

BBS-ISL Matrix

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

STEPS:

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: $3 + 11 = 14$, $14 \div 2 = 7 = \text{Row } 7$

3. Column - confirm & verify:

a. Divide: $33 \div 11 = 3$

b. Subtract: $7 - 3 = 4 = \text{Col } 4$

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:

- $2 + 48 = 50, 50 \div 2 = 25 = \text{Row } 25$
- $3 + 32 = 35, 35 \div 2 = 17.5 = \text{Row XXXX (Is NOT whole integer #)}$
- $4 + 24 = 28, 28 \div 2 = 14 = \text{Row } 14$
- $8 + 12 = 20, 20 \div 2 = 10 = \text{Row } 10$

3. Column - confirm & verify:

- a. Divide:
 - $96 \div 48 = 2$
 - xxx skip because not whole integer #
 - $96 \div 24 = 4$
 - $96 \div 12 = 8$
- b. Subtract:
 - $25 - 2 = 23 = \text{Col } 23$
 - xxx
 - $14 - 4 = 10 = \text{Col } 10$
 - $10 - 8 = 2 = \text{Col } 2$
- 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. $\sum \text{Factors} \div 2 = \text{Row \#}$
2. $\text{Row \#} - \text{Factor \#} = \text{Col \#}$
3. verify PD - PD = IG#

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

Factors: 2,48

1. $\sum \text{Factors} \div 2 = \text{Row \#}$:

- $(2 + 48) \div 2 = \text{Row } 25$

2. $\text{Row \#} - \text{Factor \#} = \text{Col \#}$:

- $25 - 2 = \text{Column } 23$

3. verify $\text{PD} - \text{PD} = \text{IG\#}$:

- $25^2 - 23^2 = 625 - 529 = 96$

Therefore: IG# 96 appears on the IG at:

- Row 25, Col 23

Factors: 3,32

1. $\sum \text{Factors} \div 2 = \text{Row \#}$:

- xxx (no IG# with this Factor Set)

Factors: 4,24

1. $\sum \text{Factors} \div 2 = \text{Row \#}$:

- $(4 + 24) \div 2 = \text{Row } 14$

2. $\text{Row \#} - \text{Factor \#} = \text{Col \#}$:

- $14 - 4 = \text{Column } 10$

3. verify $\text{PD} - \text{PD} = \text{IG\#}$:

- $14^2 - 10^2 = 196 - 100 = 96$

Therefore: IG# 96 appears on the IG at:

- Row 14, Col 10

Factors: 8,12

1. $\sum \text{Factors} \div 2 = \text{Row \#}$:

- $(8 + 12) \div 2 = \text{Row } 10$

2. $\text{Row \#} - \text{Factor \#} = \text{Col \#}$:

- $10 - 8 = \text{Column } 2$

3. verify $\text{PD} - \text{PD} = \text{IG\#}$:

- $10^2 - 2^2 = 100 - 4 = 96$

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. \sum Factors $\div 2 =$ Row #:

- $(1 + 1125) \div 2 =$ Row 563
- $(3 + 375) \div 2 =$ Row 189
- $(5 + 225) \div 2 =$ Row 115
- $(9 + 125) \div 2 =$ Row 67
- $(15 + 75) \div 2 =$ Row 45
- $(25 + 45) \div 2 =$ 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 $1+\text{EVEN \#} = \text{ODD \#}$, 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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