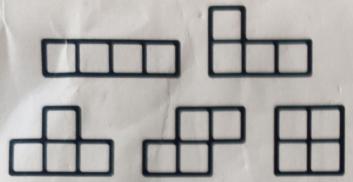
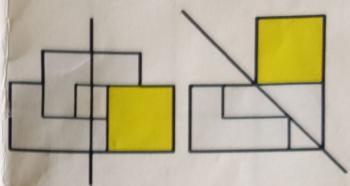
Notes on Symmetrik-elle Puzzle – April 2016 Donald Bell – donald@marchland.org

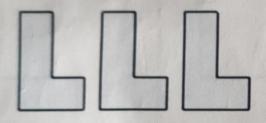
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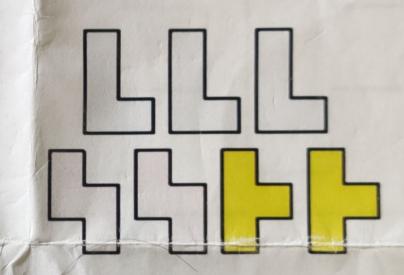
There are five ways of arranging four squares, edge to edge, the so-called "tetrominos" (because two squares make a "domino"). Usually known as "line", "L" (or "elle"), "T", "S" and "square"



There are many ways of making symmetrical shapes from three tetrominos (ie where the left side is the mirror image of the right side). The axis of symmetry may be vertical or diagonal, and internal holes are permitted.



The original version of the Symmetrik-elle puzzle was just "Three Elles" and you were invited to make a symmetrical figure. Finding the first solution is not too hard, but finding the second one is more challenging. There are, I believe, just two solutions.



But for the extended version of the puzzle, I have added two S-tetrominos and two T-tetrominos. There are just seven different ways of choosing three pieces from this set and in each case you are invited to make a symmetric shape.

- LLT and SST are trivial, because the T-tetromino already has an axis of symmetry. But it is possible to find solution shapes where the axis of symmetry does not bisect the T.
- · LLS and LTT have many solutions, so you should not have too much difficulty finding a few.
- LST also has more than one solution
- LSS is probably the most difficult I think there is only one solution

You will notice that the kit has only two S-tetrominos and not three. That is because I think that SSS is impossible! And of course TTT would be trivial since the T-tetromino is already symmetrical.

The following page has outlines for all seven of the pieces needed for Symmetrik-elle. You can print this page on card and cut them out.

I have also included three P-pentomino and three R-pentomino pieces.

This is in case you want to try other Symmetrik-elle challenges.

PPP is fairly easy and RRR is fairly hard, with PPR and PRR somewhere in between.

