Math2411 - Calculus II
Section H01 - Spring 2025
Integration – Basic Approaches

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Integration – Basic Approaches:

We are looking at some basic approaches to integration used when a function does not exactly match one of our known formulas. Often the strategy is to use identities and/or manipulate the integrand algebraically so that it fits into a know form. We will work through a number of examples below.

Integration Examples:

Let's work an example together.

Example 1. Evaluate the integral $\int \cos^2(x)\,dx$

Workspace:

Example 2. Evaluate the integral $\int \tan(x)\,dx$

Workspace:

Example 3. Evaluate the integral $\int \sec(x)\,dx$

Workspace:

Example 4. Evaluate the integral $\int \frac{1}{e^x + e^{-x}}\, dx$

Workspace:

Example 5. Evaluate the integral $\int \frac{1}{x^2+4x+5}\,dx$

Workspace: