# TREES 

By Peter Ritmeester
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16 challenging puzzles


## by Peter Ritmeester

Dear puzzler,
We hope these free puzzles will make a pleasant diversion to pass the time through the day in these hard times.

Tents \& Trees was invented around 1995 by Dutchman Leon Balmaekers and first published in Breinbrekers, of which I was the editor. All puzzles in this booklet were created by me years later after I had started PZZL.com.

The wide range of options when it comes to solving these tough puzzles is explained below. Anyone who gets stuck or thinks a guess is needed has overlooked a logical continuation.

Have fun and take care,
~Peter

## PUZZLE-SOLVING FIRST AID

The rules: insert next to each tree one tent in such a way that no two tents are adjacent, not even diagonally. The numbers outside the grid indicate how many tents go into that row of column.

We will solve a few puzzles here, using some of the most common techniques.

Often it is a matter of checking systematically. But the most important thing: only place a tent when there is no other way and it is $100 \%$ certain the tent has to go there!

We will use the notation method below. Above and to the left of the grid are gray digits and letters just to be able to indicate a location. The digits that go with the puzzle itself are below and to the right of the grid.


## ROWS WITH JUST ONE TENT

No tent between two trees
Row A will have two tents. One of them has to go to A6. So we put it there, and cross out $A 5, A 7, B 5$ and $B 7$ because no two tents are allowed next to each other, not even diagonally.

The second tent in row A goes to either A 2 or A 4 . In both cases a tent in B3 will not be allowed, so we can cross out that space as well.

Row E will contain just one tent, but not in E2. Because a tent in E2 belonging to tree E3 would make a tent next to tree E1 impossible. And a tent in E2 belonging to tree E1 would mean E3's tent go to E4, resulting in two tents in row $E$.

This is a general rule: any row or column with just one tent, cannot have that tent right in between two trees.


## IN ONE OF TWO SPACES

No tent in a space adjacent to both
Continuing with the puzzle on the previous page, we see that column 7 will have two tents. Because they cannot be adjacent, one of them goes to either C7 or D7, and the other one to F7 or G7. This means that spaces that border to both possibilities (diagonally or horizontaly) cannot contain a tent. So we can cross out D6 and C8, and G6 and F8 as well, see below.

No tent is possible in E8, because that would result in two tents in either row E or column 8, comparable with the general rule on the previous page.

The tent belonging to tree F6 cannot go to E6 because no space would be left for tree E7's tent. So tree F6's tent goes to F7. Which means tree E7's tent wil be in D7, tree D8's tent in D9, and tree C10's tent in B10.

And tree G8's tent goes to H8, because otherwise there would be no place left for tree F10's tent.


## ADMINISTRATION

## Checking everything

The rest of the previous puzzle is in fact just administration. It is a matter looking at the consequences of what we discovered on the previous page.

For instance, tree J9's tent has to go to J10, as column 8 already has its one tent. Meaning tree F10's tent goes to F9.

Row F has its two tents now, so tree E1's tent has to be in D1.

By crossing out all spaces adjacent to the tents we entered, and looking at the numbers of each row and column, you will see there will always be just one possible place left for a certain tent.

Easy puzzles can be solved with just this kind of checking from the very beginning, but not the ones in this free booklet!


## ADDING UP ROWS AND COLUMNS

How do we get to those numbers?
Columns 8,9 and 10 contain six tents altogether. We see just five trees in those three columns though. So the sixth tent has be adjacent to a tree in column 7. The only tree in that column is G7, so its tent goes to G8.

For the same reason the tents that go with trees B8, D8 and 18 cannot be in column 7 , because we need those tents in columns 8,9 and 10 . So the two tents in column 7 have to be in C7 and J7. Resulting in tents in 19, G10, E8 and D10 (in that order).


## HONOR THE SMALL...

The tiniest clue can make a huge difference
The two crosses below help a lot. No tent can go to E9, because otherwise tree F10's tent would have no space.

Now take a look at column 9: to get to three tents, one of them has to go either above or below tree B9, the second one in either F9 of G9, meaning we can put the third one in 19.

Columns 1, 2 and 3 contain 5 tents altogether. But there are already 5 trees in columns 1 and 2. So tree D4's tent cannot be in D3.

Now have a look at row D: to get to three tents, one has to go to either D1 or D2, the second one in D5 or D6, after which we can place the third one in D8.

We can now locate all tents in columns 9 and 10.


## FINALLY

There are more tricks that can be used. But most are variations on the ones described above. And the remaining ones you will discover for yourself no doubt.

It is mainly a matter of looking carefully and making no mistakes. When you are stuck, just go through all rows and columns and you will probably find a space you can cross out. And that one cross may lead to another one...

Most importantly: only place a tent when there is no other way and it is $100 \%$ certain the tent has to go there!

Have fun!

# TREES 

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| 2 |  | 3 |  | $\beta$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 |  |  |  | $\bigcirc$ |  |  | $\beta$ |  |
| 2 |  |  |  |  |  |  |  | 9 |
|  | - |  |  |  |  |  |  |  |
| 2 | 1 |  |  |  |  |  |  |  |
| 1 |  | 9 |  |  | 9 |  |  | 9 |
| 3 |  |  | 9 |  |  |  |  | $\$$ |
| 2 | S |  |  |  |  |  |  |  |
| 1 |  | 9 |  |  |  |  | $\$$ |  |
| 1 |  |  | 9 |  | 9 |  |  |  |
| 2 | $\bigcirc$ |  |  |  |  |  |  | S |
|  | 22 | 2 | 2 | 2 | 1 | 2 | 2 | 12 |

2

| 2 |  |  | $\mathbf{\beta}$ |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | $\mathbf{2}$




| 2 |  | $\beta$ |  |  |  |  |  | 3 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  |  |  |  | 9 |  |  | $\beta$ |  |  |
| 2 | S |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  | 9 |  | 9 |  |
| 1 |  |  |  | 9 |  |  |  |  |  |  |
| 2 |  | $\$$ |  |  |  | 9 |  |  | 9 |  |
| 2 |  |  |  | 1 |  | 9 |  |  |  |  |
| 2 |  |  |  |  |  |  |  | $\beta$ |  |  |
| 2 | S |  | $\beta$ |  |  |  |  |  |  |  |
| 2 |  |  | $\beta$ |  |  |  |  |  | 9 |  |
|  | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 2 |








12

| 3 |  | $\beta$ |  |  | $\beta$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 |  |  |  |  |  |  |  | $\mathcal{T}$ | 8 |  |
| 2 |  |  | 9 |  |  |  |  |  |  |  |
| 2 |  |  |  |  | $\$$ |  | $\$$ |  |  |  |
| 2 |  | $\boldsymbol{\beta}$ |  |  |  | $\boldsymbol{\beta}$ |  |  | 1 | 9 |
| 2 |  | $\boldsymbol{\beta}$ |  | $\$$ |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  | 1 |  |
| 1 | $\$$ |  |  | $\$$ |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  | $\beta$ |  | 3 |
| 2 |  |  | $\beta$ |  |  | $\beta$ |  |  |  |  |
|  | 2 | 3 | 1 | 2 | 2 | 2 | 2 | 3 | 1 | 2 |


| $\mathbf{3}$ |
| :--- | $\mathbf{}$




| 2 |  |  | $\beta$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  |  |  |  |  |  | ¢ |  |
|  |  | $\}$ |  | $\beta$ |  |  | \$ |  |
| 1 |  |  | 9 |  |  |  |  |  |
| 2 | ¢ |  |  |  | 9 |  |  | $\$$ |
| 2 |  |  |  |  |  |  | \$ |  |
| 1 |  |  | $\underline{1}$ |  |  |  |  | $\$$ |
| 2 |  |  |  |  |  | $\}$ |  |  |
| 2 |  | $\}$ |  | 9 |  |  |  |  |
| 2 |  |  | $\beta$ |  |  | \% |  |  |
|  | 1 | 2 | 12 | 2 | 2 | 1 | 3 | 12 |

# SOLUTIONS 

## SOLUTIONS



3


5


6

7


SOLUTIONS



