

Nanro is bit of a cross between number placement and shading. The rules are described by GM Puzzles as:

Label some cells with numbers to form a single connected group of labelled cells; no 2×2 group of cells may be fully labelled. Each bold region must contain at least one labelled cell. Each number (including any given numbers) must equal the total count of labelled cells in that region. When two numbers are orthogonally adjacent across a region boundary, the numbers must be different.

Here is an example that we will work through.

		3		
	3	4		
			2	3
	4			

A good place to start is looking for regions which are entirely full of numbers. In this case the bottom 4 region is full. Another one to watch is regions that are nearly full. The top 4 region has a 2x2 square which can't all be 4s, so the red 4 is forced.

		3		
	4			
	3	4		
			2	3
	4	4		
4	4			

One key rule is that no 2x2 square can be fully labelled. This forces the following squares to be empty.

		3		
	4	x		
	3	4		
			2	3
x	4	4		
4	4	x		

This finishes the top 4 region as the rest must be labelled. In addition, the small region on the left must have some numbers in, so this must be a 1. There are a further two forced empty squares that I've filled in as I go.

		3		
	4	x	4	
	3	4	4	x
1		x	2	3
x	4	4		
4	4	x		

This forces the right hand 3 region as there are no more empty cells. There's one more forced x as a result of a nearly full 2x2 square.

		3		
	4	x	4	3
	3	4	4	x
1		x	2	3
x	4	4	x	3
4	4	x		

As a result, the red x is forced as there cannot be adjacent cells from different regions with the same number in (and the top region has 3s in), and the pink x is forced as this 2 wouldn't be able to connect to the other numbers as it would be surrounded by empty squares. The left 3 region can't have both red and yellow cells labelled as it would be a 2x2 square, so green is a 3. For the same reason, yellow and green can't both be labelled so red is a 3.

		3		x
3	4	x	4	3
	3	4	4	x
1	3	x	2	3
x	4	4	x	3
4	4	x	x	

We can now solve the puzzle completely.

x	3	3	3	x
3	4	x	4	3
x	3	4	4	x
1	3	x	2	3
x	4	4	x	3
4	4	x	x	2