

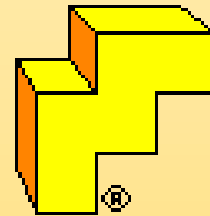


***“Leaning”* Symmetries**

A gallery of tilted geometric puzzles

“Math as art”

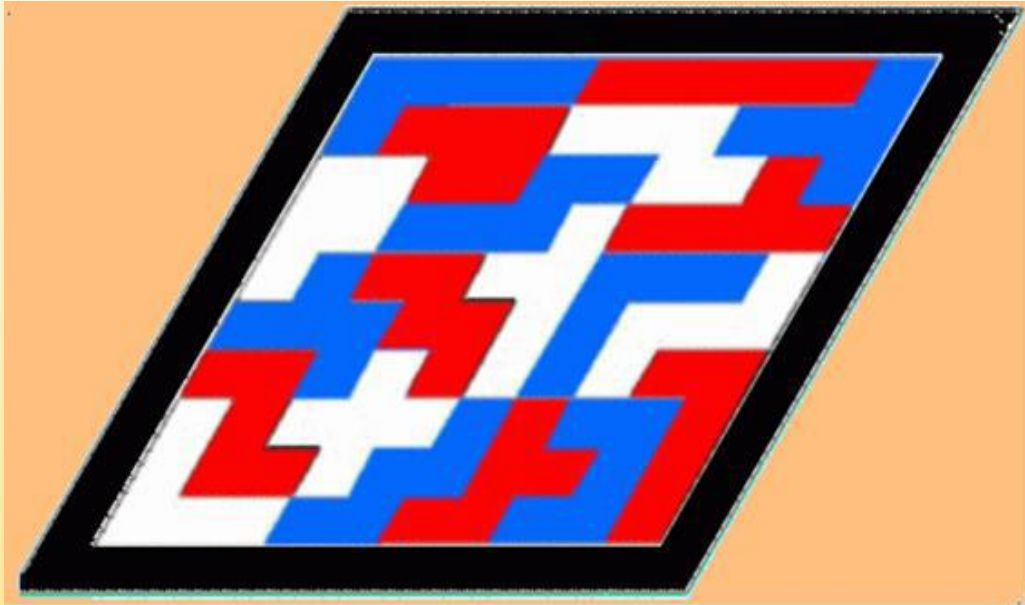
Made by Kadon Enterprises, Inc.



Prepared by Kate Jones for the Symmetry Festival

July 17-20, 2024 — Pisa, Italy

Rhombiominos™ and Rhombi Jr.™



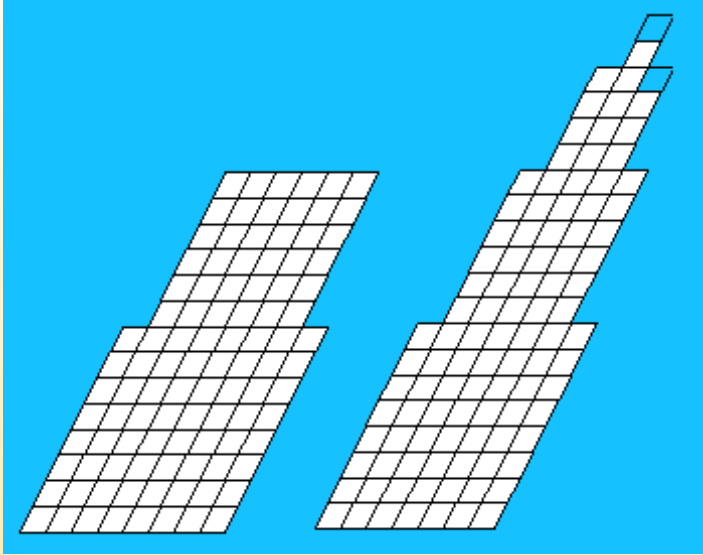
Most clever score of rhombed pentominoes —
Where every tile five equal diamonds shows.
There be three colors for to keep apart,
Or joined in groups, or scrambled just to start.

We fathom that 8 million ways assay
Assembling all the pieces in the tray.
Yet even one confounds the solver's quest
And renders every solved array a test.

A dozen tiles from one to four rhombs boast,
Each rhomb two equal triangles does host.
Each size of tile its own true hue displays,
That ye may count all boundaries four ways.
Their dizzy tilts a hundred tasks beget
While Rhombiominos, too, fit this set.



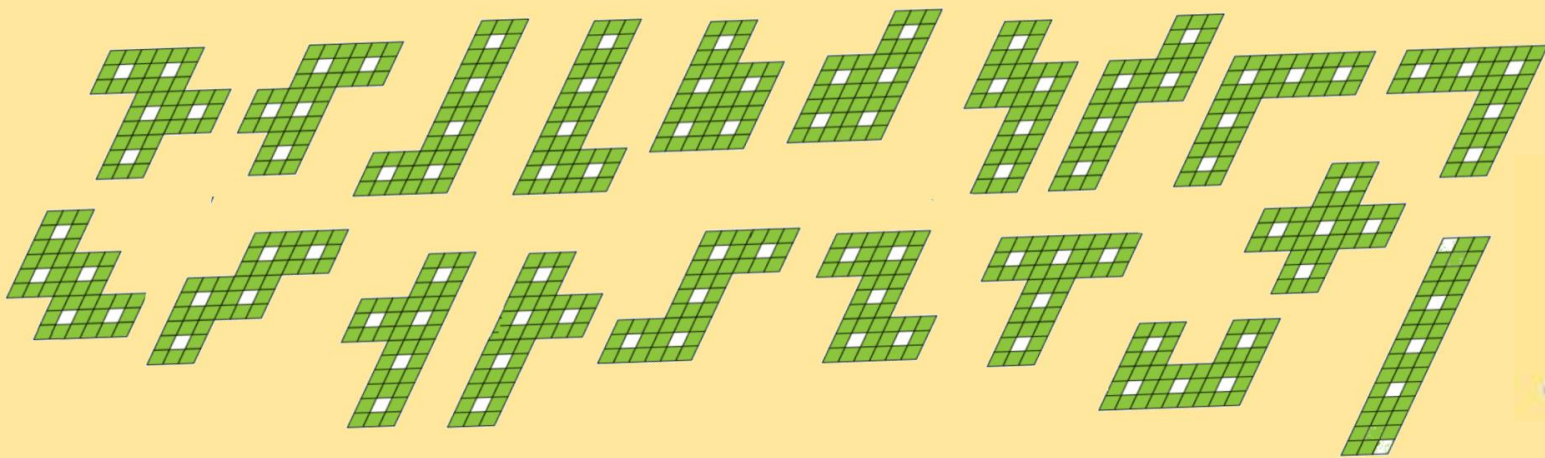
Kate Jones



The twenty pentarhombi can even form
Fine leaning towers. Here they are the norm!

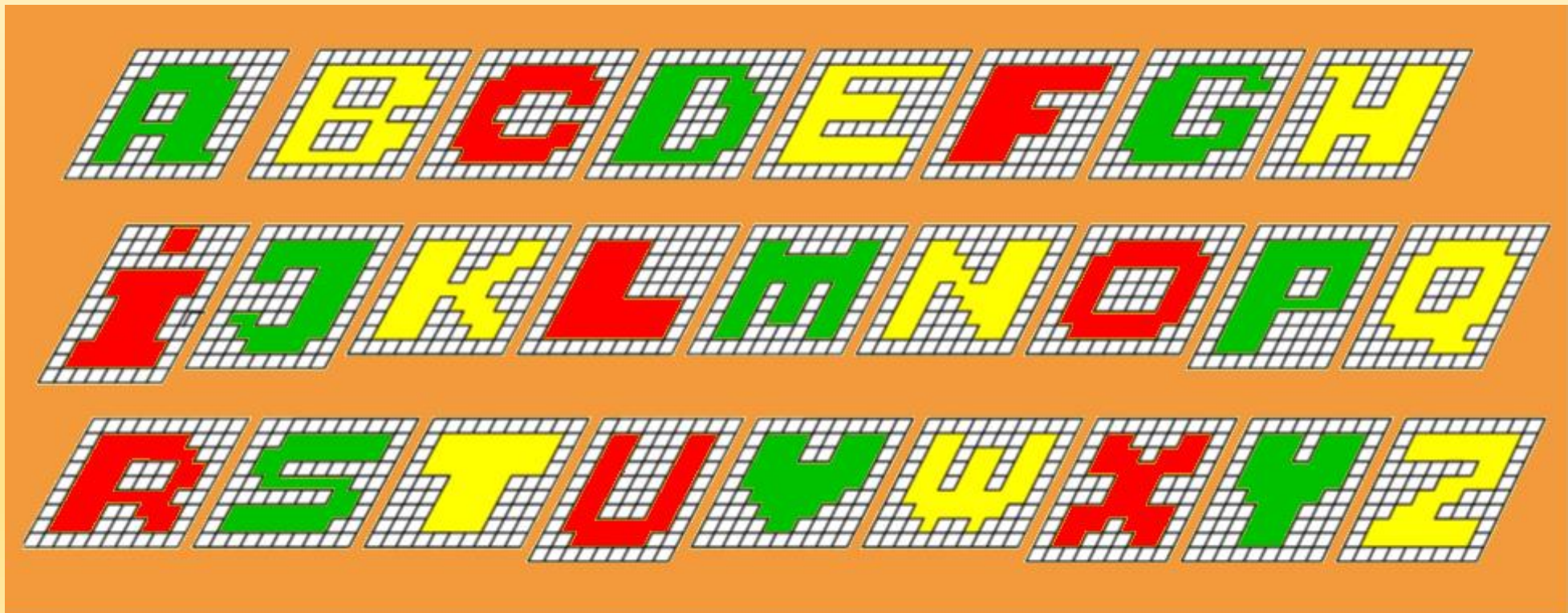
The Rhombi much admire their bigger brothers,
And aim to grow to look just like those others.
Their tripled size encapsulates a hole.
How else could 12 reach 20 as their goal?

The three solutions shown are just a start.
Don't rest until you've modeled every part.
Observe, what's more, that no twins ever meet.
That makes success of solving extra sweet.

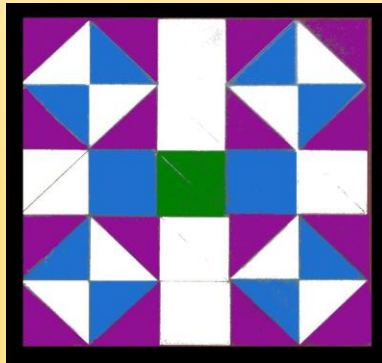
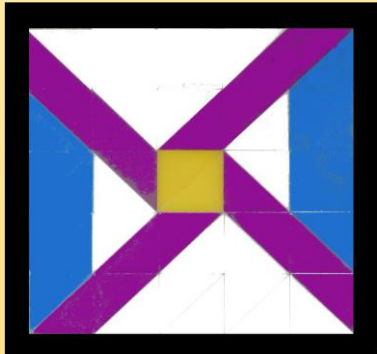
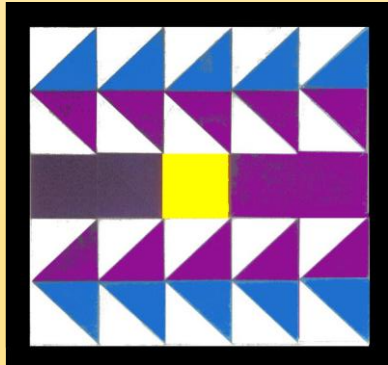
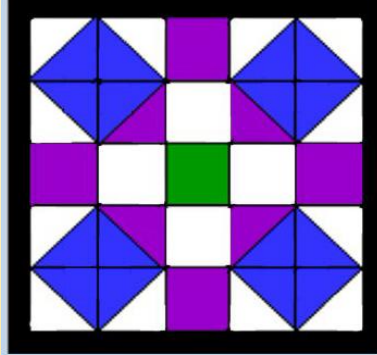
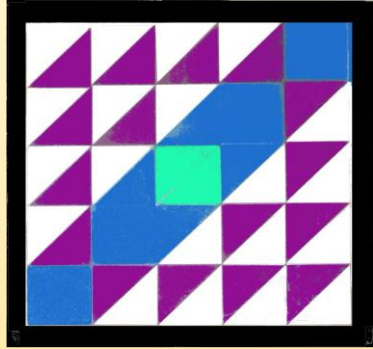
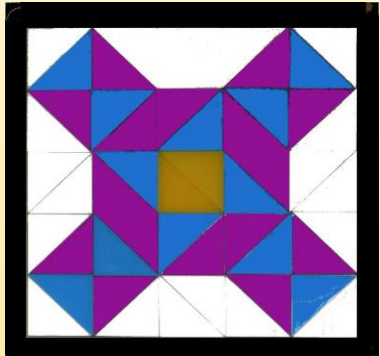




The alphabet a sense of beauty gives,
For speech joins minds of everyone who lives.
Each shape a sound begets to wake a thought
And Rhombi Jr.'s twelve each letter caught.



TANGLED TRIANGLES™



Two to the fourth, times three cool hues,
Triangles delight your views
With kaleidoscope-like twists and turns:
For symmetry our spirit yearns.

These be a pinnacle of art design
As 50 triangles with colors fine
In lively geometric rhythm dance.
Their symmetries the eyes and mind entrance.

Now you create infinity that sings,
And give your own imagination wings.
Then play for two to four a scoring game
Where no two moves or patterns are the same.

The Crab™

Le Crabe



Two score and seven curvy diamonds match
As straight and arching edges smoothly patch.
Their ins and outs in graceful waves engage
Within their tray or freeform figures stage.

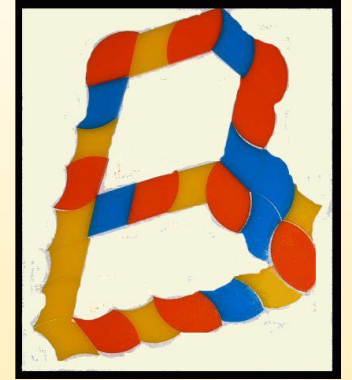
No two alike, yet union sweet beget,
As each finds perfect mates within the set.
Inventor Jacques Ferroul's lush legacy
Begot the world a puzzle treasury.



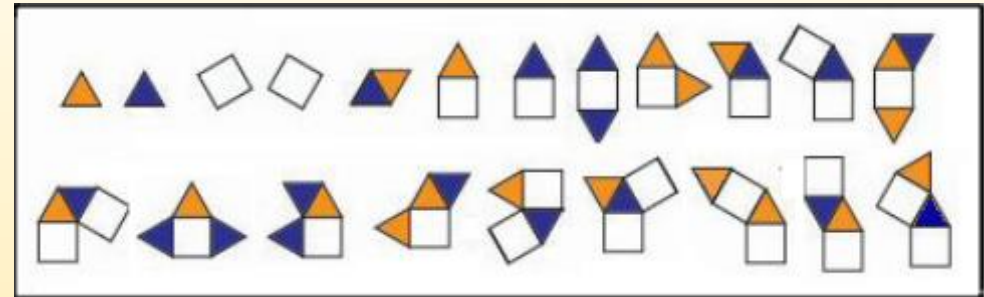
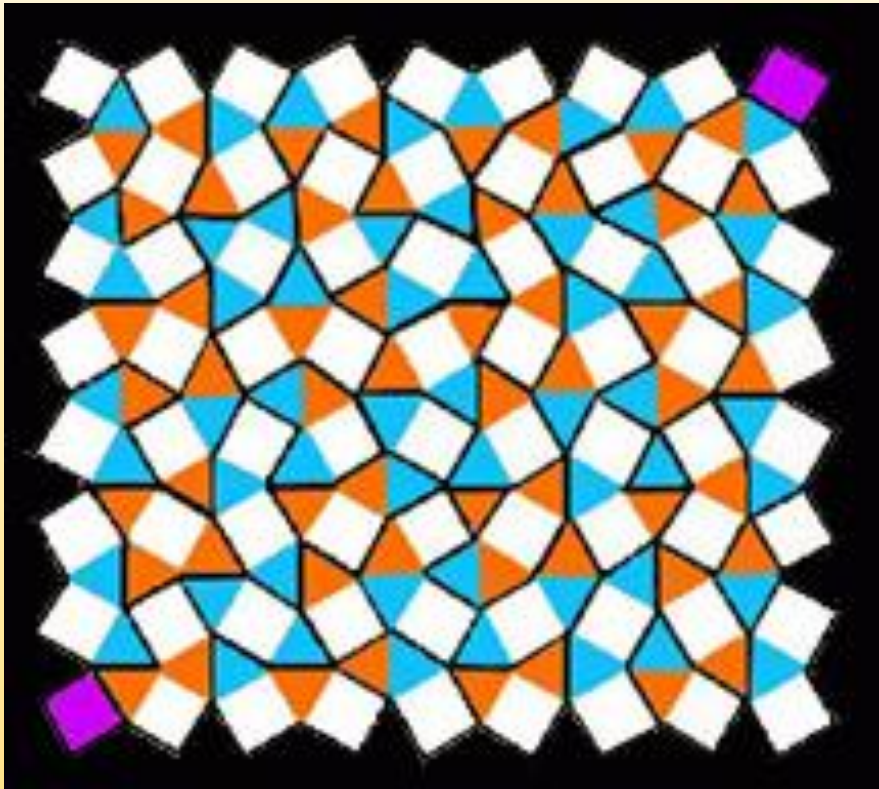
Jacques Ferroul



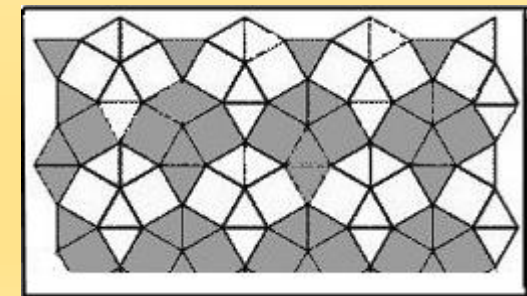
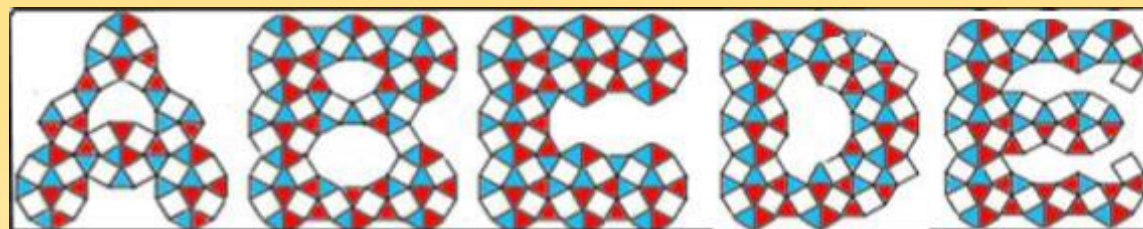
Ah, alphabets that render language visible
Preserve a jest and make it risible.
The Crab forms letters where their edges match,
And tilts in merry muddles every patch and batch.



Tri-Chex™



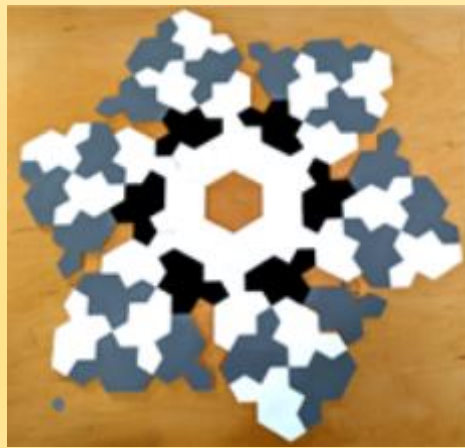
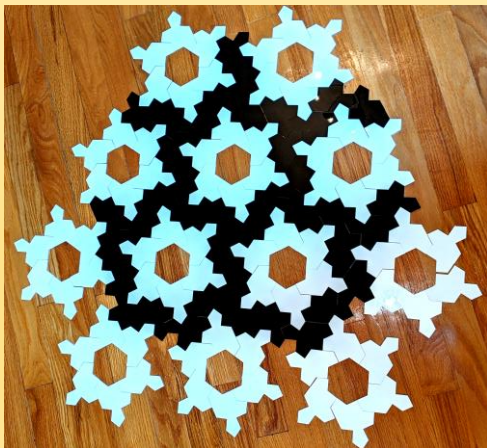
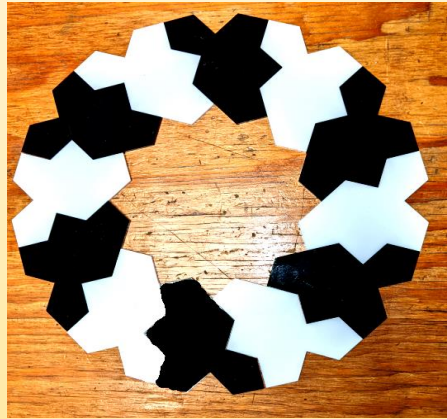
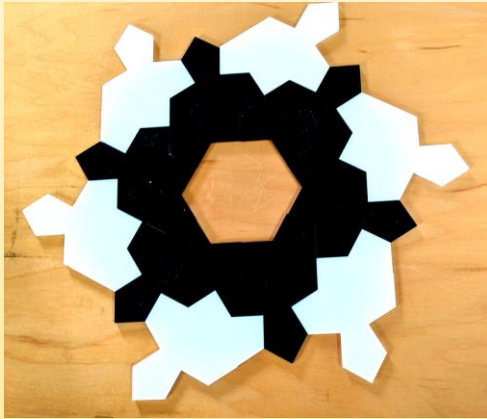
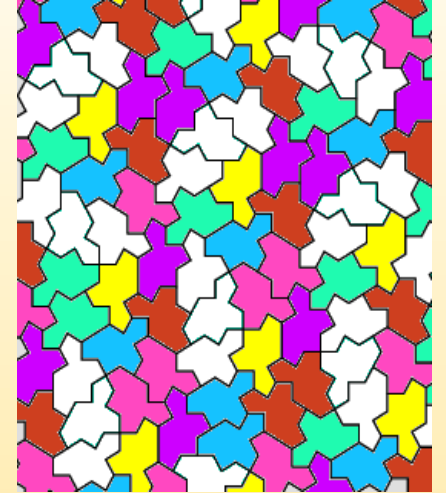
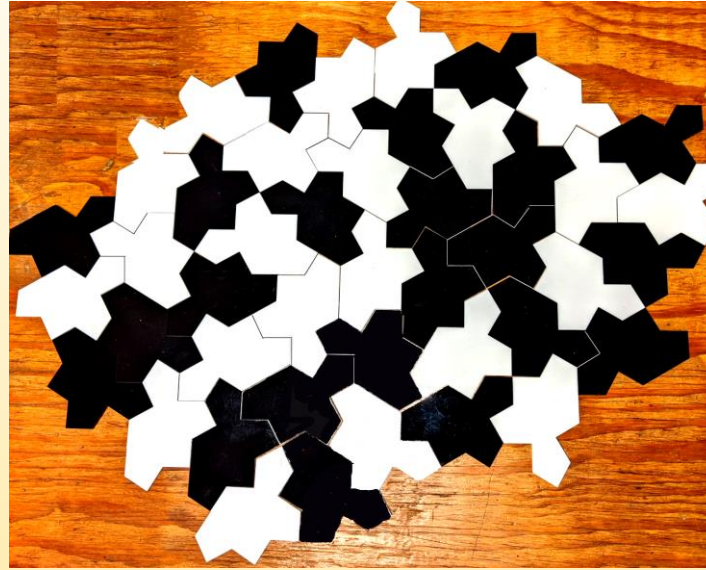
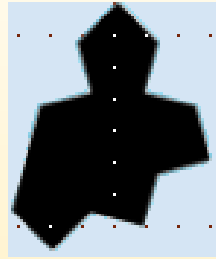
Midst triangles the dancing squares align
Like little huts that checkered rows define.
The tiles are tetrasnubs, of four parts built,
That 'round each node five different parts may tilt.
In overlapping ovals, end to end,
Flocks of pretty parachutes descend.



Kate Jones

oneStone™

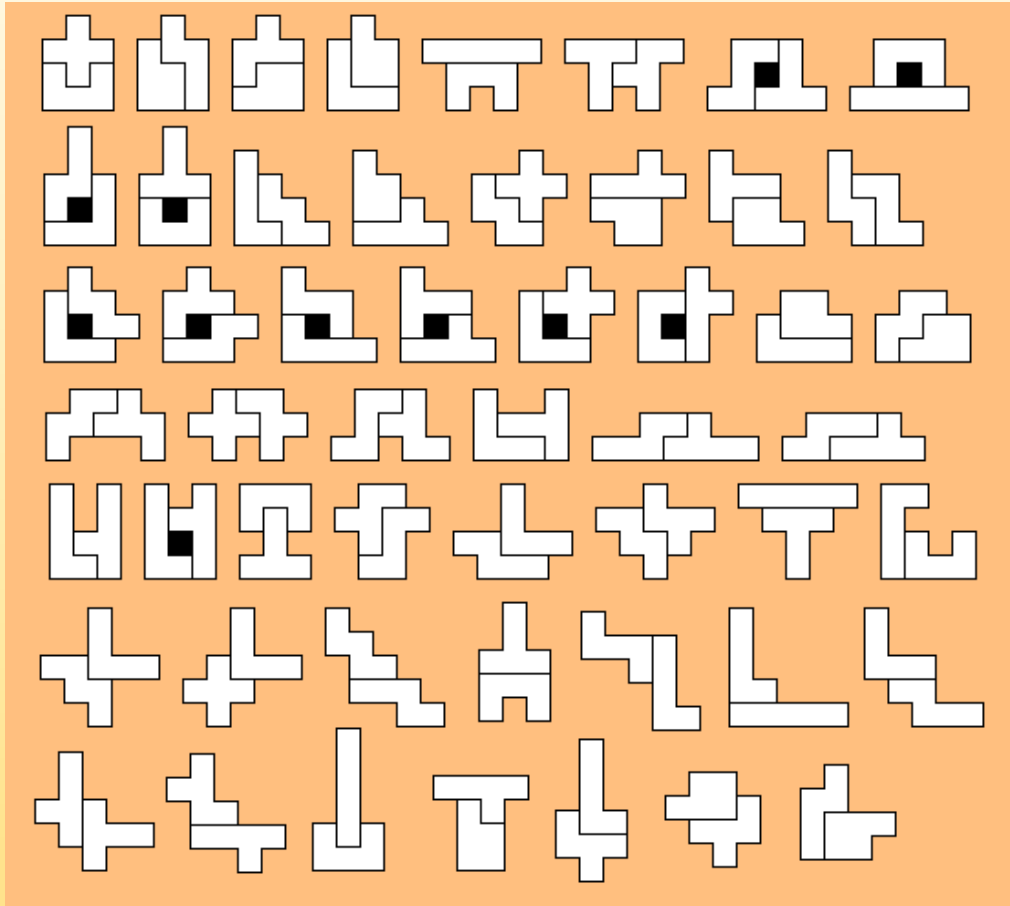
Spectre | Mystic



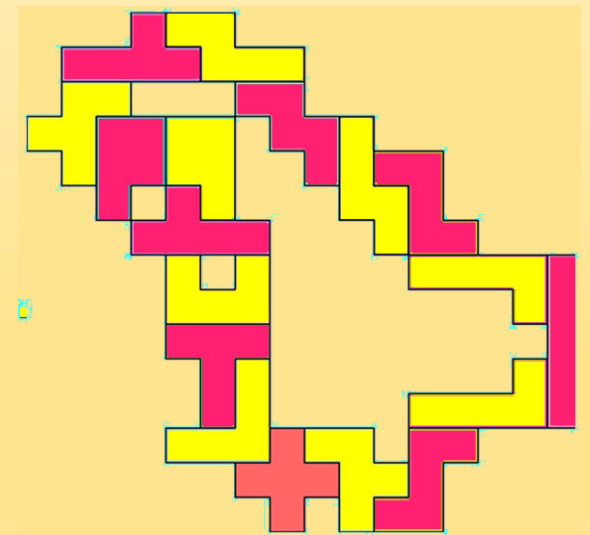
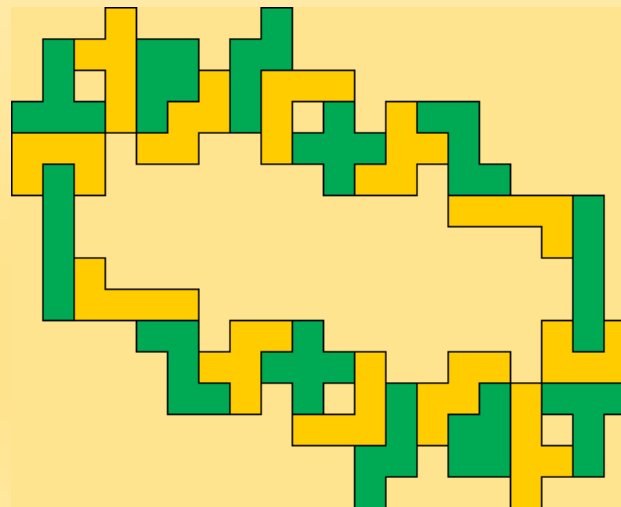
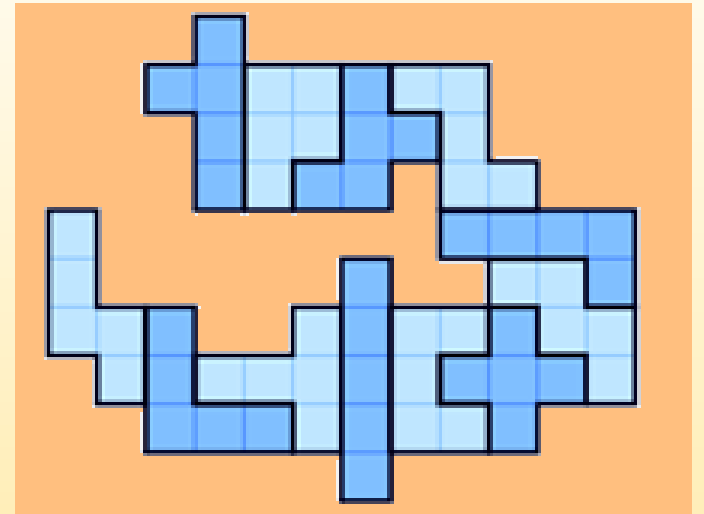
Through centuries of searching mankind's lore
To find one shape whose power we explore
To infinitely fill the planar void
Has left astonished solvers overjoyed.
To have produced a tile, first on this earth.
Proves human intellect's long-nurtured birth.
Though nonsymmetric, paired it mirrors fair
In endless couplings golden ratio's share.
Behold the chaos of its free array
Exquisite in kaleidoscopic play.

David Smith, Craig Kaplan, Joseph Myers, Chaim Goodman-Strauss

Pentomino symmetry pairs



Behold the chain of paired pentominoes,
 If only even the last two would close!
 Below, a ring of two sets nicely closes
 While one-faced ring with joined P's reposes.
 Near perfect – can you solve to win the roses?



The 52 symmetrical pentomino pairs with at least 2 unit edge contacts. Ten others have only one unit edge joined. Can you find them?

Kate Jones

Conclusion

Such recreational math is more than just a toy.
It's art and science – finding answers brings you joy.
The human mind vast fields of understanding craves,
The world with symmetry and ordered beauty paves.
From singularity infinity it chases,
Hence we LOVE EVOLution and its mirrored faces,
And every change begets diversified delight,
That's how we build a consciousness, no end in sight.
Cause and effect, yin yang, a megathought above:
The Universe's timeless symmetry is... love.



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