

MECHANICS

You have 120 minutes to do the test.

Instant grading is enabled. When you submit an answer, you will immediately know whether your answer is correct. Incorrect answers will be penalized according to the Penalty section at the right.

SIZE OF PUZZLES

The size of all puzzles are 10x10, except for Skyscrapers Kropki which is 6x6.

ANSWER KEY EXTRACTION

In each puzzle, there will be two rows/columns marked. Describe the marked rows/columns starting from left to right (for rows) or top to bottom (for columns).

Liar Slitherlink, Semi-Liar Masyu, Battleships Yajilin

Enter the lengths of line segments in the row/column. If there is none, enter 0.

Smullyanic Dynasty, Surveyors Heyawake

Enter the lengths of consecutive white cells in the row/column. Only enter the unit digit (last digit).

Elimination Tapa, Domino Nurikabe

Enter the lengths of consecutive black cells in the row/column. If there is no black cell, enter 0. Only enter the unit digit (last digit).

Cipher Fillomino, Skyscrapers Kropki

Enter the unit digits (last digits) of the numbers in the row/column.

The puzzle booklet will not contain this instructions page.

See Page 7 for an example page in the puzzle booklet, so you can familiarize with the puzzle booklet. (The puzzles are taken from the linked puzzles in Practice Materials section.)

POINTS TABLE

Section	Genre	Top		Bottom	
		Base	Bonus	Base	Bonus
Falsehood	Liar Slitherlink	40	30	80	40
	Semi-Liar Masyu	20		40	
	Smullyanic Dynasty	30		50	
Ambiguity	Cipher Fillomino	40	30	70	40
	Elimination Tapa	20		40	
	Surveyors Heyawake	30		60	
Annexation	Battleships Yajilin	40	30	50	40
	Domino Nurikabe	30		50	
	Skyscrapers Kropki	30		70	
Total		1000			

PENALTY

Each incorrect submission reduces the puzzle's potential score. The first, second, third, and fourth incorrect submission reduces the potential score to 90%, 70%, 40%, and 0% respectively. (Afterwards, the puzzle's potential score remains 0%.)

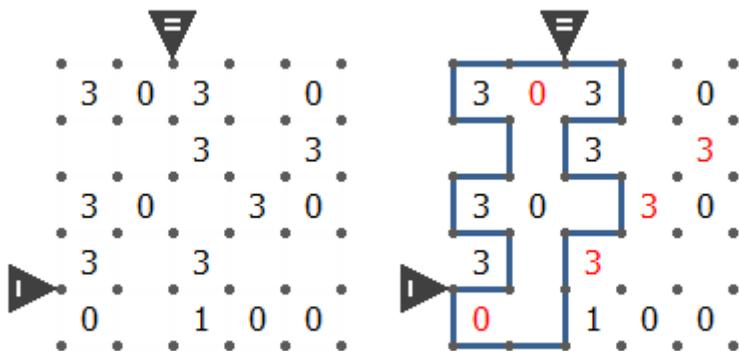
BONUSES

The test is divided into three sections: Falsehood, Ambiguity, and Annexation. If you correctly solve all top puzzles or all bottom puzzles of any of the sections, you will get some bonus as listed in the points table. Bonuses are not reduced by incorrect submissions; it's possible to submit all three puzzles and score 0 for each due to many incorrect submissions, but still claiming the bonus fully.

In addition, if you solve all 18 puzzles correctly, you will get a multiplier of (120 / minutes) applied to your final score.

Liar Slitherlink 40+80 pts**FALSEHOOD** 30+40 pts

Lengths of line segments. For the example: 1,12

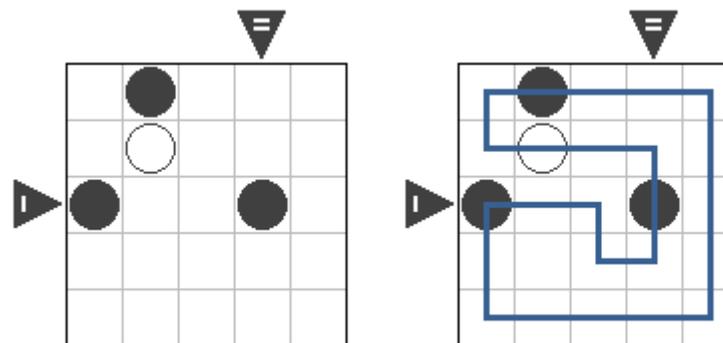


Draw a single loop traversing some of the cells' edges such that it doesn't touch or cross itself. A number in a cell indicates the number of edges of that cell that belongs to the loop.

In addition, exactly one number from each row and column is false.

Semi-Liar Masyu 20+40 pts**FALSEHOOD** 30+40 pts

Lengths of line segments. For the example: 2,2



Draw a single loop passing some of the cells' centers. The loop must travel either vertically or horizontally at all times (no diagonal lines), and it may only turn on a cell's center.

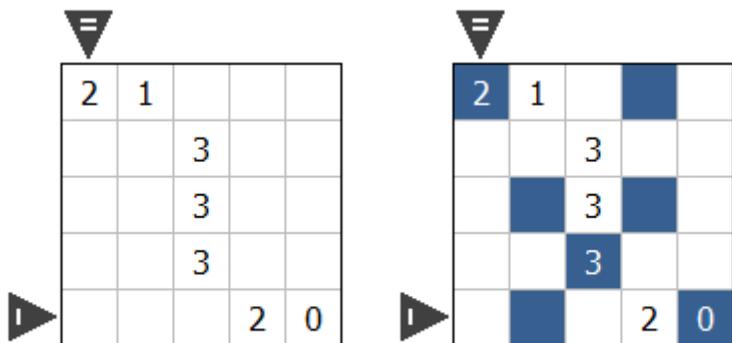
The loop must pass all circles. Through a black circle, the loop must make a 90 degree turn, but it may not turn before and after the circle. Through a white circle, the loop must go straight without a turn, but it must turn either before or after the circle (or both).

In addition, the color of every second circle passed by the loop is false (if it's black then it should be white, and vice versa).

Smullyanic Dynasty 30+50 pts

FALSEHOOD 30+40 pts

Lengths of consecutive white cells. For the example: 12,4

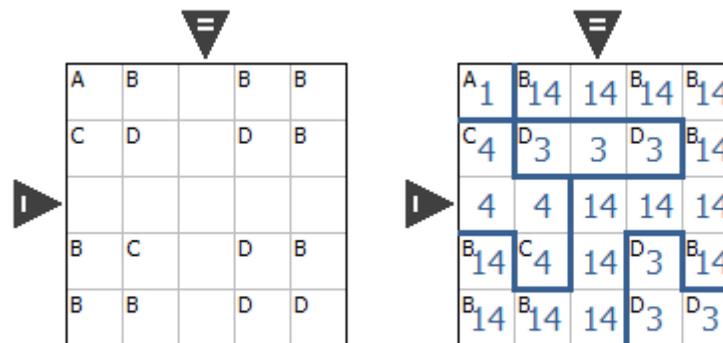


Shade some of the cells black. No two black cells may be adjacent orthogonally, and all white cells must form a single polyomino. A cell with a number represents the number of black cells in the cells that touch at least a point with itself, including the cell itself. If the cell is white, the number is true; if the cell is black, the number is false.

Cipher Fillomino 40+70 pts

AMBIGUITY 30+40 pts

Unit digits (last digits) of numbers. For the example: 44444,43444

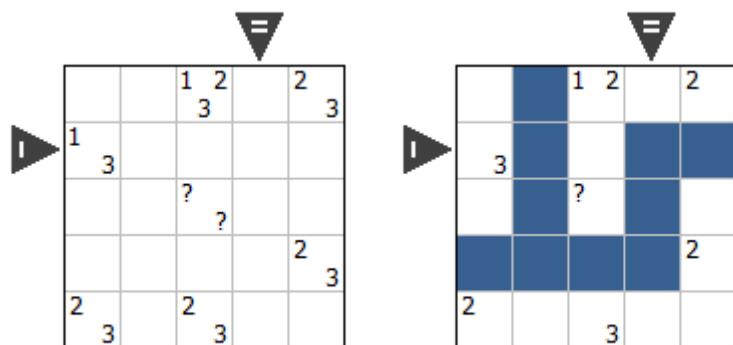


Divide the grid into polyominoes such that no two polyominoes with the same size touch orthogonally. Fill each cell with the size of the polyomino it belongs to.

In addition, the numbers have been replaced by letters. Identical letters represent the same number and different letters represent different numbers.

Elimination Tapa 20+40 pts**AMBIGUITY** 30+40 pts

Lengths of consecutive black cells. For the example: 12,3

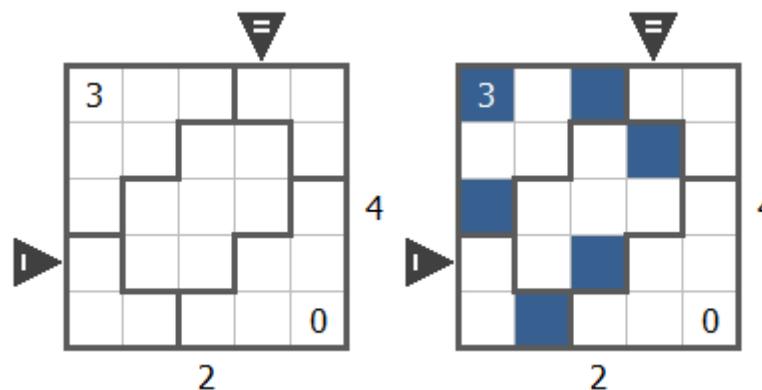


Shade some of the cells black. The black cells must form a single polyomino; however, no 2x2 area may be all black. Cells that contain numbers may not be shaded black. A cell with some numbers represents the lengths of contiguous black cells in the cells that touch at least a point with itself. If the cell contains at least two numbers, the groups of black cells must be separated by at least one white cell.

In addition, each square with a given has one extra number. Which number should be removed is up to you to determine. Question marks indicate unknown numbers.

Surveyors Heyawake 30+60 pts**AMBIGUITY** 30+40 pts

Lengths of consecutive white cells. For the example: 22,13



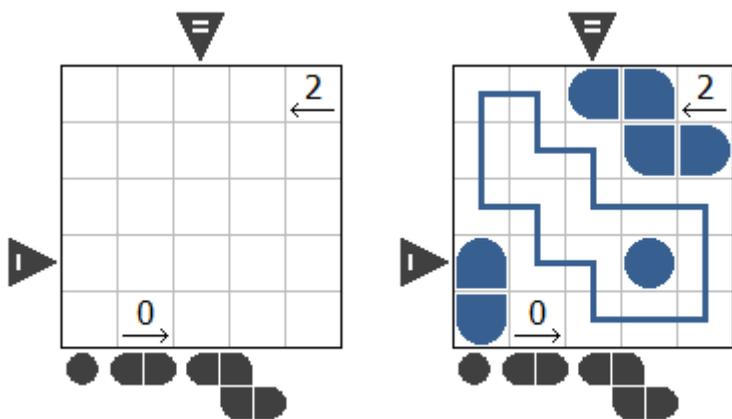
Shade some of the cells black. No two black cells may be adjacent orthogonally, and all white cells must form a single polyomino. A contiguous line of white cells may not span over two or more region boundaries (this includes exiting a room and entering it again).

A cell with a number gives either the number of black cells in the region the cell is contained in (like Heyawake) or the number of black cells in the squares that share at least a point with it, including itself (like Minesweeper).

A number outside the grid gives either the number of black cells in the corresponding row/column (like Tents) or the length of some line of contiguous white cells bounded by either the grid's boundary or some black cell (like inverted Nonogram).

Battleships Yajilin 40+50 pts**ANNEXATION** 30+40 pts

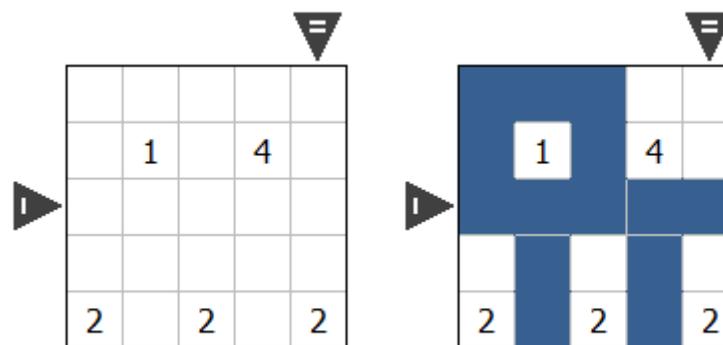
Lengths of line segments. For the example: 1,11



Put the given fleet into the grid. Ships may be rotated, but not reflected. No two ships may touch each other even diagonally, and no ship may cover a clue. Afterwards, draw a single loop passing the centers of all cells that neither are part of some ship nor contain a given. The loop must travel either vertically or horizontally at all times (no diagonal lines), and it may only turn on a cell's center. A clue tells the number of ship segments in the given direction up to the edge of the grid.

Domino Nurikabe 30+50 pts**ANNEXATION** 30+40 pts

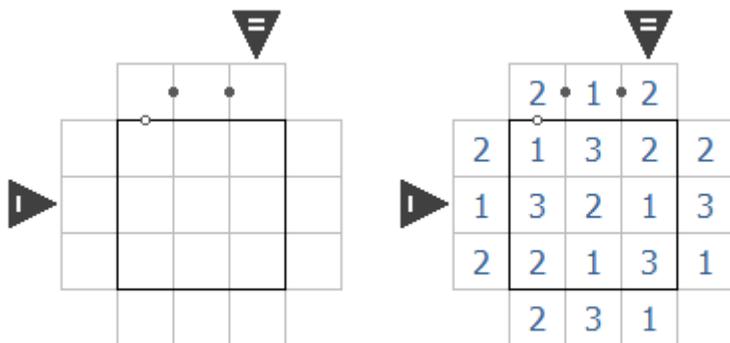
Lengths of consecutive black cells. For the example: 5,1



Shade some of the cells black. The black cells must form a single polyomino; however, no 2x2 area may be all black. Cells that contain numbers may not be shaded black. The black cells divide the remaining cells into several white polyominoes. A polyomino must contain exactly one number which represents the size of the polyomino.

In addition, it must be possible to divide the black cells into non-overlapping dominoes. Note that this partitioning is not necessarily unique, but one such partition must exist.

Numbers, not including the observers. For the example: 321,213



Put the numbers 1-6 (1-3 in the example) to the cells inside the dark-bordered square (grid) so each number appears exactly once in each row/column. If the numbers inside the grid represent heights of buildings, the numbers outside the grid will represent the number of visible buildings from their respective locations looking into the grid. Taller buildings block shorter buildings.

Some borders between cells contain a black circle or a white circle. If a black circle is present between two cells, one of the numbers of the two circles must be exactly twice the other. If a white circle is present between two cells, the two numbers must differ by exactly 1. There is nothing implied by the absence of either circle. The circle between 1 and 2 can be of either color, and doesn't need to be consistent across the puzzle.

PRACTICE MATERIALS

This list is not intended to be comprehensive.

Liar Slitherlink

- o <http://mellowmelon.wordpress.com/category/puzzle-types/slitherlink/liar-slitherlink/>
- o <http://puzzleparasite.blogspot.com/2011/11/puzzle-49-slitherlink-liars.html>

Semi-Liar Masyu

- o <http://mathgrant.blogspot.com/2011/02/monday-mutant-67-pearls-of-wisdom.html>

Smullyanic Dynasty

- o <http://zotmeister.livejournal.com/24071.html>
- o <http://zotmeister.livejournal.com/39589.html>

Cipher Fillomino

- o <http://mathgrant.blogspot.com/2011/11/monday-mutant-104-polyominous-cipher.html>
- o <http://mathgrant.blogspot.com/2012/03/march-mutant-14-polyominous-cipher.html>

Elimination Tapa

- o <http://puzzleparasite.blogspot.com/2011/09/puzzle-11-tapa-cross-out.html>

Surveyors Heyawake

- o <http://chaosatthesky.wordpress.com/2012/09/28/p025/>
- o <http://chaosatthesky.wordpress.com/2012/11/18/p032/>

Battleships Yajilin

- o <http://motris.livejournal.com/73399.html>
- o <http://prasannaseshadri.wordpress.com/2012/07/01/puzzle-no-180-yajilimbattleships/>

Domino Nurikabe

- o <http://mellowmelon.wordpress.com/2012/04/04/puzzle-395/>
- o <http://prasannaseshadri.wordpress.com/2012/11/05/puzzle-no-233-nurikabe-domino/>

Skyscrapers Kropki

- o <http://chaosatthesky.wordpress.com/2013/01/29/p054/>
- o <http://www.sachsentext.de/en/node/1401>

On the week preceding the weekend of the test, practice puzzles will also appear on the author's blog Chaos at the Sky (<http://chaosatthesky.wordpress.com/>).

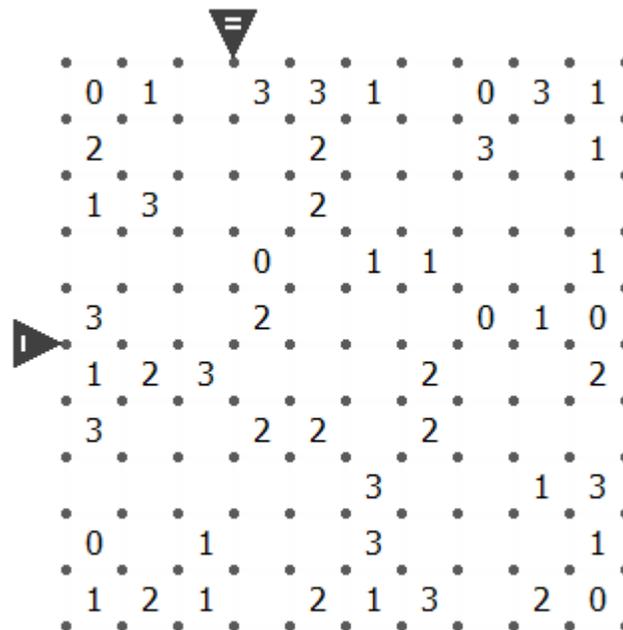
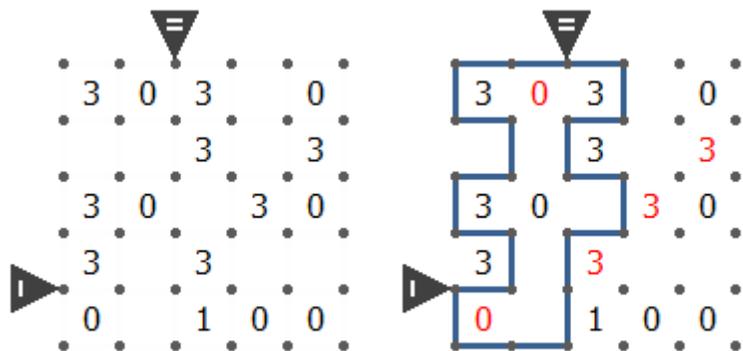
CREDITS

- Logic Masters India to host this puzzle test
- All people whose works are linked above for practice puzzles
- All people that invented the variations used for this test
- Grant Fikes and Tawan Sunathvanichkul for testsolving

Liar Slitherlink 40+80 pts

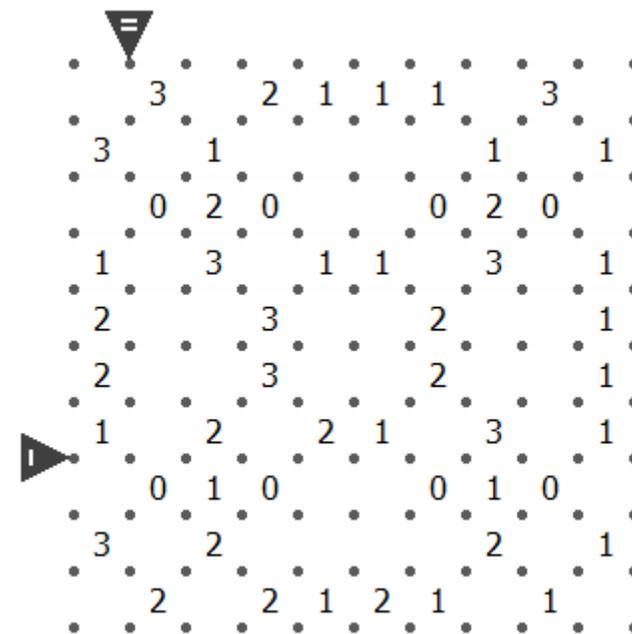
FALSEHOOD 30+40 pts

Lengths of line segments. For the example: 1,12



Draw a single loop traversing some of the cells' edges such that it doesn't touch or cross itself. A number in a cell indicates the number of edges of that cell that belongs to the loop.

In addition, exactly one number from each row and column is false.



This is an example page in the puzzle booklet. There are 9 (nine) pages, all in this same template.

The only differences are that this box doesn't exist, and the footer has PUZZLE BOOKLET instead of INSTRUCTION BOOKLET.

The puzzles on this page are not the actual puzzles in the test for obvious reasons.

Top puzzle Made by MellowMelon, for IPC 2012. *Answer key: 111,111*

Bottom puzzle Made by MellowMelon, Puzzle 403 on his blog. *Answer key: 211,111*