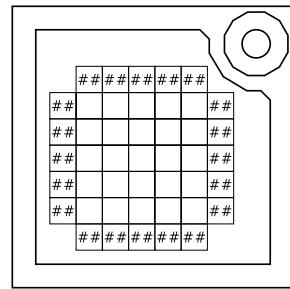


On the Subject of Reflection

Catoptrics goes into great detail about how light travels and reflects. I don't think it considered what happens when light gets absorbed...



This module contains a 5×5 grid of squares surrounded by numbered cells. To disarm the module, place the correct icon in the grid, then press the base of the status light. A correct submission will disarm the module, whereas an incorrect submission will incur a strike.

When an empty square on the grid is pressed, an icon will be placed at that position based on the last digit of the timer. Use the table below to determine what icon is placed at that position.

If there is already an icon present at the pressed square, it will disappear.

However, if the icon is a light warp (\bowtie), it will not change.

Timer last digit	0	1	2	3	4	5	6	7	8	9
Icon	/	\		=	■	●	▲	▼	◀	▶

Rules of the game

A laser will project from each outer cell of the grid. The number in the cell determines how many squares the laser must travel.

The color of the outer cell determines the target destination of the laser:

- Green: the laser exits through another square.
- Yellow: the laser exits through the same square.
- Ash: the laser is absorbed by a black hole. (●)

The mirrors (/ , \ , || , and =) and the square (■) reflect the lasers that hit it. Black holes absorb the lasers. The lasers will go through one light warp (\bowtie) and exit out the other in the same direction.

At any time, it is possible to hold a square on the edge of the board to check the path of the laser. Holding a cell will change its color and value based on the current state of the grid.

On the next page, determine the list of icons used in the puzzle. It is possible that there are multiple solutions to the puzzle, even if the set of icons used is not the same as the generated set. These other solutions will also be accepted.

Determining the list of icons

Initially, the list of icons to use contains three \diagup , three \diagdown , one \parallel , one $=$, and one \bullet .

If the serial number contains more than two digits,
refer to \blacktriangledown as the **upper triangle** and \blacktriangleup as the **lower triangle**.

Otherwise, refer to \blacktriangledown as the **upper triangle** and \blacktriangleup as the **lower triangle**.

If the serial number contains a vowel, add the **lower triangle**. Otherwise, add the **upper triangle**.

Add as many \diagup mirrors to the list as there are D battery holders.

Add as many \diagdown mirrors to the list as there are AA battery holders.

Take the number of batteries modulo 3.

If this value is 0, add a \blacksquare . If this value is 1, add a \parallel . Otherwise, add a $=$.

If there are more lit indicators than unlit indicators, add the **lower triangle**.

If there are more unlit indicators than lit indicators, add the **upper triangle**.

If there are an equal number of lit and unlit indicators. add a \blacksquare .

Using the table below, if the listed port is present on the bomb, add its respective icon to the list.

Port	DVI-D	Parallel	PS/2	RJ-45	Serial	Stereo RCA
Icon	\parallel	\bullet	$=$	lower triangle	\blacksquare	upper triangle

If a lit BOB indicator is present, BOB is here, and he wants a challenge!

Add all of the icons \diagup , \diagdown , \parallel , $=$, \blacksquare , \bullet , the upper triangle and lower triangle to the list.

Lastly, the number of icons in the list needs to be reduced.

Take the lower value between the number of port types and the number of port plates, and add it to the number of battery holders.

Starting from the leftmost icon in the table on Page 1, remove that icon from the list, and continue rightward through the table. If the icon is not present in the list, skip it. If you reach the rightmost part of the table, go back to the left and repeat the process.

If the number of icons in the list exceeds 18, continue reducing icons until there are 18 in the list.

Creating an answer board

A string called the “Seed code” will be sent to the log.

This code can be used to test the puzzle online via boardgamearena.com.

To do so, create an account on boardgamearena.com, and visit [this page](#).

From there, click **PLAY**, set the time control to **REAL TIME**, set the number of players to **Solo**, set the game speed to **NO LIMIT**, and set the Solo mode options to “Solve a puzzle designed by another player”.

At this point, the site will ask you to input a seed. The seed logged in the logfile can be pasted here to view the puzzle.

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