

# Marupeke

**The objective** Fill each empty cell either with an **O** or with an **X**. These should be chosen so that no more than two consecutive cells contain the same symbol, horizontally, vertically or diagonally.

## Solution

The initial puzzle may contain cells with either an **O** or an **X**, otherwise they may be empty or filled in. The introductory example is seen to have two **Os** on a diagonal, therefore the next cell on that diagonal must have an **X**.

<b>O</b>		<b>X</b>	
	<b>O</b>		
		<b>X</b>	

The second row now has two **Os** side by side, so there must be an **X** on either side.

<b>O</b>		<b>X</b>	
<b>X</b>	<b>O</b>	<b>O</b>	<b>X</b>
		<b>X</b>	

The second column can now be completed with the addition of an **X**.

<b>O</b>		<b>X</b>	
<b>X</b>	<b>O</b>	<b>O</b>	<b>X</b>
	<b>X</b>	<b>X</b>	
	<b>O</b>		

The puzzle is now easily completed.

<b>O</b>		<b>X</b>	
	<b>O</b>		

The third vertical column now has two **Xs** separated by an empty cell, so this cell must be filled with an **O**.

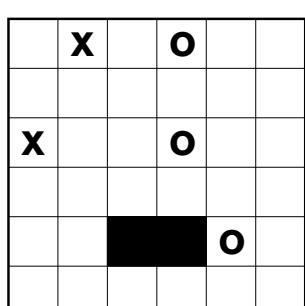
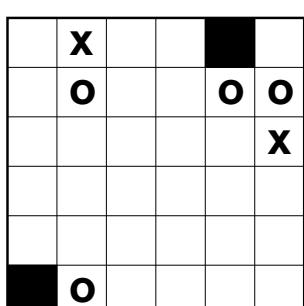
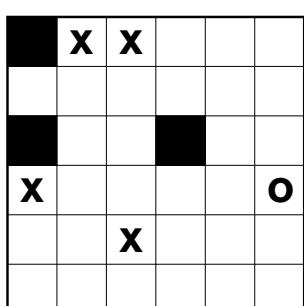
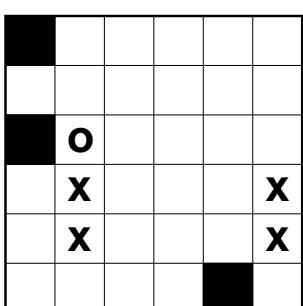
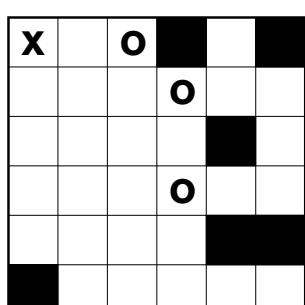
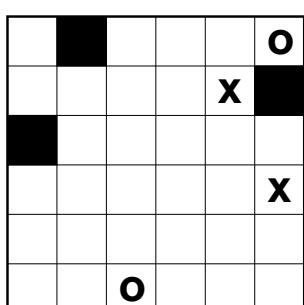
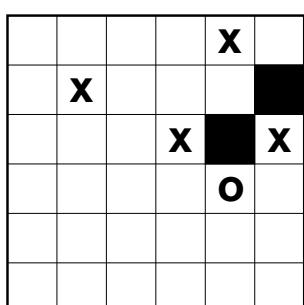
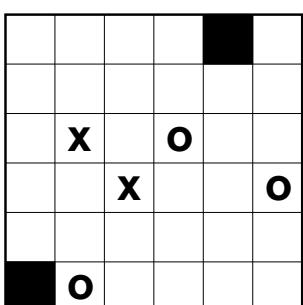
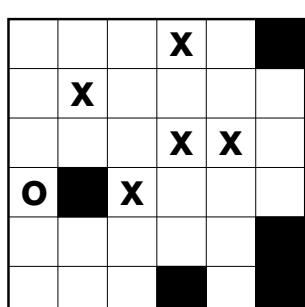
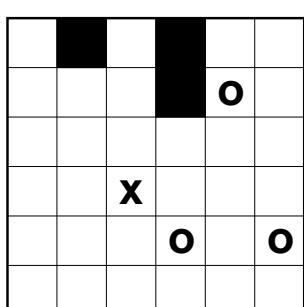
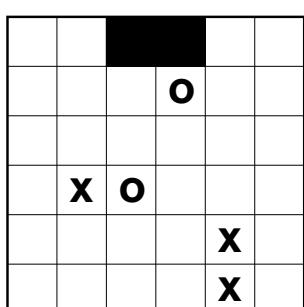
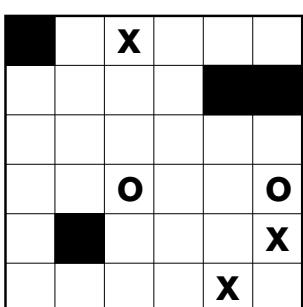
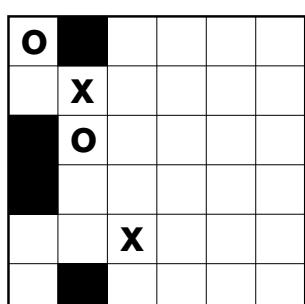
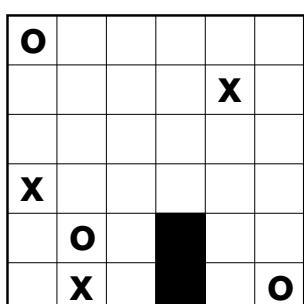
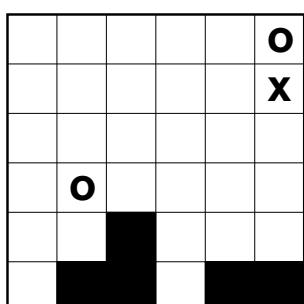
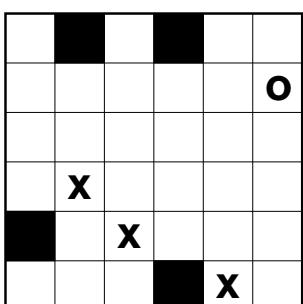
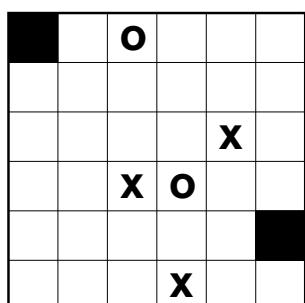
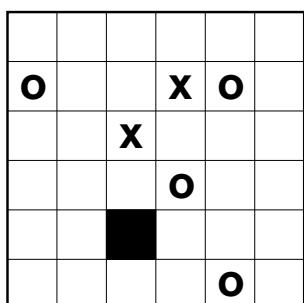
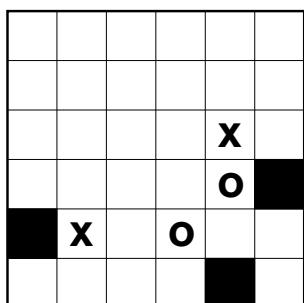
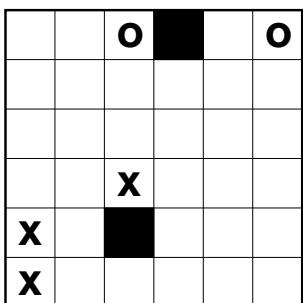
<b>O</b>		<b>X</b>	
	<b>O</b>	<b>O</b>	
		<b>X</b>	

There is now a diagonal with two **Xs** which require an **O** in the second cell of the bottom row.

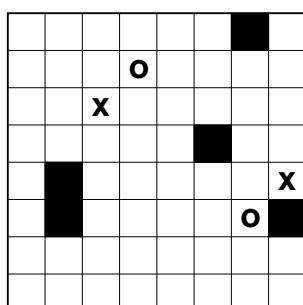
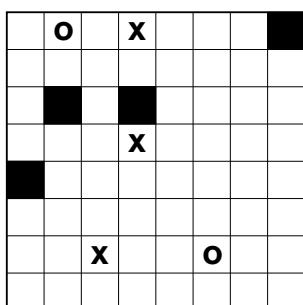
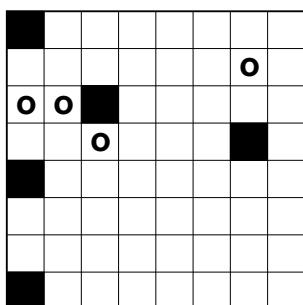
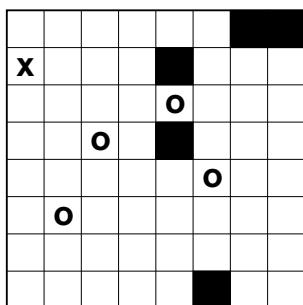
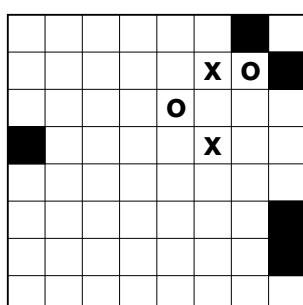
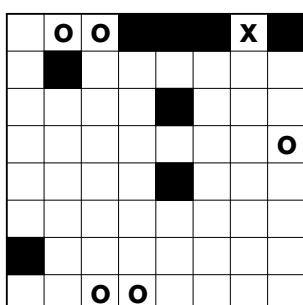
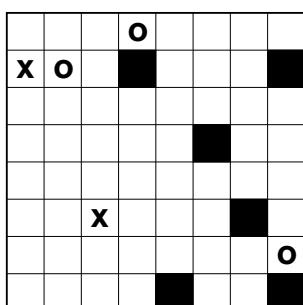
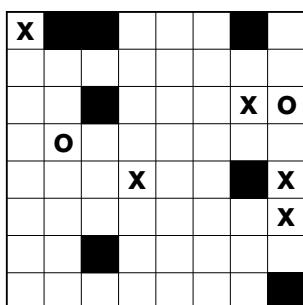
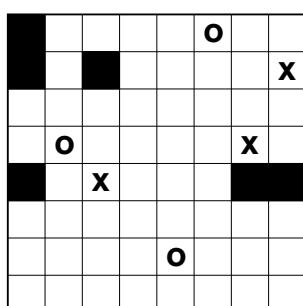
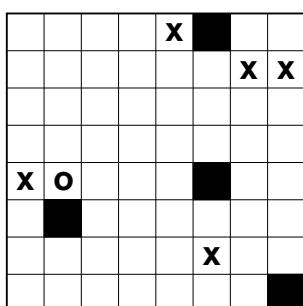
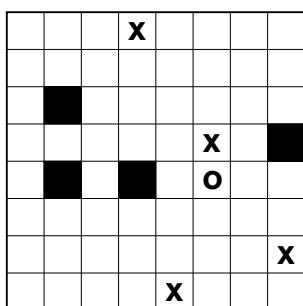
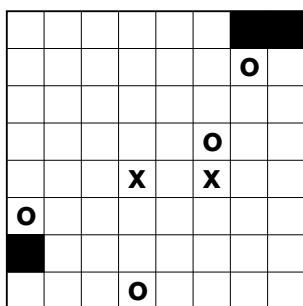
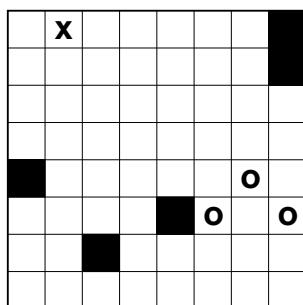
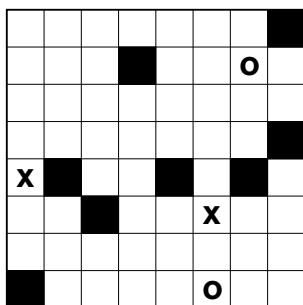
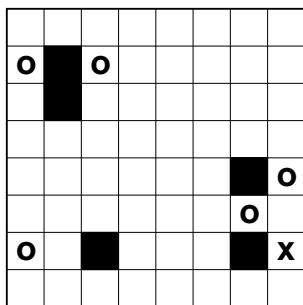
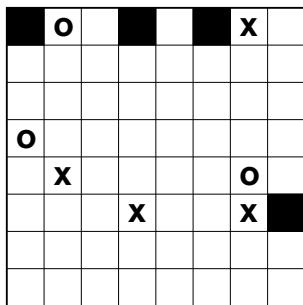
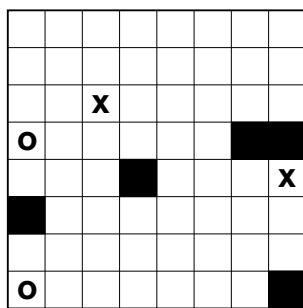
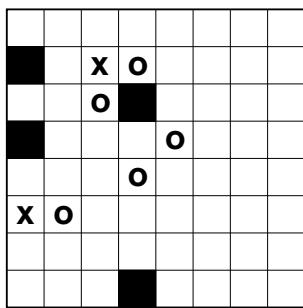
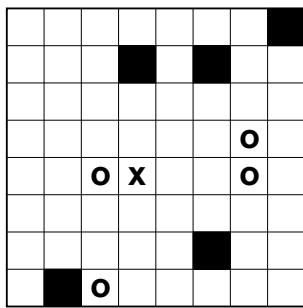
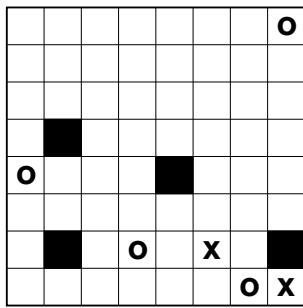
<b>O</b>		<b>X</b>	
<b>X</b>	<b>O</b>	<b>O</b>	<b>X</b>
		<b>X</b>	
	<b>O</b>		

The third row is now determined with the addition of two more **Os**.

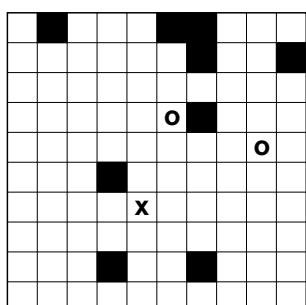
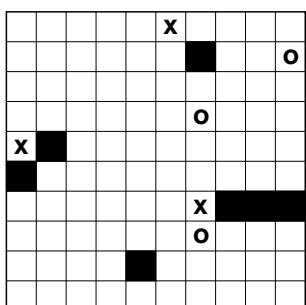
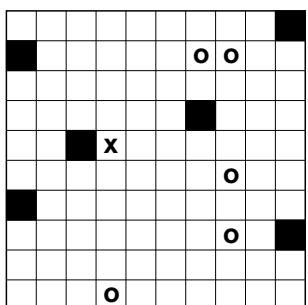
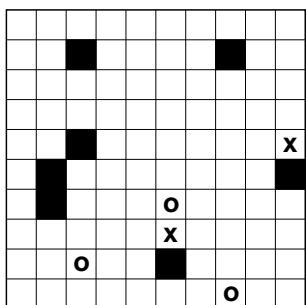
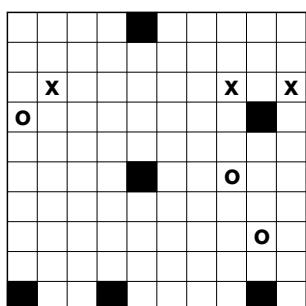
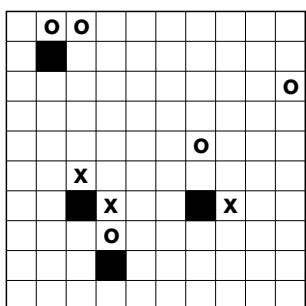
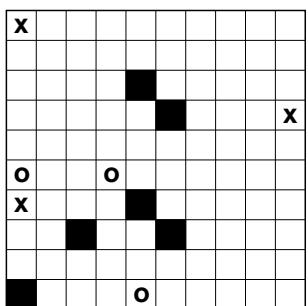
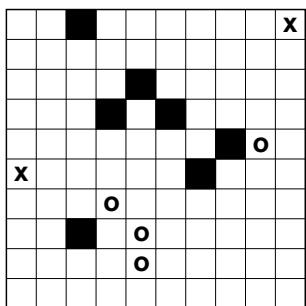
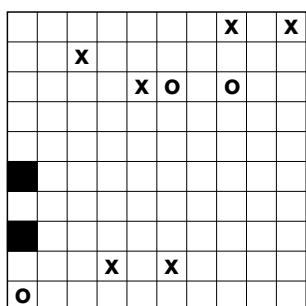
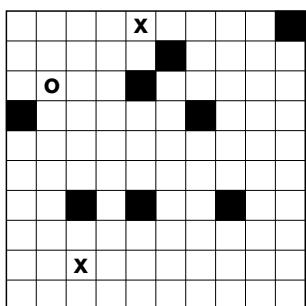
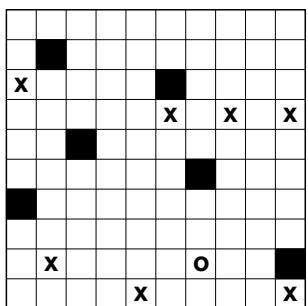
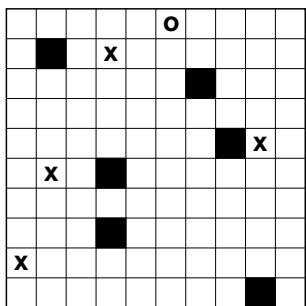
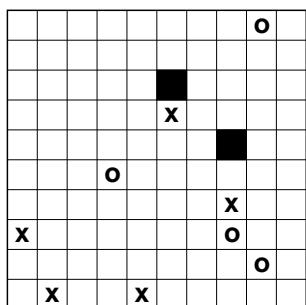
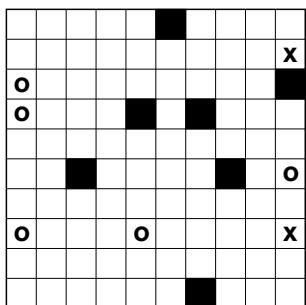
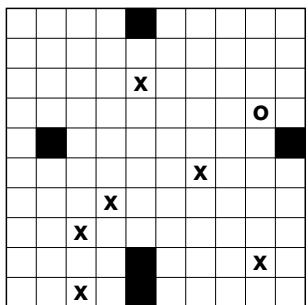
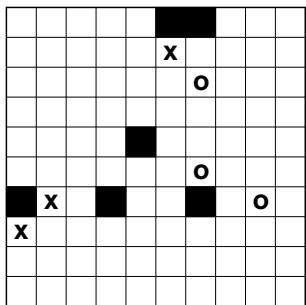
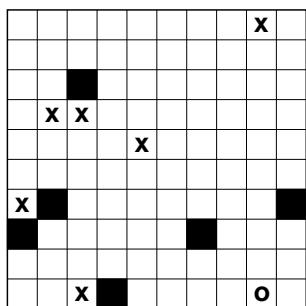
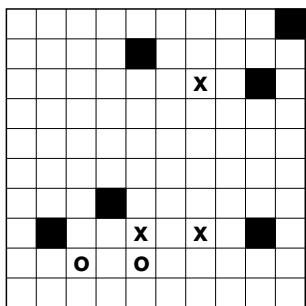
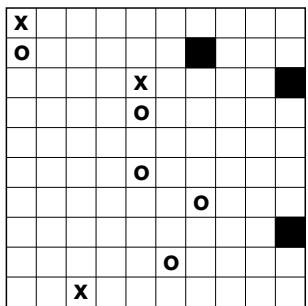
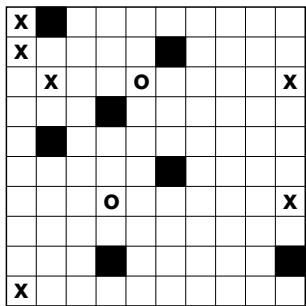
<b>O</b>		<b>X</b>	
<b>X</b>	<b>O</b>	<b>O</b>	<b>X</b>
<b>O</b>	<b>X</b>	<b>X</b>	<b>O</b>
<b>X</b>	<b>O</b>	<b>O</b>	



Marupeke       $6 \times 6$

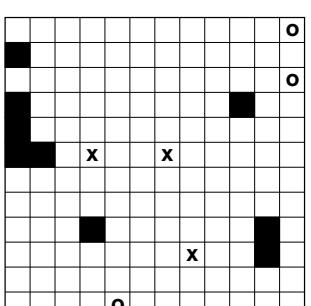
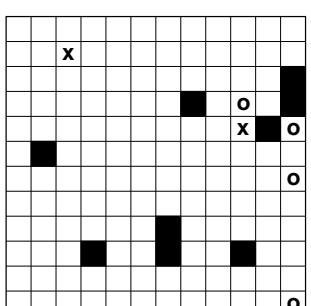
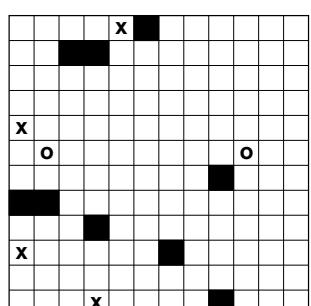
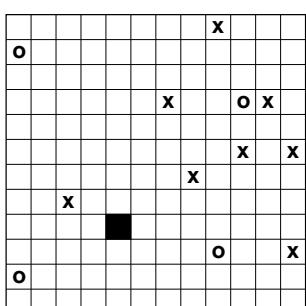
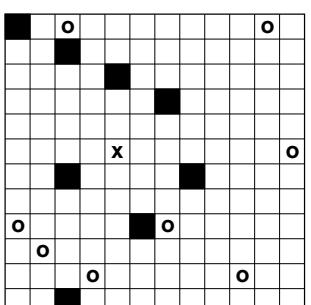
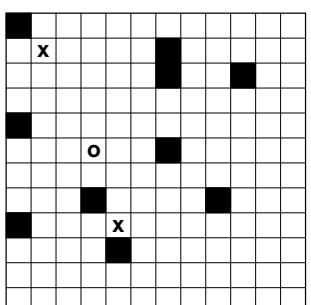
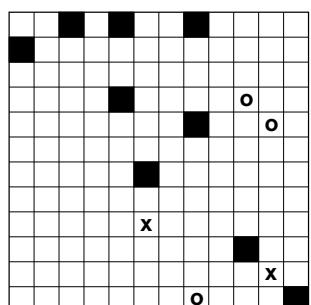
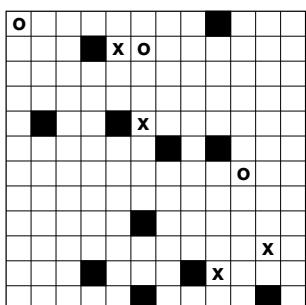
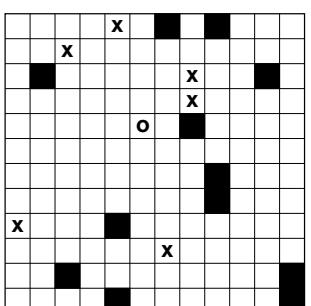
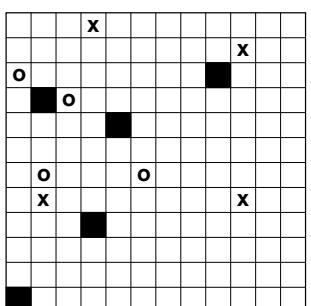
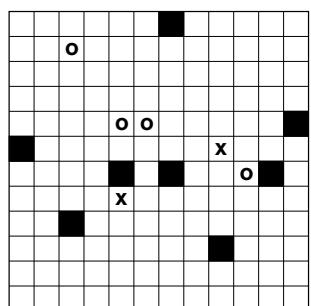
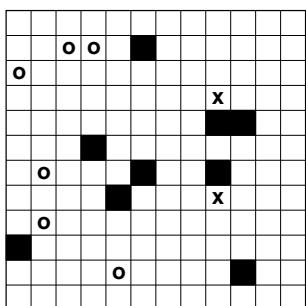
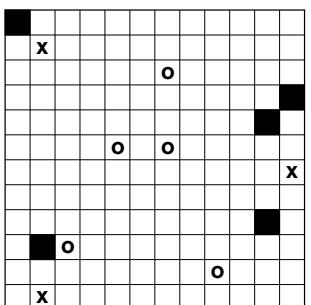
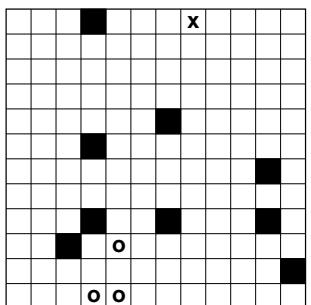
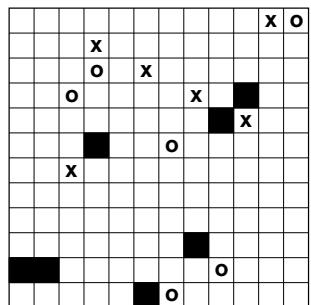
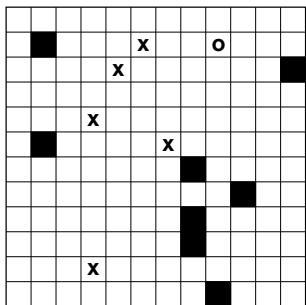
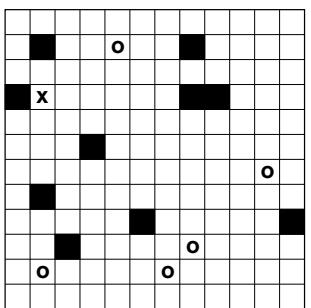
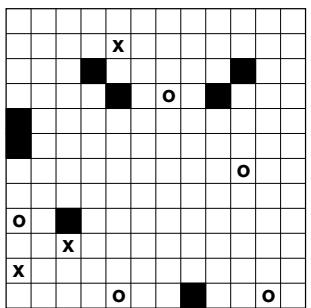
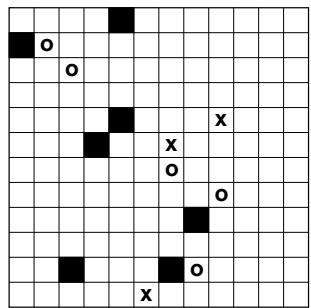
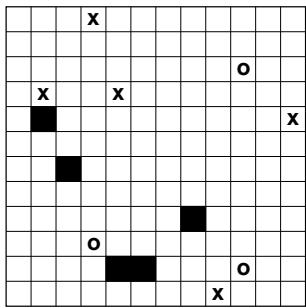


# Marupeke



# Marupeke

$10 \times 10$



# Marupeke

$12 \times 12$

X	O	O		X	O
O	X	X	O	O	X
X	O	O	X	X	O
O	X	X	O	O	X
X	O		X	X	O
X	O	X	O	O	X

X	X	O	O	X	X
O	O	X	X	O	O
X	X	O	O	X	X
O	O	X	X	O	X
	X	O	O	X	X
O	O	X	X	O	O

O	X	O	X	O	X
O	X	O	X	O	X
X	O	X	O	X	O
X	O	X	O	X	O
O	X		X	O	X
O	X	O	X	O	X

	X	O	X	O	X
O	X	O	X	O	X
X	O	X	O	X	O
X	O	X	O	X	O
O	X	O	X	O	
O	X	O	X	O	X

X		X		X	O
X	O	X	O	X	O
O	X	O	X	O	X
O	X	O	X	O	X
	O	X	O	X	O
X	O	X		X	O

X	O	X	O	X	O
O	X	O	X	O	X
O	X	O	X	O	X
X	O	X	O	X	O
X	O		X	O	X
O		X	O	X	

O	O	X	X	O	O
X	X	O	O	X	
X	O	O	X		X
O	X	X	O	X	
X	O	X	O	X	O
X	O	X	O	X	O

O		X	X	O	O
X	X	O	O	X	X
O	O	O	X	X	O
O		X	O	O	X
O	O	X	X	O	O
X		O	O	X	X

	X	X	O	O	X
X	O	O	X		
O	X	X	O	O	X
X	O	O	X	X	O
O		X	O	O	X
X	O	O	X	X	O

X	O		X	O	X
X	O	X	O	X	O
O	X	O	X	O	X
O	X	O	X	O	X
X	O	O	X	X	O
O	X	X	O	X	O

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X	O	X	X	O	X
O	X	O	X	O	X

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O	X	X	O	O	X
X	O	O	X	X	O
	X	X	O	O	X

X	X	O	O		X
O	O	X	X	O	O
X	X	O	O	X	X
O	O	X	X	O	O
X	X	O	O	X	X
	O	X	X	O	O

X	O	O	X	X	O
O	X	O	O	X	
X	O	O	X		X
O	X	X	O	O	X
X	O	O	X	X	O
O	X	X	O	O	X

O		X	X	O	O
X	X	O	O	X	
X	O	X	O	O	O
X	X	O	O	X	X
O	O	X	X	O	O
X	X	O	O	X	X

X	O	O	X		X
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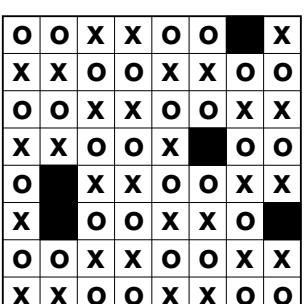
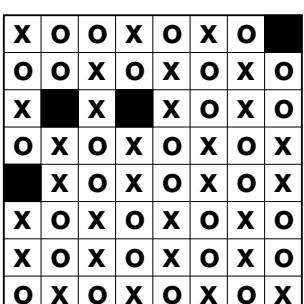
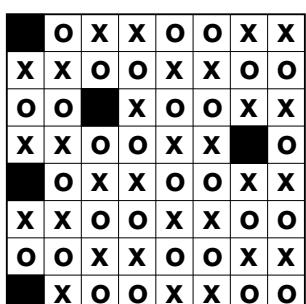
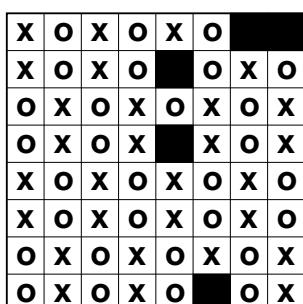
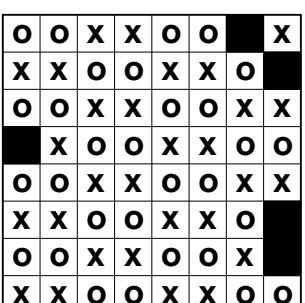
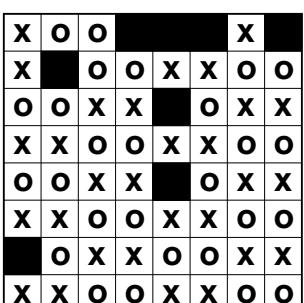
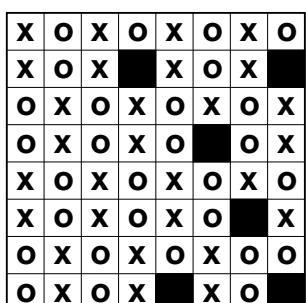
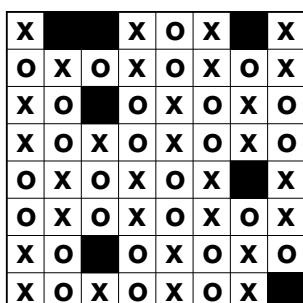
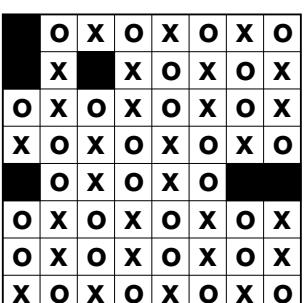
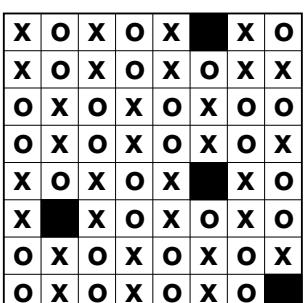
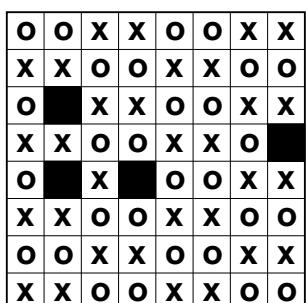
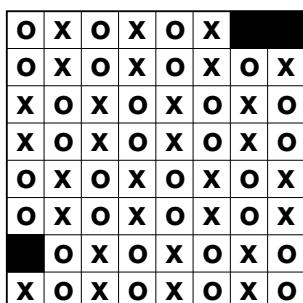
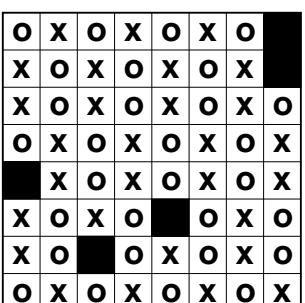
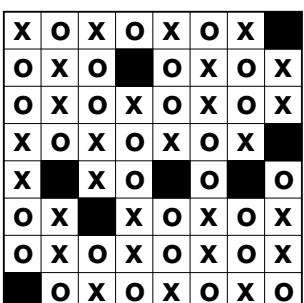
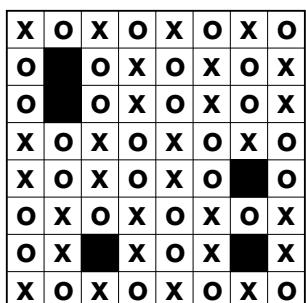
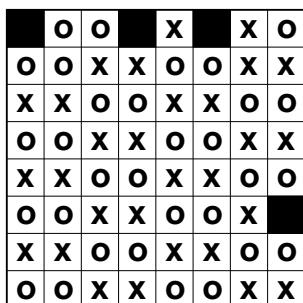
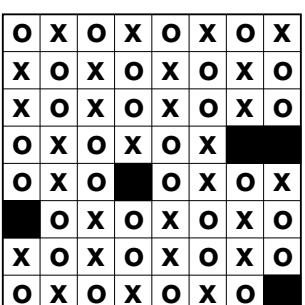
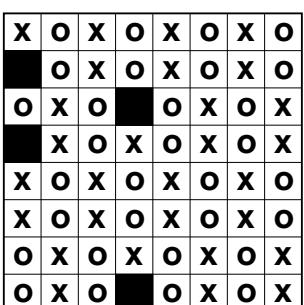
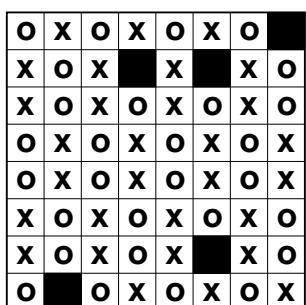
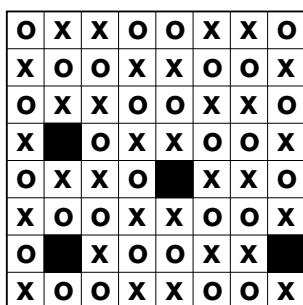
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	X	X	O	O	X
X	O	O	X	X	O
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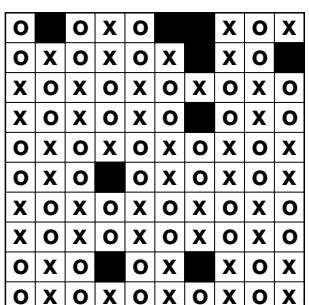
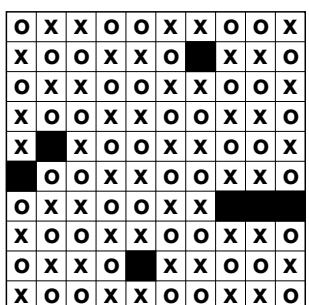
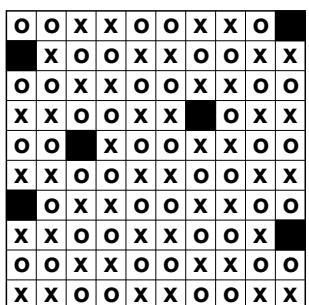
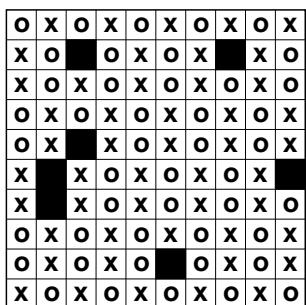
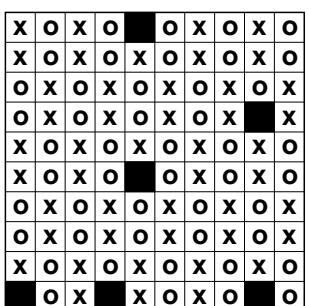
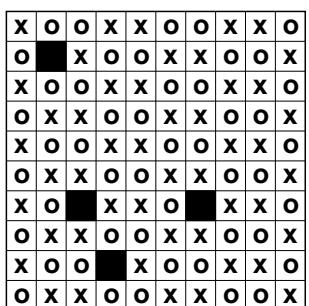
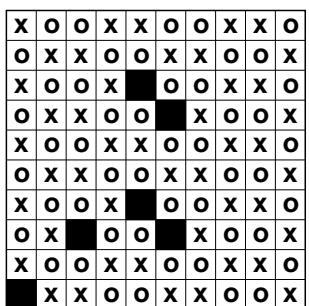
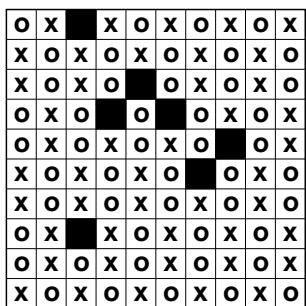
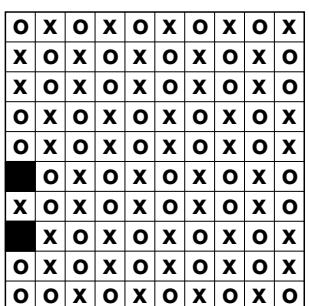
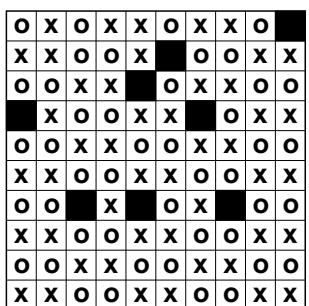
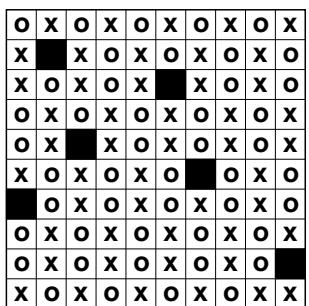
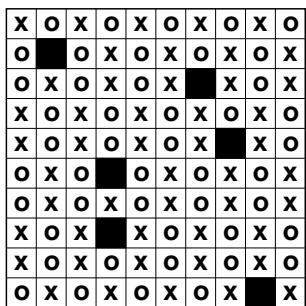
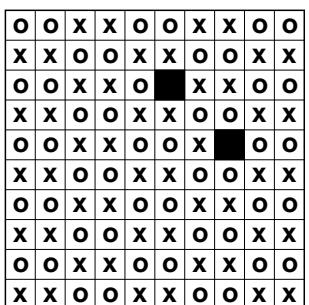
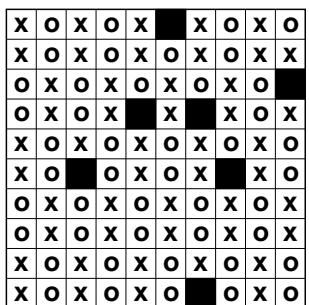
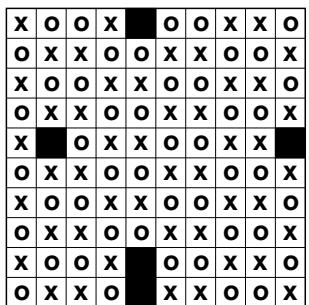
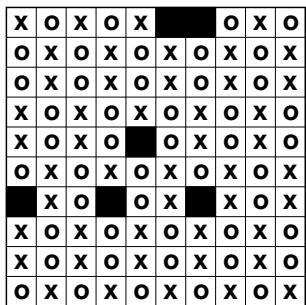
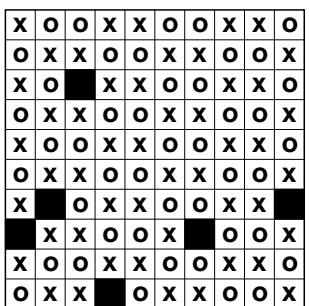
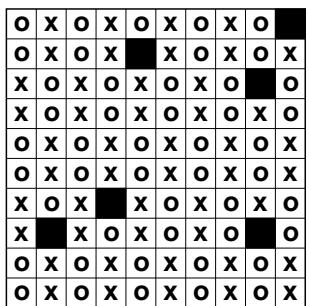
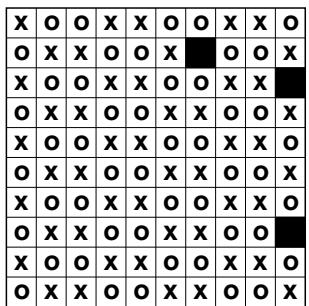
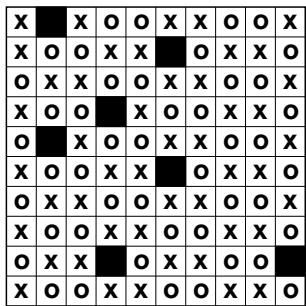
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	X	X	O	O	X

X	X	O	O	X	
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X	X	O	O	X	
O	X	X	O	X	
X	X	O	O	X	
	X	X	O	X	

Marupeke solutions    6 × 6



Marupeke solutions  $8 \times 8$



**Marupeke solutions** 10 × 10

