Problem Solving

While working in a group make sure you:

- Expect to make mistakes but be sure to reflect/learn from them!
- Are civil and are aware of your impact on others.
- Assume and engage with the strongest argument while assuming best intent.

1. Describe the pattern and find the next two numbers in the sequence:

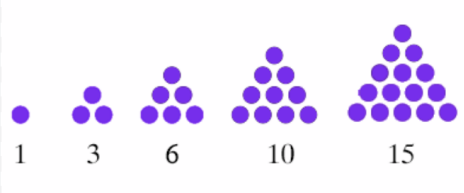
$$1, 1, 2, 3, 5, 8, 13, 21, 34, 55, ...$$

2. Fibonacci had a pair of baby rabbits that were too young to produce more rabbits the first month, but produce a pair of baby rabbits every month thereafter. Each new pair of rabbits will follow the same rule. The first month Fibonacci had one pair of baby rabbits. The second month Fibonacci had one adult pair of rabbits. The third month Fibonacci had two pairs of rabbits (one adult pair and one baby pair). How many pairs or rabbits did Fibonacci have in the fourth and fifth month?

3. Identify the sequence below as recursive, arithmetic, geometric, or none of the above. Find the 100th number in the sequence.

$$2, 6, 18, 54, 162$$

4. The sequence of numbers illustrated below are triangular numbers. Identify if the sequence is recursive, arithmetic, geometric, or none of the above. Find the 100th number in the sequence.



5. Let the nth term in a sequence be defined as $31 + 12 * n$. Write down the first three terms in the sequence and then identify the sequence below as recursive, arithmetic, geometric, or none of the above. Justify your answer.