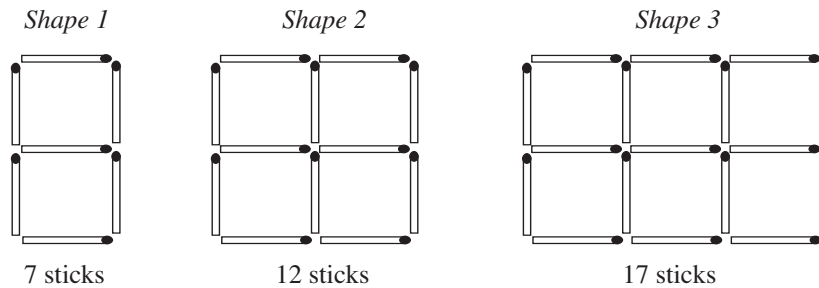


<i>Pattern</i>	1	2	3
<i>Number of sticks</i>	4	7	10

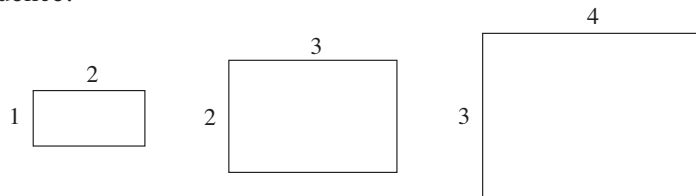
- (a) (i) Draw *Pattern 4*.
(ii) How many sticks are needed for *Pattern 4*?
- (b) How many more sticks are needed to make *Pattern 5* from *Pattern 4*?
- (c) There is a rule for finding the number of sticks needed to make any of these patterns of squares.
If the number of squares in a pattern is s , write down the rule.

16. (a) Sticks are arranged in shapes.



The number of sticks form a sequence.

- (i) Write down a rule for finding the next number in the sequence.
(ii) Find a formula in terms of n for the number of sticks in the n th shape.
- (b) Find a formula, in terms of n , for the area of the n th rectangle in this sequence.



Challenge!

John and Julie had a date one Saturday. They agreed to meet outside the cinema at 8 pm. Julie thought that her watch was 5 minutes fast but in actual fact it was 5 minutes slow. John thought that his watch was 5 minutes slow but in actual fact it was 5 minutes fast. Julie deliberately turned up 10 minutes late while John decided to turn up 10 minutes early.

Who turned up first and how long had he/she to wait for the other to arrive?