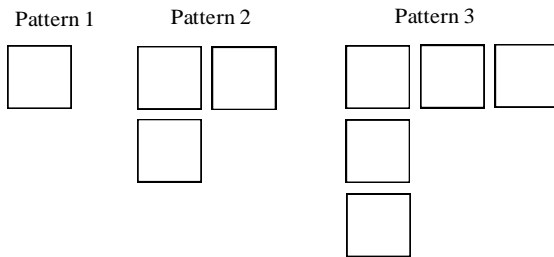# Grade 7 Maths Worksheet

Diagrammatic patterns and number patterns

Questions:

1.   The pattern below shows blocks being arranged to form an L shape.

Pattern 1   Pattern 2   Pattern 3

a)   Complete the table below:

Input (pattern number)	Output (number of blocks)
1	
2	
3	
4	
5	
7	
12	

b)   Write down a rule that represents the number of blocks in the 100th pattern.

c)   Write down a general rule for the number of blocks per pattern.

Solution

1. a)

Input (pattern number)	Output (number of blocks)
1	**1**
2	**3**
3	**5**
4	**7**
5	**9**
7	**13**
12	**23**

   b)   No of blocks $= 2(100) - 1$

   c)   No of blocks $= 2(\text{pattern number}) - 1$

Appendix of Assignment Tools
Number pattern
Input / Output
Generalised number