Questions of online lesson on 26th, June

1. (2015 PSLE P2 Q18) Ishak uses rods to form figures that follow a pattern. The first four figures are shown below.
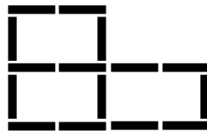

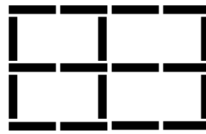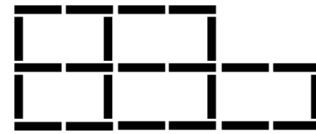| **Figure 1** | **Figure 2** | **Figure 3** | **Figure 4** |

(a) The table below shows the number of rods used for each figure. Complete the table for Figure 5 and Figure 6.

Figure Number	Number of rods used
1	10
2	15
3	18
4	23
5	
6	

(b) What is the difference in the number of rods Ishak would use for Figure 9 and Figure 11?

(c) How many rods would he use for Figure 30?

2. (2016 PSLE P2 Q18) Yasmin uses triangles and circles to form figures that follow a pattern as shown below.
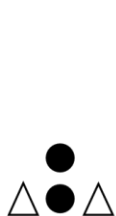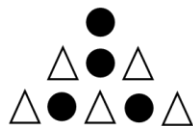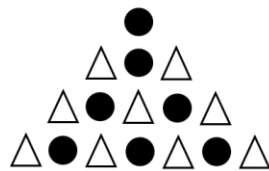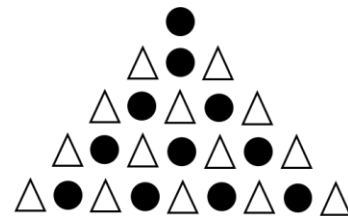

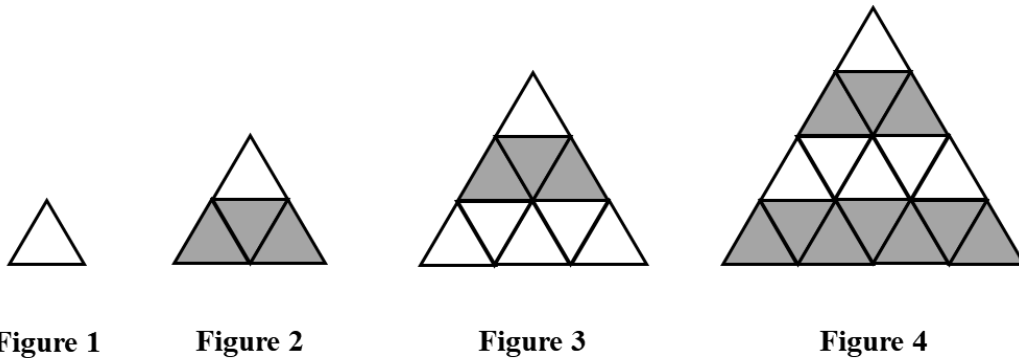| Figure 1 | Figure 2 | Figure 3 | Figure 4 |

(a) The table shows the number of triangles and circles for the first four figures. Complete the table for Figure 5.

Figure Number	**1**	**2**	**3**	**4**	**5**
Number of triangles	2	5	9	14	
Number of circles	2	4	7	11	
Total number of triangles and circles	4	9	16	25	

(b) A figure in the pattern has a total of 100 triangles and circles. What is the Figure Number?

(c) Another figure in the pattern has 50 more triangles than circles. What is the total number of triangles and circles in this figure?

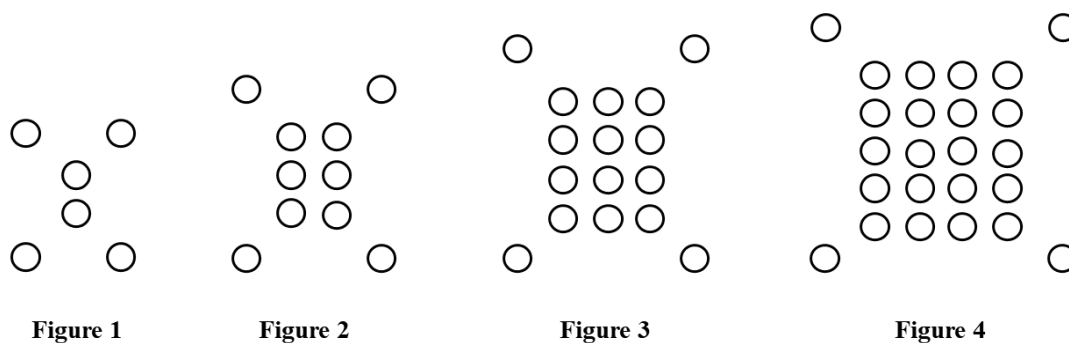3. (2019 PSLE P2 Q17) The first four figures of a pattern are shown below.

| Figure 1 | Figure 2 | Figure 3 | Figure 4 |

The table shows the number of white and grey triangles used for each figure.

Figure Number	1	2	3	4	5
Number of white triangles	1	1	6	6	
Number of grey triangles	0	3	3	10	

(a) Fill in the table for Figure 5.
(b) What is the total number of white and grey triangles in Figure 250?
(c) In Figure 250, what percentage of the triangles are grey?

4. Jack uses circles to form figures that follow a pattern. The first four figures are shown below.

| Figure 1 | Figure 2 | Figure 3 | Figure 4 |

The table shows the number of circles used for each figure.

Figure Number	1	2	3	4	5	...	n
Number of circles	6	10	16			...	

(a) Fill in the table for Figure 4 and Figure 5.
(b) Fill in the table for Figure n.
(c) Jack uses 310 circles to form Figure n. Find the value of n.

5. The first four figures of a pattern are shown below.

Figure 1   **Figure 2**   **Figure 3**   **Figure 4**

The table shows the number of stars used for each figure.

Figure Number	1	2	3	4	5
Number of stars	2	3	5		

(a) Fill in the table for Figure 4 and Figure 5.
(b) Find the number of stars in Figure 10.
(c) Alex uses 2049 stars to form Figure x. Find the value of x.

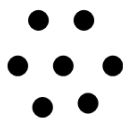6. Mary uses chess pieces to form figures that follow a pattern. The first three figures are shown below.
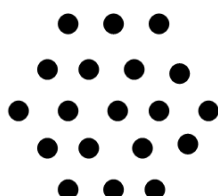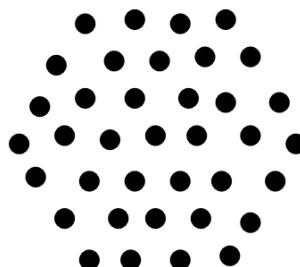

Figure 1   **Figure 2**   **Figure 3**

The table shows the number of chess pieces used for each figure.

Figure Number	1	2	3	…	6	…	n
Number of chess pieces	7	19	37	…		…	

(a) Fill in the table for Figure 6.
(b) Fill in the table for Figure n.
(c) Mary uses 331 chess pieces to form Figure a. Find the value of a.