**Infinite Sequence** – has no end (no last number)

**Finite Sequence** – has a last number

Find the first five terms of each sequence

 Ex. Ex.

Use your calculator to find the first 5 terms

 Table Set Table Start = 1 Δ Table = 1

**Finding a Certain Term**

 Ex.

Simply listing the first few terms is not enough to define a sequence:

A rule for the nth term is needed.

**Finding an expression for the nth term of a sequence**

 Ex. 1, 5, 9, 13, 17, …

Find the expression for the nth term of a sequence

 Ex.

 Ex.

 Ex.

 Ex.

 Ex.

 Ex.

**Recursive Definition (for a sequence)**

1. Give one or more of the first terms
2. Give a rule to find the next term using the previous term(s)

Ex. Ex. Fibonacci Sequence

**Factorial Notation**

 *n* factorial = *n*! = 0! = 1 and 1! = 1

Ex. Find 4!

Ex. Find the first 5 terms of the sequence beginning with

Find the expression for the *n*th term of a sequence

 Ex.

Evaluate each factorial expression

 Ex.

 Ex.

 Ex.

**Summation Notation**

Find each sum

∑ key on the calculator

**Using the Sigma “∑” Notation to Write the Sum**

 Ex.

 Ex.

 Ex.

 Ex.

**Definition of a Series** (Sequence = )

***n*th Partial Sum** – Sum of the first *n* terms

**(finite series)**

**Infinite Series** – Sum of all of the terms in an infinite series

For the series:

 Ex. Find the 3rd Partial Sum

 Ex. Find the Sum