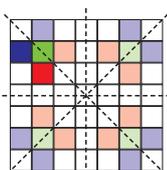


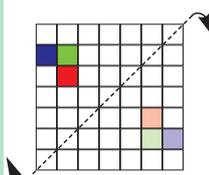
## THE TYPES OF SYMMETRY

We know you have a passion for crosswords – skeleton crosswords are not for the faint-hearted, after all. So, we've decided to stretch you quite a bit more than you will have experienced before, and really make you think. Normally, there are two styles of crossword grids: those which are symmetrical across four axes, and those which necessitate turning the grid through 180 degrees. However, we've got six more symmetries for you. We knew you'd appreciate it. But be warned! You'll have to keep on your toes, and you might become a tad obsessed. All eight symmetries are described below.



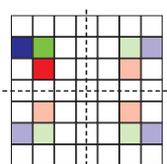
### Full Symmetry

This is one of the two standard grid styles: the top row matches the bottom row, the leftmost column matches the rightmost column, and given one black square, you can fill in either three more (if the given square is on one of the axes) or seven more, as shown in the example.



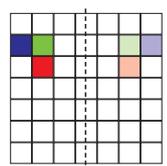
### Central Symmetry

This is the other standard grid style: if you rotate the left half of the grid and superimpose it over the right half of the grid, the same squares will be black. For instance, if the given square is the square at the third row and second column from the top left, the square at the third row and second column from the bottom right is also a black square.



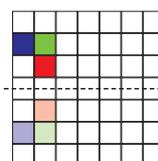
### Biaxial Symmetry

This is similar to full symmetry: the horizontal and vertical axes, though not the diagonal axes, are used to create the grid. Given one black square, you should be able to fill in three more squares (one in each quarter of the grid), or one more square if the given square is on either the central column or row.



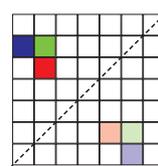
### Vertical Symmetry

The left half of a grid is the mirror image of the right half of the grid in this version. So, given one square, you should be able to fill in one other square, unless the square lies on the central column: if the fifth square from the left on the top row is a black square, so too is the fifth square from the right on the top row.



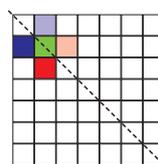
### Horizontal Symmetry

This is the same as vertical symmetry, except the horizontal axis rather than the vertical axis is employed, so you need to work from the central row. The top half of the grid is therefore a mirror image of the bottom half of the grid. For instance, if the fifth square from the left on the top row is black, so is the fifth square from the left on the bottom row.



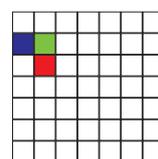
### NE Diagonal Symmetry

This is a little more tricky. The axis along which the grid is mirrored runs from the top right corner to the bottom left corner. The top row of the grid is therefore a mirror image of the rightmost column, while the leftmost column is a mirror image of the bottom row. You should be able to fill in one more black square from any given black square, except if it lies on the diagonal line of symmetry.



### NW Diagonal Symmetry

Similar to NE Diagonal, except that the line of symmetry runs from top left to bottom right. In this grid style, the top row of the grid is a mirror image of the leftmost column, while the rightmost column is a mirror image of the bottom row. Again, you should be able to fill in one more black square from any given black square, except if it lies on the diagonal line of symmetry.



### Asymmetry

As implied by its name, this has no symmetry at all, and you won't be able to fill in any extra black squares from any given ones. Tough and taxing, you have to rely completely on your clue-solving abilities.

