

## CHAPTER OVERVIEW

### 3: Series

#### Chapter Objectives

- Learn how to obtain Maclaurin and Taylor expansions of different functions.
- Learn how to express infinite sums using the summation operator (*[Math Processing Error]*)
- Understand how a series expansion can be used in the physical sciences to obtain an approximation that is valid in a particular regime (e.g. low concentration of solute, low pressure of a gas, small oscillations of a pendulum, etc).
- Understand how a series expansion can be used to prove a mathematical relationship.

[3.1: Maclaurin Series](#)

[3.2: Linear Approximations](#)

[3.3: Taylor Series](#)

[3.4: Other Applications of Maclaurin and Taylor series](#)

[3.5: Problems](#)

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