

Name: _____ Date: _____

Sequences Practice Worksheet

Arithmetic Sequences: A sequence of terms that have a common _____ between them.

Formula: $a_n = d(n-1) + a_1$ where a_1 is the first number in the sequence and d is the common difference.

Geometric Sequences: A sequence of terms that have a common _____ between them.

Formula: $a_n = a_1(r)^{n-1}$ where a_1 is the first number in the sequence and r is the common ratio.

Are the following sequences, arithmetic or geometric?

*If they are arithmetic, state the value of d . *If they are geometric, state r .

1. 6, 12, 18, 24, ... type: _____ d or r: _____

2. 6, 11, 16, ... type: _____ d or r: _____

3. 2, 14, 98, 686, ... type: _____ d or r: _____

4. 160, 80, 40, 20, ... type: _____ d or r: _____

5. -40, -25, -10, 5, ... type: _____ d or r: _____

6. 7, -21, 63, -189, ... type: _____ d or r: _____

For the following sequences, find a_1 and d and state the formula for the general term.

7. -10, -4, 2, 8, 14, ... $a_1 =$ _____ $d =$ _____ Formula: _____

8. 10, 8, 6, 4, ... $a_1 =$ _____ $d =$ _____ Formula: _____

9. 36, 31, 26, 21, ... $a_1 =$ _____ $d =$ _____ Formula: _____

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10. Use the formula from question #9 to find the seventh term and the 20th term

For the following sequences, find a_1 and r and state the formula for the general term.

11. 4, 20, 100, 5000, ...

$a_1 =$ _____

$r =$ _____

Formula:

12. 3, -6, 12, -24, 48 ...

$a_1 =$ _____

$r =$ _____

Formula:

13. 1, 3, 9, 27, ...

$a_1 =$ _____

$r =$ _____

Formula:

14. Use the formula from question #13 to find the value of the fifth term and the twelfth term.