Unit 9: Summation

Vocabulary and notation

index	indices	arithmetic	geometric
sequence	series	infinite series	$\sum_{i=a}^{b} f(i)$
alternating series	telescoping series	harmonic series	harmonic number
partial sums	annual yield	APY	interest rate
counterexample			

Skills

- How to write the general term of a sequence
  - how to alternate signs
  - using the greatest integer function to repeat
  - representing the general term of an arithmetic series as a product
  - representing the general term of a geometric series as a power
- Recognize free and bound variables in a summation
- Understand what a double (or multiple) summation means
- Compute the sum of a finite arithmetic series
- Compute the sum of a finite geometric series
- Know the definition of the sum of an infinite series as a limit
- Compute the sum of an infinite geometric series
- Compute the sum of an infinite telescoping series
- Re-index a sum and recognize when one sum is a re-indexing of another
- Compute an APY from an interest rate and *vice versa*