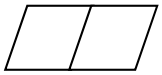
CCSSS Algbera 2 Assignment Name _____

Unit 1 – Block 1

1. Complete the table by joining a rhombus to the previous figure so that two of the rhombi share one side.

Figure number	Visual depiction	Perimeter
1		4 units
2		6 units
3		
4		
5		

2. List the perimeter values from the table above. What kind of sequence is this ordered list? Justify your answer.

3. How is the nth term of a sequence recursively defined?

4. Find the first five terms of a sequence using the recursive definition $f(1) = 8, f(n) = f(n - 1) + 3$.

5. What is a series?

6. The Fibonacci Sequence is the series of numbers:

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, ...

The next number is found by adding up the two numbers before it.

Fill in the missing values in the Fibonacci sequence.

Term	Fibonacci Number
1	0
2	1
3	1
4	2
5	3
6	5
7	8
8	13
9	21
10	34
11	55
12	
13	
14	233
15	

7. Now we will add a third column to the table. This column will have the value of the ratio of the Fibonacci number of the ***n***th term divided by the value of the ***(n -1)***th term.

Fill in the empty spaces.

Term	Fibonacci Number	$f(n)/f(n-1)$
1	0	-
2	1	-
3	1	1/1 = 1
4	2	2/1 = 2
5	3	3/2 = 1.5
6	5	5/3 = 1.67
7	8	8/5 = 1.6
8	13	13/8 = 1.63
9	21	21/13 = 1.62
10	34	
11	55	
12		
13		

7. The 20th term in the Fibonacci sequence is 6765. What is the value of the 21st term? Justify your answer.