BBS-ISL Matrix Fundamentals:

10 Basic, fundamental rules of the symmetrical BBS-ISL Matrix

- **Basic BBS-ISL Rule 1:** All numbers (#s) related by the 1–4–9–…PD sequence
- **Basic BBS-ISL Rule 2:** Every # in the PD sequence is the square of an Axial #.
- **Basic BBS-ISL Rule 3:** The Odd-Number Summation sequence forms the PD sequence.
- **Basic BBS-ISL Rule 4:** Every EVEN Inner Grid (IG) # is divisible by 4 & all are present.
- **Basic BBS-ISL Rule 5:** Every IG# is:
  - A: The difference (Δ) between its two PD-sequence #s. (Note: A=B=C=D=E, and F.)
    - Ex: \(PD_{25} - PD_{9} = 16\)
  - B: The sum (\(\sum\)) of the Δs of each of its PD#s between its two PD-sequence #s (as above).
    - Ex: \((PD_{25} - PD_{16}) + (PD_{16} - PD_{9}) = 16\)
  - C: The Δ between the squares of the two Axial #s forming that IG# (as above).
    - Ex: \(5^2 - 3^2 = 16\)
  - D: The product of the Addition & Subtraction of the two Axial #s forming that IG# (as above).
    - Ex: \((5 + 3)(5 - 3) = 16\)
  - E: The product of the Diagonal Axis # — STEPS from the PD — times the \(\sum\) of Row + Column Axis #s.
    - Ex: \(2 \times (5 + 3) = 16\)
  - F: Also, the product of its 2 Axial #s intersected by that IG#’s 90° diagonals.
    - Ex: \(2 \times 8 = 16\)

- **Basic BBS-ISL Rule 6:** Every *ODD IG# is NOT PRIME & all are present.
- **Corollary:** NO PRIME #s are present on the *IG.
- **Corollary:** NO EVEN, NOT divisible by 4, #s are present on the IG.
  *Excepting the 3—5—7—… ODD #s of the 1st Parallel Diagonal

- **Basic BBS-ISL Rule 7:** The ODD-Number sequence, and the 1–4–9–...PD sequence, forms the sequential $\Delta$ between ALL IG#s.
- **Basic BBS-ISL Rule 8:** The $\Delta$ between #s within the Parallel Diagonals is a constant 2 x its Axial #.
- **Basic BBS-ISL Rule 9:** The $\Delta$ between #s in the Perpendicular Diagonals follow:
  - **A:** From EVEN PD#s, $\sqrt{PD} \times 4$ starts the sequence & follows x1—x2—x3—x4....
  - **B:** From ODD PD#s, $\sqrt{PD} \times 4$ starts the sequence & follows x1—x2—x3—x4....
  - **C:** From ODD Perpendicular Diagonals between the EVEN-ODD diagonals (above), the sequence starts with the same value as the Axis number ending the diagonal, the sequence following x1—x3—x5—x7..

- **Basic BBS-ISL Rule 10:** Every #, especially the #s in the ONEs Column, informs both smaller and larger Sub-set symmetries (much larger grids required to demonstrate).

**BBS-ISL Matrix Inner Grid Golden Rules (IGGR)**

5 Basic, fundamental rules of the symmetrical BBS-ISL Matrix Inner Grid

- **IGGR 1:** The IG is formed of two equal & symmetrical 90°-right, isosceles triangles that are bilaterally symmetrical about the PD — and, infinitely expandable.
- **IGGR 2:** The 90°-right-triangle — inherent to ALL squares and rectangles by definition — both forms the alternating EVEN-ODD square grid cells within the Matrix, and, is responsible for all major patterns and sequences, thereupon.
- **IGGR 3:** Subtraction-Addition: Every IG# is simply the $\Delta$ between its two PD#s (subtraction), and, the sum ($\sum$) of any IG# + its PD# above = the PD# on the end of that Row (or, Column).
- **IGGR 4:** Multiplication-Division: Every IG# is simply the product of the two AXIAL #s intersected by the two diagonals — of that said IG# — pointing back to the Axis at a 90° angle (multiplication), and, the dividend of the Axial divisor and quotient (division).
- **IGGR 5:** The actual # of grid-cell steps — i.e., the actual # of STEPS from a given IG# to another by a strictly horizontal, vertical, or 45° diagonal path — forms a simple, yet often fundamental descriptor to the pattern-sequence templates that inform the more advanced patterns, e.i., Exponentials and especially the Pythagorean Triples (PTs). STEPS are particularly important in the geometric visualizations within the BBS-ISL Matrix (as alluded to in IGGR 2, above).
Pythagorean Triples and BBS-ISL Fundamentals (TPISC: The Pythagorean-Inverse Square Connection)

3 Basic, fundamental rules of the symmetrical BBS-ISL Matrix Inner Grid that encompass the PTs.

- **TPISC-BBS-ISL Rule 1:** Every IG EVEN Squared # is part of a Paired-Factor Set (PFS) that:
  - A: Has reciprocal PFS members on the PD vertically above.
  - B: Both PFS members reside on the SAME Row.
  - C: They represent the $a^2$ and $b^2$ values of a PT, whose $c^2$ value is on the PD intersection

- **TPISC-BBS-ISL Rule 2:** Every PT is found on the BBS-ISL Matrix and can be located by this intersection of EVERY PD (9>) and a Row with PFSs.

- **TPISC-BBS-ISL Rule 3:** Every PT — including its sides, perimeter, area and proof — can also be found and fully profiled (and, predicted) as r-set, s-, t-set members of the Dickson Method (DM), Expanded Dickson Method (EDM), and the Fully Expanded Dickson Method (FEDM), shown herein.
|   | 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 | 1 | 3 | 5 | 12 | 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 |
| 2 | 3 | 5 | 12 | 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 |
| 3 | 5 | 12 | 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 |
| 4 | 7 | 15 | 17 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 | 53 | 55 | 57 | 59 | 61 | 63 | 65 | 67 | 69 | 71 | 73 | 75 | 77 | 79 | 81 | 83 | 85 |
| 5 | 15 | 17 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 | 53 | 55 | 57 | 59 | 61 | 63 | 65 | 67 | 69 | 71 | 73 | 75 | 77 | 79 | 81 | 83 | 85 | 87 |
| 6 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 | 53 | 55 | 57 | 59 | 61 | 63 | 65 | 67 | 69 | 71 | 73 | 75 | 77 | 79 | 81 | 83 | 85 | 87 | 89 | 91 |
| 7 | 41 | 43 | 45 | 47 | 49 | 51 | 53 | 55 | 57 | 59 | 61 | 63 | 65 | 67 | 69 | 71 | 73 | 75 | 77 | 79 | 81 | 83 | 85 | 87 | 89 | 91 | 93 | 95 | 97 | 99 | 101 | 103 | 105 | 107 | 109 |
| 8 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 | 53 | 55 | 57 | 59 | 61 | 63 | 65 | 67 | 69 | 71 | 73 | 75 | 77 | 79 | 81 | 83 | 85 | 87 | 89 | 91 | 93 | 95 | 97 |
| 9 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 | 53 | 55 | 57 | 59 | 61 | 63 | 65 | 67 | 69 | 71 | 73 | 75 | 77 | 79 | 81 | 83 | 85 | 87 | 89 | 91 | 93 | 95 | 97 | 99 | 101 | 103 | 105 |
| 10 | 45 | 47 | 49 | 51 | 53 | 55 | 57 | 59 | 61 | 63 | 65 | 67 | 69 | 71 | 73 | 75 | 77 | 79 | 81 | 83 | 85 | 87 | 89 | 91 | 93 | 95 | 97 | 99 | 101 | 103 | 105 | 107 | 109 | 111 | 113 | 115 |
| 11 | 53 | 55 | 57 | 59 | 61 | 63 | 65 | 67 | 69 | 71 | 73 | 75 | 77 | 79 | 81 | 83 | 85 | 87 | 89 | 91 | 93 | 95 | 97 | 99 | 101 | 103 | 105 | 107 | 109 | 111 | 113 | 115 | 117 | 119 | 121 |
| 12 | 61 | 63 | 65 | 67 | 69 | 71 | 73 | 75 | 77 | 79 | 81 | 83 | 85 | 87 | 89 | 91 | 93 | 95 | 97 | 99 | 101 | 103 | 105 | 107 | 109 | 111 | 113 | 115 | 117 | 119 | 121 | 123 | 125 | 127 |
| 13 | 69 | 71 | 73 | 75 | 77 | 79 | 81 | 83 | 85 | 87 | 89 | 91 | 93 | 95 | 97 | 99 | 101 | 103 | 105 | 107 | 109 | 111 | 113 | 115 | 117 | 119 | 121 | 123 | 125 | 127 | 129 | 131 | 133 |
| 14 | 77 | 79 | 81 | 83 | 85 | 87 | 89 | 91 | 93 | 95 | 97 | 99 | 101 | 103 | 105 | 107 | 109 | 111 | 113 | 115 | 117 | 119 | 121 | 123 | 125 | 127 | 129 | 131 | 133 | 135 | 137 | 139 |
| 15 | 85 | 87 | 89 | 91 | 93 | 95 | 97 | 99 | 101 | 103 | 105 | 107 | 109 | 111 | 113 | 115 | 117 | 119 | 121 | 123 | 125 | 127 | 129 | 131 | 133 | 135 | 137 | 139 | 141 | 143 | 145 |

**BBS-ISL Matrix: 35x35**

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BBS35x35-+.png (BBS-ISL Matrix: 35x35) [700x691]