

## Substitution

State the Substitution Rule

Whenever you are unsure if your antiderivative is correct, what should you ALWAYS do to check your work?

Work through Example 6 to determine  $\int \tan x \, dx$  by using the substitution rule. This should find its way to your chart from last section.

What is the substitution rule for definite integrals? What does that mean?

What is an even function algebraically? What does this mean geometrically?

What is an odd function algebraically? What does this mean geometrically?

What is true for integrals of symmetric functions?

Evaluate the following indefinite integrals

1.  $\int e^{5x} dx$

2.  $\int \frac{(\ln x)^2}{x} dx$

3.  $\int \frac{\sin \sqrt{x}}{\sqrt{x}} dx$