SECONDARY MATH 3

**CORE STANDARDS**

A.SSE.4

LESSON

**7-2**

OBJECTIVE **1.** I can find the sum of geometric and arithmetic series.

NOTES **Geometric series:** Sum of a sequence, where is the first term, is the common ratio, and n is the number of terms. An explicit formula for each term is given by

**Arithmetic series:** Sum of the terms of an arithmetic sequence. An arithmetic sequence can be written explicitly using the formula , where 1 a is the first term and d is the common difference. It can also be written recursively using the formula , where is the previous term and d is the common difference.

Sum of an infinite geometric series:

Sum of a finite arithmetic series:

or

Sum of a finite geometric series:

EXAMPLES Evaluate the sum of the series.

1. A professional baseball player signs a contract with a beginning salary of $2.250.000 for the first year and an annual increase of 5% per year beginning in the second year. How much money in total will the athlete make if his contract is for 6 years? Round to the nearest dollar.