## 5. Mastermind Tapa ( $46+60$ points)

Clues given in between the two grids represent the number of blackened cells in common (regarding location) for the corresponding row.


First step: If we look at the second row, we can see that two grids have four cells in common (because clue cells are not considered). The clue " 4 " in the second grid means that both sides of this cell cannot be blackened (otherwise the blackened cells around this clue would be bigger than 4). So the first and last cells of the second row can be blackened with certainity.

Following steps can be taken by considering Tapa rules.
Second step: If we look at the first row, we can see that two grids have five cells in common (because of the empty cells marked X in the first grid). Three cells marked with A,B,C cannot all be blackened, because if they were, the 3 blackened cells of 2-3 clue would have been identified, and both sides of this clue would be empty in the second row. This would prevent the grids to have 3 common black cells in the second row. So the first and last cells of the first row can be blackened with certainity.

Following steps can be taken by considering Tapa rules.
Third step: Cell B should certainly be blackened, otherwise the clue 4 wouldn't have four blackened cells around it. This cell cannot continue from the right in the first grid, so it has to continue from the left, and A cell should also be blackened.

The cell left to the 2-3 clue is empty (no $2 x 2$ rule) and so we have determined all the blackened cells in the second row as there is only 3 cells left.

Following steps can be taken by considering Tapa rules.
Fourth step: From this point, all green progress can be made following Tapa rules.
Last step: The fifth row has 3 common cells and there is 3 blackened in the first grid. So we should blacken the same cells in the second grid.

We can reach the solution below by checking the remaining Mastermind clues.


4
3
2
4
3
2
1


