Name _____ Date _____ Hour _____ Score

Geometric Sequences – Recursive and Explicit Formulas

Fill in the blanks so the values fit the geometric sequence. Write the explicit and the recursive formula.

1)

1	2
2	4
3	8
4	16
5	

2)

1	1
2	3
3	9
4	27
5	

3)

1	-5
2	-25
3	-125
4	-625
5	

4)

1	2
2	6
3	18
4	54
5	

5)

1	16
2	8
3	4
4	2
5	

6)

1	-36
2	-6
3	-1
4	-1/6
5	

7)

1	-2
2	-4
3	-8
4	-16
5	

8)

1	48
2	24
3	12
4	6
5	

9)

1	
2	5
3	15
4	45
5	

10)

1	
2	4
3	16
4	64
5	

11)

1	
2	6,561
3	2,187
4	729
5	

12)

1	
2	-8
3	-32
4	-128
5	

13) Tearing: Begin with 1 piece of paper at stage 1. For stage 2, tear it in half. For each succeeding stage tear each piece of paper in half. Keep track of the total pieces of paper.

Sequence Rule: 10^{th} number

_____ _____

Stage (n)	total pieces (a_n)
1	1
2	2

Describe the pattern_____ equation: a_n = _____

Describe what the graph would look like _____

14) Gossip: One student tells three other students a secret. Those three students plus the original student each tell three more students. At each stage, all those who know the secret tell three more people. Keep track of the total people who know the secret.

Sequence Rule: 10^{th} number

_____ _____

1 4 ____ ____ ____

stage (n)	total (a_n)
1	1
2	4

Describe the pattern_____