

Easter flowers:

It is not possible to find one with X or with Z.

Proof for the X:

The X can be located in 3 positions (disregarding mirror positions):



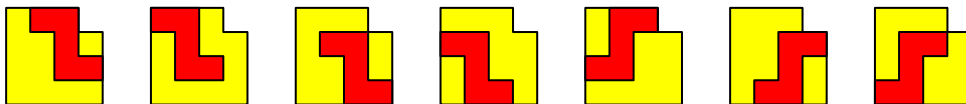
The remaining area (yellow) must be covered in 4 different ways, namely by two other pieces of size $9+1$, $8+2$, $7+3$ and $6+4$ (horizontal and vertical row and both diagonals). We are now especially interested in the two cases $7+3$ and $6+4$. These can only be done in the first position of the X. The resulting pieces of size 7 and 6 can only be



or the mirror images thereof. But now these two pieces must be put together to form the row $7+6+2$. And we see quickly that this cannot be done. Therefore, the X is not possible.

Proof for the Z:

This one is based on the same idea as above. The Z can be located in 7 positions (disregarding mirror positions):



The remaining yellow area must again be covered in the same 4 different ways as described above. We are again especially interested in the two cases $7+3$ and $6+4$. These can only be done in the second position of the Z. The resulting pieces of size 7 and 6 can only be



or the mirror images thereof. And as above, a 6-piece and a 7-piece must be put together to form the row $7+6+2$. And again we see quickly that this can be achieved in none of the four combinations. Therefore, the Z is not possible, too.