**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**March 5th , 2013**

**AP Calculus 1, Mrs. Sulkes**

**5.6 Trapezoidal Rule**

Some functions do **not** have antiderivatives that are elementary functions. Examples of these types of functions are:

So you must resort to **approximation techniques** to evaluate the definite integral. Some of these common techniques are:

1. 2. 3.

We will learn Trapezoidal Rule.

**Example 1:** Use two trapezoids to approximate . The trapezoids do NOT have to have equal heights.

**Example 2:** Use four trapezoids of equal heights to approximate area of  on [a,b].

In general, for n trapezoids of equal width:

**Trapezoidal Rule**

Let  be continuous on [a,b], the Trapezoidal Rule for approximating



**Practice:** Use two trapezoids of equal width to approximate 