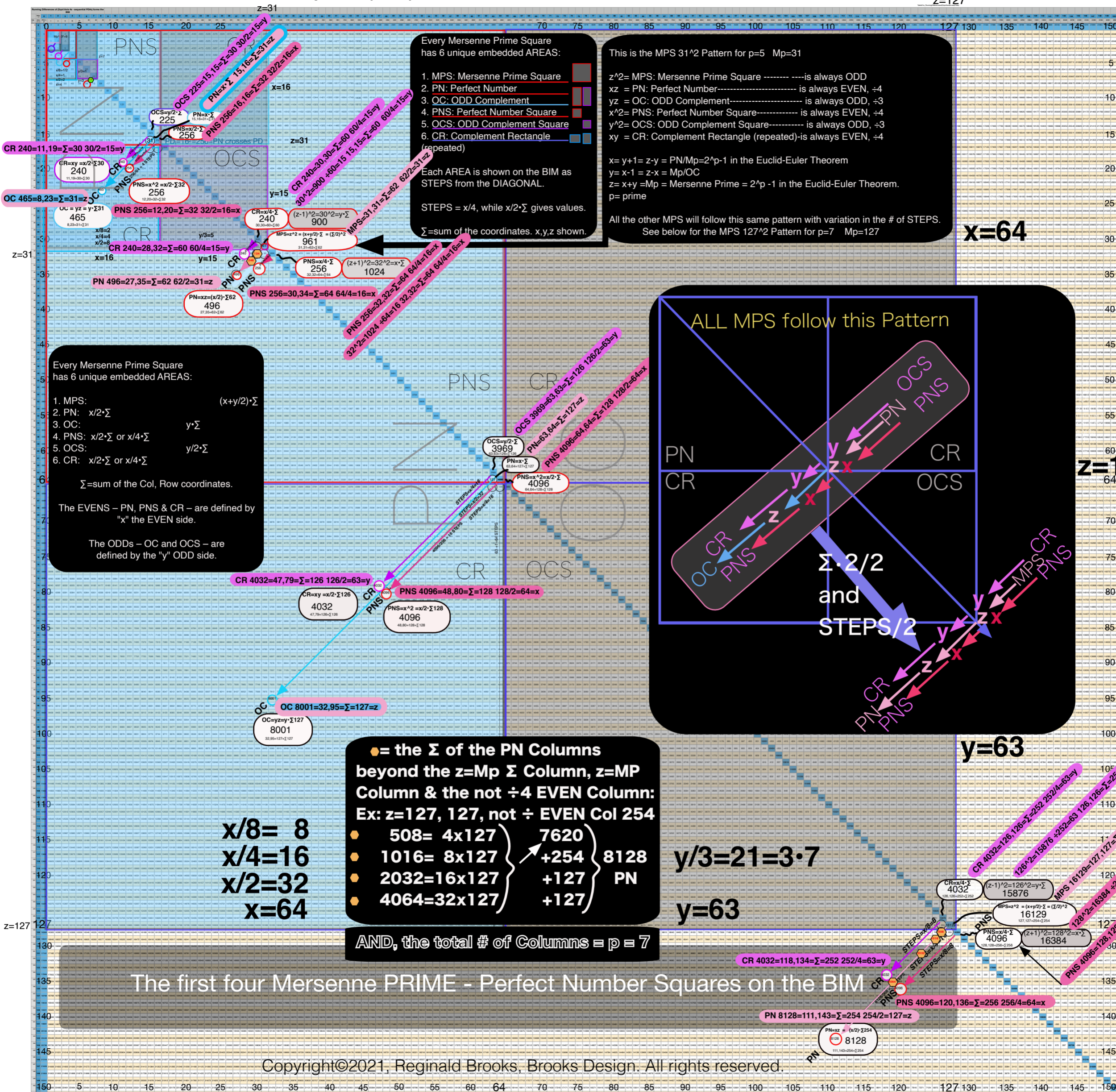


The First 4 Mersenne Prime Squares (MPS) on the BIM

z=127



Every Mersenne Prime Square has 6 unique embedded AREAS:

1. MPS: Mersenne Prime Square
2. PN: Perfect Number
3. OC: ODD Complement
4. PNS: Perfect Number Square
5. OCS: ODD Complement Square
6. CR: Complement Rectangle (repeated)

Each AREA is shown on the BIM as STEPS from the DIAGONAL.

STEPS = $x/4$, while $x/2 \cdot \Sigma$ gives values.

Σ = sum of the coordinates. x,y,z shown.

This is the MPS 31² Pattern for p=5 Mp=31

z²= MPS: Mersenne Prime Square ----- is always ODD
 xz = PN: Perfect Number----- is always EVEN, +4
 yz = OC: ODD Complement----- is always ODD, +3
 x²= PNS: Perfect Number Square----- is always EVEN, +4
 y²= OCS: ODD Complement Square----- is always ODD, +3
 xy = CR: Complement Rectangle (repeated)-is always EVEN, +4

x= y+1= z-y = PN/Mp=2^p-1 in the Euclid-Euler Theorem
 y= x-1 = z-x = Mp/OC
 z= x+y =Mp = Mersenne Prime = 2^p-1 in the Euclid-Euler Theorem.
 p= prime

All the other MPS will follow this same pattern with variation in the # of STEPS.
 See below for the MPS 127² Pattern for p=7 Mp=127

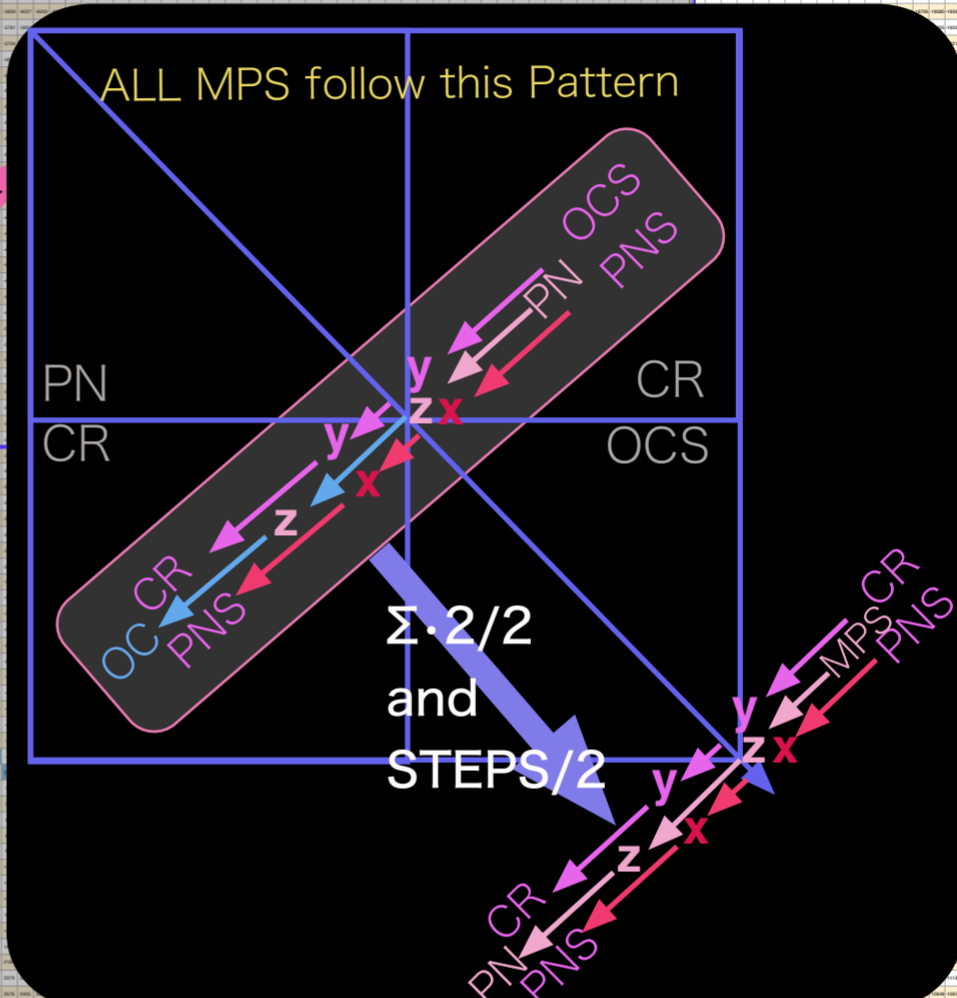
Every Mersenne Prime Square has 6 unique embedded AREAS:

1. MPS: $(x+y/2) \cdot \Sigma$
2. PN: $x/2 \cdot \Sigma$
3. OC: $y \cdot \Sigma$
4. PNS: $x/2 \cdot \Sigma$ or $x/4 \cdot \Sigma$
5. OCS: $y/2 \cdot \Sigma$
6. CR: $x/2 \cdot \Sigma$ or $x/4 \cdot \Sigma$

Σ = sum of the Col, Row coordinates.

The EVENS – PN, PNS & CR – are defined by "x" the EVEN side.

The ODDS – OC and OCS – are defined by the "y" ODD side.



● = the Σ of the PN Columns beyond the z=Mp Σ Column, z=MP Column & the not ÷4 EVEN Column:
 Ex: z=127, 127, not ÷4 EVEN Col 254

● 508 = 4x127	} 7620
● 1016 = 8x127	
● 2032 = 16x127	
● 4064 = 32x127	

+254 } 8128
 +127 } PN
 +127 }

AND, the total # of Columns = p = 7

$x/8 = 8$
 $x/4 = 16$
 $x/2 = 32$
 $x = 64$

$y/3 = 21 = 3 \cdot 7$
 $y = 63$

The first four Mersenne PRIME - Perfect Number Squares on the BIM