Sequences

In-class Exercise, August 22nd, 2016

Full name of all group members (up to 4):

1	2
3	4

For the following sequences, write down the **closed formula** and the **recursive formula** for each. Make sure to pass the paper around so everybody writes some in.

	Closed formula	Recursive formula
1. 3, 6, 9, 12, 15, …		
2. 3, 9, 27, 81, …		
3. 5, 7, 9, 11, 13, …		
4. 4, 6, 10, 18, 34, …		

For the following sequences, list the first five terms, calculate the 10th term.

	First 5 terms	10th term
5. $a_1 = 1 \quad , \quad a_n = a_{(n-1)} + 10$		
6. $a_n = 2n - 4$		

For the following sequences, write down the **sigma notation**:

	Sigma Notation
7. $\frac{1}{1}+\frac{1}{2}+\frac{1}{3}+\frac{1}{4}+\frac{1}{5}$	
8. 4 + 8 + 12 + 16 + 20	

For the following sequences, evaluate the sums:

	Sum
9. $\sum_{k=1}^{4} 2k+2$	
10. $\sum_{k=1}^{4} 2^k+1$	