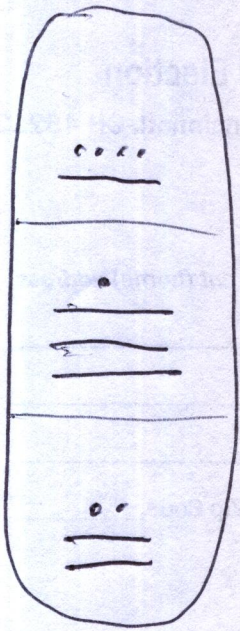
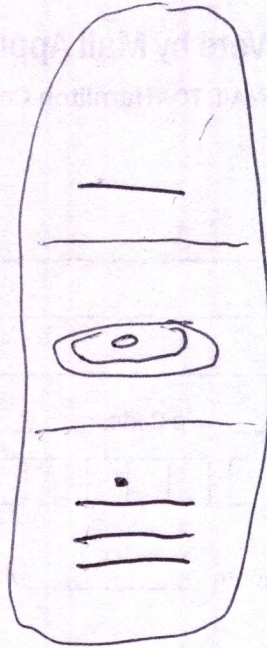
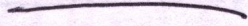


Mayans



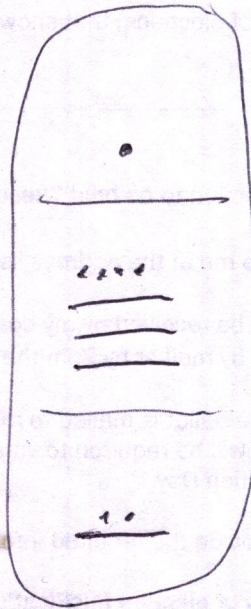
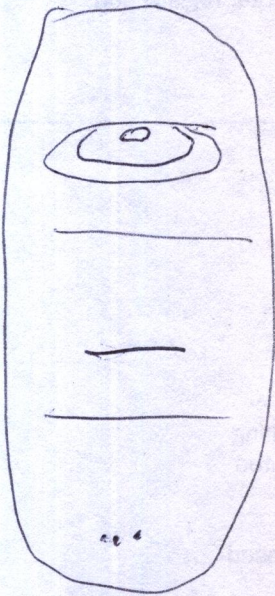
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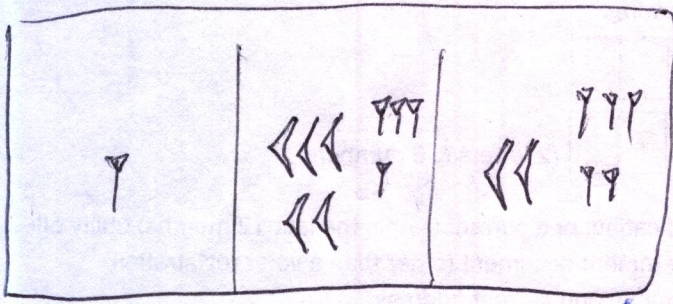
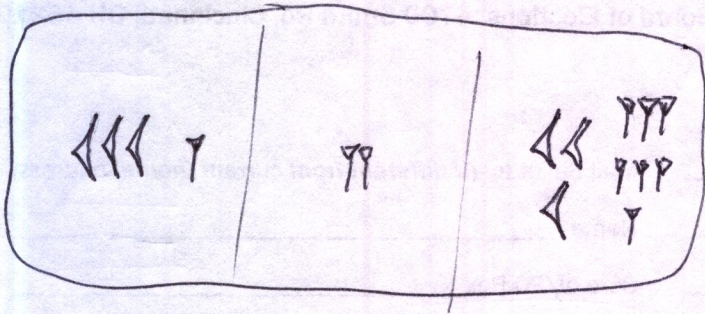
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Why will you never see these :

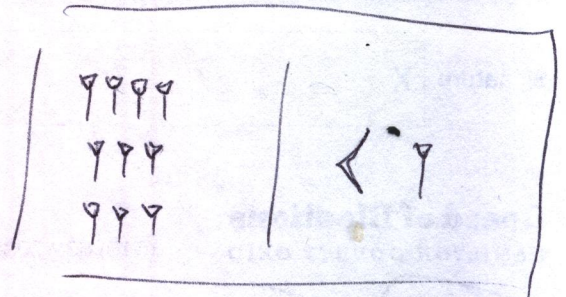
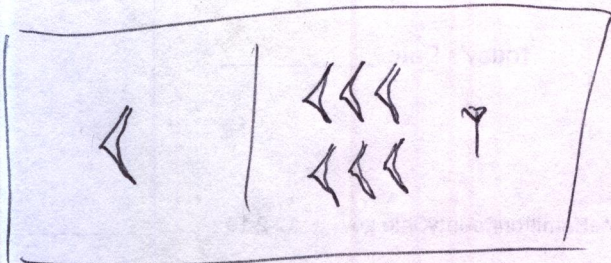


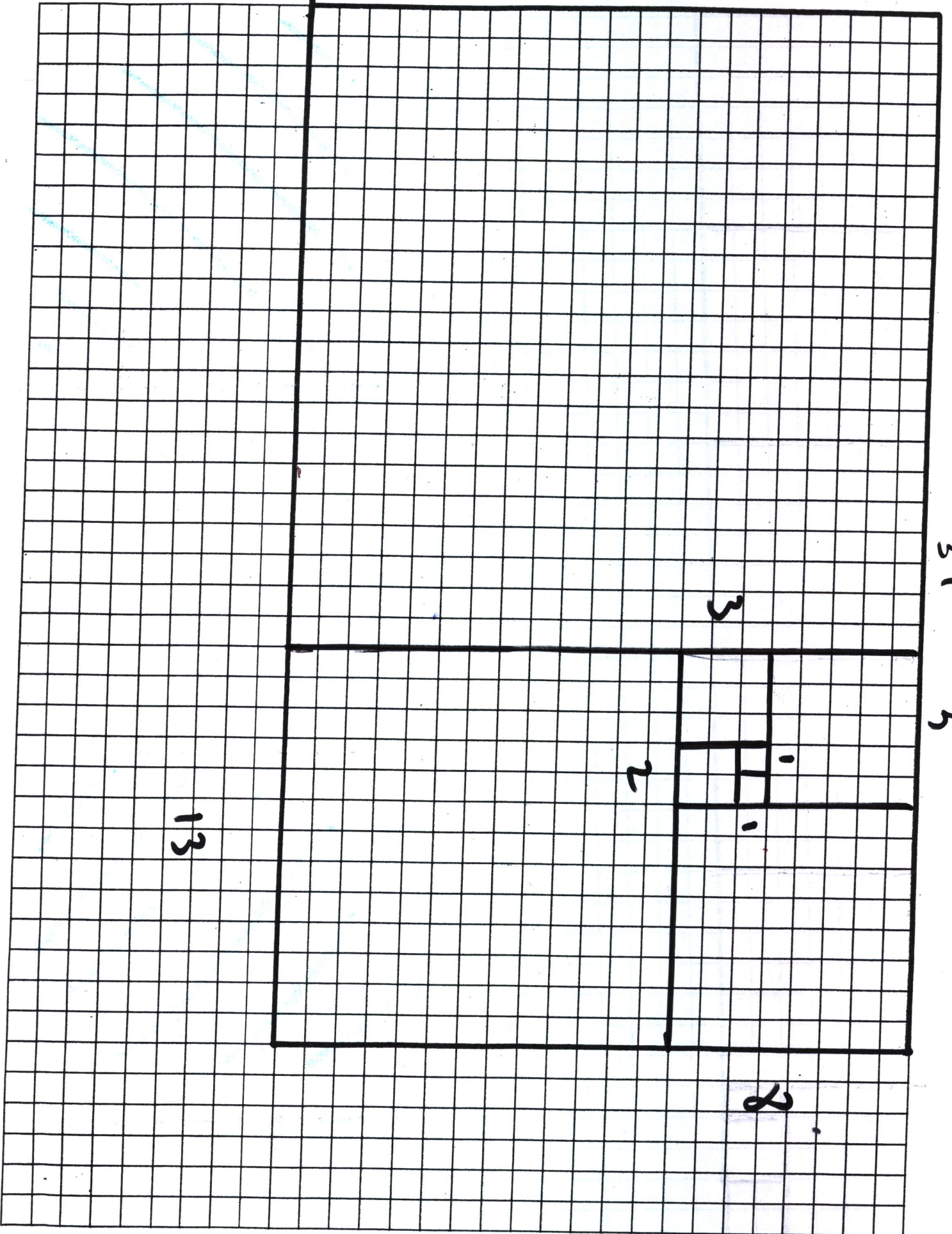
Babylonians



What Babylonian number is this? Υ

Why won't you ever see these?





21

24

5

3

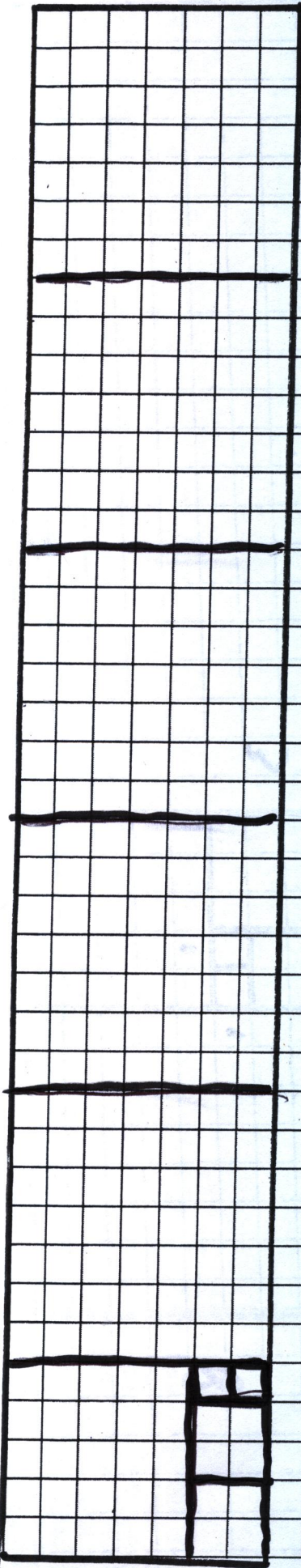
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2

13

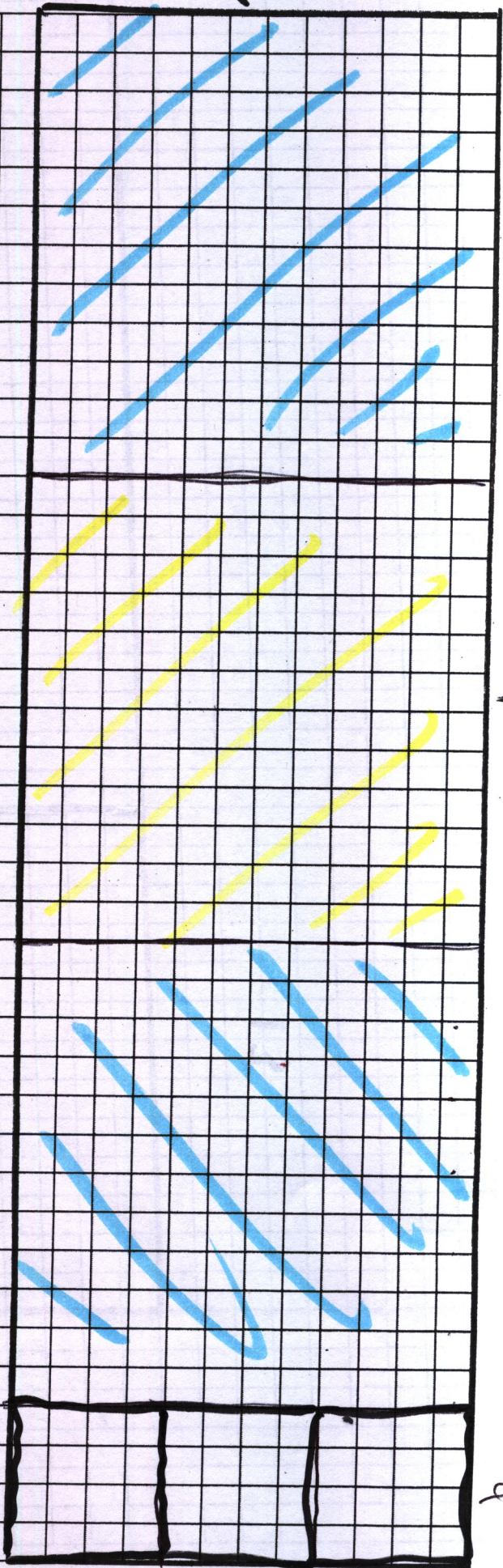
43

7



12

43

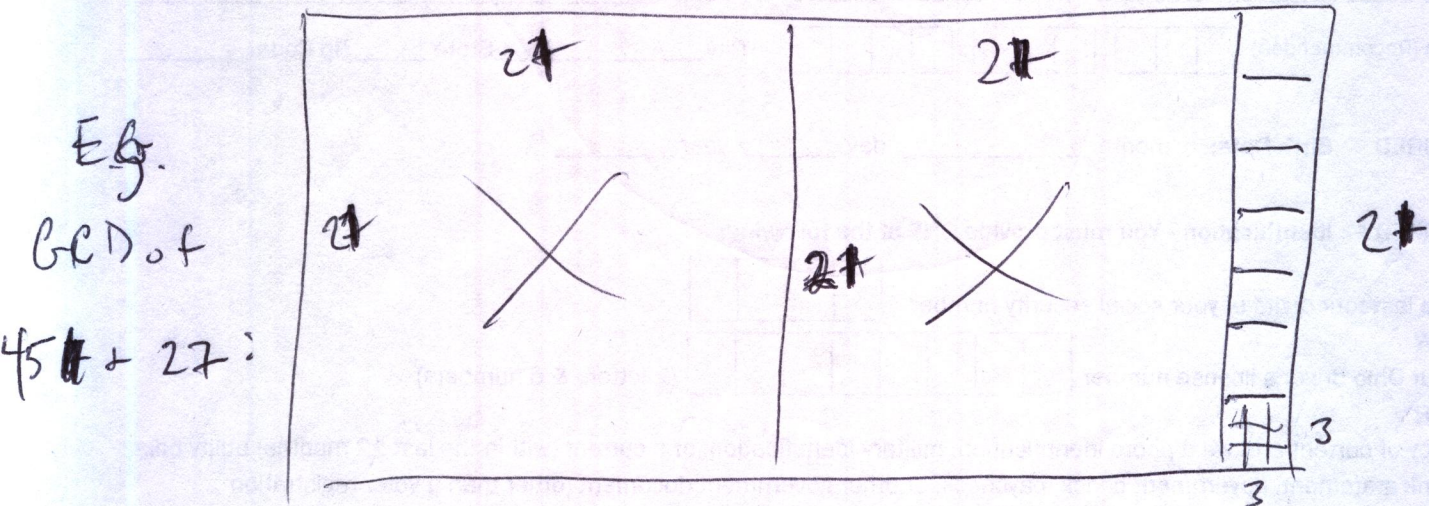


12

7

Fibonacci Nine + Fibonacci:

Find the GCD \rightarrow Fibonacci:

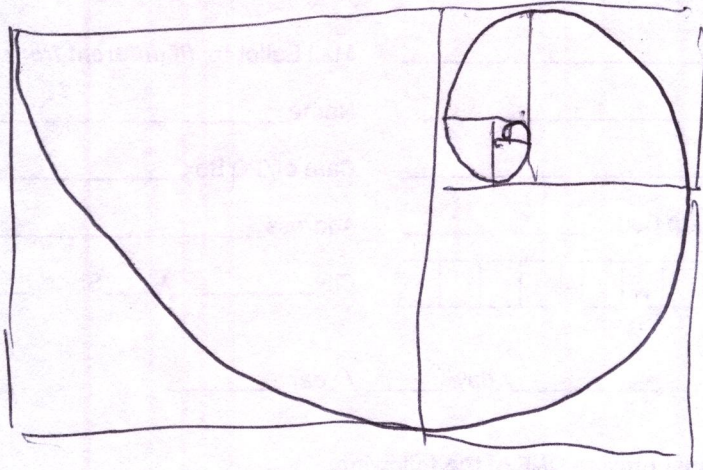


Casting out squares was Euclid's algorithm for finding the GCD (3)

Successive Fibonacci numbers were the worst case scenario:

- 1) Only cast out one square at a time, &
- 2) "relatively prime" - GCD is 1. - so we had to go "all the way" down to a 1 by 1 square.

Led to the "Fibonacci Spiral"

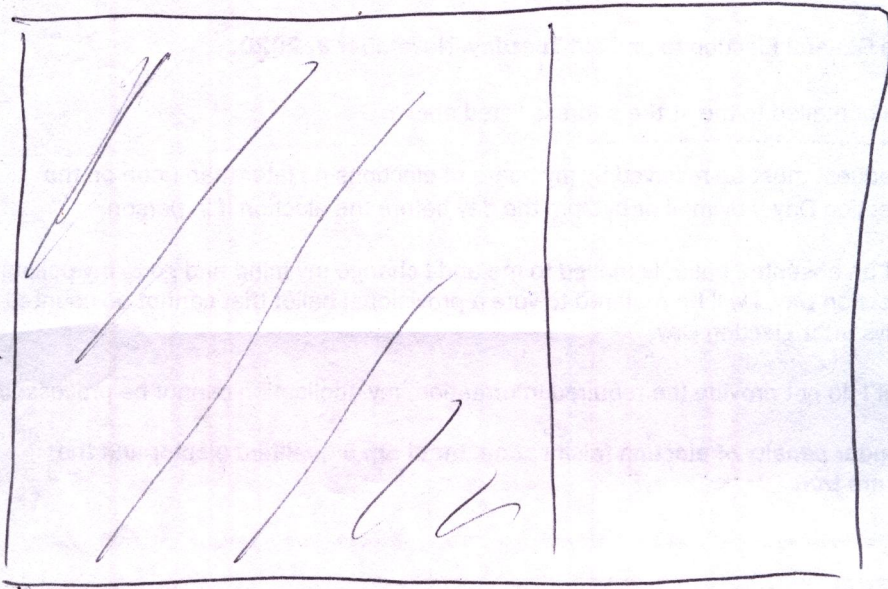


Squares:

| | |
|-------|-------------|
| 1x1 | |
| 1x1 | |
| 2x2 | 2 = 1 + 1 |
| 3x3 | 3 = 2 + 1 |
| 5x5 | 5 = 3 + 2 |
| 8x8 | 8 = 5 + 3 |
| 13x13 | 13 = 8 + 5 |
| 21x21 | 21 = 13 + 8 |
| ⋮ | ⋮ |

The golden ratio is related:

What rectangle, if you remove the largest square possible,



leaves a rectangle of the same shape?

Ratio of side lengths ϕ

Side length ratio:

$$\phi = \frac{1 + \sqrt{5}}{2}$$

$$\approx 1.618$$

⤴ This one's "thinner" than the original - so it's not golden