

Pattern Grids

A GUIDE

Two rules live in one grid: every row keeps its shape, every column keeps its count. Learn to cross them and no blank can hide from you.

A Grid With a Secret

Look at the grid below. Slide your eyes across the top row. Every cell shows the same shape. Now slide down the left column. Every cell holds the same number of shapes.

That is the whole secret. Rows care about WHAT the shape is. Columns care about HOW MANY there are. Two quiet rules, working at the same time.

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Two Rules, One Grid

Here is the same idea with a twist: one cell is hidden. Do not panic. The blank cell cannot keep its secret, because its row and its column both know something about it.

The row tells you the shape. The column tells you the count. The blank is just waiting for you to put those two clues together.

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The Cross Move

Here is the key move, and it works on any blank in any pattern grid. First, look ACROSS the blank's row and name the shape you see. Then look DOWN the blank's column and count how many shapes sit in each cell.

Now cross the two answers: that many of that shape. You never guess. You read the row, read the column, and combine.

Worked example A grid's rows show stars, hearts, and diamonds from top to bottom. Its columns hold 2, 3, and 4 shapes from left to right. What belongs in the bottom-right cell?

1. Look across the bottom row: every cell there shows diamonds.
2. Look down the right column: every cell there holds 4 shapes.
3. Cross the two clues: the shape is diamond, the count is 4.

Answer: 4 diamonds

When More Cells Go Missing

Ready to level up? Sometimes two or more cells are hidden, like in the grid below. The cross move still works — you just use it more than once.

Pick the blank whose row and column have the most filled-in cells. Solve it. Now that cell is a clue for the next blank. Each answer you write makes the grid easier.

	  	   
	  	
		   

Worked example In a grid, the middle row shows circles and the bottom row shows stars. The middle column holds 3 shapes and the right column holds 4. Two cells are hidden: middle row meets right column, and bottom row meets middle column. What goes in each?

1. Take the first blank: its row shows circles, its column holds 4, so it gets 4 circles.
2. Take the second blank: its row shows stars, its column holds 3, so it gets 3 stars.
3. Check: each row still keeps one shape, and each column still keeps one count.

Answer: 4 circles, then 3 stars

Remember

- ★ Read the row for the shape and the column for the count — the blank itself tells you nothing, its neighbors tell you everything.
- ★ After you fill a blank, scan its whole row and whole column once more; if both still match, you are right.
- ★ With several blanks, start with the one that has the most filled-in neighbors — every answer becomes a new clue.
- ★ If a problem gives you a total for a row, remember: the row's shape never changes, so the total is just the column counts added up.

Now you try

1) A pattern grid's top row always shows hearts, and its left column always holds 2 of a shape. What goes in the cell where the top row meets the left column?

Answer: _____

2) Every cell in a grid's middle row shows circles. The right column always holds 4 of a shape. What belongs where the middle row crosses the right column?

Answer: _____

3) One cell in a row shows 3 stars. Another cell in the same row shows just 1 shape. What shape is it?

Answer: _____

4) A cell shows 2 squares. How many shapes does every other cell in the same column hold?

Answer: _____

5) A grid's columns hold 1, 2, and 4 shapes from left to right. The bottom row shows diamonds. How many diamonds are in the bottom row altogether?

Answer: _____

6) A grid has 3 rows, and its columns hold 2, 3, and 4 shapes. How many shapes are in the whole grid?

Answer: _____

7) In the triangle row, the three cells hold 9 triangles in total. Two of the columns hold 2 and 3 shapes each. How many shapes does the third column hold?

Answer: _____

8) A grid's three columns hold X , $2 \times X$, and $2 \times X + 1$ shapes. One whole row holds 11 shapes in total. What is X ?

Answer: _____

Answers — check yourself

1. 2 hearts
2. 4 circles
3. star
4. 2
5. 7
6. 27
7. 4
8. $X = 2$