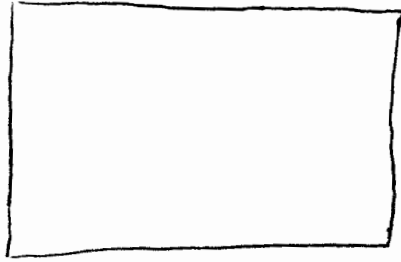
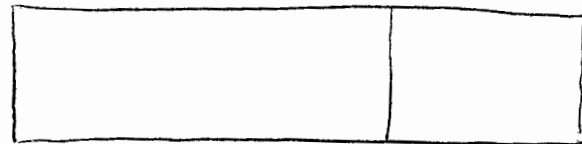
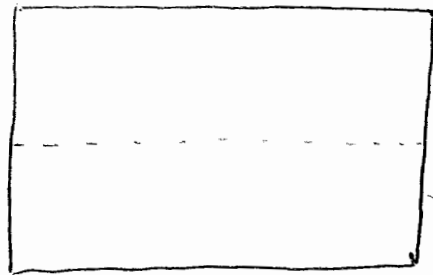


Here is what the Russian algorithm does in terms of rectangular arrays: we start with a rectangular array



at each step we try to divide the number of rows by 2 and multiply the number

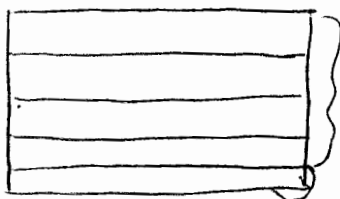
of columns by 2. This works perfectly well when the number of rows is even and it does not change the area:



cut off bottom half and glue here

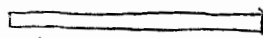
When the number of rows is odd we have to put one row to the side before we can cut the array in half horizontally.

Ex



divide, cut, and glue

put aside



After repeating this process as long as we can (down to one long row) we are left with one long row plus all of the rows that were put aside when the # of rows was odd. These are precisely the numbers ~~we~~ we add during the Russian algorithm