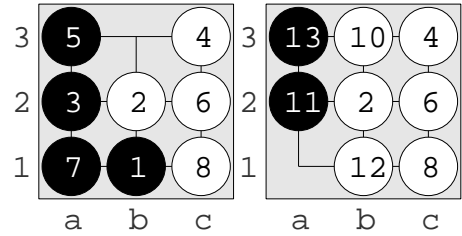
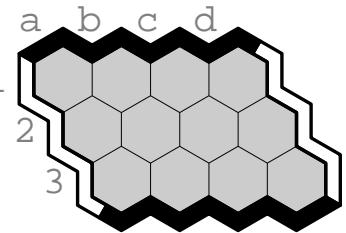


3. This is go. After 14.W[a1], Black's best move 15 is at _____ and the final minimax net score (Bstones+territory - Wstones+territory) will be _____. After 14.W[pass], Black's best move 15 is at _____ and the final minimax net score will be _____.



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 1 _____ 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.

$H =$