

# Butterfly Fractal4 : parameters (10)

p=2  
x=2  
y=1  
z=3

	$\Sigma$ 2 =x 1	$R\Sigma$ 3 =z=Mp 1 =y	$\Sigma$ 4 =x^2 2 =x	$R\Sigma$ 6 =xz=PN 2 =xy=CR	$\Sigma$ 2 =xy=CR 1 =xz=PN	$R\Sigma$ 3 =yz=OC 1 =y^2
	$\Sigma$ 6 =xz=PN 3 =z=Mp	$R\Sigma$ 9 =z^2=MPS 3 =z=MP				

p=3  
x=4  
y=3  
z=7

	$\Sigma$ 4 =x 2 1	$R\Sigma$ 7 =z=Mp 3 =y 1	$\Sigma$ 16 =x^2 8 4 =x	$R\Sigma$ 56 =xz=PN 28 =xy=CR 4 =x	$\Sigma$ 12 =xy=CR 6 =xz=PN 3 =y	$R\Sigma$ 21 =yz=OC 9 =y^2 3 =y
	$\Sigma$ 28 =xz=PN 14 7 =z=Mp	$R\Sigma$ 49 =z^2=MPS 21 =yz =OC 7 =z=MP				

p=4  
x=8  
y=7  
z=15

	$\Sigma$ 8 =x 4 2 1	$R\Sigma$ 15 =z=Mp 7 =y 3 1	$\Sigma$ 64 =x^2 32 16 8 =x	$R\Sigma$ 120 =xz=PN 56 =xy=CR 24 8 =x	$\Sigma$ 56 =xy=CR 28 =xz=PN 14 7 =y	$R\Sigma$ 105 =yz=OC 49 =y^2 21 7 =y
	$\Sigma$ 120 =xz=PN 60 30 15 =z=Mp	$R\Sigma$ 225 =z^2=MPS 105 =yz =OC 45 15 =z=MP				

p=5  
x=16  
y=15  
z=31

	$\Sigma$ 16 =x 8 4 2 1	$R\Sigma$ 31 =z=Mp 15 =y 7 3 1	$\Sigma$ 256 =x^2 128 64 32 16 =x	$R\Sigma$ 496 =xz=PN 240 =xy=CR 112 48 16 =x	$\Sigma$ 240 =xy=CR 120 =xz=PN 60 30 15 =y	$R\Sigma$ 465 =yz=OC 225 =y^2 105 45 15 =y
	$\Sigma$ 496 =xz=PN 248 124 62 31 =z=Mp	$R\Sigma$ 961 =z^2=MPS 465 =yz =OC 217 93 31 =z=MP				

KEY:  
 y = x -1  
 xz = PN (Perfect Number)  
 yz = OC (ODD Complement)  
 xy = CR (Complement Rectangle)  
 z = Mp (Mersenne Prime) = 2<sup>p</sup>-1  
 z<sup>2</sup>= MPS (Mersenne Prime Square)  
 x<sup>2</sup>= PNS (Perfect Number Square)  
 y<sup>2</sup>= OCS (ODD Complement Square)

p=ln(2x)/ln(2)  
 p=exponent that  
 x must be raised  
 to equal 2x  
 x = 2<sup>p-1</sup>  
 x=(z+1)/2