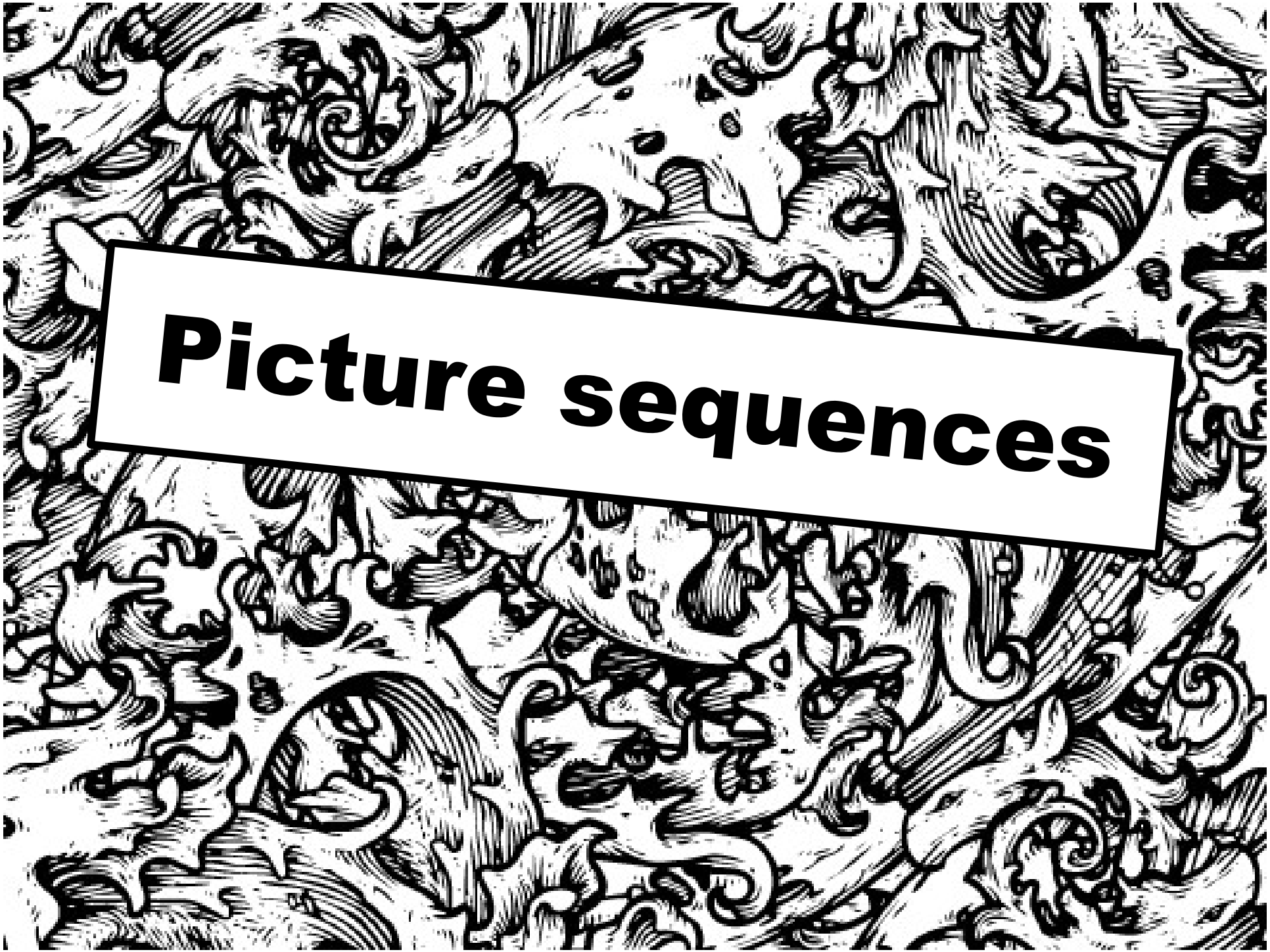

Picture sequences

Look at these patterns made of match sticks

1st pattern
N=1

2nd pattern
N=2

3rd pattern
N=3

4th pattern
N=4

Draw the next pattern, then click to see if you were right

How many sticks do we need for the 20th pattern?

To save time we need the nth term

How many sticks for pattern 20?

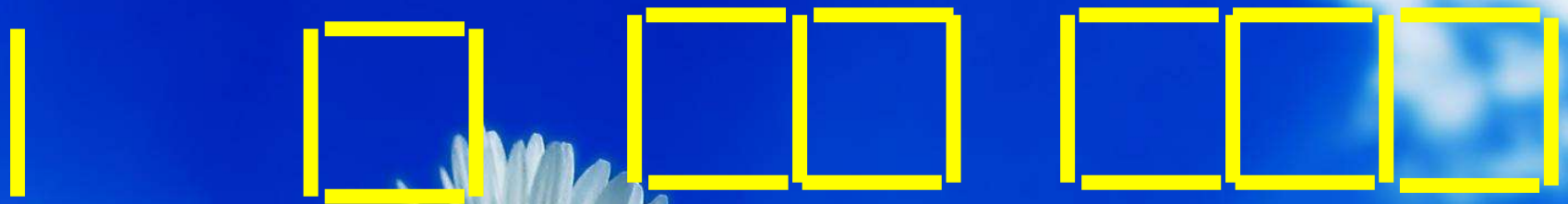
1 3 5 7

Nth term = 2n-1

To find the 20th term, replace n with 20

20th term= 2x20-1
=39

Look at these patterns made of match sticks



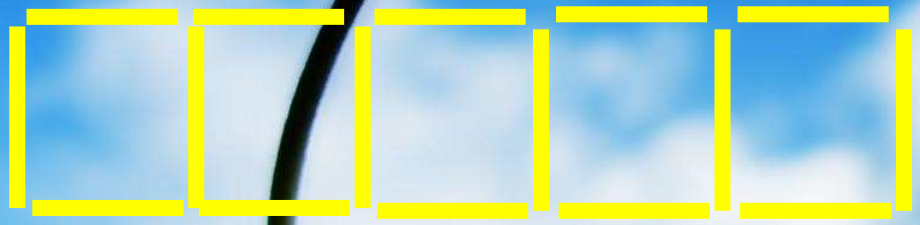
1st pattern
N=1

2nd pattern
N=2

3rd pattern
N=3

4th pattern
N=4

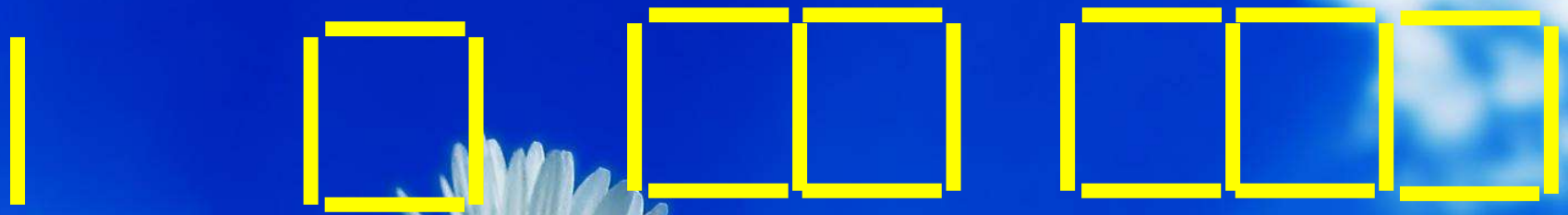
Draw the next pattern, then click to see if you were right



How many sticks do we need for the 30th pattern?

To save time we need the nth term

How many sticks for pattern 30?



1 4 7 10

Nth term = 3n-2

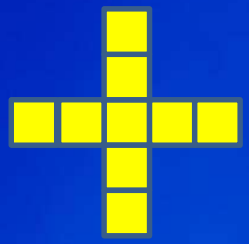
To find the 30th term, replace n with 30

30th term= 3x30-2
=88

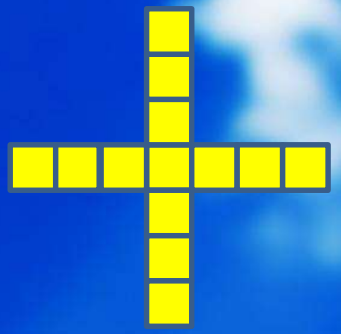
Look at these patterns made of squares

1st pattern
N=1

2nd pattern
N=2

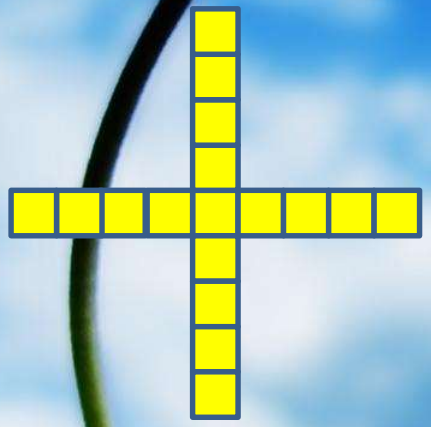


3rd pattern
N=3



4th pattern
N=4

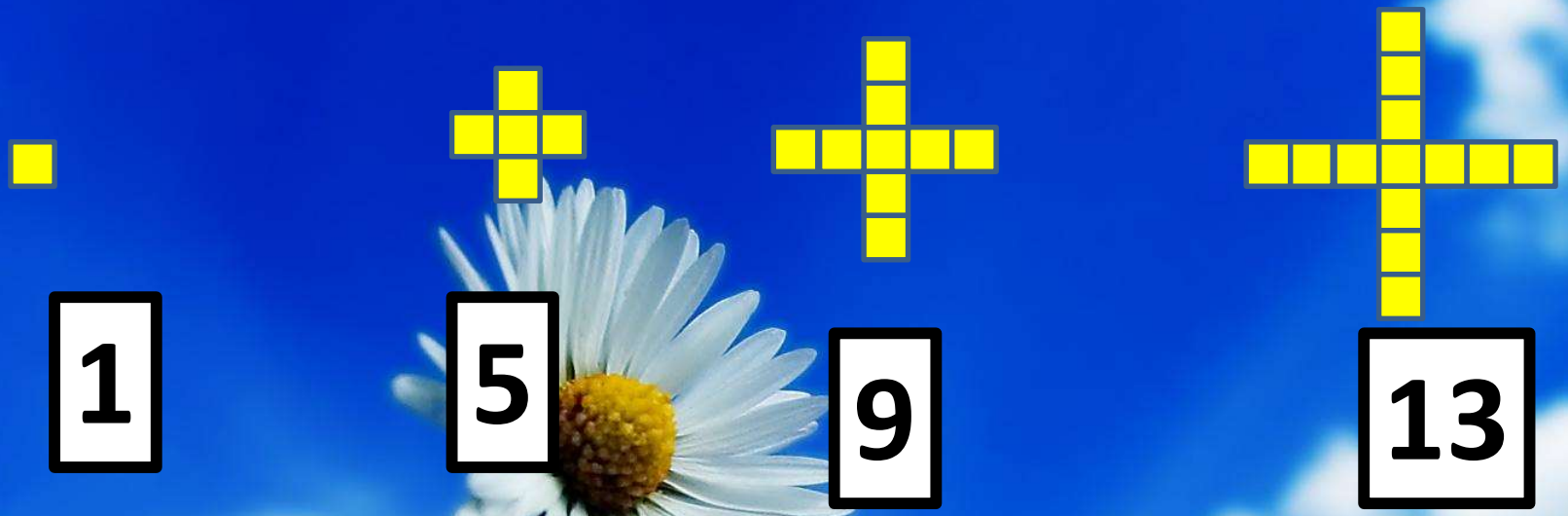
Draw the next pattern, then click to see if you were right



How many sticks do we need for the 100th pattern?

To save time we need the nth term

How many squares for pattern 30?



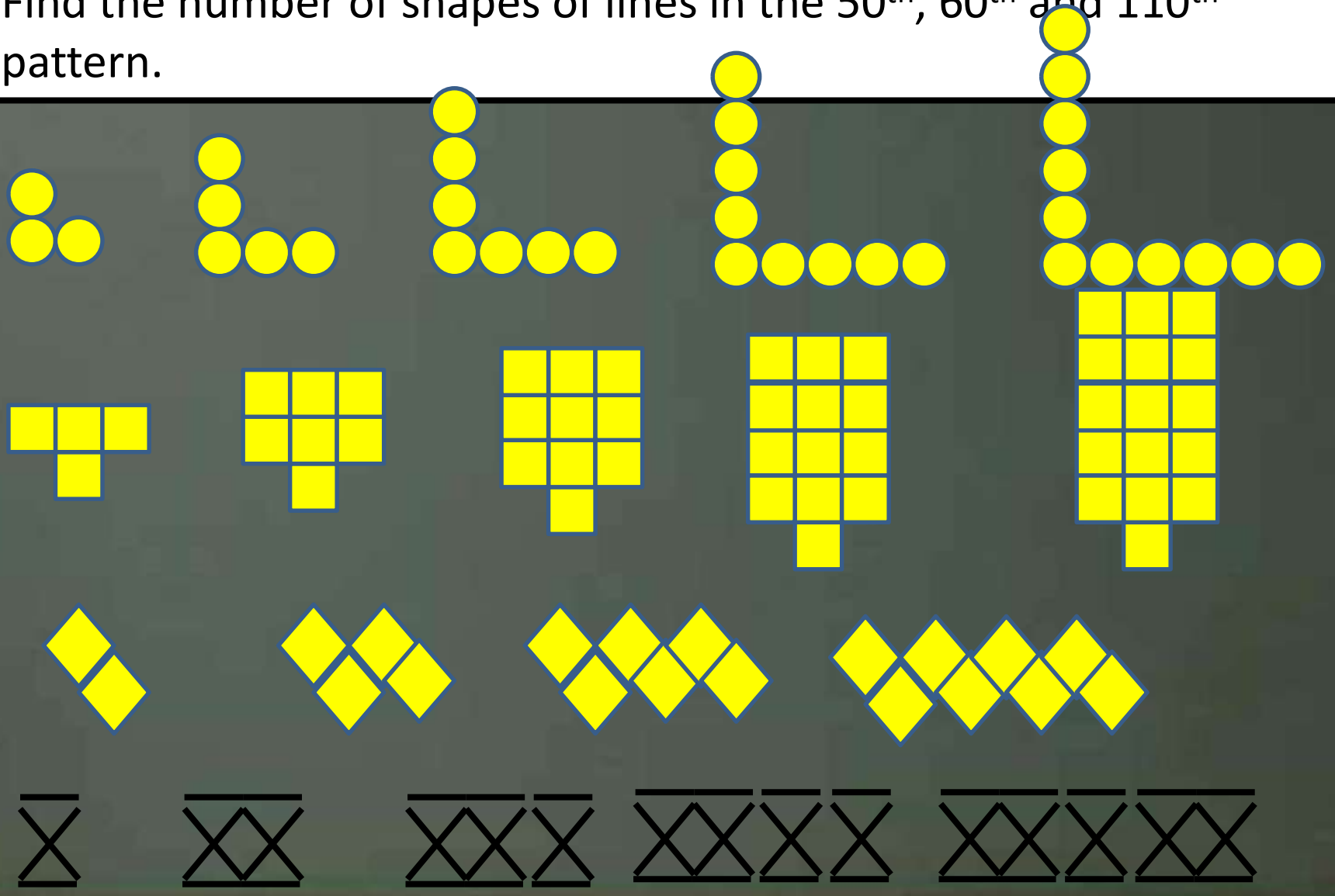
1 5 9 13

Nth term = 4n-3

To find the 30th term, replace n with 100

100th term= 4x100-3
=397

1. Draw the next two patterns in each sequence.
2. Find the nth term of each sequence
3. Find the number of shapes of lines in the 50^{th}, 60^{th} and 110^{th} pattern.



stions

Answers:

Nth terms:

2n+1 , 3n+1, 2n, 4n

50th pattern:

101, 151, 100, 200

60th pattern:

121, 181, 120, 120, 240

100th pattern:

201, 301, 200, 400