Section 12.3 Geometric Series

# Objective 1: Finite Geometric Series

A **series** is the sum of the terms of a sequence. A **geometric series** is a series with terms that form a geometric sequence. A **finite geometric series** is the sum of the first n terms of a geometric sequence.

**Sum of a Finite Geometric Series:**

The sum of the first terms of a geometric sequence is given by

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where is the first term and is the common ratio of the sequence.

a. Find the sum of the first terms of a geometric sequence if the first term is and the common ratio is .

b. Find the sum of the first terms of the geometric series

c. Consider a job offer with a starting annual salary of with a guaranteed raise of each year. What is the total amount you would earn if you work there for years?