***Unit 9: Sequences and Series Review***

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| ***Formulas*** | |
| Algebraic (common difference *d* =…) | Geometric (common ratio *r* = …) |
| \*Recursive: | \*Recursive: |
| \*Recursive definitions ***MUST*** include the first term (…) | |
| **FORMULA SHEET** Explicit: | **FORMULA SHEET** Explicit: |
| Sum: | **FORMULA SHEET** Sum: ***OR*** |

The sequences below are defined recursively. Find the next three terms for each.

1. ,
2. ,
3. ,
4. ,

Given the explicit formula for an arithmetic sequence, determine the common difference and the term named.

1. , find
2. , find

With the first term and the common difference of an arithmetic sequence find the first three terms and the explicit formula.

1. ,

With a term and the common difference of an arithmetic sequence find the first three terms and the explicit formula.

Given two terms in an arithmetic sequence find both the recursive and explicit formula.

Given the explicit formula for a geometric sequence, find the 8th term.

Given the recursive formula and the common ration, find the first three terms and the explicit formula.

Given the first term and the common ratio of a geometric sequence find the explicit formula.

Given a term in a geometric sequence and the common ration find both the recursive and explicit formula.

Given two terms in a geometric sequence find the 8th term.

For the arithmetic series described below, determine the sum for “*n*” number of terms.

Determine the number of terms “*n”* for each arithmetic series described below.

For the geometric series described below, determine the sum for “*n*” number of terms.

1. 2

Determine the number of terms “*n”* for each geometric series described below.

1. Write as a series and determine the sum of:

Write the following series using sigma notation.