

Tentai Show

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Tentai Show is a logic puzzle in which the solver must deduce the shapes of rotationally symmetric regions within a grid, then colour certain regions to reveal a hidden picture; this is puzzle as art.

1 Introduction

TENTAI SHOW is a pure deduction puzzle, invented for Nikoli by Japanese designer Gesaku, which first appeared in the September 2001 issue of *Puzzle Tsushin Nikoli 96*. It is unusual in that solving each challenge reveals a picture hidden in the hints, combining logic with aesthetics to blur the line between puzzles and art.

2 Rules

A Tentai Show challenge consists of a grid of squares, with circles and dots marked in some cells and on some grid lines. Figure 1 (left) shows a typical challenge.

The aim is to divide the grid into regions by drawing bold lines along certain grid lines, such that every region:

1. contains exactly one circle or dot, and
2. has 180° rotational symmetry.

The regions containing black dots are then coloured in to reveal a picture hidden within the challenge. For example, the challenge shown in Figure 1 has been solved to reveal an image of the numeral '4' (right). Each challenge should have a single unique solution [1].

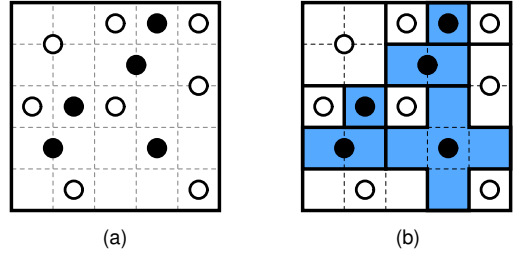


Figure 1. A challenge (a) and its solution (b).

The circles and dots (called *stars*) therefore act as pivots, around which each region must be the same when rotated 180°. Some regions even may have 90° rotational symmetry, but all regions *must* have 180° rotational symmetry.

3 Example

Figures 2 and 3 show the typical working involved in solving a larger example, to demonstrate relevant tactics. Starting with the initial challenge in Figure 2 (a), it is easy to deduce some bold lines and regions based on the two rules (b), and then build on this information to deduce further bold lines and regions (c).

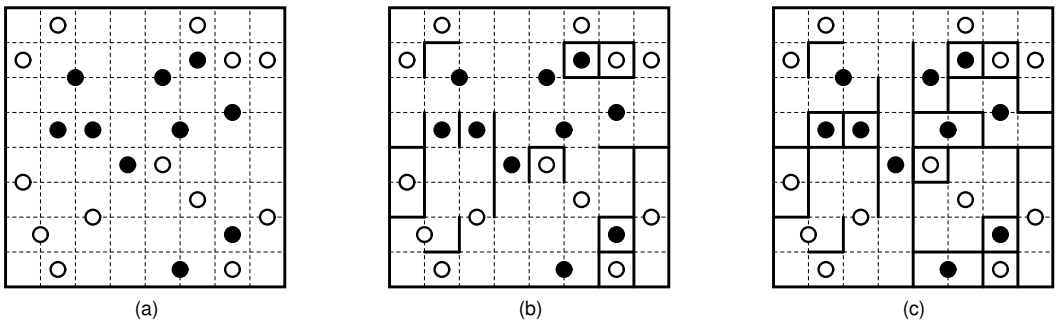


Figure 2. A challenge (a), some obvious lines to start with (b) and some deductions built on them (c).