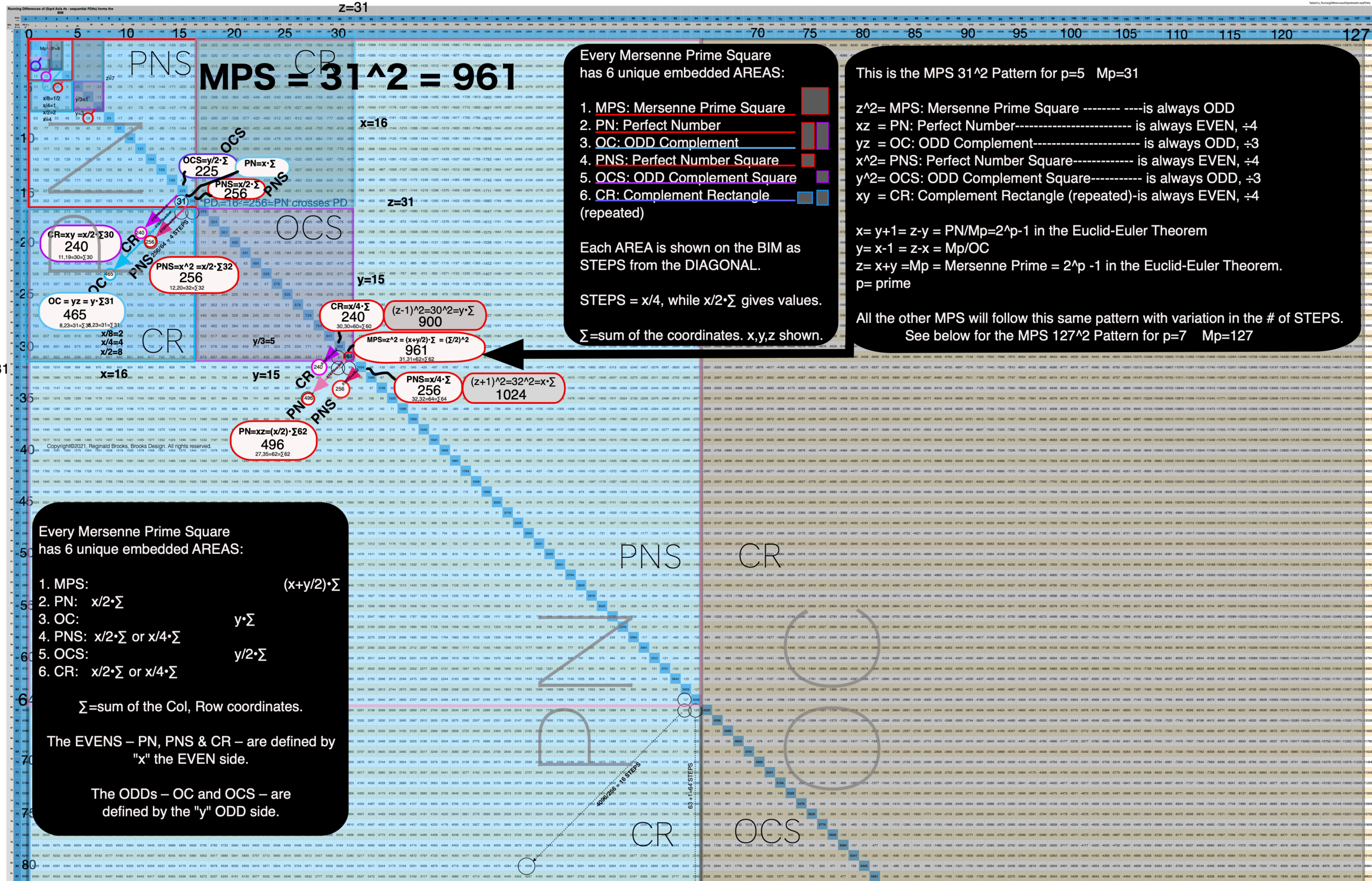

Every Mersenne Prime Square
has 6 unique embedded AREAS:

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·Σ gives values.

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

This is the MPS 31^2 Pattern for p=5 Mp=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/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 127^2 Pattern for p=7 Mp=127

Every Mersenne Prime Square
has 6 unique embedded AREAS:

1. MPS: (x+y/2)·Σ
2. PN: x/2·Σ
3. OC: y·Σ
4. PNS: x/2·Σ or x/4·Σ
5. OCS: y/2·Σ
6. CR: x/2·Σ or x/4·Σ

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.