Problem of the Week 8, Fall 2005

Additional questions.

1. Prove that in a $3 \times 3$ board Oscar has a winning strategy.

2. Prove that in a $7 \times 7$ board, it is impossible for Oscar to win! That is, regardless of Xochitl’s plays, she always wins.

3. In the $7 \times 7$ board, what if we allow Oscar to take two consecutive turns after each time Xochitl takes her turn? Is it still still possible for Xochitl to have a winning strategy?

4. What happens in larger boards?