1. Draw the game tree for \( G = \{0, -1 \mid \} \) (left moves solid, right moves dashed).

Draw \( G \) as a 4-cell domineering position.

Give \( -G \) in set notation

\[ -G = \{ \} \mid \{ \} \]

Describe \( G \) using only symbols \( \{ \} \mid \)

\[ G = \{ \} \mid \{ \} \].

Let \( G = \{\ast \mid -1\} \) and \( H = \{0 \mid 1\} \). In set notation, \( G + H = \{ \} \mid \{ \} \).

2. Let \( G \) be 2x3 domineering. Let \( H \) be 2x3 chomp.

If \( L \) plays first on \( G + H \) the winner will be (circle one) \( L \) \( R \). Here is a winning strategy:

By the previous result, we know that the outcome class for \( G + H \) must be one of (circle ALL that apply) \( P \ N \ L \ R \) because it cannot be any of (circle ALL that apply) \( P \ N \ L \ R \).
3. This is go. After 14.W[a1], Black’s best move 15 is at _______ and the final minimax net score (Bstones+territory – Wstones+territory) will be _______. After 14.W[pass], Black’s best move 15 is at _______ and the final minimax net score will be _______.

4. For this hex position, here is a 2nd-player win strategy for Black. If White’s first move is not in any of the five cells ____________ then Black plays at _______ and has a safe top-bottom connection and so can win. Similarly, if White’s first move is not in any of the five cells ____________ then Black plays at _______ and has a safe top-bottom connection and so can win. Finally, assume White’s first move is at b3 or c1, the only cells that interfere with both above strategies. These two cells are symmetric by rotation, so we can assume White’s first move is at b3. Now Black can play at _______. If White next plays at any of ____________ then Black replies at _______ and can win; if White next plays elsewhere then Black replies at _______ and can win.

5. Let $G$ be an L-position and $H$ be an N-position. For $G + H$, if L plays first, L can win with a winning first move on (circle one) $G$ $H$. Then, whenever R plays on $G$, L should respond according to her (circle one) 1st-player-win 2nd-player-win strategy on _______ and whenever R plays on $H$, L should respond according to her (circle one) 1st-player-win 2nd-player-win strategy on _______.

Let $G = \{0 | *\}$. Find an N-position $H$ such that R wins $G + H$ if R plays first.

$H =$