

Evaluate each of the following integrals:

1. $\int \sin x \sec x \ln^3 \sec^2 x dx$

2. $\int \frac{3 \sinh(\tan^{-1} e^x)}{e^x + e^{-x}} dx$

3. $\int \frac{x e^{-x^2} \ln \sqrt{5e^{-x^2} + 3}}{5e^{-x^2} + 3} dx$

4. $\int \frac{x}{1 + \cos(2x^2 + 2)} e^{\tan(x^2 + 1)} dx$

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

6. $\int \frac{1}{(2 \cos x + 3 \sin x)^2} dx$