.873	23.728	563	563
		568	1	23.833	1	23.854	569	569
		568	3	23.833	1.7321	23.896	571	571
	71	568	9	23.833	3	24.021	577	577
		568	19	23.833	4.3589	24.228	587	587
147	73.5	588	5	24.249	2.2361	24.352	593	593
		588	11	24.249	3.3166	24.474	599	599
		588	13	24.249	3.6056	24.515	601	601
		588	19	24.249	4.3589	24.637	607	607
	76	608	5	24.658	2.2361	24.759	613	613
		608	9	24.658	3	24.839	617	617
		608	11	24.658	3.3166	24.88	619	619
157	78.5	628	3	25.06	1.7321	25.12	631	631
		628	13	25.06	3.6056	25.318	641	641
		628	15	25.06	3.873	25.357	643	643
		628	19	25.06	4.3589	25.436	647	647
	81	648	5	25.456	2.2361	25.554	653	653
		648	11	25.456	3.3166	25.671	659	659
		648	13	25.456	3.6056	25.71	661	661
167	83.5	668	5	25.846	2.2361	25.942	673	673
		668	9	25.846	3	26.019	677	677
		668	15	25.846	3.873	26.134	683	683
		668	23	25.846	4.7958	26.287	691	691
		668	33	25.846	5.7446	26.476	701	701
		708	1	26.608	1	26.627	709	709
177	88.5	708	11	26.608	3.3166	26.814	719	719
		708	19	26.608	4.3589	26.963	727	727
	91	728	5	26.981	2.2361	27.074	733	733
		728	11	26.981	3.3166	27.185	739	739
		728	15	26.981	3.873	27.258	743	743
187	93.5	748	3	27.35	1.7321	27.404	751	751
		728	29	26.981	5.3852	27.514	757	757
		728	33	26.981	5.7446	27.586	761	761
		728	41	26.981	6.4031	27.731	769	769
	96	768	5	27.713	2.2361	27.803	773	773
		768	19	27.713	4.3589	28.054	787	787
197	98.5	788	9	28.071	3	28.231	797	797
		788	21	28.071	4.5826	28.443	809	809
		808	3	28.425	1.7321	28.478	811	811
		788	33	28.071	5.7446	28.653	821	821
		788	35	28.071	5.9161	28.688	823	823
		788	39	28.071	6.245	28.758	827	827
207	103.5	828	1	28.775	1	28.792	829	829
		828	11	28.775	3.3166	28.965	839	839
	106	848	5	29.12	2.2361	29.206	853	853
		848	9	29.12	3	29.275	857	857
		848	11	29.12	3.3166	29.309	859	859
		848	15	29.12	3.873	29.377	863	863
217	108.5	868	9	29.462	3	29.614	877	877
		848	33	29.12	5.7446	29.682	881	881
		848	35	29.12	5.9161	29.715	883	883
		848	39	29.12	6.245	29.783	887	887
	111	888	19	29.799	4.3589	30.116	907	907
227	113.5	908	3	30.133	1.7321	30.183	911	911
		908	11	30.133	3.3166	30.315	919	919

		848	39	29.12	6.245	29.783	887	887
	111	888	19	29.799	4.3589	30.116	907	907
227	113.5	908	3	30.133	1.7321	30.183	911	911
		908	11	30.133	3.3166	30.315	919	919
	116	928	1	30.463	1	30.48	929	929
		928	9	30.463	3	30.61	937	937
		928	13	30.463	3.6056	30.676	941	941
		928	19	30.463	4.3589	30.773	947	947
237	118.5	948	5	30.79	2.2361	30.871	953	953
		948	19	30.79	4.3589	31.097	967	967
	121	968	3	31.113	1.7321	31.161	971	971
		968	9	31.113	3	31.257	977	977
		968	15	31.113	3.873	31.353	983	983
247	123.5	988	3	31.432	1.7321	31.48	991	991
		988	9	31.432	3	31.575	997	997

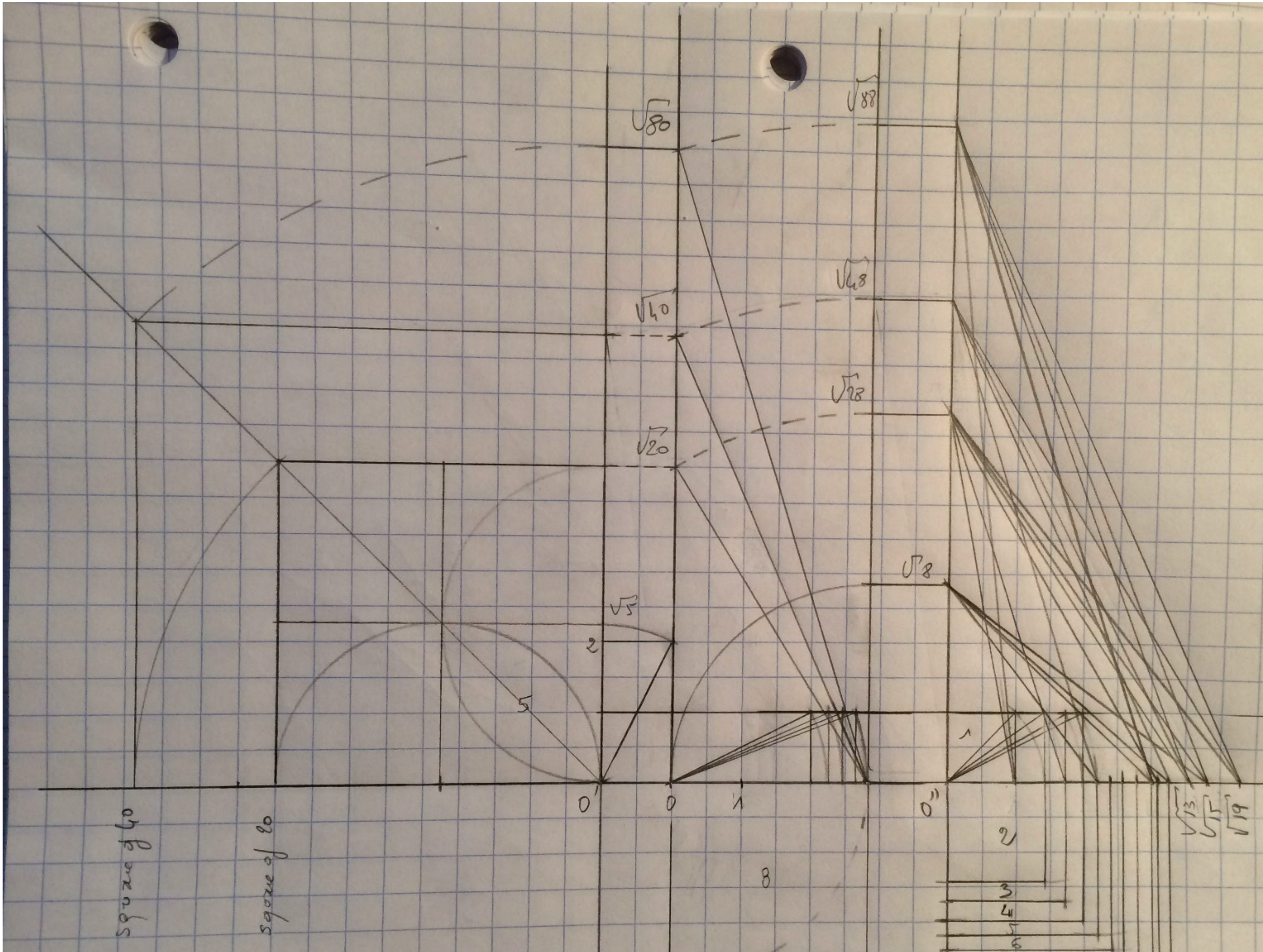
When I multiply 20 by 2, in fact I multiply square root of 20 by square root of 2.



20 x 2 = 40
40 x 2 = 80
80 x 2 = 160

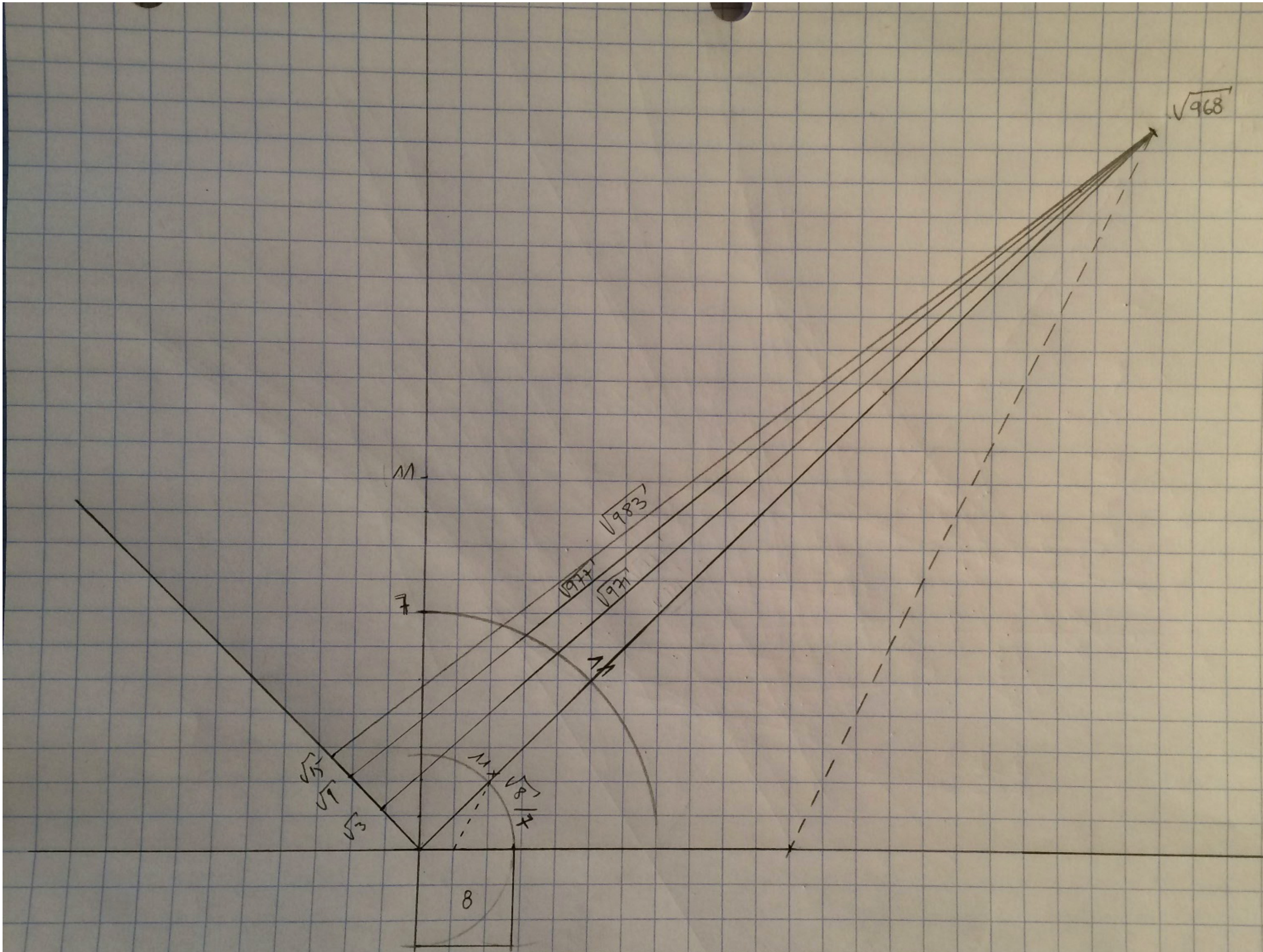
160 x 2 = 320

On the following drawing, I have built the geometry from the excel table. This drawing shows all the prime numbers from 1 to 107. Those numbers are the squares built on the hypotenuse of the sum of the two other squares.



√88
√80
√48
√40
√28
√20
√8
√5
2
5
1
0'
0
1
0''
2
8
3
4
5
6
√13
√15
√19
square of 40
square of 20

On the drawing above, I am starting from 1 and I increase until 107. What happens when I try to reverse the drawing ?
On the following drawing, I have built the square roots of 971, 977 and 983 with the square root of 968.



$\sqrt{968}$
$\sqrt{983}$
$\sqrt{977}$
$\sqrt{971}$
11
7
$\sqrt{15}$
$\sqrt{9}$
$\sqrt{3}$
11
$\sqrt{8}$
$\sqrt{7}$
8

I know from my excel table that 121 x 8 = 968.
To find the square root of 968, I have drawn the circle of the square root of 8, then the circle of the square root of 121. I have drawn the line from the radius of the first circle projected to one on the diagonal and I drawn the parallel that cross the diagonal of the two axes in square root of 968. At the origin of the two axis, I drew the other diagonal of the two axis, and I marked the points on square roots of 3, 9 and 15. Those points linked to the square root of 968 in the opposite diagonal makes the 3 lines for square root of 971, 977 and 983. The prime numbers are the squares built on those edges. The number expresses a surface. From this surface, we can calculate volumes and weight.

The drawings are pretty simple, but we must try to understand what they express and how the squares that make the prime numbers are structured.

BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ
	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19				-8	-18	-28	-38
1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18			1	-7	-17	-27	-37
2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17			2	-6	-16	-26	-36
3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16			3	-5	-15	-25	-35
4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15			4	-4	-14	-24	-34
5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14			5	-3	-13	-23	-33
6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13			6	-2	-12	-22	-32
7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12			7	-1	-11	-21	-31
8	7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11			8	0	-10	-20	-30
9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10			9	1	-9	-19	-29
10	9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9			10	2	-8	-18	-28
11	10	9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8			11	3	-7	-17	-27
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17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	-1	-2			17	9	-1	-11	-21
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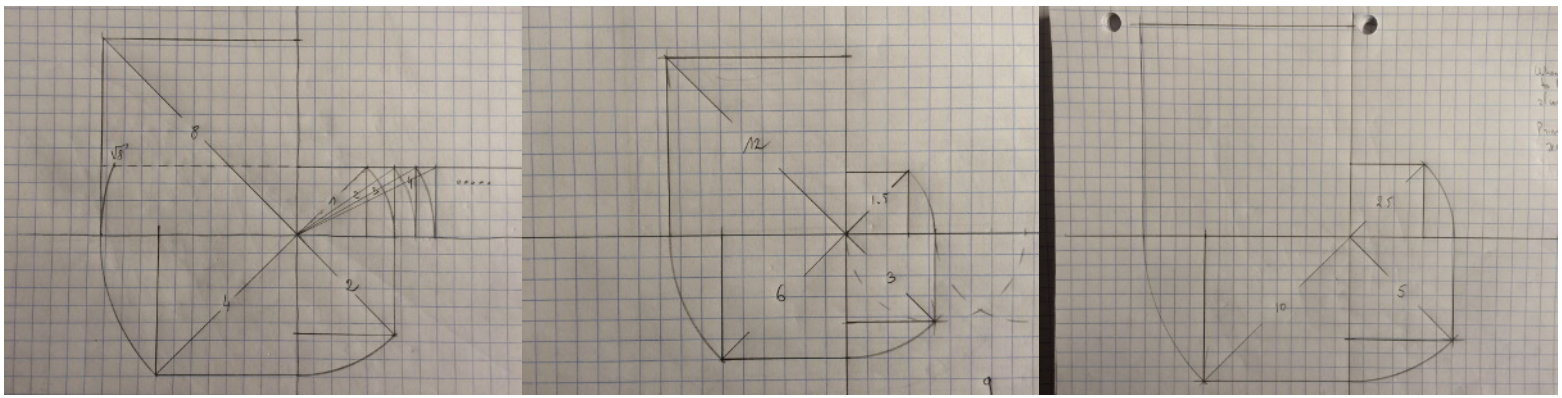
183	175	165	155	145
184	176	166	156	146
185	177	167	157	147
186	178	168	158	148
187	179	169	159	149
188	180	170	160	150
189	181	171	161	151
190	182	172	162	152
191	183	173	163	153
192	184	174	164	154
193	185	175	165	155
194	186	176	166	156
195	187	177	167	157

On the table of the left, I show how prime numbers are situated within non-prime numbers.
On the table of the right, I show the structure with numbers that finish by 8. Since I increase those numbers 10 by 10, a prime number minus the numbers that end with a 8 is are odd numbers that increase 10 by ten too.

As we have seen on the drawings above, each time we have a number equal to ((10 x n)+8), we can draw the number from the square root of 5.

<u>January 25, 2018</u>

Last night, I made a quick drawing to explain the basics of numbers. When you draw the diagonal of a square that is number 1, you project this diagonal and build a square on it, then the surface of this square is twice number 1. We call this new square number 2. If I take the diagonal of number two, I project it on the axis and I build the square with it, then I make a square twice bigger. This is number 4 and I can make number 8 the same way. The diagonal of two perpendicular axis can build the numbers in a proportion of 2. I can do the same if I start with a square of which the surface would be 1.5. It will become a surface of 3 which is an odd number, then a surface of 6 which is an even number. If I start with a square of 2.5, I will make a square of 5 from it, then a square of 10.

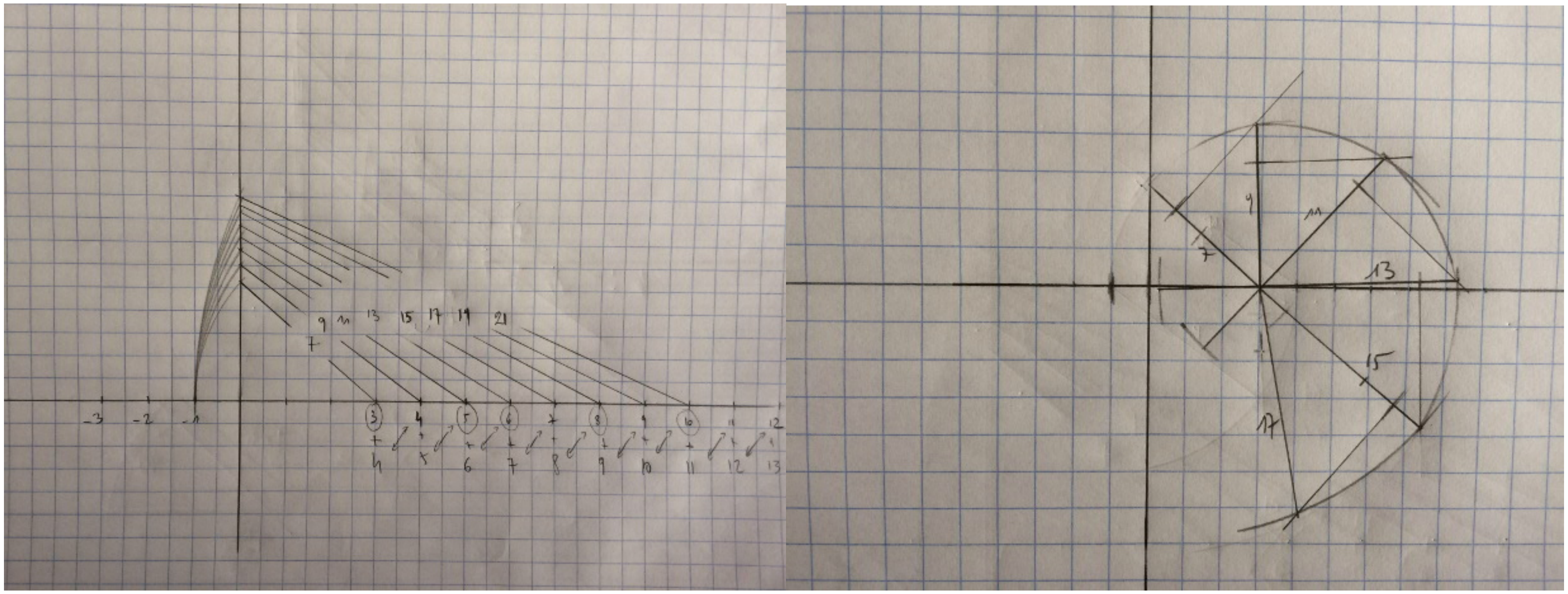


What we learn from it is that an odd number that I multiply by two can by two systematically becomes an even number. Half a number that I multiply by 4 becomes an even number. One quarter that I multiply by 8 becomes an even number. In fact, some decimals can become whole even numbers. But there are decimals that cannot become whole even numbers.
1/1 = 1
1/2 = 0.5
1/3 = 0.33333
1/4 = 0.25
1/5 = 0.2
1/6 = 0.166666
1/7 = 0.142857142857
1/8 = 0.125

1/9 = 0.11111
1/10 = 0.1
1/11 = 0.090909090
1/12 = 0.0833333
1/13 = 0.076923076
1/14 = 0.07142857142857
1/15 = 0.0666666
1/16 = 0.0625
1/17 = 0.058823529411764705882352941176470
1/18 = 0.055555
1/19 = 0.0526315789473684210526315789473684210

When we divide 1 by any whole number, the result is either a whole or a decimal number. Among the decimal numbers, some of them are finite, some of them are "periodic". Periodic numbers have a sequence of number that repeat themselves "infinitly", but the infinite is only a concept that ends with number 1. In fact, those numbers are "infinite" until we multiply them by the whole number that transforms the total in another whole number:
0.058823529411764705882352941176470 x 17 = 1

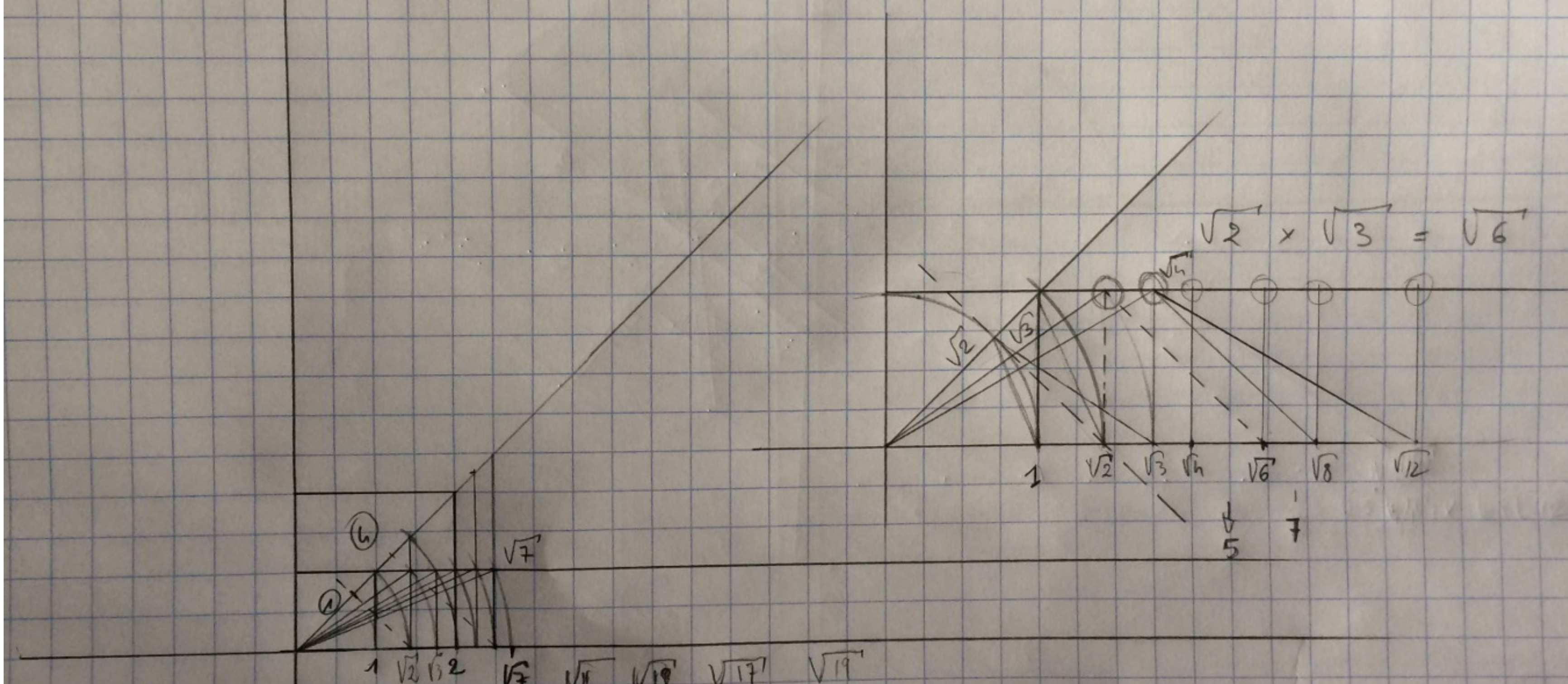
The same way that we can find the double of a square from the diagonal of two perpendicular axis, we can find the half of a square from the perpendicular axis. But as we have seen, after we multiply an odd number by two, it becomes an even number. When we divide an odd number by two, it becomes a decimal. Although, it is not that easy to find the square of large odd numbers with the method we have seen above, but there is another method.



One method, but this is not the only one, is to use the hypotenuse and the basis of a triangle as a calculator. If I look for the square root of 7, the hypotenuse is (7+1)/2, the basis is (7-1)/2 and the last edge is the projection of the hypotenuse on the vertical axis.
On the left, don't misunderstand the drawing. The numbers of 7, 9, 11, 13, 15, 17, 19 are not built on the hypotenuse but on the Y axis. On the right, I just show what it would look like if I would build each number from the last square found. Here also, the numbers 7, 9, 11, 13, 15 and 17 are on the small edge of each triangle, not on the hypotenuse.

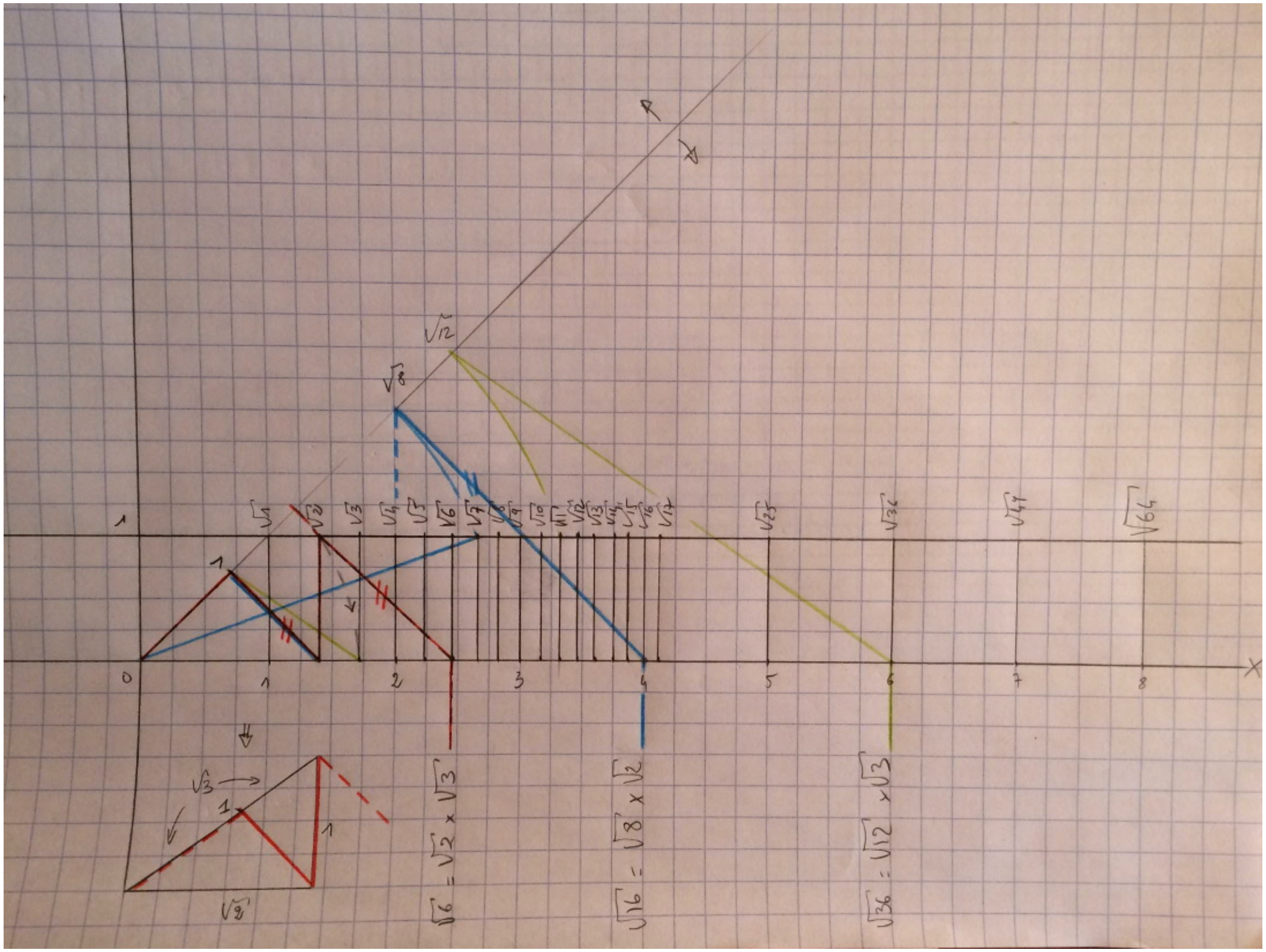
Comment multiplier des nombres premiers de grande taille ?

Un nombre premier est un nombre qui ne permet pas de tracer une ligne continue jusqu'à 1.
Pas de ligne, pas de diviseur.

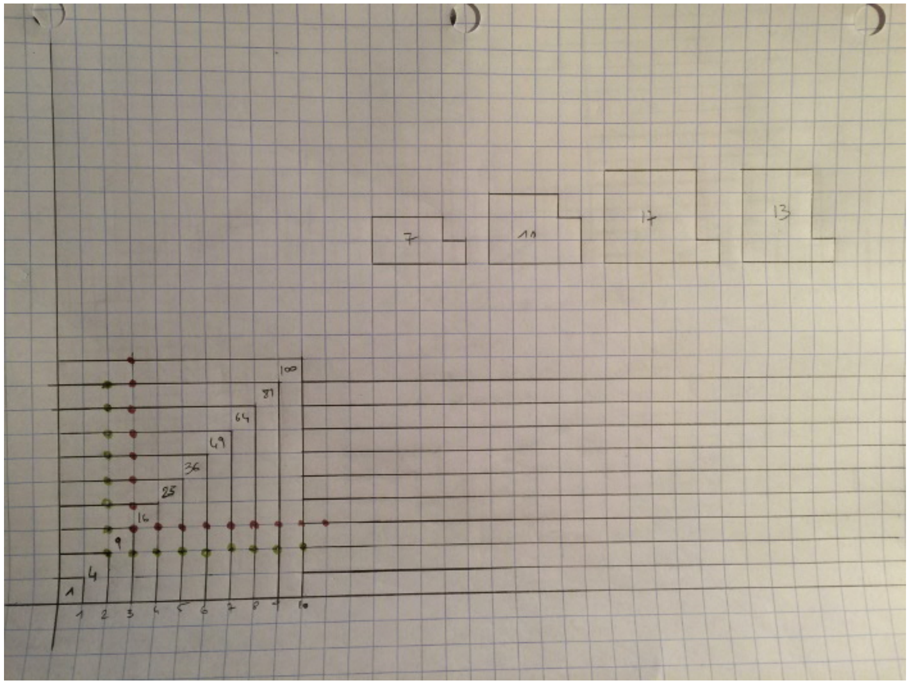


I could have found the square root of absolutely all the numbers from the original square of 1, but that would have involve that I draw all the numbers in between since 19 comes from 18, 18 comes from 17, 17 comes from 16, 16 comes from 15, 15 comes from 14, 14 comes 13, 13 comes from 12, 12 comes from 11, 11 comes from 10, 10 comes from 9, 9 comes from 8, 8 comes from 7, 7 comes from 6, 6 comes from 5, 5 comes from 4, 4 comes from 3, 3 comes from 2 and 2 comes from 1.

All numbers are related to the last and to the next number of this series and each of them have a very precise position in the scale of 1 unit on the Y axes. Some numbers can be related to other numbers than the last and than the next. On the right, I show how to multiply 2 by 3 and square root of 4 by square root of 3 to find the square root of 12. On the parallel of the X axis, situated at unit 1 on the Y axis, I find all the multiples. The prime numbers are all the numbers that cannot draw a straight line from their square root to one.



On the drawing above, we see that when I divide square root of 6 by square root of 3, the parallel in one falls exactly on square root of two. This is because 2 and 3 are the multiples of 6.
When I divide square root of 16 by square root of 8, the vertical projection on the diagonal falls on square root of 4. The parallel of the blue line that passes in 1 on the diagonal falls on square root of 2.


7
11
17
13
100
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64
49
36
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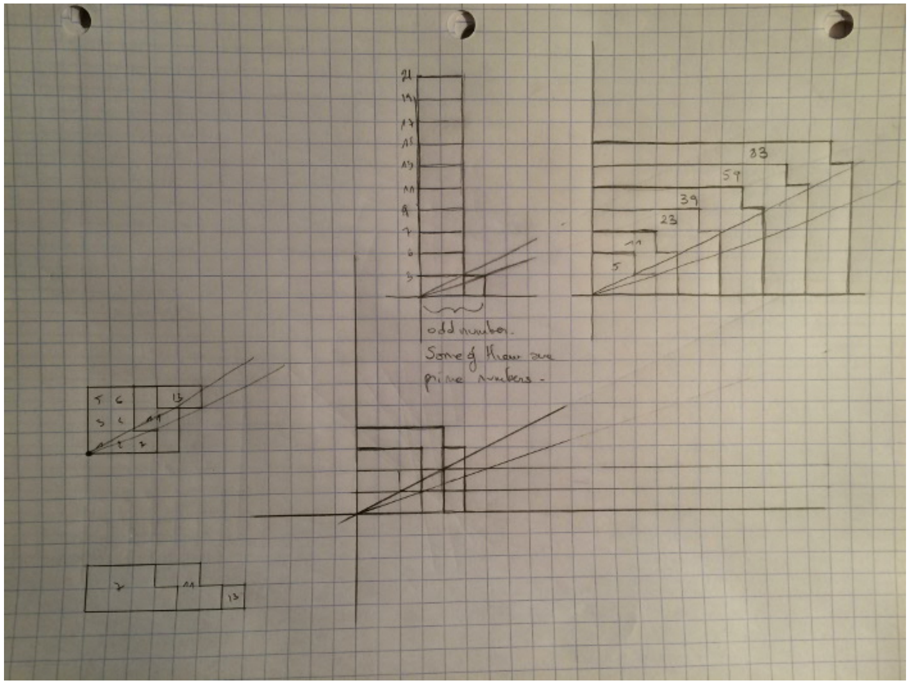
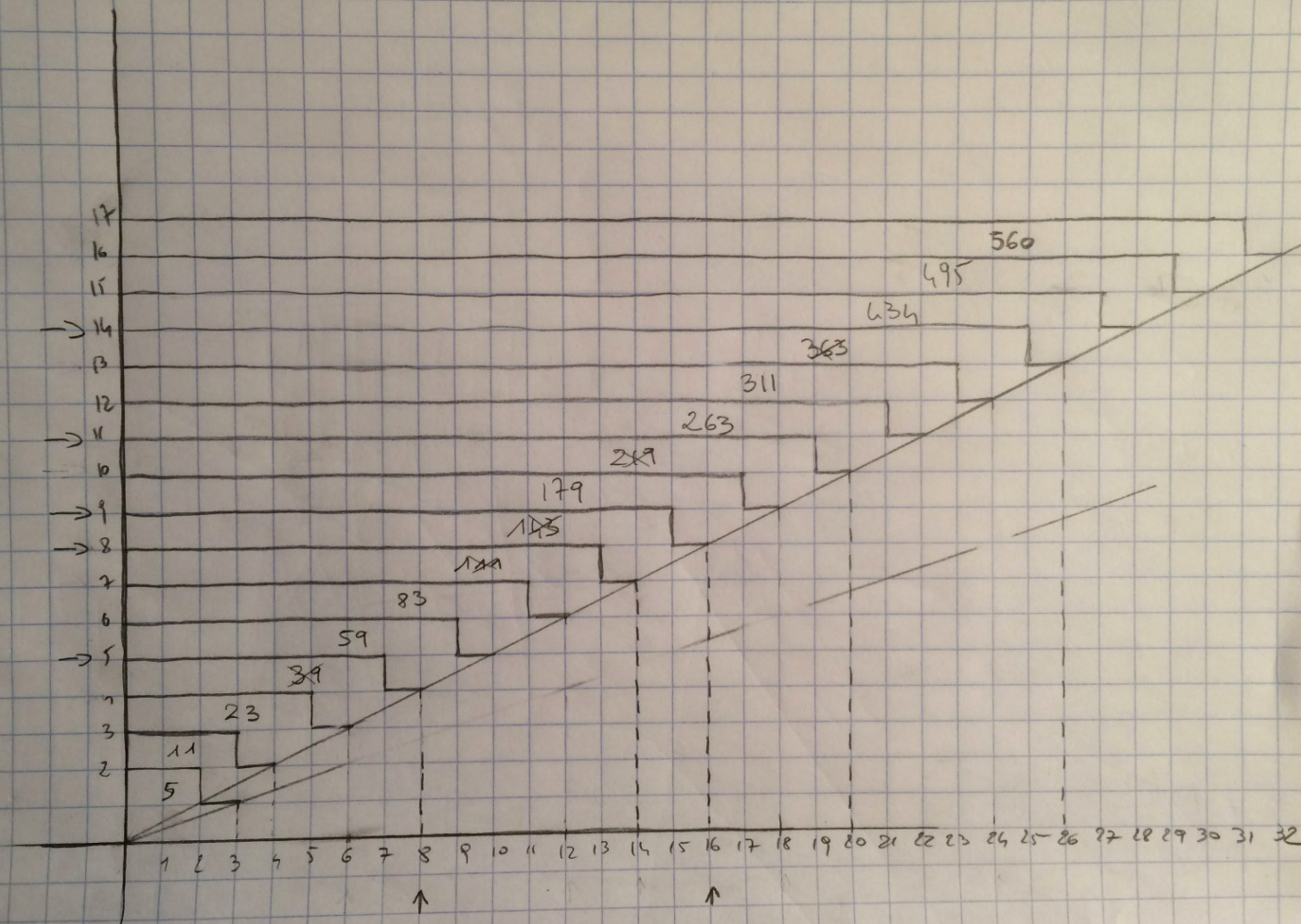
9
4
1
1
2
3
4
5
6
7
8
9
10



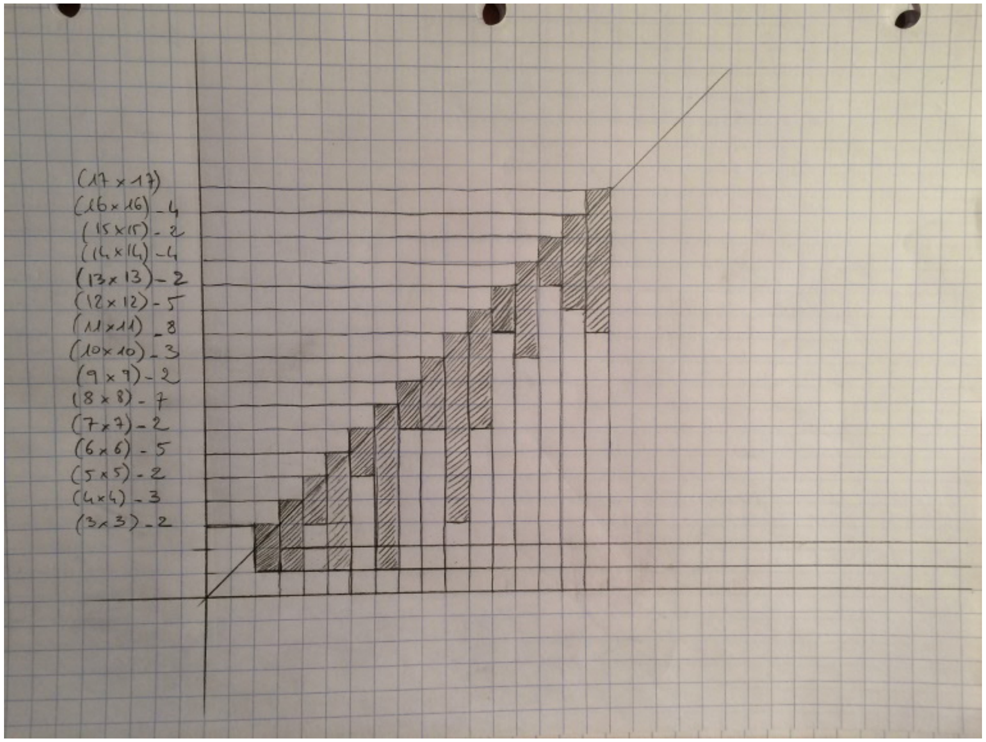
I know that if I would build the squares around unit 1, then I could not build all the numbers. I know also that prime numbers have shapes which are always one square or one rectangle, plus an extra unit one, sometimes two. In fact, what we have seen with the excel files, is that the extra units can be 1, 3, 5 and 9 once we reduce the structure into components.

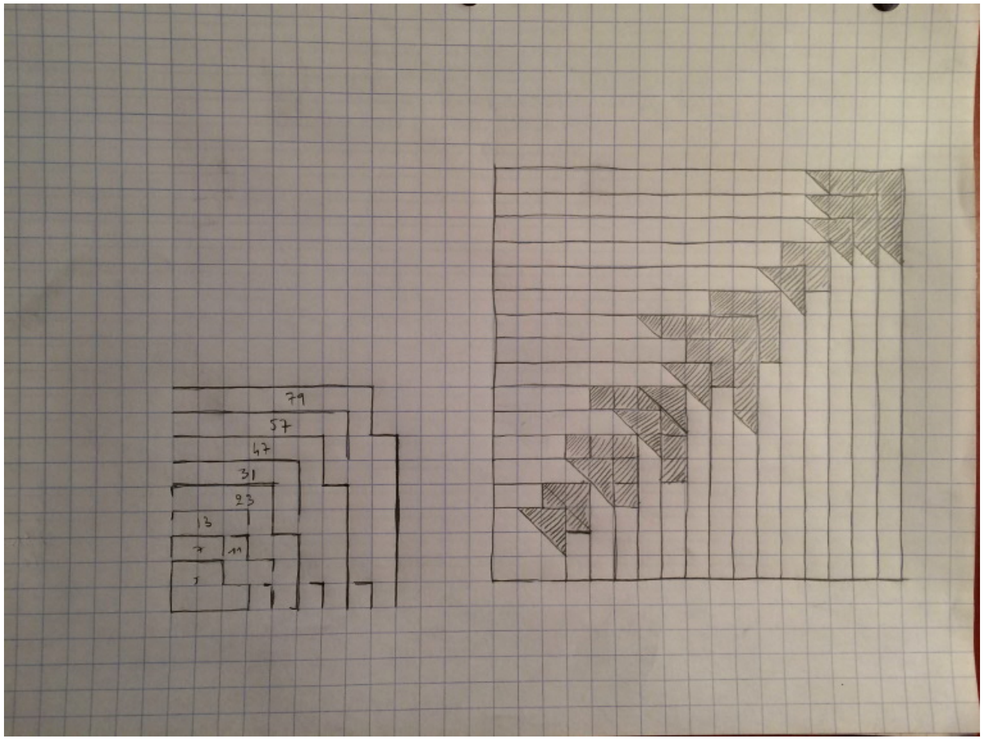
On the right, we can see that with two lines positioned with a vector of (2,1) and (3,1), I can find some of the prime numbers. Nevertheless, the following drawing shows that when I increase the numbers, it does not really work.



5
11
23
~~39~~
59
83
~~111~~
~~143~~
179
~~219~~
263
311
~~363~~
434
495
560
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
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

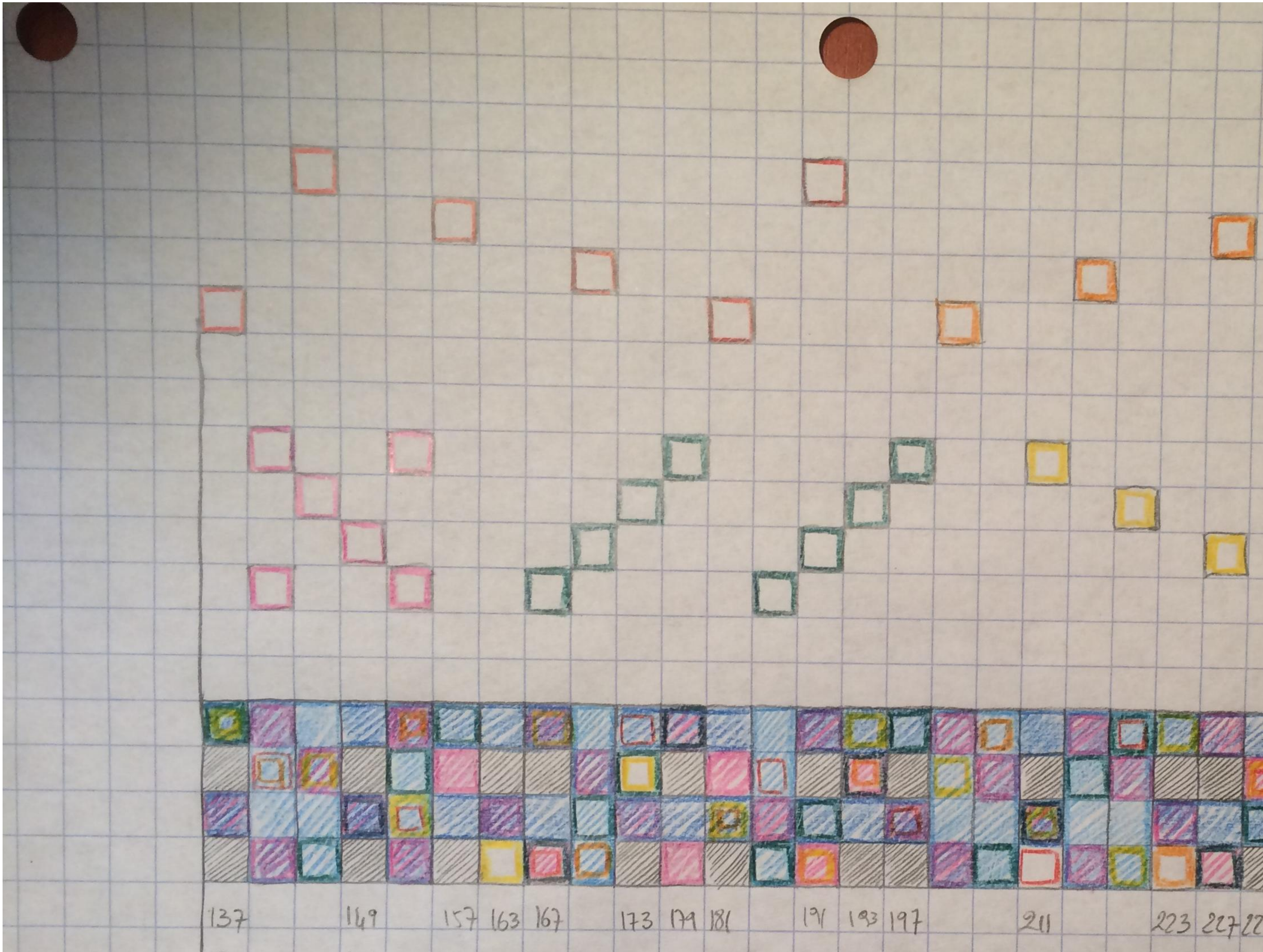
On the following drawing, instead of adding something, I remove the parts from the square to find the prime numbers. This is graphic, but not really interesting.





<u>January 26, 2018</u>

If I take all the numbers from 1 to 10, I can see that I have 4 multiples of 2, 3 multiples of 3 and 2 multiples of 5 including 10. Working on a pattern of 2 is difficult, so I tried to work on a pattern of 4. This is what I got:


137
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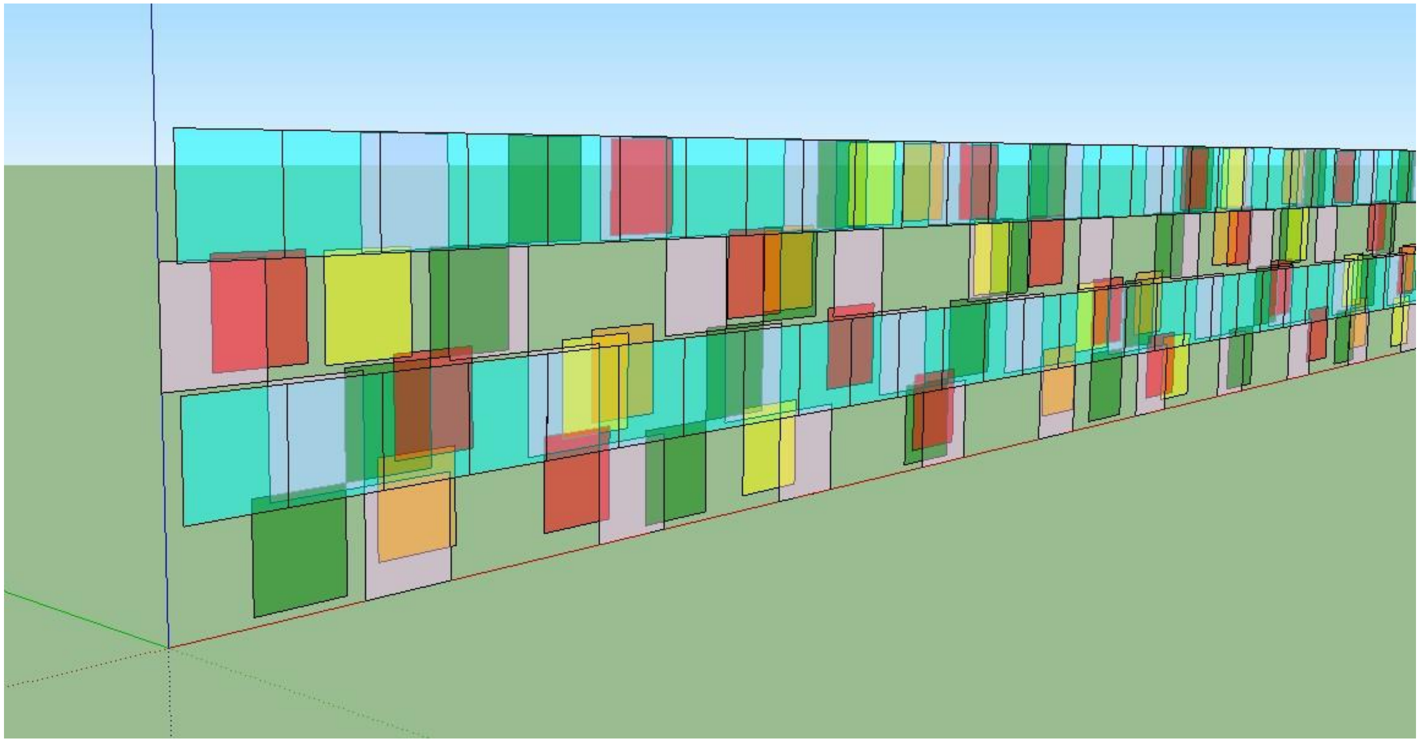
211
223
227

The second and the fourth line are the multiples of 2. The multiples of 3 are in pink. They follow a regular pattern. The multiples of 5 are in green, they follow a regular pattern. The multiples of 7 are in yellow, they follow a regular pattern. The multiples of 11 are in red, they follow a regular pattern. The multiples of 13 are in orange, they follow a regular pattern. The prime numbers are the numbers left by the holes of those regular patterns.

The holes in between the patterns are prime numbers. We can turn it into an architecture of several layers of patterns.

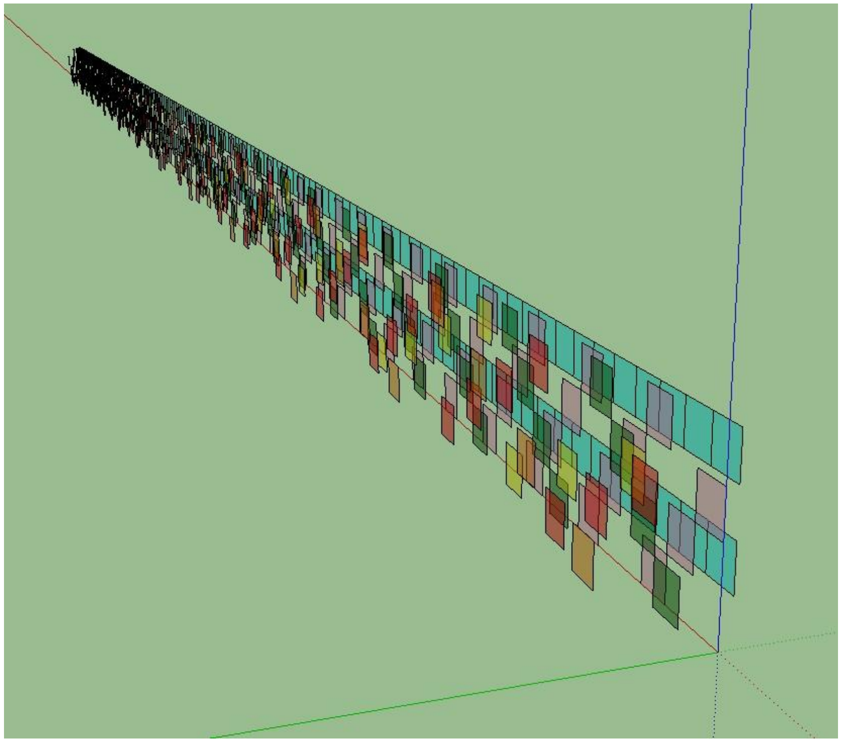


At some points when we come to high numbers, some holes are also the multiples of prime numbers.

Eventually, each line could represent 1/4 of a circle and though, we could find the prime numbers in between the cycle of the other numbers but that's exactly what the Internet picture has done with 40 degrees instead of 4. There is not much interest about it unless we dug inside to try to find applications such 0101.

If I would have 30.030 degrees on a circle (2*3*5*7*11*13), I would have all the prime numbers and their multiples. In fact, the circle is growing infinitely because the more I add degrees of patterns, the more I have empty holes that are multiples of smaller prime numbers. There is no way to have a circle that would turn on a cycle, like a merry go round, and have all the patterns at once. The circle grows, and grows and add more patterns that are only prime numbers.

If there is some way to find some poesy in maths, it's probably with the architecture.



If we have a look at the pattern of 3 and five, they are opposites and if we look at the following numbers such 7, 11 and 13, we see that the patterns go down with 3, up with 5, down with 7, down with 11, up with 13. Some numbers look like pairs of close patterns, what we have seen also with the excel tables.

<u>January 27, 2018</u>

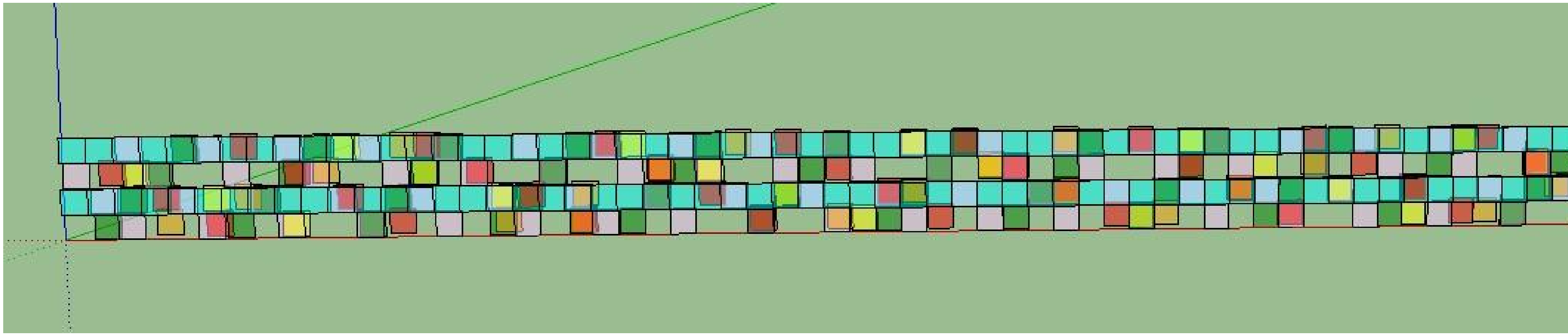
What we have learned on this page with prime numbers is the different perceptions we may have with numbers. Numbers can be squares. If they are squares, they can be also circles or polygons. Circles greater than 1 are infinite due to prime numbers, but circles could avoid prime numbers. This is a concept to believe that all the numbers are supposed to work together. Some numbers are not meant to work together. A circle could be a circle of the patterns of 3 or a circle of the patterns of 5, and both could be related or not. There would be holes but wholes are not void. Holes are part of the pattern. They are what make a 3 or a 5. Holes are a 1 plus or minus something that has a pattern and though is part of it.

We have learned also that circle of 1 can only be finite, and such any multiple of 1 can be a finite circle. Whole numbers represent a finite shape while decimal numbers represent the space in between. To draw a finite circle, we have to work on one or only few patterns at once, all numbers cannot be included. If we try to work with the patterns of all numbers, then the circle becomes infinite, even in a circle of 30.030 degrees. The more we add degrees, the more we find holes that are the multiples of prime numbers.

We have seen that 1 divided by prime numbers can make periodic numbers, what looks like an infinite set of repetitive numbers, but the concept of infinite stops when we multiply those periodic numbers by whole numbers that will relate then to other whole numbers. For instance, 1/7 = 0.142857142857, but 21 times this periodic number is a whole number, 3.

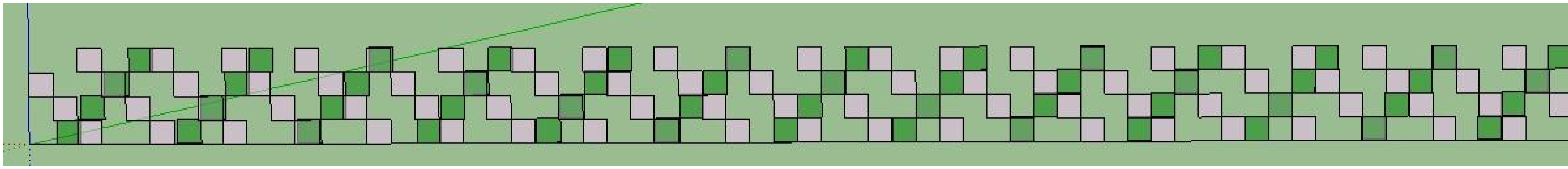
When we have squares, we have square roots what are smaller and easiest to find. Square roots are related to whole numbers and can be scaled on two axis. Square roots relate a square to a circle, a triangle and any other polygon. Though, it is easier to work on primes with using their square roots. Square roots are more difficult to find than any other number. Square roots are different than periodic numbers because most of them have decimals that can be infinite. Those decimals may be related to a pattern as we have seen with whole numbers.

If I take the number of days we have in a year, 365/4=91.25. This is how it would look like:

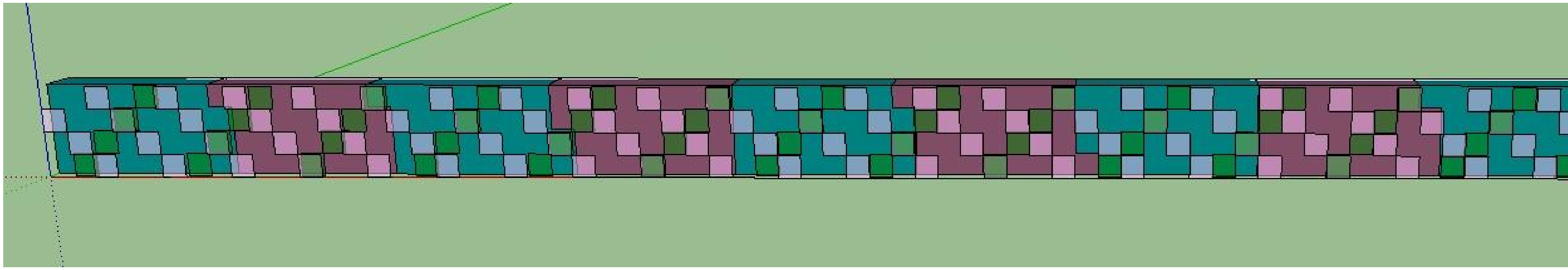


The last day of the first year is a five, it is not a prime number. Five days before would have been a prime number, and would have continued the circle of patterns in a repetitive set of days, but each year, we start a new cycle that is different from the year before. Second year would start with a multiple of 2 and 3, third year with a multiple of 7, fourth year a multiple of 2, fifth year with a multiple of 3... and it would take 20 years before we start a new cycle following the same pattern of 2 and 5. The pattern of 3, 7, 11, 13 etc... would have different positions on the whole drawing.

The patterns of 3 and 5 have 6 cycles in a year



If I show all the months of one year, this is what it would look like:



January, March, May, July, September could look almost the same. February, April, June, August, October could be almost the same, but November and December look different, almost having different patterns. Maybe this is what a year is supposed to be to start a new cycle on something, that anyway, is meant to become different.

Diary

Wednesday, January 17, 2018

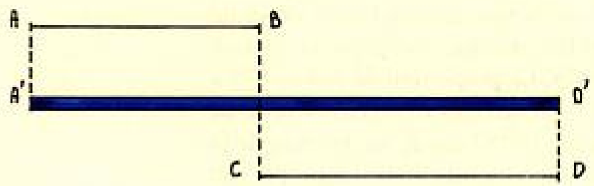
How to do maths with prime numbers

Prime numbers are like any other numbers. We can add them, subtract them, multiply them and divide them. We can even find their square root with the geometry.

ADDITIONNER

L'addition est la somme de la valeur d'un nombre ajoutée à celle d'un autre nombre. La somme de deux segments situés sur une même ligne est égale à la longueur du segment constitué des deux premiers.

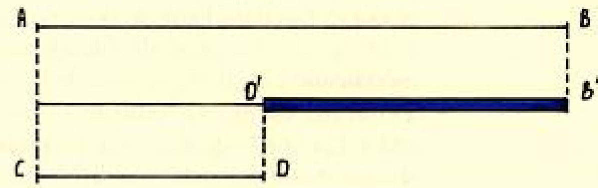
AB = 3
CD = 4
AB + CD = 7 = A'D'



SOUSTRAIRE

La soustraction est la valeur d'un nombre ôtée à celle d'un autre nombre. La longueur d'un segment situé sur une ligne auquel on retranche la longueur d'un autre segment mesure le produit de la soustraction du premier segment par le deuxième.

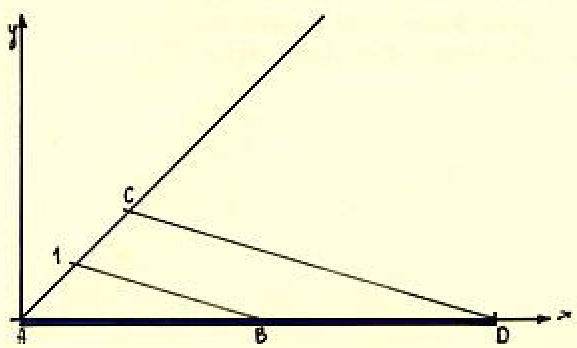
AB = 7
CD = 3
AB - CD = 4 = D'B'



MULTIPLIER

La multiplication est le produit de la valeur d'un nombre par celle d'un autre nombre. Dans un repère orthonormé, la diagonale des deux axes produit le rapport de proportion entre les deux nombres mesurés sur l'axe des abscisses et la diagonale du repère. De la valeur d'un nombre mesuré sur l'axe des abscisses à la valeur de 1 située sur la diagonale, une ligne est tracée dont la parallèle passant par l'autre nombre situé sur la diagonale coupe l'axe des abscisses par le produit des deux nombres.

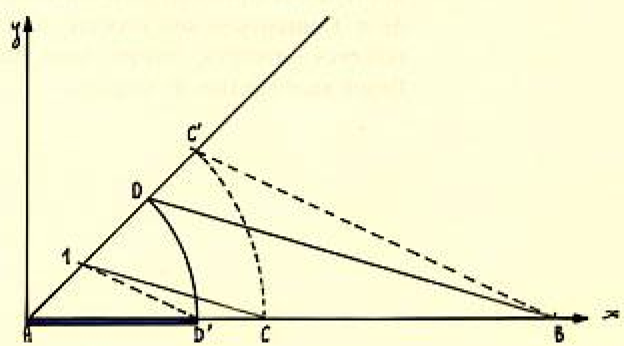
AB = π = 3,14285714
AC = 2
AB x AC = 6,28571428 = AD

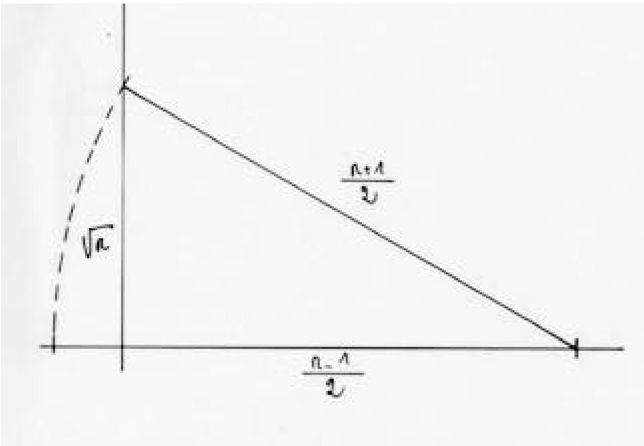


DIVISER

La division est le produit de la valeur d'un nombre par l'inverse de celle d'un autre nombre. Dans un repère orthonormé, la diagonale des deux axes produit le rapport de proportion entre les deux nombres mesurés sur l'axe des abscisses et la diagonale du repère. De la valeur d'un nombre mesuré sur l'axe des abscisses à la valeur de 1 située sur la diagonale, une ligne est tracée dont la parallèle passant par l'autre nombre situé sur l'axe des abscisses coupe la diagonale par le produit de la division des deux nombres. La longueur du segment produit sur la diagonale est reportée sur l'axe des abscisses proportionnellement aux deux nombres de la division.

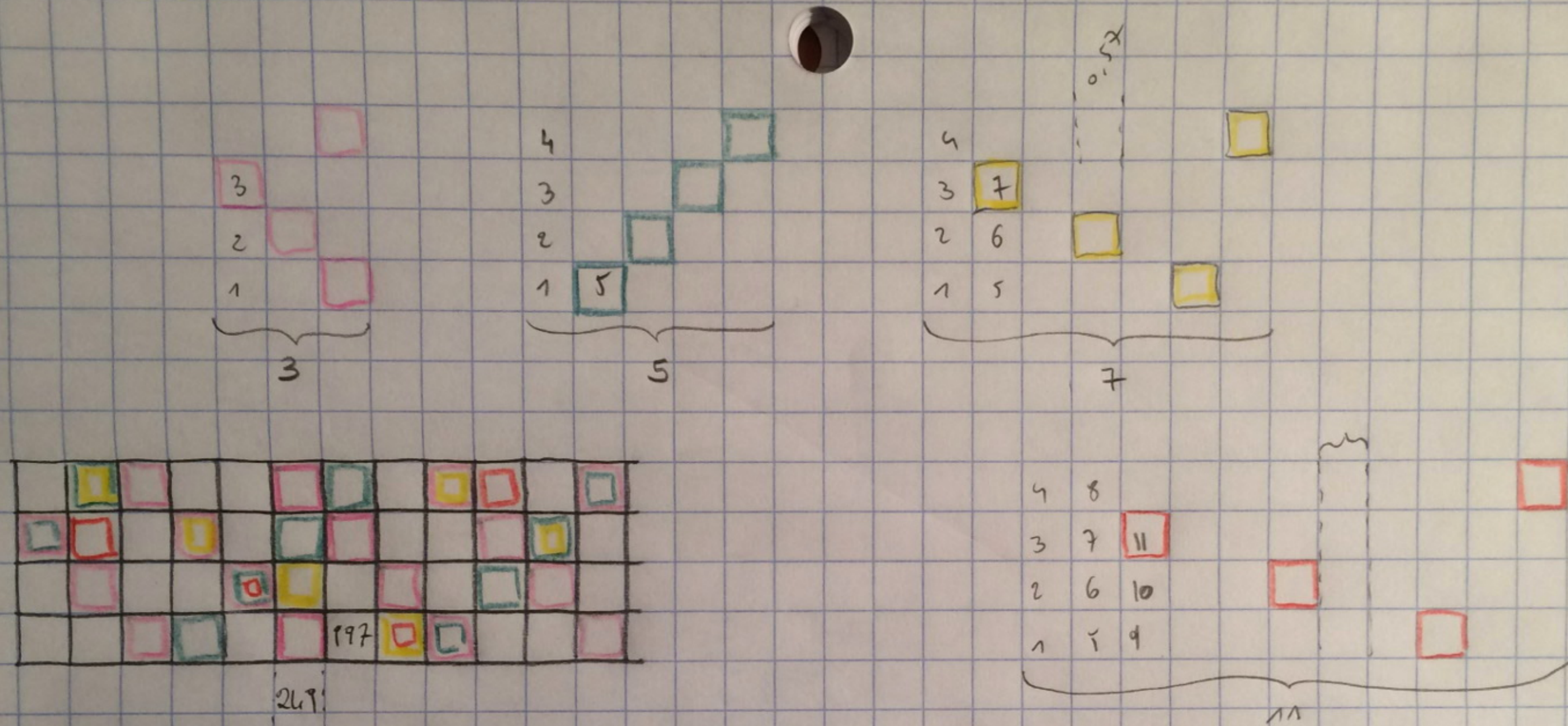
AB = 7
AC = π = 3,14285714
AB / AC = 2,2272727 = AD = AD'
En pointillés, la vérification fait le calcul de AB / AD' = AC' = π





The real question is, how to find out if a prime number is the product of an equation that would include prime and non-prime numbers.
We know for example that the multiples of 2 are even numbers. Among them, some are multiples of 4, 8 and any other multiple of 2.
There are different rules to find the multiples of 3. A number is a multiple of 3 when the sum of all numbers is a multiple of 3. For example 999 is a multiple of 3 because 9+9+9= 27, 2+7 = 9 and nine is a multiple of 3. We know also that 999 is a multiple of 9 because the sum of all numbers is 9. The multiples of 5 end with a 0 or a 5.

From the previous page, we know that any number divided by 4 will provide a position on a grid of 4 lines.
4/4 = 1. The position is on the 4th line.
If I divide 997/4, I have 249.25 what shall be on the first line.
991/4 = 247.75 what shall be on the 3rd line, and in advance, I know that all prime numbers are either on the 1st or the 3rd line since the second and the 4rth line are the multiples of 2. If I multiply two prime numbers, the result shall be also on the 1rst or the 3rd line since one prime number is two the other a position on the pattern of prime numbers, how many times the pattern repeats itself, but we know that the holes of both patterns would only be on those two lines. Next to the prime numbers, we find the patterns of 3, 5, 7, 11, etc...
The multiples of 3 use only 3 column to repeat themselves. The multiples of 5 take 5 columns to repeat themselves and the multiples of 7 take only 7 columns to repeat themsemves. Every pattern use as many column as the number of the multiple. If we divide the result of the prime number by 4, then we divide the whole result by 3, 5 and 7, we can know exactly the position on the grid accordingly to the other numbers. The position on the grid tells the relation of this number to the others.



$83 \times 3 = 249$

$49{,}8 \times 5 = 249 \Rightarrow 1/5 = 0{,}2$

0,2	0,4	0,6	0,8	1

$249/7 = 35{,}571428 \Rightarrow 1/7 = 0{,}\overline{142857}$

0.14	0.28	0.42	0.57	0.71	0.85	1

0.57

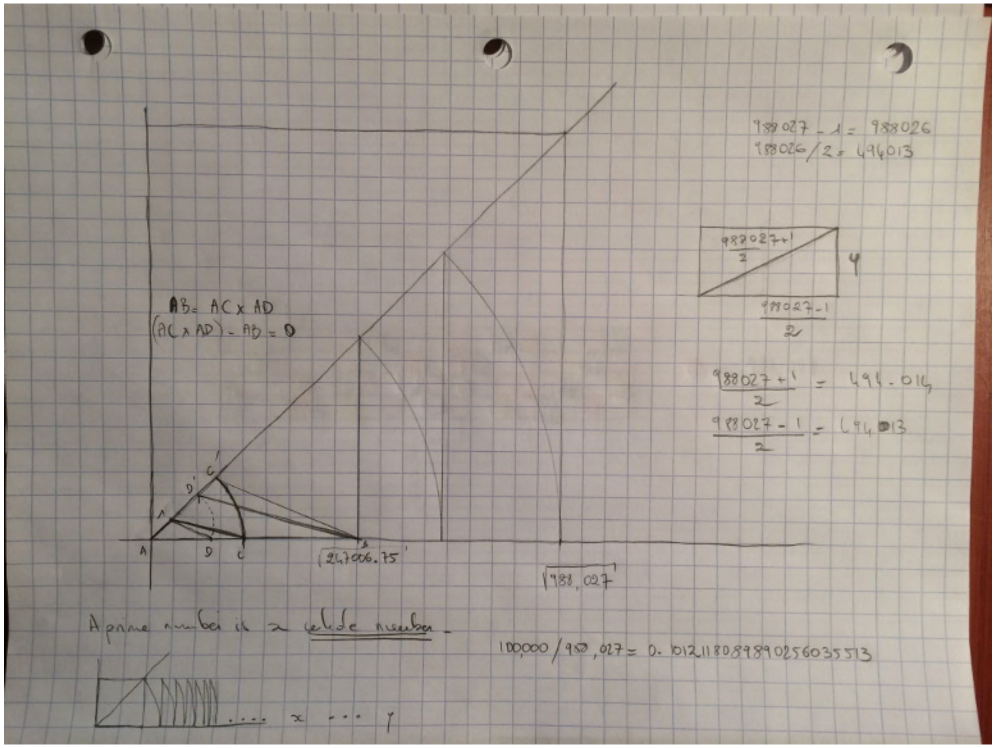
$249/11 = 22{,}\overline{63} \Rightarrow 1/11 =$

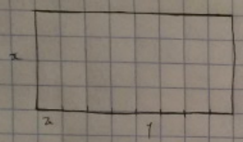
0.09	0.18	0.27	0.36	0.45	0.54	0.63	0.72	0.81	0.90	1

0.63

I can draw the full environment of any prime number just by dividing it by four. Though I can do with multiples.

If I take the number 988,027. This numbers is 977 x 991 but I don't know it yet.
I divide 988027 by 4 = 247,006.75 so I know I will have 247,006 columns plus 0.75.





$x \times y$ = size de rectangle = prime number

$xy/4$ = position of the number on the grid with $x = 4$

$y = 247\,006.75$

$y = x \times b$ 1 unit of value x multiplied by a number.

$0.75 = 1/4$

0.25	0.50	0.75	1

a prime number would have a value of 0,25 or 0.75 at the end.

Indeed $997/4 = 249,25$
$991/4 = 247,75$
$\overline{25}$

If the product of the 2 primes =

$n + 0.50$ = the 2 primes are on the 2nd line

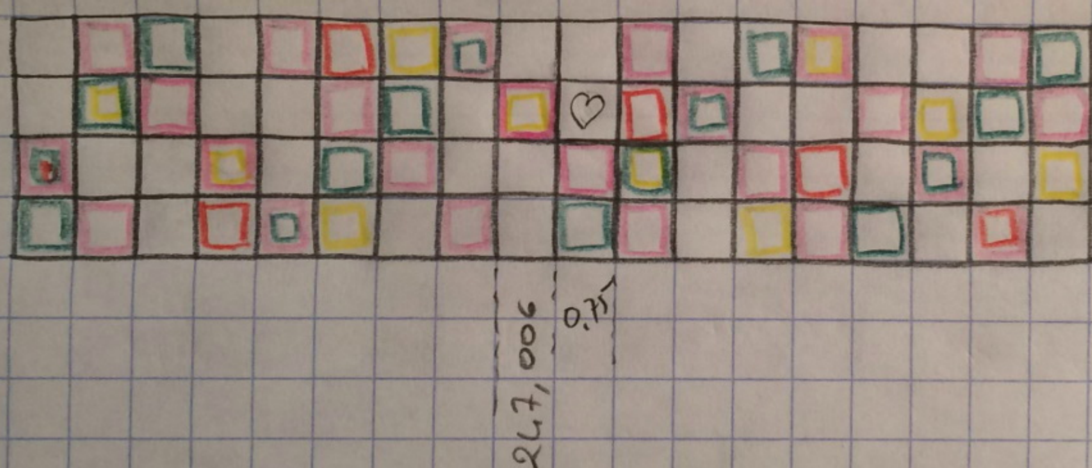
$n + 1.50$ = the 2 primes are on the 3rd line

$n + 0.00$ = the 2 primes are on 2 different lines

$(249.25 \times 247.75) \times \underset{\xi}{4} = 247.006.75$

$247\,006.75 : 4 = \underbrace{61.751}\underbrace{,6875}$

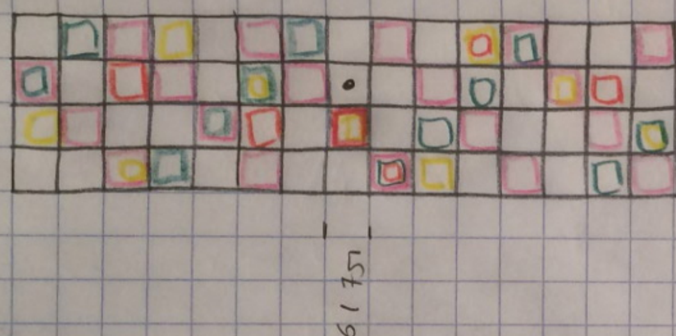
$0,25/4 = 0,0625$
$0.75/4 = 0.1875$
$0,2500$



♡ = 988,027

If the multiple of two prime numbers has an environment, can I find the environment of the two primes that made it?

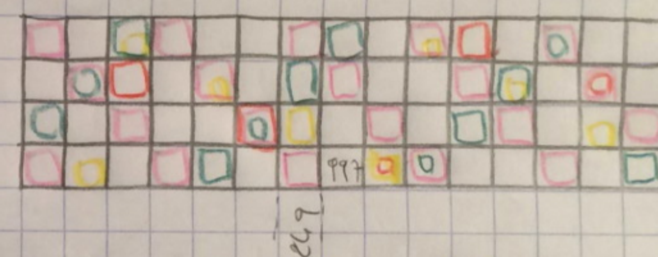
988027 / 16 = 61751.6875
61751 / 4 = 15437.75
61751 / 3 = 20583,$\overline{66}$
61751 / 5 = 12350,2
61751 / 7 = 8821,$\overline{571428}$
61751 / 11 = 5613.$\overline{72}$

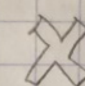


Is there any way that the environment of a number can inform about its multiples?

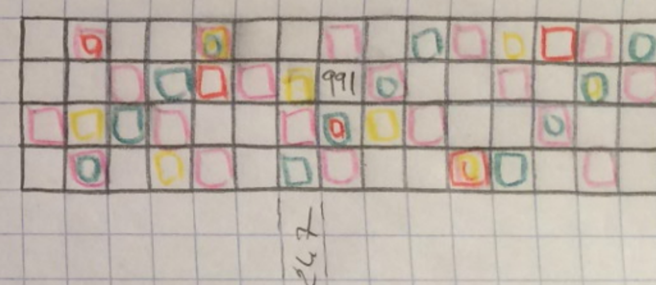
CAN

997





991



997/4 = 249.25
249/3 = 83
249/5 = 49,8
249/7 = 35.$\overline{571428}$
249/11 = 22,$\overline{63}$

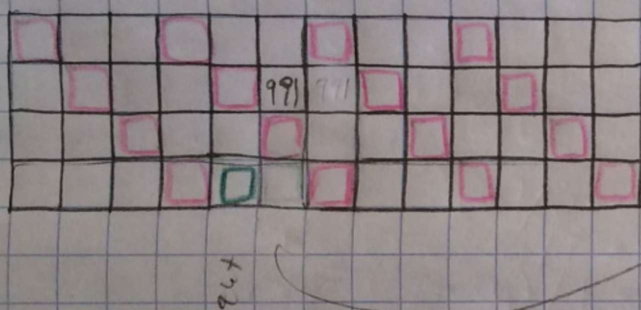
991/4 = 247.75
247/3 = 82,33
247/5 = 49.4
247/7 = 35,$\overline{285714}$
247/11 = 22.$\overline{45}$

When we take the combination of the pattern of 3 with 5, we see that there is a cycle every 15 columns.

$997 / 4 = 249.25$

$249 / 3 = 83.00$

$249 / 5 = 49.8$

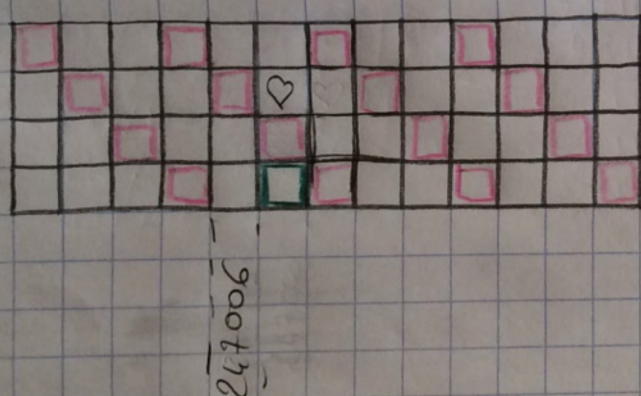


?

$991 / 4 = 247.75$

$247 / 3 = 82.\overline{33}$

$247 / 5 = 49.4$



$988027 / 4 = 247006.75$

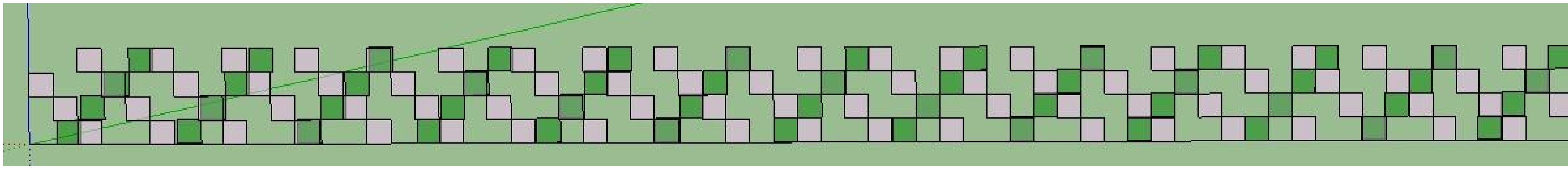
$247006 / 3 = 82335.33$

$247006 / 5 = 49401.2$

$49400 / 5 = 9880$

$$\begin{array}{r} 0.8 \\ +\,0.4 \\ \hline 1.2 \end{array}$$

Every 15 rows, the multiples of 3 and 5 start a new cycle. 249 is on the 9th column of a cycle and 247 is on the second column of a cycle.



$249 \times \mathring{8}3$

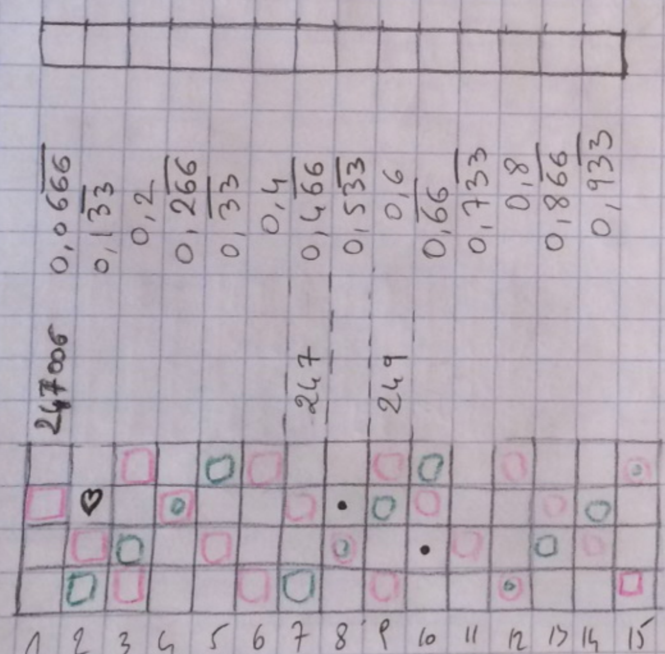
247×82.33

$83 \times 82.33 \times 6\,833.39$

$247006 / 15 = 16467.06667$ cycle.

$247006 = 16467$ cycles of 15

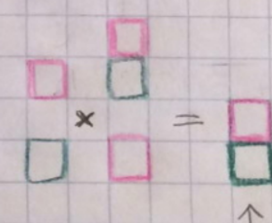
$+ \frac{1}{15} \times 1$ of a cycle.



Multiplier une pile de 15 opérant = multiplier 15

991 / 4 = 247,75
247 / 15 = 16,4666

997 / 4 = 249,25
249 / 15 = 16,6



Comme toutes les colonnes sont différentes, on sait que chaque multiplication ne peut donner qu'1 seul résultat.

correspond à une combinaison = unique unique.

If I want to know whats on row 249, I just have to divide 249/15 and from the design of one cycle, find the environment with the multiples of 3 and 5. I can do the same with a combination of the patterns of 11 and 13 and so on to fill as much holes as I can. The second and the fourth column are the multiples of 2 which are constant without any cycle other than 0.5.

On the drawing above, we can see one cycle of 15 rows with the exact position of our multiple of 2 prime numbers. Each individual row has a very unique pattern what mean that from the position of a number, I can know its multiples because other than one, there can be only two multiples to draw this exact pattern. Though, from the design of the environment of a number, I can find its structure, even though the structure is made with prime numbers.

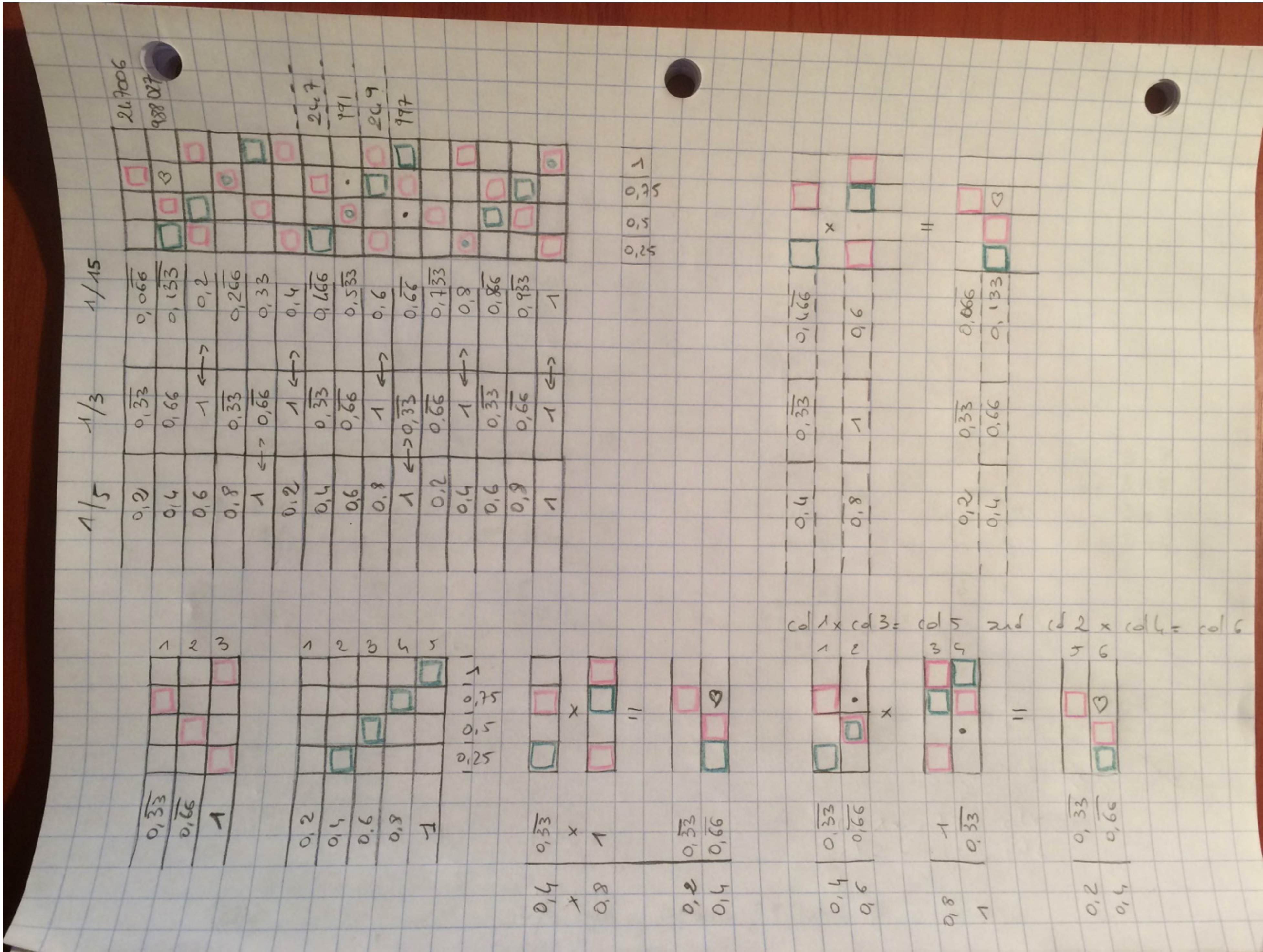
The question is, can we design a calculator to facilitate the maths, and the response is yes, we can from the cycles of pairs of prime numbers.

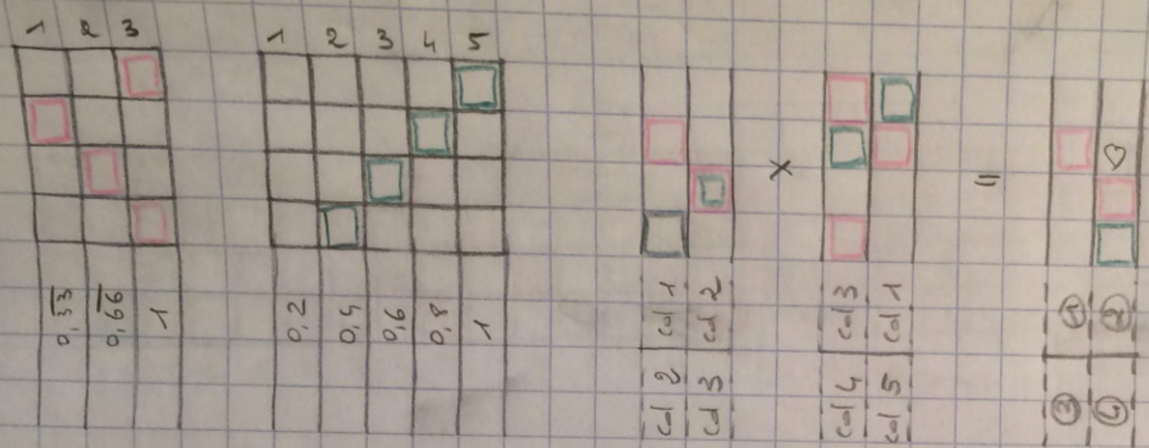
This method of calculation makes it very punctual to work on very, very, very large numbers in order to find all its multiples. It's easier than maths and easier than pure geometry, even if the geometry is still working there.

Instead of finding a number, I find the conditions that make its environment and from the environment, I find the only numbers that can be the multiples of this environment.

January 28, 2018

Today, I have been trying to find a method to multiply the rows of a grid and find the multiples of a number. To multiply is pretty simple, but to find multiples is like solving an equation with two unknown values. To find those values, I map the environment in which they are positioned.


1/5
1/3
1/15
col 1 x col 3 = col 5 and col 2 x col 4 = col 6



① $a \times c = 3 \times 9 = 27$

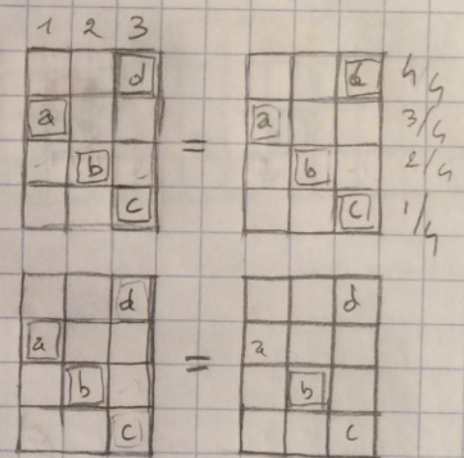
$27/4 = 6,75$ 3rd line

② $b \times a = 6 \times 3 = 18$

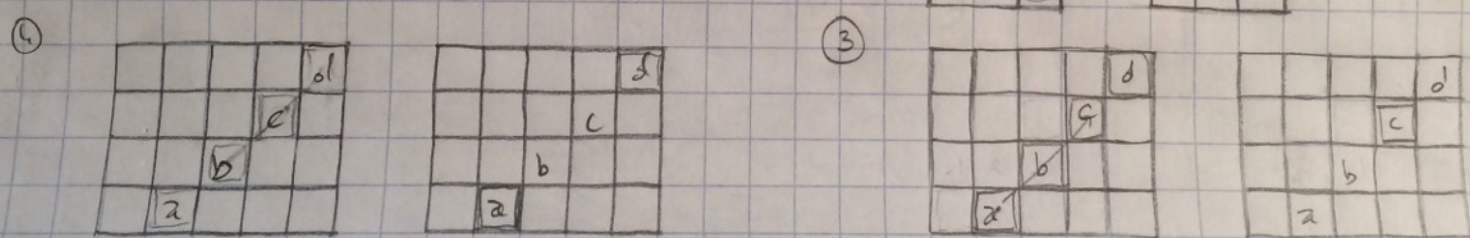
$18/4 = 4,5 \rightarrow$ 2nd line

③ $a \times c = 5 \times 15 = 75$

$75/4 = 18,75 \rightarrow$ 3nd line



$a = 3 \times 1$
$b = 3 \times 2$
$c = 3 \times 3$
$d = 3 \times 4$

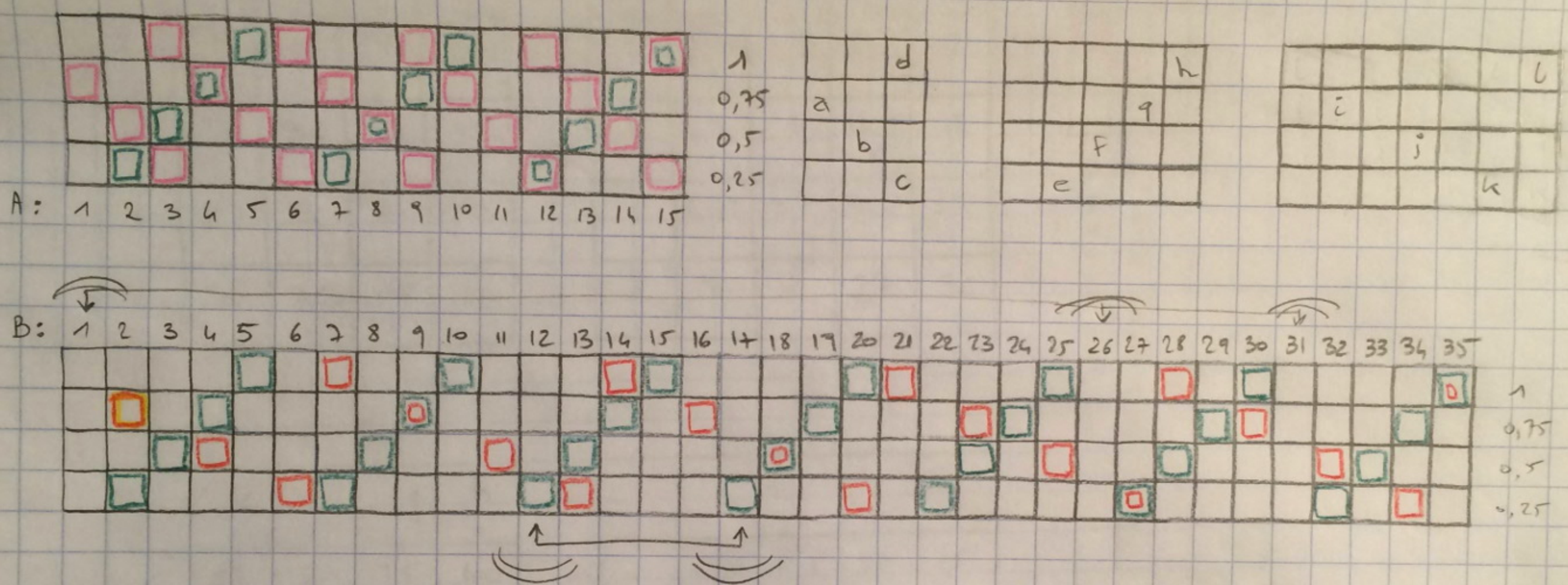


$a = 5 \times 1$
$b = 5 \times 2$
$c = 5 \times 3$
$d = 5 \times 4$

$b \times d = 10 \times 20 = 200$

$200/4 = 50$ colums $50/5$ rows $= 10$ cycles / 5 rows = 2nd column.

On the following drawing, I have two grids. The first is mixing the pattern of 3 with the pattern of 5 in a cycle of 15 rows. Each row has a number and the position of the colors in the row can be the result of only few equations. On the second grid, I have mixed the patterns of 5 and 7 and I have sort out their multiples.



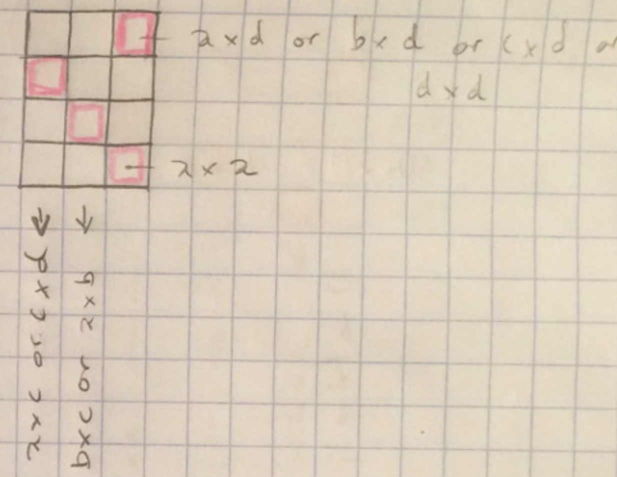
a = 3 x 1
b = 3 x 2
c = 3 x 3
d = 3 x 4
e = 5 x 1
f = 5 x 2
g = 5 x 3
h = 5 x 4
i = 7 x 1
j = 7 x 2
k = 7 x 3
l = 7 x 4

The colums are identical but the environment is different

	a	b	c	d
a	9	18	27	36
b	18	36	54	72
c	27	54	81	108
d	36	72	108	144

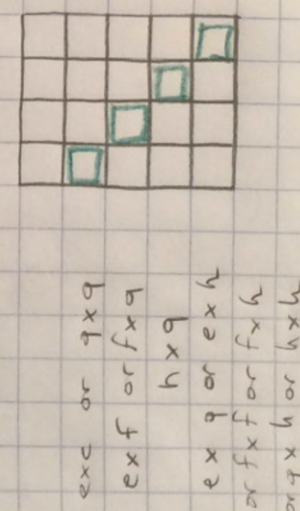
⇒

	a	b	c	d
a	2,25	4,5	6,75	9
b	4,5	9	13,5	18
c	6,75	13,5	20,25	27
d	9	18	27	36



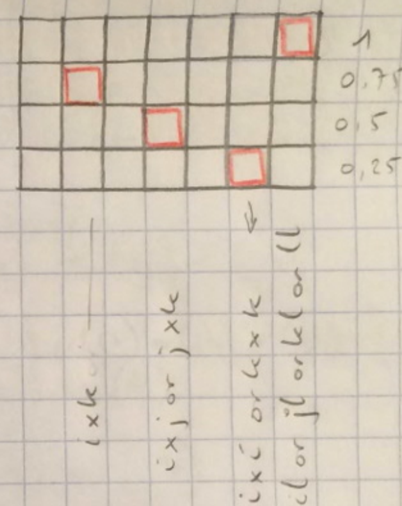
	e	F	g	h
e	25	50	75	100
F	50	100	150	200
g	75	150	225	300
h	100	200	300	400

	e	f	g	h
e	6,25	12,5	15	25
f	12,5	25	37,5	50
g	15	37,5	56,25	75
h	25	50	75	100



	i	j	k	l
i	49	98	147	196
j	98	196	294	392
k	147	294	441	588
l	196	392	588	784

	i	j	k	l
i	12.25	24.5	36.75	49
j	24.5	49	73.5	98
k	36.75	73.5	110,25	147
l	49	98	147	196



The multiples of both grids fit in only one page to map the numbers from 1 to 525 (15 x 35).

FIND THE DIVIDER'S ENVIRONMENT

A:
1 (a×c) or (c×d)
2 (b×c) or (a×b) + (e×e) or (g×g)
3 (a×a) or (9 + n12) or (ad) or (bd) or (cd) or (dd) + (ef) or (fg)
4 (a×c) or (c×d) + (h×g)
5 (b×c) or (a×b) + (eg) or (eh) or ff or fh or gh or hh
6 (a×d) or (b×d) or (cd) or (dd) + (5 + n1)
7 (a×c) or (c×d) + (e×e) or (g×g)
8 (b×c) or (a×b) + (e×f) or (f×g)
9 (aa) or (9 + n12) or (ad) or (bd) or (cd) or (dd) + (hg)
10 (a×c) or (c×d) + (eg) or (eh) or (ff) or (fh) or (gh) or (hh)
11 (b×c) or (a×b) + (5 + n1)
12 (ad) or (bd) or (cd) or (dd) + (e×e) or (g×g)
13 (a×c) or (c×d) + (ef) or (fg)
14 (bc) or (ab) + (hg)
15 (ad) or (bd) or (cd) or (dd) + (eg) or (eh) or (ff) or (fh) or (gh) or (hh)

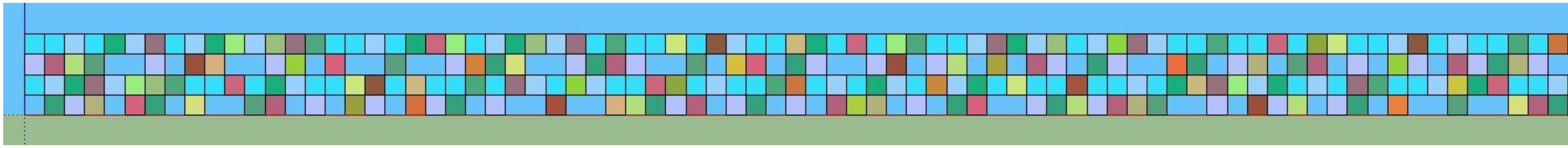
B:
1
2 (i×k) + (e×e) or (g×g)
3 (ef) or (fg)
4 (hg) + (ij) or (jk)
5 (eg) or (eh) or (ff) or (fh) or (gh) or (hh)
6 (ii) or (kk)
7 (ee) or (gg) + (il) or (jl) or (kl) or (ll)
8 (ef) or (fg)
9 (hg) + (ik)
10 (eg) or (eh) or (ff) or (fh) or (gh) or (hh)

B:
11 (ij) or (jk)
12 (ee) or (gg)
13 (ef) or (fg) + (ii) or (kk)
14 (hg) + (il) or (jl) or (kl) or (ll)
15 (eg) or (eh) or (ff) or (fh) or (gh) or (hh)
16 (ik)
17 (ee) or (gg)
18 (ef) or (fg) + (ij) or (jk)
19 hg
20 (eg) or (eh) or (ff) or (fh) or (gh) or (hh) + (ii) or (kk)
21 (il) or (kl) or (ll)
22 (ee) or (gg)
23 (ef) or (fg) + (ik)
24 (hg)
25 (eg) or (eh) or (ff) or (fh) or (gh) or (hh) + (ij) or (jk)
26
27 (ee) or (gg) + (ii) or (kk)
28 (ef) or (fg) + (il) or (jl) or (kl) or (ll)
29 (hg)
30 (eg) or (eh) or (ff) or (fh) or (gh) or (hh) + (ik)
31
32 (ee) or (gg) + (ij) or (jk)
33 (ef) or (fg)
34 (hg) + (ii) or (kk)
35 (eg) or (eh) or (ff) or (fh) or (gh) or (hh) + (il) or (jl) or (kl) or (ll)

What we see above is that some rows offer too many options while some rows really target only 2 or 4 multiples. The less we have multiples, the easiest we get closer to position the grids on a map. From the map, we find the holes in which the prime numbers will fit.

When we superpose the results of 2 or 3 grids of 2 numbers, the position of the grids together define the cycle of each, and from their cycle, the distance from 0. Which finding the distance, I find the area, and from this area of numbers, I find the multiples.

We could build a calculator with sliding the grids one upon another. Their position accordingly to another gives the distance from 0.



Diary

Wednesday, January 17, 2018

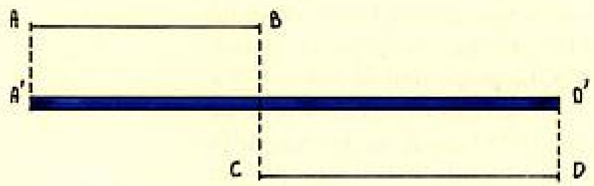
How to do maths with prime numbers

Prime numbers are like any other numbers. We can add them, subtract them, multiply them and divide them. We can even find their square root with the geometry.

ADDITIONNER

L'addition est la somme de la valeur d'un nombre ajoutée à celle d'un autre nombre. La somme de deux segments situés sur une même ligne est égale à la longueur du segment constitué des deux premiers.

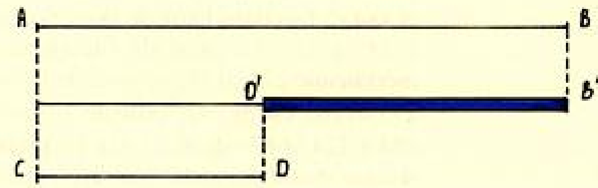
AB = 3
CD = 4
AB + CD = 7 = A'D'



SOUSTRAIRE

La soustraction est la valeur d'un nombre ôtée à celle d'un autre nombre. La longueur d'un segment situé sur une ligne auquel on retranche la longueur d'un autre segment mesure le produit de la soustraction du premier segment par le deuxième.

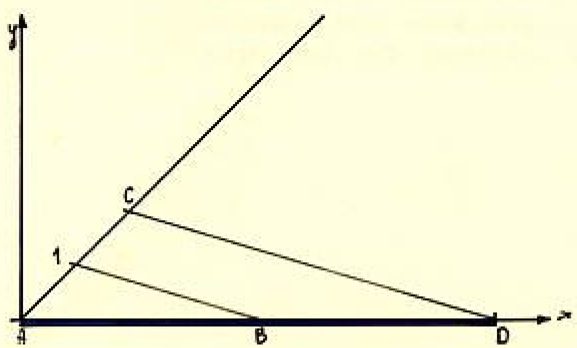
AB = 7
CD = 3
AB - CD = 4 = D'B'



MULTIPLIER

La multiplication est le produit de la valeur d'un nombre par celle d'un autre nombre. Dans un repère orthonormé, la diagonale des deux axes produit le rapport de proportion entre les deux nombres mesurés sur l'axe des abscisses et la diagonale du repère. De la valeur d'un nombre mesuré sur l'axe des abscisses à la valeur de 1 située sur la diagonale, une ligne est tracée dont la parallèle passant par l'autre nombre situé sur la diagonale coupe l'axe des abscisses par le produit des deux nombres.

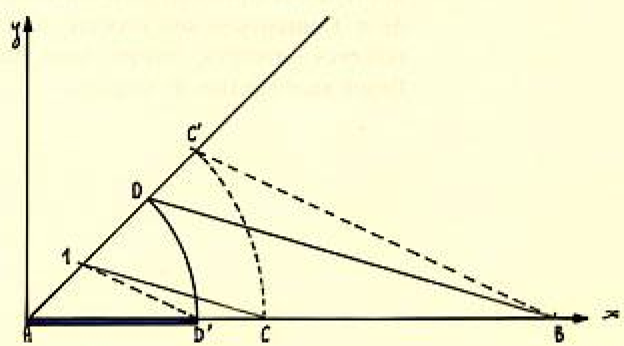
AB = π = 3,14285714
AC = 2
AB x AC = 6,28571428 = AD

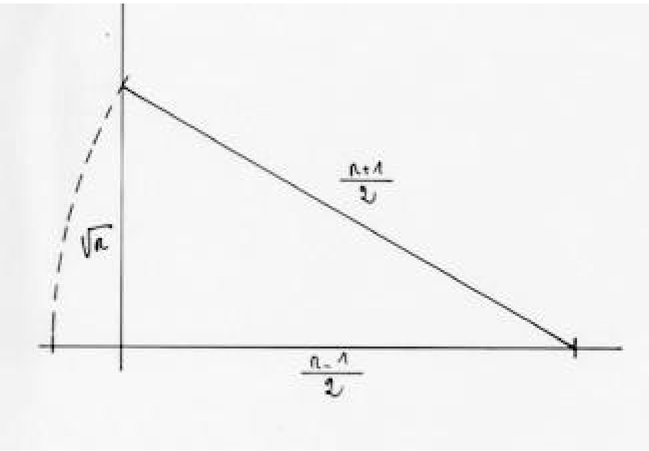


DIVISER

La division est le produit de la valeur d'un nombre par l'inverse de celle d'un autre nombre. Dans un repère orthonormé, la diagonale des deux axes produit le rapport de proportion entre les deux nombres mesurés sur l'axe des abscisses et la diagonale du repère. De la valeur d'un nombre mesuré sur l'axe des abscisses à la valeur de 1 située sur la diagonale, une ligne est tracée dont la parallèle passant par l'autre nombre situé sur l'axe des abscisses coupe la diagonale par le produit de la division des deux nombres. La longueur du segment produit sur la diagonale est reportée sur l'axe des abscisses proportionnellement aux deux nombres de la division.

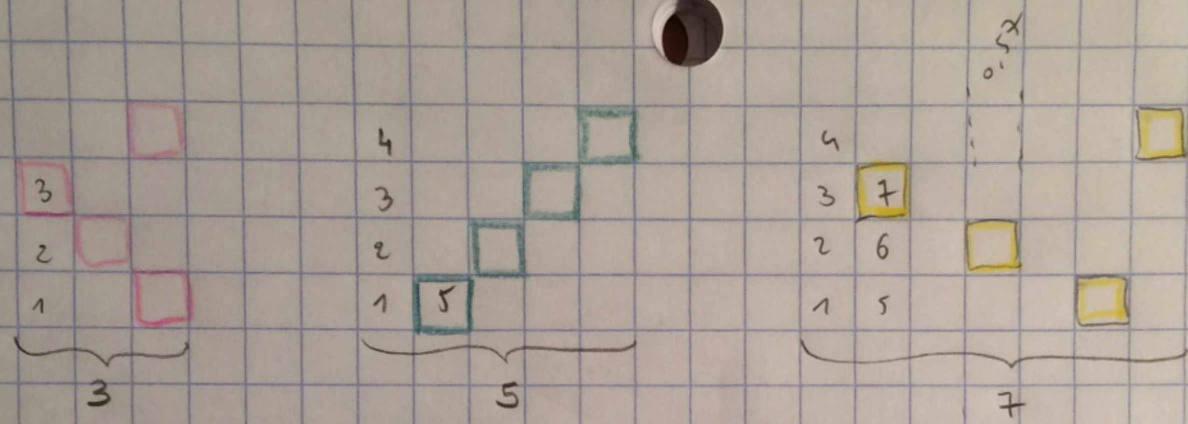
AB = 7
AC = π = 3,14285714
AB / AC = 2,2272727 = AD = AD'
En pointillés, la vérification fait le calcul de AB / AD' = AC' = π

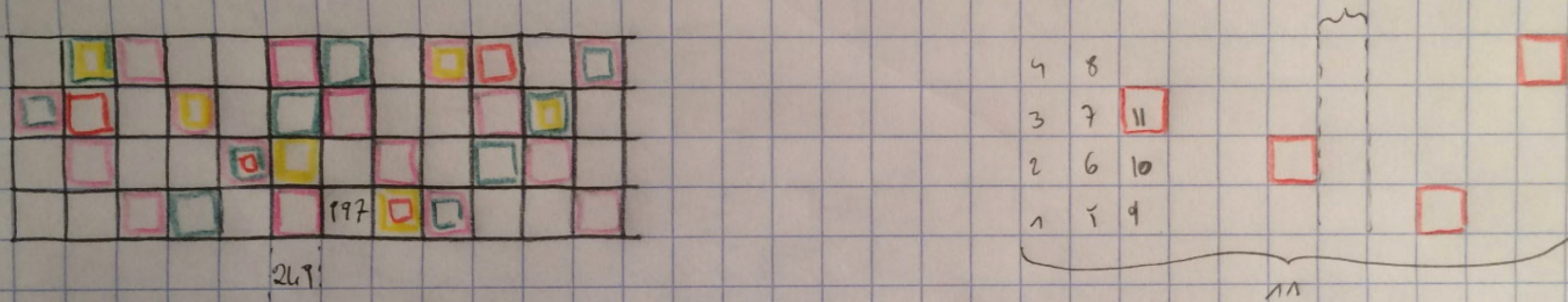




The real question is, how to find out if a prime number is the product of an equation that would include prime and non-prime numbers.
We know for example that the multiples of 2 are even numbers. Among them, some are multiples of 4, 8 and any other multiple of 2.
There are different rules to find the multiples of 3. A number is a multiple of 3 when the sum of all numbers is a multiple of 3. For example 999 is a multiple of 3 because 9+9+9= 27, 2+7 = 9 and nine is a multiple of 3. We know also that 999 is a multiple of 9 because the sum of all numbers is 9. The multiples of 5 end with a 0 or a 5.

From the previous page, we know that any number divided by 4 will provide a position on a grid of 4 lines.
4/4 = 1. The position is on the 4th line.
If I divide 997/4, I have 249.25 what shall be on the first line.
991/4 = 247.75 what shall be on the 3rd line, and in advance, I know that all prime numbers are either on the 1st or the 3rd line since the second and the 4rth line are the multiples of 2. If I multiply two prime numbers, the result shall be also on the 1rst or the 3rd line since one prime number is two the other a position on the pattern of prime numbers, how many times the pattern repeats itself, but we know that the holes of both patterns would only be on those two lines. Next to the prime numbers, we find the patterns of 3, 5, 7, 11, etc...
The multiples of 3 use only 3 column to repeat themselves. The multiples of 5 take 5 columns to repeat themselves and the multiples of 7 take only 7 columns to repeat themsemves. Every pattern use as many column as the number of the multiple. If we divide the result of the prime number by 4, then we divide the whole result by 3, 5 and 7, we can know exactly the position on the grid accordingly to the other numbers. The position on the grid tells the relation of this number to the others.





$83 \times 3 = 249$

$49{,}8 \times 5 = 249 \Rightarrow 1/5 = 0{,}2$

0,2	0,4	0,6	0,8	1

$249/7 = 35{,}571428 \Rightarrow 1/7 = 0{,}\overline{142857}$

0.14	0.28	0.42	0.57	0.71	0.85	1

0.57

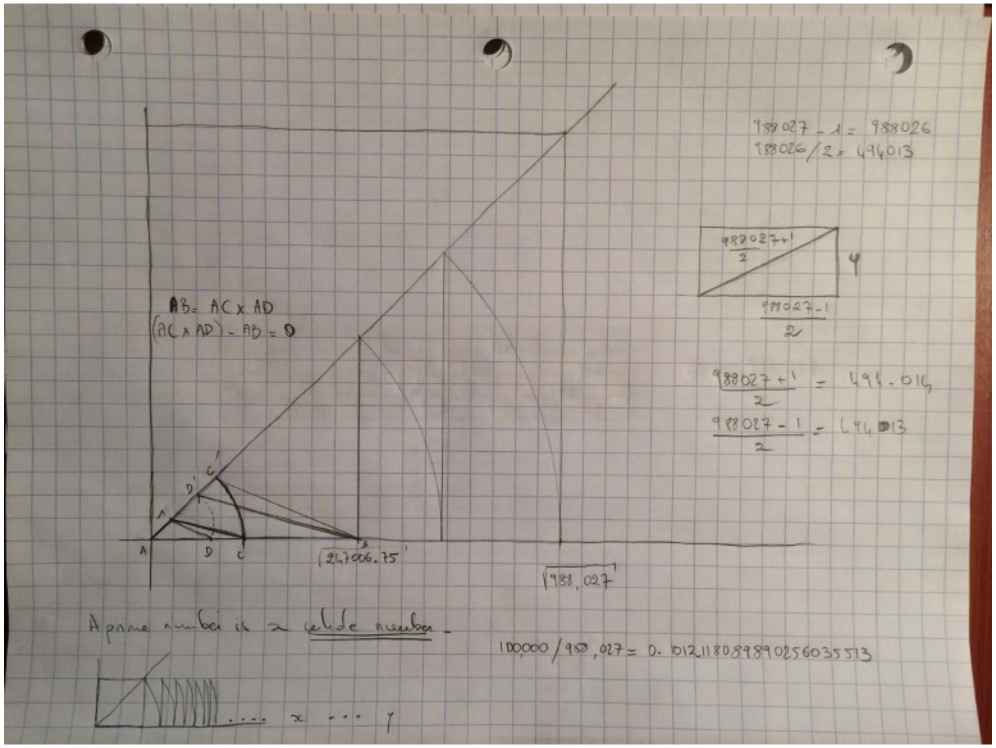
$249/11 = 22{,}\overline{63} \Rightarrow 1/11 =$

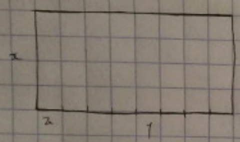
0.09	0.18	0.27	0.36	0.45	0.54	0.63	0.72	0.81	0.90	1

0.63

I can draw the full environment of any prime number just by dividing it by four. Though I can do with multiples.

If I take the number 988,027. This numbers is 977 x 991 but I don't know it yet.
I divide 988027 by 4 = 247,006.75 so I know I will have 247,006 columns plus 0.75.





$x \times y$ = size de rectangle = prime number

$xy/4$ = position of the number on the grid with $x = 4$

$y = 247\,006.75$

$y = x \times b$ 1 unit of value x multiplied by a number.

$0.75 = 1/4$ $\boxed{0.25}\boxed{0.50}\boxed{0.75}\boxed{1}$

a prime number would have a value of 0,25 or 0.75 at the end.

Indeed $997/4 = 249{,}25$
$991/4 = 247{,}75$
$\overline{\quad 25}$

If the product of the 2 primes =

$n + 0.50$ = the 2 primes are on the 2nd line.

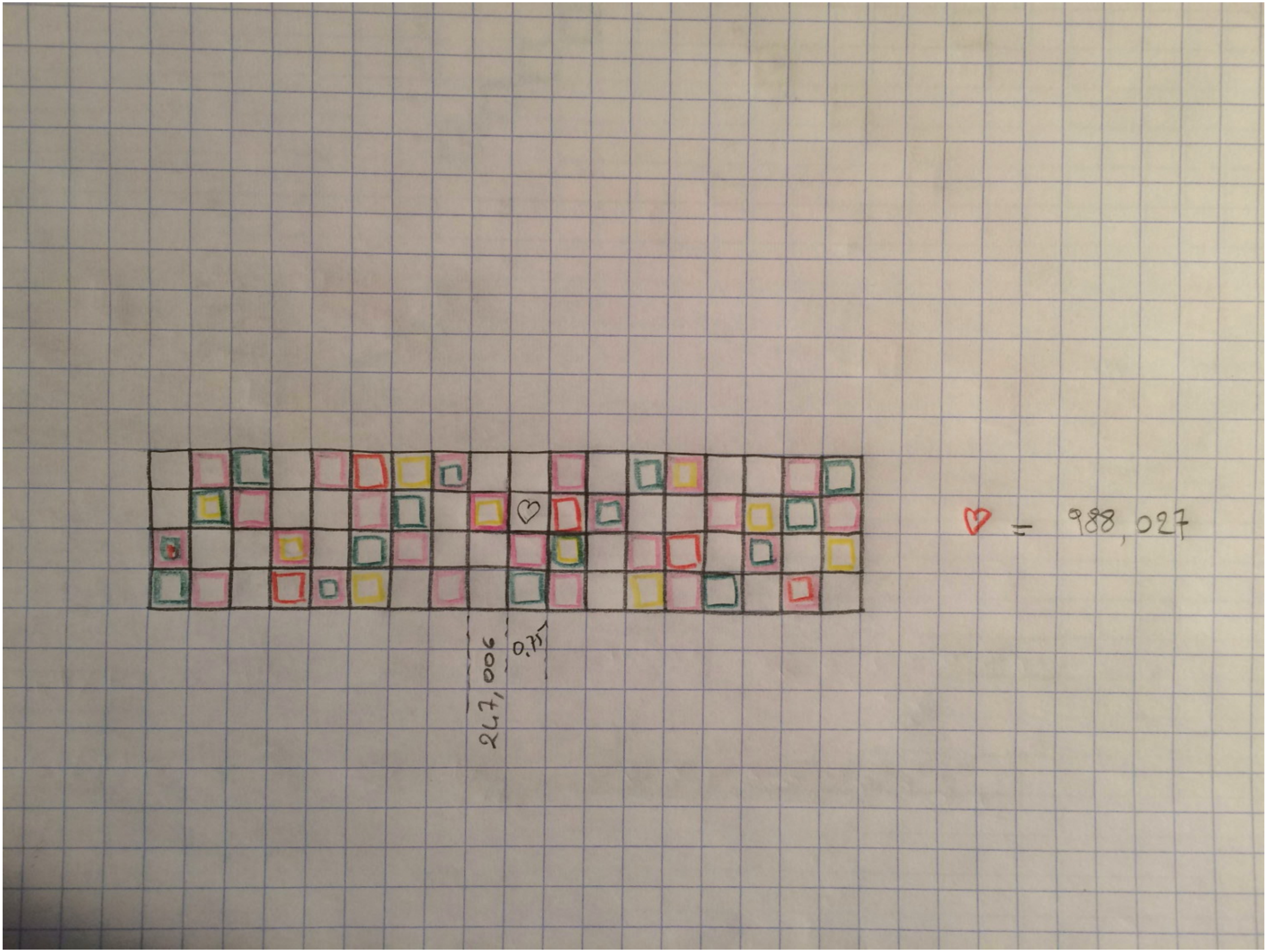
$n + 1.50$ = the 2 primes are on the 3rd line

$n + 0.00$ = the 2 primes are on 2 different lines

$(249.25 \times 247.75) \times 4 = 247.006.75$

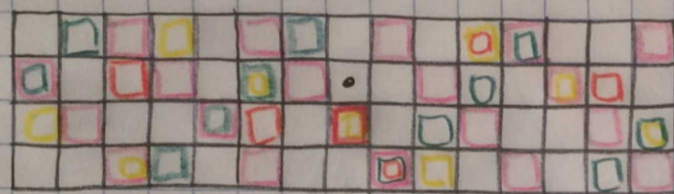
$247\,006.75 : 4 = \underbrace{61.751}\underbrace{,6875}$

$0{,}25/4 = 0{,}0625$
$0.75/4 = 0.1875$
$0{,}2500$


247,006
0,75
♡ = 988,027

If the multiple of two prime numbers has an environment, can I find the environment of the two primes that made it?

988027 / 16 = 61751.6875
61751 / 4 = 15437.75
61751 / 3 = 20583,$\overline{66}$
61751 / 5 = 12350,2
61751 / 7 = 8821,$\overline{571428}$
61751 / 11 = 5613.$\overline{72}$



6175

997/4 = 249.25
249/3 = 83
249/5 = 49,8
249/7 = 35.$\overline{571428}$
249/11 = 22,$\overline{63}$

991/4 = 247.75
247/3 = 82,33
247/5 = 49.4
247/7 = 35,$\overline{285714}$
247/11 = 22.$\overline{45}$

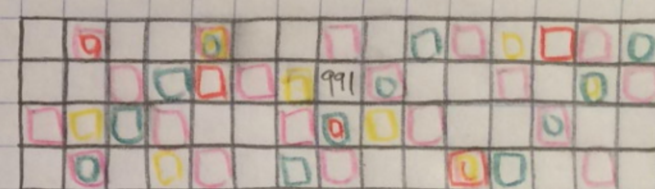
Is there any way that the environment of a number can inform about its multiples?

CAN

997

249

991



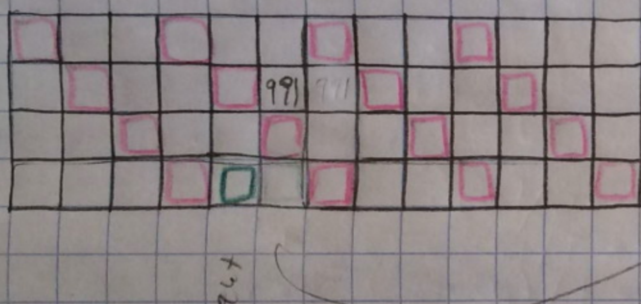
247

When we take the combination of the pattern of 3 with 5, we see that there is a cycle every 15 columns.

$997 / 4 = 249.25$

$249 / 3 = 83.00$

$249 / 5 = 49.8$

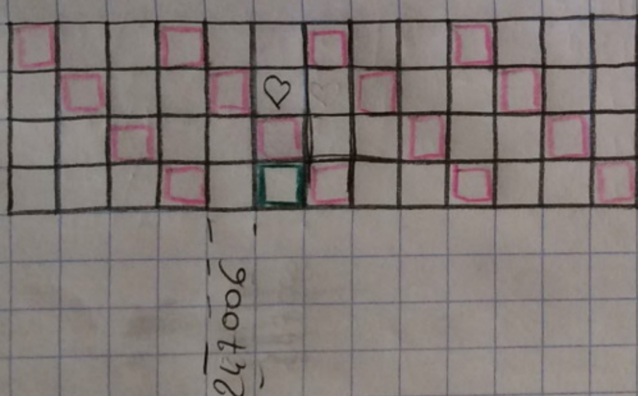


?

$991 / 4 = 247.75$

$247 / 3 = 82.\overline{33}$

$247 / 5 = 49.4$



$988027 / 4 = 247006.75$

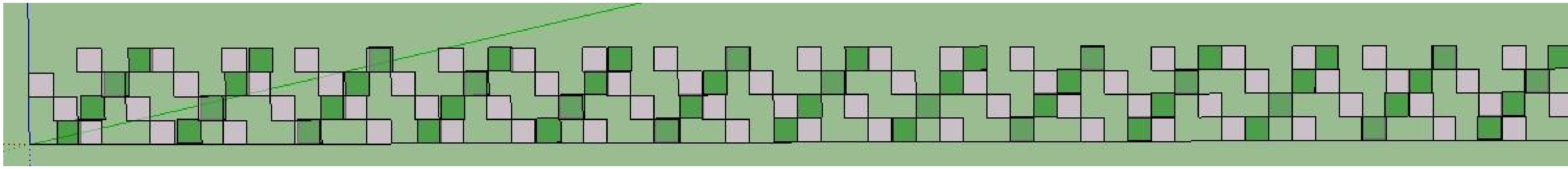
$247006 / 3 = 82335.33$

$247006 / 5 = 49401.2$

$49400 / 5 = 9880$

$$\begin{array}{r} 0.8 \\ +\,0.4 \\ \hline 1,2 \end{array}$$

Every 15 rows, the multiples of 3 and 5 start a new cycle. 249 is on the 9th column of a cycle and 247 is on the second column of a cycle.



249 x 83

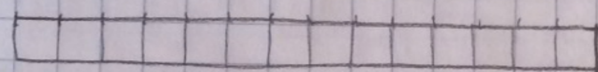
247 x 82.33

83 x 82.33 x 6 833.39

247006 / 15 = 16467.06667 cycle.

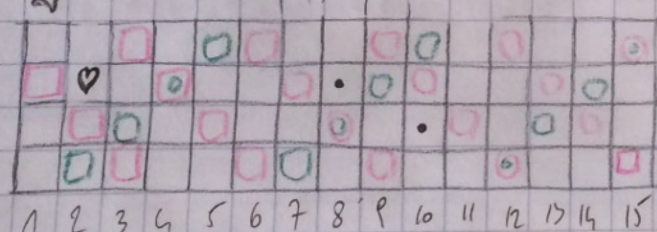
247006 = 16467 cycles of 15

+ $\frac{1}{15}$ x 1 of a cycle.



0,0$\overline{666}$ 0,1$\overline{33}$ 0,2 0,2$\overline{66}$ 0,$\overline{33}$ 0,4 0,4$\overline{66}$ 0,5$\overline{33}$ 0,6 0,$\overline{66}$ 0,7$\overline{33}$ 0,8 0,8$\overline{66}$ 0,9$\overline{33}$

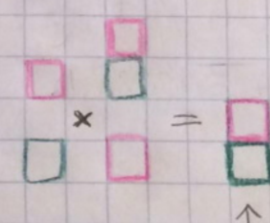
247006 247 249



Multiplier une grille de 15 équivaut à multiplier 15

991 / 4 = 247,75
247 / 15 = 16,4666

997 / 4 = 249,25
249 / 15 = 16,6



correspond à une combinaison unique

Comme toutes les colonnes sont différentes, on sait que chaque multiplication ne peut donner qu'1 seul résultat.

If I want to know whats on row 249, I just have to divide 249/15 and from the design of one cycle, find the environment with the multiples of 3 and 5. I can do the same with a combination of the patterns of 11 and 13 and so on to fill as much holes as I can. The second and the fourth column are the multiples of 2 which are constant without any cycle other than 0.5.

On the drawing above, we can see one cycle of 15 rows with the exact position of our multiple of 2 prime numbers. Each individual row has a very unique pattern what mean that from the position of a number, I can know its multiples because other than one, there can be only two multiples to draw this exact pattern. Though, from the design of the environment of a number, I can find its structure, even though the structure is made with prime numbers.

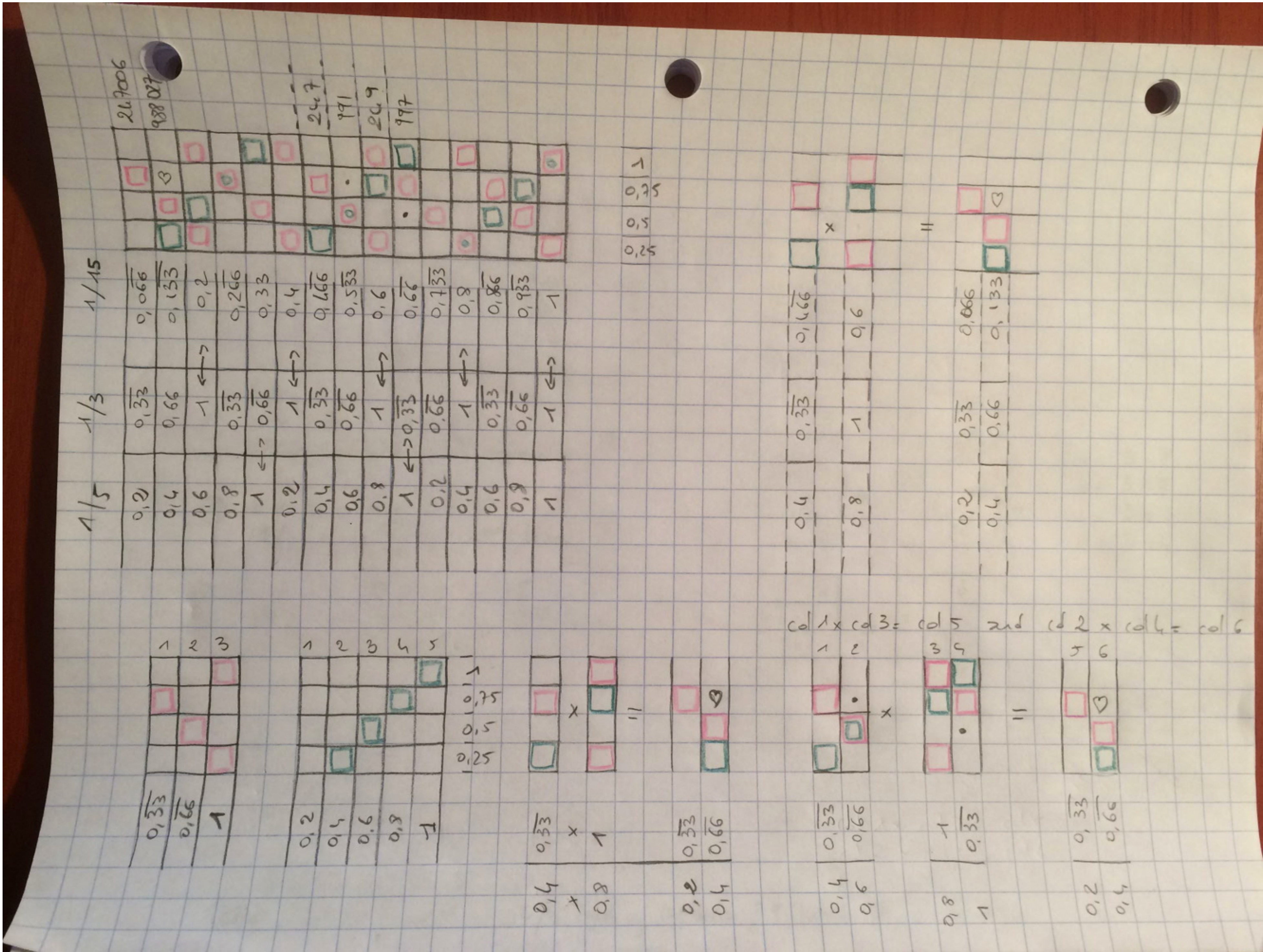
The question is, can we design a calculator to facilitate the maths, and the response is yes, we can from the cycles of pairs of prime numbers.

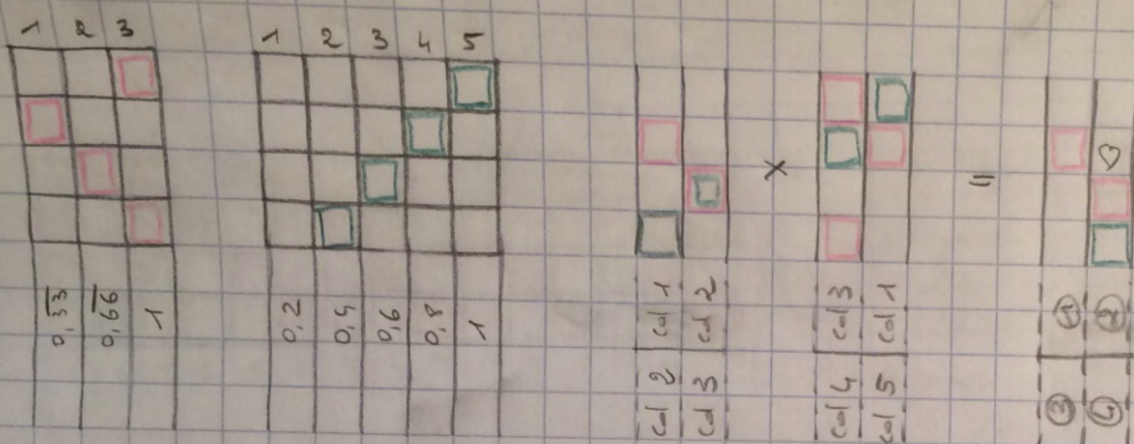
This method of calculation makes it very punctual to work on very, very, very large numbers in order to find all its multiples. It's easier than maths and easier than pure geometry, even if the geometry is still working there.

Instead of finding a number, I find the conditions that make its environment and from the environment, I find the only numbers that can be the multiples of this environment.

January 28, 2018

Today, I have been trying to find a method to multiply the rows of a grid and find the multiples of a number. To multiply is pretty simple, but to find multiples is like solving an equation with two unknown values. To find those values, I map the environment in which they are positioned.

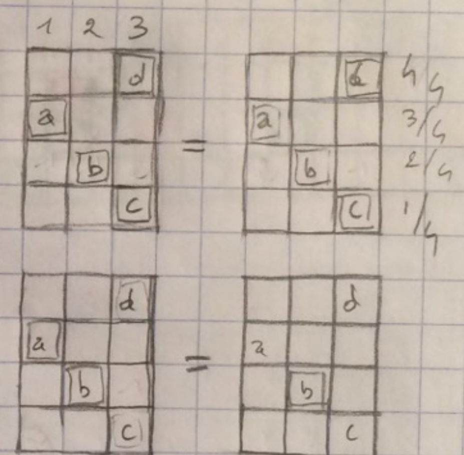

1/5
1/3
1/15
col 1 x col 3 = col 5 and col 2 x col 4 = col 6



① $a \times c = 3 \times 9 = 27$
$27/4 = 6{,}75$ 3rd line

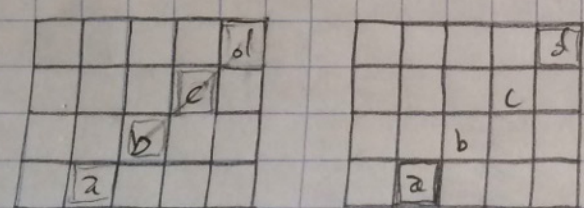
② $b \times a = 6 \times 3 = 18$
$18/4 = 4{,}5 \rightarrow$ 2nd line

③ $a \times c = 5 \times 15 = 75$
$75/4 = 18{,}75 \rightarrow$ 3nd line

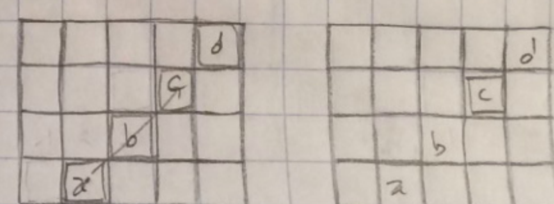


$a = 3 \times 1$
$b = 3 \times 2$
$c = 3 \times 3$
$d = 3 \times 4$

④



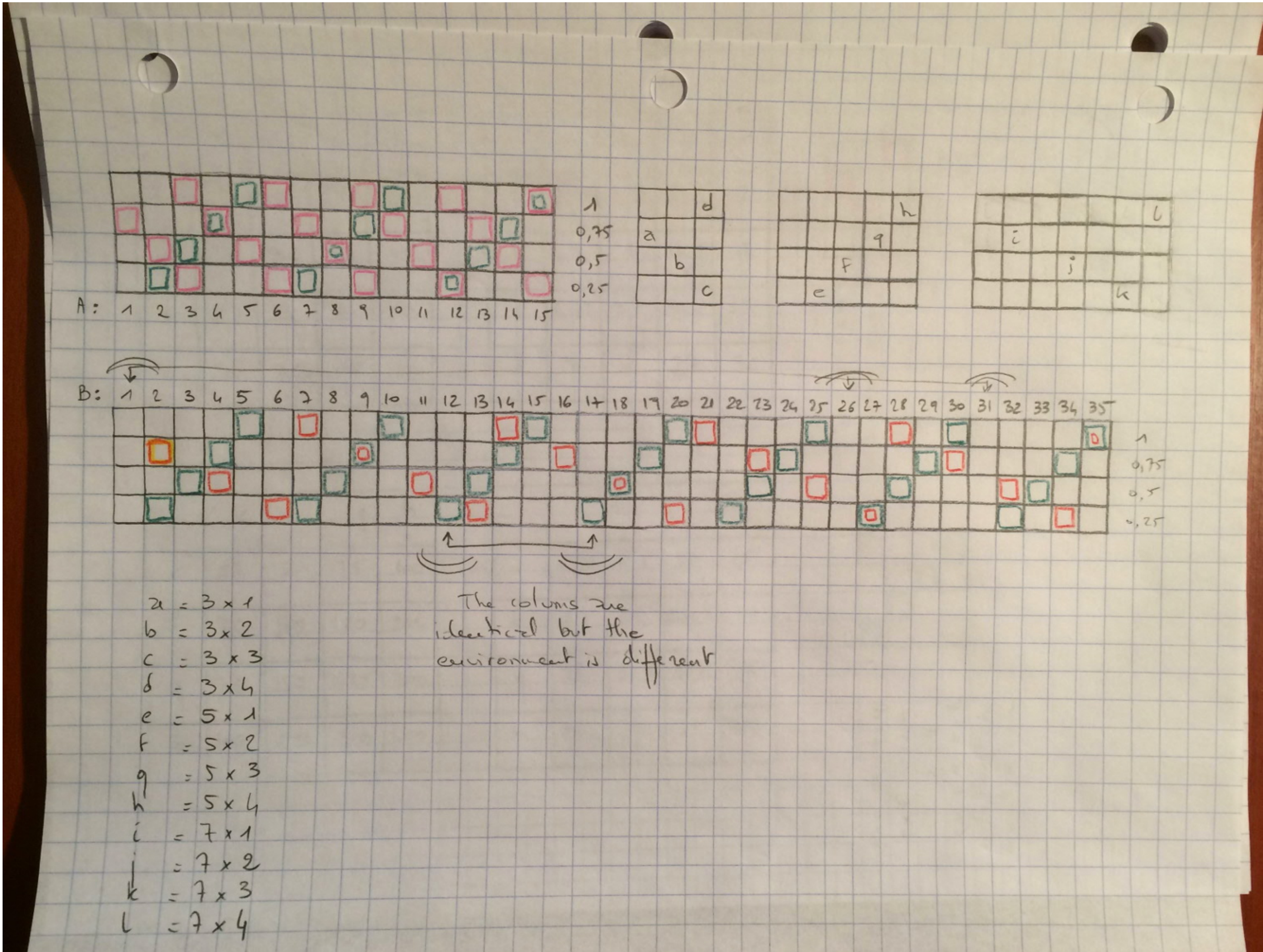
③



$a = 5 \times 1$
$b = 5 \times 2$
$c = 5 \times 3$
$d = 5 \times 4$

$b \times d = 10 \times 20 = 200$
$200/4 = 50$ colums $50/5$ rows $= 10$ cycles / 5 rows = 2nd column.

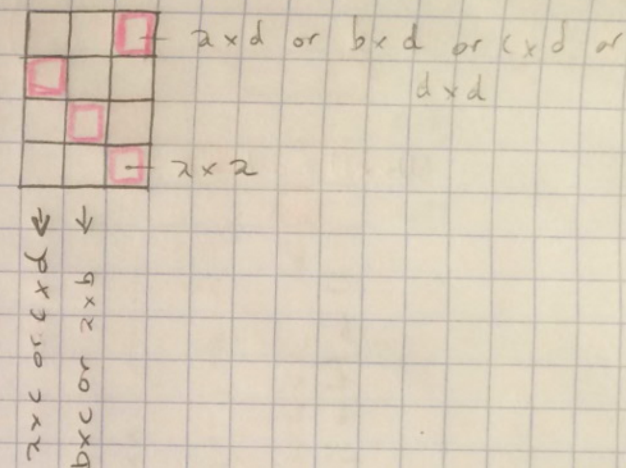
On the following drawing, I have two grids. The first is mixing the pattern of 3 with the pattern of 5 in a cycle of 15 rows. Each row has a number and the position of the colors in the row can be the result of only few equations. On the second grid, I have mixed the patterns of 5 and 7 and I have sort out their multiples.


A: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
1
0,75
0,5
0,25
a b c d
e f g h
i j k l
B: 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
1
0,75
0,5
0,25
a = 3 x 1
b = 3 x 2
c = 3 x 3
d = 3 x 4
e = 5 x 1
f = 5 x 2
g = 5 x 3
h = 5 x 4
i = 7 x 1
j = 7 x 2
k = 7 x 3
l = 7 x 4
The columns are identical but the environment is different

	a	b	c	d
a	9	18	27	36
b	18	36	54	72
c	27	54	81	108
d	36	72	108	144

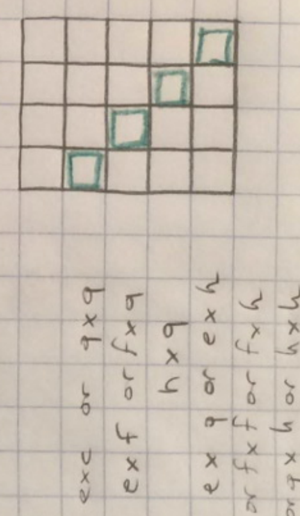
⇒

	a	b	c	d
a	2,25	4.5	6,75	9
b	4.5	9	13.5	18
c	6,75	13,5	20,25	27
d	9	18	27	36



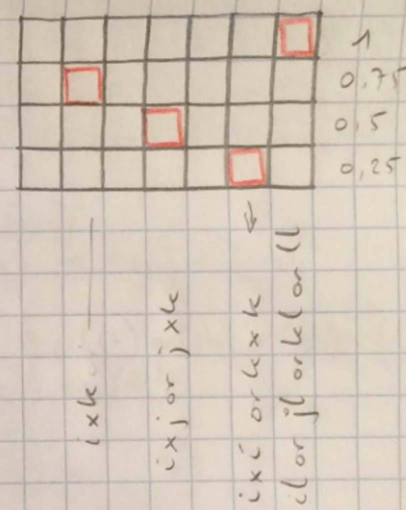
	e	F	g	h
e	25	50	75	100
F	50	100	150	200
g	75	150	225	300
h	100	200	300	400

	e	f	g	h
e	6,25	12,5	15	25
f	12,5	25	37,5	50
g	15	37,5	56,25	75
h	25	50	75	100



	i	j	k	l
i	49	98	147	196
j	98	196	294	392
k	147	294	441	588
l	196	392	588	784

	i	j	k	l
i	12.25	24.5	36.75	49
j	24.5	49	73.5	98
k	36.75	73.5	110,25	147
l	49	98	147	196



The multiples of both grids fit in only one page to map the numbers from 1 to 525 (15 x 35).

FIND THE DIVIDER'S ENVIRONMENT

A:
1 (a×c) or (c×d)
2 (b×c) or (a×b) + (e×e) or (g×g)
3 (a×a) or (9 + n12) or (ad) or (bd) or (cd) or (dd) + (ef) or (fg)
4 (a×c) or (c×d) + (h×g)
5 (b×c) or (a×b) + (eg) or (eh) or ff or fh or gh or hh
6 (a×d) or (b×d) or (cd) or (dd) + (5 + n1)
7 (a×c) or (c×d) + (e×e) or (g×g)
8 (b×c) or (a×b) + (e×f) or (f×g)
9 (aa) or (9 + n12) or (ad) or (bd) or (cd) or (dd) + (hg)
10 (a×c) or (c×d) + (eg) or (eh) or (ff) or (fh) or (gh) or (hh)
11 (b×c) or (a×b) + (5 + n1)
12 (ad) or (bd) or (cd) or (dd) + (e×e) or (g×g)
13 (a×c) or (c×d) + (ef) or (fg)
14 (bc) or (ab) + (hg)
15 (ad) or (bd) or (cd) or (dd) + (eg) or (eh) or (ff) or (fh) or (gh) or (hh)

B:
1
2 (i×k) + (e×e) or (g×g)
3 (ef) or (fg)
4 (hg) + (ij) or (jk)
5 (eg) or (eh) or (ff) or (fh) or (gh) or (hh)
6 (ii) or (kk)
7 (ee) or (gg) + (il) or (jl) or (kl) or (ll)
8 (ef) or (fg)
9 (hg) + (ik)
10 (eg) or (eh) or (ff) or (fh) or (gh) or (hh)

B:
11 (ij) or (jk)
12 (ee) or (gg)
13 (ef) or (fg) + (ii) or (kk)
14 (hg) + (il) or (jl) or (kl) or (ll)
15 (eg) or (eh) or (ff) or (fh) or (gh) or (hh)
16 (ik)
17 (ee) or (gg)
18 (ef) or (fg) + (ij) or (jk)
19 hg
20 (eg) or (eh) or (ff) or (fh) or (gh) or (hh) + (ii) or (kk)
21 (il) or (kl) or (ll)
22 (ee) or (gg)
23 (ef) or (fg) + (ik)
24 (hg)
25 (eg) or (eh) or (ff) or (fh) or (gh) or (hh) + (ij) or (jk)
26
27 (ee) or (gg) + (ii) or (kk)
28 (ef) or (fg) + (il) or (jl) or (kl) or (ll)
29 (hg)
30 (eg) or (eh) or (ff) or (fh) or (gh) or (hh) + (ik)
31
32 (ee) or (gg) + (ij) or (jk)
33 (ef) or (fg)
34 (hg) + (ii) or (kk)
35 (eg) or (eh) or (ff) or (fh) or (gh) or (hh) + (il) or (jl) or (kl) or (ll)

What we see above is that some rows offer too many options while some rows really target only 2 or 4 multiples. The less we have multiples, the easiest we get closer to position the grids on a map. From the map, we find the holes in which the prime numbers will fit.

When we superpose the results of 2 or 3 grids of 2 numbers, the position of the grids together define the cycle of each, and from their cycle, the distance from 0. Which finding the distance, I find the area, and from this area of numbers, I find the multiples.

We could build a calculator with sliding the grids one upon another. Their position accordingly to another gives the distance from 0.