

Logic Art!

The Logic Art puzzle is an original Japanese invention that forms a fun pixel-composed picture when solved.

Using logic alone, you must determine which squares are shaded and which should remain empty until the hidden picture is completely uncovered. Each puzzle consists of a blank grid with clues on the left of each row and the top of each column. The object is to reveal a hidden picture by shading blocks in each row and column so that their length and sequence corresponds to the clues. If there are multiple clues for a row or column, it means there are multiple blocks with AT LEAST **one** empty square between neighboring blocks. (There may be more than one empty square in some combinations!) For instance, in the first puzzle below there is a row of “10”, which means that all the squares in that row must be shaded. In the row with “8, 1” there should be one block of 8 squares followed by a block of 1 square, with at least one empty square separating the blocks. Can you use logic to figure out where the rest of the shaded and empty squares must be? To identify “empty” squares, it may help you to use a small “·”.

(Hint: Start with the columns or rows with the largest number or combination of numbers. Even if a combination doesn't add up to 10, you can still use logic to figure out where some of the shaded squares must be.)

	4	6	8	6	5	8	8	5	3	5
3, 3										
10										
10										
8, 1										
8, 1										
6, 2										
1, 4										
2, 2										
3										
1										

	1	2	2	7	2	3	2	7	2	2
1, 1										
3, 3										
3, 3										
1, 1										
3, 4										
3, 4										
1, 1										
3, 3, 2										
9										
7										

Source for Logic Art puzzles: www.conceptispuzzles.com

15 x 15

					2		4	2	1	3	1	2				
	1	1	7	7	2	4	1	1	1	1	1	1	5	4		
	2	4	1	7	3	1	1	4	5	8	3	4	5	3	3	
2, 4																
4, 1, 3																
4, 1, 2																
2, 1, 1, 1																
1, 4																
2, 1, 1																
1, 3, 3, 1																
3, 1, 1																
4, 1, 1																
3, 1, 4																
1, 3, 5																
4, 7																
2, 3, 4																
1, 3, 3																
2, 3, 1																

Alternative: Tricky Track

Mabel, a Princeton girl, went to see a track meet between Harvard, Yale and Princeton, then reported about it at home. Her dad, who's a mathematician, asked her about the scoring.

"Well, Dad, each college entered one athlete in each event, and there were no ties in any event. You got a number for first, a lower number for second, and a still lower number for third place. The scoring was the same for each event."

"By 'number,' dear, I assume you mean 'natural number,'" said her dad.

"Sure, 'natural number,' 'counting number,' 'positive integer,' whatever! You know, 1, 2, 3..."

"Hey, how did your friend do in the shot put?" asked her brother.

"Princeton won the shot-put," exclaimed Mabel. "But we didn't win the meet. The final score was Yale 22, Harvard 9, Princeton 9."

"How many events were there?" asked her dad.

"I don't know."

"Who won the mile run?" asked her sister.

"There was a mile run, but I didn't notice who won it."

Believe it or not, you now have enough information to answer the question: Which college won the mile run?!

Hints for Tricky Track:

Write down what you know and what you want to know.

Make a chart.

Use some trial and error.

Think about the problem globally. For example, how many points were given out all together for each event.

Source for Tricky Track: Martin Gardner's New Mathematical Diversions