Table 1

BBS-ISL Matrix: Factor Pairs Sets & Rows and Columns on the Lower Half of a 35x35

= UPPT	Row #	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
... PPT	F	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS
		Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column	Rev & Column
		1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C	1 2 R C
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		4 15 3 5 4 1 12 2 6 4 2 7 1 7 4 3 16																																		
3—4—5	2	5 24 4 8 6 1 21 3 7 5 2 36 2 8 5 3 39 1 9 5 4 25																																		
		6 35 5 7 6 1 32 4 8 6 2 22 3 9 6 3 29 2 10 6 4 11 11 11 6 5 36																																		
		7 48 6 8 7 1 45 5 9 7 2 49 4 10 7 3 33 3 11 7 4 24 2 12 7 5 13 13 7 6 49																																		
		8 63 7 9 8 1 60 6 10 8 2 55 5 11 8 3 48 4 12 8 4 39 3 13 8 5 28 3 14 8 6 15 15 15 8 7 64																																		
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6-8-10	4	10 99 9 11 10 1 96 8 12 10 2 91 7 13 10 3 84 6 14 10 4 75 5 15 10 5 64 4 16 10 6 51 3 17 10 7 36 2 18 10 8 19 1 19 10 9 100																																		
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9-12-13	4	13 168 12 14 13 1 165 11 15 13 2 160 10 16 13 3 153 9 17 13 4 144 8 18 13 5 133 7 19 13 6 120 6 20 13 7 105 5 21 13 8 88 4 22 13 9 69 3 23 13 10 46 2 24 13 11 23 1 25 13 12 169																																		
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9-12-15	6	15 224 14 16 15 1 221 13 17 15 2 216 12 18 15 3 209 11 19 15 4 200 10 20 15 5 189 9 21 15 6 176 8 22 15 7 161 7 23 15 8 144 6 24 15 9 125 5 25 15 10 104 4 26 15 11 81 3 27 15 12 56 2 28 15 13 29 1 29 15 14 225																																		
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9-15-17	8	17 288 16 18 17 1 285 15 19 17 2 280 14 20 17 3 273 13 21 17 4 264 12 22 17 5 253 11 23 17 6 240 10 24 17 7 225 9 25 17 8 208 8 26 17 9 189 7 27 17 10 168 6 28 17 11 145 5 29 17 12 120 4 30 17 13 93 3 31 17 14 64 2 32 17 15 33 1 33 17 16 289																																		
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12-16-20	8	20 399 19 21 20 1 396 18 22 20 2 391 17 23 20 3 384 16 24 20 4 375 15 25 20 5 364 14 26 20 6 351 13 27 20 7 336 12 28 20 8 319 11 29 20 9 300 10 30 20 10 279 9 31 20 11 256 8 32 20 12 231 7 33 20 13 204 6 34 20 14 175 5 35 20 15 144 4 36 20 16 111 3 37 20 17 76 2 38 20 18 39 1 39 20 19 400																																		
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21-29-35	14	35 1224 34 36 35 1 1221 33 37 35 2 1218 32 38 35 3 1214 31 39 35 4 1209 30 40 35 5 1203 29 41 35 6 1196 28 42 35 7 1188 27 43 35 8 1178 26 44 35 9 1166 25 45 35 10 1152 24 46 35 11 1136 23 47 35 12 1118 22 48 35 13 1098 21 49 35 14 1076 20 50 35 15 1052 19 51 35 16 1026 18 52 35 17 997 17 53 35 18 966 16 54 35 19 933 15 55 35 20 898 14 56 35 21 861 13 57 35 22 822 12 58 35 23 781 11 59 35 24 738 10 60 35 25 693 9 61 35 26 646 8 62 35 27 597 7 63 35 28 546 6 64 35 29 493 5 65 35 30 438 4 66 35 31 381 3 67 35 32 324 2 68 35 33 265 1 69 35 34 **225**																																		

Table : This Table brings together the lower half of the the standard, symmetrical **BBS-ISL Matrix** along with one of it's **sub-Matrix** expressions: that of the **Factor Pair Sets** and the **Rows & Columns**.

Summary →

Key: **PPT**= = **Primitive Pythagorean Triple**. **nPPT**=**nonPrimitive Pythagorean Triple**. nvEVEN # where #%2=at. **FS**=**FPS**=**Factor Pair Set** for Inner Grid (IG) Number (#). Every # has one or more **FPSs**: **FS 1** = 1st # in **FPS**. **FS 2**= 2nd # in **FPS**. **Rv#row**, **C=Column**. **Row** (vertical Axis) and **Column** (horizontal Axis) that the IG# intersects on. The BLUE horizontal color bands=**Pythagorean Triples (PTs)**. The Prime Diagonal (PD) in YELLOW, formed from the Axis (**Row**) x Axis (**Column**) is in larger **BOLD** font at the Top of the table for each **Column** header. The Numbers (#s) within the IG of the **Matrix** are in **BOLD** font along the left side of each PD #. Every IG# = **FS1** x **FS2** (by **Factor Pair** definition). Every **Row** & **Column** #, and, every **FS1** & **FS2** #, is inter-related: (**FS1** + **FS2**)/2 = **Row** # and (**FS2** - **FS1**)/2 = **Column** #. Any SQUARED IG# is also found on the PD, and, is one squared side of a **PT** (shown as colored cells). A **PT Row** contains another type of **Pair Set**, the *b*² and *a*²shorter sides of the triangle, with the *c*²value at the intersection of that **Row** with the PD. The **FS1** of each of those two **Pair Sets** — the *b*² and *a*² squared #s — is equal to the "x" & "Y" values of the *Dickson Method* (**DM**) for algebraically calculating ALL **PT**s as: nvEVEN # where #%2=at is satisfied, such that side "*a*"= *x* + *s*, side "*b*"= *r* + *t*, and side "*c*" = *r* + *s* + *t*.

For example: 3—4—5 **PT**, with an nvEV value, has *b*² = 16 with **FS1** = 2 = *s* , *a*² = 9 with **FS1** = 1 = *t*. The 1 and 2 values are BOTH the **FPS** values of **FS1** (one for each), and, are the *s* & *t* values of the **DM** calculation (#/2=sd=2*(x-(1/2)). ALL **PT**s follow this same pattern. One can take the sum (Σ) of the (**FS3a** + **Col-s**) + (**FS2b** + **Col-t**) all x 1/2 = 4A = 4 x Area of that **PT**, and that 4A # will be on THAT **PT ROW**.

For example: 3—4—5, (**FS2a** + **Col-s**) + (**FS2b** + **Col-t**) = (2 + 3) + (9 + 4) = 22 = 2A = 4A = 1st # on the **Row 5**. This, too, works for all **PT**s (though the location of 4A is dependent on *c*², where *c*²= *b*² - *a*² = *r* + *s*= **FS1a** - **FS1b**, where *r*² = 4A+ *c*² in the proof of any **PT**.)

Exponentials also follow some very simple patterned sequenced steps but that requires a far larger **Matrix** Table to more fully demonstrate. In a nutshell: exponential X# is, of course, that which forms the PD. All other X^, where ^ = 3, 4, 5, ..., are found on the **Parallel Diagonals** (1st, 2nd, 3rd, ... diagonals parallel to the PD) starting from the left **ROW** Axis. For example: 2# = 8, 2^ = 16, 2^ = 32, ... starts at **Row #2** (YELLOW-ORANGE), and following the 2nd **Parallel Diagonal**, 8—16—32—..., exponentials are found. Dropping down to **Row #3** (PURPLE), and the 3# = 27, 3^ = 81, 3^ = 243,... exponentials are found. Drop down to the **Row #4** (ORANGE-RED) to find the 4#, 4^, 4^,... exponentials, and so on (5 in GREEN, 6 in ORANGE, 7 in PURPLE before we run out of Matrix). This is the pattern "within" exponentials, i.e. X= constant # and the exponential ^ varies. A different, but fascinating pattern occurs "across" exponentials, as well. Here X varies while the exponential ^ remains constant. As noted above, the "within" exponential pattern falls on Parallel Diagonals with equal number of cell steps down from the PD. The slope of the line connecting the "across" exponentials is different (steeper). Additionally, each exponential value predicts the location of the next. See the **Exponentials Table**.

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