# Chapter 13 – 1 Antiderivatives and Indefinite Integrals

A function is a derivative of function if Differentiation is the process of finding the derivative of a given function.

A function is an **antiderivative** of function if **Antidifferentiation** is the process of finding a function given its derivative. If a function has an antiderivative then it really has an infinite family of antiderivatives:

If is an antiderivative of then is also an antiderivative of for any constant.

The antiderivative of is also called the **indefinite integral** of :

 if

**Example 1.** Find the indefinite integral of

**Example 2.** Find the indefinite integral of

**Example 3.** Find the indefinite integral of

**Example 4.** Find the indefinite integral of

**Example 5.** Find the indefinite integral of

## Some Basic Properties of Indefinite Integrals

**Example 6.** Find the indefinite integral of

**Example 7.** Find the indefinite integral of

**Example 8.** Find the indefinite integral of

**Example 9.** Find the indefinite integral of

**Example 10.** Find the indefinite integral of