## Wild Tic-Tac-Toe

This game is the same as ordinary tic-tac-toe, except that on each turn a player can choose to play an X or an O . You win if you get three X's in a row, or three O's in a row.

What move or moves should the first player make so they always win?


## Related Game:

Same as the above game except that, after the first move, all placements must be made to a space beside the last space occupied. (If no such space exists, the game is a tie.) Example: the second player wins here:


Is there a sure way for the first or second player to win?

## The Math in This Problem:

This variation of Tic-Tac-Toe allows the players to place either an X or an O onto the $3 \times 3$ grid. The winner is the first player to complete three X's or three O's in a row. This twist to the game really forces students to analyze the grid and their opponent's potential moves, having them strategize more than they would have in the original version.


