

On my first attempt at counting the number of rectangles, I got 33, and on my 2nd try I got 47, but after a few more attempts of trying to be more methodical, I got **55**.

My method for working it out:

In total, there was 10 blocks, so I went through all the numbers between 1 and 10, and for each number, if I was doing 2, I looked at how many rectangles made up of 2 blocks there were.

After I looked at all the numbers, I added my total for each together. My totals for each were:

$$1 = 10$$

$$2 = 9$$

$$3 = 8$$

$$4 = 7$$

$$5 = 6$$

$$6 = 5$$

$$7 = 4$$

$$8 = 3$$

$$9 = 2$$

$$10 = 1$$

There are multiple patterns throughout this, and the 3 that I've noticed are (A) The totals go down in order from 10 to 1, (B) each set of numbers (e.g. 9 and 2) add up to 11, and (C) I'm not sure how to put this into words, but here is an example of the pattern I spotted: 7=4 on the list, and 4=7, same with 3 and 8, and 5 and 6, etc.

This method works because if you find the largest amount for all the numbers and add them, you know you haven't missed any rectangles out.