

Math 1552, Integral Calculus
Sections 5.5-5.6: u-substitution and Areas

1. Find the area bounded by the curves $f(x) = x^3 + 2x^2$ and $g(x) = x^2 + 2x$

2. Evaluate the integrals:

a)

$$\int \frac{1}{x^2} \sec\left(\frac{1}{x}\right) \tan\left(\frac{1}{x}\right) dx$$

b)

$$\int \frac{1}{\ln(x^x)} dx$$

3. Evaluate the following integrals:

a)

$$\int \frac{e^{2x}}{\sqrt{4-3e^{2x}}} dx$$

b)

$$\int_{-3}^{-2} \frac{dx}{\sqrt{4-(x+3)^2}}$$