BBS-ISL Matrix

To find the Row/Column placement of any Inner Grid (IG) number (#):

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1. find Factors
2. add Factors, divide by 2 = Row #
3. confirm by determining Col #
   * a. divide IG # by larger Factor (or simply take the smaller
Factor)
   * b. subtract  the resulting quotient from the Row # = Col #
   * c. verify by finding the Δ between the two PD #s
```

Ex: 33 (Two Factor Sets, example for Factor Set: 3,11 only*)

1. Factors: 3, 11—(1,33)
2. Row: 3 + 11 = 14, 14 ÷ 2 = 7 = Row 7

3. Column - confirm & verify:

   - a. Divide: 33 ÷ 11 = 3
   - b. Subtract: 7 - 3 = 4 = Col 4
   - c. verify: $7^2 - 4^2 = 49 - 16 = 33$

Therefore: IG# 33 appears 2 times on the IG at:

- Row 7, Col 4
- Row 17, Col 16(*see note @ bottom)

Ex: 96 (Five Factor Sets, example for four Factor Sets only)

1. Factors: 2,48—3,32—4,24—8,12—(1,96)

2. Row:

   - 2 + 48 = 50, 50 ÷ 2 = 25 = Row 25
   - 3 + 32 = 35, 35 ÷ 2 = 17.5 = RowXXXX (Is NOT whole integer #)
   - 4 + 24 = 28, 28 ÷ 2 = 14 = Row 14
   - 8 + 12 = 20, 20 ÷ 2 = 10 = Row 10

3. Column - confirm & verify:

   - a. Divide:
     - 96 ÷ 48 = 2
     - xxx skip because not whole integer #
     - 96 ÷ 24 = 4
     - 96 ÷ 12 = 8
   - b. Subtract:
     - 25 - 2 = 23 = Col 23
     - xxx
     - 14 - 4 = 10 = Col 10
     - 10 - 8 = 2 = Col 2
   - c. verify:
     - $25^2 - 23^2 = 625 - 529 = 96$
     - xxx
     - $14^2 - 10^2 = 196 - 100 = 96$
     - $10^2 - 2^2 = 100 - 4 = 96$

Therefore: IG# 96 appears 4 times on the IG. The three examples at:

- Row 25, Col 23
- Row/Col XXX skip because not whole integer #)
- Row 14, Col 10
- Row 10, Col 2
- (*see note @ bottom re: 1,96)

SIMPLIFICATION

```
SIMPLIFICATION;
 1. &sum; Factors ÷ 2 = Row #
 2. Row # - Factor # = Col #
 3. verify PD - PD = IG#
```

Ex: 96 (Factors: 1,96—2,48—3,32—4,24—8,12)

Factors: 2,48

1. ∑ Factors ÷ 2 = Row #:
   - (2 + 48) ÷ 2= Row 25
2. Row # - Factor # = Col #:
   - 25 - 2 = Column 23
3. verify PD - PD = IG#:
   - 25^2 - 23^2 = 625 - 529 = 96

Therefore: IG# 96 appears on the IG at:

- Row 25, Col 23

Factors: 3,32

1. ∑ Factors ÷ 2 = Row #:
   - xxx (no IG# with this Factor Set)

Factors: 4,24

1. ∑ Factors ÷ 2 = Row #:
   - (4 + 24) ÷ 2= Row 14
2. Row # - Factor # = Col #:
   - 14 - 4 = Column 10
3. verify PD - PD = IG#:
   - $14^2 - 10^2$ = 196 - 100 = 96

Therefore: IG# 96 appears on the IG at:

- Row 14, Col 10

Factors: 8,12

1. ∑ Factors ÷ 2 = Row #:
   - (8 + 12) ÷ 2= Row 10
2. Row # - Factor # = Col #:
   - 10 - 8 = Column 2
3. verify PD - PD = IG#:
   - $10^2 - 2^2$ = 100 - 4 = 96

Therefore: IG# 96 appears on the IG at:

- Row 10, Col 2

Ex: 1125

Factors: (1, 1125)

Factors: (3, 375)

Factors: (5, 225)

Factors: (9, 125)

Factors: (15, 75)

Factors: (25, 45)

1. ∑ Factors ÷ 2 = Row #:
   - (1 + 1125) ÷ 2 = Row 563
   - (3 + 375) ÷ 2 = Row 189
   - (5 + 225) ÷ 2 = Row 115
   - (9 + 125) ÷ 2 = Row 67
   - (15 + 75) ÷ 2 = Row 45
   - (25 + 45) ÷ 2 = Row 35

2. Row # - Factor # = Col #:
   - Row 563 - 1 = Col 562
   - Row 189 - 3= Col 186
   - Row 115 - 5 = Col 110
   - Row 67 - 9 = Col 58
   - Row 45 - 15 = Col 30
   - Row 35 - 25 = Col 10

3. verify by PD - PD = IG#:
   - $563^2 - 562^2 = 316{,}969 - 315{,}844 = 1125$
   - $189^2 - 186^2 = 35{,}721 - 34{,}596 = 1125$
   - $115^2 - 110^2 = 13{,}225 - 12{,}100 = 1125$
   - $67^2 - 58^2 = 4{,}489 - 3{,}364 = 1125$
   - $45^2 - 30^2 = 2{,}025 - 900 = 1125$
   - $35^2 - 10^2 = 1{,}225 - 100 = 1125$

Therefore: IG# 1125 appears 6 times on the IG at:

- Row 563, Col 562
- Row 189, Col 186
- Row 115, Col 110
- Row 67, Col 58
- Row 45, Col 30

- Row 35, Col 10

```
*The Factor Set that includes 1,X where X = the IG#,
ALWAYS lies on the 1st Parallel Diagonal (3,5,7,..) if ODD;
and,if X=EVEN IG#, it will NOT be on the matrix grid, as 1+EVEN # = ODD
#,
e.i. IG# 33 using Factor Set 1,33 resolves to Row 17 Col 16,
while IG# 8 does NOT have a Row/Col presence with Factor Set 1,8 as it
does NOT resolve to a whole number.
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