

Cinquante signes

Prime squares and square squares



juin 29, 2020

Hello Math-Fun,
today we'll look for "prime squares" and "square squares".

Definition 1

A "prime square" is a prime which is the sum of 4 integers. Those integers must occupy the 4 vertices of a geometric square formed by 4 cell-centers properly chosen on an infinite grid A (the 4 integers hereunder in the upper left corner, for instance, sum up to 11, which is prime).

The type-A infinite grid is an infinite sector of the plane where the cells are labeled by the successive anti-diagonals like below:

```

+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 1 | 3 | 6 | 10| 15| 21| 28| 36| 45| 55| 66| 78| 91|105|120|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 2 | 5 | 9 | 14| 20| 27| 35| 44| 54| 65| 77| 90|104|119|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 4 | 8 | 13| 19| 26| 34| 43| 53| 64| 76| 89|103|118|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 7 | 12| 18| 25| 33| 42| 52| 63| 75| 88|102|117|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 11| 17| 24| 32| 41| 51| 62| 74| 87|101|116|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 16| 23| 31| 40| 50| 61| 73| 86|100|115|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 22| 30| 39| 49| 60| 72| 85| 99|114|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 29| 38| 48| 59| 71| 84| 98|113|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 37| 47| 58| 70| 83| 97|112|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 46| 57| 69| 82| 96|111|   |
    
```

```

+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 56| 68| 81| 95|110|   |   |   |   |   |   |   |   |   |   |   |   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 67| 80| 94|109|   |   |   |   |   |   |   |   |   |   |   |   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 79| 93|108|   |   |   |   |   |   |   |   |   |   |   |   |   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 92|107|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|106|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+

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+
|

Definition 2

A "square square" is a square which is the sum of 4 integers. Those integers occupy the 4 vertices of a geometric square formed by 4 cell-centers properly chosen on an infinite grid **B** (the four integers 6, 1, 4 and 5 hereunder sum up to 16, for instance, which is a square).

The type-B grid is produced starting somewhere in the plane with 1 and labeling the successive cells clockwise — like the spiral-path hereunder:

```

+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   |   |157|158|159|160|161|162|163|164|165|166|167|168|169|   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   |   |156|111|112|113|114|115|116|117|118|119|120|121|122|   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   |   |155|110| 73| 74| 75| 76| 77| 78| 79| 80| 81| 82|123|   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   |   |154|109| 72| 43| 44| 45| 46| 47| 48| 49| 50| 83|124|   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   |   |153|108| 71| 42| 21| 22| 23| 24| 25| 26| 51| 84|125|   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   |   |152|107| 70| 41| 20| 7 | 8 | 9 | 10| 27| 52| 85|126|   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   |   |151|106| 69| 40| 19| 6 | 1 | 2 | 11| 28| 53| 86|127|   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   |   |150|105| 68| 39| 18| 5 | 4 | 3 | 12| 29| 54| 87|128|   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   |   |149|104| 67| 38| 17| 16| 15| 14| 13| 30| 55| 88|129|   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   |   |148|103| 66| 37| 36| 35| 34| 33| 32| 31| 56| 89|130|   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   |   |147|102| 65| 64| 63| 62| 61| 60| 59| 58| 57| 90|131|   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+

```

		146	101	100	99	98	97	96	95	94	93	92	91	132		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		145	144	143	142	141	140	139	138	137	136	135	134	133		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

An example of *prime square* on the **A** grid is $[1 + 3 + 5 + 2] = 11$
 (the geometric square has side-length = 1):

+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+															
	1		3		6		10		15		21		28		36		45		55		66		78		91		105		120		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	2		5		9		14		20		27		35		44		54		65		77		90		104		119				
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	4		8		13		19		26		34		43		53		64		76		89		103		118						
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	7		12		18		25		33		42		52		63		75		88		102		117								
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	11		17		24		32		41		51		62		74		87		101		116										
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	16		23		31		40		50		61		73		86		100		115												
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	22		30		39		49		60		72		85		99		114														
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	29		38		48		59		71		84		98		113																
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	37		47		58		70		83		97		112																		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	46		57		69		82		96		111																				
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	56		68		81		95		110																						
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	67		80		94		109																								
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	79		93		108																										
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	92		107																												
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	106																														
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Another example of *prime square* on the **A** grid is $[3 + 14 + 18 + 4] = 29$
 (the geometric square has side-length = $\sqrt{5}$)

+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	1		3		6		10		15		21		28		36		45		55		66		78		91		105		120		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	2		5		9		14		20		27		35		44		54		65		77		90		104		119				

4	8	13	19	26	34	43	53	64	76	89	103	118				
7	12	18	25	33	42	52	63	75	88	102	117					
11	17	24	32	41	51	62	74	87	101	116						
16	23	31	40	50	61	73	86	100	115							
22	30	39	49	60	72	85	99	114								
29	38	48	59	71	84	98	113									
37	47	58	70	83	97	112										
46	57	69	82	96	111											
56	68	81	95	110												
67	80	94	109													
79	93	108														
92	107															
106																

A third example of *prime square* on the **A** grid is $[1 + 10 + 25 + 7] = 43$
 (the geometric square has side-length = 3)

1	3	6	10	15	21	28	36	45	55	66	78	91	105	120		
2	5	9	14	20	27	35	44	54	65	77	90	104	119			
4	8	13	19	26	34	43	53	64	76	89	103	118				
7	12	18	25	33	42	52	63	75	88	102	117					
11	17	24	32	41	51	62	74	87	101	116						
16	23	31	40	50	61	73	86	100	115							
22	30	39	49	60	72	85	99	114								
29	38	48	59	71	84	98	113									


```

+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
A 5th example of prime square on the A grid is [13 + 52 + 84 + 30] = 179
(the geometric square has side-length =  $\text{sqr}17$ )
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 1 | 3 | 6 | 10| 15| 21| 28| 36| 45| 55| 66| 78| 91|105|120|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 2 | 5 | 9 | 14| 20| 27| 35| 44| 54| 65| 77| 90|104|119|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 4 | 8 | 13| 19| 26| 34| 43| 53| 64| 76| 89|103|118|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 7 | 12| 18| 25| 33| 42| 52| 63| 75| 88|102|117|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 11| 17| 24| 32| 41| 51| 62| 74| 87|101|116|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 16| 23| 31| 40| 50| 61| 73| 86|100|115|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 22| 30| 39| 49| 60| 72| 85| 99|114|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 29| 38| 48| 59| 71| 84| 98|113|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 37| 47| 58| 70| 83| 97|112|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 46| 57| 69| 82| 96|111|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 56| 68| 81| 95|110|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 67| 80| 94|109|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 79| 93|108|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
| 92|107|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|106|   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+

```

As it is impossible to find any *prime square* on a type-**B** grid, we will look instead for *square squares* like [**6 + 1 + 4 + 5**] = **16** .
 (The blue geometric square here has side-length = 1):

```

+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   |   |157|158|159|160|161|162|163|164|165|166|167|168|169|   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   |   |156|111|112|113|114|115|116|117|118|119|120|121|122|   |   |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+

```


		148	103	66	37	36	35	34	33	32	31	56	89	130		
		147	102	65	64	63	62	61	60	59	58	57	90	131		
		146	101	100	99	98	97	96	95	94	93	92	91	132		
		145	144	143	142	141	140	139	138	137	136	135	134	133		

A 3rd example of *square square* on the **B** grid is $[1 + 12 + 27 + 24] = 64$
 (thank you **Scott!**) (the geometric square has side-length = SQR5):

		157	158	159	160	161	162	163	164	165	166	167	168	169		
		156	111	112	113	114	115	116	117	118	119	120	121	122		
		155	110	73	74	75	76	77	78	79	80	81	82	123		
		154	109	72	43	44	45	46	47	48	49	50	83	124		
		153	108	71	42	21	22	23	24	25	26	51	84	125		
		152	107	70	41	20	7	8	9	10	27	52	85	126		
		151	106	69	40	19	6	1	2	11	28	53	86	127		
		150	105	68	39	18	5	4	3	12	29	54	87	128		
		149	104	67	38	17	16	15	14	13	30	55	88	129		
		148	103	66	37	36	35	34	33	32	31	56	89	130		
		147	102	65	64	63	62	61	60	59	58	57	90	131		
		146	101	100	99	98	97	96	95	94	93	92	91	132		
		145	144	143	142	141	140	139	138	137	136	135	134	133		

A 4th example of *square square* on the **B** grid is $[1 + 86 + 127 + 116] = 324$

(thank you again **Scott!**) (the geometric square has side-length = 5):

		157 158 159 160 161 162 163 164 165 166 167 168 169																	
		156 111 112 113 114 115 116 117 118 119 120 121 122																	
		155 110 73 74 75 76 77 78 79 80 81 82 123																	
		154 109 72 43 44 45 46 47 48 49 50 83 124																	
		153 108 71 42 21 22 23 24 25 26 51 84 125																	
		152 107 70 41 20 7 8 9 10 27 52 85 126																	
		151 106 69 40 19 6 1 2 11 28 53 86 127																	
		150 105 68 39 18 5 4 3 12 29 54 87 128																	
		149 104 67 38 17 16 15 14 13 30 55 88 129																	
		148 103 66 37 36 35 34 33 32 31 56 89 130																	
		147 102 65 64 63 62 61 60 59 58 57 90 131																	
		146 101 100 99 98 97 96 95 94 93 92 91 132																	
		145 144 143 142 141 140 139 138 137 136 135 134 133																	

A 5th example of *square square* on the **B** grid is [**1 + 41 + 67 + 35**] = **144**
 (thank you again **Scott!**) (the geometric square side-length = $\sqrt{144}$):

		157 158 159 160 161 162 163 164 165 166 167 168 169																	
		156 111 112 113 114 115 116 117 118 119 120 121 122																	
		155 110 73 74 75 76 77 78 79 80 81 82 123																	
		154 109 72 43 44 45 46 47 48 49 50 83 124																	

		153 108	71	42	21	22	23	24	25	26	51	84 125		
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
		152 107	70	41	20	7	8	9	10	27	52	85 126		
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
		151 106	69	40	19	6	1	2	11	28	53	86 127		
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
		150 105	68	39	18	5	4	3	12	29	54	87 128		
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
		149 104	67	38	17	16	15	14	13	30	55	88 129		
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
		148 103	66	37	36	35	34	33	32	31	56	89 130		
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
		147 102	65	64	63	62	61	60	59	58	57	90 131		
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
		146 101 100	99	98	97	96	95	94	93	92	91 132			
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
		145 144 143 142 141 140 139 138 137 136 135 134 133												
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+

Note that no odd square (like 121, 169 or 2025) is constructible on the above spiral-grid (**B**-type).

And now the **question time**:

- (1) Can you illustrate all geometric side-lengths of the *prime squares*? [above, in green, we have the side-lengths 1, $\sqrt{5}$, 3 (twice) and $\sqrt{17}$, for instance].
- (2) Can you find all the square squares constructible on a type-**B** grid?

Remarks:

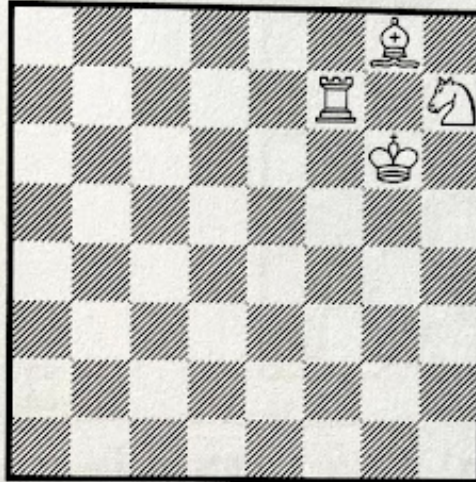
In the same spirit, we could look for "triangular squares" on both grids (The first triangular numbers are [visible here](#), in the OEIS:

0, 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, 780, 820, 861, 903, 946, 990, 1035, 1081, 1128, 1176,...)

The idea expressed in this page came from three sources:

- **Werner Keym's last book**
- [This recent video](#) by *Numberphile* on YouTube
- [This sequence](#) of the OEIS ("numbers that are the sum of two squares"):
0, 1, 2, 4, 5, 8, 9, 10, 13, 16, 17, 18, 20, 25, 26, 29, 32, 34, 36, 37, 40, 41, 45, 49, 50, 52, 53, 58, 61, 64, 65, 68, 72, 73, 74, 80, 81, 82, 85, 89, 90, 97, 98, 100, 101, 104, 106, 109, 113, 116, 117, 121, 122, 125, 128, 130, 136, 137, 144, 145, 146, 148, 149, 153, 157, 160,...

No. 337
Werner Keym
Die Schwalbe 1993
 2nd Prize



The centers of the squares occupied by the four pieces are the corners of a square (f7-g8-h7-g6). How can you form 12 squares varying in size in 36 moves and return to the initial square (f7-g8-h7-g6) in the 36th move?

Best,
 É.

Update, July 3rd, 2020

Scott R. Shannon was quick to compute a few (!) *square squares* on the B-grid (the "spiral") – here is what he e-mailed me:

> Below are results for 'square square', with 1 always in corner, for x and y offset up to 5000. Note that because the x offset and the y offset can be up to 5000 it means the size of the top of the square can be up to $\sqrt{2} \cdot 5000$. Also note that my spiral goes anticlockwise so you will need to flip top to bottom when looking for these numbers on the

spiral drawn on your webpage.

Startcorner = 1 xOff = 2 yOff = -1 1:12:27:24 -> 64
 Startcorner = 1 xOff = 3 yOff = 3 1:49:163:43 -> 256 (diagonal)
 Startcorner = 1 xOff = 5 yOff = 0 1:86:121:116 -> 324
 Startcorner = 1 xOff = 12 yOff = 6 1:535:1357:607 -> 2500
 Startcorner = 1 xOff = 13 yOff = 5 1:633:1359:711 -> 2704
 Startcorner = 1 xOff = 16 yOff = -16 1:993:4001:1089 -> 6084
 Startcorner = 1 xOff = 20 yOff = -10 1:1551:3501:1671 -> 6724
 Startcorner = 1 xOff = 23 yOff = -7 1:2055:3495:2193 -> 7744
 Startcorner = 1 xOff = 31 yOff = -1 1:3753:3971:3939 -> 11664
 Startcorner = 1 xOff = 32 yOff = 32 1:4225:16577:4161 -> 24964 (diagonal)
 Startcorner = 1 xOff = 45 yOff = 3 1:7963:9403:8233 -> 25600
 Startcorner = 1 xOff = 51 yOff = -27 1:10279:24079:10585 -> 44944
 Startcorner = 1 xOff = 54 yOff = 33 1:11470:30559:11794 -> 53824
 Startcorner = 1 xOff = 60 yOff = -18 1:14239:24061:14599 -> 52900
 Startcorner = 1 xOff = 61 yOff = 59 1:14643:57963:15009 -> 87616
 Startcorner = 1 xOff = 62 yOff = -55 1:15246:54399:15618 -> 85264
 Startcorner = 1 xOff = 69 yOff = 18 1:18820:30589:19234 -> 68644
 Startcorner = 1 xOff = 70 yOff = -43 1:19434:50711:19854 -> 90000
 Startcorner = 1 xOff = 72 yOff = 0 1:20521:21025:20953 -> 62500
 Startcorner = 1 xOff = 74 yOff = -31 1:21714:43743:22158 -> 87616
 Startcorner = 1 xOff = 75 yOff = -30 1:22306:43741:22756 -> 88804
 Startcorner = 1 xOff = 78 yOff = 69 1:24034:86887:24502 -> 135424
 Startcorner = 1 xOff = 85 yOff = 50 1:28596:73341:29106 -> 131044
 Startcorner = 1 xOff = 91 yOff = -22 1:32874:50669:33420 -> 116964
 Startcorner = 1 xOff = 99 yOff = -90 1:38998:142309:39592 -> 220900
 Startcorner = 1 xOff = 105 yOff = 57 1:43729:105511:44359 -> 193600
 Startcorner = 1 xOff = 106 yOff = 29 1:44598:73383:45234 -> 163216
 Startcorner = 1 xOff = 107 yOff = -10 1:45486:54309:46128 -> 145924
 Startcorner = 1 xOff = 112 yOff = 8 1:49833:58065:50505 -> 158404
 Startcorner = 1 xOff = 122 yOff = 53 1:59118:123095:59850 -> 242064
 Startcorner = 1 xOff = 124 yOff = 38 1:61095:105549:61839 -> 228484
 Startcorner = 1 xOff = 125 yOff = 50 1:62076:123101:62826 -> 248004
 Startcorner = 1 xOff = 126 yOff = 63 1:63064:143515:63820 -> 270400
 Startcorner = 1 xOff = 127 yOff = -121 1:64257:245267:65019 -> 374544
 Startcorner = 1 xOff = 128 yOff = 84 1:65069:180457:65837 -> 311364
 Startcorner = 1 xOff = 133 yOff = 14 1:70344:86997:71142 -> 228484
 Startcorner = 1 xOff = 140 yOff = -118 1:78099:265461:78939 -> 422500
 Startcorner = 1 xOff = 141 yOff = 48 1:79054:143545:79900 -> 302500
 Startcorner = 1 xOff = 152 yOff = -100 1:92061:253209:92973 -> 438244
 Startcorner = 1 xOff = 157 yOff = 80 1:98046:225465:98988 -> 422500
 Startcorner = 1 xOff = 158 yOff = -157 1:99540:395955:100488 -> 595984
 Startcorner = 1 xOff = 163 yOff = -102 1:105890:280045:106868 -> 492804
 Startcorner = 1 xOff = 163 yOff = -94 1:105882:263357:106860 -> 476100
 Startcorner = 1 xOff = 164 yOff = 138 1:106955:365749:107939 -> 580644
 Startcorner = 1 xOff = 173 yOff = 39 1:119159:180547:120197 -> 419904

Startcorner = 1 xOff = 174 yOff = -15 1:120598:142159:121642 -> 384400
 Startcorner = 1 xOff = 178 yOff = 59 1:126144:225507:127212 -> 478864
 Startcorner = 1 xOff = 181 yOff = 158 1:130344:460725:131430 -> 722500
 Startcorner = 1 xOff = 189 yOff = 174 1:142144:528181:143278 -> 813604
 Startcorner = 1 xOff = 190 yOff = -93 1:143924:319411:145064 -> 608400
 Startcorner = 1 xOff = 195 yOff = -192 1:151708:597913:152878 -> 902500
 Startcorner = 1 xOff = 197 yOff = 6 1:154640:165637:155822 -> 476100
 Startcorner = 1 xOff = 202 yOff = -55 1:162666:263279:163878 -> 589824
 Startcorner = 1 xOff = 206 yOff = 5 1:169122:178919:170358 -> 518400
 Startcorner = 1 xOff = 207 yOff = -45 1:170821:253099:172063 -> 595984
 Startcorner = 1 xOff = 211 yOff = -72 1:177524:319369:178790 -> 675684
 Startcorner = 1 xOff = 214 yOff = -51 1:182594:279943:183878 -> 646416
 Startcorner = 1 xOff = 221 yOff = 143 1:194559:531155:195885 -> 921600
 Startcorner = 1 xOff = 231 yOff = -27 1:212779:265279:214165 -> 692224
 Startcorner = 1 xOff = 232 yOff = -16 1:214617:245057:216009 -> 675684
 Startcorner = 1 xOff = 234 yOff = 159 1:218164:619051:219568 -> 1056784
 Startcorner = 1 xOff = 243 yOff = -207 1:235675:808615:237133 -> 1281424
 Startcorner = 1 xOff = 250 yOff = -205 1:249456:826691:250956 -> 1327104
 Startcorner = 1 xOff = 266 yOff = -181 1:282408:797811:284004 -> 1364224
 Startcorner = 1 xOff = 269 yOff = 33 1:288605:365959:290219 -> 944784
 Startcorner = 1 xOff = 282 yOff = 231 1:317020:1054267:318712 -> 1690000
 Startcorner = 1 xOff = 283 yOff = -144 1:319652:727897:321350 -> 1368900
 Startcorner = 1 xOff = 292 yOff = 158 1:340023:811485:341775 -> 1493284
 Startcorner = 1 xOff = 296 yOff = 68 1:349509:531305:351285 -> 1232100
 Startcorner = 1 xOff = 299 yOff = -16 1:356724:395673:358518 -> 1110916
 Startcorner = 1 xOff = 306 yOff = 33 1:373594:460975:375430 -> 1210000
 Startcorner = 1 xOff = 317 yOff = 138 1:400868:829645:402770 -> 1633284
 Startcorner = 1 xOff = 319 yOff = 319 1:408321:1630091:407683 -> 2446096 (diagonal)
 Startcorner = 1 xOff = 322 yOff = -105 1:413876:727819:415808 -> 1557504
 Startcorner = 1 xOff = 323 yOff = -10 1:416358:442245:418296 -> 1276900
 Startcorner = 1 xOff = 325 yOff = 68 1:421458:619233:423408 -> 1464100
 Startcorner = 1 xOff = 326 yOff = 129 1:423998:829663:425954 -> 1679616
 Startcorner = 1 xOff = 333 yOff = 210 1:442348:1181149:444346 -> 2067844
 Startcorner = 1 xOff = 334 yOff = 29 1:445194:528471:447198 -> 1420864
 Startcorner = 1 xOff = 339 yOff = -225 1:458893:1270579:460927 -> 2190400
 Startcorner = 1 xOff = 345 yOff = 105 1:474961:811591:477031 -> 1763584
 Startcorner = 1 xOff = 349 yOff = 344 1:485814:1923081:487908 -> 2896804
 Startcorner = 1 xOff = 350 yOff = -7 1:488958:508383:491058 -> 1488400
 Startcorner = 1 xOff = 352 yOff = -336 1:494897:1891297:497009 -> 2883204
 Startcorner = 1 xOff = 352 yOff = -156 1:494717:1030537:496829 -> 2022084
 Startcorner = 1 xOff = 365 yOff = 305 1:531501:1797671:533691 -> 2862864
 Startcorner = 1 xOff = 366 yOff = -21 1:534748:597571:536944 -> 1669264
 Startcorner = 1 xOff = 367 yOff = -141 1:537797:1030507:539999 -> 2108304
 Startcorner = 1 xOff = 368 yOff = -220 1:540813:1381065:543021 -> 2464900
 Startcorner = 1 xOff = 371 yOff = -322 1:549774:1918869:552000 -> 3020644
 Startcorner = 1 xOff = 371 yOff = -76 1:549528:797601:551754 -> 1898884
 Startcorner = 1 xOff = 372 yOff = 258 1:552163:1589605:554395 -> 2696164

Startcorner = 1 xOff = 392 yOff = -316 1:613797:2002857:616149 -> 3232804
Startcorner = 1 xOff = 399 yOff = -237 1:635845:1615915:638239 -> 2890000
Startcorner = 1 xOff = 403 yOff = -52 1:648480:826385:650898 -> 2125764
Startcorner = 1 xOff = 404 yOff = -46 1:651699:808293:654123 -> 2114116
Startcorner = 1 xOff = 412 yOff = -286 1:678027:1946597:680499 -> 3305124
Startcorner = 1 xOff = 420 yOff = 378 1:703963:2549653:706483 -> 3960100
Startcorner = 1 xOff = 421 yOff = 284 1:707418:1990353:709944 -> 3407716
Startcorner = 1 xOff = 431 yOff = -277 1:742029:2002779:744615 -> 3489424
Startcorner = 1 xOff = 432 yOff = 180 1:745021:1500265:747613 -> 2992900
Startcorner = 1 xOff = 432 yOff = 348 1:744853:2436025:747445 -> 3928324
Startcorner = 1 xOff = 433 yOff = 179 1:748479:1500267:751077 -> 2999824
Startcorner = 1 xOff = 434 yOff = -1 1:752124:755163:754728 -> 2262016
Startcorner = 1 xOff = 438 yOff = 105 1:765958:1181359:768586 -> 2715904
Startcorner = 1 xOff = 442 yOff = -255 1:780386:1940959:783038 -> 3504384
Startcorner = 1 xOff = 451 yOff = -372 1:812624:2706769:815330 -> 4334724
Startcorner = 1 xOff = 453 yOff = 24 1:819454:911977:822172 -> 2553604
Startcorner = 1 xOff = 453 yOff = 60 1:819418:1054609:822136 -> 2696164
Startcorner = 1 xOff = 456 yOff = 204 1:830173:1744633:832909 -> 3407716
Startcorner = 1 xOff = 457 yOff = 413 1:833613:3030255:836355 -> 4700224
Startcorner = 1 xOff = 464 yOff = -100 1:859893:1270329:862677 -> 2992900
Startcorner = 1 xOff = 464 yOff = 224 1:859569:1895681:862353 -> 3617604
Startcorner = 1 xOff = 467 yOff = -256 1:871212:2088537:874014 -> 3833764
Startcorner = 1 xOff = 467 yOff = -121 1:871077:1380867:873879 -> 3125824
Startcorner = 1 xOff = 473 yOff = 405 1:893093:3086239:895931 -> 4875264
Startcorner = 1 xOff = 475 yOff = -232 1:901308:1997033:904158 -> 3802500
Startcorner = 1 xOff = 476 yOff = 294 1:904583:2374093:907439 -> 4186116
Startcorner = 1 xOff = 477 yOff = 183 1:908503:1744675:911365 -> 3564544
Startcorner = 1 xOff = 504 yOff = -132 1:1014685:1615705:1017709 -> 3648100

(...)

Process finished with exit code 0

Merci et bravo, **Scott** !

É.



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A square for three (chess)

juin 22, 2024



(English translation after the French text) Voici cinq problèmes d'échecs disjoints : a) combien faut-il de coups au minimum pour que trois pions soient capturés sur la même case ? b) trois tours c) trois c ...

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Le tripalin se présente

avril 11, 2024



Un tripalin est constitué de trois images. Chaque image illustre un substantif. Accolés, ces trois substantifs forment une chaîne palindromique. Laquelle nous vous invitons à trouver. Exer ...

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Some strings au cinéma Galeries

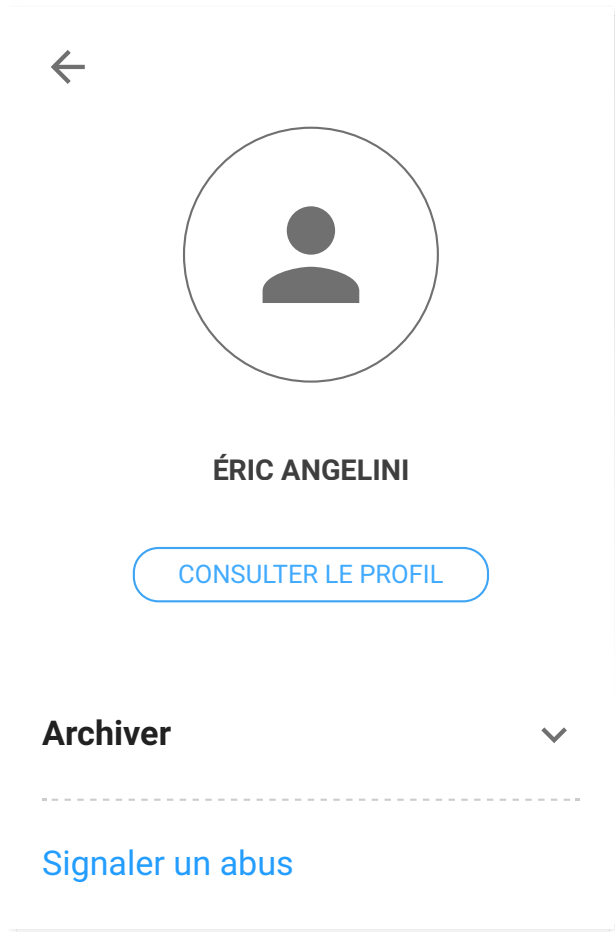
juillet 19, 2024

Lettre ouverte au cinéma Galeries Bonsoir à tous, Je viens de voir pour la seconde fois chez vous le beau film de Léos Carax (la première fois c'était le 26 juin en présence du réalisateur, au BRIFF). Apparus à l'écran aujourd'hui, avant la projection propre ...

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 Fourni par Blogger

Images de thèmes de [Michael Elkan](#)



A user profile card for ÉRIC ANGELINI. It features a back arrow in the top left, a circular profile picture placeholder with a person icon, the name "ÉRIC ANGELINI" in bold, a blue button labeled "CONSULTER LE PROFIL", and a section titled "Archiver" with a dropdown arrow. Below a dashed line is a blue link "Signaler un abus".

←



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