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3. Tic-Tac-Toe ... taken to the next level



Puzzka Samantha and Claire enjoy playing tic-tac-toe (#classicgame, #pointlesspastime), but they have made up some pretty crazy rules:

- 1. Rather that alternating turns, they flip a coin: if it comes up heads, it's X's turn; tails, it's O's turn. (Samantha always has X, Claire, always O.) This can make the games very lopsided!
- 2. Each game is played until the entire 3x3 grid is filled, so players can sometimes get several wins out of one grid.
- 3. The pattern of X's and O's must always end up symmetrical, with the line of symmetry running vertically, horizontally or diagonally. (Some patterns can have multiple axes of symmetry as the fourth example demonstrates.)

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		x	X	X	0	X	O	X	x	ø	x	X	0	x	
		X	0	0	-X	X	X	0	X-	φ	- X	X	0	0	
0	φ	0	X	X	0	X	X	x	X	φ	x	0	X	0	
	Yes			Yes			Yes			Yes			No		

4. They play nine games at a time (in a 3 x 3 meta-grid, just for fun), and they keep track of the total wins and losses.

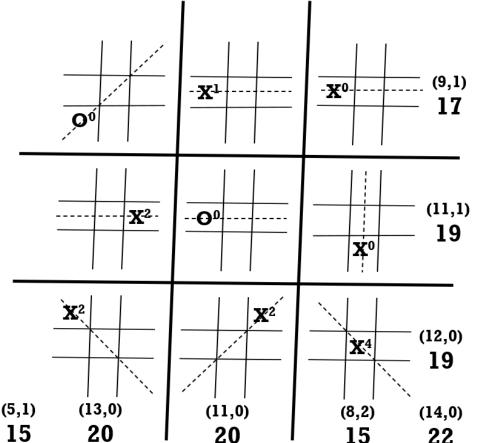
On this particular day, it was a mess! Samantha totally dominated, hogging the pen with all her X's and winning 32 games to Claire's 2! Of course, it helped that out of the 81 coin tosses, it came up heads 55 times!

- The axis of symmetry (or one of the axes) is shown with a dotted line for each 3x3 grid.
- One X (or one O) is filled in for you for each 3x3 grid.
- The small number next to that X or O indicates the # of wins that particular X or O was a part of.

In the parentheses at the end of each row, column and diagonal is the X and O total number of wins for that row, column or diagonal. For example, (9,1) in the top row indicates that in the three games

combined in that row, X had nine wins and O had just one.

The large numbers below each set of parentheses represents the total # of X's in that entire row, column or diagonal. For example, the 17 for the top row means that of the 27 total spaces in that row, 17 contain X's and the remaining 10 contain O's.



Fill in the rest of the grid and then shade in all the X's to reveal what gesture Samantha teasingly used to show the thorough thrashing she had just given Claire.

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