

MATH 3D Prep: Substitution Rule

Facts to Know:

Steps of computing integrals using substitution rule:

1. Choose a function $u =$ _____, then $du =$ _____.
2. Goal: Write the integral in terms of _____.
3. $\int f(g(x))g'(x)dx =$ _____.

Examples:

1. Find a function $h(t)$ such that $h'(t) = te^{t^2}$ and $h(1) = e$.

2. Evaluate the indefinite integral $\int \frac{[\ln(2x + 1)]^2}{2x + 1} dx$