13.

   (a) Dominoes can be played on an $m \times n$ board by covering two squares exactly. Two players alternate in doing this. The first to be unable to place a domino is the loser. Draw the game tree for the case $m = 2$ and $n = 3$.

   (b) Find the value of the game in part (a) by trimming and determine a winning strategy (in the sense defined in class) for one of the players.

14.

   (a) If $m \geq 1$ and $n \geq 2$, does the game in problem 13 have a value? Explain.

   (b) If the answer to part (a) is yes, what is its value when m and n are both even? Why? (Hint: Think about symmetry about the midpoint of the board.) How about when m is even and n is odd, when the board is 3×3?