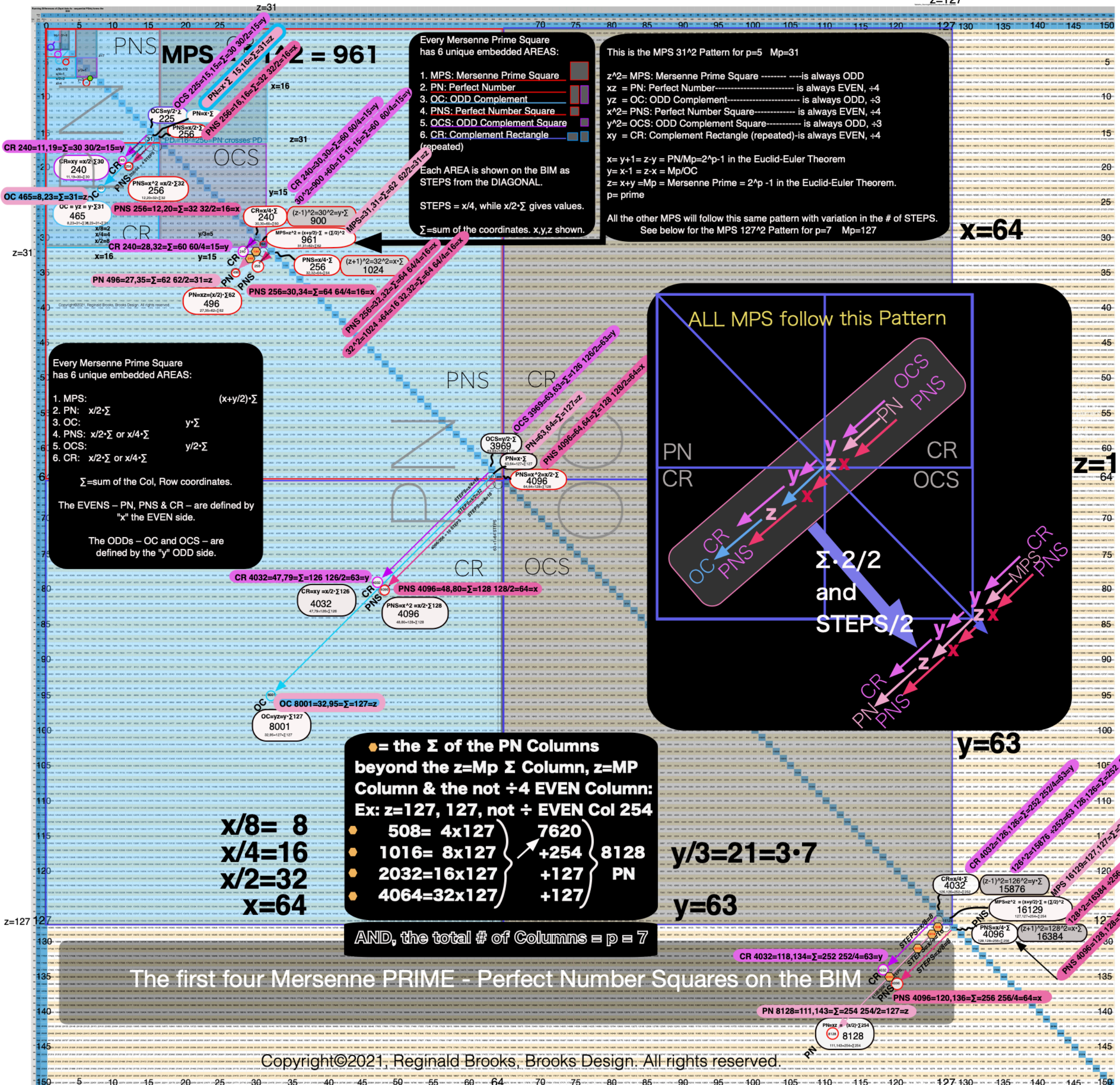


The First 4 Mersenne Prime Squares (MPS) on the BIM

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 $p=5$ $M_p=31$

$z^2 =$ MPS: Mersenne Prime Square ----- is always ODD
 $xz =$ PN: Perfect Number ----- is always EVEN, ± 4
 $yz =$ OC: ODD Complement ----- is always ODD, ± 3
 $x^2 =$ PNS: Perfect Number Square ----- is always EVEN, ± 4
 $y^2 =$ OCS: ODD Complement Square ----- is always ODD, ± 3
 $xy =$ CR: Complement Rectangle (repeated) ----- is always EVEN, ± 4

$x = y + 1 = z - y = PN/M_p = 2^p - 1$ 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 $p=7$ $M_p=127$

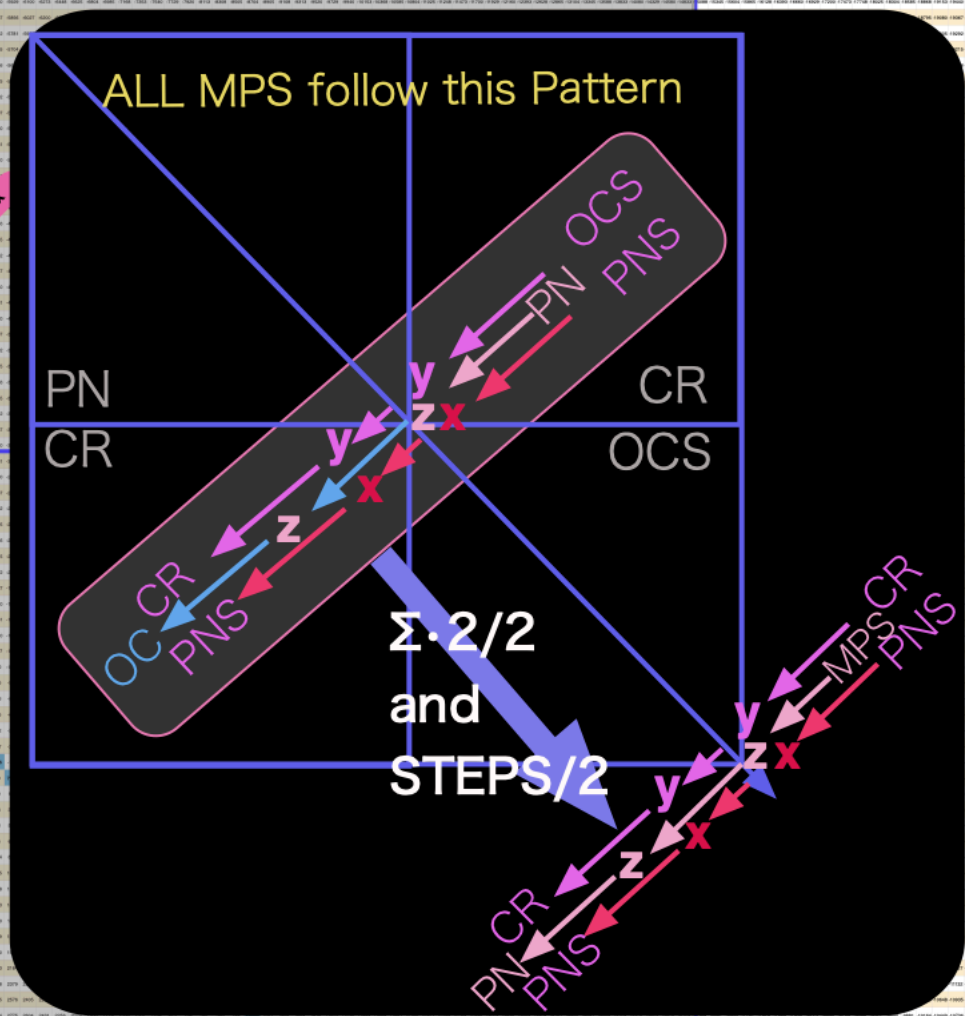
Every Mersenne Prime Square has 6 unique embedded AREAS:

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 $\div 4$ EVEN Column:
 Ex: $z=127$, 127, not \div EVEN Col 254

● 508 = 4×127	} 7620	
● 1016 = 8×127		
● 2032 = 16×127		
● 4064 = 32×127		
	+254	} 8128
	+127	
	+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