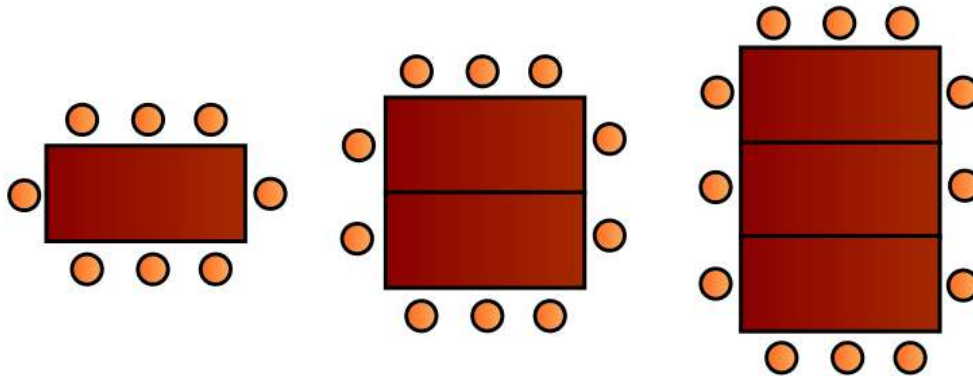1.   Tables and chairs in a restaurant are laid out as shown below.
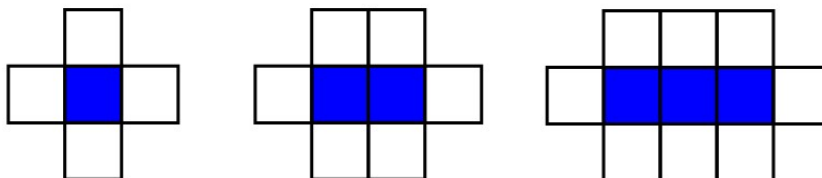
(a) Copy and complete the table shown;

Number of tables (T)	1	2	3	4	5
Number of chairs (C)					

(b) Write down a formula connecting the number of chairs to the number of tables.

(c)Using your formula calculate the number of chairs needed for a row of 12 tables.

2.   The designer creates a pattern for a tiling a wall as shown below.

(a) Draw the next pattern.

(b) Copy and complete the table;

Blue tiles (B)	1	2	3	4	5
White tiles (W)					

(c) Write down a formula to find the number of white tiles needed.

(d) Using your formula, calculate how many white tiles are needed for 42 blue tiles.

(e) If there are 64 white tiles, how many blue tiles are there?

3.   A pattern of squares is constructed using matchsticks as shown.
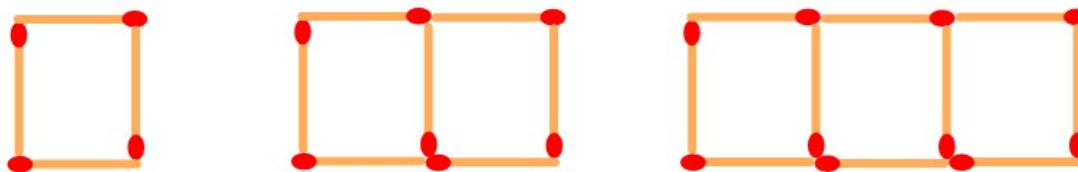
(a) Copy and complete the table;

Number of squares (S)	1	2	3	4	5
Number of matches (M)					

(b) Write down a formula connecting M and S.

(c) Using your formula, calculate the number of matches needed to make 51 squares.

(d) Using your formula, calculate the number of squares you could build with 79 matches.

4.   Copy and complete the tables shown here and write down a formula for each question.

(a)

Number of posts (P)	2	3	4	5	6
Pieces of wood (W)	3	6			

$$W = \_\_P - \_\_$$

(b)

Number of protons (P)	5	6	7	8	9
Number of neutrons (N)	9	12	15		

(c)

x	1	3	5	7	9
y	4	8	12		

(Hint: Answer is not y = 4x!!!)