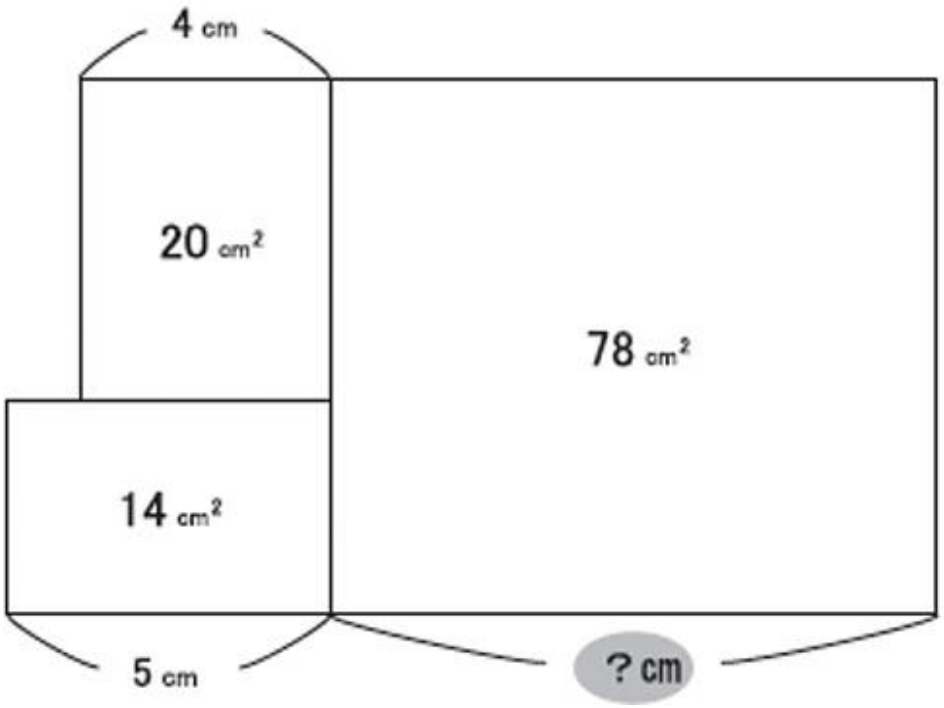
Area Maze, or Menseki Meiro, Problem



Area Maze is the creation of Naoki Inaba, one of the world's most prolific inventors of logic puzzles. He came up with Area Maze after being asked to come up with a puzzle by the head of a crammer school in Japan.

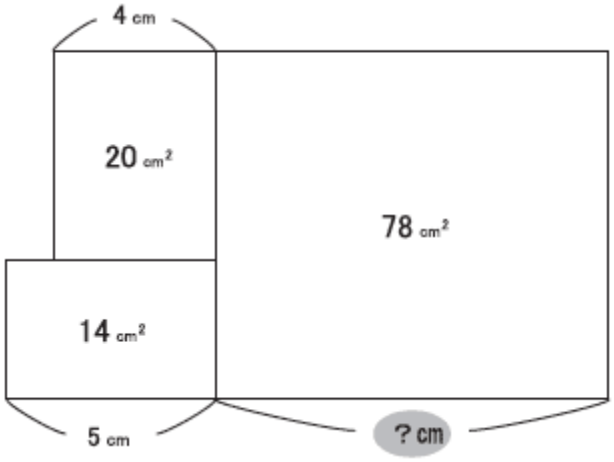
The puzzle is utterly simple to explain: find the missing value, which is denoted by a question mark highlighted in grey. The only mathematics you need to know is that the area of a rectangle is the length multiplied by the width.

Note: You are NOT allowed to use fractions in the solutions. You must solve the puzzle using only whole numbers.

How many different ways and representations can you use to solve this ?

With thanks to Alex Bellos, The Guardian

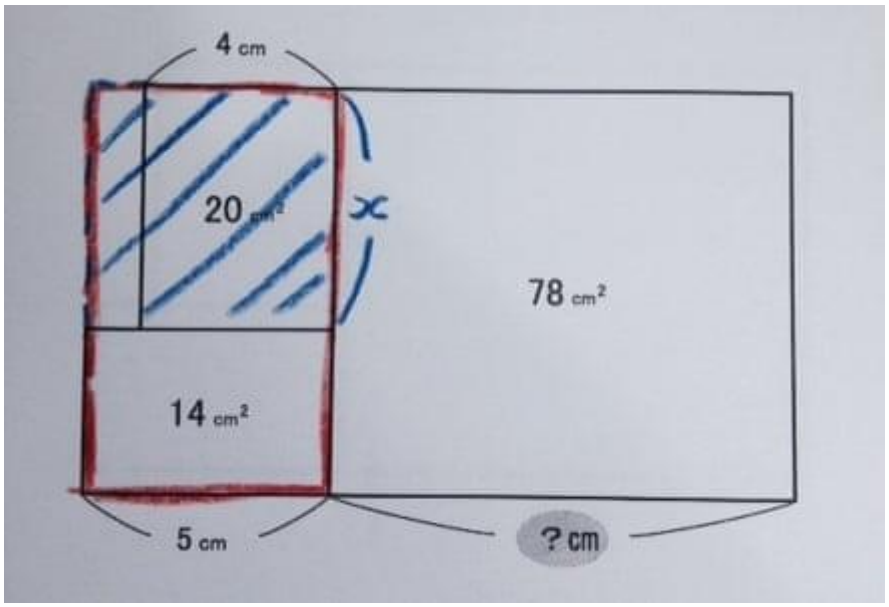
Area Maze , or Menseki Meiro , Problem



Area Maze , or Menseki Meiro , Problem: The Solution (or one of them, at least)

With thanks to Alex Bellos, The Guardian

Draw this:



- First we can deduce that the length x is 5cm, since 4 x 5 = 20.
- We know that the blue area is therefore 5 x 5 = 25cm.
- So the red rectangle has area 25 + 14 = 39cm.
- Note that 78 is twice 39, so the large rectangle area is double the red rectangle area. Since both rectangles share the same height, the missing value must be double the width of the red rectangle, or 2 x 5 = 10cm