Arithmetic and Geometric Sequences Practice

Name: _____ Class Period_____

For each Sequence, Pattern, Table, or Story below identify whether it is <u>Arithmetic or Geometric</u>, find the <u>common difference</u> or <u>common ratio</u>, write an <u>Explicit Formula</u>, then use your formulas to find the given term.

Representation	Arithmetic or Geometric	Common Difference or Ratio	Explicit Formula	Given Term
1. -6, 12, -24, …				a_{10}
2. 1, 3, 9, 27, …				a_5
3. -10, -8, -6, -4, …				a_{56}
4. 72, 48, 24, …				a_5
5. -31, -23, -15, …				a_{32}
6. -4, -12, -36, …				a_3
7. -2, -10, -50, …				a_7
8. 5, 11, 17, …				a_{15}
9. 4, 24, 144, …				a_8
10. 21, 16, 11, …				a_{11}

Decide if each of the following scenarios describes an arithmetic or geometric sequence. Then, write the formula for the sequence.
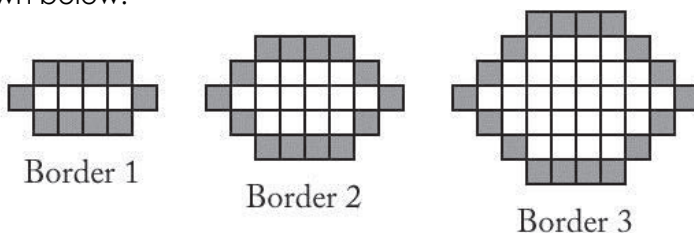
11. A student comes to school with the flu and infects three other students within an hour before going home. Each newly infected student passes the virus to three new students in the next hour. This pattern continues until all students in the school are infected with the virus.

   Type: _____ Formula: _____

12. Round 1 of a tennis tournament starts with 128 players. After each round, half the players have lost and are eliminated from the tournament. Therefore, in round 2 there are 64 players, in round 3 there are 32 players and so on.

   Type: _____ Formula: _____

13. Fred decides to cover the kitchen floor with tiles of different colors. He starts with a row of four tiles of the same color. He surrounds these four tiles with a border of tiles of a different color (Border1). The design continues as shown below:

   Border 1   Border 2   Border 3

   Type: _____ Formula: _____

14. Paul has $680 in a savings account. He makes a deposit after he receives each paycheck. After one month he has $758 in the account. The next month the balance is $836. The balance after the third month is $914.

   Type: _____ Formula: _____

15. The table shows the number of country club members for four years after it began.

Time(yrs)	0	1	2	3	4
Members	100	200	300	400	500

   Type: _____ Formula: _____