

Name: _____ Period: _____

Score: _____ / _____ %

HW 3-3 HONORS: Geometric Recursive & Explicit Equations

For each of the following questions:

- a) Write the recursive equation and b) the explicit equation for each geometric sequence.
- c) graph each sequence, making sure to clearly label your axes.

1. 2, 4, 8, 16 ...

a) _____

b) _____

c)

3. Claire has \$300 in an account to start out (month 0). She decides she is going to take out half of what's left in there at the end of each month.

a) _____

b) _____

c)

2.

Time (days)	Number of cells
1	3
2	6
3	12
4	24

a) _____

b) _____

c)

4. Tania creates a chain letter and sends it to four of her friends (on day 0). Each day each friend is then instructed to send it to four friends, and so forth.

a) _____

b) _____

c)

For the following **Geometric Sequences**, do the following:

- a) state the common ratio b) recursive equation c) explicit equation

5.) 2, 10, 50,

a) _____

b) _____

c) _____

6.) 36, 12, 4, ...

a) _____

b) _____

c) _____

7.) 4, 12, 36, ...

a) _____

b) _____

c) _____

8.) 400, 100, 25, ...

a) _____

b) _____

c) _____

9.) -6, -42, -294, ...

a) _____

b) _____

c) _____

10.) 1024, 128, 16, ...

a) _____

b) _____

c) _____

11.) 3, 15, 75,

a) _____

b) _____

c) _____

12.) 45, 15, 5, ...

a) _____

b) _____

c) _____

13.) 4, 32, 256, ...

a) _____

b) _____

c) _____

14.) 200, 40, 8,

a) _____

b) _____

c) _____

15.) -6, -36, -216, ...

a) _____

b) _____

c) _____

16.) -392, -56, -8, ...

a) _____

b) _____

c) _____

Write the **explicit equation** for each geometric sequence, then **USE IT** to find the given term.

17.) 4, 8, 16, ... Find the 11th term

18.) -1, -3, -9, ... Find the 9th term

19.) $\frac{2}{625}, \frac{2}{125}, \frac{2}{25}, \dots$ Find the 7th term

20.) 45, 15, 5, ... Find the 8th term

21.) 3, 21, 147, ... Find the 8th term.

22.) -1, -4, -16, ... Find the -7th term.

23.) 3, 6, 12, Find the 13th term.

24.) $\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \dots$ Find the 10th Term