

# Warm-Up: Big-Tac-Toe

Prepared by Mark on March 31, 2026

**Problem 1:**

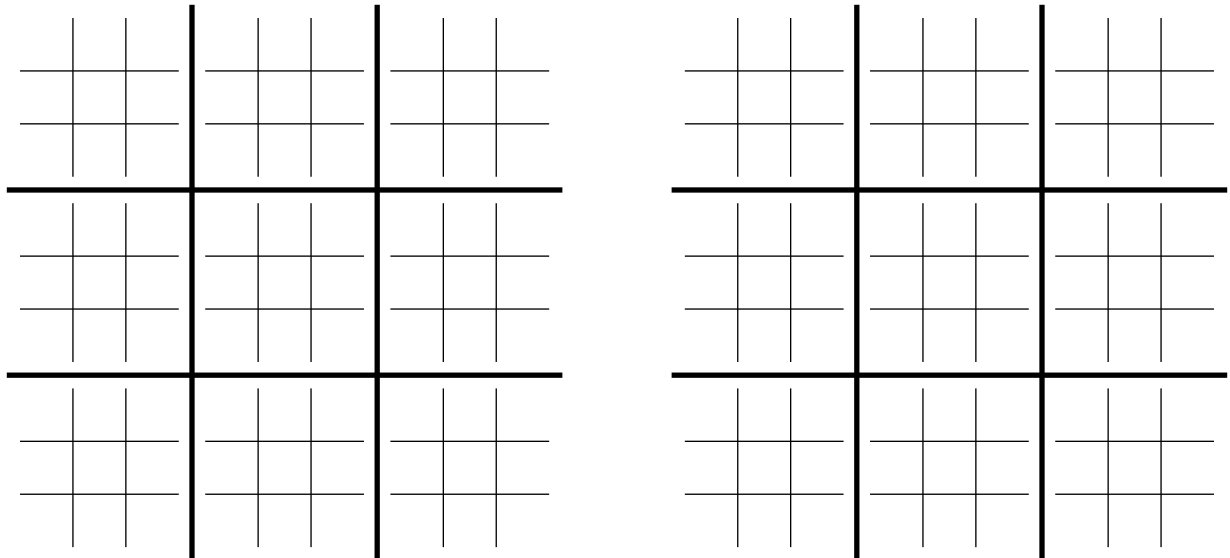
Consider a large tic-tac-toe grid, each cell of which contains another. On each turn, one player puts their glyph into a cell of a small grid. When the next player goes, they must make their move in the small grid in the same position as the previous player’s move.

- The first player to move may pick any small grid to start in.
- If a player is directed to a grid that is *full*, that player may go anywhere.  
A sub-grid that is “won” but not full may still be played in.

The first player to complete a line of three “won” subgrids wins the game.

**Problem 2:**

Play a few rounds of this game with someone nearby.  
Can either player force a win?



**Problem 3:**

Modify the rules of this game to disallow play in won subgrids.  
How does your strategy change?