

Chapter 8 Sequences, Series, and Probability

Course Number

Instructor

Date

Section 8.1 Sequences and Series

Objective: In this lesson you learned how to use sequence, factorial, and summation notation to write the terms and sums of sequences.

I. Sequences (Pages 580–582)

An **infinite sequence** is . . .

What you should learn

How to use sequence notation to write the terms sequences

The function values $a_1, a_2, a_3, a_4, \dots, a_n, \dots$ are the _____ of an infinite sequence.

A **finite sequence** is . . .

To find the first three terms of a sequence, given an expression for its n th term, . . .

To define a sequence **recursively**, you need to be given _____
_____. All other terms of the sequence are then defined using _____.

Example 1: Find the first five terms of the sequence given by

$$a_n = 5 + 2n(-1)^n.$$

II. Factorial Notation (Pages 582–583)

If n is a positive integer, **n factorial** is defined by

What you should learn

How to use factorial notation

Zero factorial is defined as _____.

