Section 3.7 The Chain Rule

# Topic 1: The Chain Rule

The chain rule is used to differentiate composite functions.

**Theorem: The Chain Rule**

Suppose  is a function such that  and that the composite function  is differentiable at *x*. Its derivative can be expressed in two equivalent ways.

**Version 1: **

**Version 2: **

# Topic 2: Compositions of Three Functions

The composition of three (or more) functions can be differentiated by applying the Chain Rule repeatedly.