

How to Solve Nonograms

A nonogram is a logic puzzle played on a grid, where the purpose is to gray out the correct cells and leave the rest blank (or X them out). It can have any number of rows and columns, and it does not have to be a square. The numbers above the columns and to the left of the rows indicate how many cells should be grayed out in an unbroken line.

	1	2	2	5	0	1	3
	1		1			2	1
1 2							
4 1							
3 1							
1 1							
1 2 2							

In this example, you can see that the middle column has the number 5 over it. That means that that column has 5 cells grayed out **with no space between them**. In this case, all 5 cells in the column will be grayed out.

On the other hand, the bottom row has the numbers 1 2 2 next to them. That means that that row has 1 cell grayed out, then 2 cells grayed out, then another 2 cells grayed out. Between each of those groups of cells there must be **at least 1** blank space, although there can be several. In this example, there is only one combination that fits.

	1	2	2	5	0	1	3
	1		1			2	1
1 2							
4 1							
3 1							
1 1							
1 2 2		X			X		

Sometimes you will know the pattern but not where it starts and ends, as with the third row. You know by the numbers 3 1 that you have to fill in 3 cells first, followed by at least 1 blank space, followed by 1 grayed out cell. But there are several options:

3 1				X		X	X
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3 1	X				X	X	
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3 1	X	X				X	
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3 1	X				X		X
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The only cell that you know for certain will be grayed out is the third from the left, since it is the only one grayed out in every possible scenario. Therefore, that cell can be grayed out immediately. The rest of the cells might be any combination of grayed out or blank.

If you can see several solutions for a row like this, **don't guess** (but if you do, just lightly gray it out with pencil or use a question mark). Look at the other cells around it to deduce what else on the board is grayed out or left blank. In this case, you can look at the columns and see that one column has all 5 cells grayed out and one column has all cells left blank. Those should be targeted first so that you can solve the harder rows and columns more easily:

	1	2	2	5	0	1	3
	1		1			2	1
1 2					X		
4 1					X		
3 1					X		
1 1					X		
1 2 2					X		

Knowing those two columns makes figuring out the third row a little easier. Now you know that the fourth cell is grayed out but the fifth cell is not. That means that the first line of 3 grayed out cells has to look like this, even though you don't know how the last two cells will look:

3 1	X				X	?	?
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Like Sudoku, nonograms have to make sense both along rows and down columns. There's only one right answer and guessing on one cell can make the whole thing go wrong. However, if you use logic and look for patterns, you can find the solution every time.

	1	2	2	5	0	1	3
	1		1			2	1
1 2							
4 1							
3 1							
1 1							
1 2 2							